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Mobile Media .mp3 music

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.mp3 music file

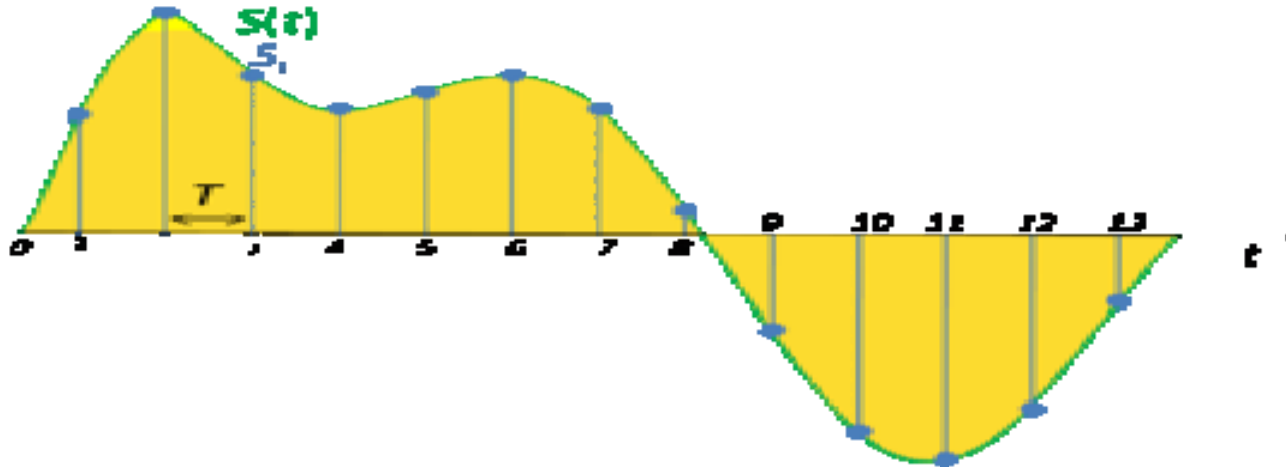
- A compressed data file (.mp3)
- Not the same as a music CD! (.cda)
- The most popular digital music file type.
- BIT RATE = QUALITY – 128 kbit/s, is most common. 160, 192, 224, 256 and 320 kbit/s, the data required for 1 sec. of music
- QUALITY = DISC SPACE 😊

.mp3

- MP3 is an audio-specific format that was designed by the [Moving Picture Experts Group](#) as part of its [MPEG-1](#) standard and later extended in [MPEG-2](#) standard
 - ‘mpeg-1 audio layer 3’, is not MPEG-3
 - ‘lossy’ – it tosses away data to save space
 - Sound quality is sacrificed
- Good sound -
 - Bit Rate of **128 kbit/s**,
 - Sample Rate of 44.1kHz (default)

Digital Audio

- Analog-to-Digital Converter (ADC). The **ADC** captures a snapshot of the electric voltage on an audio line and represents it as a digital number that can be sent to a computer.
- For a CD - recording with a 44.1 kHz sampling rate, a 16 bit depth, and 2 channels (stereo): $44100 \times 16 \times 2 = 1411200$ bits per second, or 1411.2 kbit/s



- **Sample rate:** The rate at which the samples are captured or played back, measured in Hertz (Hz), or samples per second. An audio CD has a sample rate of 44,100 Hz,
- **Sample size:** The number of digits in the digital representation of each sample. An audio CD has a precision of 16 bits.

How you do it ...

- Git some music!
 - Encode (create) – aka **‘rip’**
 - From a CD to your computer.
 - Download – purchase, purchase, purchase!
 - From iTunes, Amazon, Rhapsody,...
- Listen to some music!
 - On your computer (a music software player)
 - Upload to an .mp3 player – drag ‘n’ drop!
 - Burn a CD for ‘music’, or ‘data’
 - Use Playlists – custom lists of music

Where is my Music?

- Windows
 - ../My Documents/My Music
 - Folder for artists and albums
 - iTunes? –
 - /My Documents/My Music/iTunes/iTunes Music
 - Folder for artists
- Mac? -

What you can use

- Software that plays .mp3 music
 - iTunes (.acc)
 - Windows Media Player
 - WinAmp –
 - Rhapsody (and many more)
- Devices
 - iPod, iPhone
 - Sansa
 - DVD players

Let's Review

- Get a .mp3 player (iPod, Sansa)
- Check the manual for software needed
- Stock you music library - 'rip' some music to your computer
- Use Bit Rate of **128 kbit/s**, when you 'rip'
- **Use defaults** for directories (folders) usually 'My Music'
- **Back up** your music ! ! !

Types of music files

- **Open Formats**

- **.wav** - standard audio file format used mainly in Windows PCs. Commonly used for storing uncompressed (PCM), CD-quality sound files, which means that they can be large in size - around 10MB per minute of music.
- **.mp3** - the MPEG Layer-3 format is the most popular format for downloading and storing music. By eliminating portions of the audio file that are essentially inaudible, mp3 files are compressed to roughly one-tenth the size of an equivalent PCM file while maintaining good audio quality.
- **.ogg** - a free, open source container format supporting a variety of codecs, the most popular of which is the audio codec Vorbis. Vorbis files are often compared to MP3 files in terms of quality. But the simple fact mp3 are so much more broadly supported makes it difficult to recommend ogg files. [Sample .ogg file.](#)
- **.aiff** - the standard audio file format used by **Apple**. It is like a wav file for the Mac. [Sample .aif file.](#)

- **Proprietary Formats (supported by our software)**

- **.wma** - the popular Windows Media Audio format owned by Microsoft. Designed with Digital Rights Management (DRM) abilities for copy protection. [Sample .wma file.](#)
- **.aac** - the Advanced Audio Coding format is based on the MPEG4 audio standard owned by Dolby. A copy-protected version of this format has been developed by **Apple** for use in music downloaded from their iTunes Music Store. [Sample .aac file.](#)
- **.ra - a Real Audio** format designed for streaming audio over the Internet. The .ra format allows files to be stored in a self-contained fashion on a computer, with all of the audio data contained inside the file itself. [Sample .ra file.](#)
- **.dss** - Digital Speech Standard files are an Olympus proprietary format. It is a fairly old and poor codec. Prefer gsm or mp3 where the recorder allows.
- **.msv** - a Sony proprietary format for Memory Stick compressed voice files. You might need a Sony plugin to load this. Click [here](#).
- **.dvf** - a Sony proprietary format for compressed voice files; commonly used by Sony dictation recorders. You might need a Sony plugin to load this. Click [here](#).

Music Netiquette

- Buy music
- Don't share
- Don't email .mp3 files if you can avoid it
- Only email 1 or 2 at a time.
- Ask people if you want to send them a big file
- Turn off 'auto play' on your web site