Twisted Tools

VORTEX | CREDITS

A big thank you to the following artists who contributed to making the VORTEX sample maps.

Please check out their work and support their art.

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Introduction and System Requirements

What is VORTEX?

VORTEX is a six-track, polyphonic granular sampler and sequencer for Native Instrument's Reaktor 5. Each track has 4 independent sequencer pages and a unique set of parameters and modulators. In this guide you will find explanations for all of Vortex's features along with graphics that indicate where on the interface each item is located.

System Requirements

- VORTEX requires any PC or MAC Computer running a version of Reaktor 5 (5.1.5.002 recommended) and up.

- If you are using this ensemble with Kore 2, you will need the latest version of Kore 2.

- If your are using this ensemble with the included Maschine template, you will need the latest version of Native Instrument's Maschine's Controller Editor (1.21 + recommended)

- In order to make use of Vortex's multi-outs, you will need a host DAW that supports this feature. Please consult your host documentation for info on multiple output instruments. Please note that Reaktor VST has a maximum of 4 stereo outputs.

Understanding Vortex

1.0 Scene Sequencer Area

A scene is like a preset for the entire instrument. In other words, a Scene stores all the sampler settings and patterns for all 6 tracks.

There are 8 scenes (A-H) and you can sequence the order of their playback by dragging a scene letter to assign a scene (A-H) to one of the 8 Scene Assignment Slots. The Scene Sequencer Cycle Area allows you to cycle through a particular group of Scenes. The speed at which the scene order progresses is determined by the Scene Clock and is set in rhythmic values. To reset the order of the scenes back to the default order (A to H), click the Scene Reset button.

- **1.1 Scene Sequencer Cycle Area** - Sets cycle start and end (length)

- **1.2 Scene Assignment Slots 1 - 8** - Drag to assign a scene to a slot

- **1.3 Scene Clock/Root Note** - Sets speed at which scenes change if Seq is set to ON. If Seq is set to off, then a 'root' note appears. Root note is used (+7) to control scenes via MIDI.

- **1.4 Seq ON** - Activates scene sequencer. Otherwise, scenes are controlled manually or by the MIDI notes (Root note+7).

- **1.5 Scene Reset -** Resets order of slots to A-H

- **1.6 Swing** - Click and drag the swing button in either direction to add alternate shuffle/swing to your rhythms. The swing and swing is stored with the scene you're working on.

2.0 Track Sequencer Area
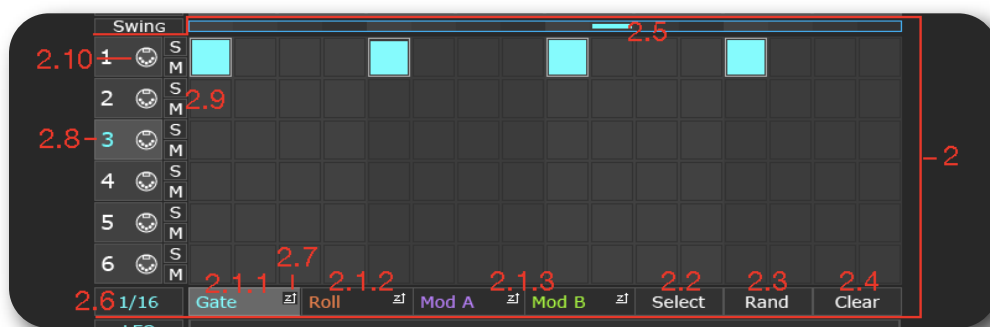
There are six independent tracks in the Track Sequencer area. Each track has 4 independent Sequencer Pages, accessed by clicking their respective tabs. You can draw/delete steps into a page's sequencer with a simple left click'n'drag to draw the steps and their values. Right click'n'drag works like a ruler, applying the same value to all steps.
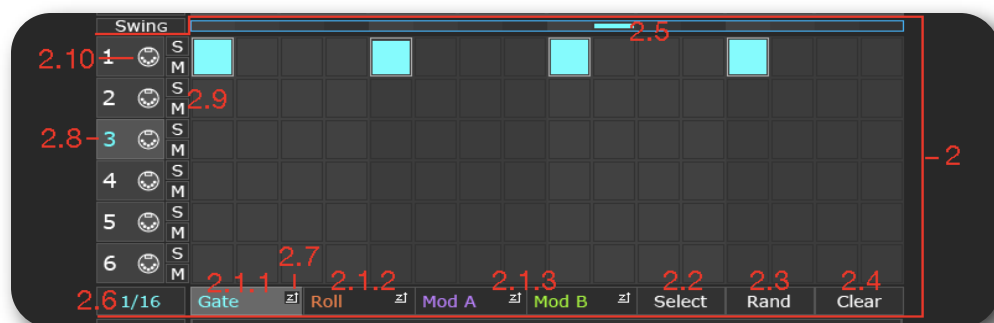
- **2.1 Sequencer Pages (Gate, Roll, Mod A, Mod B)**

