

Le Synthé V5

Reference manual

version: 1.1

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Presentation

Minimum system requirement

Macintosh

Le Synthé V5 requires a Mac PPC or Intel machine running OS X 10.4 or later, and 1 GB RAM, Max Runtime.

Windows

Le Synthé V5 requires a Windows XP, Vista or 7 machine, 1 GB RAM, QuickTime 7.1 (or later), an OpenGL-compatible graphics card, and OpenGL 1.4 (or later), Max Runtime.

Installation

Macintosh

- Download Max Runtime (<http://cycling74.com/downloads/>)
- Install Max Runtime.
- Download **LeSyntheV6-Sources.zip**.
- Decompress the folder that contains the sources of Le Synthé V5.
- Double click on **LeSyntheV5.maxpat** to open it.

Other manuals

Le Synthé V5 is an emulation of the mythic Synthi AKS constructed by EMS in 1972.

You can found more information on the EMS official web site:

<http://www.ems-synthi.demon.co.uk>

You can found the original manuals on the excellent EMS Synthi blog:

- VCS3 Users Manual: <http://www.thesynthi.de/index.php?/archives/51-VCS-3-Users-Manual.html>.
- Synthi User Manual: <http://www.thesynthi.de/index.php?/archives/4-Synthi-Users-Manual.html>.

Do not hesitate to read them, they are a very good introduction to use Le Synthé V5.

As an emulation, you can found the original interface (devices and matrix board), and the approximate original sounds (the waveform was recorded from an original VCS3). As a software, Le Synthé V5 adds new improvements (control device, delay effect, oscillators with more important ranges, a better system to control the device, MIDI control, memory, etc.).

