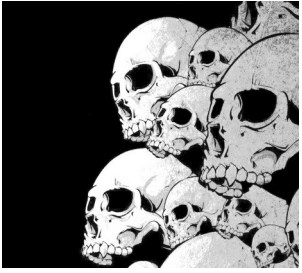


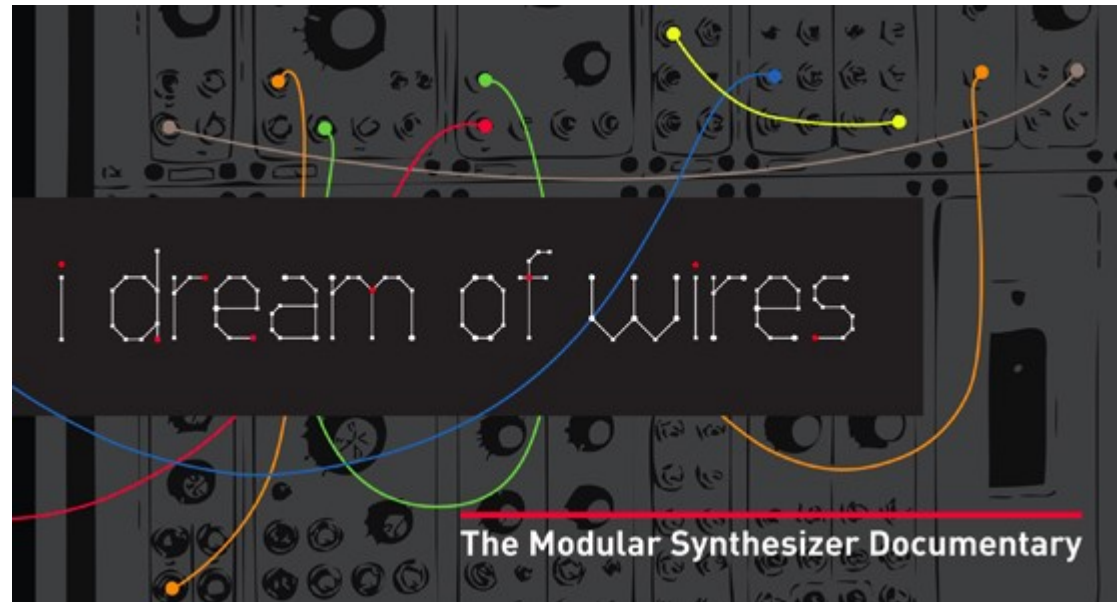
Y. Collette (ycollette.nospam@free.fr)
<https://audinux.github.io/>



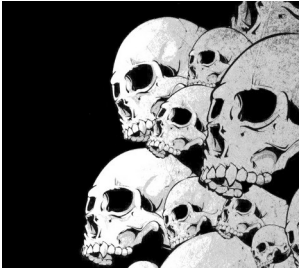


Modular Synthesis

<http://www.idreamofwires.org/>



A documentary on modular synthesis.

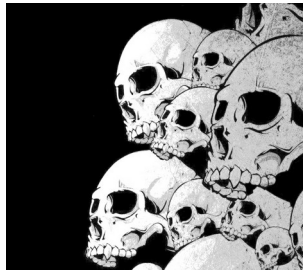


Modular Synthesis

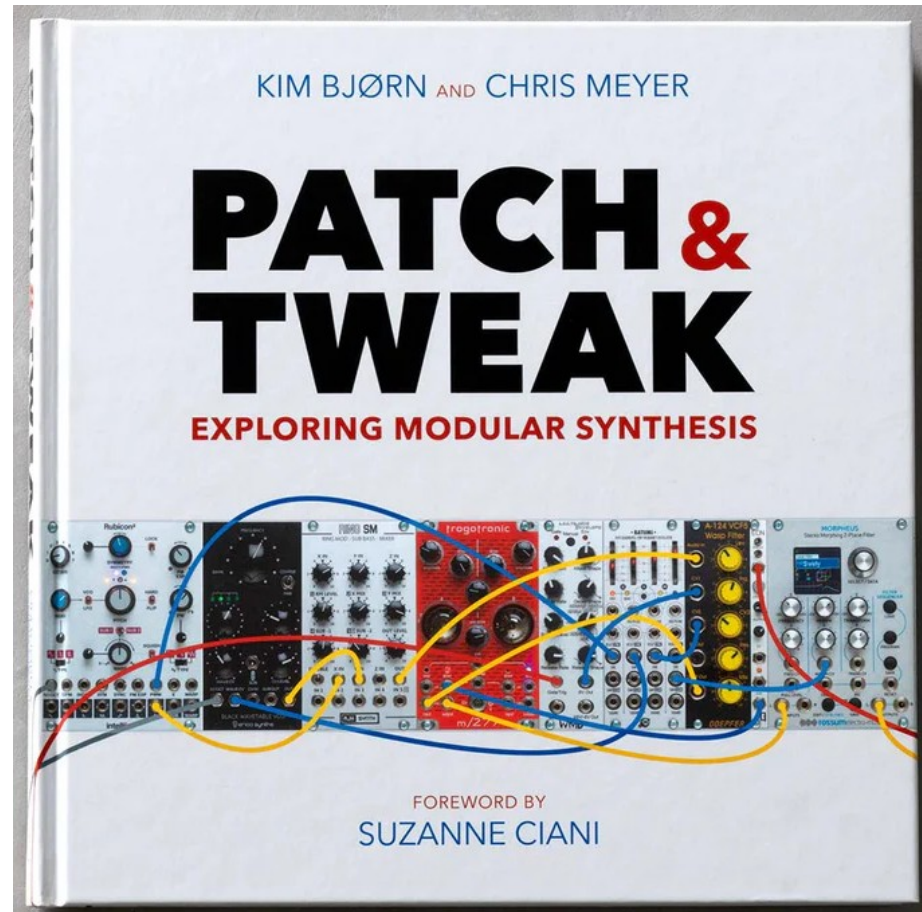
<https://sisterswithtransistors.com/>



A documentary on the female pioneers of modular synthesis.

