

FLAC Audio: Options for Mac Users.

[FLAC](#) (Free Lossless Audio Codec) is an audio format which allows digital audio to be losslessly compressed, such that file size is reduced without any information being lost.

[Zunior](#) offers the choice of downloading the majority of their albums in FLAC format for a small premium, as compared to their MP3 format files. These files offer full CD (16 bit, 44.1kHz) quality sound.

Mac Users have three options when it comes to FLAC format audio files:

- Use a third-party software plugin to enable FLAC format audio support in iTunes.
- Use a music player that natively supports FLAC format audio files.
- Convert FLAC format audio files into iTunes compatible formats.

Note: If you have any iDevice (such as an iPod or iPad) and want to play your purchased music on them, the only option available is to convert FLAC audio files (see Option 3).

Option 1: Use a Third-Party Software Plugin.

[Fluke](#) is an iTunes plugin that enables the playback of FLAC audio files within iTunes. At the time of writing, the program has not been developed since September 2009, and has a number of known issues and compatibility problems.

Option 2: Music Players that natively support FLAC.

An increasing number of Mac OS applications support FLAC audio files. These products are generally targeted at the audiophile market:

- Songbird (<http://getsongbird.com/>) - Free.
- VLC Media Player (<http://www.videolan.org/vlc/>) - Free.
- Vox (<http://voxapp.didgeroo.com/>) - Free.
- Cog (<http://cogx.org/>) - Free.
- Play (<http://sbooth.org/Play/>) - Free.
- Audirvana Free (<http://code.google.com/p/audirvana/>) - Free.
- Audirvana Plus (<http://audirvana.com/>) - an advanced, \$49 version of the above.
- Fidelia (<http://www.audiofile-engineering.com/fidelia/>) - \$19.99 for the Basic version; an additional \$49.99 for the Advanced version.
- Decibel (<http://sbooth.org/Decibel/>) - \$33.
- Pure Music (<http://www.channld.com/puremusic/>) - \$129.
- BitPerfect (<http://bitperfectsound.blogspot.co.uk/>) - \$9.99 via the Mac App Store (Integrates with iTunes, and requires the Fluke plugin to play FLAC audio files).
- Amarra (<http://www.sonicstudio.com/amarra/>) - Price varies depending on version. Amarra Junior will be sufficient to play Zunior purchased 16bit/44.1kHz FLAC files, and costs \$79.

Some of the freeware software is no longer actively developed.

With the exception of BitPerfect, commercial software suppliers have time limited trials available to download before purchase.

Option 3: Convert FLAC files into iTunes supported formats.

Neither iTunes, or iDevices, support native playback of FLAC audio files. iTunes and iDevices support the following music audio formats:

- AAC (Advanced Audio Coding).
- MP3 (MPEG Audio Layer III).
- ALAC (Apple Lossless Audio Codec).
- AIFF (Audio Interchange File Format).
- WAV (Waveform Audio File Format).

AIFF and WAV are lossless uncompressed audio formats. Bit rates are 1411kbps, and have full CD quality sound. The AIFF audio format better supports metadata/tagging within iTunes than the WAV audio format.

ALAC is a lossless compressed format - the Apple equivalent of FLAC. Bit rates are variable, but are usually 700kbps and over. File sizes are somewhere between 40-50% smaller than the .aiff or .wav equivalent, yet have the same audio quality.

Both AAC and MP3 are lossy compressed audio formats - these offer smaller file sizes, at the expense of audio quality (some people can hear the reduction in quality; others can not). Bit rates can vary - ranging from 16kbps to 320kbps - the smaller the value, the smaller the file, and the worse the audio quality.

A rough file size estimate of a 4 minute audio track, using a variety of audio formats/bit rates is:

- AIFF or WAV - 40 MB.
- ALAC - 20MB.
- 320kbps MP3 - 9MB.
- 256kbps MP3 - 7MB.
- 128kbps MP3 - 3.6MB.

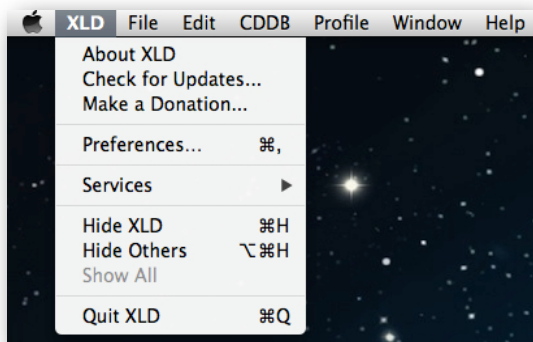
If you want the very best audio quality, at the expense of file size and the number of audio tracks you can fit on an iDevice, consider AIFF audio files. If you want decent audio quality, and have a substantial iTunes Library, consider high bit rate AAC files. Using ALAC offers the best of both - audio quality on par with AIFF audio files, and the ability to store twice the amount of music, as compared to AIFF.