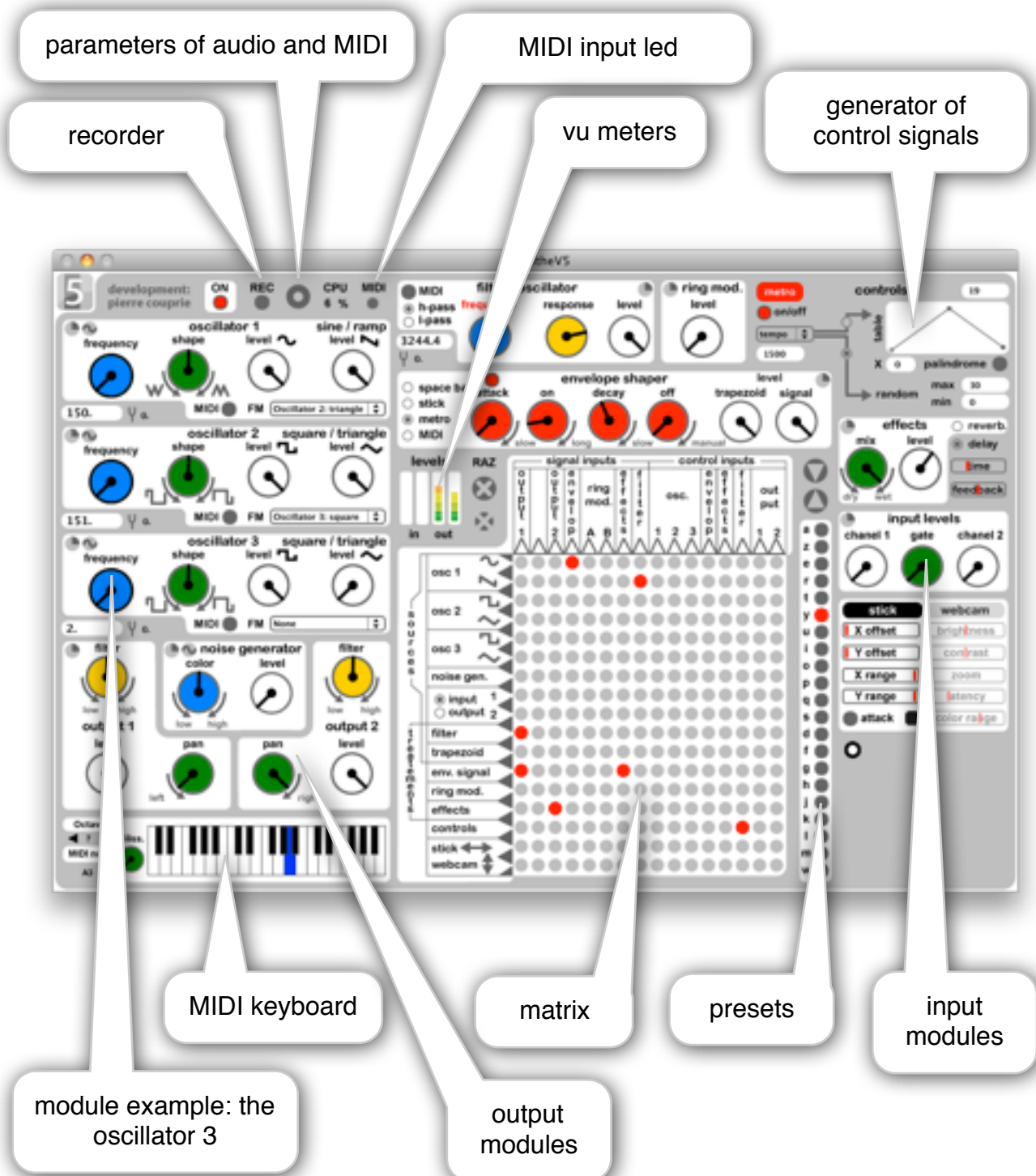
Video tutorials

On Youtube, you can view several video tutorials:

http://www.youtube.com/view_play_list?p=59AB6A09EE2995AF

This manual is a reference manual of each parameter. The video tutorials are important to understand how to use Le Synthé V5.

The interface



Recorder: record the audio output of Le Synthé V5 into a stereo audio file.

Parameters of audio and MIDI: select drivers for audio and MIDI.

MIDI input led: display when there is a MIDI input signal.

Vu meters: display the levels of inputs and outputs.

Generator of control signals: generate signals to control the modules.

Module example the oscillator 3: the different white zones are independent modules with 1 or 2 outputs, some of them have inputs.

MIDI keyboard: simulate an external MIDI keyboard, you can also use an external keyboard.

Output modules: 2 independent outputs (level, panoramic and filter).

Matrix: connect each output (on left) of modules to input (on top) of other modules.

Presets: 21 presets that you can save in external files.

Input modules: use audio inputs as a module.

Select the audio driver

Audio driver of your sound card

It is possible that you need to adjust the audio driver before using Le synthé V5.

1. Click the button at the top of the interface:



2. Select your sound card driver in **Input device** :



3. Click the **Close** button at the bottom right of the black window.
4. it is possible that you need to restart audio, click 2 times on the button at the top of the interface:



Use the Rewire driver

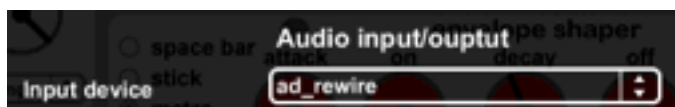
You can connect the audio output of Le synthé V5 with a Rewire compatible software (see the list of compatible softwares: <http://en.wikipedia.org/wiki/ReWire>).

Here is an example of connection with the software Ableton Live.

1. Launch Le Synthé V5.
2. Click the button:



3. Select the **ad_rewire** driver in **Input device**:



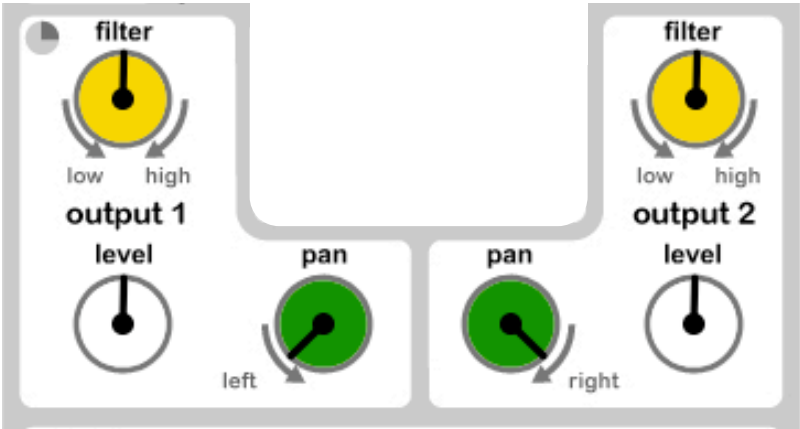
4. Launch Live and select LeSyntheV5 input in an audio track:



5. Audio output of Le Synthé V5 is now directly connected to the input of Live. You can record your performance directly into Live.

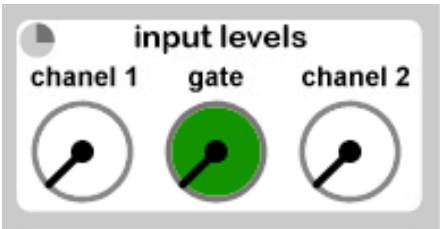
Modules

Ouputs



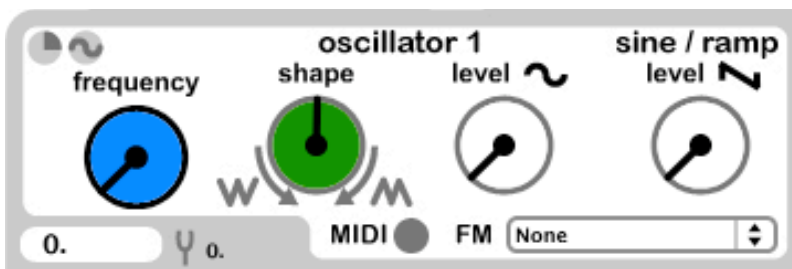
Filter	To left: low-pass filter, to right: high-pass filter
Output 1 & 2	The output levels of the software
Pan	The panoramic position of each output

Inputs



Channel 1 & 2	The input levels of the software
Gate	The noise gate for the both inputs, useful when you choose the microphone input

Oscillators



The 3 oscillators have the same parameters.

