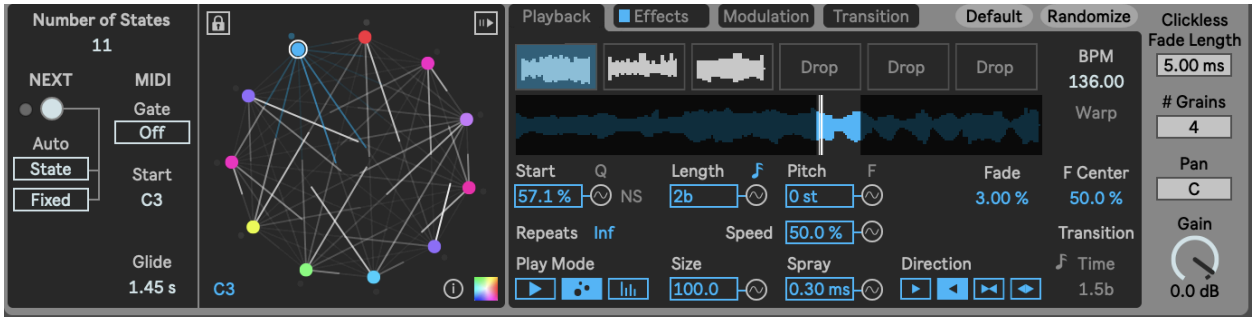
Superposition User Manual



To install:

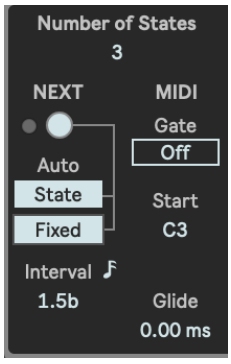
Unzip the folder and drop the folder called “Superposition” in this exact location in order for presets to load correctly: *ableton/user library/presets/instruments/max instrument*

For best results or if you are having issues, make sure you are using the latest version of max/msp. You do not need to have a license if you are using Live suite. Download the newest version here: https://cycling74.com/downloads and once downloaded go to the ableton Preferences > Library and set the newly downloaded version of max to the one ableton should use. (Also you can try to see if it works fine with your bundled version first).

Synopsis

Superposition is a max for live instrument. It’s a monophonic probabilistic concatenative multisampler with an inbuilt multi-fx and modulation system. It centers around transitioning between playback “States” ; each State essentially is a preset for playback (including playing different samples), FX, and modulation settings/mappings. Additionally there are three playback modes (normal, grain, spectral) for time stretching and freezing effects. You can transition between playback States using the Markov probability system or through MIDI notes. The device is pretty open ended and has many uses but it is great for sample mangling/cut up, generative melodies, jungle DnB and other breakbeats, glitchy FX/rhythms/textures, ambient progressions, and quite a lot more depending how you set it up.

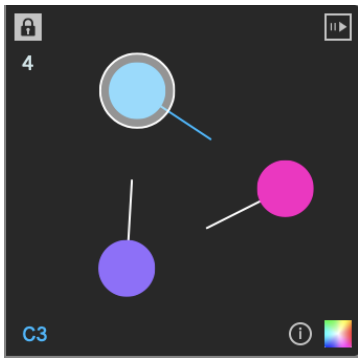
State Transition



The section of parameters on the far left deal with creating States and transitioning between them. You can set the *Number of States* (playback presets) to be used, and transition to the next State with the *NEXT* button. When a transition is triggered, the internal Markov probability system determines the next State that the currently active State transitions into (this will become more clear later how to setup). Below the button there are two *Auto* transitions modes that can be used. *Auto Fixed* mode allows a fixed time interval before automatically triggering the next transition. That *Interval* can be set in free milliseconds or synced note divisions. The *Auto State*

mode allows each State to have it's own individual auto transition setting, which we will see when we go through the State parameters. To the right there are a couple parameters for MIDI. By default the device is constantly active. However, if MIDI *Gate* is enabled then the device only playback when a MIDI note is active (which can be nice for making it have gated playback as well as having it not constantly play back). Additionally, MIDI notes activate States they are assigned to (bypassing the Markov probability system), the *Start* parameter sets which MIDI note the first State is assigned to (and additional States get assigned increasing pitches in half steps). At the bottom right corner there is a *Glide* parameter that sets the amount of time that State parameters glide to their new values when one State transitions to another.

