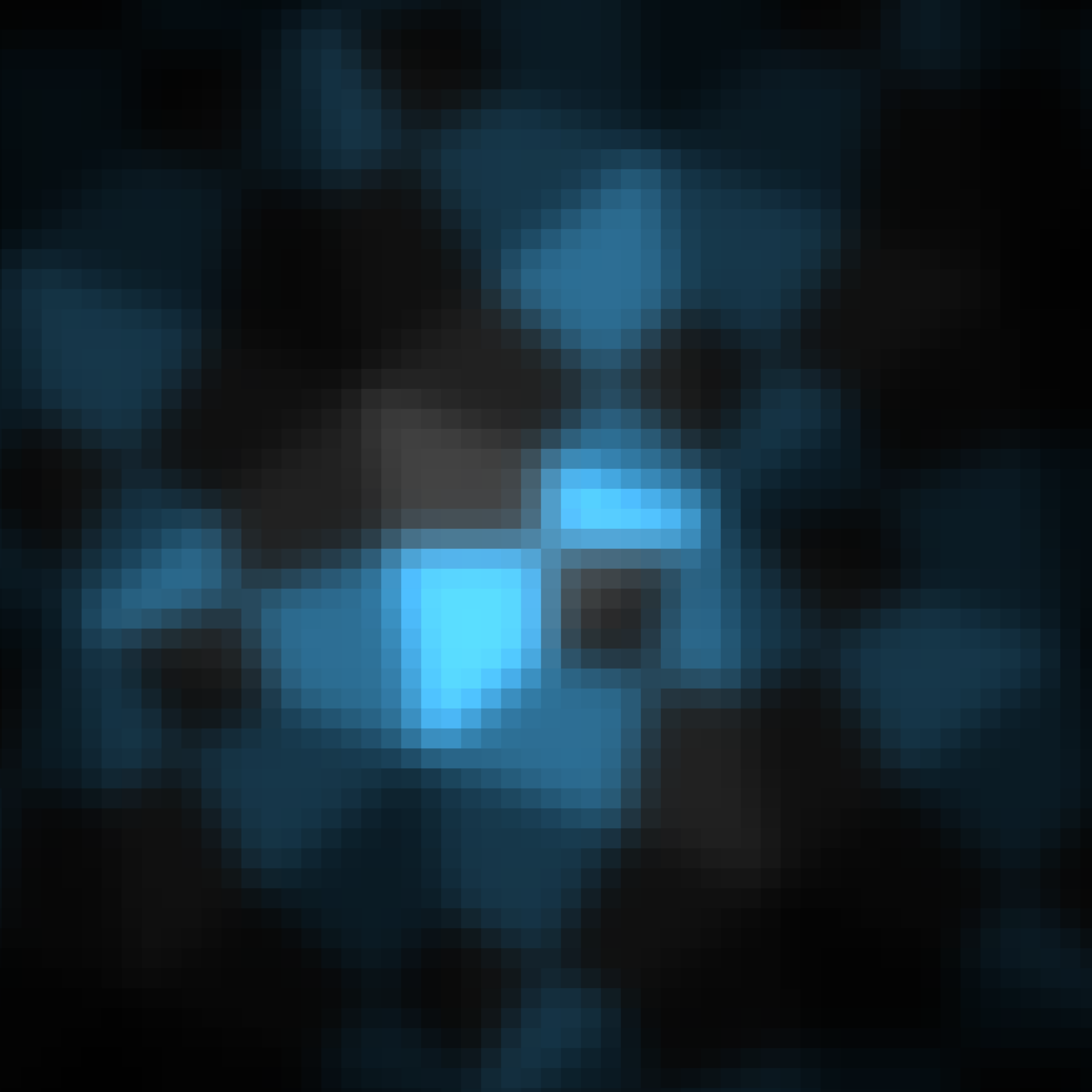
Array v4

spectral sequencer

AAX + **AU** + **VST** effect plugin for Mac/Windows/Linux

Designed and developed by **Sinevibes** ©2012-2026



INTRODUCTION

Array is a spectral sequencer. Using multiple crossover filters, it splits audio into 8 frequency bands that are separated exactly one octave apart. Each band then runs through a gate controlled by an advanced step sequencer – allowing you to carve the audio spectrum in precise rhythmical fashion. The crossover filters themselves have a clean, neutral character and do not color the sound in any way – however, **Array** also features 8 band-pass filters (one for each band) with variable resonance and slope, and those can be enabled for more radical spectral effects – even up to vocoder-like morphing. Additionally, the spread function can gradually pan the frequency bands across the stereo field.

The sequencer holds a total of 8 different gate patterns with up to 32 steps each, and offers a very wide range of timing settings for creating polymetric or polyrhythmic motion in any time signature. The gate switches on every frequency band are shaped using a two-pole low-pass filter for natural yet snappy transitions. Combined with the unique design of the filter section, this sophisticated timing engine makes **Array** an extremely versatile instrument for complex rhythmical manipulation of the sound spectrum – going anywhere from surgical precision to filtering beyond recognition.

Array has a fully open, "hackable" preset format: it uses pure XML to clearly present the plugin's main parameters as well as all the sequencer patterns. This means anyone has the ability to view and modify this data in a text editor, and also generate custom sequencer patterns via any programming language.

SPECIFICATIONS

SOUND ENGINE

- Clean, neutral -24 dB/octave crossover filters that split audio into 8 frequency bands, tuned one octave apart
- Optional state-variable, resonant band-pass filters per each frequency band, tuned one octave apart, with adjustable slope
- Individual gate sequence per frequency band, with 8 separate sequence patterns per preset
- Step sequencer with rhythmically correct swing, polymetric and polyrhythmic abilities
- Two-pole analog-style lag filters for variable gate transition smoothing
- Progressive bipolar pan spread between the frequency bands
- One-pole lag filters on all continuous parameters for smooth, click-free adjustment
- Supports mono › mono, mono › stereo, and stereo › stereo channel configurations

