

# Inear Display Ephemere

## User Guide

Version 1.6



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# Introduction

Thank you for using Ephemere!

To get the most out of it, please take some time to read this manual.

Ephemere is a percussion synthesizer that includes twelve sound generation engines assigned to each note of an octave. The sounds are generated using FM synthesis and can be further sculpted using a multimode filter and two simple yet flexible envelope generators.

Ephemere makes it easy to add variety to your rhythmic patterns by attaching a randomization setting to most of the synthesis parameters, as well as a trigger probability per sound. By keeping the synthesis engine simple yet powerful and providing extensive randomization options, Ephemere is an invaluable tool to quickly design custom synthetic percussion sounds.

The user interface is designed to keep all the controls easily accessible. The upper half of the panel always displays the synthesis settings for one sound, while the mixer view below it allows you to quickly balance your sounds and select which one you want to edit. Clicking on the background of a mixer channel will bring the focus to the corresponding sound in the upper editor. Several useful global functions are easily accessible in the area located below the mixer view so that quick edits don't require diving into menus.

# Installation and First Launch

To use Ephemere, you need a VST3 or Audio Unit host such as Ableton Live, Logic Pro, Cubase, Bitwig, Reaper, FL Studio, Renoise, etc...

- **macOS:** The installer will automatically place the AU and VST3 files in the appropriate folders.
- **Windows:** The installer will automatically place the VST3 in the appropriate folder.

Once you have installed the plugin, open your host and you will find Ephemere in the instrument plugins list.

➤ Ephemere is only available as a 64 bit plugin.

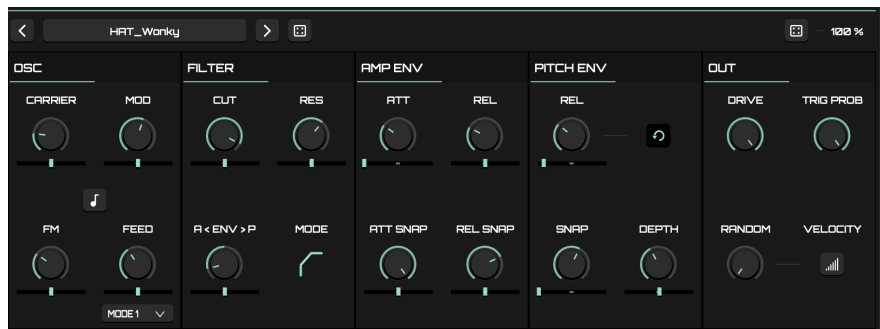
➤ On macOS, if you encounter issues while saving presets, please refer to [this FAQ](#) to fix the folder permissions.

# Interface Overview

Ephemere's panel is divided into two main parts :

- the Synthesis Engine
- the Mixer View

The [synthesis engine](#) is located at the top of the interface. There is one engine per sound (and one sound per note type), and only one engine will be displayed at a time. To select which engine is focused, simply click on the desired mixer channel background and the correct editor will be displayed. It consists of a header bar where you can select or randomize the sound of the currently selected part, and several modules that allow you to manually tweak the sound.



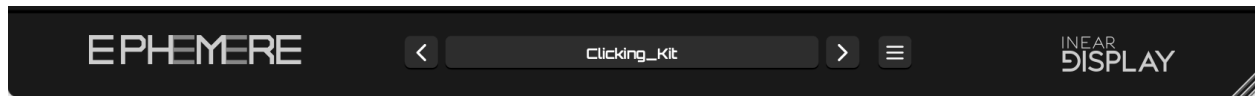
Below the synthesis engine you can find the [mixer view](#) where each sound has its dedicated column. The currently selected mixer channel is highlighted with a colored border. Each channel corresponds to a MIDI note starting from C and up to B. The last loaded sound preset name is displayed at the bottom of the channel.



Below the mixer view, a row of buttons gives you a quick way to control various global settings.



Finally, the footer of the panel contains controls to manage your kits, as well as a button to access the Configuration Menu.



