

Hunchy's
MP3 Insider Guide to CDEX

Introduction

CDex is one of my favourite MP3 rippers. It's fast, simple to use, gives great results, and it's been around for years.

And it's free.



The latest build is v1.70 beta 2. Even though it's flagged as beta I haven't had any issues with it and recommend it wholeheartedly. The idea of beta release freeware worries you? Then the latest production release is v1.51. From memory that's been available now for a year or more, so it's well proven.

You can get both versions at:

<http://cdexos.sourceforge.net>



I need to point out that CDex is not tested with Microsoft Vista, so if you're using Vista you may experience some issues using CDex. I can't help you with these; I use Windows XP and I've got no plans to change in the short term.

What can you expect from CDex? Here's a list of my favourite features:

- Encodes to a variety of file formats. Although I use MP3 exclusively, CDex can be easily modified to use different encoders. For example there are a few different MP3 encoders available (each has their strengths), and you can choose the one you like best very simply.
- Writes IDv1 and IDv2 MP3 tags automatically
- Automatically retrieves album and track data from freedb, an outstanding (and very complete) remote CD database

- Corrects for jitter, a characteristic of some CD drives, that causes slight positioning errors at the start and end of individual tracks
- Works with a huge range of CD drives
- Automatically generates play list files

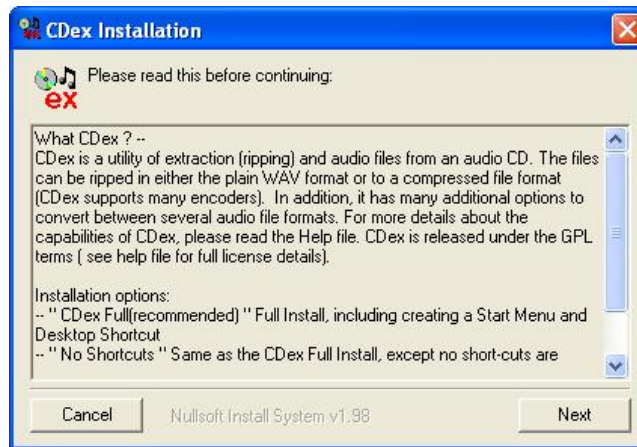
CDex is the complete package. Install it, make a few configuration changes, and you're on your way. It uses the cdparanoia CD-DA (compact disk digital audio) extraction library, which is renowned for getting great results even from CDs that are damaged in some way, such as scratches or dirt.

Downloaded the CDex installer now? Let's get going. But before we go anywhere, please read and understand the following disclaimer:

The software and techniques described in this free ebook can be used to break copyright laws in your country. It's up to you to know the legalities or illegalities of what you do with the information that follows, and I will not be responsible if you use this ebook to break the law.

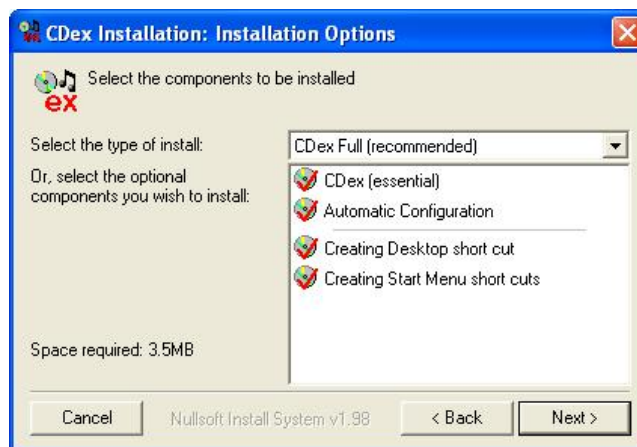
Installing CDex

Installation is very fast and simple. When you launch the installer, you'll see a simple instruction screen. Read it through so you know what to expect:

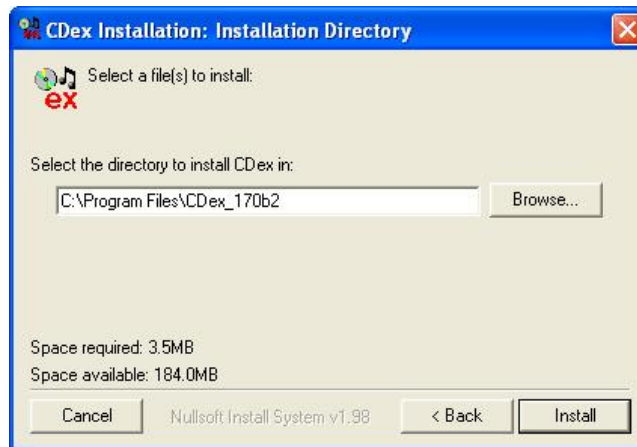


Click Next when you're done.

