

Rip Your Audio Files Down to Size with KAudioCreator

Whether you want to save disk space or create a CD with ten hours of music, KAudioCreator can help you out.

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KAudioCreator is the standard, KDE-based tool for ripping and encoding digital audio tracks from your compact discs. “Hmm, ripping and encoding are Greek to me”, you say? Let’s put it another way then. KAudioCreator is a program that reduces the file size of CD-quality digital audio tracks up to ten-fold, using powerful compression

technologies like MP3, Ogg Vorbis, and FLAC. Furthermore, it does this without a substantial loss of sound quality. Smaller files mean you can pack tons more music onto your digital audio player or computer hard disk.

KAudioCreator is one component in a package called kmultimedia3-CD, a suite of audio-related

tools that comes with KDE. In this article, we discuss KAudioCreator Version 1.11, which is included as part of KDE 3.3.

By the way, before you set off looking for documentation on KAudioCreator, let me save you the trouble. There isn’t much beyond a smattering of random Web pages. Never fear, though, because we cover nearly everything you need to know right here. Let’s start by becoming familiar with the technologies involved.

BACKGROUND ON RIPPING, ENCODING, AND FILE FORMATS

Have you ever noticed that each of the audio CDs stacked next to your stereo holds about an hour’s worth of music, give or take a few min-

WHY MP3 AND OGG ARE NEW

You may be thinking that if MP3 and Ogg formats are so much more compact, why were CDs recorded in WAV format in the first place? The answer is simple: advancing technology.

MP3 and Ogg take advantage of compression techniques to analyze the information and compress it. In order to uncompress this information, you need to go through a conversion process. When Compacts Discs hit the market, the technology to perform this conversion—essentially a computer running a program—was not available at the size or price that it could be included in a CD player.

Today, a small, low-power and low-cost computer chip can perform this task so, although CDs remain in WAV format for compatibility, we now have better ways of representing the data.

utes? This is because the songs are in a sound file format called WAV, which offers high-quality digital audio but is a storage hog. WAV files fill about 10MB of disk storage space for each minute of stereo audio.

When you think about music in the context of your stereo, storage space isn’t a consideration. If you want more storage space, you buy a new CD, and you’ve got it. So, the limit on storage space is the size of your house. Today, there are many fun new ways to experience digital music, but they come with an important drawback—limited storage space. On your computer, digital audio player, or real-time audio streaming over the Internet, WAV files

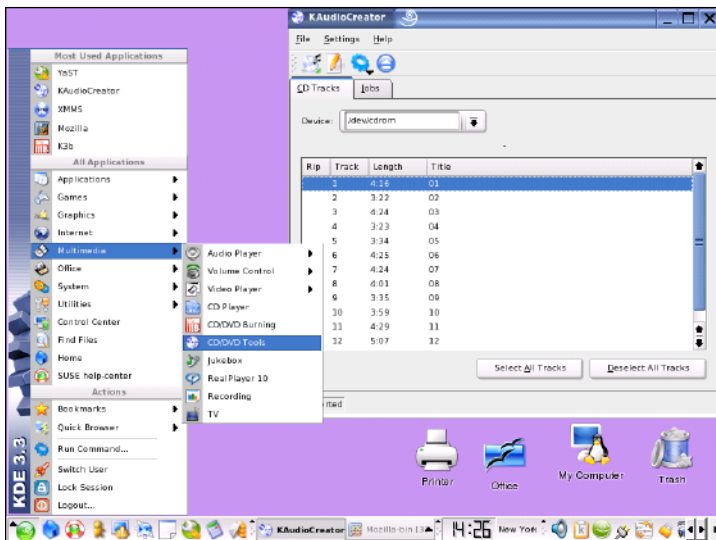


Figure 1. The KAudioCreator interface shown before doing an album (CDDb) lookup on <http://freedb.org>.

are too large to be practical. At more than 600MB per audio CD, how are you going to get your mammoth music collection onto the cool digital audio player you've been eyeing—and still have room for Bing Crosby's "White Christmas"?

