User Manual
1.1

Augmented Percussion

Drum Trigger

NOISE GARDEN

Thank you for purchasing Augmented Percussion!

Table of contents

1. Introduction

Augmented Percussion is a Max for Live device designed as a versatile drum trigger, optimized for triggering electronic sounds and controlling parameters with the way you play using any microphone, contact mic, trigger input and virtually any audio source.
This tool allows musicians and producers to enhance their percussion setup, adding dynamic electronic layers and real-time modulation to their performance or production workflow.
While the device is mainly designed for percussion and drums, you can use it with any instrument or object that can be struck with drumsticks, hands, fingers, or any other tool.
It can trigger anything from single-note sounds to melodies and can detect data such as intensity, speed, energy, and stability, as well as generate random values, allowing you to control parameters in Ableton Live.

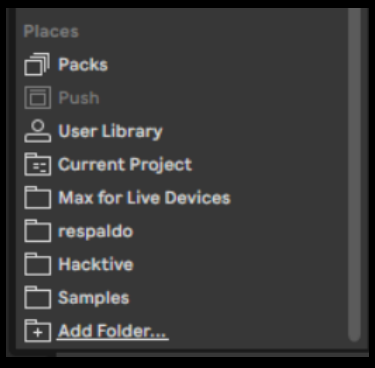
2. How to install

Augmented Percussion requires no installation. Simply drag the device onto the track where you wish to use it.
For quicker access in Ableton Live's browser, it is recommended to save Augmented Percussion in Live's default Max for Live devices folder:

Windows: \Users\[username]\Documents\Ableton\User Library\Presets\Audio Effects\Max Audio Effects

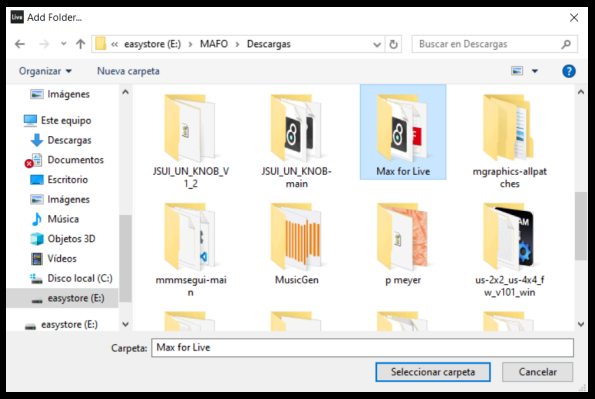
Macintosh: HD/Users/[username]/Music/Ableton/User Library/Presets/Audio Effects/Max Audio Effects

You can also save it in any folder of your choice and add that folder to the Places section in the Browser Sidebar on the left side of Ableton Live.



Simply click on *Add Folder…*

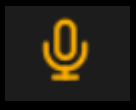
And select the folder you wish to add.



3. Overview

There are two devices: Augmented Percussion itself, which is an Audio Effect device, and 2-OP Perc, which is a two operator FM synth included with Augmented Percussion. Some one-shot samples are also included for use in Simpler, the new Drum Sampler introduced in Live 12.1, or any other sampler of your choice.

Augmented Percussion is organized in 5 sections: Audio, Data, Sequencer, Note and MIDI Out.

4. Audio Section 

This section lets you calibrate the incoming audio to ensure optimal response. It uses several processes to achieve this, including filtering, an envelope follower, thresholds, and additional features.

4.1 Audio Thru

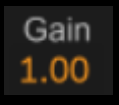
Enables the incoming raw audio to pass through without being affected by the filter or other features in the Audio section.

4.2 Filter

This section is designed to remove low and high frequencies, focusing on the primary frequency of the processed sound to help isolate it from other sounds as much as possible, minimizing the risk of undesired triggers.

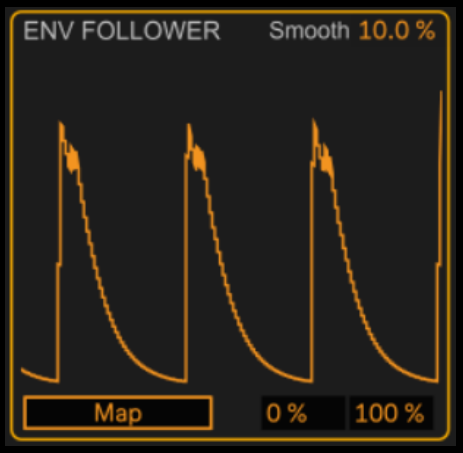
The Filter Monitor, represented by a headphone icon, allows you to listen to the audio after it has been processed by the filter. This feature helps you identify the optimal settings for both the low and high cut.

