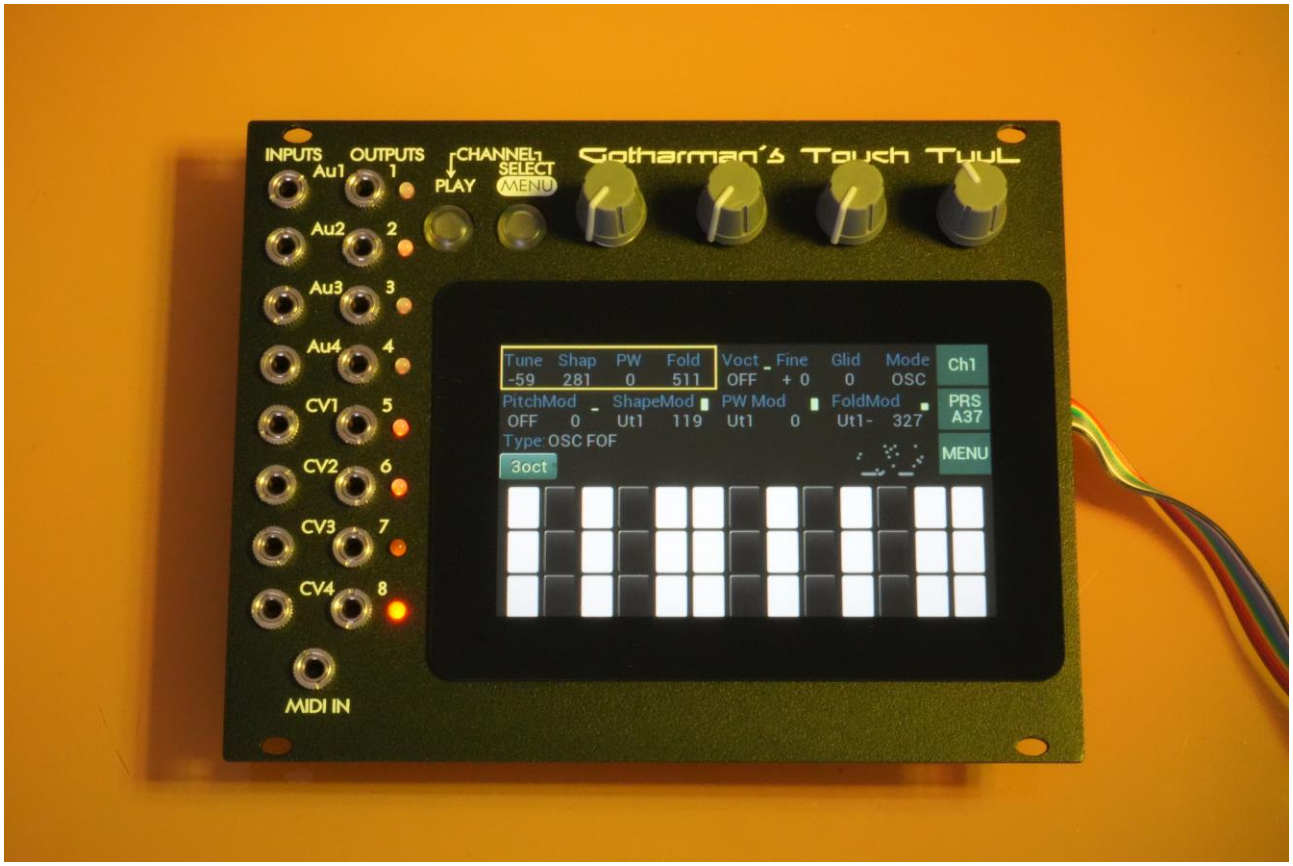
Gotharman's Touch Tool



32 hp multi-function Eurorack module

User Manual 4.34

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Intro

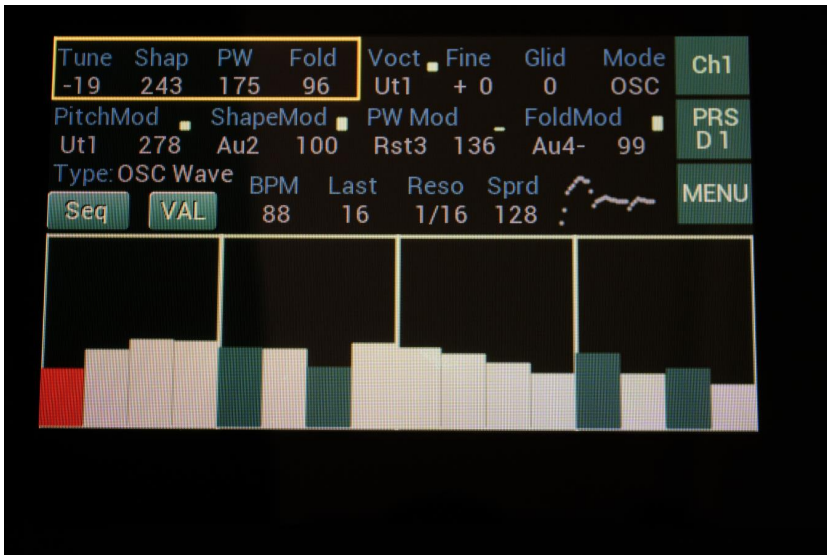
Thank you very much for purchasing or consider to purchase a Touch TuuL.

Touch TuuL is a 32 hp eurorack module, intended to be placed in a eurorack case.

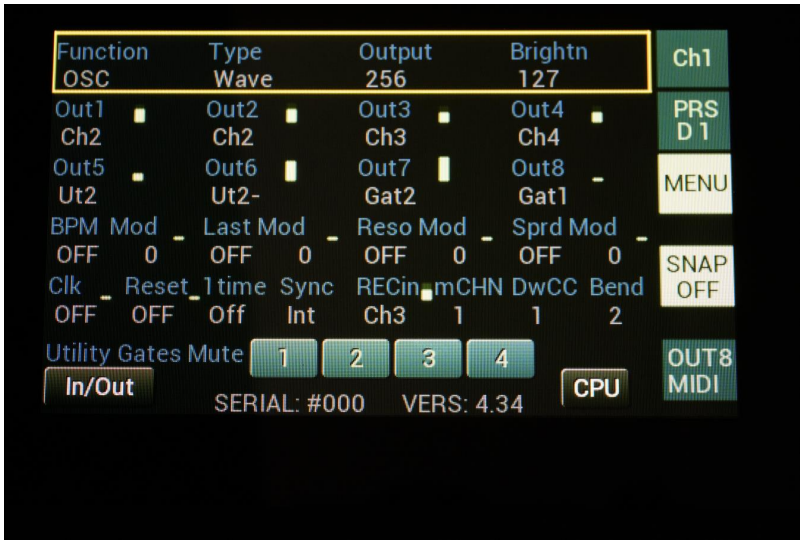
The goal with Touch TuuL was to make a module with a lot of functionality, while at the same time being simple to use.

Even though you can do a lot of things with it, there are only 3 pages to care about, when playing with it.

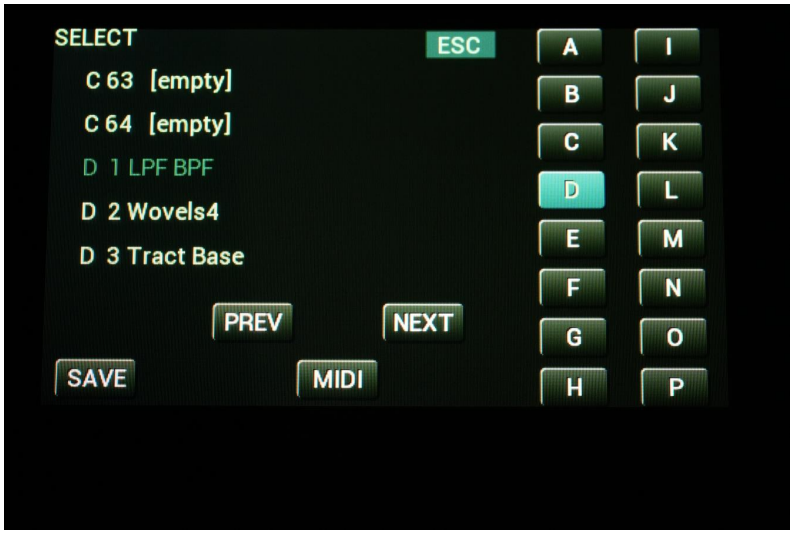
The **main page**, where you can adjust the parameters for the main and utility function of each of the 4 channels.



The **Menu page**, where you can select the main function for each channel, assign the outputs, assign modulation to the utility function, mute sequencer tracks, and set parameters like MIDI channel and display brightness.



The **Preset Select/Save page**, where you can select and write to any of the 1024 preset locations.

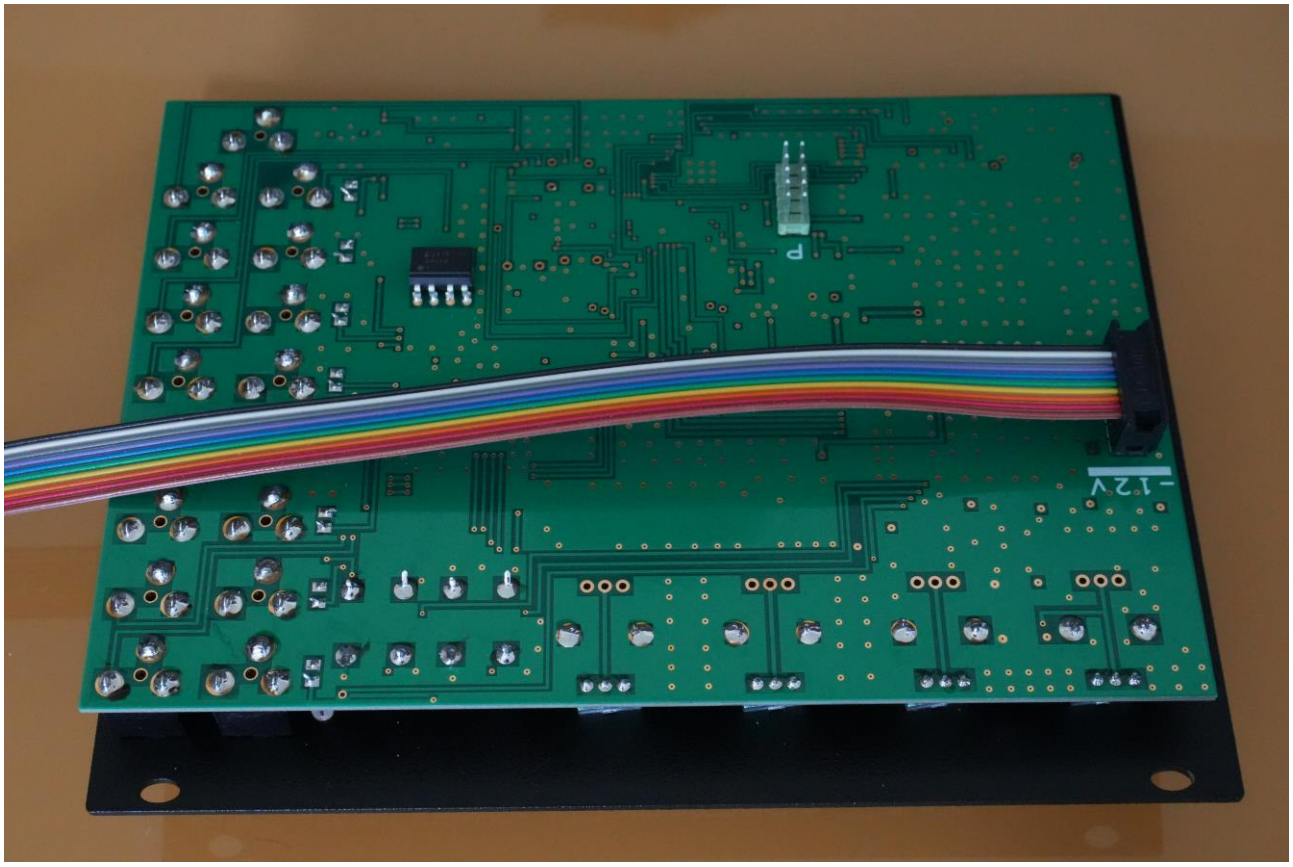


Touch TuuL also has some sub pages for updating, for transferring presets and samplings, and for setting up the inputs and outputs, but these pages you will only have to care about when required, not when just playing with Touch TuuL.

Installing Touch TuuL

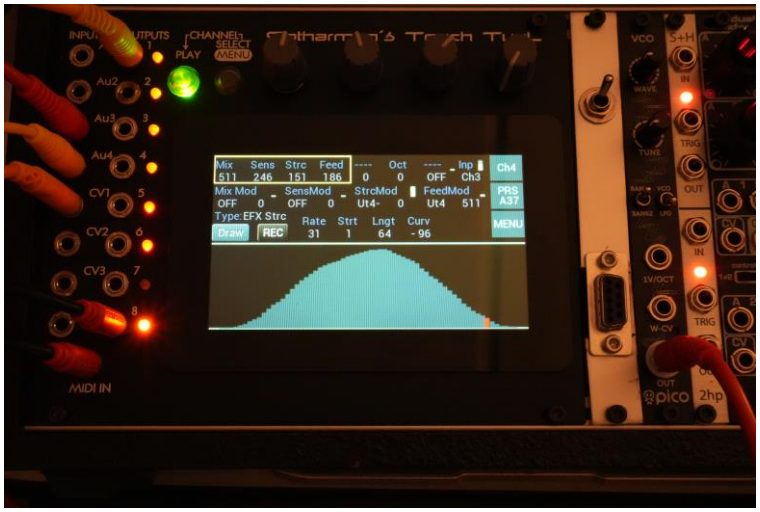
Touch TuuL comes with a power cable included.

The power cable is usually attached to Touch TuuL, but if it should become detached, it should be placed with the brown line pointing towards the “-12V” print.



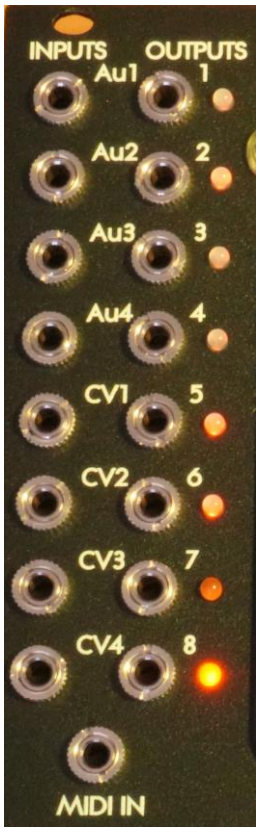
The other end of the power cable should be attached to your eurorack case power rail.

With the power connection done, you should mount Touch TuuL in your eurorack case, using 4 screws.



Inputs and Outputs

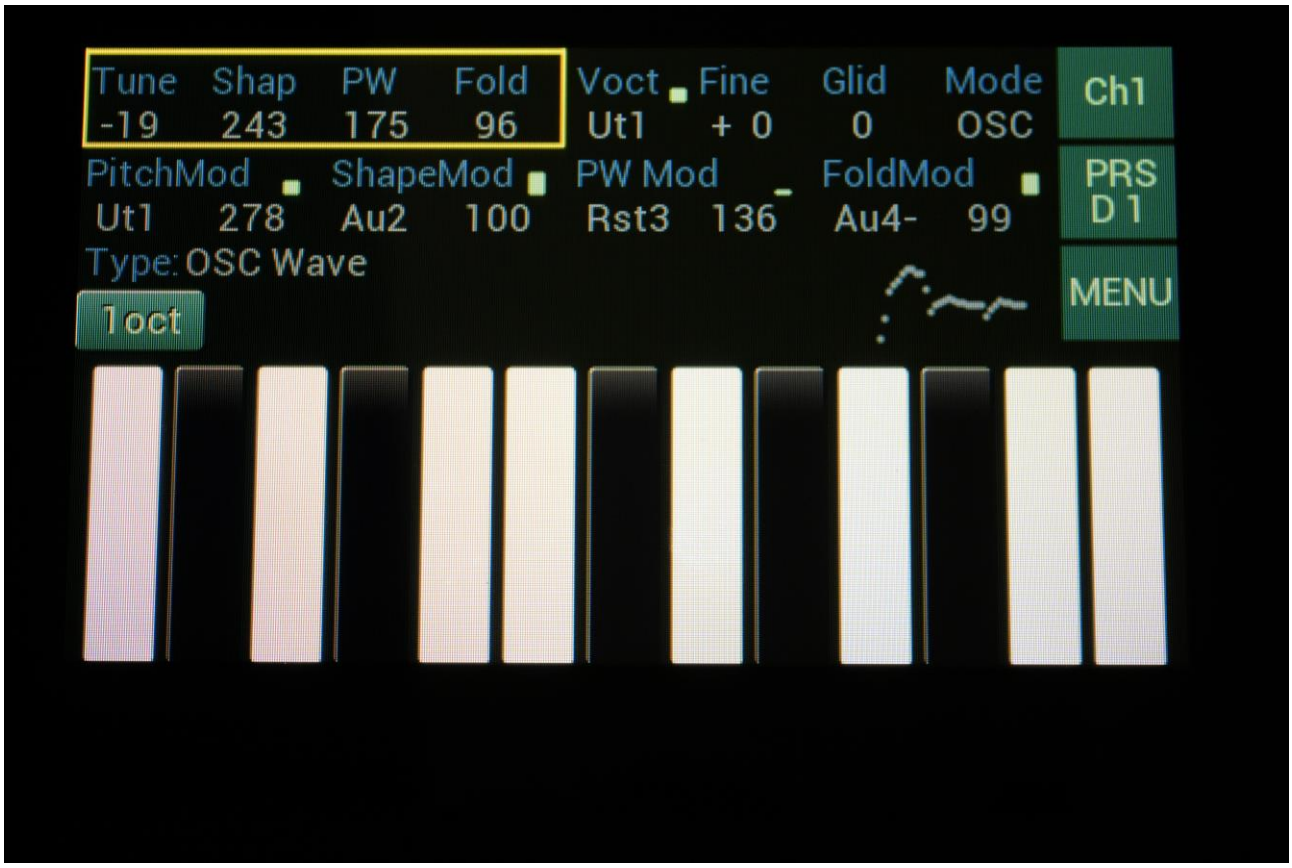
Touch Tuul has 17 minijack connectors, for connecting to other eurorack modules and MIDI gear.



Inputs:
Au1 to 4: AC coupled inputs, best used for audio and triggers. Each input can be set to +-5V or +-10V range.
CV1 to 4: DC coupled inputs, best used for CV signals and gates. Each input can be set to +-5V or +-10V range.
MIDI IN: Receives MIDI messages from MIDI gear via a Type A TRS connection.

Outputs:
1 to 4: 16 bit, 44.1 KHz DC coupled outputs with a range of +-5V. A two-colored LED indicates the output: Yellow = positive output, red = negative output.
5 and 6: 12 bit, 44.1 KHz DC coupled outputs with a range of +-5V. A two-colored LED indicates the output: Yellow = positive output, red = negative output.
7: Gate/trigger/square wave outputs with a range of 0 to 5V. An orange LED indicates if the output state is high or low.
8: MIDI out or Gate/trigger/square wave outputs with a range of 0 to 5V. An orange LED indicates if the output state is high or low. Mode can be set on the Menu page.

Touch Screen



Touch TuuL has a fast responding 4.3” touch screen.
By touching the screen, it is possible to enter other pages, select parameters, play the touch screen keyboard and to edit sequencer and draw wave values.

Push Buttons

Touch TuuL has two push buttons with various functions, the “Play” button with a green LED and the “Select” button with a yellow LED.

Push Buttons Functions

Starting and stopping the Sequencer

If the utility function on any of the 4 channels is set to be a Sequencer, pushing the **Play** button will start and stop the sequencer play back.
When the green LED in the **Play** button is lit, the Sequencer is playing back.

Selecting Parameters

On any page containing more than 4 parameters, it is possible to select these in groups of 4, by pushing and releasing the **Select** button, or by touching the parameters on the screen.

When a channel has Sequencer selected as the utility, it is only possible to select the step values, for editing with the 4 edit knobs, by pushing the **Select** button. Touching the Sequencer steps, will only change the values.

Selecting the Channel to edit

By pushing and holding the **Select** button, while pushing the **Play** button, it is possible to select the 4 channels. It is also possible to select channels, by touching the CHx touch button.

Toggling between the Main page and the Menu page

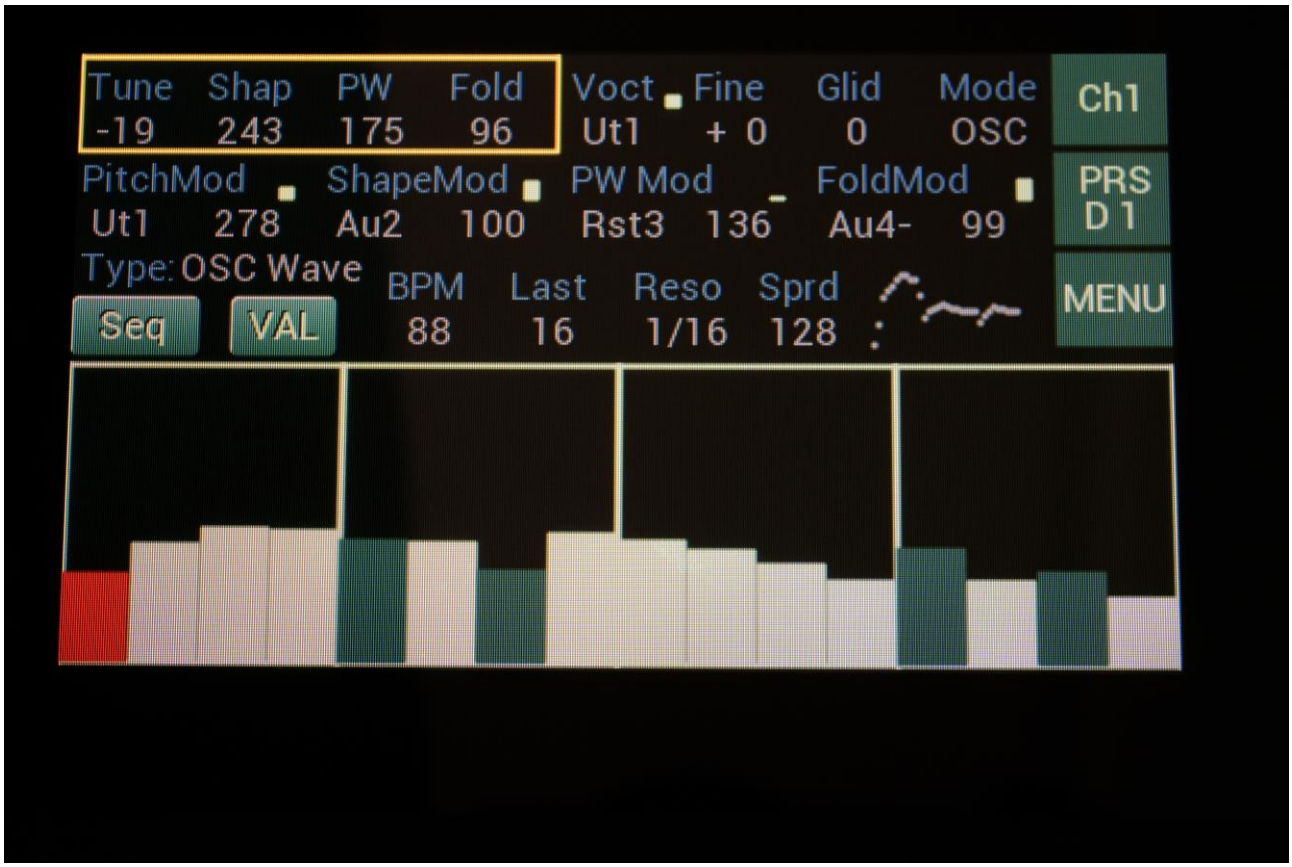
By pressing and holding the **Select** button for a couple of seconds, it is possible to toggle between the Main page and the Menu page. It is also possible to toggle between these two pages, by touching the MENU touch button.

Edit Knobs

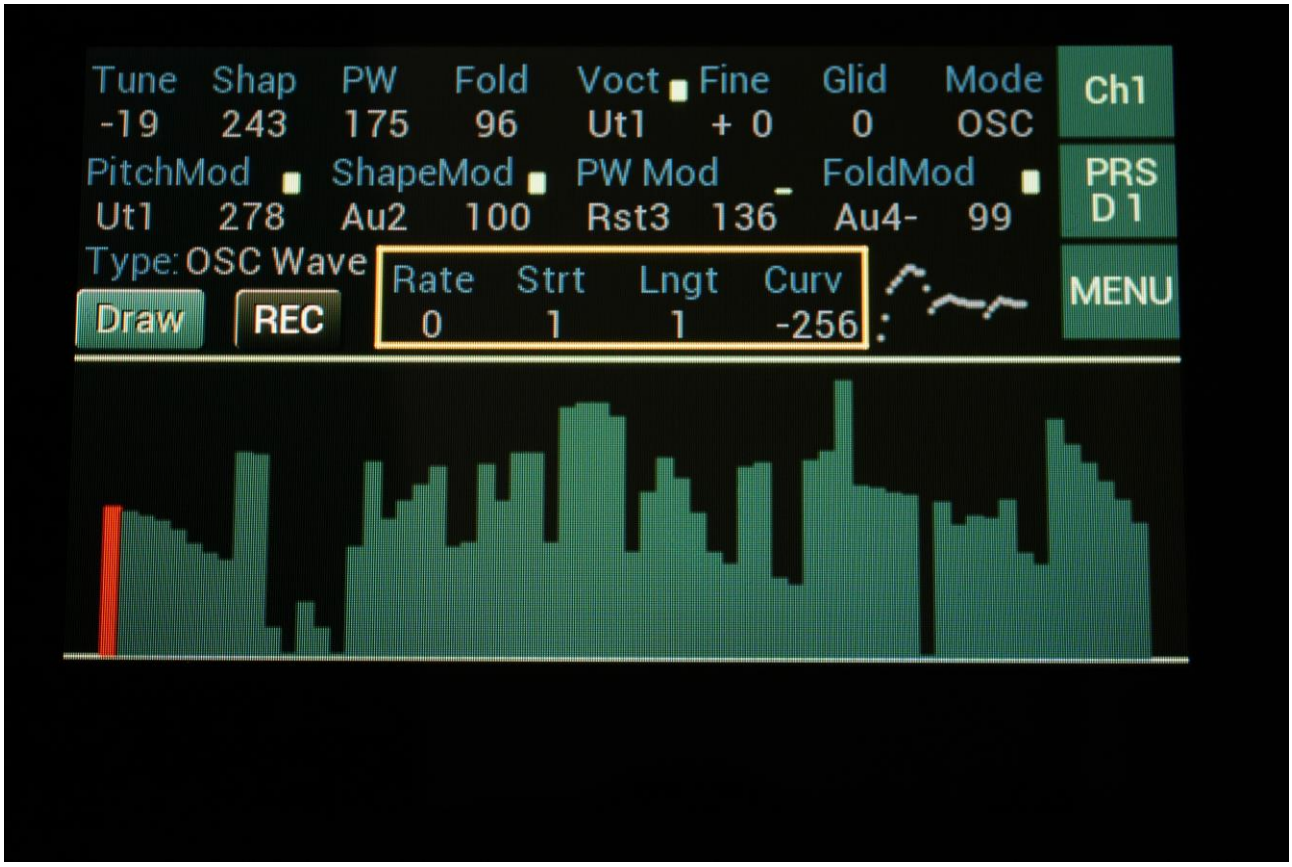
Touch TuuL has four edit knobs, for editing its parameters.

The edit knobs will, when turned, edit the four selected parameters, on the currently selected page.

The selected parameters are indicated by a yellow frame around them.



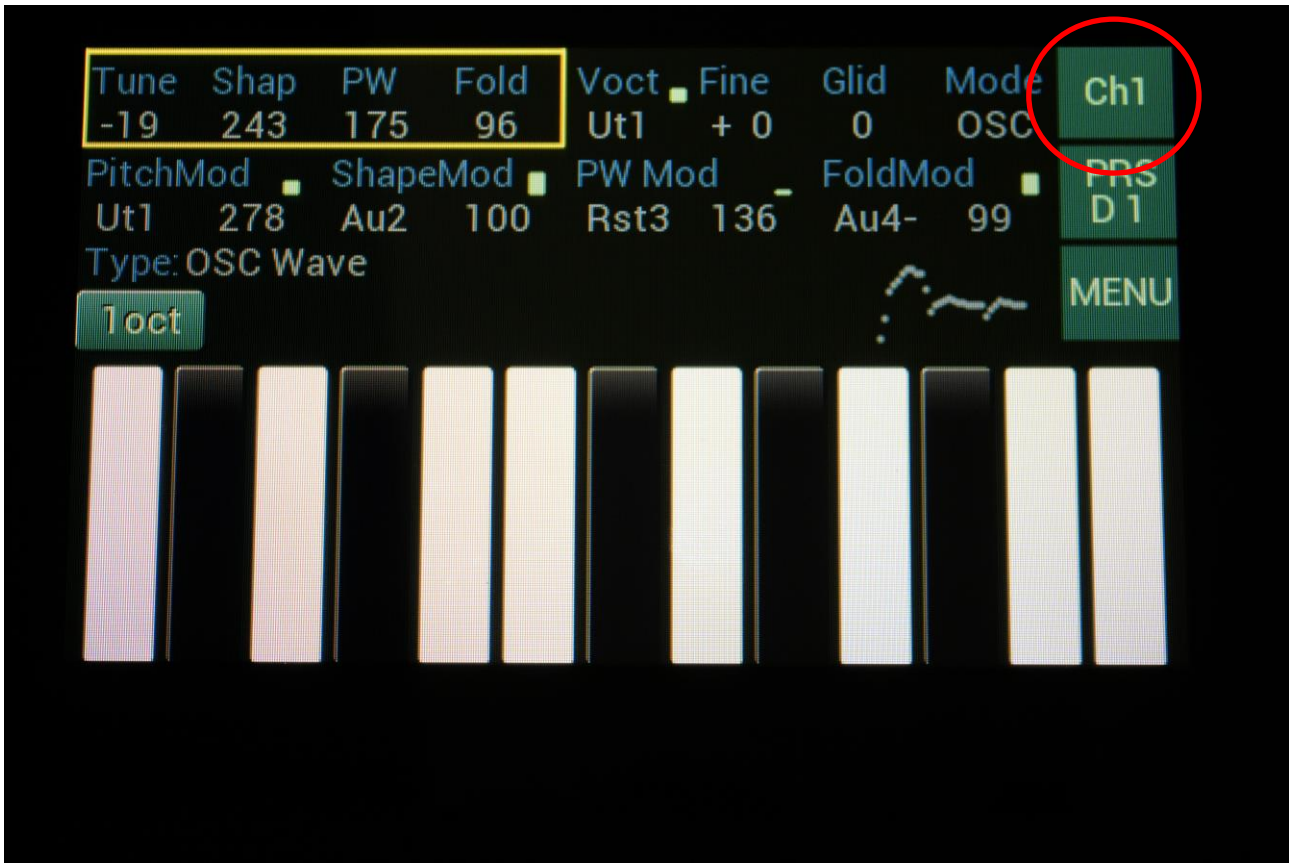
By touching the parameters or by pushing the Select button, it is possible to select the parameters to be edited.



The Four Channels

Touch TuuL has four channels, which are always active, and which share all the inputs and outputs.

To select a channel for editing, on the main page, touch the CHx button or press and hold the Select button, while pushing the Play button. The selected channel number is shown in the CHx button (x referring to the selected channel number).



Each of the four channels has a main function and a utility function.
The main function can be oscillator, filter, effect or mixer.
The utility function can be touch keyboard, sequencer or draw wave modulator.

Audio and Modulation Sources

For each of the output jacks, for each of the parameters that can be modulated, and for any filter, effect and mixer inputs, any audio/modulation source can be selected.
Here are a list of all the sources.