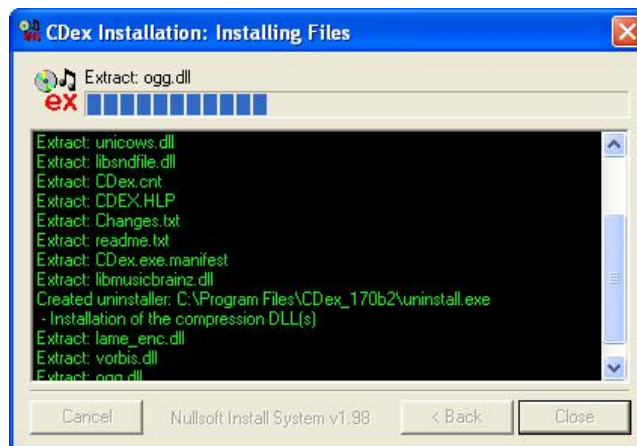
On the second screen I opt for the CDex Full (recommended) option, since these are the shortcut options I use anyway. This option is the default, so just click through this screen with the Next button.



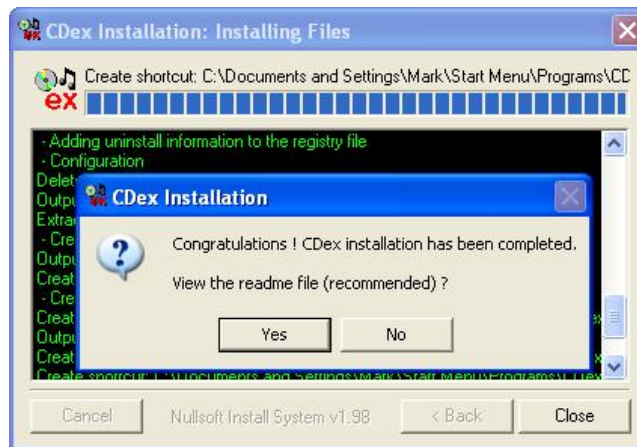
Where do you want to put it? Again, I leave the default setting as it is. You're now ready to install, so click the Install button to launch:



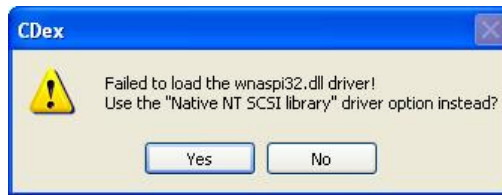
You'll be presented with a text window like this. Just sit back and watch, as it only takes a few seconds and there's no user input required.



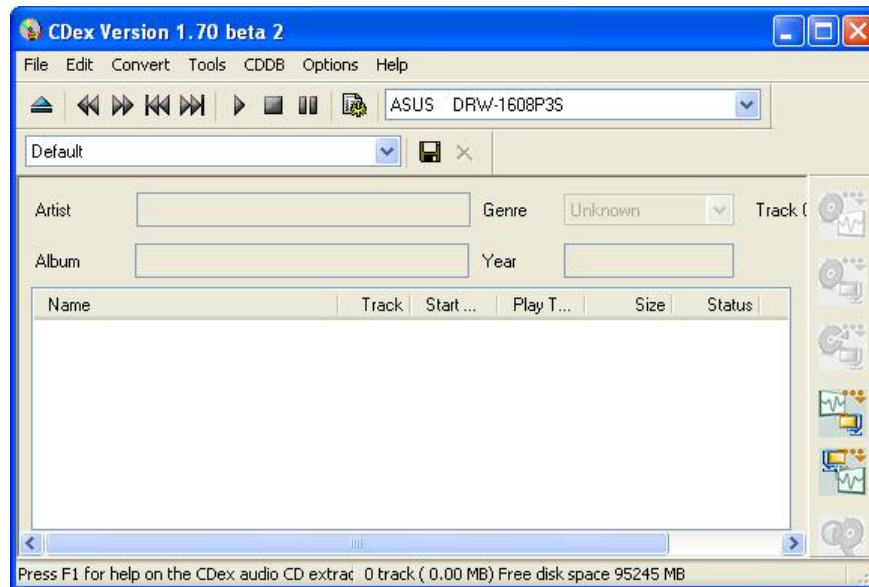
Installation is complete when the Congratulations window comes up! Have a look at the readme files if you like, although by now you're probably ready to try it out.



