

Gotharman's zaTurn



Modular Synthesizer

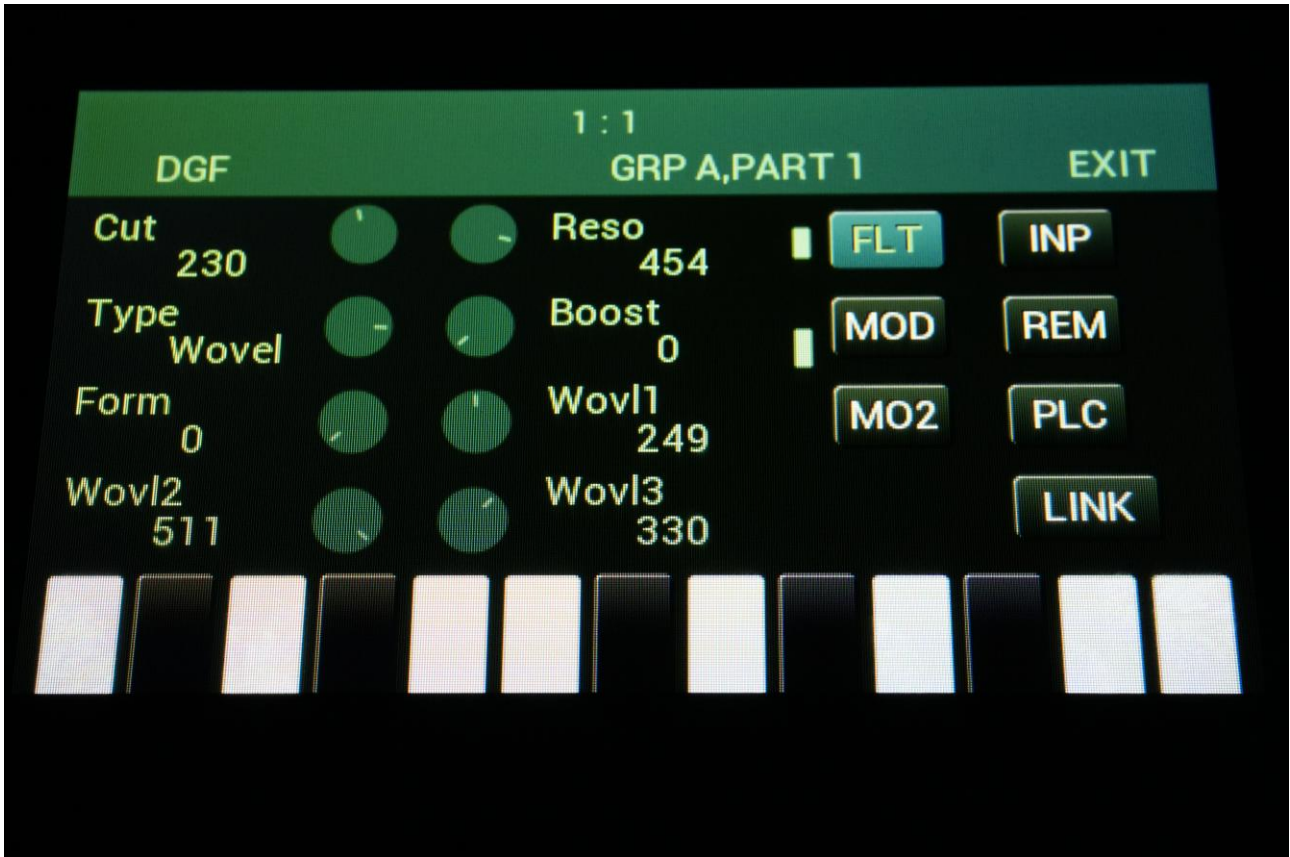
Update Manual 9.70

Table of Contents

Vowel Filter	3
Saw Animator	4
Sample Xfade	5
Draw Wave Oscillators	6
Sampling Draw Waves	8
Synth Modules Sub Pages Select	12
Serum Eight Frame Wavetables.....	13

Wovel Filter

A new filter type has been added to the digital filters: A wovel filter.