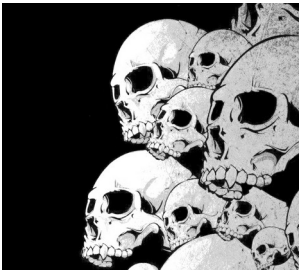


A Good book

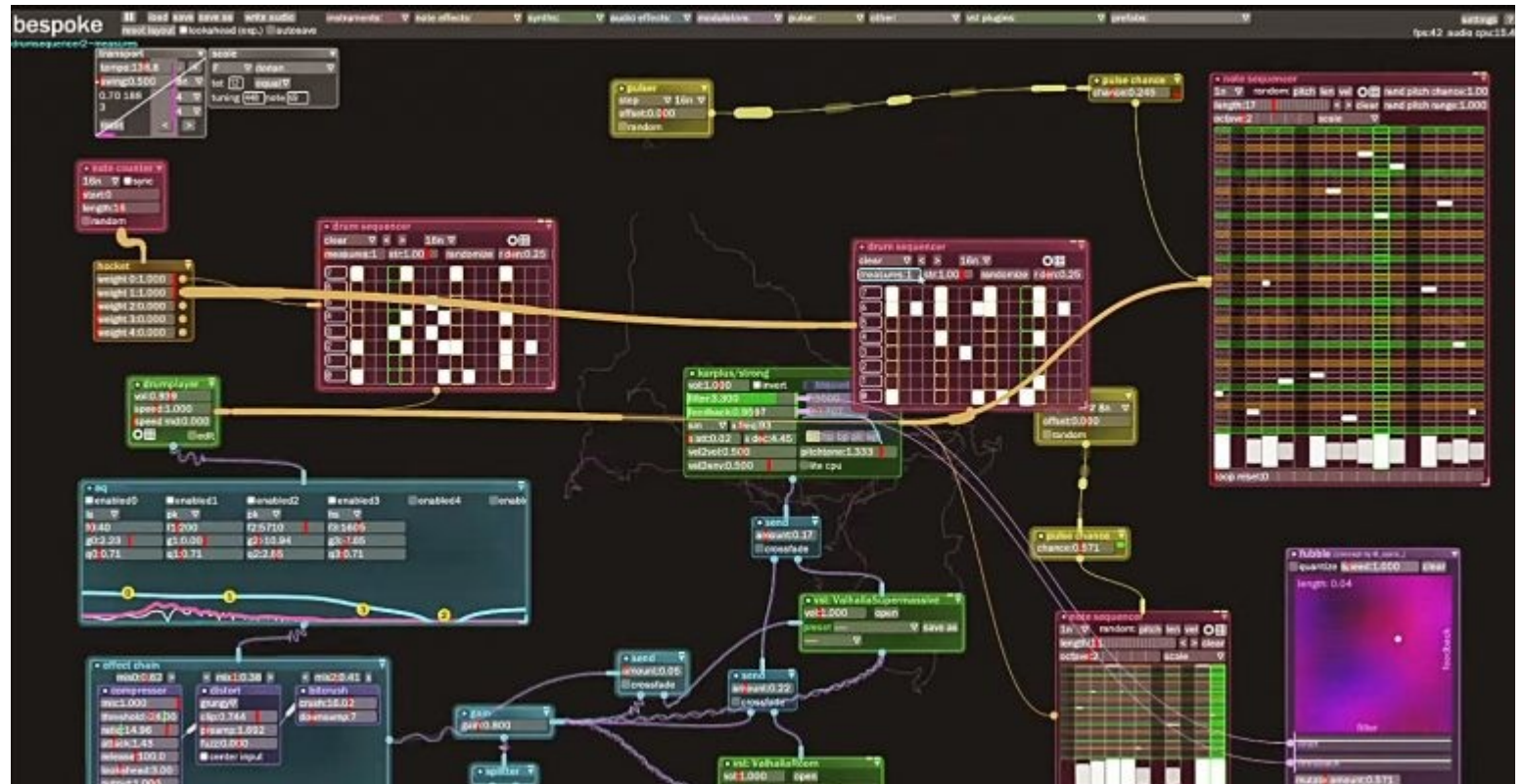


<https://bjooks.com/products/patch-tweak-exploring-modular-synthesis>



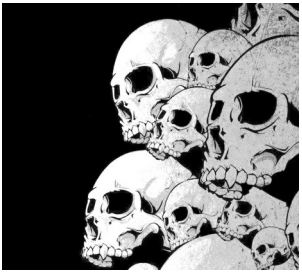


BespokeSynth

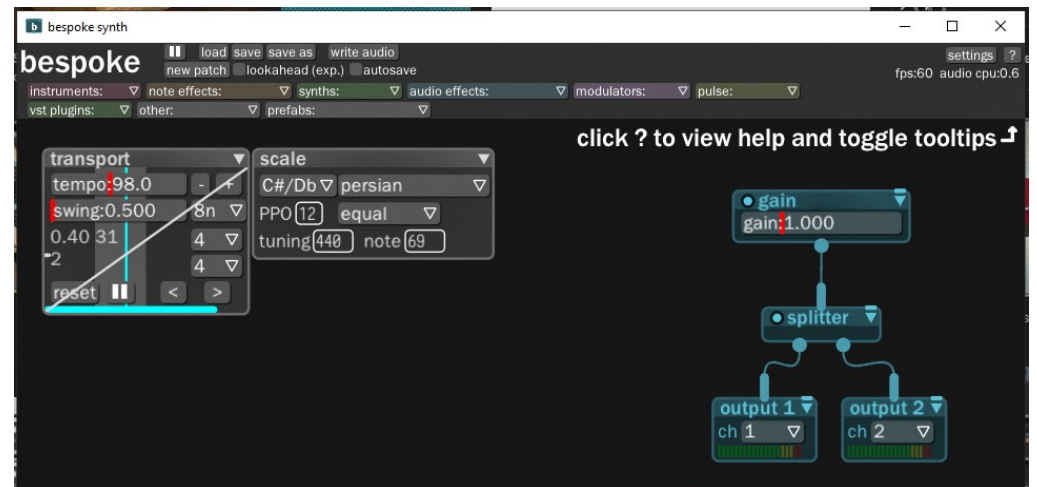


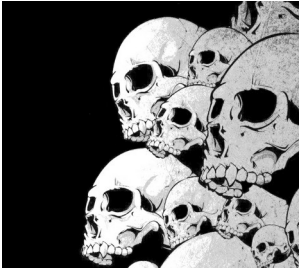
<https://www.bespokesynth.com/>





The starting Window





Some shortcuts

Ctrl + wheel : Zoom

Ctrl + space + mouse : translate canvas

Letter key in the canvas : shows a list of modules with name beginning with this letter

Click + drag : select an area

Click a selected area + drag : move the selected modules

Backspace : delete a module or a selection

Alt+Click on module+Drag : duplicate a module

How to draw a wire ?