  - **2.1.1 Gate Sequencer Page** - Triggers a sample

  - **2.1.2 Roll Sequencer Page** - Creates roll or drill effect. Value controls speed of the drill.

  - **2.1.3 Mod A/B Sequencer Pages** - These are sequencers that are not set-up to do anything unless assigned to a parameter as a modulator as described in section 4 below.

- **2.2 Select Toggle** – When on, you can drag-select across a specific area of the Track Sequencer area to randomize, copy/paste or clear the selected area only (unless set to WHOLE SCENE, in which case clear clears everything in the scene, regardless of selction).

- **2.3 Rand** – Randomizes the entire Sequencer Page (if Select Toggle is off). The x-axis position of your mouse-click on the button affects the amount of randomization.

- **2.4 Clear** – clears the sequence.

- **2.5 Track Sequencer Cycle area** - Allows you to set the track sequencer's cycle length and start/end position

- **2.6 Track Sequencer Clock** - The rhythmic subdivision for a s step within the track sequencer

- **2.7 Zero Modulation Sequencing -** Turn on zero-modulation sequencing by clicking the necessary 'z' buttons on the sequencer tabs. When on for a given sequencer, that sequencer will send zero-values for steps that are set to zero

- **2.8 Track Selector -** Click on a track number to display the sampler parameter knobs and modulation knobs for that track.

- **2.9 Track Solo/Mute -** Solo's/Mutes track playback

- **2.10 External MIDI Input** - Use a MIDI keyboard or external sequencer to control Vortex. For example, to control track 1:

  - #1 Turn on MIDI icon on track selector to make the track listen for ext MIDI (see image below).

  - #2 In Reaktor's B-View (upper left-hand corner) double-click the Ext1 button and choose Ext1 properties (see image below).

  - #3 Check 'Activate MIDI IN', check the MIDI NOTE box, choose a note # to control the track (see image on next page).

Continued...

STEP 1. STEP 2. STEP 3.
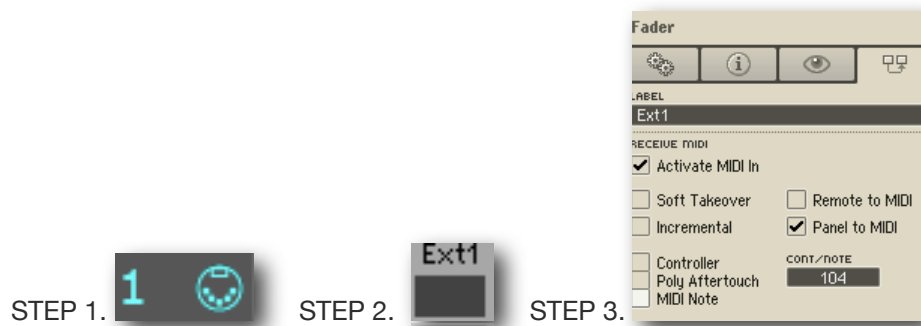
3.0 Sampler Window
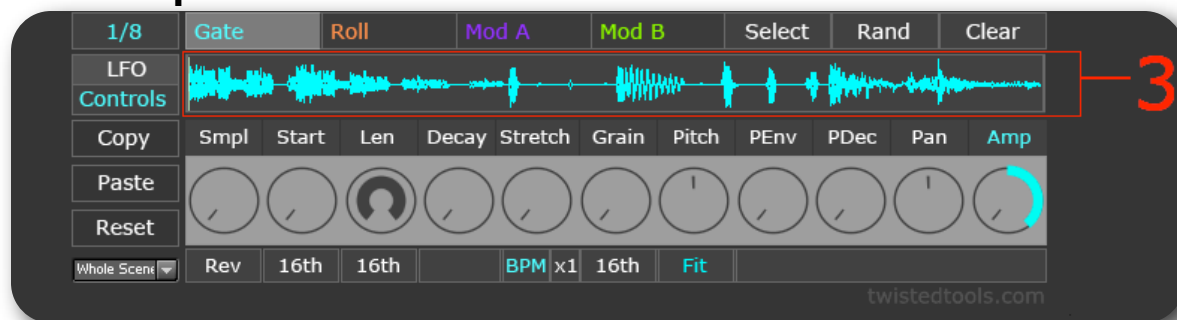
Right click or double-click to open the Sample Map Editor where you can load your own samples or sample map. The quickest way to add samples or sample maps is by drag&drop from your desktop to the Sample Map Editor...See the Reaktor manual for more information on using the Sample Map editor or watch this video.

