



PALINDROME // CREDITS

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2D logo by Ben Hook

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This symbol refers to important technical info



This symbol refers to a tip, idea or side note

SETUP:

- ⚠ *This is a **VST3 / AU** plugin. Your DAW must be compatible with **VST3 / AU***
- ⚠ *Necessary changes in the code between plugin versions can break backwards compatibility. If upgrading from a previous version, we suggest backing up all DAW sessions accordingly (prior to running the new installers) to ensure that they stay intact.*
- ⚠ *Palindrome is a **stereo** plugin; be sure that you are instantiating it on a stereo track.*

1. Unpack the PALINDROME2.zip file
2. Via the PALINDROME2_INSTALLERS folder, run the installer for your system.
 - a) **Windows Users:** now that our plugins are in a single format on Windows (VST3) the installer no longer necessitates destination options. The plugin files will automatically be installed in the correct system subfolders.
 - b) **Mac Users:** If you encounter a preset installation error, we are aware of this potential issue and we have put together comprehensive instructions on how to resolve it. Please download them here: [MAC PRESET HELP](#)
3. Manually place the **entire** PALINDROME2_SAMPLES folder in any location of your choosing such as an internal or external hard drive where you store your samples.
4. Launch your **VST3** or **AU** DAW and load PALINDROME2 on an Instrument Track.
5. Follow the prompt and point to the location of the **PALINDROME2_SAMPLES** folder.
 - Upon first launch, you will see a popup that prompts you to point to the PALINDROME2_SAMPLES folder on your system. Palindrome will remember this path so that your presets & samples can load properly. Should the folder ever need to be moved, simply navigate to the Configuration Menu (gear icon in footer) and use the “**change sound library path**” command to point to the folder in its new location.
6. To operate the plugin, you must trigger it via MIDI (i.e. keyboard or other controller)
7. Load some of the factory presets to confirm that you hear audio - you're all set!

If you require tech support, you may reach us at: glitchmachines.sales@gmail.com

PALINDROME SYNOPSIS:

Palindrome 2.0 is a granular morph plotting sampler geared toward electronic music production and experimental sound design.

The basic concept behind Palindrome is to fuse four granular samplers with a coordinate plotting grid and complex modulation sources in order to facilitate the creation of morphing sound effects and unusual instrument patches.

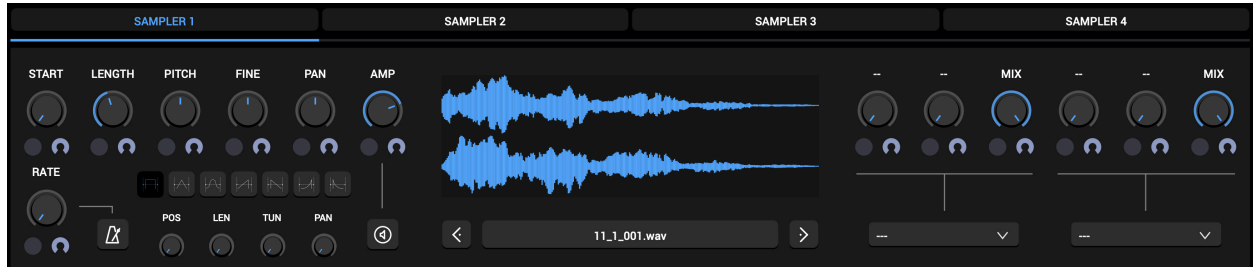
With its 4 granular samplers, morph-plotting system, 8 multi-breakpoint modulation envelopes, random modulation sources, dual effects processors per sampler, shape presets, 4-note polyphony, deep randomization system, global reverb, 1.5GB sample library and numerous factory presets, Palindrome brings sound designers a powerful new sound sculpting tool.

PALINDROME INTERFACE:

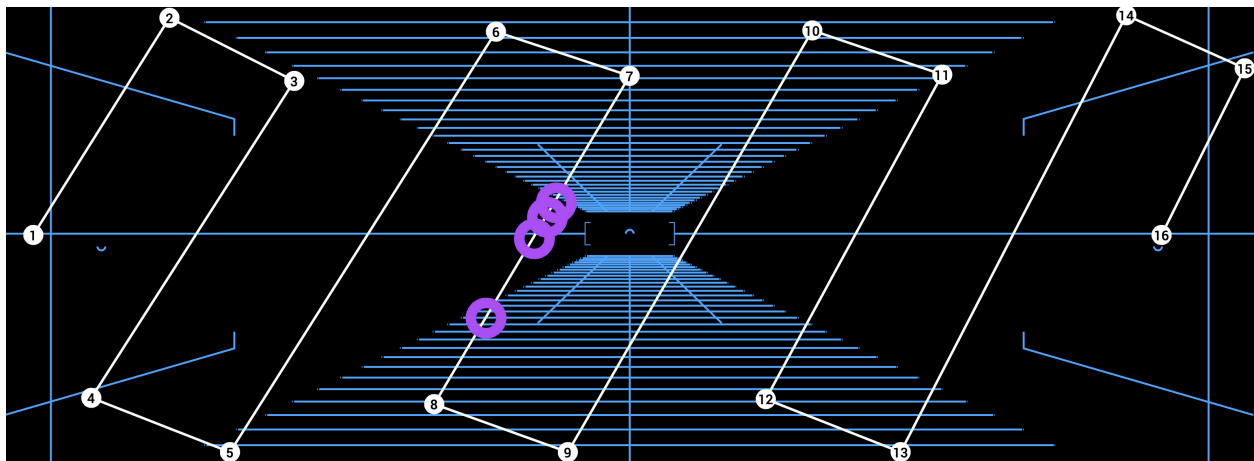


Palindrome's user interface is split into four main sections:

- **SAMPLER MODULES** - 4 main sound generators with two FX inserts each



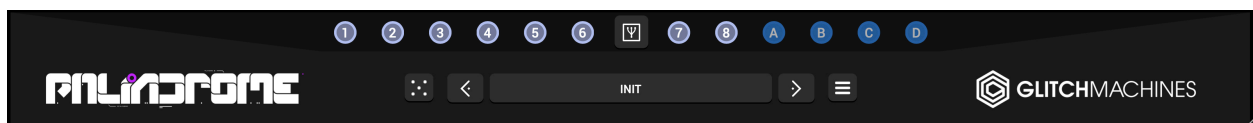
- **GRID SECTION** - area where the path is drawn and visualized in real-time