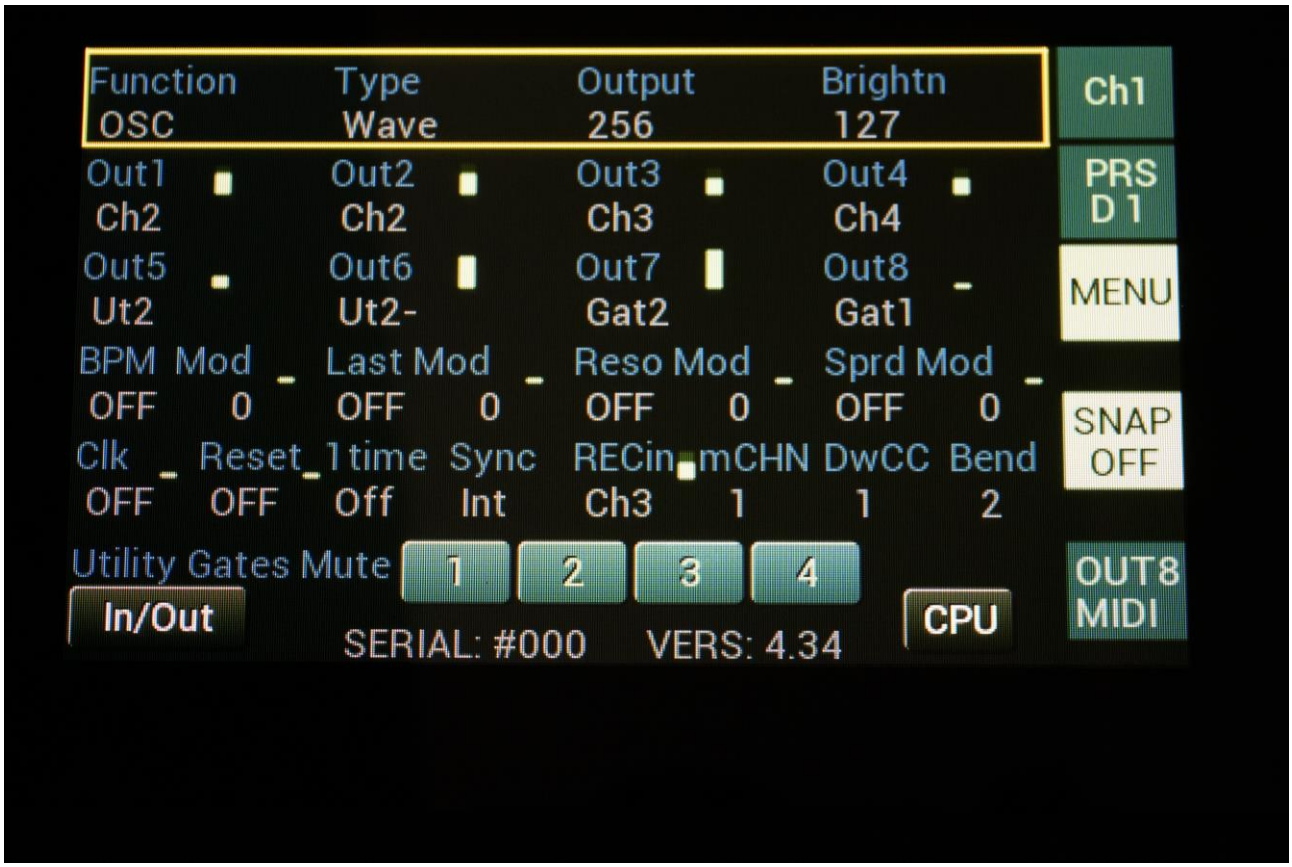
-OFF: No signal.
-Au1: The Au1 input jack.
-Au2: The Au2 input jack.
-Au3: The Au3 input jack.
-Au4: The Au4 input jack.
-CV1: The CV1 input jack.
-CV2: The CV2 input jack.
-CV3: The CV3 input jack.
-CV4: The CV4 input jack.
-Ch1: The output of the Channel 1 main function.
-Ch2: The output of the Channel 2 main function.
-Ch3: The output of the Channel 3 main function.
-Ch4: The output of the Channel 4 main function.
-Ut1: The output of the Channel 1 utility function.
-Ut2: The output of the Channel 2 utility function.
-Ut3: The output of the Channel 3 utility function.
-Ut4: The output of the Channel 4 utility function.
-Y_1: The output of the Channel 1 Keyboard Y-axis.
-Y_2: The output of the Channel 2 Keyboard Y-axis.
-Y_3: The output of the Channel 3 Keyboard Y-axis.
-Y_4: The output of the Channel 4 Keyboard Y-axis.
-Gat1: Channel 1 keyboard, sequencer and draw wave modulator gate output.
-Gat2: Channel 2 keyboard, sequencer and draw wave modulator gate output.
-Gat3: Channel 3 keyboard, sequencer and draw wave modulator gate output.
-Gat4: Channel 4 keyboard, sequencer and draw wave modulator gate output.
-Clk1: Channel 1 sequencer clock output. One clock per step.
-Clk2: Channel 2 sequencer clock output. One clock per step.
-Clk3: Channel 3 sequencer clock output. One clock per step.
-Clk4: Channel 4 sequencer clock output. One clock per step.
-Rst1: Channel 1 sequencer and draw wave modulator reset pulse output.
-Rst2: Channel 2 sequencer and draw wave modulator reset pulse output.
-Rst3: Channel 3 sequencer and draw wave modulator reset pulse output.
-Rst4: Channel 4 sequencer and draw wave modulator reset pulse output.

-Vel1: Channel 1 MIDI input velocity output.
-Vel2: Channel 2 MIDI input velocity output.
-Vel3: Channel 3 MIDI input velocity output.
-Vel4: Channel 4 MIDI input velocity output.
-CC1: Channel 1 MIDI CC1 output.
-CC2: Channel 1 MIDI CC2 output.
-CC4: Channel 1 MIDI CC4 output.
-CC5: Channel 1 MIDI CC5 output.
-CC8: Channel 1 MIDI CC8 output.
-CC9: Channel 1 MIDI CC9 output.
-CC10: Channel 1 MIDI CC10 output.
-CC11: Channel 1 MIDI CC11 output.
-Au1-: The Au1 input jack inverted.
-Au2-: The Au2 input jack inverted.
-Au3-: The Au3 input jack inverted.
-Au4-: The Au4 input jack inverted.
-CV1-: The CV1 input jack inverted.
-CV2-: The CV2 input jack inverted.
-CV3-: The CV3 input jack inverted.
-CV4-: The CV4 input jack inverted.
-Ch1-: The output of the Channel 1 main function inverted.
-Ch2-: The output of the Channel 2 main function inverted.
-Ch3-: The output of the Channel 3 main function inverted.
-Ch4-: The output of the Channel 4 main function inverted.
-Ut1-: The output of the Channel 1 utility function inverted.
-Ut2-: The output of the Channel 2 utility function inverted.
-Ut3-: The output of the Channel 3 utility function inverted.
-Ut4-: The output of the Channel 4 utility function inverted.
-Y_1-: The output of the Channel 1 Keyboard Y-axis inverted.
-Y_2-: The output of the Channel 2 Keyboard Y-axis inverted.
-Y_3-: The output of the Channel 3 Keyboard Y-axis inverted.
-Y_4-: The output of the Channel 4 Keyboard Y-axis inverted.
-Gt1-: Channel 1 keyboard, sequencer and draw wave modulator gate output inverted.
-Gt2-: Channel 2 keyboard, sequencer and draw wave modulator gate output inverted.
-Gt3-: Channel 3 keyboard, sequencer and draw wave modulator gate output inverted.
-Gt4-: Channel 4 keyboard, sequencer and draw wave modulator gate output inverted.
-Ck1-: Channel 1 sequencer clock output inverted. One clock per step.
-Ck2-: Channel 2 sequencer clock output inverted. One clock per step.
-Ck3-: Channel 3 sequencer clock output inverted. One clock per step.
-Ck4-: Channel 4 sequencer clock output inverted. One clock per step.

-Rs1-: Channel 1 sequencer and draw wave modulator reset pulse output inverted.
-Rs2-: Channel 2 sequencer and draw wave modulator reset pulse output inverted.
-Rs3-: Channel 3 sequencer and draw wave modulator reset pulse output inverted.
-Rs4-: Channel 4 sequencer and draw wave modulator reset pulse output inverted.
-Vl1-: Channel 1 MIDI input velocity output inverted.
-Vl2-: Channel 2 MIDI input velocity output inverted.
-Vl3-: Channel 3 MIDI input velocity output inverted.
-Vl4-: Channel 4 MIDI input velocity output inverted.
-CC1-: Channel 1 MIDI CC1 output inverted.
-CC2-: Channel 1 MIDI CC2 output inverted.
-CC4-: Channel 1 MIDI CC4 output inverted.
-CC5-: Channel 1 MIDI CC5 output inverted.
-CC8-: Channel 1 MIDI CC8 output inverted.
-CC9-: Channel 1 MIDI CC9 output inverted.
-C10-: Channel 1 MIDI CC10 output inverted.
-C11-: Channel 1 MIDI CC11 output inverted.

Main Function

To select the channel main function, enter the Menu page, either by touching the Menu touch button, or by pressing and holding the Select button for a couple of seconds. The Select button will light yellow, when the Menu page has been entered.



With the first two parameters, you can select the main function and the type of the selected channel.

It is also here possible to set the output level of the channel, by adjusting the **Output** parameter.

Main functions:
-OSC: Oscillator
-FLT: Filter
-EFX: Effects processor
-MIX: Four channel Mixer

Type:
When Oscillator:
-Wave: An oscillator that can morph between sine wave, triangle wave, sawtooth wave, pulse wave and feedback wave. PW works on all waveforms. A Fold parameter adds harmonics to the saw tooth wave and folding to the other waves (including the pulse wave).
-FOF: Generates a resonant spectrum by adding peaks of one waveform on top of a basic waveform. This can generate some really interesting resonant sounds.
-Cymb: Cymbal oscillator. Special oscillator for creating hihat, cymbal and other metallic noise sounds.
-Samp: Sample playback. Samplings can be selected by modulation. Touch TuuL itself can also sample, but this is explained in the Sample Rec section.

When Filter:
-SVF: Dual resonant filter. Filter types: BPF/BPF, HPF>LPF, HPF/LPF, BPF/LPF.
-VOW: 5 stage morphing vowel filter with 32 formants to choose from.

When Effect:
-Off: No effect.
-Chor: Chorus. Gotharman's special chorus with an added Deep parameter, that adds space to the chorus.
-Dist: Distortion. 6 types: Valve, Sine, Fuzz, Xdis, Asym, Curv.
-BitC: Bit Crusher. Lowers the sample rate and the bit resolution of the sound, to obtain lo-fi effects.
-Fold: Wave Folder.
-SawA: 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.
-RsEQ: Reso EQ. A parametric EQ where frequency, cut/boost, frequency span and resonance (Q) can be set. Since the frequency span and Q can be set as 2 different parameters, this EQ has 2 peaks or dips at higher Q settings.
-Comb: Comb Filter. A traditional comb filter with frequency and feedback settings, plus an Edge setting, which will add some character and crunchy distortion.
-Comp: Compressor with sidechain.
-Oshf: OverShifter. A kind of frequency shifter, that can shift the frequency bands of the input signal up, and add feedback and ring effects.
-SmPi: Sample Pitch (Only channel 3 and 4). A pitchshifter that is degrading the sound. A Peak parameter are available, that alters the formants.
-Pshp: PitchShaper (Only channel 3 and 4). 1 input version of Gotharman's special Pitch Shaper, that forces an audio signal to play back at a specific pitch, determined by an adjustable frequency.

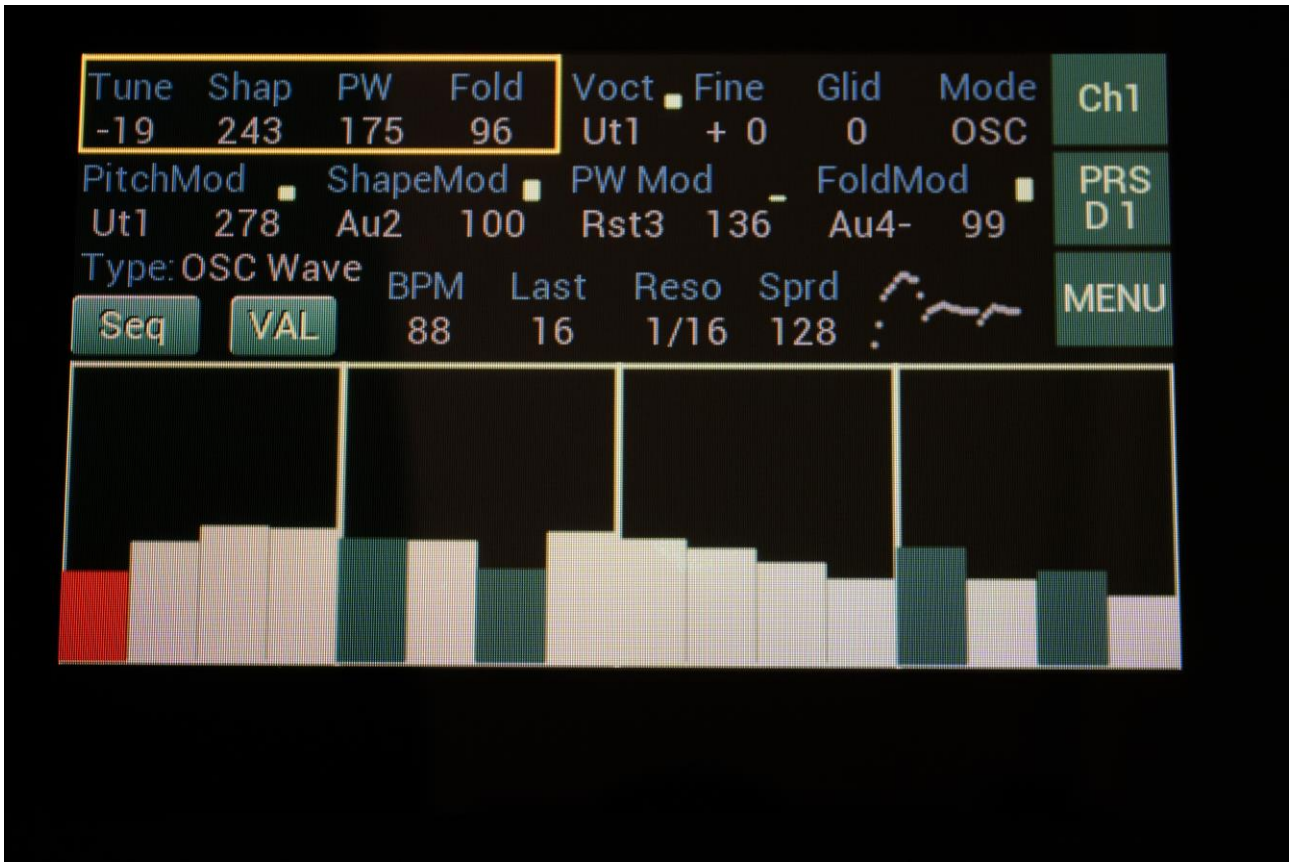
-Psh2: Two-input PitchShaper (Only channel 3 and 4). The pitch of the signal applied to input 1, is pitch matched to the signal applied to input 2. When changing the pitch of the pitch matched signal, the waveform on the effect output will change, still matched to the pitch of input 2. It is also possible for the signal applied to input 1, to affect the output pitch, by turning the Vari parameter up.
-Pshf: Pitch Shifter (Only channel 3 and 4). Shift the pitch of the sound up to 4 octaves up or down, without changing the time resolution or "tempo" of the sound. Adjustable sense.
-Strc: Stretcher (Only channel 3 and 4). Tries to time stretch the input signal, while at the same time keeping up with it. Impossible? Yes, indeed :-)
-mDly: Modulation Delay (Only channel 3 and 4). A dual tap modulation delay effect. When you change or modulate the delay times on this, the transition is smooth, and it does not generate any clicks.
It is also possible to set different delay times on the 2 taps, and mix between them, manually or via modulation.

When Mixer:
-4 input mixer: With CV controllable inputs, and which can be divided into two separate 2-input mixers.

Oscillator: Wave

An oscillator that can morph between sine wave, triangle wave, sawtooth wave, pulse wave and feedback wave. PW works on all waveforms. A Fold parameter adds harmonics to the saw tooth wave and folding to the other waves (including the pulse wave).

Parameters:



Tune: Adjust the basic pitch in semitones. Range: -64 to + 63.

Shap: This parameter lets you morph between sine, triangle, saw, pulse and feedback waves.

PW: Adjusts the pulse width of the waveform. Unlike many other oscillator designs, the pulse width can be adjusted on all of Touch TuuL's waveforms, not just the pulse wave.

Fold: This parameter adds harmonics to the saw tooth wave and folding to the other wave forms. Folding is added even to the pulse waves. Range: 0 to 511.

Voct: Selects the source for the oscillator 1V/oct input.

Fine: Fine tuning of the pitch. Range: -128 to +127.

Glid: Glide. The more this is turned up, the slower the oscillator pitch will slide from one note to another. Range: 0 to 511.

Mode: Sets if the oscillator pitch range should be in oscillator mode (**OSC**), fast LFO mode (**LFOf**) or slow LFO mode (**LFOs**).

PitchMod: Source and modulation amount for the oscillator pitch.

ShapeMod: Source and modulation amount for the oscillator Shap parameter.

PW Mod: Source and modulation amount for the oscillator PW parameter.

FoldMod: Source and modulation amount for the oscillator Fold parameter.

Oscillator: FOF

Generates a resonant spectrum by adding peaks of one waveform on top of a basic waveform. This can generate some really interesting resonant sounds.

Parameters:

Tune: Adjust the basic pitch in semitones. Range: -64 to + 63.

Shap: Sets the frequency of the peak wave.

PW: Shifts the peak rate.

Fold: Adds wavefolding to the waveform.

Voct: Selects the source for the oscillator 1V/oct input.

Fine: Fine tuning of the pitch. Range: -128 to +127.

Glid: Glide. The more this is turned up, the slower the oscillator pitch will slide from one note to another. Range: 0 to 511.

Mode: Sets if the oscillator pitch range should be in oscillator mode (**OSC**), fast LFO mode (**LFOf**) or slow LFO mode (**LFOs**).

PitchMod: Source and modulation amount for the oscillator pitch.

ShapeMod: Source and modulation amount for the oscillator Shap parameter.

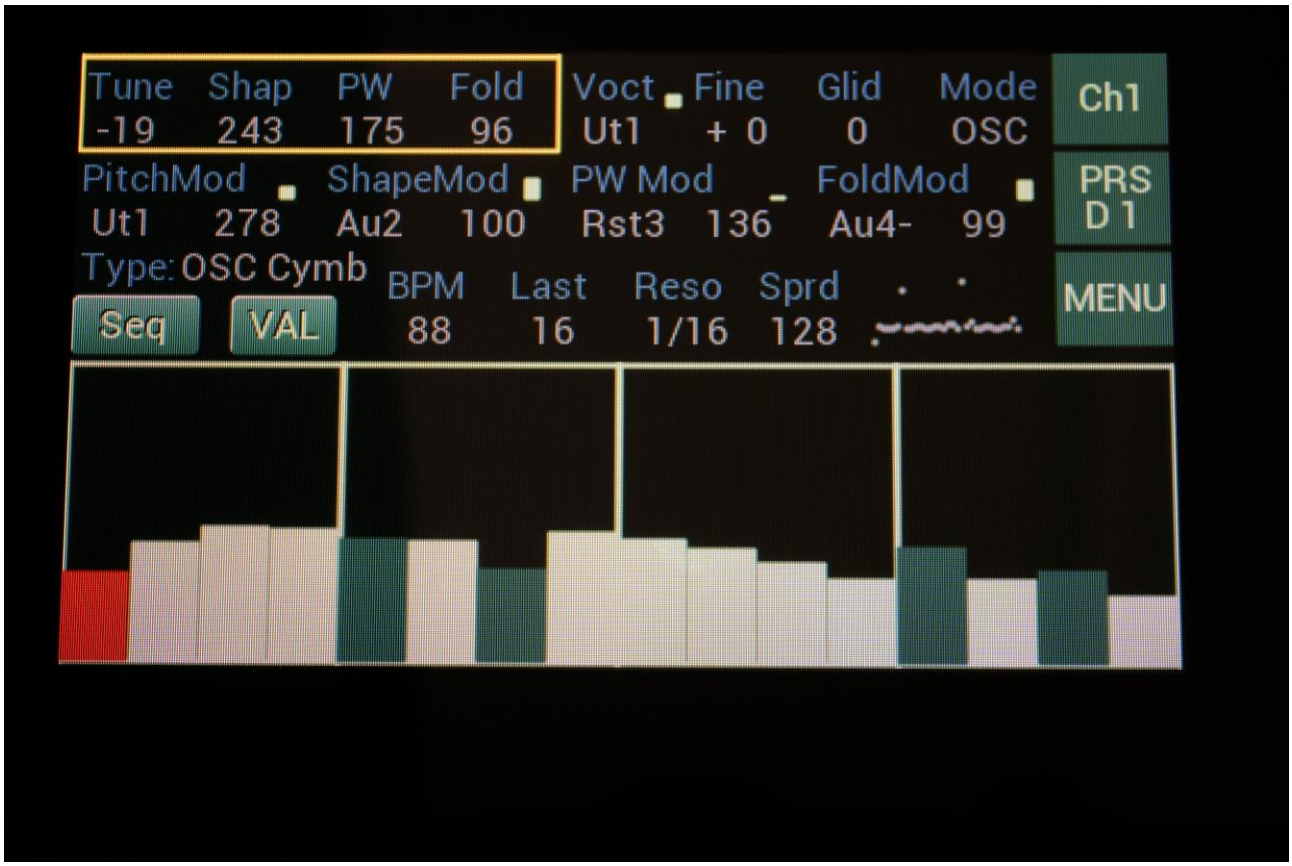
PW Mod: Source and modulation amount for the oscillator PW parameter.

FoldMod: Source and modulation amount for the oscillator Fold parameter.

Oscillator: Cymbal

Special oscillator for creating hihat, cymbal and other metallic noise sounds.

Parameters:



Tune: Adjust the basic pitch in semitones. Range: -64 to + 63.

Shap: Sets self FM amount of the first square wave oscillator (A modulator).

PW: Sets the pulse width of all square waves.

Fold: Adds wavefolding to the waveform.

Voct: Selects the source for the oscillator 1V/oct input.

Fine: Fine tuning of the pitch. Range: -128 to +127.

Glid: Glide. The more this is turned up, the slower the oscillator pitch will slide from one note to another. Range: 0 to 511.

Mode: Sets if the oscillator pitch range should be in oscillator mode (**OSC**), fast LFO mode (**LFOf**) or slow LFO mode (**LFOs**).

PitchMod: Source and modulation amount for the oscillator pitch.

ShapeMod: Source and modulation amount for the oscillator Shap parameter.

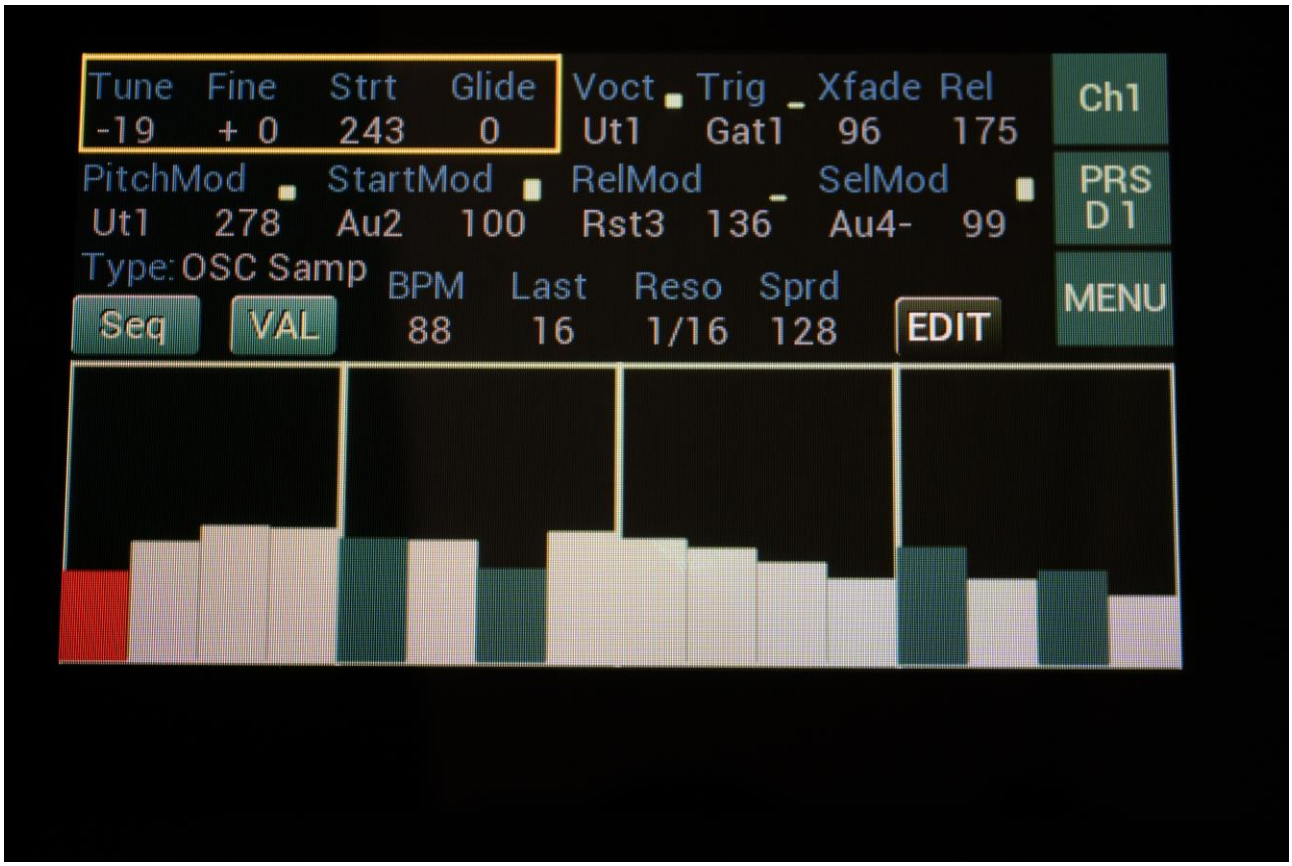
PW Mod: Source and modulation amount for the oscillator PW parameter.

FoldMod: Source and modulation amount for the oscillator Fold parameter.

Oscillator: Sampler

Playing back samplings. Samplings can be selected by modulation.

Parameters:



Tune: Adjust the basic pitch in semitones. Range: -64 to + 63.

Fine: Fine tuning of the pitch. Range: -128 to +127.

Strt: Sets the sample start point.

Glide: The more this is turned up, the slower the oscillator pitch will slide from one note to another.

Voct: Selects the source for the oscillator 1V/oct input.

Trig: Selects the source, which should trigger the sample playback.

Xfade: If you experience clicks, when playing with monophonic samplings, turning up this parameter will dampen or even remove these clicks.

Rel: Sample release time. When this is turned up, a release envelope/VCA will be added to the sample output. The more it is turned up, the shorter the release time. When set to zero, no release envelope is added.

PitchMod: Source and modulation amount for the oscillator pitch.

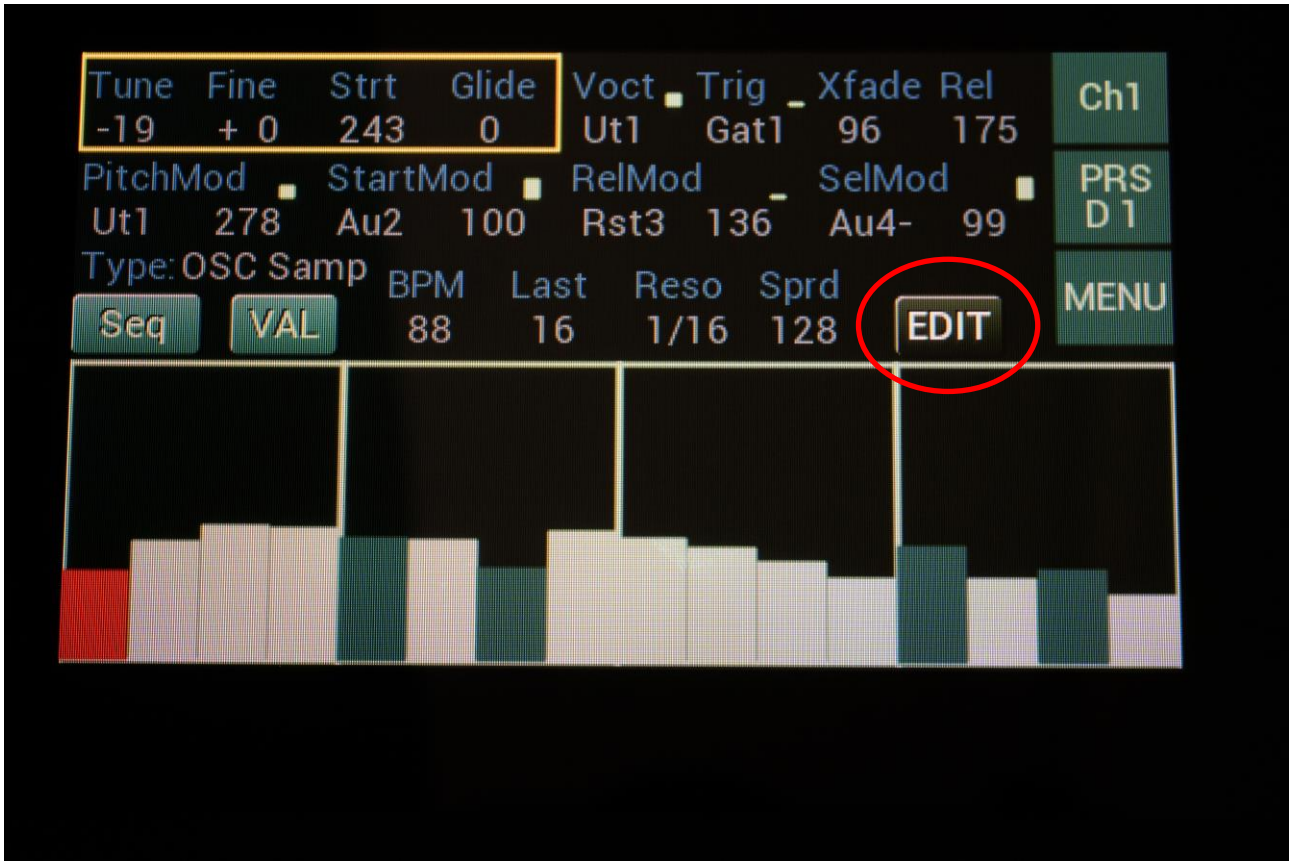
StartMod: Source and modulation amount for the oscillator Strt parameter.

Rel Mod: Source and modulation amount for the oscillator Rel parameter.

SelMod: Source and modulation amount for sample selection.

Sample Edit

By touching the EDIT touch button, you will enter sample edit mode.



Here you can select a sampling to be played back by the channel, adjust the start and length, record a sampling and transfer samplings via MIDI in and out.

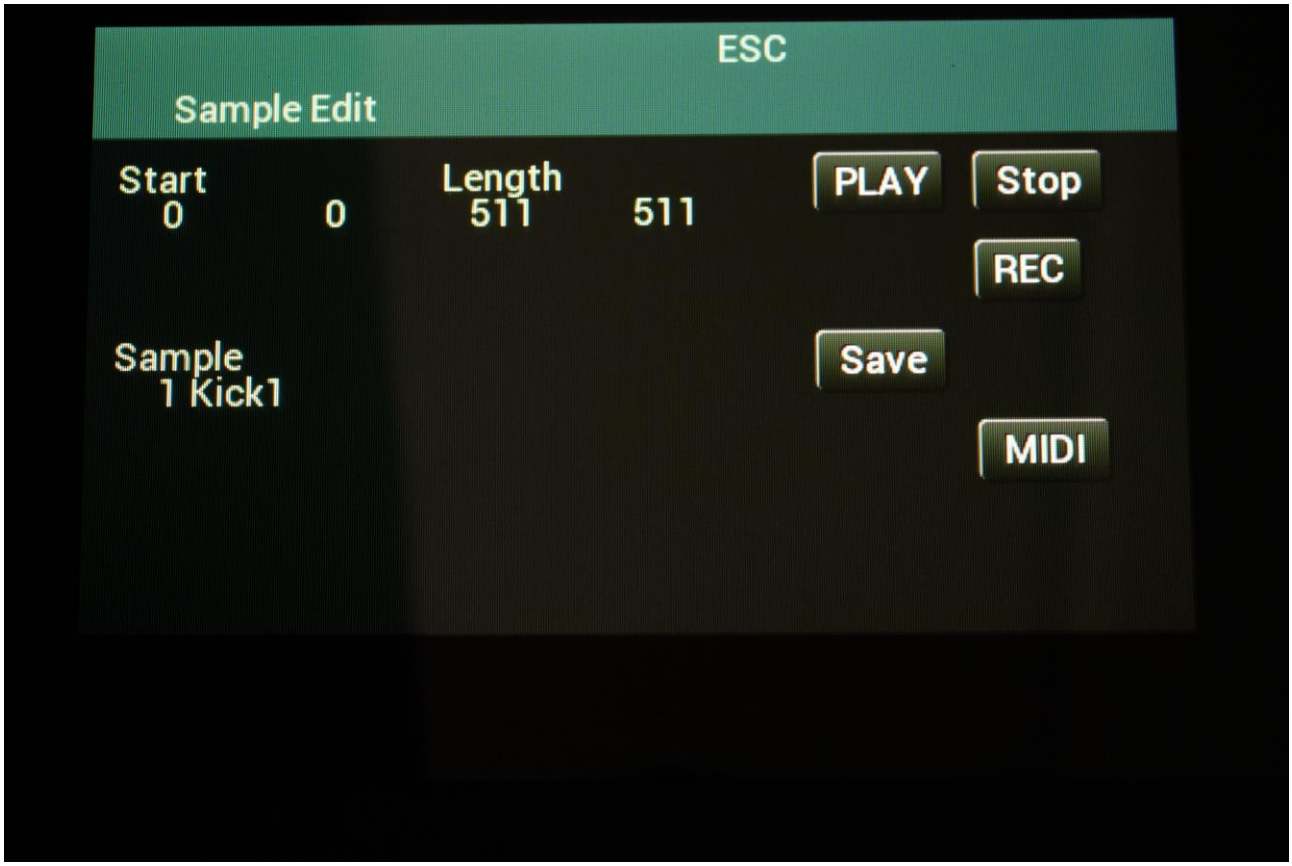
Selecting a Sampling

Touch the sample name.

