

id3lib

# ID Stamp

If an MP3 player is to display the title, artist and possibly the name of the album for a track, it needs to read this information from somewhere. But definitely not from the filename – ID3 tags are the source of this data, and id3lib handles them. **BY FREDERIK BIJLSMA**

No matter how neatly you organize your MP3 files in subdirectories by artists' names, albums and track titles, what is useful to a human, may not interest your machine in the least. To display the title information, your MP3 player needs access to standardized information stored in the MP3 files themselves.

Instead you need so-called *ID3 tags* – these are additional data fields, which are prepended or appended to the music file, depending on the version. In combination with the *id3lib* [3] library, ID3 tags are a useful tool that can help you reliably identify your MP3 files.

The library supports both the older **ID3v1** standard, and a newer version known as **ID3v2**. If you want to add more than just the artist, track, and album titles to your own MP3 collection [1] (ballroom dancing fans might be interested in adding a tag to more easily identify a Cha-Cha-Cha or a Salsa, for example), you should use the new version 2 tags. They allow you to add data in various formats such as Web links or

even images that relate to the track. The *id3lib* developers that work with the project's initiator, *Dirk Mahoney*, are careful to ensure that they adhere to the specifications. And this pays off in daily use.

The software, which was released under the **LGPL**, is not thrown by defective MP3 files, illegal tags or other obstacles. Its main component, the *libid3* library, is used by other projects, such as the *grip* [1] ripping

If your distributor does not provide an *id3lib* package, you can of course compile the source code as follows:

```
tar xzf id3lib-3.8.3.tar.gz
cd id3lib-3.8.3
./configure
make
su
make install
```

```
trish@fri:mp3/trish/ddt$ id3info aktrisa_vesna/Dozhd.mp3
*** Tag information for aktrisa_vesna/Dozhd.mp3
=== TIT2 (Title/songname/content description): Dozhd
=== TRCK (Track number/Position in set): 1
=== TPE1 (Lead performer(s)/Soloist(s)): DDT
=== TALB (Album/Movie/Show title): Aktrisa vesna
=== TYER (Year): 1992
=== TCON (Content type): (17)
*** mp3 info
MPEG1/layer III
Bitrate: 128Kbps
Frequency: 44KHz
trish@fri:mp3/trish/ddt$
```

Figure 1: Output a tag by using *id3info*...

software, and the Windows *MusicMatch* program.

The *id3tag* tool, which is supplied with the package, is used to tag MP3 files. *id3info* displays any tags that have been set, *id3convert* converts between ID3v1 and ID3v2 format, and a fourth tool, *id3cp*, copies tags from one file to another.

## Installation Overview

Users of the current Red Hat Linux or Fedora Core distributions can use the pre-compiled binary package at [5]. *su* to *root*, and enter the following command to install the package:

```
rpm -ivh id3lib-3.8.3-1.i386.rpm
```

## Show Us Your Tags!

*id3info* tells you what ID3 tags an existing MP3 file has. You pass one or multiple filenames to the program to output the tags, their content and the **bitrate** of the recording (see Figure 1). Most MP3 players should be able to display this information.

For example, you tell *XMMS* to display the ID3 tags by pressing [Ctrl-3] (see Figure 2).

After creating a new, enhanced version of an MP3 file, you can transfer the tags from the old file to the new one as follows:

```
id3cp Data_old.mp3
Data_new.mp3
```

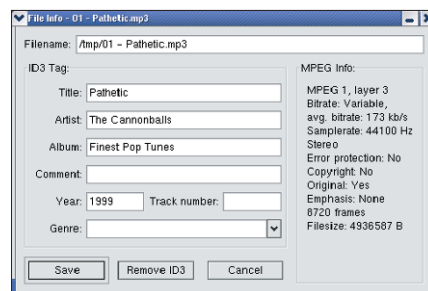


Figure 2: ... and by using the *XMMS* media player

## Out of the Box

There are thousands of tools and utilities for Linux. "Out of the Box" takes a pick of the bunch and each month suggests a little program, which we feel is either absolutely indispensable or unduly ignored.

But this is all the tool does. It will not allow you to transfer individual tags (such as the artist and the album title) from one file to another.