Click No, and CDex will launch. Note that on some Windows XP builds, you will get a prompt like this:



No problems here! Just click Yes, and CDex will fire up:

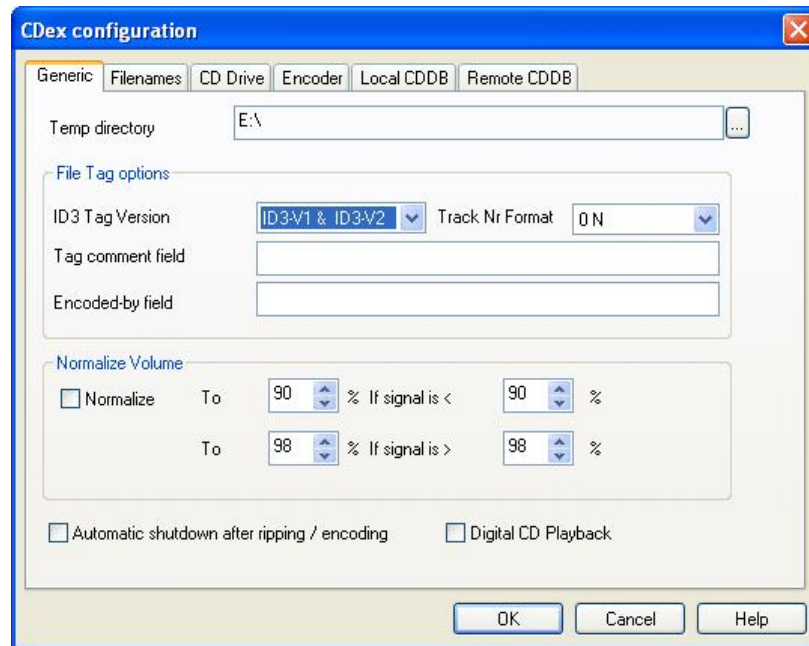


This is the CDex main user interface with no CD inserted. But before you do – read the next section and take a little time to get the configuration right. It's worth it.

Configuring CDEX

Click on the Options item in the task bar, and you'll have access to the six configuration screens within CDex. As we work through each configuration screen there will be some options to change, but most will stay unaltered.

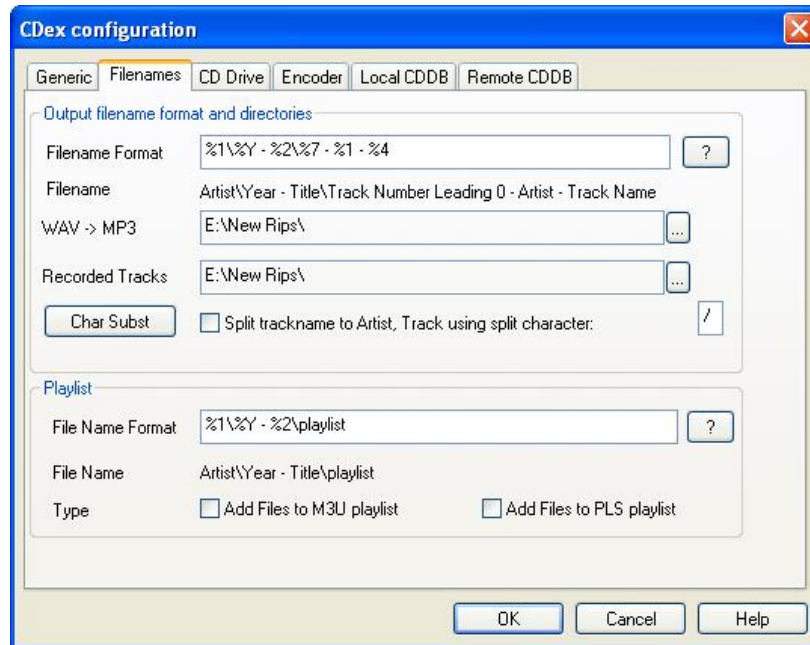
"Generic" Configuration



These are the changes I recommend on this screen:

