

Amaranth (granular synth and effect) made by Sai'ke

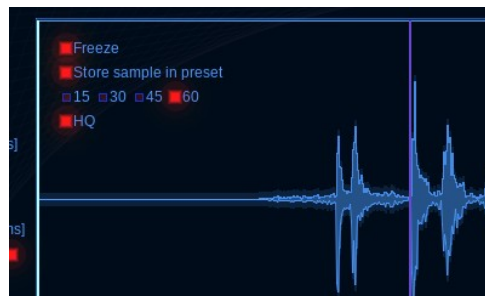
Amaranth can be an effect OR an instrument.

Just be aware that Amaranth is always active and running; it produces output even if Reaper is not running. The purple playback head and (a few or more) surrounding samples are scanned continuously.

Amaranth as an Instrument...

There are 2 ways to fill Amaranth with a sample:

1. throw a sample in the main window with the option to Freeze activated.
2. run Reaper, playing a sound through Amaranth (and thus using Amaranth as an effect at that point) will fill up the window. Then Freeze the sound of your liking when it fits inside the window.



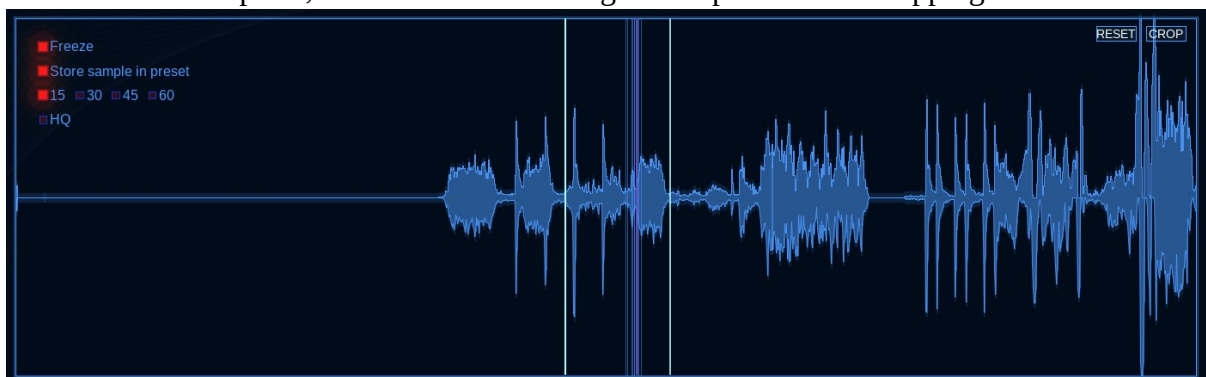
Also, be sure to save the sample you have chosen to use in your Reaper project. To accomplish this, be sure to activate the setting: *Store sample in preset* underneath the Freeze option. Then save the preset.

The frozen sample will make sound all the time as the Midi VST instrument is an always-on instrument- even when set in Freeze mode.

Set the Position knob to the place that you see as a starting point for playing the sample. From that position, samples surrounding that position will be scanned, more or less depending on the settings. This means there is always some sound output as it is scanning its neighboring samples.

On the left and right on the sample (exactly on the edge of the sample window by default) there are two loop markers you can drag. That limits the range between which the controls "operate", but when you set those, "CROP" crops to those markers.

There is no ZOOM option, but the result of setting the loop limits and cropping has the same result.



One of the 2 Envelopes, set up as an (extended) ADSR envelope, work together with the Position dial. Right-clicking in the window that holds the sample, creates a numbered, vertical line. You see that numbered line back in the Envelope window. They're meant to help you figure out where in the sample the envelope amplitude is.

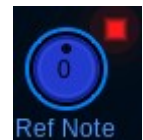


Right-clicking adds a vertical line with its own number, right-clicking that line once again deletes it.

How to play with Midi notes:

Midi pitch is achieved when activating the Midi referencing Note. Once a Midi note is played, by Reaper or by hand, the key (pitch) will stay in that pitch even if Reaper is not running.