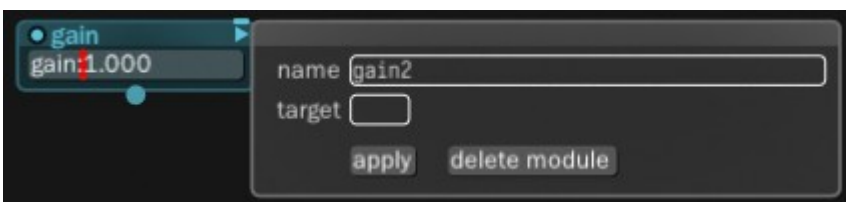
Click on the circle output of a module, while button is clicked, move the mouse to the module you want to connect to

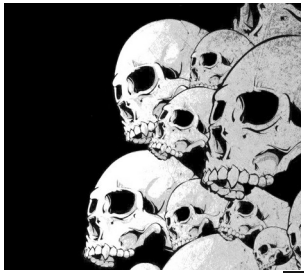
How to delete a wire ?

Click on the wire and push backspace

Autoconnect 2 modules ?

Grab a module by the title bar, hold LEFT SHIFT while module is grabbed and move the mouse so as the output circle of the grabbed module touch the module you want to connect to.





A First Experiment

Transport : allows to tune the measure and the tempo

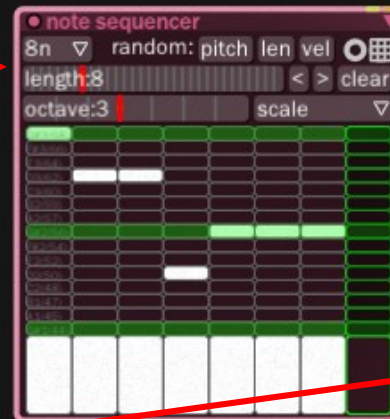
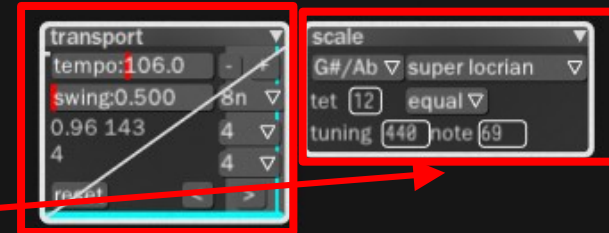
Scale: Set the scale used by sequencers

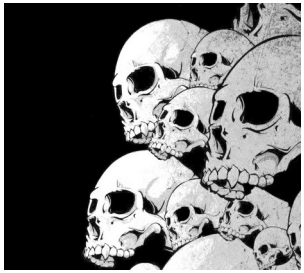
Notesequencer: a piano roll where to write notes

oscillator: the audio sound generator

effectchain: an area where one or several effect are applied to audio

Gain, splitter, Output : to control the audio level, split the audio in several channels and send it to the speaker





Some Main Modules - 1



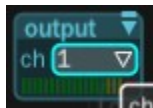
Gain: amplify an input



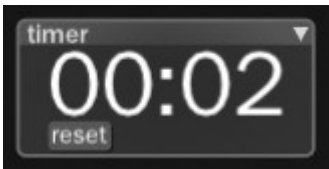
Panner: place an audio signal in the stereo field. Can be used to transform a mono signal into a stereo signal (some modules are not able to manage mono signal).



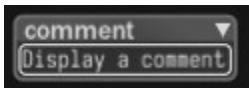
Splitter: Add more output connexions to an input signal



Output: manage multi channel output



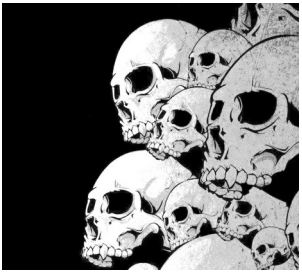
Ttimerdisplay: shows a timer of the audio duration (stopped in pause mode)



Comment: allow to add some comments in the canvas

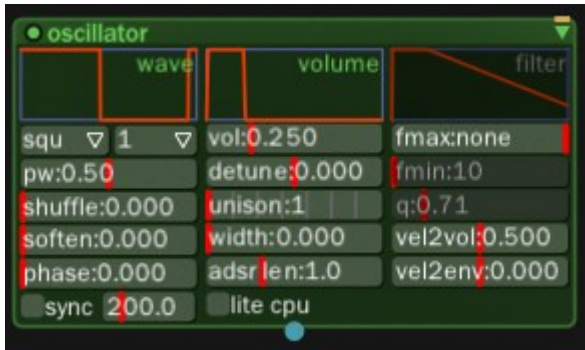


keyboarddisplay: a virtual keyboard module



Some Main Modules - 2

oscillator



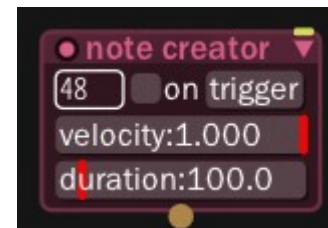
An essential module for sound generation. Able to manage multivoice sounds, sin, square and a lot of parameters can be tuned via this module. All the parameters can be LFO controlled.

Note sequencer

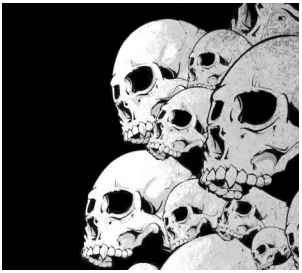


A piano roll to play a sequence of notes.