State and Markov Interface

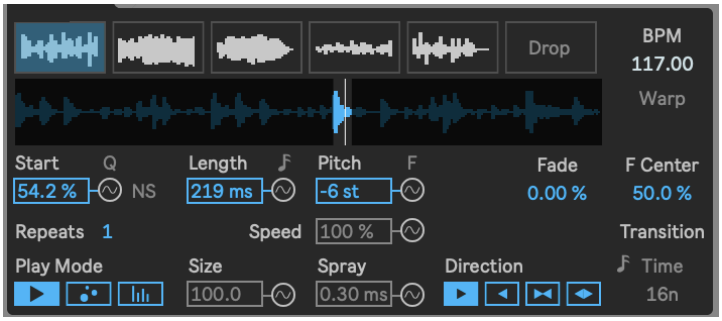


This is the visualization of the Markov system as well as a UI for it. Each State is represented by the colored circles, and therefore each State has its own color. The lines represent the probability of one State transitioning to another. In this photo, each State only has one possibility of going to one other, and so they each only have one line. However, if you scroll to the top of this document you will see that presets' States have a much more complex transition system with many more lines! The brightness of the lines indicate a higher chance of transitioning. The white circle around the State indicates that that State is currently active. By clicking a State you open its parameters for editing. Double clicking a State activates it. Dragging one State to another copies over its parameters. The top left corner has a *Lock* button. When enabled, the Markov probability system is bypassed and instead transitions loop between the last N transitions that occurred before the lock was enabled (N being the number parameter below the button). This allows a more consistent loop if desired. The bottom left corner displays which MIDI note pitch the currently selected State is assigned to. The bottom right color button changes the color scheme. The top right *Arrow* button enables follow action which is very similar to Drum Rack's. When enabled, if a State is transitioned to then the editing for that State is also opened.

Parameter Menus

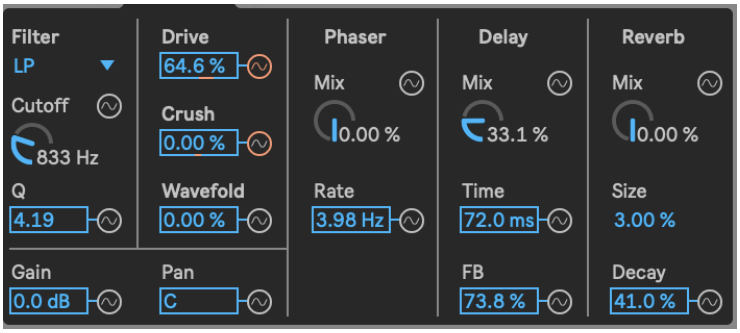
These select the menus for editing parameters for the currently selected State. There is also a button next to "Effects" for *Bypassing* them. To the right there is a button for reverting all parameters back to their *Default* values for the selected State. The *Randomize* button only randomizes the parameters for the currently open menu, so if in "Playback" only the playback parameters are randomized and not the "Effects".

Playback



Here are the parameters for the sample playback. At the top you can select which sample is played back (out of 6). Below that is the sample display UI where you can also click and drag to select the play loop area. You can also set those in the parameters below. *Start* sets the start position in % of the sample length. If you enable *Q* then start position is set in synced Bars+Beats which can be useful for certain applications for example making Jungle cuts. If *NS* is enabled then the current State will have no specific start position or sample that it plays. Instead it plays back the sample of the previous State from the position it left off at. This setting allows a State to be more open ended and used as an effect or repeat etc instead of playing back a specific sound. You can set the loop *Length* in ms or synced note divisions. You can transpose the sample with *Pitch* (*F* is for Fine tune) and set the *Speed* of the playback (if you are not in "Normal" Play Mode). *Play Mode* sets the playback algorithm: Normal, Grain (granular), Spectral (FFT Phase Vocoder). In "Grain" mode you can set the grain *Size* and position *Spray* amount. You can set the number of *Repeats* the State does of the loop (there is an option for "inf" infinite looping). You can set the playback *Direction* (forward, backward, foreback, backfore). There is a volume *Fade* window for removing clicks or shaping the volume envelope of the loop. *Fade* sets the amount/depth while *F Center* sets the center from left to right (50% in the middle). Left is ramp down, middle is triangle, right is ramp up. "Transition" is the individual settings for the Auto State transition mode mentioned earlier. You can set the Auto transition in either a *Time* interval or a number of *Repeats*. At the top right are two parameters not specific to the State but rather to the selected sample. *BPM* sets the BPM of the selected sample (or whatever you'd like it to be) and if *Warp* is enabled then the playback speed (or pitch if in "Normal" mode) is automatically adjusted to maintain the timing of the sample playback according to the set BPM. This is great if you want to maintain the rhythm of the sample and your settings regardless of BPM changes in Ableton.