- **PATH & GLOBAL CONTROLS** - access to all path and global parameters

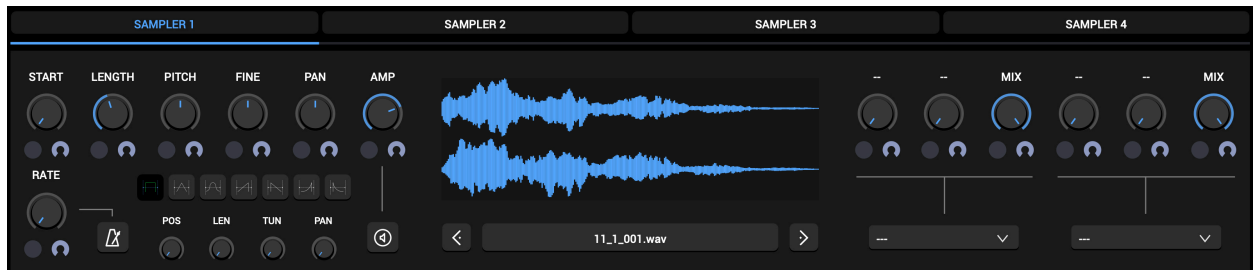


- **FOOTER SECTION** - access to envelopes, randomizer, presets, config menu

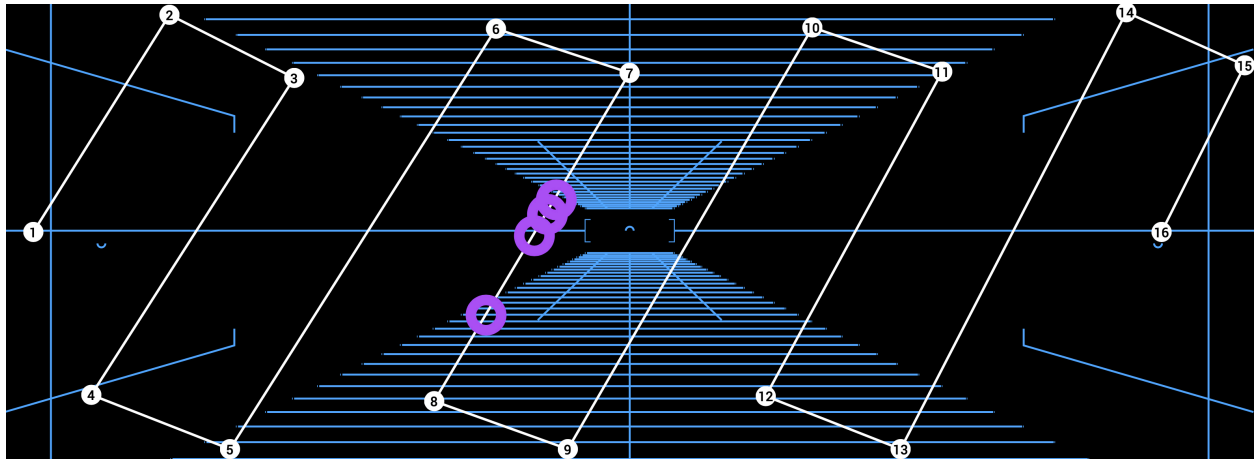


PALINDROME OVERVIEW:

At the heart of Palindrome are 4 samplers. As of version 2.0, each sampler features a revamped granular system as well as a variety of sculpting options, most of which are viable modulation targets. In addition, each sampler features the ability to integrate up to two insert effects, which are also assignable as modulation targets. The insert effects include four filter types, two distortion types, ring modulation, bit reduction and delay.

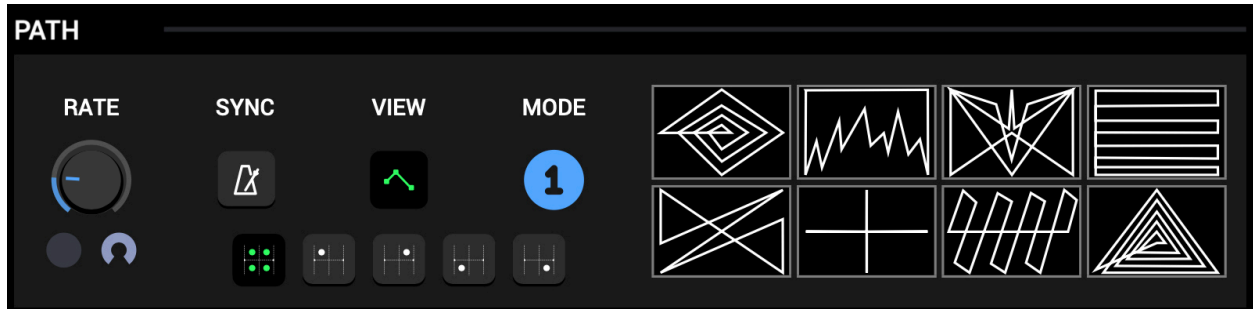


In the center of Palindrome's UI lies the plotting grid. The grid is a charting framework where you plot up to 16 points that determine the trajectory of a playhead. The grid coordinates of the playhead will determine which sampler outputs are currently audible. As the playhead travels along the path and over the grid zones, Palindrome will smoothly morph between the corresponding sampler outputs using a bilinear interpolation algorithm.



Palindrome's 4 voice polyphony allows you to trigger notes polyphonically which results in up to 4 active simultaneous playheads. Since you can play Palindrome in real time, you can use this behavior to create elaborate cascading sounds and syncopated rhythmic passages by offsetting the timing of the triggers.

Several directional modes are available that alter the way the playhead travels along the path. The default one-shot mode is useful in situations where more focused behavior is necessary and length or timing are a factor. Alternatively, you may choose any of the loop modes when cyclical travel or scattered randomization are preferred.



You can also alter the speed (rate) at which the playhead travels along the path. The path rate is a viable modulation target that can be used to juxtapose even more interesting animations such as expanding & contracting motions and flutter effects.

Rather than using standard LFOs for modulation, 8 multi-breakpoint modulation envelopes are available to facilitate the creation of intricate modulation shapes. These envelopes maximize the plugin's ability to animate a large quantity of parameters since a single source can be assigned to numerous destinations simultaneously.

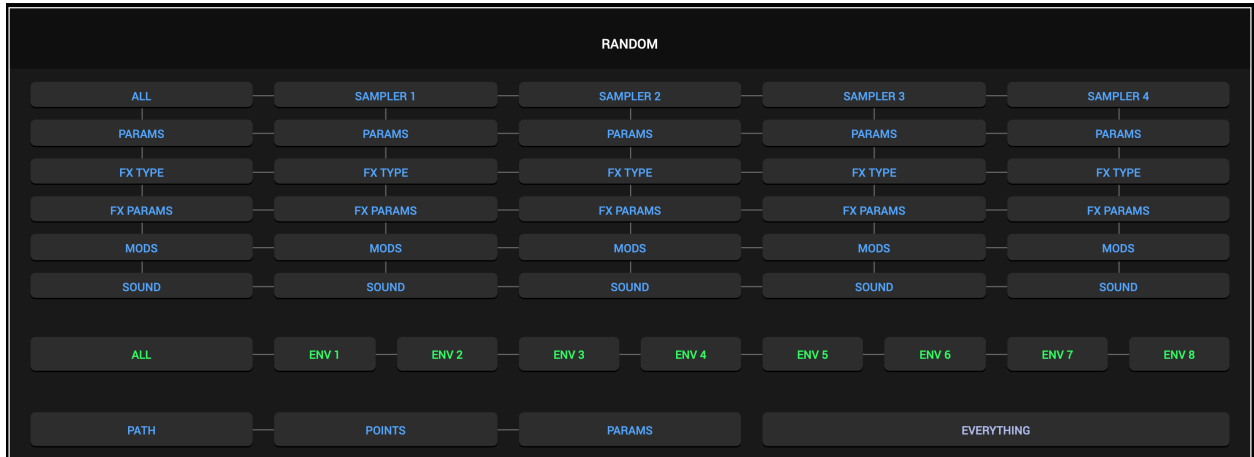
Each of the 8 envelopes feature individual grid lanes, where you can draw custom modulation shapes with up to **32 breakpoints**. Each envelope includes dedicated rate and loop parameters to further expand its capabilities. These envelopes make it possible to create anything from simple cyclical shapes to extremely elaborate and slowly evolving modulations.