Several excellent solutions are at your service, thanks to the wonders of modern technology. What will save you are *lossy* and *lossless* compression techniques, which convert WAV files from your CDs into file formats that are significantly less storage-intensive, namely MP3, Ogg Vorbis, and FLAC. The compression technique that creates MP3 and Ogg Vorbis files is called *lossy* because it eliminates data that isn't

solutions, all of which we hold very dear. MP3, on the other hand, is a closed, proprietary format. Regarding quality, both Ogg and FLAC provide you with superior audio quality vs. MP3, which frees you to base your decision on whether space (Ogg Vorbis) or quality (FLAC) is a higher priority.

Getting to these file formats entails a two-step process, ripping and encoding. The ripping part is the act of obtaining the audio track you want from a compact disc (a WAV file) and getting it ready for encoding. Encoding involves applying sophisticated compression algorithms to the WAV file to convert it to the new file format that's smaller in size. For exam-

MP3 Encoder.) Finally, flac is the encoder for FLAC files.

Okay, I think you've got enough theory under your belt to run with this. Let's move on and get our hands dirty with an example.

SAMPLE PROJECT

Before doing anything else, place a compact disc into your CD drive before launching KAudioCreator. Otherwise, it won't recognize the CD. I put in *Lay It Down* from Cowboy Junkies, but feel free to choose any CD you prefer. Then open KAudioCreator by clicking on CD/DVD Tools, which is located at K→Multimedia. That's the way it looks on my SuSE system. On a Mandrake system, you'll find

Although MP3 is an excellent choice with much sex appeal due to its name recognition, we at TUX support Ogg Vorbis and FLAC, and not simply due to Ogg's awesome name. The myriad reasons boil down to two advantages, freedom and quality. Regarding freedom, both Ogg Vorbis and FLAC are brain children of people who value open-source, nonproprietary, patent-and-royalty-free solutions, all of which we hold very dear.

critical to maintaining a reduced, but still excellent, level of sound quality. Meanwhile, FLAC utilizes a lossless compression technique, which reduces file size considerably, without a loss in sound quality.

With so much choice and so little time, what's a busy music lover to do? Although MP3 is an excellent choice with much sex appeal due to its name recognition, we at TUX support Ogg Vorbis and FLAC, and not simply due to Ogg's awesome name. The myriad reasons boil down to two advantages, freedom and quality. Regarding freedom, both Ogg Vorbis and FLAC are brain children of people who value open-source, nonproprietary, patent-and-royalty-free

ple, the algorithms will shrink a 40MB, four-minute WAV track to about 20MB as a FLAC and less than 3MB as an MP3 or Ogg Vorbis track. How cool is that?

In order to work this trick, several different tools are needed. It helps to know that KAudioCreator is your all-in-one tool that steers the activities of a number of sophisticated, clandestine sub-tools that do the heavy lifting for you, depending on what file format you choose. For instance, if you choose to encode to the Ogg Vorbis format, OggEnc goes to work. On the other hand, if you want MP3s, LAME is called to task. (Yes, it really is called LAME, which cleverly stands for LAME Ain't an

KAudioCreator listed by its own name under Multimedia→Sound.

Those of you who hate manuals will be tempted to start the ripping process by clicking various buttons once you start KAudioCreator. If you hang with me, you'll see the features that this action-packed program has under the hood are worth the wait.

TIP KAudioCreator's program name is **kaudiocreator**. You also can run it by using your quick launcher (press Alt-F2) and typing in the program name.

STEP 1: BEFORE YOU RIP, ORGANIZE THE ALBUM INFORMATION

With a CD in your CD drive and the program launched, you should see an interface similar to Figure 1. KAudioCreator finds and displays your CD-drive address and sees the individual tracks, but it doesn't yet know the artist(s) or song titles. Luckily, though, KAudioCreator has an integrated Compact Disc Database, or CDDB, which makes importing CD information a snap. To do a lookup, simply click on the CD icon located on the far left of the toolbar and voilà, you have yourself a fully labeled CD.