The gain value allows you to amplify the processed signal, increasing sensitivity without adjusting the gain of the incoming raw audio. This adjustment does not affect the audio output from the Filter Monitor, ensuring your speakers and ears remain safe.



4.3 Envelope Follower

This section smooths the incoming audio, reducing the likelihood of undesired triggers.



The Smooth value smooths the incoming signal. If set to 0%, the signal may be inconsistent, potentially detecting multiple transients and causing more than one trigger to fire per hit. However, if the Smooth value is set too high, it may not allow consecutive triggers to fire properly.

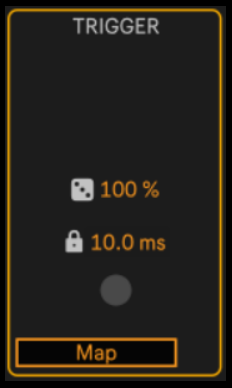
Using the Map function, the resulting Envelope Follower signal can be used to control any parameter available for automation in Ableton Live (See Chapter 9).

4.4 Threshold

Sets the maximum and minimum thresholds, defining the limits within which the processed signal will respond. These thresholds also determine the incoming Intensity range (See Chapter 5.1). When the incoming audio is near the lower threshold, the intensity values sent will be close to 0. As the amplitude approaches the upper threshold, the intensity values will increase, nearing 127.

4.5 Trigger

In this section, you can view the trigger generated by detecting transients in the incoming audio. This detection occurs after the audio has been processed through the filter, envelope follower, and threshold, ensuring an accurate response based on the processed signal.



The parameter represented by a dice icon allows you to set the probability that a detected trigger will fire. The probability is represented by a value ranging from 0% to 100%. At 0%, no detected triggers will fire, while at 100%, every detected trigger will fire. Intermediate values adjust the likelihood accordingly.

The parameter represented by a lock icon sets a time value in milliseconds which prevents triggers from firing consecutively within the specified time frame. For example, if set to 500 ms, once a trigger is fired, no additional triggers will be allowed to fire until 500 ms have passed. This helps avoid multiple triggers being activated in rapid succession.

Using the Map function, the resulting trigger can be used to control any momentary button available for automation in Ableton Live (See Chapter 9).

5. Data Section 

In this section, you'll find various data points such as Intensity, Speed, Energy, and Stability, along with 8 random values. These data points can be used to control both internal parameters within Augmented Percussion (See Chapter 7.4) and any available parameter in Ableton Live. Each data type provides unique information that can be mapped to expand your control and enhance creativity in your performance.

5.1 Intensity

Measures the intensity of each detected hit. The input can be calibrated using the minimum and maximum Threshold values in the Audio section (See chapter 4.4).

5.2 Speed

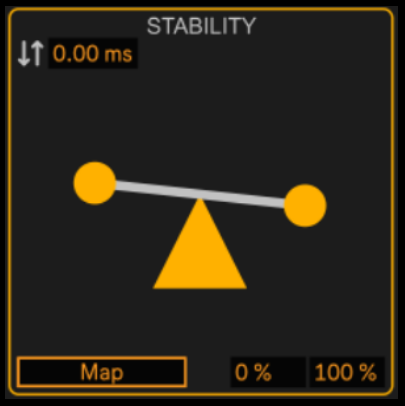
Measures the playing speed based on the time interval between consecutive triggers. This value can be calibrated using the millisecond values located at the bottom of the speedometer. The value on the left represents the slowest possible speed, while the value on the right indicates the fastest.

5.3 Energy

Energy is calculated by averaging Intensity and Speed (Intensity + Speed / 2 = Energy). When Intensity is weak and Speed is slow, Energy is low. Conversely, when Intensity is strong and Speed is fast, Energy is high.

5.4 Stability

Calculates the playing Stability by taking the difference between a new Energy value and the previous one (Energy1 - Energy2 = Stability). If the difference between the new Energy value and the previous one is small or nonexistent, the system is considered stable. If the difference is large, it is considered unstable.



5.5 Random signals

There are 8 independent random signals, each generating a new random value with every detected hit.

5.6 Data value smooth

The values generated by these data points can be smoothed by specifying a time in milliseconds, which determines how long it takes to transition from one value to another progressively. If set to 0 ms, the transition between values will occur instantly.