Frequency

0.

ψ 0.

The frequency of the oscillator (0Hz to 20.000Hz)

An other control to modify the frequency more precisely

When you control several oscillators with the same MIDI keyboard, you can detune them

Shape

The inversion of waveform

Level 1

The output level of the first waveform

Level 2

The output level of the second waveform

MIDI

Use the MIDI input or the keyboard as frequency parameter

FM

Use an other oscillator as frequency modulation

Noise generator



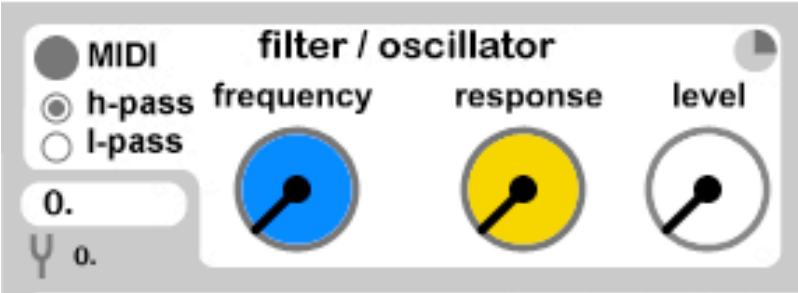
Color

To left: low-pass filter, to right: high-pass filter

Level

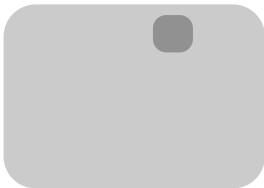
The output level of the module

Filter / oscillator



MIDI	Use the MIDI input or the keyboard as frequency parameter
H-pass	Turn the filter to a high-pass filter
L-pass	Turn the filter to a low-pass filter
Frequency	The resonant frequency of the filter (0Hz to 20.000Hz)
<div>0.</div>	An other control to modify the frequency more precisely
<div>Y 0.</div>	Detune the filter when you use MIDI control
Response	The resonant parameter
Level	The output level of the module

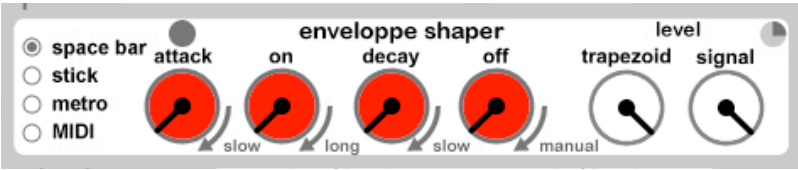
Ring modulator



Level

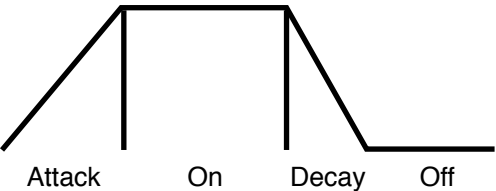
The output level of the module

Envelope shaper

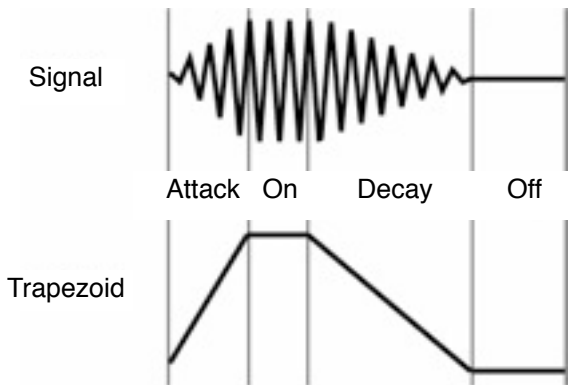


space bar	Trigger the envelope with your keyboard space bar
stick	Trigger the envelope with the stick
metro	Trigger the envelope with the metronome of control module
MIDI	Trigger the envelope with your MIDI keyboard
Attack	(See below)
On	(See below)
Decay	(See below)
Off	(See below)
Trapezoid	Trapezoid level: use the envelope shaper as a control or as an oscillator (See below)
Signal	The output level of the envelope (See below)