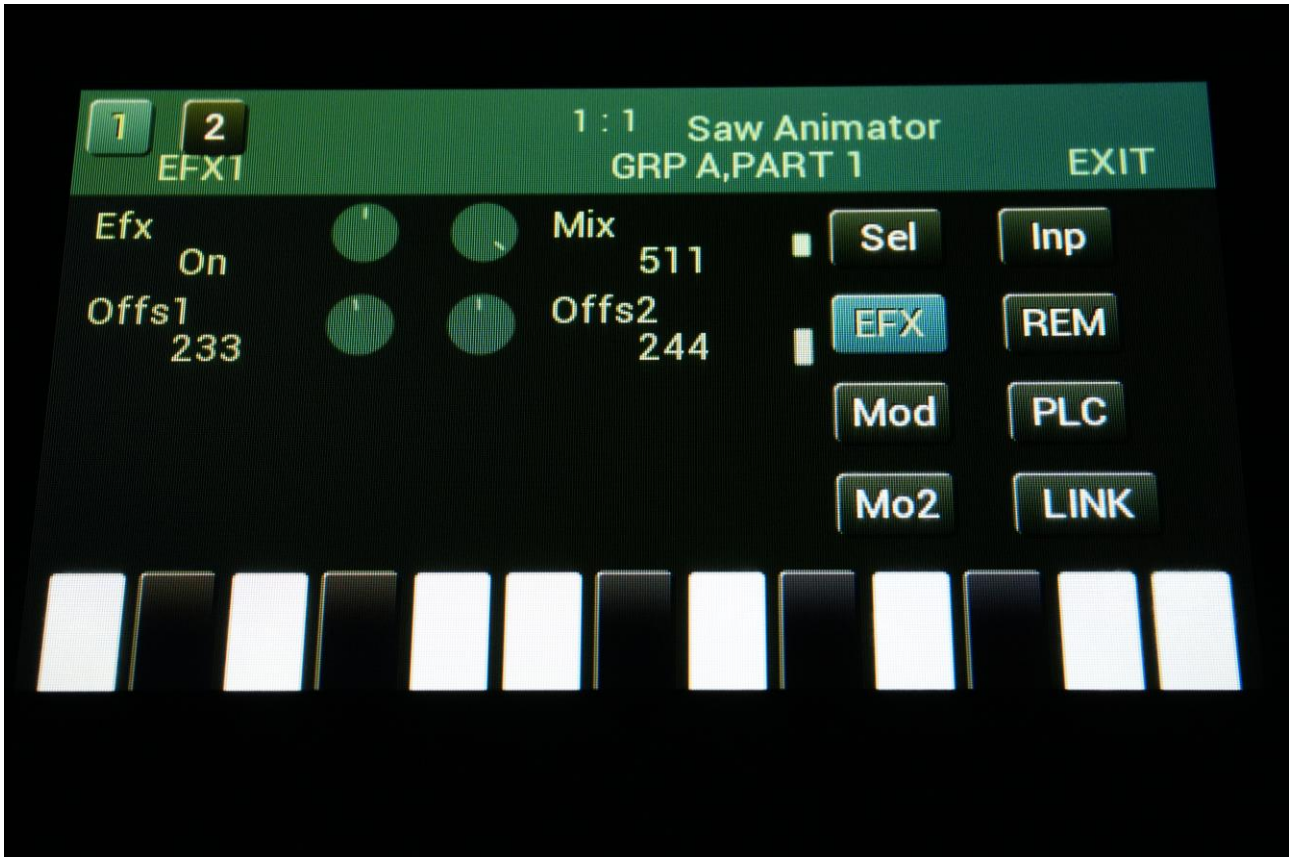
This filter is composed of three bandpass filters. 32 formants can be selected. Each formant has the cutoff frequencies and levels of each of the bandpass filters pre-programmed, to generate a wovel. Five formants can be selected at a time, using the **Wovl1 to 5** parameters, and it is possible to morph through these, using the **Form** parameter. The **Form** parameter can also be modulated by any modulation source, for automated morphing through the selected formants.

The **cutoff frequency** offset and the **resonance** of the filters can be adjusted and modulated. The higher the resonance is set, the more pronounced the formants will be.

It is also possible to modulate the selection of formants via the **FrmSl** parameter on the MO2 page, for immediate formant shifting.

Saw Animator

A new effect has been added: The Saw Animator.