USER INTERFACE

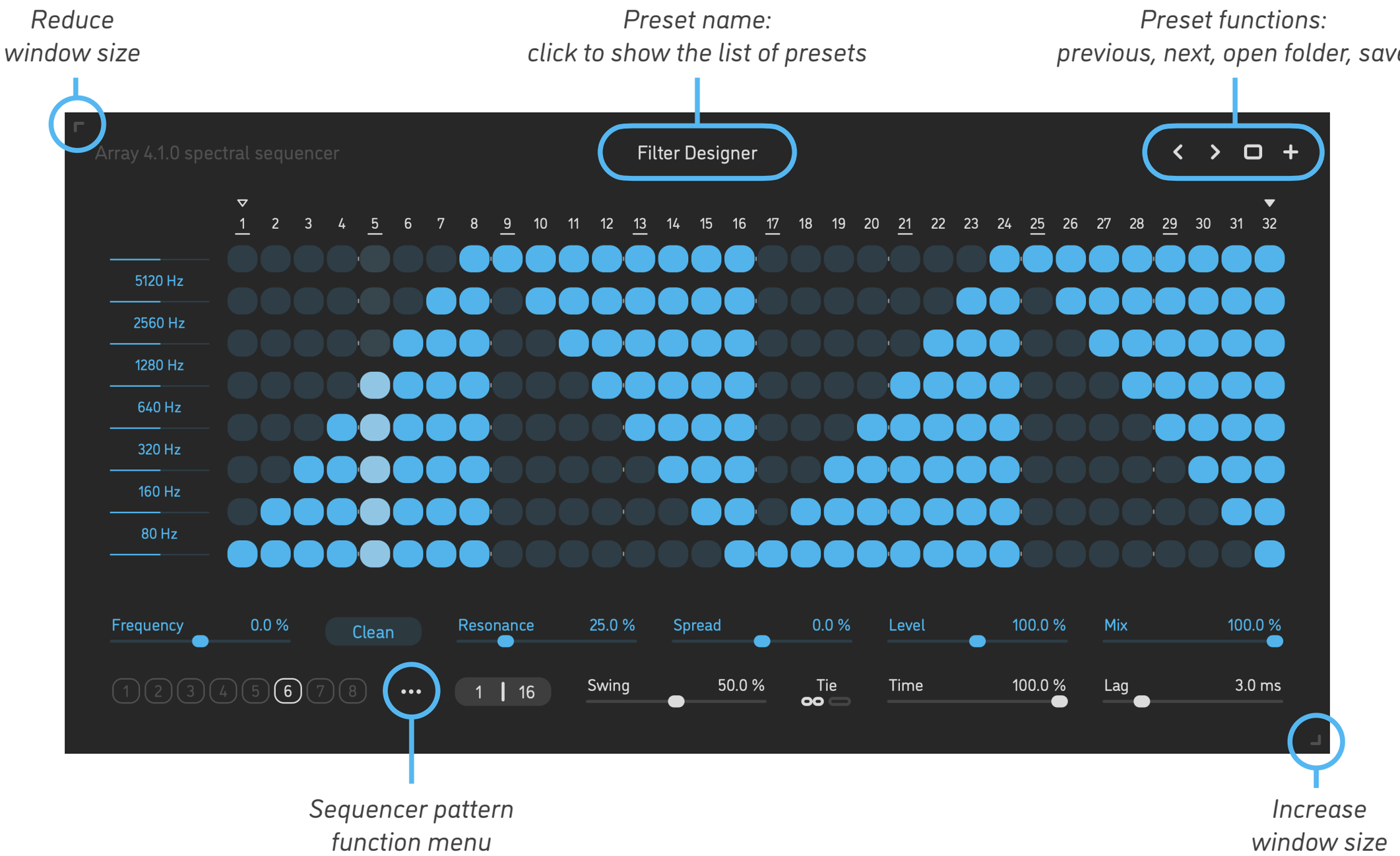
- Color-coded control elements
- Consistent name, mapping, value, and unit implemented for all parameters in both graphic user interface and host control/automation
- Sequencer pattern macro editing functions: copy, paste, reset, trim, invert, mirror, reverse, evolve, randomize, shift left or right, loop
- Built-in preset management functions
- Open preset format for experimental pattern tweaking and generation
- Supports window size scaling up to 200%

SUPPORTED FORMATS

Mac	AU/VST3/AAX for macOS 10.13 or newer (64-bit Apple Silicon and Intel)
Windows	VST3/AAX for Windows 8.1 or newer (64-bit Intel and AMD)
Linux	VST3 for Linux 2020 or newer (64-bit Intel and AMD)

INTERFACE

Array features a fully vector-based interface, with color-coded elements for effective visual grouping. The plugin allows you to change its window size from 0.8x to 2x in 10% increments. The last size you set is stored in a preference file and is recalled the next time **Array** is loaded.



- You can use the mouse wheel (and vertical swipe on the trackpad) on most control elements.
- You can hold *shift* and drag a slider to adjust it with increased resolution.
- Use *option-click* (Mac), *alt-click* (Windows, Linux), or *double-click* on any control to recall its default setting.
- To fully initialize the sequence and all settings, load the *Default* preset from the *Factory* or the *User* bank.

PRESET FUNCTIONS

Array features simple built-in functions for saving and loading presets, as well as for quickly switching between presets within the same bank. All these functions are accessed via the top toolbar.

Click the preset name at the top to show the list of presets in the current bank. Use *command-click* (Mac) or *control-click* (Windows, Linux) to reveal the actual preset file in the system file browser.