Once you decide which audio format (and bit rate, if relevant) to use, you will need to convert your FLAC audio files. To do this, a number of solutions are available, but a popular, and actively developed application, is XLD (X Lossless Decoder). The next part of this guide will detail how to download, install and configure XLD to convert FLAC audio files into iTunes supported audio formats.

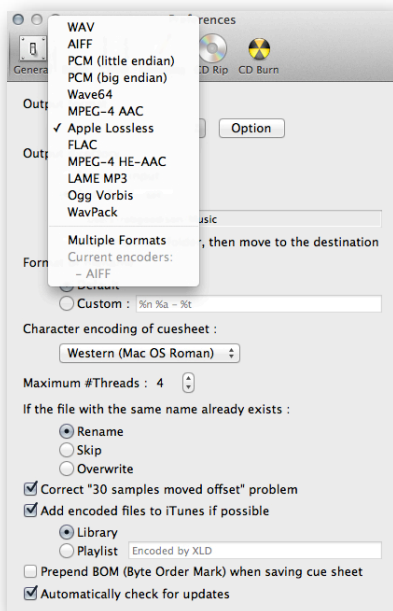
1. Download the GUI version from http://tmkk.pv.land.to/xld/index_e.html.

The archive is in .bz2 format, which can be opened by the Mac OS X Archive Utility (part of the Operating System). Navigate to the newly created XLD folder, and move the XLD application to your 'Applications' folder.

2. Open XLD. Navigate to the main XLD menu, and select '*Check for Updates...*' to ensure you have the latest version installed. Follow any on-screen prompts as necessary.



3. Select '*Preferences*'. The General tab should be selected by default. **Note:** XLD is actively developed, and as such, options can change over time.



4. From the '*Output format* .' drop-down list, select your iTunes compatible audio format (either WAV, AIFF, MPEG-4 AAC, Apple Lossless or LAME MP3) and click on '*Option*' to configure:

AIFF/WAV:

Apple Lossless:

MPEG-4 ACC/LAME MP3:

Bit Depth - leave as '*Same as original*'.

Sample Rate/Bit Depth - leave as '*Same as original*'.

Mode/Encoding Mode - select either variable or constant bit rates.

Encoder quality/Overall Quality - select '*Max*' or '*High*'.

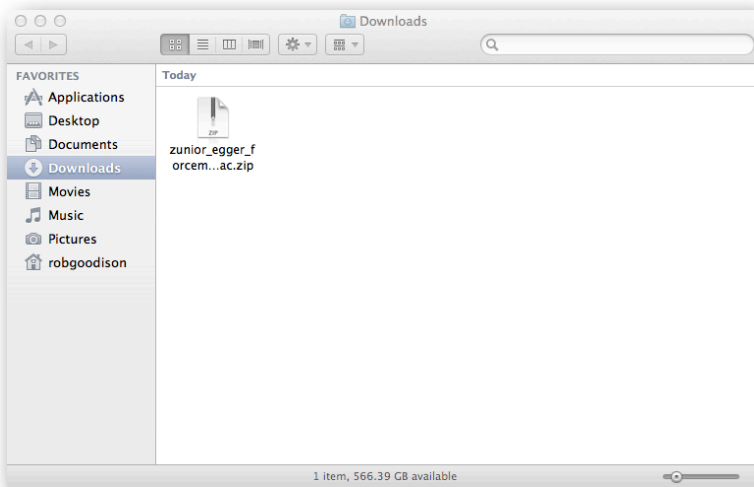
Sample Rate/Sampling Frequency - select '*44100 Hz*'.

Target bitrate - choose a bit rate (higher value = larger file size, but better audio quality)

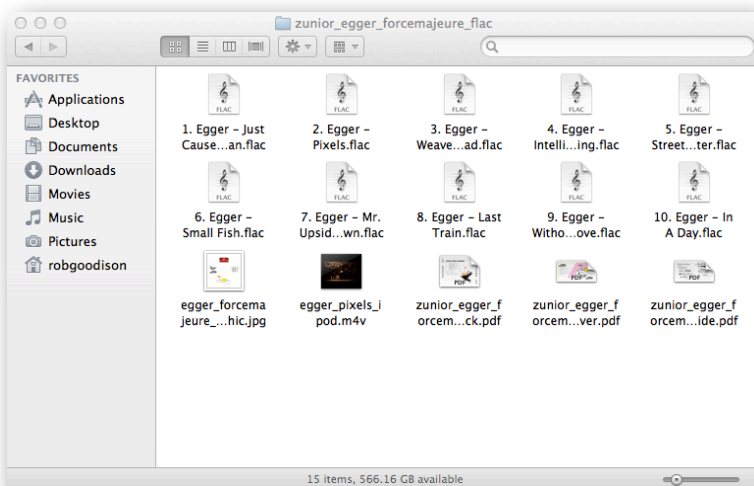
5. The '*Output directory* .' option, leave as '*Same as input*', or specify a folder.
6. Select the '*Add encoded files to iTunes if possible*' option, and ensure the '*Library*' radio-button option is selected.