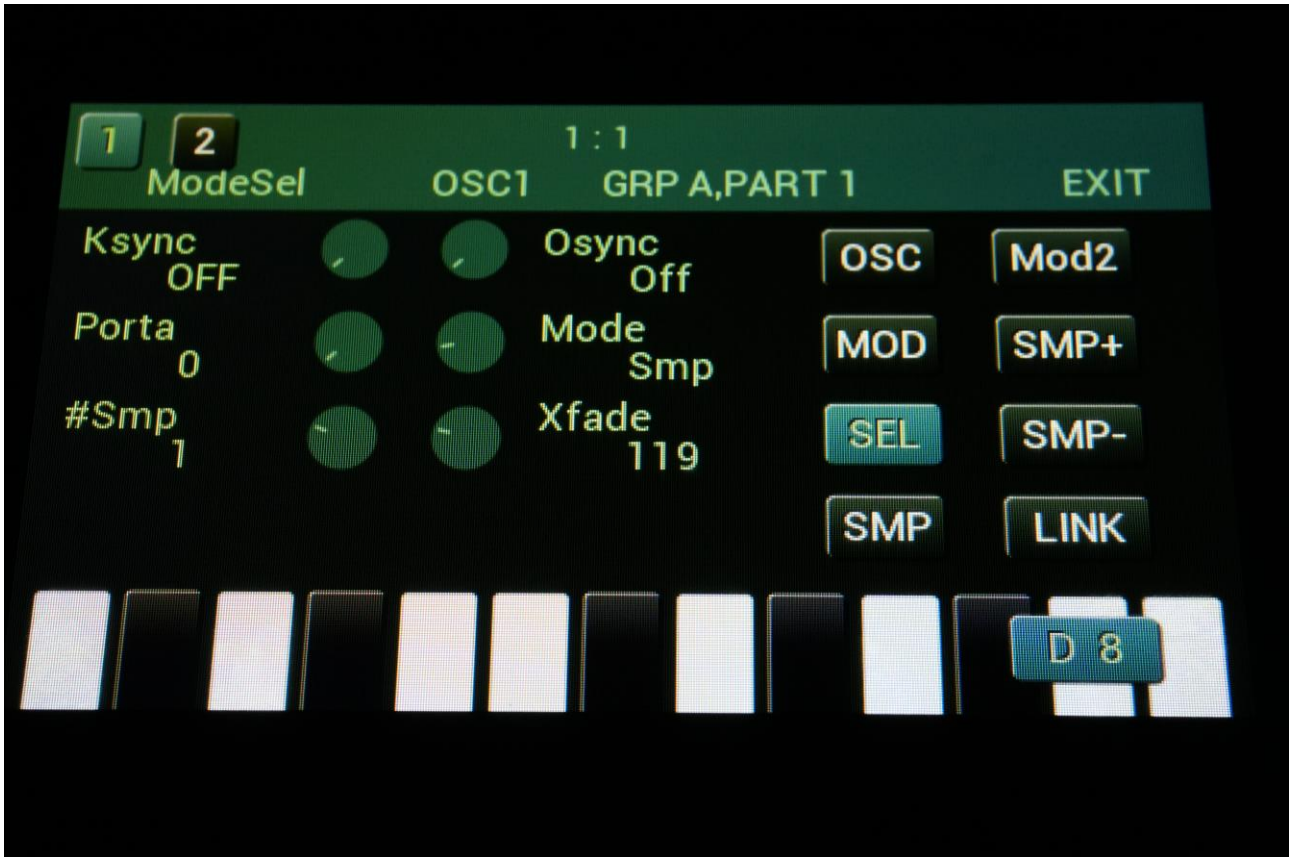


By adjusting and/or modulating two offset parameters, this effect adds two extra phased sawtooth waves to a sawtooth wave applied to its input.

It works best with sawtooth waveforms, but running other waveforms or signals through it, might bring some interesting results.

Sample Xfade

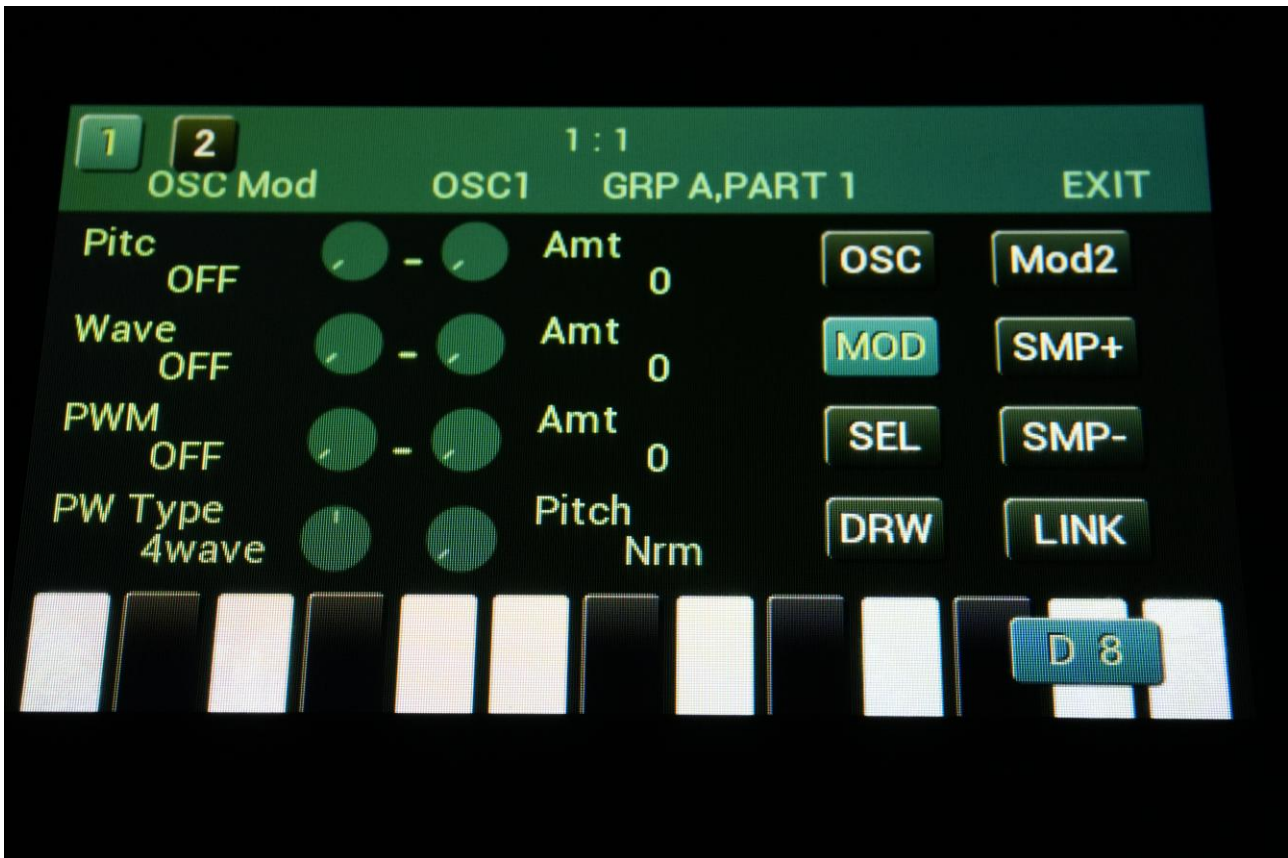
Sometimes, when re-triggering monophonic samplings, a click would be heard.