A simple way to use your own samples is to right click, choose Open Sample Map Editor, select a sample to replace and choose Edit>Replace from the local sample map editor Edit menu. To save and load your own maps, click and choose Save Map in the sample map editors 'Edit Sample List' menu.

4.0 Parameter/Modulation Knobs
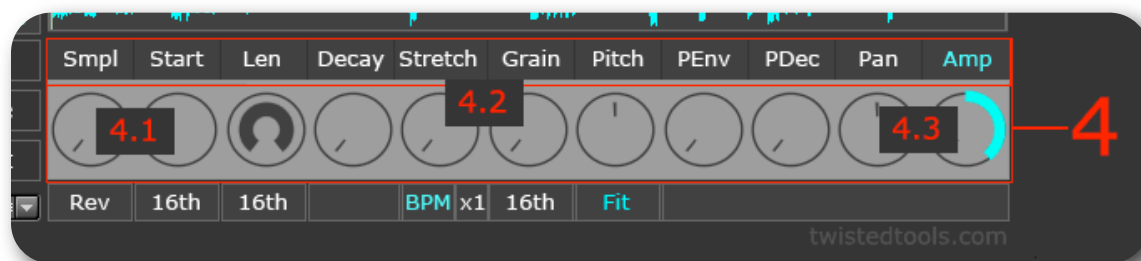
4. **Parameter and Mod Knobs -** Each track's sampler has its own set of 11 parameter and modulation knobs. Left click'n'drag to control a Parameter Knob. Turn on and choose a modulator for any parameter, by left-click dragging a Parameter Label. Right click'n'drag to control Modulation Amount. Double-click to reset parameter knobs to default value.
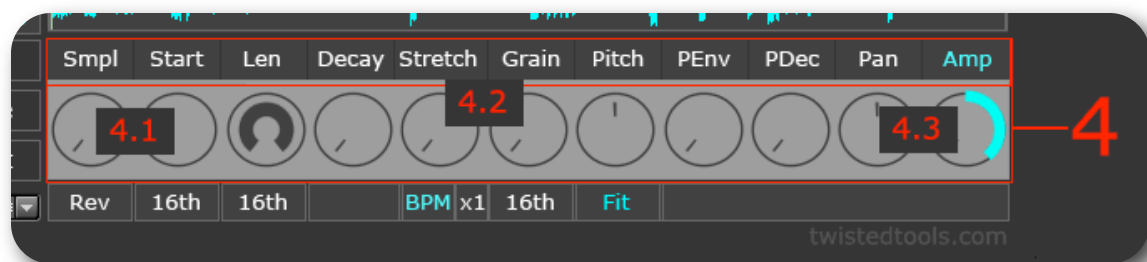
- **4.1 Parameter Knobs -** Used to adjust the specified parameters absolute value.

Smpl - Selects the current sample being triggered on that track

Start - Select the start position (offset) that a sample is played back from when triggered

Len - Sets the length of the sample that is triggered. You can also think of this as 'hold'

Decay - Sets the time it takes for a sample's volume to decrease to zero after the sample

has its entire length as set with the 'Len' knob.

Stretch - Quickly repeats tiny fractions of the sample, creating a 'stretching' or slowed-

down effect.

Grain - Determines the size of the stretched repetitions

Pitch - Changes the pitch of the audio independently of the speed. Works in conjunction

with Stretch and Grain

PEnv - Sets the attack amount of the samplers pitch envelope. This will cause the a

triggered sample to pitch from above, down to the current pitch set with the Pitch

parameter knob.

PDec - Sets the decay time of the pitch envelope . This is the time it takes for the pitch to

return to the Pitch parameter knob's position based on the amount set with the PEnv
knob.

Pan - Places the track in the stereo field.

Amp - Determines the amplitude of the track's playback.