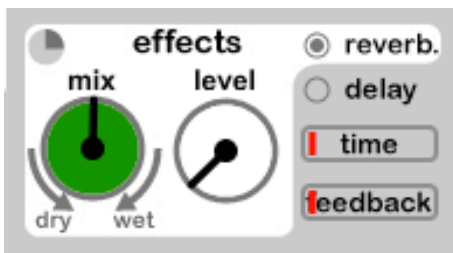
Envelope parameters



Differences between trapezoid level and signal level

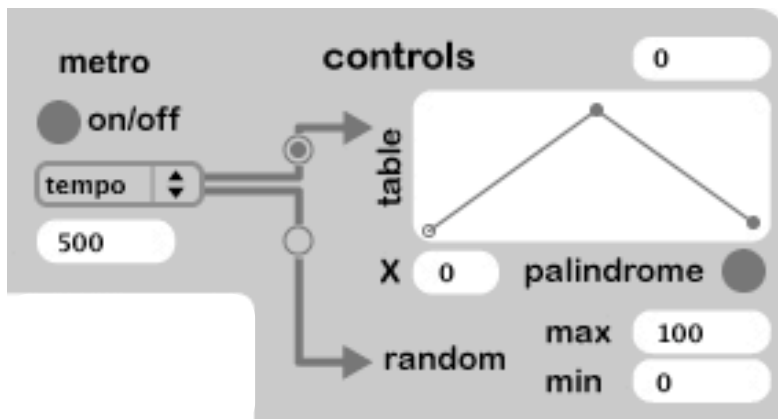


Effects



Mix	The mix level of the effect (left: no effect, right: no direct)
Level	The output level of the module
Reverb	Use the module as a reverberation
Delay	Use the module as a delay
Time	Time of delay (time between each reflection)
Feedback	Feedback of delay

Control generator

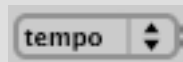


Metro

The metronome light

On/Off

The metronome on/off



Choose how to control the metronome: metro = tempo, table = values of table, random = random values



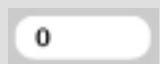
BPM of metronome (if menu popup is on metro)



Choose what control generator the metronome controls: table or random

Table

Draw the table lines, click on line to add points, option +click to remove a point



The output values of the module

X

The multiplier parameter of table

Palindrome

The direction of the table

Max

The maximum value of random generator

Min

The minimum value of random generator

Stick / webcam



The left parameters works with stick and webcam :

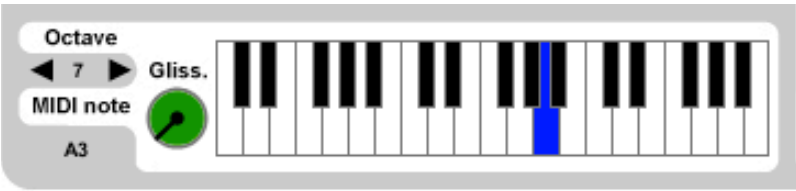
X offset	The offset of the horizontal range
Y offset	The offset of the vertical range
X range	The size of the horizontal range
Y range	The size of the vertical range
Attack	Send an attack signal to envelope shaper

The right parameters works when you click on webcam tab:

brightness	The brightness of webcam image
contrast	The contrast of webcam image
zoom	The zoom of webcam image
latency	The latency of output, this parameter is important to smooth the value
color range	The range of color tracking (click on webcam image to choose a color)

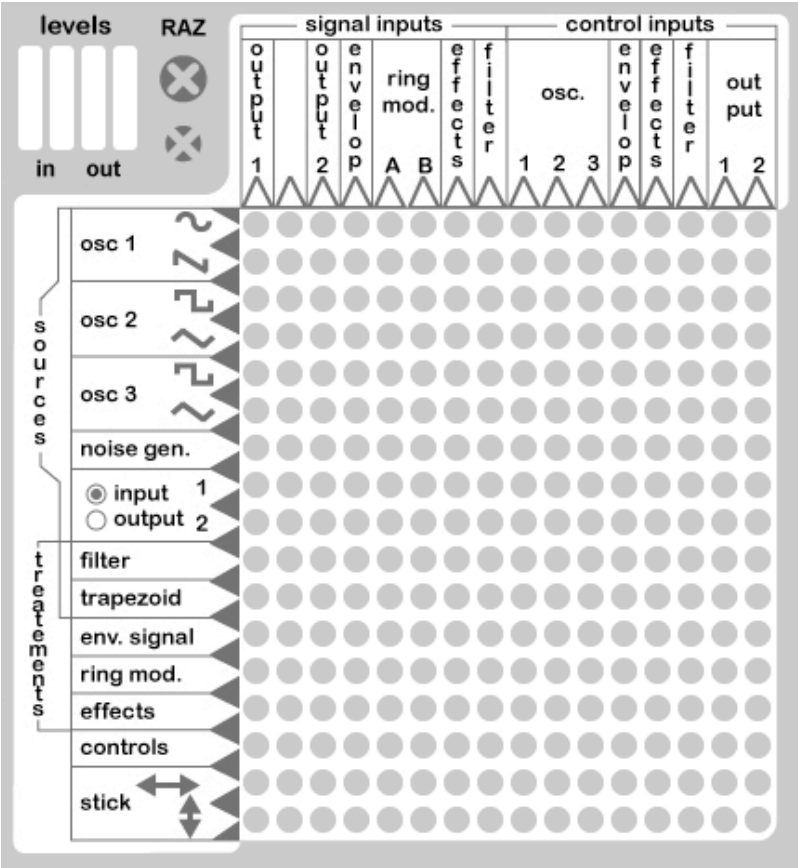
Windows: the webcam works only if Quicktime is installed.

