

## How to Convert a GarageBand File to an .mp3

GarageBand files will only play in GarageBand. If you want to put them on the web, on a CD, or on your iPod, you'll need to convert them to an appropriate audio format. Here are some typical audio formats:

**AIFF** (.aif) = **Audio Interchange File Format**, an uncompressed file format that retains all of the sound quality of the original--that is it's "lossless." This is appropriate if you're making a CD or are not limited in file size.

**WAV** (.wav) = **Windows Audio Vornat (?)**, another uncompressed file format that retains all the sound quality of the original. Again appropriate if you're making a CD or care more about quality than file size.

Both of the above formats are easily handled by almost every audio program whether Mac or Windows.

**MP3** (.mp3) = Actually MPEG layer 3 (MPEG means **Motion Picture Experts Group** and **layer 3** is the audio portion of a compressed video file. This is a ubiquitous audio format now --especially for the web. There are other, better formats on the scene now (see below) but nowhere close to .mp3 in availability. The real .mp3 format is owned by the Fraunhofer Institute in Germany. Anyone who uses it in a software product must pay a liscensing fee to Fraunhofer. Therefore, you see a lot of audio editing programs that don't have it or that charge an extra fee for making it functional on their packages. There are some more or less compatible alternatives to the Fraunhofer mp3 codec, notably the LAME Library that is available free in the public domain.

Mp3 is a "lossy " codec, that is it throws away data when it compresses a file. You can specify how much it throws away by choosing the desired bit rate of the final product. A bit rate of 160 Kbs or above is practically indistinguishable from CD audio because the data that's thrown away is imperceptible to most ears. 64 Kbs and below can start sounding pretty muffled but often is the best compromise for streaming web audio-- particularly non-music audio. 128 Kbs has become a sort of standard for high quality music on the web.

**AAC** (.aac) **Advanced Audio Coding** is used by iPods. It has been adopted the core of the MPEG-4, and 3GPP (cell phone) specifications and according to it's creator, Apple, is the audio codec of choice for Internet, wireless and digital broadcast arenas. AAC provides audio encoding that compresses much more efficiently than older formats, such as MP3, yet "delivers quality rivaling that of uncompressed CD audio."

Like MP3, AAC was developed by the MPEG group that includes Dolby, Fraunhofer (FhG), AT&T, Sony and Nokia--companies that have also been involved in the development of audio codecs such as MP3 and AC3 (also known as Dolby Digital). The AAC codec in QuickTime builds upon new, state-of-the art signal processing technology from Dolby Laboratories and brings variable bit rate (VBR) audio encoding to QuickTime.

Leaving aside Apple's hype, AAC is a good codec but not yet a popular as mp3. If a browser has the Quicktime plugin, it can handle AAC encoded audio.

Here are a few others just to give you some idea of the numerous formats that have been tried..

**WMA** (.wma) = Windows Media Audio

**BWF** (.bwf) = Broadcast Wave Format

**IFF** (.iff) = Interchange File Format, an old Amiga Computer sound format. ( R.I.P)

**AU** and early lossless format used on Unix machines

**Ogg Vorbis**

**FLAC**

**APE**

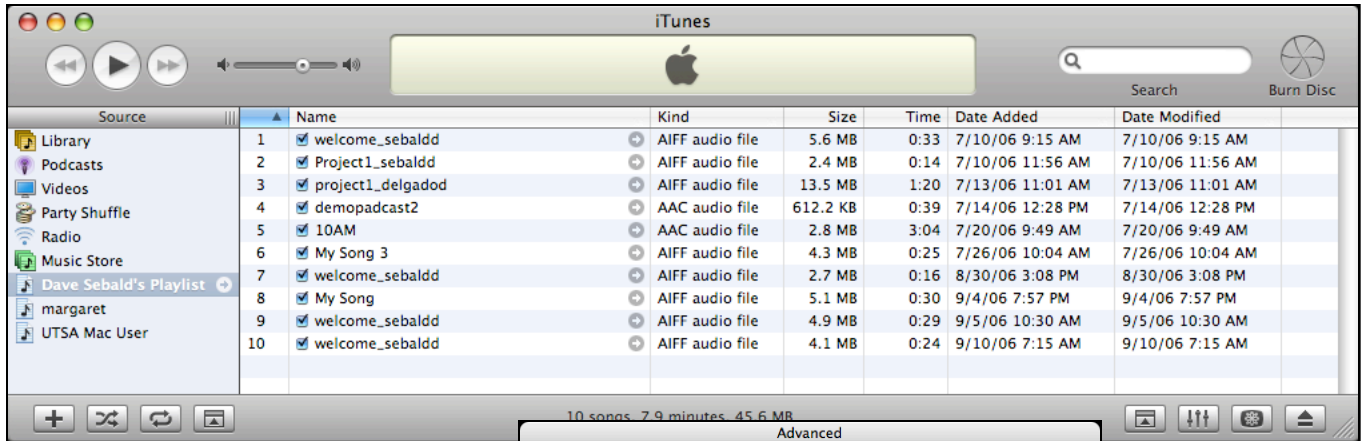
**TTA**

But, hey, enough of the TLA's (Three Letter Acronyms).