- **4.2 Parameter Labels** - Left click'n'drag a Parameter Label (name) vertically to turn on modulation and select the source of modulation for that parameter. The color corresponds to the source of modulation.

  Modulation Source Color Guide:

  White = no modulation.

  Cyan = Gate sequencer controls selected parameter

  Orange = Roll sequencer controls selected parameter

  Purple = ModSeq A sequencer controls selected parameter

  Green = ModSeq B sequencer controls selected parameter

  Yellow = LFO A controls selected parameter

  Blue = LFO B controls selected parameter

- **4.3 Modulation Knobs** - Colored knobs that appear on the outer ring of the Parameter knob once selected. Right-click'n'drag to adjust their value in either a positive or negative direction. These knobs will allow the modulation source to offset the current Parameter Knob's position by a certain +/- amount. Double-right click to reset.

5.0 Sampler Settings Buttons
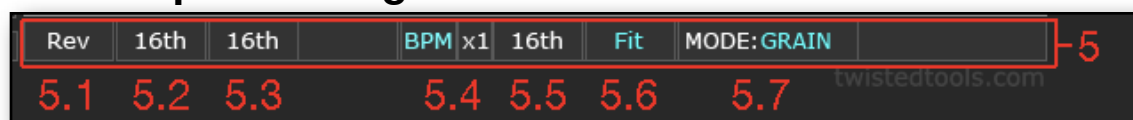
Sample Settings Buttons - Each track's Sampler has 6 Settings Buttons that are related to the parameter knobs directly above them. These settings buttons are :

- **5.1 Sample Reverse -** Reverses playback of samples for that track

- **5.2 Start Offset Quantize (16th)** - When on, the samples start position (offset) is quantized to the nearest 1/16th note, based on the current tempo and the samples detected length

- **5.3 Sample Length Offset Quantize (16th)** - When on, the samples length is quantized to the nearest 1/16th note, based on the current tempo and the samples detected length

- **5.4 BPM (x#)** - Auto stretches sample to the current tempo. There is also an additional correction selector to multiply or divide the samples tempo by 2 in the event that the BPM was incorrectly detected.
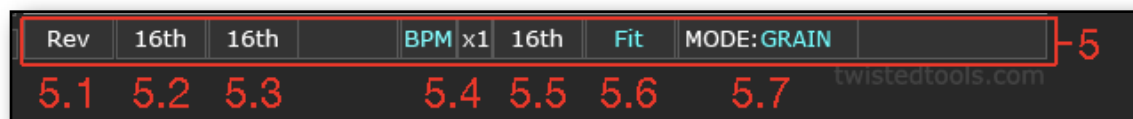
- **5.5 Grain Size Quantize (16th)** - Quantizes the grain length (size) to the nearest 1/16th note.

- **5.6 Fit -** Ties the samples pitch to the projects tempo. This functionality behaves more like a tape deck, whereby tempo changes affect pitch.

- **5.7 Mode (Grain/Normal):** Changes the sampler for the current track to either be a granular sampler or a high quality standard sampler. Using 'Normal' mode results in the best quality, but prohibits using the grain and stretch features.

6.0 Global Functions

There are three types of global functions: Global Edit Functions, Global View Functions and Global MIDI Functions.


- **6.1 Global Edit Functions** - To copy/paste/reset the whole scene, particular parts of a scene or parts of the sequencer area when using the 'Select Toggle' button described earlier.

  - **6.1.1 Global Edit Drop-Down Menu -** Use this menu to select what you'd like to copy/ paste

    Whole Scene - Copies the entire scene

    Sequencer - All Pages - Copies all pages of the sequencer area from scene to scene

    Sequencer - Current Page - Copies only the currently selected page in Sequencer area or selected area of the page, which can be pasted on any page in any scene, anywhere if using Select Toggle button.

    Sampler Parameters - All Tracks - Copies every tracks' sampler parameters from scene to scene

    Sampler Parameters - Current Track - Copies only the currently selected track's sampler parameters which can be pasted on any track in any scene.

