

MIDI

Musical Instrument Device/Digital Interface

- MIDI allows computers, synthesizers, MIDI controllers, sound cards, samplers and drum machines to control one another, and to exchange system data.
- MIDI controls music being played by a synthesizer, or cues for a multimedia show.

- MIDI connectors



- Recently USB is the common MIDI connector

- 16 Channels at a time
- 128 GM Sounds (General MIDI)
 - 1-8 Piano
 - 9-16 Chromatic Percussion
 - 17-24 Organ
 - 25-32 Guitar
 - 33-40 Bass
 - 41-48 Strings
 - 49-56 Ensemble
 - 57-64 Brass
 - 65-72 Reed
 - 73-80 Pipe
 - 81-88 Synth Lead
 - 89-96 Synth Pad
 - 97-104 Synth Effects
 - 105-112 Ethnic
 - 113-120 Percussive
 - 121-128 Sound Effects

- For a virtual instrument, it includes what note to play, how loud, how much attack or timbre, duration, etc.
- MIDI keyboards are common on stage, but you could get an inexpensive midi-USB keyboard, a \$40 adaptor to go to USB, and use it with virtual instruments in your computer software.

- Almost all music recordings today utilize MIDI as a key enabling technology for recording music.
- Typical Example: midi can trigger drum beats (actual little sample recordings) on a track that are played at exactly the right timing, time after time.
- Excellent virtual instruments are available that sound so much like real instrument performances that it is difficult for almost anyone to tell. In a mix, then, it is even harder to tell!

MIDI Files

- Modern computer sound cards are MIDI-compatible and can be capable of creating realistic instrument sounds, but older models sucked.
- Using virtual or software instruments in an application such as Garage Band is much better.
- Like a piano roll with more control
- The most compact of all music files
- Files have .mid extension
- Sending them to someone else to hear is chancy if you don't know what kind of instruments they have on their sound card or in software.

MIDI Timecode

- Synchronization of MIDI sequences is made possible by the use of MIDI timecode, an implementation of the SMPTE time code standard (movie industry). MIDI timecode has become the standard for digital music synchronization.