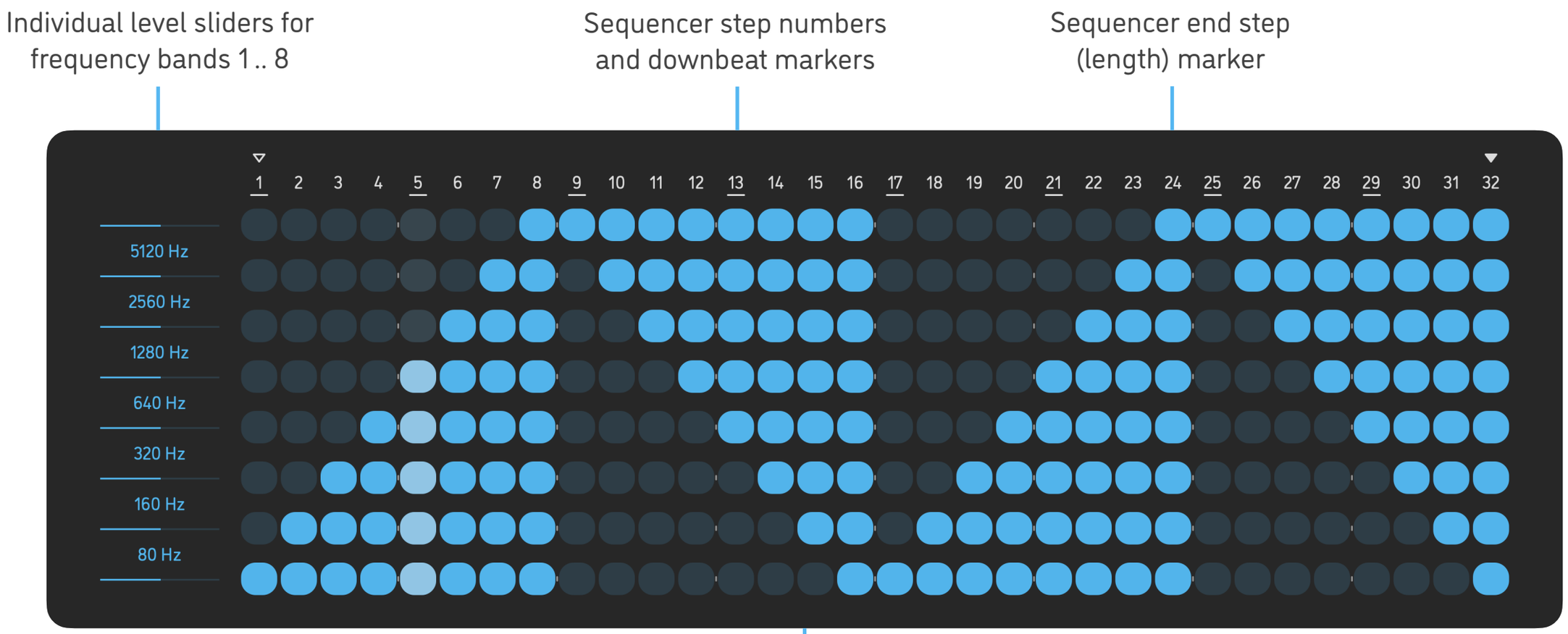
Switch to the previous preset in the current bank. The current bank is automatically set to wherever the last preset was loaded from.

Switch to the next preset in the current bank.

Show open file dialog with the list of preset banks. By default, the plugin includes two banks: *Factory* and *User*. However, you can freely create additional banks – simply by creating new subfolders.

Save current preset. Please note: due to the limitations of the typeface, you can only use latin letters when naming your presets