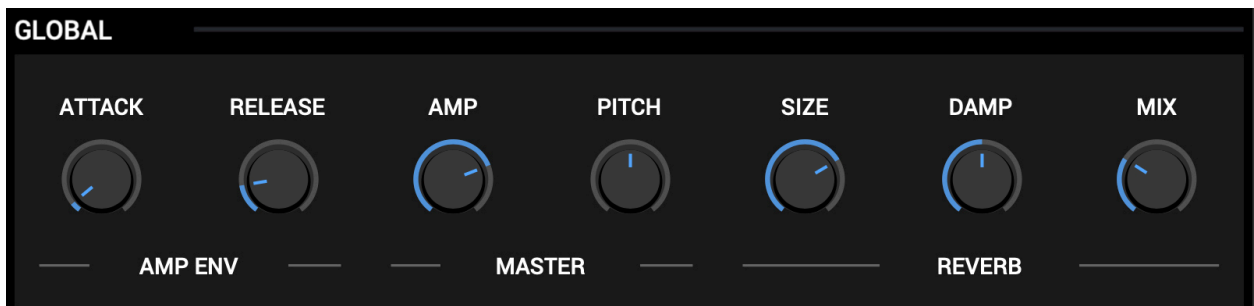
Assignments are made easily by dragging the desired envelope's corresponding numbered dot and dropping it onto the desired parameter's mod assignment slot. Assignment slots with corresponding modulation depth dials appear next to all parameters that are viable modulation targets.



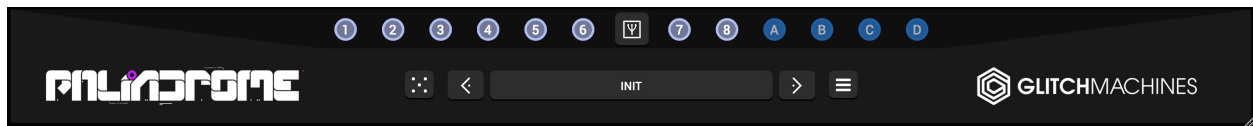
Beneath all of the up-front features, we've included a comprehensive Random section where you can randomize nearly all of the plugin's parameters in isolation and/or randomize various groups of parameters simultaneously. This section quickly yields interesting results and is specifically designed for situations where you are either in a hurry to dial in a quantity of interesting results or simply lacking inspiration.



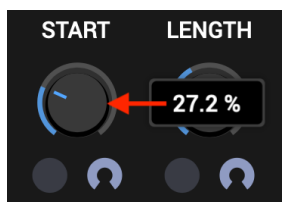
The Global section allows you to sculpt the combined output of the plugin by giving you global envelope, pitch and output parameters. We've also included a master reverb which can be applied to add a polish to Palindrome's master output.



The Footer section gives you access to the modulation sources (envelopes and randomizer nodes) as well as the randomization suite, presets and configuration menu.

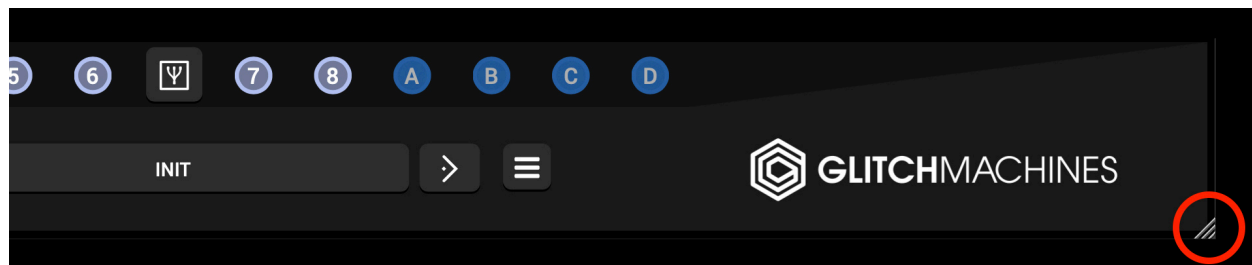


VALUE DISPLAY:



Parameters are equipped with a popup parameter value display. To reveal the current value of such parameters, click on the corresponding knob. Likewise, as you adjust the relevant parameter, its value will appear in a popup display, adjacent to the respective parameter.

SCALABLE INTERFACE:



You may scale the Palindrome interface by dragging the bottom-right corner of the window until you reach the desired proportions. This setting is automatically saved and the plugin will launch with the set dimensions until altered.

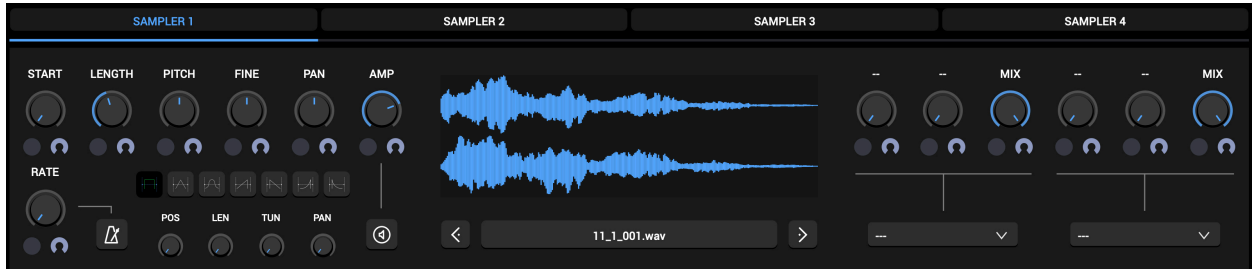
Should the interface ever exceed the boundaries of your screen, you can trash the preferences to reset its dimensions. To do this, navigate to the preferences via the Global Menu option and trash the corresponding file before relaunching the plugin.

INIT ALL CONTROLS *Init All Controls* in the Config Menu allows you to reset your patch

💡 *Holding the Control/Command (Win/Mac) key gives you finer control over a parameter.*

💡 *Double clicking a knob will set it to its default value.*

SAMPLER MODULES:

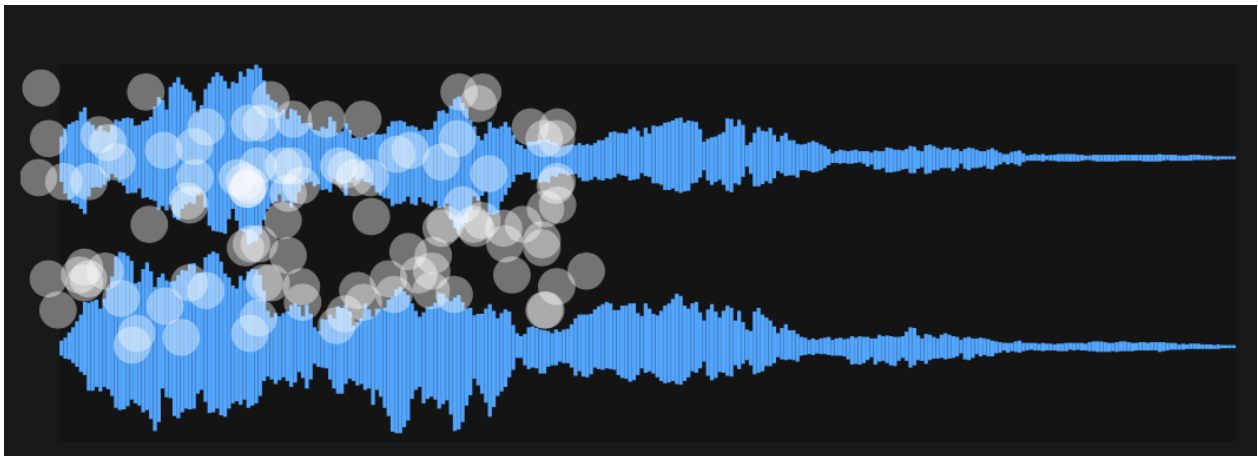


Palindrome was specifically developed with experimental sound design in mind, so we implemented granular samplers for their inherent focus on sonic exploration.