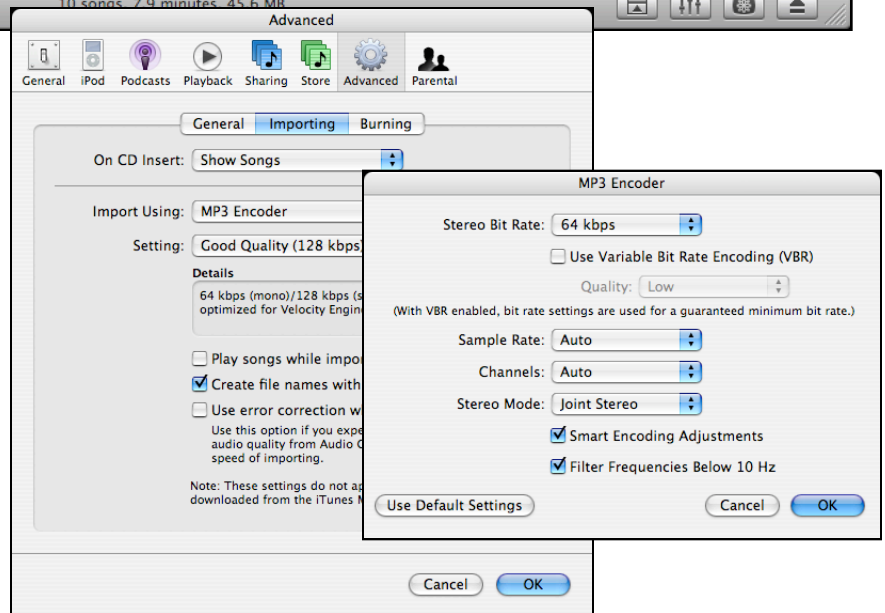
For now, use **.mp3** for web-based audio.

Use **AIFF** (or .wav if you must) for making a CD. (Any decent CD burning software will convert AIFF files into something readable by most CD players. Cheap CD burning software will often leave out the frame code that real Red Book Audio mandates for legitimate CD audio)

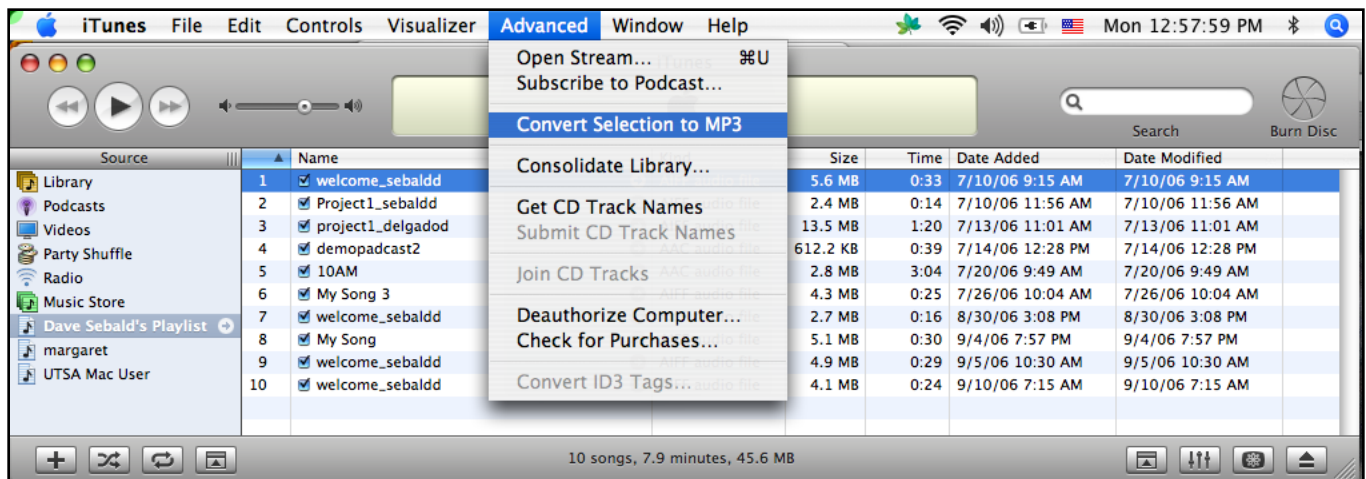
1. If you haven't already done so in GarageBand, choose Send Song to iTunes from the Share menu. This will convert all the tracks into a stereo AIFF file and then will send it to iTunes.
2. iTunes will open automatically and will start playing your audio file. Press the spacebar to stop it.
3. Locate your **"welcome\_lastnamefirstinitial"** AIFF file in iTunes list of songs. On the lab macs, it will be in the **UTSA Mac User's Playlist**, but will also appear in the complete **Library**. Be sure to check that it is the latest version by looking at the **Date Created** column. Also be sure that it is the **AIFF** file you just sent from GarageBand.



