Introduction

This version does not contain the MP3 Encoder DLL (MP3Enc.dll) due to a possible patent infringement. You don't have to ask for this DLL, I won't send it to you. However, the encoding DLL of CDex version 0.15 should work with this CDex version, just copy the file MP3Enc.dll into the new CDex directory and the MP3 options should be enabled again.

CDex is a is utility which can record Digital Audio (DA) tracks   from CD into the files. The recorded audio tracks can be stored as either WAV files or as MP3 (MPEG-1 Audio Layer-3, due to a possible patent infringement, version 1.0 does not ship with the encoder) files. CDex is using the Adaptec's ASPI library Manager to communicate with the CD-ROM device, look at the end of the FAQ page where to download an ASPI manager.

The latest version of Cdex can be downloaded from:

http://www.geocities.com/SiliconValley/Sector/8563/

I know, this help file is not still what it should be, but it takes a lot of time to document and keep it up to date with the latest features and problems that people are reporting.

Status of software:

CDex is freeware and I like to keep it that way. Although support (esp. online time) and development tools are quite expensive. Therefore you can support CDex by sending a small donation (money order, checks are OK) to:

Albert Faber

v.d. Meystraat 1

5622 GT   EINDHOVEN

The Netherlands

Quick Tour:

First select the configure button and select a proper output directory (you have to this only once, the selected directory is stored in the CDex.ini config file) click on the **close** button when finished.

Select one or more tracks from the track list (use ctrl left mouse click or shift left mouse click to select multiple files

Now you can record these files to a WAV file (click on the **Track(s)->WAV button**)

CDex also support local and remote CDDB, all you have to do is to enter an e-mail (or at least something that looks like an e-mail address, like john@do.com address in the CDDB configuration tab.

To rename the track files, you have to select a track first, once the track is selected, click on it again   (with left mouse button, or press the F2 key), now a cursor will appear, type in the track. Hit the return key when done (this procedure is similar to the file renaming the Windows Explorer). Or, if you have selected a track,   you can use the right mouse button to get the pop-up menu, select rename and the text cursor will appear.

System requirements

1. Microsoft Windows 95/98/NT
2. Adaptec's ASPI for Win32 Manager
1. A CD-Rom which has Digital Audio Extracting capabilities (most IDE drives and SCSI drives will do)
1. Intel   Pentium or compatible processor
2. Lot's of free disk space to record your WAV files

Installation

CDex is shipped in two version, as a plain zip file or as a zip file containing a setup utility.

When using the plain zip file:
Extract the zip files to a directory you want to install CDex, afterwards just launch the CDex.exe file to start CDex

When using the setup utility:
Extract the zip file to a temporary directory and launch the setup.exe file.   Once installed, you can start the Cdex application by selecting the Start-Program-Cdex item.

How To Uninstall CDex:

When using the plain zip file:
Just remove the directory where CDex is stored, and remove the CDex.ini file from the windows directory.

When using the setup utility:
From the control panel   select **Add/Remove Programs**, select CDex and click on the **Add/Remove** button.

How to Configure CDex

You can configure CDex by clicking on the configure button in the main dialog box. Important items to set are:

- Which CD-Rom to use (if you have more than 1 CD-ROM drive) and which logical drive letter is associated with it
- Furthermore I recommend to change the output directory where the WAV files of the recorded tracks will be stored.

For more details about the other settings, please look at the configure section of the help file.

Bugs, comments & suggestions

IMPORTANT:

Do not send me large attachments of large files! If you have a problem, please **read the FAQ** first, if this doesn't solve your problems, take a look at the latest FAQ on my website, it maybe will address your problem. If you still have problems, well then you can send me an e-mail with your specific problems. Also include as much as possible information about your system. Furthermore, add the information which is displayed in the System Info dialog box. For your convenience, you can let CDex copy the information into the clipboard, which you can paste (Control V) in you e-mail program.