You will then be taken to the Sample Select page.

16 samplings are shown at a time. Touch PREV, NEXT, -128 or +128 to select different groups of 16 samplings.
Touch the desired sampling, to select it.
Audition the sampling, by touching the PLAY button.
When you have found the right sampling, touch OK.

Setting the sample start and length



On the Sample Edit page it is possible, by turning the Edit Knobs, to adjust and fine adjust the sample start point and length.
Audition by touching the PLAY button.
It is also possible to stop the sample playback, by touching the Stop button.

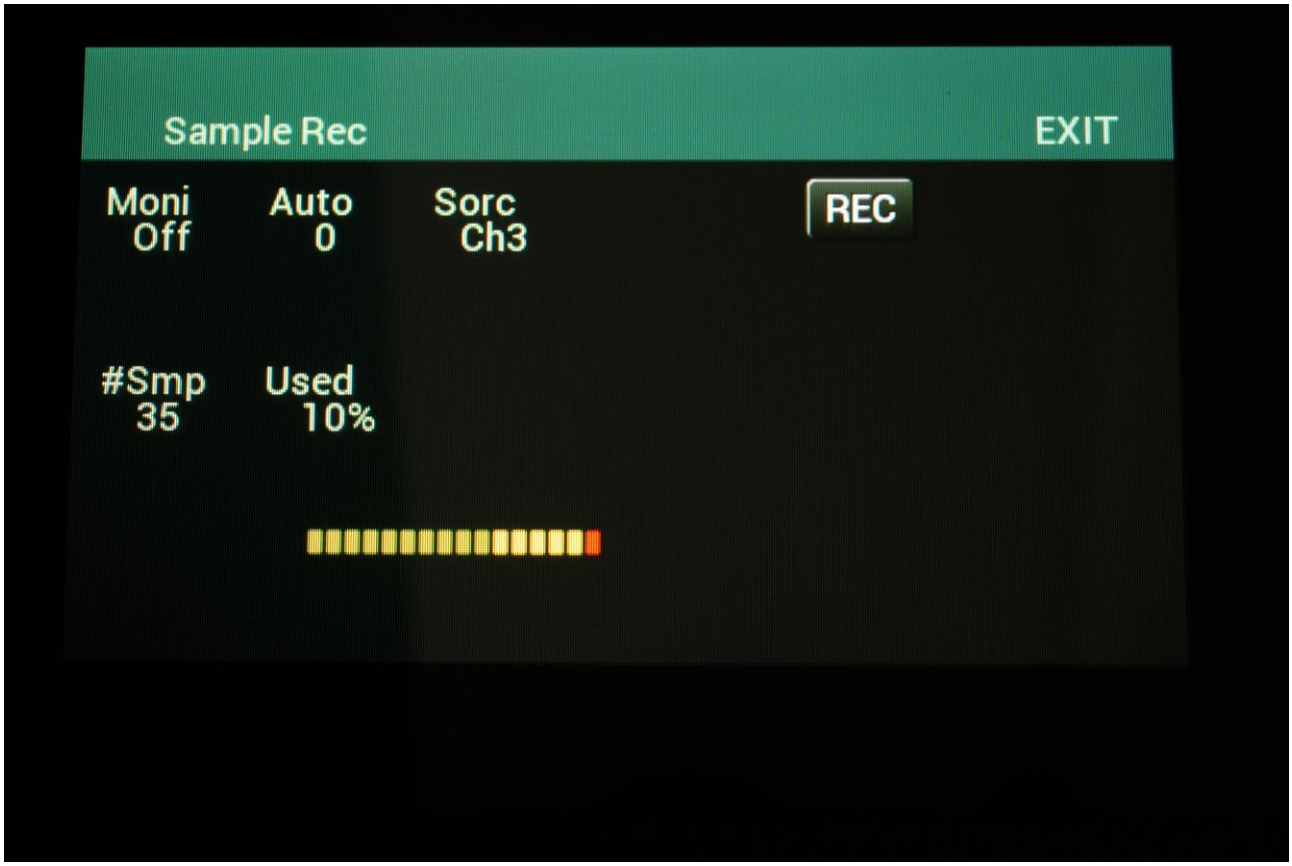
When you are satisfied with the sample start and length settings, touch the Save button, to store your edits. The sampling will now be loaded with these settings, when selected.

Sample Recording

Touch TuuL can record any of the audio/modulation sources into its sample FLASH memory. When a sampling is recorded and saved, it will stay in the FLASH memory, even after a power recycle.

To record a sampling, from the Sample Edit page, touch the REC button.

This will take you to the Sample Rec page.



By Edit Knob 1 you can switch the sample monitor on and off. When this is on, the selected sample source will be output on Channel 1.

If you wish to start the recording automatically, you can set the level threshold, for when the recording should be triggered, by adjusting the Auto parameter, using Edit Knob 2. When this is set to zero, sampling will start immediately, when you touch the REC button.

By Edit Knob 3 you can select the source for the sampling. Any audio/modulation source can be selected.

The #Smp parameter shows the current number of samplings held in the Touch TuuL sample memory. The Used parameter show how many percent of the sample FLASH memory is holding samplings.

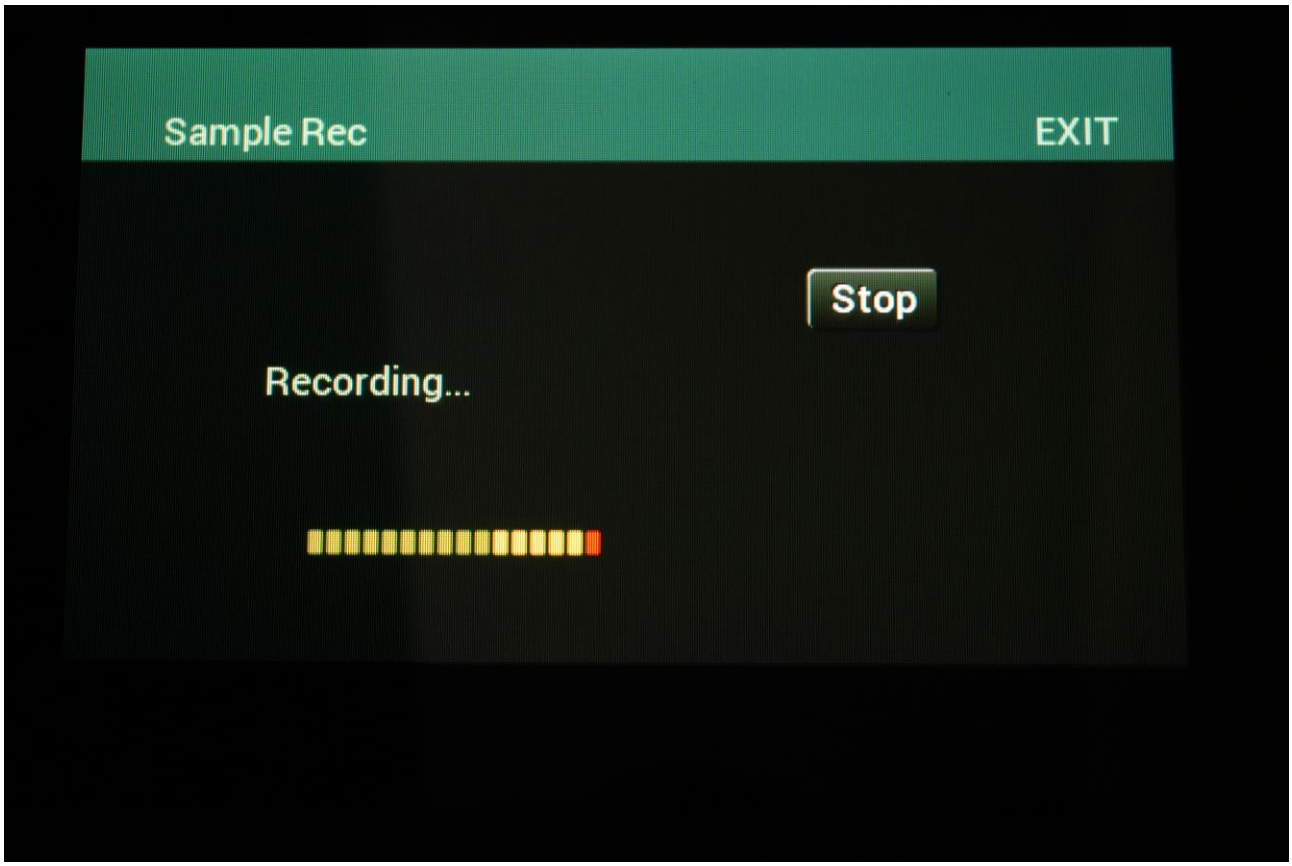
If possible, adjust the source, so that the on-screen VU-meter is not too much in the red field.

Start recording, by touching the REC button.

If the Auto parameter was at zero, recording will now start.

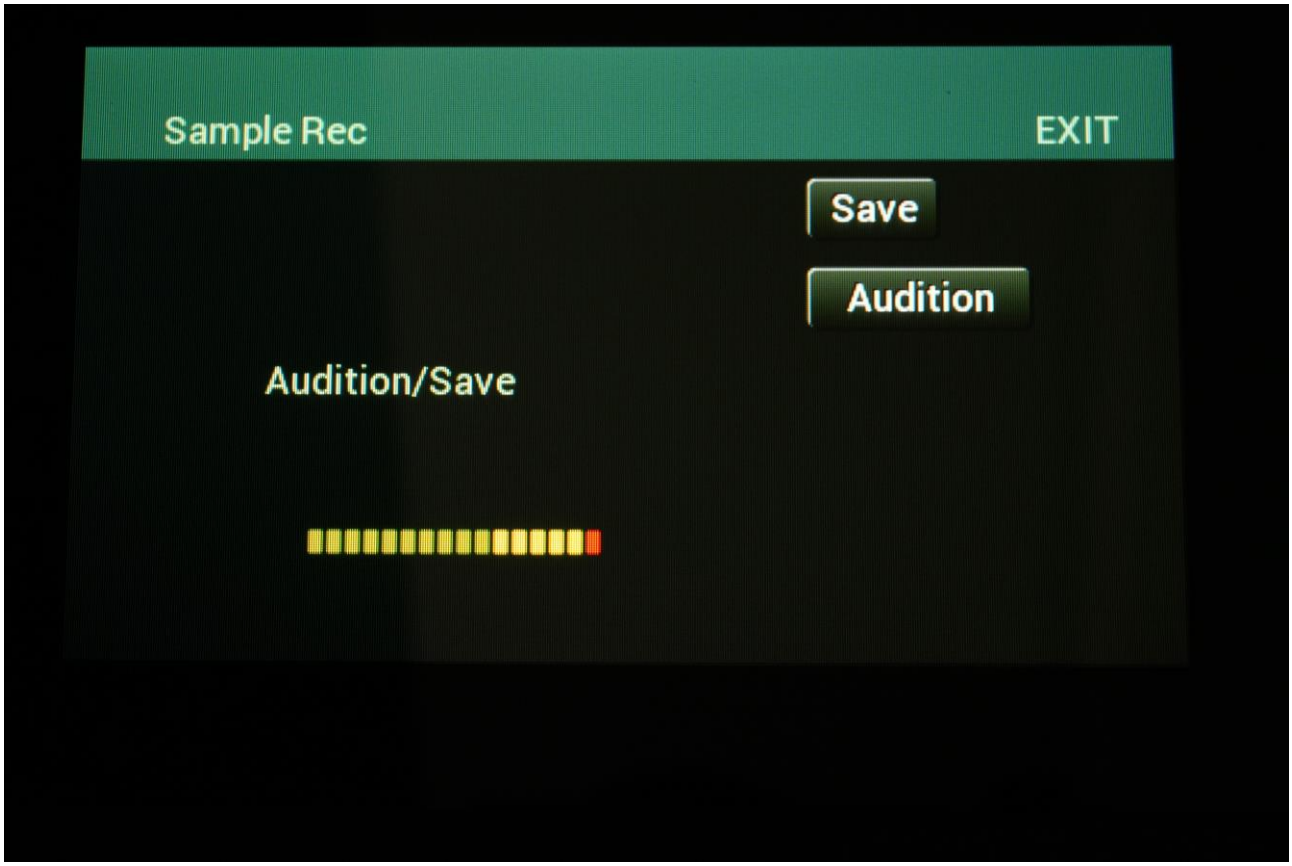
If the Auto parameter was at any other value, the Touch TuuL screen will show “Waiting For Trigger”, until the source is reaching the set threshold level. Then it will start recording.

While recording, Touch TuuL is showing:



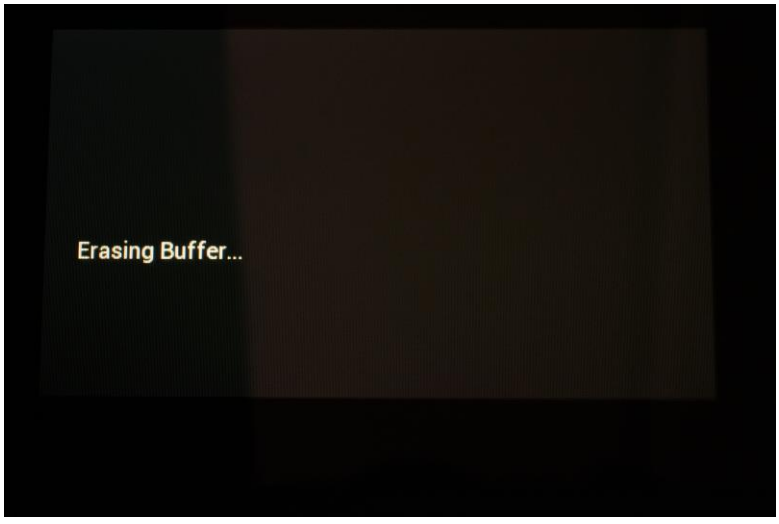
To stop recording, simply touch the Stop button.

Now this page will show:



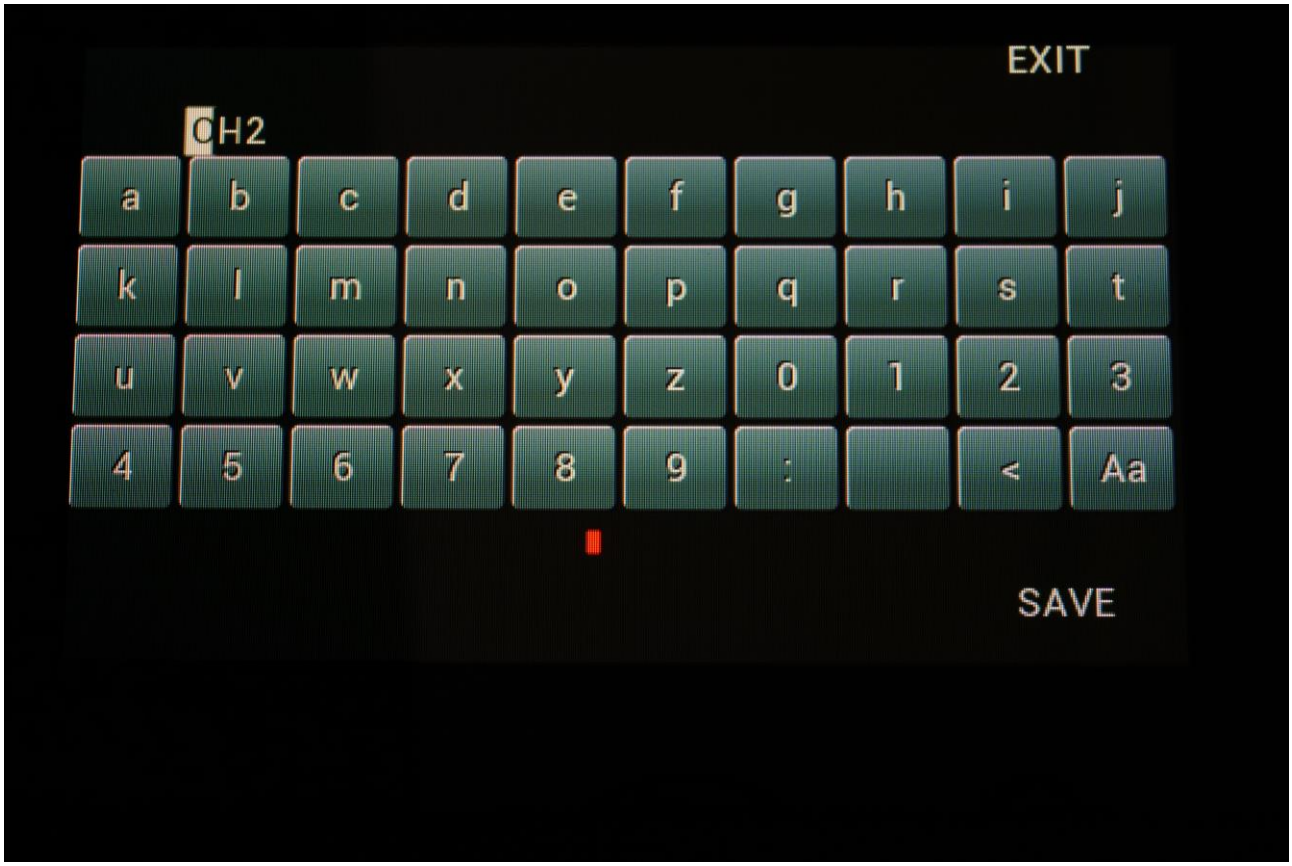
Touch the Audition button to audition what you just recorded.

If you are not happy with the result, touch EXIT, and touch TuuL will erase the sample buffer.



If you are happy with the result, touch the Save button.

You will now be directed to a page, where you can name your new sampling.



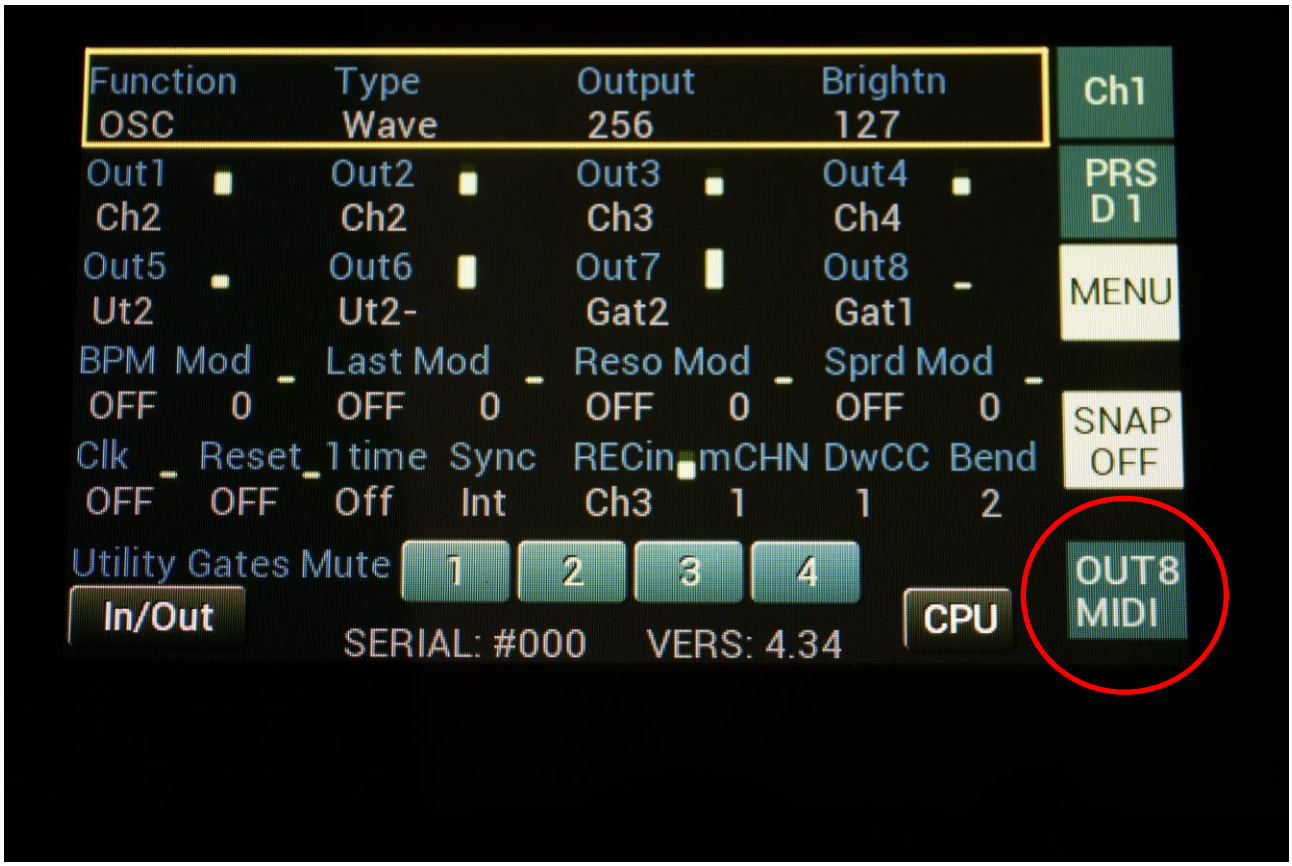
Type in a name, using the on-screen keyboard, and touch Save.

Your new sampling has now been saved.

Transfer Samplings

Touch TuuL can transmit and receive samplings via its MIDI in and out.

In order to transmit samplings, make sure that out 8 is set to MIDI on the Menu page.



From the Sample Edit page touch MIDI.

Now this page will show:

Samplings are sent and received as MIDI sysex data, so they will need to be transferred to a device, which understands this.

For Windows PC's MidiOx could be used, and for Mac's SyxExLibrarian could be used.

Transmitting a sampling
-Select the sampling you wish to transmit, on the Sample Edit page.
-Connect MIDI out of Touch TuuL (Out8) to MIDI in of the receiver.
-Make sure that the receiver is ready to receive sysex data.
-Touch the SEND SMP button.
-Wait for the transmission to finish.

Receiving a sampling

-Connect MIDI in of Touch TuuL to MIDI out of the device holding the sample sysex file.

-Touch the RECV SMP button.

-Touch TuuL will now display: “Waiting For MIDI Data…” .

-Start the sysex transmission from the transmitting device.

-Wait for the transmission to finish.

Delete Sampling

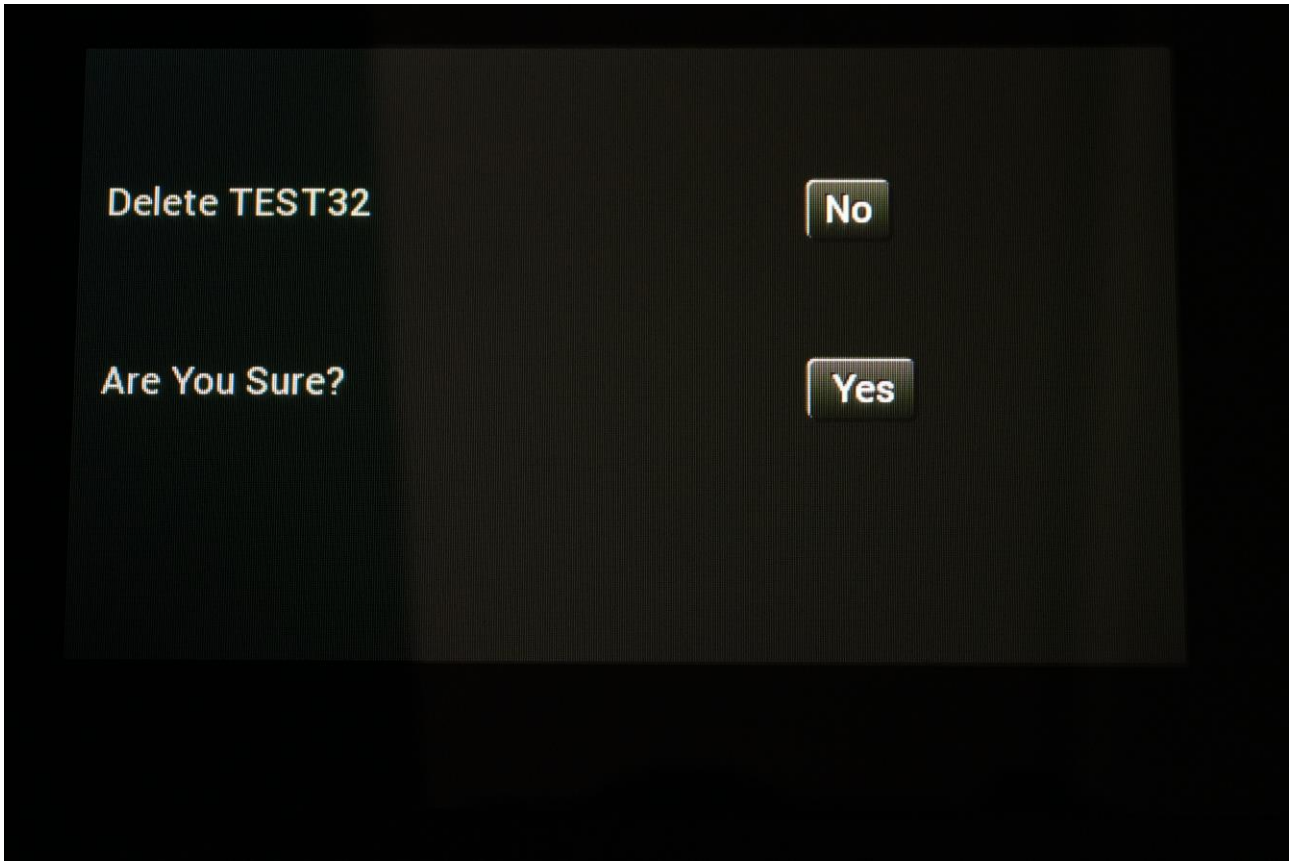
The last recorded sampling can be deleted.

To do so, from the Sample Edit page, touch the sample name.

This will open up the Sample Select page.
Here touch the DEL button.

Touch TuuL will now ask if you are sure, that you would like to delete the sampling, or not.

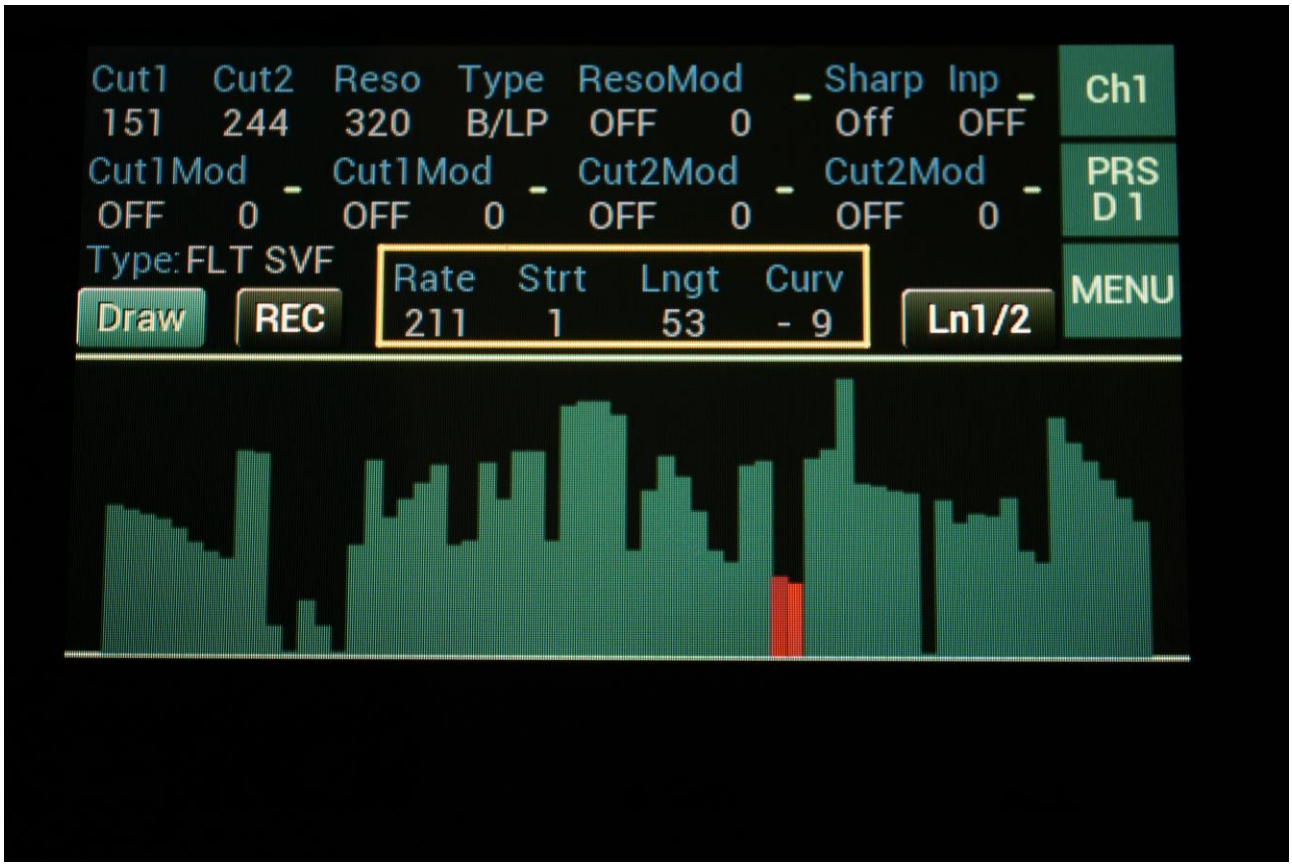
Touch Yes to proceed or No to regret.



Filter: SVF

Dual resonant filter with filter types: BPF/BPF, HPF>LPF, HPF/LPF, BPF/LPF.

Parameters:



Cut1: The cutoff frequency for the band pass or the high pass filter, depending on the selected filter type.

Cut2: The cutoff frequency for the low pass or the second band pass filter, depending on the selected filter type.

Reso: The resonance setting for both filters.

Type: Filter type. Can be set to:
-2xBP: Two band pass filters connected in parallel to each other.
-H/LP: A high pass filter and a low pass filter connected in parallel to each other.
-H>LP: A high pass filter going into a low pass filter.
-B/LP: A band pass filter and a low pass filter connected in parallel to each other.

ResoMod: Source and modulation amount for the Reso parameter.

Sharp: When set to On, the filters will get a sharper characteristics.

Inp: Selects the filter input.

Cut1Mod (x2): Source and modulation amount for the Cut1 parameter.

Cut2Mod (x2): Source and modulation amount for the Cut2 parameter.

Filter: Vowel

5 stage morphing vowel filter with 32 formants to choose from.

Parameters:

Cut: Sets the cutoff frequency offset for the three bandpass filters. When set to 256, the bandpass filters are in their original state.

Reso: Sets the amount of resonance applied to 3 bandpass filters.

Form: Will morph between the five selected formants.

Wovl1: Selects the first formant in the morph sequence. 32 different formants can be selected.

Wovl2: Selects the second formant in the morph sequence. 32 different formants can be selected.

Wovl3: Selects the third formant in the morph sequence. 32 different formants can be selected.

Wovl4: Selects the fourth formant in the morph sequence. 32 different formants can be selected.

Wovl5: Selects the fifth formant in the morph sequence. 32 different formants can be selected.

Inp: Selects the filter input.

CutMod: Source and modulation amount for the Cut parameter.