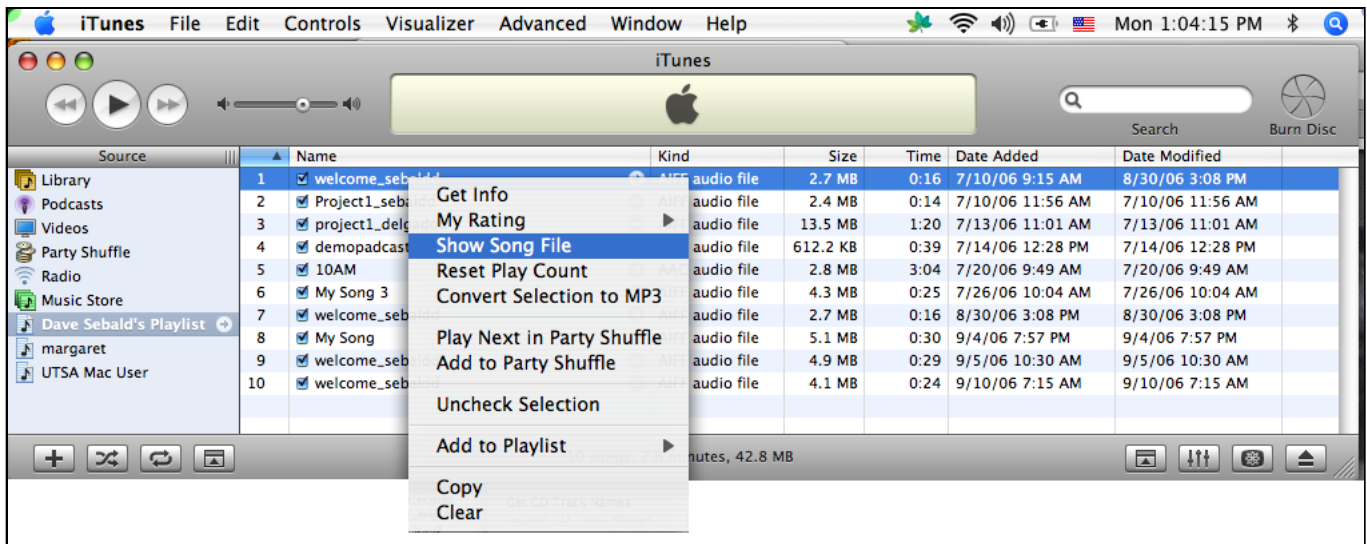
4. Before you convert the song to .mp3, you probably will want to open iTunes Preferences (iTunes menu/Preferences) and check the encoding format and bitrate. Remember that you want this file to sound as good as possible while still being under 200K in size. Normally **Good Quality (128Kbs)** will be an acceptable compromise, but if you find that the .mp3 you make is larger than 200K, you will have to choose **Custom** from the Settings popup and then change the Stereo Bit Rate to something less (like 64). The final compromise is up to you, but remember that I'm grading this project on adherence to parameters.



5. Once you have chosen what you think will be a good bit rate, click once on your audio file to select it and choose Convert Selection to MP3 from the Advanced menu.



6. It will take a few seconds for iTunes to make the conversion. When it's done, the chime will sound and your new .mp3 file will be added to the **Library** list. Go there to see it listed.
7. What you see in the Library is just a listing. The real .mp3 file is buried somewhere deep in the Mac's hierarchical file system. To find it, hold down the Control key and click on the name of your .mp3 file. Select **Show Song File** from the popup menu.



8. A window containing the actual sound file will open with the file highlighted. Now simply drag the file over to the Desktop icon. It will be moved to your Desktop. From there you can use Fugu to upload it to your website.