These clicks can now be dampened or even be removed, by turning up the new Xfade parameter, found on the OSC SEL page.

Draw Wave Oscillators

Some new playback modes, like **fold** and **four waves**, and extra parameters have been added to the Draw Wave Oscillators.



The first new parameter, **PW Type**, can be found on the **OSC MOD** page, when an oscillator is in Draw Wave mode.

The playback modes, which can be selected:

PW: The original draw wave PW function. The PW folds the positive cycle of the draw wave.

1timP: The same as “PW”, except that the draw wave is only played back once, every time the oscillator is triggered. This is useful when transferring drum samplings to the draw wave oscillator.

Fold: Turning up the PW parameter will fold the draw wave.

1timF: The same as “Fold”, except that the draw wave is only played back once, every time the oscillator is triggered. This is useful when transferring drum samplings to the draw wave oscillator.

4wave: Makes it possible to use four draw waves at the same time. The **Wave** parameter will morph between the selected draw waves A and B. The **PW** parameter will morph draw wave A and B to the following waves (if draw wave 1 is selected, **PW** will morph to draw wave 2).

1tim4: The same as “4wave”, except that the draw wave is only played back once, every time the oscillator is triggered. This is useful when transferring drum samplings to the draw wave oscillator.

On the SEL page, two new parameters have been added: **SubA** and **SubB**.



When turning up these parameters, the draw waves A and B will play back in a frequency up to 3 octaves below the original oscillator pitch.

When transferring longer samplings, drum samplings for instance, these will originally be played back in a rather high frequency, since the draw wave oscillators assume, that one draw wave is equal to one wave cycle.

Therefore these parameters were added, to get the playback speed down, and make drum sample playback possible.