Yes, I like to hear from you, if you like CDex and you miss certain features or have other suggestions, please send me an e-mail:

you can reach me at mailto:cdex@geocities.com.

The latest version can be download from http://www.geocities.com/SiliconValley/Sector/8563/

Warranty

THIS APPLICATION AND INFORMATION IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE.

ALFA TECHNOLOGIES DOES NOT REPRESENT OR WARRANT THAT THE PROGRAMS OR PROGRAM COMPONENTS ARE FREE OF INFRINGEMENT OR ANY THIRD-PARTY PATENTS, COPYRIGHTS OR TRADE SECRETS.

Acknowledgment

Credit's are where credits due, here they are:

First of all I like to thank Karsten Madsen and José de Leon for extensively testing CDex (I think they have gone trough all beta releases) and for their useful suggestions. Without them, CDex did certainly lack many features and definitely would not be as stable as it is today, thanks guys!

CDDB is designed and developed by Ti Kan and Steve Scherf, thanks for making such an useful product.

Configure

The configure dialog box has 4 tabs, select the links below to get more specific information on the topics

- General Settings

- CD-ROM Settings

- MP3 Settings

- CDDB Settings

CDex Help Index

Test Dialog

What is CD-DA

The process of direct reading the audio data is called CD Digital Audio (CD-DA) or sometimes refered to as 'Digital Audio Extraction' (DAE) or as 'CD ripping'. CDex uses CD-DA to read the audio data of the CD disc and write the resulting data into a WAV file or a MP3 file. The advantage of CD-DA above recording the file using your sound card is that there is no loss of music quality, the data in the WAV file are an exact copy of the data on the disc. For the insiders, using your sound card, the digital data from the disc is converted to an analog signal, which is digitized again by the sound card. Often the sound quality will be deteriorated when going this route, especially noisy WAV are not uncommon.

FAQ (Frequently Asked Questions)

PLEASE, DO NOT SEND ME MP3 FILES OR WAV FILES, UNLESS I SPECIFICLY ASK FOR IT !!!!!

Q: When I extract files, there are is no music information, just dead silence

It can be either two things, or your drive doesn't support CD-DA (see next question). If your drive supports CD-DA, you can try the following option (CDex version 0.15b7 and up)

IMPORTANT:

It seems like that some drives produce an empty file when the **Read Sectors** exceed 27sectors, so you might want to try to lower this value to 27! (Please drop me an e-mail if this is the case with your CD-ROM, so I can add exceptions to the software) If this still does not work, try to use the auto detect feature as described below.

Go to the configure menu (press the configure menu in the main CDex screen)

Select the CD-ROM Tab.

Press the auto detect function. In order to perform auto detection, you have to have an Audio CD-ROM in your CD-ROM drive. The auto detection might take some time (a couple of minutes). If your lucky, the auto detection find at least one combination that reports success. Select this line from the list box and press the OK button. If it does not work, send me the file CDexAutoDetect.txt which should be created in the root directory of your drive.

Note: Some people have reported that CDex or the system would crash when doing the auto detection procedure, they got around this problem by turning of the DMA setting in the

Control Panel-> System -> Device Manager ->CD-ROM -> Your CD-ROM (press properties button and select the Settings TAB). Of course, don't take Your CD-ROM literal, it means the brand/type of the CD-ROM which you want to perform the auto detect procedure.

If CDex is not still able to read audio data from your CD-ROM, please send me an e-mail, include the CDexAutoDetect.txt and add also the info you get from the System Info button (see also contact for more details what information is useful for me).

Q: Does my drive supports CD-DA

There is a list available at http://www.mp3.com/cdrom.html, see if you're drive is on this list and whether it support digital audio extraction.

Q: When I convert/rip MP3 files, CDex is slow as molasses, what wrong with my system?