➤ You can resize the plugin window using the handle in the bottom-right corner. The settings will be preserved the next time you launch the plugin.<sup>1</sup>

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<sup>1</sup> If you set the window to a size that exceeds the screen proportions and cannot revert to a usable size, you can remove the following lines from the preferences file (which can be accessed via the configuration menu and can be opened with any text editor) :

```
<VALUE name="width" val="726"/>
<VALUE name="height" val="363"/>
```

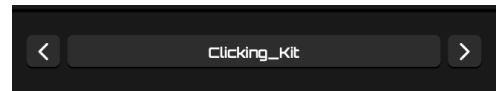
# Loading and Saving Kits

The kits are separated in 2 banks :

- **FACTORY** : factory kits that are bundled with the plugin
- **USER** : user created kits that live in a dedicated folder on your hard drive

The factory kits cannot be overwritten or deleted. If you wish to save a modified version of a factory kit, it will be saved as a user kit.

To load a kit, click on the button where the current kit name is displayed at the center of the footer section. A menu will pop up, with 2 sub-menus for the kit banks mentioned above. Click on the desired kit name to load the corresponding patch. Alternatively, you can use the arrow buttons on both sides of the display to cycle through the kits<sup>2</sup>.



To save a user kit, open the kit menu as explained above and select the first option : **SAVE KIT...**<sup>3 4</sup>

To manage the kits, you need to access the presets directory in the Finder/Explorer by selecting the appropriate option in the Configuration menu. Then you can just move or delete the files you wish as you would do for any other files.

➤ Versions of Ephemere before 1.3 used to store their presets in a folder named **Ephemere**. Starting with version 1.3, the preset folder is named **Ephemere\_1\_3** to avoid duplicates with the introduction of separate factory and user banks. If you had previously saved custom kits or sounds, you can manually copy them over to the new folder.

➤ On recent macOS versions, you may encounter an error when trying to save presets due to permission issues. Please see [this page](#) to work around this issue (the presets folder name is **Ephemere\_1\_3**). The best way is probably to make the whole **Inear\_Display** directory writable (and apply the same permissions to its child directories).

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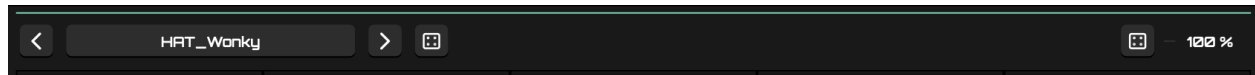
<sup>2</sup> The navigation arrows will cycle through the presets of the bank containing the current preset (or the factory bank if no preset has been loaded yet).

<sup>3</sup> this function is disabled in the Demo version

<sup>4</sup> Only preset files saved at the root of the preset directory will be detected by the plugin.

# Synthesis : Sound Presets and Randomizer

Ephemere can store and recall presets for each sound. Located at the top of the interface, the preset picker lets you select a sound to use either as is or as a starting point to design your own patch. Ephemere comes with about 180 factory sound presets. Combined with the extensive randomization options of the plugin, it makes it a breeze to come up with new original sounds.



To get started, you can select a sound from the preset list by clicking on the button displaying the sound name. This will trigger a menu where you can pick a sound<sup>5</sup>. The factory presets are prefixed according to their category. This is simply an internal convention which you may or may not follow when saving your own sounds.

You can also use the two navigation arrows on the side of the sound preset button to quickly browse through the presets. Alternatively, you can click on the **RANDOM** button (the dice icon) at the right of the sound preset controls to pick a random patch from the list.

➤ These controls are also available from the mixer view, allowing you to quickly swap sound presets even when the part is not focused.

Once you have loaded a preset, you can tweak it using the various synthesis parameters, or you can randomize these settings using the controls in the upper-right corner of the interface. Clicking on the top right dice button will alter the settings by a random amount, whose range can be set using the percent display located at its right side : just drag your mouse over the display while clicking like you would do with a regular knob to modify the randomization amount. Setting this percentage to a low value allows you to generate sounds that are close to the current one, while setting it to a high value will result in very different sounds.

Once you are happy with a sound, you can save it using the **SAVE SOUND...** option of the sound preset menu. For the sounds to appear in the list, you must save them in their default folder (the one in which the save dialog will open by default). This folder is located inside the main preset folder (where you save your kits) and can be accessed using the appropriate option from the Configuration Menu. Some settings are not saved with the preset, like the *Trigger Probability* or the *Pan*, as these values make more sense in the context of a specific project/kit than in the context of an individual sound.

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<sup>5</sup> The sound presets use the same system as the kits with 2 banks (factory and user sounds). Please refer to the kits section for more details as it works the same (but the user sounds folder is a child of the main presets folder).