### Detective Work

If you want to correct an error in an existing tag, or set a new tag, *id3tag*, a simple tool that does exactly what you tell it, is the utility to look to. For example, the following command adds information on the artist, the song, the release year, and the Album name to a file called *01.mp3*:

```
id3tag -a"Cannonballs" -s"My Song" -y"2003" -A"Promo EP" 01.mp3
```

Assuming you have write privileges for *01.mp3*, the command sets both ID3v1 and ID3v2 tags. Fortunately, you can restrict the tags to just one version by stipulating *-1* or *-2*.

You can add or modify missing data, such as the album title for example, at a later date without affecting any other tags. For example,

```
id3tag -A"RAL 9005" *mp3
```

will set the album name in any files with the *mp3* suffix stored in the current directory to *RAL 9005*. The command will only overwrite existing album tags while doing so.

If you like to put together compilations of a specific musical genre (or simply want to listen to Blues tracks for the rest of the evening), you can assign a genre tag to your MP3 collection. For example,

```
id3tag -g"17" 01.mp3
```

assigns the genre ID 17 (see Table 1) to the sample file, indicating that it is rock music.

The complete ID3v1 genre list, which is available at [4] may be impressive, but genuine music or dance fans may not find a category for their own personal favorite musical style. The good news is that ID3v2 allows you to define your

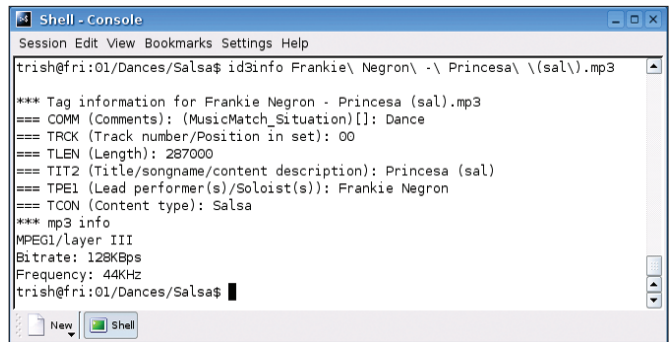


Figure 3: *id3tag* cannot create ID3v2 tags, as the ones displayed here by *id3info*

own genres, which *id3info* will display as follows:

```
==== TCON (Content type): Salsa
```

The bad news is that *id3tag* is not capable of setting custom genres, although *id3info* can display them, and despite the fact that the library provides functions to do this (incidentally, this also applies to annotations in URL and image formats). It is little consolation that Open Source players like *XMMS* are unable to evaluate these tags – in contrast to the MS Windows *WinAmp*. But that might be a good thing to add to the wish list for future versions...

### GLOSSARY

**ID3v1/ID3v2:** The two versions of the ID3 standard differ with respect to the kind of information they can store in MP3 files. For example, ID3v2 allows you to add up to 16 MB of arbitrary data in a tag field, whereas version 1 provides only a handful of special tags to indicate the title, artist, album, year and so on, at the same time restricting the data to 30 characters. ID3v2 allows you to assign URLs or image files to tracks. Also, the position of the tag at the start of the MP3 file is new. This ensures that the information assigned to an incomplete or streamed MP3

file will be available right from the outset.  
**LGPL:** The "GNU Library General Public License" allows any program to use the *id3lib* library, no matter under what license it is released. It also stipulates that the library source code, and any extensions to it, must be made publicly available.  
**Bitrate:** Indicates the number of bits per second that an audio recording contains on average. MP3s typically use values of 64 Kbit/s, 96 Kbit/s, 128 Kbit/s, and 160 Kbit/s. A higher bitrate is normally indicative of superior quality.

### INFO

- [1] Frederik Bijlsma: "Grip – Converting at speed", *Linux Magazine*, Issue 35, October 2003, p 80
- [2] Information on the ID3v2 standard: <http://www.id3.org/>
- [3] *id3lib*: <http://id3lib.sourceforge.net/>
- [4] Genre IDs: <http://www.killesberg.org/linuxuser/genres.txt>
- [5] Red Hat and Fedora RPMs: <http://dag.wieers.com/packages/id3lib/>



## Don't miss another DVD – upgrade your subscription today!

You can upgrade your subscription from Standard (magazine only) to DVD (magazine and DVD) at any time – you'll start getting the DVD with the next issue to be mailed.

For fastest service, use our secure online form:  
<http://www.linux-magazine.com/Upgrade>