Gotharman's aNamoNo Xmini

Modular Synthesizer

User Manual V 3.65

Contents Of This Manual

Introduction

A modular synthesizer in a compact box!

Thank you very much for purchasing/consider to purchase a Gotharman's Anamono Xmini Modular Synthesizer.

The Xmini has a number of built-in "modules", like oscillators, samplers, an analog filter, LFO's and so on. Every module has a number of modulation input connectors, and most modules also has a number of audio input connectors. For the modulation input connectors any modulation output from any other module can be connected. For the audio input connectors, any audio output from any other module can be connected. The analog filter also appears as a module.

It also has a new very sensitive capacitive touch screen, that is used for navigation, sequencer input, and as a touch keyboard.

To make everything work as fast and effective as possible, Xmini is not programmed behind any "OS". Everything is performed directly by the processor, and everything is programmed in assembly language, which is up to 30 times more effective than the C++ language, that most people program in, and it is programmed specificly for the aNamoNo Xmini hardware.

1024 preset slots and 1024 song slots are available, all user programmable.

Very special thanks to:

Julien Huet
Florian Bielmann
Nick Nimick
Weinglas
Christopher Rayce
Richie Prado

For supporting this project from the beginning. I really appreciate your trust. Without you, Anamono Xmini might not have been…

Gotharman July 2017

Getting Started

Connecting:

On the right end panel of your Xmini, you will find the power switch, connection for power supply, audio input and output, and USB.

You would probably want to connect the audio output to a mixer or an amplifier, or anything else that ends out in a speaker/a set of speakers. Since Xmini doesn't have built in speakers, it just needs to be connected to something, that can transfer its amazing sound to you.

Connect any line audio source to the audio input, for sampling and/or processing through Xmini's analog filter and effects. The audio input always goes through the analog filter, so the input signal are available on the analog filter output. If you have no analog filter installed in your Xmini, the audio input will not be available.

To the USB connector, a USB drive can be connected.

This should be:
-Maximum 32 GB
-FAT formatted

With a USB drive connected, you can:
-Import, export and back up samples as .wav files
-Import, export and back up Xmini presets and songs
-Update Xmini

To import a .wav file from another device, it must be:
-Mono or stereo
-44.1 KHz sample rate – Xmini will import other sample rates, but they will play back in a wrong speed
-16 bit native PCM
-It is not compatible with broadcast wav files. To convert broadcast wav files, found in many downloadable sample sets, to standard wavfiles, please use a program like NCH Wavepad or NCH Switch.

On the left end panel of your Xmini, you will find the MIDI in and out connectors. The optional CV inputs and outputs are also found here, if installed. Please notice, that the upper row of CV connectors are the outputs, and the lower row are the inputs. The upper MIDI connector are the input, and the lower are the output.

If the Xmini touch screen keyboard seems too limited, you might want to connect a MIDI keyboard to MIDI in, in order to take full advantage of Xmini's fully chromatically playable sounds. It is also possible to connect anything that transmits a MIDI clock, if you would like the sequencer of Xmini to sync to your setup.

On MIDI out, MIDI clock, MIDI CC's form the Xmini edit knobs, and notes and CC's from its sequencer are transmitted. Connect any MIDI gear to this, that you would like to control from Xmini.

Connect any CV voltage or clock source to the 4 CV inputs. Each input can be set up to match the voltage range of any CV source, up to +/- 15 volts. The CV inputs can be used as modulation for any Xmini module, as trigger sources and as clock sources for the sequencer.

Via the CV outputs it is possible to control analog gear. Each CV output, outputs both an adjustable static voltage, plus an Xmini modulation source, so it is possible to both adjust t.ex. the cutoff frequency of a connected analog filter, and to add modulation to this. It can even output audio through these outputs. Can output gates/clocks as well.

Connect the supplied power adaptor to the Power input, and to a 100V to 240V power source.

It's a 9V, minimum 1.5A type with a 2.1 mm DC plug, with positive middle.

Some Xmini's might have been shipped out with a power adaptor, that has multiple tips. If you have received one of these, you should use the tip with the blue ring, and make sure that the 2 parts are alligned to the text "Tip":

Please look at the picture, on the next page….

Turn it on

Push the "I" on the power switch. Your Xmini should now turn on.

Gotharman's anamono Xmini Structure

Tempo Control

MIDI IN

Note sequencer
4 Note Tracks
Each up to 64 steps with:
-Note on/off track
-Note Number track
-Gate time track
-Delay track
-Note, gate, delay and swing modulation
Mod Bus

4 CV In's (optional)
Mod Bus

Controller tracks sequencer
8 Controller tracks
Each up to 64 step with:
-Controller value on/off track
-Control value track
-Slide Time track
Mod Bus

Triggers
4 triggers, that can:
-Be trigged by the 4 trigger buttons
-Be trigged from the note sequencer
-Be trigged from MIDI In
-Trigger envelopes, samplers and random generators
-Send note values to oscillators, samplers and MIDI Out
Triggers   Mod Bus

8 Trigger Buttons

4 oscillators/samplers
Mod Bus   Triggers   Audio Bus   Mod Bus

Noise Generator
Mod Bus   Audio Bus   Mod Bus

4 ADSR Envelopes
Mod Bus   Triggers   Mod Bus

1 Analog Filter
Audio Bus   Mod Bus   Audio Bus   Mod Bus

Audio In

4 Ring VCA's
Mod Bus   Mod Bus   Audio Bus

4 LFO's
Mod Bus   Mod Bus

4 Random Generators
Triggers   Mod Bus

4 Effects Processors
Audio Bus   Mod Bus   Audio Bus

4 VCA's with ADSR Envelopes
Audio Bus   Triggers   Mod Bus   Audio Bus

MIDI OUT

4 CV Out's (optional)
Mod Bus

Audio Out

Sample and chop Recorder and Editor

Xmini has a modular structure. It has a number of internal "modules", like oscillators, samplers, analog filter and effects processors, that all has a number of inputs and outputs.
These inputs and outputs are divided into 3 categories:
-Triggers
-Modulation (Mod Bus on the structure drawing)
-Audio (Audio Bus on the structure drawing)

Any trigger output can be connected to any trigger input, any modulation output can be connected to any modulation input and any audio output can be connected to any audio input.

Many of the audio outputs of the Xmini modules are also connected to the modulation bus, to make audio frequency modulation (often referred to as "FM") possible of any parameter.

The oscillators, samplers and the noise generator, all outputs their audio signal to both the modulation bus and the audio bus. They also outputs a low frequency version of themselves to the modulation bus, so these audio generators can be used as both audio generators/audio frequency modulators and as low frequency modulators at the same time.

Additionally the 4 Ring VCA's can be used as "bus converters". Since they take their inputs from the modulation bus, and outputs to both the modulation and the audio bus at the same time, it is possible to route any modulation signal to the audio bus through these. You could, for instance, add pitch shifting to an LFO…

In order to trigger anything on Xmini, either via MIDI, the internal sequencer or the 4 trigger buttons, it has to be done through the "Triggers" section, so this must be set up properly for each preset, depending on what you want.

It is though also possible to get sound out of Xmini, without any triggering if needed, simply by turning up the "Drone" parameter in any of the 4 VCA's, and connect some sound generators to this.

Only the 4 VCA's can be connected to the audio output, so all sounds must output through a VCA.

The 4 track Note Sequencer always has track 1 connected to Trigger 1, track 2 connected to trigger 2 and so on…
Each trigger is then set up, to what each sequencer track should control, and it is possible to control both internal modules an external MIDI devices.

The 8 tracks of the Controller sequencer all appear as modulation sources, and for each track, it is possible to set a CC number and a MIDI transmit channel, to make it control external MIDI devices.

The User Interface
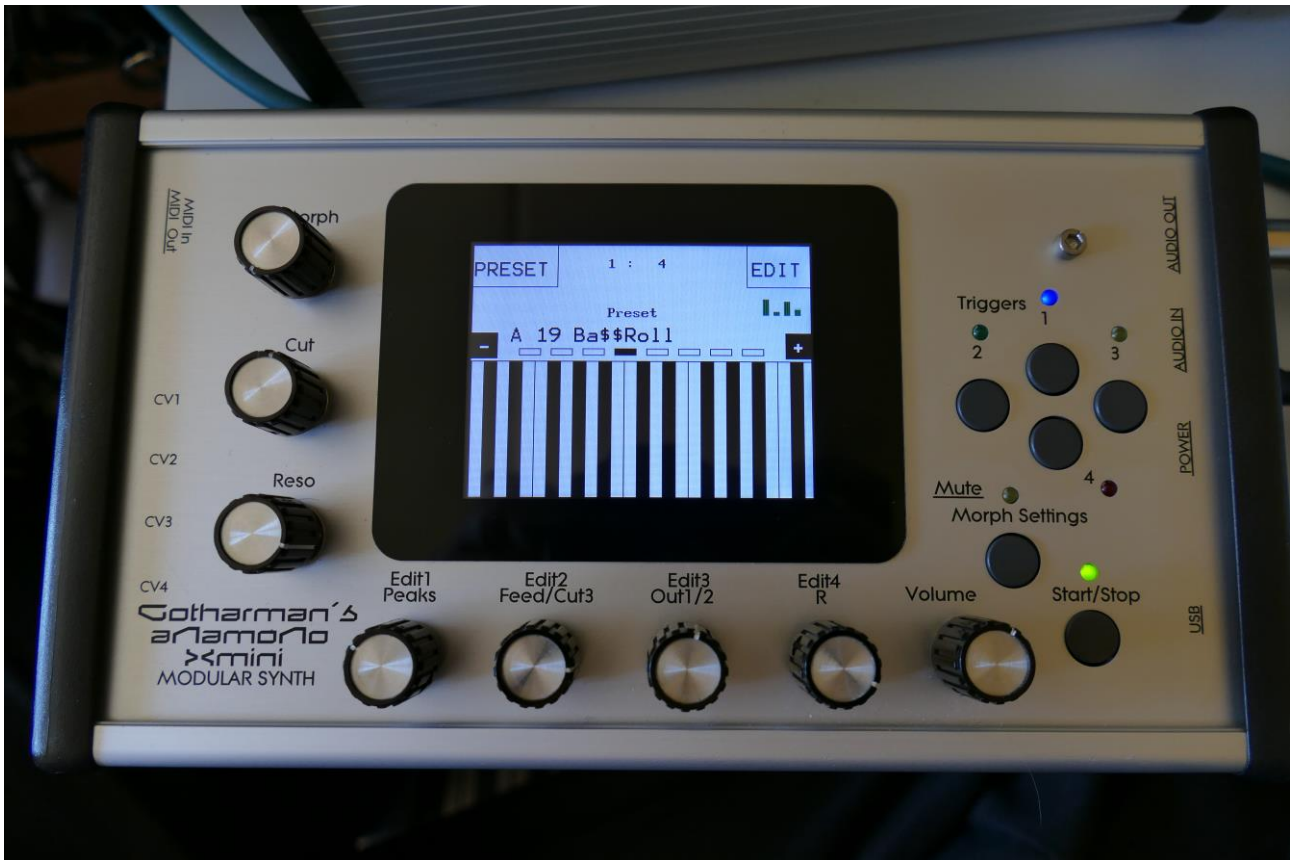
Xmini has a highly sensitive capacitive touch display, 4 trigger buttons, a Morph Settings button and a Sequencer Start/Stop button. It has 4 Edit/Quick Edit Knobs for controlling and editing parameters and sending MIDI CC's, 2 additional Quick Edit Knobs, a Morph knob, and a volume knob.

Each sampler and envelope module can be set up to be trigged from a **trigger** button. The trigger buttons can also send note values to oscillators and samplers. It is also possible to just make a trigger button send a note value to another trigger button. The setup of these will be described later in this manual (in the synth section). When a trigger is trigged, the LED near it will light up.

The **Start/Stop** button will start and stop Sequencer playback. When the sequencer is playing back, the green LED above the Start/Stop button will light.

The **Morph Settings** button, will toggle the parameters on any Synth and Sequencer page, between 2 layers of parameters, A and B. The **Morph** knob will morph between the two layers of either Synth parameters or Sequencer parameters, as set up on the Morph Edit page, described later in this manual.

The **Volume** knob always adjusts the audio output volume.

The **Edit 1-4 Knobs** below the display, adjusts the parameters on each page. On the **Preset Select screen**, they acts as modulation sources, that controls any parameters that has knob1 to 4 set as modulator, and transmits MIDI CC's. Any Edit Knob, that has not been assigned as a modulator to any parameter, acts as a **Quick Edit Knob**.

The Quick Edit Knobs controls:

-Edit Knob 1: Analog filter peaks.

-Edit Knob 2: Analog filter feed/cut3.

-Edit Knob 3: Analog filter Out 1/2.

-Edit Knob 4: VCA envelope 1 release time.

The 2 additional **Quick Edit Knobs** always controls the Cut and Reso parameters of the analog filter, and transmits MIDI CC's.

The Touch Screen Keyboard

The Xmini display is touch sensitive. The touch interface is used for navigating through the edit and settings pages, and in the bottom of most pages, a fully playable touch keyboard is present.
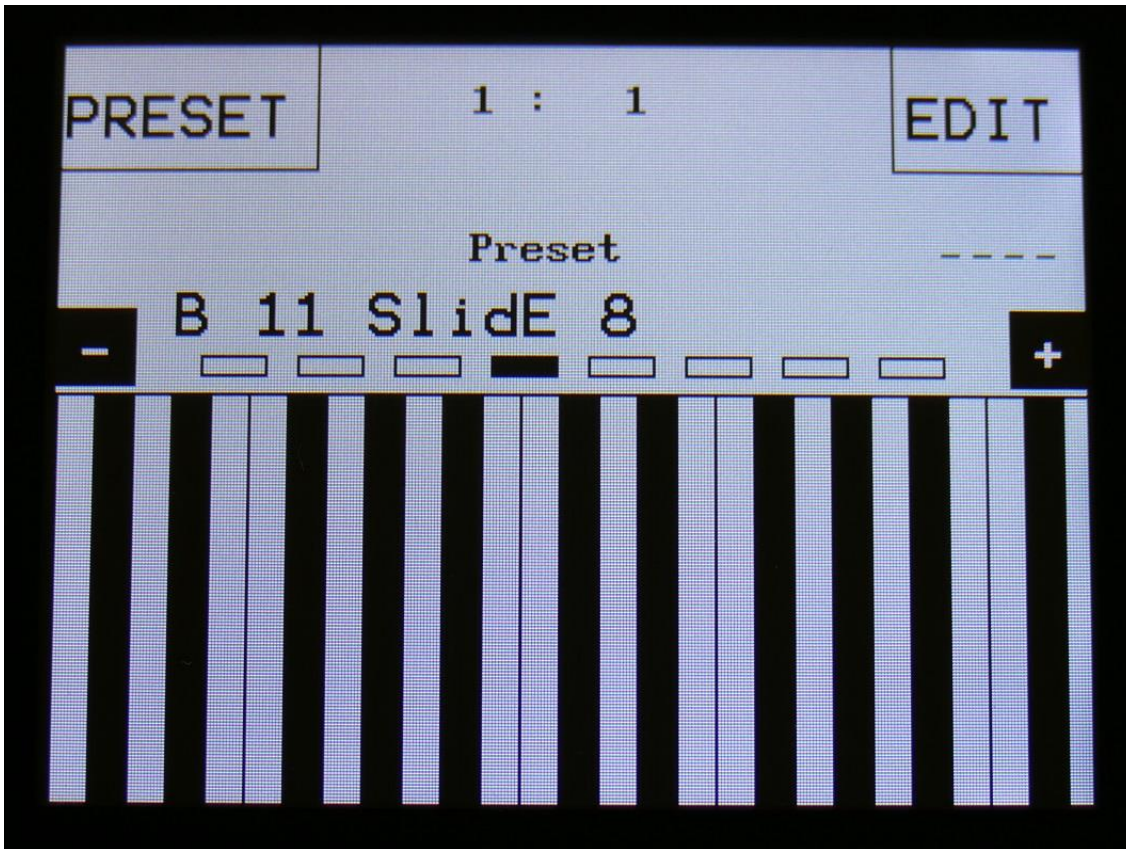

On the Preset and Song Select pages, it is, besides from playing notes on the touch keyboard, also possible to apply modulation to the sound, by placing your finger on different positions between the top and the bottom of the keyboard. This is referred to as Keyboard Y modulation. On any other pages, the keyboard only plays notes.

The touch keyboard work in the same way as a connected MIDI keyboard. Each of Xmini's 4 triggers can be set up to work inside a specific note range. The keyboard will, when a note is played, activate the trigger that has been set up to be triggered by this note.

It is possible to select the keyboard octave, by touching any of the 8 squares just above the keyboard.

By touching the "-" and "+" buttons, just above the keyboard, it is possible to adjust the keyboard size. The size can be from 1 to 8 octaves.

The Preset Select Screen
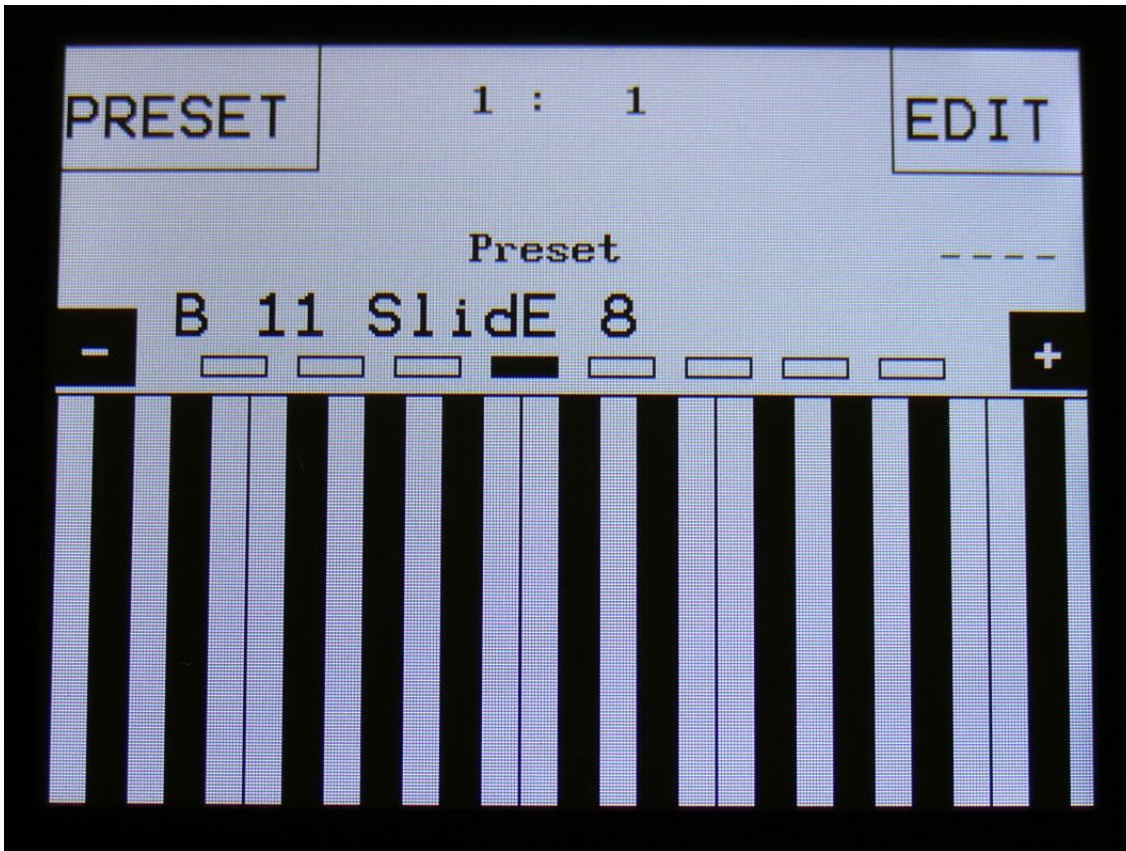
This is the first screen you will see, right after Xmini's start-up screen, unless you left your Xmini in Song mode, the last time it was turned off. Here you can change preset and jump to Xmini's edit and settings pages, and adjust the touch keyboard settings, as described on the previous pages.

On the top of this screen, the Sequencer bar/beat, that is currently being played back, is shown. Below this, it says "Preset", if Xmini is currently in preset mode, or "Song" if Xmini currently are in song mode.

Below this, the number and name of the currently selected preset/song is shown.

Below the preset name/number, you will find the touch screen keyboard.

On the left side of the screen, 4 small VU-meters are shown. These show the output activity of VCA 1 to 4.

Touch the "EDIT" field in the upper right corner of the screen, to enter the edit and setup pages. Touch the "PRESET" field, to select a memorized preset.

Selecting a preset:

Touch the "PRESET" field. A list of 5 presets near the currently selected preset, will now appear:
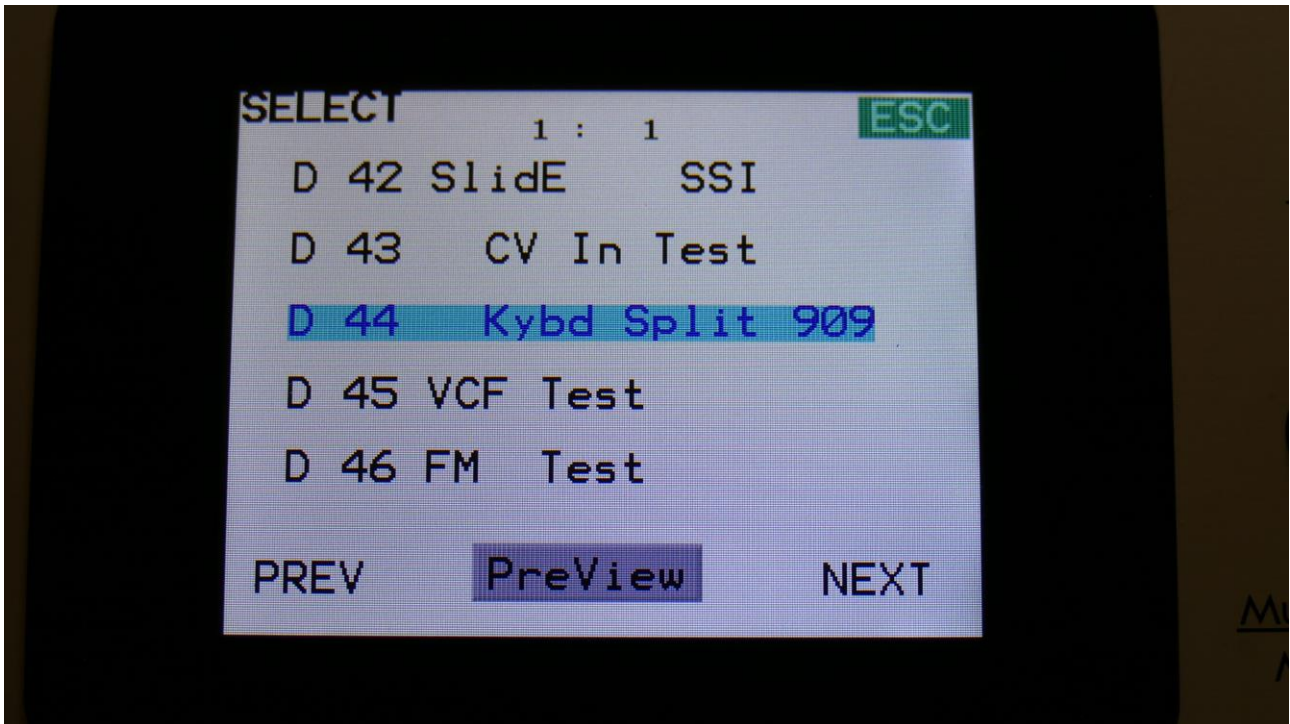
Touch "PREV" or "NEXT" to view the previous or next 5 presets, and finally touch the preset name of the preset you would like to select. 1024 presets can be selected, from A01 to P64.

Xmini will now jump back to the main Preset Select screen, and show the name of the newly selected preset.

If the sequencer is playing back, the Start/Stop LED will now start to flash, and the text "NEXT:" will show right above the new presets name, awaiting track 1 to reach its end. As soon as this happens, Xmini will switch to the newly selected preset, the Start/Stop LED will stop flashing, and "NEXT:" will dissapear.

If the sequencer is not playing back, Xmini will immediately switch to the new preset, when you touch the preset name.
When Xmini is turned off, it will remember which preset was selected, and start up with this, when turned on again. It will also remember if it was in preset or song mode, and start up in the same mode, and if it was in song mode, it will also remember which song was selected.

Touch "ESC" to exit from the preset select page, without selecting a new preset.

On the Preset Select page, the 7 Edit/Quick Edit Knobs will transmit MIDI CC's to Xmini's MIDI out, on the Xmini MIDI channel.

Edit Knob 1 to 4 will transmit MIDI CC 1 to 4.

The Morph knob will transmit and receive MIDI CC 11.

The Cut knob will transmit and receive MIDI CC 10.

The Reso knob will transmit and receive MIDI CC 9.

If you activate the PreView mode, by touching the PreView field, so it turns black with white text, you can preview the presets, without Xmini jumping back to the main Preset Select screen.
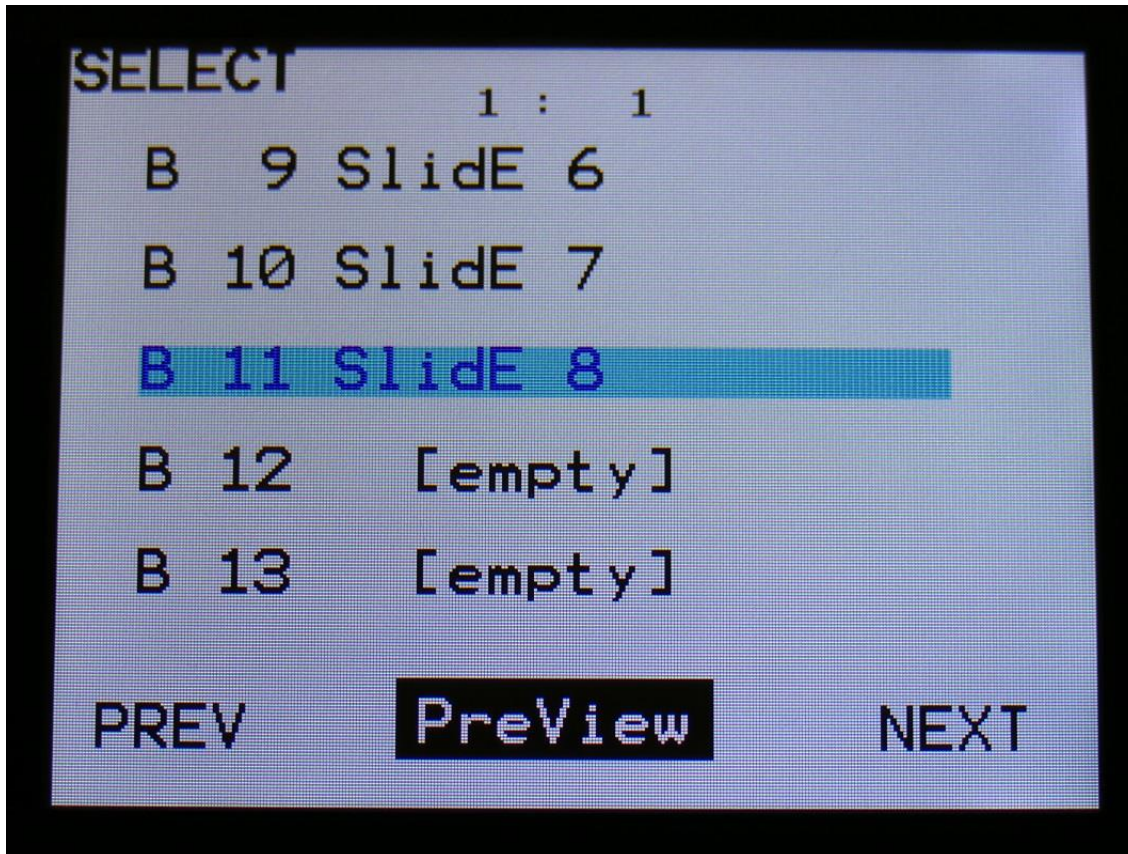
If the sequencer is running, it will still wait for track 1 to reach step 1, until it jumps to the next preset. This is indicated by the Start/Stop LED flashing.

The Triggers

Every time you want to trigger something in Xmini, either through the 4 trigger buttons, the touch screen keyboard or a connected MIDI keyboard or pad controller, it has to go through the trigger system, so you might want to set this up. The Xmini trigger system is much simpler than the Anamono X trigger system. Each oscillator/sampler and envelope can be trigged by one trigger. After a preset init, everything is automatically set up to be trigged by trigger 1.

On any page, it is possible to trigger 4 internal events, like envelopes and samplings, and/or external MIDI devices, and to make oscillators play a specific note, using the trigger buttons.

To play the triggers, simply hit the corresponsive buttons. A trigger buttons LED will light up, every time it is trigged.
It is possible to record the triggers actions into a sequencer track, and it is possible to control the triggers from MIDI gear connected to the Xmini MIDI input.

The triggers are set up in the "Synth" section, explained from the next page in this manual.

Remember to save all edits you do in the Triggers section. Else they will be lost when you change preset, or turn Xmini off. See how to in the "Save Preset" section.
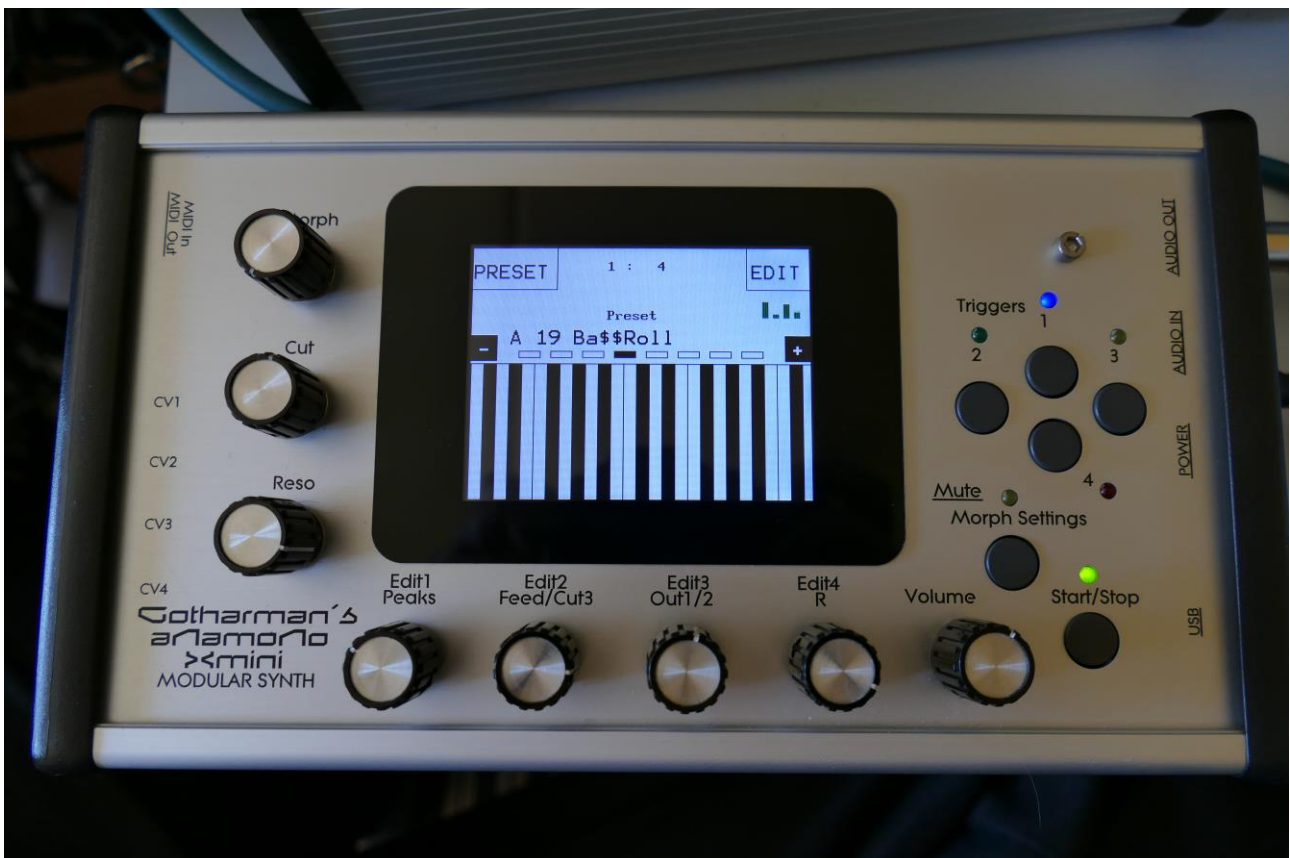
The Synth

This is where all the exciting stuff happens ☺
Here Xmini has a number of "modules" like oscillators, samplers, analog filters, modulators and even effects processors, that can be connected to each other in absolutely any way you like. Just like you can do with cables on a modular system.
The big ups are though: Xmini can memorize anything and you won't get a huge bunch of cables on your desk!

Remember to save all edits you do in the synth section. Else they will be lost when you change preset, or turn Xmini off. See how to in the "Save Preset" section.

Available Modules in the Synth Section:

-4 Oscillators/Samplers
-1 Noise Generator
-Up to 1 Analog Filter
-4 Ring VCA's
-4 VCA's
-8 Envelopes
-4 LFO's
-4 Random Generators
-4 Effects Processors

Please find each module described later in this section.

List of Synth Modulation Sources:

Osc1: The audio range output of Oscillator/Sampler 1
Osc1-: The inverted audio range output of Oscillator/Sampler 1
Osc2: The audio range output of Oscillator/Sampler 2
Osc2-: The inverted audio range output of Oscillator/Sampler 2
Osc3: The audio range output of Oscillator/Sampler 3
Osc3-: The inverted audio range output of Oscillator/Sampler 3
Osc4: The audio range output of Oscillator/Sampler 4
Osc4-: The inverted audio range output of Oscillator/Sampler 4
Nois: The audio range output of the Noise Generator
Nois-: The inverted audio range output of the Noise Generator
SLN: Slow Noise. The low frequency output of the Noise Generator
SLN-: Inverted Slow Noise. The Inverted low frequency output of the Noise Generator
Slo1: Slow Oscillator 1. The low frequency output of Oscillator 1
Slo1-: Inverted Slow Oscillator 1. The Inverted low frequency output of Oscillator 1
Slo2: Slow Oscillator 2. The low frequency output of Oscillator 2
Slo2-: Inverted Slow Oscillator 2. The Inverted low frequency output of Oscillator 2
Slo3: Slow Oscillator 3. The low frequency output of Oscillator 3
Slo3-: Inverted Slow Oscillator 3. The Inverted low frequency output of Oscillator 3
Slo4: Slow Oscillator 4. The low frequency output of Oscillator 4
Slo4-: Inverted Slow Oscillator 4. The Inverted low frequency output of Oscillator 4
Aen1: The output of VCA Envelope 1
Aen1-: The output of VCA Envelope 1 Inverted
Aen2: The output of VCA Envelope 2
Aen2-: The output of VCA Envelope 2 Inverted
Aen3: The output of VCA Envelope 3
Aen3-: The output of VCA Envelope 3 Inverted
Aen4: The output of VCA Envelope 4
Aen4-: The output of VCA Envelope 5 Inverted
Vcf: The audio range output of the Analog Filter
Vcf-: The audio range output of the Analog Filter Inverted
Efx1: The audio range output of Effects Processor 1
Efx1-: The audio range output of Effects Processor 1 Inverted
Efx2: The audio range output of Effects Processor 2
Efx2-: The audio range output of Effects Processor 2 Inverted
Efx3: The audio range output of Effects Processor 3
Efx3-: The audio range output of Effects Processor 3 Inverted
Efx4: The audio range output of Effects Processor 4
Efx4-: The audio range output of Effects Processor 4 Inverted
Seq1: The output of Sequencer Controller Track 1
Seq1-: The output of Sequencer Controller Track 1 Inverted
Seq2: The output of Sequencer Controller Track 2
Seq2-: The output of Sequencer Controller Track 2 Inverted
Seq3: The output of Sequencer Controller Track 3
Seq3-: The output of Sequencer Controller Track 3 Inverted
Seq4: The output of Sequencer Controller Track 4
Seq4-: The output of Sequencer Controller Track 4 Inverted

Seq5: The output of Sequencer Controller Track 5
Seq5-: The output of Sequencer Controller Track 5 Inverted
Seq6: The output of Sequencer Controller Track 6
Seq6-: The output of Sequencer Controller Track 6 Inverted
Seq7: The output of Sequencer Controller Track 7
Seq7-: The output of Sequencer Controller Track 7 Inverted
Seq8: The output of Sequencer Controller Track 8
Seq8-: The output of Sequencer Controller Track 8 Inverted
SQg1: Sequencer Controller Track 1 step on/off gates
SQg1-: Sequencer Controller Track 1 step on/off gates Inverted
SQg2: Sequencer Controller Track 2 step on/off gates
SQg2-: Sequencer Controller Track 2 step on/off gates Inverted
SQg3: Sequencer Controller Track 3 step on/off gates
SQg3-: Sequencer Controller Track 3 step on/off gates Inverted
SQg4: Sequencer Controller Track 4 step on/off gates
SQg4-: Sequencer Controller Track 4 step on/off gates Inverted
SQg5: Sequencer Controller Track 5 step on/off gates
SQg5-: Sequencer Controller Track 5 step on/off gates Inverted
SQg6: Sequencer Controller Track 6 step on/off gates
SQg6-: Sequencer Controller Track 6 step on/off gates Inverted
SQg7: Sequencer Controller Track 7 step on/off gates
SQg7-: Sequencer Controller Track 7 step on/off gates Inverted
SQg8: Sequencer Controller Track 8 step on/off gates
SQg8-: Sequencer Controller Track 8 step on/off gates Inverted
Ring1: The output of Ring VCA 1
Ring1-: The output of Ring VCA 1 Inverted
Ring2: The output of Ring VCA 2
Ring2-: The output of Ring VCA 2 Inverted
Ring3: The output of Ring VCA 3
Ring3-: The output of Ring VCA 3 Inverted
Ring4: The output of Ring VCA 4
Ring4-: The output of Ring VCA 4 Inverted
Env1: The output of Envelope 1
Env1-: The output of Envelope 1 Inverted
Env2: The output of Envelope 2
Env2-: The output of Envelope 2 Inverted
Env3: The output of Envelope 3
Env3-: The output of Envelope 3 Inverted
Env4: The output of Envelope 4
Env4-: The output of Envelope 4 Inverted
LFO1: The output of LFO1
LFO1-: The output of LFO1 Inverted
LFO2: The output of LFO2
LFO2-: The output of LFO2 Inverted
LFO3: The output of LFO3
LFO3-: The output of LFO3 Inverted
LFO4: The output of LFO4
LFO4-: The output of LFO4 Inverted

Rnd1: The output of Random Generator 1
Rnd1-: The output of Random Generator 1 Inverted
Rnd2: The output of Random Generator 2
Rnd2-: The output of Random Generator 2 Inverted
Rnd3: The output of Random Generator 3
Rnd3-: The output of Random Generator 3 Inverted
Rnd4: The output of Random Generator 4
Rnd4-: The output of Random Generator 4 Inverted
CV1: The voltage apllied to CV Input 1
CV1-: The voltage apllied to CV Input 1 Inverted
CV2: The voltage apllied to CV Input 2
CV2-: The voltage apllied to CV Input 2 Inverted
CV3: The voltage apllied to CV Input 3
CV3-: The voltage apllied to CV Input 3 Inverted
CV4: The voltage apllied to CV Input 4
CV4-: The voltage apllied to CV Input 4 Inverted
Kybd: The last note number value received on MIDI in, on the Anamono X MIDI channel
Kybd-: The last note number value received on MIDI in, on the Anamono X MIDI channel Inverted
Velo: The last note velocity value received on MIDI in, on the Anamono X MIDI channel
Velo-: The last note velocity value received on MIDI in, on the Anamono X MIDI channel Inverted
Aft: The last mono aftertouch value received on MIDI in, on the Anamono X MIDI channel
Aft-: The last mono aftertouch value received on MIDI in, on the Anamono X MIDI channel Inverted
Knb1: Edit knob 1 value and the last MIDI CC 1 value received on MIDI in, on the Anamono X MIDI channel
Knb1-: Edit knob 1 value and the last MIDI CC 1 value received on MIDI in, on the Anamono X MIDI channel Inverted
Knb2: Edit knob 2 value and the last MIDI CC 2 value received on MIDI in, on the Anamono X MIDI channel
Knb2-: Edit knob 2 value and the last MIDI CC 2 value received on MIDI in, on the Anamono X MIDI channel Inverted
Knb3: Edit knob 3 value and the last MIDI CC 3 value received on MIDI in, on the Anamono X MIDI channel
Knb3-: Edit knob 3 value and the last MIDI CC 3 value received on MIDI in, on the Anamono X MIDI channel Inverted
Knb4: Edit knob 4 value and the last MIDI CC 4 value received on MIDI in, on the Anamono X MIDI channel
Knb4-: Edit knob 4 value and the last MIDI CC 4 value received on MIDI in, on the Anamono X MIDI channel Inverted
TouY: Touch screen keyboard Y-axis position
TouY-: Touch screen keyboard Y-axis position Inverted

List of Synth Audio Bus Sources:

Osc1: Oscillator/Sampler 1
Osc2: Oscillator/Sampler 2
Osc3: Oscillator/Sampler 3
Osc4: Oscillator/Sampler 4
Noise: Noise Generator
Ring1: Ring VCA 1
Ring2: Ring VCA 2
VCF: Analog Filter Slot
VCA1: VCA1
VCA2: VCA2
VCA3: VCA3
VCA4: VCA4
EFX1: Effects Processor 1
EFX2: Effects Processor 2
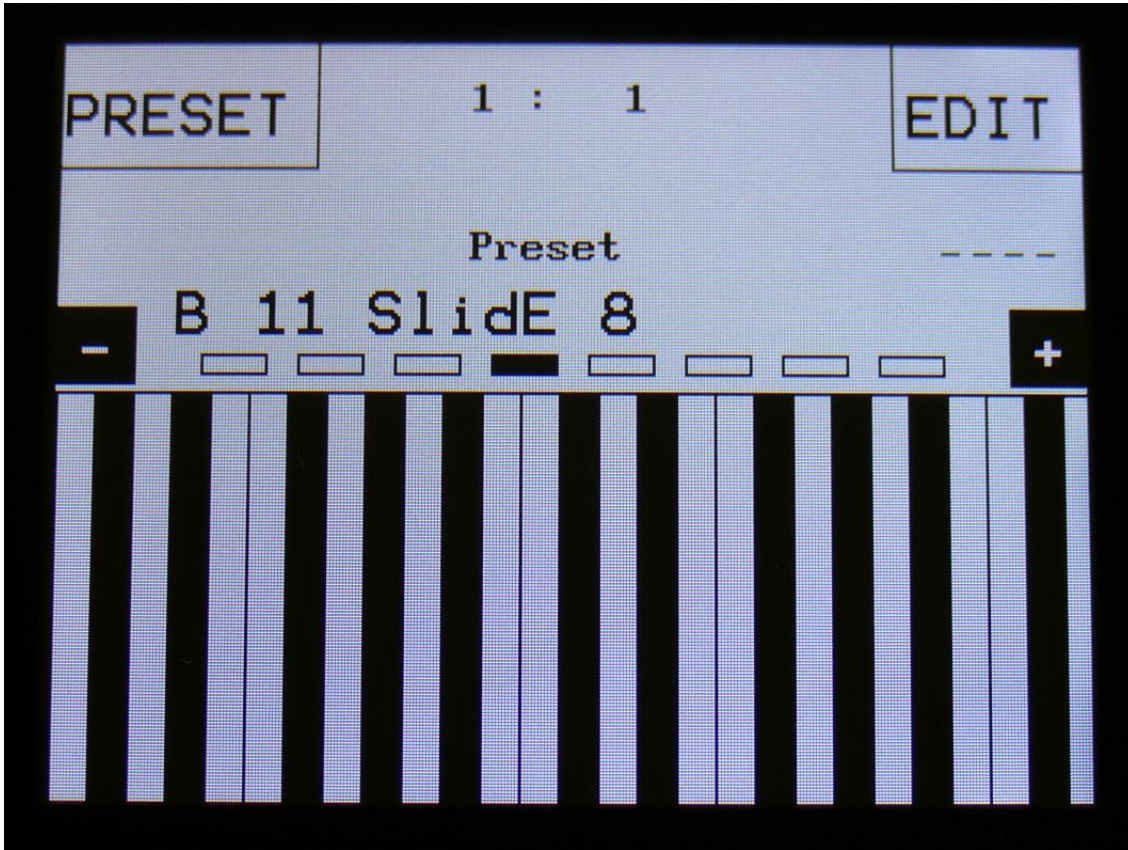**EFX3:** Effects Processor 3
EFX4: Effects Processor 4
Ring3: Ring VCA 3
Ring4: Ring VCA 4
RvF1: Reverb 1 feedback loop
RvF2: Reverb 2 feedback loop

Accessing The Synth Pages

From the Preset/Song Select screen, Touch the "EDIT" field.

Now Xmini will show the main Synth page:
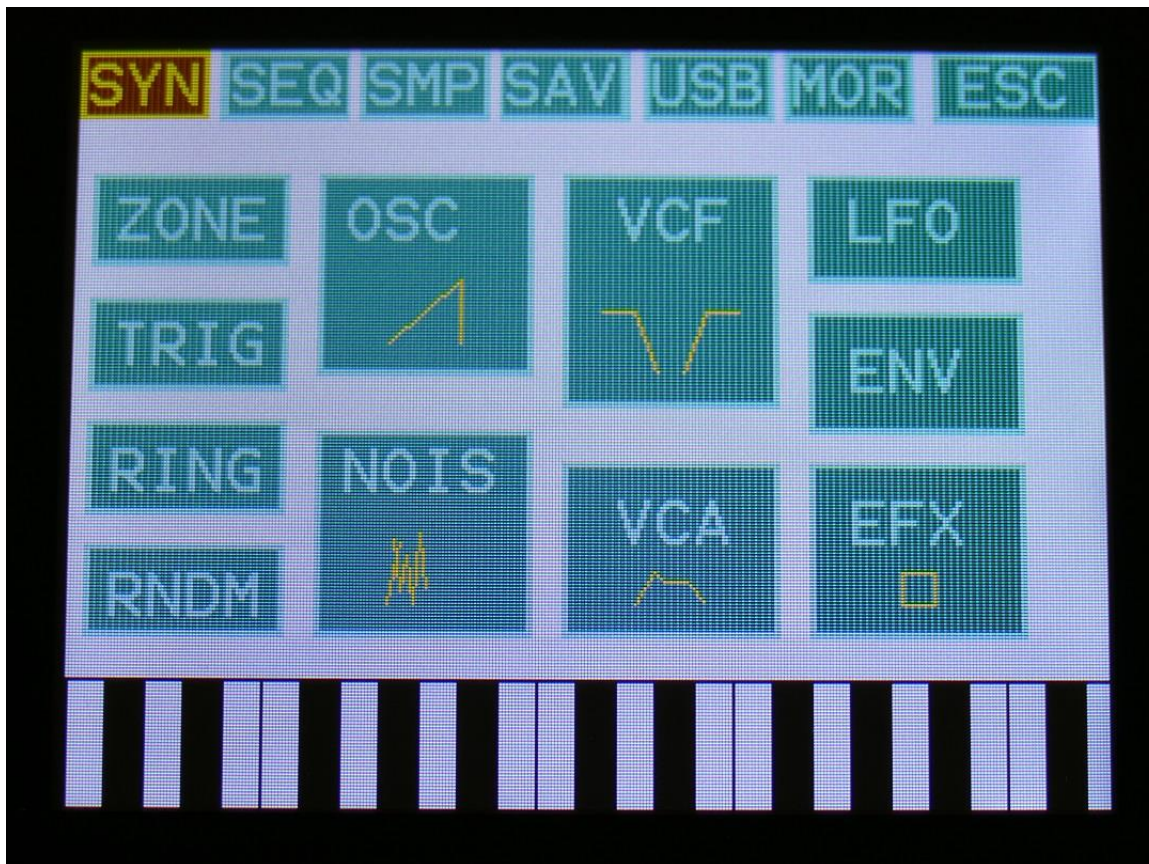
In the top of the main Synth page, you will find the 6 main edit groups and the ESC (escape) touch button. Touch any of these group buttons to access them, and touch ESC, to exit to the Preset Select page.
The touch button of the currently selected edit group is brown/yellow, while the buttons of the other groups are green.
The group of touch buttons, will be reffered to as the "group select bar".

Below the group select bar, you will find the synth modules. Touch any module, to access the parameters of it, and edit these. The modules OSC, VCA, LFO, ENV and EFX, each contains 4 modules inside their block. Each of the 4 modules can be selected inside the block, on the edit pages.

In the bottom of this page, the touch keyboard is located.

Editing The Parameters Of The Modules
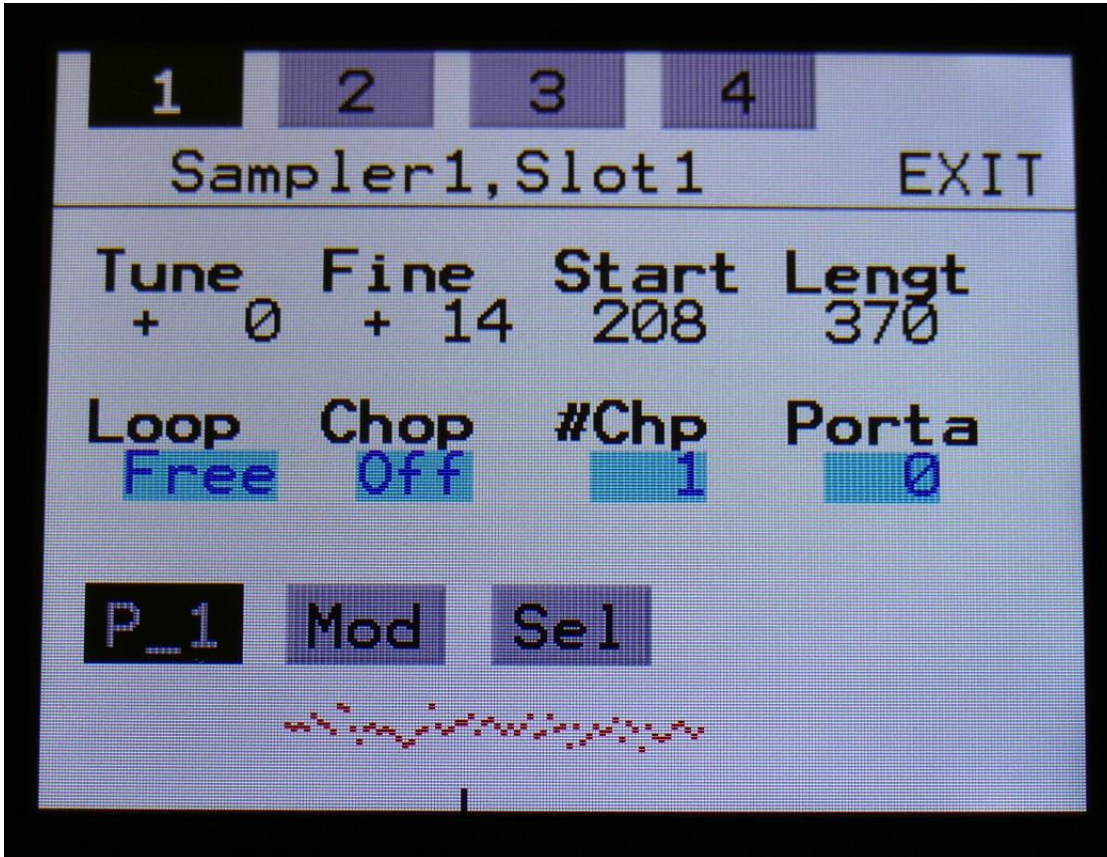
Each module page has up to 8 parameters, that can be edited. The parameters are shown on the display as 8 parameter names, each with an alphanumeric value below them, that shows the current value of the parameter.

By touching any of the 2 rows of parameters, you can select 4 parameters for editing at a time. The selected row of parameters will have their value written inside a blue square.

When turning any of the 4 Edit Knobs, the corresponding selected parameter will be adjusted, and you will hear a change in the sound, if the module is connected.

Right below the parameters, you will find the sub page select buttons (named "P_1", "Mod" and "Sel" on the shown page). By touching these, you can select different sub pages of the module, with additional parameters.

If a module contains more than one module, each module can be selected by touching the numbers 1, 2, 3 and 4 at the top of the page.

In the upper right corner of each module, you will find "EXIT". Touch this to exit to the synth module overview page.
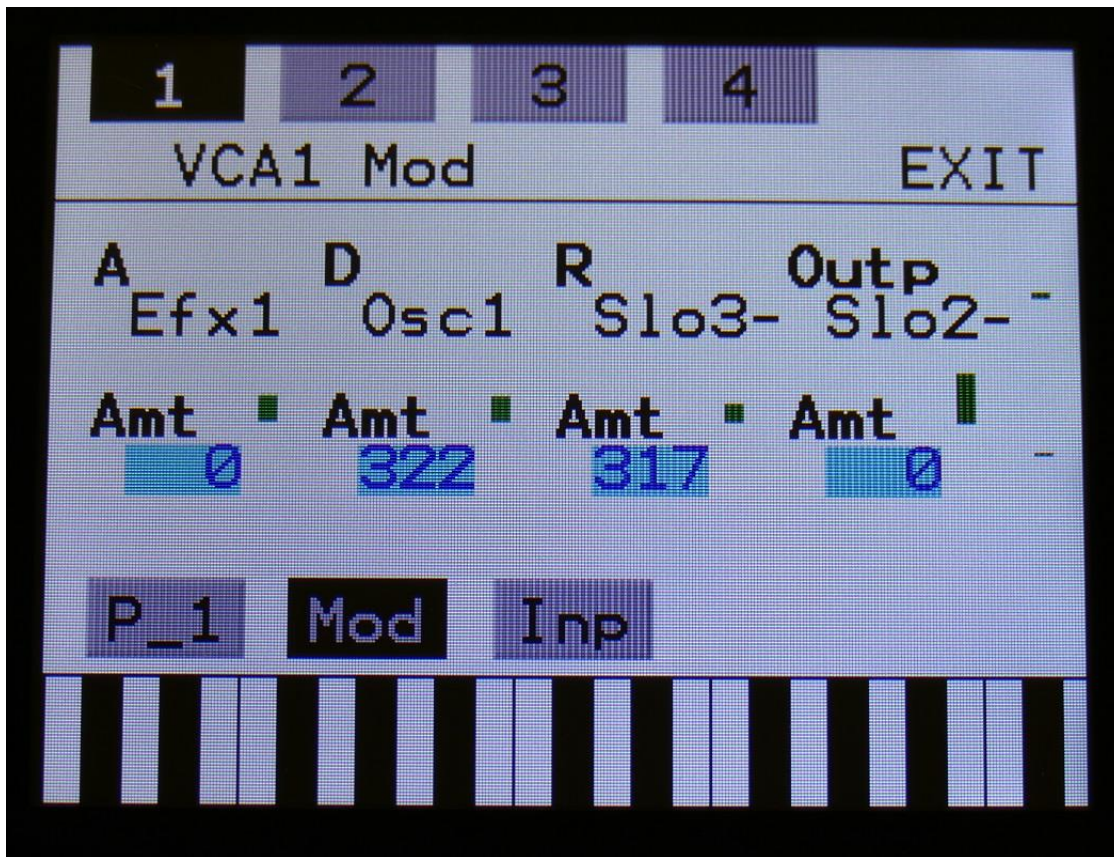
Connecting Modules

On Xmini you do not need minijack cables or a computer to connect its modules, unless you are connecting external analog devices via the CV inputs and outputs, of course. You just need to select a module, touch the screen and turn a knob, and the module is connected! I will now explain how:

Nearly all modules has a ”mod” sub page button, and all modules that has audio inputs has an “Inp” sub page button:
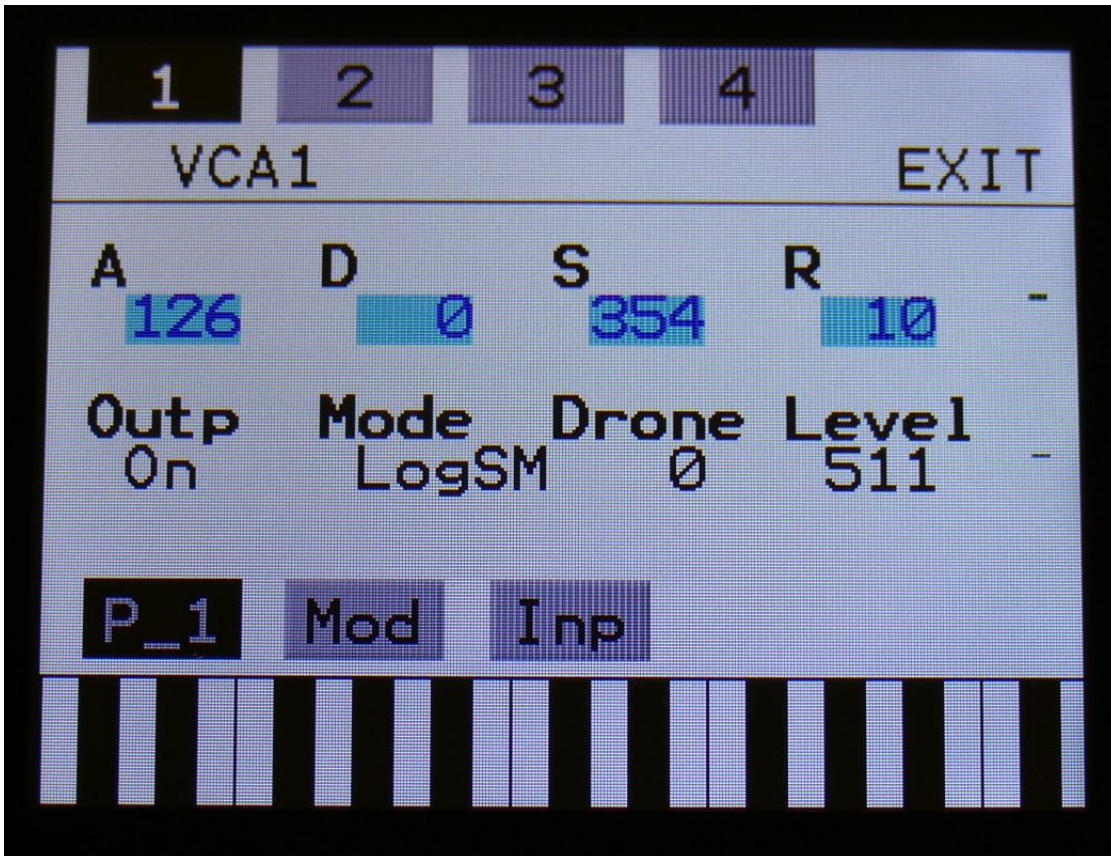
When touching the "Mod" button, Xmini jumps to the Modulation page of the module:

On this page, you can, by turning Edit Knob 1 to 4, select the sources, that should be connected to the modulation inputs of the module. The parameter names shows what parameter is being modulated by the selected source.

By touching the lower row of parameters, to select these, you can adjust the modulation amount, again by turning Edit Knob 1 to 4.

When touching the "Inp" button, Xmini jumps to the inputs page of the module:
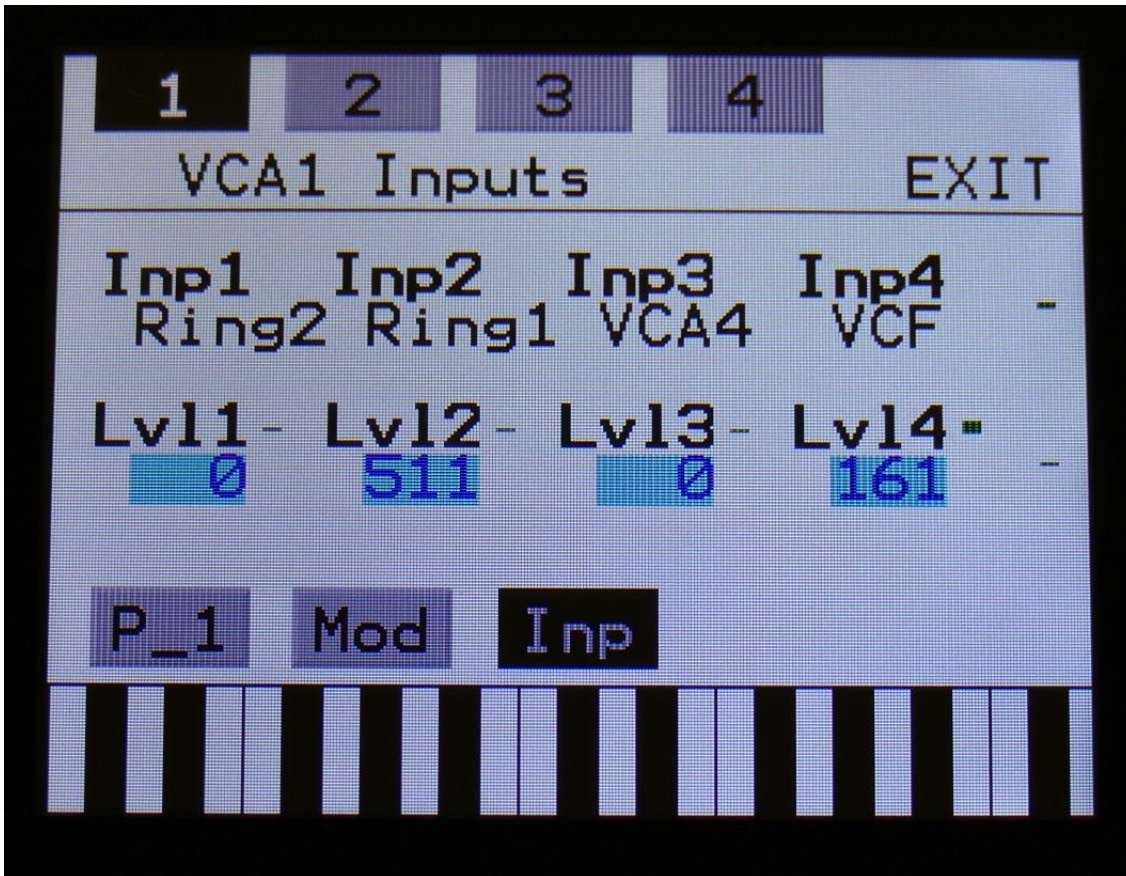
On this page, you can, by turning Edit Knob 1 to 4, select the sources, that should be connected to the audio inputs of the module. Each module that has audio inputs, usually has 4 of these.

By touching the lower row of parameters, to select these, you can adjust the input level of each source, again by turning Edit Knob 1 to 4.

The Synth Modules

In this section all the modules of the Synth (synthesizer) section are explained. The modules of the sequencer is not explained here, but in the Sequencer section later in this manual.

ZONES
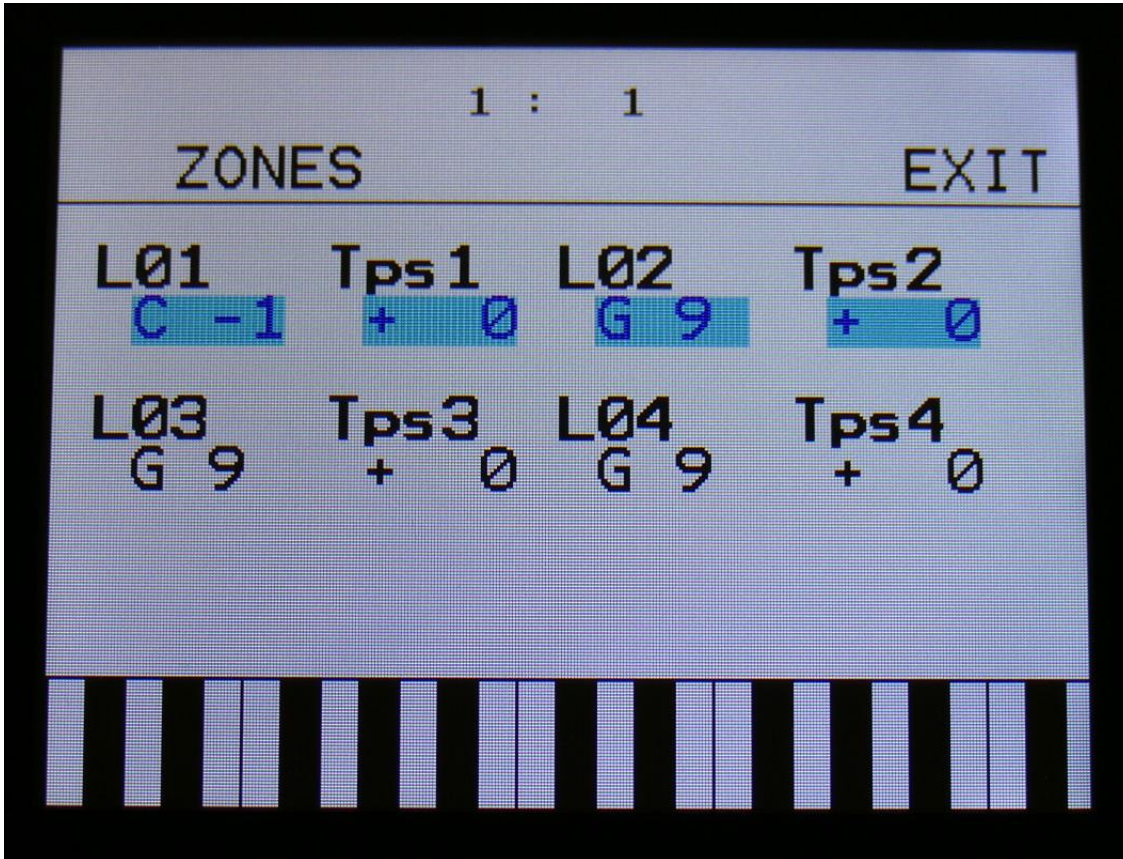
By touching the ZONE module, you will access the Zones edit page.

Here you can set up key zones for each of the 4 triggers. These zones are effective only when Xmini is controlled from an external MIDI device or from the touch screen keyboard. It is also possible to transpose the incoming notes individually for each trigger key zone.

When using the internal sequencer, note track 1 will always drive Trigger 1 in the full note range, note track 2 will always drive Trigger 2 in the full note range and so on…

LO1, LO2, LO3, LO4: Sets the lowest note of trigger 1 to 4 MIDI note range. The note range of trigger 1, will be from trigger 1 LO to trigger 2 LO. The note range of trigger 2, will be from trigger 2 LO to trigger 3 LO… and so on. The note range of trigger 4 will be from LO4 to the upper key. The upper key for Zone 4, can be set on the TRIG page, using the Uppr Key parameter.

Tps1, Tps2, Tps3, Tps4: Transposes the incoming notes up to 64 notes up or down, for each trigger key zone.

TRIG

When touching the TRIG module, you will enter the Trigger setup pages.

On these 4 pages, it is possible to set up what note each trigger button should send, if one trigger button should trigger another, which trigger should trigger the oscillators and envelopes, and if the triggers should transmit notes on MIDI out.

The first sub page looks like this:
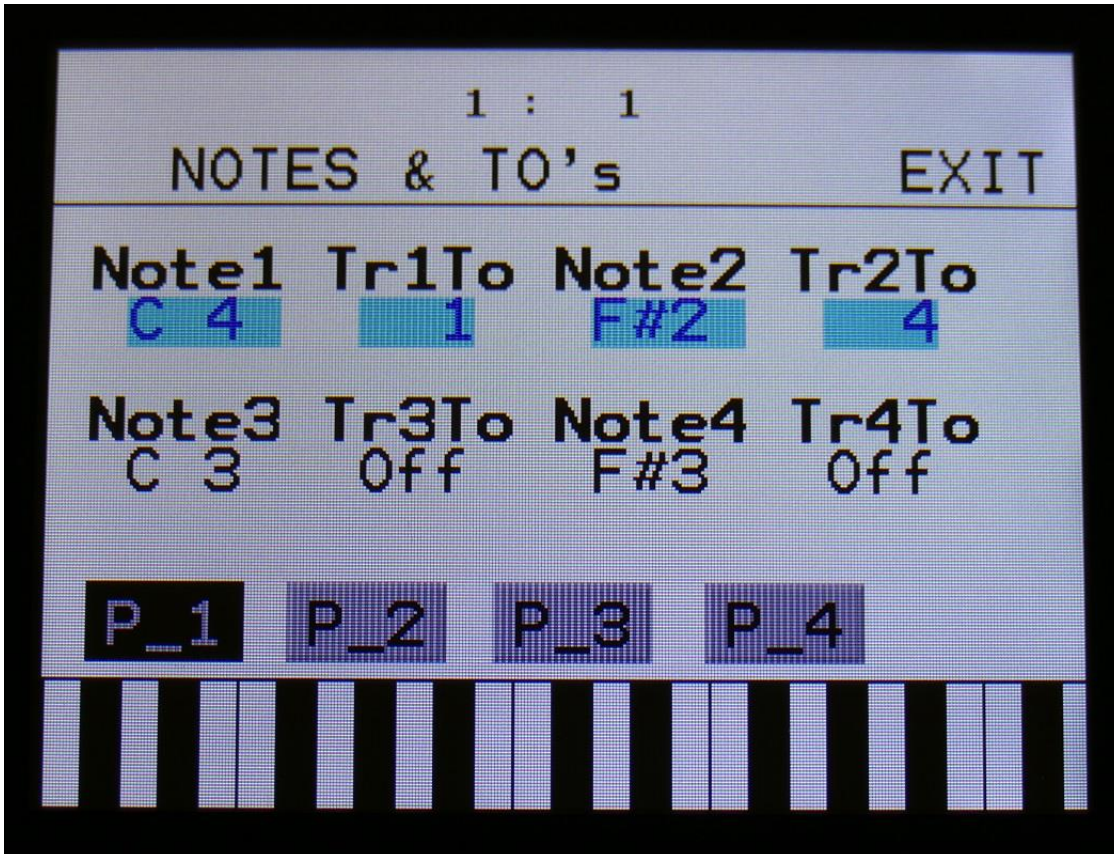
Note1, Note2, Note3, Note4: Sets the note number that each trigger button should send to the internal oscillators, when pushed. This setting only affects when the trigger buttons theselves are pushed, not when a trigger is controlled via MIDI or the sequencer.

Tr1To, Tr2To, Tr3To, Tr4To: Off, 1 to 4. A trigger can send its note number to another trigger, and trig this. This is done, by setting this parameter to any other value than Off. This can be useful, if you for instance have trigger 1 set up over the whole key range, and you just want to trigger other notes with the same modules as used by trigger 1.
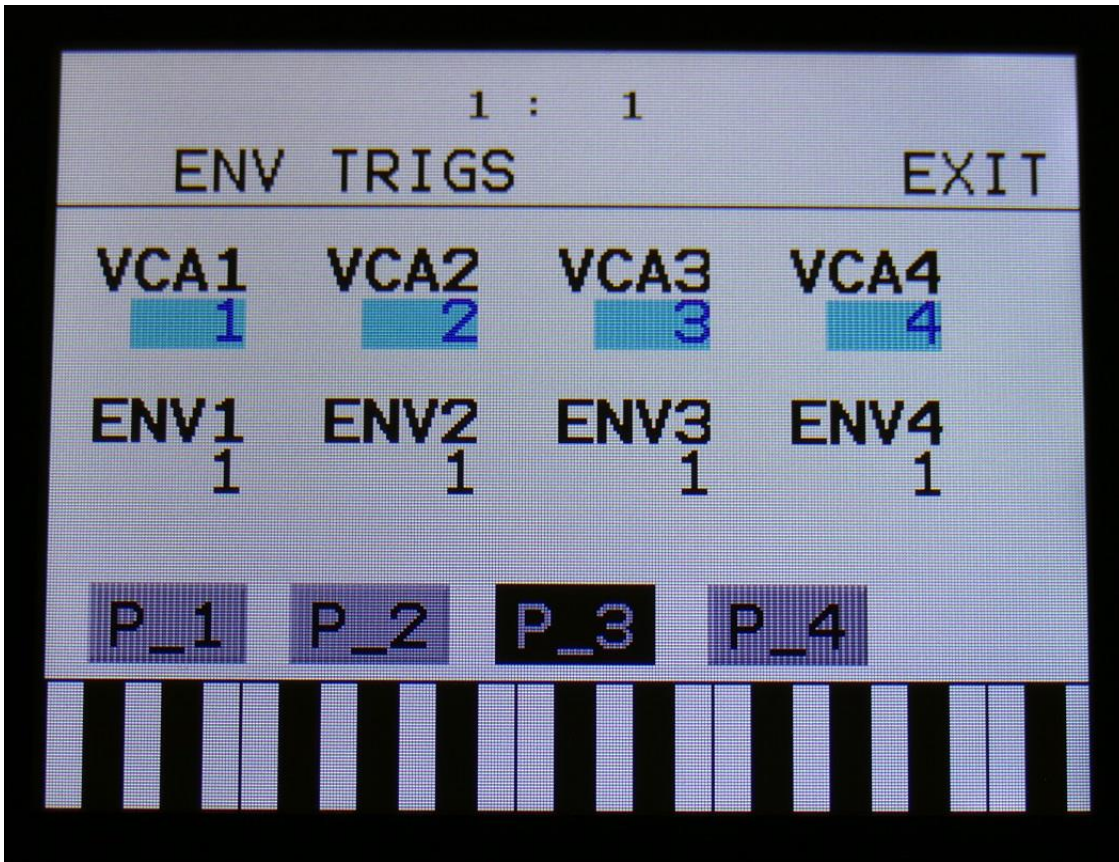
Sub page 2:
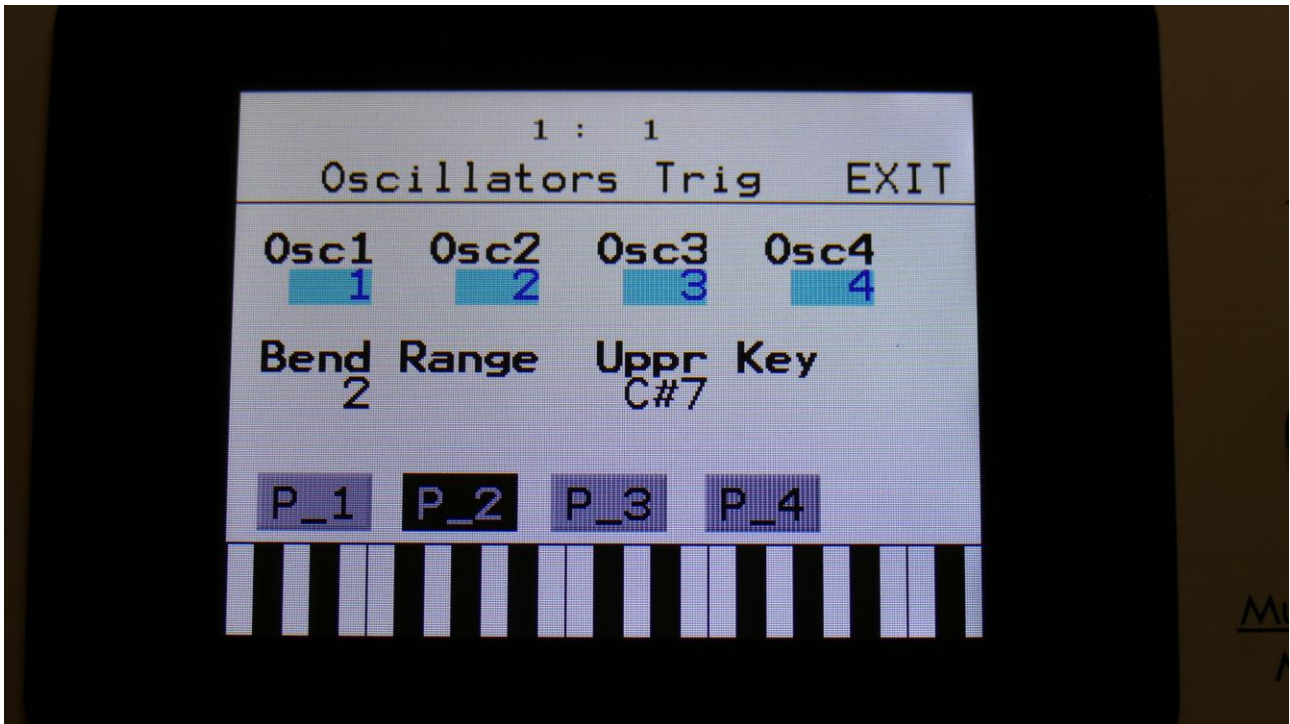
Osc1, Osc2, Osc3, Osc4: 1 to 4. Selects what trigger that should trigger each of the 4 samplers, and send note numbers to the oscillators/samplers.