note creator



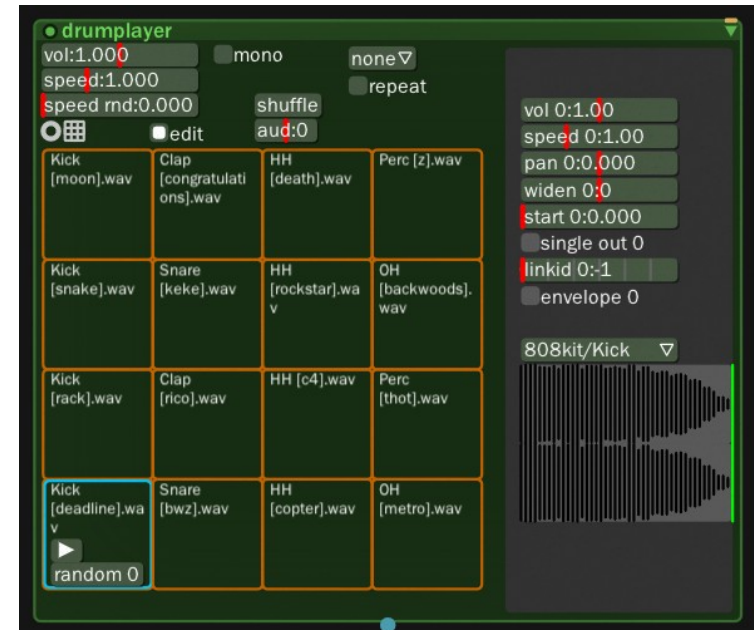
A module which can be used to produce one note on demand.



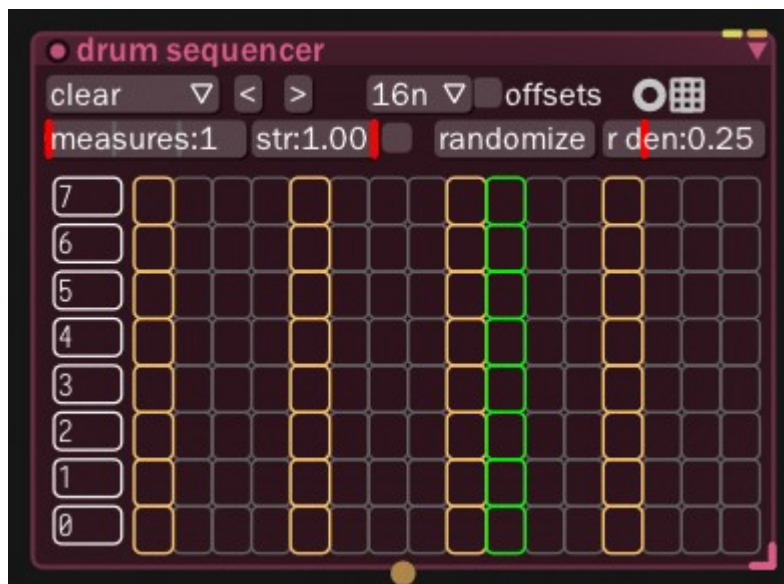
Some Main Modules - 3

A sampler based drum player. You need to drag and drop some drum samples in the various pad. These samples are then triggered using a sequencer like the drum sequencer below.

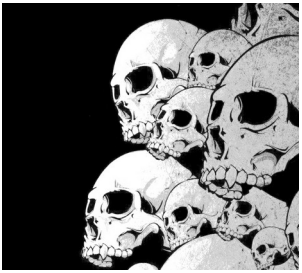
drumplayer



drumsequencer



A piano roll for drum sequencing. You just need to click in a square to turn on / off a sample.



Some Main Modules - 4

drumsynth

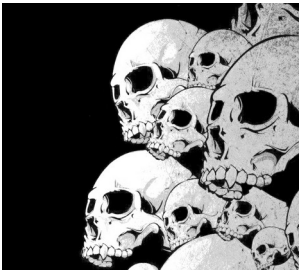
drumsynth

vol:1.000

Pad	vol	noise	type	freqmax	freqmin	q	cutoffmax	cutoffmin
4	0.000	0.00	sin	150	10	1.00	none	10
5	0.000	0.00	sin	150	10	1.00	none	10
6	0.000	0.00	sin	150	10	1.00	none	10
7	0.000	0.00	sin	150	10	1.00	none	10
0	0.500	0.00	sin	150	10	1.00	none	10
1	0.000	1.00	sin	150	10	1.00	none	10
2	0.000	0.00	sin	150	10	1.00	none	10
3	0.000	0.00	sin	150	10	1.00	none	10

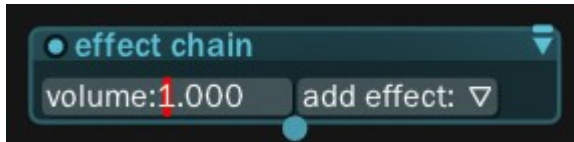
Oscillator and noise drum synth

cutoffmax*: filter start cutoff freq
cutoffmin*: filter end cutoff freq
edit: display param for each hit
freqmax*: oscillator start frequency
freqmin*: oscillator end frequency
noise*: noise volume
q*: filter resonance
type*: oscillator type
vol: the output volume
vol*: oscillator volume



Some Main Modules - 5

effectchain

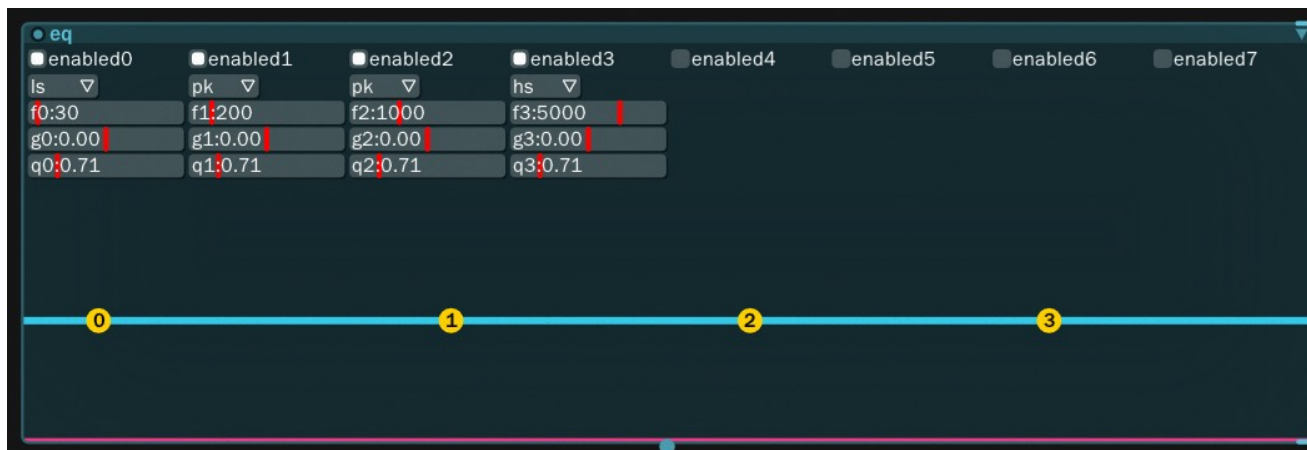


A module where several effects can be chained via the « add effect » button

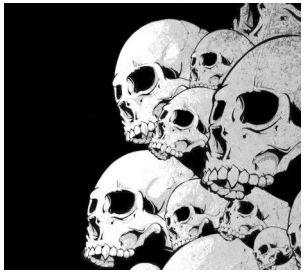


Example of an effect chain with two effects : a delay and a reverb. The '<' and '>' button can be used to reorder the effects in the chain.

eq



A filtering module. All the parameters can be controlled via a LFO.