- Temp directory: I change this to my E:\ drive, as I have bucketloads of space there (I keep my C:\ drive separate from all data, and use it just for Windows XP and for program files). If you use a single large drive or have plenty of space on C:\, just leave the default value unchanged.
- ID3 Tag Version. I like to have both ID3v1 and ID3v2 tags in my MP3 files, so I make sure that both are written by CDex.
- Normalize: Make sure this is not selected. This flag automatically adjusts the volume of ripped tracks according to the settings in those four boxes. There are better ways to control the volume of ripped tracks (Replay Gain and Wave Gain), and these should always be used in preference to normalizing.

“Filenames” Configuration



This is one page you'll want to get right, because CDex uses this information to write filenames and directories exactly the way you want them. I'll illustrate with the way I like things, but take the time to understand what's happening on this screen and set it up the way you want.

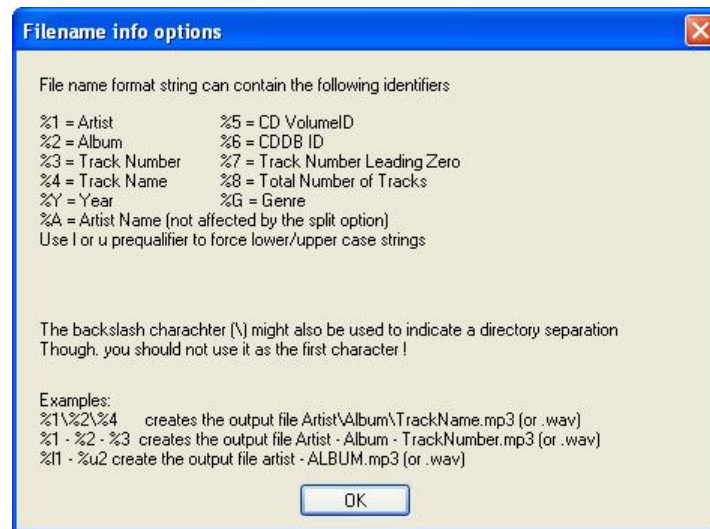
The parameters starting with “%” define the values that will make up the filenames of each MP3 file created by CDex. As shown in Filename Format above, CDex will create a folder with the name of the artist, then under that a subfolder with the year and CD title, containing all ripped tracks with the track number, artist and track name.

Confused? Here's what was created under E:\New Rips\ after I ripped an Alicia Keys album:



At the start of ripping, CDex created a folder called “Alicia Keyes”. It also created a subfolder called “2001 – Songs In A Minor”. In that folder, it created 16 MP3 files corresponding to the ripped tracks.

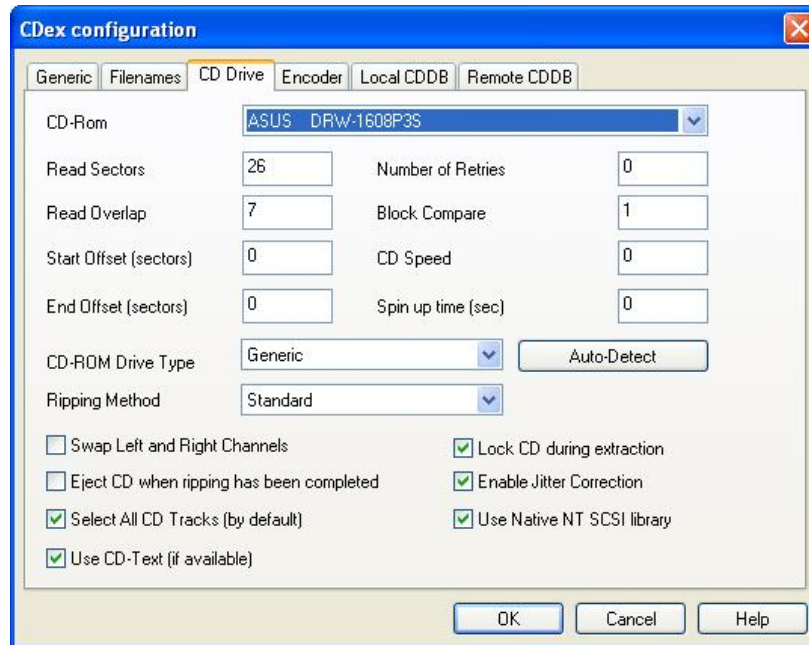
Now that’s the way I like to have my rips named and organised. If you want to do it differently, here’s the parameters you can use, straight from CDex:



There’s some other things to change while you’re on this configuration screen:

- WAV -> MP3 and Recorded Tracks: I set these to the same folder because that’s where I want all my ripped MP3 files to end up. It’s worth pointing out that I do a little more processing on these files before I add them into my main music directory; specifically, I add album artwork and Replay Gain data to each MP3 file. More on these topics at www.mp3insiderguide.com. By putting them into E:\New Rips\, I know I need to work on them a little more!
- Playlist Filename Format: I make this match my Artist\Year – Title\ folder structure, so the playlist file is right alongside my MP3s.

“CD Drive” Configuration



This configuration screen is simple, because I change only one thing from the default values. Maybe I've been lucky with the CD drives in my computers over the years, but I've found these settings work fine for me. Here's what I change:

- Enable Jitter Correction: I set this to on.

This works in conjunction with the Standard ripping method to detect and correct jitter errors, which can give audible pops or clicks in the ripped MP3 file. Jitter is caused by the inability of some CD drives to accurately position themselves at the start of an audio track (usually caused by a crap drive).

The Ripping Method options could do with some explanation, although you should know that no-one except Monty (the author of the cdparanoia library) knows exactly what the paranoia settings truly achieve. I actually keep it set on Standard, and I've had great results for years:

- Standard: A simple, fast rip with no error correction except for jitter (if enabled, as per above).
- Paranoia Overlap Only: The same as Standard, except that it uses the cdparanoia library. Jitter correction is selected by default.
- Paranoia No Verify: Uses the full cdparanoia ripping method, except that the intra-read verification option is disabled.
- Paranoia No Scratch Repair: Doesn't look for scratches, and doesn't perform scratch-tolerant synchronization during verification.
- Paranoia Full: All the available cdparanoia options are enabled.

Probably worth talking about the CD-ROM Drive Type field, which is a drop-down list of various CD drive manufacturers. I've never used anything but the Generic setting, but then that may be luck.

A quick look through the `cdparanoia` documentation tells us that some issues can happen with Toshiba CD drives, and there are some (older, I hope) CD drives that incorrectly report the way they represent digital data (curiously named "big-endian" and "little-endian"). So maybe this field assists CDex to recognize the idiosyncrasies of some CD drives, and make whatever adjustments are necessary to obtain that perfect rip.

“Encoder” Configuration



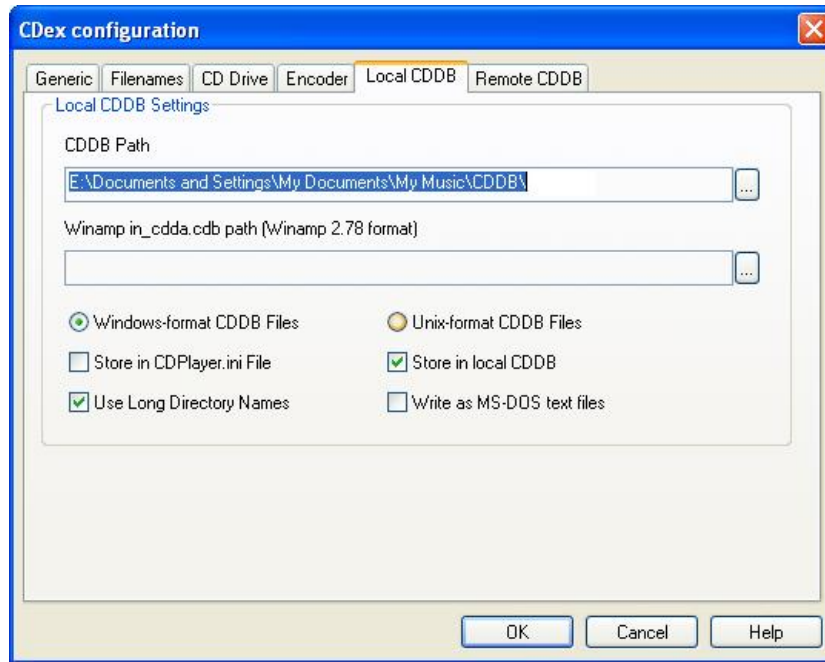
Another simple configuration screen that looks complicated.

