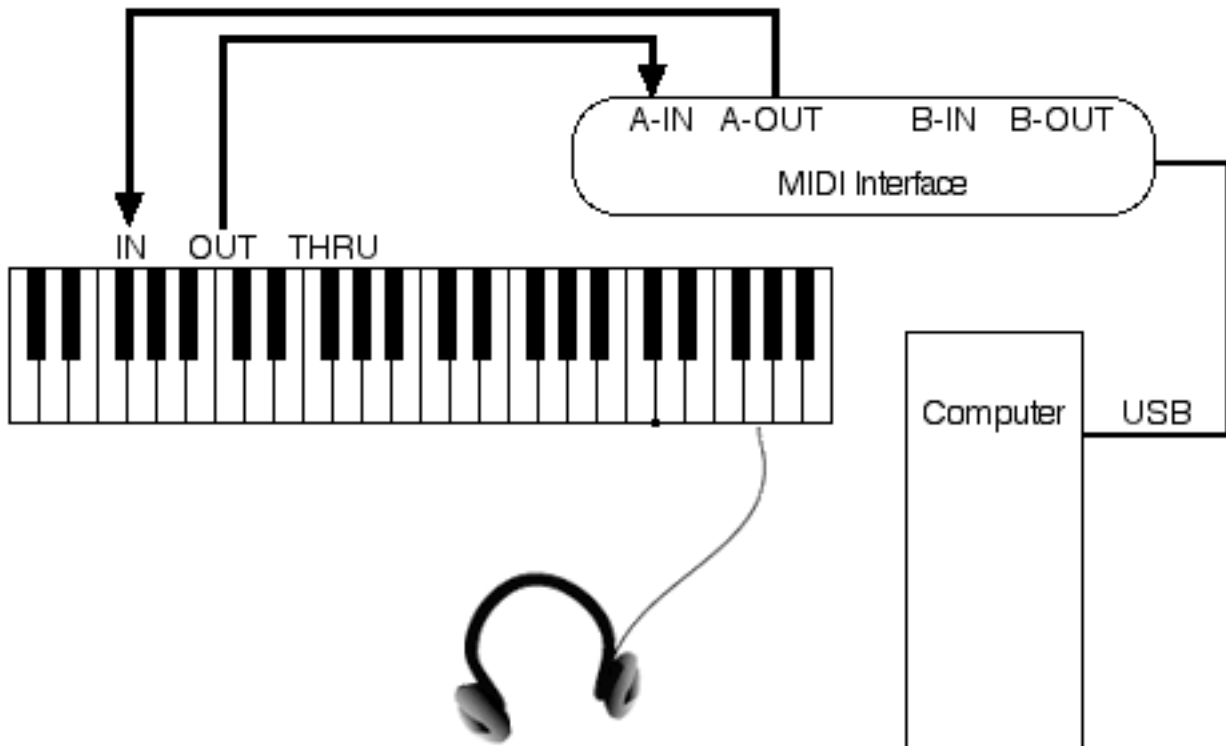# Basic MIDI Setups

This is the MIDI setup we have in the classroom:

Playing the keyboard and recording onto the computer

When you play the keyboard, MIDI information is sent out of the keyboard's **MIDI OUT** jack, through the MIDI cable, and into the **MIDI IN** jack on the MIDI interface. You can see the **MIDI IN** light blinking on the MIDI interface with each note you play. From here, the MIDI messages are sent through the USB cable to the computer. If Digital Performer has a track record-enabled, the MIDI information will get recorded onto the track.

Playing your sequence from the computer

When you play your sequence in Digital Performer, MIDI messages that you have recorded travel out of the computer through the **USB cable** to the **MIDI interface**. You can see the **MIDI OUT** light on the MIDI interface blinking with each note. The MIDI information then travels through the MIDI cable from the **MIDI OUT** jack on the interface to the **MIDI IN** on the keyboard. The MIDI information tells the keyboard which notes to play and on what MIDI channels. Information about key velocity (which usually relates to loudness) and note durations are also part of the MIDI messages.

You hear the sound with your headphones, which are plugged into the keyboard. Audio does not get generated until the keyboard receives the MIDI information. In other words, **MIDI does not contain any actual audio waveform data, nor does it contain any information about the sound that you will hear.** MIDI only contains messages such as "note on" and "note off", "modulation wheel", "pitch bend", "sustain pedal", etc, which reflect what you've actuallyplayed with your hands on the keyboard or with your feet on the pedals.

The sound you select on a particular MIDI channel on the keyboard (which can be called a **Patch**, or **Program**) is the sound you will hear when that particular MIDI channel is triggered.