A: Well nothing I would say. The MP3 compression consumes a lot of computation time, actually, CDex is relatively fast compared to other MP3 encoders (with comparable sound quality, listen the output of the Xing 'fast' encoder, and you know what I mean). Version 0.15b2 and up, contains a more optimized encoder, you might give it a try. To give you a measure of CDex version 0.15b2:

Pentium 166-MMX, with 32 Mb of SD-RAM, a one minute song, takes about 3 minutes.

Q: The program crashes during start-up or when there is no CD in the CD-ROM.

A: I know this is a bug in earlier versions, this should be fixed in the from version 0.14b4 and up. Furthermore, there seem to be a problem with the Install Shield setup, CDex crashes the first time it is executed, at this moment I don't know exactly what the problem is, therefore the latest versions of CDex are distributed as a zip file again (look at the bright side, the zip file is much smaller too, install shield adds an incredible overhead to the install file ~4 times the size of CDex)

Q: I get an message that there is too much jitter, what do I have to do to solve this problem?

Well, you can try to increase the Read Overlap value in the configuration dialog box (i.e. press configure from the main dialog box). Make sure that the CD is clean, dirty discs can cause jiiter problems. Furthermore I have also a disc (Guns 'n' Roses, use your illusion part II) which also gives me a bunch of errors. So you may want to try another disc first. Furthermore, the overlap and block compare value are restricted, make sure that the sum of the two do not exceed 27 (I was too skimpy, by using a 16 bit integer instead of 32 bit integer, sound like the millennium problem). This will bet fixed in the from version 0.15b3 and up.

See the CD-ROM configure for more details

Q: Where can I download the ASPI drivers

Look at this section at the FAQ page on the CDex web site, there should be a link to AspiStuff.zip.

Auto Detect dialog box

The auto detect function can be used perform an auto detection of the all possible CD-Rom audio read settings. It is important that you have to have an Audio CD-ROM in your CD-ROM drive. The auto detection might take some time (a couple of minutes). If your lucky, the auto detection find at least one combination that reports success. Select this line from the list box and press the OK button. If it does not work, send me the file CDexAutoDetect.txt which should be created in the root directory of your drive.

Note: Some people have reported that CDex or the system would crash when doing the auto detection procedure, they got around this problem by turning of the DMA setting in the

Control Panel-> System -> Device Manager ->CD-ROM -> Your CD-ROM (press properties button and select the Settings TAB). Of course, don't take Your CD-ROM literal, it means the brand/type of the CD-ROM which you want to perform the auto detect procedure.

If CDex is not still able to read audio data from your CD-ROM, please send me an e-mail, include the CDexAutoDetect.txt and add also the info you get from the System Info button (see also contact for more details what information is useful for me).

Main Screen

The main screen shows the track information, and has by default two toolbars. The list view shows the content of the CD-ROM, you can select one or more tracks by clicking in the tracks you want to extract from the CD. If you want select multiple tracks, hold down the Control or Shift key while selecting the tracks. The track information can be renamed, by clicking on the selected track again (or use the F2 short cut key).

Besides the track list and album information, the main screen has by default two toolbars, the play toolbar and the record toolbar. The toolbars can be made floating and can be docked anywhere in the main screen, so you can customize the lay out.

For more help topics, please select the content button and click on the CDex entry   button to get a table of contents. Select topic to get the desired help information.

General Settings

File name builder:

With the file name builder (press the **Build Filename** button), you can customize the name of the extract WAV or MP3 file.   The file name can be constructed from the Artist/Album/Track Information and track number. The order as well which item have to be included in the filename.

The current settings of the **file name** are shown at the file name field   (e.g. Title - Trackname)

Add Files to M3U Playlist.

When enabled, it will add the recorded files to the file Playlist.m3U, which is locate in the Recorded Tracks output directory.

Add Files to PLS Playlist.

When enabled, it will add the recorded files to the file Playlist.pls, which is locate in the Recorded Tracks output directory.