As of version 2.0, the granular engine has been totally overhauled to make samples even more malleable. It now features new jitter controls, a modulatable rate control and several new smoothing algorithms. We have also added a new Vowel Filter and Bitcrusher to the effects, which are available at the output of each sampler module as explained later in this section.

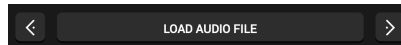
Palindrome 2.0 comes with a new 1.5 GB collection of diverse samples and we included various presets to showcase how they can be utilized to create interesting sounds. Of course, Palindrome also works with all of your existing sample libraries and recordings.

A grain is essentially a one-shot playhead traveling across a portion of the audio file. Grains are emitted at a regular time interval specified by the **RATE** control. Once it has reached its end it stops, but depending on the combination of the rate and grain length parameters several grains can overlap. Up to **32** grains can play at a single time per sample (multiplied by 4 samplers and 4 voices of polyphony). These grains are indicated by transparent white dots which are superimposed on the waveform display at playback, shown below:

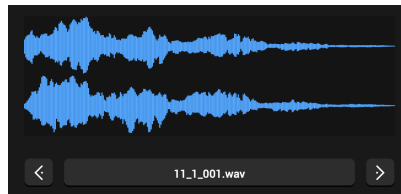




Each of the 4 modules are selectable via the labeled tabs at the top of the interface.

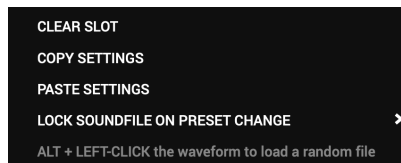


Click the **LOAD FILE** dialog box to load a file, or drag & drop mono or stereo **.wav** or **.aif** files directly from your DAW or desktop onto the waveform display. Once you load a file, the <> arrows increment/decrement through the files in the currently active folder.



There is no predetermined maximum file length although this aspect of the software is governed by your computer's resources so be mindful of your machine's capacity.

Right-click inside the waveform display to reveal a menu with the following options:



- Clear Slot: Clears the file that is loaded into the respective slot
- Copy/Paste Settings: Allows you to copy/paste settings between sampler modules:



Note that the parameter settings as well as the associated audio file are affected.

- Lock Soundfile On Preset Change - with a submenu for individual/grouped locks:

At times, you might want to hear how the currently loaded samples sound within other patches. This can be thought of a little bit like randomizing parameters, but it's more controlled because you are switching to another preset's settings, which implies some form of order as where randomized settings are inherently illogical at times.

- ALT+Click inside the waveform display to load a random audio file:

Much like the function above, at times it may be beneficial to hear how the current patch settings sound when applied to another audio file. This function will load a random file from the currently selected folder.

The playback position and size of the grains are determined by the **START** and **LENGTH** parameters, and the respective indicators will scale and move across the waveform in realtime according to the changes of their respective settings.

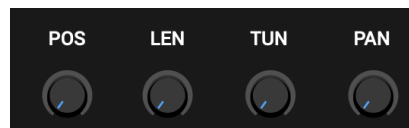
START : Determines the starting position of playback

(based on a percentage of the sound file's length and size in milliseconds)

- **LENGTH** : Determines the length (size) of each grain
- **PITCH** : Alters the pitch of the loaded sample by +/- 24 semitones
- **FINE** : Alters the pitch of the loaded sample more finely
- **PAN** : Determines the panoramic position of the sampler's output signal
- **AMP** : Determines the amplitude of the samplers output (with dedicated Mute button)
- **RATE** : Determines the time interval at which grains are emitted (0.001Hz - 100Hz)



The Rate parameter can be synchronized to your host's clock by engaging the metronome button adjacent to the knob. When activated, parameter values will snap to musically relevant beat divisions.



The Jitter parameters offset various grain attributes by a desired percentage:

POS: adds a random positive offset for each grain

LEN: adds a random positive offset for each grain

TUN: adds a random bipolar offset for each grain

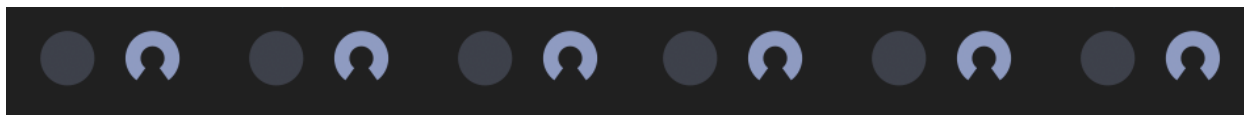
PAN: adds a random bipolar offset for each grain



Palindrome features seven granular windowing options that are selectable via the buttons above the jitter parameters:

Rectangular / Triangular / Hanning / Ramp Up / Ramp Down / Slope Up / Slope Down

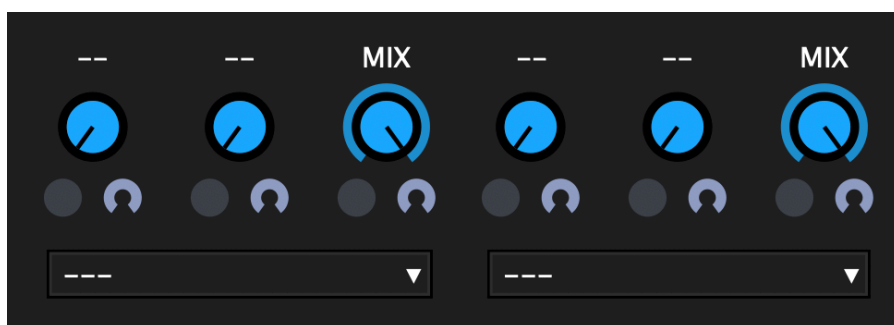
Each of them brings out different timbral characteristics in the grains. Their behavior is context-sensitive so be sure to try them in order to determine which one works best with the audio file and settings in your patch. For example, the slopes in particular are intended to be used when you want to induce sharper, more percussive sounds.



Each modulatable parameter has a small dot next to it. These dots are the modulation assignment slots, which are inactive by default, as shown above.

Once you make a modulation assignment, the corresponding envelope number or letter will be displayed inside the slot. The mod depth dial, which is the crescent shape next to each slot, determines the min/max range of modulation on the respective parameter.

 *For more on modulation and how to make assignments, see the Envelope section.*



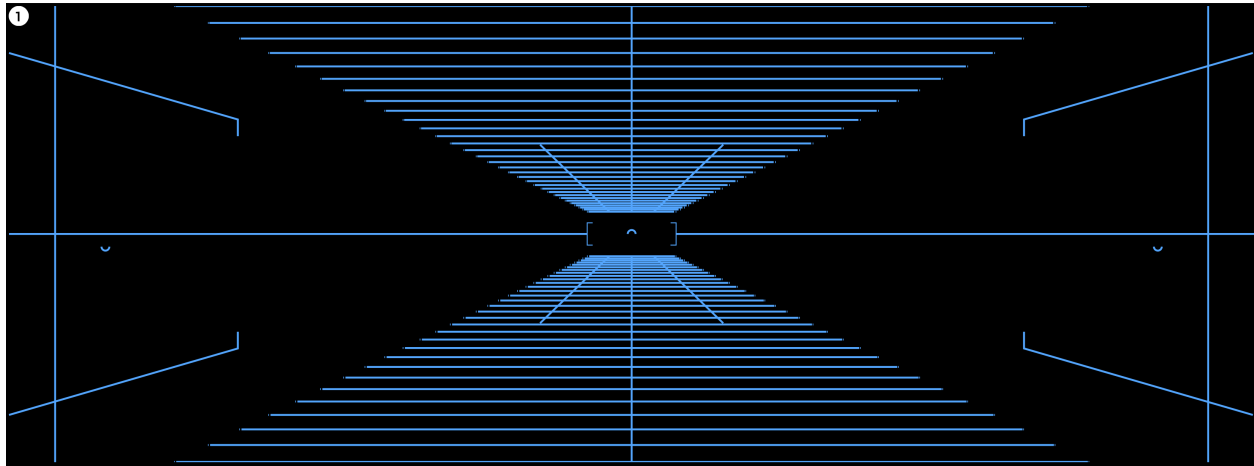
To the right of each sampler's waveform display lies the corresponding **insert effects** section. Each of the effects inserts process the incoming signal from left to right and offers two parameters, followed by a MIX knob.