5.7 Mapping a Data value

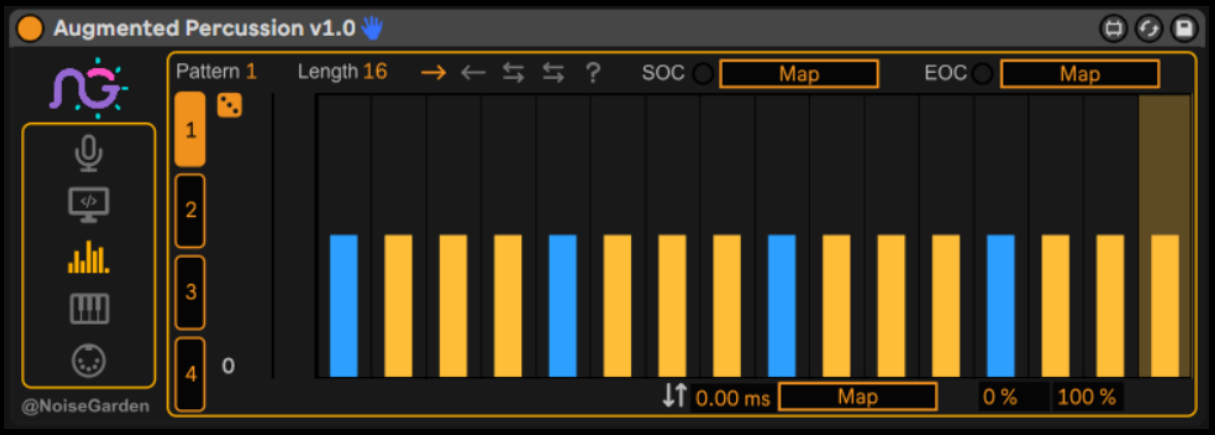
With the Map function, any of these data points can be used to control any parameter available for automation in Ableton Live (See Chapter 9).

5.8 Notes control

Any of these data points can be used to control the parameters of the notes generated by Augmented Percussion, such as pitch, velocity, and duration. This can be done in the Note section, as detailed later in Chapter 7.4.

6. Sequencer Section

Augmented Percussion features a 4-track sequencer, which can be used to control both the notes generated by Augmented Percussion and any parameter in Ableton Live that is available for automation.



The 4 tracks share the same number of steps, the same direction and the same pattern number; however, each track can control a different parameter and have unique values for each of its steps.

6.1 Track selection

These numbers allow you to select the sequencer track for viewing and editing.

6.2 Pattern

This value allows you to select a pattern for viewing and editing. There are 64 available patterns, each with 4 tracks. Any changes or settings made to each track within a pattern are automatically saved to that pattern. Each pattern can have a different number of steps and a unique direction for its 4 tracks.
Within each pattern, you can assign different values to each step across the 4 tracks.
It's like having 64 presets for the 4-track sequencer, with each pattern allowing you to store and recall unique configurations for the tracks.

6.3 Length

This parameter allows you to set the length of the sequence by specifying the number of steps. The length can range from 1 to 64 steps. The 4 tracks of the sequencer share the same Length. You can assign a different Length for each pattern.

6.4 Direction

This parameter lets you set the direction of the sequencer. You can choose between: forward, backward, forward and backward with the first and last step repeated, forward and backward without repeating any steps, and random. The 4 tracks of the sequencer share the same direction. You can assign a different direction for each pattern.

6.5 SOC

Stands for "Start of Cycle". It's a trigger that activates every time the sequencer reaches the first step. Using the Map function, this trigger can be assigned to control any momentary button in Ableton Live that is available for automation (See Chapter 9).

6.6 EOC

Stands for “End of Cycle”. It's a trigger that activates every time the sequencer reaches the last step. Using the Map function, this trigger can be assigned to control any momentary button in Ableton Live that is available for automation (See Chapter 9).

6.7 Track Value Smoothing

Each sequencer track has its own "value smooth" setting. This allows values to transition smoothly by specifying a time in milliseconds, determining how long it takes to move from one value to the next progressively. If set to 0 ms, transitions between values occur instantly. This only works for the values mapped to a parameter in Ableton Live available for automation.