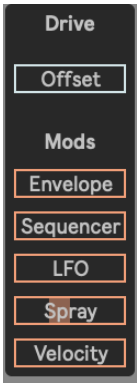
Effects



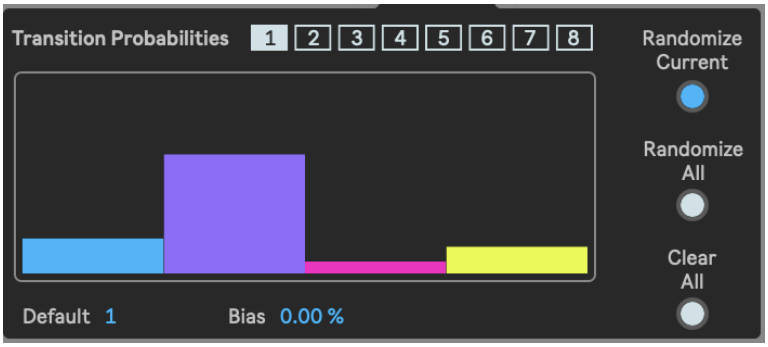
Here are FX parameters for the selected State. You have a *Filter* with basic shapes, *Overdrive*, *Crush* (samplerate reduction), simple *Wavefolding*, *Gain*, *Panning*, a *Phaser*, a *Delay* line, and a basic *Reverb*.

Modulation

Here are the modulation source settings for the selected State. There is an ADS envelope (triggered when the State is activated) that can do more than one repetition if desired, a step sequencer, and an LFO with basic waveshapes (as well as a perlin noise option). The LFO *Retrigger* also occurs when a State is triggered. Other modulation sources not shown here include: random spray value (generated when a State is triggered) and MIDI note velocity. In order to apply modulators to parameters, press the modulation icon button next to any applicable parameter (it is the button with a sine wave image next to the parameters). This will reveal the menu to apply modulators to the selected parameter. Each modulation source has a bipolar slider for modulation depth. At the top there is a slider called *Offset*. Unlike the other modulation parameters (and other parameters) the *Offset* value is NOT a State parameter and applies to all States. Use the *Offset* value to offset the parameter value for all States as well as for Automation, MIDI Mapping, etc of the selected parameter. (NOTE: All State parameters are not automatable, etc because of their internal structure. So use the *Offset* in order to control a State parameter externally).

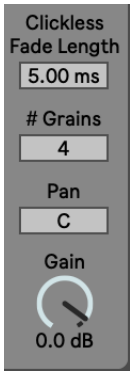


Transitions



The final parameter page deals with setting the probabilities for the selected State transitioning to all other States (via the Markov system). These probabilities are set with the colored multisliders. The colors are associated with the other States. At the top is a tab for selecting between 8 slots of presets that can hold different transition probabilities. This allows for different patterns of transitioning to be automated between (this parameter is NOT tied to a single State). There are options to randomize the currently selected state probabilities, or all probabilities, or to clear all probabilities. At the bottom there is a way to select a *Default* State and a *Bias* amount for it. Each time a transition is triggered, the *Default* state is first considered based on its *Bias*.

Final



At the far right are some global parameters. *Clickless Fade Length* sets the amount of fade time that occurs if a State transition is triggered in the middle of playback to avoid clicks (this time is compensated for timing sake). Usually there is no need to change this but you can experiment although in most cases it is inactive/imperceptible. You can set the *Number of Grains* that are used when grain playback mode is active. And at the bottom is the main device *Panning* and *Gain*.

I hope you enjoy this device! Please email me if you have bugs or other issues:
dillonbastan@gmail.com
More: http://dillonbastan.com/store