7. Close the '*Preferences*' window.

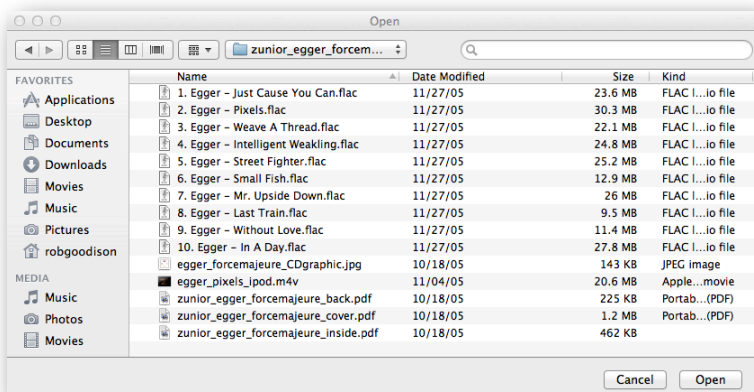
8. Zunior FLAC downloads are in .zip format. By default, when downloaded, they will download to your '*Downloads*' folder.



9. Double-click on the .zip archive - this will expand and create a folder in your '*Downloads*' folder.



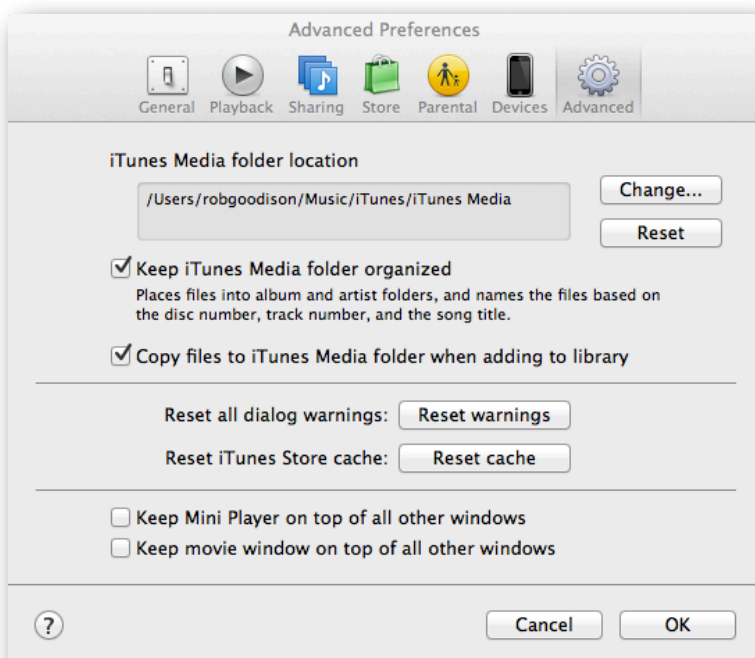
10. From the XLD menu, select '*File*', '*Open*'. Navigate to the folder where you extracted your FLAC .zip file.



11. Click on 'Open'.
12. XLD will start to convert the FLAC audio files into your chosen format. A progress window will appear - disappearing once the files have been successfully converted. The files will be added to iTunes. Locate the files in your iTunes Library, and adjust metadata as appropriate.
13. Once you confirm that the converted files have been successfully added to your iTunes Library, you can safely delete the original FLAC audio files, and the converted files (or if you prefer, move them to a suitable storage device for backup purposes).

Remember, you can download previous Zunior purchases from your 'My Account' area again, if necessary.

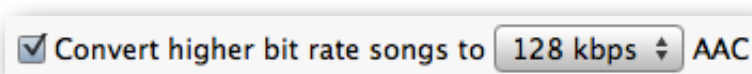
Note: Configuring your iTunes Preferences as follows will keep your music safe in your iTunes Library when you delete the converted FLAC audio files:



Having your Cake and Eating It.

If you are using iTunes version 10.6 and later, you now have the ability to have your Mac hosted iTunes Library in AIFF or ALAC audio format, and have the option of converting higher bit rate songs to either 128kbps, 192kbps or 256kbps AAC audio files on your iDevice.

Select your iDevice in iTunes, and on the 'Summary' tab, check the 'Options' section:



By default, the 128kbps bit rate is selected - change as necessary. Note that syncing your iTunes Library to your iDevice will take longer, as the higher bit rate files will have to be converted on the fly.