Due to the compact and simplified nature of the insert effects, parameter values have been simplified and range between 0 and 1 (i.e. 0-100%).

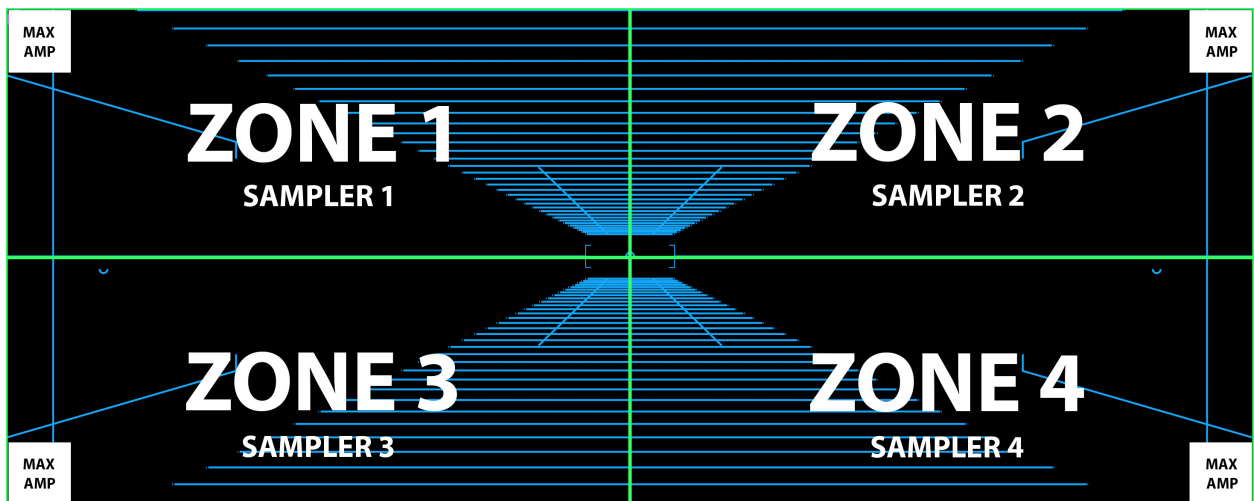
 Once you choose an effect from the list, its parameters will populate the knobs.

- **LPF** : Low Pass Filter // Parameters: Cutoff and Res
- **HPF** : High Pass Filter // Parameters: Cutoff and Res
- **BPF** : Band Pass Filter // Parameters: Cutoff and Res
- **DRIVE** : Distortion // Parameters: Drive and Amp
- **FOLD** : Wavefolder // Parameters: Drive and Amp
- **RING** : Ring Mod // Parameters: Wave and Frequency
- **DELAY** : Delay // Parameters: Time and Feedback
- **BITCRUSH**: Bitcrusher // Parameters: Bits and Reduction
- **VOWEL**: Vowel Filter // Parameters: Vowel and Resonance

GRID SECTION:



The grid is split into 4 **zones** that correspond with the 4 sampler modules' output signals



Grid Zone 1 = top left = Sampler 1
Grid Zone 2 = top right = Sampler 2
Grid Zone 3 = bottom left = Sampler 3
Grid Zone 4 = bottom right = Sampler 4

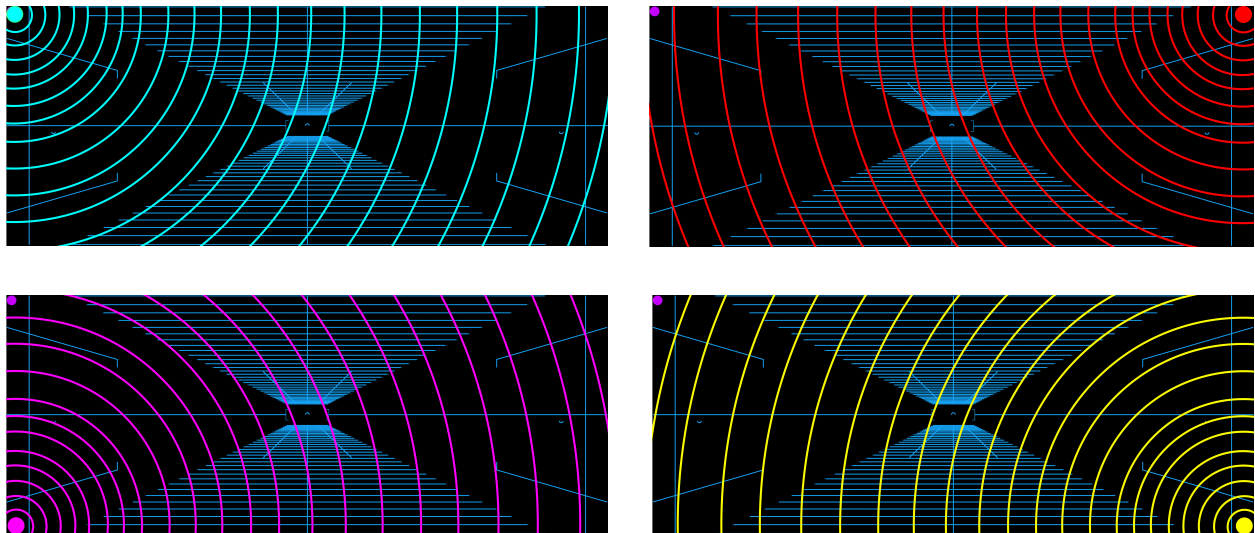


*The zone order is easy to remember if you visualize it as a **Z** shape.*

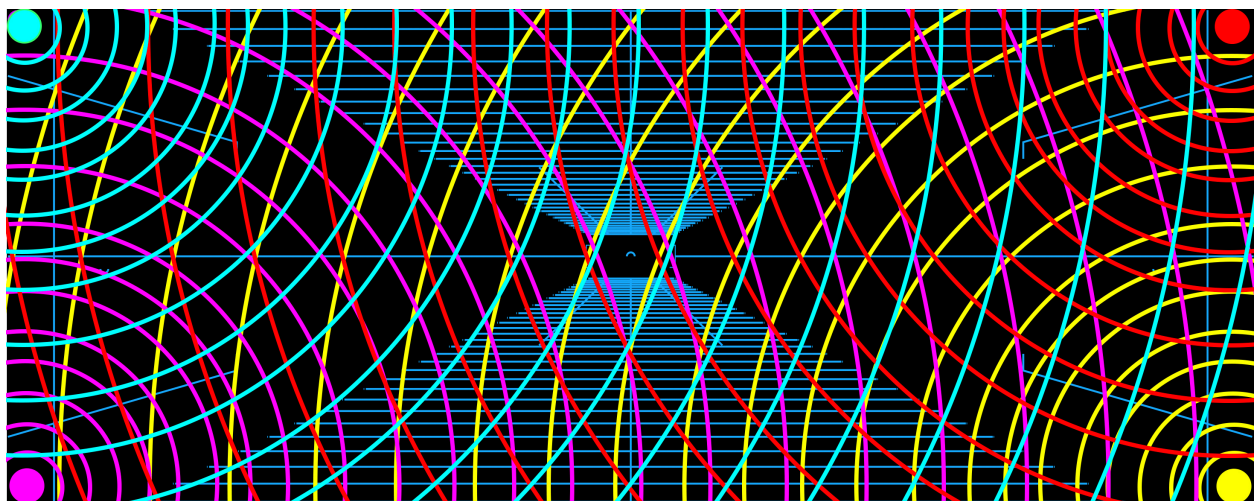
The far corner of each zone corresponds with the maximum amplitude of each Sampler.