6.8 Mapping a Track value

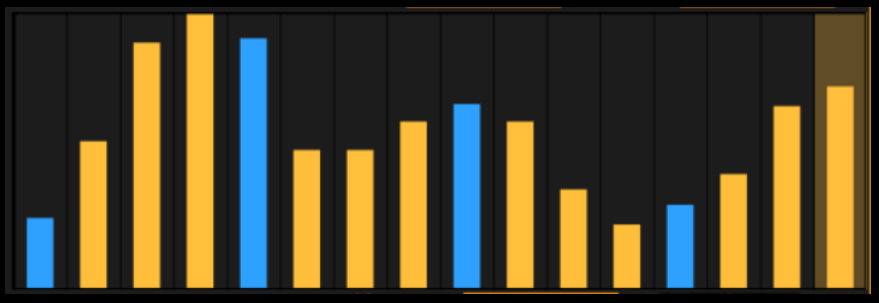
Each sequencer track can map its value to a parameter in Ableton Live. Each track has its own Map setting, allowing independent control of any parameter available for automation (See Chapter 9).

6.9 Randomization

Each sequencer track has its own randomization button, represented by a dice icon. Pressing this button generates random values for each step of the selected track.

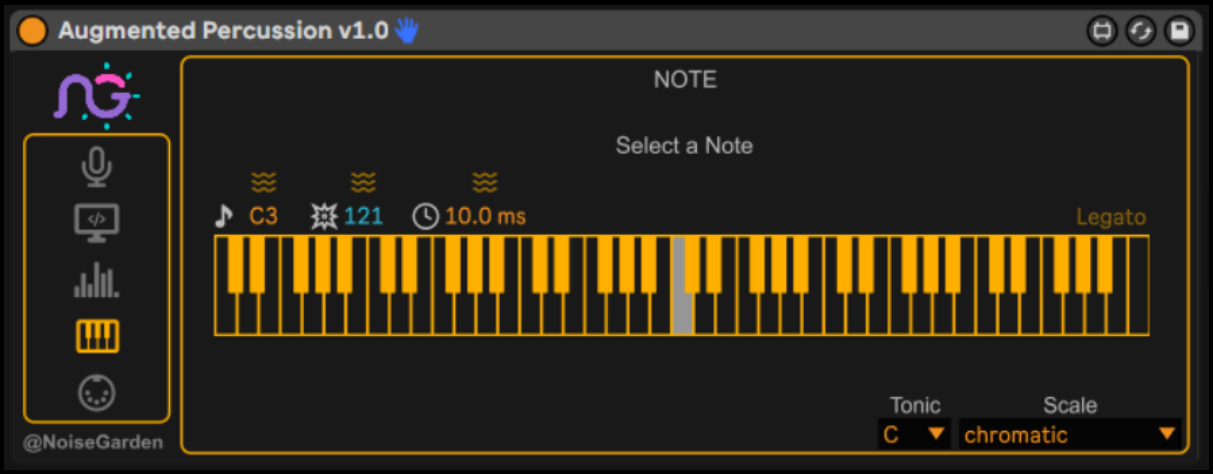
6.10 Editing Area

This area allows you to edit the values of each step by dragging the cursor up or down on the step you wish to edit.



7. Note Section

This section allows you to edit the note generated by Augmented Percussion, as well as modulate any of its three parameters: pitch, velocity, and duration.



7.1 Note

This parameter allows you to set the pitch generated with each hit detected by Augmented Percussion. By default, it produces a single pitch (similar to most percussion instruments), but it can be modulated by any value generated in the Data Section (See Chapter 7.4), by any track of the sequencer (See Chapter 7.5) or by any modulator available in Ableton Live. When Note is not being modulated, you can select a pitch by clicking on the note name and dragging the cursor up or down.

You can also choose a note by clicking on the corresponding key on the keyboard to select a fixed pitch.

7.2 Velocity

This parameter allows you to set the velocity of the note generated by each hit in Augmented Percussion. By default, velocity is controlled by the intensity of each detected hit, but it can also be modulated by any other values in the Data section or sequencer track (See Chapter 7.4), any available modulator in Ableton Live, or set to a fixed velocity. When velocity is not being modulated, you can select a value by clicking on the velocity indicator and dragging the cursor up or down to choose the desired fixed velocity.

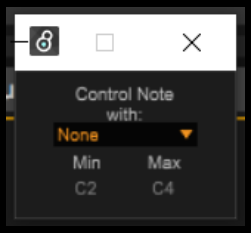
7.3 Duration

This parameter allows you to set the duration in milliseconds of the note generated by each hit in Augmented Percussion. By default, duration is set to a fixed value, but it can be modulated by any other values in the Data section, sequencer track (See Chapter 7.4) or by any modulator available in Ableton Live. When Duration is not being modulated, you can select a value by clicking on the duration indicator and dragging the cursor up or down to choose the desired fixed duration.