Some Main Modules - 6

Various interesting modules :

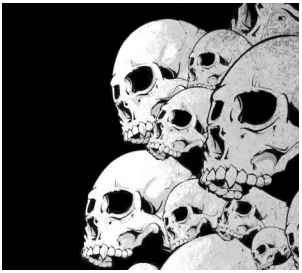
Multitrack recorder

Arpegiattor

Seaofgrain

Fubble

Chorder



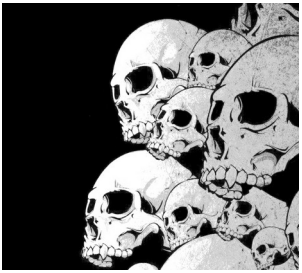
Playing with drums

The screenshot displays a complex audio patch in a DAW. Key components include:

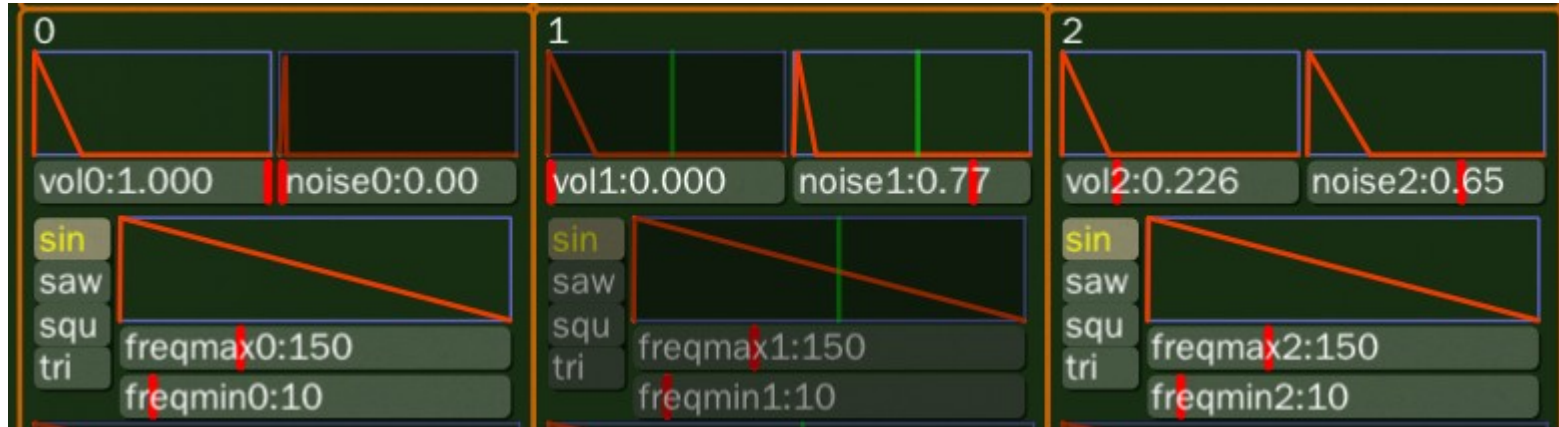
- transport**: tempo set to 75.0, swing at 0.500.
- scale**: set to A#/Bb, locrian mode.
- notes sequencer**: 8 notes, length 8, octave 3.
- oscillator**: wave type, volume 0.250, filter.
- effect chain**: includes delay (577.0), reverb (room size 0.50), and gain (1.000).
- drumsequencer**: 16 notes, randomized.
- drumsynth**: 8 channels (0-7) with individual waveforms and parameters like frequency, cutoff, and Q.

List of modules :
 oscillator
 notesequencer
 effect chain
 drumsequencer
 drumsynth

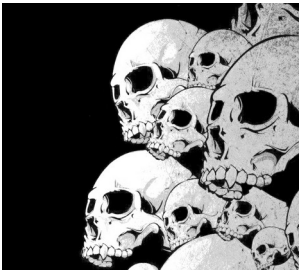




Playing with drums



Drum sequencer settings



Playing with drums

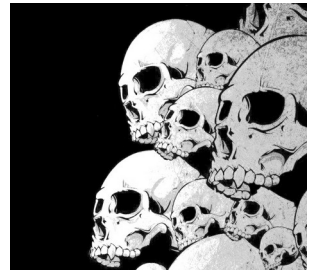
drumplayer

vol:1.000 mono none ▾
speed:1.000 repeat
speed rnd:0.000 shuffle aud:0
 edit

Kick [moon].wav	Clap [congratulations].wav	HH [death].wav	Perc [z].wav
Kick [snake].wav	Snare [keke].wav	HH [rockstar].wav	OH [backwoods].wav
Kick [rack].wav	Clap [rico].wav	HH [c4].wav	Perc [thot].wav
Kick [deadline].wav random 0	Snare [bwz].wav	HH [copter].wav	OH [metro].wav

vol 0:1.00
speed 0:1.00
pan 0:0.000
widen 0:0
start 0:0.000
 single out 0
linkid 0:-1
 envelope 0

808kit/Kick ▾



Automation

lfo

- enable
- 4n ▾ sin ▾
- offset:0.673
- low:0.250
- high:0.776
- spread:0.000
- bias:0.500
- length:1.000
- shuffle:0.000
- lite cpu

oscillator

- sqw ▾ 1 ▾
- pw:0.50
- shuffle:0.000
- soften:0.000
- phase:0.000
- sync 200.0
- lite cpu
- vol:0.347
- detune:0.000
- unison:1
- width:0.000
- adsr len:1.0
- fmax:none
- fmin:10
- q:0.71
- vel2vol:0.500
- vel2env:0.000