A good way to visualize the way the zones work is to think of each corner as a speaker that is broadcasting the signal coming from the respective sampler.

At the point of origin (in the corner), the signal is at its loudest and as it moves farther away, it gets quieter until it finally reaches silence at the edge of the grid.

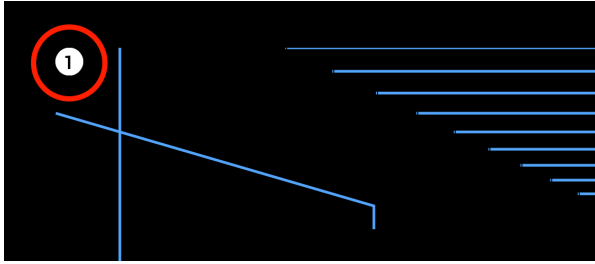


Assuming that all of the samplers are broadcasting a signal, the zones essentially reference the grid quadrants where the signals overlap:



Another important concept to understand is that the path represents a superimposed set of directions for the playhead to travel across, which in turn determines which of these signals will become audible over the course of its trajectory.

PATH:



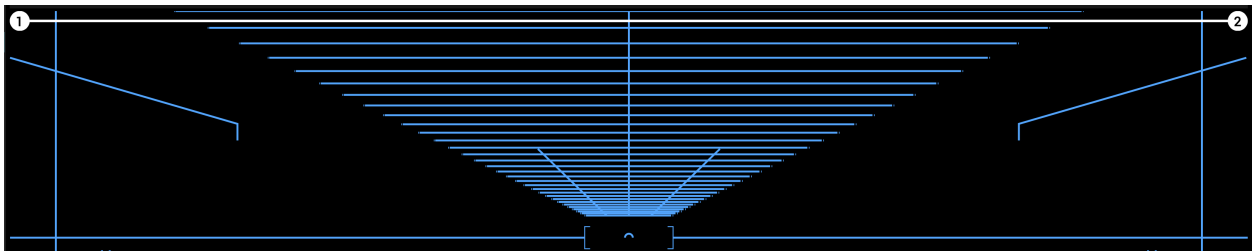
By default, there will only be one point present at the top-left corner of the grid.

For practical purposes we'll refer to this as the path's "point of origin". You will find the **number 1** assigned to this point.

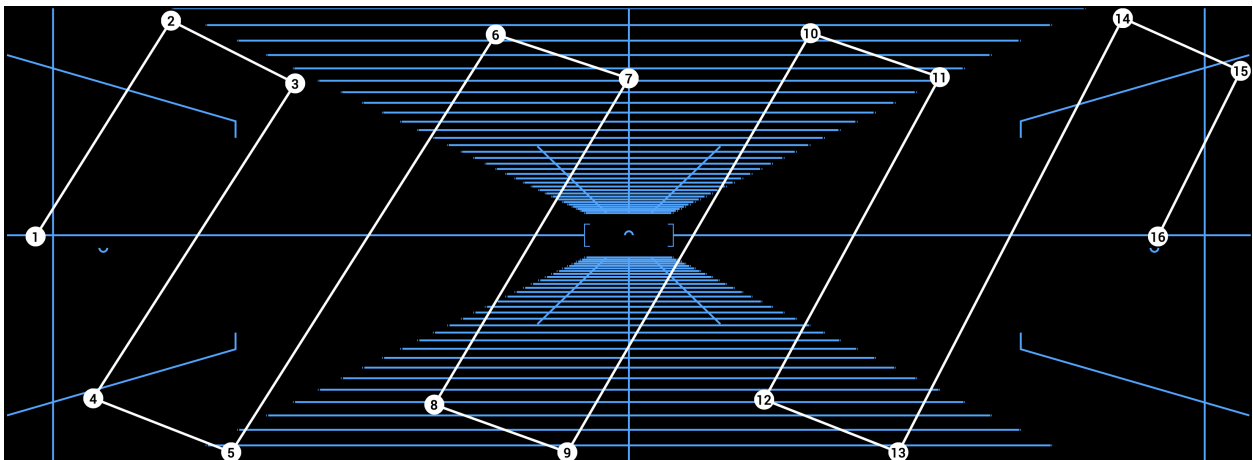
! *You can move the point of origin to any grid location so long as you keep the relationship between the signals and the grid zones closely in mind in order to avoid unwanted silence or dead zones.*

Assuming you want to utilize more than one sampler, you will need to add more points to the grid, thus creating a "path" for the plugin's playhead to travel across.

To draw a new point on the grid, simply shift+click in the desired location. Assuming that the "path view" option is active, you will see a line that connects the origin point and the new point you just created. You will find the number 2 assigned to this new point. Subsequent points are numbered sequentially in the order they are created.



You may draw up to 16 points in this way, effectively creating the aforementioned **path** for the playhead to traverse.





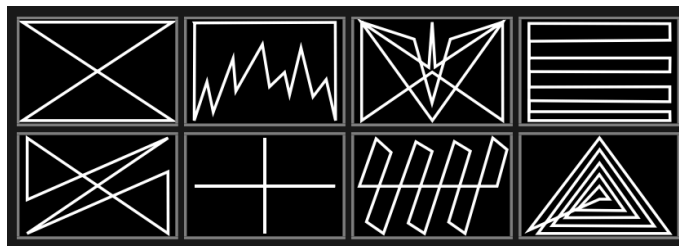
To delete a point, **right+click** on the point you wish to remove

To manually clear all of the points on the grid simultaneously, right-click anywhere in the grid to reveal a button popup. This action will remove all of the points currently on the grid and revert back to its single-point initial state.



All of the path points can also be manually repositioned, should you wish to do so. This makes it easy to fine tune your patch while listening to the results in realtime.

In case you happen to draw shapes you're particularly fond of, we have implemented a path preset system which allows you to save your favorite shapes into up to 8 slots.



We included a diverse selection of abstract shapes to incentivize the user to experiment with the ways in which sounds can be morphed by creatively altering the playhead path.



The first shape is a basic setup that travels linearly across all 4 zones in order. This shape is intended to speed up patch creation, especially if all samplers are engaged.

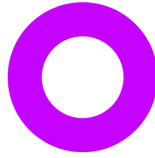
You may also draw your own path shapes. Once you've drawn a shape you would like to keep, **shift+click in the desired slot** and your shape will be stored there, represented by a thumbnail displayed on the panel.

When a shape is saved to a slot, it is saved in the plugin's preference file so that it loads the custom shapes next time it is launched.