Bend Range: Sets the pitch bend range for the entire synth in semitone steps. 1 to 12 semitones.
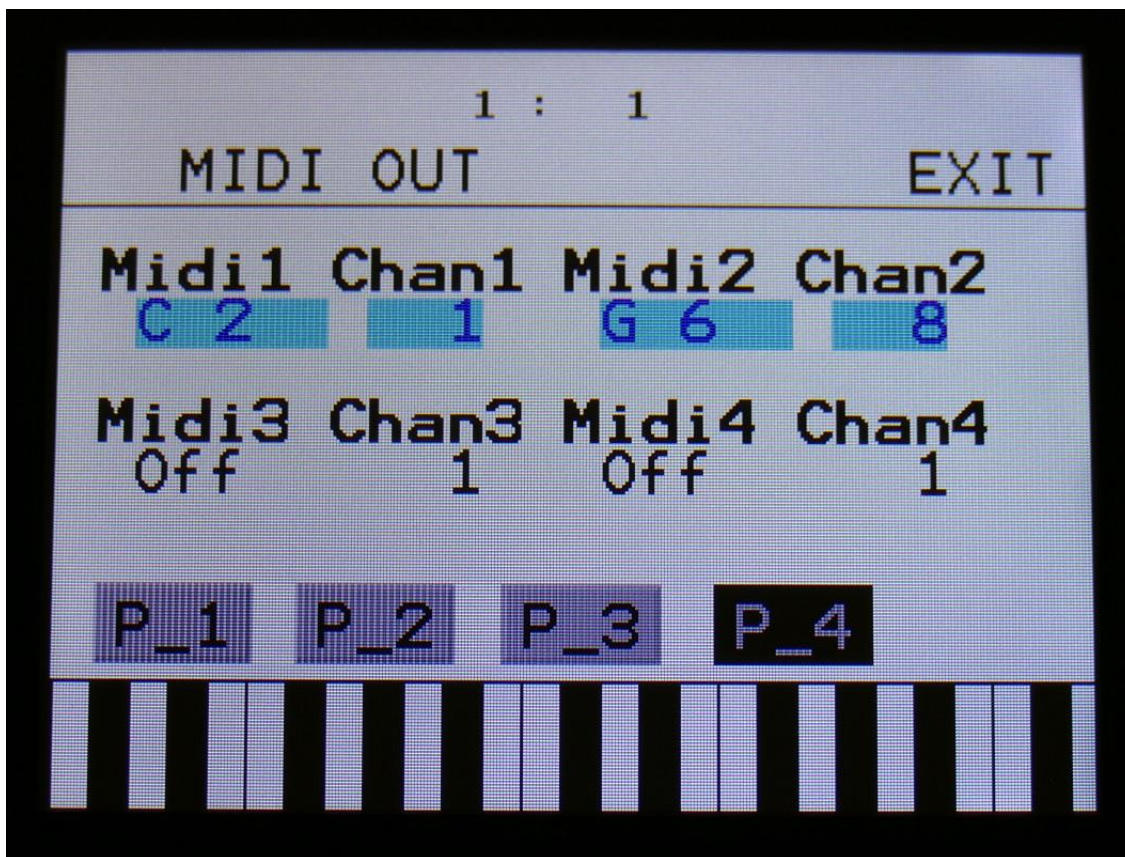
Uppr Key: Upper key for the key zones set up on the ZONES page.

Sub page 3:

VCA1, VCA 2, VCA 3, VCA 4, ENV1, ENV 2, ENV 3, ENV 4: 1 to 4. Selects what trigger that should trigger each of the 4 VCA envelopes and the 4 modulation envelopes.

Sub page 4:

On this page it is possible to select a MIDI note number and a MIDI channel, that will be transmitted via MIDI out, when a trigger button is pushed. When a trigger button is set up to transmit a MIDI note, the sequencer track attached to that trigger, will also transmit MIDI notes on the same MIDI channel.

Midi1, Midi2, Midi3, Midi4: Off, C-1 to G9. The MIDI note number, that will be transmitted, when pushing trigger button 1 to 4. When this is set to any other position than Off, the sequencer note track attached to the trigger, will also transmit its notes via MIDI. The notes transmitted from the sequencer are the notes programmed on the sequencer track, not the note number set here.

Chan1, Chan2, Chan3, Chan4: 1 to 16. The MIDI channel that trigger button 1 to 4/ sequencer note track 1 to 4 will transmit on.

OSC (Oscillator/Sampler) 1 to 4
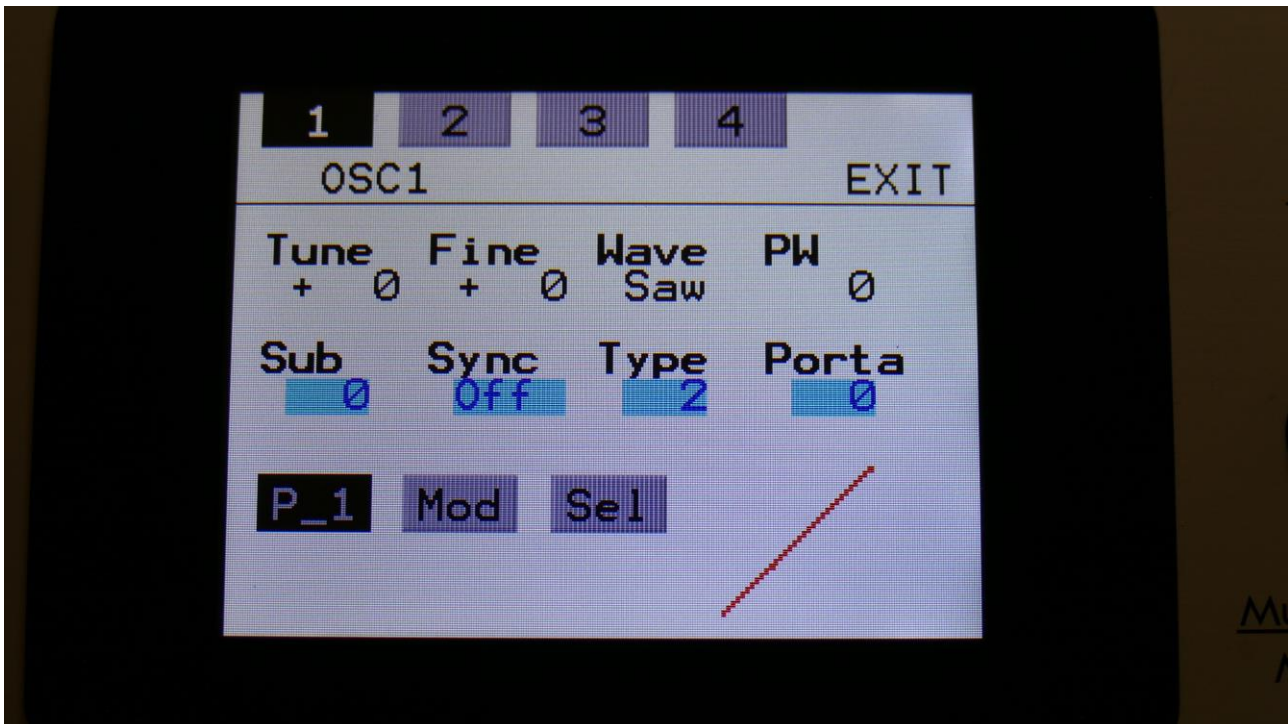
By touching the OSC module, you will access the 4 oscillators/samplers.

For each of the 4 oscillators, it is possible to select if it should act as an oscillator or a sampler.

In oscillator mode it generates a waveform that is morphable between sine, triangle, saw, pulse and feedback waves. Pulse width are adjustable for all waveform types. Each oscillator also has a suboscillator attached to them, that outputs a squarewave, one octave below the original pitch. The oscillators outputs both an audio range signal and a low frequency version of this at the same time, so the oscillators can function as both audio range sound/modulation sources and low frequency modulation sources, at the same time. Pitch, PW, wave and suboscillator level can be modulated. The oscillators can act as both audio and modulation sources. The pitch range of the oscillators are chromatically over the entire 10 octave MIDI keyboard range.

In sampler mode it plays back any of the 256 storable samplings, that can either be recorded on Xmini itself in the Sample Rec section, or be imported in the USB section. Each sampler has 4 sample slots, that each can contain one sampling, and a set of parameters for Pitch, start, length and chop point. Pitch, chop, start point and length can be adjusted and modulated. Samples are chromatically tuned, and has a pitch range of 4 octaves above and 5 octaves below the original sample pitch. Loop mode can be set to Off, On or Free. In Free mode the sampling is constantly playing back, and is never re-trigged. So if you set it up to go through a VCA, and set this up to be opened by a trigger, a different portion of the sampling will be played back every time the VCA is opened. Samplings can act as both audio and modulation sources. Like the oscillators, the samples

also outputs a low frequency version of itself, so samples can be used as low frequency modulation too.

Sampler modules can load and playback Little deFormer samples and use the chop points. It is also possible to create chop points in the Xmini sample editor, and use these. Chops can be detected by level peaks or by single wavecycles. Single wavecycle chops are an easy way to make loops.

Both oscillators and samplers has a portamento control.

Oscillator 1 to 4 parameters

The oscillator pages, when an oscillator are in oscillator mode.
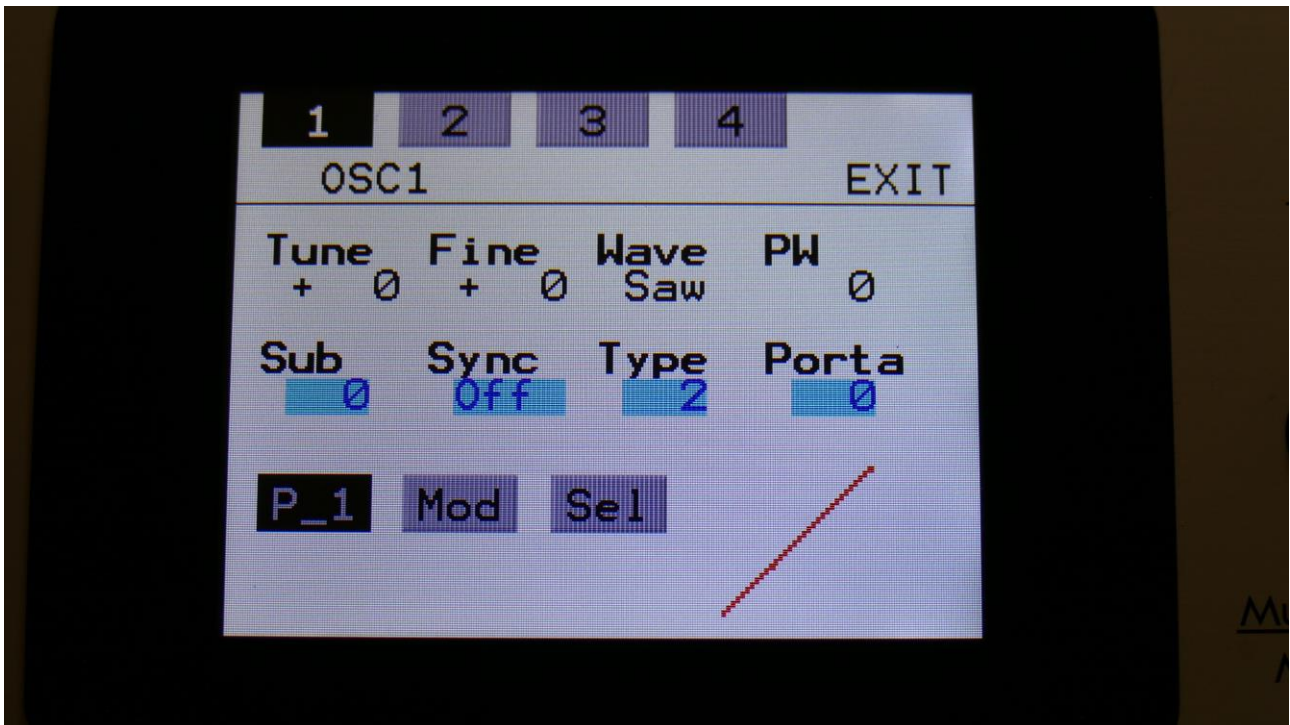
In the bottom right of the oscillator page, the current waveform is shown.

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

Fine: Fine tuning of the pitch. Range: -256 to +255.

Wave: This parameter lets you morph between sine, triange, 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 Xmini's waveforms, not just the pulse wave.

Sub: Sub Oscillator Level. When turned up, a square wave, one octave below the oscillator frequency, is added to the oscillator signal. Range: 0 to 511.

Sync: Oscillator Sync. When this is in any other position than Off, the selected oscillator will sync to one of the other oscillators. Range: Off, Osc1 toOsc 4.

Type: Select oscillator type 1 or type 2. Type 2 has a wider and more smooth pitch modulation range, but has a bit more aliasing in the top and bottom of the frequency range.

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

Oscillator 1 to 4 modulation

At any of the 4 Oscillator pages, touch the "Mod" button, to enter the modulation page:
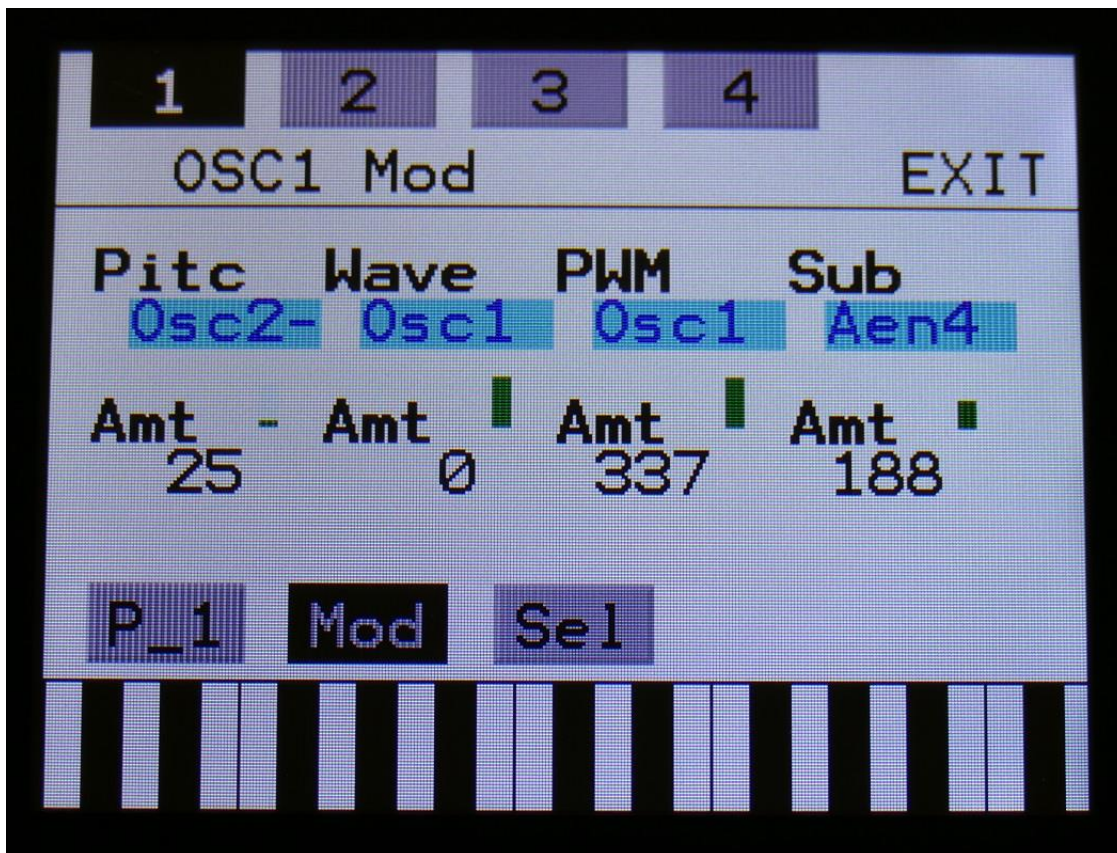
The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **The lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Pitc: Modulates the oscillator pitch.

Wave: Modulates the wave select morphing.

PWM: Modulates the pulse width of the waveform

Sub: Modulates the level of the sub-oscillator square wave.

Sampler 1 to 4

The oscillator pages, when an oscillator are in sampler mode.
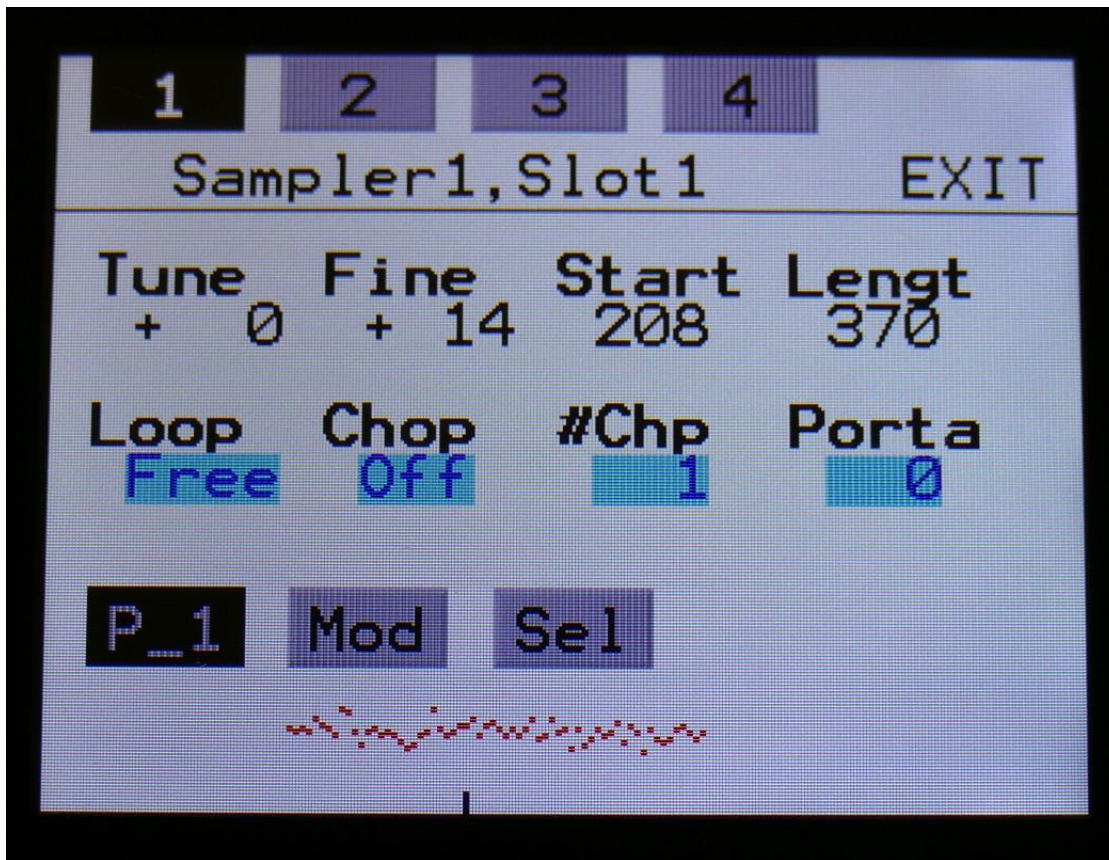
In the bottom of the sampler page, the selected sample waveform is shown in rough graphics. When the sample, or part of it, is played back, the small black line below the waveform will show the current playback point.

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

Fine: Fine tuning of the pitch. Range: -256 to +255.

Start: The sample start point. Selects at what point the sample will start to play back, when it is triggered. Range: 0 to 511, stretching over the whole sampling.

Length: Adjusts how much of the sampling should be played back. Range: 0 to 511, stretching over the whole sampling.

Loop: Sets the sampling loop mode.
Off: The sample will not loop, just play back one time from the adjusted, or chop selected, start to end, and then stop.
On: The sample will play back from the adjusted start point, when triggered. When it reaches the adjusted end point, it will loop back to the start point, and play back the sample over and over again.
Free: The sample will constantly be looping between the adjusted, or chop selected, start and endpoints, regardless of if it is triggered or not.

Chop: If chop points has been generated for the selected sampling, a chop can be selected by setting this parameter. Range: Off, 0 to 63.

xChp: Number of Chops to be played back in a row. Range: 1 to 64.

Porta: Portamento. The more this is turned up, the slower the sampler pitch will slide from one note to another. Range: 0 to 511.

Sampler 1 to 4 modulation
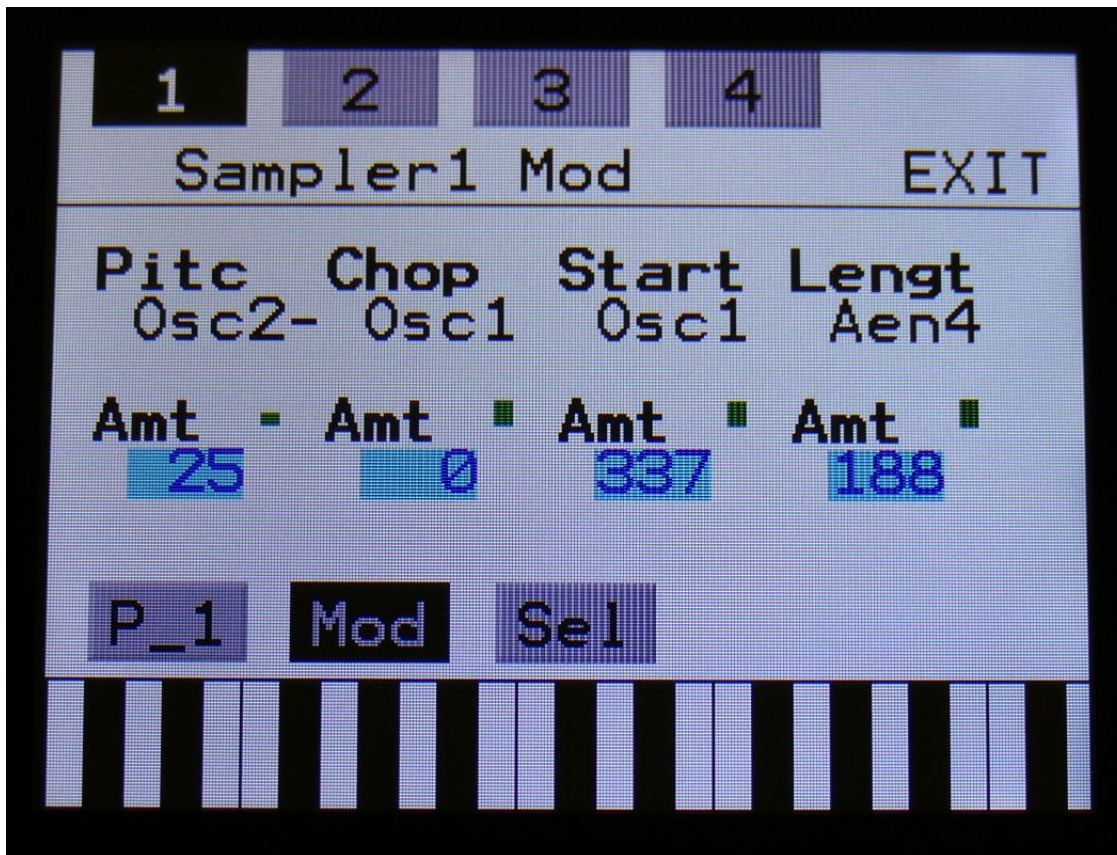
The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **The lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Pitc: Modulates the sampler pitch.

Chop: Modulates the Chop number select.

Start: Modulates the sample start point.

Lengt: Modulates the sample length.

Selecting oscillator/sample mode and samples for sampler 1 to 4

On any oscillator page, touch the Sel" button to enter this page:
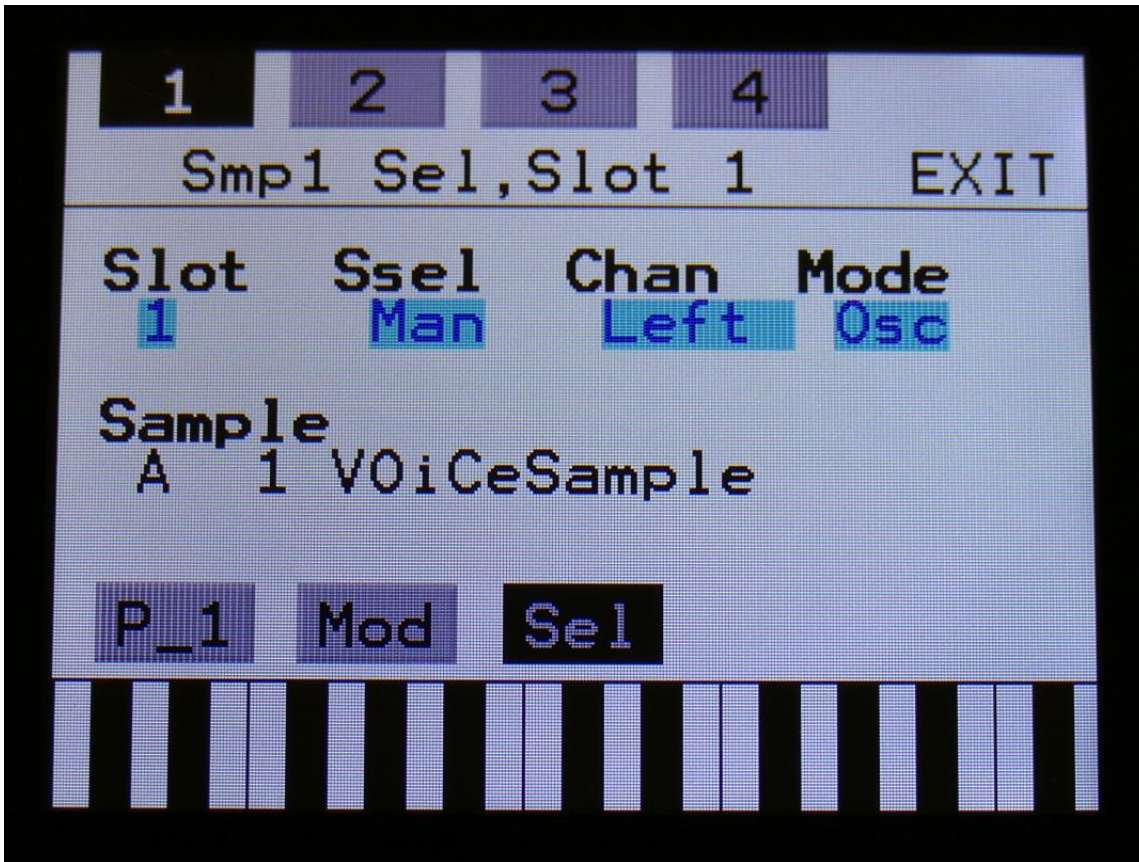
Mode: Select whether the oscillator should be in oscillator or sampler mode.

In oscillator mode, the rest of the parameters on this page has no effect.
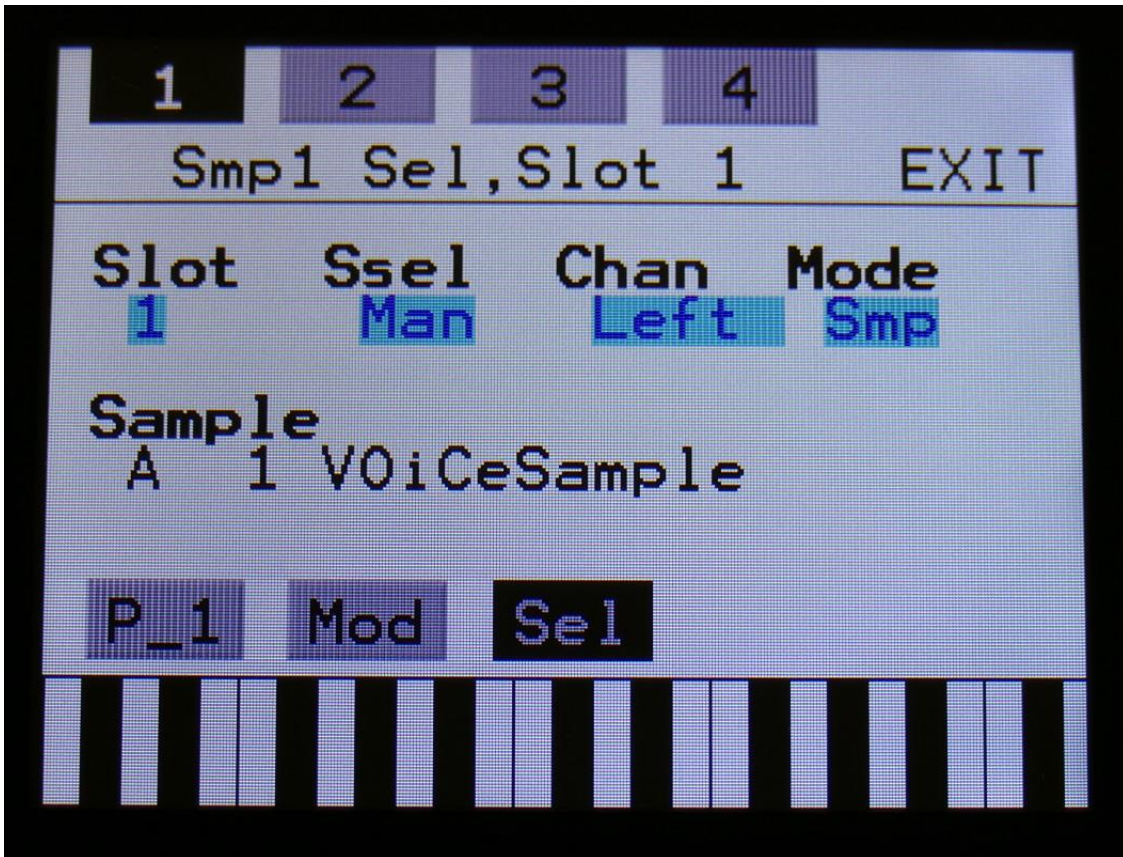
In sampler mode:

Slot: Manual select of sample slot 1 to 4, for selecting a sampling for each slot, and for setting the Tune, Start, Length and Chop parameters for each slot. If the Ssel parameter is set to "Man" (manual slot select), the sample slot selected by this parameter, is played back by this oscillator.

Ssel: Sample Slot Select. Set this to "Man" (manual), to select the sample slot to play back manually by the Slot parameter, or set it to any modulation source, to make a modulation source select the sample slot for play back. For a complete list of modulation sources, see the list in the start of this section.

Chan: If a stereo sampling has been selected, this parameter will select if the right or the left audio channel should play back.

When the sample number and name is selected:

Edit Knob 1 will select the sample bank (A or B), Edit Knob 2 will select any of the 128 possible samplings in the selected bank.

Noise

Touching the NOIS module will enter the Noise module pages.

On the noise module, the parameters shape, pulse width and mix (between pulse and voltage noise) can be adjusted and modulated. It outputs to both the audio and the modulation bus, and like the oscillators and samplers, this also outputs a slow version of itself. The rate of the slow wave can be adjusted.
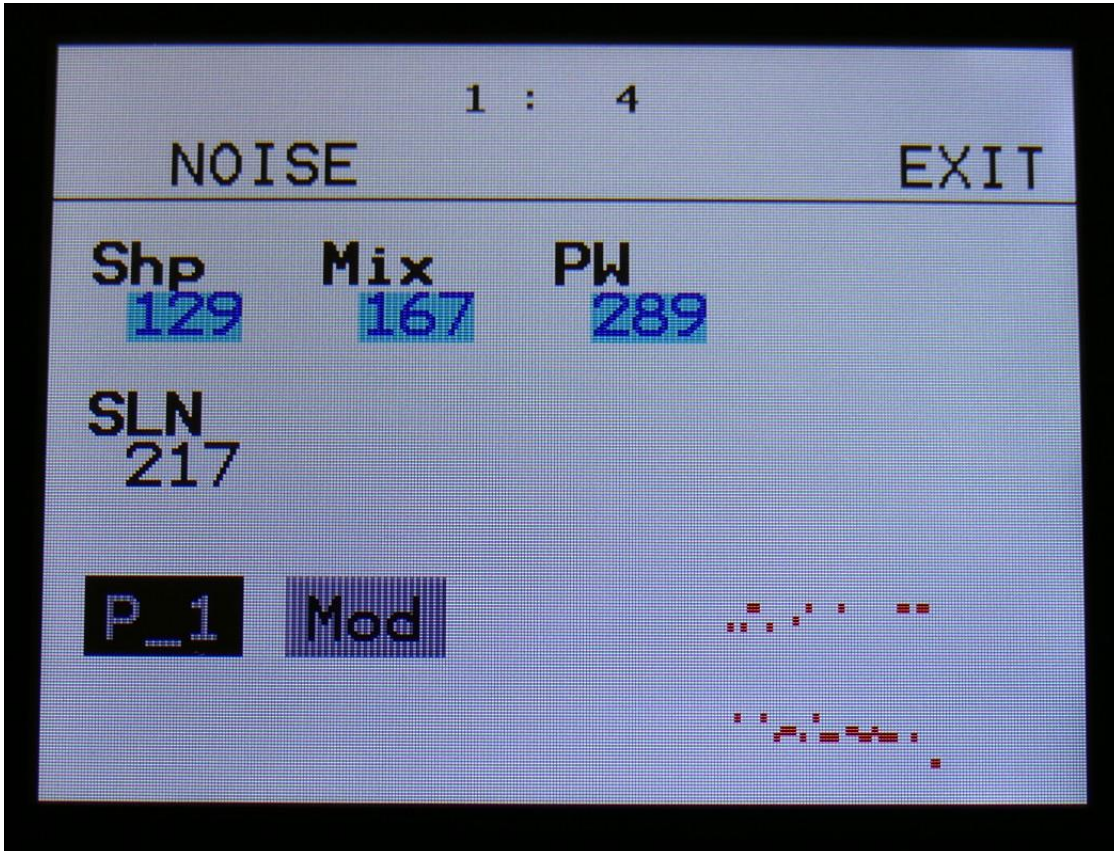
In the bottom right of the noise generator page, the current waveform is shown.

Shp: Noise Shape. The Noise Generator can make a lot of different noise shapes. Range: 0 to 511.

Mix: Mix between squared noise (at setting 0) and voltage noise (at setting 511). Range: 0 to 511.

PW: Adjusts the pulse width of the squared noise. Range: 0 to 511.

SLN: Slow noise wave rate. Range: 0 to 511.

Noise Module Modulation
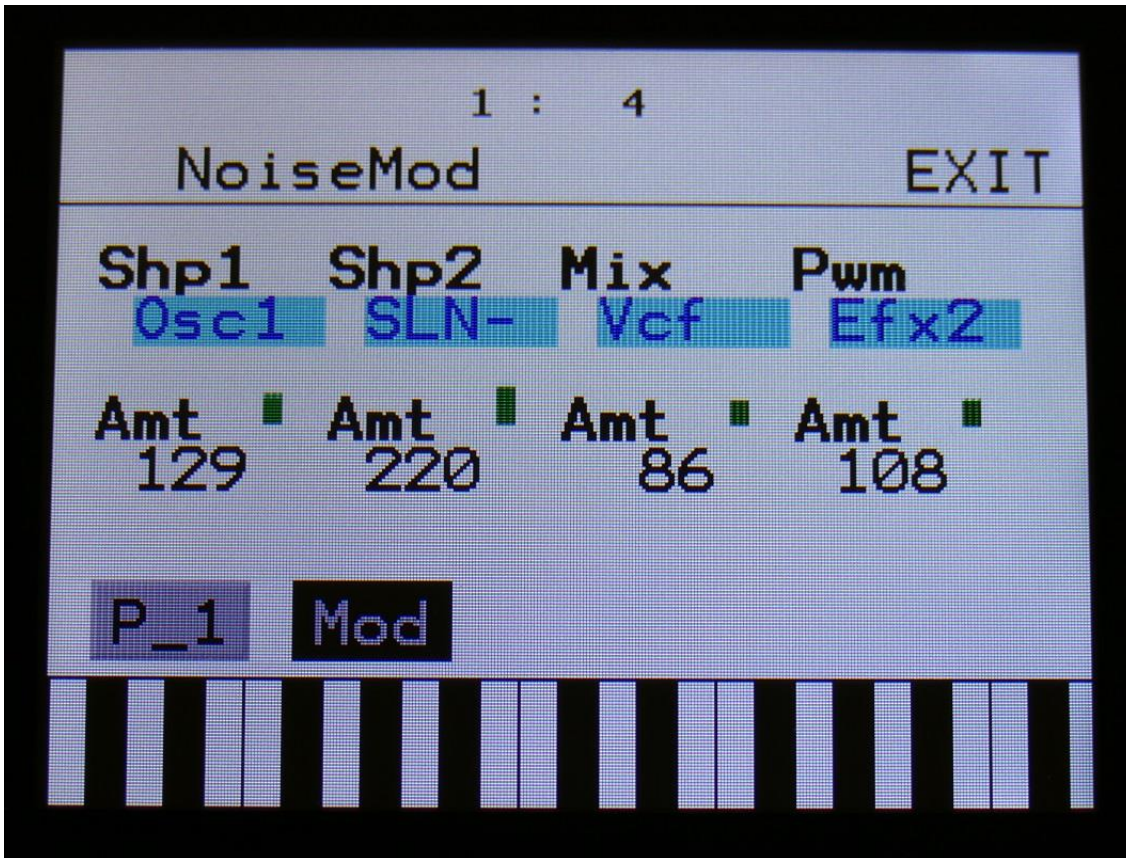
The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **The lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Shp1 and Shp2: Modulates the noise shape.

Mix: Modulates the mix between squared and voltage noise.

Pwm: Modulates the pulse width of the squared noise.

VCF –The analog filter in the filter slot

Touch the VCF module, to enter the analog filterboard.

An analog filter can be installed in Xmini. This is located in a slot, that becomes visible, when removing the left side panel. Xmini will also work, without an analog filter installed.

Different types of analog filters will be available, to mount in the slot. See "Replacing/Mounting the analog filter" later in this manual, for details on this.

The analog filter is used just like any other Xmini module. It is possible to route any modulation sources and audio signals to it, and it outputs on both the audio bus and the modulation bus. Cutoff frequency, peaks (space between 2 cutoff frequencies), and resonance can be adjusted and modulated. If the mounted filter has analog feedback, this can also be adjusted and modulated. LPF, BPF and HPF filter modes can be switched on and off. Most filters has 2 audio outputs. The mix between these can be adjusted and modulated. On the first filters, an analog overdrive circuit is placed on output 2, so turning up the Out1/2 knob, will add analog overdrive to the filter sound. The analog filters also has a G-Ray digital/analog feedback circuit attached to them. This creates a kind of intermodulated feedback signal, and makes it possible to create sounds similar to FM plus new and never heard before sounds.

On the More… page, it is possible to set which analog filter is installed, and make sure that the right parameters will be shown.

Analog Filter
Page 1 –Touch P_1 to enter this page

With VCF 1,2,3 or 4 installed:
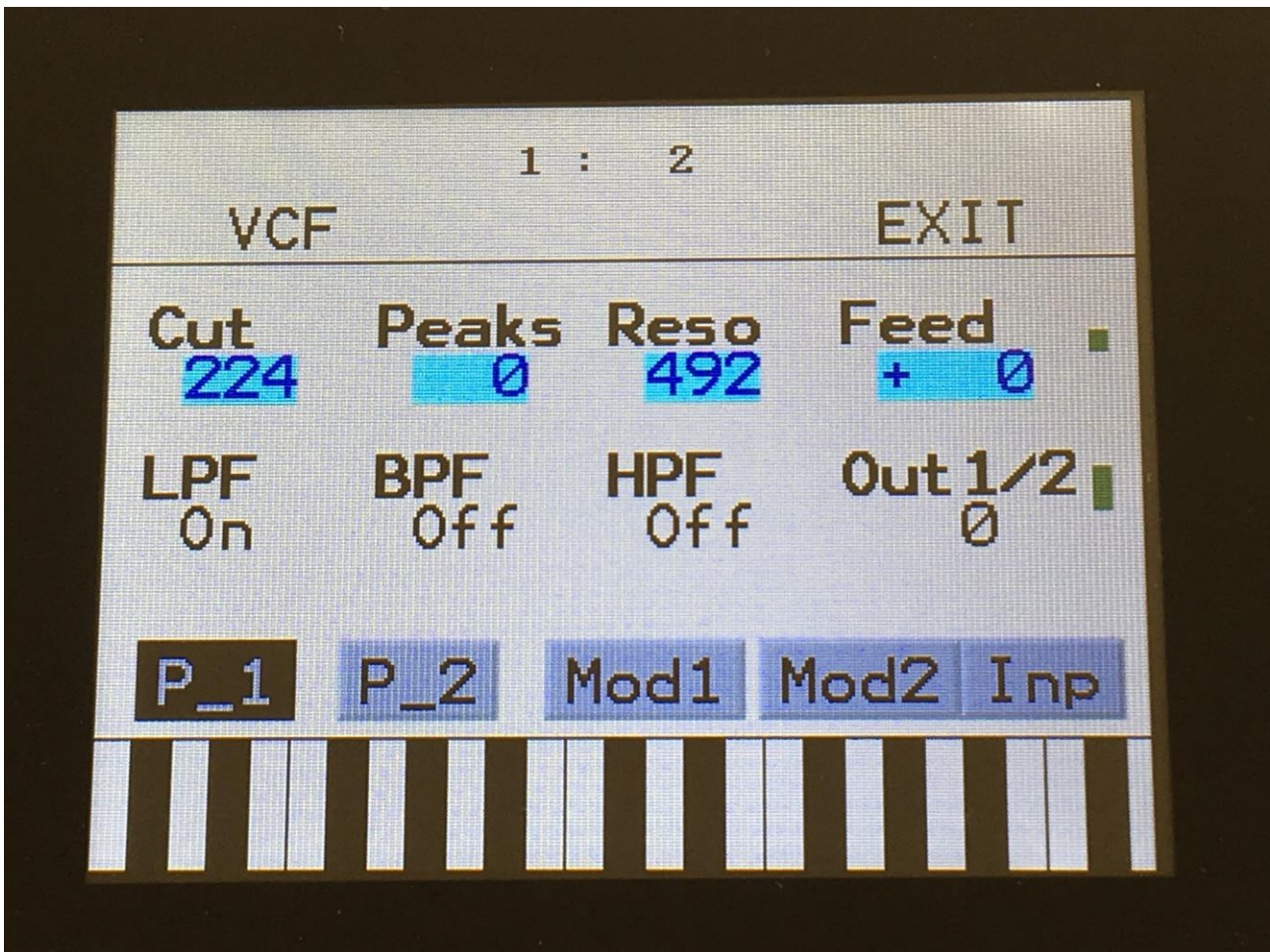
The 2 VU-meters at the right of the screen, shows the filter outputs 1 and 2.

NOTE: An analog filter must be mounted in Xmini for the parameters in this section to have any effect.

Cut: Adjust the filter cutoff frequency. Range: 0 to 511.

Peaks:
On single filters: If the filter has more than one filter block, this will adjust the cutoff frequency offset of block 2 or block 3+4. If the filter has only one block (see the documentation for the filter), this will have no function.
On dual filters: This will adjust the cutoff frequency offset of filter 2.

On tripple filters: This will adjust the cutoff frequency offset of the middle filter, which is usually a bandpass filter.

Reso: Adjusts the resonance of the filter. On dual and tripple filters, this adjusts the resonance on all filters.

Cut3/Feed:
On single filters: This will adjust the feedback of the filter. – means negative feedback, + means positive feedback, 0 means no feedback.
On dual filters: This will adjust the negative feedback of the filter. -256 means no feedback, +255 means full negative feedback.
On tripple filters: This will adjust the cutoff frequency of the third filter.

LPF, BPF, HPF:
On single filters: Switches on and off the low pass, band pass and high pass outputs on the filter. At least one of these must be on, to get a sound out of the filter.
On dual filters: Switches on and off the low pass, band pass and high pass outputs of filter 2. Filter 1, which is a band pass filter on VCF2, is always on.
On tripple filters: Switches on and off the low pass, band pass and high pass outputs of filter 1, 2 and 3. The tripple filter has 3 separate filters, to generate each of these outputs, and their cutoff frequency can be separately adjusted.

Out1/2:
On single and dual filters: Mix between the clean filter sound, and the filter sound with added analog distortion.
On tripple filters: Mix between LPF + BPF + HPF and 3x BPF.

With VCF 5, MiniProphet filter installed:
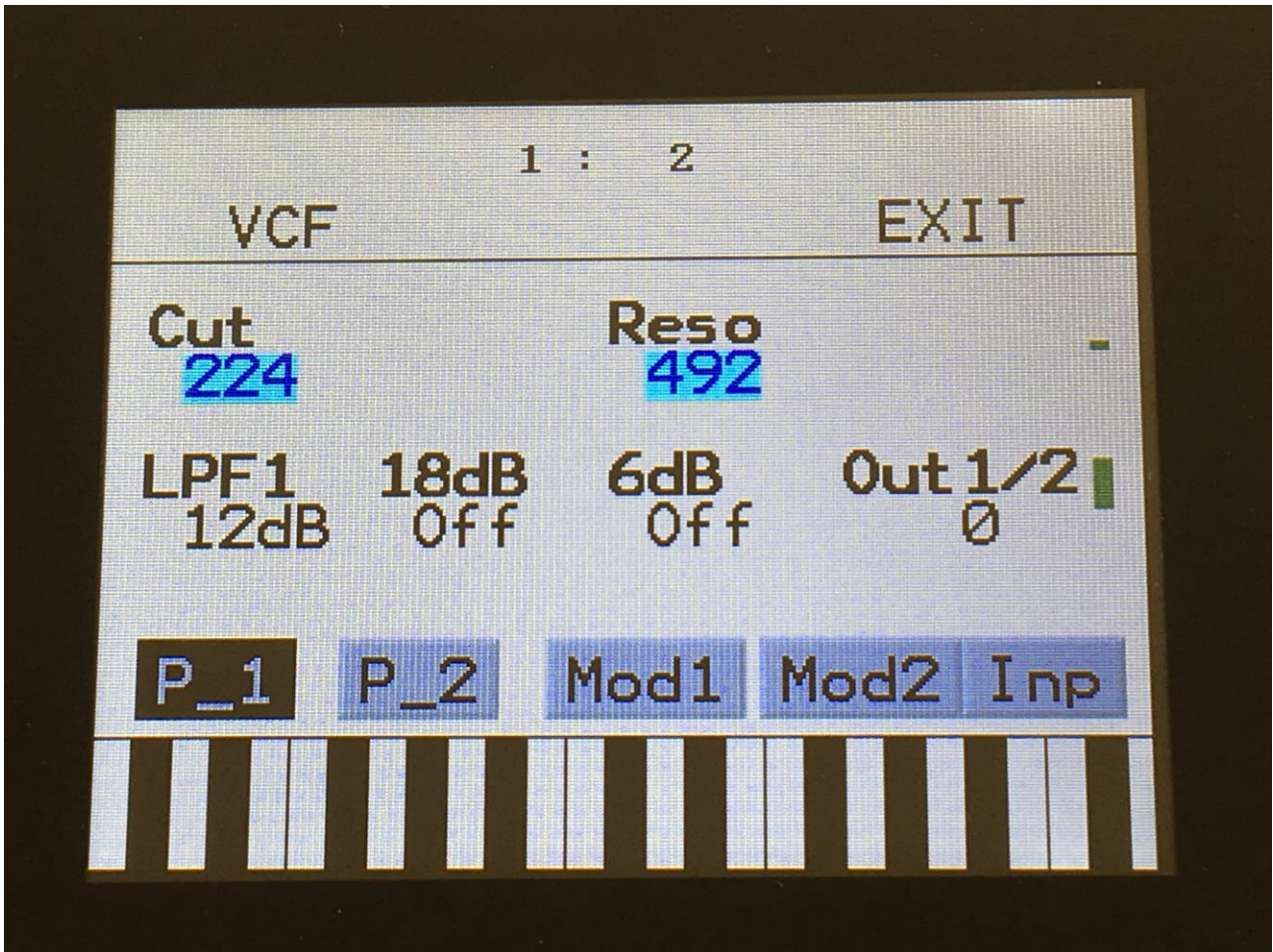
Cut: Adjust the filter cutoff frequency. Range: 0 to 511.

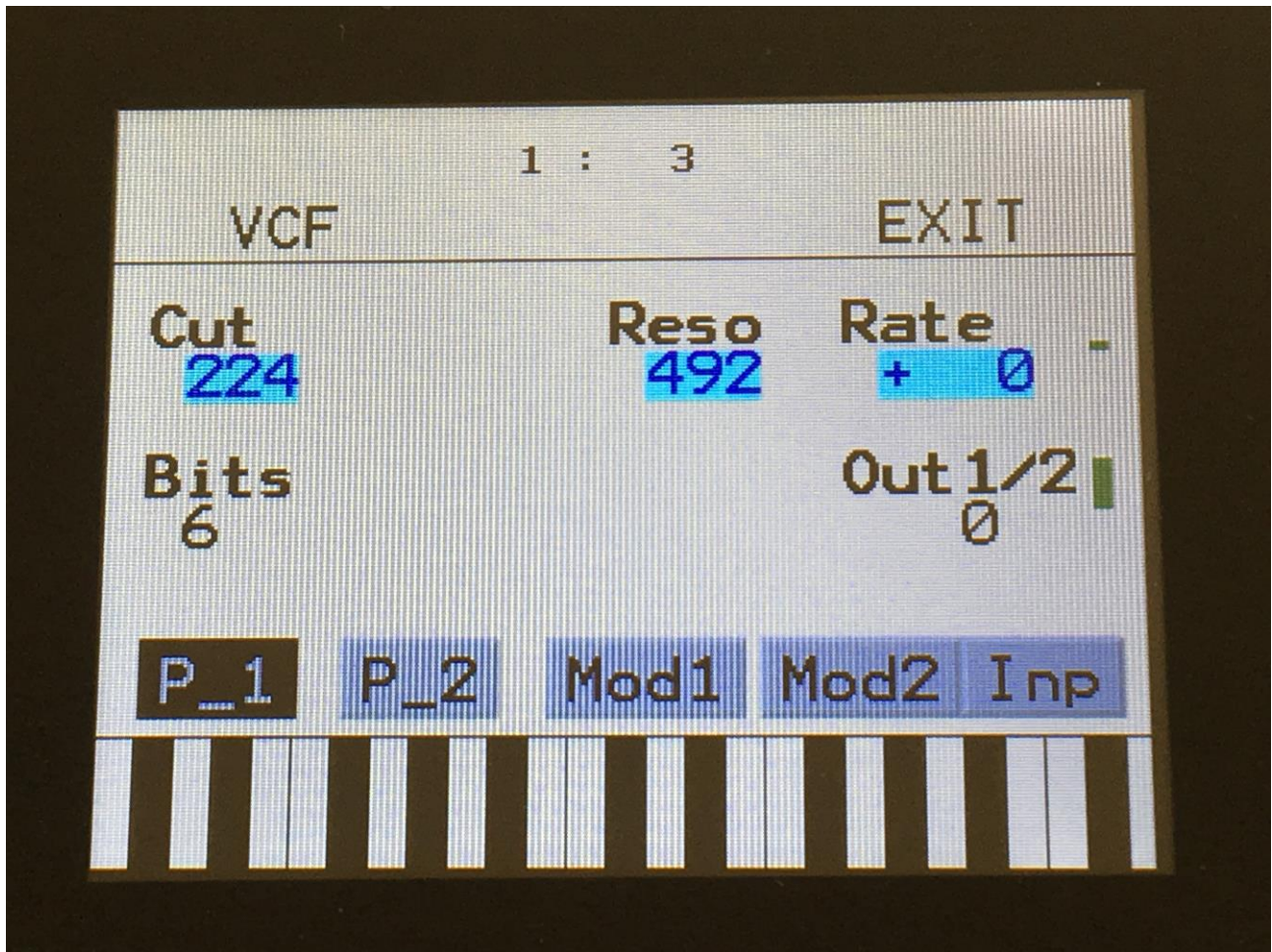**Reso:** Adjusts the resonance of the filter.

LPF1: Switches filter output 1 between 24dB and 12dB steepness.

18dB: Switches the 18dB lowpass block on filter output 2 on or off. The phase of this is inverted compared to the phase of the 12 and 24 dB outputs on output 1, so when mixing with these, different filter modes can be obtained.

6dB: Switches the 6dB lowpass block on filter output 2 on or off. The phase of this is inverted compared to the phase of the 12 and 24 dB outputs on output 1, so when mixing with these, different filter modes can be obtained.

Out1/2: Mixes between the filter outputs 1 (12dB/24dB) and 2 (Inversed 6dB/18dB).

With VCF 6, SP filter installed:

Cut: Adjust the filter cutoff frequency. Range: 0 to 511.

Reso: Adjusts the resonance of the filter.

Rate: Sample Rate. 0 to 60 KHz.

Bits: Bit depth. 12 or 6 bit.

Out1/2: Adds an analog Fuzz effect, when turned up.

With VCF 7, Tubaz filter installed:
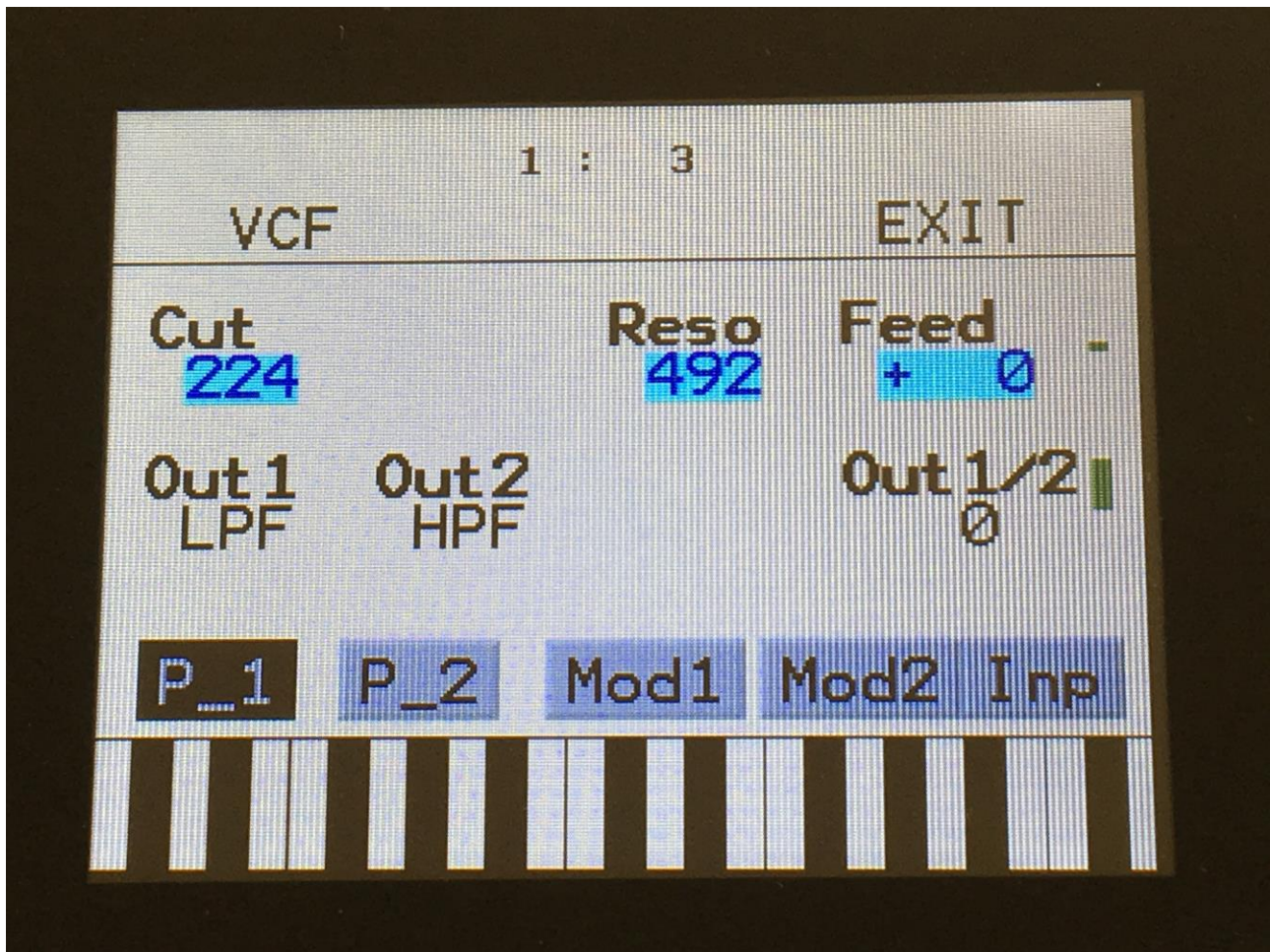
Cut: Adjust the filter cutoff frequency. Range: 0 to 511.

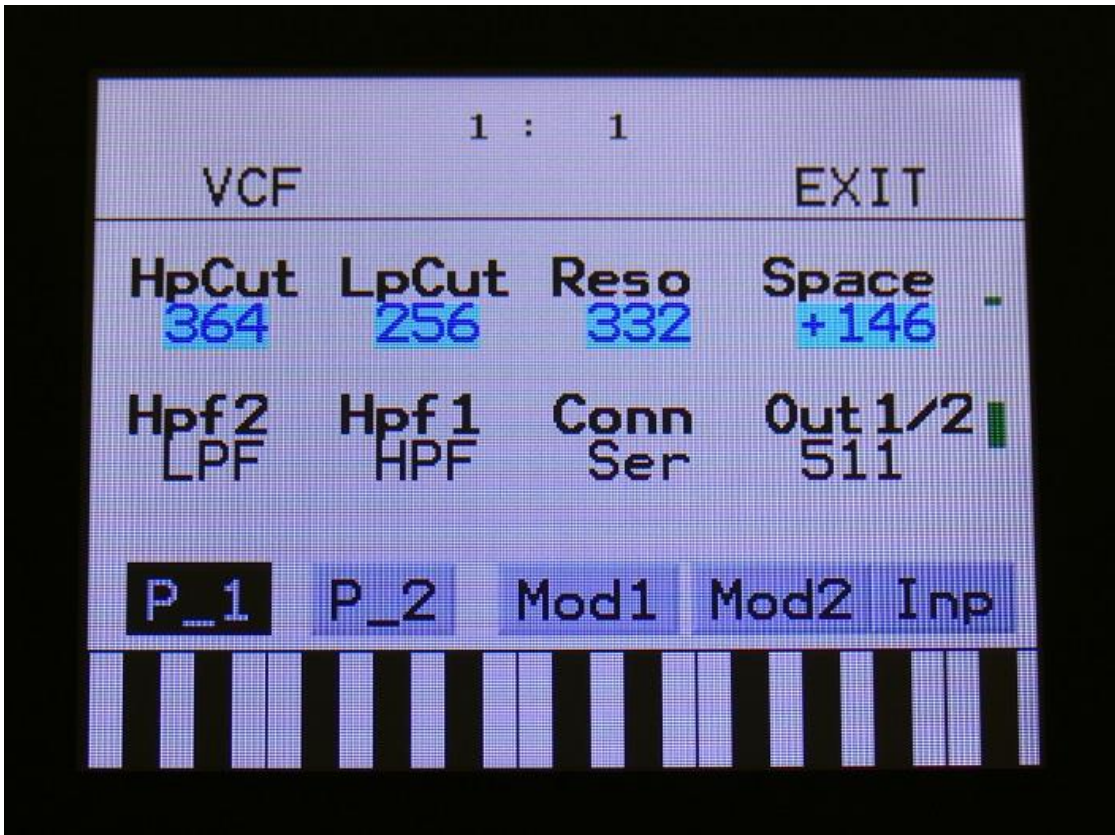**Reso:** Adjusts the resonance of the filter.

Cut3/Feed: Negative feedback.

Out1: BPF or LPF select.

Out2: Always HPF.

Out1/2: Mix between filter output 1 (BPF/LPF) and filter output 2 (HPF).

With VCF8, SSI filter installed:

Parameters:

HpCut: HPF/LPF 1 and 2 filter cutoff frequency. Space between the 2 filters can be adjusted with Space.

LpCut: LPF 1 and 2 filter cutoff frequency. Space between the 2 filters can be adjusted with Space.

Reso: Filter resonance of all 4 filters.

Space: Space between the cutoff frequencies of the two filter chains.

HPF2: HPF2 filter mode HPF or LPF.

HPF1: HPF1 filter mode HPF or LPF.

Conn: Connection of the 2 filter chains. Ser (serial) or Par (parallel).

Out1/2: Mix between filter output 1 (HPF/LPF + LPF chain 1) and filter output 2 (HPF/LPF + LPF chain 2).

Analog Filter
Page 2 –Touch P_2 to enter this page
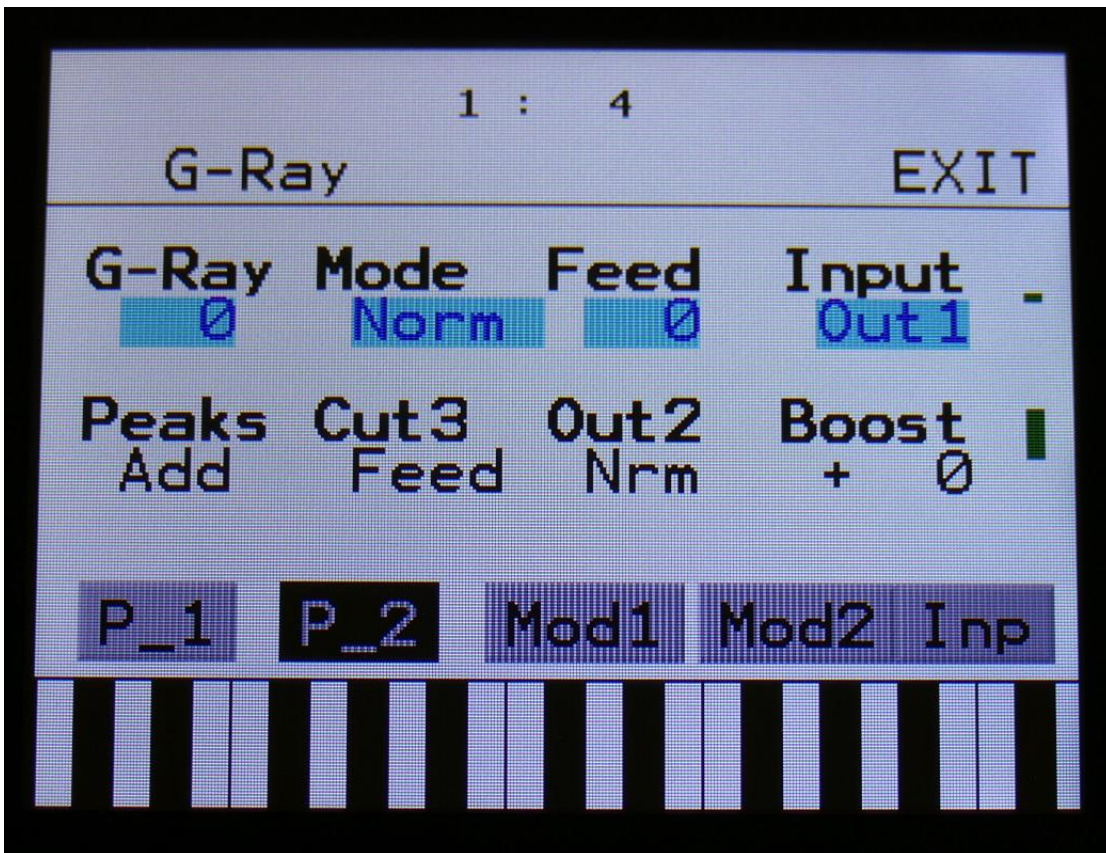
The 2 VU-meters at the right of the screen, shows the filter outputs 1 and 2.

NOTE: An analog filter must be mounted in Xmini for the parameters in this section to have any effect.

G-Ray: Adjusts the amount of g-RAY intermodulation. 0: no g-RAY, 3: max g-RAY. Range: 0 to 3.

Mode: G-Ray mode.
-Norm: Normal 1:1 feedback.

-Neg: 1:1 feedback with the signal inverted (a 180 degree phase shift)

-Ultr: Boosted feedback.

-Uneg: Boosted feedback with the signal inverted (a 180 degree phase shift)

Feed: G-Ray feedback level. Range: 0 to 511.

Input: Selects the input to the G-Ray feedback circuit. Can be either analog filter output 1 or 2, or the mix adjusted with the Out1/2 parameter.

Peaks: Selects how the Peaks parameter should interact with the Cutoff frequency parameter:

**-Add:** The value of the Peaks parameter is added to the Cutoff value.

-Sub: The value of the Peaks parameter is subbed from the Cutoff value.

-Alig: The value of the Peaks parameter are alligned around the Cutoff value.

-Sepa: The value of the Peaks parameter are a totally separate value, and are not affected by the Cutoff value.

Cut3: Selects the function of the Feed/Cut3 parameter:

-Feed: The value of the Feed/Cut3 parameter are a totally separate value, and are not affected by the Cutoff value. This setting is the recommended one, when a single or a dual filter are installed, and the Feed/Cut3 should work as Feed.

The next possible modes, are mostly usable, when a tripple analog filter are installed:

-Add: The value of the Feed/Cut3 parameter is added to the Cutoff value.

-Sub: The value of the Feed/Cut3 parameter is subbed from the Cutoff value.

-Alig: The value of the Feed/Cut3 parameter are alligned around the Cutoff value.

Out2: Selects whether output 2 of the analog filter should be normal **(Nrm)** or inverted **(Inv).** Sometimes it can get some great effects, when inverting output 2 of the filter, and adjust the Out1/2 mix.

Analog Filter Modulation
Page 1 –Touch Mod1 to enter this page
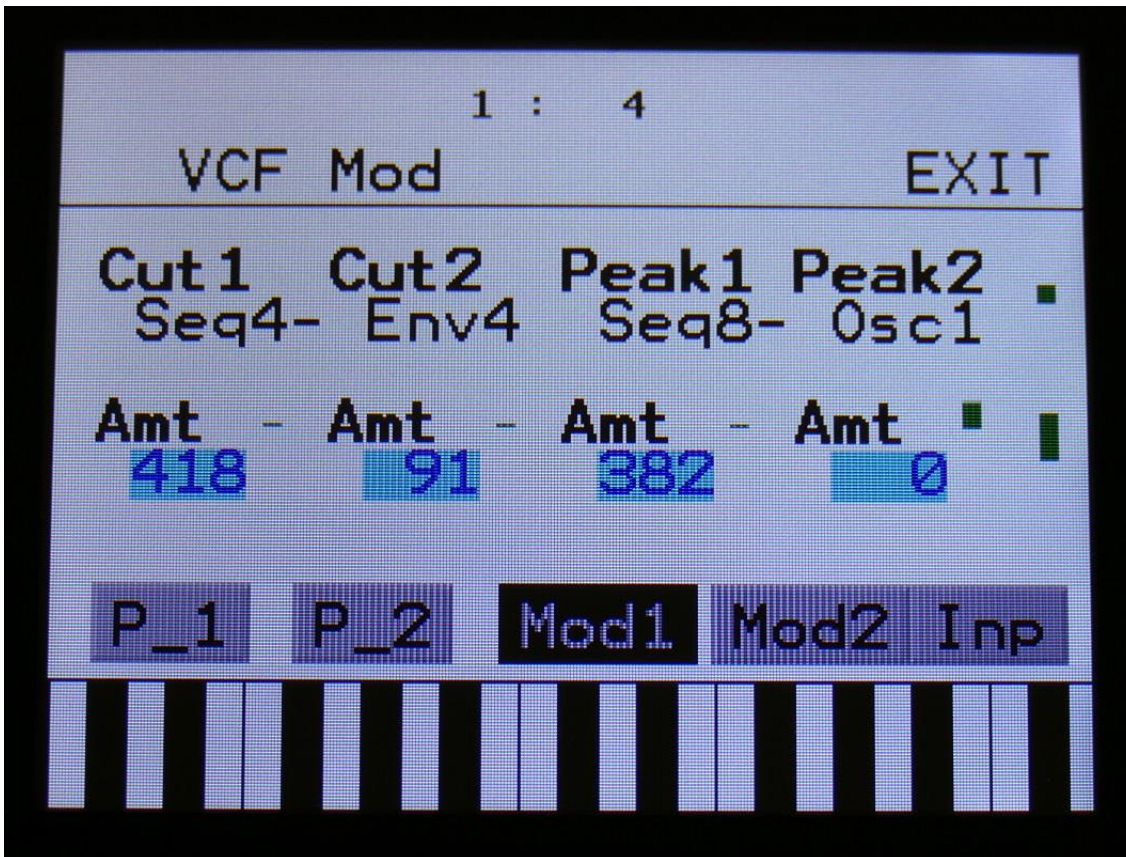
The 2 VU-meters at the right of the screen, shows the filter outputs 1 and 2. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **The lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Cut1 and Cut2: Modulates the Cutoff Frequency.

Peak1 and Peak2: Modulates the Peaks parameter.

Analog Filter Modulation
Page 2 –Touch Mod2 to enter this page
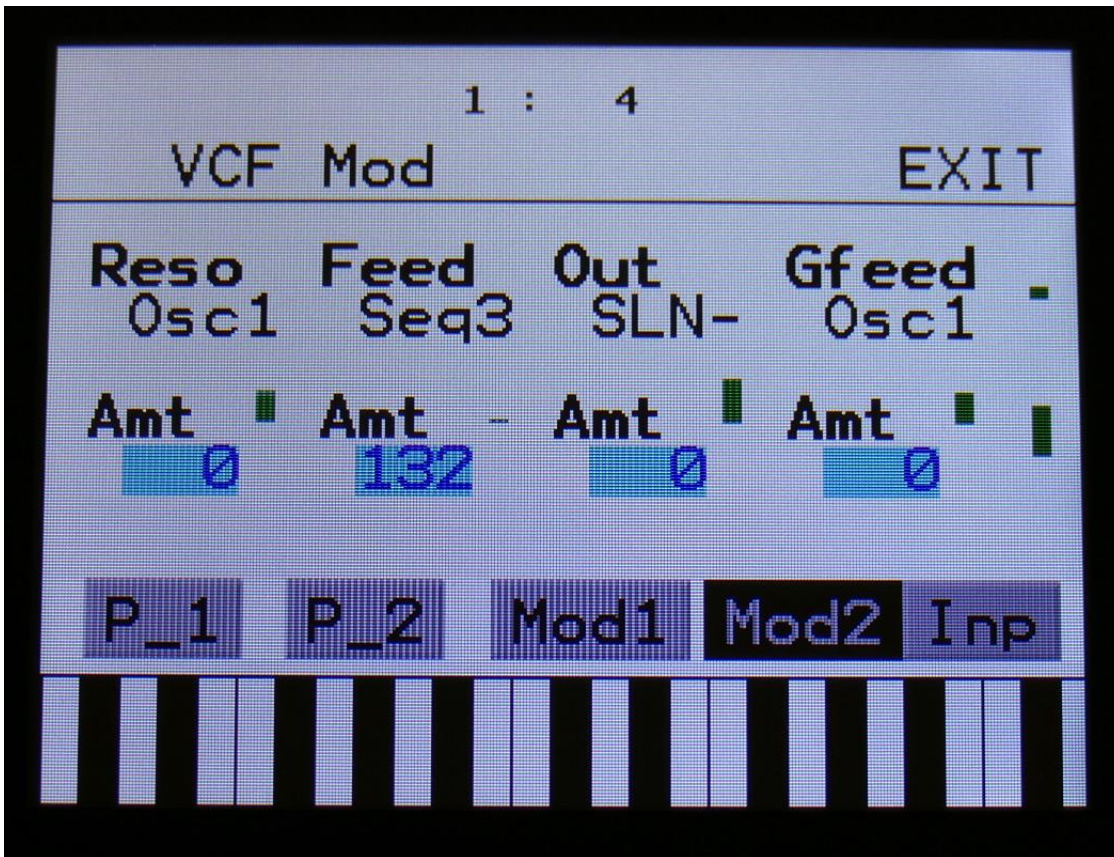
The 2 VU-meters at the right of the screen, shows the filter outputs 1 and 2. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **The lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Reso: Modulates the Resonance parameter.