I had some problems with CDDB at first, but then I checked out the FAQ on freedb, the default CDDB provider on KAudioCreator. There, I learned that my port for the CDDB server incorrectly was set to 8080 for the HTTP protocol. Instead, it should be changed to 80, which I was able to do under Settings→Configure KAudioCreator→CDDB configuration. After that modification, the CDDB lookups have been flawless.

What happens if you have an obscure audio CD that is not in the CDDB? Though my obscurest indie CDs worked like a charm, you might have a homemade or foreign disc to rip. In this case, click on the Edit Album icon, the second icon from the left in the toolbar, which looks like a piece of paper and a pencil. Here you can enter new data describing your music, or you can go back and tweak the info downloaded from CDDB, such as artist, song titles, genre, year, and so on.

STEP 2: BEFORE YOU RIP—SELECTING DEFAULT FILE FORMATS AND LOCATIONS

If you plan to rip numerous CD tracks with the same file format, it's wise to select a default to

make your life easier. You always can override the default on the fly later on. Here's how you set the default: click on Settings→Configure KAudioCreator→Encoder Configuration. This brings up the dialog box that's illustrated in Figure 2. As you can see, you set your default encoder to OggEnc for Ogg Vorbis, LAME for MP3, FLAC for FLAC formats, respectively. Let's choose OggEnc for our example.

That same dialog box offers powerful tools for organizing your audio files in an automated way. Click the Wizard button under Encoded File Location, and you get an array of options for determining the storage location for your files. The wizard lets you modify each element in the directory structure. By default, each album is saved automatically in a subdirectory

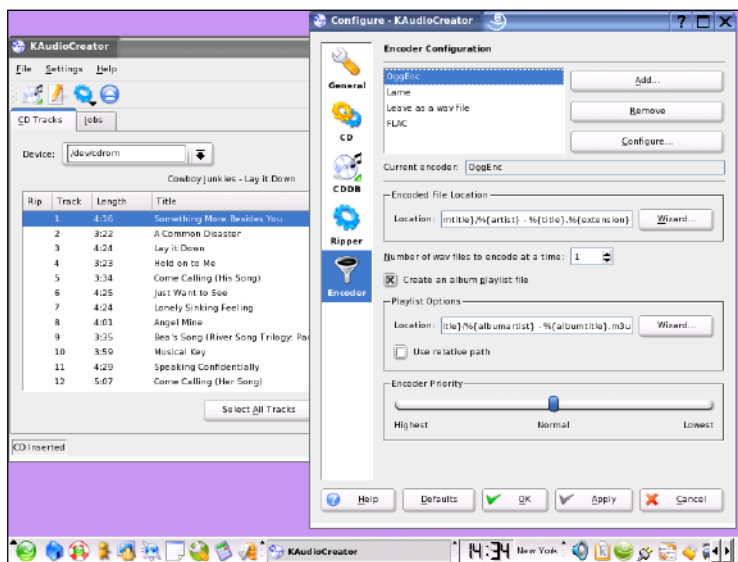


Figure 2. Setting defaults and determining file locations with the Encoder Configuration window.

of your home directory, based on its file format. For instance, I ripped five different albums in Ogg Vorbis format, and each one landed in its own subdirectory in home/JamesGray/ogg. Similarly, the albums I ripped in MP3 format ended up in a different directory, home/JamesGray/mp3.

Finally, this dialog box creates an album playlist file for you and places it in the directory of your choice. If you do nothing beyond checking the box labeled Create an album playlist file, the album playlist is saved by default in the same directory as the audio tracks.

STEP 3: RIP AND ENCODE—STARTING A JOB

As promised, we finally get to rip some files.

Be sure that the CD Tracks tab is selected on the main program interface, and then follow these steps:

1. Select the tracks you want to rip by manually clicking in the column labeled Rip. Otherwise, you can press the button labeled Select All Tracks to select them all.
2. Start the ripping (and encoding) process by pressing the icon with a blue gear on it. Pressing it once gives you the default file format you selected earlier in the preferences. Holding it down overrides the default and lets you choose the encoder you want on the fly.
3. Click over to the Jobs tab to see

how the ripping and encoding is progressing.