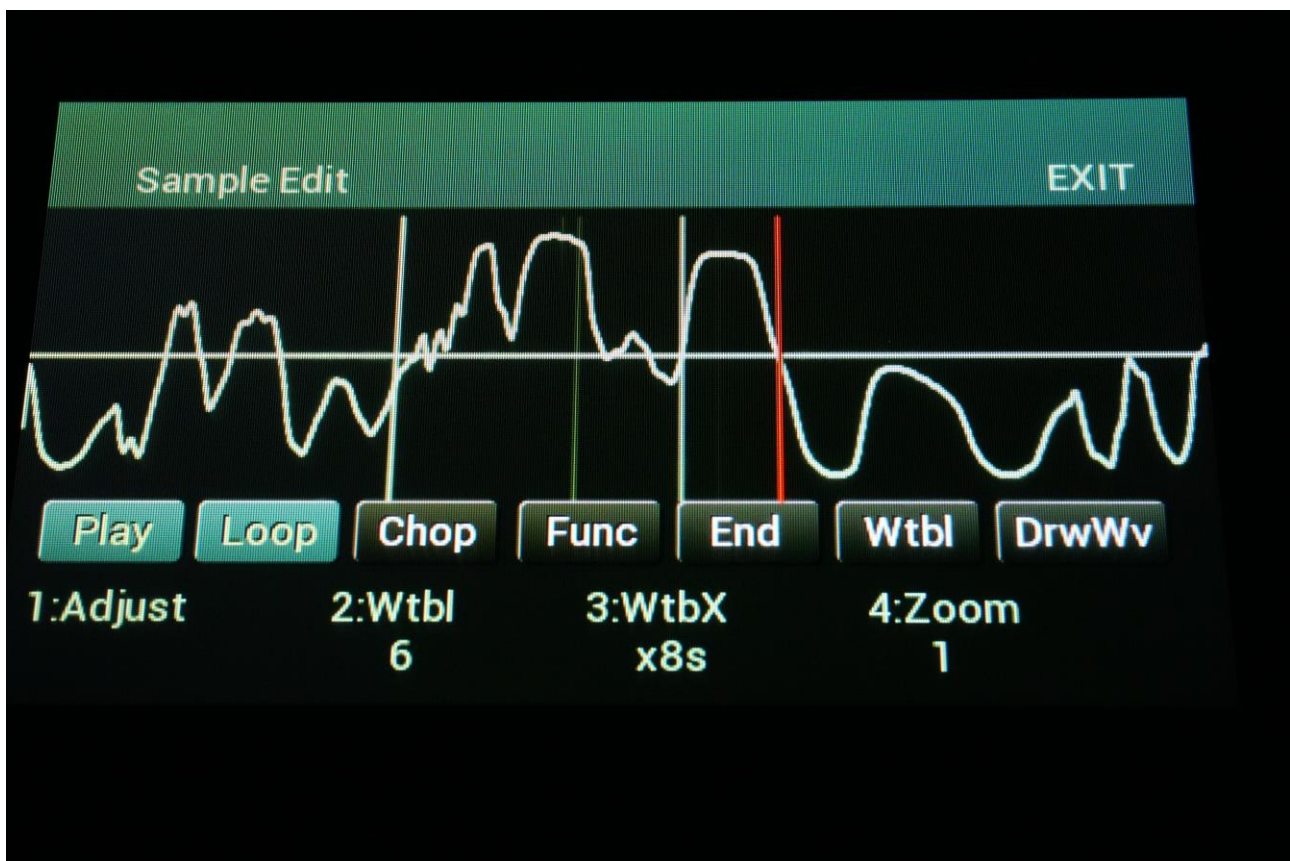
Sampling Draw Waves

It is now possible to send samplings, or part of a sampling, to be used as draw waves. When doing this, the draw wave samplings are stored within each preset, so it is possible to have 15 sample waves for each preset, which you can morph between!

These sample draw waves can be used in both oscillators and LFO's!

This works best with short samplings and single cycle waves.

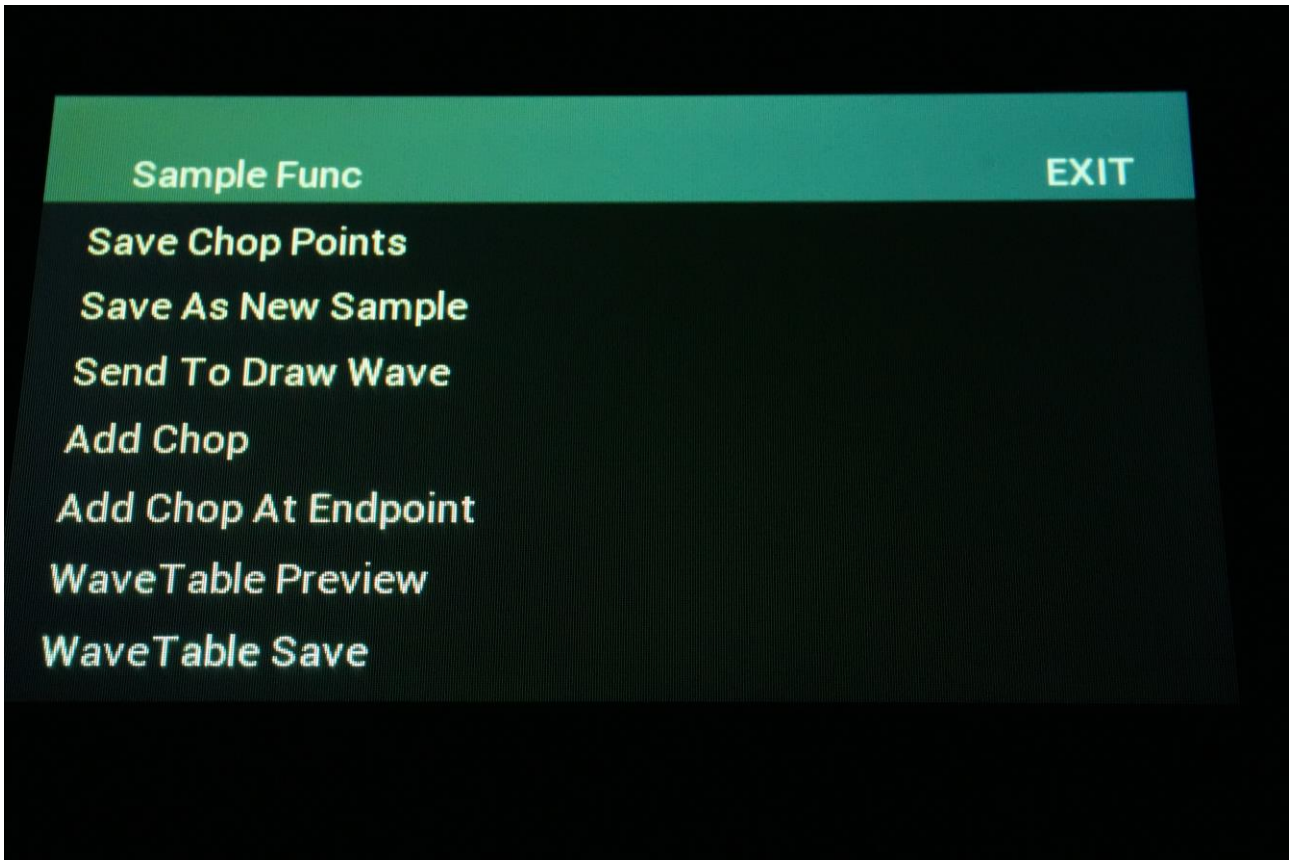
To do this, in the **graphical sample editor**, select and audition (if you like) the part of the sampling, which you would like to use as a draw wave.



