Project Files

DAW projects create many files:

Tracks, edits, imported files, project files, versions

Keep them together always.

Backup by burning a DVD is probably the smart option.

Audio File Types

Basic uncompressed formats:

PCM Pulse code modulation.

Stored as **AIFF** (Mac) or **WAV** (Win) or **AU** (Unix).

Flexible as to sampling rates.

A compressed version WAV ignores silence.

TTA and FLAC

Lossless compressed, about ½ size as PCM.

TTA is a *free* codec, but

FLAC is supported by more hardware makers (DVDs)

FLAC is also copy-protection free.

Great for archiving.

Has Vorbis and Ogg support.

WMP needs a plug-in to play FLAC.

Not in Mac QT yet. Need Cog to play.

MP3 and Ogg Vorbis

• Both based on psychoacoustic models that leave out many bits of sound that humans can hardly notice anyway.

• Careful listeners often like Ogg Vorbis over MP3.

MP3 used the MPEG-1 audio layer 3 codec developed for movies. About 1/10 the size of PCM.

MP3 requires a license fee for the software that creates the files. Ogg Vorbis is ***free***.

OGG has a number of separate codecs for audio, video, and text subtitles. **Vorbis** is the audio part.

WMA

Windows Media Audio

Compressed, and proprietary.

Meant to be a competitor of ACC at the Microsoft store.

AAC

Apple's Advanced Audio Coding that is open source, but they use a closed source version for iTunes music.

ALE or ALAC

Apple Lossless. About 50% file reduction.

Has extension .AAC but is different.

Developed in 2004 for iTunes and iPods.

RealAudio

Compressed format suitable for ***streaming***

Lossy with different codecs for music or spoken word.

(Many options designed for 5, 6.5, 6, 8.5, 11, 12, 15.2, 16, 20, 32, 40, 44, 64, 80 and 96 Kbps transfer rates. Options for Dolby also.)

RealSystem encoding tools from Real in Seattle.

Can also stream AIFF, AU, WAVE with their software.

ATRAC Sony's Minidisk

Popular as a quick inexpensive live recording medium.

Compression with very little loss.

Recorders start at $200, can be tiny.

Disks are handy to use.

Optical connection to PC-Mac.

Surround Sound Options
Dolby Digital or AC-3, requires a license fee.

DTS aka Digital Theater Systems for commercial systems.
Very different technology, with a higher bit rate than Dolby.

Apple has Advanced Audio Coding AAC – license fee.

Vorbis and MP3-Surround are newcomers.

5.1 Most common.
6.1 with center rear speaker is Dolby Digital EX.

Mixing Surround Sound

Editors such as Pro-Tools (industry standard)
or Logic Pro,
or Final Cut
have 5.1 and 6.1 mixing.
Plugins such as WAVES M360 Surround Manager
WAVES S360 Surround Panner

Requires lots of processing power.

The tracks are still created and edited much like we have done, just at high sampling rates that might slow down our machines.

Better definition, less masking, less effects needed.

ADAT
Formerly the industry standard for digital recordings on tape.
Still used for masters at some studios.

ADAT HD 24 was developed for hard disk recording.

And **ADAT Lightpipe protocol** is currently used to hook up hardware, and can bring in 8 channels through one optical connection.

File Favorites for Animation
Put them in the native OS format, WAV or AIFF.
Rendering software will encode as necessary.

File Favorites for CD Recording
WAV probably. AIFF or AU usually fine. 44,100 sample rate.
Don't use lossy options. Red Book uses full PCM files.
Perhaps FLAC a good choice for archiving.

For Video/Film
WAV probably. AIFF or AU usually fine. 48,000 sample rate.

File Favorites for Web
MP3 for longer files
WAV and AIFF and AU for short all-purpose uses, like clicks and beeps.

Flash (SWF) is popular.
Compresses as MP3
Flash plug-in can integrate into the web page,
so there is no need for WMP or QT to appear.

Flash accepts either WAV or MP3,
You should use WAV because of higher quality.
Flash will make MP3 anyway if you wish.