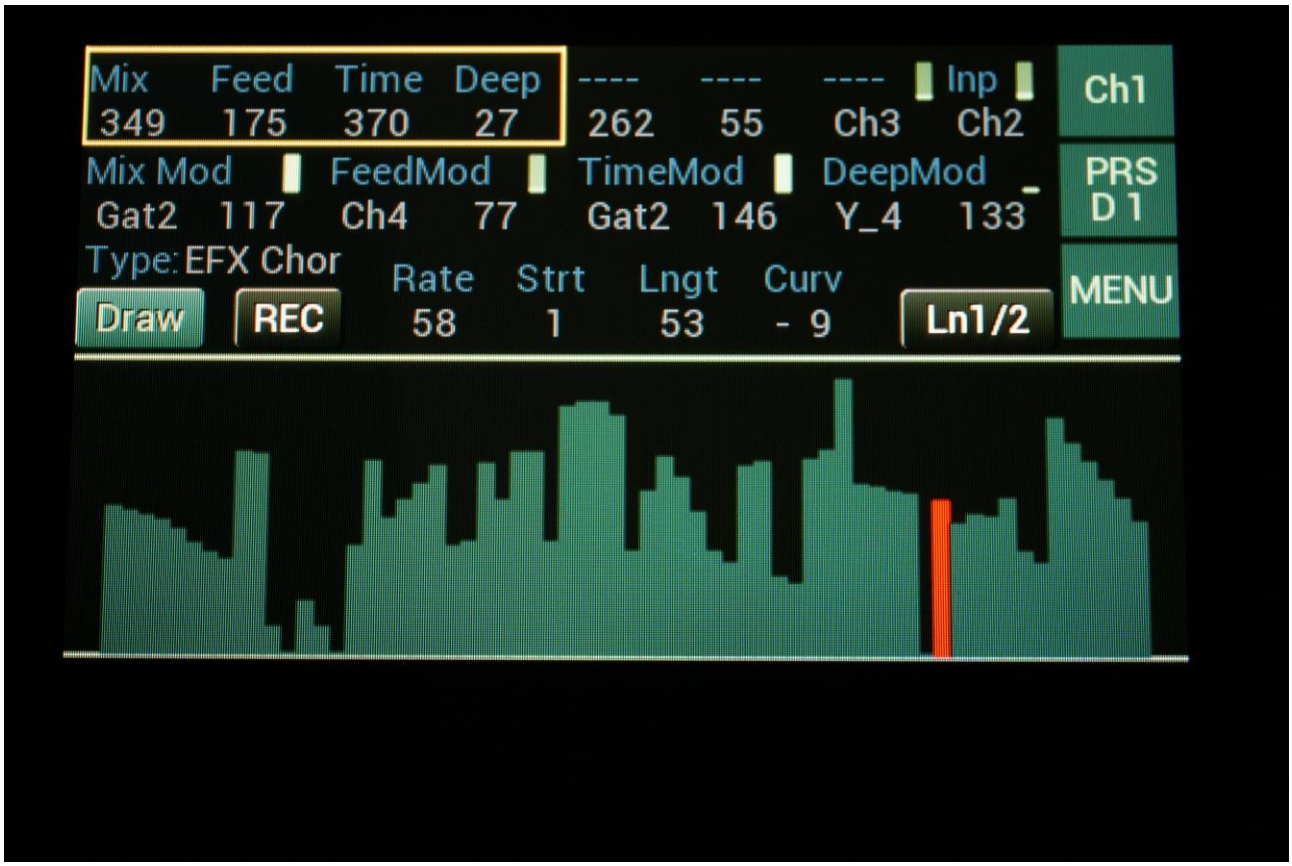
ResoMod: Source and modulation amount for the Reso parameter.

FormMod: Source and modulation amount for the Form parameter.

EFX: Chorus

Gotharman's special chorus with an added Deep parameter that adds space to the chorus.

Parameters:



Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output.

Feed: Chorus feedback amount.

Time: Chorus Time. This should be modulated by an LFO, to get the traditional chorus effect.

Deep: Adjusts how deep the chorus box should be. A Gotharman special.

Inp: Selects the effect input.

Mix Mod: Source and modulation amount for the Mix parameter.

FeedMod: Source and modulation amount for the Feed parameter.

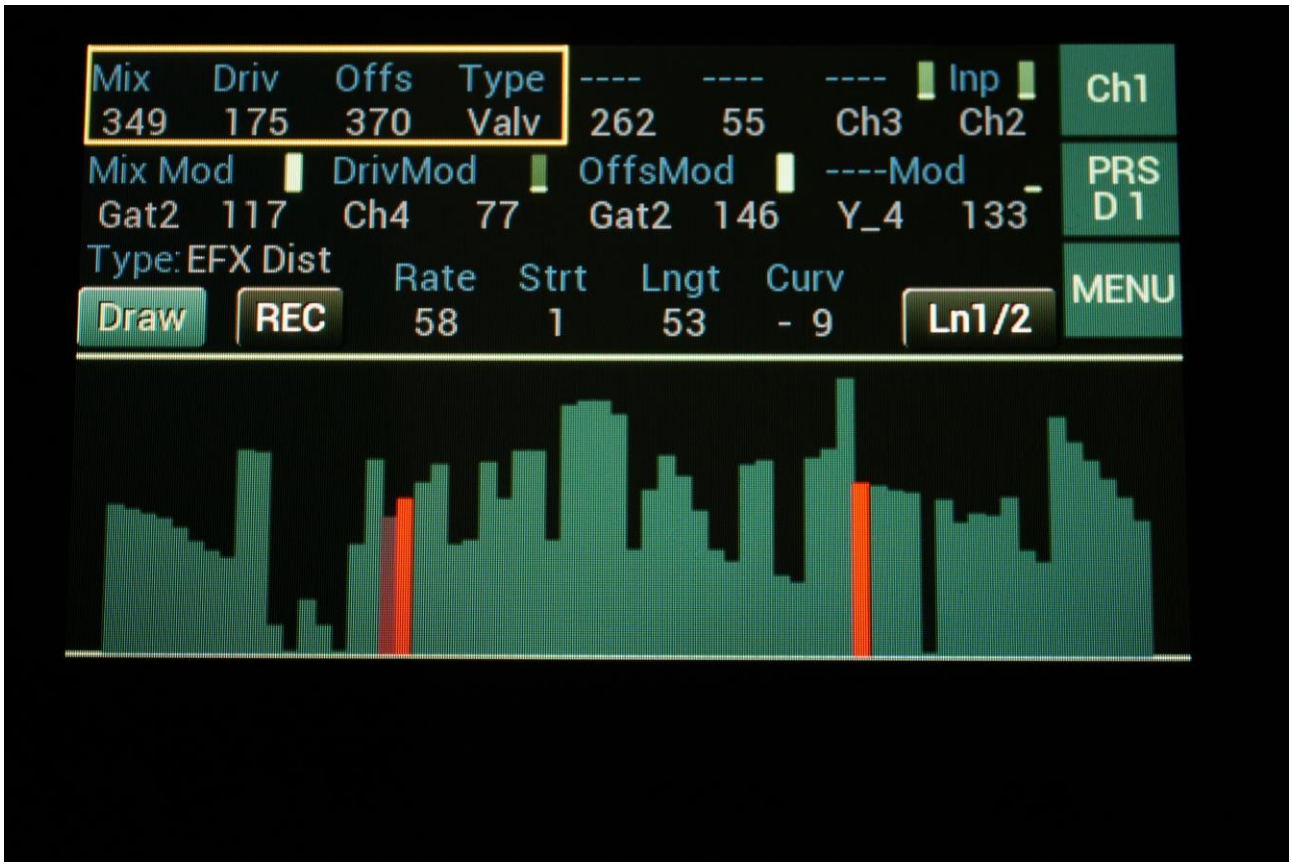
TimeMod: Source and modulation amount for the Time parameter.

DeepMod: Source and modulation amount for the Deep parameter.

EFX: Distortion

6 types: Valve, Sine, Fuzz, Xdis, Asym, Curv.

Parameters:



Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output.

Driv: The higher the value, the more the sound will distort. If this is set to zero, no sound will pass through the distortion.

Offs: Distortion offset. The more this is turned up, the more asymmetric the distortion will get.

Type: Distortion type. Choices are:
-Valve: A digital simulation of a classic valve distortion.
-Sine: A noisy and warm sine shaping distortion.
-Fuzz: Simulates a classic fuzz distortion.
-Xdis: Complete destruction of the sound.
-Asym: Asymmetrical distortion.
-Curv: Curve distortion. The Offset parameter will bend the curve of the input signal. Below 256: logarithmic curve. Above 256: Exponential curve. 256: Linear curve.

Inp: Selects the effect input.

Mix Mod: Source and modulation amount for the Mix parameter.

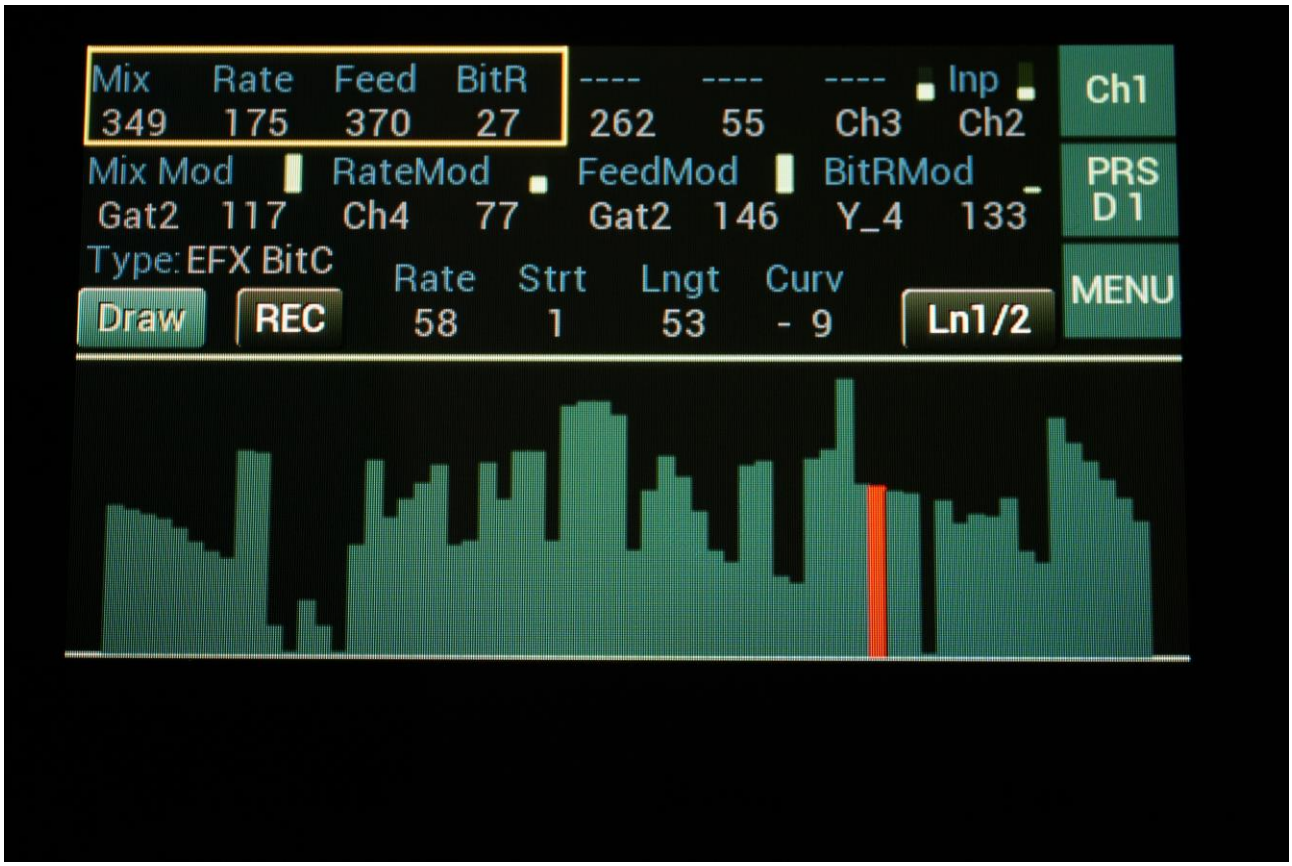
DrivMod: Source and modulation amount for the Driv parameter.

OffsMod: Source and modulation amount for the Offs parameter.

EFX: Bit Crusher

Lowers the sample rate and the bit resolution of the sound, to obtain lo-fi effects.

Parameters:



Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output.

Rate: Sample Rate Reduction. The more this is turned up, the lower the sample rate will be. From 44.1 KHz to 1 KHz.

Feed: Feedback. Turning this up will slightly overdrive the sound.

BitR: Bit Reduction. The more this is turned up, the lower the bit resolution will get. When it is turned fully down, resolution is 16 bit, when turned fully up, it is 1 bit.

Inp: Selects the effect input.

Mix Mod: Source and modulation amount for the Mix parameter.

RateMod: Source and modulation amount for the Rate parameter.

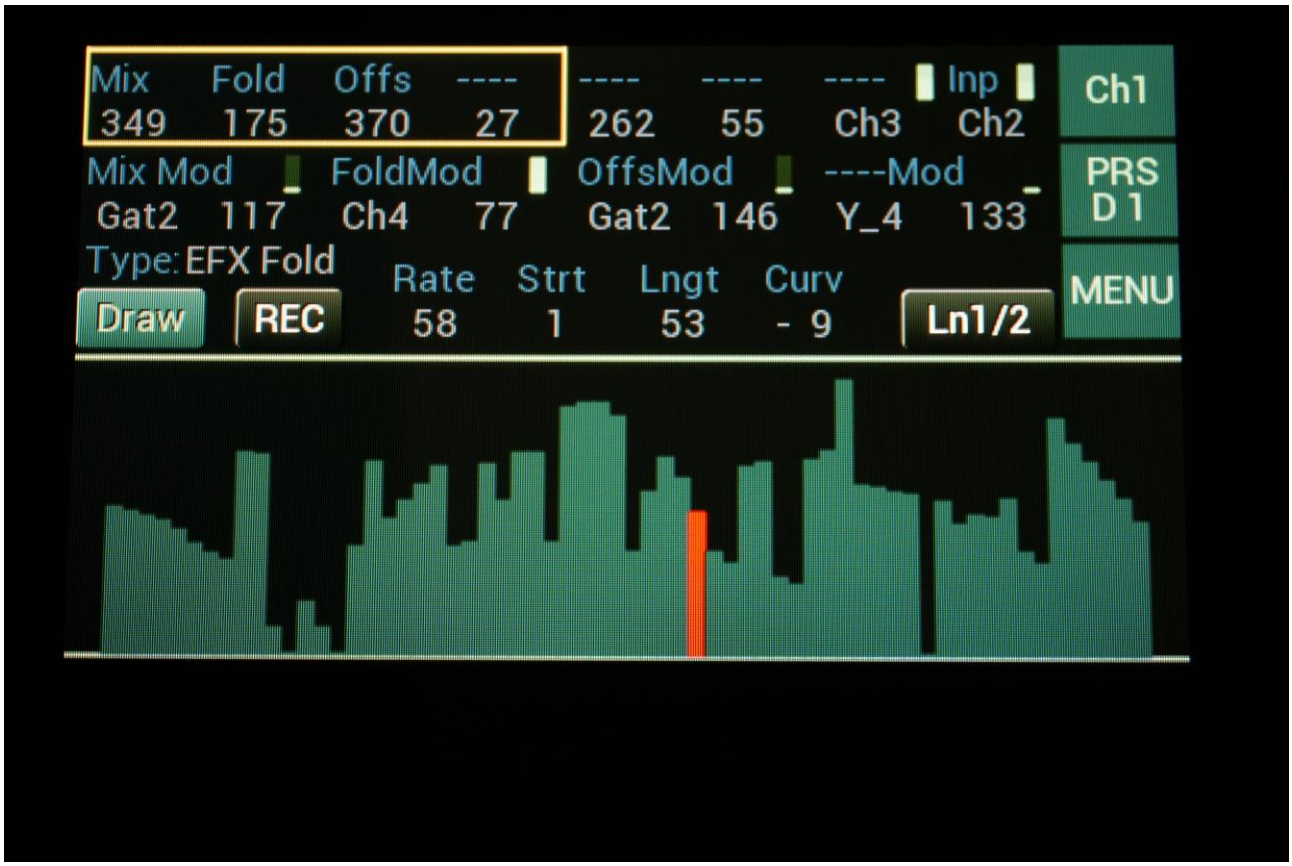
FeedMod: Source and modulation amount for the Feed parameter.

BitRMod: Source and modulation amount for the BitR parameter.

EFX: Wave Folder

Folds the input.

Parameters:



Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output.

Fold: The wavefolding amount

Offs: The wavefolding offset

Inp: Selects the effect input.

Mix Mod: Source and modulation amount for the Mix parameter.

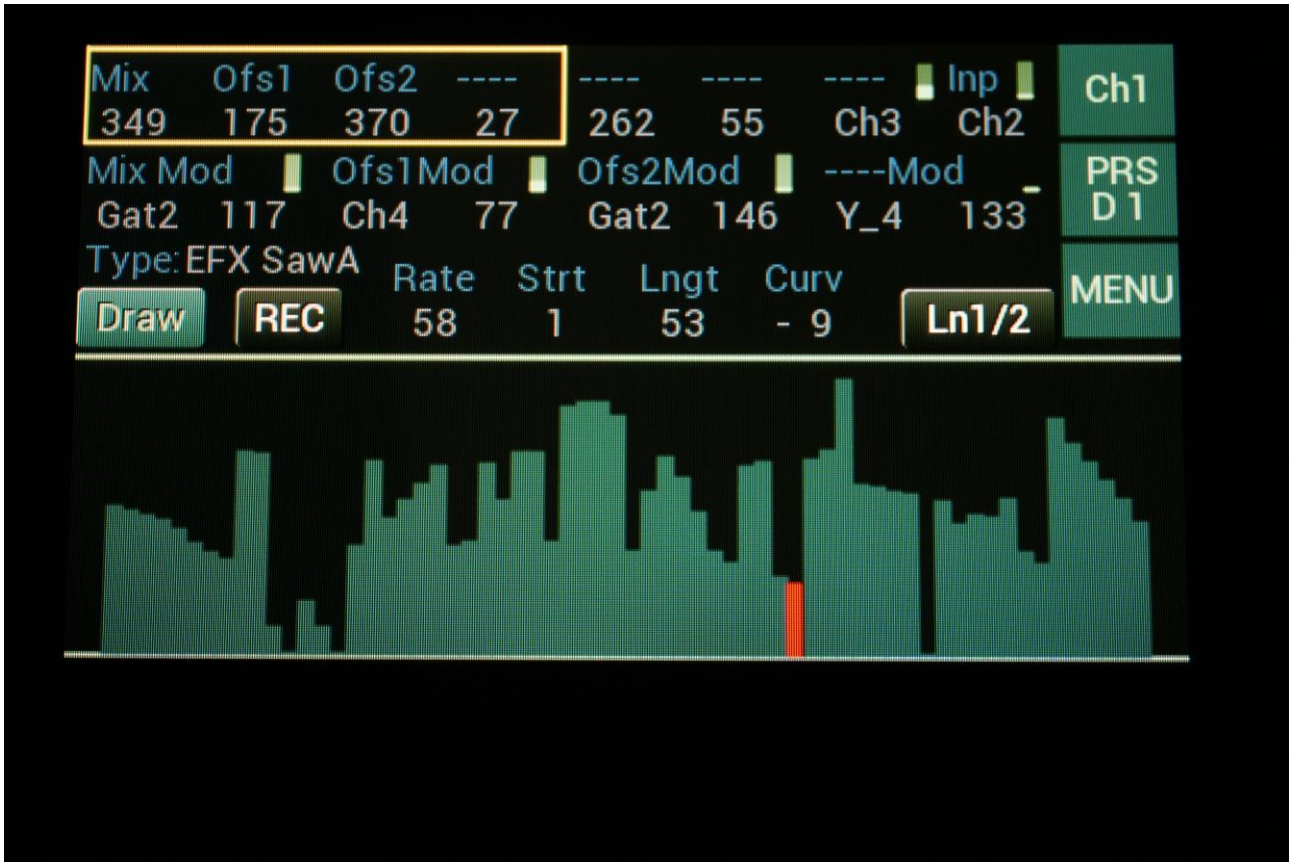
FoldMod: Source and modulation amount for the Fold parameter.

OffsMod: Source and modulation amount for the Offs parameter.

EFX: 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.

Parameters:



Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output.

Ofs1: Saw phasing offset 1. Sets the phase offset of the first sawtooth wave, which is added to the original wave.

Ofs2: Saw phasing offset 2. Sets the phase offset of the second sawtooth wave, which is added to the original wave.

Inp: Selects the effect input.

Mix Mod: Source and modulation amount for the Mix parameter.

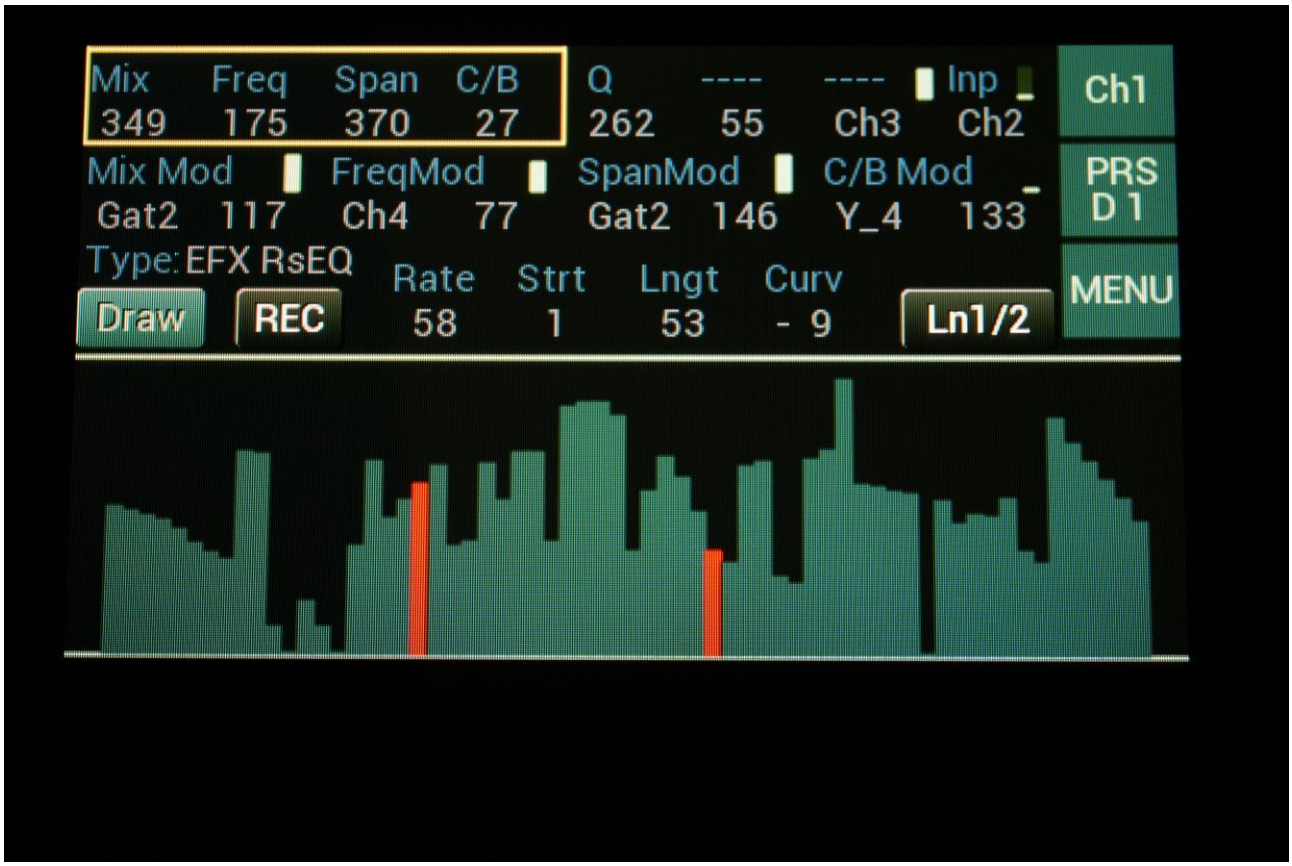
Ofs1Mod: Source and modulation amount for the Ofs1 parameter.

Ofs2Mod: Source and modulation amount for the Ofs2 parameter.

EFX: Reso EQ

A parametric EQ where frequency, cut/boost, frequency span and resonance (Q) can be set. Since the frequency span and Q can be set as 2 different parameters, this EQ has 2 peaks or dips at higher Q settings.

Parameters:



Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output.

Freq: Sets the center frequency of the frequency span, at which the EQ will cut or boost.

Span: Sets the width of the frequency band, which will be cutted/boosted.

C/B: Cut/Boost. Setting this to a negative value, will damp frequencies on the input signal. Setting it to a positive value, will boost frequencies on the input signal.

Q: Sets the resonance, which will create 2 peaks/dips at the outer ranges of the frequency span, at higher settings.

Inp: Selects the effect input.

Mix Mod: Source and modulation amount for the Mix parameter.

FreqMod: Source and modulation amount for the Freq parameter.

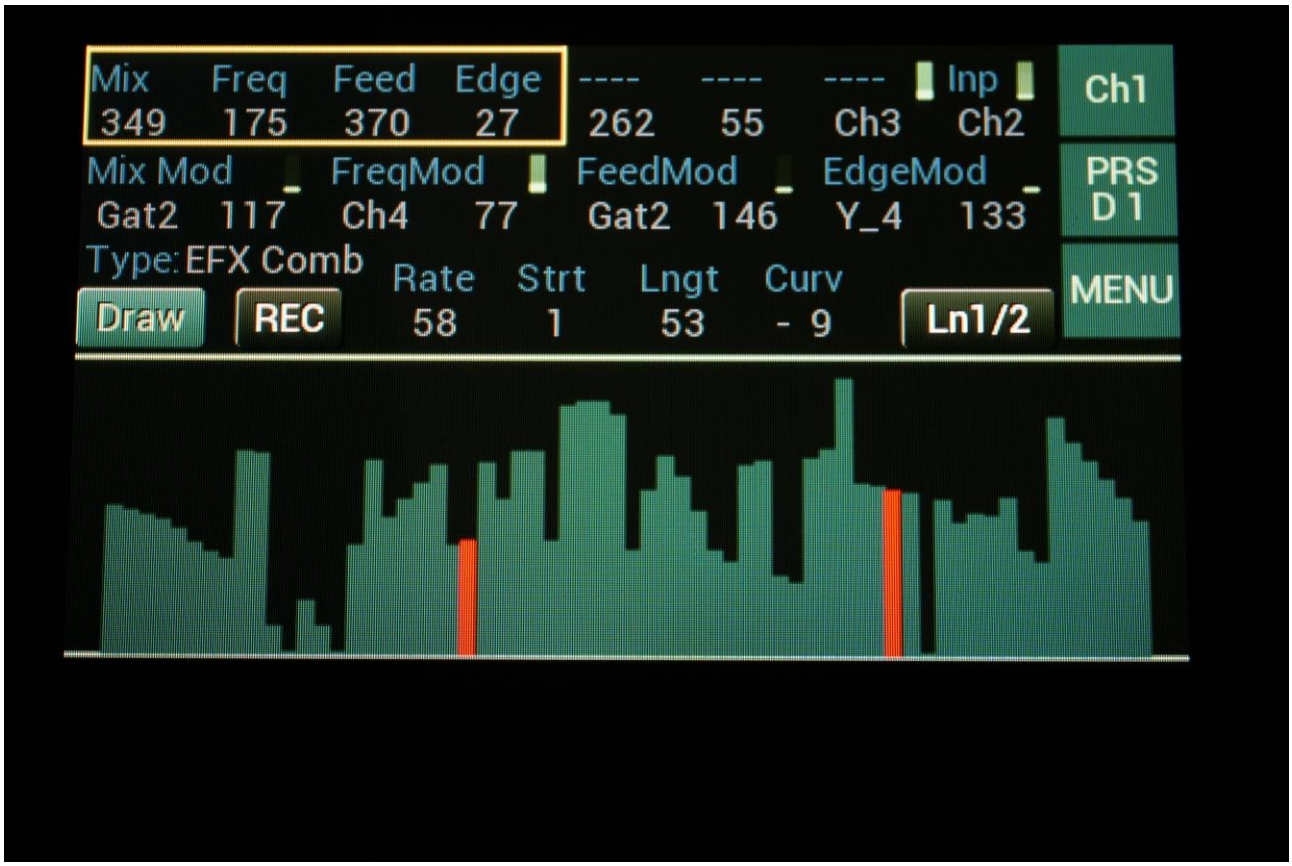
SpanMod: Source and modulation amount for the Span parameter.

C/B Mod: Source and modulation amount for the C/B parameter.

EFX: Comb Filter

A traditional comb filter with frequency and feedback settings, plus an Edge setting, which will add some character and crunchy distortion.

Parameters:



Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output.

Freq: The center frequency of the filter peaks.

Feed: Comb filter feedback amount.

Edge: Amount of edge distortion added to the comb filter.

Inp: Selects the effect input.

Mix Mod: Source and modulation amount for the Mix parameter.

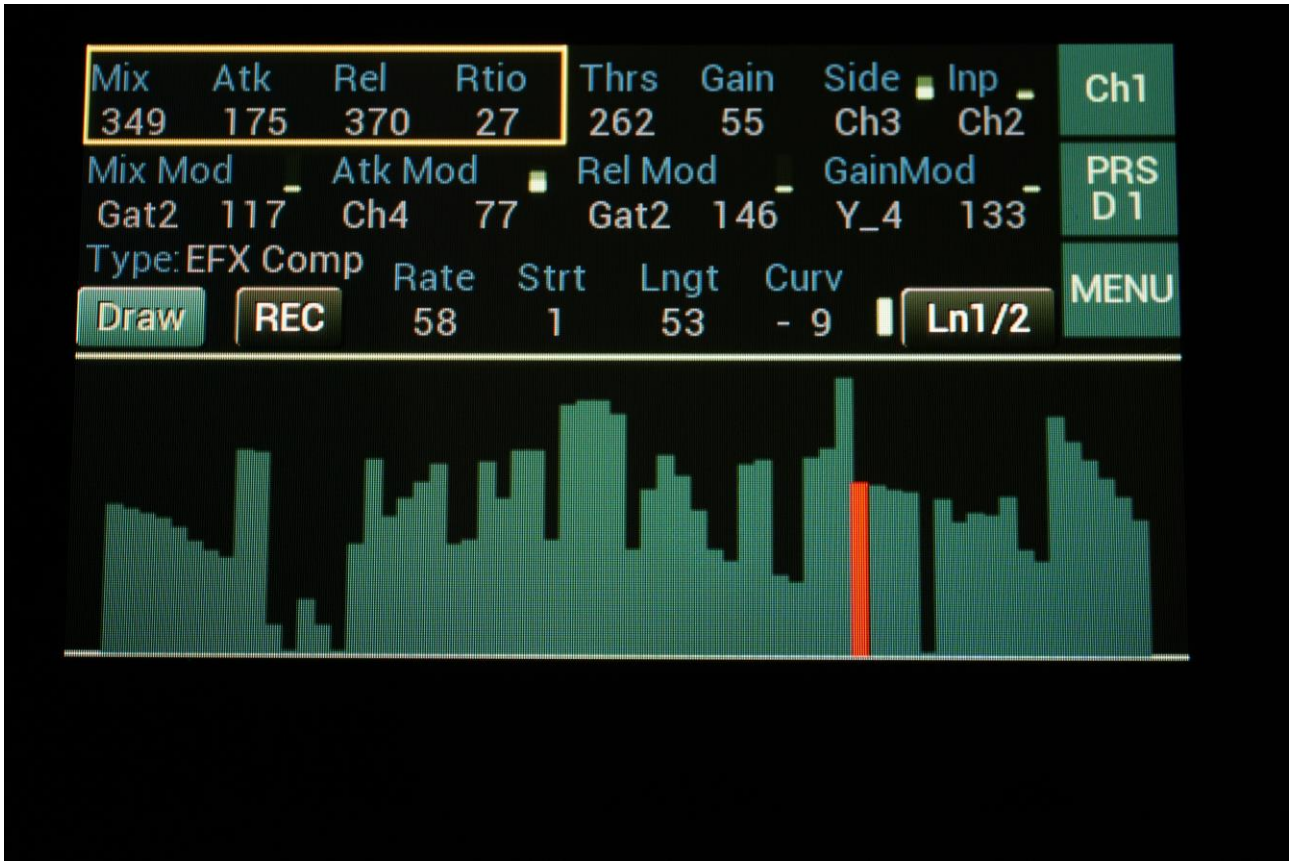
FreqMod: Source and modulation amount for the Freq parameter.

FeedMod: Source and modulation amount for the Feed parameter.

EdgeMod: Source and modulation amount for the Edge parameter.

EFX: Compressor with Sidechain

Parameters:



Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output.