Feed: Modulates the analog filter feedback/Cutoff frequency 3.

Out: Modulates the Out1/2 parameter.

Gfeed: Modulates the G-Ray feedback.

Analog Filter Inputs Select
-Touch Inp to enter this page
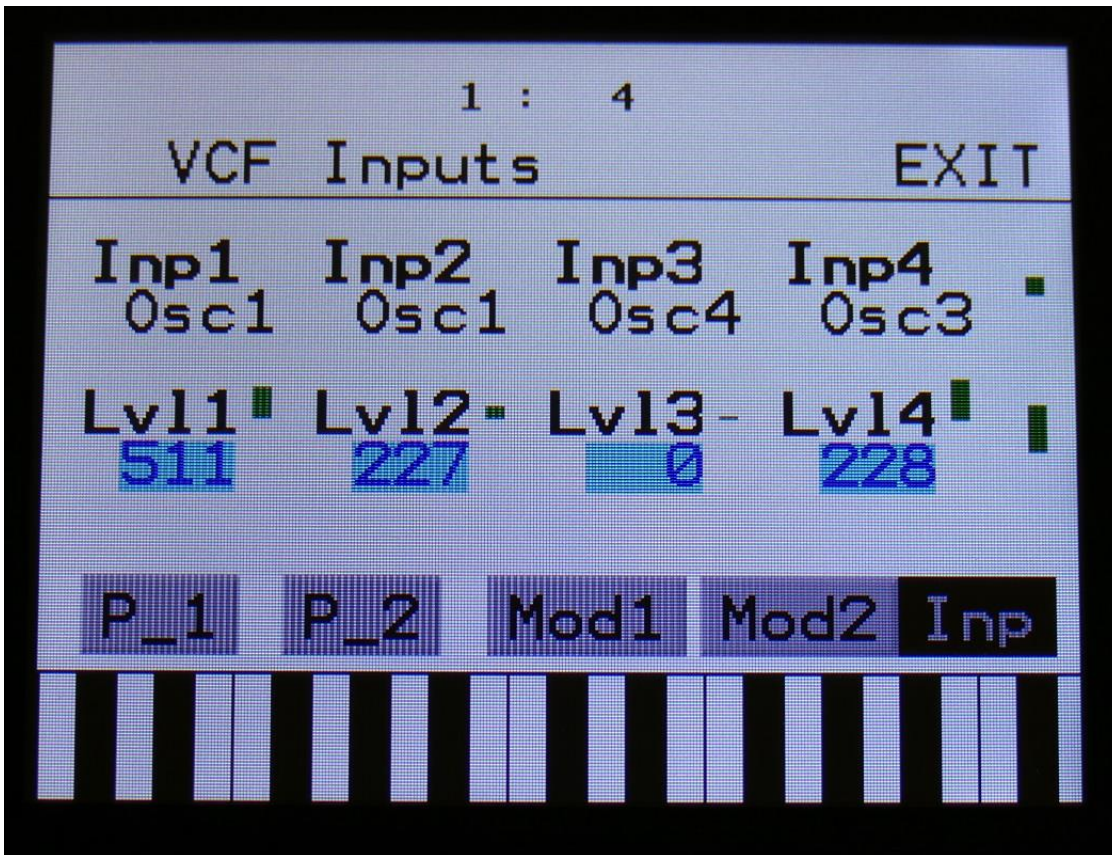
The 2 VU-meters at the right of the screen, shows the filter outputs 1 and 2. The small VU-meters next to the parameters, shows the activity of the selected audio sources.

Each analog filter has 4 audio inputs. For each of these, an audio source can be selected, and the input level can be adjusted. For a complete list of audio bus sources, see the list in the start of this section.

The upper row of parameters selects the audio input sources, **the lower row of parameters** (Labelled Lvl1-4) adjusts the input levels in the range 0 to 511.

Ring VCA 1 to 4

Touch the RING module, to enter the Ring VCA's.

The 4 Ring VCA's has 3 functions. They can act as:

-Ring Modulator -Connect 2 audio sources, and it will output a ring modulated signal.

-Modulation/audio source VCA -Connect an audio or a modulation source to input 1, and a modulation source to input 2, and the modulator on input 2 will adjust the level of the source on input 1.

-Modulation to audio convertor -If you would like, for instance, to route and envelope, LFO or even a sequencer track through effects or filters, you can do this through a Ring VCA.

Ring VCA's outputs to both the audio and the modulation bus.

Ring VCA 1 to 4 parameters
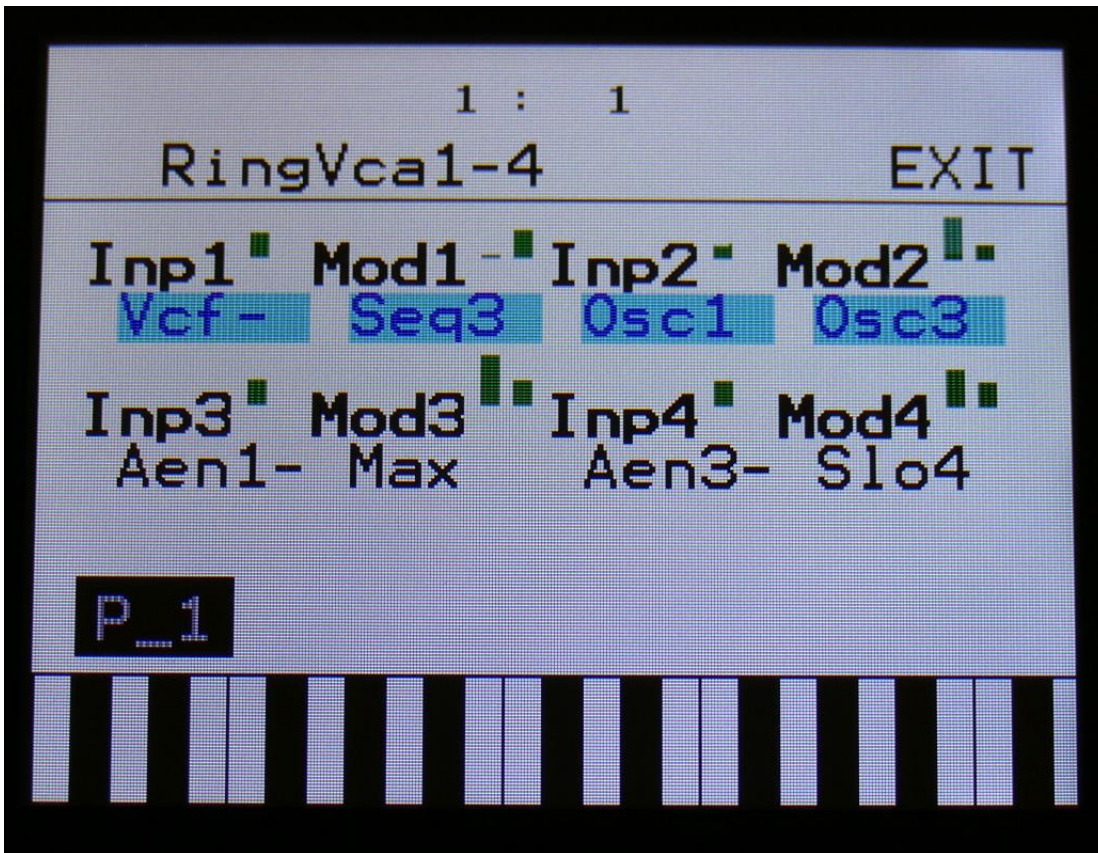
The small VU-meters next to the parameters, shows the activity of the selected source.

Inp1, Inp2, Inp3, Inp4: Connects any modulation source to the input of the Ring VCA. This is the input, that gets modulated. Since this outputs to both the modulation and the audio bus, it can be used to get modulation signals to the audio bus, if you, for any reason, would like to do that.

Mod1, Mod2, Mod3, Mod4: Connects any modulation source to the modulation input of the ring VCA. The first source that can be selected are special to this module: Max. This just adds a maximum value to the modulation input. Select this, if you just want to convert from modulation to audio.

Setup examples:
Ring Modulator: Connect audio range modulators (like oscillators or samples) to both inputs.

Modulation VCA: Connect the source that you would like to be level modulated to "Inp", and connect the desired level modulator to "Mod".

Modulation to audio converter: Connect the modulation source, that you would like to convert, to "Inp". Select "Max" as "Mod".

VCA1 to 4

Touch the VCA module, to enter the 4 VCA's.

Audio signals can be mixed and routed to the audio output through the VCA's. Output can also be switched off, if you only want to use a VCA for internal mix. An ADSR envelope are attached to each of the VCA's. The VCA envelopes can either be in linear or logarithmic mode. A Drone parameter are available, for opening the VCA without the envelope needing to be trigged. VCA output level are modulated by the attached ADSR envelope. Attack, decay and release can be modulated by any modulation source. The VCA's only outputs to the audio bus. If you need VCA's for modulation signals, you should use a Ring VCA.

In order to trigger any envelope, you will have to set up a trigger to do this. See the "Triggers" section earlier in this manual, for information on how to do this.

The VCA's outputs only to the audio bus.

VCA 1 to 4 parameters

Touch P_1 to enter this page
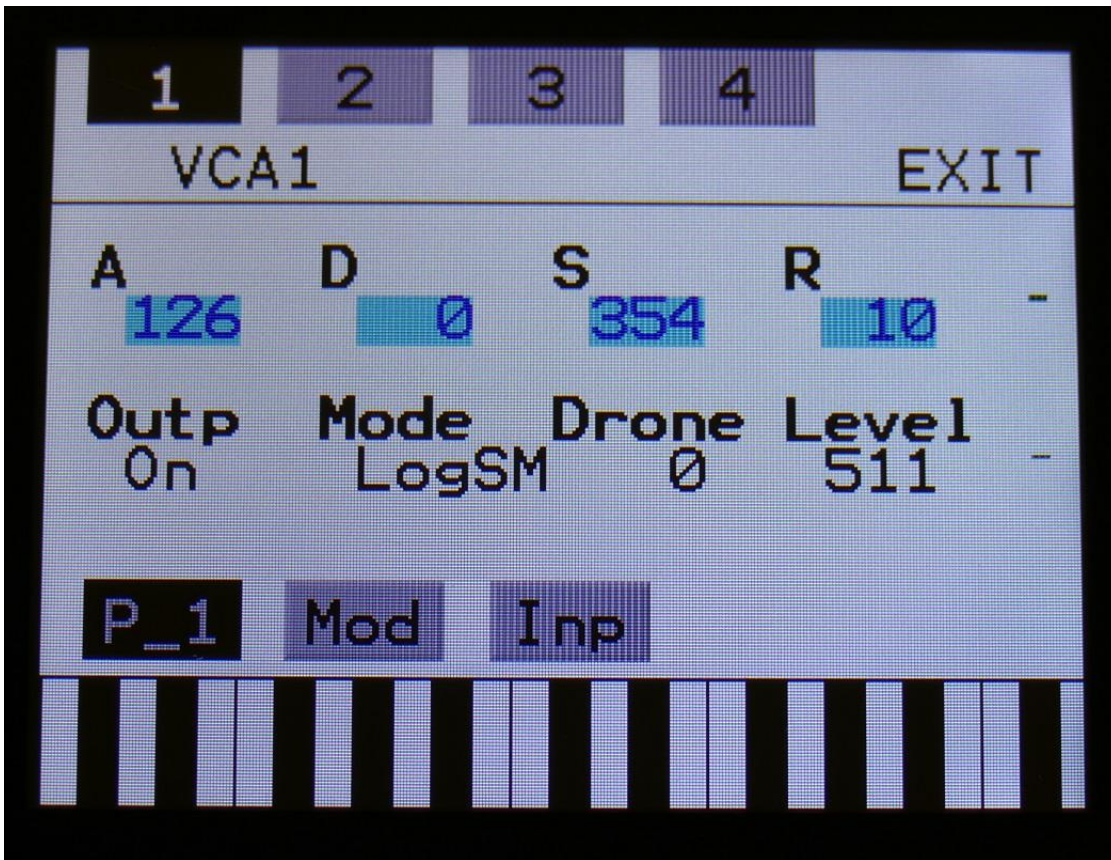
The 2 VU-meters at the right of the screen, shows the VCA input and output.

A: VCA envelope attack time. The time it will take the amp envelope to rise from zero to its maximum value, when a note event is received and held down. Range: 0 to 511.

D: VCA envelope decay time. When the amp envelope has reached its maximum value, in the time set by the attack parameter, it will decay, until it reaches the sustain level, and stay there, as long as the note that trigged it is held. Range: 0 to 511.

S: VCA envelope sustain level. Explained under the "Dec" parameter. Range: 0 to 511.

R: VCA envelope release time. The time it will take the amp envelope to decay from the value it is at, when a note off event are received, to zero. Range: 0 to 511.

Outp: Selects whether the VCA should output to the audio output (On) or not (Off).

Mode: Selects if the VCA behaviour should be linear **(Lin),** logarithmic **(Log),** smooth linear **(LinSM)** or smooth logarithmic **(LogSM).** The logarithmic curve gives the sound a softer and less "clicky" attack. The smooth modes produces no clicking at all.

Drone: VCA envelope drone offset level. When this is turned up, the amp envelope will never reach an output value, lower than what this is adjusted to –It will release to this adjusted value, instead of zero. Use this to keep the output of the synth open for drone sounds, or for external input sounds. Range: 0 to 511.

Level: The VCA output level.

VCA 1 to 4 Modulation

Touch Mod to enter this page
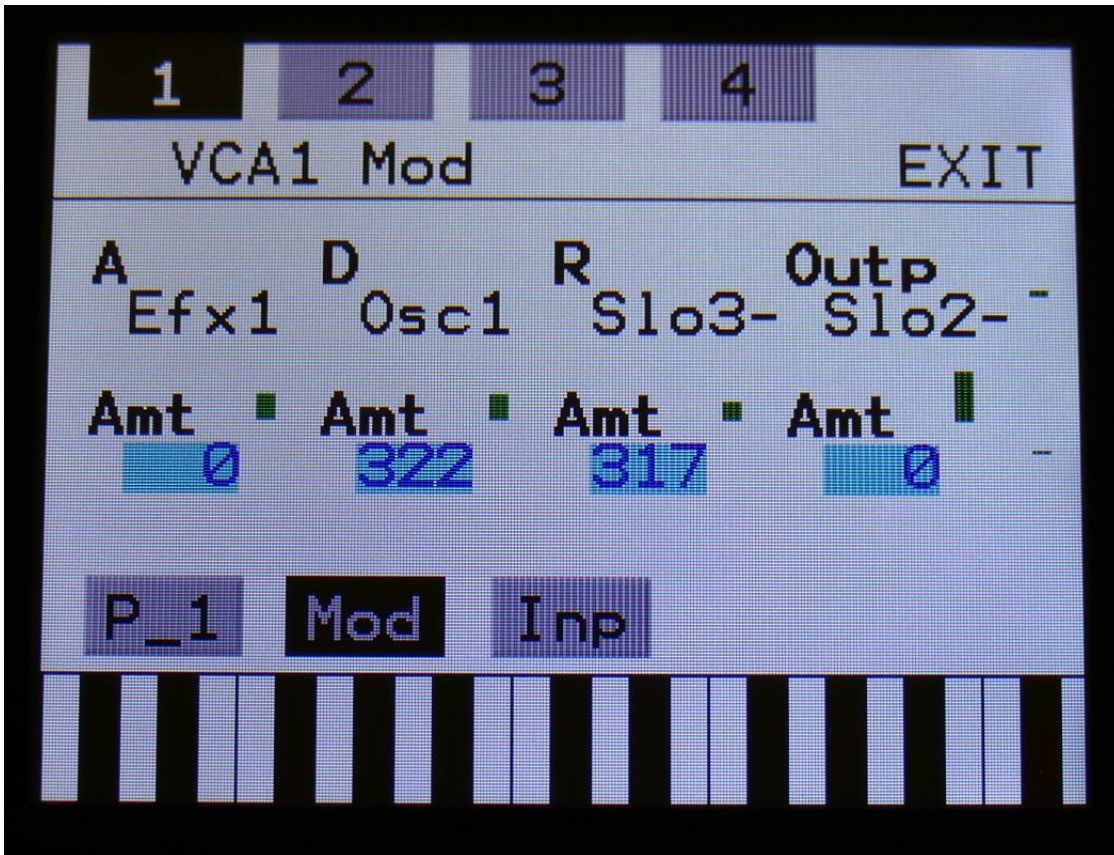
The 2 VU-meters at the right of the screen, shows the VCA input and output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **The lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

A: Modulates the VCA Envelope attack time.

D: Modulates the VCA Envelope decay time.

R: Modulates the VCA Envelope release time.

Outp: Modulates the output level of the VCA.

VCA 1 to 4 Inputs Select

Touch Inp to enter this page
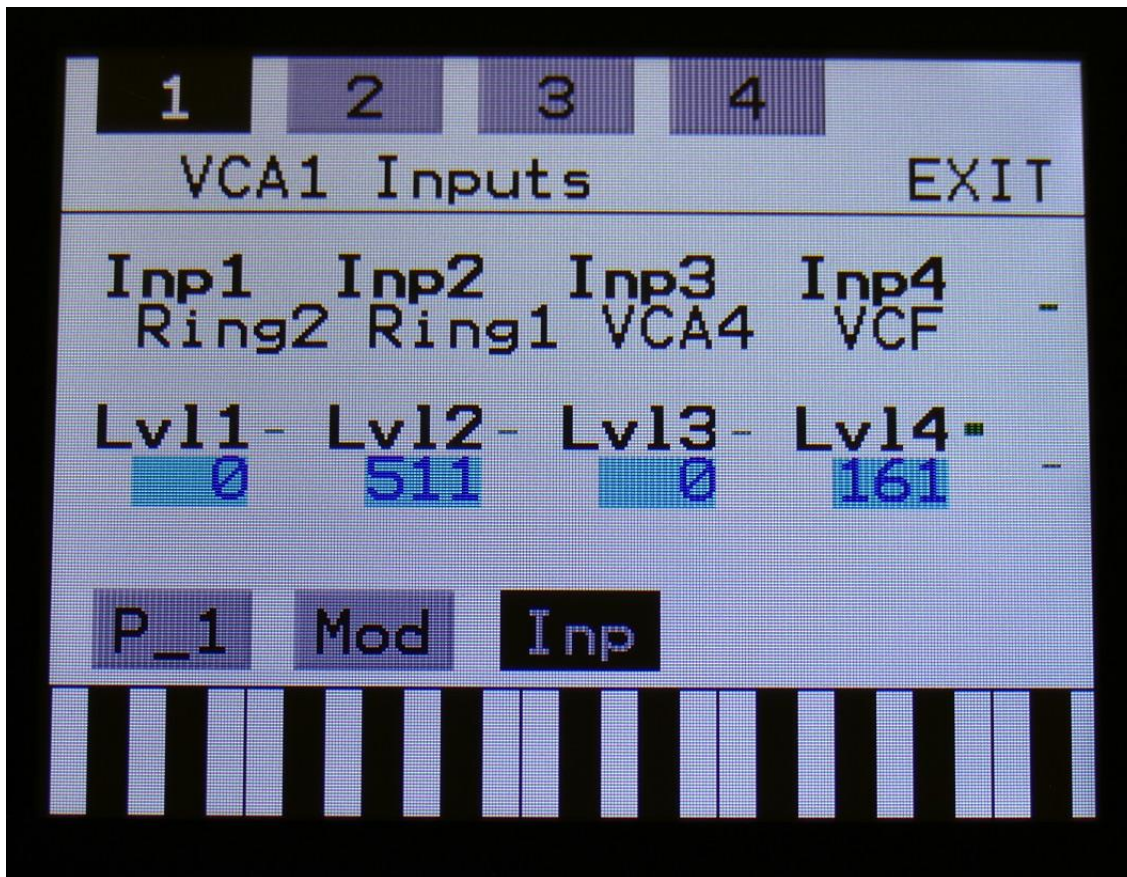
The 2 VU-meters at the right of the screen, shows the VCA input and output. The small VU-meters next to the parameters, shows the activity of the selected audio sources.

Each VCA has 4 audio inputs. For each of these, an audio source can be selected, and the input level can be adjusted. For a complete list of audio bus sources, see the list in the start of this section.

The upper row of parameters selects the audio input sources, **the lower row of parameters** (Labelled Lvl1-4) adjusts the input levels in the range 0 to 511.

Env1 to 4

Touch the ENV module, to enter the 4 modulation envelopes, with linear/logarithmic charateristics and an offset control.

In order to trigger any envelope, you will have to set up a trigger to do this. See the "Triggers" section earlier in this manual, for information on how to do this.

The envelopes outputs only to the modulation bus.

Envelope 1 to 4 parameters

Touch P_1 to enter this page
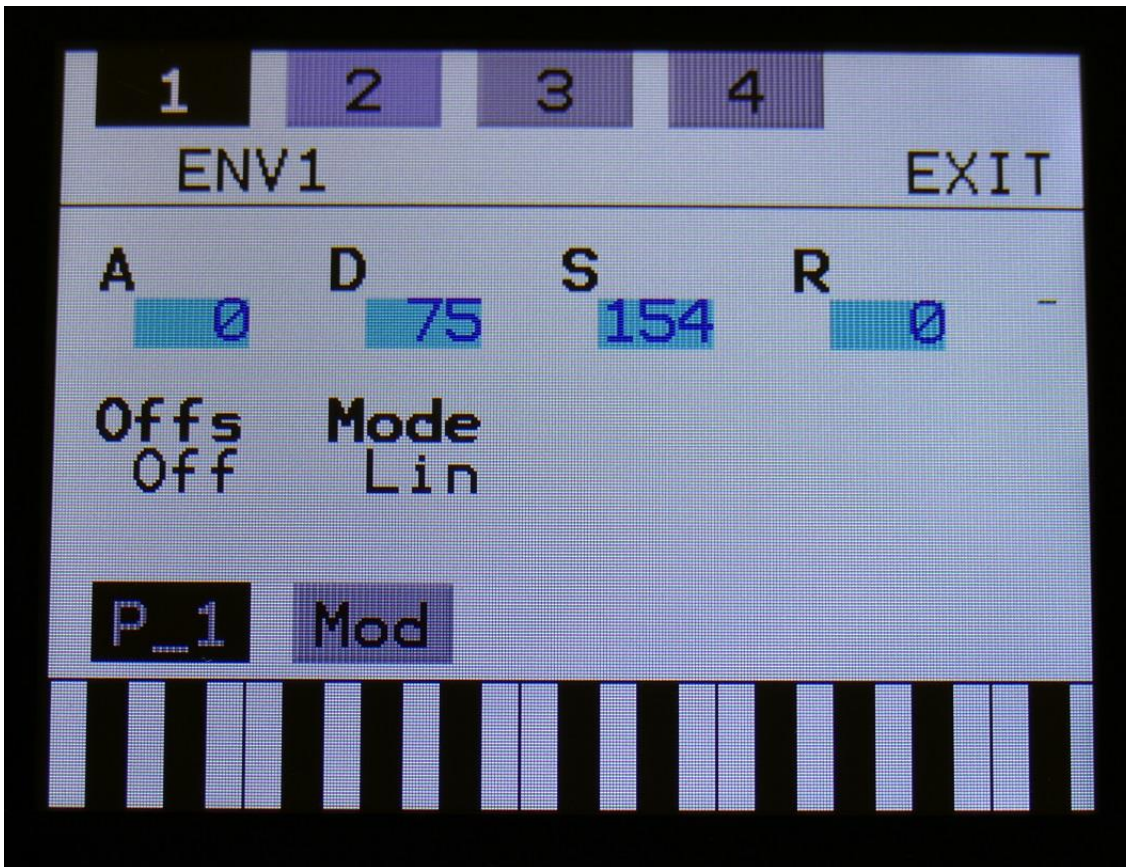
The VU-meter at the right of the screen, shows the Envelope output.

A: Envelope attack time. The time it will take the envelope to rise from zero to its maximum value, when a note event is received and held down. Range: 0 to 511.

D: Envelope decay time. When the envelope has reached its maximum value, in the time set by the attack parameter, it will decay, until it reaches the sustain level, and stay there, as long as the note that trigged it is held. Range: 0 to 511.

S: Envelope sustain level. Explained under the "Dec" parameter. Range: 0 to 511.

R: Envelope release time. The time it will take the envelope to decay from the value it is at, when a note off event are received, to zero. Range: 0 to 511.

Offs: Offset:
-Off: The envelope will work around the zero point, and apply both negative and positive modulation to the parameters affected by it.
-On: Positive only, offset added. The envelope will only work above the zero point, and will only add to the values of the parameters affected by it.

Mode: Selects if the envelope curve should be linear **(Lin),** or logarithmic **(Log).** The logarithmic curve gives the envelope a softer and less "clicky" attack.

Envelope 1 to 4 Modulation

Touch Mod to enter this page
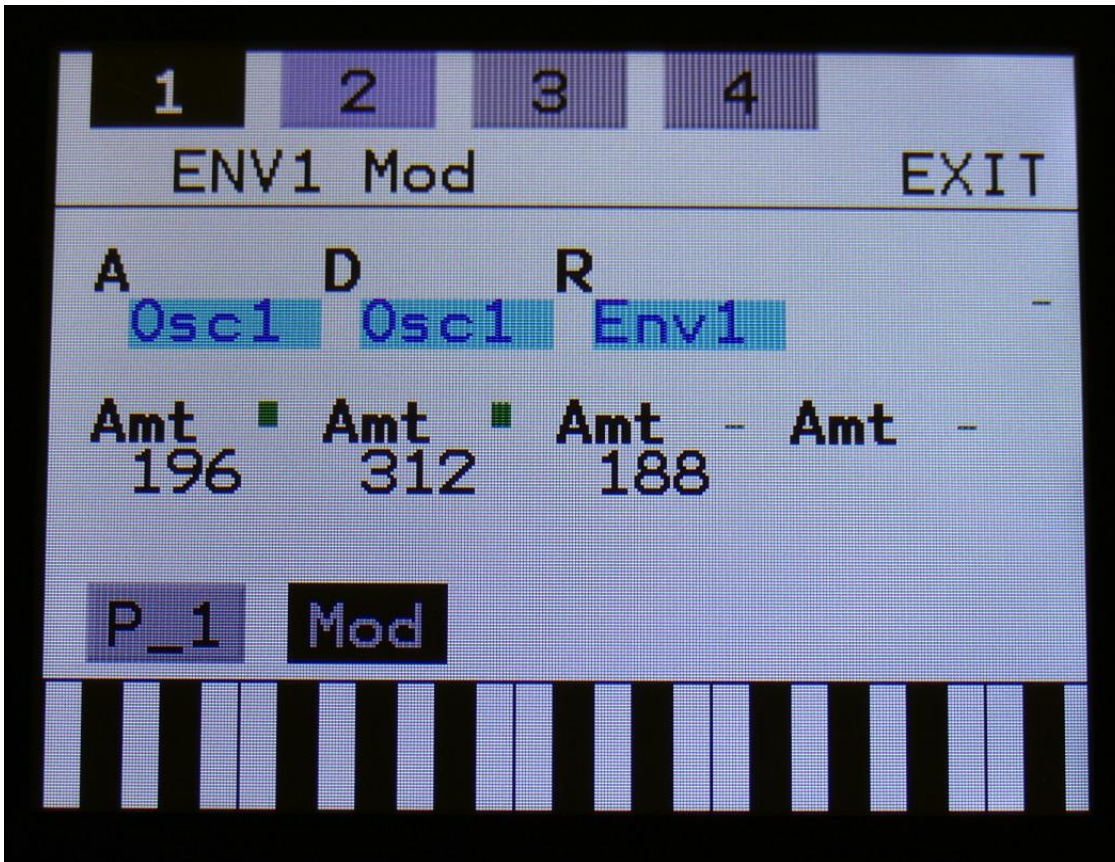
The VU-meter at the right of the screen, shows the Envelope output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

A: Modulates the Envelope attack time.

D: Modulates the Envelope decay time.

R: Modulates the Envelope release time.

EFX 1 to 4

Touch the EFX module to find 4 effects processors.

All effects has a bypass/Freeze switch and a mix parameter. All effects outputs to both the audio and the modulation bus, and many parameters can be modulated.

The Effects select page

Touch Sel to enter this page
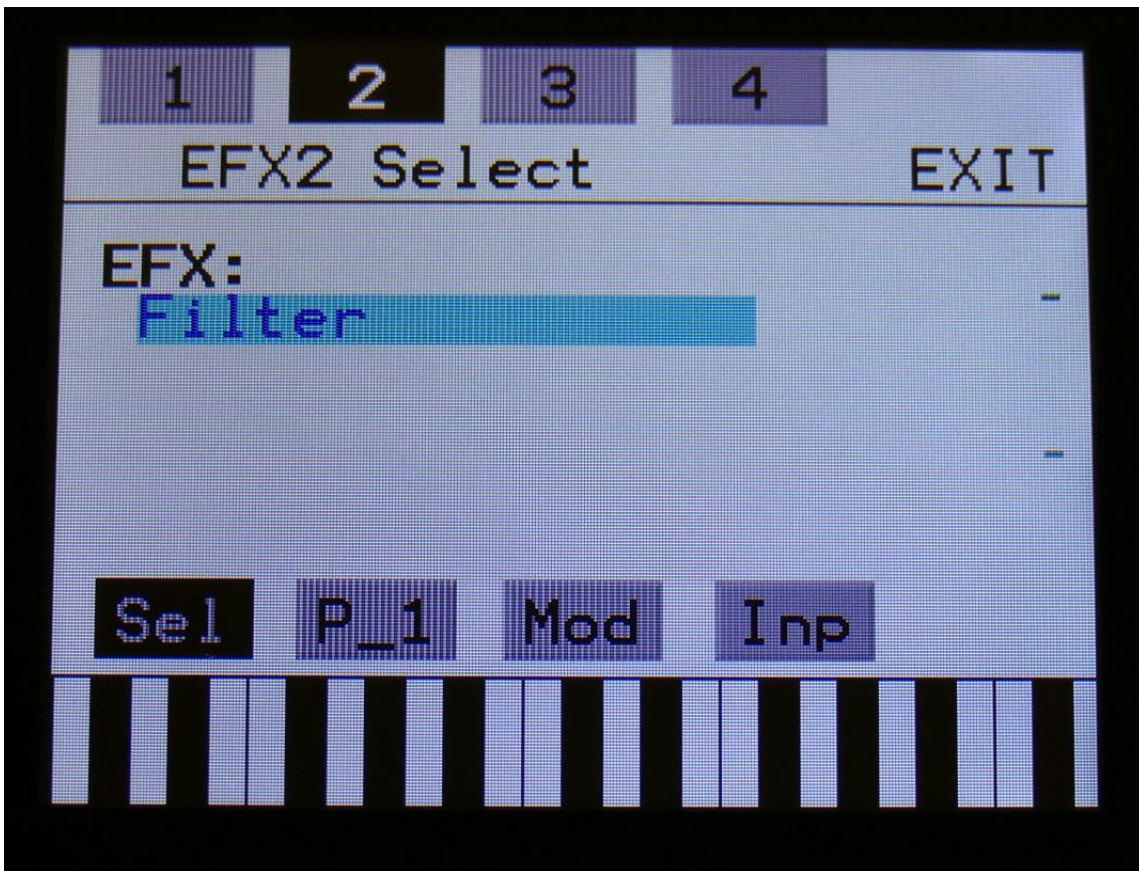
On this first effects page, you can select the effect type for the effects processor, by turning **Edit Knob 1.**

The 2 VU-meters at the right of the screen, shows the Effect input and output.

List of Effects

Filter – 16 filter types and 2 EQ types. Derived from Fuzion.

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

Distortion – 4 types: Valve, Sine, Fuzz, Xdis.

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

Pitch Shifter – 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.

Resonator – Simulates the resonances that comes, if a sound goes through a small box. Anamono X's resonators are synthetic, with more focus on making sounds, than on simulating actual boxes.

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

FM – Adds self-FM to the input signal in +/- 1 octave, +/- 2 octaves or +/- 4 octaves ranges.

Delay 1 – Only EFX 1 and 2. Delay with time and feedback controls, plus Gotharman's Deep, Size, Beam and Xfade controls. Deep adds space to the delay, Size makes the playback range more narrow than the input recording range, and beam beams the delay to previously unknown places. The Xfade control on this delay, creates valleys between the delay taps. The more it is turned up, the more time the valleys takes up.

Roto Delay – Only EFX 1 and 2. New Gotharman delay! This is a 2 tap delay, that is constantly crossfading between the 2 taps. When the Xfade control is turned down, the crossfading is rough, the more it is turned up, the more smooth the crossfading gets. Other controls are the same as the first delay.

Bright Delay – Only EFX 1 and 2. First delay, but with a brighter sound, created by a resonator.

Bright Roto Delay – Only EFX 1 and 2. Roto delay, but with a brighter sound, created by a resonator.

Granulator – Only EFX 1 and 2. Cuts the input signal up in grains, that can be re-arranged. The anAmoNo X granulator can sync to the sequencer.

Variator – Only EFX 1 and 2. Creates new variations of the input signal. Both pitch and rhythmic variations.

Reverb – Only EFX 1 and 2. Takes up 2 effect slots: 1+3 and/or 2+4.

Glitch Shifter – Imperfect pitch shifter.

Glitch Shifter 2 – Imperfect pitch shifter with a slightly different sound than the first one.

Pitch Shaper – 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.

Pitch Shaper 2 – 2 input version of Gotharman's special Pitch Shaper, that forces an audio signal to play back at a specific pitch, determined by the frequency of another audio signal.

Wave Shaper - Re-shapes the input signal.

Effects Parameters

Filter
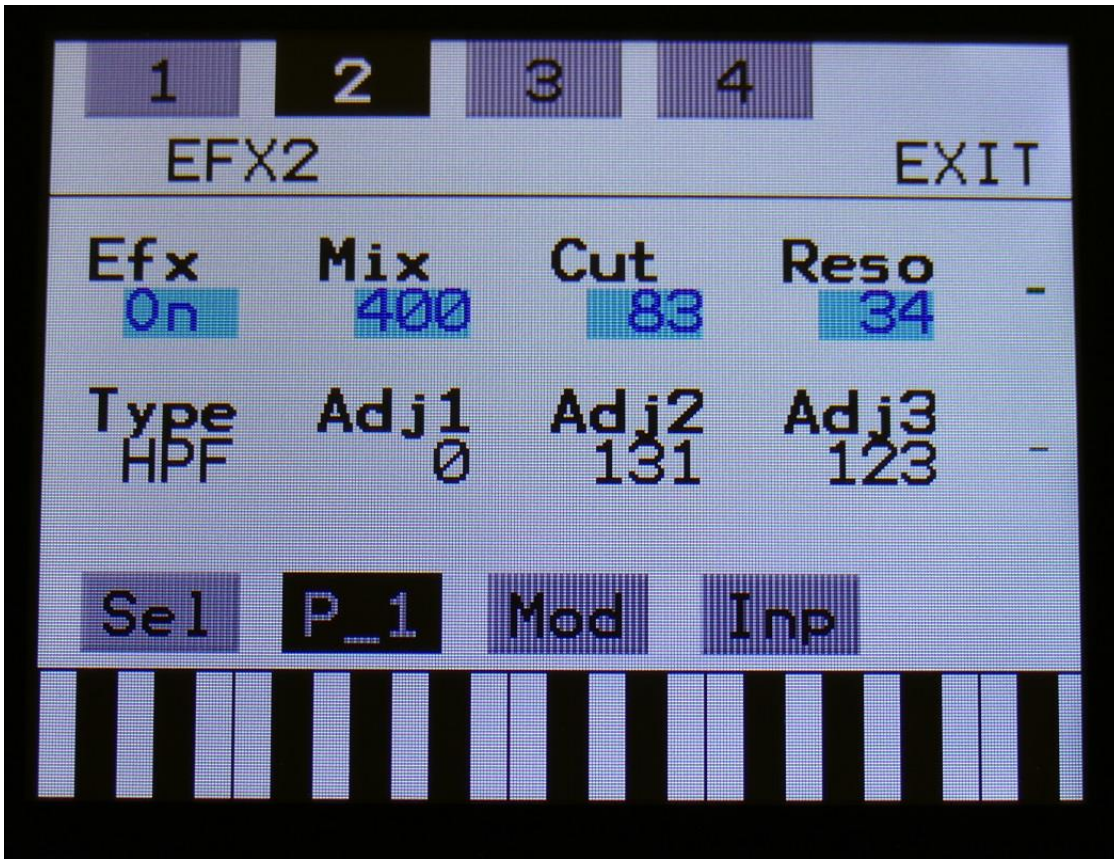
The 2 VU-meters at the right of the screen, shows the Effect input and output.

Efx: Off, on, Freeze. When the effect is off, it is bypassed, and its input mixer can function as a mixer. When the effect are in Freeze mode, the input signal is no longer sampled. The sound that the effect holds, will just keep playing back on and on again. NOT ALL EFFECTS ARE AFFECTED BY FREEZE!

Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output, that is sent to the audio bus.

Cut: Filter cutoff frequency.

Reso: Filter resonance setting.

Type: Filter type. Possibilities are:
-LPF: Low pass filter
-BPF: Band pass filter
-BP8: Steep band pass filter
-HPF: High pass filter
-ADD: Reverse filter. Adds harmonics to the sound.
-BEF: Band eliminate filter
-BASS: A filter with most power in the bass area
-LOFI: Agressive low pass filter
-LPF2: Low pass filter 2, with a slightly different response than the first variant
-BPF2: Band pass filter 2, with a slightly different response than the first variant
-BP82: Steep band pass filter 2, with a slightly different response than the first variant
-HPF2: High pass filter 2, with a slightly different response than the first variant
-ADD2: Reverse filter 2, with a slightly different response than the first variant
-BEF2: Band eliminate filter 2, with a slightly different response than the first variant
-BAS2: Bass filter 2, with a slightly different response than the first variant
-LOFI2: Agressive low pass filter 2, with a slightly different response than the first variant
-Peq1: Parametric EQ
-Peq2: Steeper parametric EQ

Adj1, Adj2, Adj3: Changes the filter response. For the parametric EQ types, Adj3 acts as cut/boost.

Filter Modulation
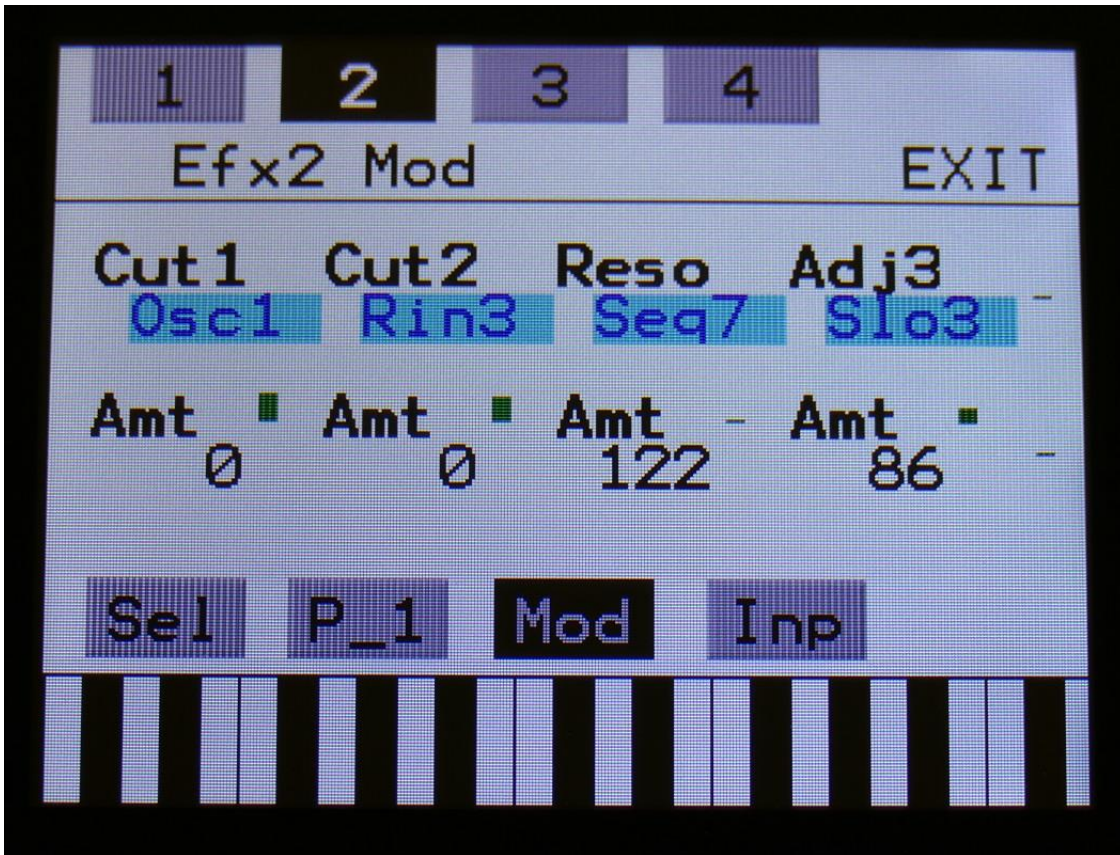
The 2 VU-meters at the right of the screen, shows the Effect input and output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Cut1 and Cut2: Modulates the filter cutoff frequency.

Reso: Modulates the filter resonance.

Adj3: Modulates the filter adjust 3 parameter.

Chorus
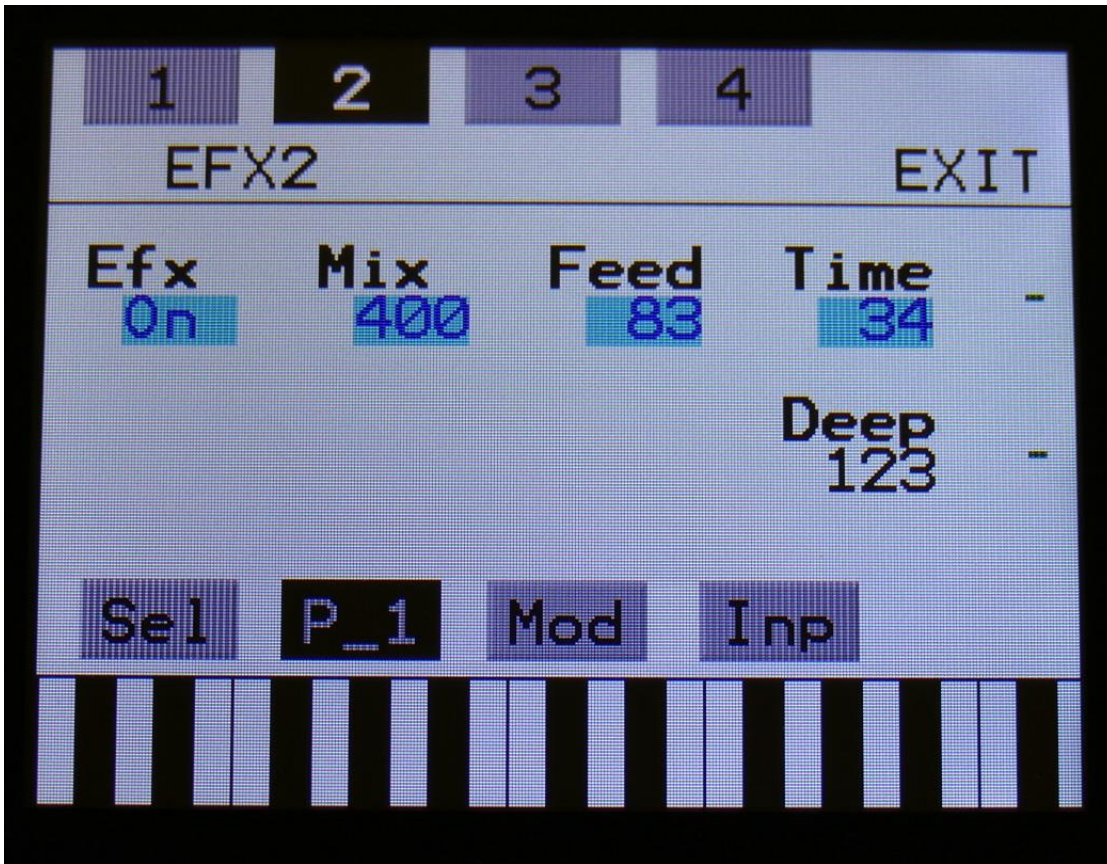
The 2 VU-meters at the right of the screen, shows the Effect input and output.

Efx: Off, on, Freeze. When the effect is off, it is bypassed, and its input mixer can function as a mixer. When the effect are in Freeze mode, the input signal is no longer sampled. The sound that the effect holds, will just keep playing back on and on again. NOT ALL EFFECTS ARE AFFECTED BY FREEZE!

Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output, that is sent to the audio bus.

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.

Chorus Modulation
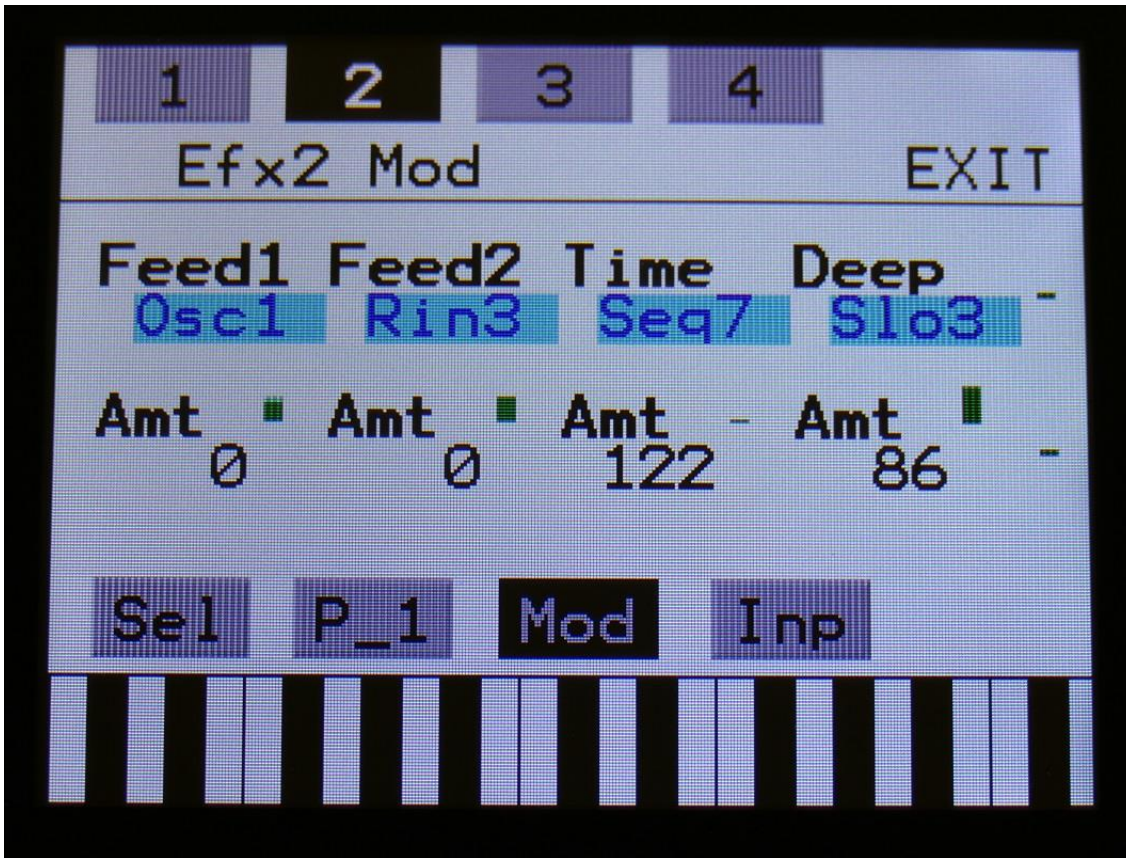
The 2 VU-meters at the right of the screen, shows the Effect input and output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Feed1 and Feed2: Modulates the chorus feedback.

Time: Modulates the time parameter.

Deep: Modulates the Deep parameter.

Distortion
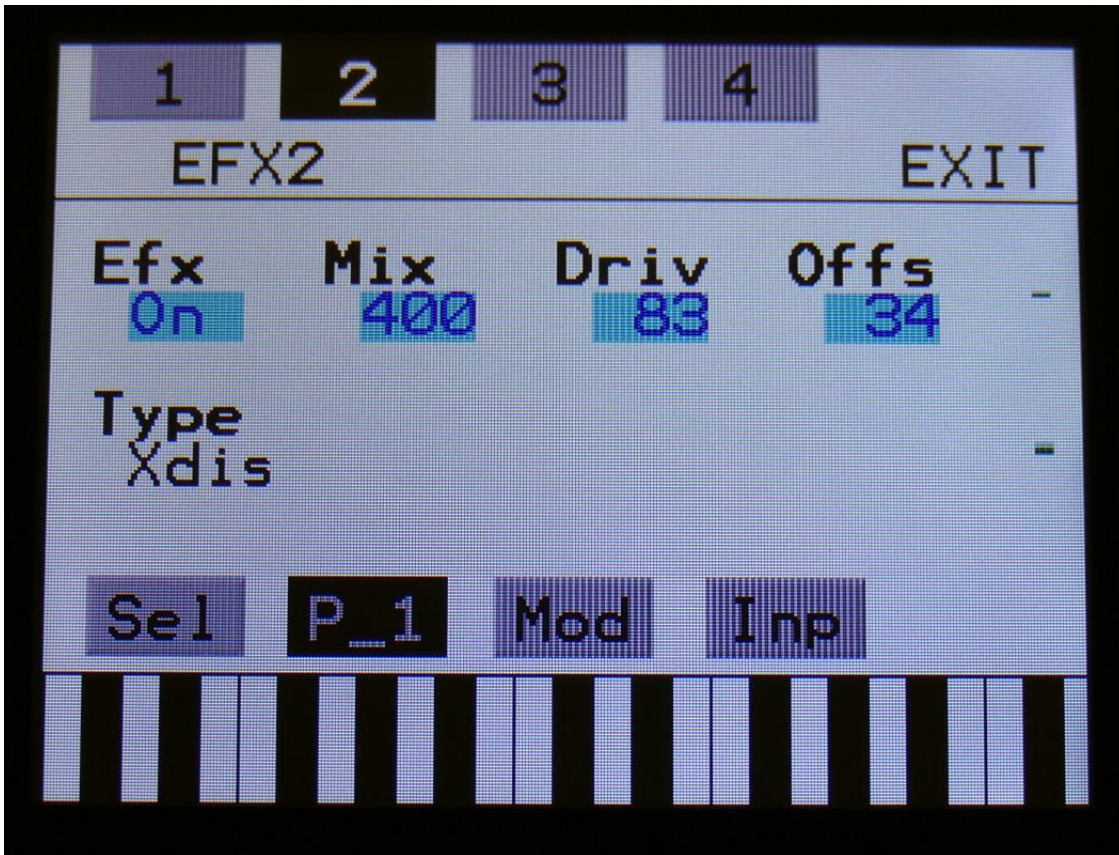
The 2 VU-meters at the right of the screen, shows the Effect input and output.

Efx: Off, on, Freeze. When the effect is off, it is bypassed, and its input mixer can function as a mixer. When the effect are in Freeze mode, the input signal is no longer sampled. The sound that the effect holds, will just keep playing back on and on again. NOT ALL EFFECTS ARE AFFECTED BY FREEZE!
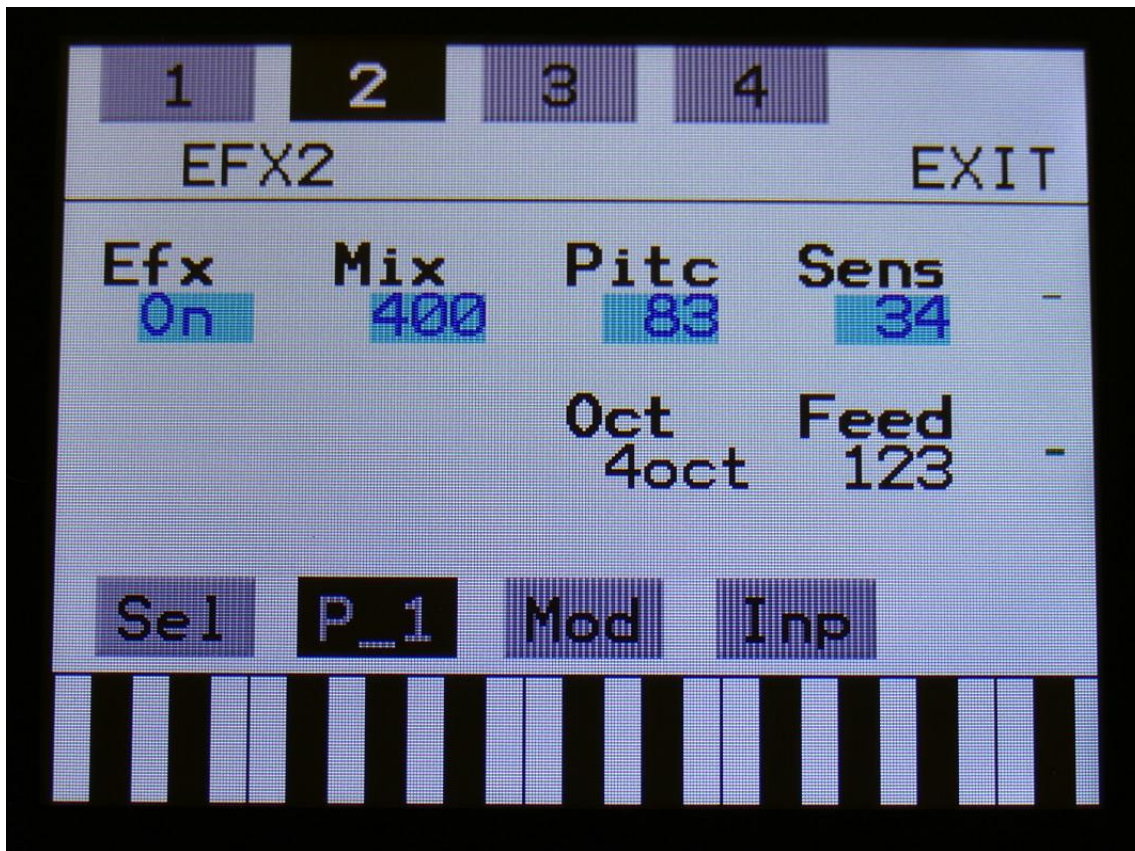
Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output, that is sent to the audio bus.

Drive: 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.

Distortion Modulation

The 2 VU-meters at the right of the screen, shows the Effect input and output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Driv1 and Driv2: Modulates the drive parameter.

Offs: Modulates the offset parameter.

Bit Crush
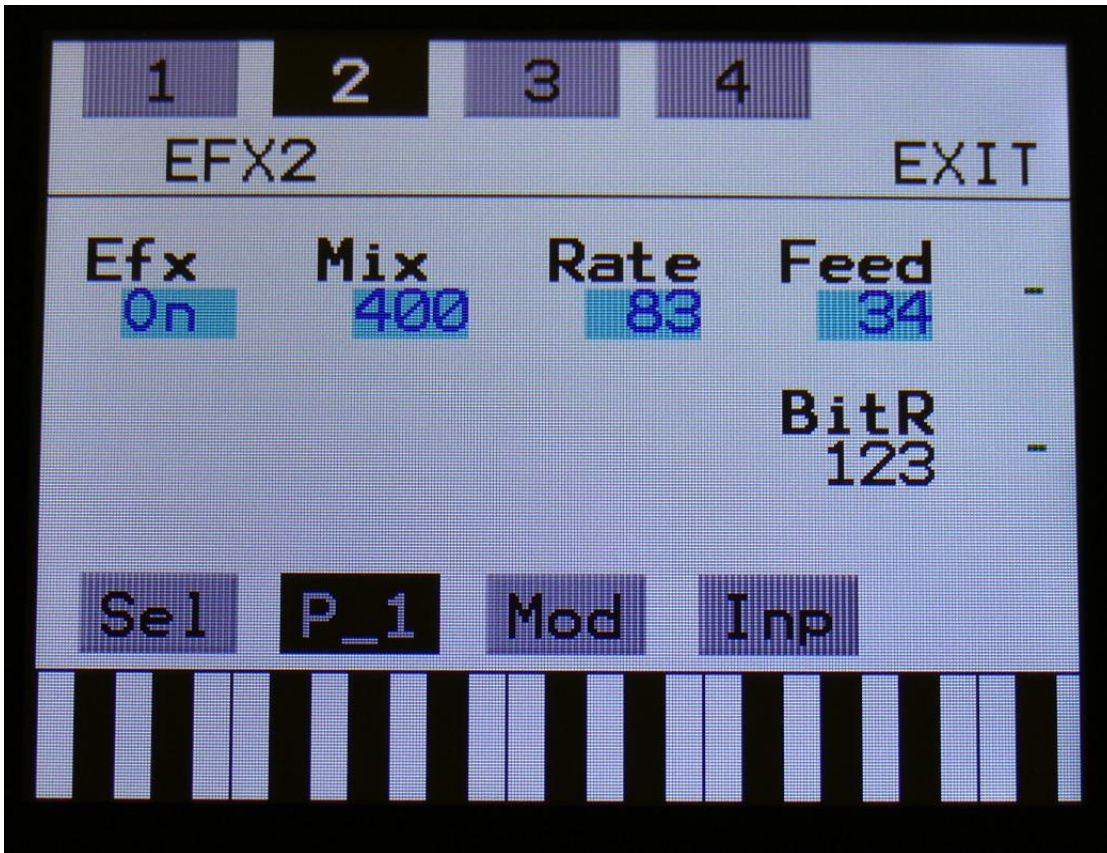
The 2 VU-meters at the right of the screen, shows the Effect input and output.

Efx: Off, on, Freeze. When the effect is off, it is bypassed, and its input mixer can function as a mixer. When the effect are in Freeze mode, the input signal is no longer sampled. The sound that the effect holds, will just keep playing back on and on again. NOT ALL EFFECTS ARE AFFECTED BY FREEZE!

Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output, that is sent to the audio bus.

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.

Bit Crush Modulation
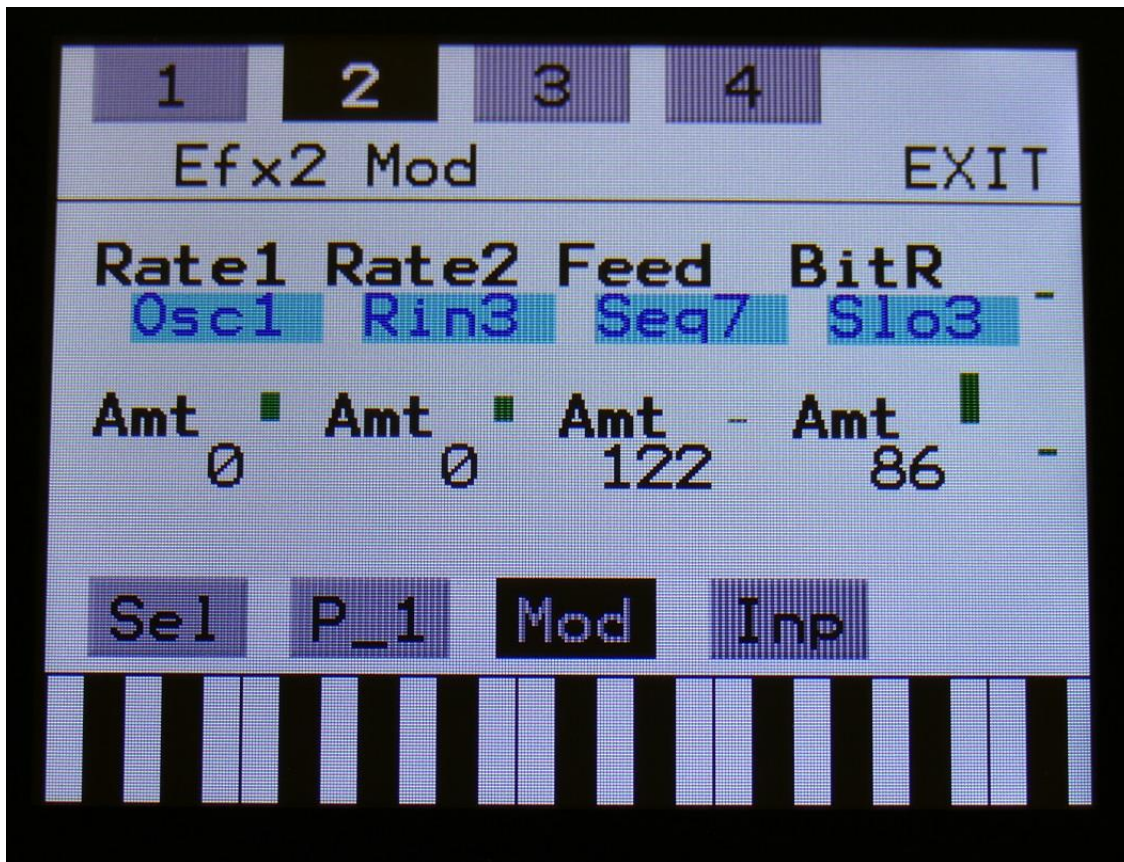
The 2 VU-meters at the right of the screen, shows the Effect input and output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Rate1 and Rate2: Modulates the sample rate parameter.

Feed: Modulates the feedback parameter.

BitR: Modulates the bit reduction parameter.

Pitch Shifter

The 2 VU-meters at the right of the screen, shows the Effect input and output.
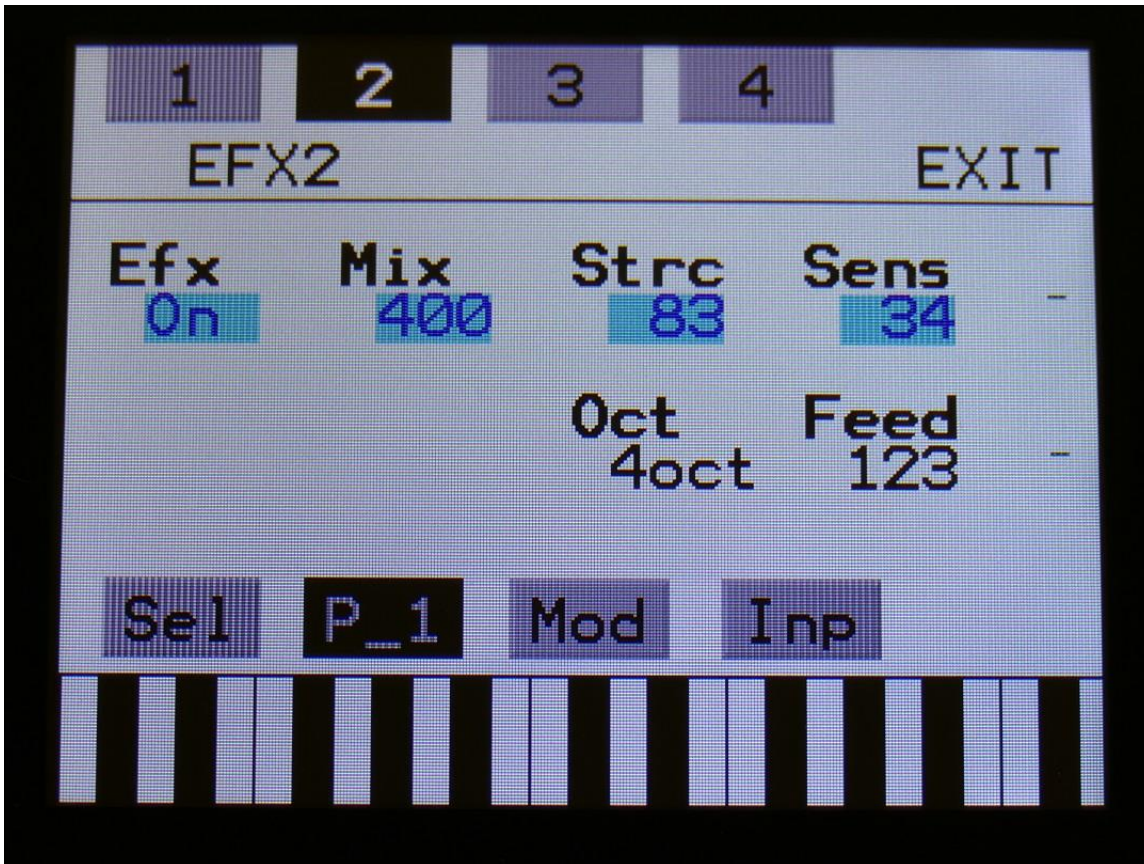
Efx: Off, on, Freeze. When the effect is off, it is bypassed, and its input mixer can function as a mixer. When the effect are in Freeze mode, the input signal is no longer sampled. The sound that the effect holds, will just keep playing back on and on again. NOT ALL EFFECTS ARE AFFECTED BY FREEZE!

Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output, that is sent to the audio bus.

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

Sense: 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".

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

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

Pitch Shifter Modulation

The 2 VU-meters at the right of the screen, shows the Effect input and output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Pitc1 and Pitc2: Modulates the pitch shift parameter.

Sens: Modulates the Sense parameter.

Feed: Modulates the Feed parameter.

Resonator
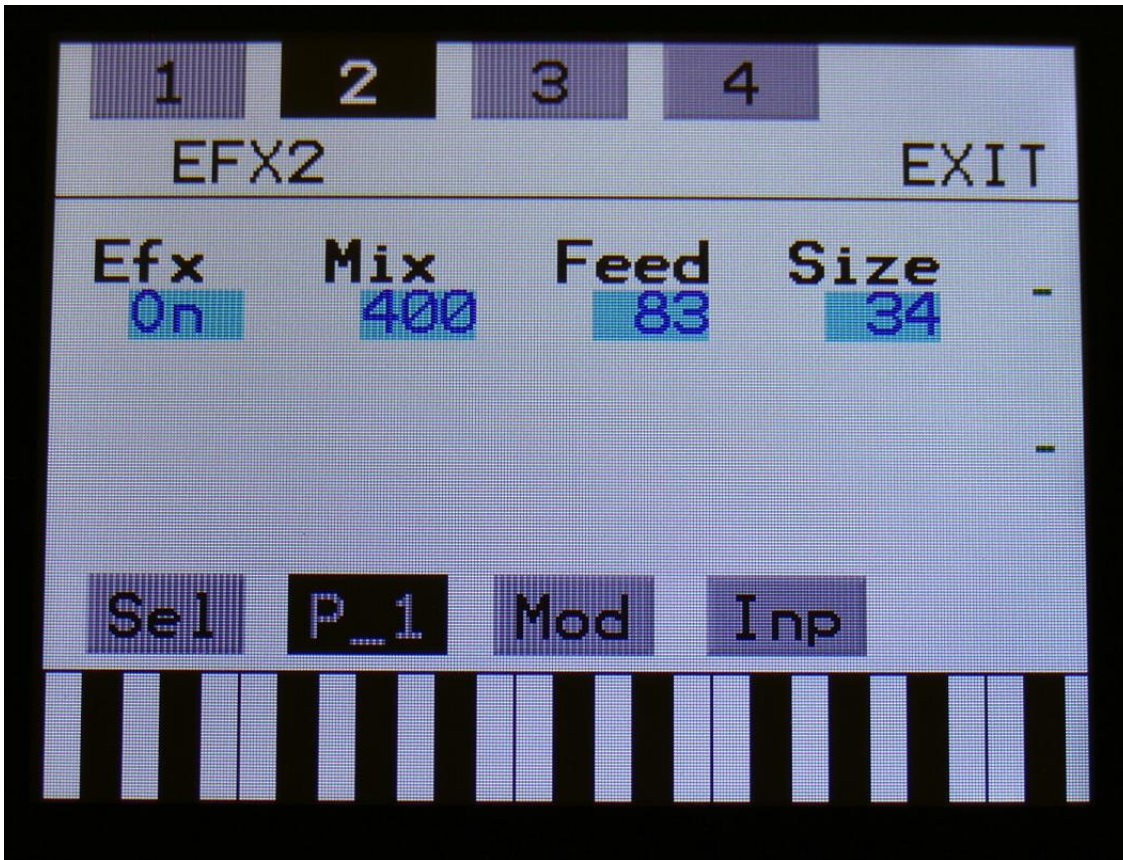
The 2 VU-meters at the right of the screen, shows the Effect input and output.

Efx: Off, on, Freeze. When the effect is off, it is bypassed, and its input mixer can function as a mixer. When the effect are in Freeze mode, the input signal is no longer sampled. The sound that the effect holds, will just keep playing back on and on again. NOT ALL EFFECTS ARE AFFECTED BY FREEZE!

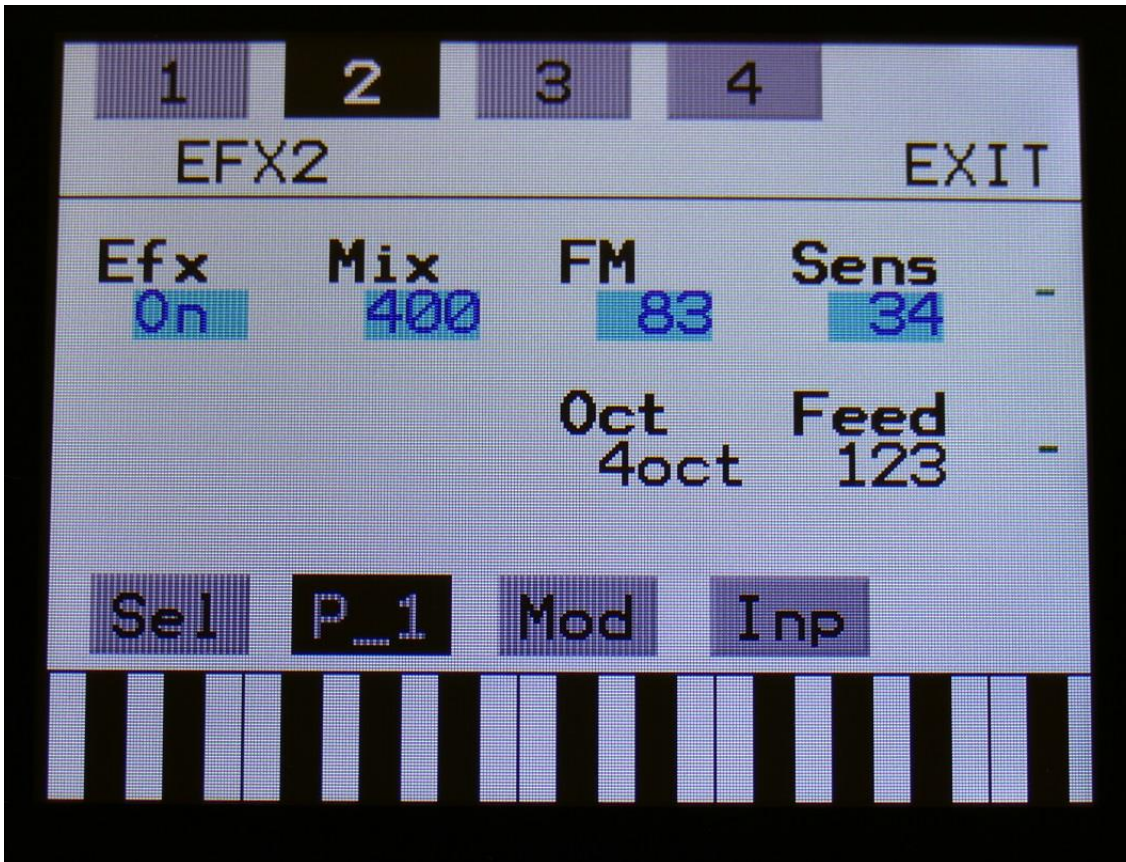**Mix:** The mix between the un-effected signal on the effect input, and the effected signal on the effect output, that is sent to the audio bus.

Feed: Resonator feedback. The more this is turned up, the more it will resonate.

Size: The size of the resonator box. Different sizes will give different resonance frequencies.

Resonator Modulation
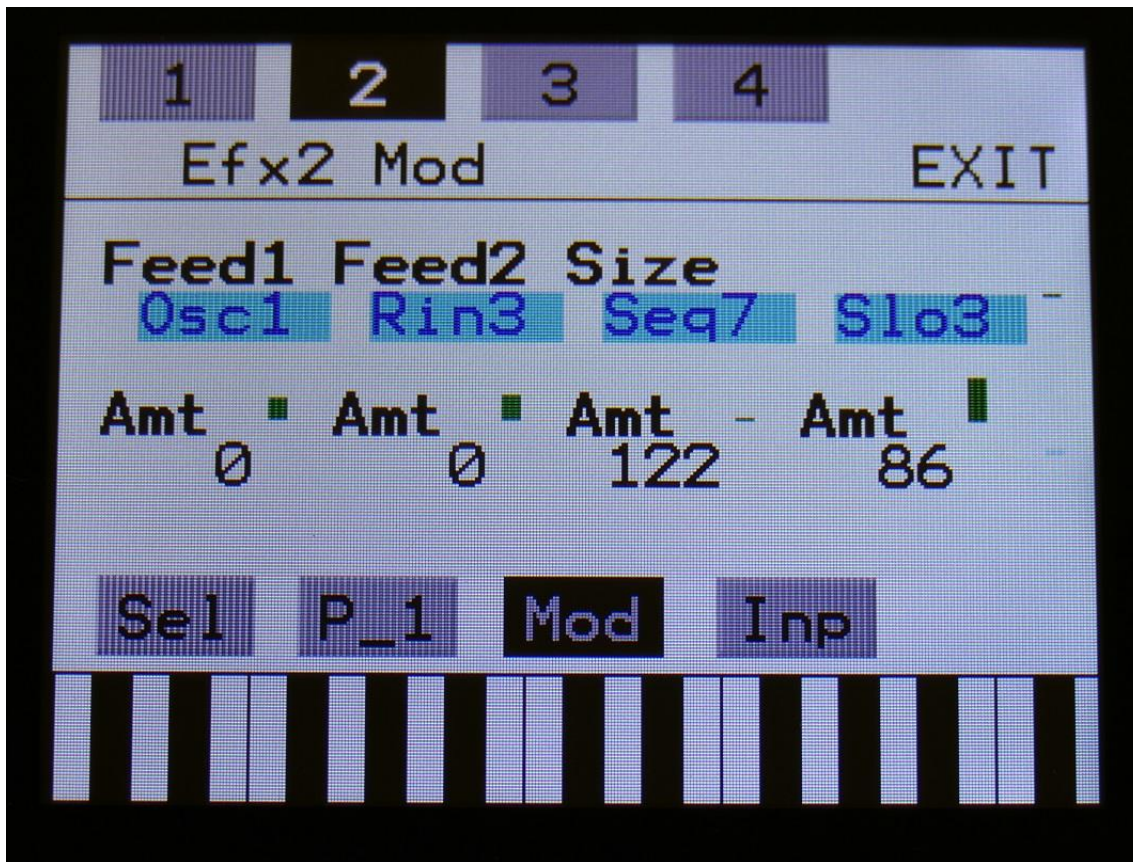
The 2 VU-meters at the right of the screen, shows the Effect input and output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Feed1 and Feed2: Modulates the feed parameter.

