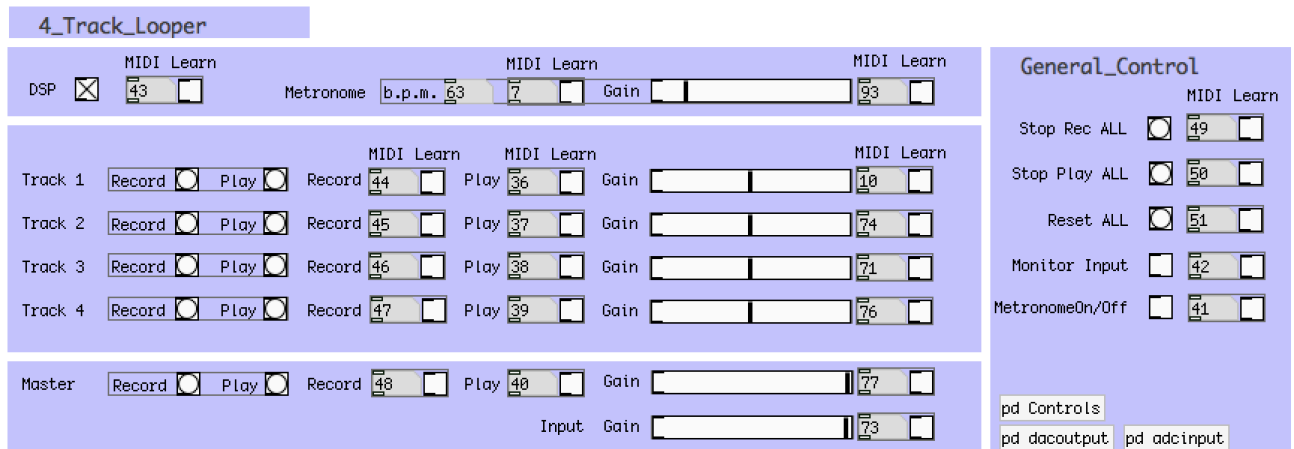


4 Track Looper



This patch records and loops up to 4 individual tracks. The four different tracks are then sent to a master track than can record and play the final mix. The audio is stored in 5 (4 tracks and master) wav files in the folder where the path is located.

Each track can start its recording or playback via Bangs in the GUI or with MIDI messages sent from a controller.

As designed, the Looper receives MIDI notes to trigger recording or playback. A non-zero speed with a given note will start the recording/playback, and the next non-zero speed will stop it. This also means that zeroes are ignored. This is done in this way because controllers send a speed when the button is pressed and a zero on released, but we only want one transition detected.

Also, pressing the Play button (or MIDI) while recording will stop the recording and start the playback of what was recorded until then.

The recording follows a temporization using a metronome. This implies that the recording will start in the next metronome beat, and will also stop in the next metronome beat, after the button is pressed for either effect.

Such metronome can be enabled or disabled, but in the background, the recording will follow this temporal rule always, and its Beats per second can be configured in the GUI.

Each track, the metronome and the input have a slider to control its gain. There is also a Stop All Recording, Stop All Playback and Reset All buttons (bangs).

Additionally there is a toggle to turn the metronome on/off and the monitoring of the input over the Master channel, as well as a DSP on/off toggle.

All these controls are reachable with MIDI messages. The corresponding MIDI note or control is shown in an object (subpatch) next to the relevant GUI item. And immediately next to the MIDI number is a toggle that can be pressed to learn a MIDI note or control number. Simply press the toggle, move the MIDI in the external controller and its number will be registered.

The patch has been tested in a Raspberry PI as a headless app with success.

At the moment, the MIDI numbers are saved in the patch as shown in the table at the end (this matches the numbers of my MIDI controller at home), but these can be changed as mentioned.

Finally there are three subpatches in the GUI with the general controls for the ADC, DAC and MIDI messaging.

MIDI Messages for Parameters

Parameter	MIDI note/control	Range
DSP On/Off	43	0 - 1
Metronome BPM	7	0 - 200
Metronome Gain	93	0 - 127
Track 1 Record start/stop	44	0 - 1
Track 2 Record start/stop	45	0 - 1
Track 3 Record start/stop	46	0 - 1
Track 4 Record start/stop	47	0 - 1
Master Track Record start/stop	48	0 - 1
Track 1 Play start/stop	36	0 - 1
Track 2 Play start/stop	37	0 - 1
Track 3 Play start/stop	38	0 - 1
Track 4 Play start/stop	39	0 - 1
Master Track Play start/stop	40	0 - 1
Track 1 Gain	10	0 - 127
Track 2 Gain	74	0 - 127
Track 3 Gain	71	0 - 127
Track 4 Gain	72	0 - 127
Master Track Gain	77	0 - 127
Input Gain	73	0 - 127
Stop All Recording	49	NA (bang)
Stop All Playback	50	NA (bang)
Reset All	51	NA (bang)
Monitor Input On/Off	42	0 - 1
Metronome On/Off	41	0 - 1