Keyboard



Octave	The octave range of keyboard
MIDI note	The note values of the keyboard
Gliss.	The glissando parameter: left = no glissando, right = maximum of glissando

Matrix



Levels



The general input and output levels

Reset all parameters of the software (be careful, this action cannot be cancelled)



Reset the matrix (be careful, this action cannot be cancelled)

Presets



Save the 21 preset



Open a preset file



The 21 presets: option+click to save a preset, click to recall a preset. You can use your keyboard to recall the presets (see letters)

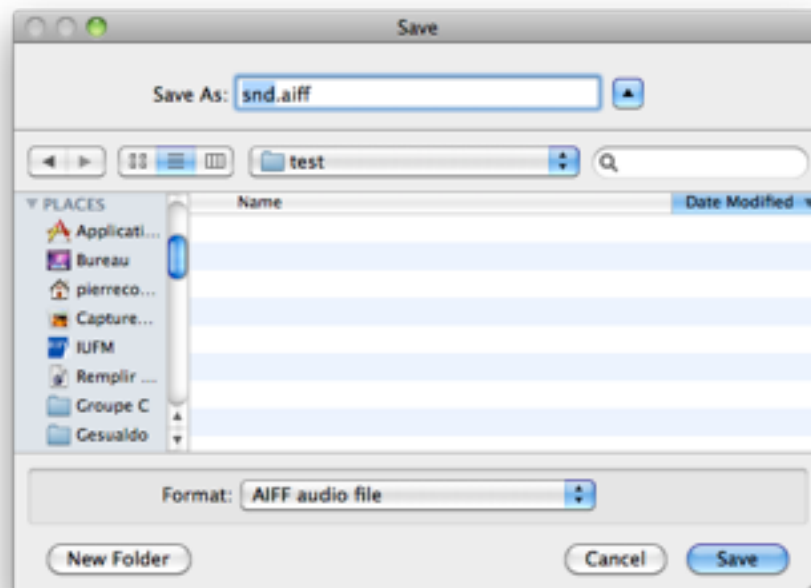
Use the menu **Presets** to:

- **Load the example presets** (be carefull, this action delete your actual presets, save them before!)
- **Clear all presets** (be carefull, this action delete your actual presets, save them before!)

Record audio output



Click to REC button:

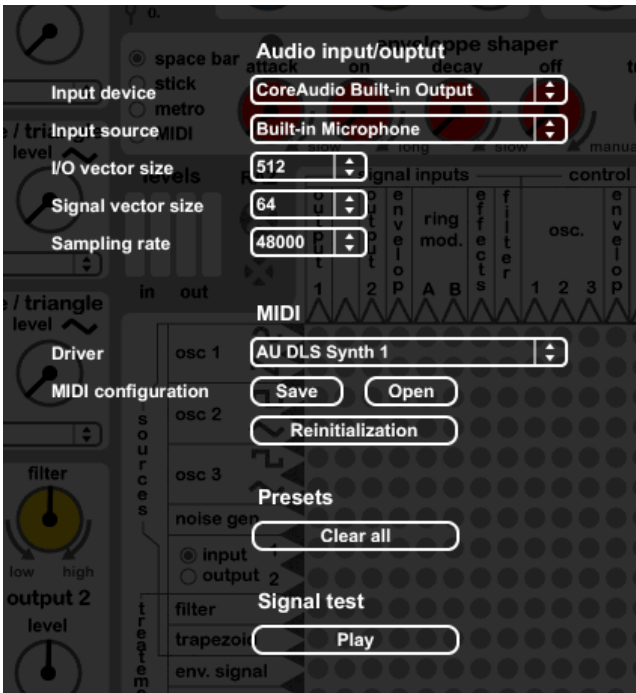


Enter a filename, select a folder and the audio format. The recording start immediately and the REC button is red.

Click to stop the recording.