Size: Modulates the Size parameter.

Stretcher

The 2 VU-meters at the right of the screen, shows the Effect input and output.

Efx: Off, on, Freeze. When the effect is off, it is bypassed, and its input mixer can function as a mixer. When the effect are in Freeze mode, the input signal is no longer sampled. The sound that the effect holds, will just keep playing back on and on again. NOT ALL EFFECTS ARE AFFECTED BY FREEZE!

Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output, that is sent to the audio bus.

Strc: The degree of time stretch.

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

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

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

Stretcher Modulation
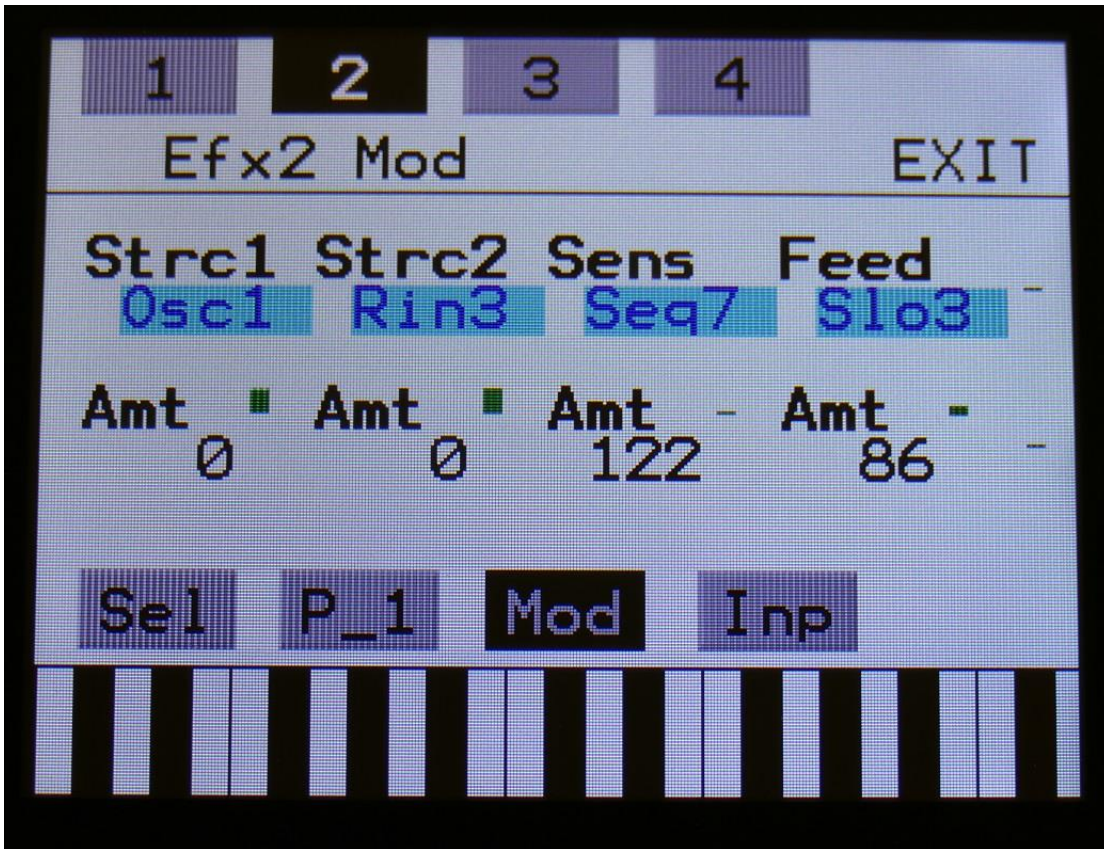
The 2 VU-meters at the right of the screen, shows the Effect input and output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Strc1 and Strc2: Modulates the stretch parameter.

Sens: Modulates the sense parameter.

Feed: Modulates the feed parameter.

FM

The 2 VU-meters at the right of the screen, shows the Effect input and output.

Efx: Off, on, Freeze. When the effect is off, it is bypassed, and its input mixer can function as a mixer. When the effect are in Freeze mode, the input signal is no longer sampled. The sound that the effect holds, will just keep playing back on and on again. NOT ALL EFFECTS ARE AFFECTED BY FREEZE!

Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output, that is sent to the audio bus.

Strch: The degree of self-FM from 0 to up to +/- 4 octaves.

Sense: FM 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".

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

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

FM Modulation
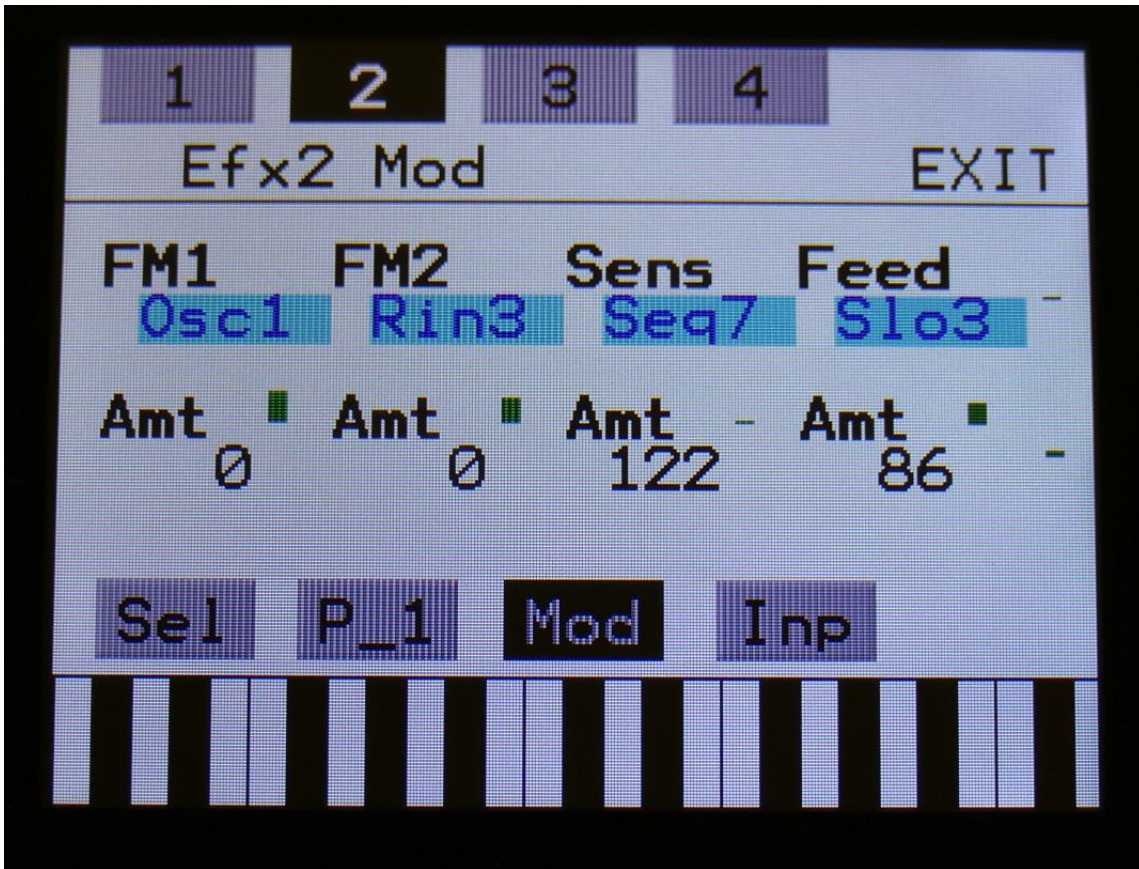
The 2 VU-meters at the right of the screen, shows the Effect input and output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

FM1 and FM2: Modulates the FM parameter.

Sens: Modulates the sense parameter.

Feed: Modulates the feed parameter.

Delay1, Roto delay, Bright Delay and Bright Roto Delay
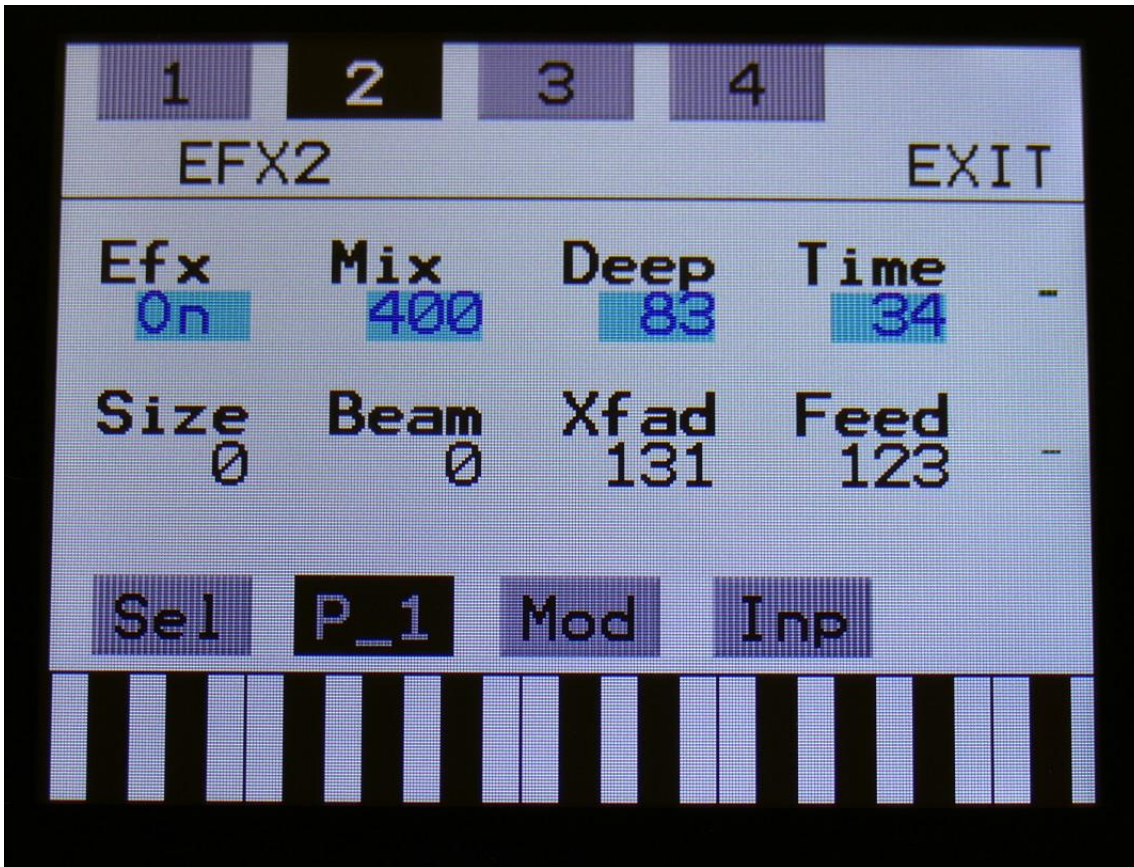
The 2 VU-meters at the right of the screen, shows the Effect input and output.

Efx: Off, on, Freeze. When the effect is off, it is bypassed, and its input mixer can function as a mixer. When the effect are in Freeze mode, the input signal is no longer sampled. The sound that the effect holds, will just keep playing back on and on again. NOT ALL EFFECTS ARE AFFECTED BY FREEZE!

Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output, that is sent to the audio bus.

Deep: Simulates a delay box, with adjustable physical depth.

Time: Delay time.

Size: A granular parameter. The more this is turned up, the less space of the delay box is used, causing some echo's to repeat, and others not to sound at all.

Beam: A granular parameter, that "beams" some of the delay sound grains to another place.

Xfade: Crossfade. Makes the delay effect sound smoother, by crossfading the feedback repeats into each other.

Feed: Delay feedback amount. At values over middle, the feedback signal will be gained and create infinite feedback. This might cause some saturation.

Delay1, Roto delay, Bright Delay and Bright Roto Delay Modulation
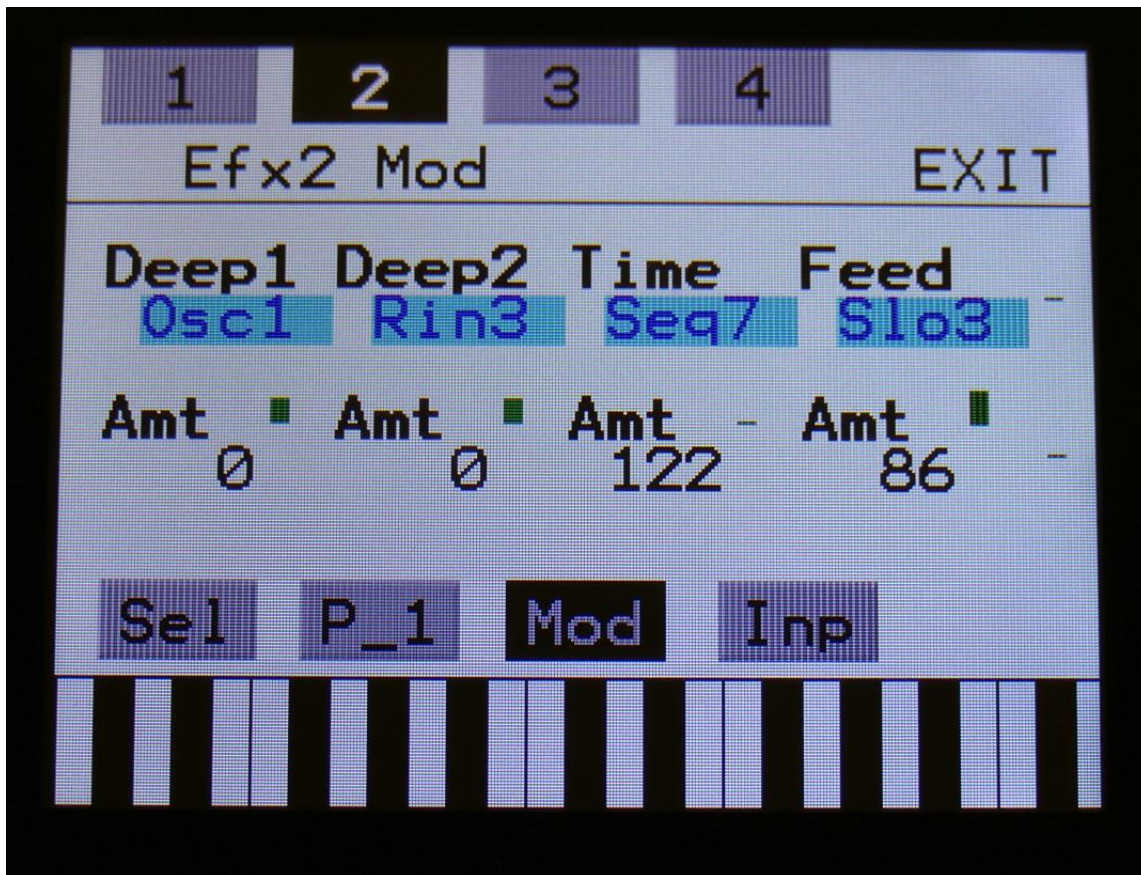
The 2 VU-meters at the right of the screen, shows the Effect input and output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Deep1 and Deep2: Modulates the deep parameter.

Time: Modulates the delay time parameter.

Feed: Modulates the feed parameter.

Granulator SQ

The 2 VU-meters at the right of the screen, shows the Effect input and output.

Efx: Off, on, Freeze. When the effect is off, it is bypassed, and its input mixer can function as a mixer. When the effect are in Freeze mode, the input signal is no longer sampled. The sound that the effect holds, will just keep playing back on and on again. NOT ALL EFFECTS ARE AFFECTED BY FREEZE!

Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output, that is sent to the audio bus.

Step: Sets how many steps the granulator sequencers should go through, until they starts over again from step one. Range: 1 to 16.

Feed: Adjusts how much of the Granulator output signal should be fed back to its input.

Resolution: Adjusts the resolution of the sequencer track, that controls the granulator. The granulator only uses the controller values of the sequencer steps, so the controller track and the granulator can run in different resolutions.

Size: A granular parameter. The more this is turned up, the less space of each granulator step is used, causing the granulator to "stutter".

Seq: Selects which of the 16 sequencer controller tracks, the granulator should get it step values from. Each value selects a different portion of the granulator input, to be played back.

X: "X" intermodulation of the sound. Another Gotharman special ☺

Granulator Modulation
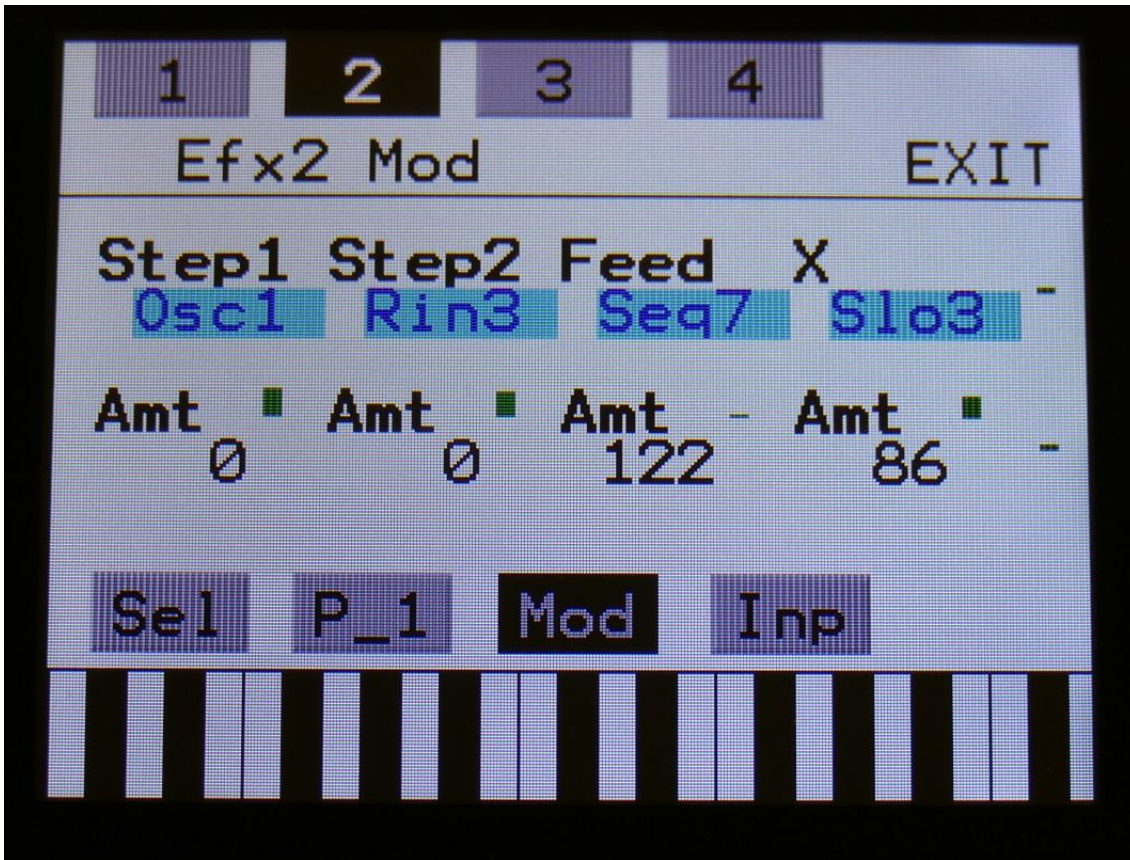
The 2 VU-meters at the right of the screen, shows the Effect input and output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Step1 and Step2: Modulates the number of steps parameter.

Feed: Modulates the feed parameter.

X: Modulates the "X" parameter.

Variator
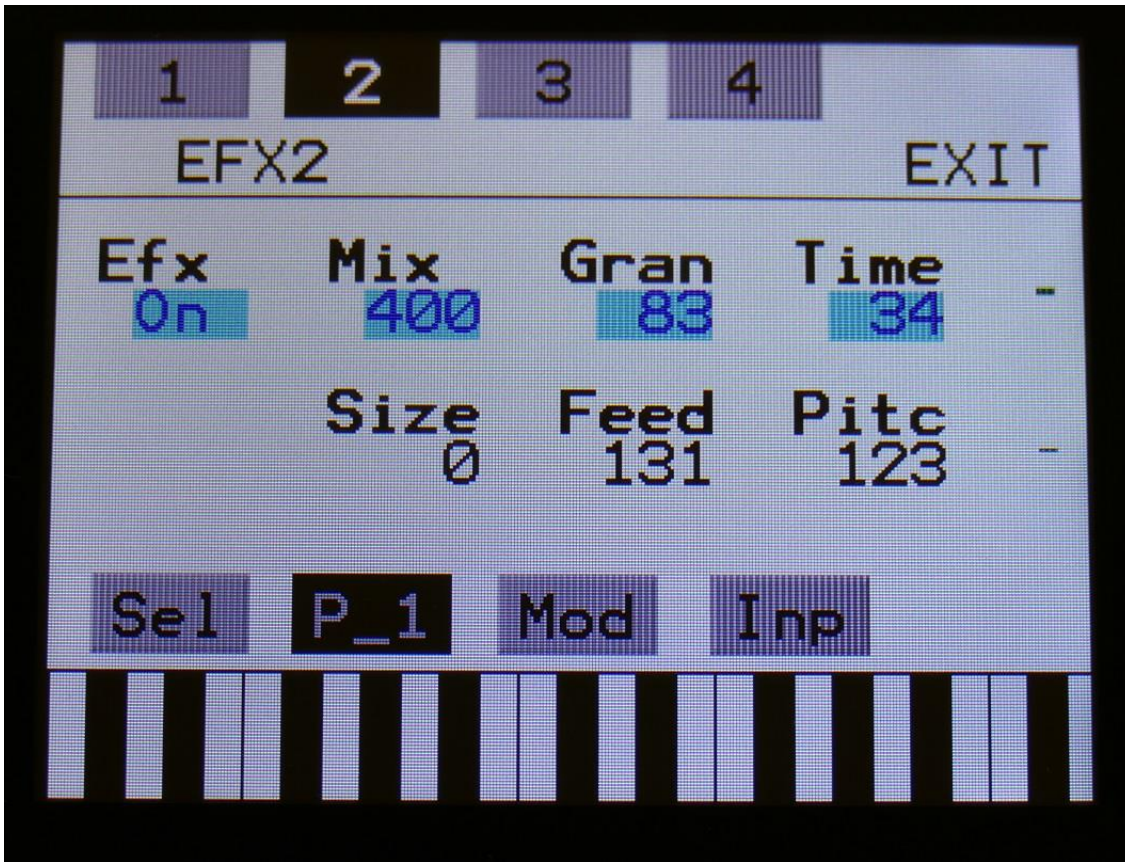
The 2 VU-meters at the right of the screen, shows the Effect input and output.

Efx: Off, on, Freeze. When the effect is off, it is bypassed, and its input mixer can function as a mixer. When the effect are in Freeze mode, the input signal is no longer sampled. The sound that the effect holds, will just keep playing back on and on again. NOT ALL EFFECTS ARE AFFECTED BY FREEZE!

Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output, that is sent to the audio bus.

Gran: Determines the variation pattern. Range: 0 to 511.

Time: The size of the RAM buffer used for the variator.

Size: The size of one grain.

Feed: Adjusts how much of the Variator output signal should be fed back to its input.

Pitc: The amount of Variator pitch shift.

Variator Modulation
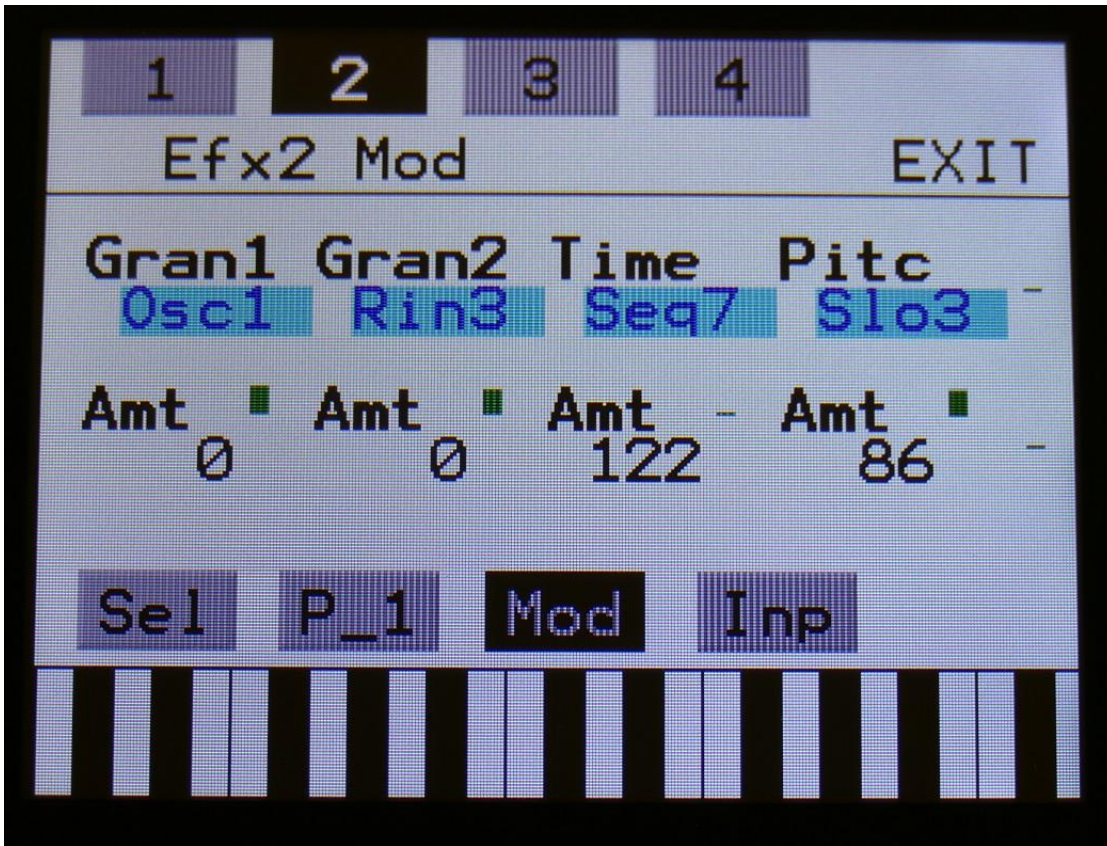
The 2 VU-meters at the right of the screen, shows the Effect input and output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.
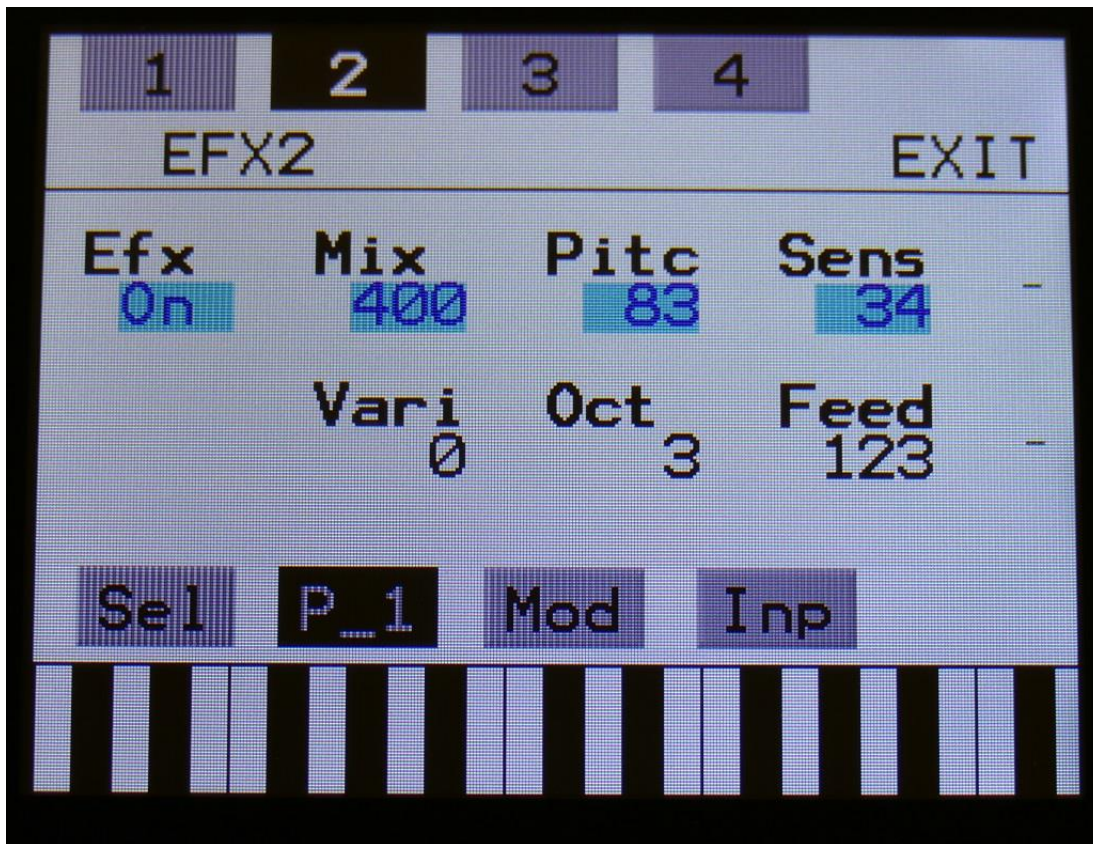
The parameters on this page:

Gran1 and Gran2: Modulates the gran variation pattern parameter.

Time: Modulates the time parameter.

Pitc: Modulates the pitch shift parameter.

Reverb
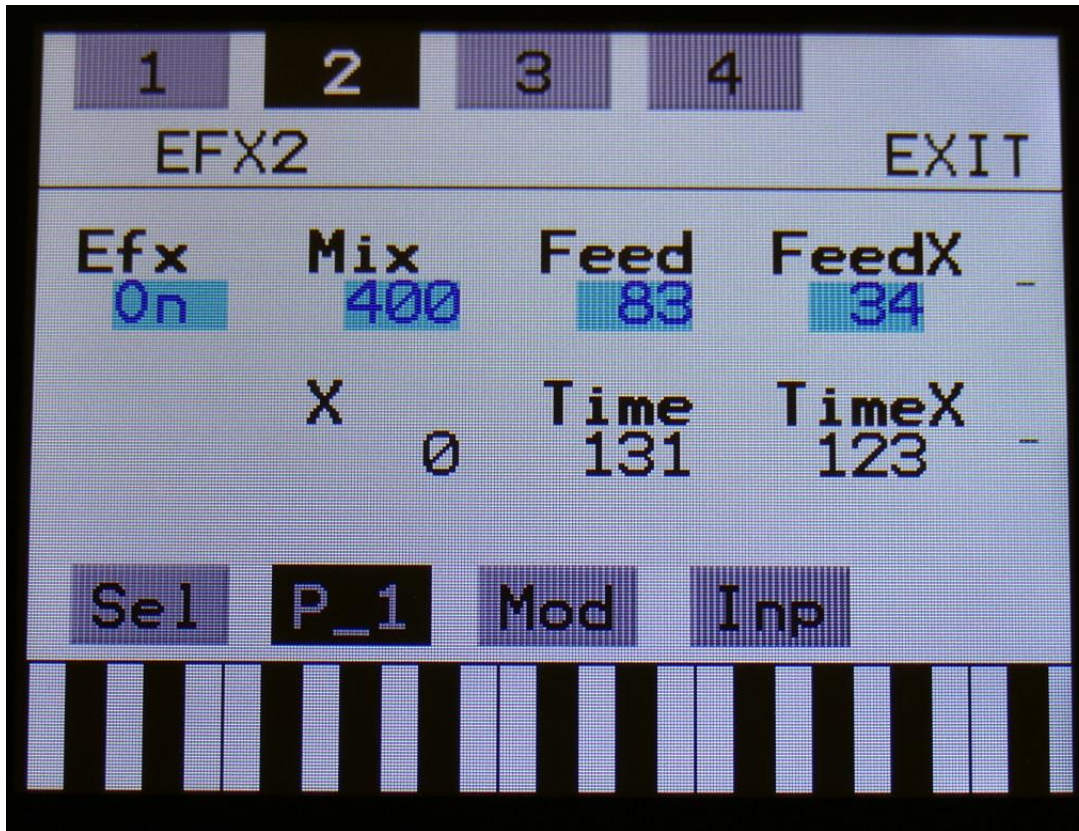
The 2 VU-meters at the right of the screen, shows the Effect input and output.

Efx: Off, on, Freeze. When the effect is off, it is bypassed, and its input mixer can function as a mixer. When the effect are in Freeze mode, the input signal is no longer sampled. The sound that the effect holds, will just keep playing back on and on again. NOT ALL EFFECTS ARE AFFECTED BY FREEZE!

Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output, that is sent to the audio bus.

Feed: Reverb feedback.

Feed X: Adjusts how much the following reverb taps will decrease in feedback. Lower settings gives a delay effect. As this is turned up, it goes over in a metallic reverb type, and at higher settings it gives a more full reverb.

X: **"X" intermodulation of the sound. Another Gotharman special** ☺

Time: Reverb time. The total reverb time is a combination of time, timeX, feed and feedX.
Time X: Adjusts how much the following reverb taps will decrease in time. Lower settings is good for a short reverb, and higher settings for a long reverb.

Reverb Modulation
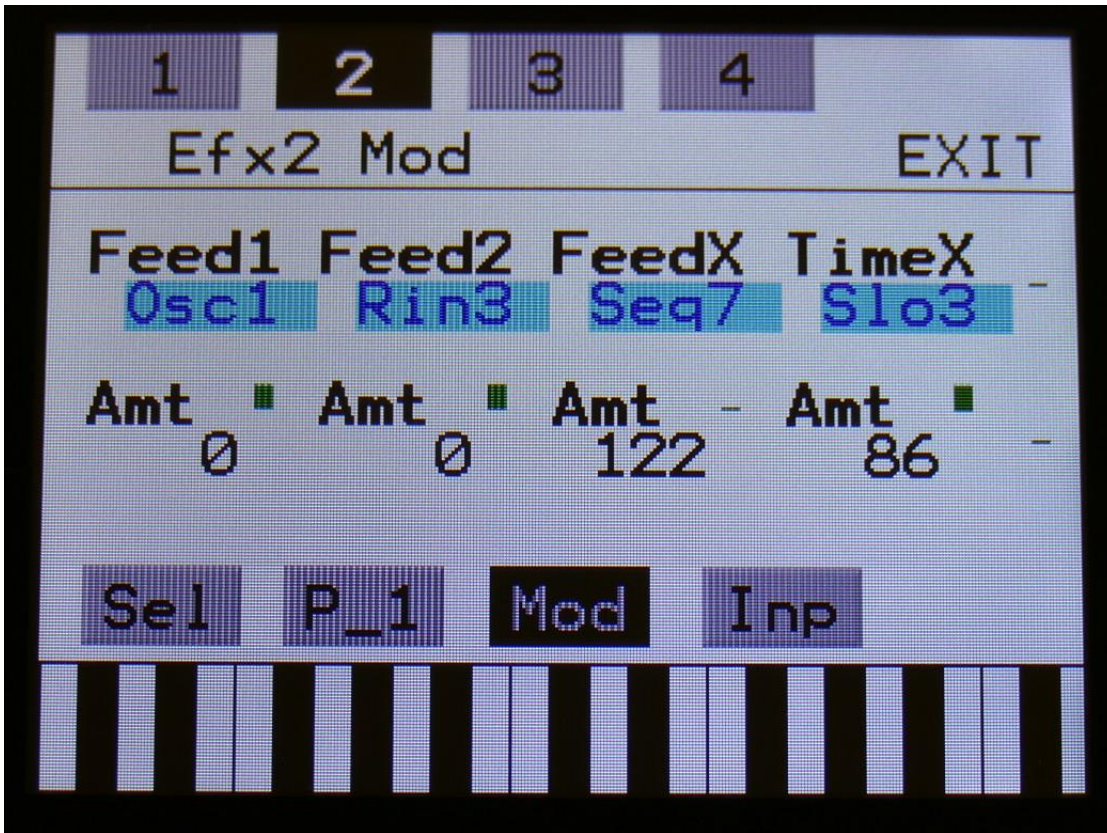
The 2 VU-meters at the right of the screen, shows the Effect input and output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Feed1 and Feed2: Modulates the feedback parameter.

FeedX: Modulates the feed x parameter.

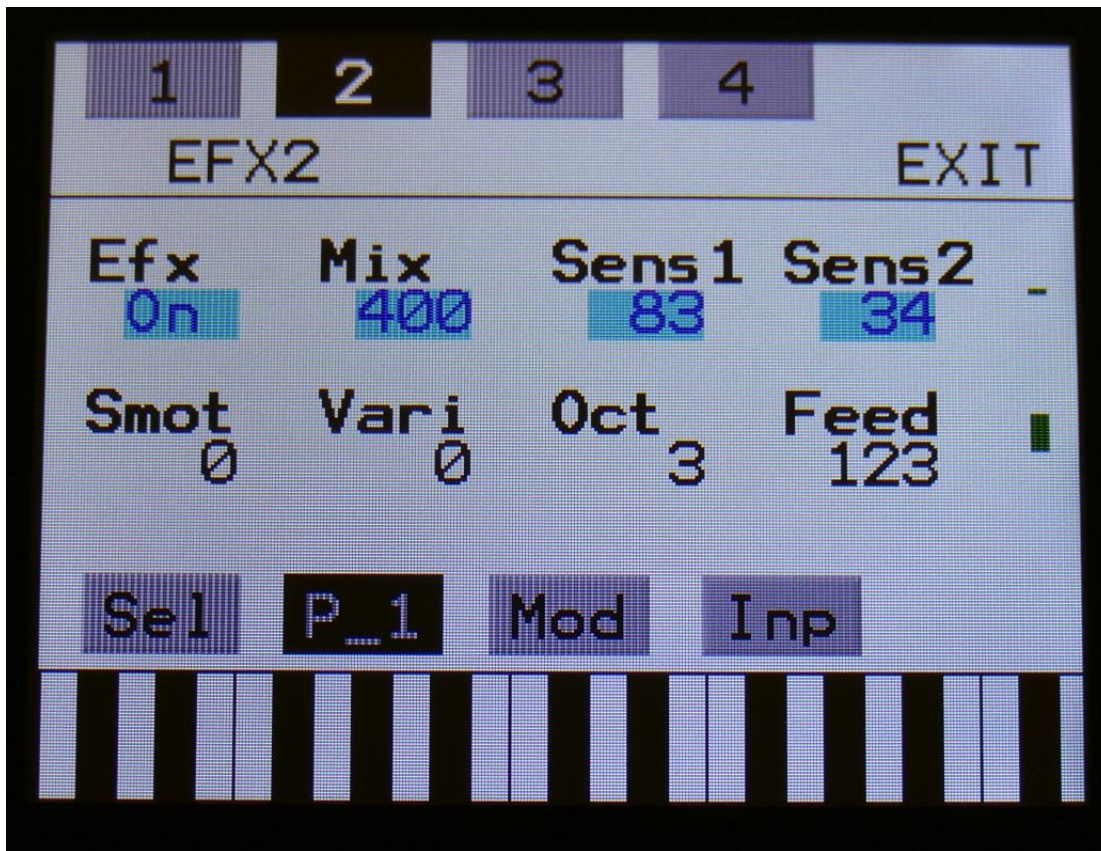**TimeX:** Modulates the time x parameter.

Glitch Shifter, Glitch Shifter 2
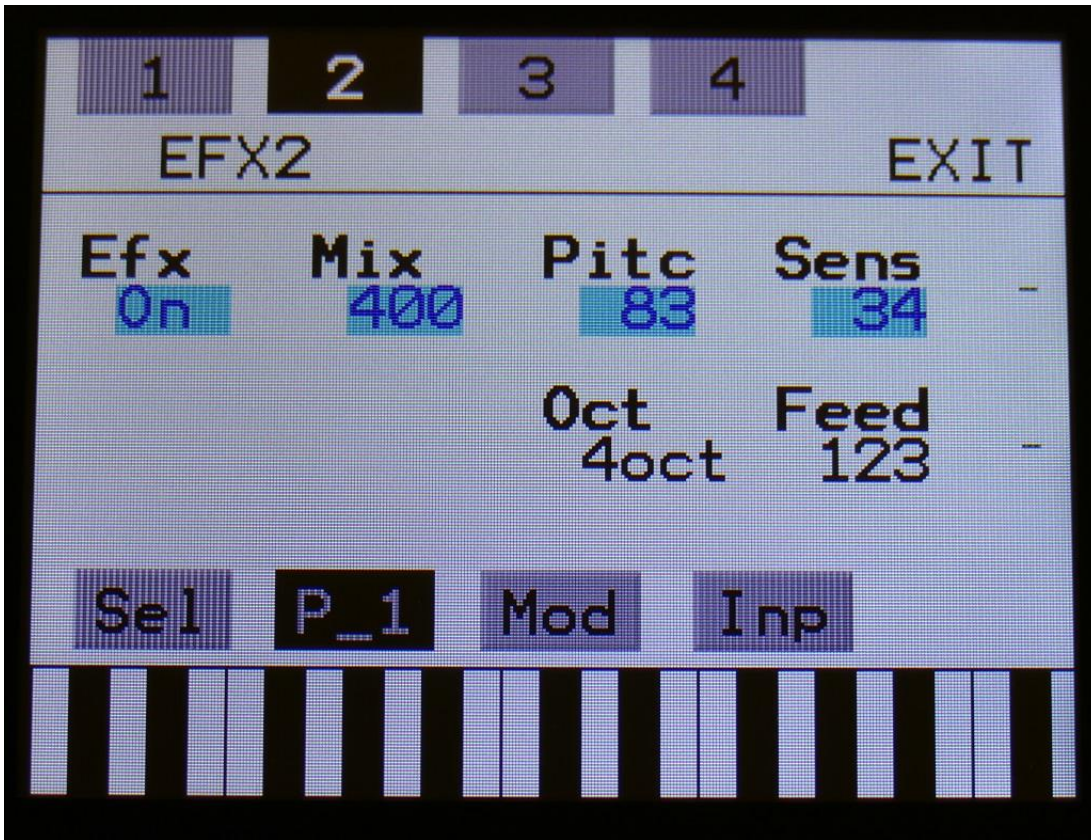
The 2 VU-meters at the right of the screen, shows the Effect input and output.

Efx: Off, on, Freeze. When the effect is off, it is bypassed, and its input mixer can function as a mixer. When the effect are in Freeze mode, the input signal is no longer sampled. The sound that the effect holds, will just keep playing back on and on again. NOT ALL EFFECTS ARE AFFECTED BY FREEZE!

Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output, that is sent to the audio bus.

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

Sense: 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".

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

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

Glitch Shifter, Glitch Shifter 2 Modulation
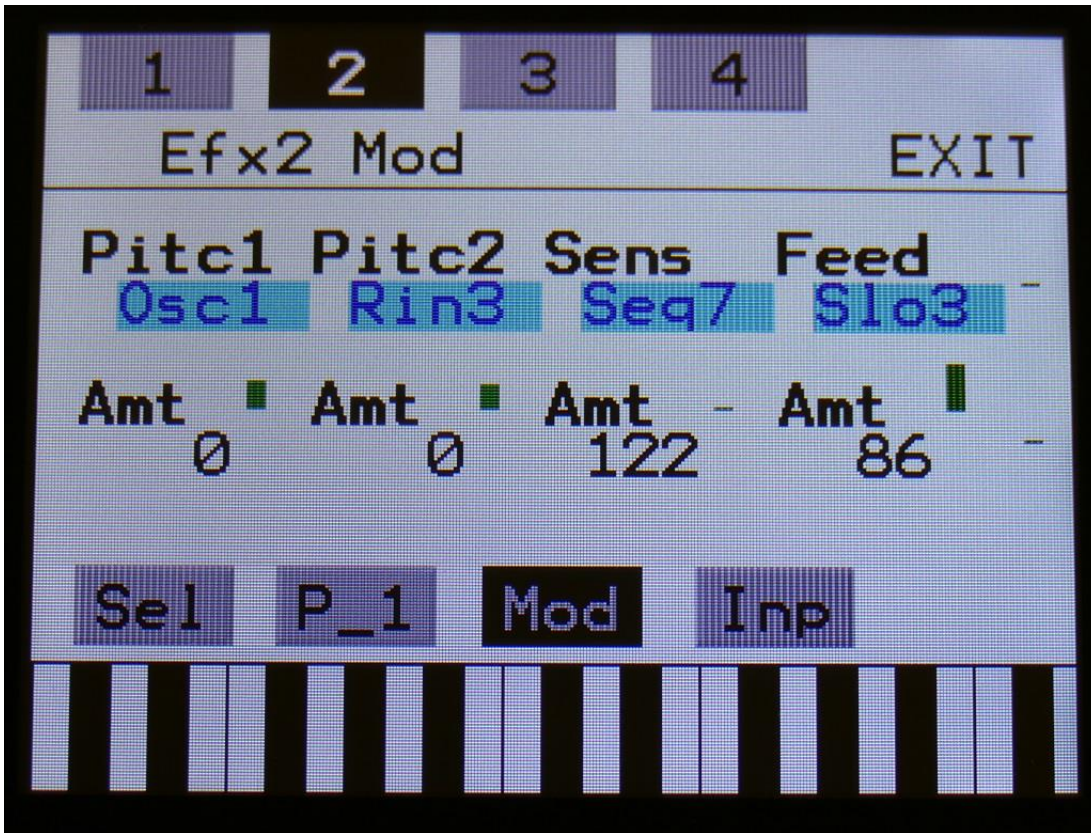
The 2 VU-meters at the right of the screen, shows the Effect input and output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Pitc1 and Pitc2: Modulates the glitch shift parameter.

Sens: Modulates the Sense parameter.

Feed: Modulates the Feed parameter.

Pitch Shaper

The 2 VU-meters at the right of the screen, shows the Effect input and output.

Efx: Off, on, Freeze. When the effect is off, it is bypassed, and its input mixer can function as a mixer. When the effect are in Freeze mode, the input signal is no longer sampled. The sound that the effect holds, will just keep playing back on and on again. NOT ALL EFFECTS ARE AFFECTED BY FREEZE!

Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output, that is sent to the audio bus.

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

Sense: 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".

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

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

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

Pitch Shaper Modulation
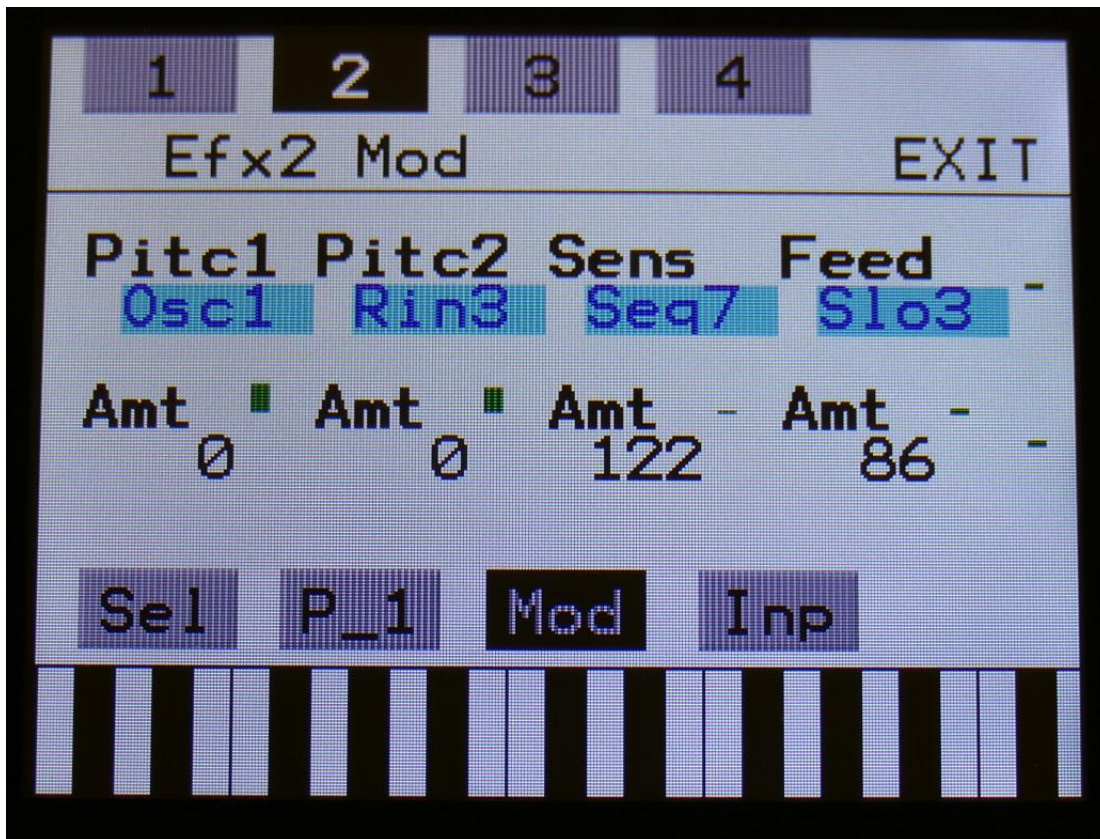
The 2 VU-meters at the right of the screen, shows the Effect input and output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Pitc1 and Pitc2: Modulates the pitc parameter.

Sens: Modulates the Sense parameter.

Feed: Modulates the Feed parameter.

Pitch Shaper 2

The 2 VU-meters at the right of the screen, shows the Effect input and output.

Efx: Off, on, Freeze. When the effect is off, it is bypassed, and its input mixer can function as a mixer. When the effect are in Freeze mode, the input signal is no longer sampled. The sound that the effect holds, will just keep playing back on and on again. NOT ALL EFFECTS ARE AFFECTED BY FREEZE!

Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output, that is sent to the audio bus.

Sens1: 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".

Sens2: 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".
Smot: Smooth. The more this is turned up, the more the changes in pitch are smoothened.

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

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

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

Pitch Shaper 2 Modulation
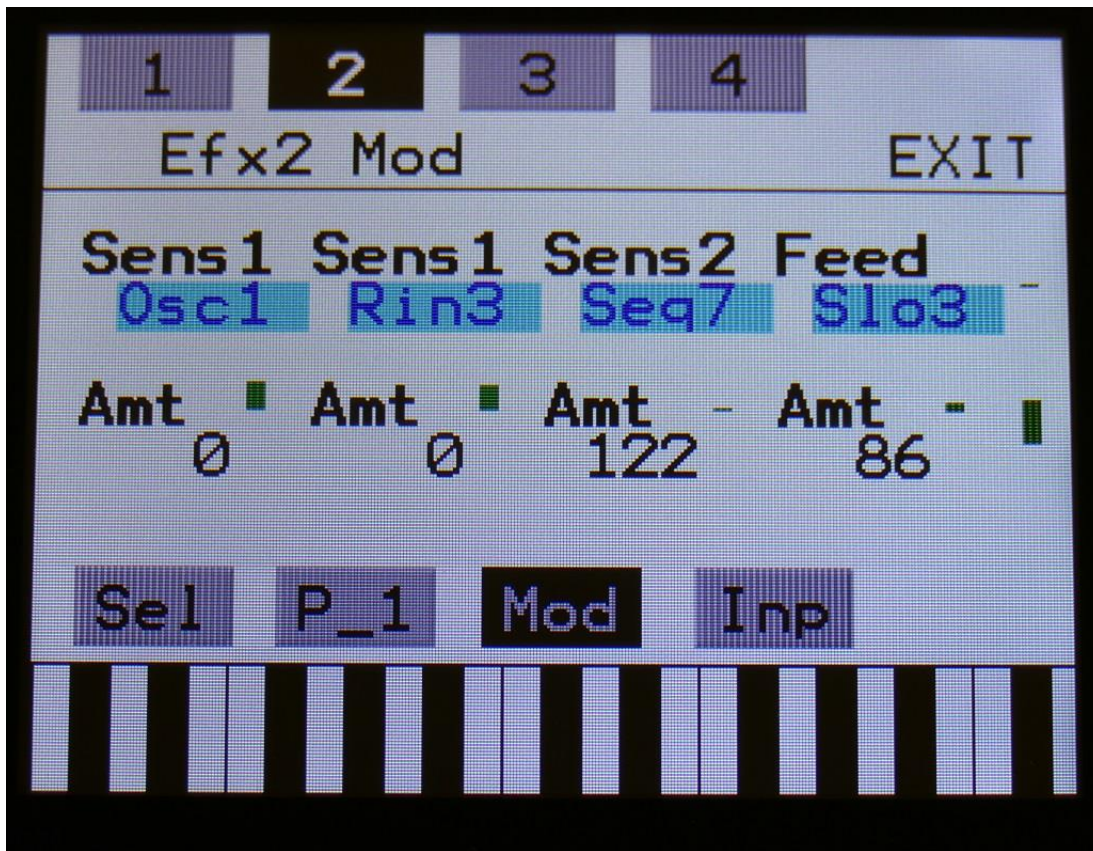
The 2 VU-meters at the right of the screen, shows the Effect input and output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Sens1 and Sens2: Modulates the sens 1 and 2 parameters.

Feed: Modulates the Feed parameter.

Wave Shaper
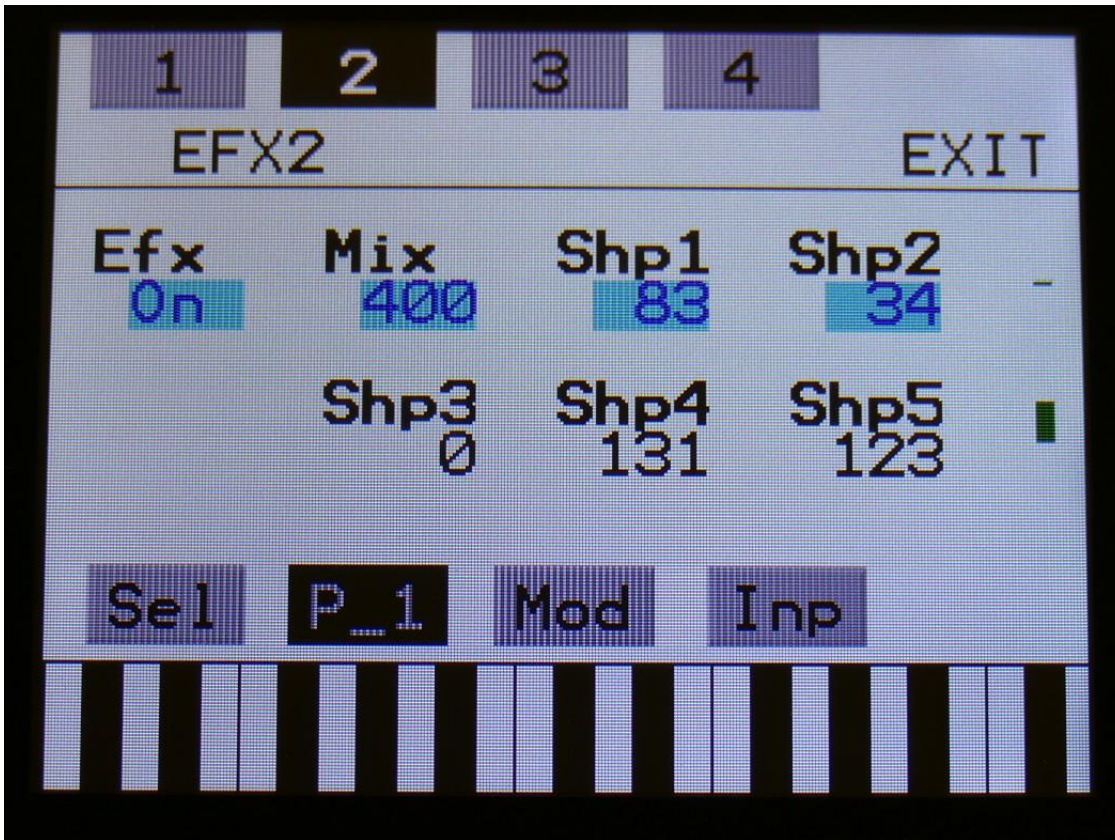
The 2 VU-meters at the right of the screen, shows the Effect input and output.

Efx: Off, on, Freeze. When the effect is off, it is bypassed, and its input mixer can function as a mixer. When the effect are in Freeze mode, the input signal is no longer sampled. The sound that the effect holds, will just keep playing back on and on again. NOT ALL EFFECTS ARE AFFECTED BY FREEZE!

Mix: The mix between the un-effected signal on the effect input, and the effected signal on the effect output, that is sent to the audio bus.

Shp1 to Shp5: Sets the shape of the output waveform.

Wave Shaper Modulation
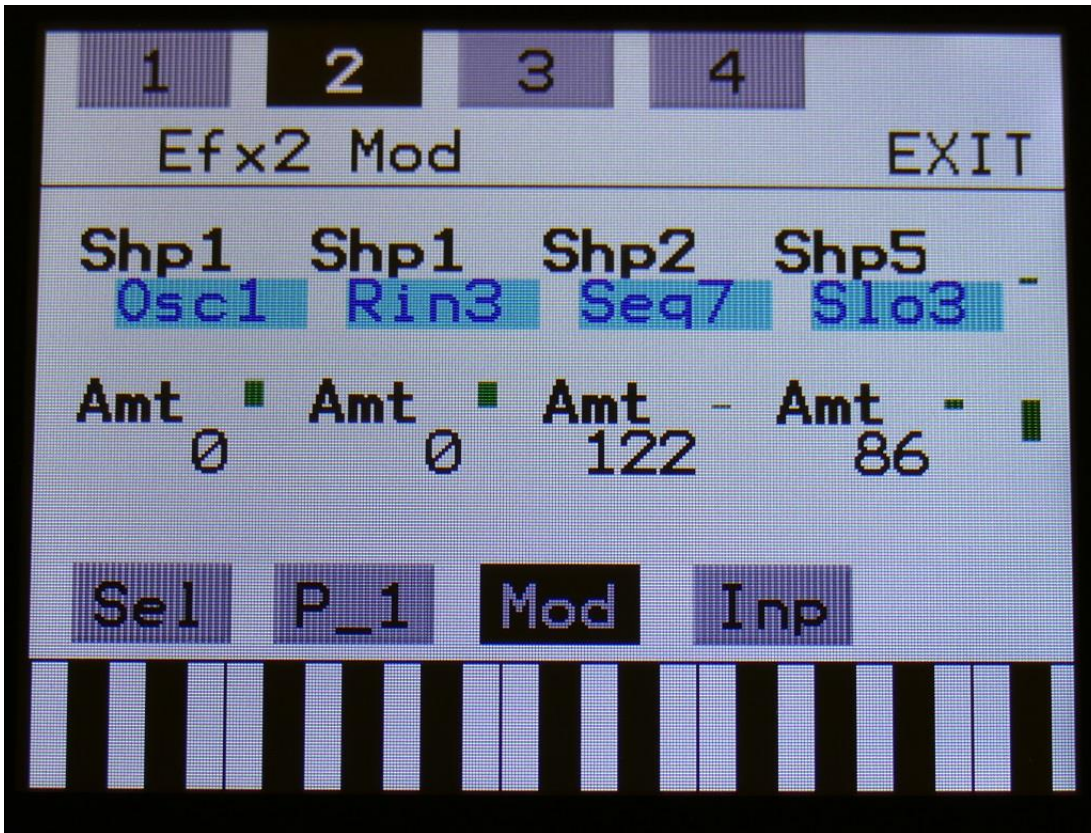
The 2 VU-meters at the right of the screen, shows the Effect input and output. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Shp1, Shp2 and Shp5: Modulates the shape of the output waveform.

EFX 1 to 4 Inputs Select
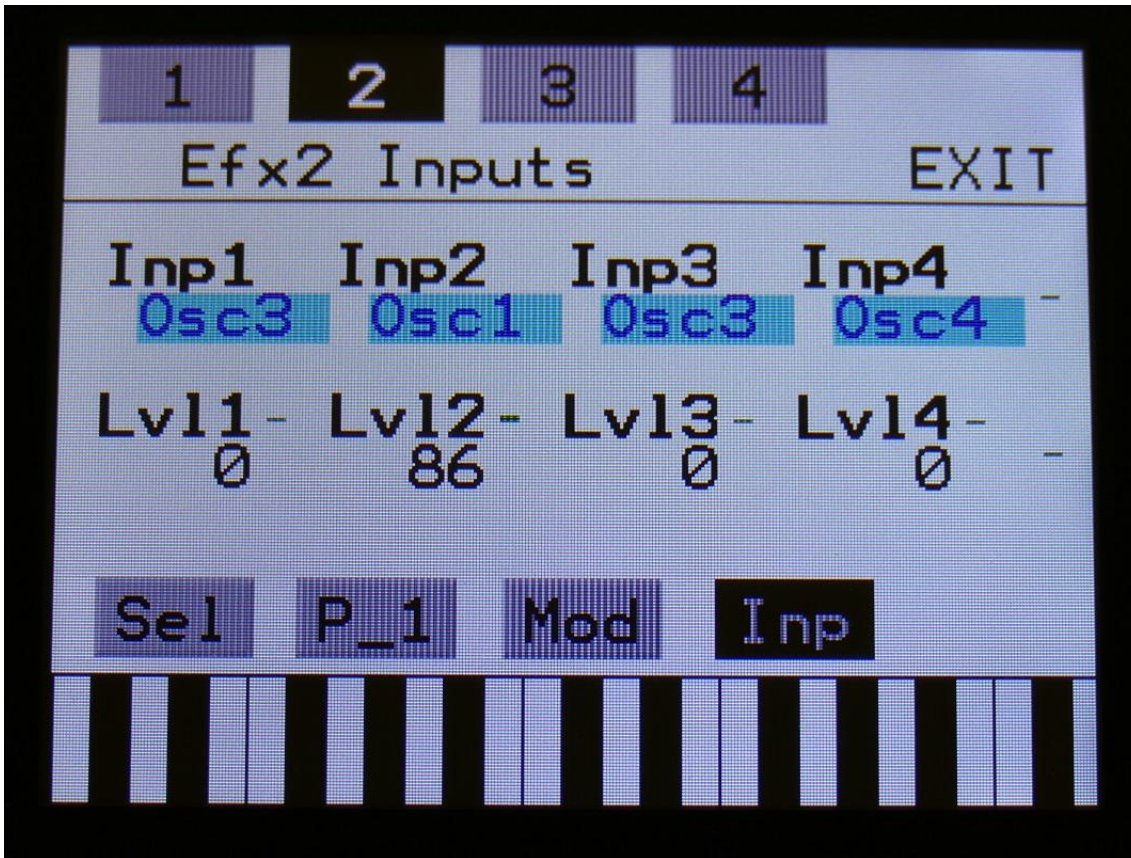
The 2 VU-meters at the right of the screen, shows the Effect input and output. The small VU-meters next to the parameters, shows the activity of the selected audio sources.

Each EFX has 4 audio inputs. For each of these, an audio source can be selected, and the input level can be adjusted. For a complete list of audio bus sources, see the list in the start of this section.

The upper row of parameters selects the audio input sources, **the lower row of parameters** (Labelled Lvl1-4) adjusts the input levels in the range 0 to 511.

LFO1 to 4

Touch the LFO module, to enter the LFO's.

The 4 LFO's has continuosly variable waveform and rate parameters. Both of these parameters can be modulated. The 4 LFO's outputs to the modulation bus.

LFO 1 and 2 parameters

Touch P_1 to enter this page.
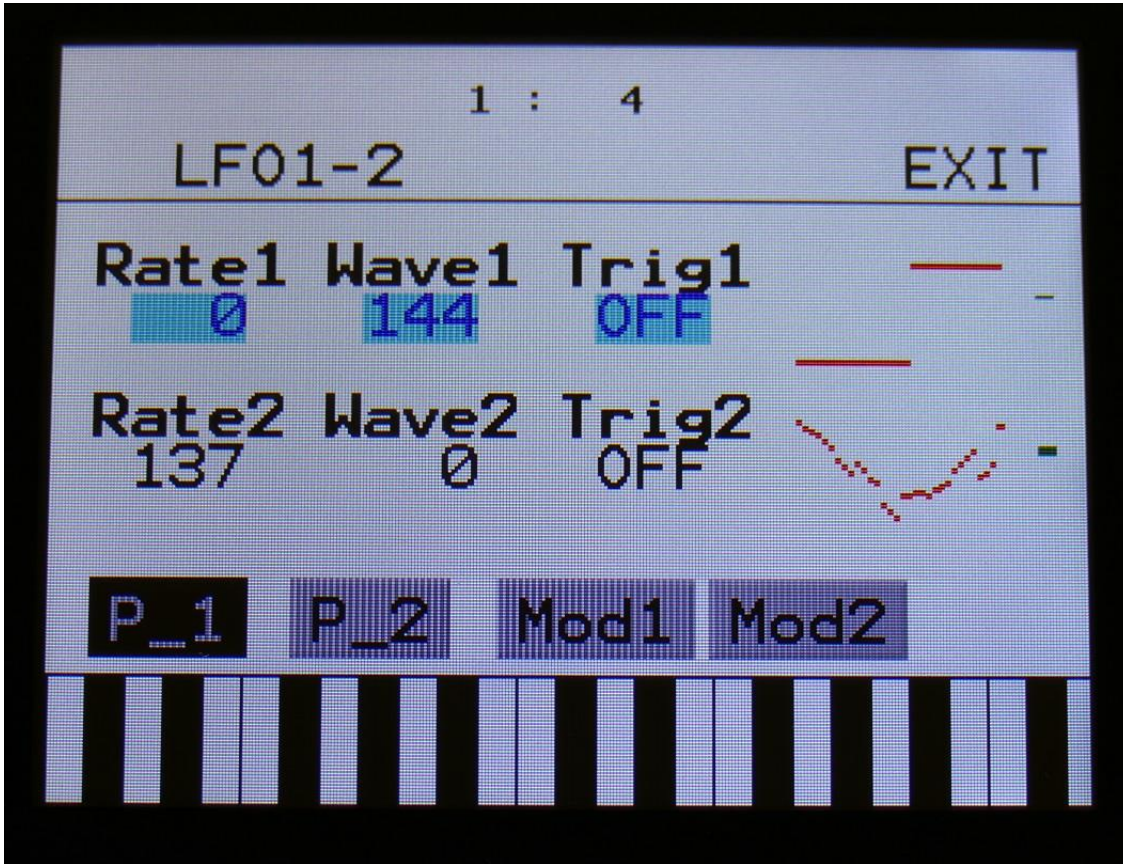
To the right on the LFO page, the current waveforms are shown. The VU-meters at the right of the screen, shows the LFO outputs.

Rate1, Rate2: LFO rate. Adjusts the speed of the LFO.

Wave1, Wave2: LFO output waveform. Morphs between triangle, sawtooth, square, pulse and FM waveforms. The FM waveforms are high frequency waves, that can be used for FM synthesis.

Trig1, Trig2: Sets up the LFO to trig trigger 1 to 4, unless you set it to "Off". Each LFO can trig one trigger at a time. When an LFO is triggering a trigger, this trigger cannot be trigged by a CV input.

LFO 3 and 4 parameters

Touch P_2 to enter this page.
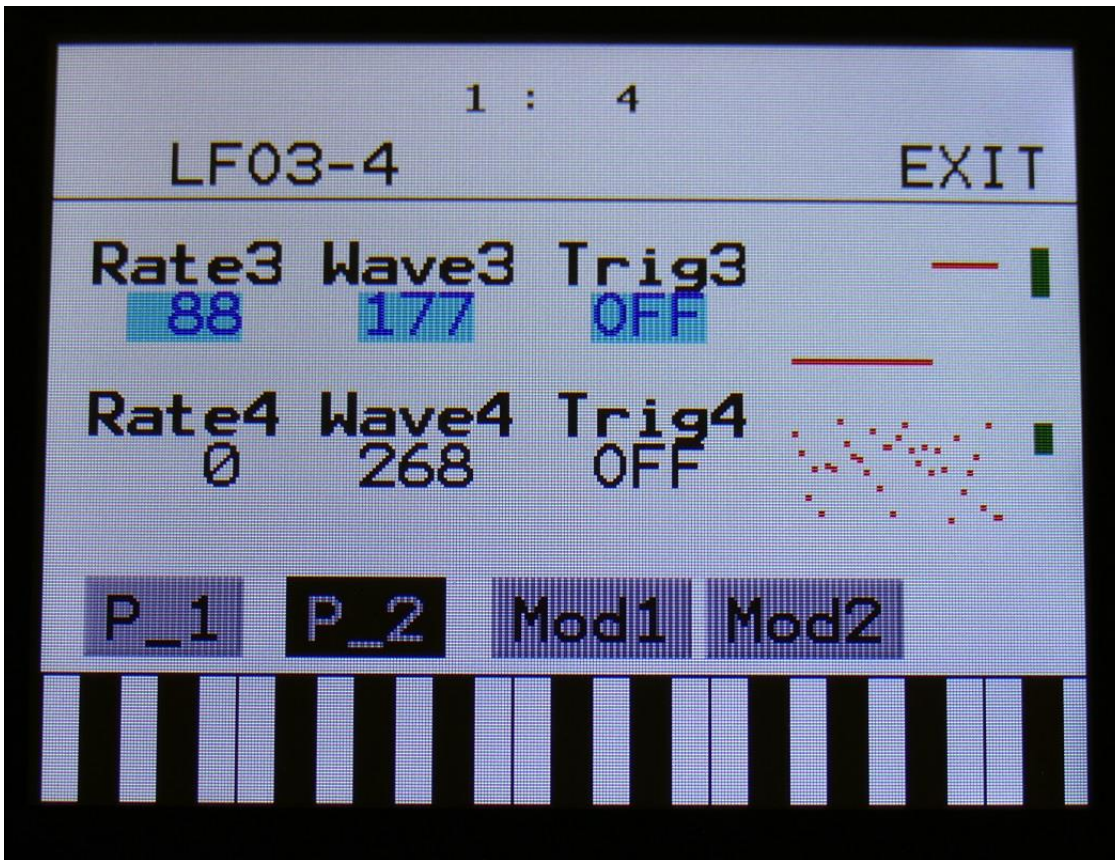
To the right on the LFO page, the current waveforms are shown. The VU-meters at the right of the screen, shows the LFO outputs.

Rate3, Rate4: LFO rate. Adjusts the speed of the LFO.

Wave3, Wave4: LFO output waveform. Morphs between triangle, sawtooth, square, pulse and FM waveforms. The FM waveforms are high frequency waves, that can be used for FM synthesis.

Trig3, Trig4: Sets up the LFO to trig trigger 1 to 4, unless you set it to "Off". Each LFO can trig one trigger at a time. When an LFO is triggering a trigger, this trigger cannot be trigged by a CV input.

LFO 1 and 2 Modulation

Touch Mod1 to enter this page
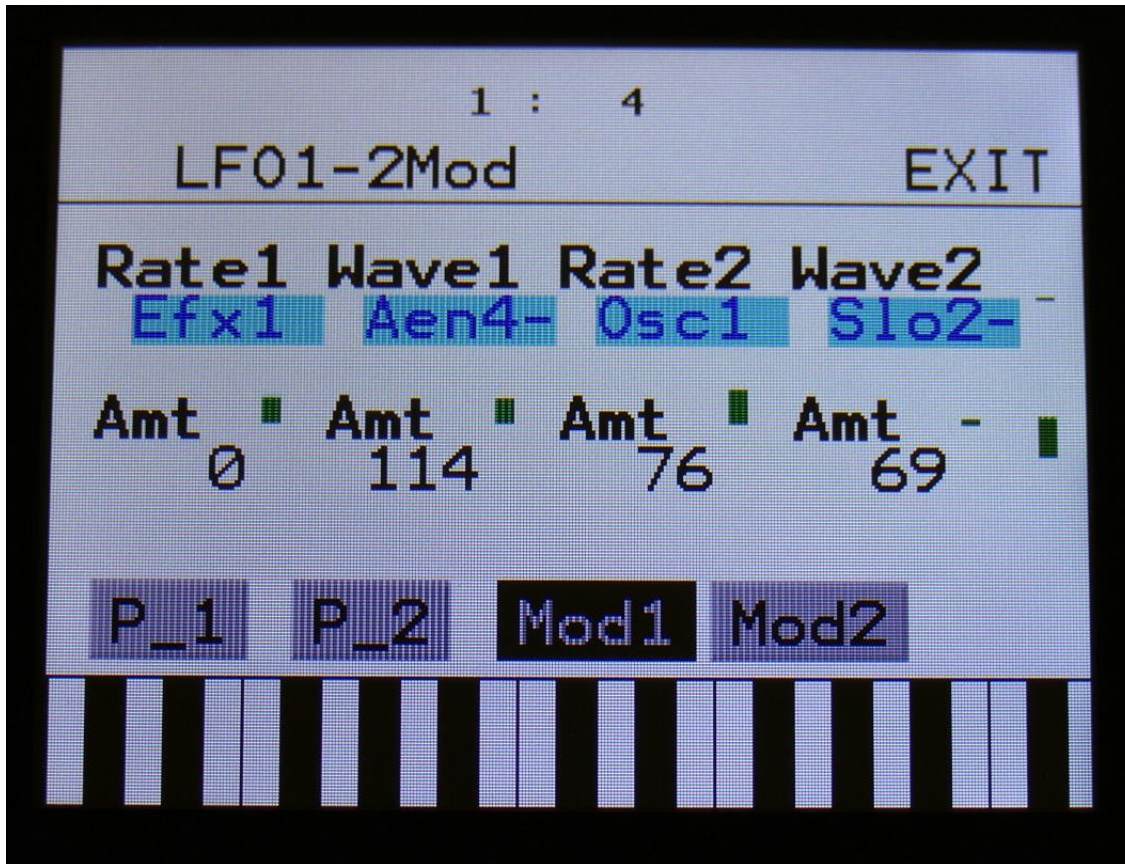
The 2 VU-meter at the right of the screen, shows the LFO outputs. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Rate1, Rate2: Modulates the LFO rate.

