



ExplorNet's

Digital Media



Objective 104.01

Explain concepts used to create digital audio.



DM **DIGITAL AUDIO**

- Sound that has been captured, created, or edited electronically by a computer.
- Analog (non-digital) audio sources are converted to a digital format by a process called sampling.
- Sampling reproduces a sound wave by recording many fragments of it.
- In media production, sound and music are crucial to helping to establish moods and create environments.



DM

QUESTIONS TO CONSIDER

- Can you identify any analog audio devices?
- Have you ever heard analog audio? If you have, do you think analog or digital audio sounds better?



DM **CHANNEL NUMBER**

The amount of individual audio channels used during playback. The more channels of audio, the more realistic the sound.

- Monaural (Mono)
 - All sources of audio play out of one single channel.
- Stereophonic (Stereo)
 - Audio sources can be separated into two different channels (left and right).
- Surround Sound
 - Multiple audio channels; usually 5-7 channels.



DM

QUESTIONS TO CONSIDER

- Do you think there is a limit to the number of channels a piece of audio can have?
- How many channels of audio do you think big budget movies (Marvel movies) have?
- Do you notice the different channels in movie theaters?



DM **STREAMING AUDIO**

Transmitting audio files that can begin playing over the Internet as the remaining data is still being downloaded.

- Creates little to no wait time to begin hearing the audio file.
- Example of websites that use streaming audio technology include Pandora, Spotify, Grooveshark, etc.



DM

AUDIO FILE FORMATS

.MP3

- Most popular audio file format.
- Standard for downloading and storing music.
- Commonly used for streaming over the Internet.

.WAV

- Standard file format for PCs.
- Native sound format for Windows environment.



AUDIO FILE FORMATS

.WMA

- Uses Windows Media Player for audio playback.
- Microsoft format used for streaming audio files.

.MIDI

- Musical Instrument Digital Interface
- Standard file format used by digital instruments (keyboards, guitars, etc.).
- Contains information about musical notes.



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AUDIO FILE FORMATS

.AAC/.M4A

- Standard file format for Apple Computers.
- Higher quality sound than .MP3.
- Standard file format used by mobile devices.



DM

QUESTIONS TO CONSIDER

- What type of situation would require someone to use any of the aforementioned specific audio formats?
- Do you think it's important to have different audio formats or should there be one, universal, audio format?