Configurations

Configure audio and MIDI device



Audio input/output

Input device	Select the driver of your audio card
Input source	Select the input of your audio card
I/O vector size	512 is the normal value, less reduce the latency and increase the CPU usage
Signal vector size	64 is the normal value, it must be inferior to I/O vector size
Sampling rate	44100 to 96000 Hz

MIDI

Driver	Select the driver of your MIDI card or the software from which you receive MIDI messages
MIDI configuration	Manage the actual MIDI configuration (save, open or reset): number of channels and controllers for each parameters

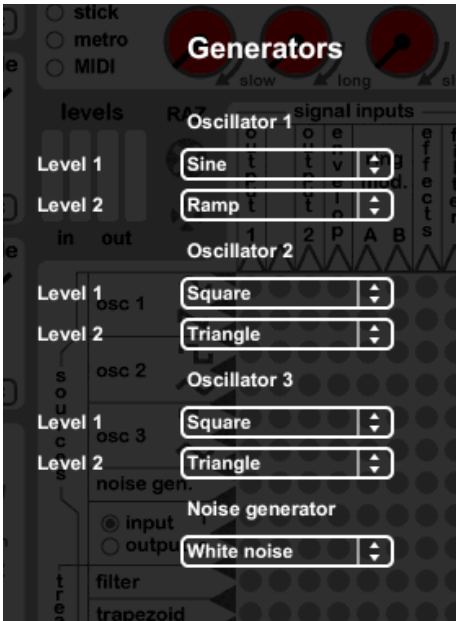
Presets

Clear all	Clear the actual configuration of controls ranges
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Signal test

Play	Play a signal test: sinus, 1000Hz, 0db
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Configure signal generators (oscillators and noise generator)



Oscillator 1

- | | |
|---------|----------------------------------------------------------------------|
| Level 1 | Select the waveform for the output 1 of oscillator 1 (default: sine) |
| Level 2 | Select the waveform for the output 2 of oscillator 1 (default: ramp) |

Oscillator 2

- | | |
|---------|--------------------------------------------------------------------------|
| Level 1 | Select the waveform for the output 1 of oscillator 2 (default: square) |
| Level 2 | Select the waveform for the output 2 of oscillator 2 (default: triangle) |

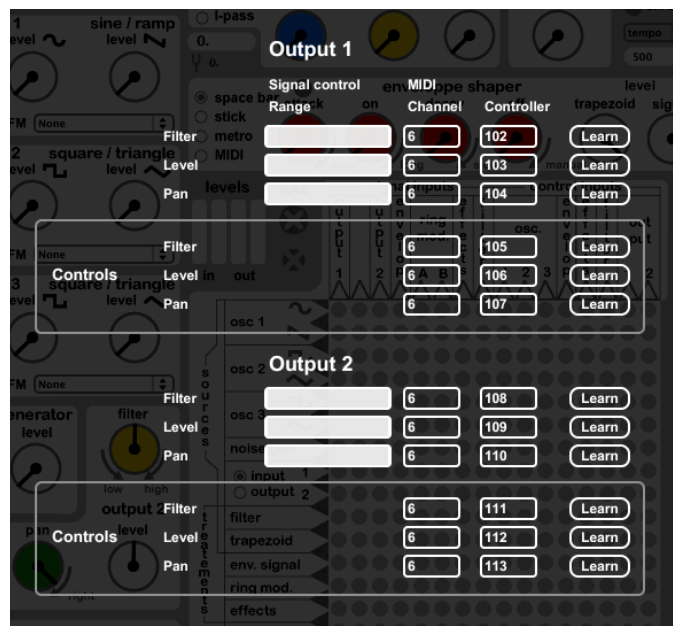
Oscillator 3

- | | |
|---------|--------------------------------------------------------------------------|
| Level 1 | Select the waveform for the output 1 of oscillator 3 (default: square) |
| Level 2 | Select the waveform for the output 2 of oscillator 3 (default: triangle) |

Noise generator

Select the noise generator: white noise or pink noise (default: white noise)

Configure outputs



The parameters are the same for the 3 oscillators.

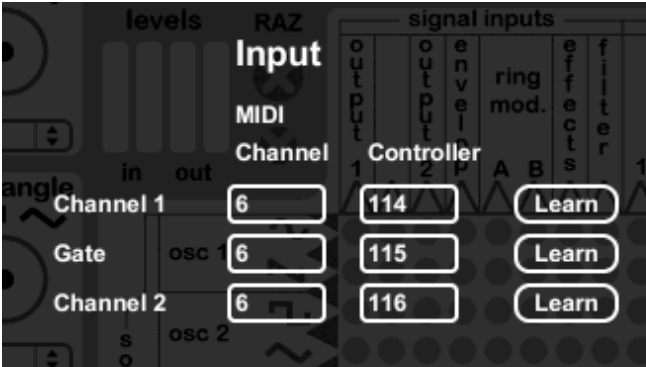
MIDI

Channel	View or modify the MIDI channel of the control
Controller	View or modify the MIDI controller of the control
Learn	Click to recall the channel and controller with a MIDI input signal