Wave1, Wave2: Modulates the LFO waveshape.

LFO 3 and 4 Modulation

Touch Mod2 to enter this page
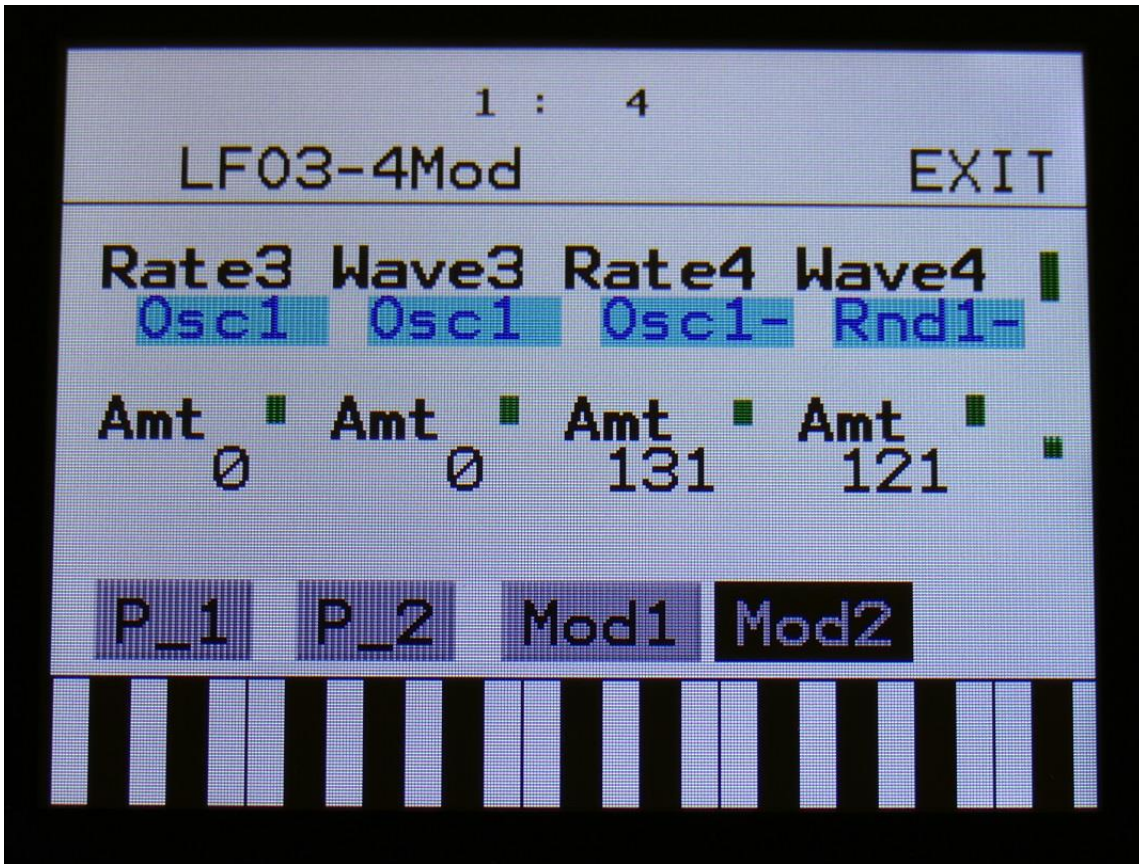
The 2 VU-meter at the right of the screen, shows the LFO outputs. The small VU-meters next to the parameters, shows the activity of the selected modulation sources.

For each parameter, that can be modulated, it is possible to select a modulation source, and to adjust the modulation amount. For a complete list of modulation sources, see the list in the start of this section.

The upper row of parameters selects the modulation sources, **the lower row of parameters** (Labelled Amt) adjusts the modulation amount in the range 0 to 511.

The parameters on this page:

Rate3, Rate4: Modulates the LFO rate.

Wave3, Wave4: Modulates the LFO waveshape.

Rndm1 to 4

Touch the RNDM module, to enter the Random Generators.

The 4 Random Generators changes to a new random value every time they are trigged. Trigger sources can be trigger 1-4 and LFO 1-4. Outputs to the modulation bus.

Random Generator 1 to 4 parameters
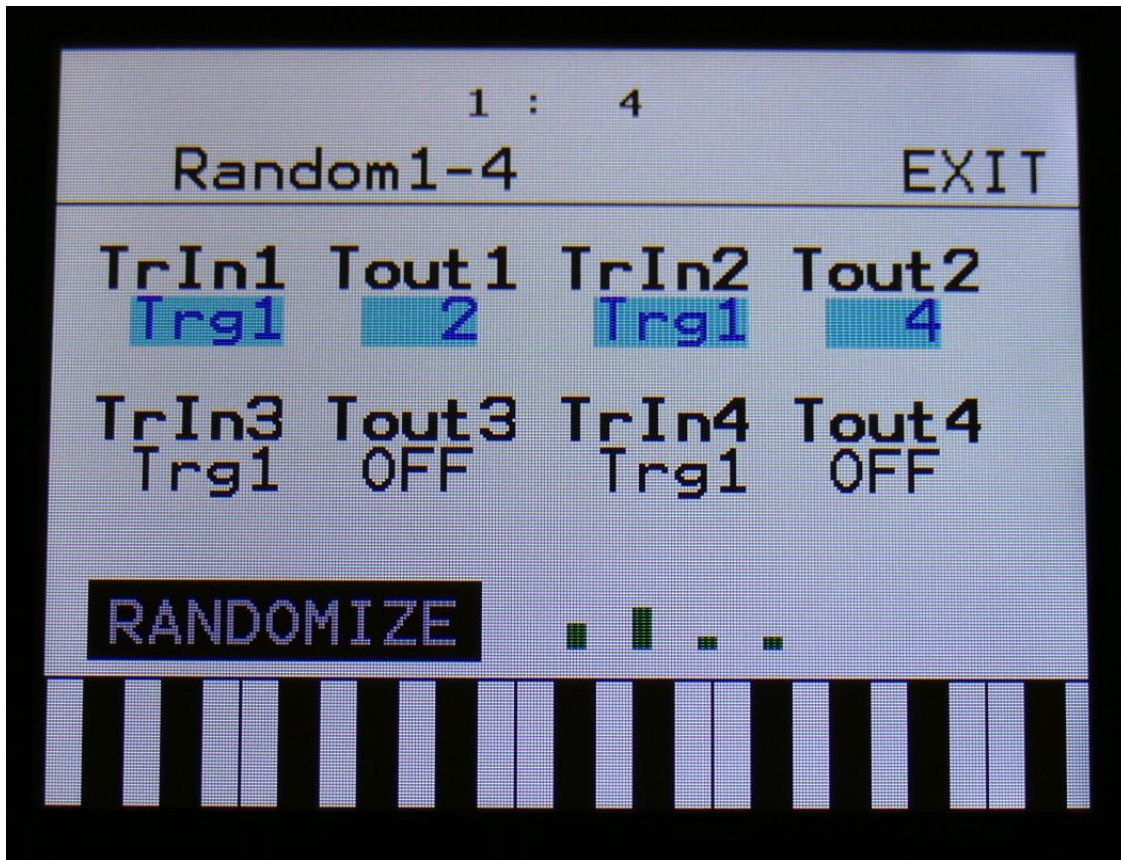
The 4 VU-meters at the bottom of the screen, shows the random generators outputs.

TrIn1, TrIn2, TrIn3, TrIn4: Selects what should trigger the random generator, to shift to a new random value. Choices are: **Trigger 1 to 8, LFO 1 to 4.**

Tout1, Tout2, Tout3, Tout4: Sets up the Random Generator to trig trigger 1 to 4, unless you set it to "Off". Each Random Generator can trig one trigger at a time. When a Random Generator is triggering a trigger, this trigger cannot be trigged by a CV input or a LFO.

Synth Parameters Randomizer

If you should ever need some new inspiration for sounds, or if you just want to surprise yourself with some sounds that you never even imagined, the PolySpaze parameter randomizer might be exactly what you need.

To enter this, first enter the "RNDM" pages:
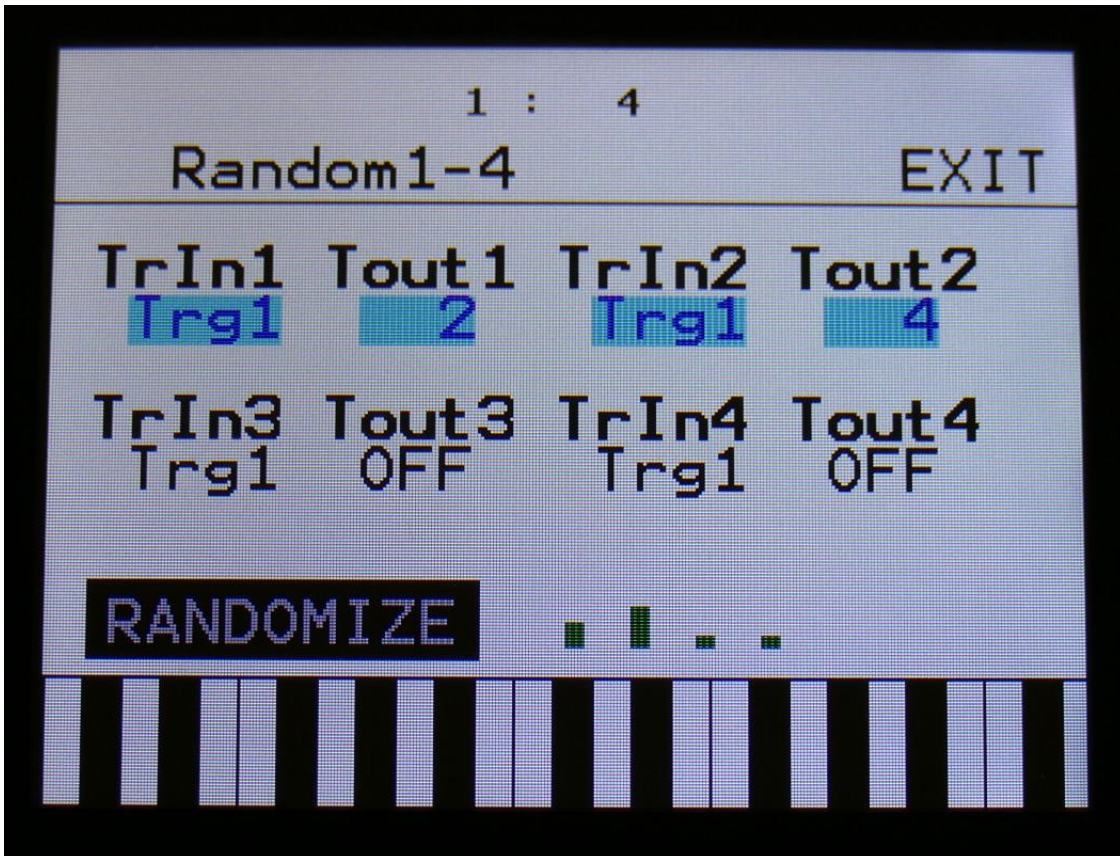
From here, hit the "RANDOMIZE" touch button, to enter the Randomizer page:
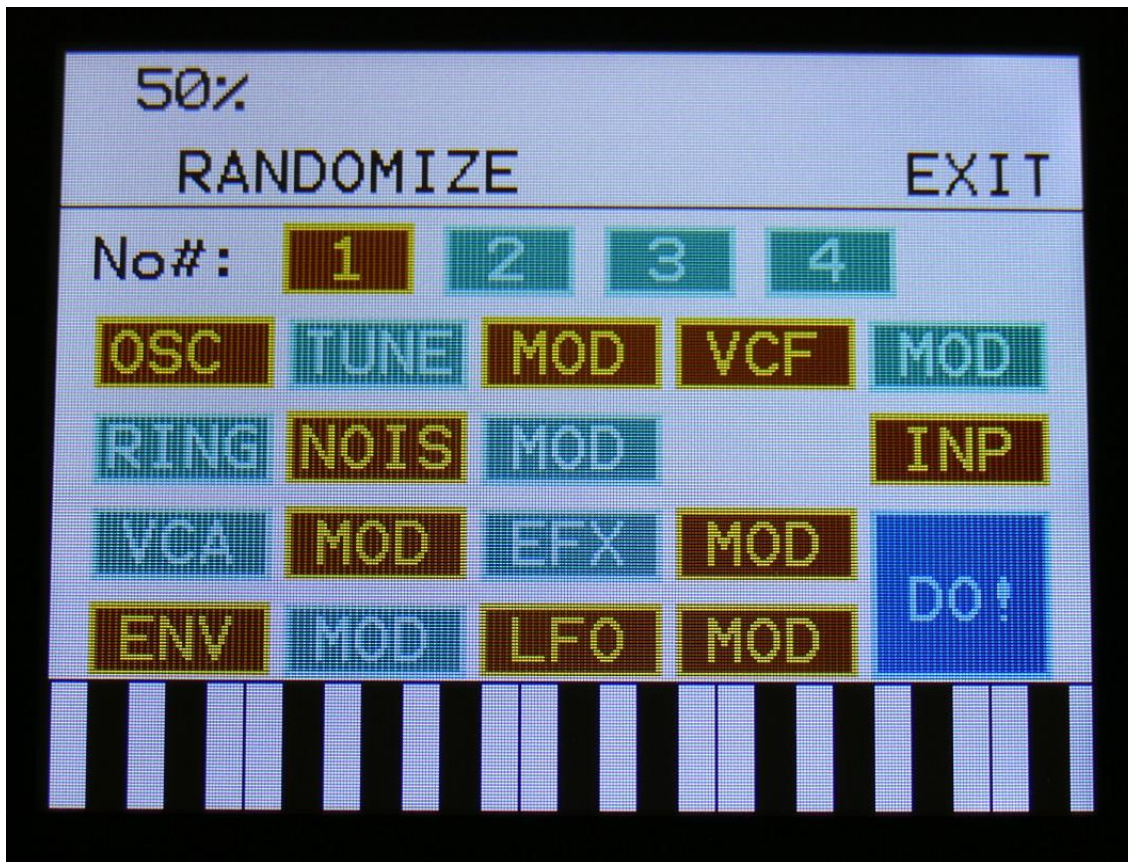
Switch the blocks on, that you would like randomized, simply by touching these, adjust the percentage, that it must maximum change the parameters, using Edit Knob 1, and hit "DO!". For module blocks, that contains more than one module (i.e. Oscillator 1 to 4), select the module number by touching any of the numbers 1 to 4.

Green blocks are not randomized, brown blocks are.

Listen to the result.
If you like it, exit the randomizer page, and save the preset.

If you don't like the result, hit "DO!" again, and keep hitting it, until something comes up, that you want. Try with different percentage settings, and try to switch different blocks on and off.

When the Randomizer page is entered, all parameters are stored into a temporary buffer, that are used for the randomization. So if you, for instance, first randomizes with 50%, and then with 20%, the result will be maximum 20% away from the initial parameter settings, when the Randomizer page was entered. It does not first randomize 50%, and then randomize 20% on top of that. To randomize things further away, you must exit the Randomizer page, and re-enter it.

The Sequencer

The Xmini sequencer has 2 different types of tracks: Note tracks and controller tracks. It has 4 note tracks and 8 controller tracks.

Each note track controls 1 trigger – Note track 1 controls trigger 1, note track 2 controls trigger 2 and so on, and each track has a note number subtrack, a gate time subtrack, a delay time subtrack and a step on/off subtrack. Note number, gate time, delay time and swing can be modulated. The triggers has to be set up, in order to make a note track control the Xmini synth modules. Via the triggers it is also possible to output the notes from the note track to MIDI out. See the "Triggers" section earlier in this manual, for details on how to set up the triggers.

Each controller track puts out their value to the Xmini modulation bus and, if selected, to MIDI out. Each controller track has a controller value subtrack and a slide subtrack, that makes it possible to make the steps slide from one value to the next, instead of just shift.

All tracks has separate last step and resolution settings, so even polyrhythmic sequences are possible. The step length of each track can be from 1 to 64 steps.

The tempo of the sequencer can be set between 1 and 255 BPM. It can sync to MIDI clock, and it is both possible to transmit and re-send MIDI clock to MIDI out.

Inputting of note number values can be done in analog/TR fashion, via the touch display, and it can be done by realtime recording. To assist the realtime recording, a metronome is present.

Inputting of controller track values can only be done via the touch screen, not by realtime recording.

It is possible to mute and edit each track separately.

Remember to save all edits you do in the sequencer. Else they will be lost when you change preset, or turn Xmini off. See how to in the "Save Preset" section.

Sequencer playback start/stop
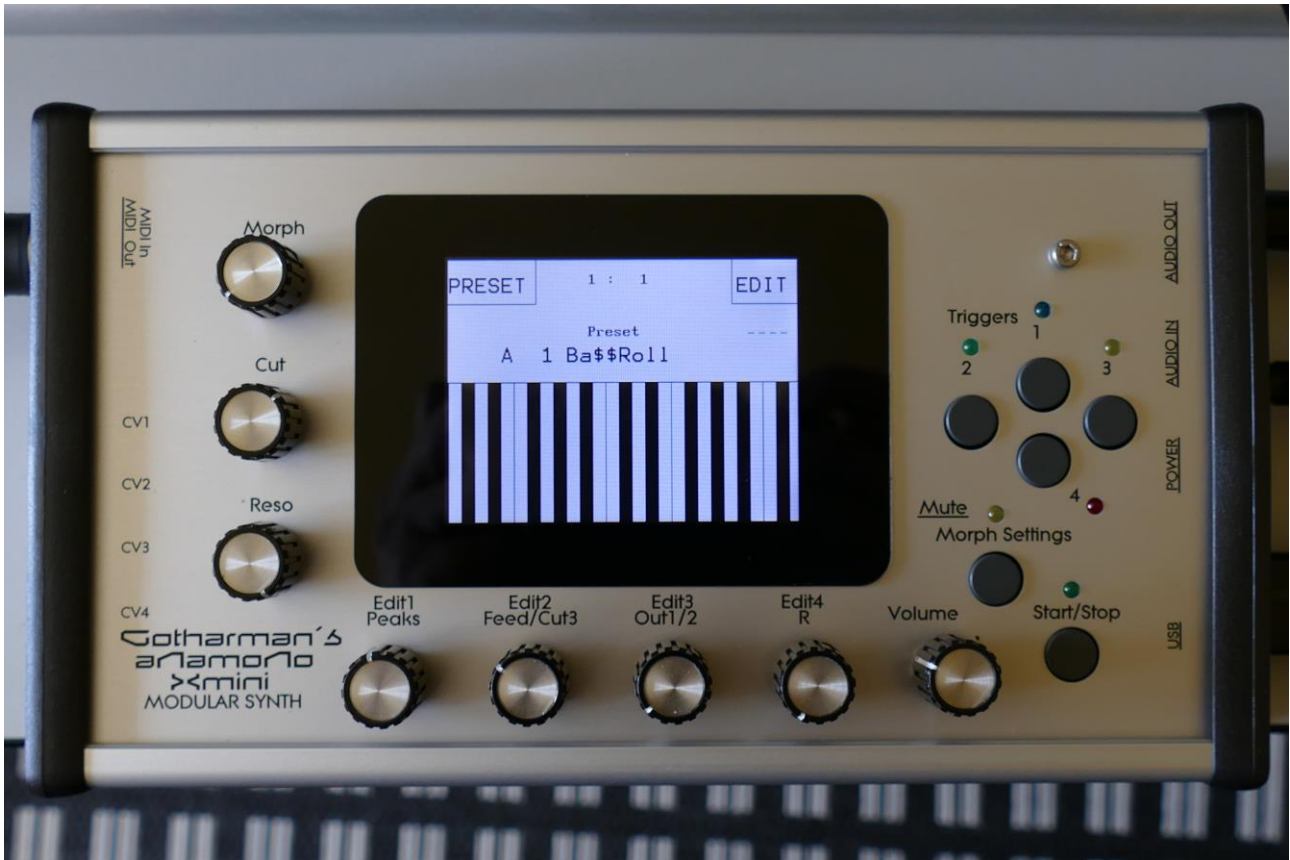
To start and stop sequencer play back, you must push the "Start/Stop" button. When the green LED above the Start/Stop button lights up, it is indicating, that the sequencer is playing back. When the green LED above the Start/Stop button does not light up, the sequencer playback is stopped.

If you hit the play button to start the sequencer, and it doesn't start, please check in the "COMMON" section (described later in this manual), that it is not set up to external MIDI sync.

Enter the sequencer
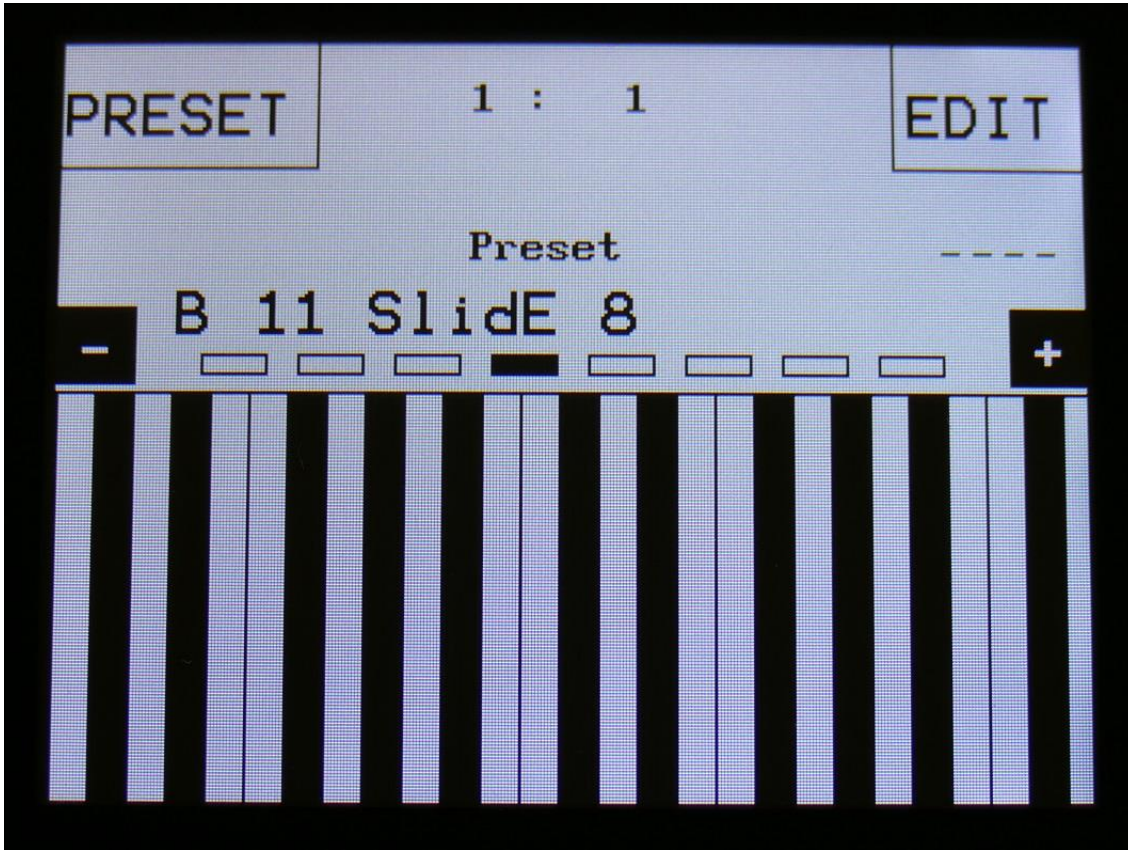
From the Preset Select Screen, touch the EDIT field.
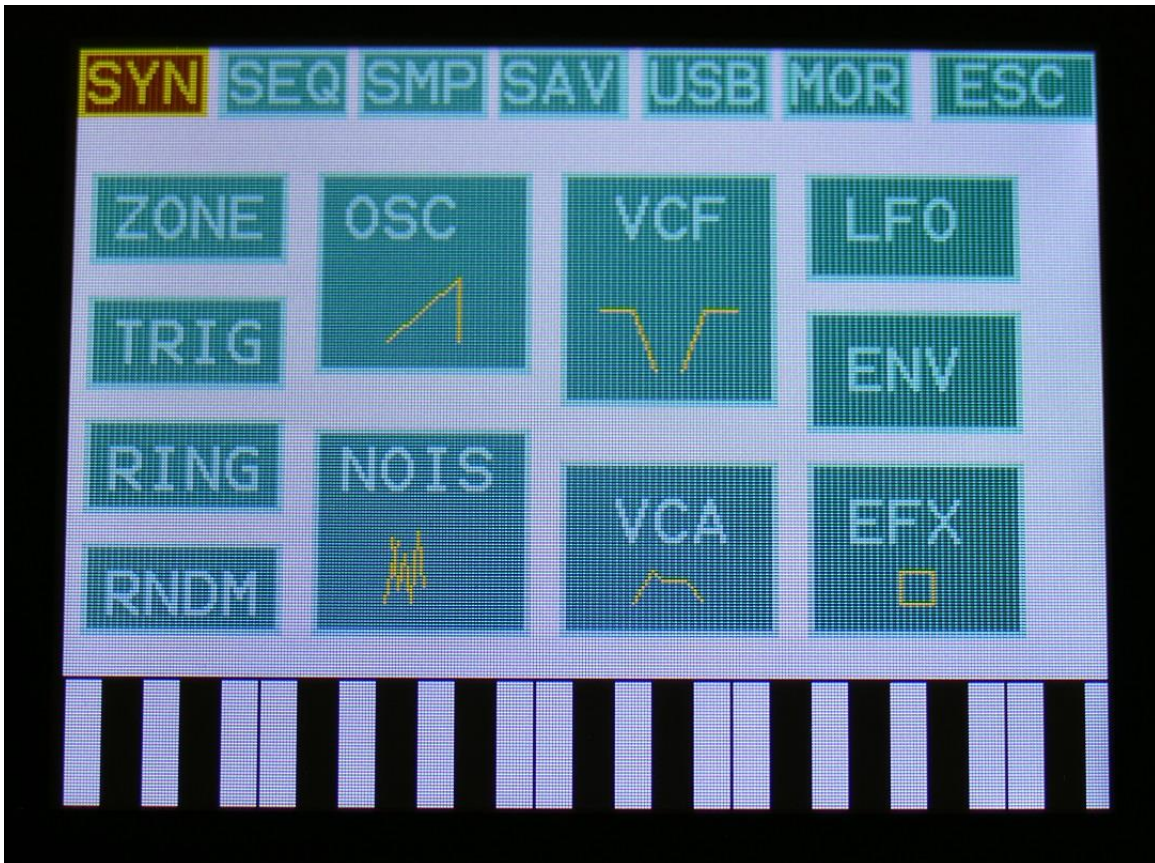
Touch SEQ on the navigation bar in the top of the screen.

This will bring you to the Sequencer modules page:
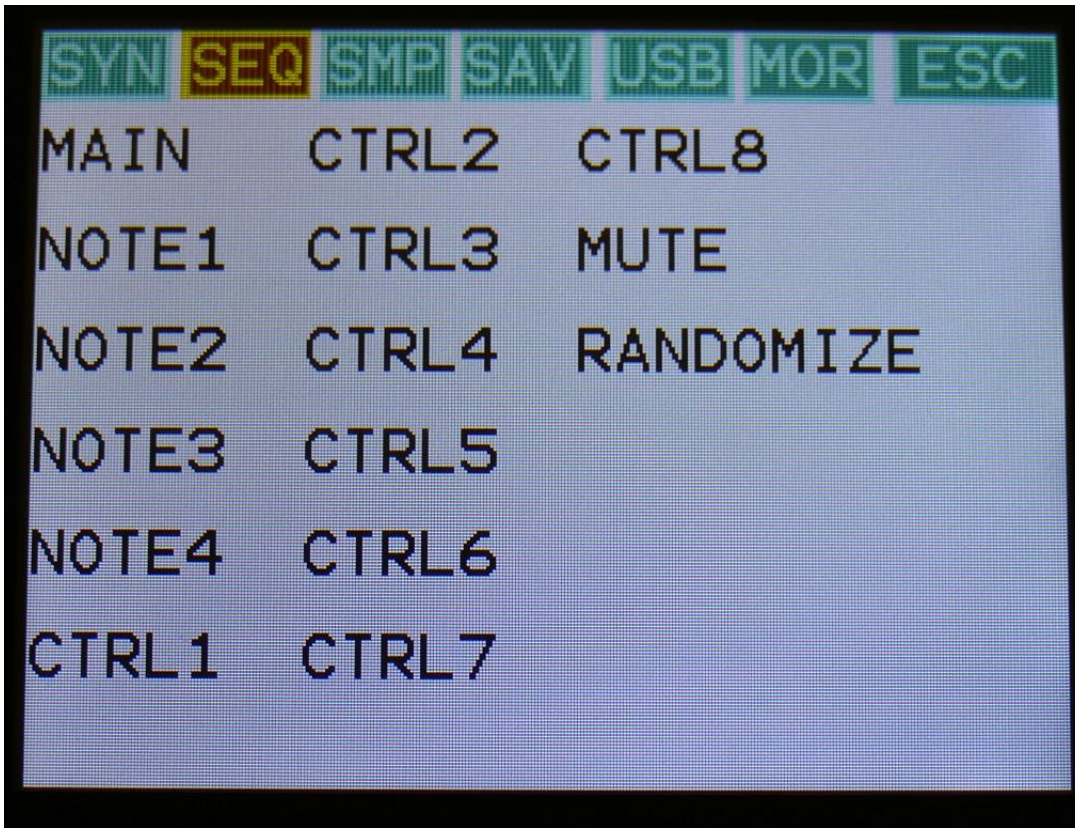
SEQ on the navigation bar has now changed it coulours to brown/yellow, indicating that you have entered the Sequencer pages.

To enter any of the Sequencer modules, simply touch the text showing the name of the module you would like to enter.

To exit to the Preset Select page, touch "ESC".

Sequencer Main
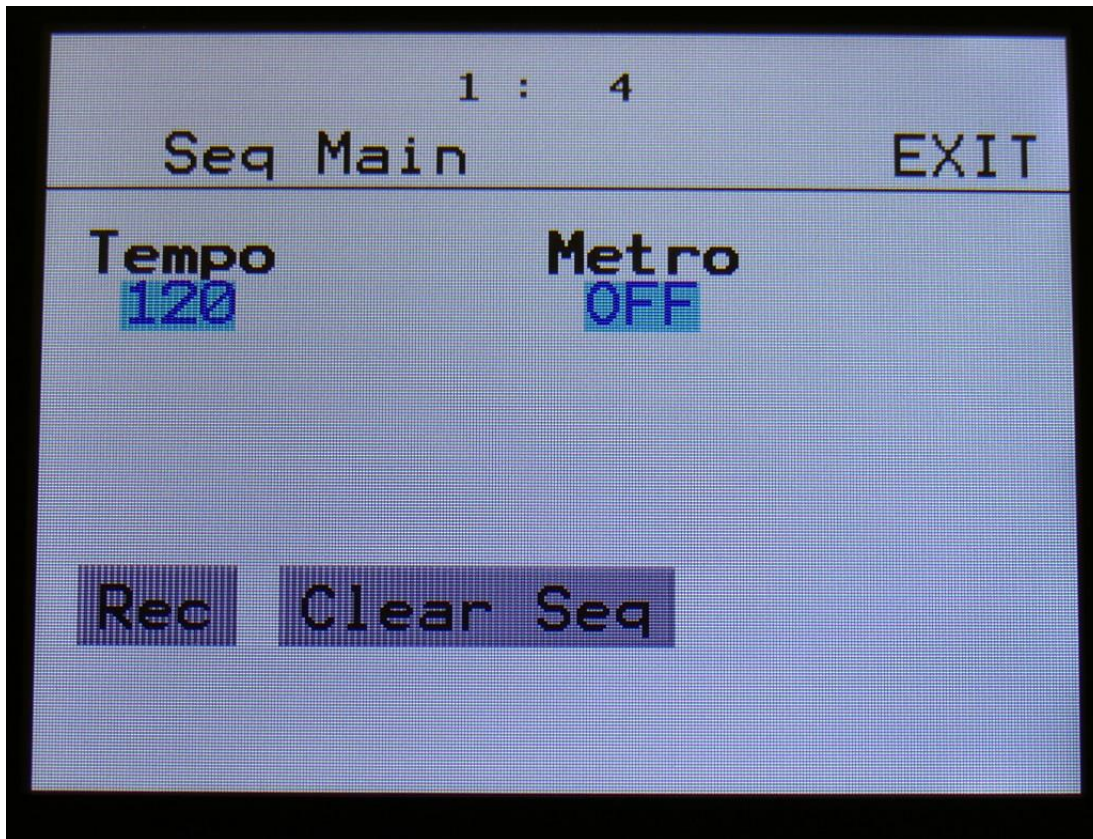
The parameters of this page:

Tempo: Sets the sequencer tempo between 1 and 255 BPM. To make the sequencer sync to external MIDI gear, this must be set up in the "COMMON" section, described later in this manual.

Metro: Metronome Off, On, Rec.
-Off: The metronome is off, and will make no sound.
-On: The metronome is on, and when the sequencer is playing, it will put out a click to audio output 1, every time note track 1 passes a 4/4 beat. Every time note track 1 starts over, it will make a click that is slightly higher pitched than the other clicks.
-Rec: When the sequencer is playing, and realtime rec is activated, it will put out a click to audio output 1, every time note track 1 passes a 4/4 beat. Every time note track 1 starts over, it will make a click that is slightly higher pitched than the other clicks.

The buttons of this page:

Rec: This will toggle **realtime recording** on and off. **Realtime recording** can be switched on and off at any time, regardless of if the sequencer is playing or not. The sequencer must though play, to make it possible to input notes in realtime.

To realtime record notes:
-Set the metronome up as desired.
-Touch the "Rec" button on this page, so it turns red.
-Make sure that the sequencer is playing.
-Play back notes on a connected MIDI device, on the touchscreen keyboard, or push the "Triggers" button, and play the trigger buttons.
-Touch the "Rec" button again, so it turns gray, when you are done.
-Enjoy the result.
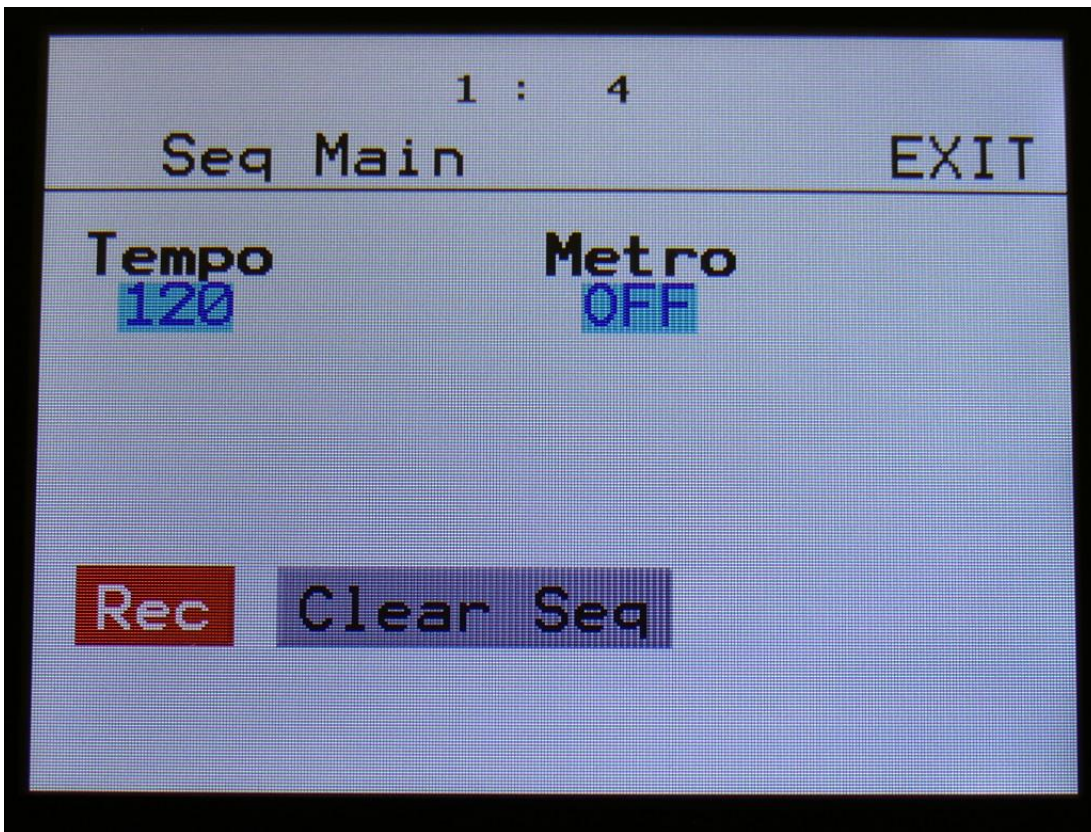
The Rec button turns red, when the Sequencer are in realtime record mode.

Realtime record can also be switched on and off at any time, and at any page, by holding the Morph Settings button down, while pressing the Start/Stop button.

Every time you are pressing this button combination, realtime record will be toggled on or off.

The Start/Stop LED will flash in beat with the metronome, to indicate when realtime recording is on.

Clear Seq:

Touching this button, will make Xmini jump to this page:
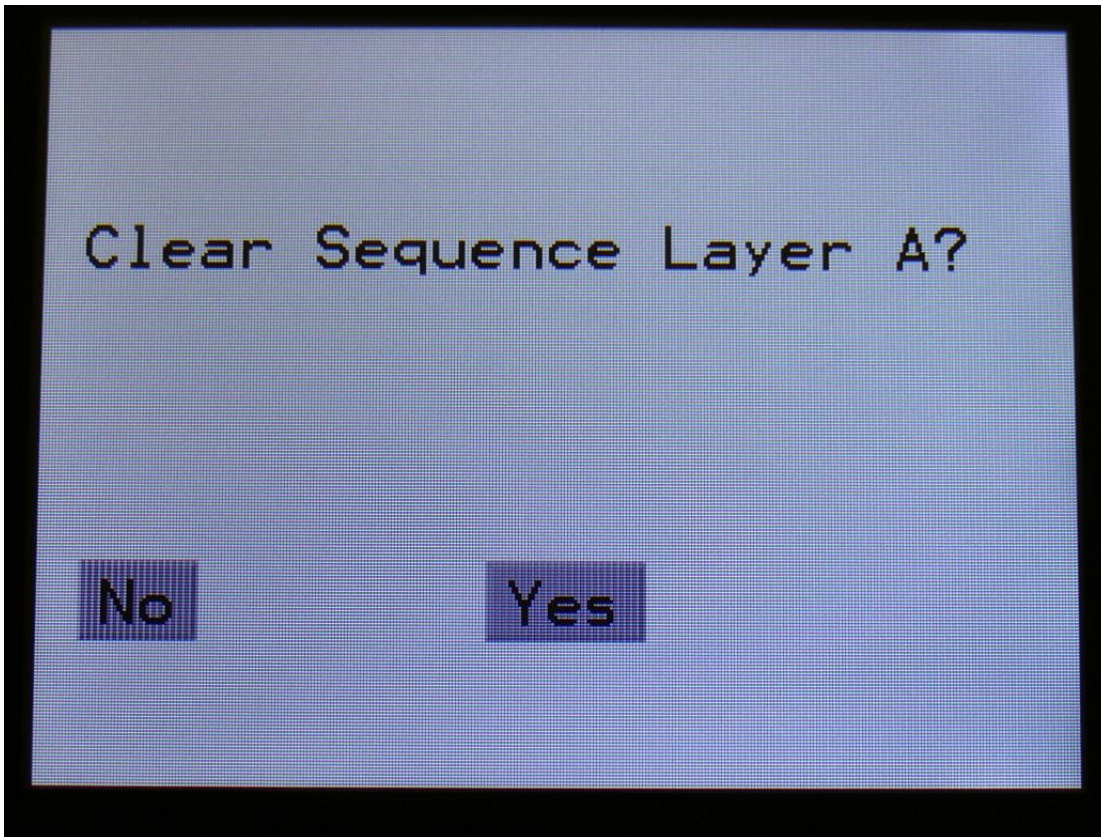
If you touch the "Yes" button here, you will initialize all tracks of the current preset, on the Morph Layer selected by the "Morph Settings" button.

If you do not wish to do that, touch "No".

The Note Track Sequencer

Note Steps Edit

From the Sequencer modules page, touch **NOTE1**, **NOTE2**, **NOTE3** or **NOTE4**, to enter a Note Track page:
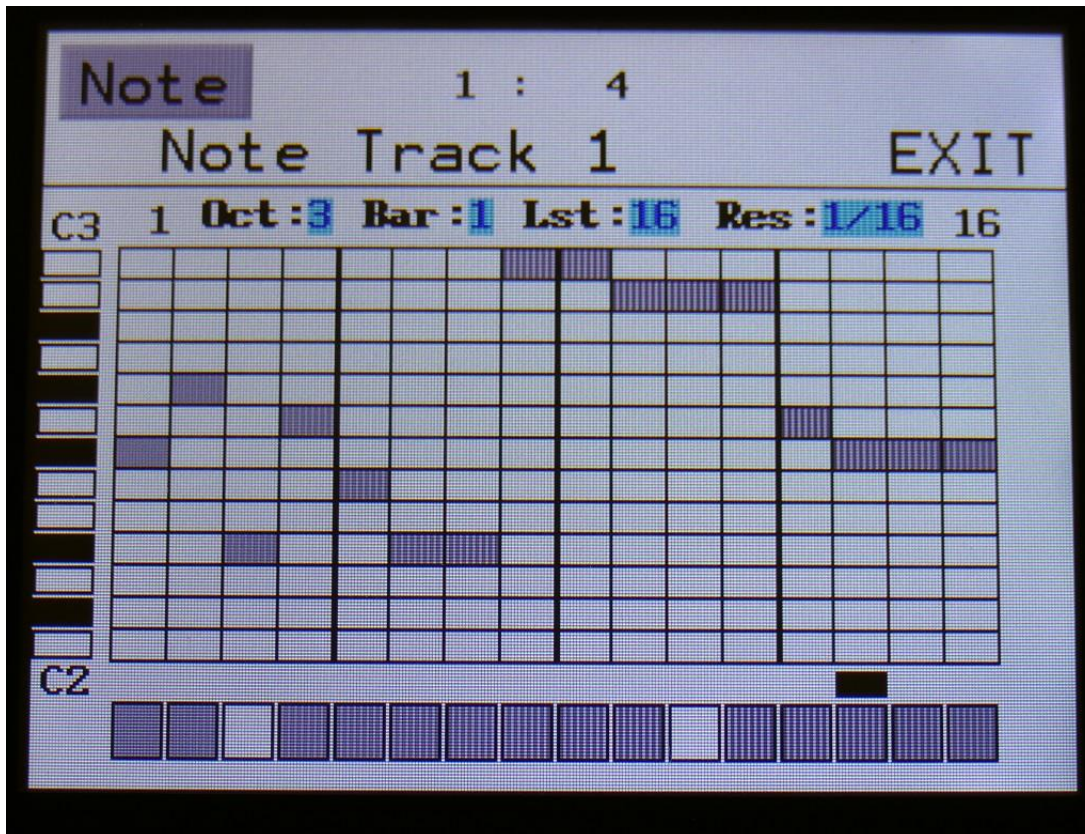
This will be the first page, you will enter. Here:

Edit Knob 1: Selects the octave to be viewed. The octave number is shown just above the note grid (marked **Oct**), and the lowest and highest note number is shown below and above the mini keyboard at the left.

Edit Knob 2: Selects the bar to be viewed. 4 bars can be viewed, showing each 16 steps, for a total of 64 steps. The bar number is shown just above the note grid (marked **Bar**), and the first and the last step number viewed, is shown just above the note grid, to the right and the left.

Edit Knob 3: Sets the last step that will be played back on this track, before it loops back, and plays the track again. Range: 1 to 64 steps. Value is shown as **Lst**.

Edit Knob 4: Sets the track resolution. Values: 1/32, 1/24, 1/16, 1/12, 1/8, 1/6, ¼, ½. Value is shown as **Res**.

Touching "EXIT" will exit you to the Sequencer Modules page.

Inputting notes and turning steps on and off

To input a note, simply touch the note grid.

To switch a step on or off, simply touch any of the 16 "step buttons" in the bottom of this page.

The black rectangle just above the step buttons, shows what step is currently being played back.
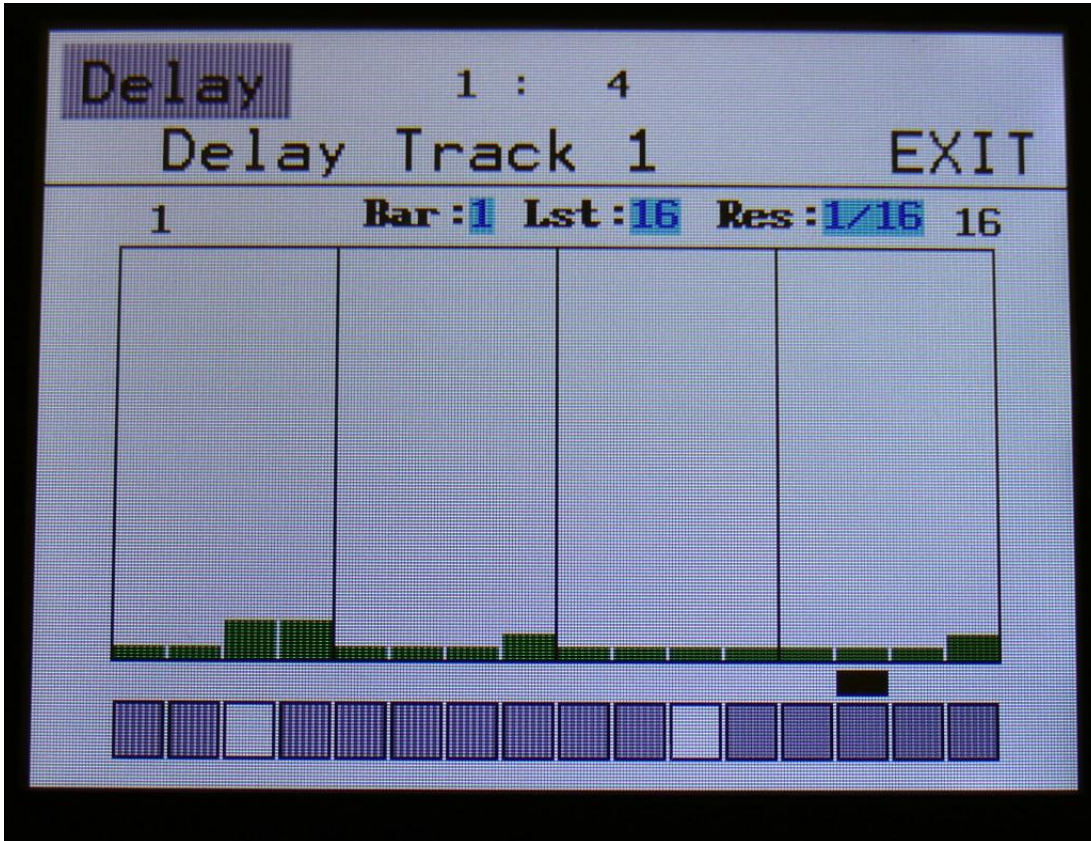
The small VU-meter right to the step buttons will show a peak every time this track plays back a note.
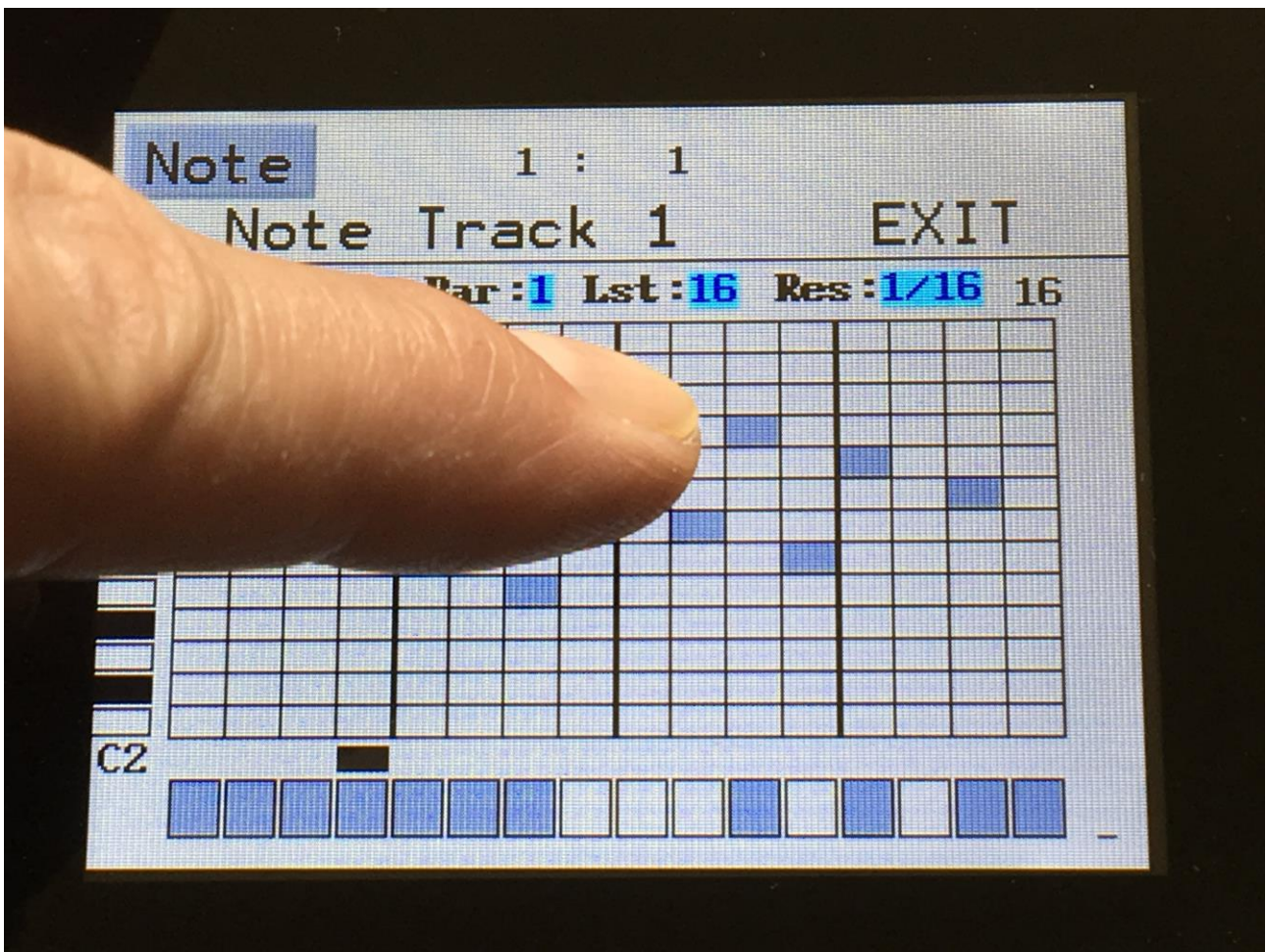
Gate Time Steps Edit

From the Note Steps edit screen, touch the "Note" field in the upper left corner. This will get you to the Gate page:

Here:

Edit Knob 1: Has no function.

Edit Knob 2: Selects the bar to be viewed. 4 bars can be viewed, showing each 16 steps, for a total of 64 steps. The bar number is shown just above the note grid (marked **Bar**), and the first and the last step number viewed, is shown just above the note grid, to the right and the left.

Edit Knob 3: Sets the last step that will be played back on this track, before it loops back, and plays the track again. Range: 1 to 64 steps. Value is shown as **Lst**.

Edit Knob 4: Sets the track resolution. Values: 1/32, 1/24, 1/16, 1/12, 1/8, 1/6, ¼, ½. Value is shown as **Res**.

Touching "EXIT" will exit you to the Sequencer Modules page.

Inputting values and turning steps on and off

To input a value, simply touch the field showing the values.

To switch a step on or off, simply touch any of the 16 "step buttons" in the bottom of this page.

The black rectangle just above the step buttons, shows what step is currently being played back.

The small VU-meter right to the step buttons will show a peak every time this track plays back a note.

Delay Time Steps Edit

From the Gate Steps edit screen, touch the "Gate" field in the upper left corner. This will get you to the Delay page:

Here:

Edit Knob 1: Has no function.

Edit Knob 2: Selects the bar to be viewed. 4 bars can be viewed, showing each 16 steps, for a total of 64 steps. The bar number is shown just above the values field (marked **Bar**), and the first and the last step number viewed, is shown just above the values field, to the right and the left.

Edit Knob 3: Sets the last step that will be played back on this track, before it loops back, and plays the track again. Range: 1 to 64 steps. Value is shown as **Lst**.

Edit Knob 4: Sets the track resolution. Values: 1/32, 1/24, 1/16, 1/12, 1/8, 1/6, ¼, ½. Value is shown as **Res**.

Touching "EXIT" will exit you to the Sequencer Modules page.

Note track Mod page

From the Delay Steps edit screen, touch the "Delay" field in the upper left corner. This will get you to the Mod page:
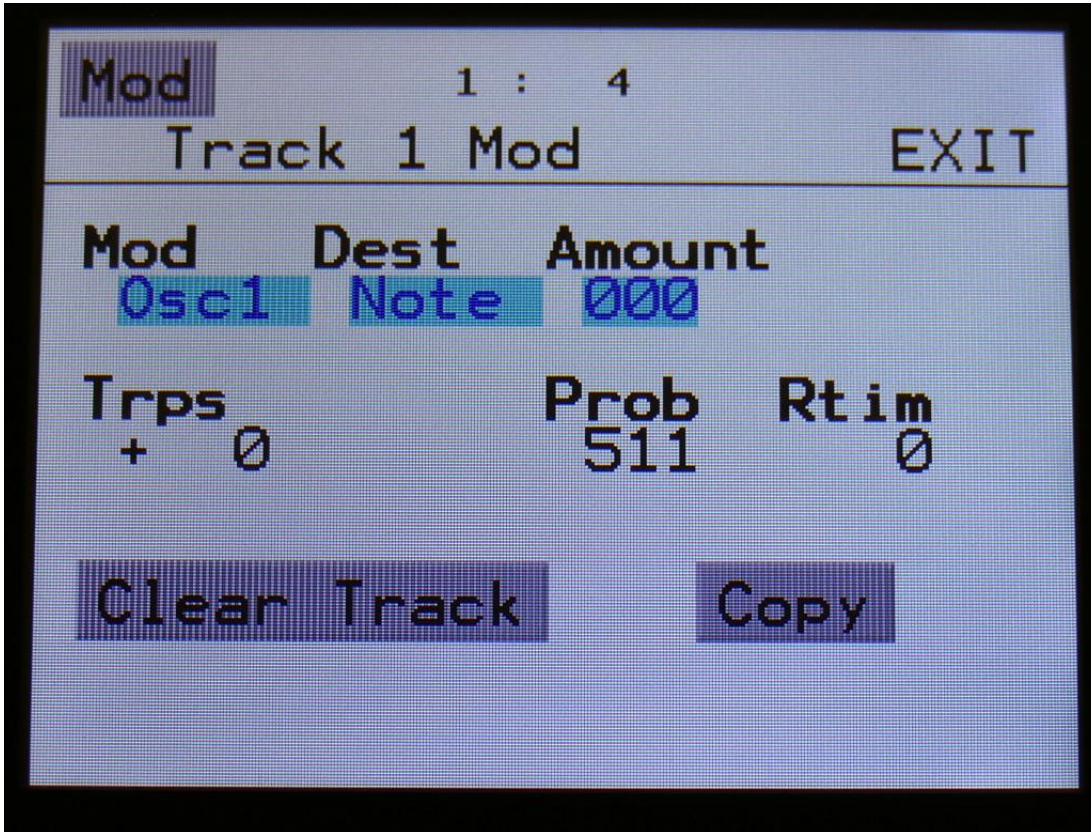
The parameters of this page:

Mod: Track modulation source. Any Xmini modulation source can be selected to modulate the track. For a complete list of modulation sources, see the list in the start of the synth section in this manual.

Dest: Track modulation destination. Selects what should be modulated on the track. Choices are:
-Note: The note numbers of the track will be modulated.
-Gate: The gate times of the track will be modulated.
-Dly: The delay times of the track will be modulated.
-Swing: Swing modulation will be applied to the track. This is a bit more fine than the delay time modulation.

Amount: Adjusts the amount of modulation that will be applied to the track.

Trps: Track transpose. Will transpose the note numbers of the whole track up to 64 semitones up or down.

Prob: Track Note Randomizer Probability. When this is turned fully up, all programmed note steps of the track will play back. The more it is turned down, the less notes will play back. The notes the will not play back are selected randomly.

Rtim: Track Note Randomizer Time. When turned up, it will create random delays on the programmed note steps triggering.

Clear Note Track

From the Mod page, touch the **"Clear Track"** button, to enter this page:

Clear Ctrl Track 005?

No   Yes
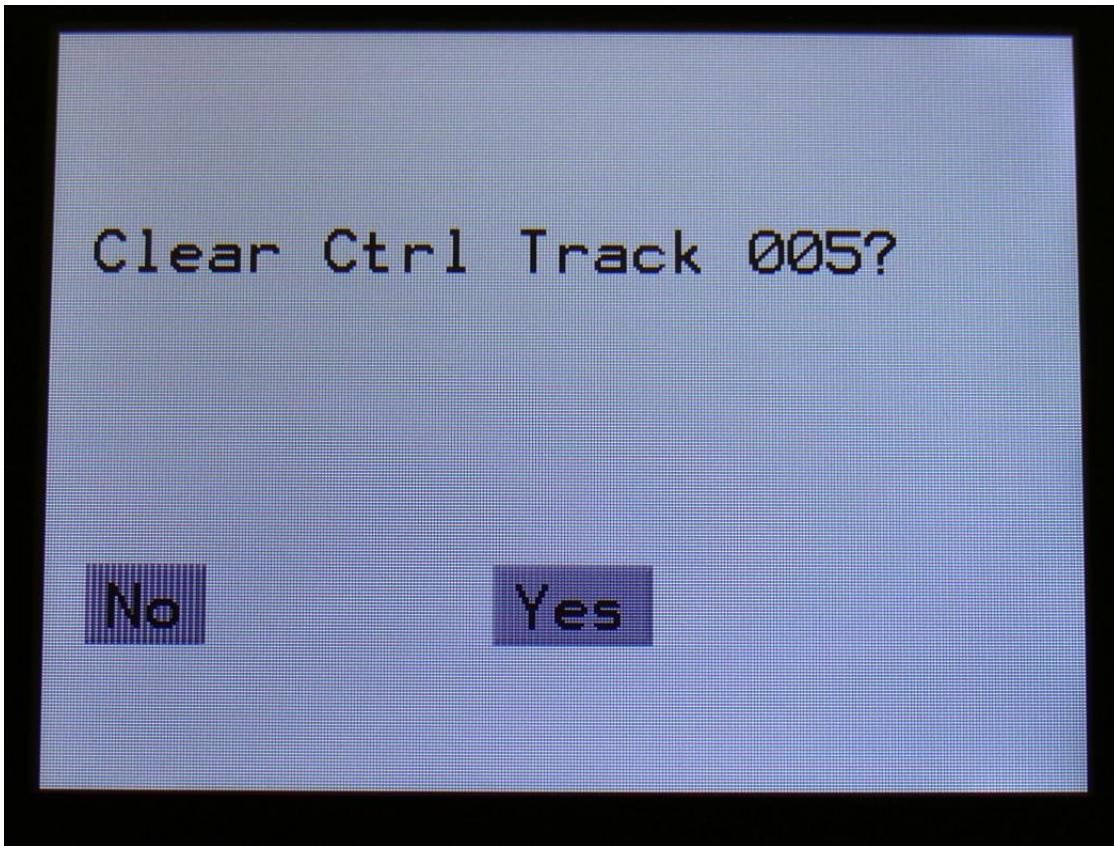
Touching "Yes" from here, will initialize all steps on all subtracks of the currently selected note track.

If you would not wish to do this, touch "No", to exit to the track Mod page.

Copy Note Track

With the track copy function, it is possible to copy any note track, from any preset, to the currently selected note track.

From the Mod page, touch the **"Copy"** button, to enter this page:
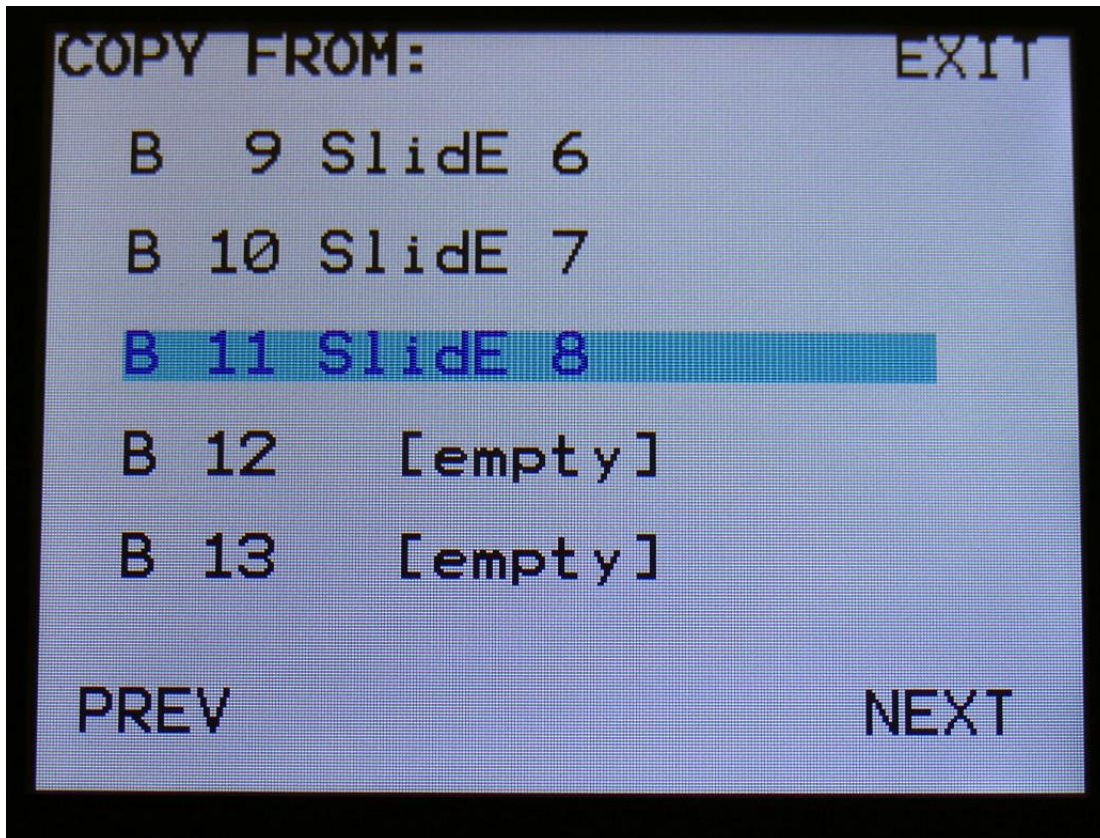
Select the preset, that you would like to copy from. Five presets are shown at a time. Touch "PREV" or "NEXT", to view five higher or lower numbered presets.

Touch a preset to select it. As soon as you select a preset, you will be directed to the next page.
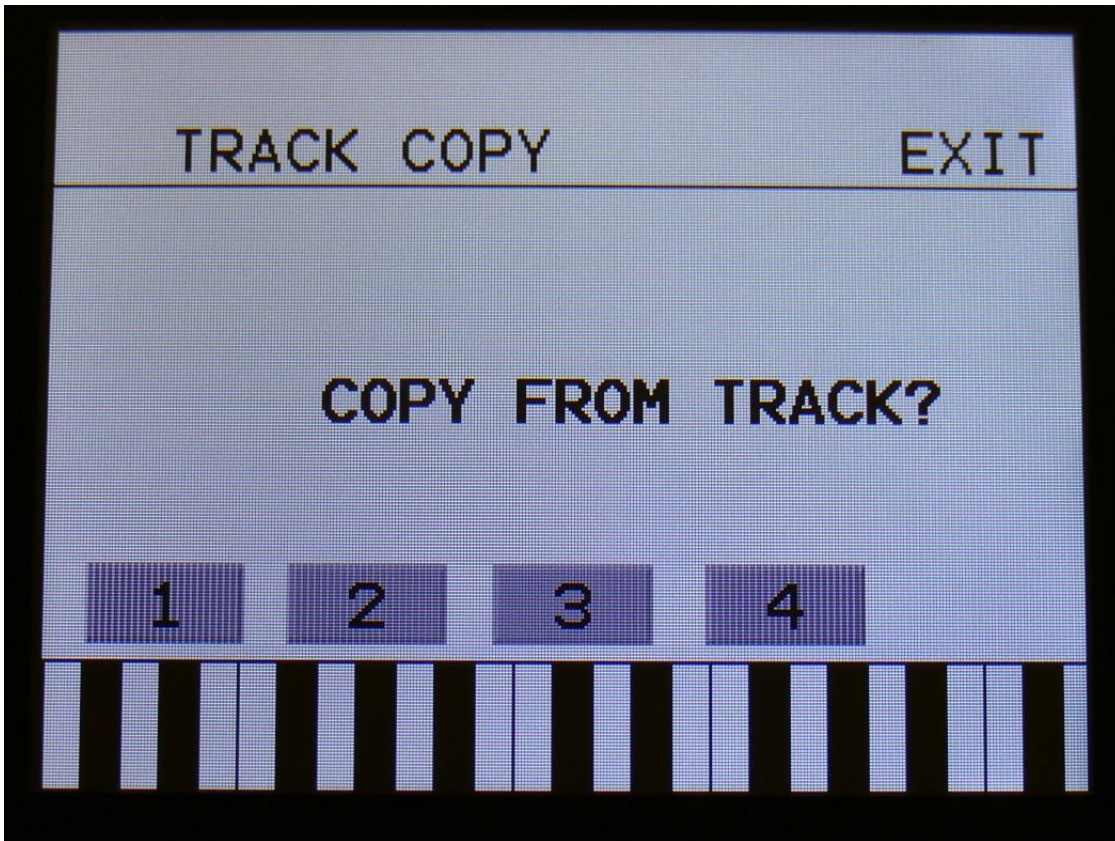
Touch the track number, you would like to copy from. As soon as you do that, the track will be copied, and you will return to the note Mod page.

Mute/Unmute Tracks

From the Sequencer Modules page, touch **"MUTE"** , to enter this page:
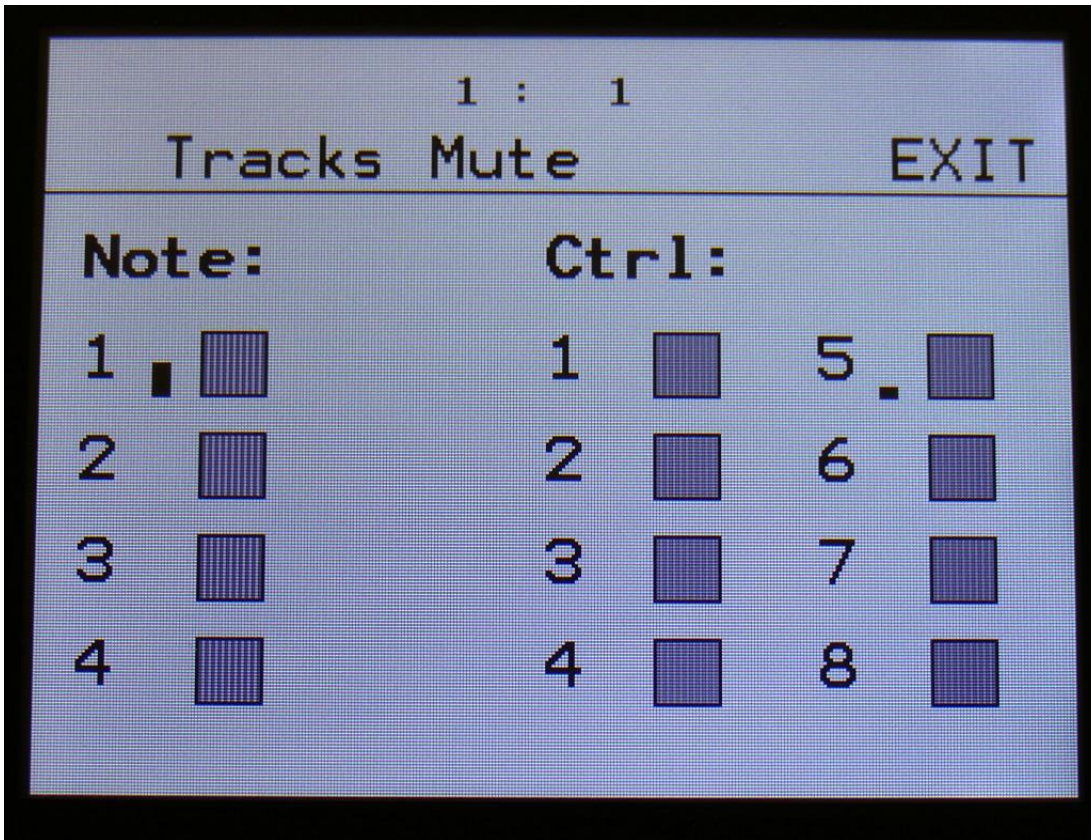
When touching the squares, so they turn white, the tracks represented by the square will be muted.
Touch the square again, so it turns gray, to unmute.

It is also possible to mute/unmute the note tracks directly from the Preset/Song select page, and on any sequencer page, by pushing and holding the "Morph Settings" button, and push any of the 4 corresponding trigger buttons, to mute or unmute a note track.

The pushbutton LED's will show the state and activity for each track. If a LED is on, it means that the track is unmuted, if it is off, the track is muted. When a track is triggering a note, the LED will flash shortly.

The Controller Tracks

Controller Steps Edit

From the Sequencer modules page, touch **CTRL1**, **CTRL2**, **CTRL3**, **CTRL4**, **CTRL5**, **CTRL6**, **CTRL7** or **CTRL8**, to enter a Controller Track page:
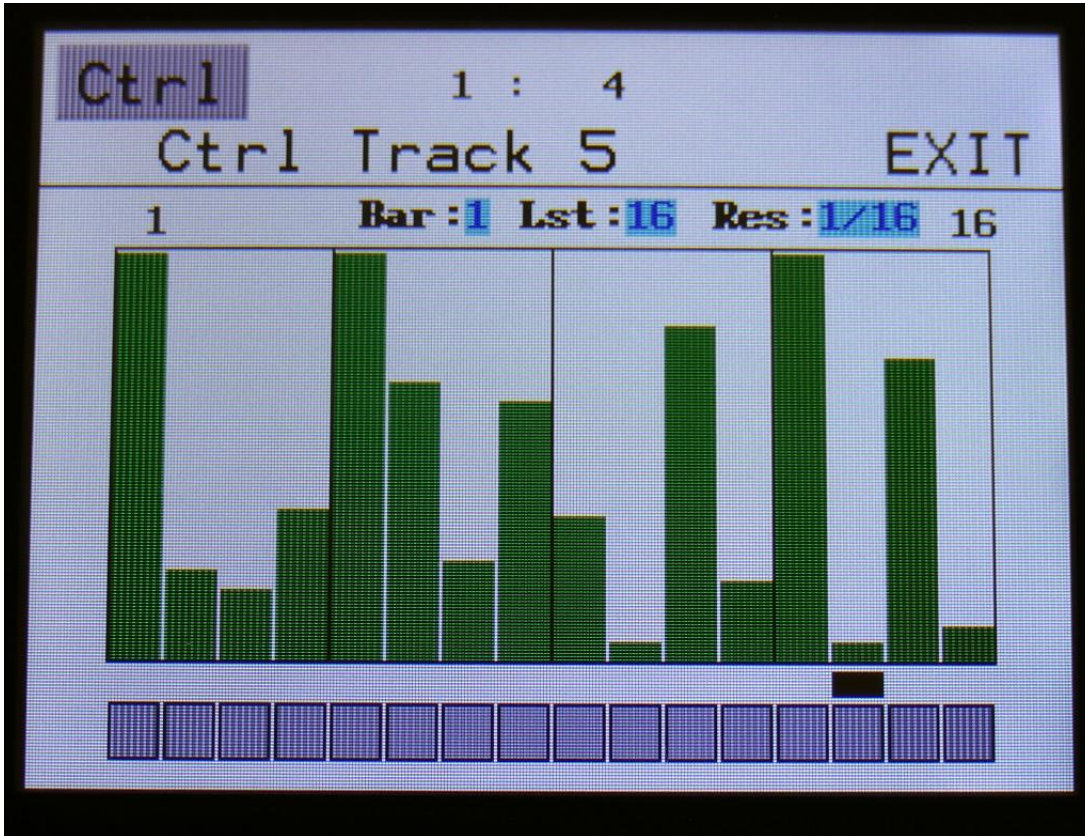
This will be the first page, you will enter, showing the controller value, that will be outputted for each sequencer step, when the sequencer is playing back. Here:

Edit Knob 1: Has no function.

Edit Knob 2: Selects the bar to be viewed. 4 bars can be viewed, showing each 16 steps, for a total of 64 steps. The bar number is shown just above the values field (marked **Bar**), and the first and the last step number viewed, is shown just above the values field, to the right and the left.

Edit Knob 3: Sets the last step that will be played back on this track, before it loops back, and plays the track again. Range: 1 to 64 steps. Value is shown as **Lst**.

Edit Knob 4: Sets the track resolution. Values: 1/32, 1/24, 1/16, 1/12, 1/8, 1/6, ¼, ½. Value is shown as **Res**.

Touching "EXIT" will exit you to the Sequencer Modules page.

Inputting values and turning steps on and off

To input a value, simply touch the field showing the values.

To switch a step on or off, simply touch any of the 16 "step buttons" in the bottom of this page.

The black rectangle just above the step buttons, shows what step is currently being played back.