SEQUENCER MATRIX



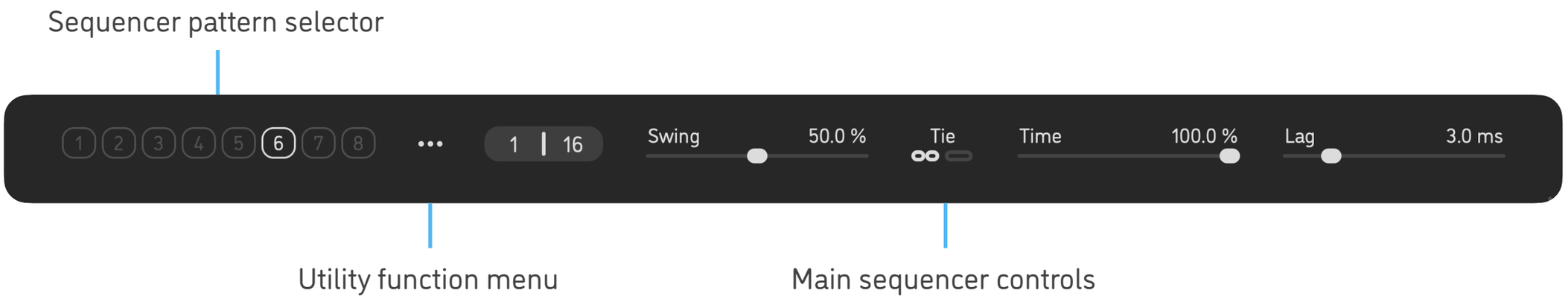
Sequencer matrix with gate sequences
for frequency bands 1 .. 8

The sequencer matrix combines 8 individual gate sequences, represents as a single horizontal lane per each frequency band. The maximum level of the “gate on” state for each band can be adjusted between 0 and 200% using the corresponding sliders on the left of the matrix; the labels between these sliders also show the crossover filter frequencies. The overall length of the sequencer pattern can be changed between 1 and 32 steps by dragging the end step marker at the top.

The gate switches can be turned on or off by clicking on them, or by clicking and then dragging freely across the whole sequencer matrix. Modifier keys can also be used to alter how editing works:

- Hold *Option* (Mac) or *Alt* (Windows, Linux) to edit all steps in the current lane at the same time
- Hold *Control* to edit the current step on all lanes at the same time
- Hold *Shift* to limit editing within the current lane

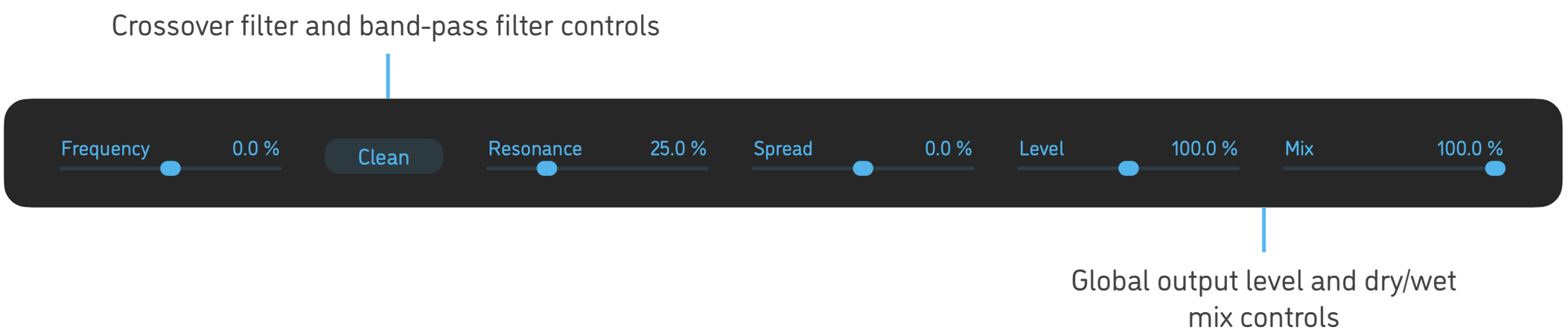
SEQUENCER CONTROLS



The sequence pattern selector provides access to up to 8 separate sequencer matrix patterns per each preset, and the current pattern number can be automated by the plugin host. For those patterns that have not been edited yet, the pattern number is replaced by a dash sign. The currently active pattern can be manipulated in various ways using many different utility functions: pressing the “three dots” button opens the utility menu.