After KAudioCreator rips and encodes the entire batch of files, the entry disappears from the Jobs tab. This means that your files are ready and waiting for you to use. You can go and find the files in their own directory, organized by album title. In my example, I went with KAudioCreator's default on file placement, which led me to find my Ogg Vorbis files using the Konqueror file manager as follows: file:/home/JamesGray/ogg/Cowboy Junkies/Lay It Down/RespectiveSongTitle.ogg You also can see the results in Figure 3.

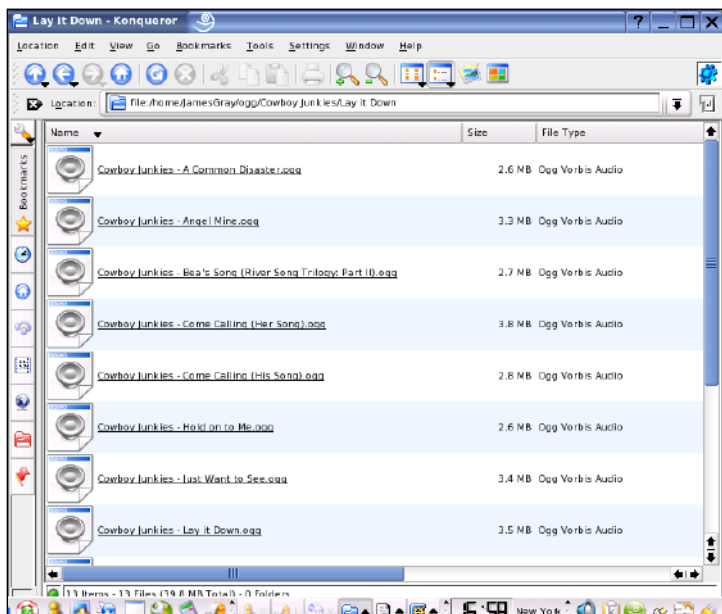


Figure 3. I used Konqueror to locate the ripped files in KAudioCreator's default directory.

STEP 4: ENJOYING YOUR MUSIC

Although the topic of audio on Linux is worthy of its own article, let's go over some of the ways to enjoy your MP3, Ogg Vorbis, and FLAC tracks.

1. Play them back on your computer: play a song by right-clicking on the file in your Konqueror file manager and selecting the Open With option in the resulting menu. Applications that will play the song for you include XMMS, amaroK, kaffeine, and RealPlayer. To play an entire album, launch XMMS by clicking K→Multimedia→Audio Player and selecting Play Directory, which

allows you to select a directory labeled with an album title that contains a series of tracks.

2. Burn a custom CD: the application you want to start to burn your own custom audio CDs is K3b. You can summon K3b under K→Multimedia→CD/DVD Burning. K3b is an intuitive application that walks you through a CD-burning project. As opposed to KAudioCreator, K3b has a solid manual to support you.

3. Download selected tracks onto a digital audio player (aka MP3 player) You can call your playback device an MP3 player, a digital audio player, or even an Ogg Vorbis player after reading this article. The latter name is becoming more realistic because numerous players are now compatible with the Ogg Vorbis format. Whatever you decide to call your player, you now can pack tons more music onto it, thanks to the size reduction afforded by the MP3, Ogg Vorbis, and FLAC formats.

As we conclude, I want to be sure you are aware that KAudioCreator has many other neat features with which to tinker and that we've only scratched the surface. Because you now have solid knowledge of the main features, procedures, and file formats, you should feel confident as you try new things. I wish you much success and enjoyment as you explore this exciting area in digital audio. Rip and encode with confidence! ■



James Gray has worked in marketing and promotion for several Linux companies over the past decade, including SuSE Linux, No Starch Press and *Linux Journal* (his current gig). By night, he is working on his MS degree in Environmental Science, which lets him play with GIS and other cool technologies. He welcomes your feedback at jgray@ssc.com.

RESOURCES

freedb: <http://www.freedb.org>

Ogg Vorbis Home Page:
<http://www.vorbis.com>

Free Lossless Audio Codec (FLAC):
<http://flac.sourceforge.net>