The small VU-meter right to the step buttons will shows the value currently being put out by the controller track.
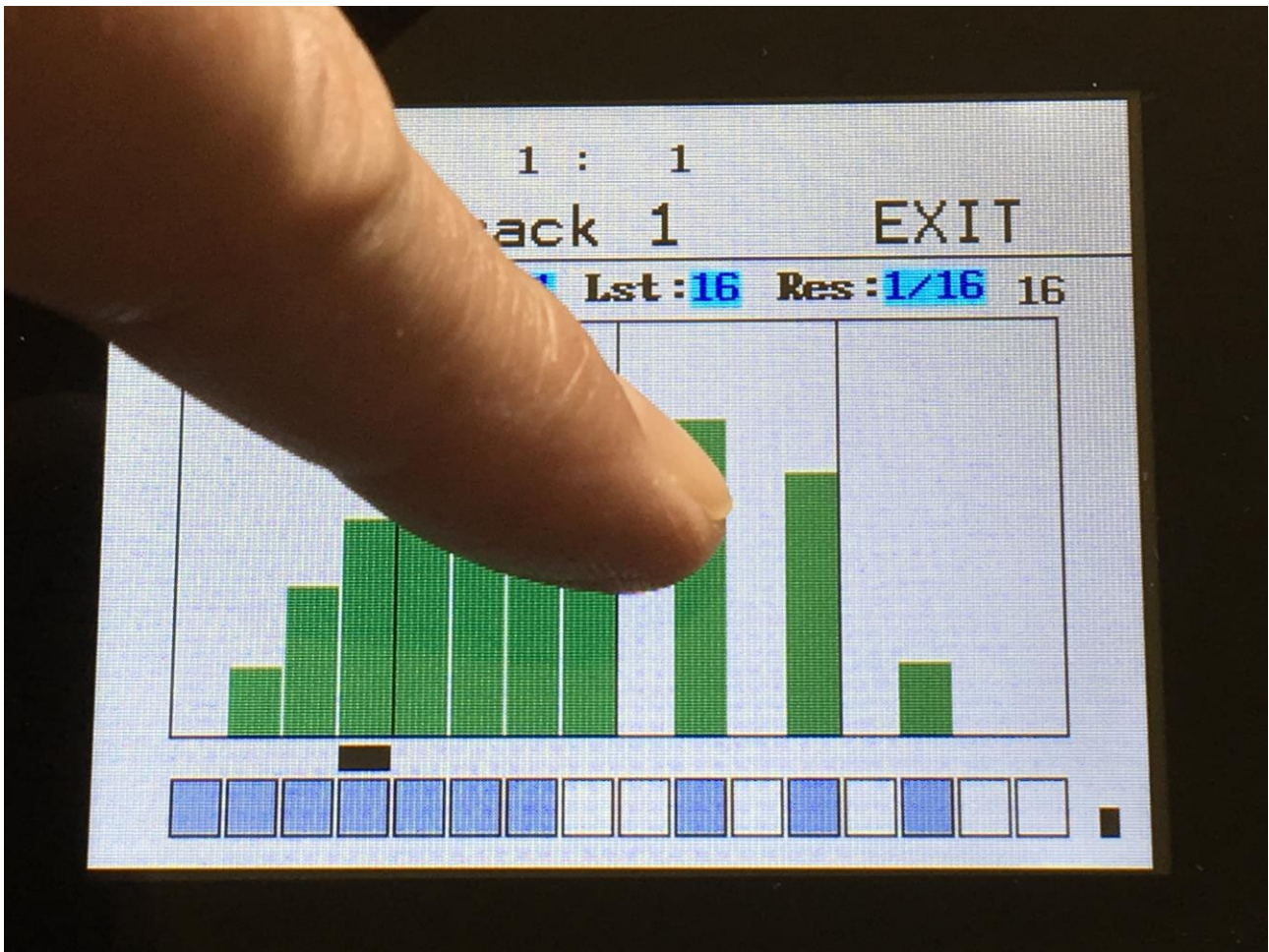
Slide Steps Edit

From the Ctrl Steps edit screen, touch the "Ctrl" field in the upper left corner. This will get you to the Slide page:

Here:

Edit Knob 1: Has no function.

Edit Knob 2: Selects the bar to be viewed. 4 bars can be viewed, showing each 16 steps, for a total of 64 steps. The bar number is shown just above the values field (marked **Bar**), and the first and the last step number viewed, is shown just above the values field, to the right and the left.

Edit Knob 3: Sets the last step that will be played back on this track, before it loops back, and plays the track again. Range: 1 to 64 steps. Value is shown as **Lst**.

Edit Knob 4: Sets the track resolution. Values: 1/32, 1/24, 1/16, 1/12, 1/8, 1/6, ¼, ½. Value is shown as **Res**.

Touching "EXIT" will exit you to the Sequencer Modules page.

If slide for a step is 0, the controller output of the track, will shift from one value to the other. The more slide for a step is turned up, the faster it will slide towards the value of the next step. When the next step is played back, the output will shift to the value of this, regardsless if the value has been reached by the slide or not.

When a controller track output is quantized to octave scales, the slide sub-track values will work as delays instead of slides

The tempo of slide is not controlled by the sequencer tempo. Slide is more a kind of advanced envelope.

The resolution of slide is very high, when used internally in Xmini. The CC's that are transmitted via MIDI out, does not have an equally high resolution, because of the limited speed of MIDI.

Controller track CC page

From the Slide Steps edit screen, touch the "Slide" field in the upper left corner. This will get you to the CC page:
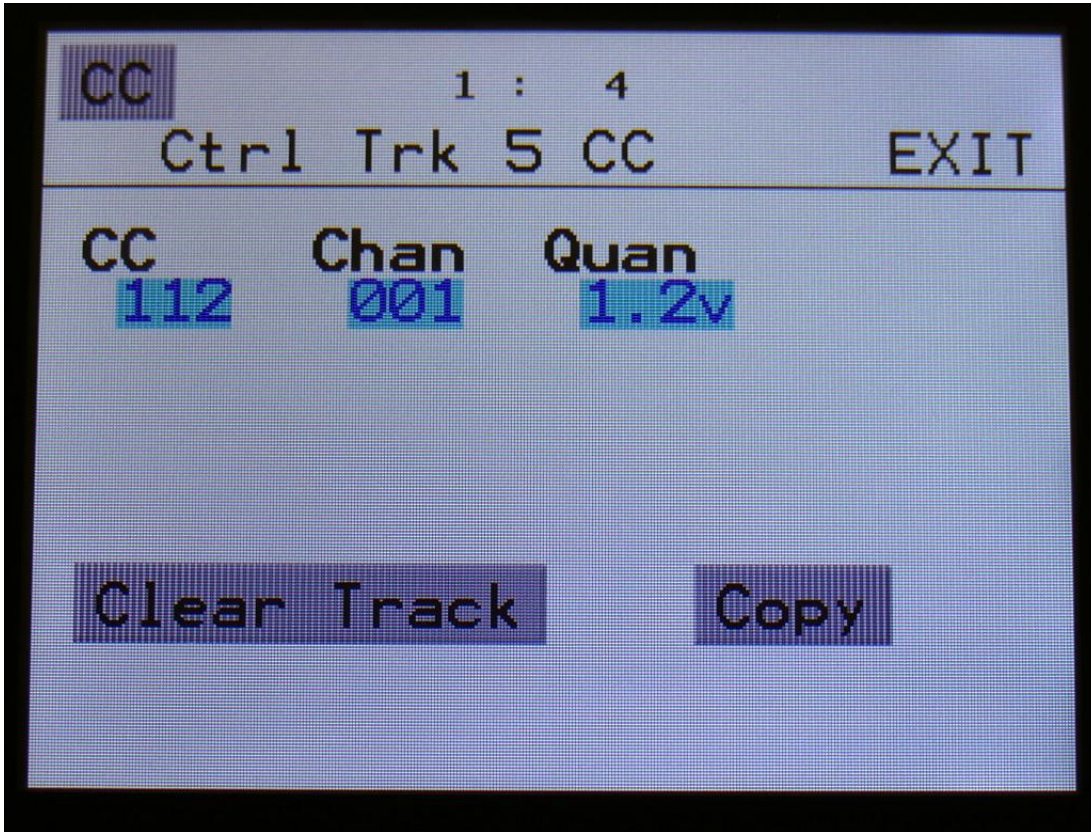
The parameters of this page:

CC: Setting this to any other value than "Off", will make the selected controller track output MIDI CC's to MIDI out. This parameter sets the MIDI CC number. Range: Off, 1-63.

Chan: Sets the MIDI channel, that the selected MIDI CC will be transmitted to. Range: 1 to 16.

Quan: This can be set to either **Off, 1v** or **1.2v**, for each controller track. When set to 1v, the output of the controller track is quantized to 1V per octave, when assigned as a source for the CV outputs. When set to 1.2v, the output is scaled to 1.2V per octave.

Clear Controller Track

From the track CC page, touch the **"Clear Track"** button, to enter this page:
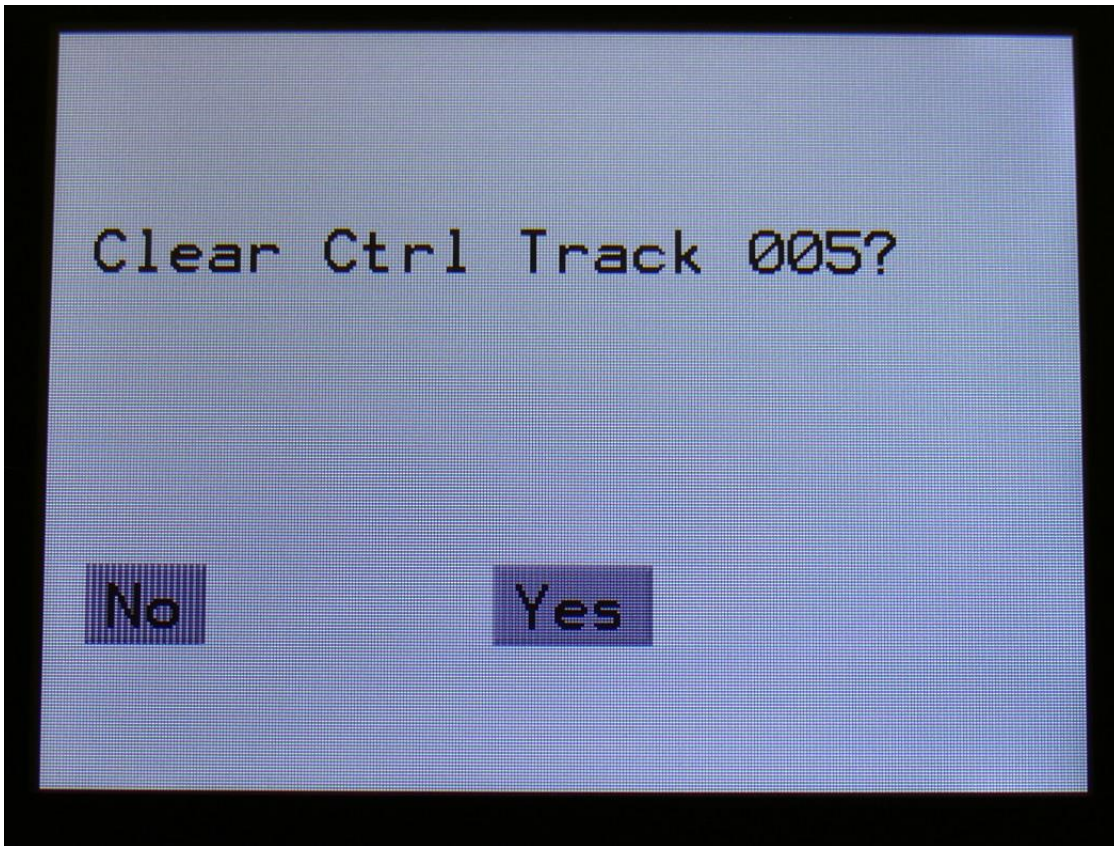
Touching "Yes" from here, will clear all step on's of the currently selected controller track.

If you would not wish to do this, touch "No", to exit to the track main page.

Copy Controoler Track

With the track copy function, it is possible to copy any controller track, from any preset, to the currently selected controller track.

From the track CC page, touch the **"Clear Track"** button, to enter this page:
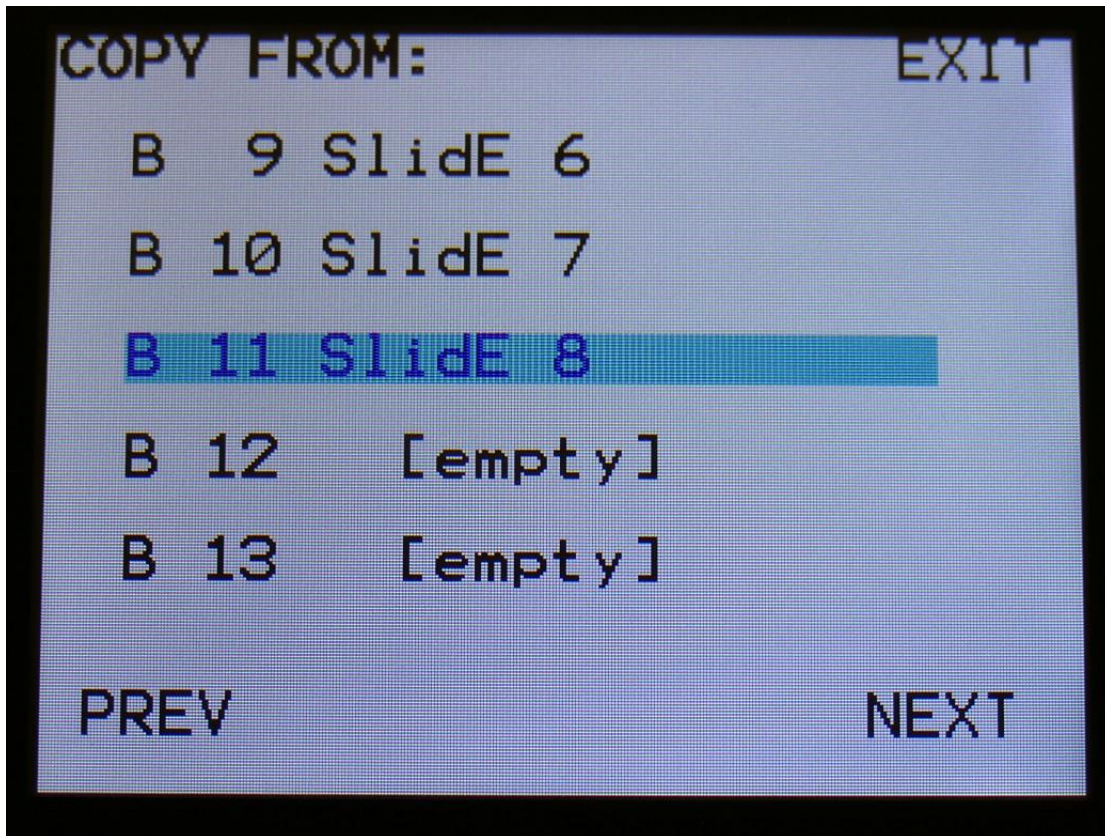
Select the preset, that you would like to copy from. Five presets are shown at a time. Touch "PREV" or "NEXT", to view five higher or lower numbered presets.

Touch a preset to select it. As soon as you select a preset, you will be directed to the next page.
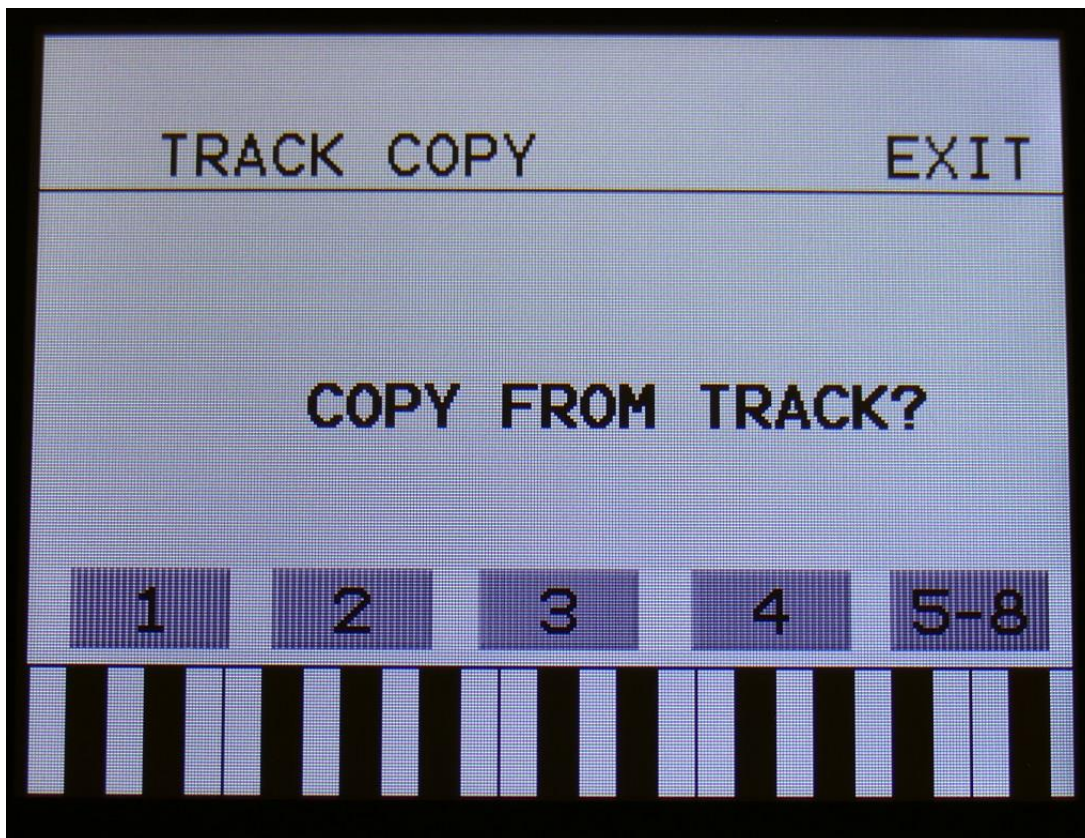
If you would like to copy from track 1 to 4, simply touch the track number, you would like to copy from. As soon as you do that, the track will be copied, and you will return to the note Mod page.

If you would like to copy from any of the tracks 5 to 8, hit the "5-8" touch button first, and then touch the track number.

Sequencer parameters Randomizer

If you should ever need inspiration for new tunes, that you would never ever think off, the PolySpaze Sequencer Randomizer function might just be the thing you need.

From the Sequencer overview page, hit "RANDOMIZE", to enter the Sequencer Randomizer page:
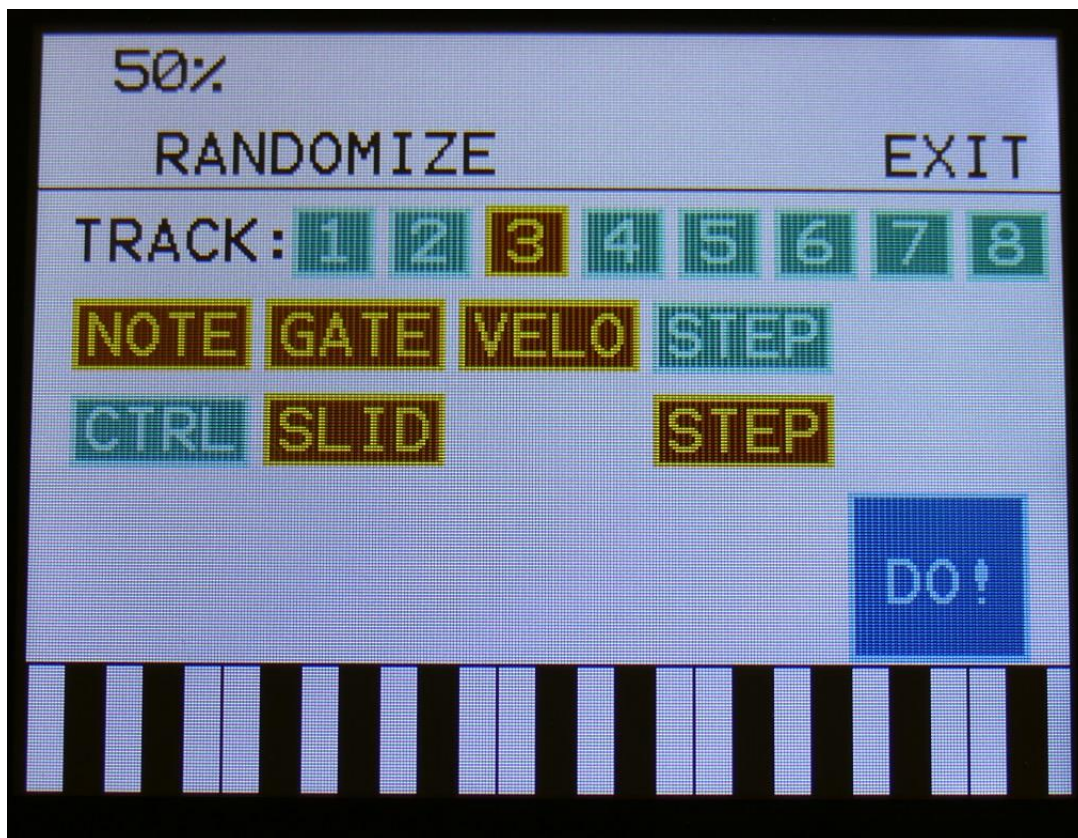
Select the track, that you would like to randomize, by touching any of the numbers 1 to 8, switch the sub-tracks on, that you would like randomized, simply by touching them, adjust the percentage, that it must maximum change the step values, using Edit Knob 1, and hit "DO!".

Green blocks are not randomized, brown blocks are.

Listen to the result.
If you like it, exit the randomizer page, and save the preset.

If you don't like the result, hit "DO!" again, and keep hitting it, until something comes up, that you want. Try with different percentage settings, and try to switch different blocks on and off.

When the Randomizer page is entered, all parameters are stored into a temporary buffer, that are used for the randomization. So if you, for instance, first randomizes with 50%, and then with 20%, the result will be maximum 20% away from the initial parameter settings, when the Randomizer page was entered. It does not first randomize 50%, and then randomize 20% on top of that. To randomize things further away, you must exit the Randomizer page, and re-enter it.

Synth and Sequencer Morphing

On Xmini it is possible to morph between 2 layers of parameters, layer A and B, by turning the "Morph" knob. In the MORE… section (described in the next section), it is possible to set up the Morph knob to morph either the synth parameters, the sequencer parameters or both. The Morph knob transmits and receives MIDI CC 11 via MIDI in and out.

To access the parameters of the second layers, on any synth and sequencer page, hit the "Morph Settings" knob, so its yellow LED lights up. Now the parameters of layer B will be shown on the screen, and you can edit these, using Edit Knob 1 to 4, just like the layer A parameters.

All continously adjustable parameters can be morphed. Switches are not morphed, but they can be switched at an adjustble position of the Morph knob. This position can be set in the MORE… section MORPH.

Some switches, like the Oscillator/Sample select swithces, sample select and EFX select can't be morphed at all. If a parameter cannot be changed, when the Morph Button LED lights up, it cannot be morphed.

All morph settings are stored within each Preset. Remember to save the Preset, to not loose any great sounds.

More… preset parameters
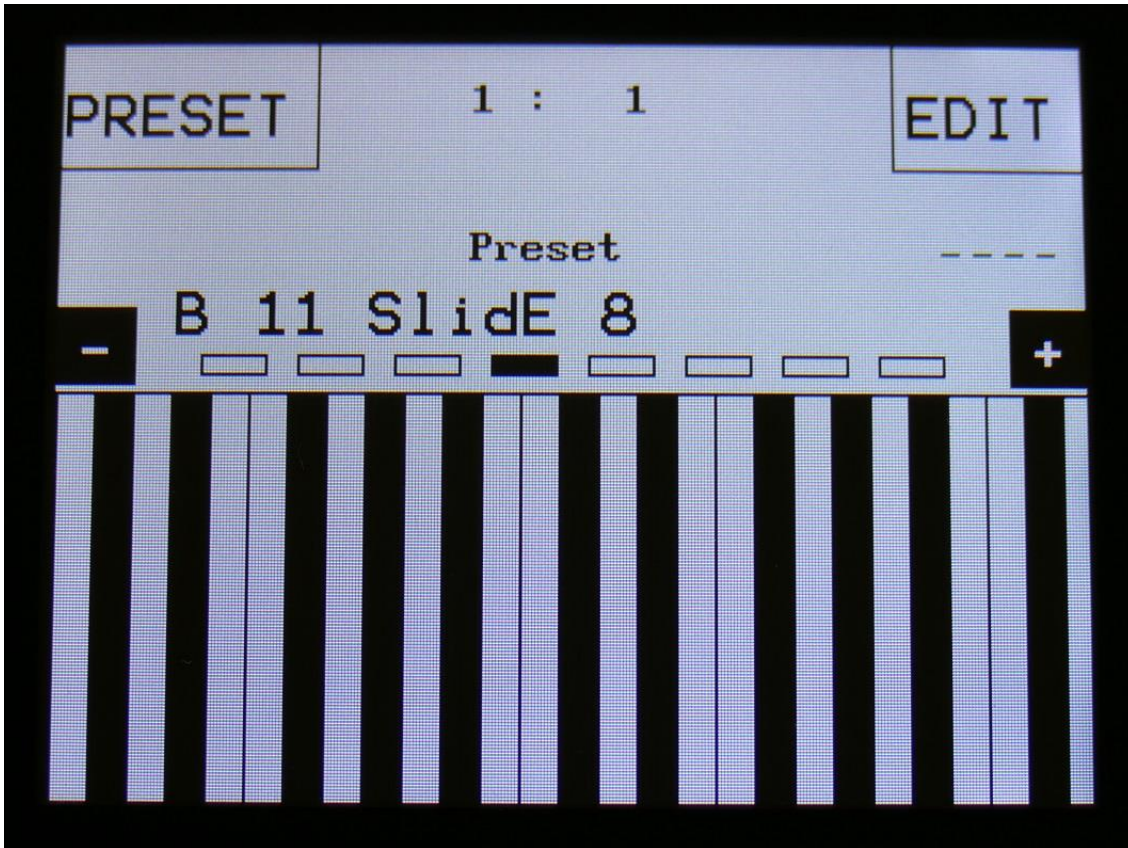
From the Preset Select page, touch the Edit field.
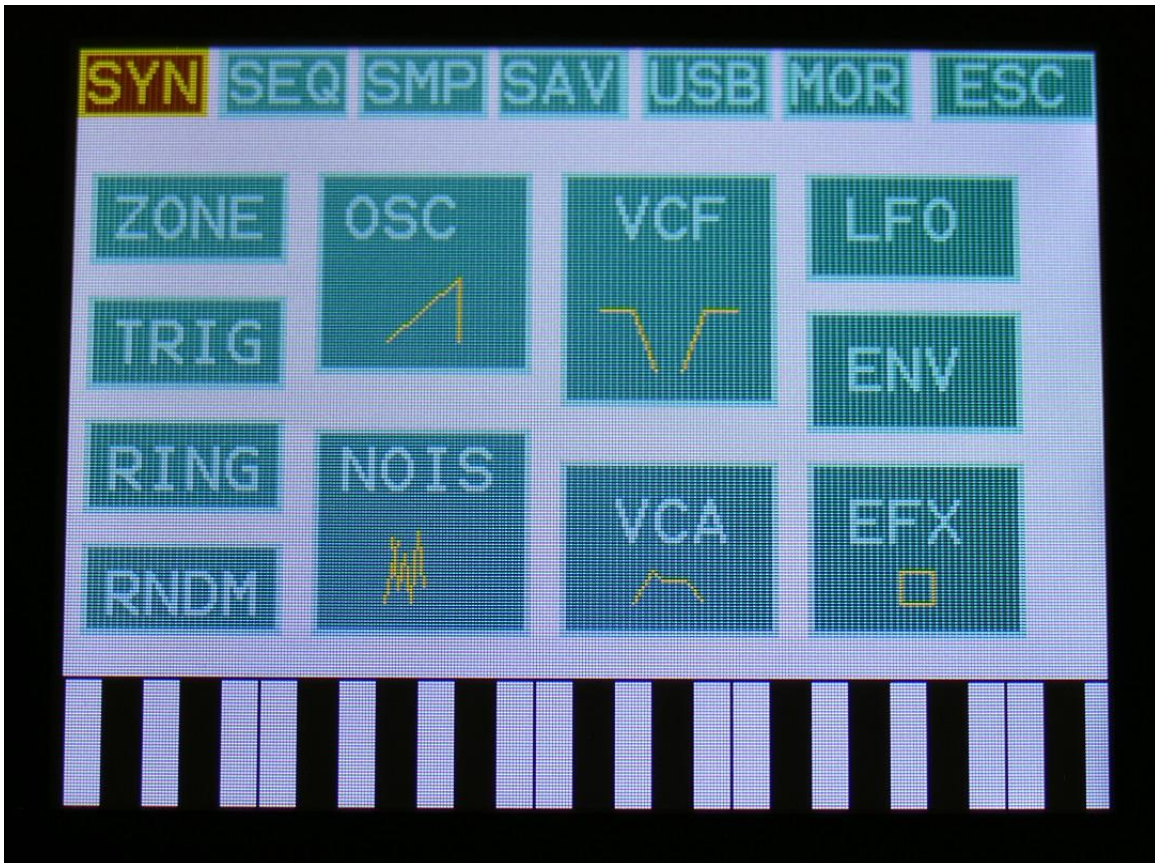
On the navigation bar at the top of the screen, touch MOR.
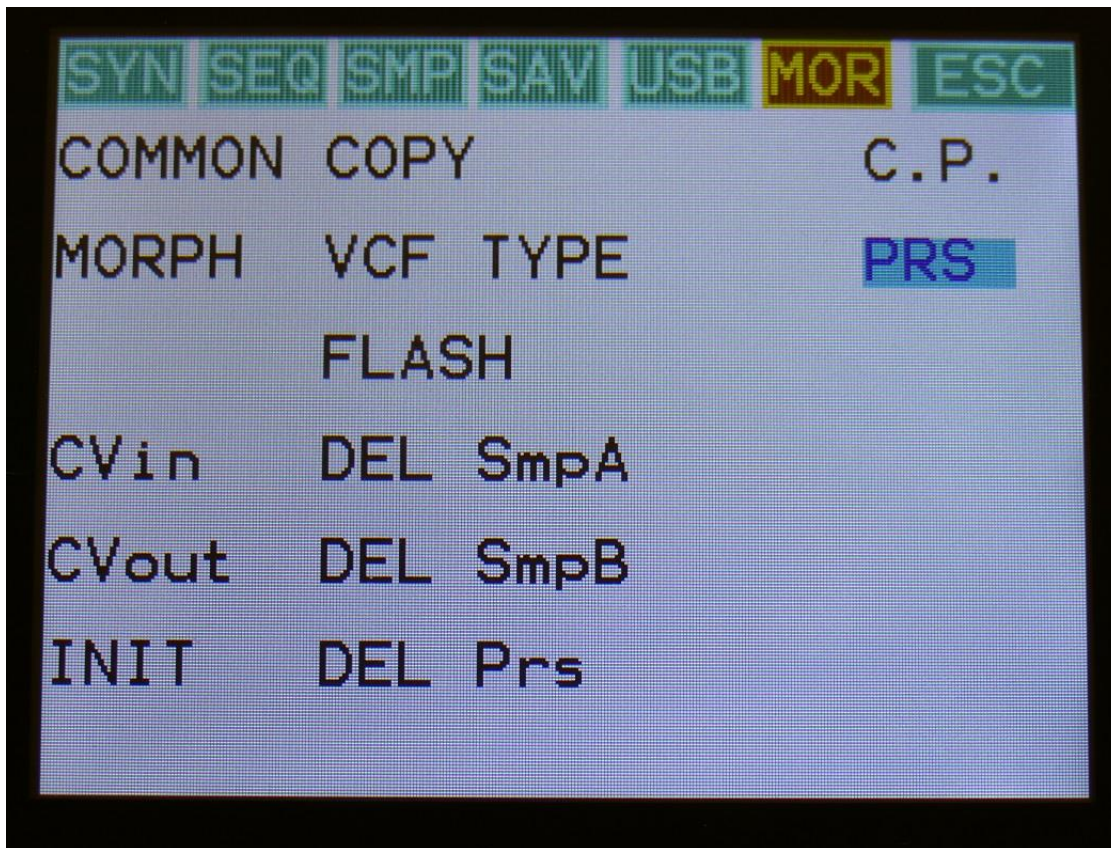
This will get you to the More… page. Here you can set up all the basic Xmini things, like MIDI channel, morphing, analog filter type and CV in's/out's, check and erase the Xmini memory, initialize the preset and change to song mode.

On the following pages, each section of the More… page is described.

Common Settings

On this page, you can adjust the display contrast and MIDI settings and check the sample memory.

From More… page, touch COMMON to enter this page:
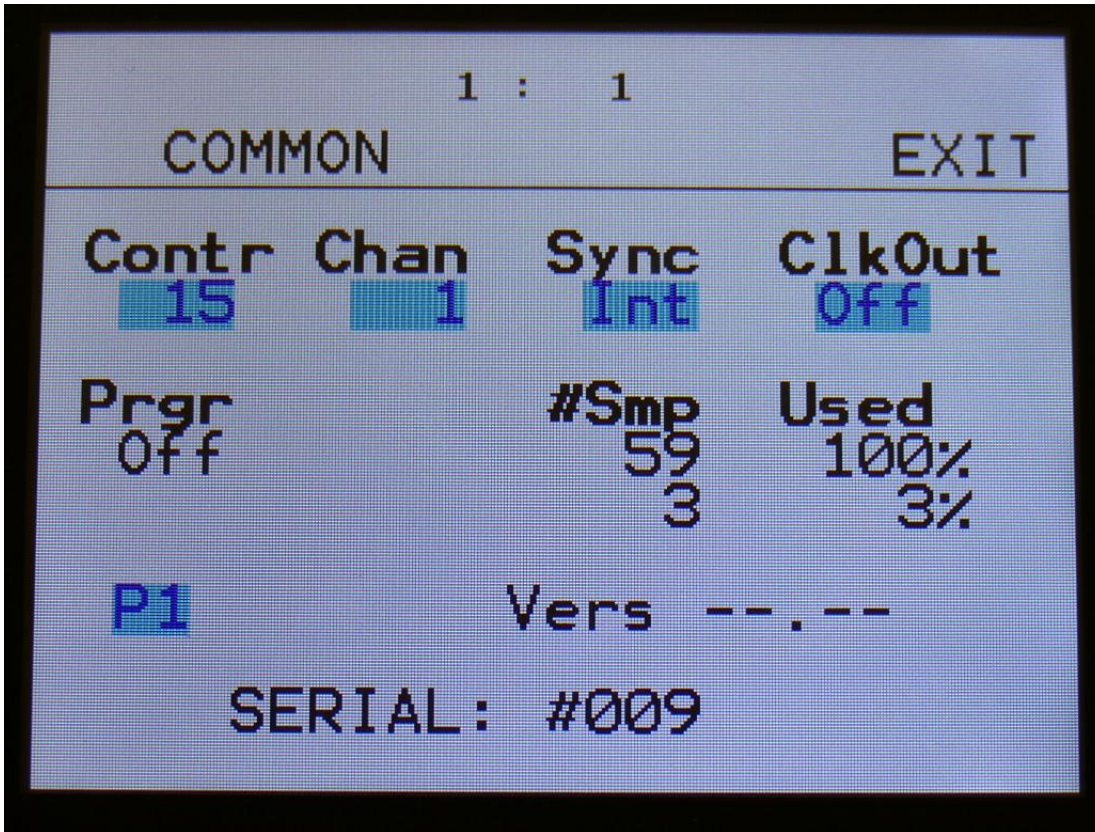
The following parameters can be adjusted on this page, using edit knob 1 to 5:

Contr: Adjusts the display contrast. This setting is automatically saved, and will be remembered after a power off.

Chan: The Xmini global MIDI channel. All MIDI data to Xmini will be received on this channel. MIDI CC's from the Edit/Quick Edit Knobs and the Morph knob will be transmitted on this channel. This setting is automatically saved, and will be remembered after a power off.

Sync: Sequencer syncronization. This setting is automatically saved, and will be remembered after a power off. Settings:
-Int: Xmini's sequencer will be clocked internally at the rate set by the "Tempo" parameter in each preset.
-Ext: Xmini's sequencer will be clocked externally, by MIDI clock events applied to MIDI in. Sequencer play and stop can also be controlled externally.

ClkOut: Settings: Off, On. Selects whether or not Xmini will re-transmit MIDI clock and start/stop events to MIDI out. Even if Xmini is syncing to an external MIDI clock source, it will re-transmit this, if this parameter is on. This setting is automatically saved, and will be remembered after a power off.

Prgr: On/Off. When switched on, Xmini will receive MIDI program and bank changes. Bank change is MIDI CC 32.

#Smp: Shows how many samples that are held in sample bank A at top, and bank B at bottom.

#Used: Shows in percent how much of the Bank A sample memory is occupied by samplings at top, and much of the Bank B sample memory is occupied by samplings at bottom.

In the bottom of this screen, the currently installed firmware version number is shown, and the serial number for your Xmini.

Morph Setup

On the Morph Setup page, it is possible to set a permanent morph value, that will override the Morph knob, if you wish to always have a preset playing back in a certain morph position.

It is also possible to modulate the morph knob, using a limited number of modulation sources, including a morph LFO.

From More… page, touch MORPH to enter this page:
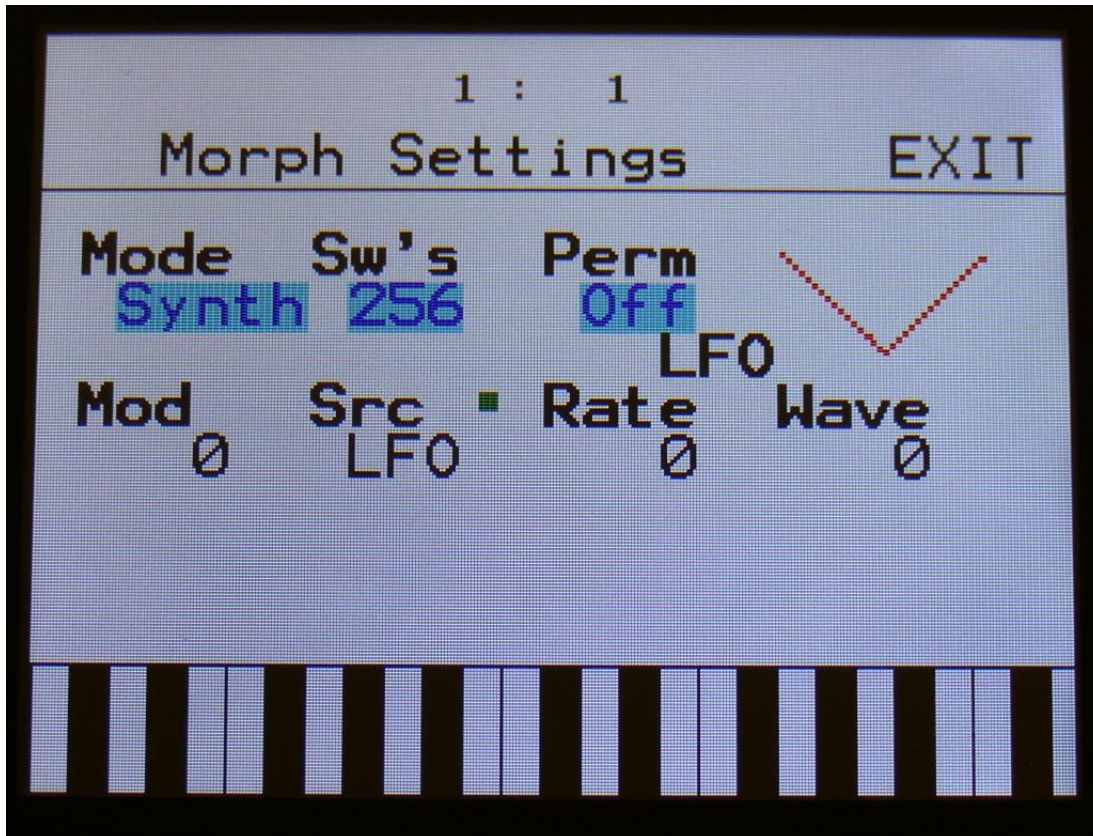
Parameters on this page:

Mode: Synth, Seq, both. Sets if the Morph knob should affect the synth parameters, the sequencer parameters, or both at the same time.

Sw's: 0 to 511. Xmini does not morph switches (like modulation selects and audio input selects). Instead it toggles all the switches at a certain point on the Morph knob. This value sets this point. If you do not want the Morph knob to do any switching, set this to 511.

Perm: Morph knob permanent value. Will override the value of the Morph knob, and keep morph on the permanent value plus modulation. Range: Off, 1 to 511.

Mod: Morph modulation amount. 0 to 511.

Src: Morph modulation source. Sources are:

-LFO: The morph section LFO. Described below.

-Sq1 to Sq8: Sequencer controller tracks 1 to 8.

-CV1 to CV4: CV inputs 1 to 4.

-Kybd: The last note number value received via MIDI in, on the Anamono X MIDI channel

-Velo: The last note velocity value received via MIDI in, on the Anamono X MIDI channel

-Aft: The last mono aftertouch value received via MIDI in, on the Anamono X MIDI channel

-Knb1: Edit knob 1 value and the last MIDI CC 1 value received via MIDI in, on the Anamono X MIDI channel

-Knb2: Edit knob 2 value and the last MIDI CC 2 value received via MIDI in, on the Anamono X MIDI channel

-Knb3: Edit knob 3 value and the last MIDI CC 3 value received via MIDI in, on the Anamono X MIDI channel

-Knb4: Edit knob 4 value and the last MIDI CC 4 value received via MIDI in, on the Anamono X MIDI channel

-TouY: Touch screen keyboard Y position.

Rate: Morph LFO rate. Sets the tempo of the morph section LFO, that can only modulate the morph parameter.

Wave: Morph LFO output waveform. Morphs between triangle, sawtooth, square, pulse and FM waveforms. The FM waveforms are high frequency waves, that can be used for FM synthesis.

CV Inputs (optional)

With the optional CV board installed, Xmini has 4 CV inputs. These goes directly to the modulation bus, and can be selected as modulation sources, for any parameter that can be modulated.

Xmini accepts CV voltages of up to +/- 15 volts. The voltage range of each CV input can be set up to a number of different configurations.

It is also possible to set up each CV input as a trigger for any of the 4 triggers of Xmini, and to set them up as clock sources, start/stop and reset control for the sequencer.

Remember to save all edits you do to the CV Inputs. Else they will be lost when you change preset, or turn Anamono X off. See how to in the "Save Preset" section.

From More… page, touch CVin to enter this page:
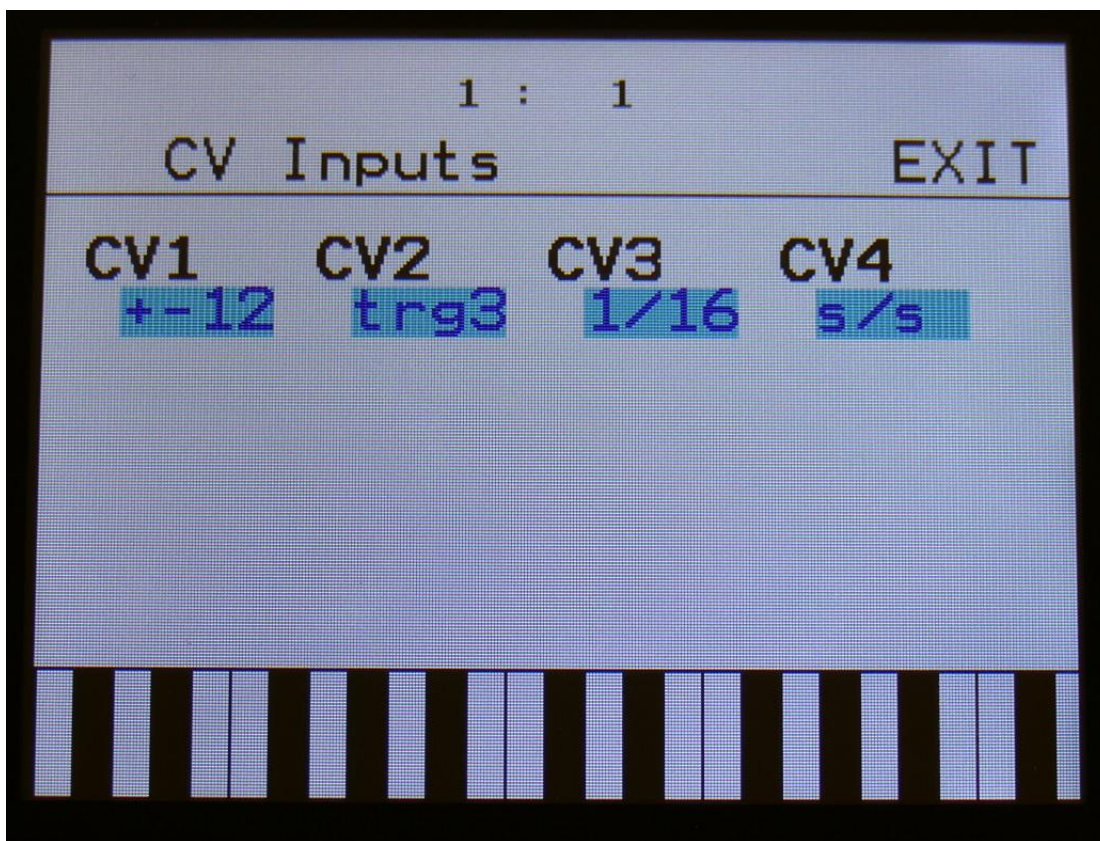
Here you can, by turning Edit Knob 1 to 4, set up each CV input. The possibilities for each input are:

+-12: The CV input will work in the range of +/- 12 volts –standard eurorack voltages.
+12: The CV input will work in the range of 0 to 12 volts.
+-5: The CV input will work in the range of +/- 5 volts.
+5: The CV input will work in the range of 0 to 5 volts.
Trg1: The CV input will work as a trigger input for trigger 1. On the modulation bus, it will work in the +/- 12 volts range.
Trg2: The CV input will work as a trigger input for trigger 2. On the modulation bus, it will work in the +/- 12 volts range.
Trg3: The CV input will work as a trigger input for trigger 3. On the modulation bus, it will work in the +/- 12 volts range.
Trg4: The CV input will work as a trigger input for trigger 4. On the modulation bus, it will work in the +/- 12 volts range
1/32: For each pulse it receives, the sequencer will increment 1/32 step. The internal sequencer clock, and any MIDI clock will be ignored. MIDI clock will still be transmitted, if the ClkOut parameter in the COMMON menu is set to on.
1/24: For each pulse it receives, the sequencer will increment 1/24 step. The internal sequencer clock, and any MIDI clock will be ignored. MIDI clock will still be transmitted, if the ClkOut parameter in the COMMON menu is set to on.

1/16: For each pulse it receives, the sequencer will increment 1/16 step. The internal sequencer clock, and any MIDI clock will be ignored. MIDI clock will still be transmitted, if the ClkOut parameter in the COMMON menu is set to on.

1/12: For each pulse it receives, the sequencer will increment 1/12 step. The internal sequencer clock, and any MIDI clock will be ignored. MIDI clock will still be transmitted, if the ClkOut parameter in the COMMON menu is set to on.

1/8: For each pulse it receives, the sequencer will increment 1/8 step. The internal sequencer clock, and any MIDI clock will be ignored. MIDI clock will still be transmitted, if the ClkOut parameter in the COMMON menu is set to on.

1/6: For each pulse it receives, the sequencer will increment 1/6 step. The internal sequencer clock, and any MIDI clock will be ignored. MIDI clock will still be transmitted, if the ClkOut parameter in the COMMON menu is set to on.

s/s: Will make the sequencer start or stop every time it receives a pulse or a gate on that input.

Rst: Will make all tracks of the sequencer reset to their respective start step every time a pulse or a gate is received on that input.

Please notice: If an LFO or a Random Generator is set up to trig a trigger, this trigger cannot be trigged by the CV inputs.

CV Outputs (Optional)

With the optional CV board installed, Xmini has 4 CV outputs.

From each of these it is possible to control external analog gear with both a static voltage and a modulation source at the same time. The setup of these is stored within each Xmini preset, so it is possible to give the external analog gear memory!

Remember to save all edits you do to the CV Inputs. Else they will be lost when you change preset, or turn Anamono X off. See how to in the "Save Preset" section.

From More… page, touch CVout. Touch the P_1 button to enter this page:
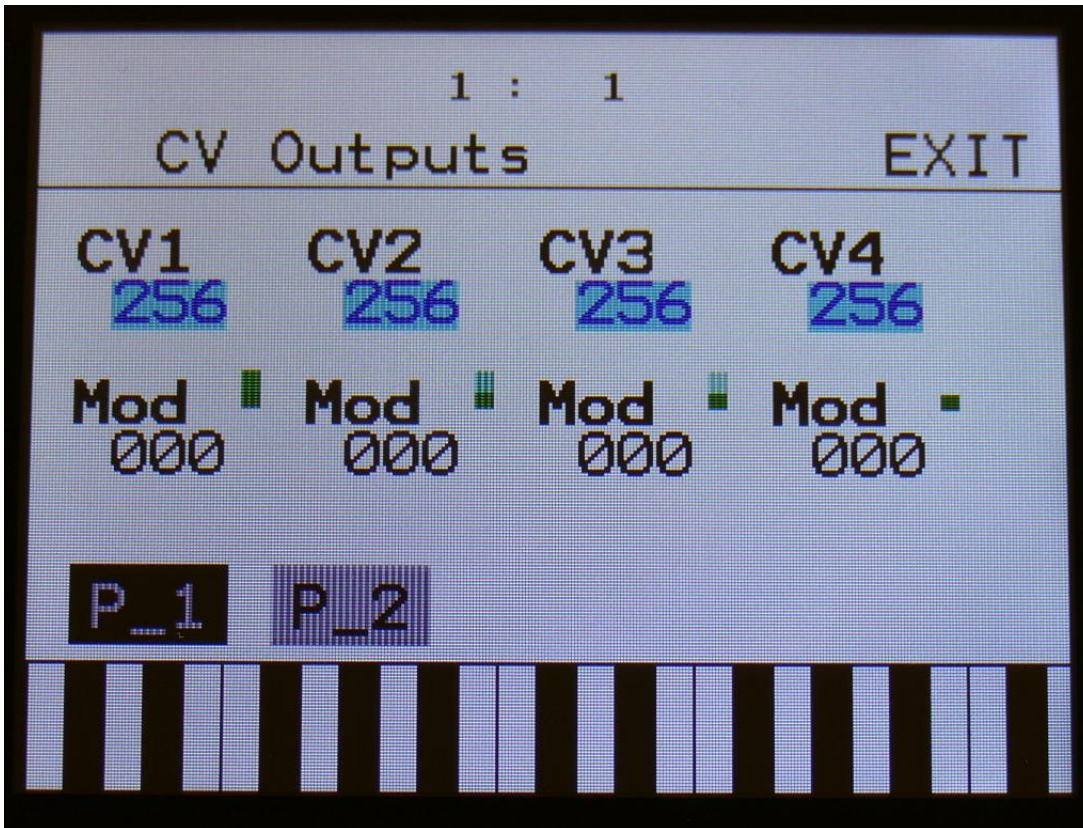
On this page, you can, with the upper row of parameters selected, by turning Edit Knob 1 to 4, set a static voltage to each CV output. This is useful, if you for instance, are controlling cutoff or resonance of an external filter, or tune of an external oscillator.

With the lower row of parameters selected, you can adjust the modulation amount for each CV output.

Touch the P_2 button, to enter the CV outputs modulation page:
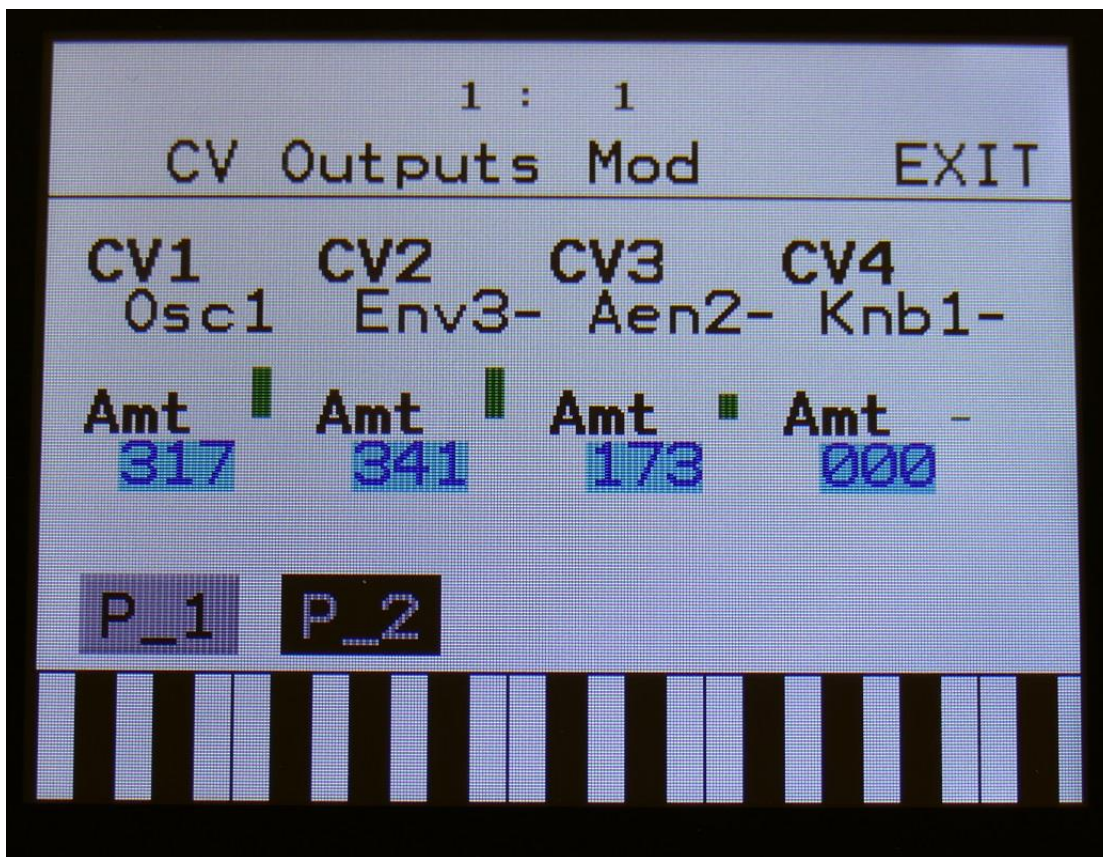
Here you can, with the upper row of parameters selected, by Edit Knob 1 to 4, select the modulation source for each CV output. For a complete list of modulation sources, see the list in the start of the synth section in this manual.

To generate an analog clock on a CV output, select SQg1, SQg2, SQg3, SQg4, SQg5, SQg6, SQg7 or SQg8 (sequencer controller tracks 5 to 8 step on/off gates) as the CV source, and switch all steps on, at the respective controller track.

With the lower row of parameters selected, you can adjust the modulation amount for each CV output.

Initialize Preset

If you would like to start out from scratch, with a completely clean preset, this is the function to use.

Please notice that the preset on the selected location are not immediately wiped out. It will not be overwritten until you save the new preset, so even though you have initialized it, it can still be recalled, if you should regret, by selecting another preset, and then select this one again.

From More… page, touch INIT to enter this page:
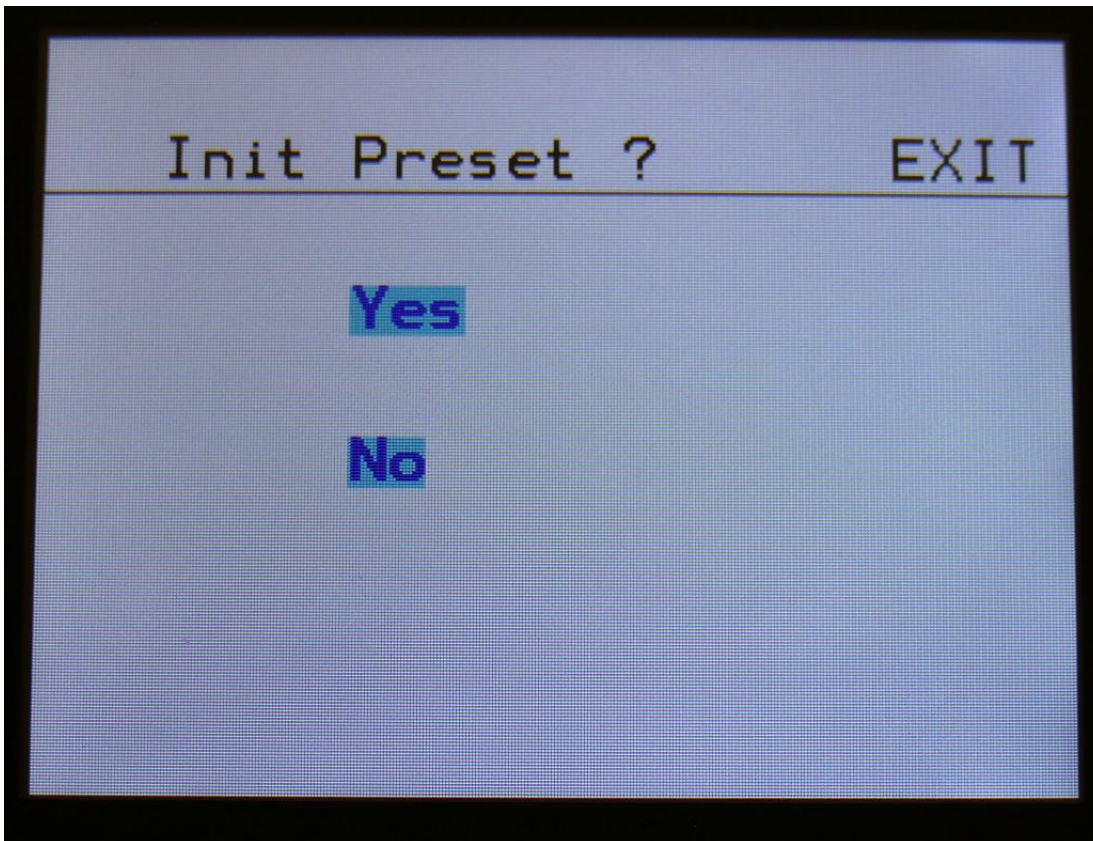
Xmini will now ask you to confirm.

Press "Yes" to initialize the currently selected preset and return to the previous page, or press "No" just to exit, without initializing.

Morph Layer Copy

If you would like to morph between 2 specific sounds, it is possible to copy these from any other preset, to the current presets morph layer A and B.

There are though some limitations:
-Because of the limited morphing of switches, you should copy the most complex sound to layer A.
-The triggers setup is not morphed at all, so the sound that uses most triggers, should be placed on layer A.
-If you attempt to morph from an oscillator to a sampler, the sampler will stay in oscillator mode, and use the oscillator settings. If you morph from a sampler to an oscillator, it will stay in sampler mode, and use the sampler settings.
-If you attempt to morph between 2 samplers, that has 2 different samplings selected, only the sampling selected by the sampler of layer A will play back.
-If you attempt to morph between 2 effects processors, that has 2 different effects selected, only the effect selected in layer A will be active.

From More… page, touch COPY to enter this page:


```
COPY FROM:                    EXIT

   B  9 SlidE 6

   B 10 SlidE 7

   B 11 SlidE 8

   B 12    [empty]

   B 13    [empty]

PREV                          NEXT
```
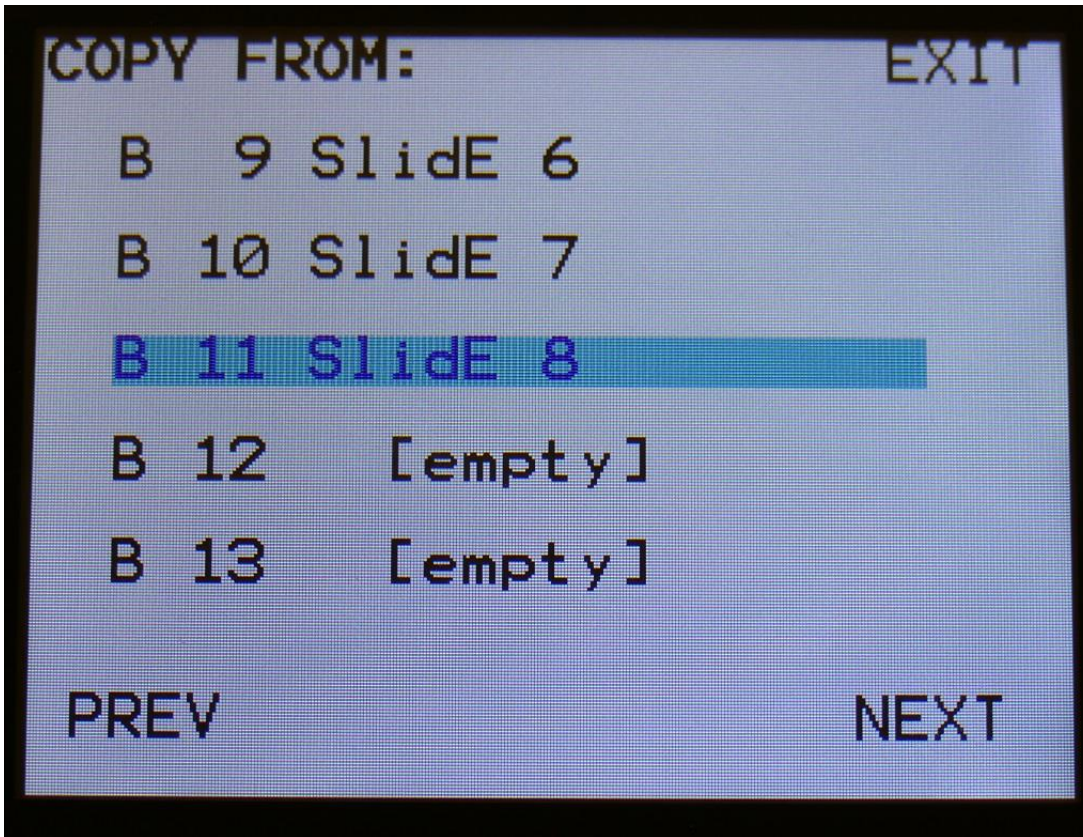
Touch the preset you would like to copy a layer from. Touch PREV and NEXT to select the previous or the next 5 presets.

Then you will be lead to this page:
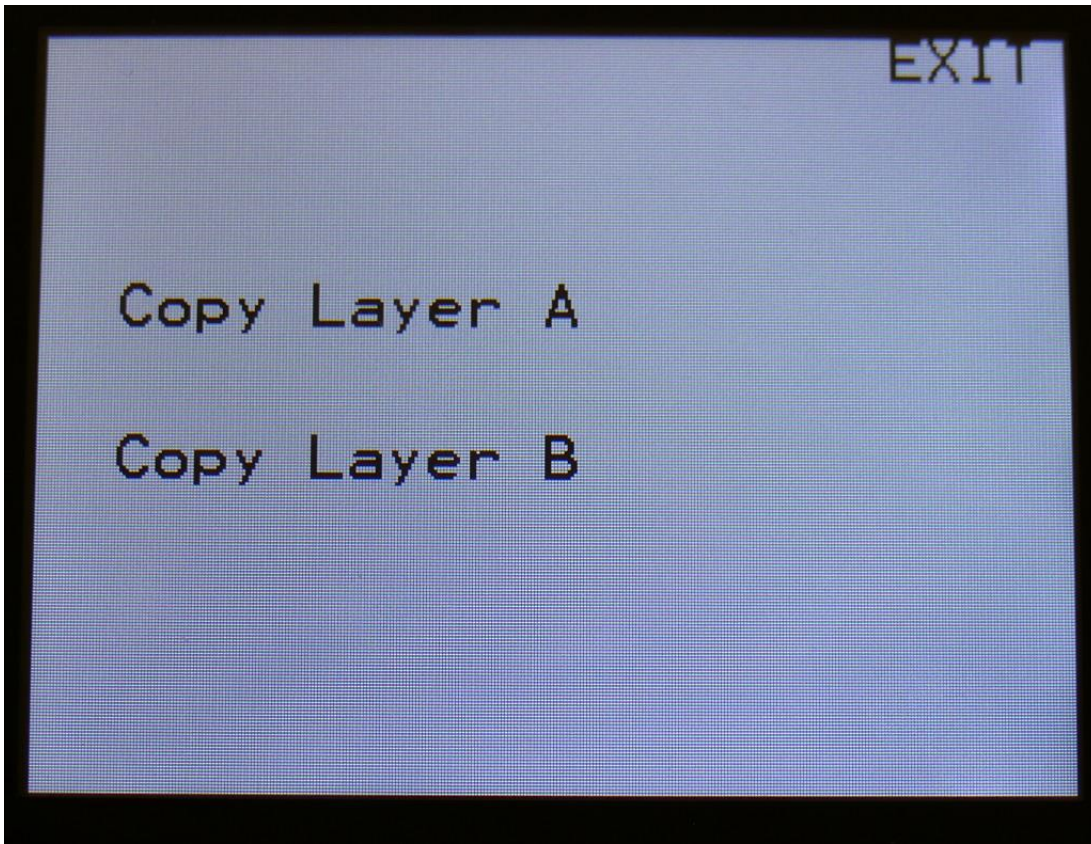
Touch the layer that you would like to copy from.

The destination for the copy, will always be the currently selected preset, and the layer that is currently selected by the "Morph Settings" button.

The copy is only performed to the preset edit buffer. In order to keep the result, the preset must be stored, as described in the "Save Preset" section later in this manual.

VCF Type

To get the most out of the analog filter installed in your Xmini, you should go to this page to set which filter type is installed, every time you change the filter. When you receive your Xmini from Gotharman's this will be set up correctly, so you should only need to go here, when you swap the filter board.

From More… page, touch VCF TYPE to enter this page:
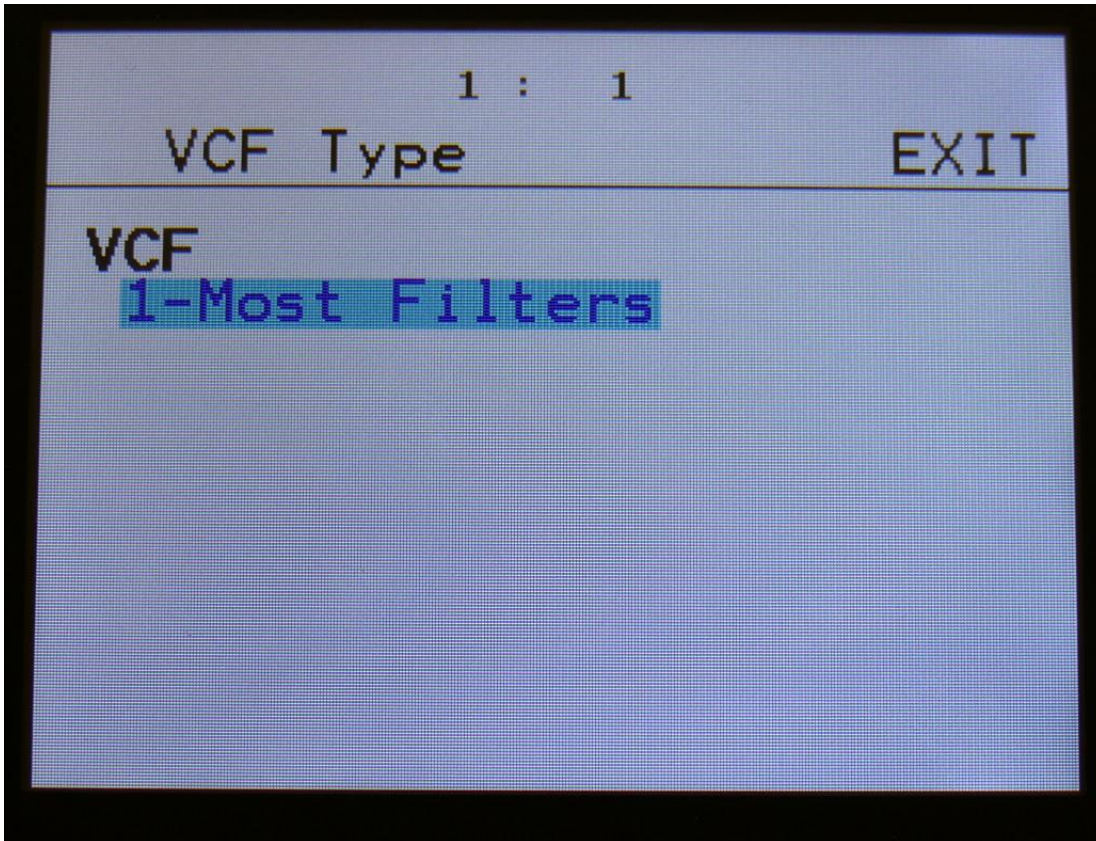
Turn Edit Knob 1 to select your analog filter.

Explanation of the possible types (more will probably be added later):
1: Most filters. VCF1, 2, 3 and 4.
2: VCF5 -MiniProphet filter.
3: VCF6 -SP filter.
4: VCF7 –Tubaz tube filter.
5: VCF8 – Dual band SSI filter.

Checking the FLASH memory for malfunction

From More… page, touch FLASH to enter this page:
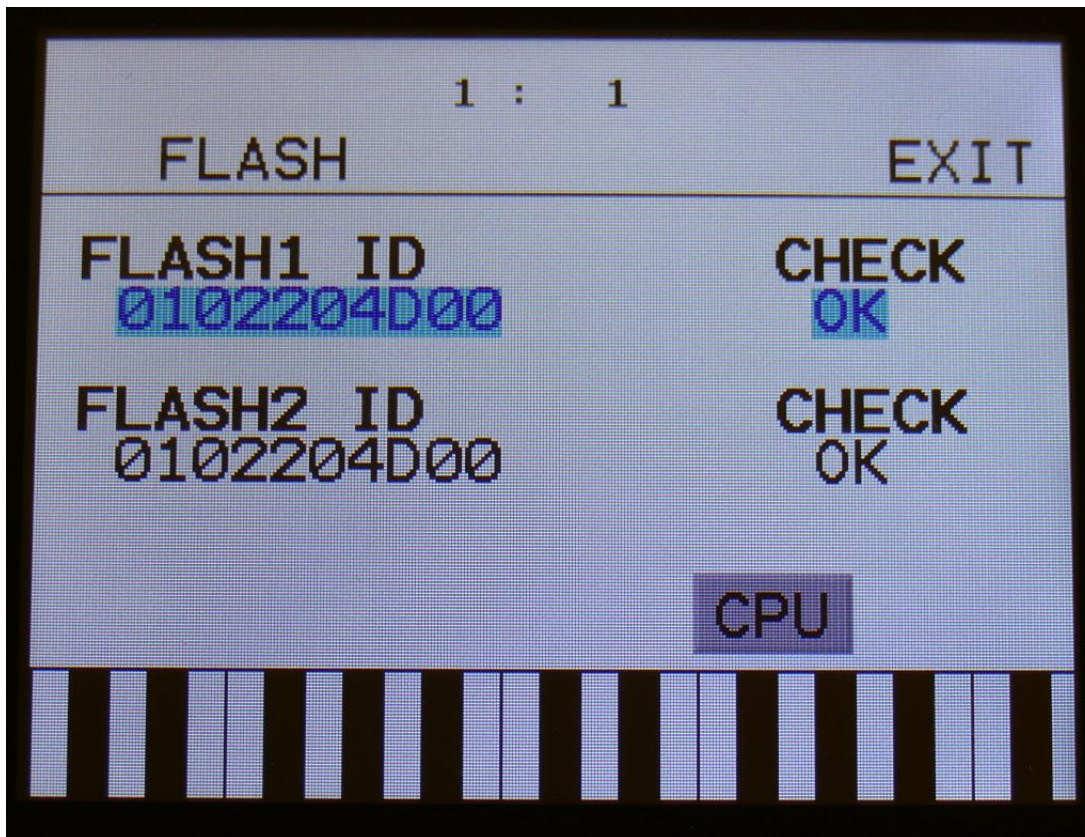
This page should look exactly like on the picture (except for the touch screen keybaord). If it doesn't, the FLASH memory on your Xmini might be defective, and should be replaced. Please get in touch with Gotharman's regarding this.

Delete Sample Bank A

It is possible to completely erase the sample banks. Please think about it, before you do that, and back up your samplings as desribed in the USB section later in this manual, since if you don't have a backup, it will not be possible to recover your samplings again.

From More… page, touch DEL SmpA.

Xmini will now ask:
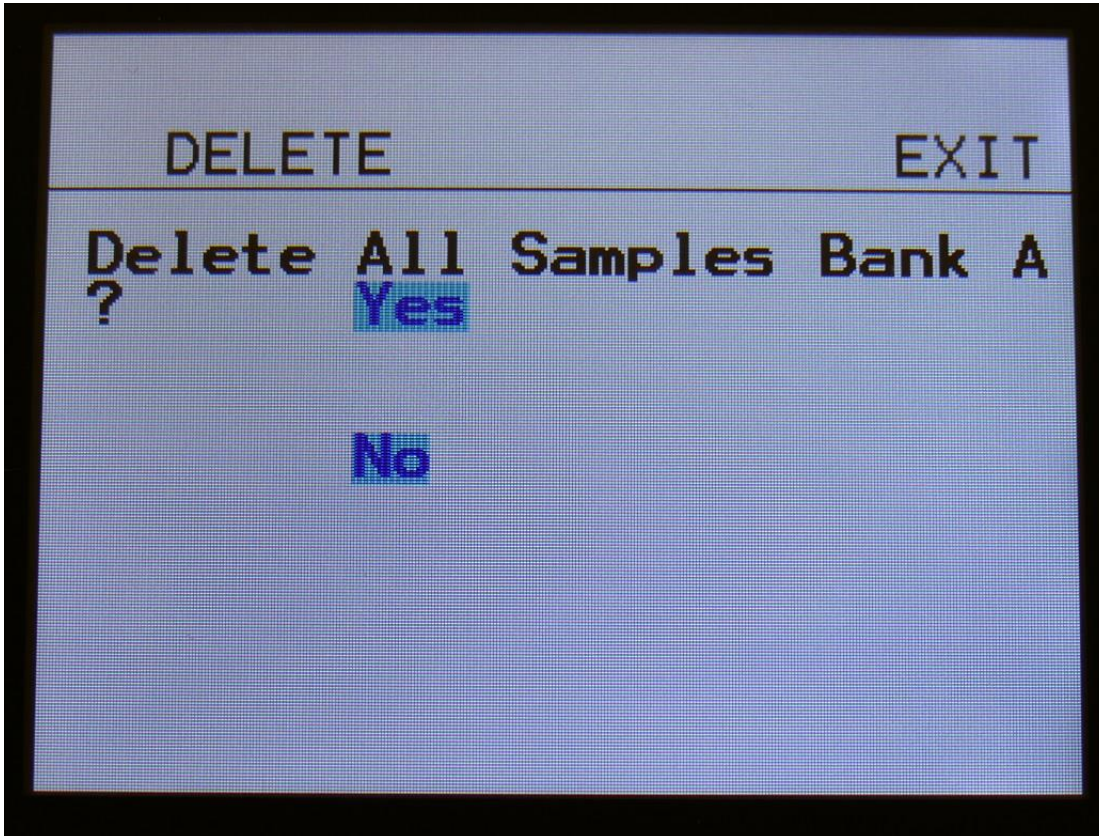
If you are really sure, that you absolutely have to do this, touch "Yes" to start the erase. The sample bank will now be completely wiped out. While it is being erased, Xmini's 5 button LED's will run a sequence. When the LED's shuts off, the erase has been done, and Xmini will return to the More… screen.