The sequencer runs in sync with the host, at a rate defined by the host tempo and the step length ratio that’s set by separate **numerator** and **denominator** parameters in the ratio selector. The step length can be set to any value from 1/32 to 16 bars – combined with the variable sequencer length, it makes it possible to create a wide variety of polymetric and polyrhythmic patterns. The sequencer includes variable **Swing**, **Tie**, **Time** and **Lag** parameters – see the gate fundamentals section for more details on how they work.

FILTER CONTROLS



The **Frequency** control adjusts the frequency offset for all 8 bands from -100 to +100% (essentially, from -1 to +1 octave), and this affects both the crossover filters as well as the band-pass filters. By default, the filters' mode is set to **Clean** which only enables the main crossover filters, processing the incoming signal in a neutral fashion, with no spectrum coloration as the bands are mixed back together. This mode can be set to **-12**, **-24**, **-36** or **-48 dB** which then enables the state-variable band-pass filters, with that specified slope, and whose **Resonance** can also be adjusted.

As the 8 frequency bands are mixed back together, the bipolar **Spread** parameter allows to gradually pan them left to right going from the lowest to the highest band, or vice versa. The **Level** parameter sets the level of the wet signal after mixdown, and the **Mix** parameter sets the overall balance between the dry (original) signal and the wet (processed) signal.

GATE FUNDAMENTALS

The sequencer pattern defines on which steps the gate is open or closed. By default, the switches on all steps are turned on, and – with all other settings left as default – the resulting gate is always open and thus the audio is constantly passed through. The gate signal is just a flat line.

The sequencer is running through the gate pattern's steps in cycles. When it plays through a step that's been turned off, the gate will be closed, muting the audio for the entire duration of the step.

Adjusting the **time** parameter allows to change for how long the gate is open relative to the duration of that step. If the gate **time** is set to 50%, for example, the gate will only be open for half of the step's duration.

The **tie** switch allows to change the gate behavior for adjacent steps. If the tie switch is on, and step switch is on for both the current step and the next step, the current step's gate will be open for 100% of the step's duration, overriding the **time** parameter. Here is how the exact same gate pattern will look with **tie** on and **time** set to 50%.

The **swing** parameter allows to adjust the relative duration between odd and even sequencer steps. At 50% setting, the duration of the steps in the odd/even pair is the same. Above this value, odd steps become longer while even steps become shorter. Below 50%, it works the opposite way. The pattern below has **swing** set to 65% and **time** set to 50%.

Using the **lag** parameter gives the ability to vary the amount of gate signal smoothing via a two-pole low-pass filter algorithm. The higher the **lag** time value, the longer it will take for the gate to transition between open and closed states. The pattern below has **lag** set to 50 ms and **time** to 50%.

UTILITY FUNCTIONS

Array includes a number of handy pattern utility functions, available in an overlay menu that shows up when you click the menu button. All of these functions only affect the currently active pattern.

Copy	Copy the pattern into the temporary buffer
Paste	Paste into the pattern from the temporary buffer
Reset	Set all pattern steps to default values (gate on)
Trim	Set all pattern steps beyond the end step marker to off
Invert	Invert switches on all pattern steps (on becomes off and vice versa)
Mirror	Flip the pattern vertically (top to bottom)
Reverse	Flip the pattern horizontally (left to right)
Evolve	Invert switches on select pattern steps; steps are selected with 10% probability
Randomize	Randomize switches on all pattern steps
Left **Right**	Shift all steps to the left or the right of the sequence, with the sequence itself wrapped within the currently active pattern region (that's defined by the end step marker)
Loop	Repeat the steps within the active pattern region (until the end step marker) multiple times until the maximum step count (32) is reached + set the pattern length to an integer multiple of that region; e.g. 7 steps will be looped 4 times and pattern length will become 28, 9 steps will be looped 3 times and pattern length will become 27 - and so on

SINEVIBES

DOWNLOADABLE SUPERPOWERS