Normalize track volume:

Often CDs are recorded with different volume levels. CDex has an option to normalize the volume levels if the volume level of the record track is out of bounce. The upper and lower boundary as well as the normalization values can be specified in the three edit boxes. The values are in percentages. Keep in mind that this option only works when you the On The Fly MP3 encoding is disabled.

Default setting: Normalization value   98%

Lower   value   91%

Upper value   99 %

WAV->MP3 Output Directory:

This indicates where the converted MP3 files should be stored. The output directory can be changed by pressing on the .. button. Once selected, as directory selection dialog should pop up, select the appropriate output directory and press the OK button..

Recorded Tracks Output Directory:

This indicates where the recorded MP3 (or WAV files) are stored after ripping. The output directory can be changed by pressing on the .. button. Once selected, as directory selection dialog should pop up, select the appropriate output directory and press the OK button..

CD-Rom Settings

CD-ROM drop down list:

This selection box shows the available CD-ROMs, select the CD-ROM from which you want to record the tracks .

Logical drive:

You have to select which logical drive letter is associated with the selected CD-Rom device.

Read Sector (default value 19)

IMPORTANT:

Some drive can't read more then 27 sectors at once, when exceeding this value you might get an empty sound file (i.e. size is OK, but total silence). So if you get total silence WAV or MP3 files you might try to reduce this value so the **SUM** of **Read Sector** and **Read Overlap** is less then 27. Thus If **Read Overlap** is set to 7, set **Read Sectors** to 19.

Due to memory constraints, Cdex can not read all sectors at once, but it rather reads N sectors as specified in the **Read Sectors** dialog box. Increasing the number will reduce the overhead and can results in faster recording times, however, reading large blocks at once will make the application less responsive (e.g. when pressing the abort button). Furthermore, reading a large block of sectors has the disadvantage that the time between two adjacent reads will increase (because the encoding time will also increase), which can cause the CD-ROM to spin down/up between consecutive reads.

Read Overlap (default value 7):

The problem with reading the audio CD format is that you can't very well position the starting track. This might cause a miss alignment when reading two separate blocks of data (thus either gaps can occur, where some sound data is getting lost, or there might be overlap between first and second block of data). To solve this problem, CDex uses a so called jitter correction, which means CDex is not position the laser to the end of the first block, but a few sectors earlier. This number of overlapping sectors can be entered in the **Read Overlap** field, this number should be large enough so there will be enough overlap compensate the miss positioning of the laser. If you hear strange noises in your MP3 or WAV file, try to increase this number (but should of course be less than the **Read Sector** value.

Block Compare (default value 1):

Now we have read some additional sectors, it is time to actually do the jitter correction. Therefore, the last sectors of the first data block is compared with the sectors of the second data block. Of course, the question is how many sectors do we have to compare to be sure that the blocks are really aligned. Well, I am using 1, but if you think this is not enough, please feel free to increase this number (which of course will slow down the recording process) or decrease the value to get better performance (with the risk that the jitter correction fails). Make sure though that the **Block Compare** value does not exceed **0.5* Read Overlap**.

CD Speed (default value 0):

Indicates the relative reading speed of the CD-ROM. The default value is 0, which means

that is uses the default recording speed.   You might want to try to increase this value (e.g. 16) in order to speed up the ripping process (mostly noticeable when ripping WAV files)

CD-Read Type (default value Generic):

This option allows you to select the CD-ROM brand you have, based in this information CD audio data is read differently. By default it is set to Generic, which should work for most drives. However, if you don't get any audio data into the WAV or MP3 file, you might want to change this setting to your specific brand of CD-ROM.

Auto Detect Button:

Press the auto detect function. In order to perform auto detection, you have to have an Audio CD-ROM in your CD-ROM drive. The auto detection might take some time (a couple of minutes). If your lucky, the auto detection find at least one combination that reports success. Select this line from the list box and press the OK button. If it does not work, send me the file CDexAutoDetect.txt which should be created in the root directory of your drive.