Atk: Attack time. The time it takes for the compressor to attenuate the signal, after a signal higher than the set threshold has been detected.

Rel: Release time. The time it takes the compressor to return to a 1:1 signal gain, after the signal level has been attenuated.

Rtio: Ratio. Sets the strength of the compression.

Thrs: Threshold. Sets the signal level, at which the compressor will start to work.

Gain: Make up gain. Since the compressor is attenuating the input signal, it might be necessary to gain it a bit.

Side: Side Chain. Select any audio/modulation signal to trigger the compressor.

Inp: Selects the effect input.

Mix Mod: Source and modulation amount for the Mix parameter.

Atk Mod: Source and modulation amount for the Atk parameter.

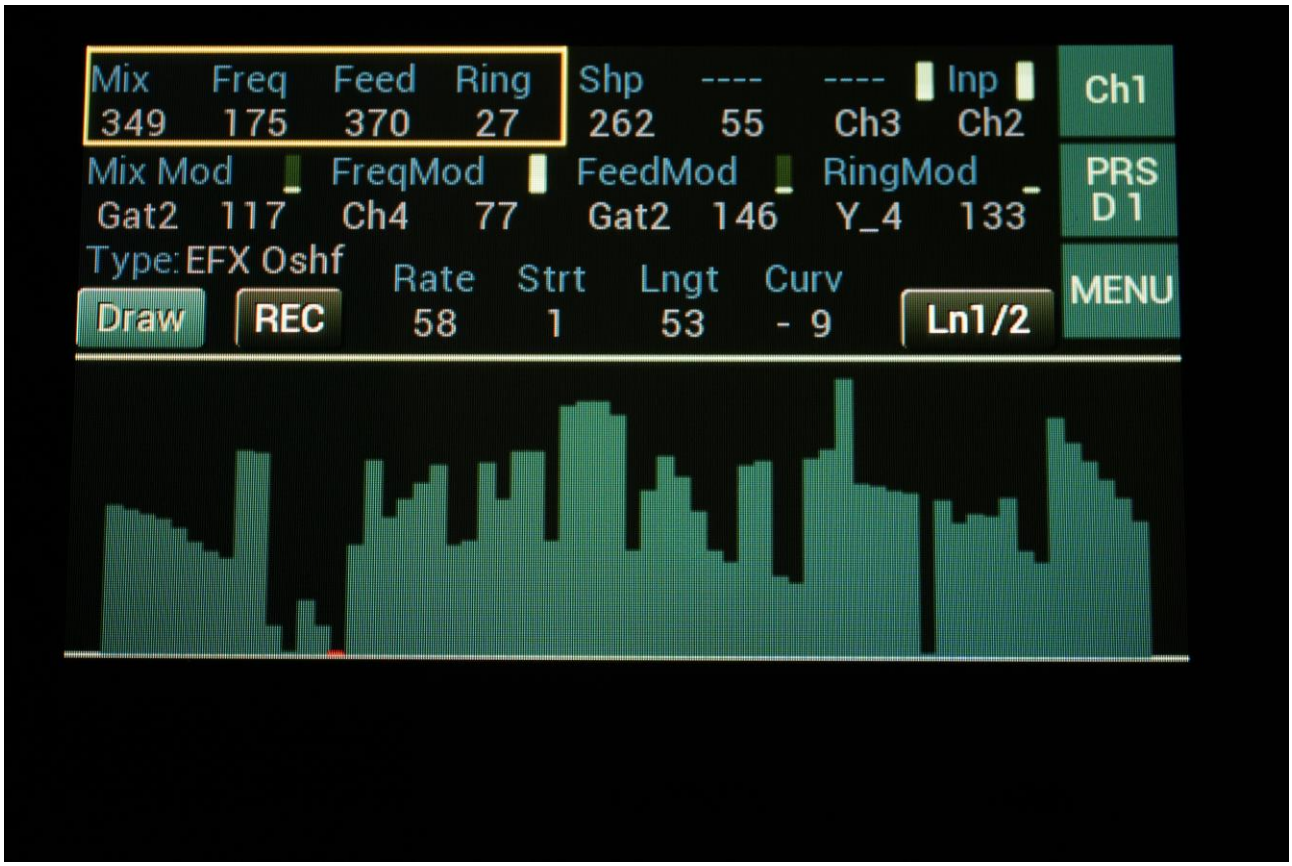
Rel Mod: Source and modulation amount for the Rel parameter.

GainMod: Source and modulation amount for the Gain parameter.

EFX: OverShifter

A kind of frequency shifter that can shift the frequency bands of the input signal up, and add feedback and ring effects.

Parameters:



Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output.

Freq: Turning this up will shift the frequency spectrum of the input signal up.

Feed: Turning this up, will feed the output signal of the OverShifter back to its input. At certain settings, this can get really brutal!

Ring: Turning this up will add ringing/metal/noise to the signal.

Shp: Shape. Turning this up will alter the shape of the OverShifter, and add harmonics to the sound.

Inp: Selects the effect input.

Mix Mod: Source and modulation amount for the Mix parameter.

FreqMod: Source and modulation amount for the Freq parameter.

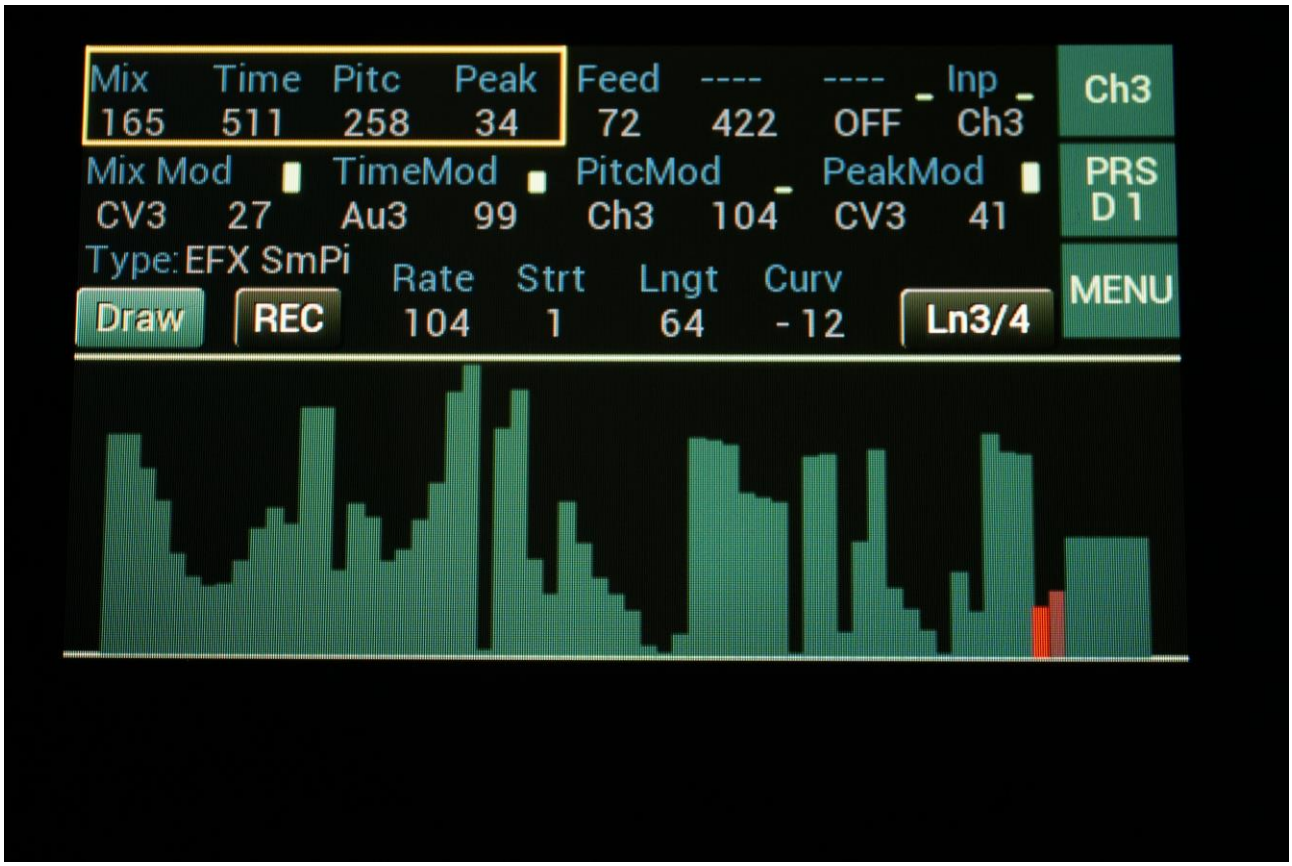
FeedMod: Source and modulation amount for the Feed parameter.

RingMod: Source and modulation amount for the Ring parameter.

EFX: SamplePitch (Only channel 3 and 4)

A pitchshifter that is degrading the sound. A Peak parameter are available, that alters the formants.

Parameters:



Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output.

Time: Sets the time base of the pitch shifting. When set to the maximum value, the relationship between time and pitch shifting is 1:1. When turned down, this relationship gets out of sync, and things starts to sound different.

Pitc: Sets the output pitch of the effect. Goes from minus one octave to plus one octave.

Peak: Adjusts the formant peaks of the sound. When set to zero, the formants of the sound are not altered.

Feed: Adjusts the portion of the output signal, that is fed back to the input.

Inp: Selects the effect input.

Mix Mod: Source and modulation amount for the Mix parameter.

TimeMod: Source and modulation amount for the Time parameter.

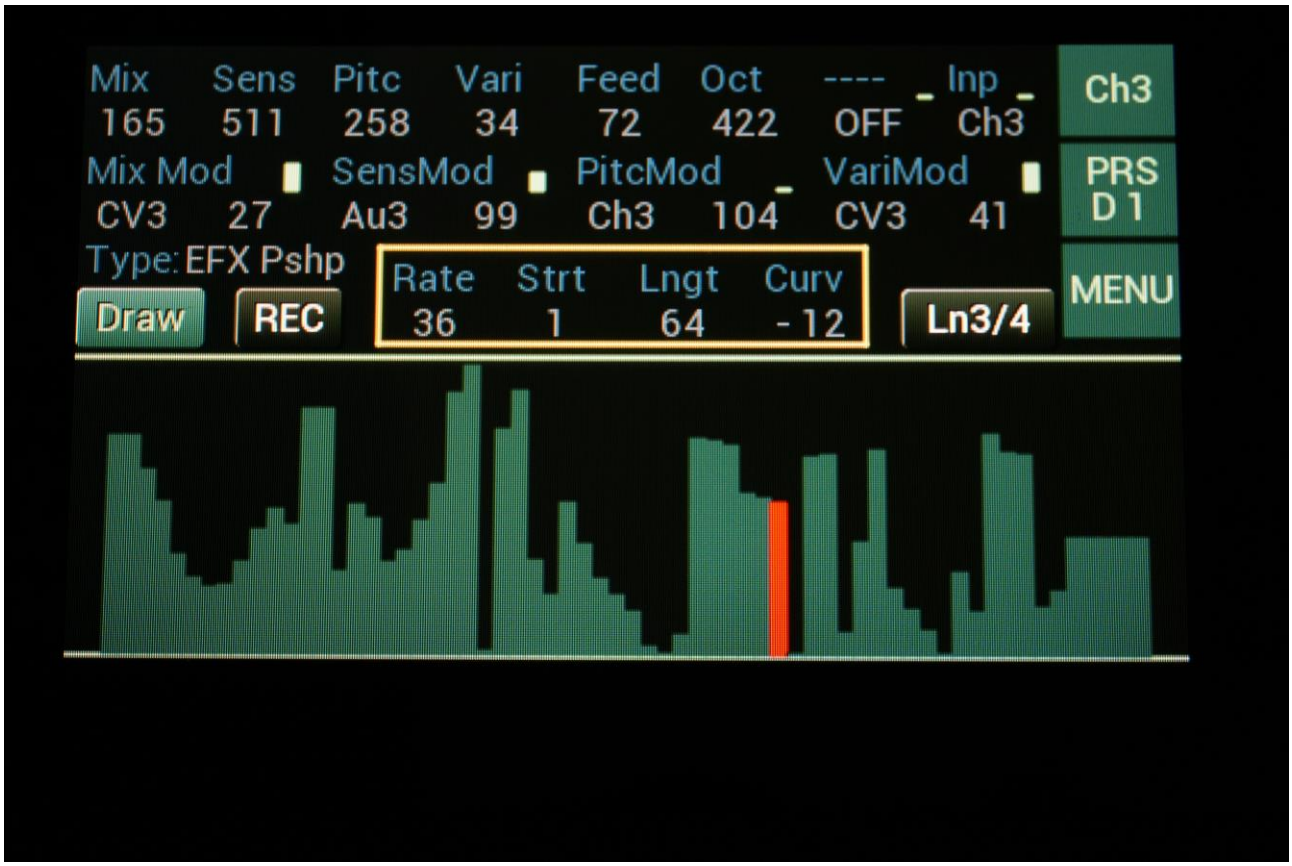
PitcMod: Source and modulation amount for the Pitc parameter.

PeakMod: Source and modulation amount for the Peak parameter.

EFX: PitchShaper (Only channel 3 and 4)

1 input version of Gotharman's special Pitch Shaper, that forces an audio signal to play back at a specific pitch, determined by an adjustable frequency.

Parameters:



Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output.

Sens: Pitch detection sense. On a pure waveform, turn this fully down to make sure, that it detects all the waves of it, and pitch shifts correctly. On more complex sounds, turn this up until the desired effect is obtained. At higher settings, only portions of the sound will be pitch shifted, and when it doesn't detect any pitch, it will repeat the portion it detected, making the sound "granulate".

Pitc: Sets the frequency, that the input signal should be re-pitched to.

Vari: Pitch variation. The more this is turned up, the more the pitch variations on the input signal affects the pitch shaper frequency.

Feed: Pitch shaper feedback. Adjusts the portion of the output signal, that is fed back to the input.

Oct: Octave transpose. From 0 to +3 octaves.

Inp: Selects the effect input.

Mix Mod: Source and modulation amount for the Mix parameter.

SensMod: Source and modulation amount for the Sens parameter.

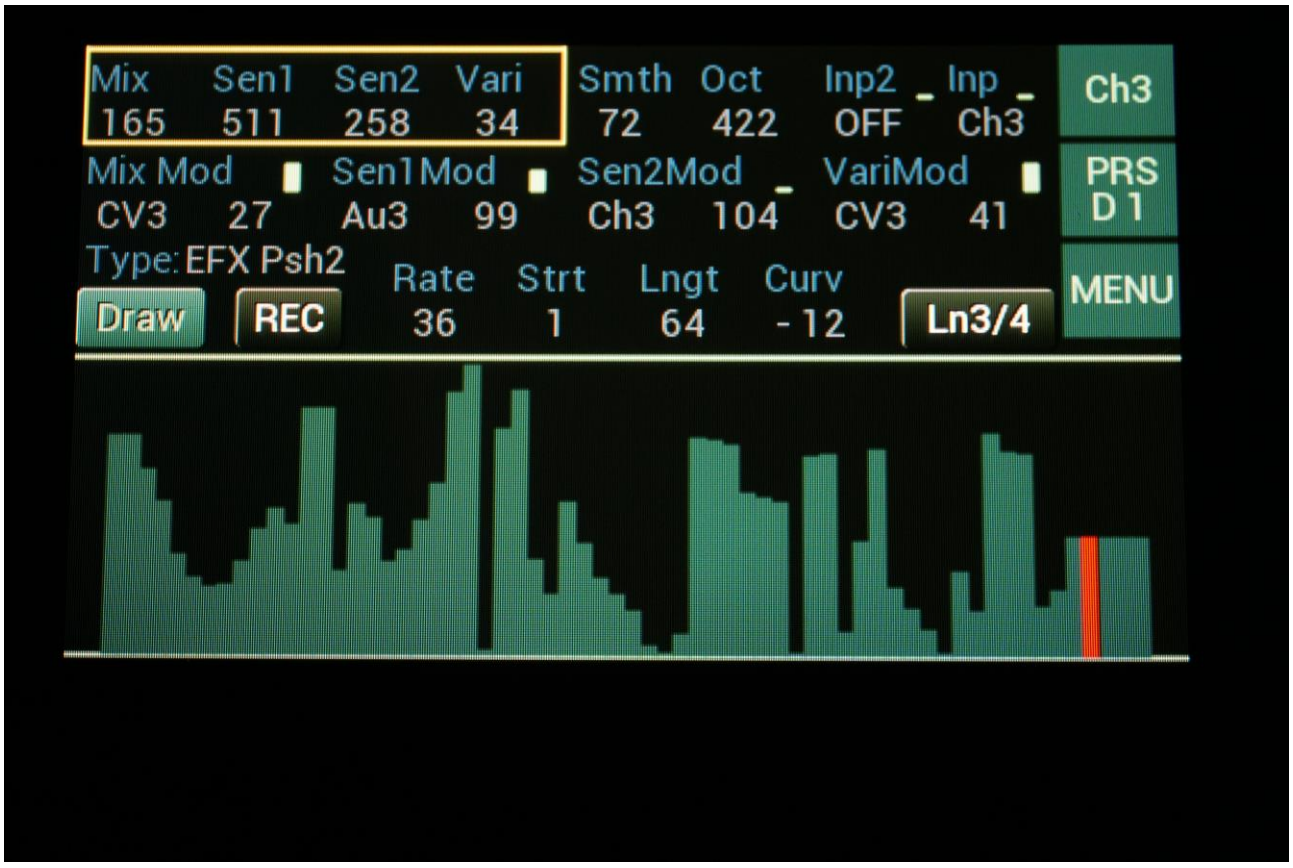
PitcMod: Source and modulation amount for the Pitc parameter.

VariMod: Source and modulation amount for the Vari parameter.

EFX: PitchShaper2 (Only channel 3 and 4)

Two-input PitchShaper. The pitch of the signal applied to input 1, is pitch matched to the signal applied to input 2. When changing the pitch of the pitch matched signal, the waveform on the effect output will change, still matched to the pitch of input 2. It is also possible for the signal applied to input 1, to affect the output pitch, by turning the Vari parameter up.

Parameters:



Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output.

Sen1: Pitch detection sense input 1. On a pure waveform, turn this fully down to make sure, that it detects all the waves of it, and pitch shifts correctly. On more complex sounds, turn this up until the desired effect are obtained. At higher settings, only portions of the sound will be pitch shifted, and when it doesn't detect any pitch, it will repeat the portion it detected, making the sound "granulate".

Sen2: Pitch detection sense input 2. On a pure waveform, turn this fully down to make sure, that it detects all the waves of it, and pitch shifts correctly. On more complex sounds, turn this up until the desired effect are obtained. At higher settings, only portions of the sound will be pitch shifted,

and when it doesn’t detect any pitch, it will repeat the portion it detected, making the sound “granulate”.

Vari: Pitch variation. The more this is turned up, the more the pitch variations on the input 1 signal affects the pitch shaper frequency.

Smth: Smooth. The more this is turned up, the more the changes in pitch are smoothened.

Oct: Octave transpose. From 0 to +3 octaves.

Inp2: Selects the pitch input.

Inp: Selects the effect input.

Mix Mod: Source and modulation amount for the Mix parameter.

Sen1Mod: Source and modulation amount for the Sen1 parameter.

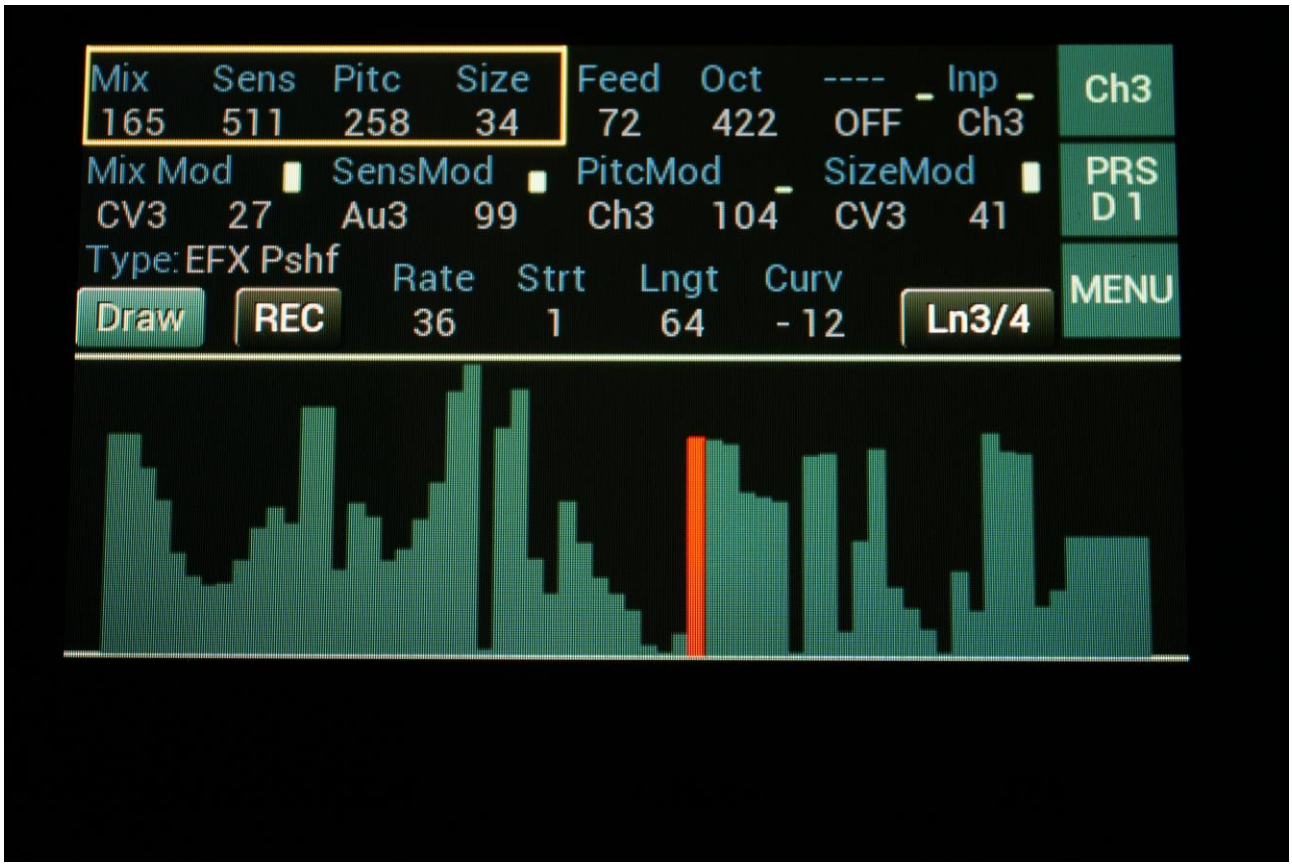
Sen2Mod: Source and modulation amount for the Sen2 parameter.

VariMod: Source and modulation amount for the Vari parameter.

EFX: PitchShifter (Only channel 3 and 4)

Shift the pitch of the sound up to 4 octaves up or down, without changing the time resolution or "tempo" of the sound. Adjustable sense.

Parameters:



Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output.

Sens: Pitch detection sense. On a pure waveform, turn this fully down to make sure, that it detects all the waves of it, and pitch shifts correctly. On more complex sounds, turn this up until the desired effect are obtained. At higher settings, only portions of the sound will be pitch shifted, and when it doesn't detect any pitch, it will repeat the portion it detected, making the sound "granulate".

Pitc: Smoothly pitches the sound from up to 4 octaves below the original pitch, to 4 octaves above.

Size: This sets the size of the buffer, used for the pitch shifting effect. When pitch shifting more complex sounds, it might make the pitch shifting more precise, when turning this parameter up a bit.

Feed: Pitch shifter feedback. Adjusts the portion of the output signal, that is fed back to the input.

Oct: The octave range of the pitch shifter. From +/- 1 to +/- 4 octaves.

Inp: Selects the effect input.

Mix Mod: Source and modulation amount for the Mix parameter.

SensMod: Source and modulation amount for the Sens parameter.

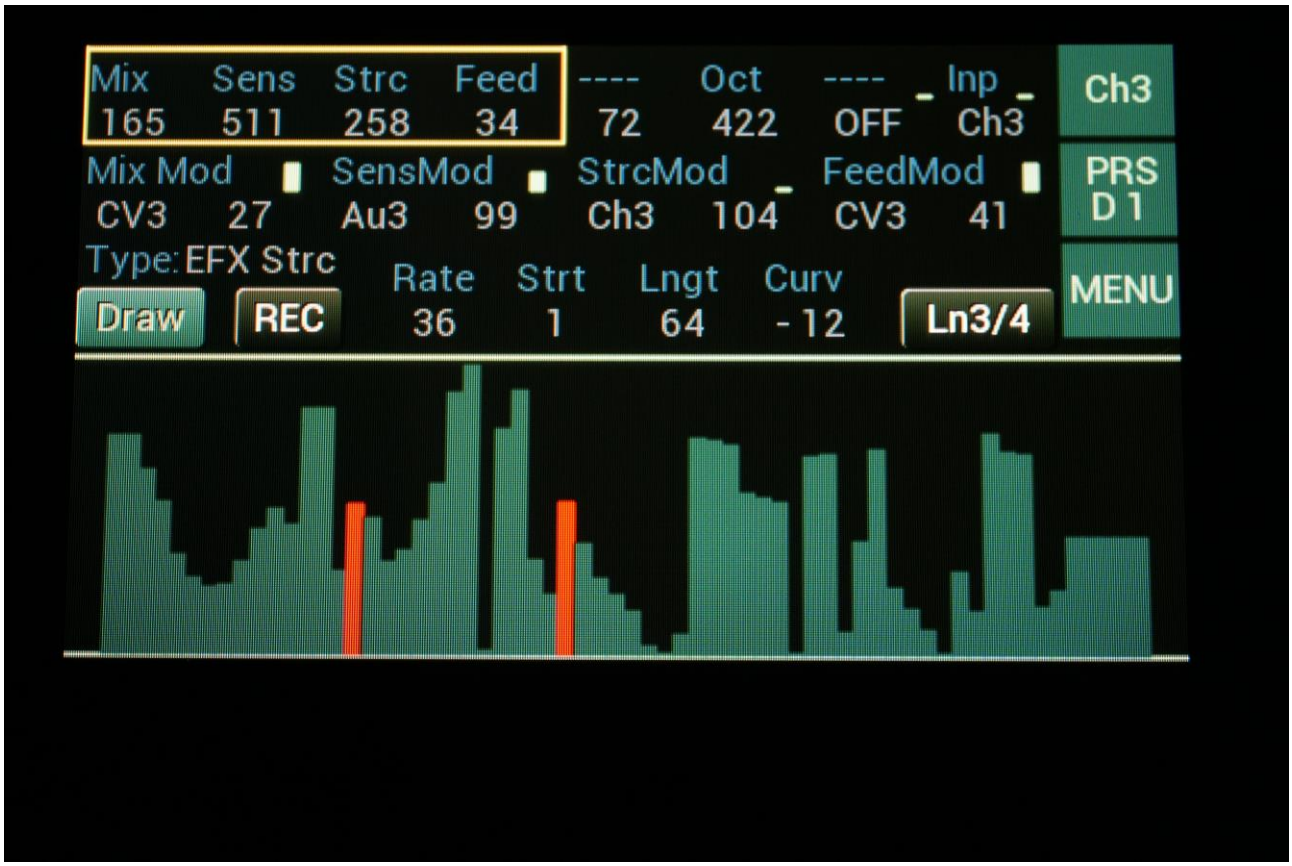
PitcMod: Source and modulation amount for the Pitc parameter.

SizeMod: Source and modulation amount for the Size parameter.

EFX: Stretcher (Only channel 3 and 4)

Tries to time stretch the input signal, while at the same time keeping up with it. Impossible? Yes, indeed :-)

Parameters:



Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output.

Sens: Stretch detection sense. At lower settings the sound will “wobble”, at higher settings it will “granulate”. Adjust this to obtain different effects.

Strc: The degree of time stretch.

Feed: Stretcher feedback. Adjusts the portion of the output signal, that is fed back to the input.

Oct: The octave range of the stretch effect. From +/- 1 to +/- 4 octaves.

Inp: Selects the effect input.

Mix Mod: Source and modulation amount for the Mix parameter.

SensMod: Source and modulation amount for the Sens parameter.

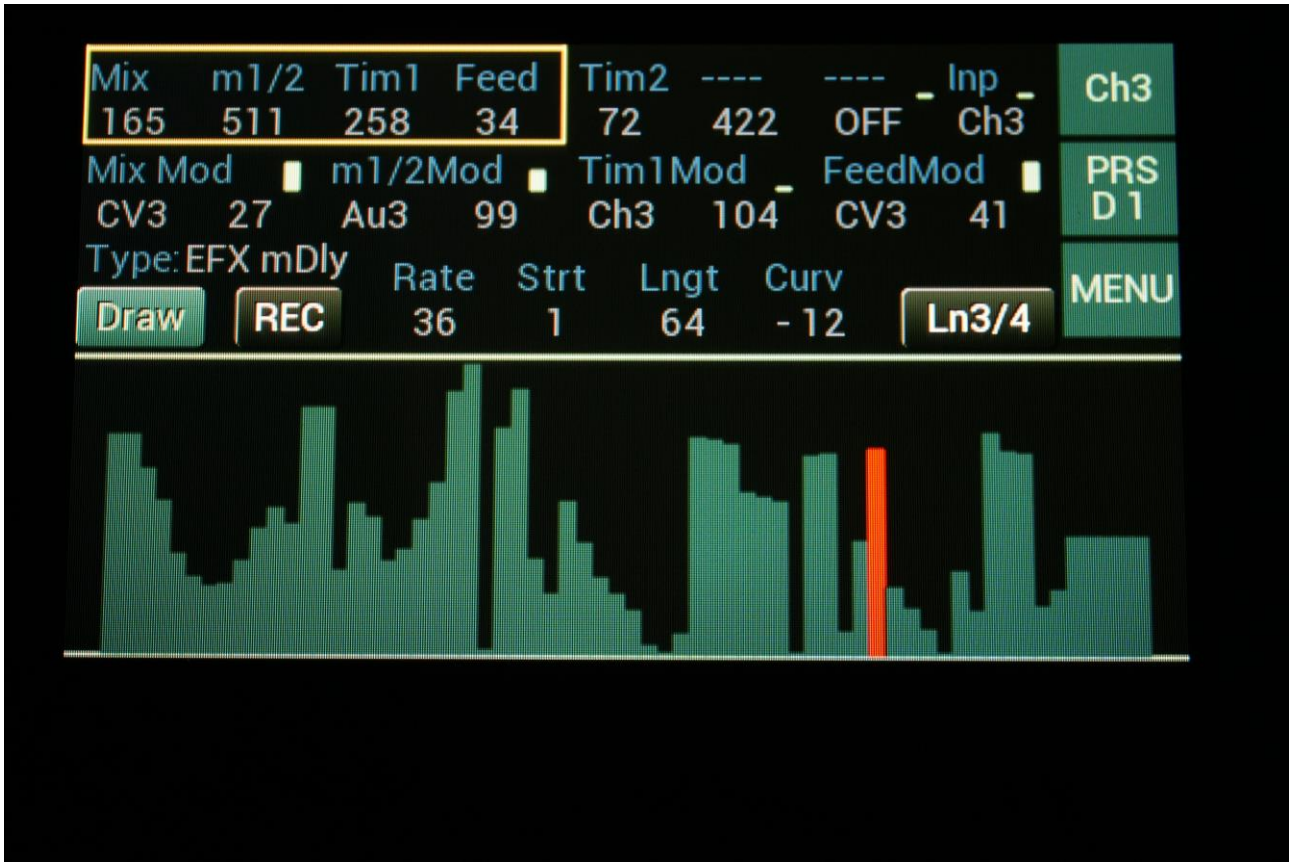
StrcMod: Source and modulation amount for the Strc parameter.

FeedMod: Source and modulation amount for the Feed parameter.

EFX: Modulation Delay (Only channel 3 and 4)

A dual tap modulation delay effect. When you change or modulate the delay times on this, the transition is smooth, and it does not generate any clicks.
It is also possible to set different delay times on the 2 taps, and mix between them, manually or via modulation.

Parameters:



Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output.

m1/2: Mix between delay taps 1 and 2.

Tim1: Delay time tap 1.

Feed: Delay feedback amount.

Tim2: Delay time tap 2.

Inp: Selects the effect input.

Mix Mod: Source and modulation amount for the Mix parameter.

m1/2Mod: Source and modulation amount for the m1/2 parameter.