7.4 Modulating Note, Velocity, or Duration

To modulate Note, Velocity, or Duration with any values generated in the Data section, simply click the button located just above the corresponding parameter. Each parameter has its own button.

This will open a pop-up window containing a menu with 10 options: None, Intensity, Speed, Energy, Stability, Random, and Sequencer 1, 2, 3, and 4.

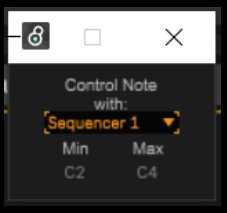


At the bottom of the pop-up windows, you'll find values to set the minimum and maximum of the control range. When "None" is selected, these values will be disabled and inactive, but selecting any other modulation option will enable them for editing.

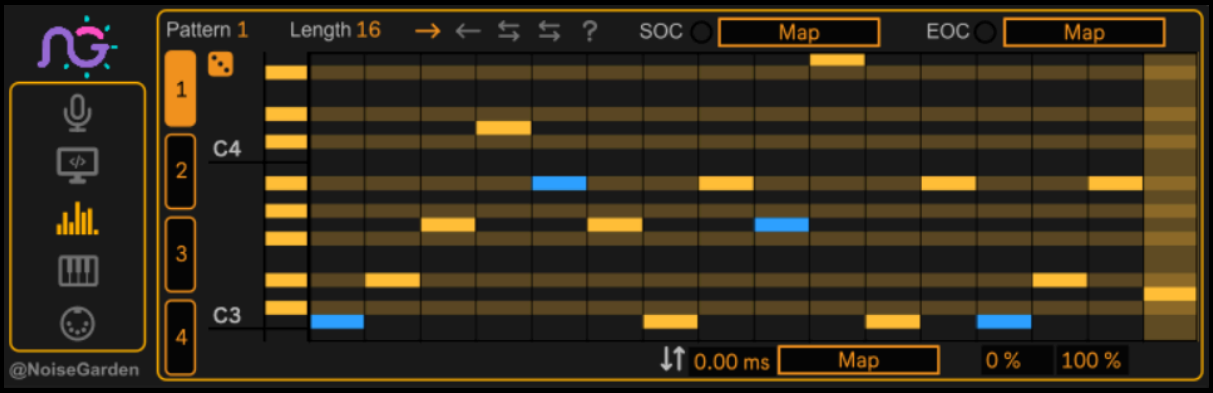
When an option other than "None" is selected to modulate note, velocity, or duration, the modulated parameter will change from yellow to blue, indicating it is being controlled and disabling manual editing of that parameter.

7.5 Modulating Note with a Sequencer Track

Please notice that in the case of Note, the minimum and maximum values will also be disabled if one of the sequencer tracks is selected as the modulation source.



This is because in this case the note range is set within the Sequencer Section in the track chosen as the modulation source. Additionally, the selected track's appearance will change, transforming from a value sequencer into a note sequencer to facilitate the selection of specific notes.



When a track has changed to note sequencer mode, you can set a range by positioning the cursor on the left edge of the sequencer, in the area displaying the keyboard and note names. Here, the cursor will change from an arrow to a hand with a magnifying glass. Click and hold in this area, then drag the cursor left or right to decrease or increase the range, respectively. This defined range will also determine the area within which the randomization button generates random notes for each step.

7.7 Legato

When activated, the Legato function sustains a note continuously until a new note arrives. Once the new note is triggered, the previous note stops, and the new one begins to sustain. This function allows notes to connect smoothly, ensuring they play one after another without any gaps of silence in between.
This function is useful in cases where a constant sound is needed, such as for bass lines, chords, textures or any other sound that requires sustaining.
The sustained note will continue to hold as long as Legato is active. When Legato is deactivated, the sustained note will stop.

7.8 Scale

Allows you to select a root note and a scale within which the notes generated by Augmented Percussion will conform. If Augmented Percussion generates a note that does not fit within the selected root and scale, it will adjust the note to the nearest compatible one.

There are 16 scales to choose from:

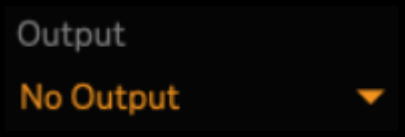
- Chromatic
- Ionian
- Dorian
- Phrygian
- Lydian
- Mixolydian
- Aeolian
- Locrian
- Wholetone
- Minor 7
- Dim 7
- Octatonic 2-1
- Octatonic 1-2
- Major Pentatonic
- Minor Pentatonic
- Invert

8. MIDI Out Section 

This section allows you to select a destination to receive the notes generated by Augmented Percussion.