All I change here is the Encoder Options > Quality setting, to “preset fast medium”. What this does is to configure the MP3 encoder to use variable bit rate encoding, with a target bit rate of 165 kilobits per second. This gives me audio quality that is indistinguishable from the original for all of us with normal hearing and a high-end stereo system.

If you want to go higher quality, choose “preset fast extreme”. This also gives you variable bit rate encoding, but the target bit rate is 245 kilobits per second. Best quality of all is “preset insane”, which gives a constant bit rate of 320 kilobits per second. This is as good as it gets... 320 kb/sec is the highest specified in the MP3 standard.

If you're a dog and your stereo system is worth something over \$100,000... you may want to use the higher quality settings. But then, dogs can't read so this guide would not be useful to you anyway.

“Local CDDB” Configuration

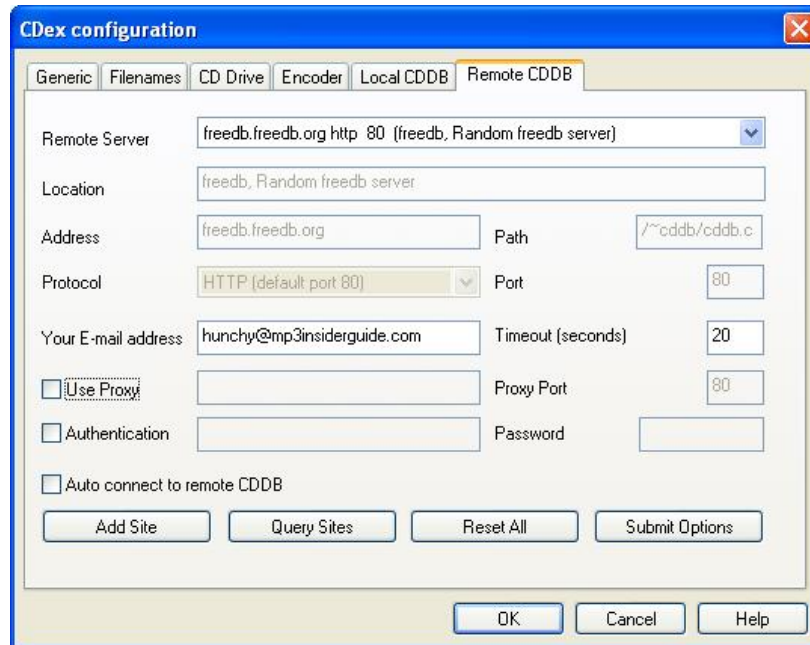


I've included this screen for completeness, as there's nothing you need to change here.

What it does is tells CDex where to store the local database of CDs (albums, artists, track names, etc) that you've ripped with CDex. If you ever rip the CD again, CDex doesn't need to go out to the Internet to grab that information again.

Accept the default values and move on! We're almost done.

“Remote CDDB” Configuration



The last configuration screen!

Freedb is an online service that identifies the CD you're about to rip and uploads track information to your computer. So when each track is ripped, it gets tagged with artist name, album name, track number, genre, and so on. This is a great time saver and well worth configuring.

Leave everything as it is, except you need to enter an email address in the field Your E-mail address.

Here's a secret. It doesn't have to be your true email address. It could be the email address of your boss, neighbour or your worst enemy. It doesn't even have to be a real email address. But it does need to look like one, complete with the "@" symbol and everything else that's needed.