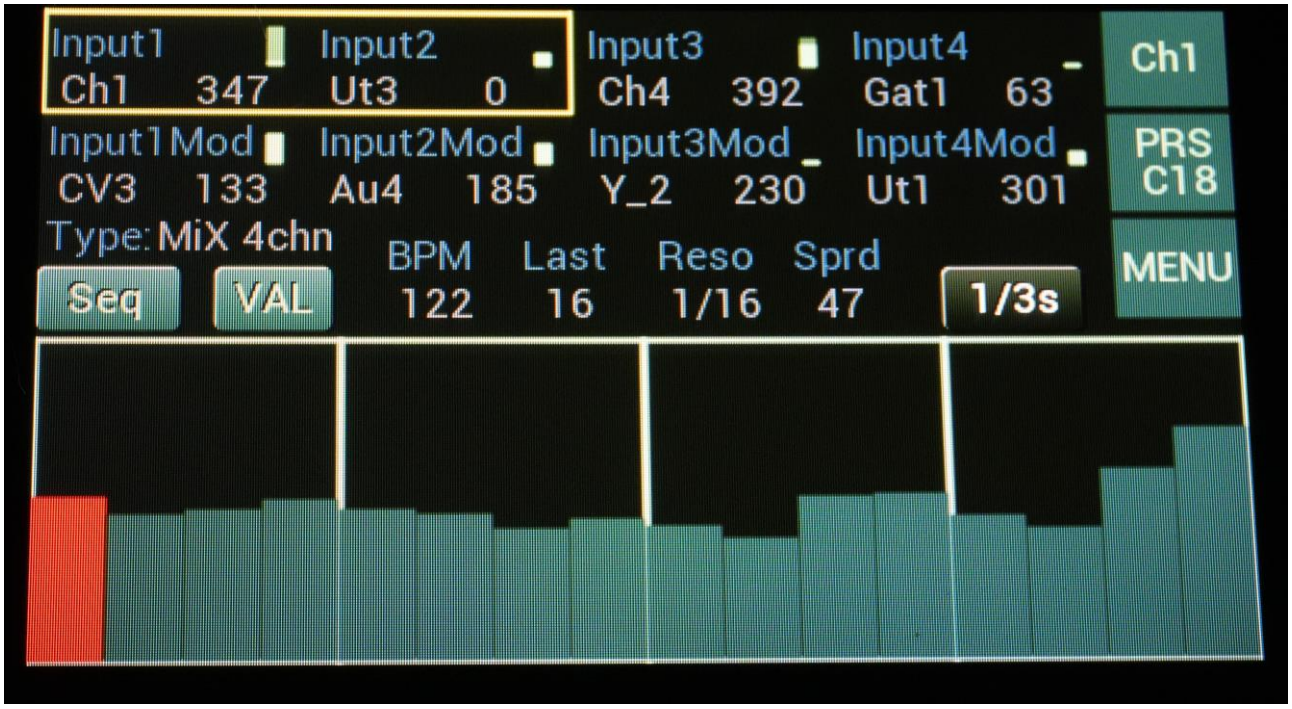
Tim1Mod: Source and modulation amount for the Tim1 parameter.

FeedMod: Source and modulation amount for the Feed parameter.

MIX: 4-Channel Mixer

4-input mixer with CV controllable inputs, and which can be divided into two separate 2-input mixers.

Parameters:

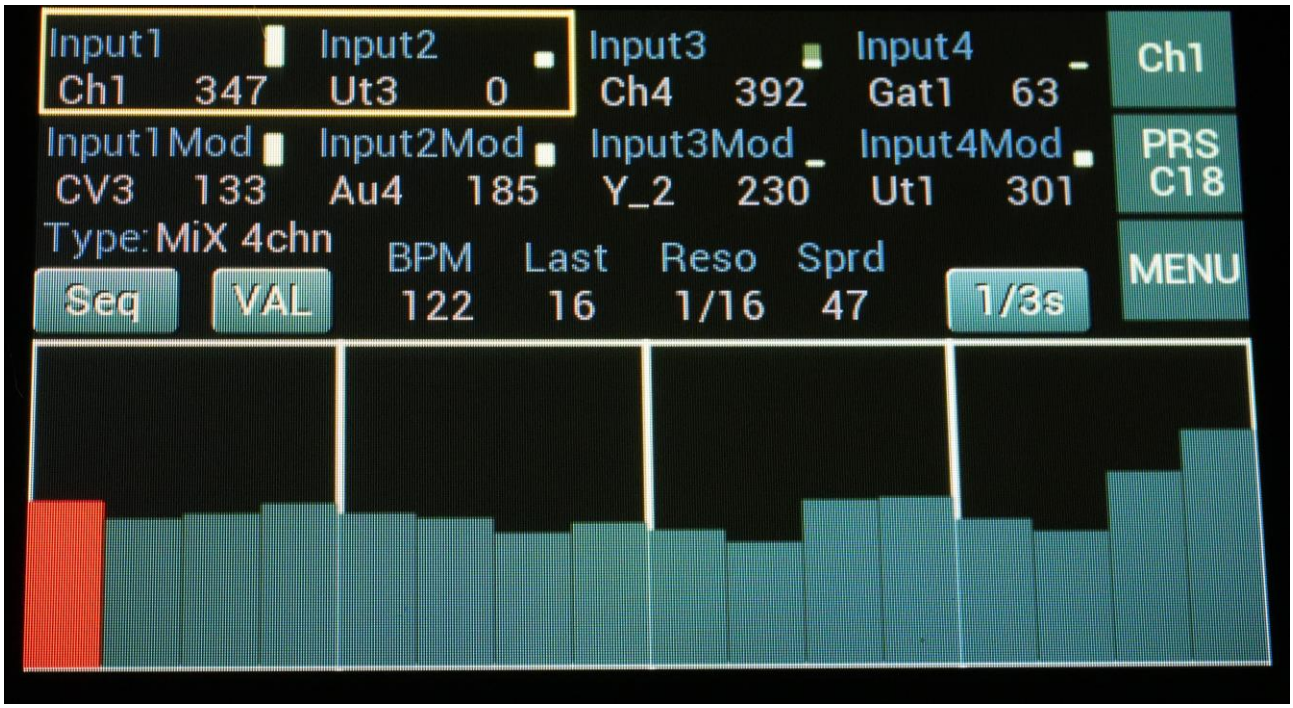


Input 1 to 4: Selects the input source and the level for input 1 to 4. A mixer can mix both audio and control signals.

Input1Mod to Input4Mod: Modulation of the input level parameters.

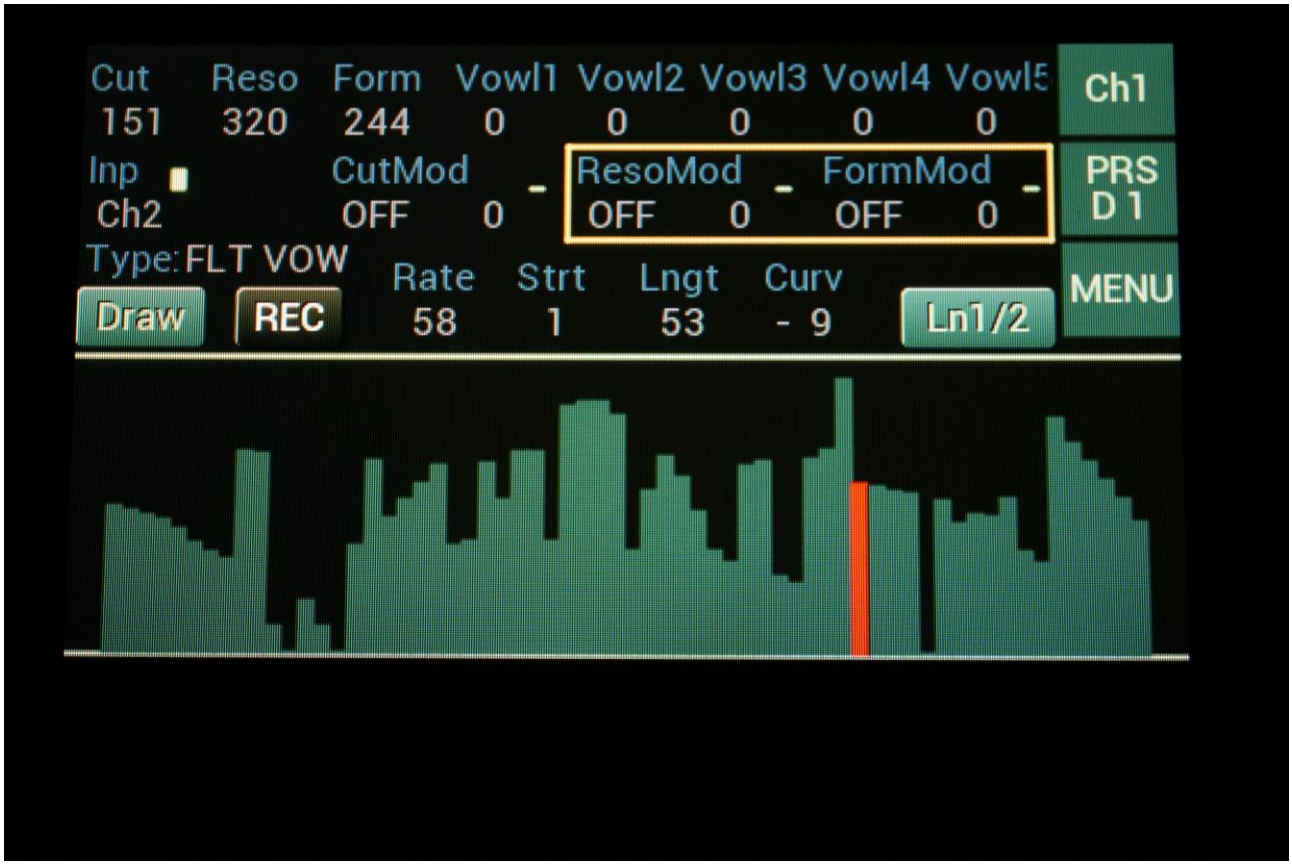
2x2 Mixer

By touching the 1/3s button, so that it turns blue, input 1 and 2 will be mixed to the channel output, while input 3 and 4 will be mixed to the inverted channel output.



Stereo Link

Filters and effects can be stereo linked.



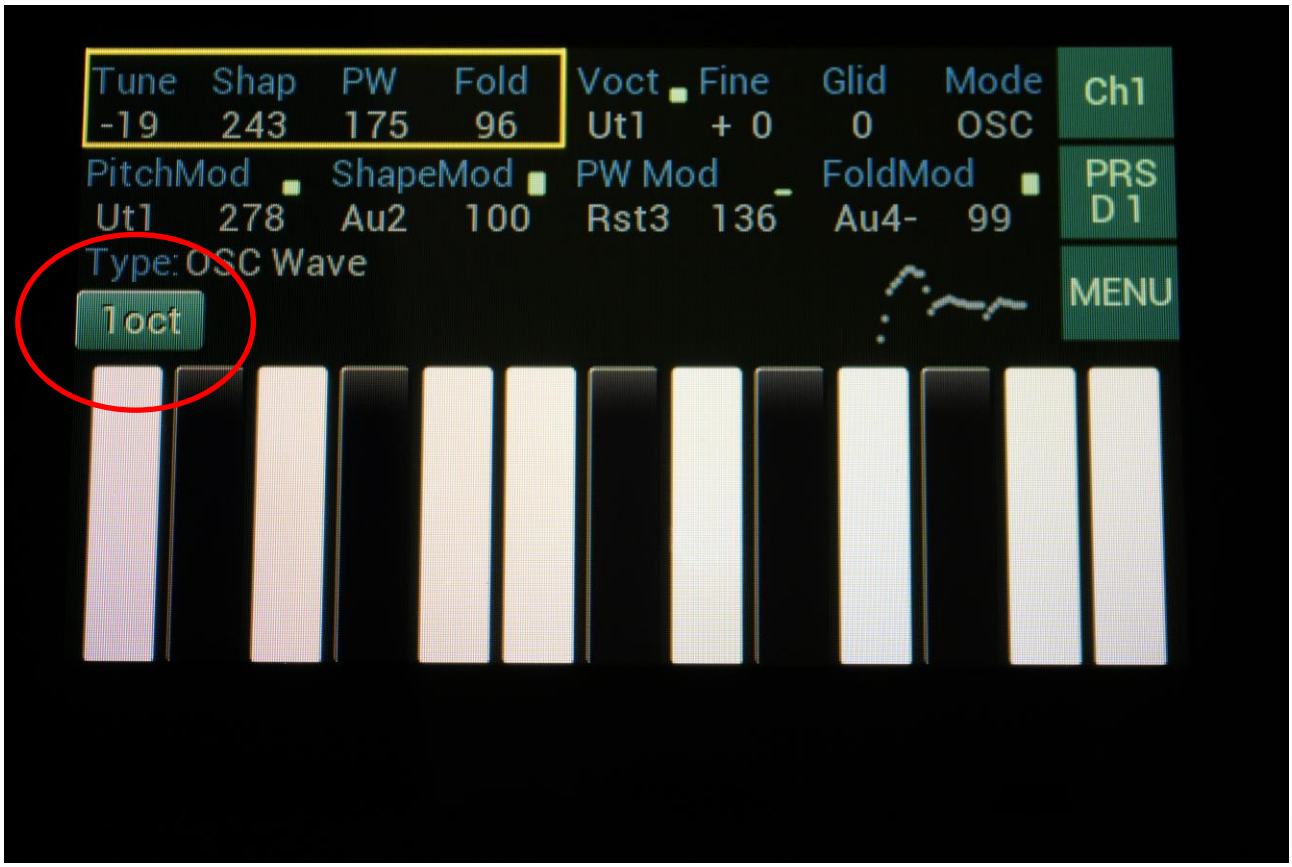
Simply touch the Ln1/2 (or Ln3/4) button on the filters and effects main page, so that it turns blue. Now channel 2 will be linked to channel1 or channel 4 will be linked to channel 3.

The input parameters are not linked. You will have to set these up separately yourself.

Utility Function

Each of the 4 channels has both a main function and a utility function.

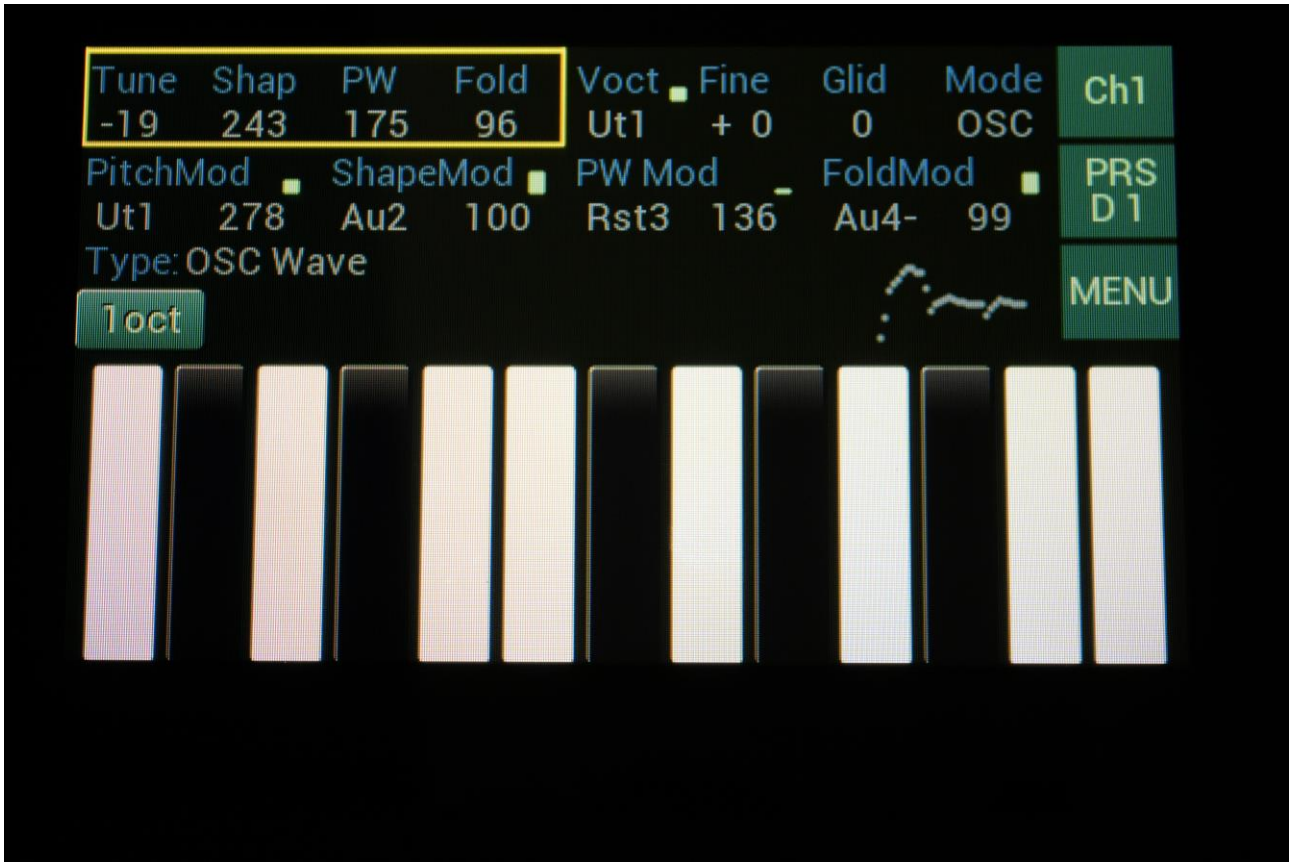
The parameters for the main function is located on the upper half of the main page, while the utility function is located on the lower half of this page.



The desired utility function can be selected by touching the utility function select button, which shows “1oct” on an empty preset.

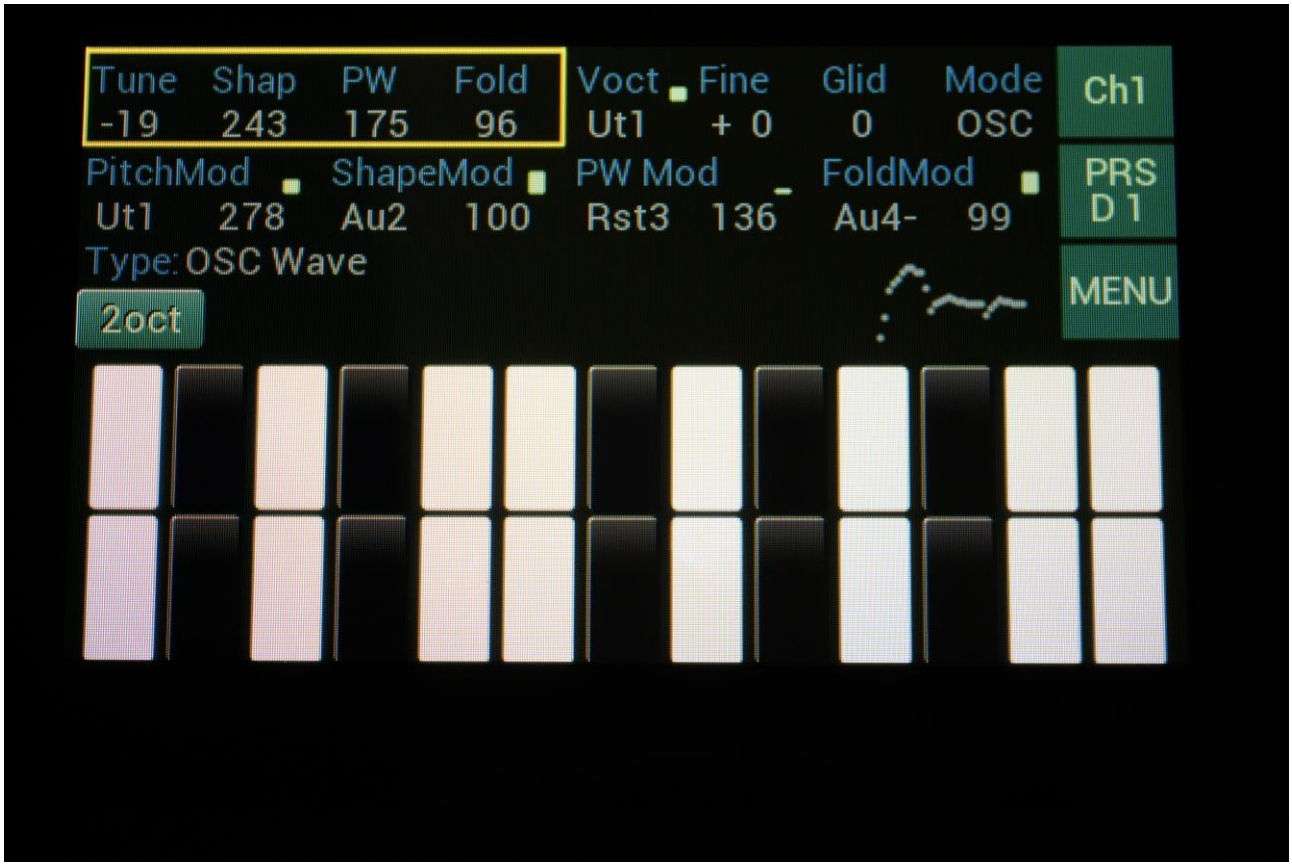
The utility function can be:
-1oct: One octave touch screen keyboard.
-2oct: Two octave touch screen keyboard.
-3oct: Three octave touch screen keyboard.
-Seq: 16 step sequencer.
-Draw: Draw Wave Modulator.

Utility: One Octave Touch Screen Keyboard



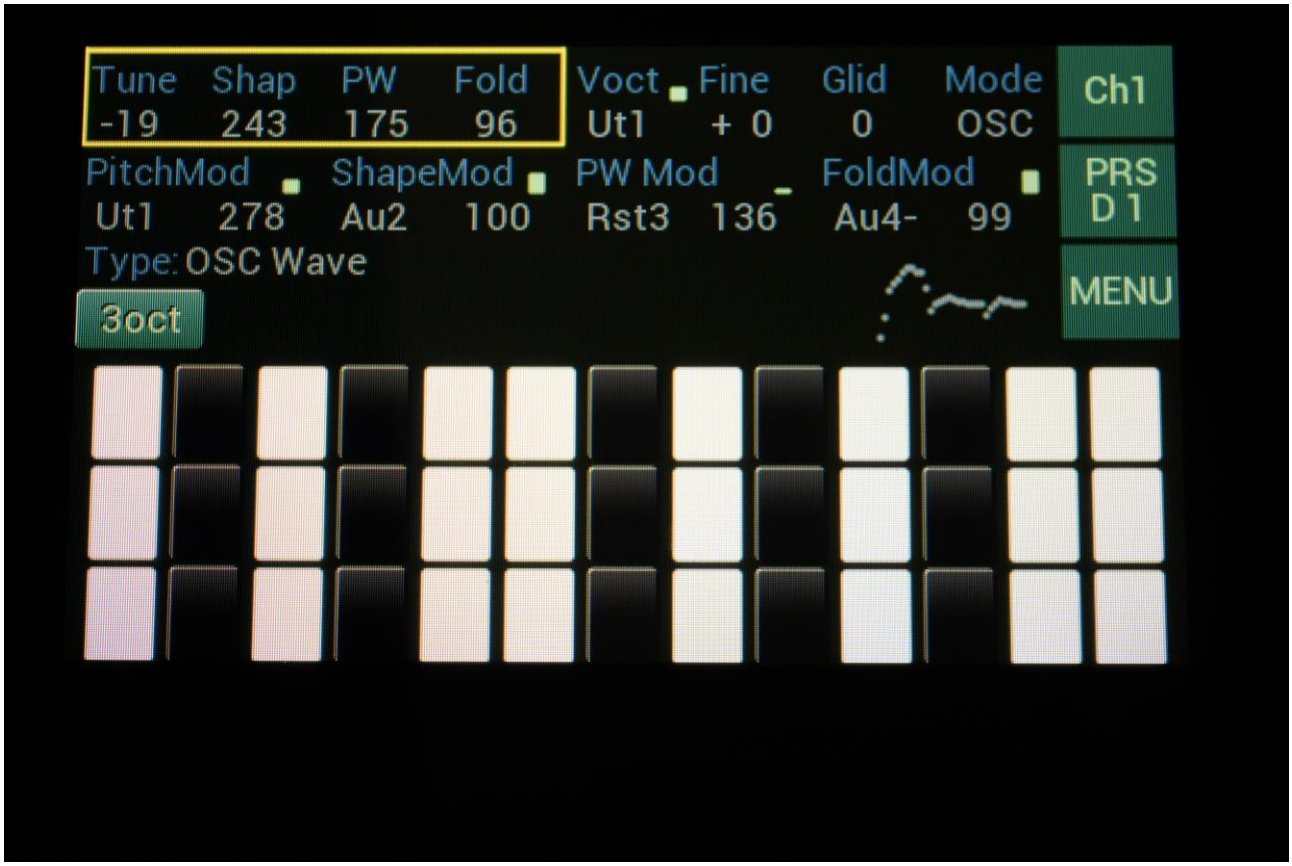
With this utility selected, you can play an octave of notes on the touch screen.
It will be outputting a pitch value to the audio/modulation bus (on Ut1 to Ut4), and when a key is activated, it will also send a gate signal to Gat1 to Gat4.
The note value will be quantized to 1V/oct, when the corresponding Ut signal is selected on Out1 to 6.
The touch keyboard has no parameters that can be set or modulated.

Utility: Two Octave Touch Screen Keyboard



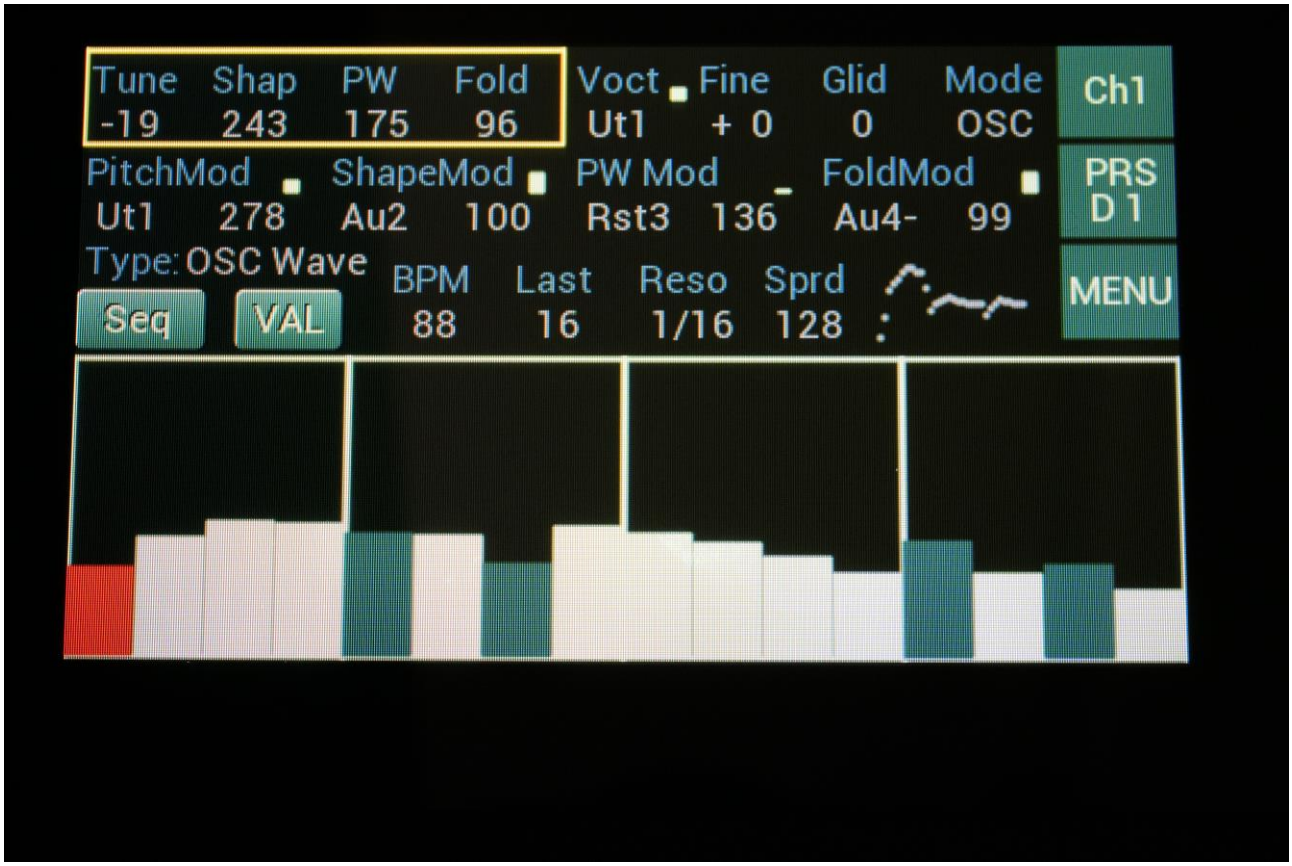
With this utility selected, you can play two octaves of notes on the touch screen.
It will be outputting a pitch value to the audio/modulation bus (on Ut1 to Ut4), and when a key is activated, it will also send a gate signal to Gat1 to Gat4.
The note value will be quantized to 1V/oct, when the corresponding Ut signal is selected on Out1 to 6.
The touch keyboard has no parameters that can be set or modulated.

Utility: Three Octave Touch Screen Keyboard



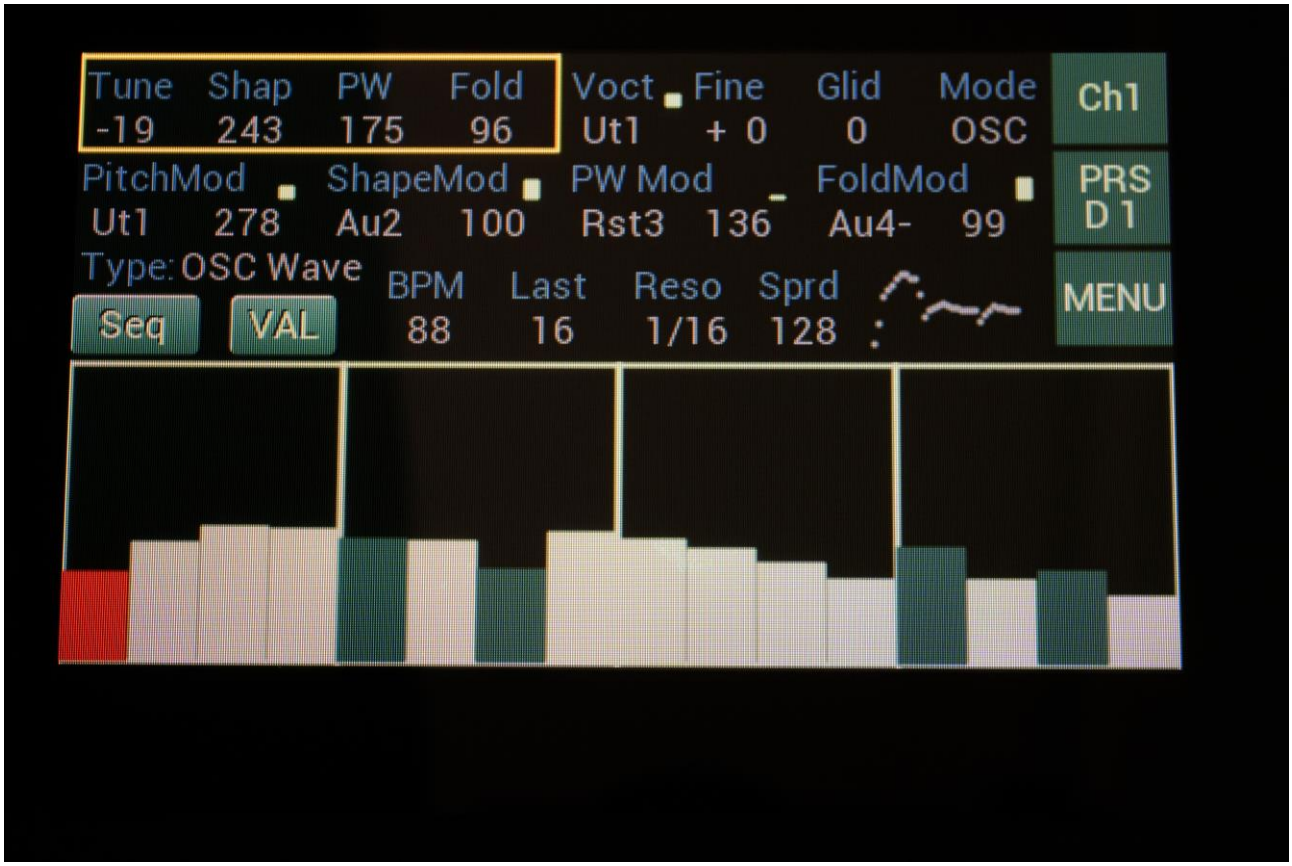
With this utility selected, you can play three octaves of notes on the touch screen.
It will be outputting a pitch value to the audio/modulation bus (on Ut1 to Ut4), and when a key is activated, it will also send a gate signal to Gat1 to Gat4.
The note value will be quantized to 1V/oct, when the corresponding Ut signal is selected on Out1 to 6.
The touch keyboard has no parameters that can be set or modulated.