Signal Control

Range	Select the range of control parameter (different to MIDI)
-------	-----------------------------------------------------------

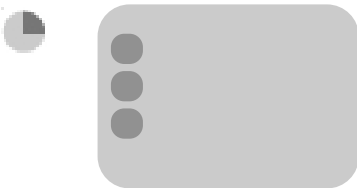
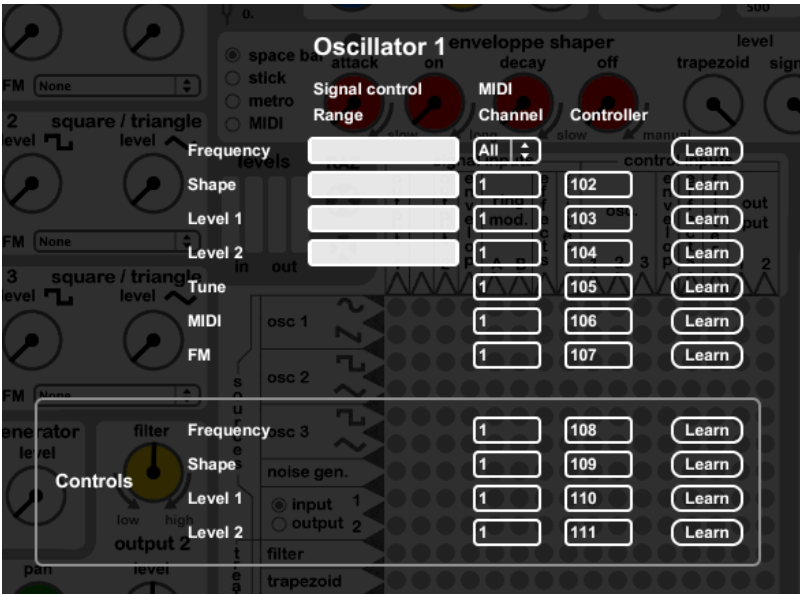
Configure inputs



MIDI

Channel	View or modify the MIDI channel of the control
Controller	View or modify the MIDI controller of the control
Learn	Click to recall the channel and controller with a MIDI input signal

Configure oscillators



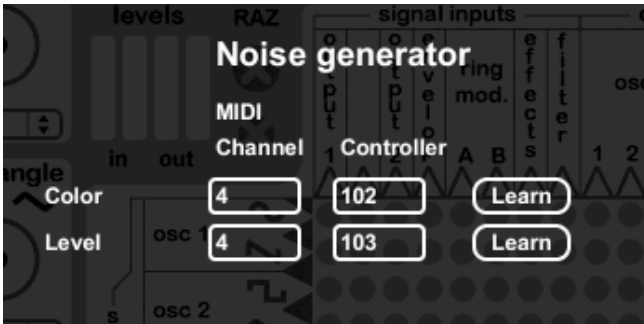
MIDI

Channel	View or modify the MIDI channel of the control
Controller	View or modify the MIDI controller of the control
Learn	Click to recall the channel and controller with a MIDI input signal

Signal Control

Range	Select the range of control parameter (different to MIDI)
-------	-----------------------------------------------------------

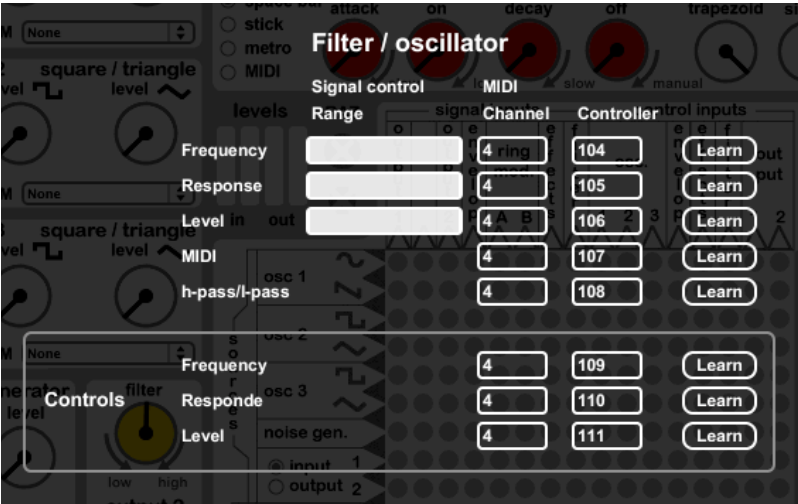
Configure noise generator



MIDI

Channel	View or modify the MIDI channel of the control
Controller	View or modify the MIDI controller of the control
Learn	Click to recall the channel and controller with a MIDI input signal