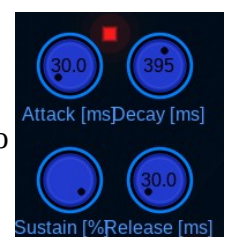
If Ref Note is not activated, Amaranth is set up as a one-shot instrument (no pitch alteration).



One way adding an Envelope and tame the always-sounding-output, is to activate the ADSR envelope in the top left corner.

This Envelope does NOT react to the Midi note velocity however!

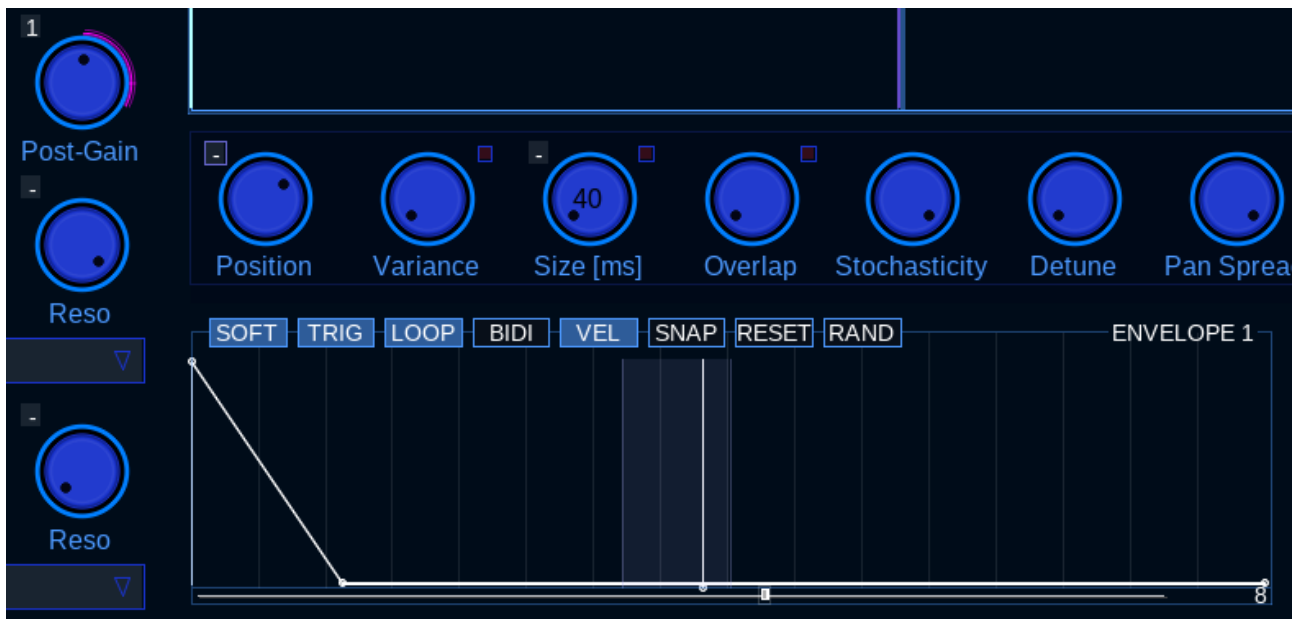
Also, the Attack and Release times, when turned fully counter-clock wise, are set to 30 ms. So not that punchy, but a reliable way of doing things.



A second way of setting an Envelope to the always-sounding-output is to use one of the 2 Envelopes. These Envelopes can be seen as modulators and can take all kinds of shapes and forms. This allows for more complicated amplitude options instead of the usual ADSR.

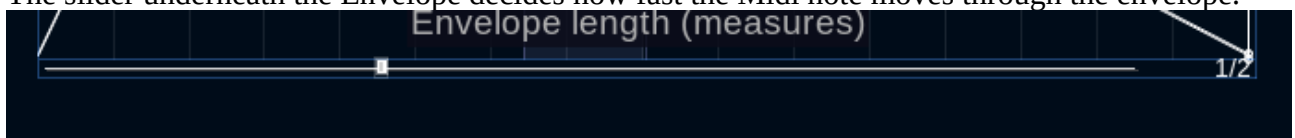
In this case, I assign Envelope 1 to the Post Gain. And by dragging while clicking on this '1', a red arc appears, allowing you to set the range of the influence of the velocity of the Midi key. The arc shows the dynamic influence range of the dial.