Utility: 16 Step Sequencer



With this utility selected, you get an, up to, 16 steps sequencer.
The sequencer is started and stopped by pushing the Play button.
Step values can be set by touching the steps on the screen, or by the 4 Edit Knobs.
Blue steps are on, white steps are off, and a red step means, that this step is currently being played back.
To switch steps on and off: Touch the VAL button, so that its name changes to STP. Now when you touch a step, it will toggle between on and off.
It will be outputting pitch values to the audio/modulation bus (on Ut1 to Ut4), and when a step is playing back, it will also send a gate signal to Gat1 to Gat4.
The note value will be quantized to 1V/oct, when the corresponding Ut signal is selected on Out1 to 6.

Parameters:



The parameters for the sequencer are located just above the sequencer step values.

BPM: Sets the sequencer tempo in Beats Per Minute. From 40 to 295 BPM. If the sequencer is in external sync mode, this will have no function. Common for all sequencer tracks.

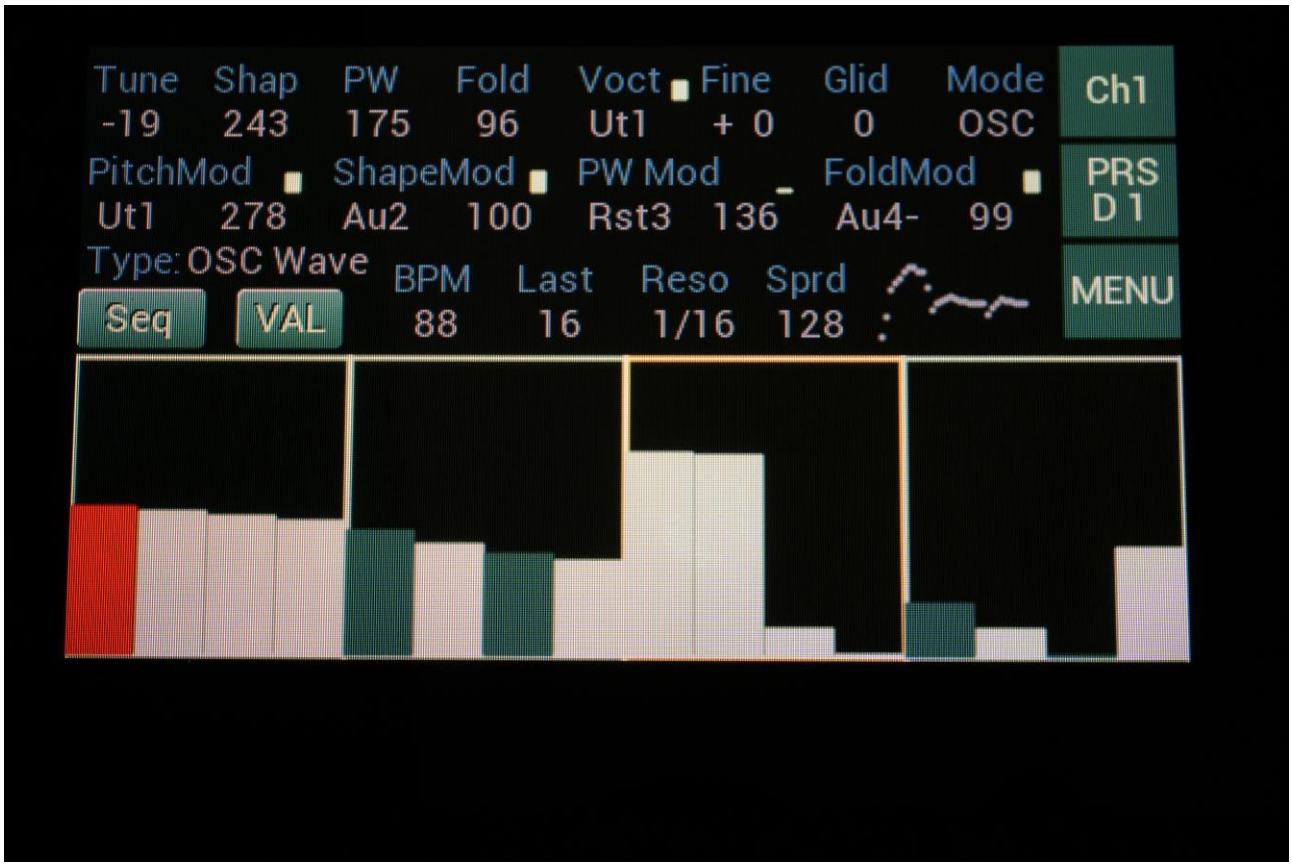
Last: Sets the last step to be played back, before the track starts over again from step 1. 1 to 16. Individual for each sequencer track.

Reso: Track resolution. 1/32, 1/24, 1/16, 1/12, 1/8, 1/6, 1/4 or 1/2. Individual for each sequencer track.

Sprd: Sets the note range of the track. From 1 to 128 notes. Individual for each sequencer track.

Adjusting Sequencer step values by the Edit Knobs

On the main page, push the Select button several times, until the yellow frame is surrounding four of the sequencer steps. You can now adjust the values of these, using the four Edit Knobs.



Sequencer Modulation and settings

When Sequencer is selected as the utility for a channel, modulation and settings becomes available on the two lowest rows of parameters on the Menu page.

From the Main page, touch the Menu button, or push and hold the Select button for a couple of seconds, to access the Menu page.

Parameters:

BPM Mod: Source and modulation amount for the Sequencer tempo.

Last Mod: Source and modulation amount for the Sequencer last step.

Reso Mod: Source and modulation amount for the Sequencer resolution.

Sprd Mod: Source and modulation amount for the Sequencer note range.

Clk: Select any source to clock the sequencer. One clock per step. When set to OFF, the sequencer is clocked by the internal clock.

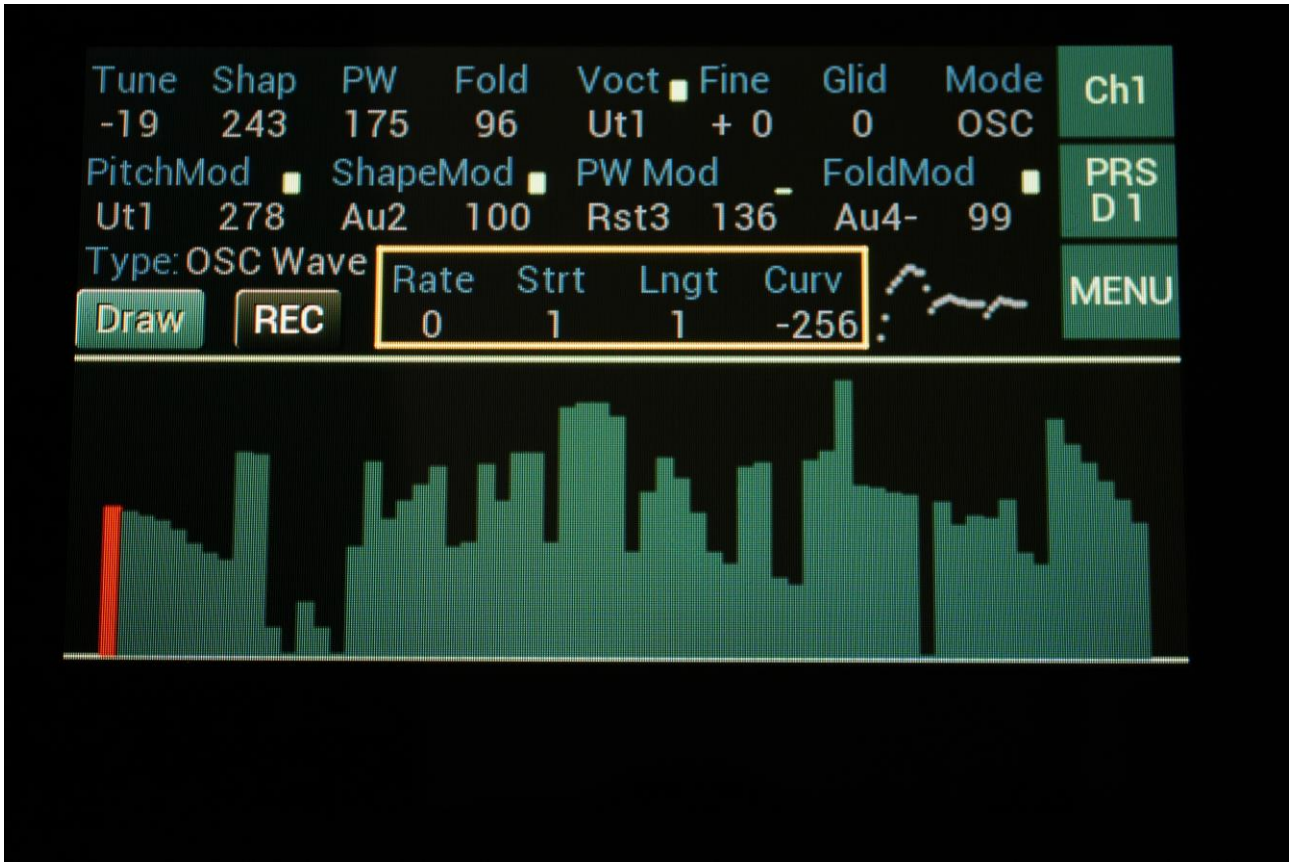
Reset: Select any source to reset the sequencer to step 1.

Sync: Set the sequencer clock to internal (Int) clock, or to external (Ext) MIDI clock. This parameter has no function, if the Clk parameter is set to any other value than OFF.

Sequencer Tracks Mute

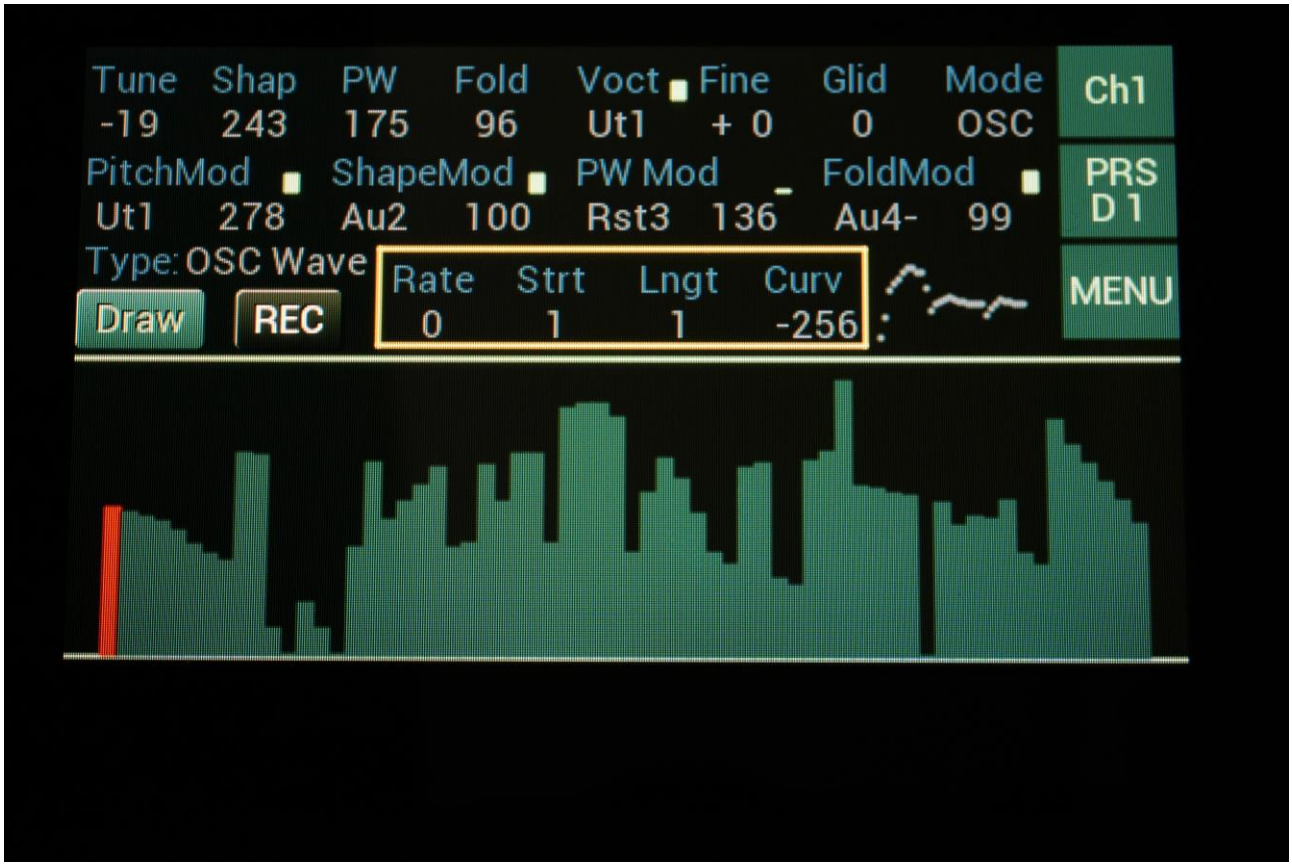
In the bottom of the Menu page, four touch button named 1 to 4 are located.
These can mute/unmute the gate signals from the sequencer and the draw wave modulator of channel 1 to 4.
When a button is blue, the channel will output gates, when it is black, it will not.

Utility: Draw Wave Modulator



The draw wave modulator lets you draw a waveform on the touchscreen, which can be used as a modulation source.
It is possible to set the rate of the draw wave, it is possible to make run only a specific part of it, and the playback curve can also be set, to make the playback rate become faster in the beginning of the waveform and slower at the end, or vice versa. And all of these parameters can be modulated!
It is also possible to trigger this modulator to make it jump back to the start point, and a one-time mode is also available, for using it as an advanced envelope.
A red step value means that this value is currently being played back.
It will be outputting values to the audio/modulation bus (on Ut1 to Ut4), and when a step is playing back, it will also send a short gate signal to Gat1 to Gat4.

Parameters:



The parameters for the draw wave modulator are located just above the sequencer step values.

Rate: Sets waveform playback rate.

Strt: Sets the start point of the waveform.

Lngt: Sets the total length of the waveform.

Curv: When set to a negative value, the beginning of the waveform will play back faster than the end of the waveform. When set to a positive value, the beginning of the waveform will play back slower than the end of the waveform. When set to zero, the whole waveform will play back at the same rate.

Draw Wave Modulator Modulation and settings

When Draw Wave Modulator is selected as the utility for a channel, modulation and settings becomes available on the two lowest rows of parameters on the Menu page.

From the Main page, touch the Menu button, or push and hold the Select button for a couple of seconds, to access the Menu page.

Parameters:

Rate Mod: Source and modulation amount for the Draw Wave rate.

Strt Mod: Source and modulation amount for the Draw Wave start point.

Lngt Mod: Source and modulation amount for the waveform total length.

Curv Mod: Source and modulation amount for the Curv parameter.

Reset: Select any source to reset the Draw Wave to the selected start point.

1time: When this is set to On, the waveform will play back one time, when it is reset, and then stay at the last point, until it is reset again.

Gate outputs Mute

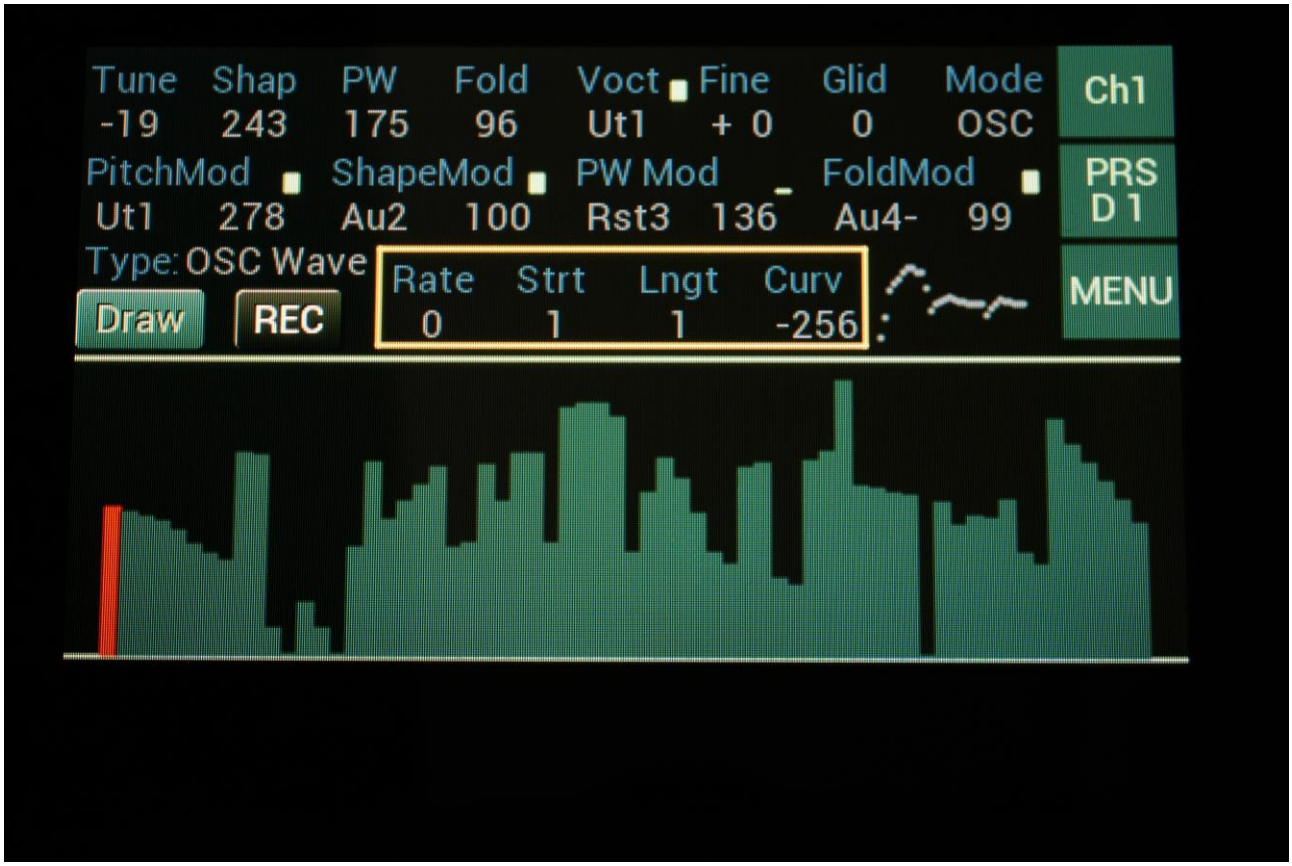
In the bottom of the Menu page, four touch button named 1 to 4 are located.
These can mute/unmute the gate signals from the sequencer and the draw wave modulator of channel 1 to 4.
When a button is blue, the channel will output gates, when it is black, it will not.

CV recording of Draw Waves

It is possible to record any source as a Draw Wave.

To do so, first go to the Menu page and select the desired source, by setting the RECin parameter.

Then go back to the main page.



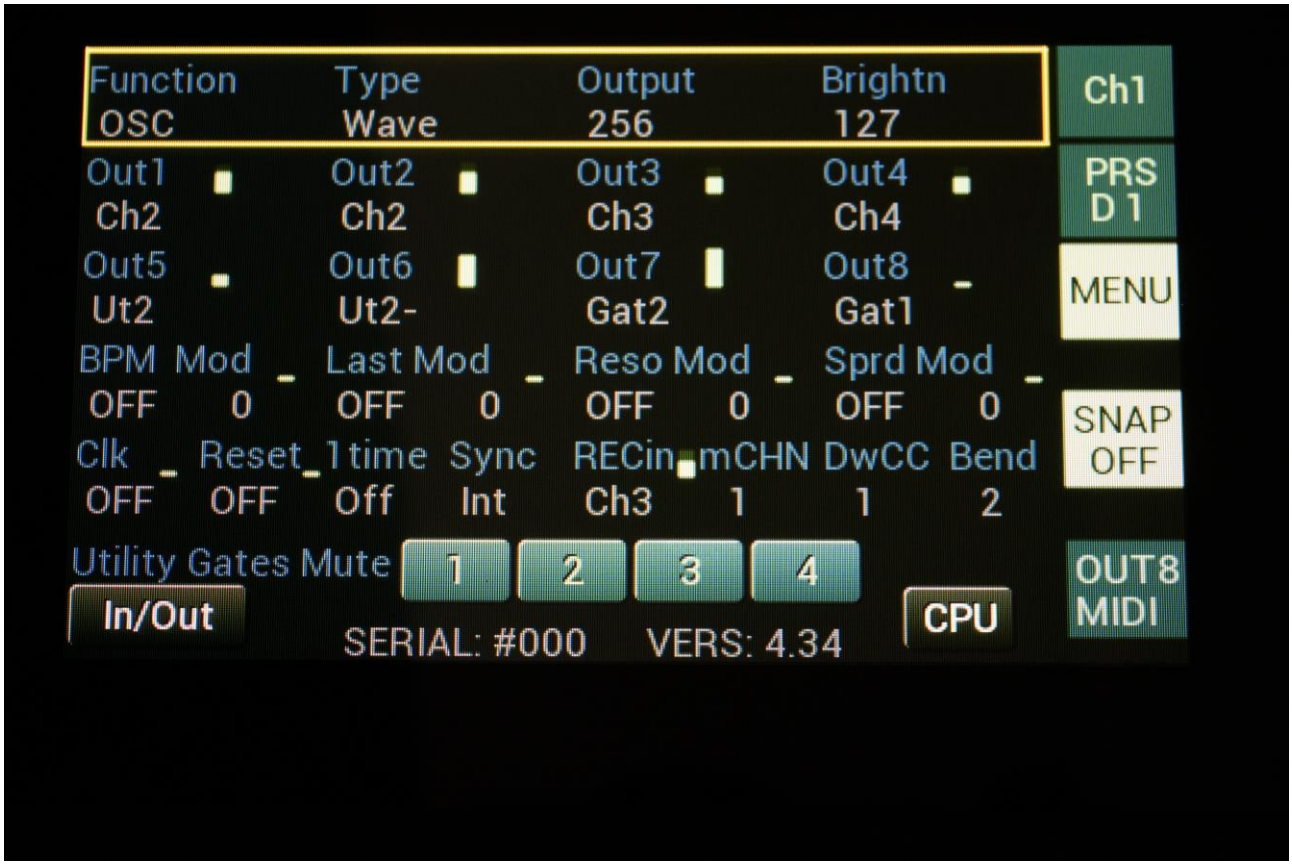
When you are ready to record a source, touch the REC button, so that this turns red.

The playback pointer will now turn yellow, and the draw wave modulator will keep recording the source into the waveform, in a loop, until you switch recording off again, by touching the REC button, so that this turns black.

While it is recording, you might want to adjust the Rate parameter, in order to fit it to the rate of the source being recorded.

Outputs Set Up

On the Menu page, it is possible to set up, which signals should be present on the 8 minijack outputs. Any audio/modulation sources can be selected.



Parameters:

Out1: Selects the source for the 16 bit Out1.

Out2: Selects the source for the 16 bit Out2.

Out3: Selects the source for the 16 bit Out3.

Out4: Selects the source for the 16 bit Out4.

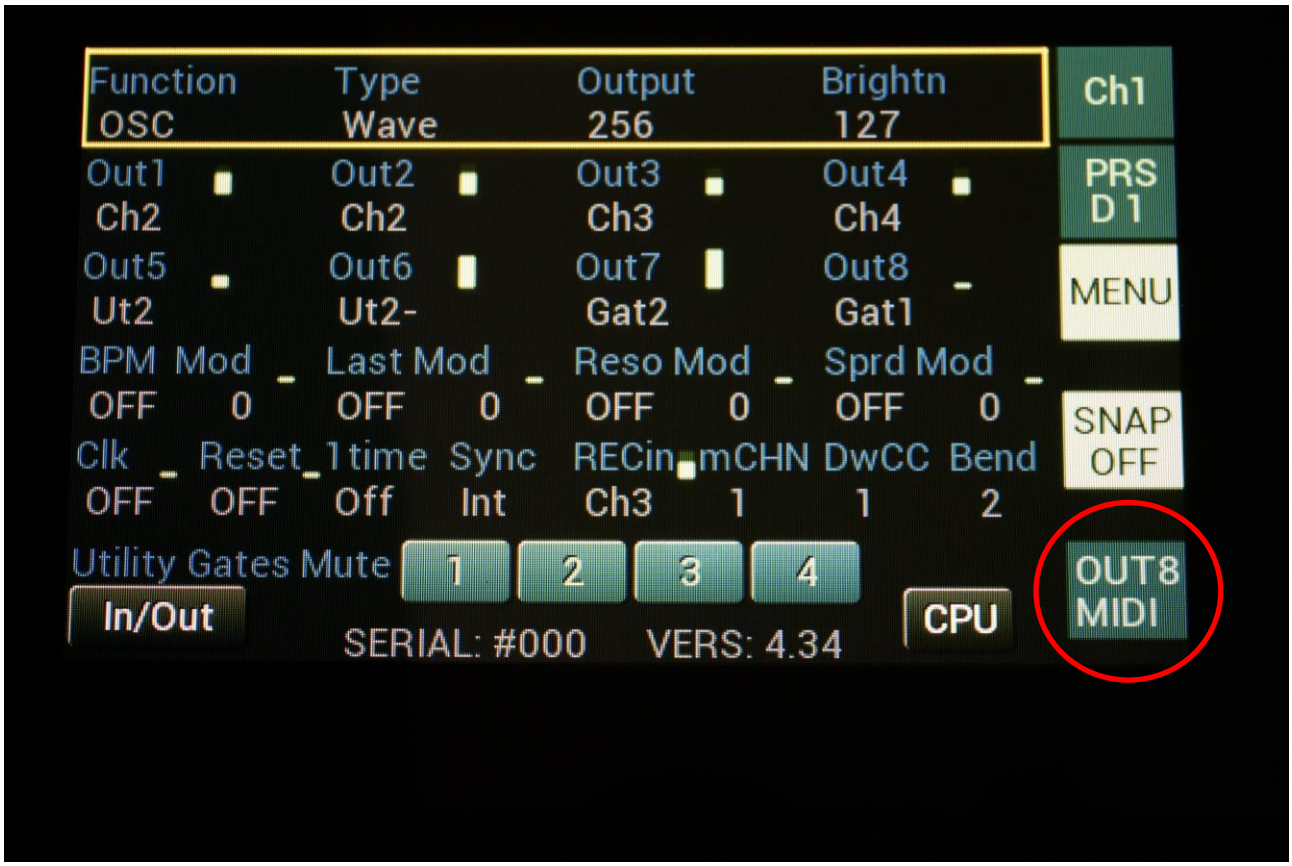
Out5: Selects the source for the 12 bit Out5.

Out6: Selects the source for the 12 bit Out6.

Out7: Selects the source for the gate output, Out7. Any signal can be assigned to this, but all signals will be concerted to square waves.

Out8 –In Gate mode only –Ignored in MIDI out mode: Selects the source for the gate output, Out8. Any signal can be assigned to this, but all signals will be concerted to square waves.

Out8 Gate/Midi mode



By touching the OUT8 GATE/MIDI mode button, Out8 will toggle between Gate out and MIDI out modes.

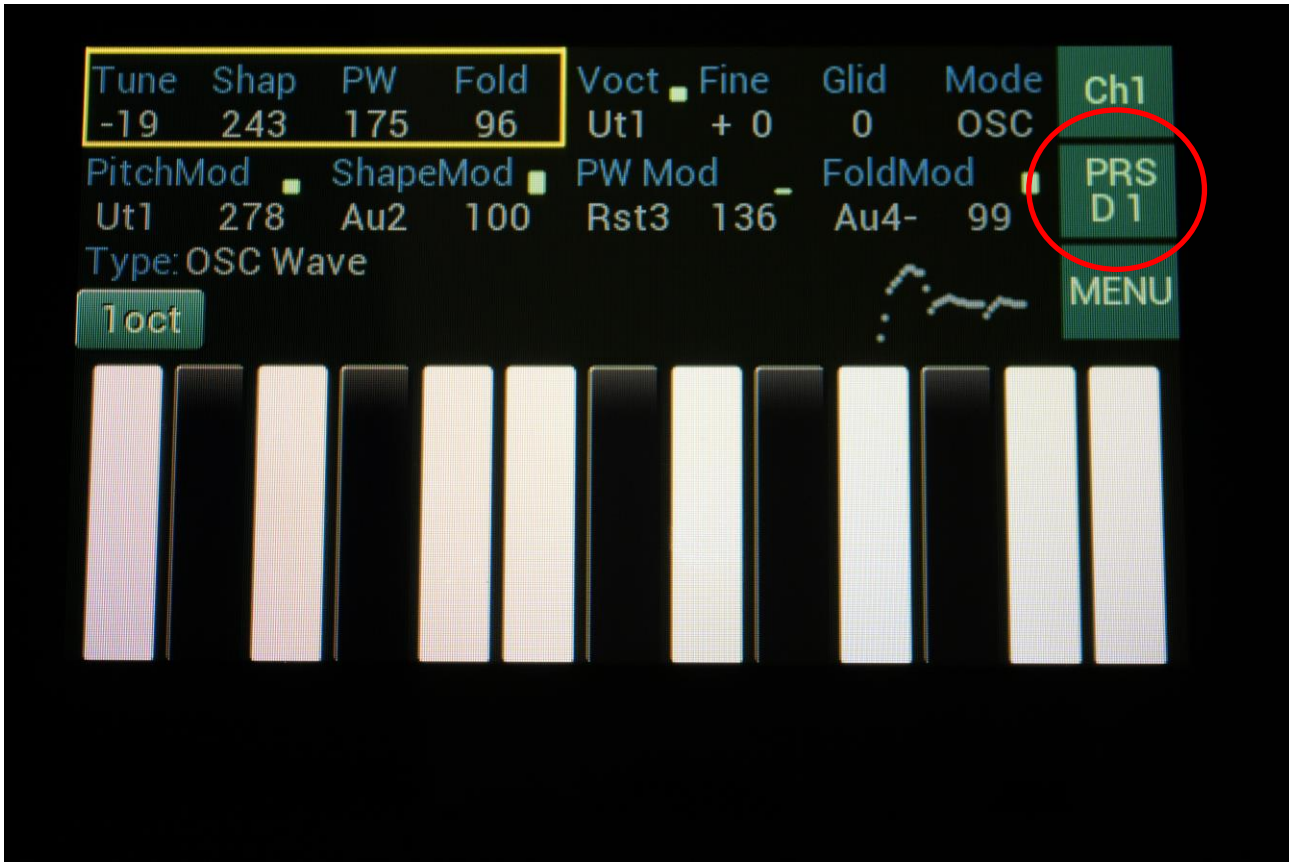
Presets

All the main and utility functions parameters and setting, covered until now, can be stored in any of Touch TuuL's 1024 preset locations, and can be recalled again.

The last saved preset, is the preset which Touch TuuL will load at start up.

Touch TuuL comes pre-loaded with 64 presets.

Selecting a Preset



From the Main page, touch the button which is showing "PRS" and the currently selected preset number.

This will take you to the Preset page.

On this page five presets and their names are shown. The currently selected preset is shown with blue text, while all other presets are shown with white text.

Presets are arranged in 16 banks with 64 presets each. 1024 presets in total.