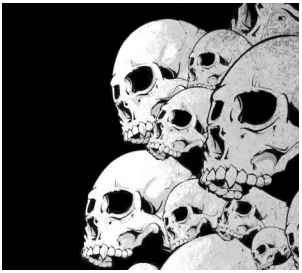
List of modules :
oscillator
Curvelooper
LFO

curvelooper

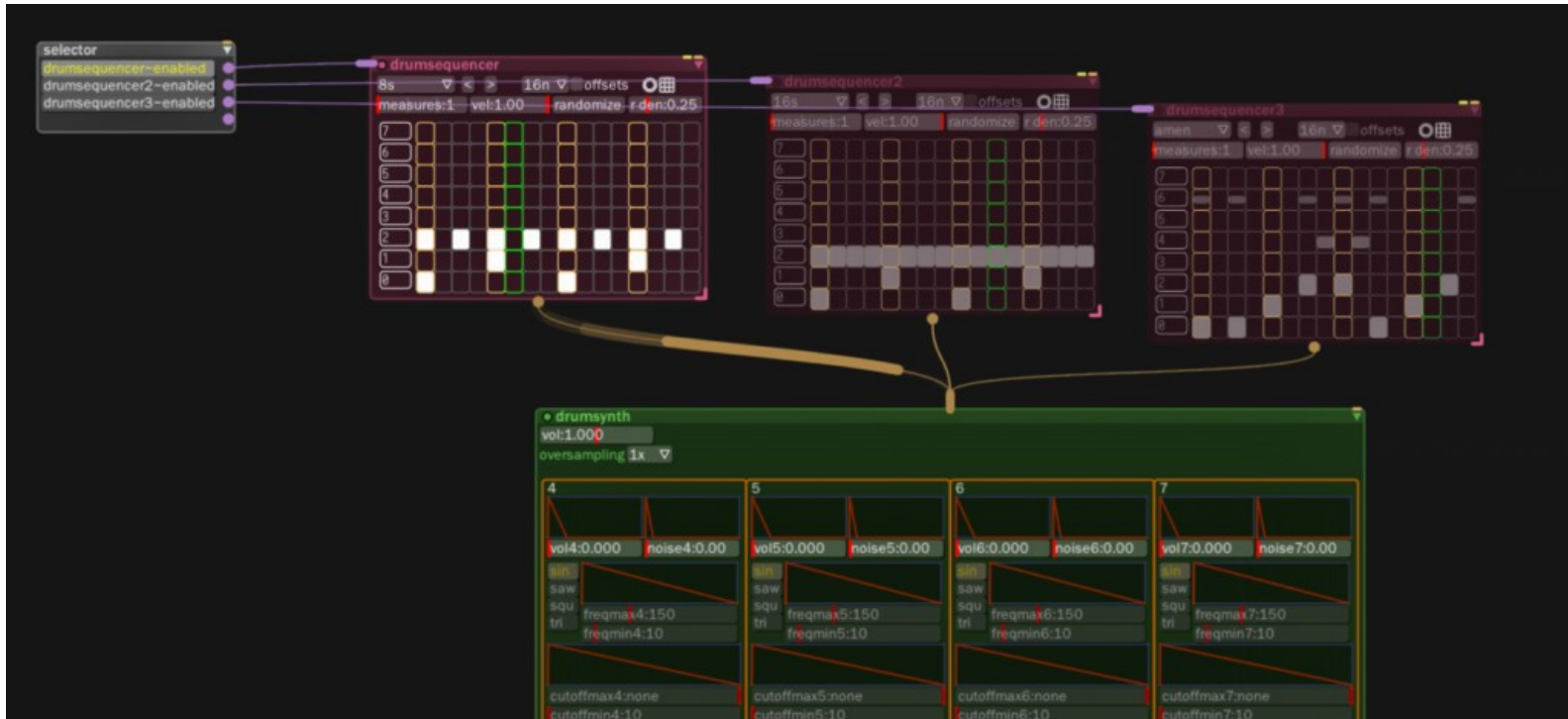
- 1 ▾ randomize

oscillator

- sqw ▾ 1 ▾
- pw:0.50
- shuffle:0.593
- soften:0.000
- phase:0.000
- sync 200.0
- lite cpu
- vol:0.250
- detune:0.000
- unison:1
- width:0.000
- adsr len:1.0
- fmax:none
- fmin:10
- q:0.71
- vel2vol:0.500
- vel2env:0.000