If you would like to audition how this part of the sampling sounds as a draw wave, touch the **DrwWv** button, so that this turns blue.

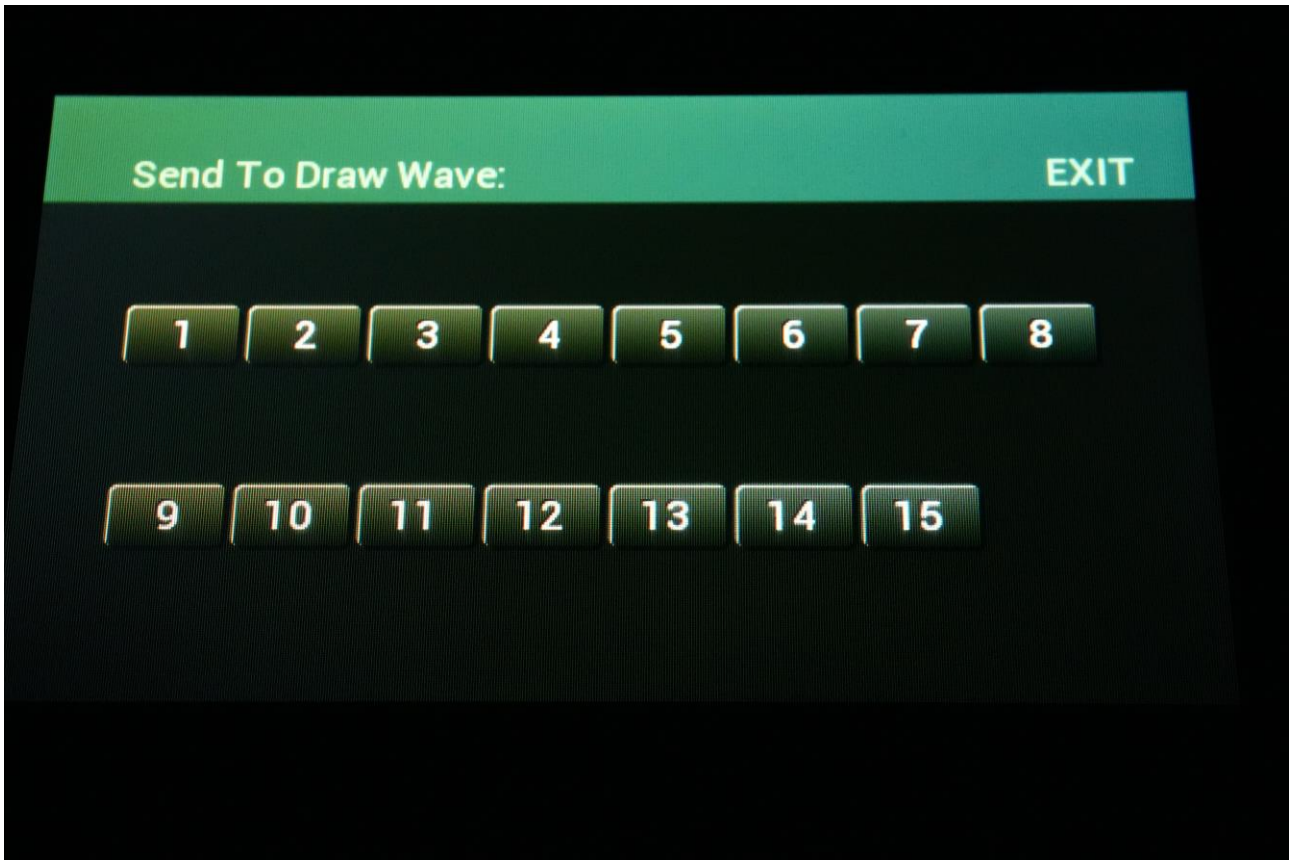


Now touch the **Func** button.