If you don't want to do this anyway, touch "No" to exit.

Delete Sample Bank B

It is possible to completely erase the sample banks. Please think about it, before you do that, and back up your samplings as descibed in the USB section later in this manual, since if you don't have a backup, it will not be possible to recover your samplings again.

From More… page, touch DEL SmpB.

Xmini will now ask:
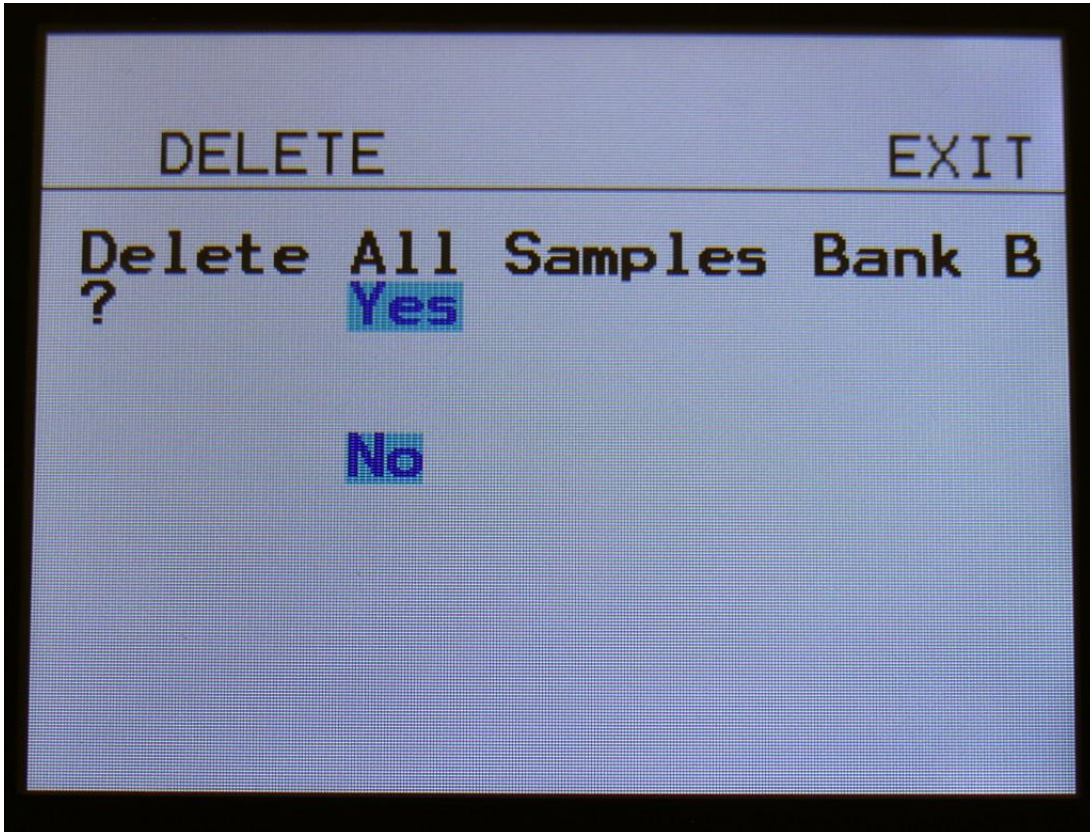
If you are really sure, that you absolutely have to do this, touch "Yes" to start the erase. The sample bank will now be completely wiped out. While it is being erased, Xmini's 5 button LED's will run a sequence. When the LED's shuts off, the erase has been done, and Xmini will return to the More… screen.

If you don't want to do this anyway, touch "No" to exit.

Delete all Presets and Songs

It is possible to completely erase all presets and songs. To do that, if you are really sure, that you would like to, from More… page, touch DEL Prs.

Before you do this, please back up your presets as descibed in the USB section later in this manual, since if you don't have a backup, it will not be possible to recover your presets again.

Xmini will now ask:
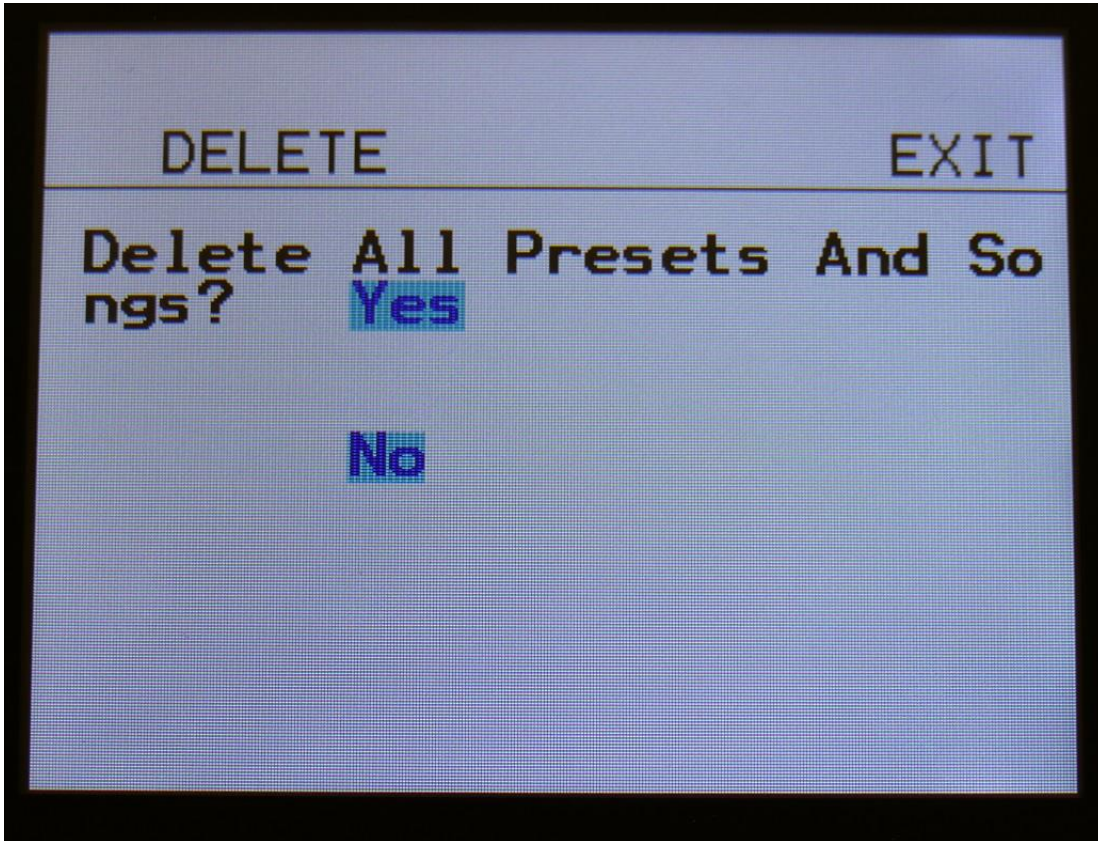
If you are really sure, that you absolutely have to do this, touch "Yes" to start the erase. All presets and songs will now be completely wiped out. While these are being erased, Xmini's 5 button LED's will run a sequence. When the LED's shuts off, the erase has been done, and Xmini will return to the More… screen.

If you don't want to do this anyway, touch "No" to exit.

C.P.

From More… page, touch C.P. to enter this page:
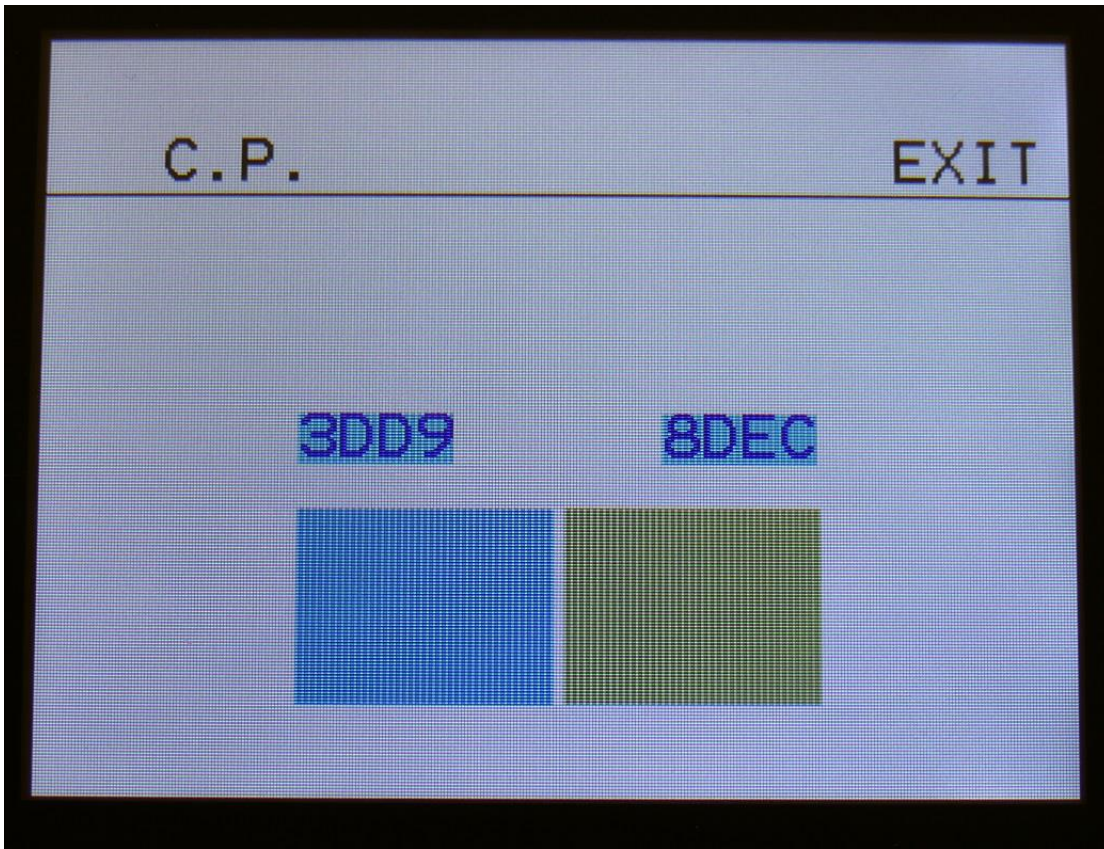
By turning Edit Knob 1 to 4, you can here make the 2 rectangles produce different colours.

PRS

Touch this to toggle between preset mode and song mode. Song mode is described later in this manual.

Save Preset

When you have created a new preset, it should be saved for later recall. If you do not save your presets, they will be lost forever, as soon as you select another preset, or turn off your Xmini.

A preset that is saved on Xmini contains all the data previously described in this manual:
-All sequencer data
-All synthesizers settings
-All trigger settings
-All CV in/out settings

From the Preset Select screen, touch the EDIT field, to enter the Synth modules page:
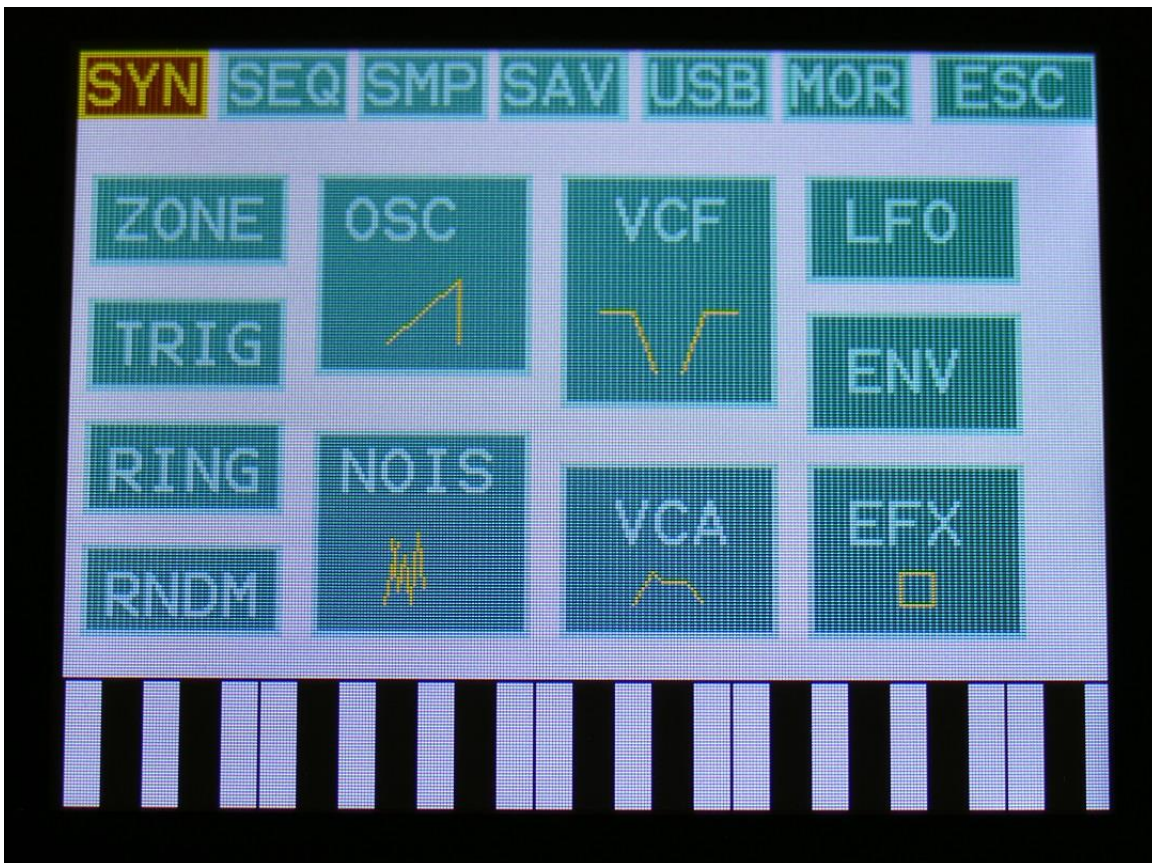
On the navigation bar at the top of this page, touch SAV.

You should now enter this page:
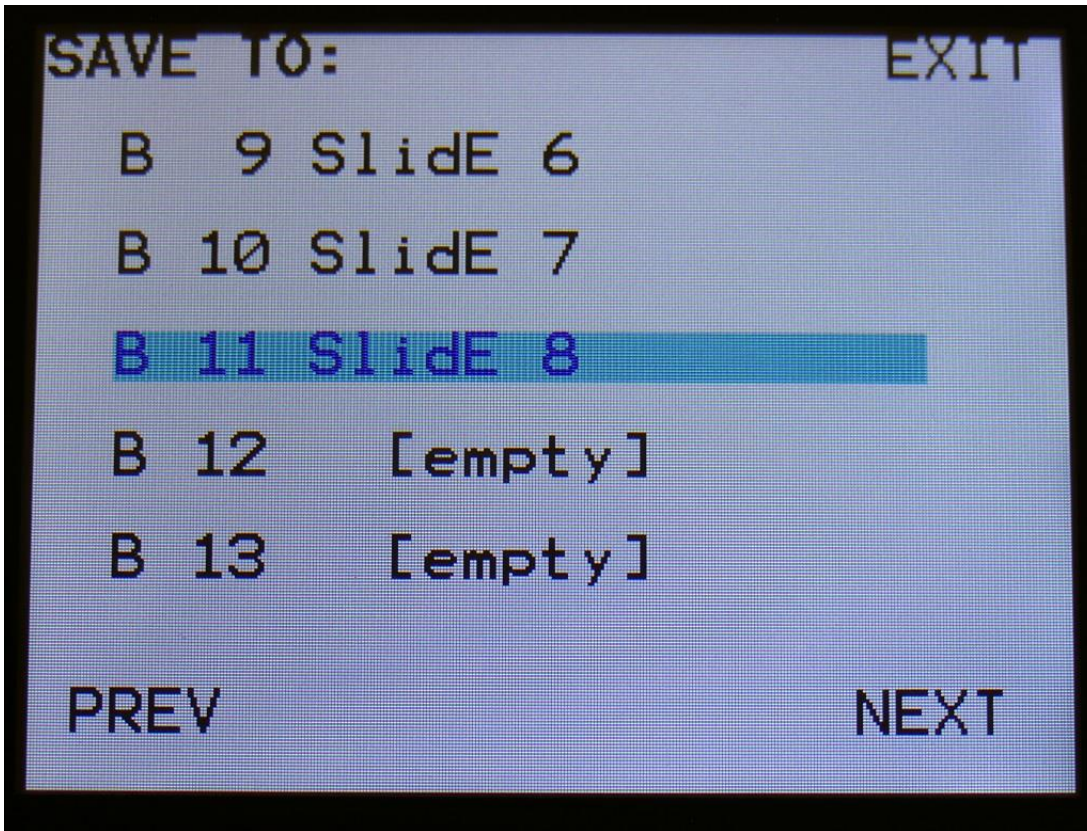
Touch the preset location that you would like to save your new preset in. If it is not shown, touch PREV and NEXT to reach it.

Preset number and name is shown for presets that are already saved. If you save your new preset on such a location, the old preset will be overwritten. On preset locations, where a preset has not yet been saved, the name will be shown as "<empty>".
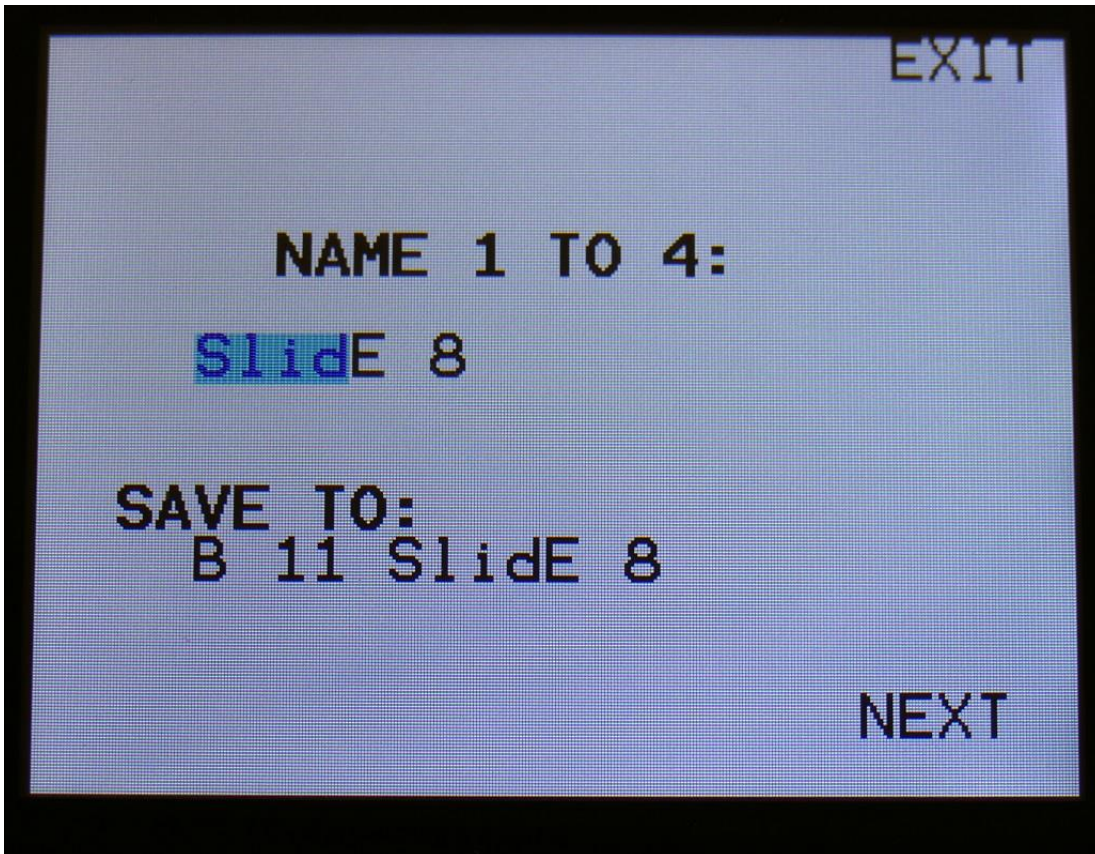
Turn edit knob 1 to 4 to select the first 4 letters of the name for your new preset.

Touch NEXT when you are done.
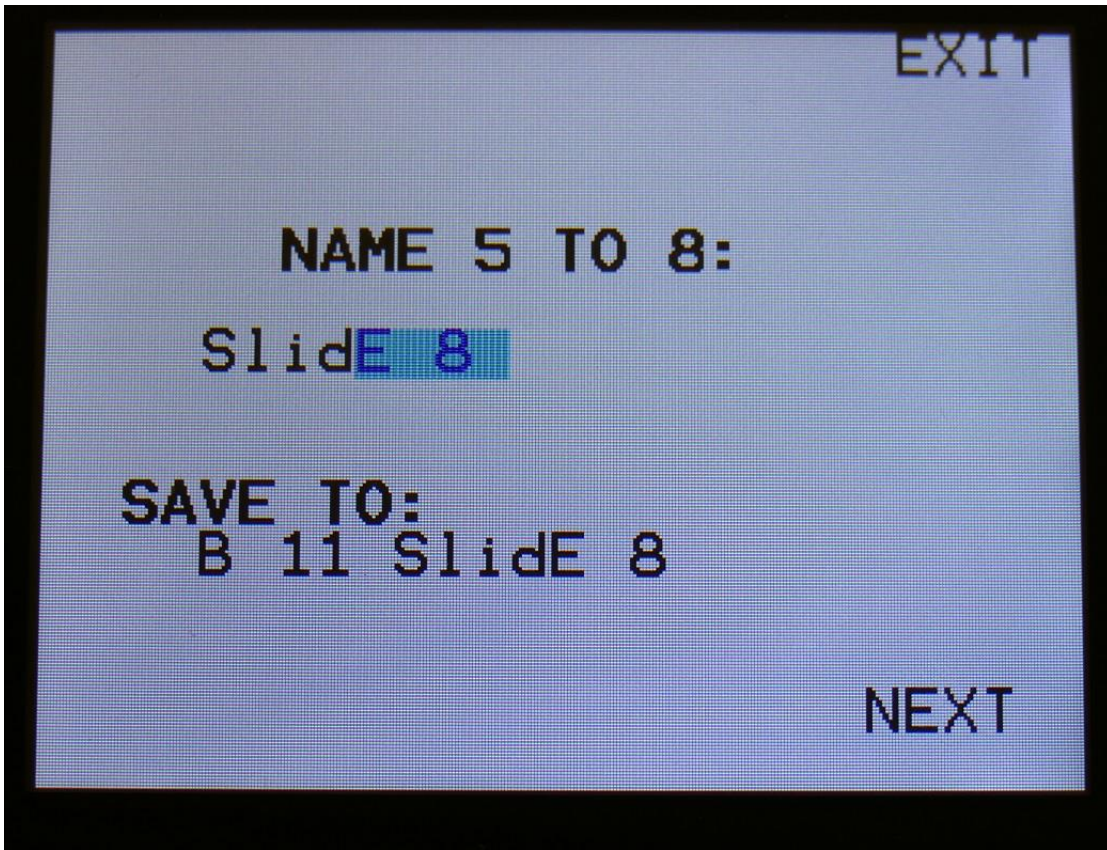
Turn edit knob 1 to 4 to select letters 5 to 8 of the name for your new preset.

Touch NEXT when you are done.
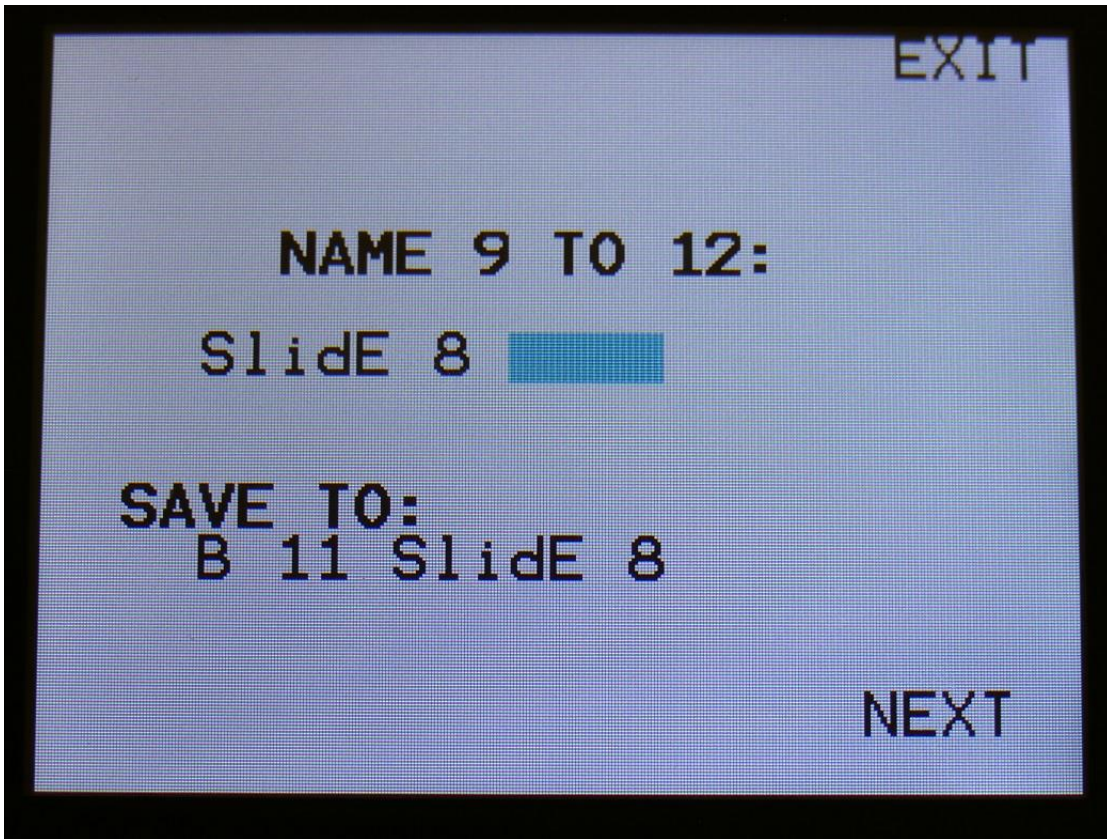
Turn edit knob 1 to 4 to select letters 9 to 12 of the name for your new preset.

Touch NEXT when you are done.
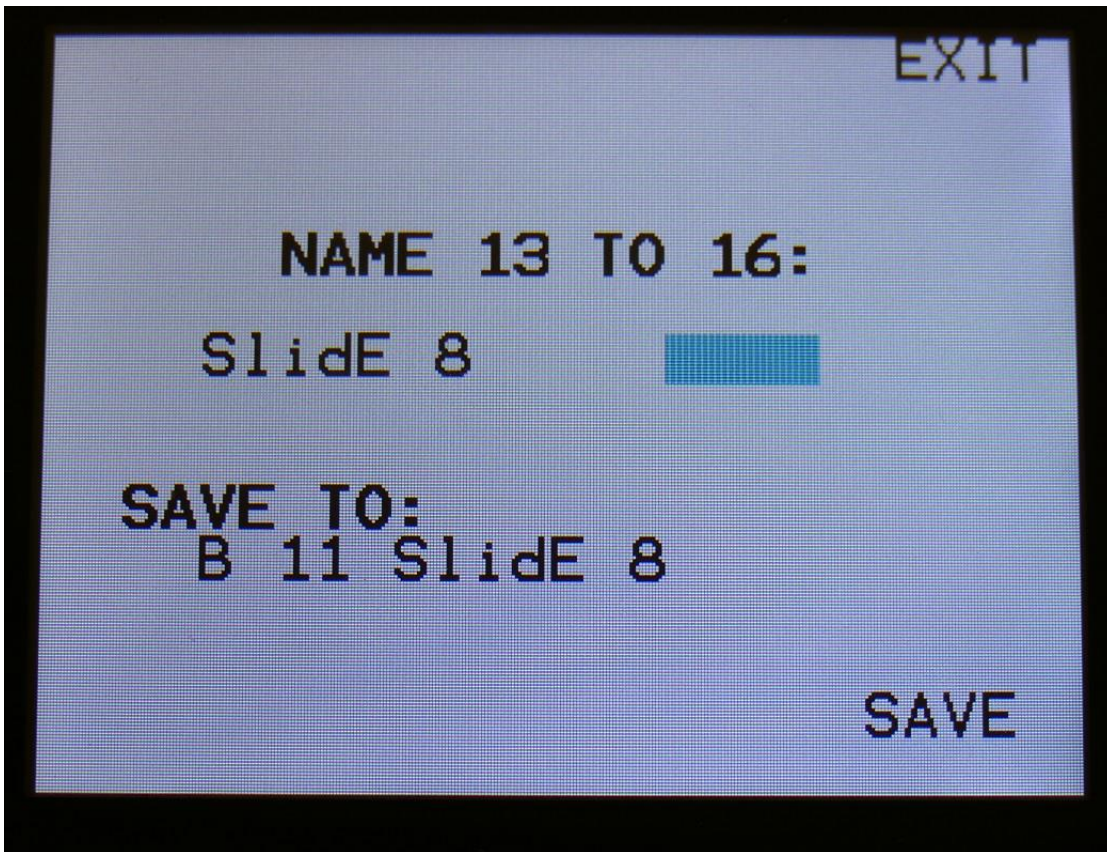
Turn edit knob 1 to 4 to select letters 13 to 16 of the name for your new preset.

Touch SAVE when you are done. Your preset will now be saved, and Xmini will exit from the save pages.

Song Mode

It is possible to arrange chained playback of Presets in 1024 Song locations.

Each Song can have up to 128 steps. For each Song step a Preset can be selected, and it can be set how many times track one of the preset should play back, until it advances to the next song step.

If the last step of the Song is set to "End", playback will stop, when the Song has played back the last preset. If the last step of a Song is set to "Loop", it will jump back to step 1, and continue playback, after the last preset has played.

Songs can be realtime recorded, simply by hitting the "Rec" button on the song main page and then the "Play" button, and select the presets you want in your song.

Songs can also be recorded/edited by putting the Preset numbers and number of times to play back, into a list.

Any presets can be used in any songs.

In song mode you still have access to edit all preset synth parameters, in the currently playing preset, but you can't immediately save any changes you make, since in song mode, you can only save the song.

Accessing Song Mode

If you would like to make a new song from scratch, it can be a good idea to select the preset you would like to have on the first song step, from the preset select page, before you enters song mode. This is not something you have to do, I have just experienced, when testing this, that it makes things a bit easier. When you select a non-recorded empty song, the last selected preset will automatically be placed on song step 1.
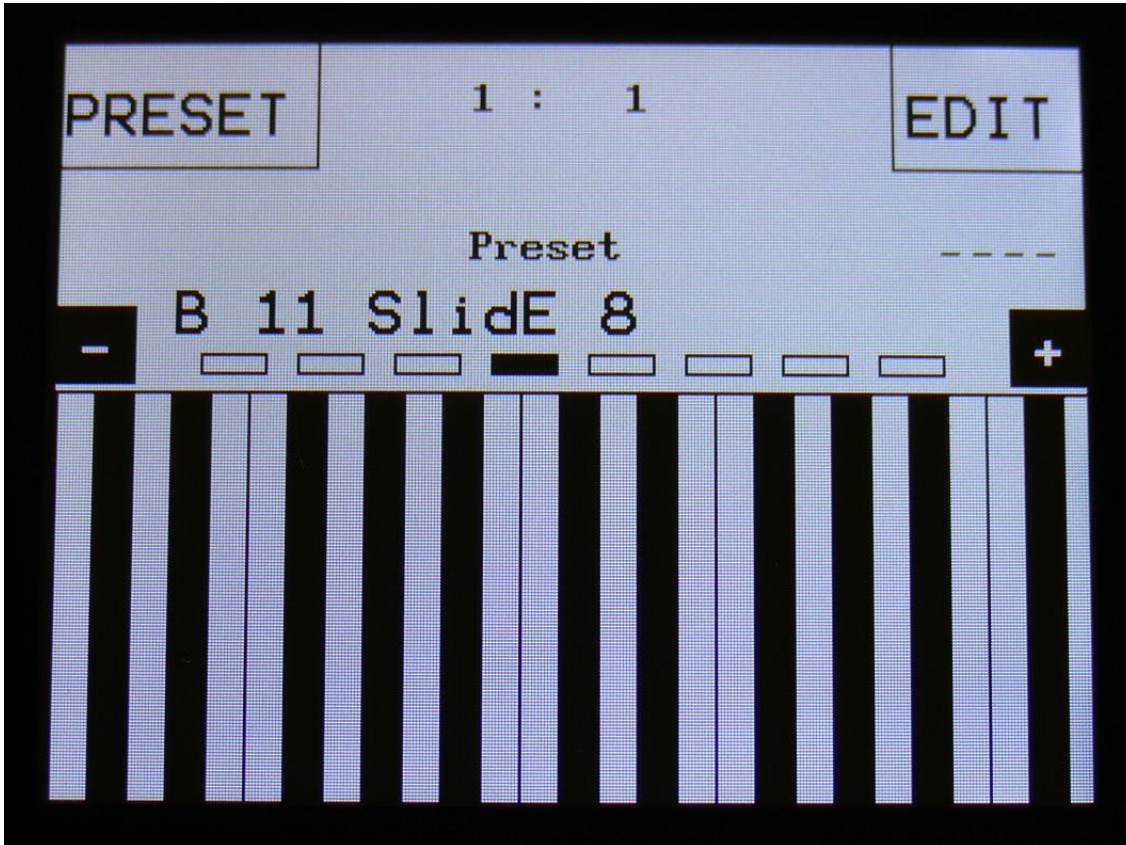
From the Preset Select page, hit the EDIT field.

On the navigation bar at the top of the screen, touch MOR...

| SYN | SEQ | SMP | SAV | USB | MOR | ESC |

COMMON	COPY		C.P.
MORPH	VCF TYPE		PRS
	FLASH	
CVin	DEL SmpA	
CVout	DEL SmpB	
INIT	DEL Prs	
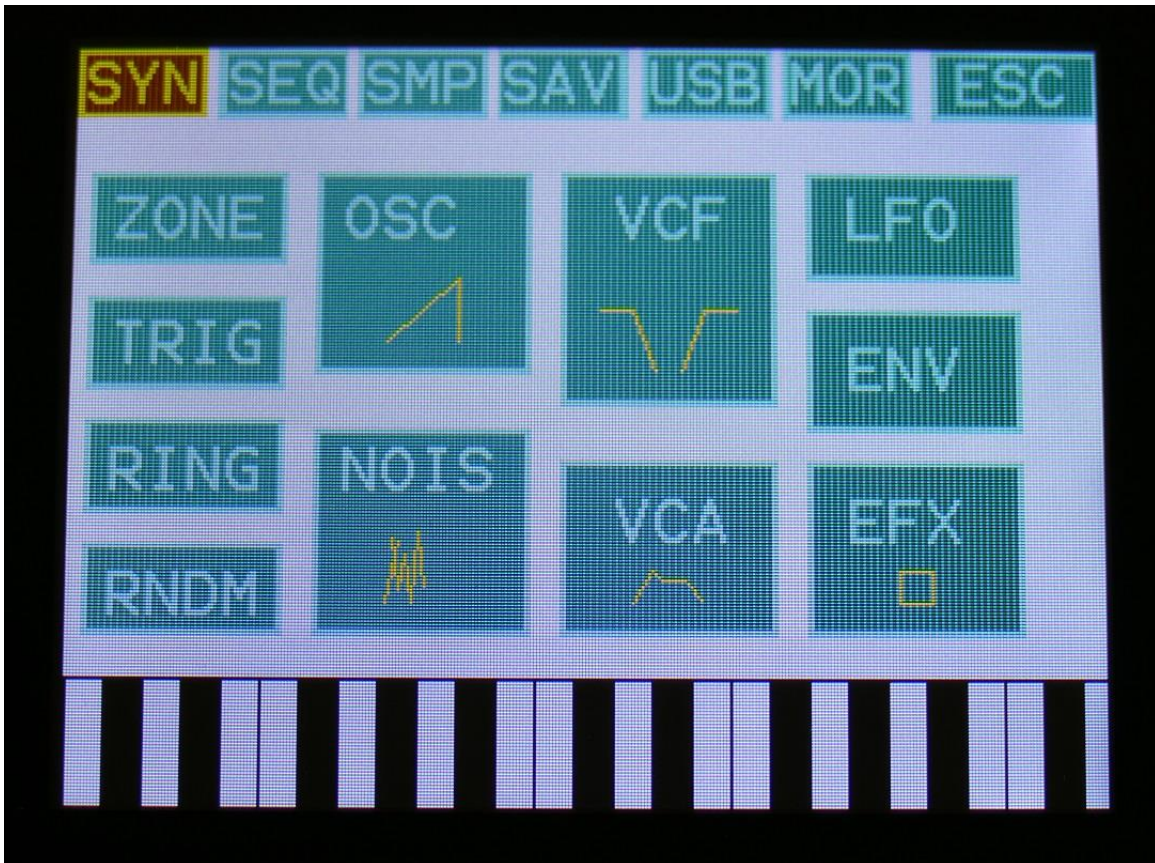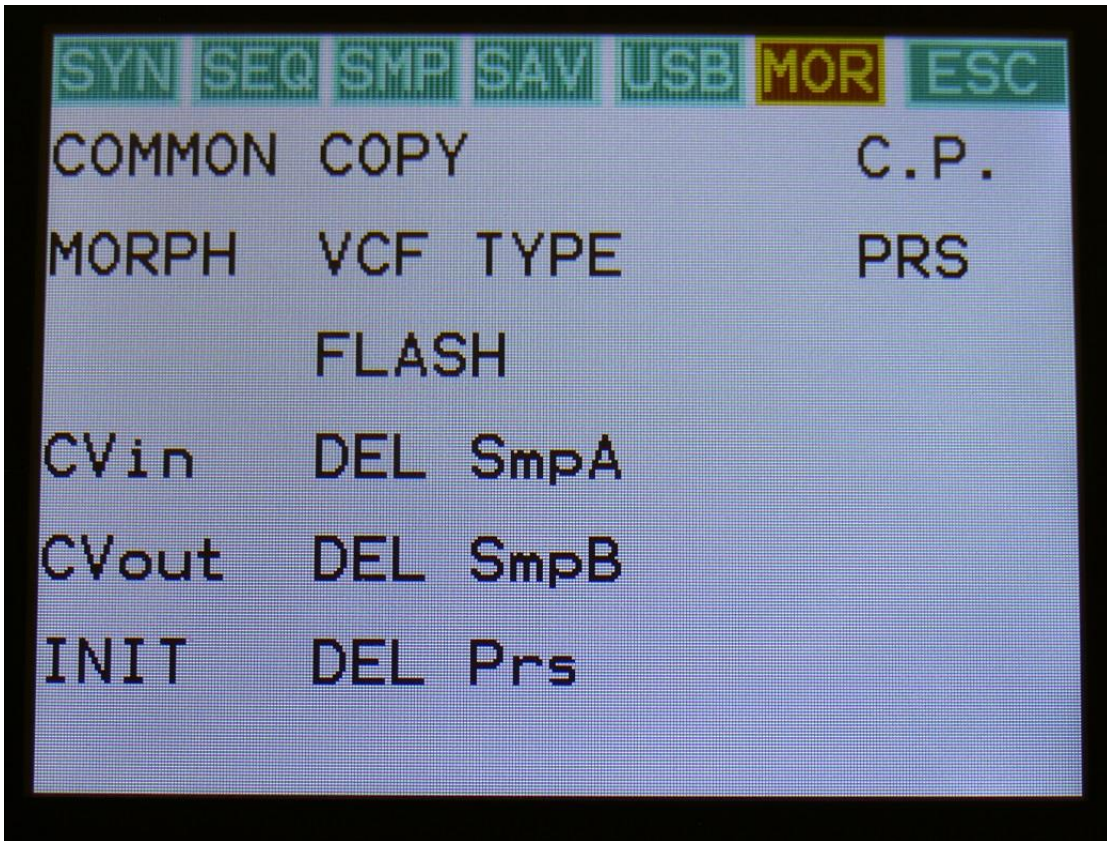
In the far right row, you will find the text PRS. Please hit this, after making sure, that the sequencer is stopped.
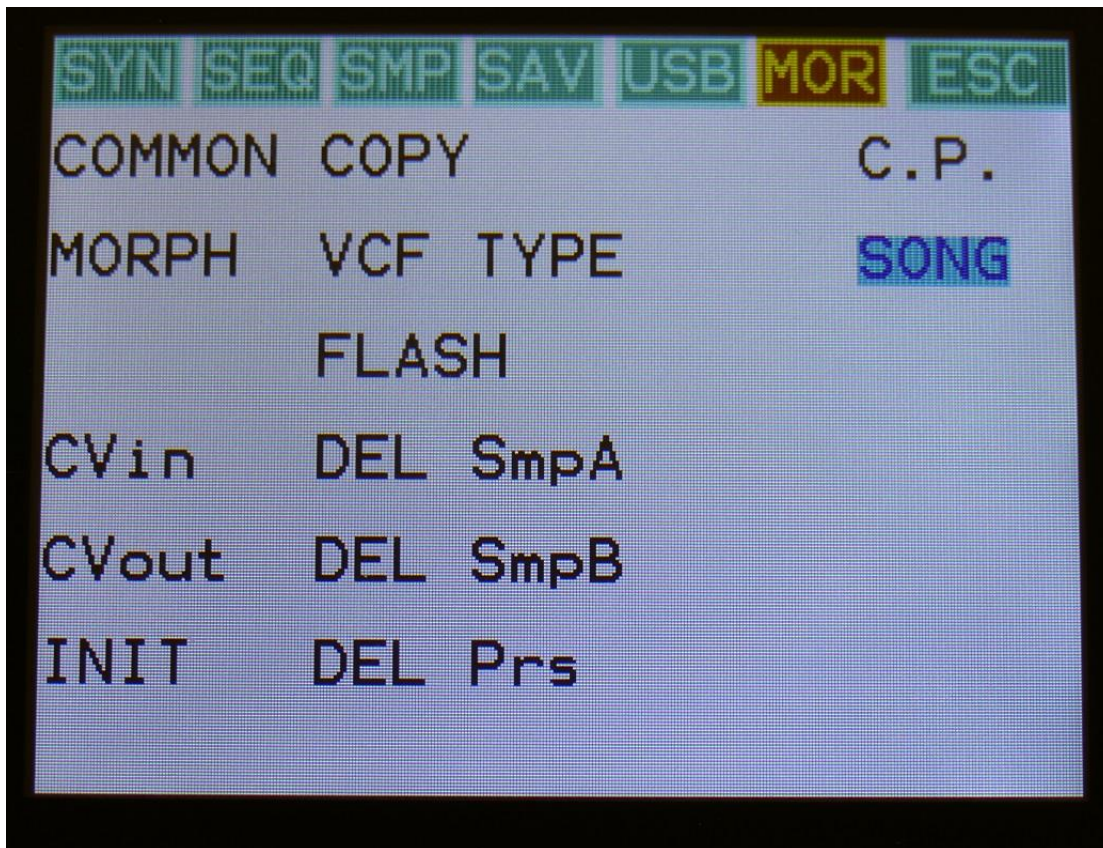
Now PRS turns into SONG, and Xmini are in song mode. If you would like to go back to preset mode, just touch SONG.

The Song Edit Page

To enter the Song Edit page, just touch SEQ on the navigation bar at the top of the More… page:
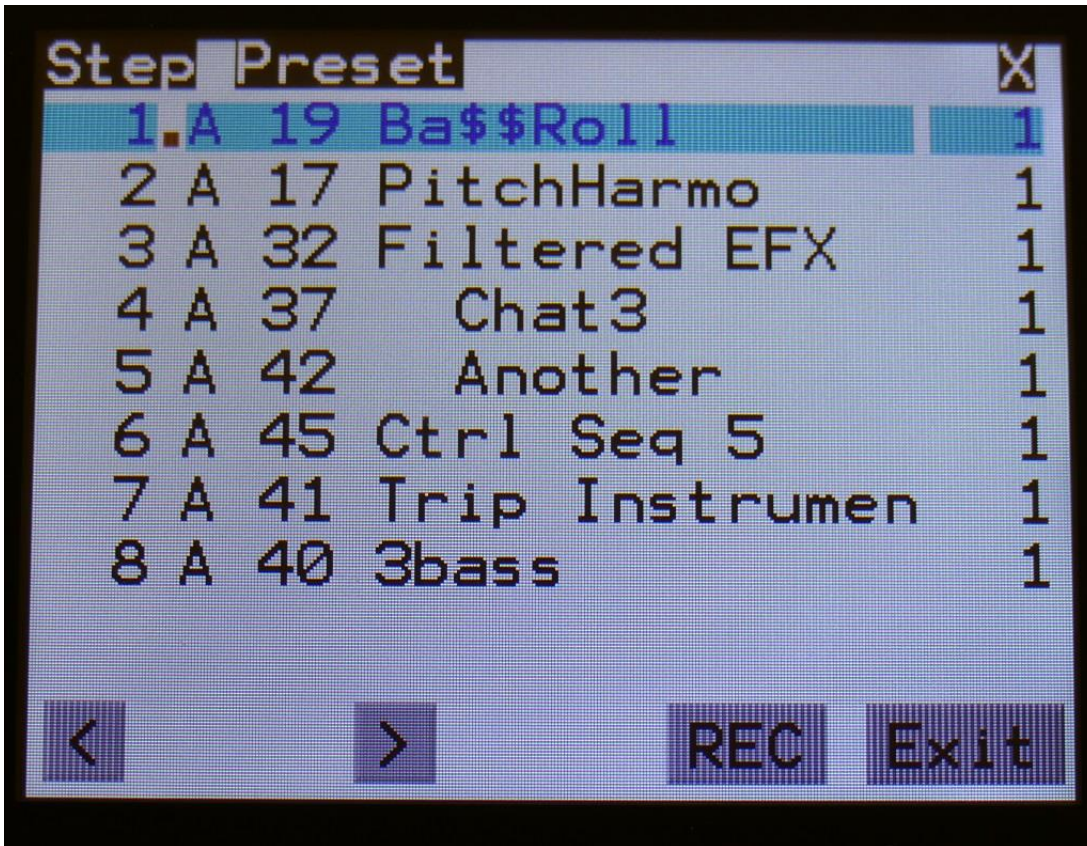
On the Song Edit page, you have an overview of the programmed song steps, and the possibility of editing these.

By touching any of the song steps, you can select this step for editing. The selected step is shown, boxed in blue. The little brown square between the step number and the preset name, is showing what song step is currently being played back.

For each song step, the song step number is shown, the preset number and name, and the number of times track 1 will play back (under the X).

To edit a song step, turn edit knob 1 to select <End>, preset bank A to P, or <Loop>. <End> will make song playback stop, when it reaches that step, <Loop> will make it jump back to song step 1, and start all over again.

Turn edit knob 2 to select the preset number, and edit knob 3 to select the number of times, you want track 1 to play back, for that step.

8 song steps are shown at a time. Touch the arrows to select the previous or next 8 song steps. The total number of song steps is 128.

Touch EXIT to exit from the Song Edit page, and touch REC to start song realtime recording. This will be explained very soon.

The Song Select Page
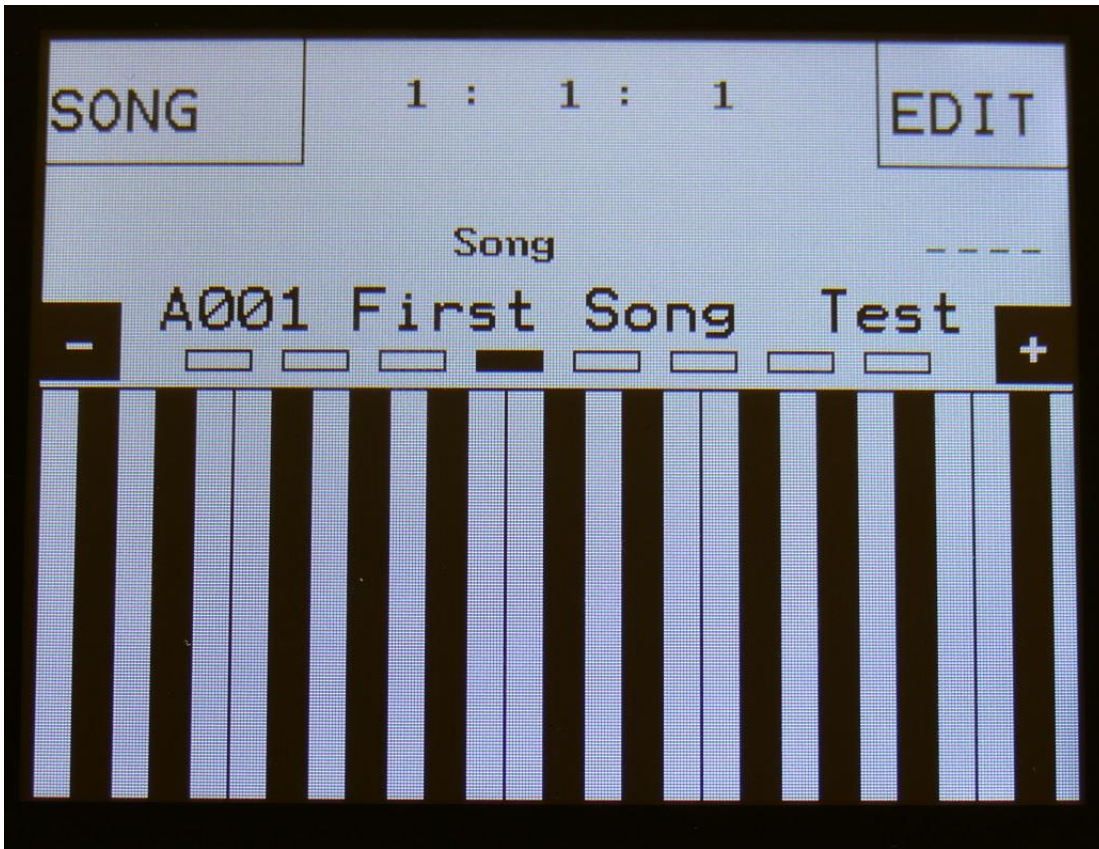
When you, in song mode, exit from the Edit Groups page, you will exit to the Song Select page, instead of the Preset Select page. This reads out "Song" just above the song number and name, instead of the "Preset" that it reads out on the Preset Select page, to make sure that you know where you are.

On the top of the Song Select page, you might have noticed, that the sequencer position ruler has gained an extra digit. The first digit of this now shows the song step number, that is currently being played back. The 2 other digits is still showing the bar and the beat of the preset, that is currently playing back.

Other changes to this, compared to the Preset Select page, are that the field in the upper left corner, that was used to select preset with, now has been renamed to SONG, and is used to select song with. It is only possible to select another song, while the sequencer is stopped.

Besides from these changes, everything is the same as in preset mode. You can still edit the synth parameters of the currently playing preset.

Selecting a song:

Make sure that the sequencer is stopped.

Touch the "SONG" field. A list of 5 songs near the currently selected song, will now appear:
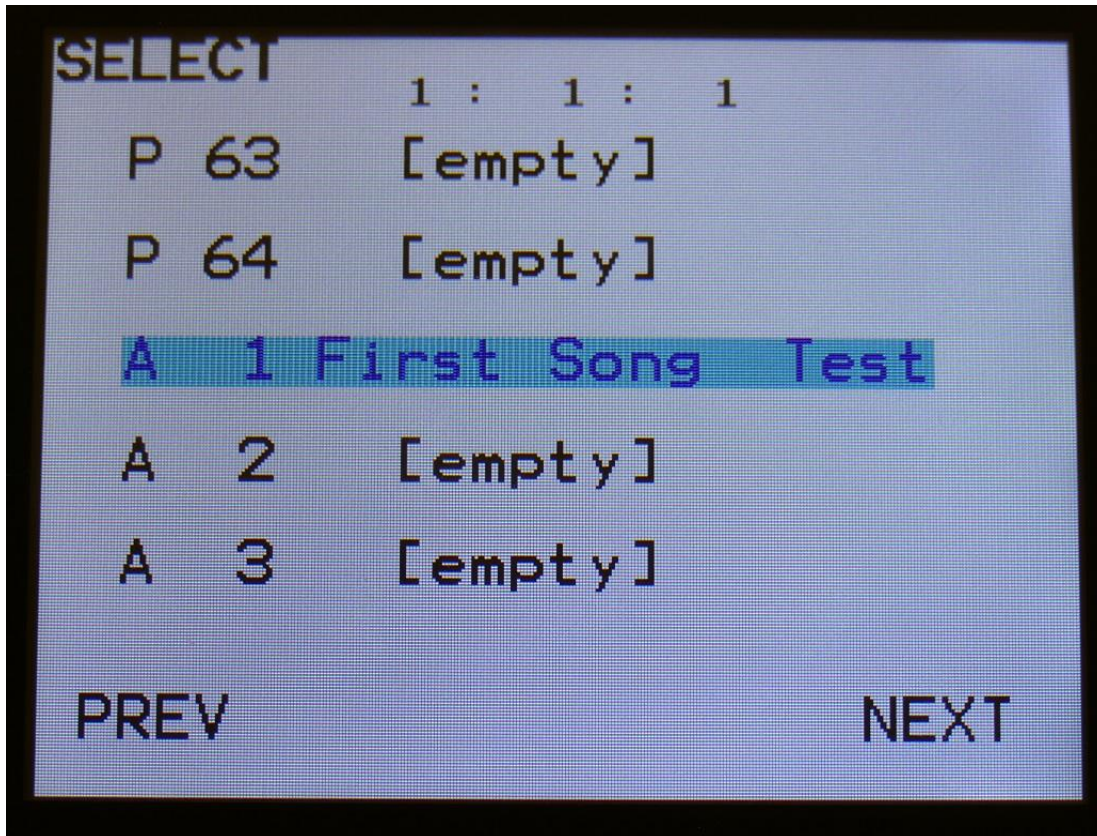
Touch "PREV" or "NEXT" to view the previous or next 5 songs, and finally touch the song name of the song you would like to select. 1024 songs can be selected, from A01 to P64.

Xmini will now jump back to the main Song Select screen, and show the name of the newly selected song.

When Xmini is turned off, it will remember which song was selected, and start up with this, when turned on again. It will also remember if it was in preset or song mode, and start up in the same mode.

On the Song Select page, the 7 Edit/Quick Edit Knobs will transmit MIDI CC's to Xmini's MIDI out, on the Xmini MIDI channel.

Edit Knob 1 to 4 will transmit MIDI CC 1 to 4.

The Morph knob will transmit and receive MIDI CC 11.

The Cut knob will transmit and receive MIDI CC 10.

The Reso knob will transmit and receive MIDI CC 9.

Song Realtime Recording
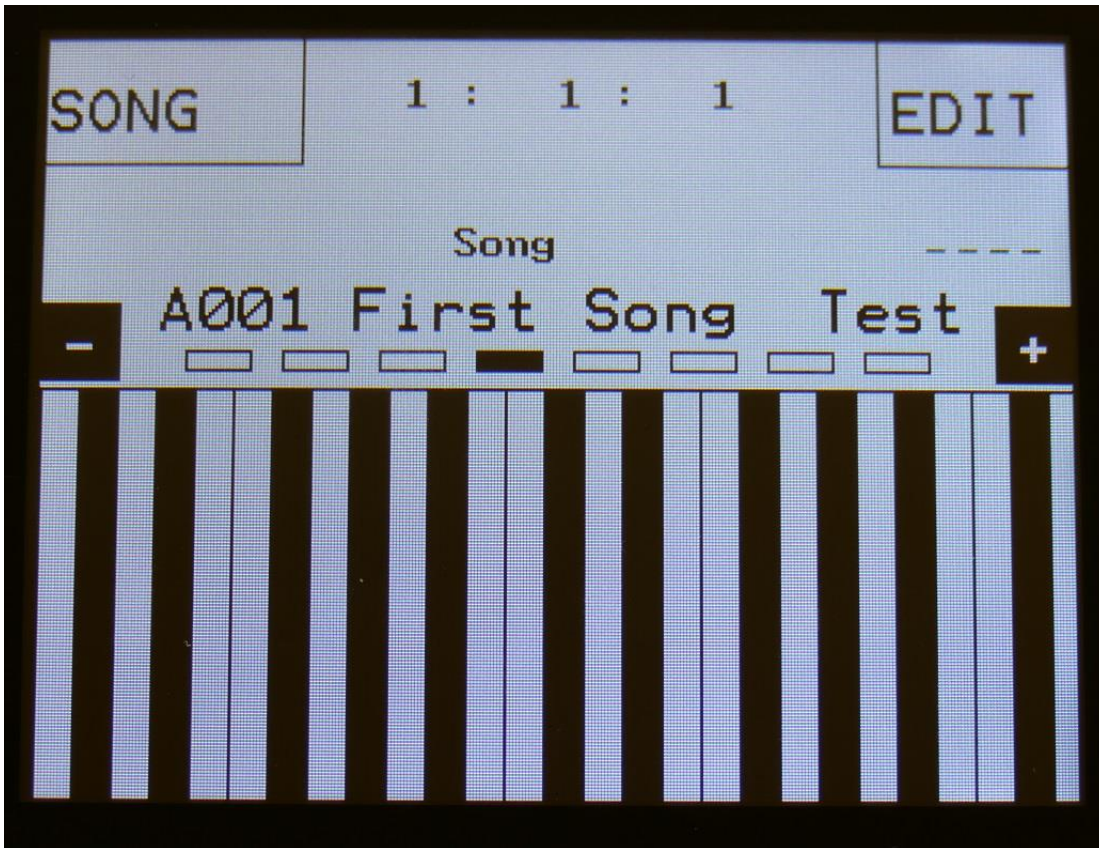
On the Song Select page, select the song you would like to record. 1024 songs are available, from A00 to P64.

Now go to the song edit page.
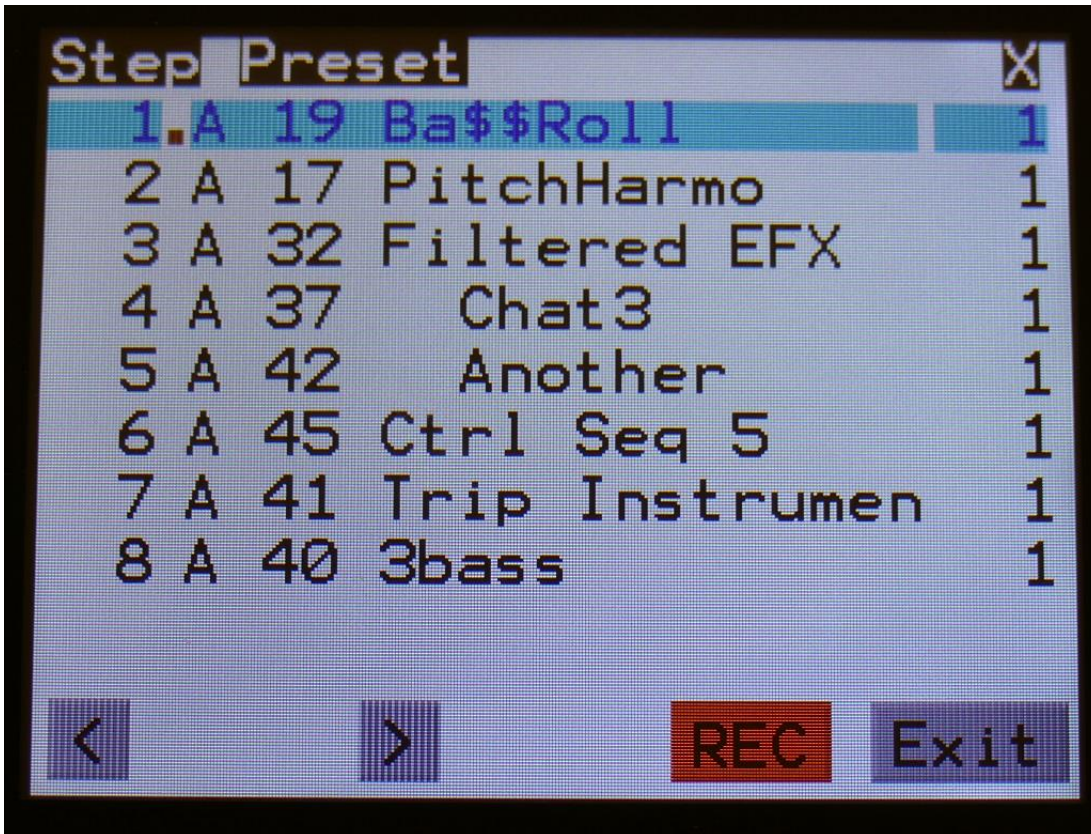
Make sure that the sequencer is stopped, and push the **"REC"** button, so it turns red.

Now exit to the Preset/Song select screen.
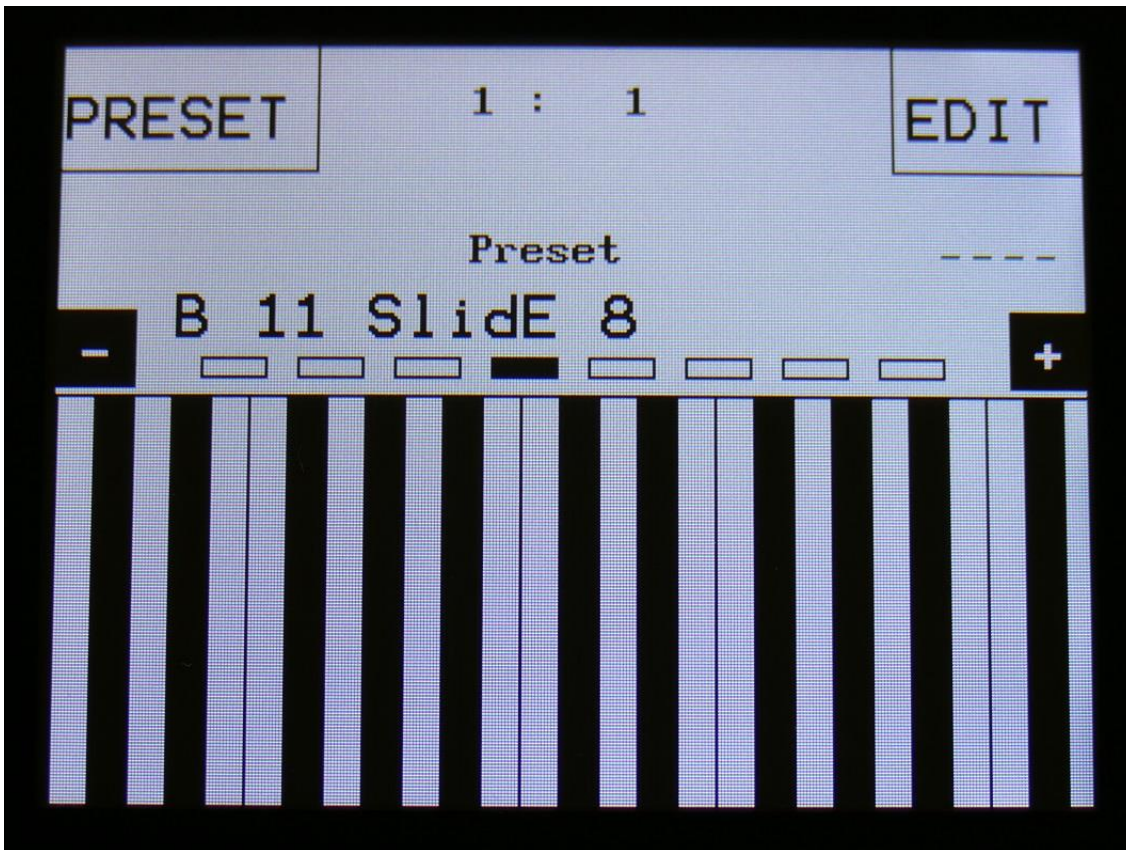
Xmini will now show the Preset select page.

If you selected an empty song, the last preset you selected, before you jumped to song mode, will be shown. If you selected a song that was already recorded, the preset on the selected step of this song will be shown.

Now, if the shown preset are the preset you would like to have on step 1 of your song, you can proceed recording your song, by pressing the Play button.

If you would like another preset on step 1 of your song, please select this, using the preset select field, and then push the Play button, to start the recording of the song.

The preset you selected will now start to play back.

From here you can now select other presets, at the time you want these to play back in your song.

Preset changes will only be registrered and recorded, when track 1 of the currently playing preset reaches its end and starts over. When the changes has been registrered, the song step number in the position ruler will increment by one.

When you are done changing presets, and you think that your song is ready, hit the Play button to stop song recording.

Go back to the song edit page, and touch the REC button, so it turns grey again, to exit from song realtime recording.
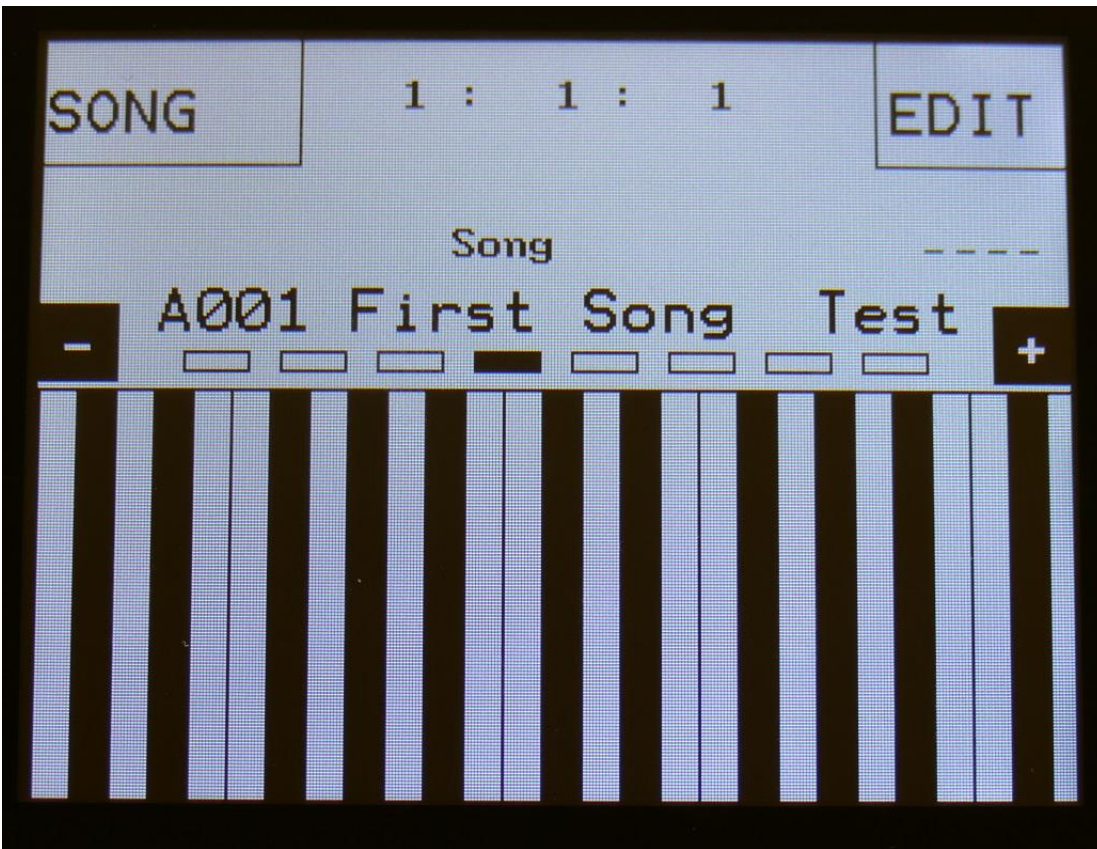
To listen to the song you have just created, just hit the Play button.

If there are anything you would like to edit, go to the Song Edit page, as described earlier.

If you would like to keep your work, you should save your new song.
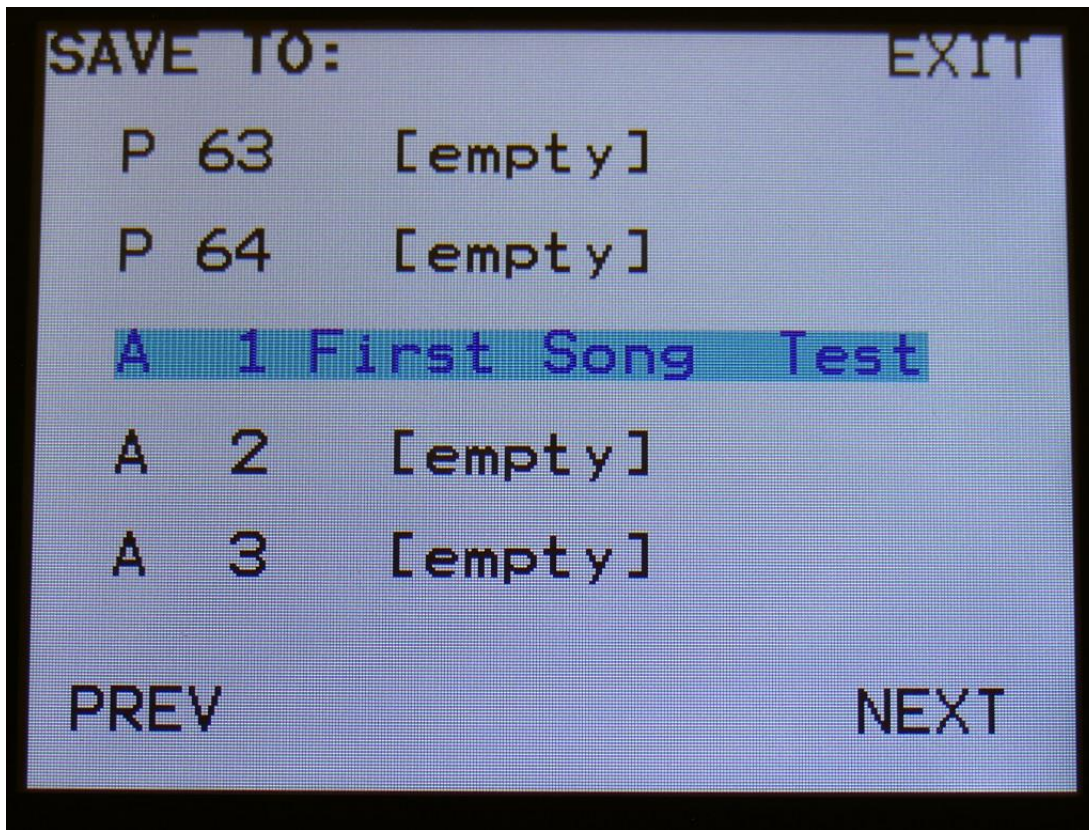
Save Song

Xmini songs are not saved within the presets, so they must be saved separately. To do so, when in song mode, from the song select page, touch the EDIT field to enter the Synth Modules page:

Touch SAV.

You should now enter this page:


```
SAVE TO:                    EXIT

   P 63     [empty]

   P 64     [empty]

   A  1 First Song   Test

   A  2     [empty]

   A  3     [empty]


 PREV                       NEXT
```
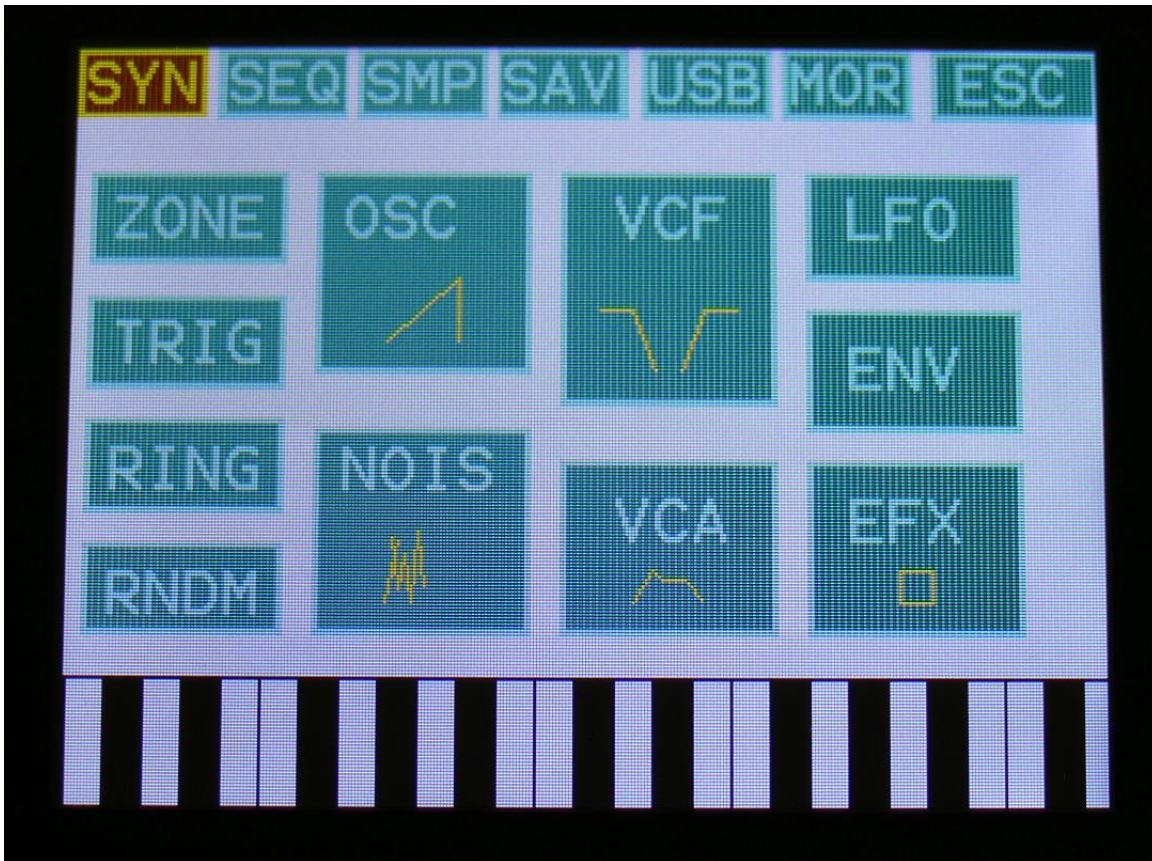
Touch the song location that you would like to save your new song to. If it is not shown, touch PREV and NEXT to reach it.