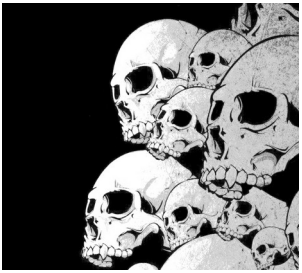


Song Organization

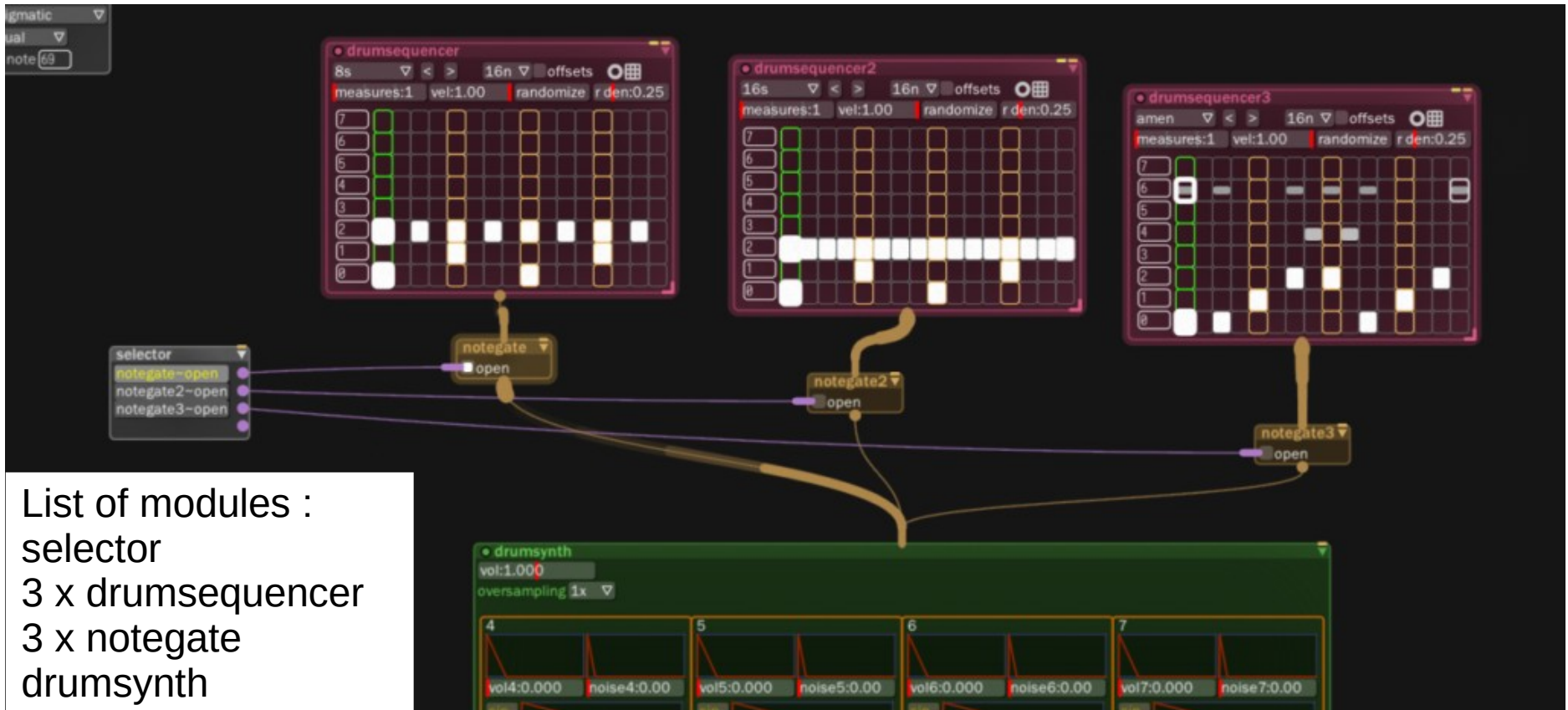


List of modules :
selector
3 x drumsequencer
drumsynth

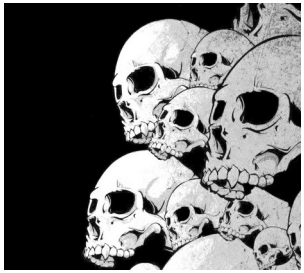
Using « selector »



Song Organization



Using «notegate» and « selector »



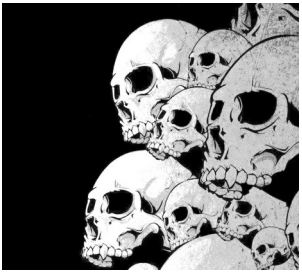
SongBuilder

Sequencer area

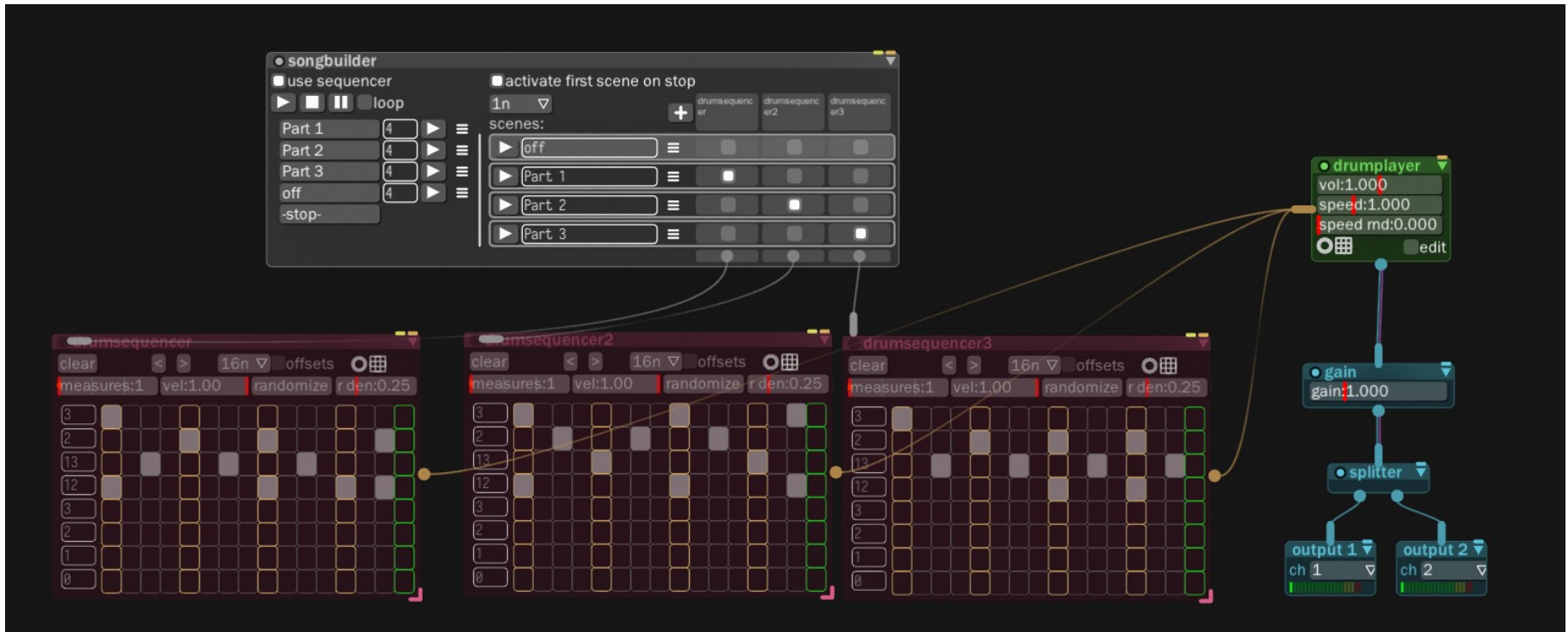
Add a target control

Step

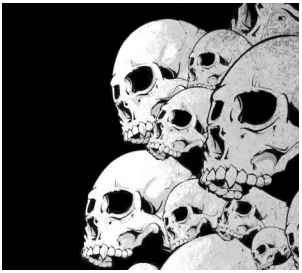
To activation area of a module



Song Organization



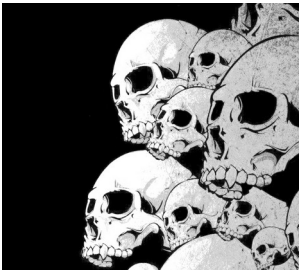
- List of modules :
- 1 x songbuilder
 - 3 x drumsequencer
 - 1 x drummer