Note: Some people have reported that CDex or the system would crash when doing the auto detection procedure, they got around this problem by turning of the DMA setting in the

Control Panel-> System -> Device Manager ->CD-ROM -> Your CD-ROM (press properties button and select the Settings TAB). Of course, don't take Your CD-ROM literal, it means the brand/type of the CD-ROM which you want to perform the auto detect procedure.

If CDex is not still able to read audio data from your CD-ROM, please send me an e-mail, include the CDexAutoDetect.txt and add also the info you get from the System Info button (see also contact for more details what information is useful for me).

Swap Left Right Channel (default value off):

With certain types of   CD-ROMs, the left and right channel are alternated. With this option enabled, you can correct for it.

Enable Jitter correction (default value on):

This setting determines if the jitter correction should be enabled or not. Unless you have a very good CD-ROM, I would advice you to turn on the jitter correction, to avoid click/plops and other artifacts in the extracted WAV of MP3 file.

Start end end Offset (default values 0):

With the start and end offset you can tweak the actual start and end position. The values can be positive as well as negative. One unit correspond to a sector, which is 1/75th of a second.

Spin up time (default value 0):

Some drives give small artifacts in the first couple of seconds of the WAV file, this is likely that the CD-ROM has not spun up yet completely. In order to avoid these artifacts, you can increase this spin up time value (in seconds).

MP3 Settings

Encoder Type

CDex can use either the build encoder (you need the MP3Enc.dll though), or you can make use of a DOS based encoder. The DOS based encoder can be either:

1. The L3Enc or compatible encoder (like BladeEnc or Xing)
2. The Yamaha VQF encoder
3. For AAC the homeboy encoder & the Astrid/Quartex AAC encoder are supported

If you want to use the build in encoder, just select the internal radio button, on the other hand, select the external radio button if you want to use a DOS based external encoder.

Bitrate (default value 128 kBits/s):

Determines the number of bits per second, higher bitrates result in better sound quality, but also increases the file size.

Channels (default value Stereo):

Currently only the stereo value is implemented

Add ID3 Tag:

CDex can write an ID3 Tag at the end of the MP3 file. This tag contains some information about the recorded track (this information can be displayed by the MP3 player, e.g. winamp)

Internal MP3 encoder options

Acoustic model (default value Model 2):

Determines which acoustic model to use to compress the data.

Emphasis (default value None):

Determines which emphasis filter will be used for the compression. Emphasis is a filter which is applied to the data in order to enhance certain frequencies components (similar as a Dolby setting to a tape deck).

On the fly MP3 encoding (default   value on):

When enabled, tracks are recorded directly to MP3 files. However, in some configuration people have heard strange "click's" in their MP3 files. Therefore this is kind of a kludge, it will first record the files to a WAV file, which will than after each recorded track be converted to a MP3 file, the WAV file is deleted afterwards.   DISABLE THIS OPTION IF YOU EXPERIENCE STRANGE CLICK'S IN YOUR MP3 FILES.

External MP3 encoder options.

In order to use a DOS based external encoder, you have first to pick the exe file or bat file in case of the homeboy AAC encoder, just select the browse button, and a file open dialog box will appear, go to the appropriate directory and select the exe or bat file.

Once you have selected the file, you have to select if this is an MP3 or AAC encoder (vqf is grayed at the moment, since I have not a dos based VQF encoder).

AAC homeboy encoder:

For the homeboy AAC encoder, you have to modify the encode.bat file as follows

```
REM select the proper drive:
c:
REM Goto the directory where the homeboy AAC encoder is located:
cd c:\winapp\mp3\winenc
REM call the encoder
aacenc.exe -m tf -eb .aac -r %1 -c -aac_raw -vr -eo .wav %2 -o %3
```

Of course, you have to modify the drive letter and or path to the appropriate directory where the homeboy encoder is located. Save the changes to the batch file. Now select the batch file (click once with left mouse button in encode.bat file) and select the right mouse button. From the menu select the properties button, select the **program** tab from the encode.bat properties dialog box, and enable the close on exit option. Click on the OK button and you are all set.