# Synthesis : Randomization Ranges

Most of the synthesis engine controls have a small slider located right below them. This slider allows you to set a randomization range for the corresponding parameter. When the sound is triggered by a MIDI note, a random value will be picked for the parameter in the range determined by this slider.



This function is very useful to add either slight variations or completely chaotic transformations to a sound each time it is triggered.

The sliders are bipolar. When set to the center, they have no impact on the parameter. When set to a negative value (moved to the left), the randomization range will be negative, which means it will be a proportion of the range between the corresponding parameter minimum value and its current value. When the slider is set to a positive value, the randomization range will be a proportion of the range between the current target parameter value and its maximum possible value.

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Suppose there is a parameter that can take a value between 0 and 100, with the current setting at 25. The randomization slider can be used to generate a random value based on the current setting.

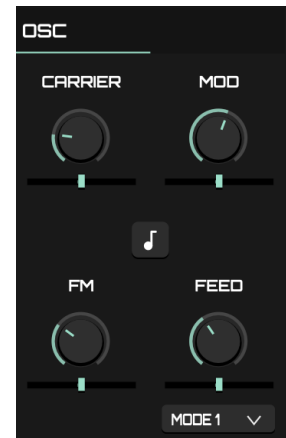
When the randomization slider is set to a negative value, the generated random value will be lower than or equal to 25. As you move the slider further to the left, the generated random value can be even lower, reaching a minimum of 0 when the slider is at its maximum left position.

On the other hand, when the randomization slider is set to a positive value, the generated random value will be higher than or equal to 25. As you move the slider further to the right, the generated random value can be even higher, reaching a maximum of 100 when the slider is at its maximum right position.

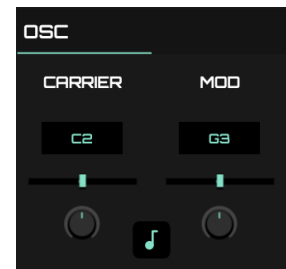
➤ To make sure that the randomization is completely disabled for a parameter, you can double-click on the corresponding randomization slider to reset it to its default value. Alternatively, you can use one of the two `Clear Random Ranges` options from the Config menu.

# Synthesis : Oscillator

Ephemere uses FM<sup>6</sup> synthesis to generate tones that you can further sculpt using the filter and envelopes. The oscillator block pictured above while having only 4 controls can generate a large palette of sounds. It consists of 2 sinusoidal oscillators : the carrier oscillator and the modulator oscillator. Only the carrier oscillator goes to the output of the block and then to the filter block. If the **FM depth** knob is at its minimum setting, the generated sound is a pure sine tone whose frequency is determined by the **CARRIER** knob setting.



Clicking on the **NOTE** button at the center of the module switches to the **quantized mode**<sup>7</sup> view (see the right side image above). In this mode, the **CARRIER** and **MOD** are set as MIDI note values instead of raw frequencies in Hertz (the regular mode). In quantized mode, the knobs below the note controls allow shifting each oscillator tuning in MIDI cents.



The **FM** knob controls the impact of the modulator oscillator on the sound as you turn it clockwise. The modulator oscillator does not affect the output directly but rather serves as a source of modulation for the carrier oscillator frequency, producing a very fast vibrato effect. Unlike a simple detuned effect that you would get from an LFO modulating an oscillator's pitch, this type of modulation significantly affects the timbre of the carrier oscillator. If you increase the FM depth slightly and adjust the **MOD** knob, you can easily hear the difference. The higher you set the FM depth, the more metallic and noisy the sound becomes.

Finally, the **FEED** knob adjusts the level of oscillator output that is sent back to modulate the frequency of the modulator oscillator. Two feedback modes are available and can be selected via the menu located below the FEED knob, offering different sonic flavors :

- **MODE 1**: the output of the carrier oscillator is used to modulate the modulator oscillator frequency
- **MODE 2**: the output of the modulator oscillator is used to modulate the modulator oscillator frequency





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<sup>6</sup> Frequency Modulation

<sup>7</sup> Introduced in version 1.3

# Synthesis : Filter

The filter block processes the output of the oscillator block, changing its timbre. The filter has 4 modes :

- **LOWPASS** : filters frequencies above the cutoff frequency. 
- **HIGHPASS** : filters frequencies below the cutoff frequency. 
- **BANDPASS** : filters frequencies above and below the cutoff frequency. 
- **NOTCH** : filters frequencies around the cutoff frequency. 