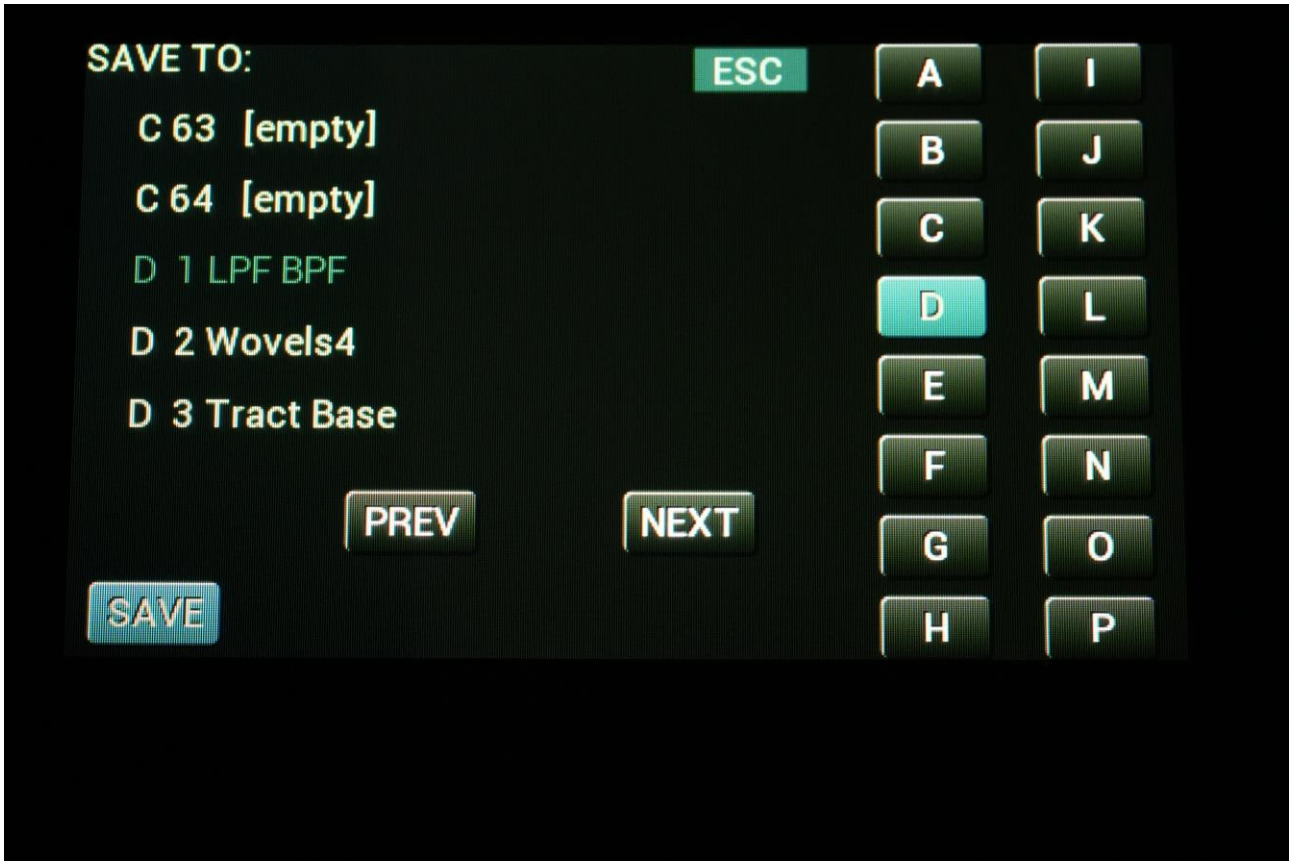
Touch the PREV and NEXT buttons to go back and forth in the list of presets. Touch the A to P buttons on the right, to select a specific preset bank.

Touch a presets name, to select this preset. A preset named [empty], means that no preset has been stored at this location, and an initialized preset will be loaded.
If the sequencer is not playing back, the preset will immediately change.
If the sequencer is playing back, the Play button will start to flash, and it will wait for the lowest numbered sequencer track to finish, until the preset is changed.

When you have the desired preset selected, touch the ESC button, to exit back to the main page.

Saving a Preset

On the Preset page, touch the SAVE button.

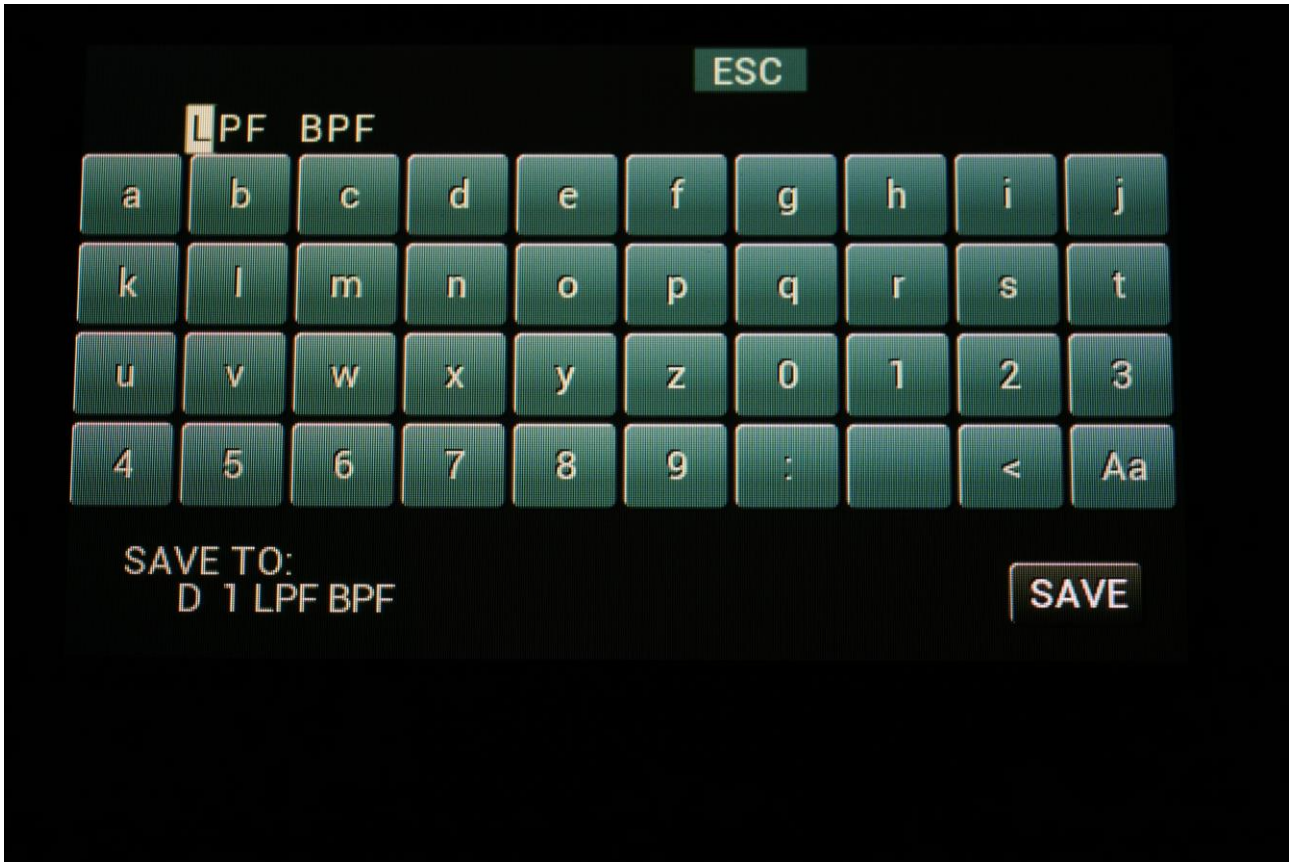


The SAVE button now turns blue, and “SELECT” changes to “SAVE TO”.

Locate the preset location you would like to store your preset in, by touching the PREV, NEXT and bank buttons.

Select the desired preset location by touching its name.

You will now be taken to the on-screen keyboard.



Type the desired preset name, and touch the SAVE button. Your new preset has now been saved into Touch TuuL's FLASH memory, and can be recalled again at any time.

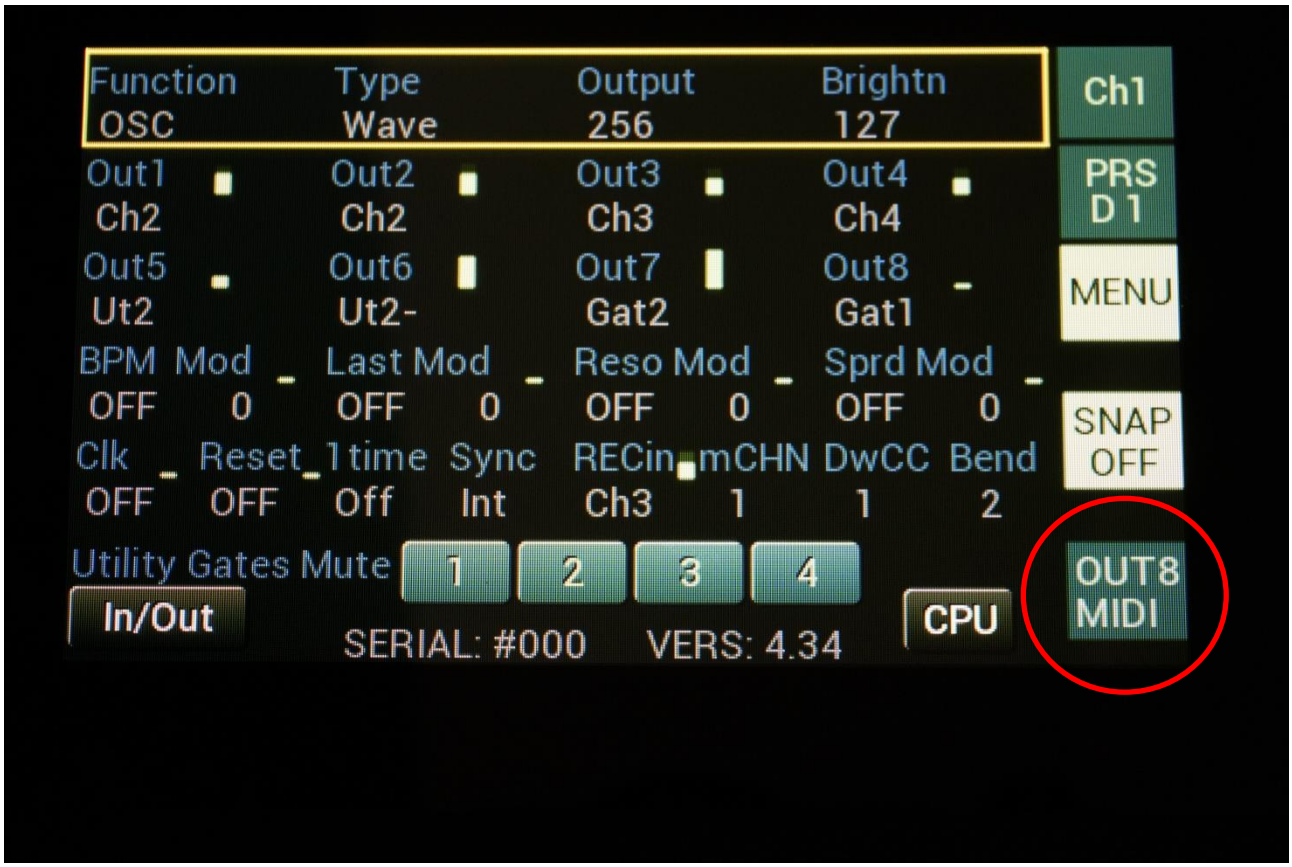
When you power up touch TuuL, this preset will be selected.

If you, for some reason, do not like to store the preset anyway, touch the ESC button to quit.

Transfer Presets

Touch TuuL can transmit and receive presetss via its MIDI in and out.

In order to transmit presets, make sure that out 8 is set to MIDI on the Menu page.



From the Preset page touch MIDI.

Now this page will show:

Presets are sent and received as MIDI sysex data, so they will need to be transferred to a device, which understands this.

For Windows PC's MidiOx could be used, and for Mac's SyxExLibrarian could be used.

Transmitting a single preset
-Select the preset you wish to transmit, on the Preset page.
-Connect MIDI out of Touch TuuL (Out8) to MIDI in of the receiver.
-Make sure that the receiver is ready to receive sysex data.
-Touch the SEND SNG PRS button.
-Wait for the transmission to finish.

Receiving a single preset
-Connect MIDI in of Touch TuuL to MIDI out of the device holding the sample sysex file.
-Start the sysex transmission from the transmitting device. Touch TuuL will receive single presets on any page.
-Wait for the transmission to finish.

Transmitting a preset bank

-Make sure that a preset in the bank you wish to transmit, is selected.
-Connect MIDI out of Touch TuuL (Out8) to MIDI in of the receiver.
-Make sure that the receiver is ready to receive sysex data.
-Touch the SEND PRS BANK button.
-Wait for the transmission to finish.

Receiving a preset

-Connect MIDI in of Touch TuuL to MIDI out of the device holding the sample sysex file.
-Make sure that the preset location where you want the first preset to be stored, is the selected preset. This does not have to be preset 01 in a bank. It can be any preset.
-Touch the RECV PRS BANK button.
-Touch TuuL will now display: “Waiting For MIDI Data…” .
-Start the sysex transmission from the transmitting device.
-Wait for the transmission to finish.

MIDI

Settings

Each Touch TuuL channel can operate on its own MIDI channel.

The **MIDI channel** for each Touch TuuL channel is set on the Menu page, by the **mCHN** parameter.

Here it is also possible to set, which **MIDI CC number** a Draw Wave Modulator will output, by setting the **DwCC** parameter.

It is also possible to set the MIDI in **pitch bend range**, by the **Bend** parameter.

MIDI Receive

Note on, note off, velocity and pitch bend
Is received on channels, which has either one of the touch keyboards or the sequencer selected as the utility.

MIDI CC 1, 2, 4, 5, 8, 9, 10 and 11
Is received on the Touch TuuL channel 1 MIDI channel.

MIDI clock and start/stop
Is received by the sequencer, if it is in External sync mode.

Sysex data
Is received as updates, samplings and presets.

MIDI Transmit

Note on, note off
Is transmitted by the touch keyboards and the sequencer.

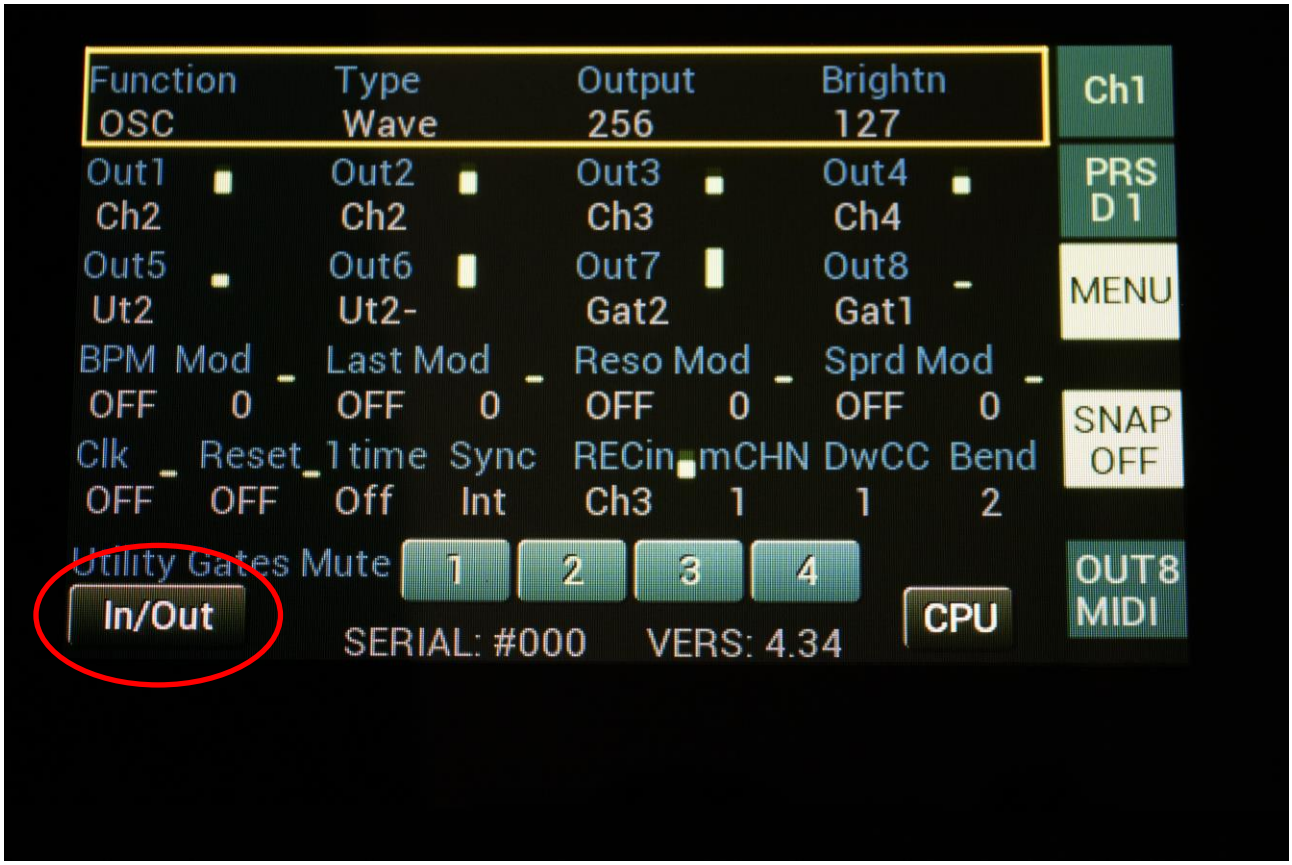
MIDI CC 0 to 127
Can be transmitted by the Draw wave modulators.

MIDI clock and start/stop
Is transmitted by the sequencer.

Sysex data
Is transmitted as samplings and presets.

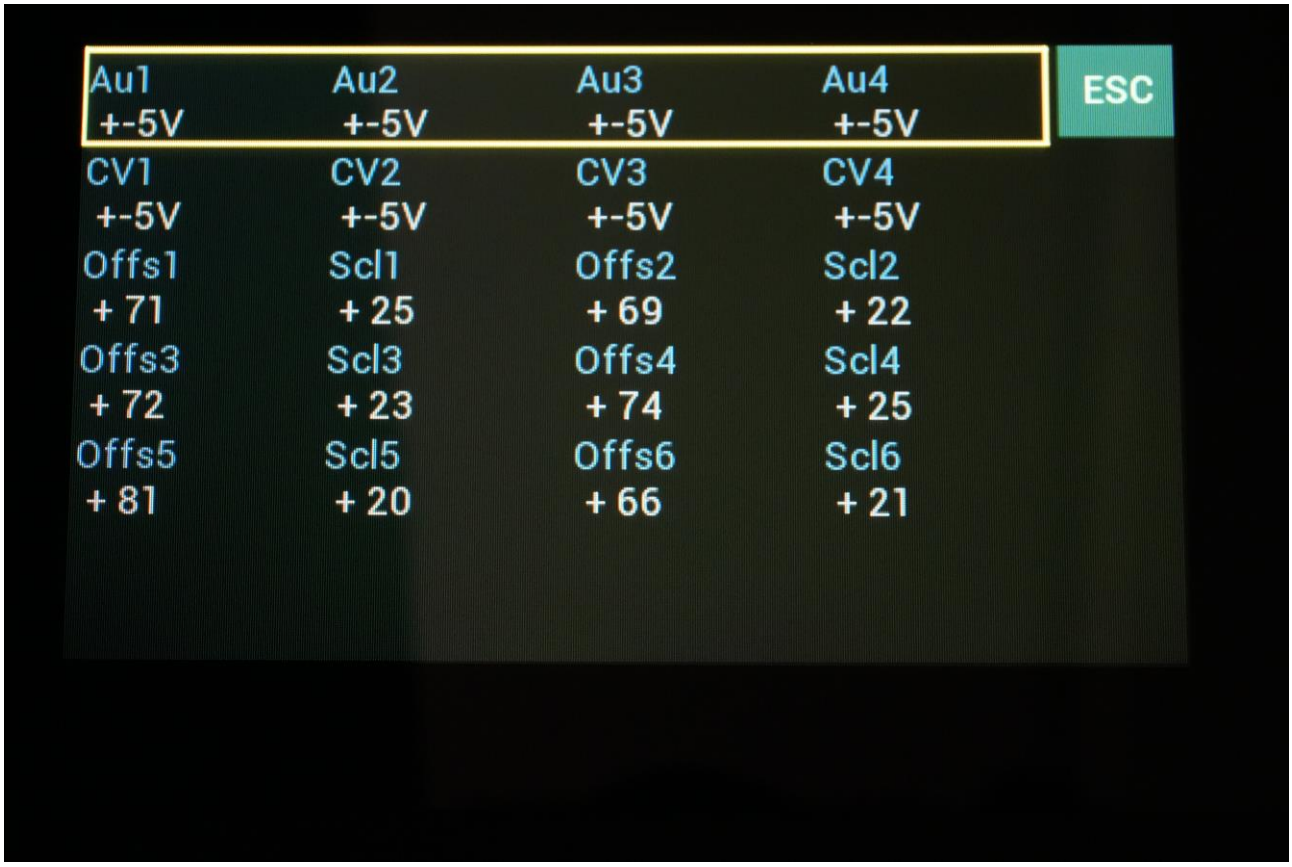
Inputs/Outputs Setup

It is possible to setup the voltage range for the minijack inputs and adjust the 1V/oct output for the minijack outputs.



On the Menu page, touch the In/Out button.

Now you will enter this page:



Parameters:

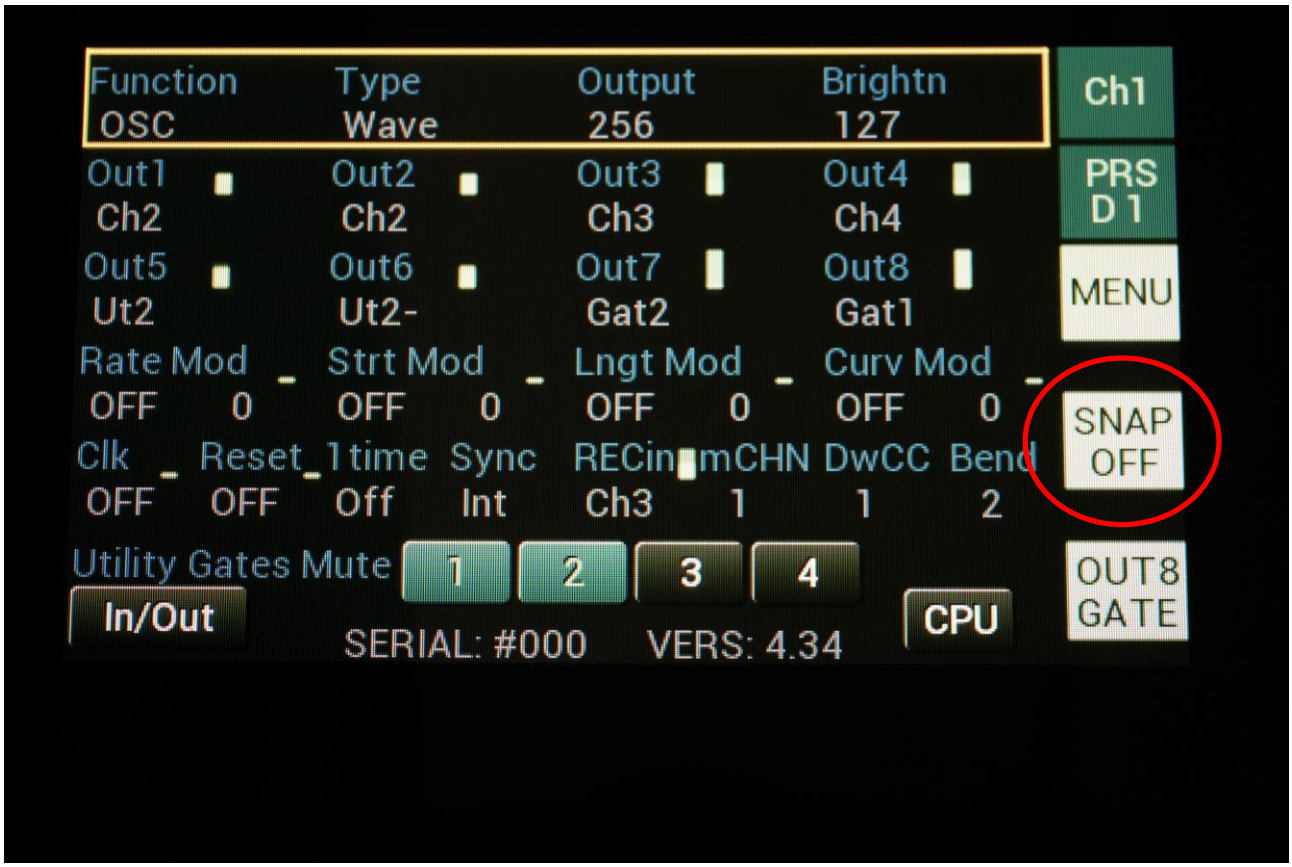
Au1 to Au4: Set the input voltage range for these inputs to either +-5V or +-10V.

CV1 to CV4: Set the input voltage range for these inputs to either +-5V or +-10V.

Adjusting the 1V/oct outputs

-Select factory preset A64 (ADJ PRESET).
-Connect a volt meter to Out1.
-Start the sequencer.
-Adjust the Offs parameter, so that you get zero volts on the first sequencer step.
-Adjust the Scl parameter, so that you get +1 volts on the second sequencer step and -1 volts on the third sequencer step.
-Re-adjust the Offs parameter, if necessary.
-Repeat this process for Out2 to Out6.

Parameters Snap Mode



On the Menu page, it is possible to toggle parameter snap mode on and off, by touching the SNAP button.

When Snap mode is on, and you edit a parameter, the value will not change, until the knob position passes the already set value.

Display Brightness

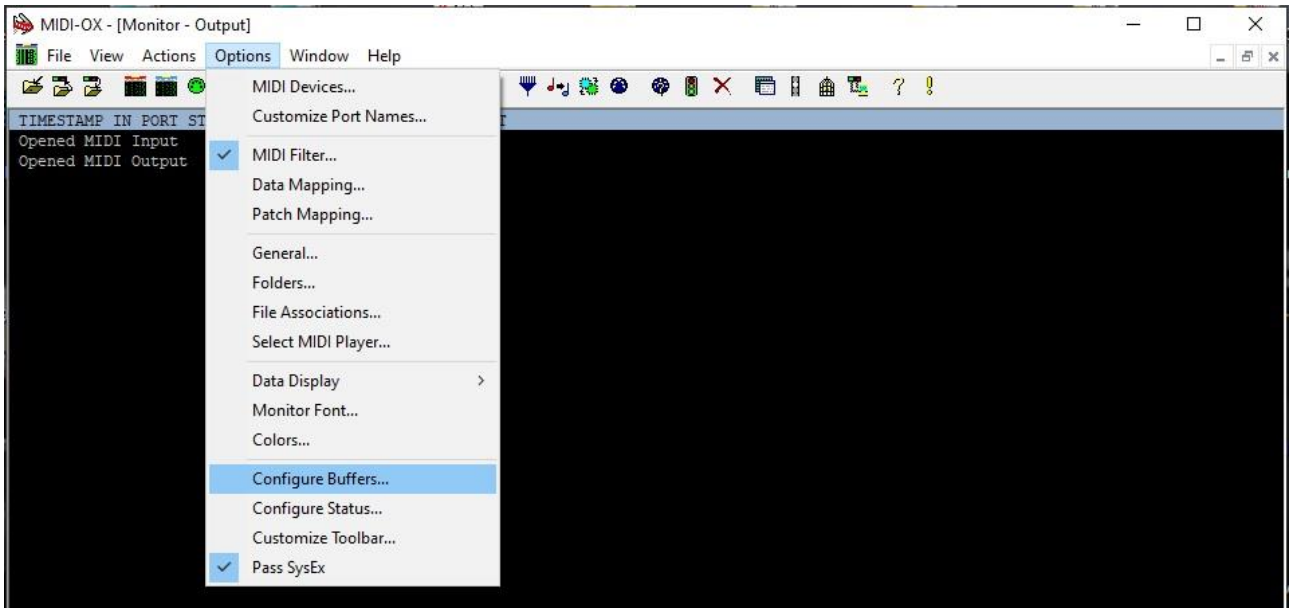
On the Menu page it is possible to set the display brightness, by adjusting the **Brightn** parameter.

Updating Touch TuuL

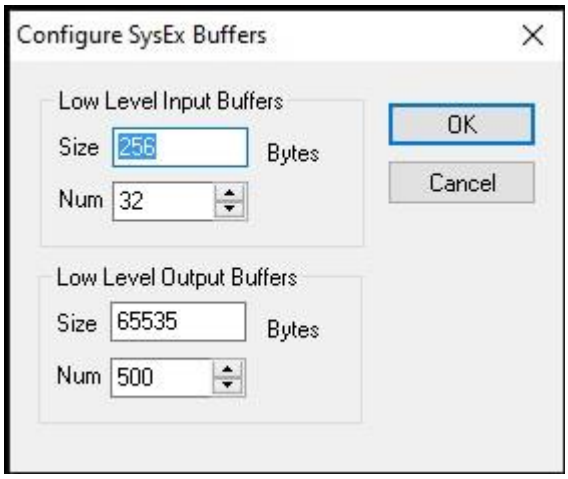
Getting ready

If you are on a Mac computer, make sure to have SysExLibrarian installed. No settings are necessary.

If you are on a Windows PC, the MIDI OX program is required, and some settings must be made.



Go to: Options>Configure Buffers.



Make sure that the Low Level Output Buffers is set as shown on the picture.

Download the latest Touch TuuL update from: [touch_tuul_updates | gotharman.dk]

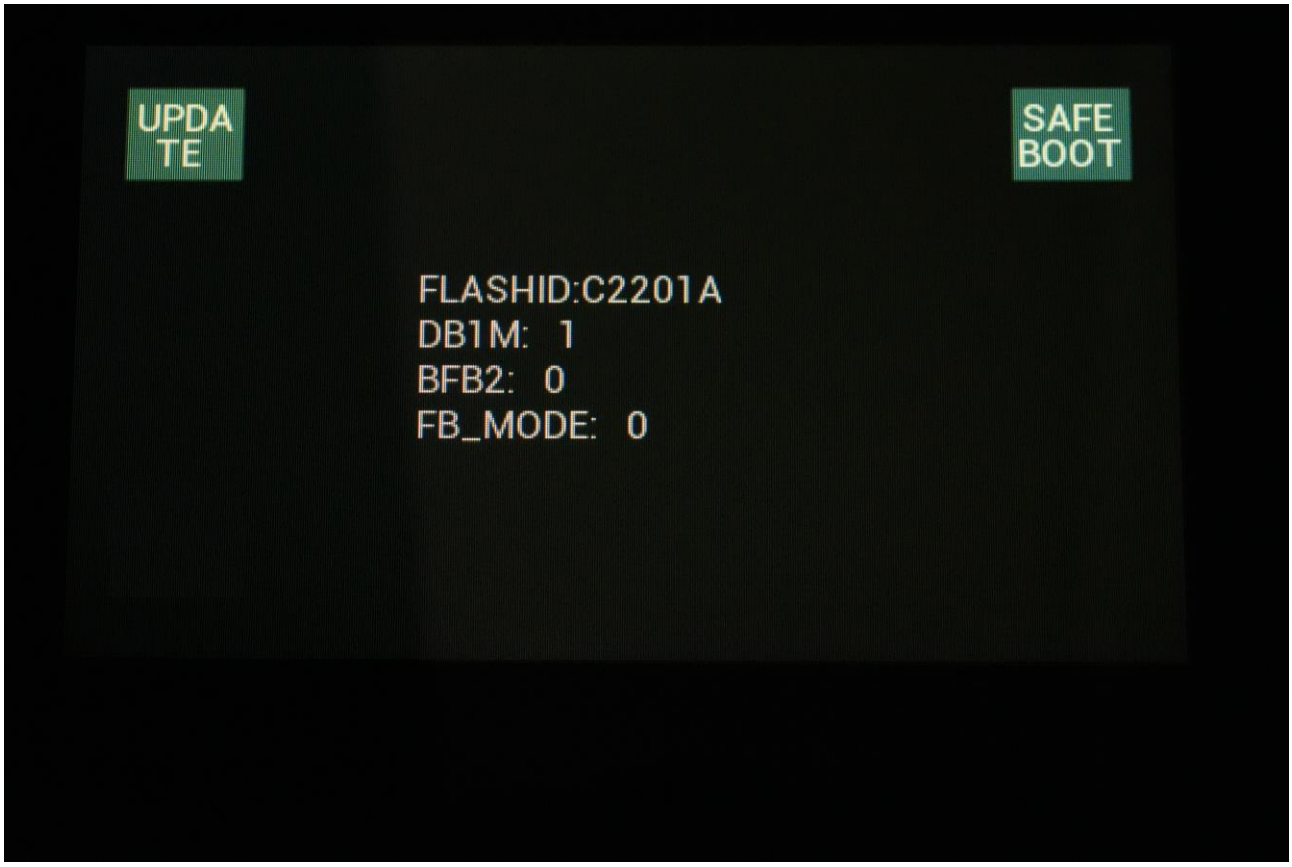
Connect a MIDI interface to your computer, and connect MIDI out from this to MIDI in on Touch TuuL, using a Type A TRS MIDI cable.

Updating

Power on your Touch TuuL while holding down the Select button.

If your Touch TuuL has been updated before, you will be asked to power down your Touch TuuL, and power up, while holding the Select button, once more.

Then this page will appear:



Touch the UPDATE button.

Touch TuuL will now write: “Waiting For MIDI Data…”

Transmit the update sysex file from your computer.

When Touch TuuL has received a complete update file, without any errors, it will ask you to restart.

That’s it…

Written by
Flemming Christensen
Gotharman’s
In 2024