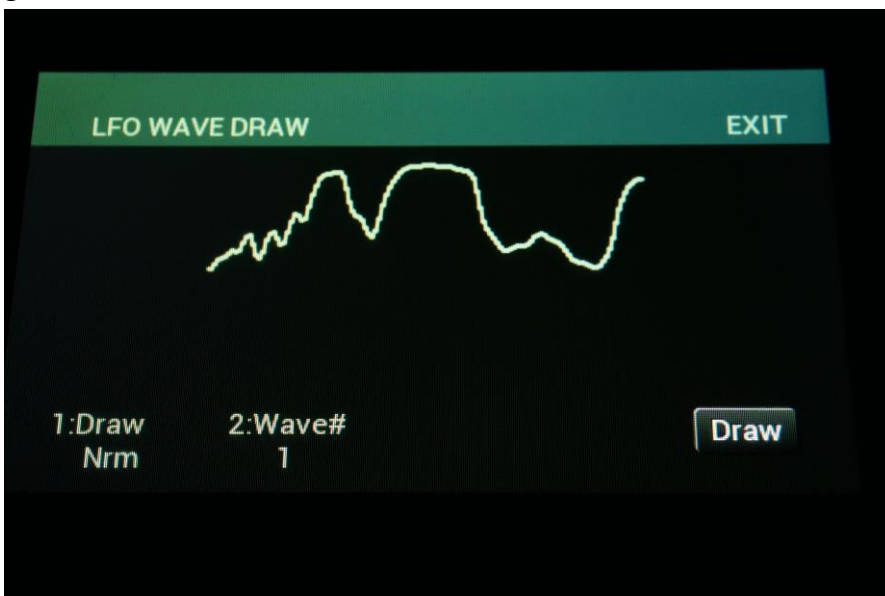
Touch "**Send To Draw Wave**".

A page will now appear, where you can select to send the sample part to **draw wave 1 to 15**.



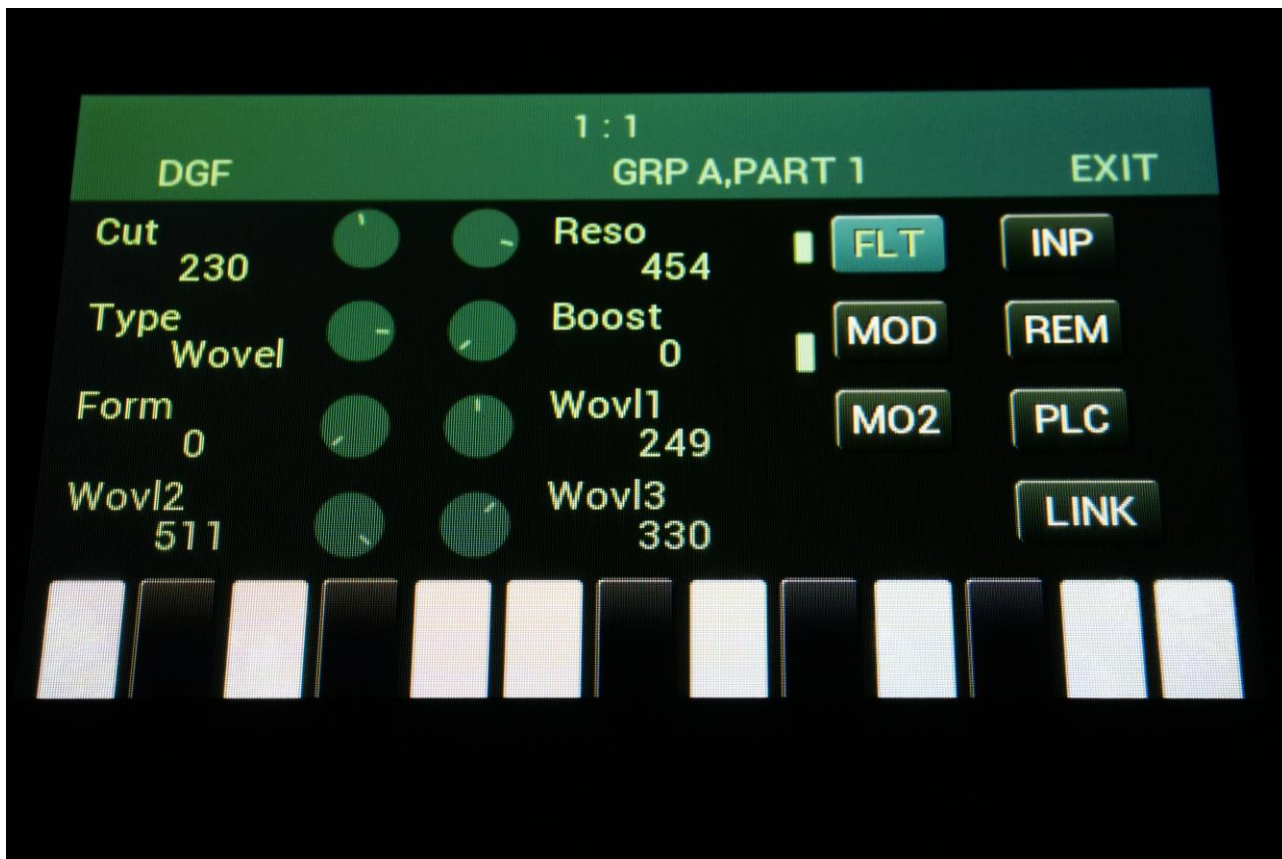
Touch the desired draw wave number.