**Modulation - All Tracks** - Copies every tracks' modulation from scene to scene

Modulation - Current - Copies only the currently selected track's modulation parameters which can be pasted on any track in any scene

6.2.1 LFO Controls

- **6.2 Global View Functions** - The following function is a display option

    - **6.2.1 Toggle LFO/Control's View** - Toggles between the main sampler controls view and LFO view allowing you to make LFO adjustments

- **6.3 - Global MIDI Functions** - Click on 'B' view in the upper left corner of the panel to enter MIDI view. Here you can MIDI learn knobs on your controller to every parameter of each track. If your host supports MIDI Out, you'll notice that any changes made by mouse movements, scene changes or snapshot changes will result in your hardware updating as well.   This will prevent 'jumping' knobs by making sure that your controller always follows what is on screen. Just Right-Click to MIDI learn any knob/button in B-view.
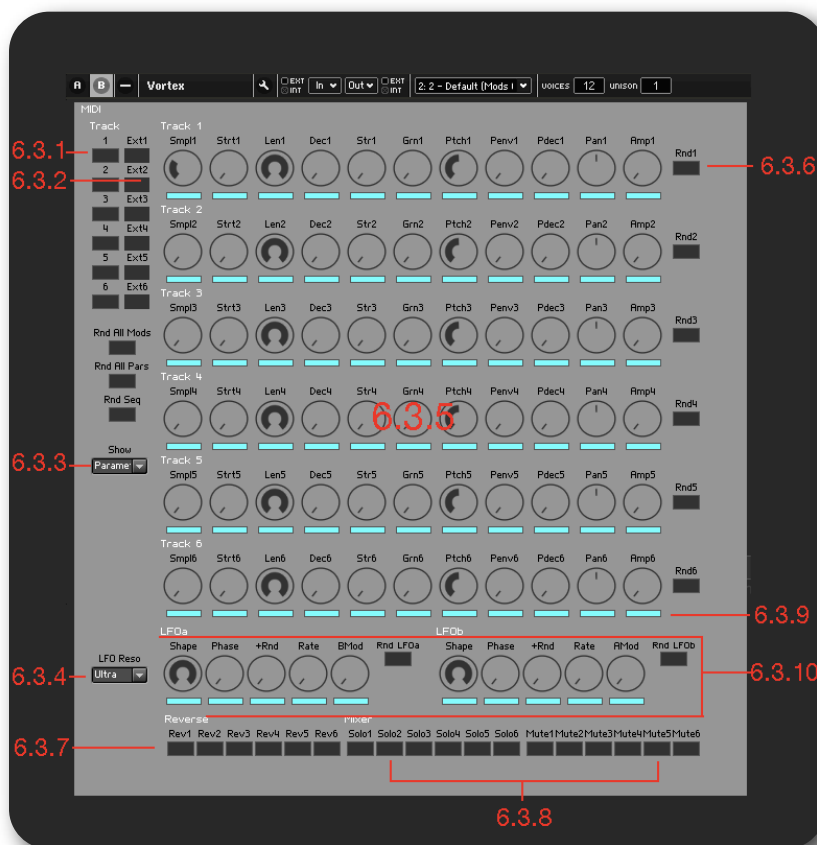
- **6.3.1 Track Selector MIDI Learn -** Right-click to MIDI learn buttons on your controller to change the currently selected track.
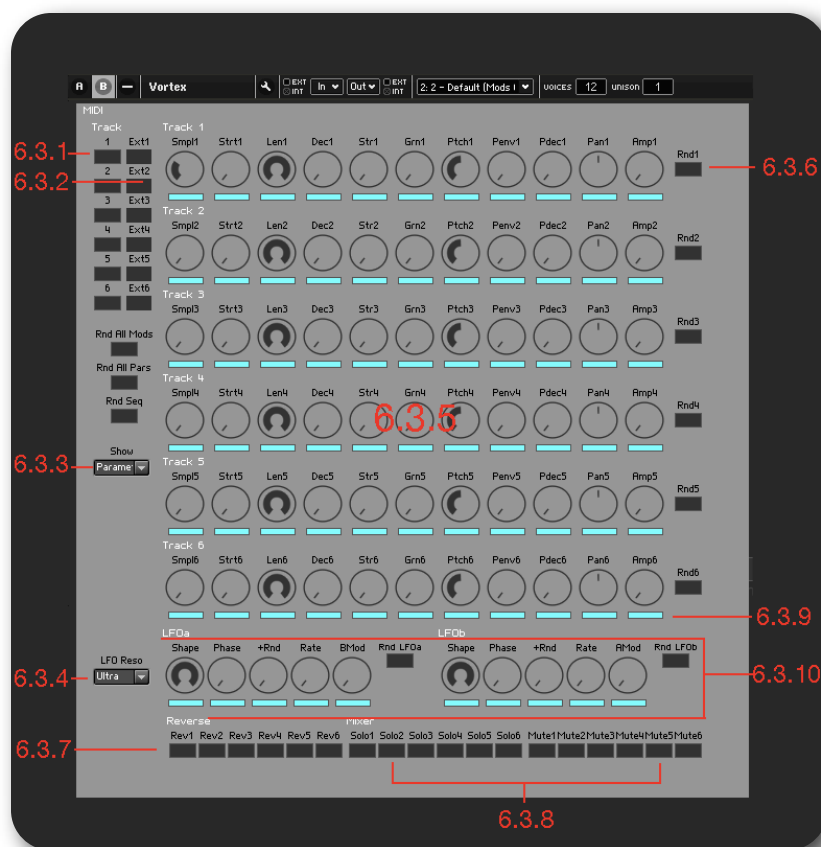
- **6.3.2 Ext. MIDI In MIDI Learn** - Use this button to MIDI learn an external MIDI message to be used to trigger the track in lieu of using the built-in sequencer. Right-click this button and choose 'properties'. Then check 'Activate MIDI IN', and choose what kind of message you'd like to trigger the track (note, cc, etc.). Then, turn on the MIDI Icon in the A-view when you'd like to trigger the track using your assignment. See section 2.10 for pictures of this process.