In case you should ever want to restore the default shapes, simply navigate to the Configuration Menu and select : "**Restore Factory Path Presets**"



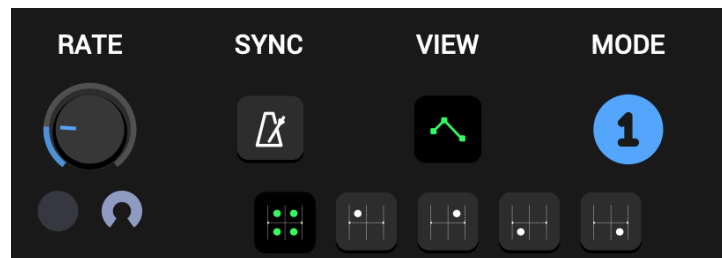
Note that as of version 2.0, point deletion is handled the same way between the Grid and Envelope Editors i.e. **right+click** directly on a point in order to delete it.



PLAYHEAD : the playhead is visualized as a fuchsia ring. The grid location of this playhead determines which sampler signals are audible. Each time you send a MIDI trigger to the plugin, a new playhead will move across the path in realtime according to the active grid coordinates and settings in the path section. Since Palindrome has 4 voice polyphony, you may see up to 4 playheads on the grid simultaneously, depending on how many MIDI “notes” are being pressed and/or how the global envelope is set up.

💡 *When drawing path shapes, remember to keep the relationship between the grid zones and the samplers in mind so that you don't create any unwanted dead (silent/quiet) spots by passing the playhead over a zone that corresponds with a sampler that doesn't have a sample loaded or occurs at a low amplitude stage of the grid. For example, if you placed the point of origin in zone 4, yet only have a sample loaded in sampler 1.*

There are various other important parameters in the Path Section:



RATE : determines the speed at which the playhead travels across the path. You may also modulate this parameter for more complex rate fluctuations.(0.001Hz - 25Hz)

SYNC : allows you to synchronize the speed of the path to your DAW's clock. When SYNC is active, the rate parameter will be locked to various available beat divisions.

VIEW : allows you to show and hide the lines interconnecting the active points on the grid. Turn this ON while editing and OFF during normal use to minimize visual clutter.

MODE : 5-way switch that changes the playback behavior of the playhead:

- ONE-SHOT
- FORWARD
- BACKWARD
- PENDULUM
- RANDOM






ZONE SOLO MODES:

The buttons at the bottom of the Path module correspond with the zone solo modes.

The new solo modes allow you to isolate the signal of a single sampler module. This is particularly helpful when you are designing a patch and need a quick way to solo the signal in order to hear it in isolation. When a button is pressed, it is illuminated in green to signify the active mode.

In normal operation, use the **All Zones On** mode.

Their function is as follows:

-  **ALL ZONES ON** - Grid functions normally, where zones 1-4 intersect
-  **ZONE 1 SOLO** - Grid disabled, playback from **Sampler 1** is isolated
-  **ZONE 2 SOLO** - Grid disabled, playback from **Sampler 2** is isolated
-  **ZONE 3 SOLO** - Grid disabled, playback from **Sampler 3** is isolated
-  **ZONE 4 SOLO** - Grid disabled, playback from **Sampler 4** is isolated

ENVELOPES:

Palindrome features 8 user-definable multi-breakpoint modulation envelopes.



Rather than making use of traditional LFOs for modulation, Palindrome gives you the ability to draw complex shapes with up to 16 breakpoints. Each envelope can be used to modulate multiple targets simultaneously, making for a deeply complex mod system.

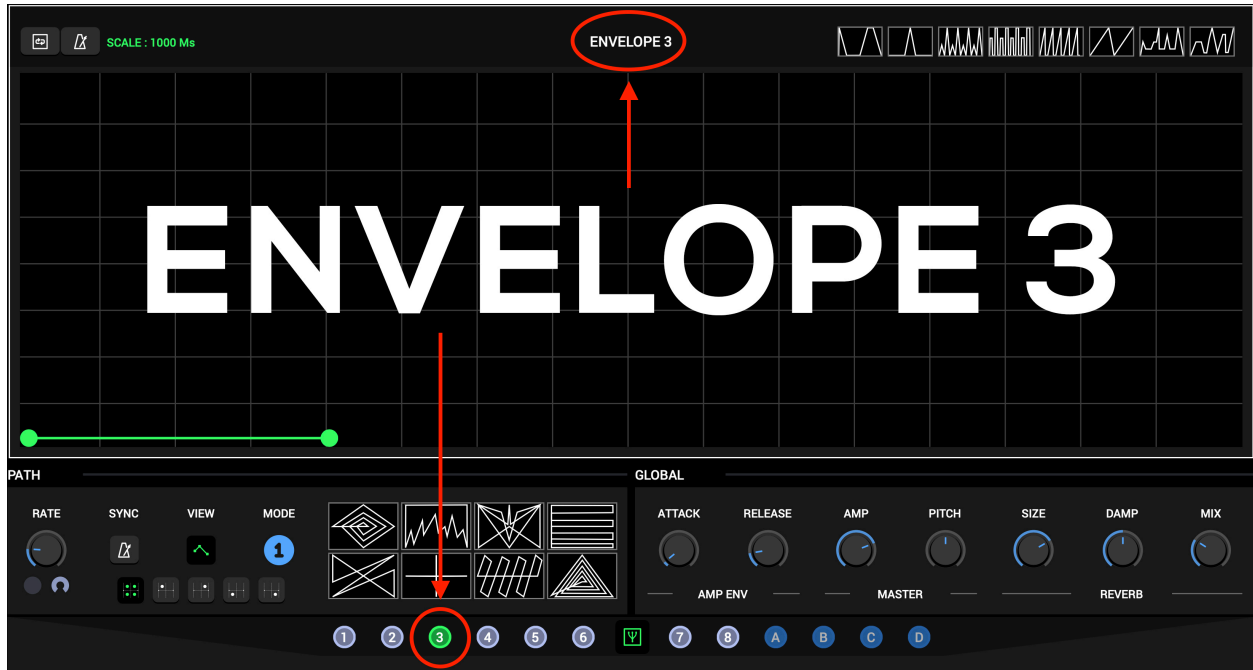
Each of the numbered dots corresponds with one of the 8 envelopes. To create a modulation assignment, simply **drag and drop** one of the numbered dots to the desired target parameter's modulation slot. A successful assignment is made when you see the green numbered dot inside the destination slot.



