Digital Music

Where to get it and how to play it

Digital Music – What is it?

- Digital music is sound recorded or converted into discrete, numerical data (ones and zeros), contrasting with analogue formats like vinyl or tape.
- This binary code can be stored on devices, shared online, and played back by digital players, with formats ranging from physical CDs to non-physical files like MP3s and streaming services.
- Digital music production uses computers and software for creation, manipulation, and playback, enabling high-quality, non-degrading replication of sound without the physical wear of analogue media.

Digital Music - How it works

- **Analog to Digital Conversion**: Sound waves are captured as continuous analogue signals and then sampled at high frequencies by an Analog-to-Digital Converter (ADC).
- **Sampling and Encoding**: Each sample's amplitude is converted into a binary code (digital information).
- **Storage**: This numerical data is stored on digital media, such as computer hard drives, CDs, or cloud-based servers for streaming.
- **Playback**: A Digital-to-Analog Converter (DAC) retrieves the binary data, converting it back into an analogue signal that a speaker can reproduce as audible sound.

Digital Music - Key Characteristics

- Numerical Representation: Sound is represented as discrete numerical values (bits) rather than physical variations.
- Non-degrading Copies: Digital files can be copied perfectly without any loss of quality, unlike analogue copies which can degrade over time.
- Storage Efficiency: Digital files require less physical space than analogue recordings, allowing for massive music collections on small devices.
- Manipulation and Editing: Digital audio can be easily edited, mixed, and enhanced using software, adding effects like reverb and equalization.

Digital Music - Formats & Technologies

- Files: MP3, FLAC, and WAV are common file types for storing digital audio.
- Physical Media: Compact Discs (CDs) are a physical form of digital music, storing data in pits and lands read by a laser.
- Streaming Services: Platforms like Spotify and Apple Music deliver digital music directly to users over the internet.
- Digital Instruments: Computers, synthesizers, and software are used to create and perform music digitally.

Where to get it?

- There are 2 ways of getting Digital Music:
  - You can download from stores on the internet to keep, for how long check T&Cs. Usually you have to buy.
  - You can Stream it to listen to it now. This is a mix of free and purchase sites.

Where to get it - Purchase

- iTunes (Apple) – considered the Best catalogue of digital music
- Bandcamp – considered the Best for indie music
- Amazon Music – considered the Best for Prime members
- Qobuz – considered the Best prices for lossless music
- 7digital
- Classical Archives
- Jamendo
- eMusic

Where to get it - Streaming

- Amazon Music
- Apple Music
- Bandcamp
- iHeartRadio
- Jango
- Napster
- SoundCloud
- Spotify
- Stingray Music
- YouTube Music

How to play it

- PC\Laptop with internet connection
- Mobile Smart Phone
- Portable Music Players
- Smart TV
- DAB Radio
- MP3 Player

Modern Cars without CD\Tape players

- Obviously the (DAB) radio installed
- A Smart phone connected via Bluetooth or cable
- From a memory stick (with a converter Probably)
- Possibly using an external CD(\DVD) player
- MP3 Player connected via Bluetooth or cable

How to Rip a CD/get the music from a CD

- To convert a .cda file to an MP3, you must have the physical audio CD, as a .cda file is a link to the music on the CD, not the music itself. You can then use a program like Windows Media Player, iTunes, or a free converter such as VLC Media Player or FreeRIP to "rip" the audio from the CD and save it as an MP3 file.
- Using Windows Media Player (Windows)
  - **Insert**: the audio CD into your computer's CD drive.
  - **Open**: Windows Media Player.
  - Go to the Rip Settings menu, select Format, and choose MP3.
  - Select the location where you want to save the MP3s.
  - Click the Rip CD button to begin the conversion process.