If you now go to the draw wave oscillator or LFO, you will be able to view the sample part, generated as a draw wave.



Synth Modules Sub Pages Select

On any of the Synth Module pages (oscillators, filters, envelopes etc...), it is now possible to select the sub pages (FLT, OSC, Sample Select. MOD, MO2, INP etc...), using the step buttons, instead of the touch buttons.



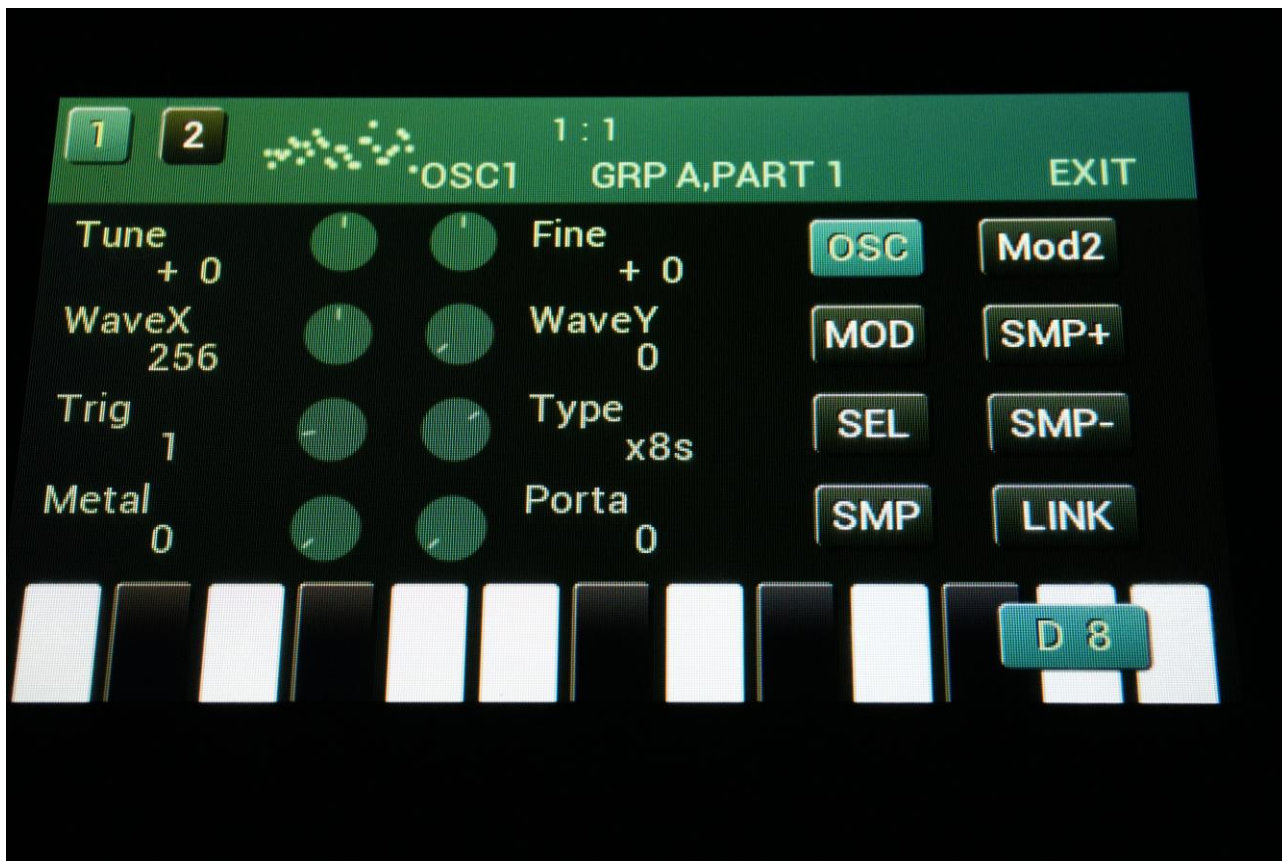
To make this happen, push the **Modules/BarSel** button two times, so that it is flashing.

Now you can push the step buttons to select the sub pages.

Serum Eight Frame Wavetables

If you create a wavetable in Serum, and makes sure that this table only contains eight waves, and then export it as a 16 bit wav, the Zaturn wavetable oscillators will now be able to load this, and morph between the eight waves.

You will have to select the new “x8s” type, in order for the playback to be correct.



This new mode can also be selected in the graphical sample editor and in the wavetable editor.

Written by
Flemming Christensen
2024