This is an idiosyncrasy of the freedb service, and isn't actually used for anything that I've ever figured out. At one stage, maybe they used it to send "thank you" emails to people who helped build the freedb database. Whatever.

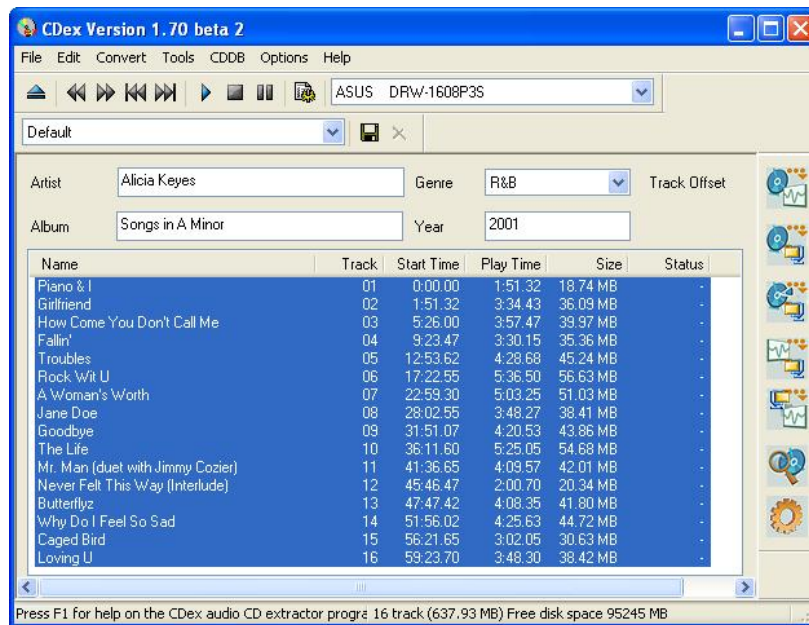
All I know is that you need to change it from the default value to get freedb to work. Leave all the other values alone.

Using CDEX

Using CDex couldn't be easier. Here's what should happen:

1. Start the application and insert your audio CD.
2. In a few seconds, CDex retrieves information about your CD from the freedb database and fills in all values for artist/ album/ genre/ year/ track numbers/ track titles (this of course assumes you have Internet connectivity).

At this point you'll see a screen just like this:



To start the ripping process, click this icon at the right hand side (second one down):

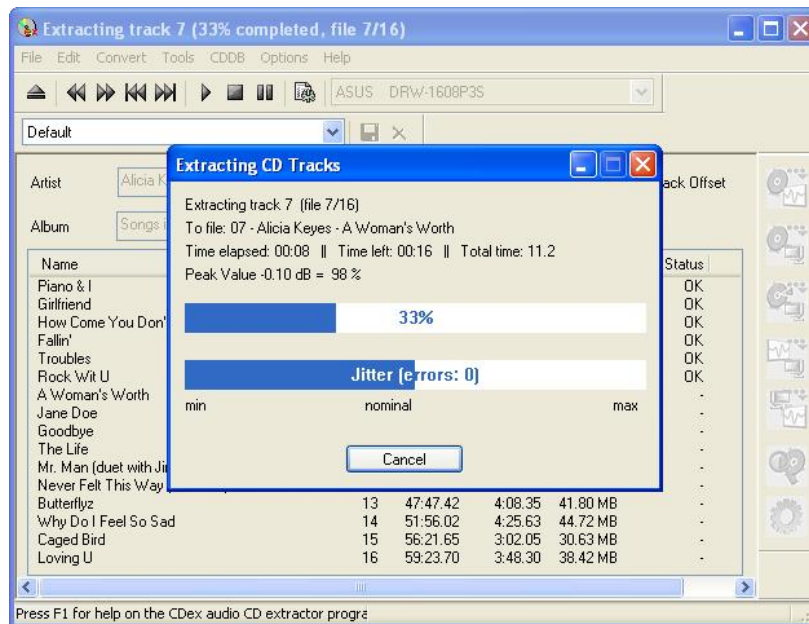


This icon instructs CDex to rip the entire audio CD to MP3 files, one track per file. It will create subdirectories (if they don't already exist), embed track information (ID3 tag data), name each file, and place the files in the correct directories.

