Functions v1.0 by NOISS COKO

DESCRIPTION

Functions is a versatile control device, designed as a dynamic modulation source for both Live parameters and audio signals. Integrated by two editable waveforms, it is played as a classic LFO, but independently applied over the input signal amplitude and also up to five individually selected parameters.

Easily target single parameters from instruments, effects or others inside the Live set, then use these modulation sources to add expression and make sounds even more interesting. Also apply them directly over the audio input and create different amplitud modulation effects to either add rhythmic character to drone type sounds, control the signal panning or simply use it as a more intuitive interface for pumping like sidechain compression effects.

FEATURES AND FUNCTIONS

AM PANEL

Amp Amount
By default, Function A controls the input signal amplitude. This value defines the intensity of the amplitude modulation. Higher values will proportionally increment the way in which the audio signal is affected by this function.

Pan Control
By default, Function B controls the input signal panning. This value defines the intensity of the pan modulation. Higher values will proportionally increment the way in which the audio signal is affected by this function.

Smooth
Smooths out the signal and helps to avoid undesired clicks.

Grid Resolution
Enables different fixed grid resolutions, depending on what fits better for editing. Depending on the current resolution, all nodes will be snapped to fixed X and Y points along the display.

Left and right arrows are used to navigate between the four available options:

- **Low**: Three point resolution for X and Y.

- **Mid**: Nine point resolution for X and Y.

- **High**: Seventeen point resolution for X and Y.

- **Off**: Free editing, with no limited points nor grid snapping.

Source Shape Display

This section allows to draw and edit both functions. <u>Edit buttons</u> define which of the two will be enabled for editing.

Here is a list of the three available **editing shortcuts or actions**:

- **Add a new node** by simply clicking at any point inside the display. Click over a node and then drag it to a different position while holding the selection. Depending on its current resolution, all nodes will be automatically snapped to the grid, unless this option is turned off.

- **Shift+Click** deletes an individual node.

- **Holding down the Option Key (Ctrl on Windows)** while clicking and dragging the mouse up and down, creates different curves over the lines between nodes.
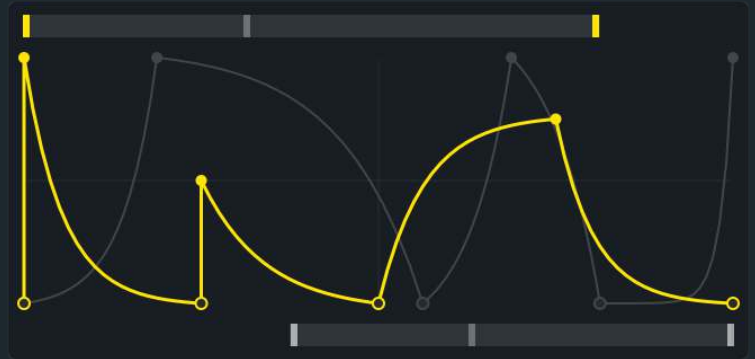
Fragment selectors

It is easy to create new shapes by simply extracting a small fragment from the original function. Each layer has its own brace, defined by the starting and ending point markers. The top one corresponds to Function A, while the one at the bottom is reserved for Function B.

Rate

Controls each function playback speed or frequency, using hertz or beat divisions, depending on the current Rate Mode.

Rate Mode

This button switches between the two unit styles available for the Rate Dials, which basically control each source running speed or frequency.
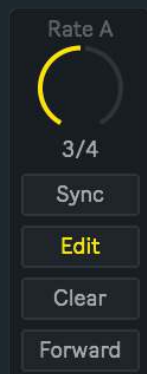
- **Sync**: rate values are displayed as beat divisions, representing a specific fraction of Live's global tempo. In this case, functions become active only after Live's global transport starts running.

- **Free**: rate values are displayed as hertz, expressing the signal frequency.

Layer Edit

These buttons select which of both functions is currently enabled for editing. The selected function will be displayed in yellow, while the other remains disabled in the background.

Layer Clear

Clears that individual function.

Playback Mode

Two different playback modes are available for each individual function:

- **Forward**: played from left to right.

- **Reverse**: played from right to left.

Source

For each one of the five output instances, it is possible to individually choose between one of the two sources or functions available. This will only allow a specific set of values to be used as a control signal for that output.

Source	Range	Internal
← A →	16 %	Amount
← B →	72 %	Phase
← B →	0 %	Map
← A →	-22 %	Frequency
← None →	0 %	Map

Range

Negative Range percentages will shrink all control values towards their minimum, scaling the original values while keeping some relative difference between them. Positive percentages will do exactly the opposite, leaning all control values towards their maximum range.

Map

Besides controlling external devices, Functions allows to map and modulate any parameter inside Live. In order to perform a new selection, click over Map, and while the button is blinking, select the parameter that wants to be controlled by Functions. When this action is done, the button will show the name of the recent selection.

To undo this action click over Map once again and wait five seconds. After this time the previous parameter will be cleared and the Map button default state restored. The current parameter will also be displaced and released every time a new one is assigned.

CREDITS