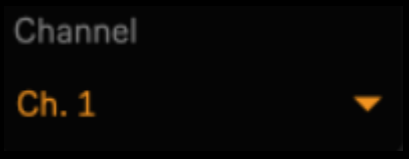
8.1 Output

This menu displays all available MIDI destinations currently in the Live session. It includes all MIDI tracks in the session as well as any devices connected to the computer that can receive MIDI, such as MIDI interfaces, synthesizers, and other MIDI-compatible hardware.



8.2 Channel

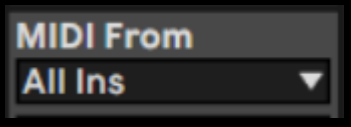
This menu displays the available MIDI channels based on the selected MIDI destination in the Output menu, allowing you to choose a specific MIDI channel if needed.



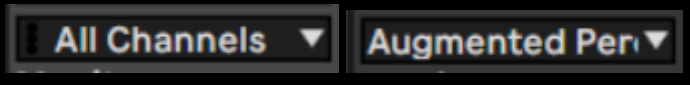
8.3 Alternate MIDI Routing

Another way to make a MIDI track receive the notes generated by Augmented Percussion is through the In/Out section, using the MIDI From menus.

To do this, select the track containing the desired instance of Augmented Percussion in the Input Type menu, which by default shows "All Ins."

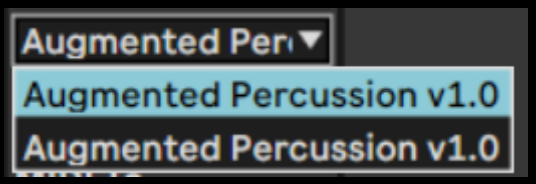


If there is only one instance of Augmented Percussion on that track, it will automatically be selected in the Input Channel menu.

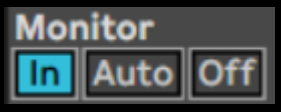


If there are multiple instances, you will need to manually choose the desired instance from the Input Channel menu, where multiple instances of Augmented Percussion will appear as options. The instance listed at the top of the Input Channel menu corresponds to the

Augmented Percussion located farthest to the left on the track, while the instance at the bottom corresponds to the one positioned farthest to the right.



Make sure Monitor is set to 'In' so that the MIDI track can receive the MIDI info sent by the selected Augmented Percussion.



This method allows you to select the same instance of Augmented Percussion for use in multiple MIDI destination tracks, unlike the MIDI Output section within Augmented Percussion, where only one destination can be selected at a time.

9. How to use the Map functions

The mapping functions allow you to link values from Augmented Percussion to parameters in Ableton Live that are available for automation, enabling control and modulation.

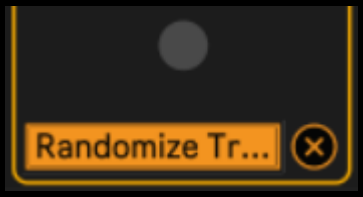
To connect a value with the Map function to a parameter, click the Map button. While it’s blinking, the next parameter you click in Live will be selected as the target. This is only possible with parameters in Live that are compatible with automation.

Once the link is established, the Map button will change, displaying the name of the linked parameter within it.

To unlink a parameter, click the "x" that appears next to the Map button once it’s linked. The button will return to its initial state, displaying "Map" again.

Next to the Map button, there are two values that allow you to set the minimum and maximum range for modulating or controlling the linked parameter. By default, they are set to operate at the maximum range, but you can adjust them to a specific, narrower range as needed.

Minimum and maximum range values are not available for triggers mapped to momentary buttons, as these buttons typically have only two states: on and off. Since momentary buttons are primarily used to trigger or activate actions, setting a range is unnecessary.



Thank you for purchasing and using Augmented Percussion! I hope you have fun and find endless inspiration with this tool. If you have any questions, encounter bugs, or experience any issues, please don't hesitate to reach out—I'm here to help. Happy creating, and enjoy exploring new sounds!

At the moment, Noise Garden is a one-person endeavor, where every aspect of the product—from programming and design to writing instructions, creating the user manual, providing customer service and handling advertising—is crafted and done by a single creator: me. I'm dedicated to keep learning and growing to provide high-quality, innovative tools to enhance your sound experience, and each product is a reflection of that commitment to detail and creativity.

Mafo.

mafo.cruz@gmail.com

Noise Garden

Oct 2024

NOISE GARDEN