That's all you have to do. Depending on the speed of your CD drive (and of your PC), a full rip should take around 10 minutes.

How do you know it's all going as it should?

During ripping, you'll see a progress window like this:



It tells you the progress of each track as it's ripped, and the main window (in the background) shows you whether the track was ripped successfully or not. In the screenshot above, we can see that tracks 1-6 ripped perfectly, and track 7 is currently 33% completed. We can also see this track has another 16 seconds to complete, and that CDex estimates the total rip time (for this CD) to be a little over 11 minutes.

That seems too easy, doesn't it? It is as easy as it looks, yet every so often something doesn't work as it should. Here's a few problems I've experienced over many years of using CDex:

1. Track status after ripping shows "Errors". In just about every case, this means that CDex could not get a perfect read off your CD. Firstly, remove the CD and make sure it's clean (always clean a CD from the inside out, and never in a circular motion). Try it again, and nine times out of ten, the problem goes away.

If not, then your CD has some form of read error that couldn't be corrected by CDex. Listen carefully to the ripped track (on Windows Media Player, for example) and if you can't hear any clicks or pops then it's likely the read error won't affect your enjoyment anyway.

You can hear something that shouldn't be there? Go back to the "CD Drive" configuration screen and try the Paranoia Full option for Ripping Method for that track only. It will take some extra time, but you have an excellent chance of getting that perfect rip.



This icon (third one down, note the CD segment in the graphic) is the one you use to rip a single track. Just highlight the track and click the icon.

2. Nothing happens when you insert the CD. See the CD drive drop-down box at the top? If your PC has more than one CD drive, make sure the correct one is selected and your CD information should show.

If not, go to the “CD Drive” configuration screen and find the Use Native NT SCSI Library check box. If it’s checked, uncheck it. If it’s unchecked, then check it. Save, then exit and restart CDex.

If you still have a problem you may have a problem with some software known as ASPI drivers. The solution is a little complex, but you can get details here:

<http://cdexos.sourceforge.net/faq.html>

If you’re nervous with this procedure, get your kids involved. They know intuitively how to fix computer problems.

3. CD is recognized but no track or title information is shown. First, make sure you have Internet connectivity. CDex communicates with the freedb database for this information, so unless you have Internet access it ain’t gonna work.

Another cause is that you haven’t changed the default value for your email address (the Remote CDDDB configuration screen). Freedb needs a real-looking email address to send you album data, and won’t do so without it.

Finally, freedb’s servers may simply be very, very busy and they don’t respond fast enough for CDex. Patience is all that’s required, although it’s very rare, in my experience, that they don’t respond as they should.

What's Next, Hunchy?

This short ebook is the first of three describing the CD ripping tools I use regularly to turn my CD collection into portable MP3 files. The three tools I use are CDex, Exact Audio Copy, and dBpoweramp.

You won't need to look far to discover there are a zillion others out there on the web. Some are free, some are not. Some are more capable, and some are easy to use.

However, these are the three I use and recommend:

- CDex – Insanely simple to use, and it gives great results for new or near-new CDs. It's also very fast, it organizes files into directories and correctly writes ID3 tags, all of which are fantastic features to have. Its downside is that the cdparanoia library is a bit dated, in that the methods it uses are not matched to the features and capabilities of modern, high-end CD drives. But then that doesn't matter at all if your CDs are in excellent condition.
- Exact Audio Copy – EAC is the tool of choice for audiophiles and anal retentives. Like CDex its free, but it's the closest any tool comes to guaranteeing a perfect, byte-for-byte rip of audio CDs. Its downside is that it is confusing to configure (there are soooo many options), and it's as slow as molasses on a cold winter's night.
- dBpoweramp – This wonderful ripper is not free, but at \$28 it's as good as. It walks the ground between CDex's ease of use and EAC's accuracy, but does so with good ripping speed and very high accuracy. It's secret (also used by EAC) is an embedded tool called AccurateRip, which compares the results of your rips with those of other people around the world who've ripped the same CD. Great concept and very effective.

Future ebooks will cover EAC and dBpoweramp. Look out for posts announcing their availability on www.mp3insider.net and, as always, they will be a free download.