Connection with outside

The screenshot displays three MIDI controller windows in a dark theme:

- midicontroller2** (top): Includes a dropdown menu, a "hide" button, a "layout list" button, and a "bind (hold shift) page 0" button.
- midicontroller** (middle): Shows a "not connected" status, a "hide" button, a "layout list" button, a "bind (hold shift) page 0" button, and an "add" button with a "last input:" label.
- midicontroller3** (bottom): Shows a "not connected" status, a "hide" button, a "layout list" button, a "bind (hold shift) page 0" button, and a "layout" dropdown menu. Below these is a large grid of 16 columns and 12 rows of buttons. A message at the bottom left reads: "couldn't load layout file at C:/Users/collette/Documents/BespokeSynth/controllers/.json, using the default layout instead".



Connection with outside

• midicontroller

MPK mini 3 ▾

hide layout list

bind (hold shift) page 1 ▾

connected

layout MPK mini 3.json ▾

cc ▾ control 73 channel any ▾

midicontroller~page

slider ▾

midi off 0 midi on 127 scale

blink increment 0

twoway feedback self ▾

pageless

x

last input: cc 73, value: 0.14, channel: 1



• midicontroller

LPD8 ▾ connected

hide layout list

bind (hold shift) page 0 ▾

cc ▾ 9 any ▾ effectchain~delay~delay

slider ▾ 0 127 scale blink 5 twoway self ▾ pageless x copy

add last input: cc 10, value: 0.57, channel: 1

• effectchain

mix0:1.00 x

• delay

delay:664.2

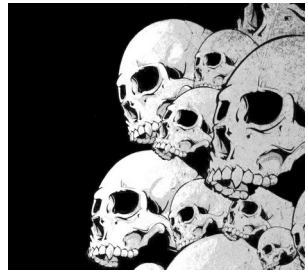
amount:0.000

short

dry feedback

input invert

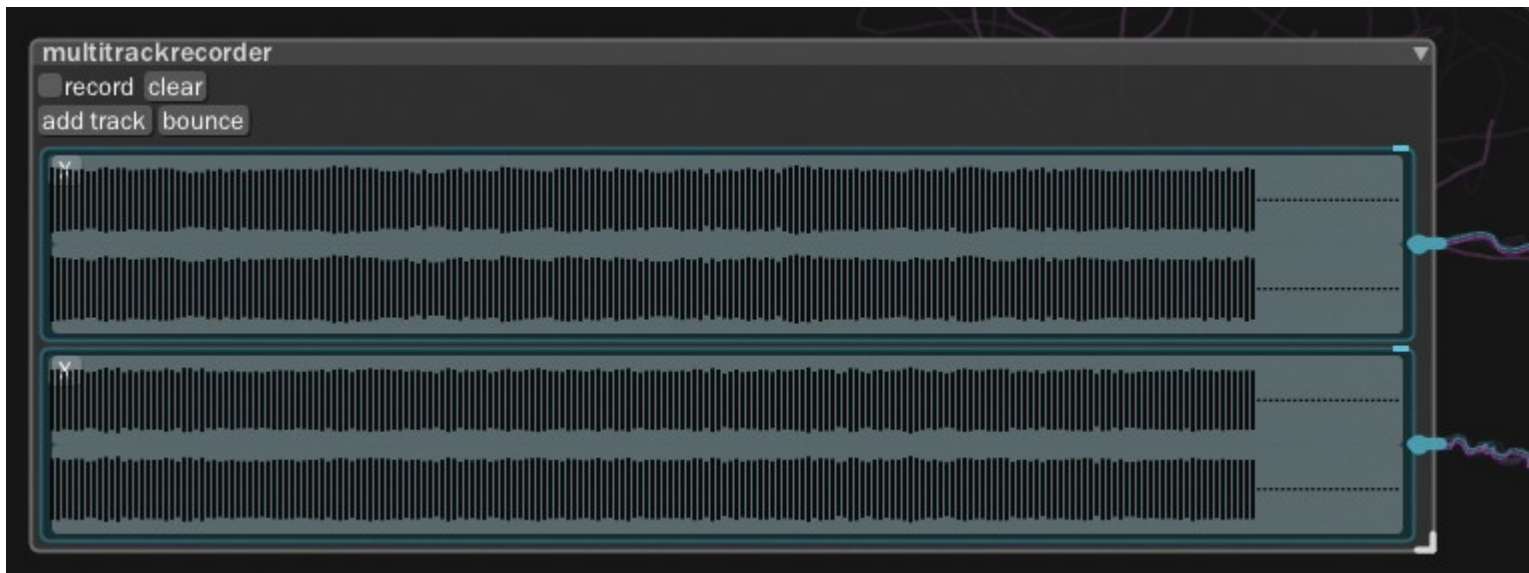
volume:1.000 add effect: ▾



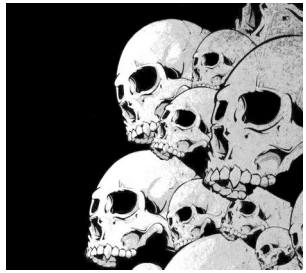
Recording

Using Audacity + Connecting to BespokeSynth via Jack Audio

or



Using « multitrackrecorder »



Webography

BespokeSynth basic usage : <https://www.youtube.com/watch?v=SYBc8X2lxqM>

BespokeSynth MIDI mapping tutorial :
<https://www.youtube.com/watch?v=JkNXO55ogvQ>

BespokeSynth website : <https://www.bespokesynth.com>

BespokeSynth references : <https://www.bespokesynth.com/docs/index.html#basics>

Ryan Chalidor YouTube channel :
<https://www.youtube.com/channel/UCBnLnfmXI4x2QmgTxwPbvEw>

Some useful ressources for BespokeSynth :
`/usr/share/BespokeSynth/resource/userdata_original/`

These ressources can be found in `/home/<user>/Documents/BespokeSynth` :
`controllers drums internal layouts prefabs recordings samples savestate`
`scales.json scripts tmp userdata_version.txt vst`