The filter **MODE** can be selected by clicking on the filter icon at the bottom right of the module. The icon will change to indicate the currently selected mode (as depicted in the list above).

The **CUTOFF** knob lets you adjust the frequency at which the filter will start altering the sound. The resulting sound is highly dependent on the **RESONANCE** setting. The higher the resonance is, the more the frequencies near the cutoff frequency will be emphasized, adding some crunch and, at high values, adding an overtone to the sound.

Additionally, one of the 2 envelope generators can modulate the cutoff frequency. This modulation is set using the bottom left knob labeled **A < ENV > P**. This knob is bipolar : when set to the center (its default value), no modulation is applied to the cutoff frequency. Turning it counter-clockwise will make the Amplitude Envelope impact the cutoff frequency, while turning it clockwise will make the pitch envelope impact the cutoff frequency.

# Synthesis : Envelopes

Each sound generator has two envelopes (a control signal that impacts a parameter) : one controls the amplitude of the sound, while the other controls the pitch of the sound. Both envelopes can additionally impact the filter cutoff frequency. When a MIDI note is received by Ephemere, the corresponding sound is triggered and its envelopes begin their ramps. The input note duration has no impact : once an envelope has reached the end of its attack stage, the release stage begins immediately.

## Amplitude Envelope

The amplitude envelope determines the time it will take for the sound to fade in and then fade out. It has two main parameters, which are the **ATTACK** time and the **RELEASE** time. When the sound is triggered, the envelope begins its attack ramp until it reaches the regular sound amplitude, then the release ramp begins until the sound is silent.

There are two additional parameters that directly impact the attack and release ramps : the **ATTACK SNAP** and the **RELEASE SNAP**. These parameters control the shape of the corresponding ramp. When set to their minimum, the ramp will be linear (the sound fades with a constant ratio). Turning these knobs clockwise will make the ramp exponential, resulting in snappier curves.



➤ Set the attack time to a short setting with the attack snap set to a high value to slightly delay a sound without a fade-in effect.

## Pitch Envelope

This envelope differs from the amplitude envelope by having only a release stage. The attack stage is instantaneous, so this envelope will directly fade out when triggered. It also provides a looping option not found in the amplitude envelope.

The **RELEASE** and **RELEASE SNAP** function in the same way as in the amplitude envelope described above.

By default, this envelope has no impact. The **DEPTH** knob found at the bottom left of the module needs to be turned clockwise, allowing you to



choose the strength of the pitch modulation. This is especially useful to design kick-type sounds.

Enabling the **LOOP** button (the cyclic arrow icon) causes the pitch envelope to re-trigger automatically once it reaches the end of its release stage, resulting in a modulation more akin to an LFO than a conventional envelope. Additionally, very short release settings combined with the loop mode will result in audible audio transformations instead of regular modulations.

# Synthesis : Output Module

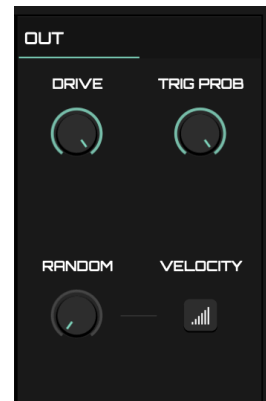
This module lets you adjust several global settings for the selected sound.

The **DRIVE** knob controls the amount of distortion applied to the sound before it reaches its mixer channel. Be careful as hardly distorted sounds can be very loud. Be sure to tweak the sound level appropriately in the corresponding mixer channel.

By turning the **RANDOM VELOCITY** knob (located at the bottom left of the module) clockwise, you can add some random factor to the input velocity. The generated values will always be lower than or equal to the input velocity.

When the **VELOCITY TRACK** switch (ascending lines icon) is engaged, the sound amplitude will be dependent on the input MIDI velocity.

The **TRIGGER PROBABILITY** knob determines the probability for a sound to actually be triggered when the corresponding MIDI note is received by the plugin. Turning this knob fully clockwise lets all the triggers pass (100% probability). As you turn the knob counter-clockwise, the probability for the sound to be triggered will get smaller. A value of zero will block all input triggers.



# Mixer View

Below the synthesis engine, the mixer section provides you an overview of all the sounds with quick access to amplitude and pan settings.