Configure filter / oscillator



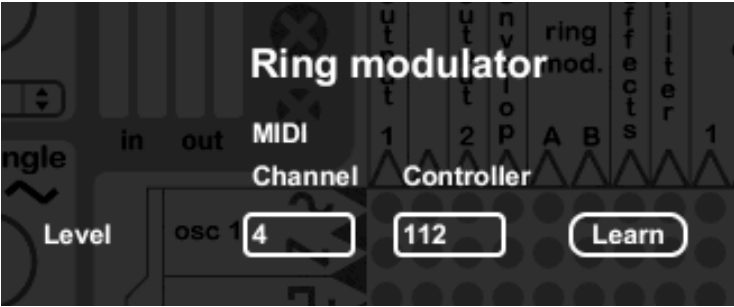
MIDI

Channel	View or modify the MIDI channel of the control
Controller	View or modify the MIDI controller of the control
Learn	Click to recall the channel and controller with a MIDI input signal

Signal Control

Range	Select the range of control parameter (different to MIDI)
-------	-----------------------------------------------------------

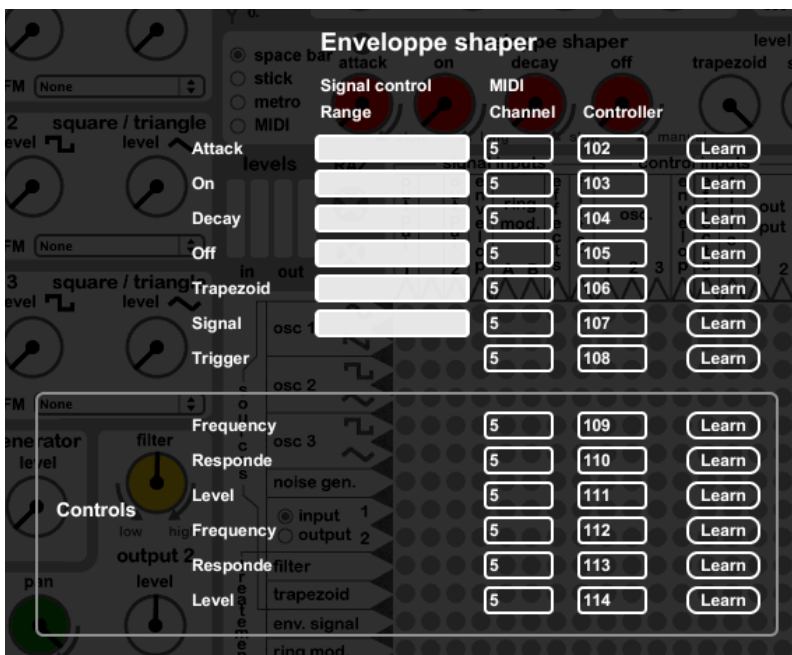
Configure ring modulator



MIDI

Channel	View or modify the MIDI channel of the control
Controller	View or modify the MIDI controller of the control
Learn	Click to recall the channel and controller with a MIDI input signal

Configure envelope shaper



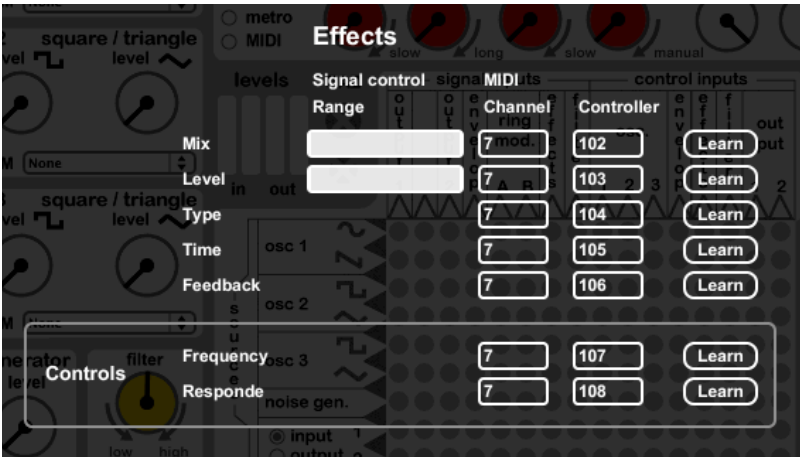
MIDI

Channel	View or modify the MIDI channel of the control
Controller	View or modify the MIDI controller of the control
Learn	Click to recall the channel and controller with a MIDI input signal

Signal Control

Range Select the range of control parameter (different to MIDI)

Configure effects



MIDI

Channel	View or modify the MIDI channel of the control
Controller	View or modify the MIDI controller of the control
Learn	Click to recall the channel and controller with a MIDI input signal

Signal Control

Range	Select the range of control parameter (different to MIDI)
-------	-----------------------------------------------------------