- **6.3.3 Parameter and Modulation View -** Allows you to toggle between displaying Parameter and Modulation knobs for each track to MIDI learn to. Right-click to MIDI learn knobs to parameters and modulators.

- **6.3.4 LFO Resolution** - Use the LFO Resolution menu to lighten the load on the cpu if you are having cpu issues on a slower computer or simply need to free up some CPU

- **6.3.5 Parameter and Modulation MIDI Learn Knobs** - MIDI learnable knobs for each track's parameter knobs and modulation knobs

- **6.3.6 Parameter and Modulation Randomizers MIDI Learn** - MIDI learn buttons to Randomize parameters or modulators for each track

- **6.3.7 Sampler Reverse MIDI Learn** - MIDI learn buttons for the reverse for each track

- **6.3.8 Track Solo/Mute MIDI Learn** - MIDI learn buttons for the Track Solo/Mute buttons

- **6.3.9 - Randomization Exclude Buttons -** The B-View now features randomization exclude buttons. This way you can choose which parameters/modulators you would like to be randomized. When cyan colored, that parameter will be randomized. When grey, it won't be randomized. This is especially useful if you'd like to exclude parameters like volume and pan from being randomized.

- **6.3.10 - LFO Section -** MIDI learnable controls and randomizers for LFO's A and B.

7.0 LFOs
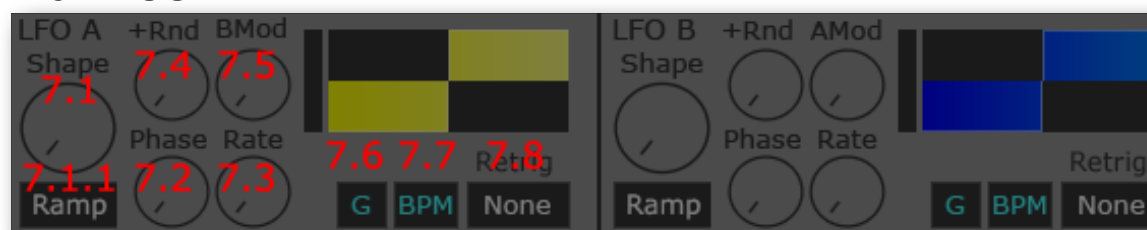
- **7.1 - Shape Morph Knob** - Morphs between different LFO shapes

    - **7.1.1 - Ramp Mode Switch** - If turned on, the shape morphs through triangle and saw (ramp) waveforms.

- **7.2 - LFO Phase** - Shifts the phase of the LFO. You can think of this as offsetting the start position of the lfo

- **7.3 - LFO Rate -** Speed of the LFO

- **7.4 - +Rnd** - The amount of randomness added to the main LFO Shape

- **7.5 - BMod (for LFO A) and AMod (for LFO B)** – The amount of amplitude modulation introduced from the other LFO. Cross-modulating LFOs can be created using these features.

- **7.6 - Gated Output** – the LFO value is only triggered by the active Gate step in the Gate sequencer

- **7.7 - BPM Sync** - Sync's the LFO to the current tempo

- **7.8 - Re-trigger** - Click'n'drag to choose any track's Gate sequence to re-trigger the start of the LFO