

Linux MIDI with Alsa

MIDI is in its core a pure **transmission protocol** for note and control events via serial (not RS232!) lines. MIDI is **not responsible for the sound production**.

MIDI can nowadays (2019) be connected to a computer or to a sound device via two methods:

- USB (thats what we use here)
- original MIDI serial line (requires a special MIDI interface)

No special driver for MIDI is needed under Linux. The USB driver handles it all. The Linux MIDI commands mentioned below work (with the exception of *lsusb*) for both types of interfaces.

Under Linux all major MIDI tasks can be done on the command line - no fancy graphics tools are needed. As Linux and its distributions have no MIDI player (for the sound production) an additional package must be installed. I suggest **Timidity** even if the sounds ("sound fonts") are not as good as those from the standard MIDI player under Windows. Alternative free sound fonts found in the Linux world aren't also not good - even worse. Note: Timidity is not simple - you need some time to understand its concepts.

If you have an external sound module (like Roland 1010 or others) or an E-piano (like Yamaha CP4) than this is probably better. A small and cheap (ca. 30 Euros) sound module is available under the name **SAM2695** - but it requires some DIY soldering activities. The sound quality is not excellent but acceptable.

Preconditions

- **Timidity** has been installed, produces sounds and is running as a background process
- The commands **arecordmidi**, **aplaymidi** exist

On my machine Timidity runs as a background process as the output of command "ps ax | grep idity" shows:

```
516 S  0:02 /usr/bin/timidity -Os -iAD
```

The MIDI keyboard (could also be an E-piano) and its USB port should be seen in the output of the **lsusb** command as here for my machine:

```
Bus 004 Device 003: ID 0763:3109 Midiman
```

Get information on MIDI ports

This command lists MIDI clients and **ports**. The ports will be used in the commands below:

```
arecordmidi -l
```

The results for my computer with a Keystation 61 MK3 MIDI keyboard connected via USB:

Port	Client name	Port name
14:0	Midi Through	Midi Through Port-0
20:0	TerraTec EWX24/96	TerraTec EWX24/96 MIDI
24:0	Keystation 61 MK3	Keystation 61 MK3 MIDI 1
24:1	Keystation 61 MK3	Keystation 61 MK3 MIDI 2

The same information can be obtained via the "aconnect -i -o" command (if this command is installed).

Record MIDI events into a file

I record her MIDI events coming from a Keystation 61 MK3 MIDI keyboard connected via USB to the LINUX computer. This is the command:

```
arecordmidi --port=24:0 file.mid
```

The port 24:0 appeared above in the output of the "*arecordmidi -l*" command. It may be necessary to change the port number.

Play the MIDI file just recorded

```
aplaymidi --port 128:0 file.mid
```

The port 128:0 appeared above in the output of the "*arecordmidi -l*" command. It may be necessary to change the port number. It is essential that Timidity (or a similar product) has been installed and tested.