The mixer view is where you can select a sound for further editing : if you **click on the background of a mixer channel**, the synthesis engine will focus on the corresponding sound. When a sound is focused, the corresponding mixer channel background color will be lighter than the other channels and the channel border will be colored. In the synthesis engine, the colors of the controls will change to reflect the color of the corresponding mixer channel.

The **AMP** knob allows you to adjust the final level of the sound : it impacts the signal after the distortion. This setting is saved and restored with sound presets.

The **PAN** knob allows you to position the signal in the stereo field. The knob is bipolar : when set to the center (by default) the signal amplitude will be the same on both the Left and Right channels. Turn the knob counter-clockwise to position the signal to the left, and clockwise to position it to the right. This setting is saved with global presets (kits) but not with individual sounds presets.

Toggling the speaker button on will **MUTE** the corresponding channel. Toggling the headphones icon button on will **SOLO** the corresponding channel (muting all other channels).

The solo is not exclusive : several channels can be soloed at the same time. The state of muted and soloed channels for the whole kit can be cleared (all channels will be active again) by using the global function buttons available below the mixer.

The **arrow buttons** are used to navigate through the sound presets for the corresponding part, while clicking on the **dice button** will pick a random sound preset. These controls behave the same way as the sound preset controls that are available at the top of the panel when a part is focused. The controls in the mixer let you quickly change individual sounds without having to set the focus on each part.

To give you a visual clue about which sounds are currently playing, the mixer channels will blink when they are outputting sound : the background of a channel will take the color of the channel. The louder the sound, the more saturated the color will be.

The name of the currently loaded sound preset is displayed at the bottom of each mixer channel.



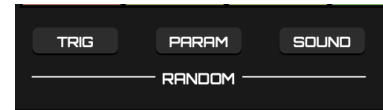
# Global Functions

Located below the Mixer, the global functions zone provides you a quick way to access some global utilities.

## Random Section

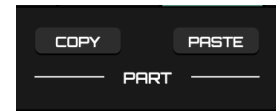
The **RANDOM** section provides 3 buttons that allow you to randomize various settings for all sounds :

- **TRIGGER** : clicking on this button will randomize the trigger probability for each sound.
- **CONTROLS** : clicking on this button will randomize the synthesis settings for each sound.
- **PRESETS** : clicking on this button will load a random preset for each sound.



## Part Section

This section provides a copy/paste system to duplicate the sound of a channel to another one. First, you need to bring the focus to the sound you wish to copy by clicking on the corresponding mixer channel and then click on the **COPY** button. Next, click on the mixer channel where you want to duplicate the settings to focus it, and then to click on the **PASTE** button to clone the settings from the source channel.



## Clear Section

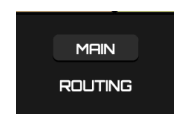
This section provides a quick way to reset the mute and solo states for all sounds at once.

- **MUTE** : clicking on this button will unmute all the sounds that were previously muted.
- **SOLO** : clicking on this button will un-solo all the sounds that were previously soloed.



## Meta Controls Section

The **ROUTING** button allows you to route the output of each mixer channel to a separate audio channel in your DAW. By default, the routing is set to **MAIN** which means that all the mixer channels are summed and routed to the default stereo output of the plugin.



If your DAW supports multi-output routing for audio plugins, you can alternatively send each mixer channel to a separate audio track. This allows you to apply external effects to each sound separately, extending the sonic possibilities of Ephemere. To use this function, you need to :

- Use a DAW that allows routing the output of a plugin to multiple audio channels.
- Load the appropriate version of Ephemere : some DAWs will give you the choice between a version with stereo out only and a version with multiple outputs.
- Properly set up separate channels in your DAW. The procedure is different for each host, so please refer to the DAW documentation to learn how to proceed for your setup.

If all the above prerequisites are fulfilled, you can simply click on the **ROUTING** button to switch between the regular stereo output and the multi-out configuration of the plugin. If the button displays **MULTI**, then each mixer channel will be routed to a separate track in your DAW. Only the first sound (note **C**) will be routed to the track where Ephemere is loaded, and you will need to create separate audio channels in your DAW to hear the other mixer channels.

The **POLY** menu lets you adjust the polyphony of the plugin by selecting between 3 presets :



- **MONO**: the plugin will use only one voice, so each new note will cut the sound of the previously playing note. This mode is ideal to craft glitch/breakcore style percussive tracks.
- **MED**: the default polyphony configuration, should be ideal in most cases.
- **HIGH**: use this setting if you feel like some notes don't play. The downside of this mode is that it will increase CPU usage.