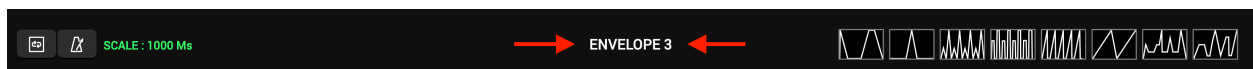
Right+Click on a modulation slot to clear the associated mod assignment



To view the envelope editor window, click the dedicated modulation button. The button will be illuminated in green to signify that it is active. The currently selected envelope editor will also be illuminated in green as shown below:

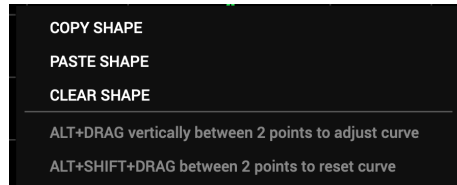


Once you select the desired envelope editor, it will become active. Note that the currently active envelope number is written out in the header, which makes it easy to keep track of which envelope editor you're currently working in:

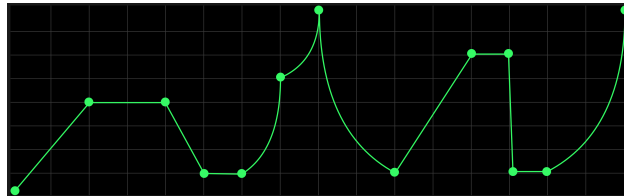


You may either modify the existing shape by moving the existing nodes with your mouse, or you can create your own shape as follows:

- Shift+Click : Create Breakpoint
- Right+Click on point: Delete Breakpoint
- Right+Click on grid: Menu with additional options:



- **COPY / PASTE / CLEAR:** basic shape editing functions
- **ALT+DRAG** vertically between 2 points to adjust the curve
- **ALT+SHIFT+DRAG** between 2 points to reset the curve

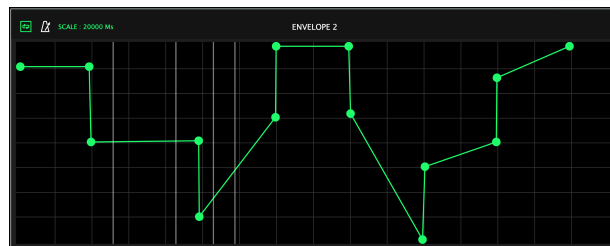


There are 8 newly added envelope shape presets to ease the process of setting up modulation sources. To recall a specific shape, simply click the corresponding icon:



! *Unlike the path presets, you can not store/recall your own envelope shapes.*

The white vertical indicator lines that travel across the grid of the envelope editor coincide with the active voices and the SCALE parameter settings.



💡 *The number of visible indicators is determined by the number of active voices*

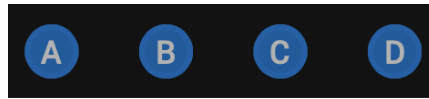
 Loops the envelope after it reaches its last stage

 Synchronization with the clock of your DAW

SCALE: Determines the speed of the envelope 20 Ms - 20,000 Ms

💡 *When synced, the scale will be displayed as musically relevant beat divisions*

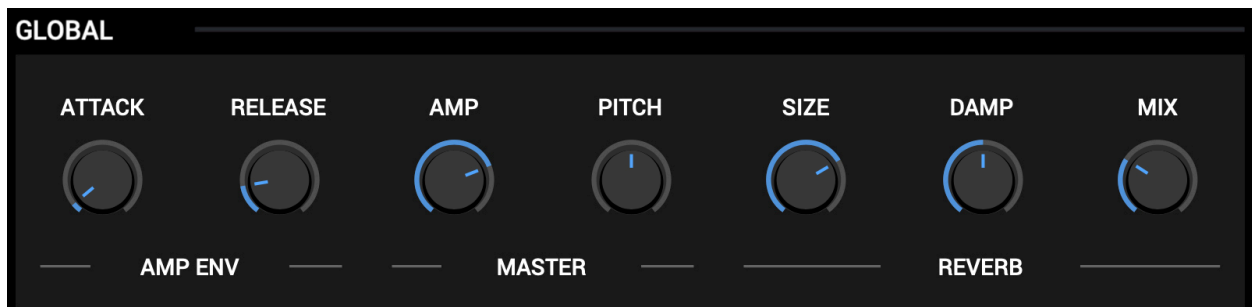
RANDOM MODULATION SOURCES:



At the right side of the 8 envelope nodes are four additional blue nodes with the letter designations A, B, C, D. These are additional modulation sources that can be used at times where using envelopes may not be necessary.

The nodes can be dragged and dropped onto destination slots in the same way as the envelopes, and when active they set the corresponding parameter to a random value each time a new note is triggered.

GLOBAL:



The Global section features controls that affect the consolidated output of the plugin.

ATTACK : The attack stage of the global amplitude envelope

RELEASE : The release stage of the global amplitude envelope

AMP : The output amplitude of the entire plugin

PITCH : The simultaneous pitch control of the plugin

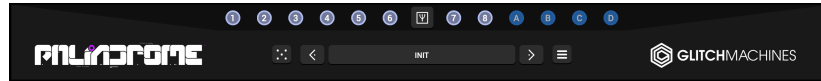
SIZE : The size of the global reverb

DAMP : The amount of high frequency damping of the reverb

MIX : The wet/dry mix of the reverb vs. the dry master output

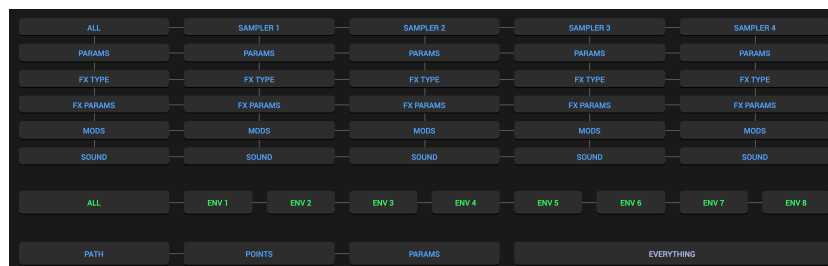
FOOTER:

The footer section features the preset browser and its associated parameters, as well as access to the randomizer and configuration menu.




RANDOMIZER :

Click the small die icon in the footer to show the Randomizer panel:



The Randomizer panel features a sophisticated randomization system that allows you to isolate sections of the plugin or randomize entire groups of parameters simultaneously.

A comprehensive layout of columns and rows shows a macro overview of all of the plugin's randomizable parameters. The rectangular parameter labels can be clicked to trigger the desired randomization.

 *Be sure to audit your patches after randomizing, since various parameters may wind up at awkward values that could induce silence or other unwanted issues.*


PRESETS :



You can navigate the presets either by clicking the drop-down menu and selecting a preset, or by using the navigational arrows to increment/decrement through the list.

SAVE PRESET : Clicking on this option will open a dialog box that will let you save the current preset on your hard drive using the extension “.plpst”.

The factory banks are organized into three groups: BASIC, EFFECT, INSTRUMENT. You can add your own folders so long as they are only 1 level deep from the root folder and follow the same general conventions utilized in the factory preset banks.

 *To avoid overwriting the factory presets, we recommend creating a **USER** bank/folder, where your own presets can be stored separately from the factory content.*

CONFIGURATION MENU:



Click the small gear icon in the footer to access the Configuration Menu, which gives you access to various important functions that affect the plugin.

INIT ALL CONTROLS : Initialize all plugin parameters to their default state

CLEAR ALL SAMPLES: clears the currently loaded audio files

CLEAR EVERYTHING: initializes all parameters and clears all loaded audio files

CHANGE SOUND LIBRARY FOLDER LOCATION :

In case the PALINDROME2_SAMPLES folder needs to be moved to another location on your system, this option will open a dialog where you can point the plugin to the new location of the PALINDROME2_SAMPLES folder.

RESTORE FACTORY PATH PRESETS : restores the factory path shapes inside the 8 path preset slots

SHOW LOG MESSAGES : toggles notifications that appear at bottom left of the footer

SHOW PREFERENCES FILE :

This option opens the finder/explorer to the location of the preferences file. This file stores saved options like custom path shapes, UI dimensions, etc.

OPEN PRESETS DIRECTORY :

A shortcut to the dedicated folder where the plugin's presets are stored

VISIT GLITCHMACHINES.COM :

A convenient link that takes you to our [website](https://glitchmachines.com)

Thanks for purchasing Palindrome 2!

Please check out the rest of our products at our website: <https://glitchmachines.com>