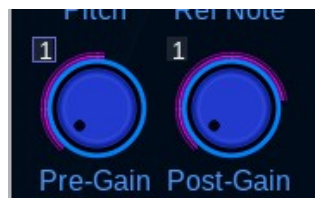


Envelope 1 button VELOCITY is set in the Envelope window- now the envelope is velocity sensitive.

The slider underneath the Envelope decides how fast the Midi note moves through the envelope.

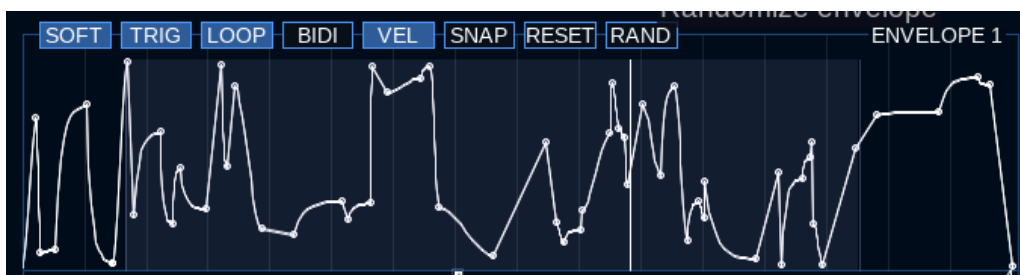


Optionally, for great dynamics, you can add this same envelope to the Pre Gain Dial; setting both the PreGain and the PostGain to the same Envelope1 makes sure that no sound output will be heard once the Midi key is released and the release is finished. And is only sounding when the Midi key is pressed.



(Sometimes, when you do not produce a Midi note, and so you are not providing Midi pitch and velocity, the always-sounding-output makes it to the output. This may or may not be desirable)

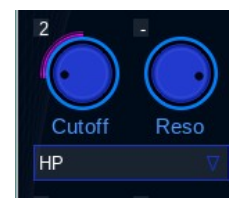
You can set Envelope 1 to a random envelope by clicking RAND. But if you do not like the random envelope, just click again.



A Pitch can be assigned to an Envelope. Here I assigned Envelope 2 to it.



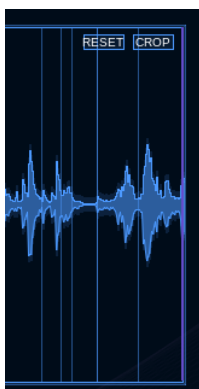
Same goes for the Filter section. Here, the Cutoff is active, a HighPass filter is chosen and follows Envelope 2 within the limits of the arc.



Amaranth as an Effect...

Setting up Amaranth as an effect is a bit more easy; do not set the Freeze button to ON, but instead let the sound waves on the Timeline of the Track run through Amaranth.

There will be some delay between the sound on the Timeline and the sounding result. This can be minimized when the purple Position cursor is put at the outmost right of the window.



Nothing stops you from Freezing the incoming sound at whatever point you want.

Other remarks

- By hovering over the vertical boundary lines in the Envelopes and the Sample window (LOOP), they become active, and can be moved or removed.
- The Feedback dial adds the granulated output of Amaranth and mixes this texture with the sample that is being granulated.
- Grain Shape provides 5 different shapes: Flat-Top,Peaky,Spaced,Rise,Decay. Each shape has its own timbre effect on the granulated sound.
- Normally the playhead scans the sample from left to right. With the Reverse Dial you can slow add scans that go from right to left, whereas the Dial is totally open, only right to left scanning is applied.
- Min and Max Octave: settings to choose randomly the octave.
- Due to the sometimes unpredictable loudness spikes in the sounding result, it is advised to add a limiter, like ReaLimit.