AAC Astrid/Quartex encoder:

For the Astrid/Quartex AAC encoder, you have to create the following batch file (call it encoder.bat for example) in the directory where the Astrid/Quartex encoder is located:

```
REM Astrid/Quartex batch file:
c:\winapp\aac\Aacenc.exe %2 %3 %4
```

Of course, you have to modify the path to the appropriate directory where the Astrid/Quartex encoder is located. Save the batch file. Now select the batch file (click once with left mouse button in encode.bat file) and select the right mouse button. From the menu select the properties button, select the **program** tab from the encode.bat properties dialog box, and enable the close on exit option. Click on the OK button and you are all set. Set the encoder speed to 128 bits/second (only a few bitrates are supported by this encoder, consult the aacenc.txt file for more details.

Yamaha VQF encoder:

In order to use the VQF encoder, select the **browse** button in the MP3 settings dialog, a file selection dialog box should appear, Locate the file **SVQbatch.exe** (default installed in the **\ program files\yamaha\ SoundVQenc** directory). Click on the OK button and select the VQF radio button and you are all set.

System Information

The System Information dialog box displays information that is important when you submit a bug report. For your convenience, you can let CDex copy the information to the clipboard which you can paste (Control V) in you e-mail program.

CDDB Settings

Remote server:

Select one of the remote server, probably the fastest response time will be obtained when you select a server that is physically located the closest to you.

E-mail address:

In order to access the CDDB remote data base, CDex has to provide an e-mail address. Therefore you have to enter an e-mail (or at least something that looks like an e-mail address in this field.

Local CDDB path:

CDex will store the data gathered from the remote server into a local CDDB data base. You have to provide the location where you want to store the files, or if you point it to an existing local CDDB.

CDDB type:

The local CDDB files can be stored in either Windows type CDDB or an UNIX type CDDB. The advantages of the UNIX CDDB is that for each entry a unique file is created. This allows much faster lookup of CDDB entries. However, due to the nature of a FAT16 partitions, each file can take a considerable amount of disk space. This can be avoided by using the Windows type of CDDB, which will store several entries into one file.

Store in CDPlayer.ini file:

You can store the results gathered from the remote CDDB (or If you entered them manually) in the CDPlayer.ini file as well. This allows you to use the CDDB information for the Windows CD player as well.

Store in local CDDB:

When enabled, CDex will store the track/album information gathered from the remote CDDB (or If you entered them manually) in the local CDDB data base. It is recommended that you have this option enabled, since the CDDB can hold much more information then the CDPlayer.ini file.

View Play Toolbar

This option allows you to control the visibility of the Play toolbar.

View Record Toolbar

This option allows you to control the visibility of the Record toolbar.

Tracks To Wav file

This option allows you to extract the selected CD audio tracks into a WAV file.

Extract partial track

This option allows you to extract a section of CD into one WAV or MP3 file. This can be handy when you want to extract data from a live CD for example, or if you are only interested in one particular section of a CD track.

WAV to MP3

When selecting this option, a file dialog will appear. You can select multiple file, and convert them to MP3 files using the MP3 encoder. You can also drag and drop WAV files into CDex, this will convert the WAV files into MP3 files as well

MP3 to Riff-WAV

RIFF-WAV files are regular MP3 files with an additional WAV type header section. The advantage of RIFF-WAV MP3 files is that they can be played with the regular windows WAV player, if there is a windows MP3 codec installed.

Tracks to MP3 file

This option allows you to extract the selected CD audio tracks into a compressed MP3 file. Due to a possible patent infringement I don't ship the encoder (MP3Enc.dll) anymore. However, when you copy the encoder DLL from the previous CDex version (0.15) final, all MP3 options will be enabled again.

Application Exit

Selecting exit will close the CDex application

CDex Help

For more help topics, please select the content button and click on the CDex entry   button to get a table of contents. Select topic to get the desired help information.