This is an example of a more advanced MIDI setup:
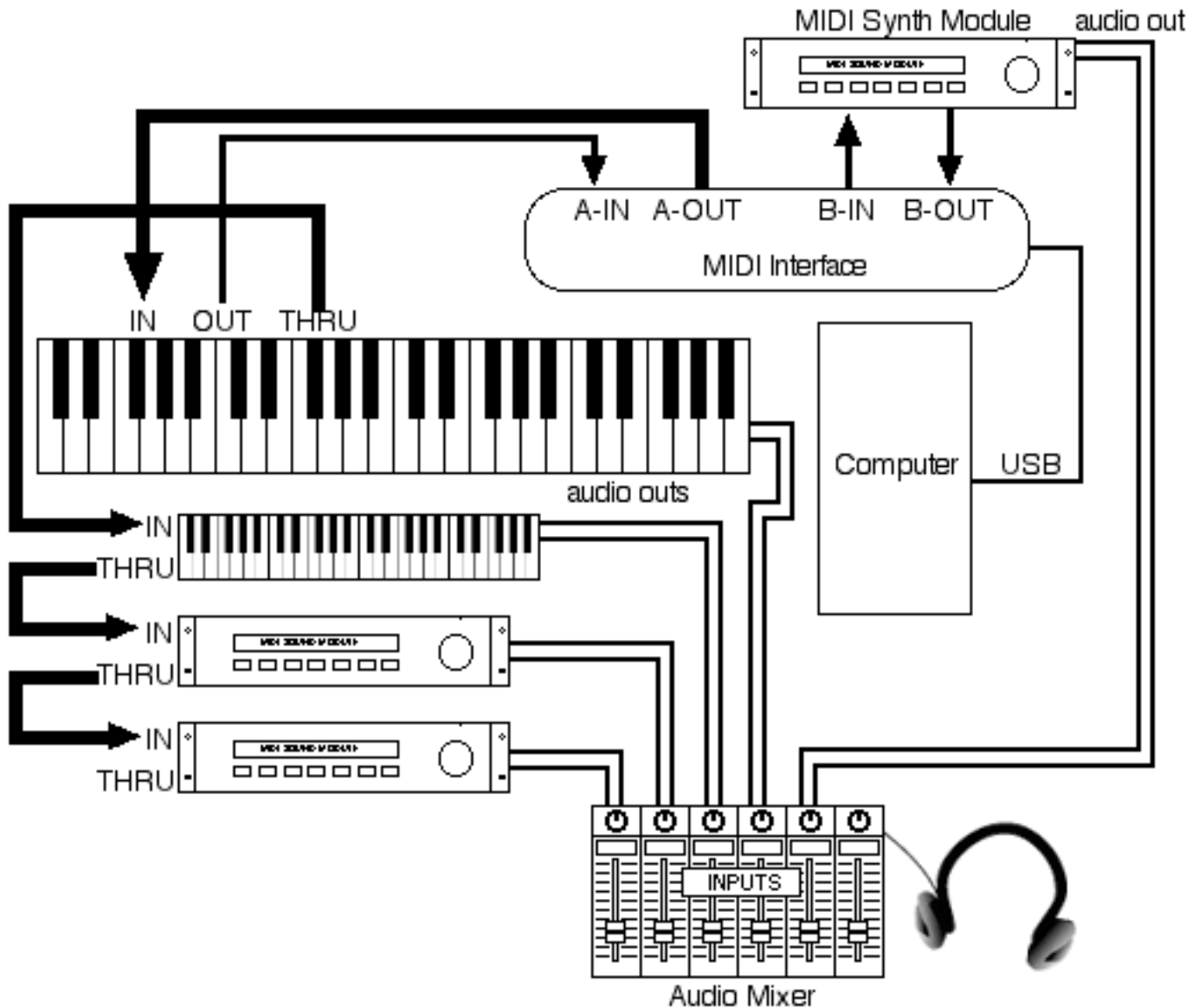
This setup has one additional keyboard, three synthesizer modules, and an audio mixer. This is just one example of a possible MIDI setup. Use your imagination to think of other MIDI setups.

Daisy Chain

On the left , 4 synthesizers are connected in **daisy chain** fashion with thick arrows ➡. The **daisy chain** starts from **port A MIDI OUT** on the MIDI interface, IN to the main keyboard, then out of the THRU of the keyboard, into the IN of the extra keyboard, then out of the THRU, into the IN of the first synth module, out of the THRU and into the second module. It is hooked up in a linear fashion, like a chain:

OUT ➡IN ➡THRU ➡IN ➡THRU ➡IN ➡THRU ➡IN

The synthesizers in the **daisy chain** must share 16 MIDI channels. If any of the synths have the same MIDI channel enabled, both of those synths will play at the same time when MIDI information on that MIDI particular channel is sent out of the MIDI interface. The synthesizer module connected to **port B** of the MIDI interface (upper right in diagram) has 16 MIDI channels all to itself. This would be handy if it is the synth that you use the most.