## Output Amplitude

The slider on the right side of the global controls section sets the amplitude for the final plugin output. This setting impacts the output of the plugin in both stereo out mode and multi-output mode.



# Configuration Menu

This menu, triggered by clicking the gear icon located at the bottom right of the panel (next to the kit save button), is where you can access various global functions/options of the plugin.

- **UNDO / REDO** : these options allow you to cancel previous parameter changes or to replay previously canceled parameter changes.<sup>8</sup>
- **CLEAR** : this sub-menu offers several options to reset some settings.
  - **CLEAR TRIGGER PROBABILITIES** : will set the trigger probability to 100% for all the sounds.
  - The **CLEAR RANDOM RANGES FOR SELECTED PART** and **CLEAR RANDOM RANGES FOR ALL PARTS** options allow you to reset the values of all random ranges<sup>9</sup> for either the currently focused sound or every sound. These options can be useful if the results get out of control after tweaking the settings.
- **CLONE SELECTED SOUND TO ALL** : this option will copy the settings of the sound which currently has the focus and paste them to all the other sounds. This can be useful to quickly make several variations of the same sound.
- **INITIALIZE PARAMETERS** : selecting this option will set all the parameters to their default value.
- **SAVE CURRENT STATE AS DEFAULT** : selecting this option will create a default preset from the current settings, that will be used as the default state the next time you launch the plugin.
- **NEW RANDOM SEED** : click on this to reseed the random generator. It can be useful if you are unhappy with the randomizer results.
- **MIDI MAP** : use this sub-menu to manage your MIDI CC mappings.<sup>10</sup>
  - **CLEAR** : cancels the current CC assignments.
  - **SAVE** : lets you save the current set of mappings to your hard drive.
  - **LOAD** : allows you to restore a set of mappings by picking a file on your hard drive.
- **OPEN PRESETS DIRECTORY** : select this option to open the Finder/Explorer window at the user presets directory location.
- **SHOW PREFERENCES FILE** : select this option to open the Finder/Explorer window at the preferences file location.
- The last line of the Config menu displays the **version** of the plugin that is currently running.

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<sup>8</sup> This functionality is still experimental.

<sup>9</sup> the little sliders below the knobs in the synthesis engine.

<sup>10</sup> See the MIDI section for more details.

# MIDI Learn

If your host does not provide a built-in MIDI learning system, you can assign MIDI CCs to most of Ephemere parameters from the plugin panel. You can quickly assign a CC to one of Ephemere's parameters by moving the desired control on your MIDI controller and then clicking on a knob/slider/button on the Ephemere panel while maintaining the ALT key pressed. A menu will show up with the option [ASSIGN TO LAST CC](#). The MIDI control will now be mapped to the desired parameter. Nearly all the parameters available for automation in your host are also available for MIDI learning. You can easily cancel an individual mapping by using the same ALT-click menu and selecting the second option : [CLEAR CC MAPPING](#).

A set of all the current mappings can be saved in two ways :

- If you save the current project in your host, the mapping set will be saved along with the regular plugin data. This allows you to pick up where you left without having to manually recall the mapping set.
- You can manually save a mapping set by going to the Config menu and selecting [MIDI MAP → SAVE](#).

You can manually restore a mapping set by using the Config menu and selecting [MIDI MAP → LOAD](#).

Finally, you can delete all the current CC mappings by using the Config menu and selecting [MIDI MAP → CLEAR](#).

# Tips

- You can fine tune the value of a knob or slider by maintaining the **COMMAND** (on macOS) or **CONTROL** (on Windows) key while dragging the mouse.
- When using a knob or slider, a small popup will appear, displaying the current value of the corresponding parameter.
- You can go back to a clean state by selecting the appropriate option in the Configuration menu.
- Add variations to your patterns by copying one sound to another part and slightly tweaking this new part. Modify the second sound's trigger probability for more randomness.
- Abuse the randomizers to quickly create custom sounds. Careful tweaking of the random depth will give you control over the chaos until you find a good sounding combination.
- Ephemere does not provide built-in effects to keep it light and easy to use, but do not hesitate to leverage the power of your DAW by using the multi-output routing possibilities.

# Credits

## DEVELOPMENT AND GRAPHIC DESIGN

- Thomas Hennebert

## SOUND DESIGN

- Thomas Hennebert
- Mickaël Desfrênes
- Lingouf