Song number and name is shown for songs that are already saved. If you save your new song on such a location, the old song will be overwritten. On song locations, where a song has not yet been saved, the name will be shown as "<empty>".
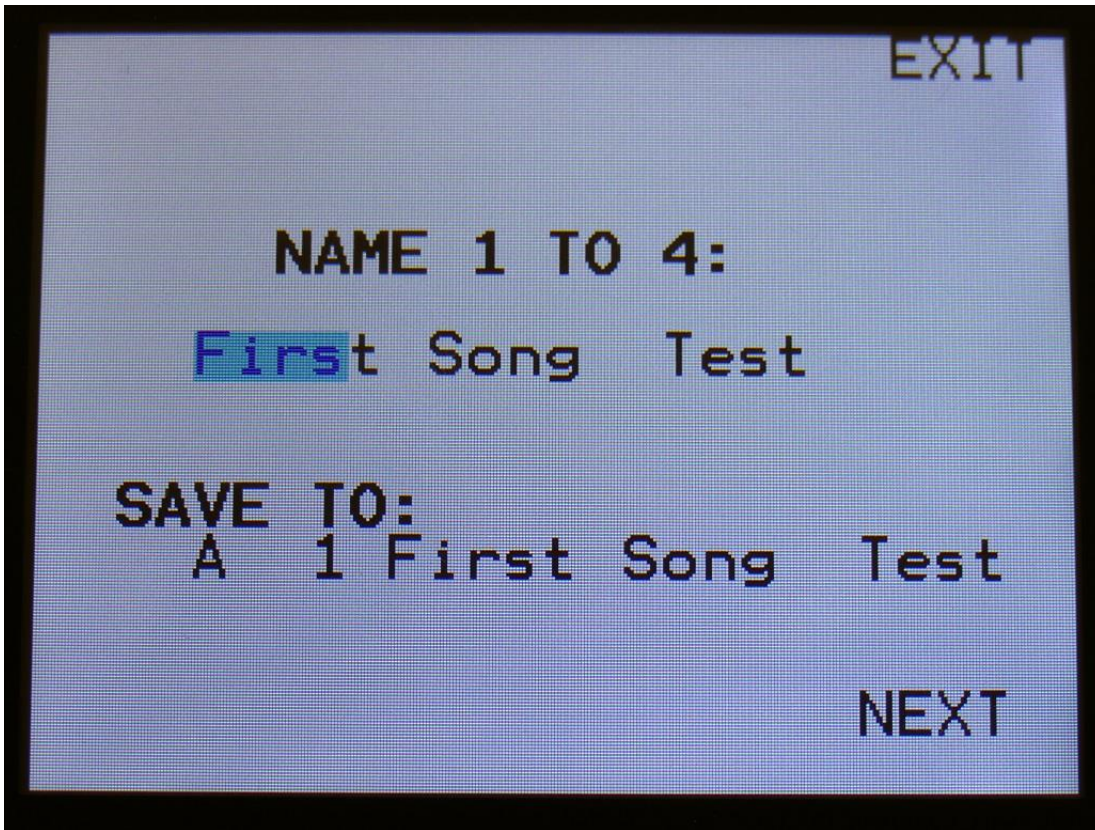
Turn edit knob 1 to 4 to select the first 4 letters of the name for your new song.

Touch NEXT when you are done.
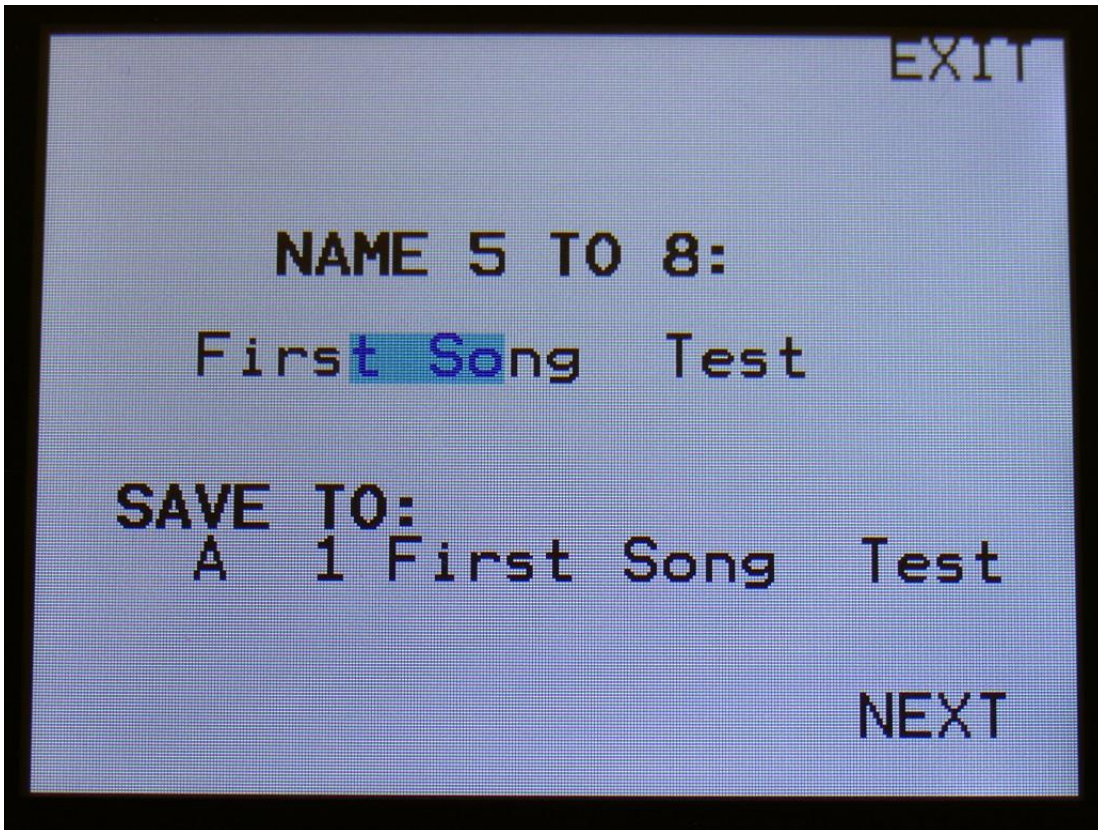
Turn edit knob 1 to 4 to select letters 5 to 8 of the name for your new song.

Touch NEXT when you are done.
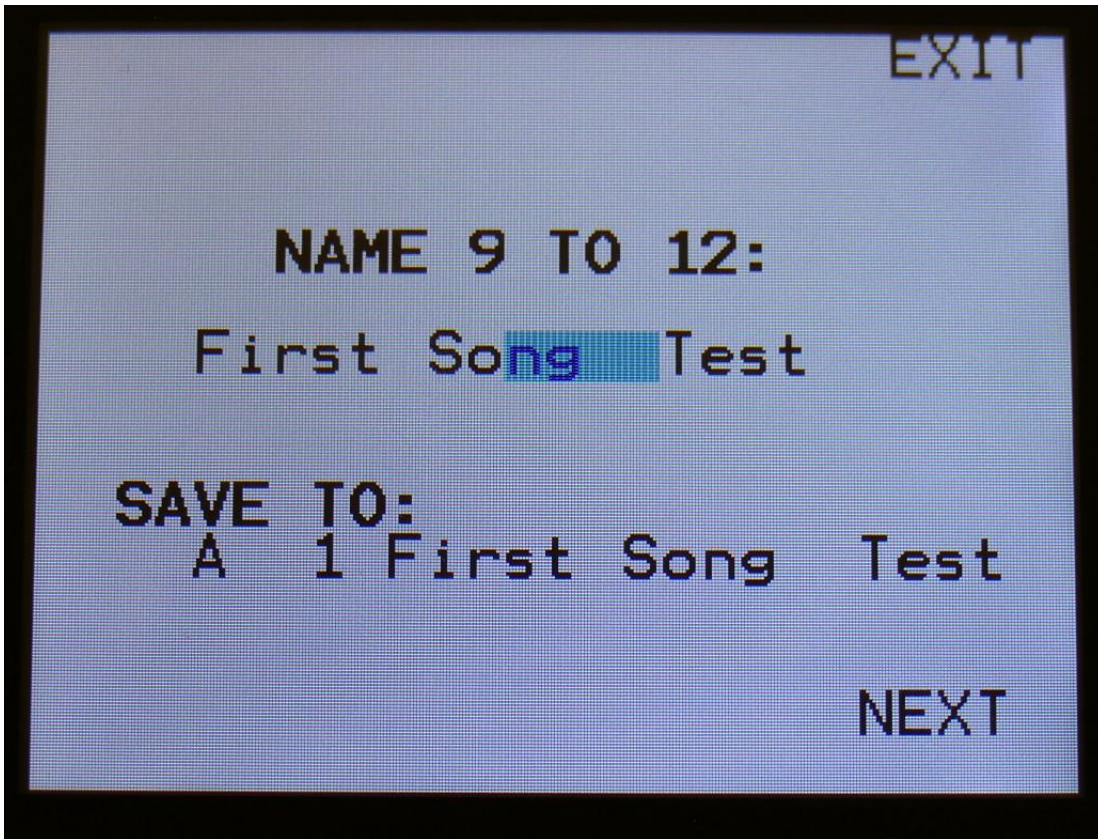
Turn edit knob 1 to 4 to select letters 9 to 12 of the name for your new song.

Touch NEXT when you are done.
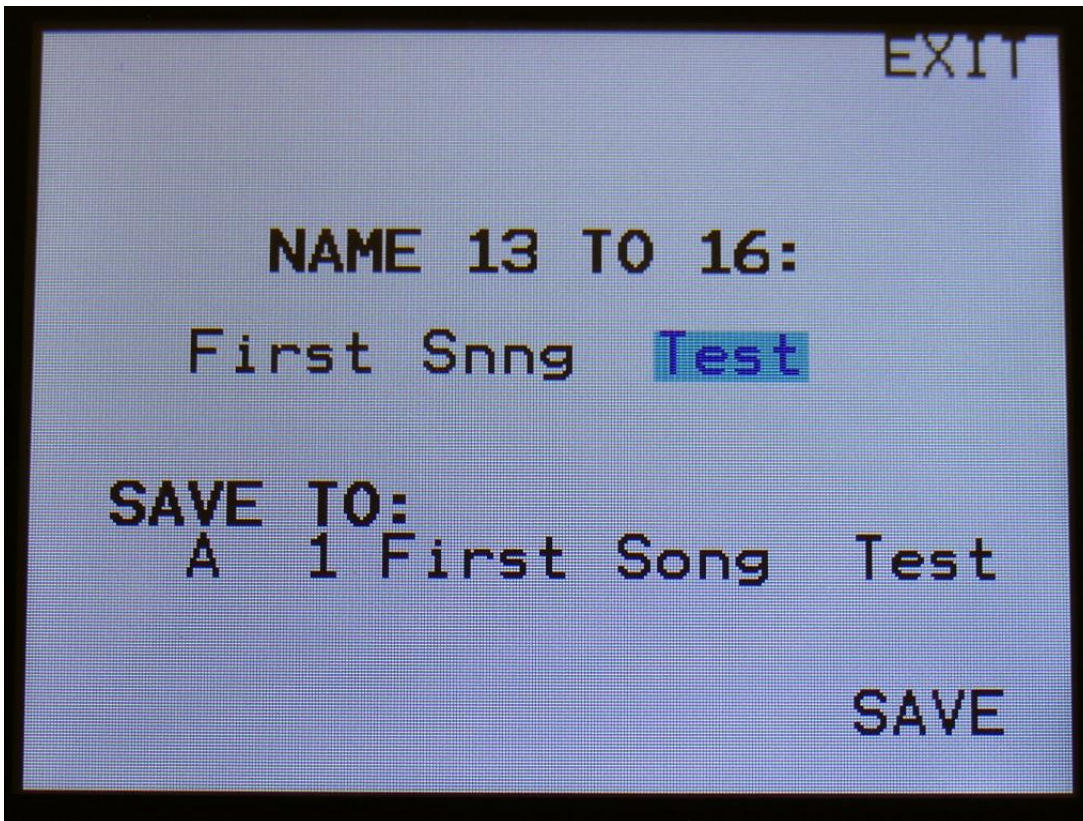
Turn edit knob 1 to 4 to select letters 13 to 16 of the name for your new song.

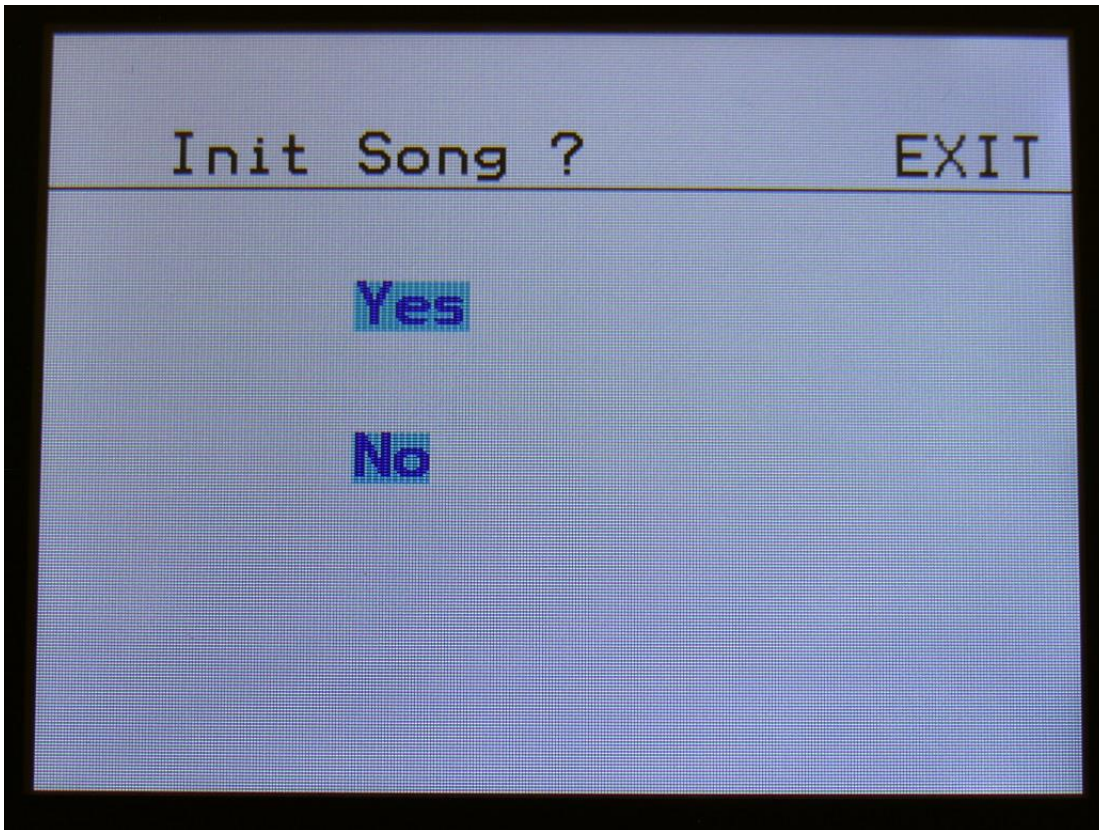Touch SAVE when you are done. Your song will now be saved, and Xmini will exit from the save pages.

Initializing a Song

If you would just like to start all over with an empty song, it is possible to initialize it.

To do so, in song mode, access the More.. page:
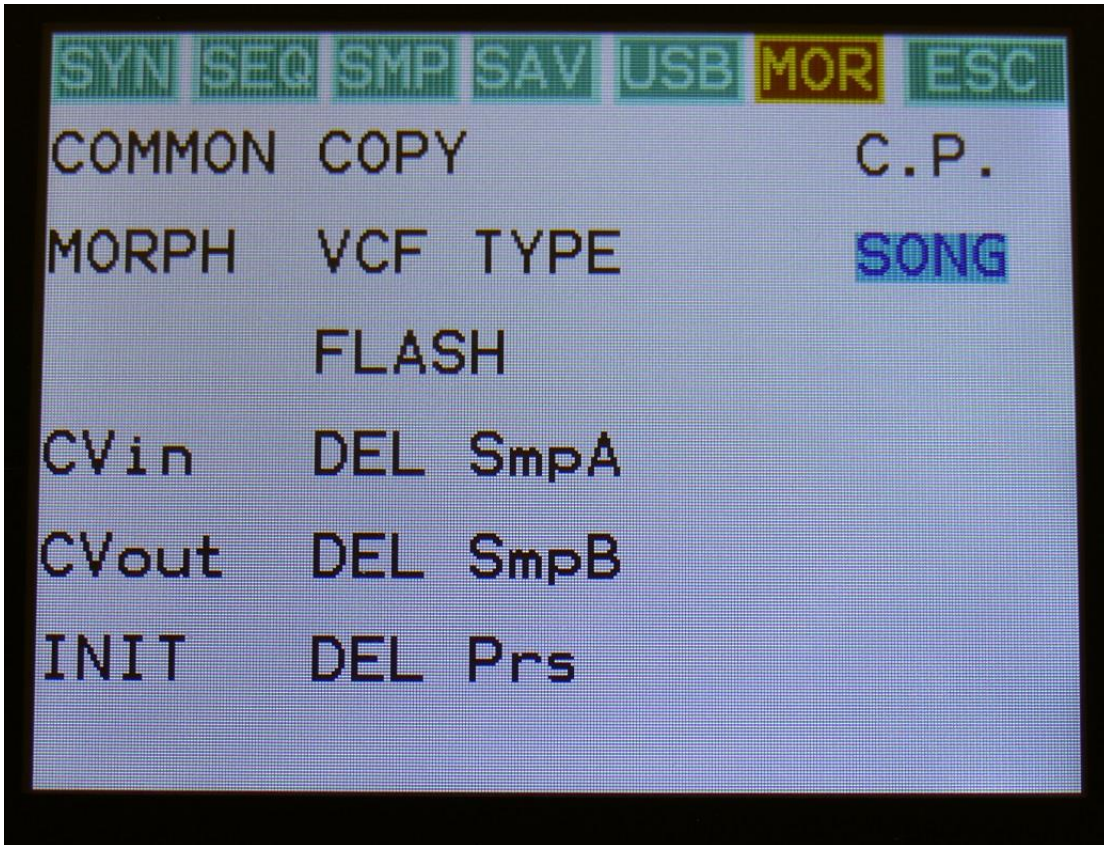
From here, hit INIT.

Xmini will now ask you to confirm.

Press "Yes" to initialize the currently selected song and return to the previous page, or press "No" just to exit, without initializing.

Please notice, that when initializing a song, this is only done in Xmini's temporary song RAM, NOT on the FLASH memory, so if you did this by mistake, or you regretted doing it, you can always recall the song, by selecting another song, and select this again. Then nothing will be lost. It is not until you save the song, that permanent changes is done.

Sample Record and Edit

To get samples into Xmini, for using them in the synth section samplers, you can either import .wav files from a USB drive, or record your own samples from Xmini's audio input or output. This section will describe the latter. For how to import .wav files, please see the USB section of this manual.

Xmini has 2 banks of FLASH memory for storing samples, Bank A and Bank B. Bank A holds up to 10 minutes of samples, maximum 128, and Bank B holds up to 12 minutes of samples, maximum 128 – A total of 256 samples/22 minutes. One sampling can maximum be 12 minutes long.

All samples that are imported or recorded, stays in Xmini's FLASH memory, even after a power off. Since they are played back directly from the FLASH memory, there are no loading times. All Xmini's samples are immediately available, right after power on, and can be selected in the synth oscillator section, just like synth waveforms.

From the Preset Select screen, touch the EDIT field, to enter the Synth modules page:
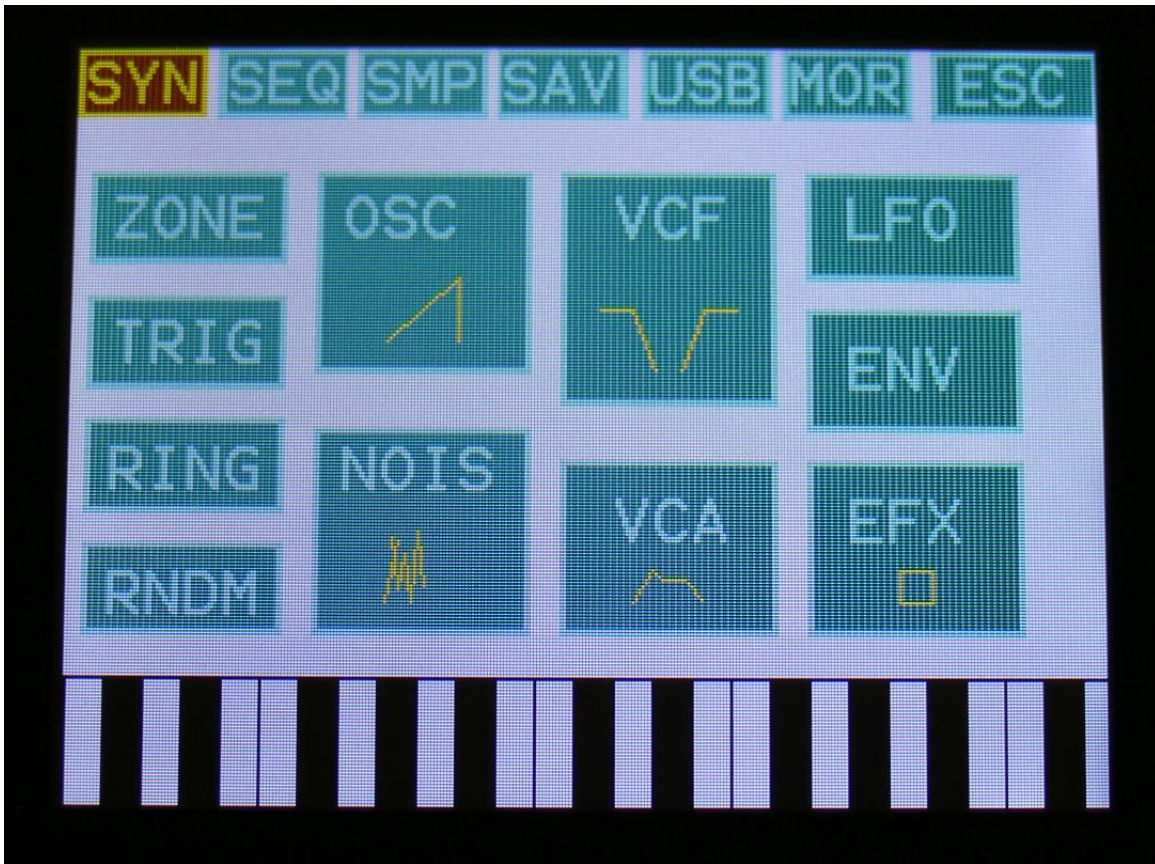
Touch SMP at the navigation bar.
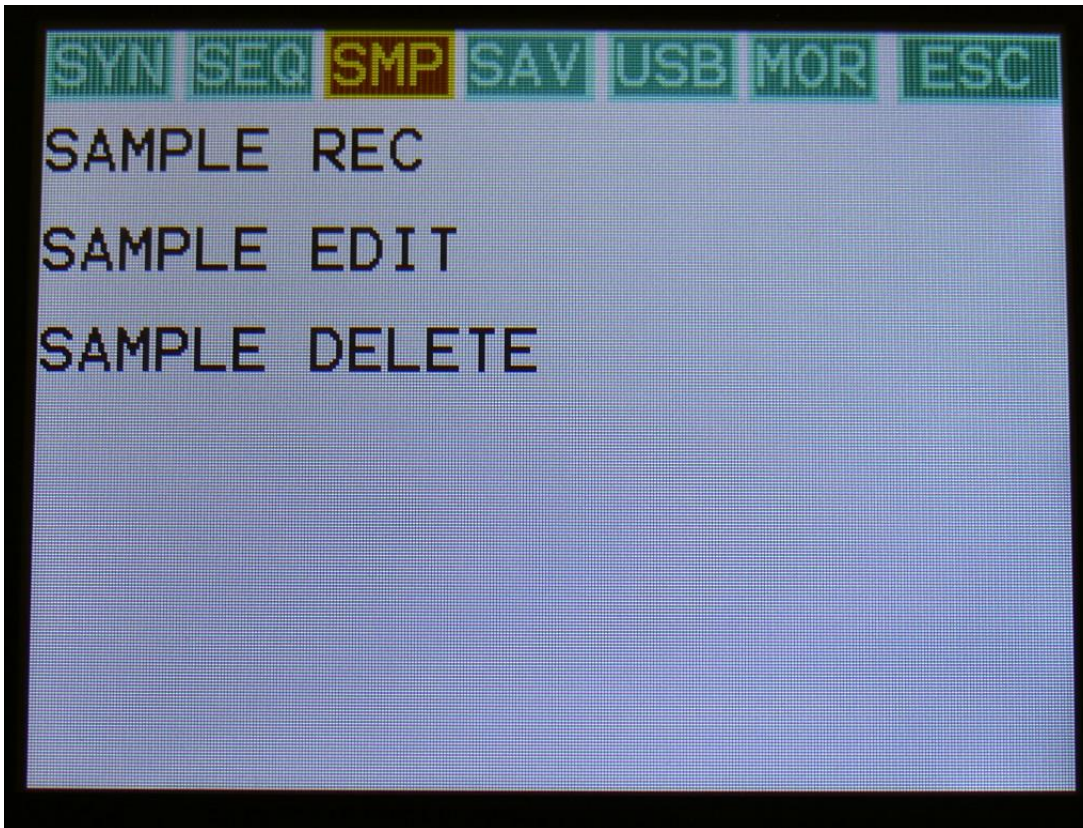
You will now enter the sample rec/edit menu.

From here you can go on to SAMPLE REC, for recording a sampling, SAMPLE EDIT, for editing start/end points and chop point, or SAMPLE DELETE, to delete the last recorded/imported sample.

Recording a sample

If you would like to record a signal applied to the audio input, you must first make sure, that this signal is routed to the Xmini audio output. Since the Xmini audio input is connected to its analog filter, the analog filter must be routed to the output. You can select the factory preset called "Audio Input", that your Xmini came loaded with, or you can route it yourself:

-Select VCA1, select VCF as an input, and turn the input level fully up.
-Turn the VCA1 Drone parameter fully up.
-Set VCA1 output level to 256.
-Apply the signal, and adjust the analog filter to some settings that you like.

Enter the Sample Rec page by touching SAMPLE REC from the previous page:
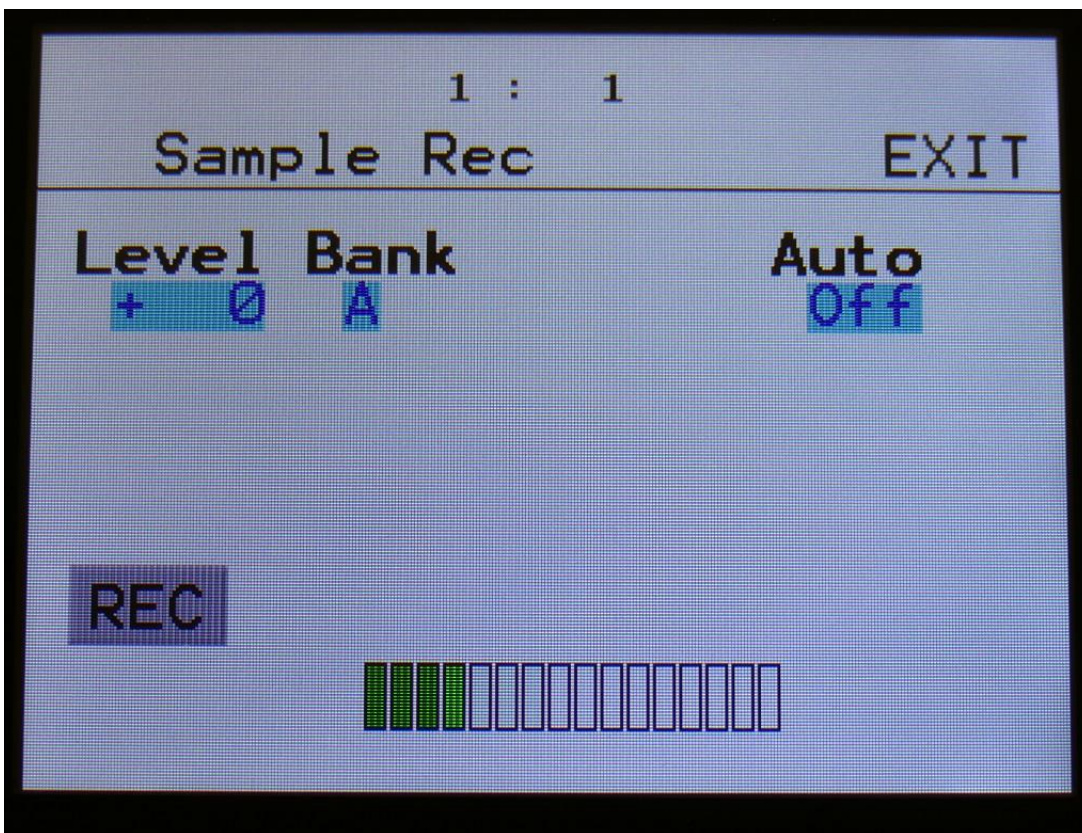
Turn Edit Knob 1, to adjust the recording level. Start by setting this to +0.

Apply the signal, that you wold like to sample. Watch the left VU-meter. Adjust the output level of the sample source (if possible), so the VU-meter is not standing too much in the upper red region.

You will get the best results, by having Xmini's Level control set to +0, and adjust the level of the sample source, on the source itself. You should only adjust Xmini's Level parameter, if it is the only possibility you have, or if the source is too weak.

It is possible to make the sample recording start automatically, when the source reaches a certain level. To make this happen, turn Edit Knob 4 to adjust the "Auto" parameter to any other value than "Off".

Turn Edit Knob 2 to select sample bank A or B as the destination bank for the recording.

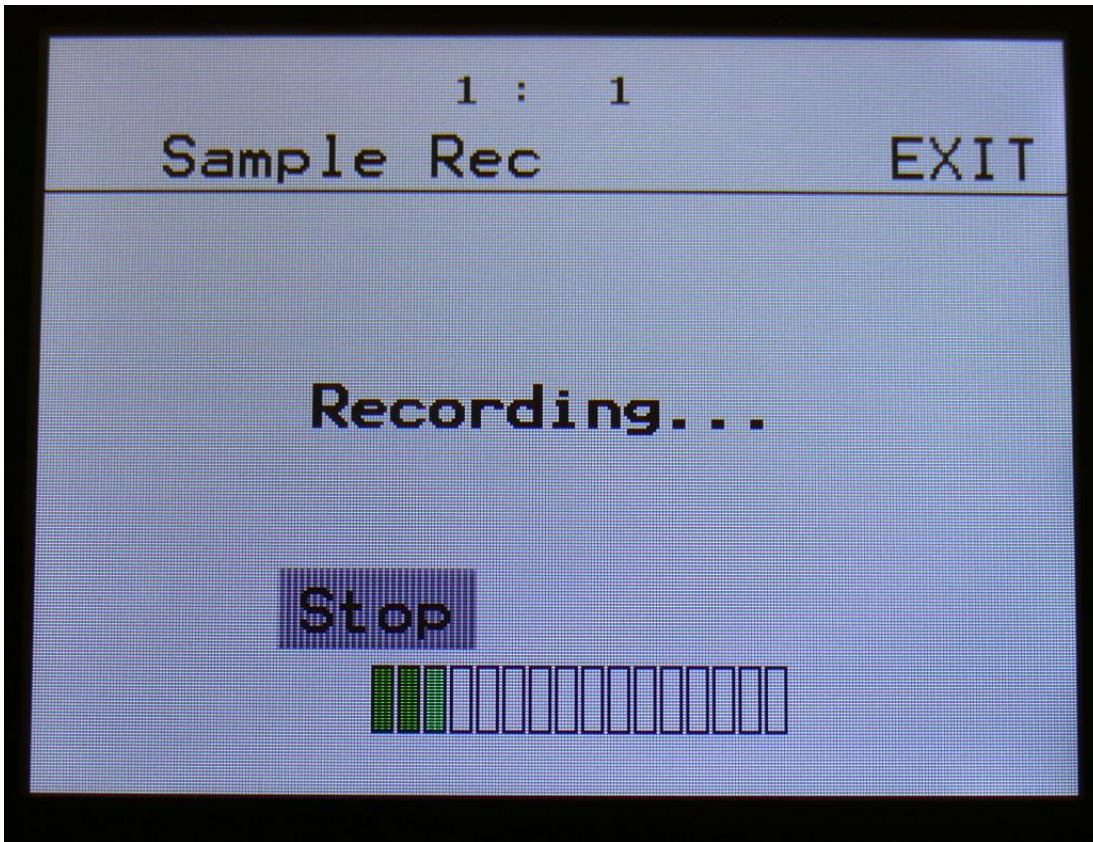When you are ready to record the sample, touch the "REC" button in the lower left corner.

If there are no more room for samplings in the selected bank, an error message will show:
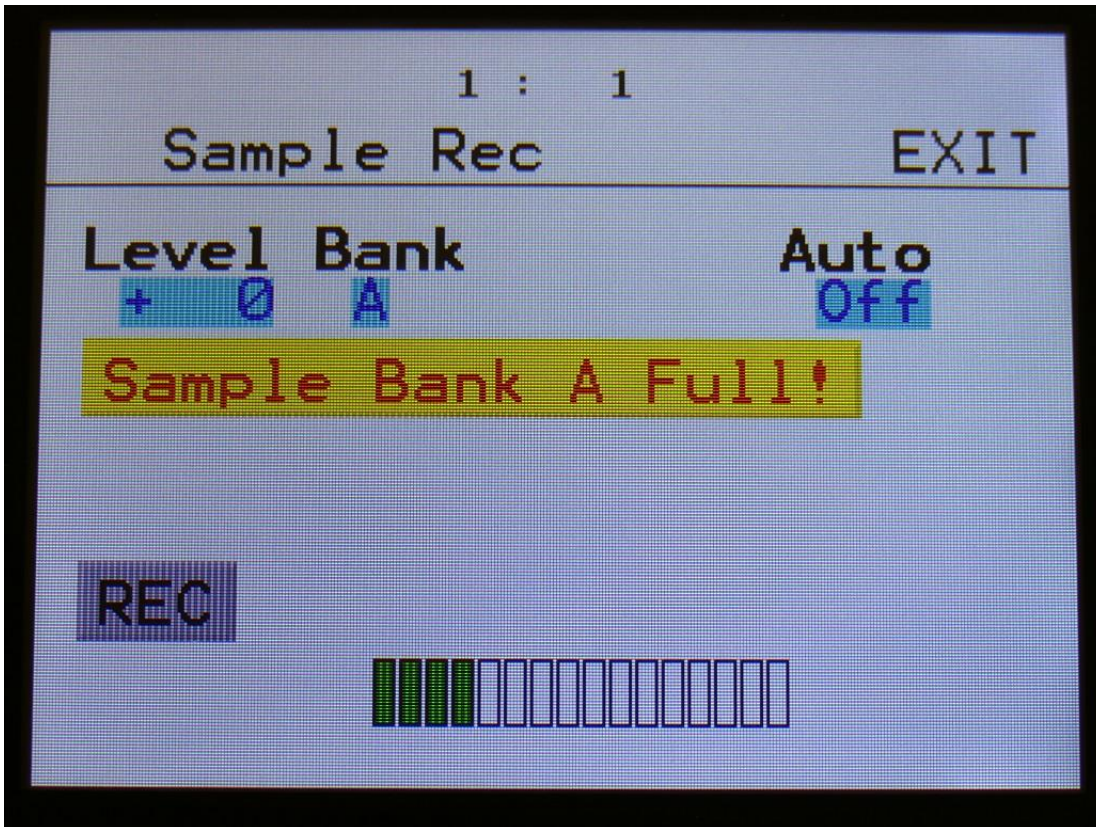
If it does, select the other sample bank, or if nescessary, back up some samplings to a USB drive, and delete them from Xmini, to make room for your new samplings.

If there are room enough for your new sampling, and if you have the Auto parameter set to anything else than Off, it will now write: "Waiting for trigger", until a signal that is loud enough to trigger the auto offset are applied.

Otherwise Xmini will now start to record the new sampling:

When you are finished recording your sample, touch the "STOP" button.

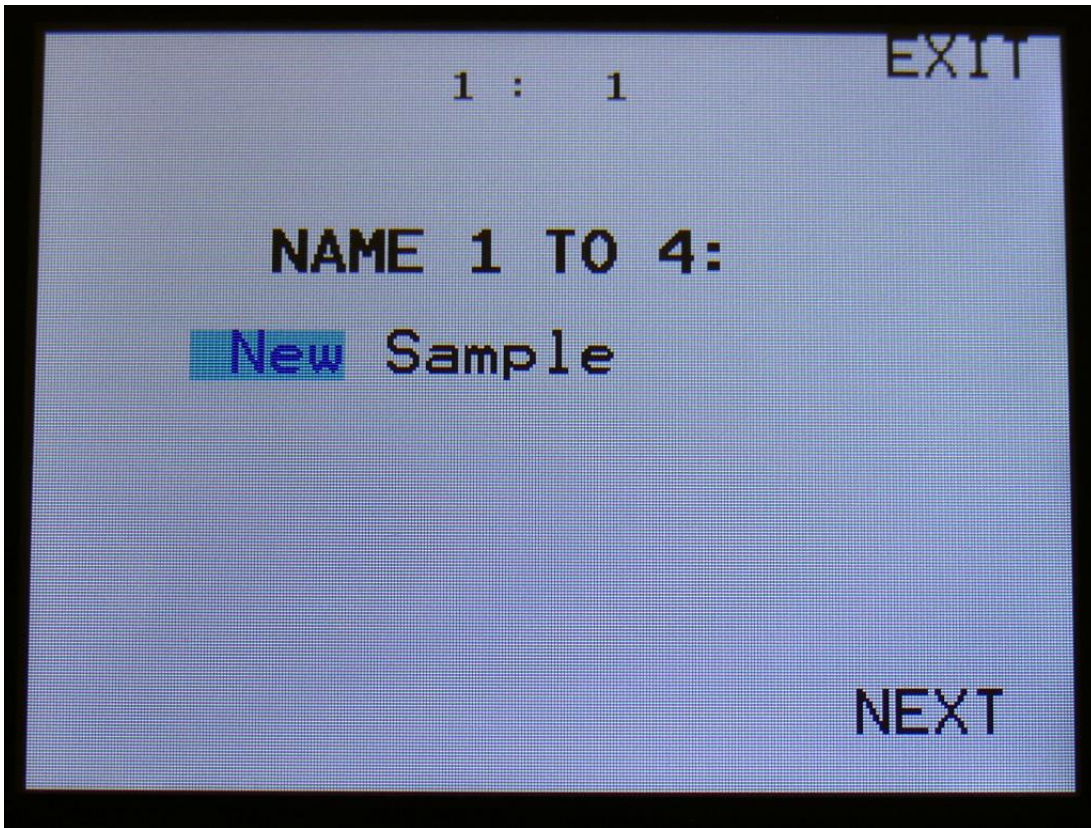Xmini will now jump to this screen:
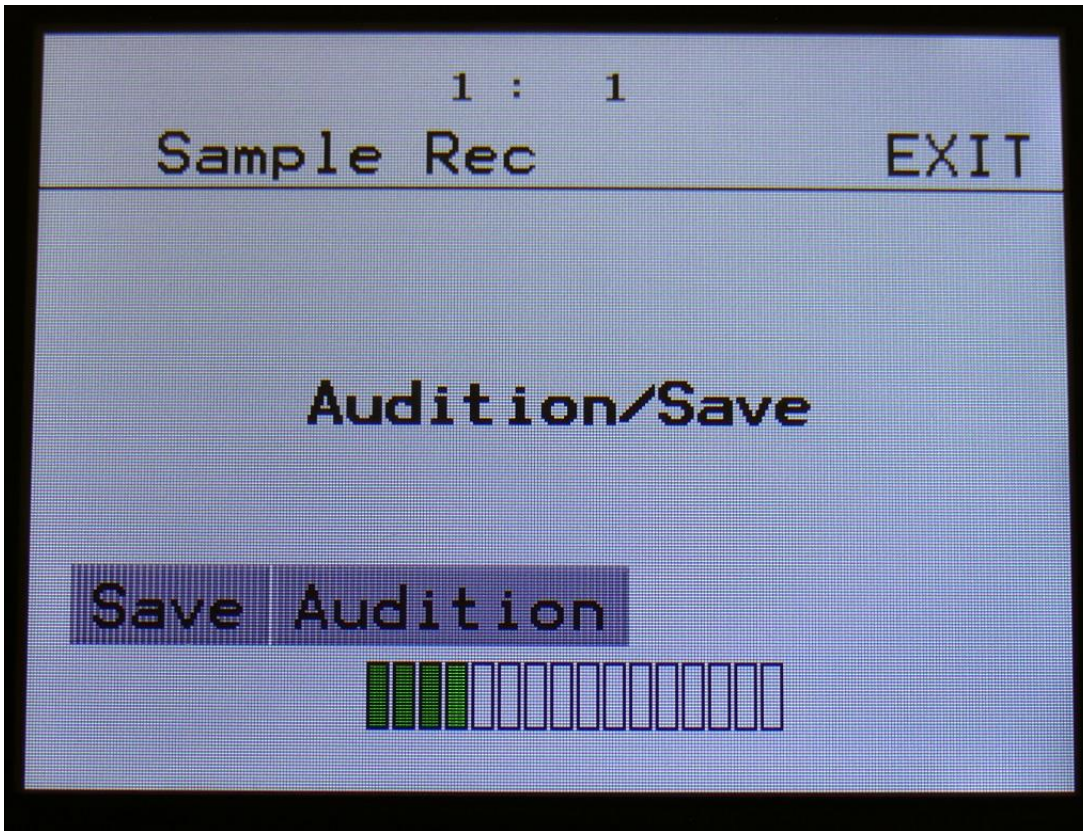
To audition the sample you have just recorded, touch the "Audition" button.

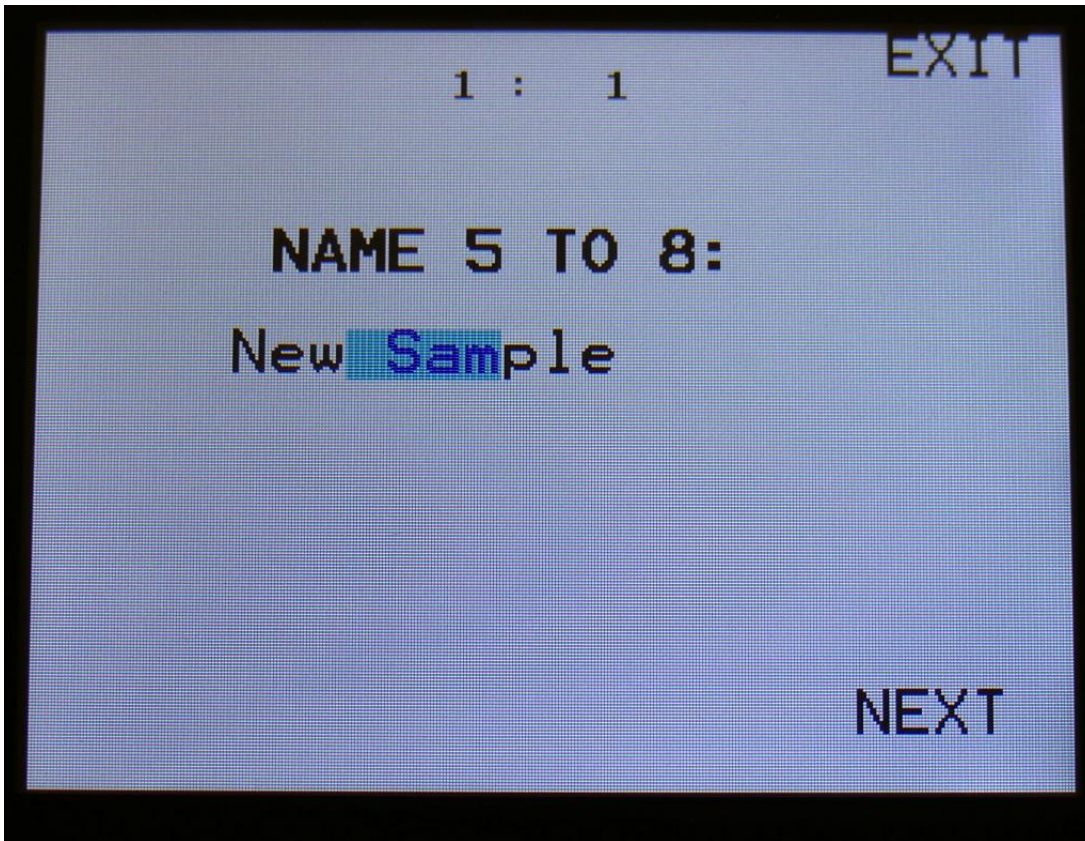To name and save the sample, touch the "Save" button.

If you decide not to keep this sample, touch EXIT, and the new sample will be erased.

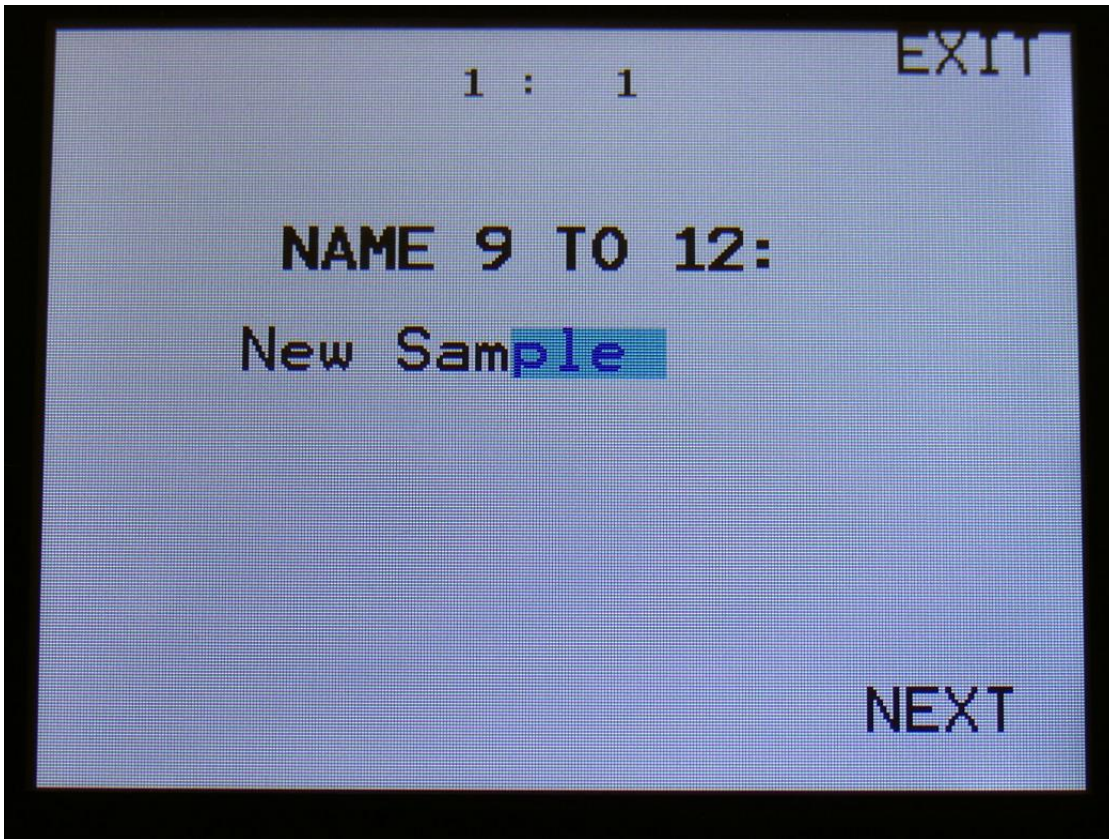If you touch the "Save" button, Xmini will jump to this page:

Here you can turn edit knob 1 to 4, to select the first 4 characters of the new sample's name.

Touch NEXT to go on.

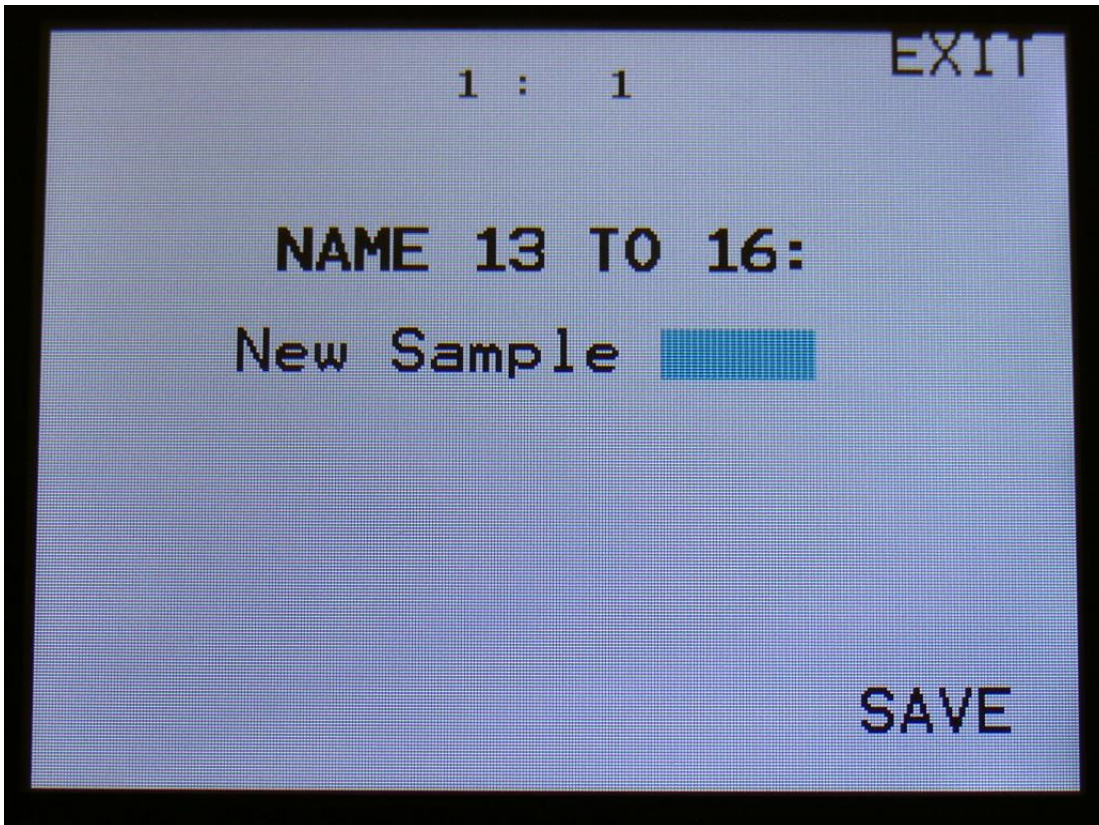Turn Edit Knob 1 to 4, to select character 5 to 8 of the sample name.

Touch NEXT to go on.

Turn Edit Knob 1 to 4, to select character 9 to 12 of the sample name.
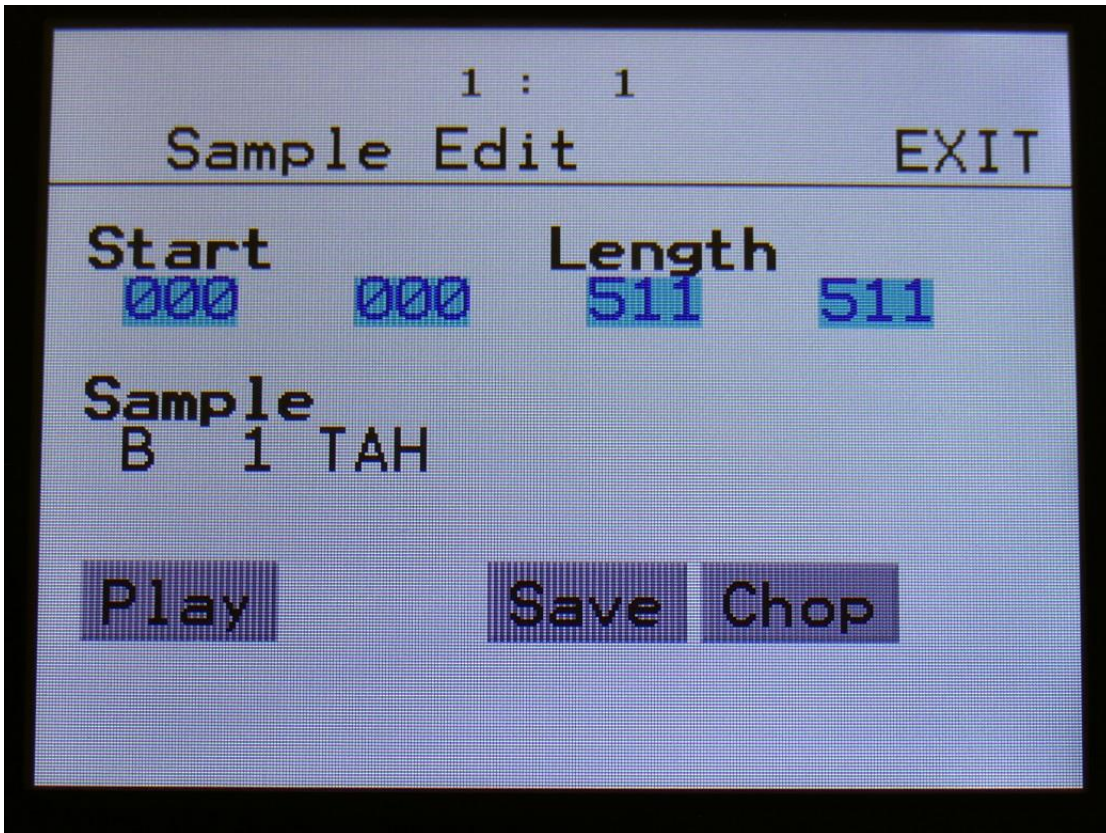
Touch NEXT to go on.

Turn Edit Knob 1 to 4, to select character 13 to 16 of the sample name.

Touch SAVE, to save the new sample, and return to the Sample Rec page.

Edit A Sampling

From the sample rec/edit menu, touch SAMPLE EDIT, to enter this page:

On this page you can audition samples from the FLASH memory, adjust the samples start and end points, and create sample chops.

To audition the samples that your Xmini holds, touch the **Sample** name, and turn Edit Knob 1 to select the sample bank and Edit Knob 2 to select the sample number. To audition the selected sample, touch the PLAY button. On this page, stereo samples will only play back the left audio channel.

To stop the sample playback, select another sampling, switch sample bank, or exit the Sample Edit page.

Adjusting the start and end points of a sample

If a sample has silence at the start and/or end of it, or if there are parts of a sample you do not intend to use, it might be nescessary to adjust the start and end points of it.

To do this, select the sample you would like to adjust.
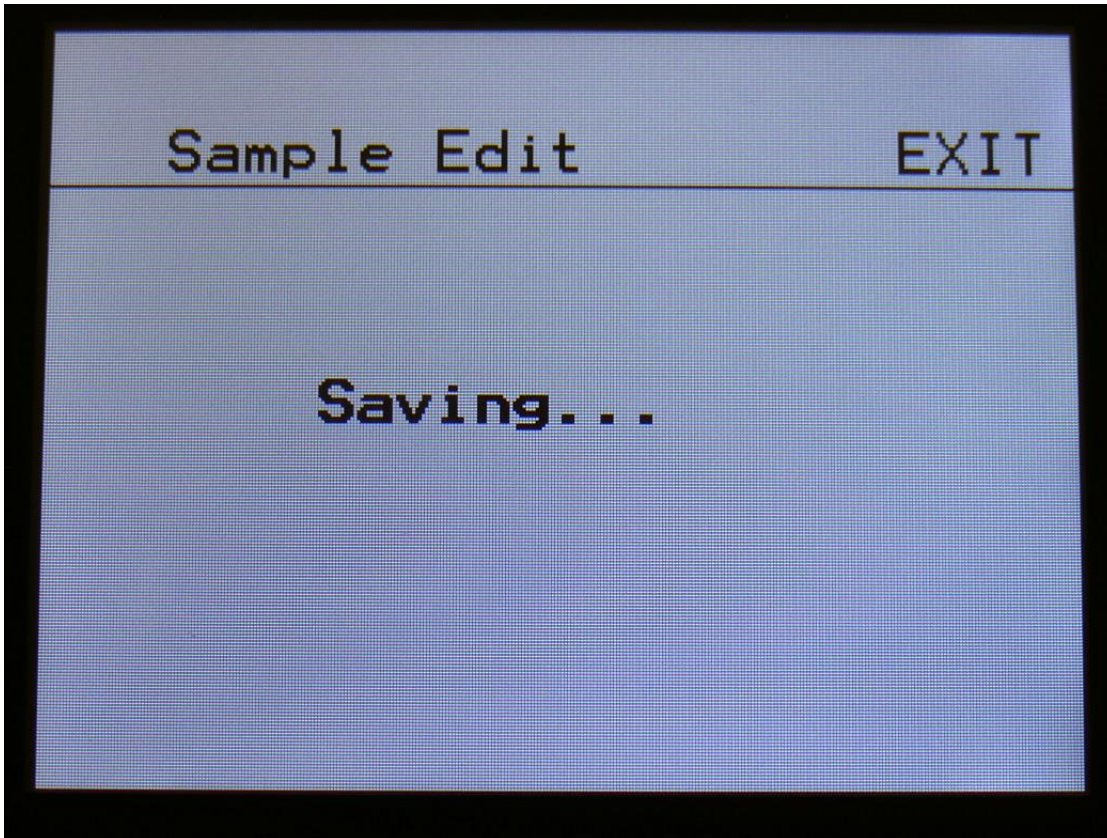
Touch to select the upper row of parameters.

Adjust the start point by turning edit knob 1, fine adjust by turning edit knob 2.

Adjust the end point by turning edit knob 3, fine adjust by turning edit knob 4.

Audition by touching the PLAY button.

When you are satisfied with the result, touch the SAVE button, and Xmini will respond:

Instead of searching manually for the sample start point, it is possible to use the Chop function for this. This is described in the "Sample Chops" section, that starts on the next page.

Sample Chops

On Xmini it is possible to add chop points to a sampling, in order to make it play back a certain portion of the sampling at a time. Sample chops are generated in the Sample Edit section, to be used by the samplers in the Synth section.

This function could be used for the classical separating single drum hits from a beat, or to find the startpoint of a sampling in a fast way, if the chop function is set up for peak detection.

The chop function of Xmini isn't though limited to this. On Xmini it is also possible to make the chop function find "wave chops". This function will pick out single wave cycles of the sampling, and create chop points for these. In the samplers of the synth section, it is then possible to select these wave cycles, loop them, and switch between other wave cycles of the sampling.
This can also be used as a super easy way for looping a sampling.

All chop points are non-destructive to the sampling. Only the positions of the chop points are stored, nothing is changed on the sampling itself. Chop points can, at any time, be moved, deleted and inserted.

Up to 64 chop points can be created for each sampling.

Remember to save the chop points. Else they will be lost!

To create and/or edit sample chop points, from the Sample Edit page, touch the **Chop** button, to enter this page:
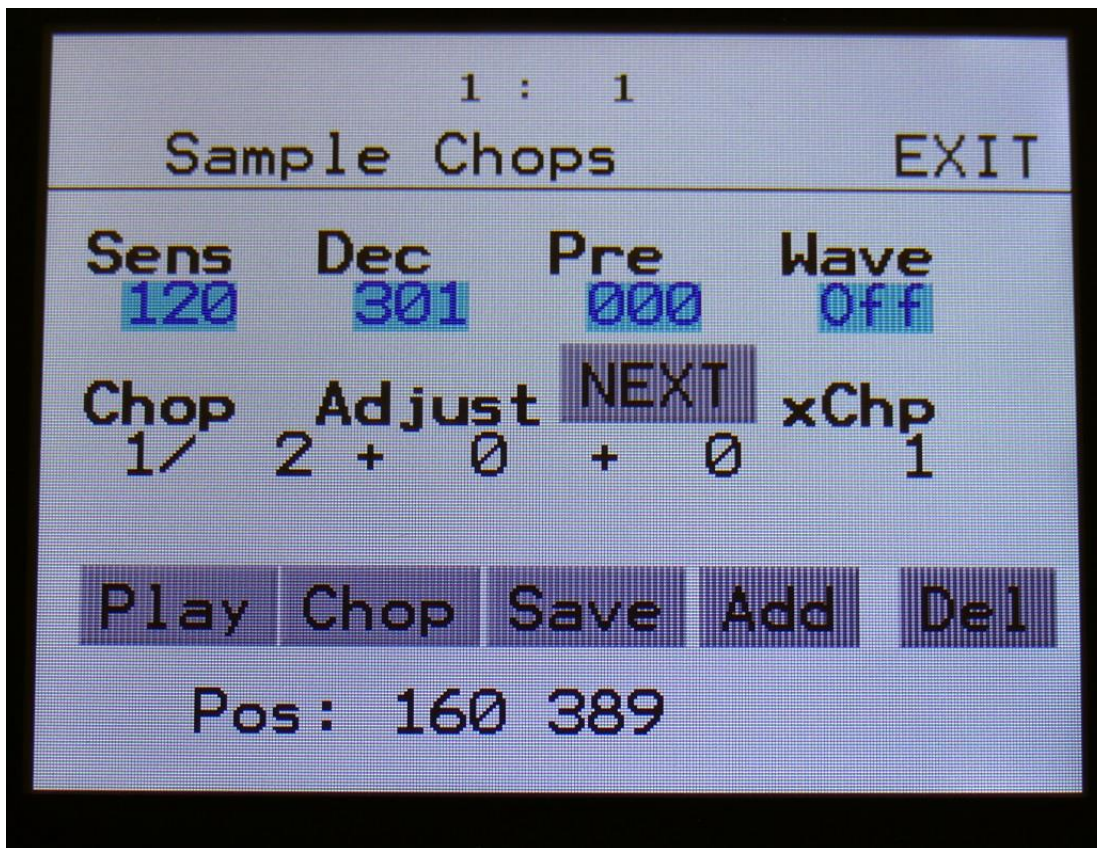
The parameters of this page:

Sens: Adjust how loud the level of the sample audio should be, before it detects a chop point. If it creates too many chop points, turn this parameter up a bit. If it creates too little or no chop points, lower this parameter.

Dec: Chop envelope decay. This adjusts the decay time of the chop detection envelope in a reverse manner. The lower the value, the slower the decay. If the sounds is recorded with very little or no silence between them, like in a beat, this needs to be set to a high value. If there's a good gap of silence between the sounds, set it to a low value.

Pre: If there are loud clicks in the start of many of the chop points, especially on low frequency sounds, turning up this parameter will make Xmini set the chop points a little bit earlier, than it usually would. This will remove these clicks.

Wave Mode: Switches the chop wave cycle mode on and off.

Chop: Select a chop number for auditioning. Total number of chops is shown right after the /.

Adjust: (2 parameters). For adjusting the selected chop forward (positive values) or backwards (negative values). If the NEXT touch button is active (black), these parameters will adjust the next chop point, which is also the end point of the selected chop point. Makes it easier to work with loops.

xChp: Number of chops in each chop point. Turning this up, before generating chops, will make each chop contain a number of chops. Especially usefull, when using the wave chop function for making sample loop points.

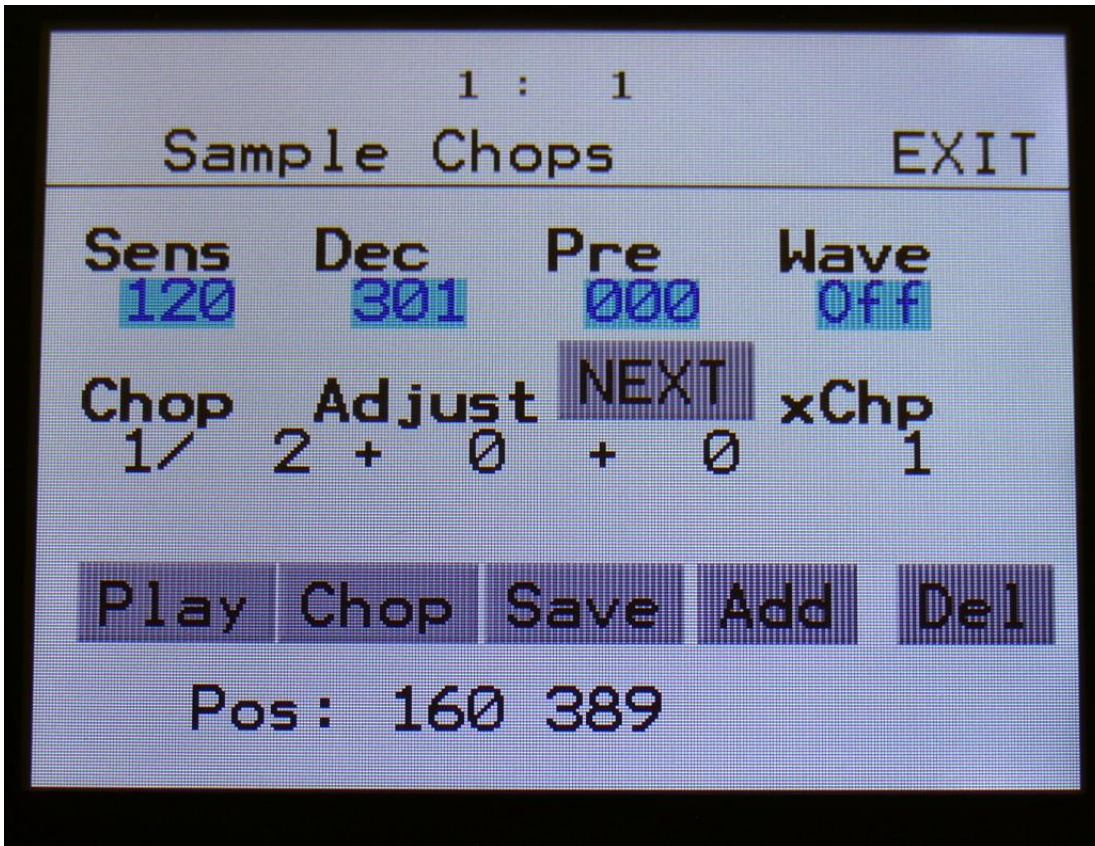**Generating Sample Chop Points**

On the Sample Chops page, adjust the Sens, Dec, Pre and xChp parameters as desired, and switch wave mode on if desired.

Touch the **Chop** button.

Xmini will now look for chop points, in the selected sampling:
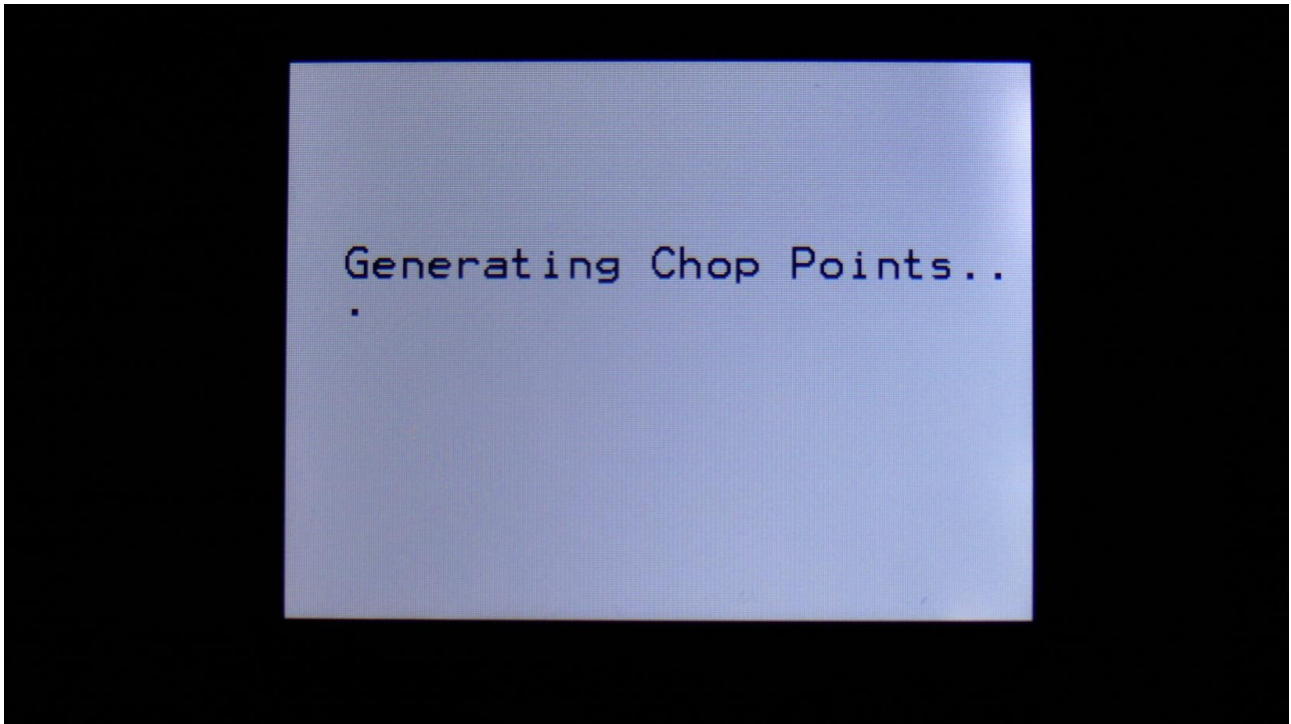
When it is done, it will jump back to the Sample Chops screen:

Adjusting the Chop parameter, it is now possible to select and audition the chop points that Xmini has found.

Audition the chop points by hitting the "Play" button. If some chop points are not exactly where you would like them to be, adjust them with the Adjust parameter. If some chop points shouldn't be there, delete them by hitting the "Del" button.

To add chop points, first push the "Play" button, to make the sample/chop point play back. While the sampling is playing back, hit the "Add" button when it is playing back the point, where you would like to add a chop point.

In the bottom of the screen, it shows the position of the selected chop, in the values that the **Sample Start** parameters would have to be adjusted to, to select this point of the sampling. So if you don't want to use the chop points anyway, but just wants the sample playback to start at this point, you can exit to the Sample Rec page, and set the Sample Start point to this value.

When you are satisfied with the chop points, remember to hit the "Save" button to keep them. The chop points are saved together with the sample data, and are also imported/exported via USB.

Deleting a sample

On the Sample Delete page, it is possible to delete the last recorded sampling in sample Bank A or B. Select the sample bank, from which you would like to delete a sampling, on the Sample Edit page.

From the sample rec/edit menu, touch SAMPLE DELETE, to enter this page:
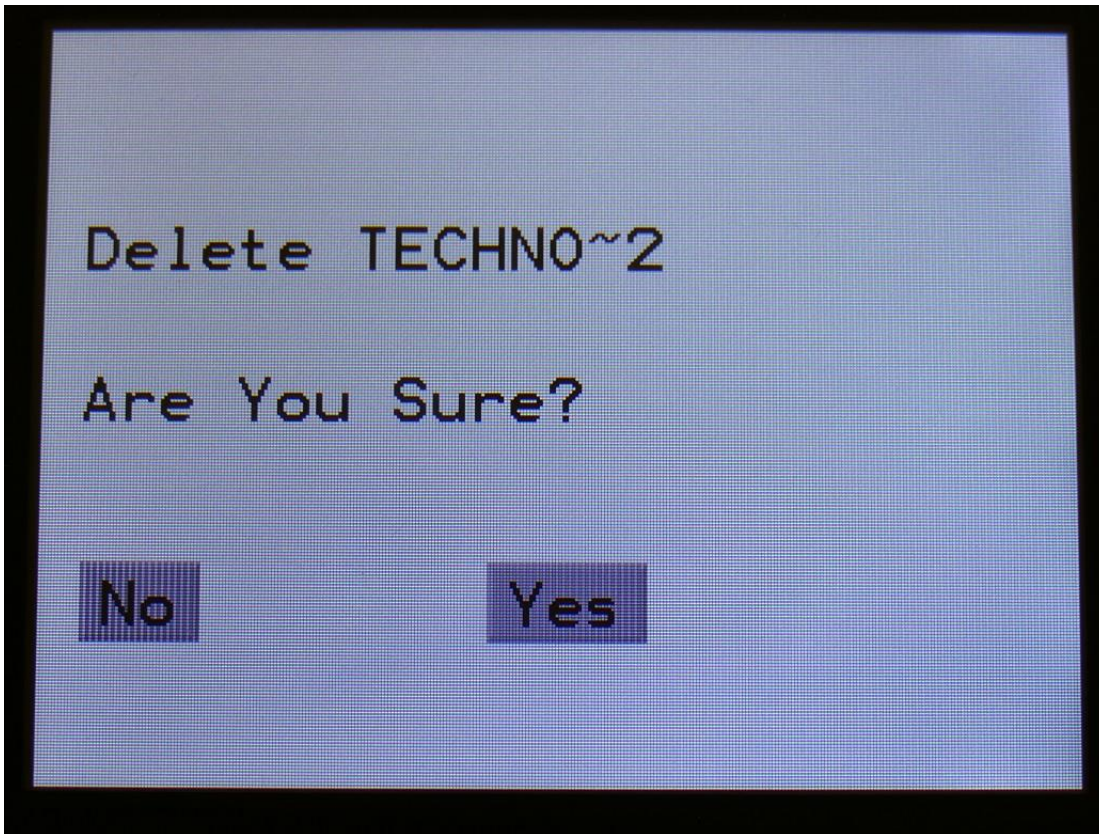
To delete the sample, touch "Yes".

If you regret, touch "No", to return to the Sample Rec/Edit page.

USB

The USB pages lets you access the files and directories of a USB drive, attached to Xmini's USB connector.

You can import and export samples as .wav files, import and export presets and songs, update the Xmini firmware, and make new directories.
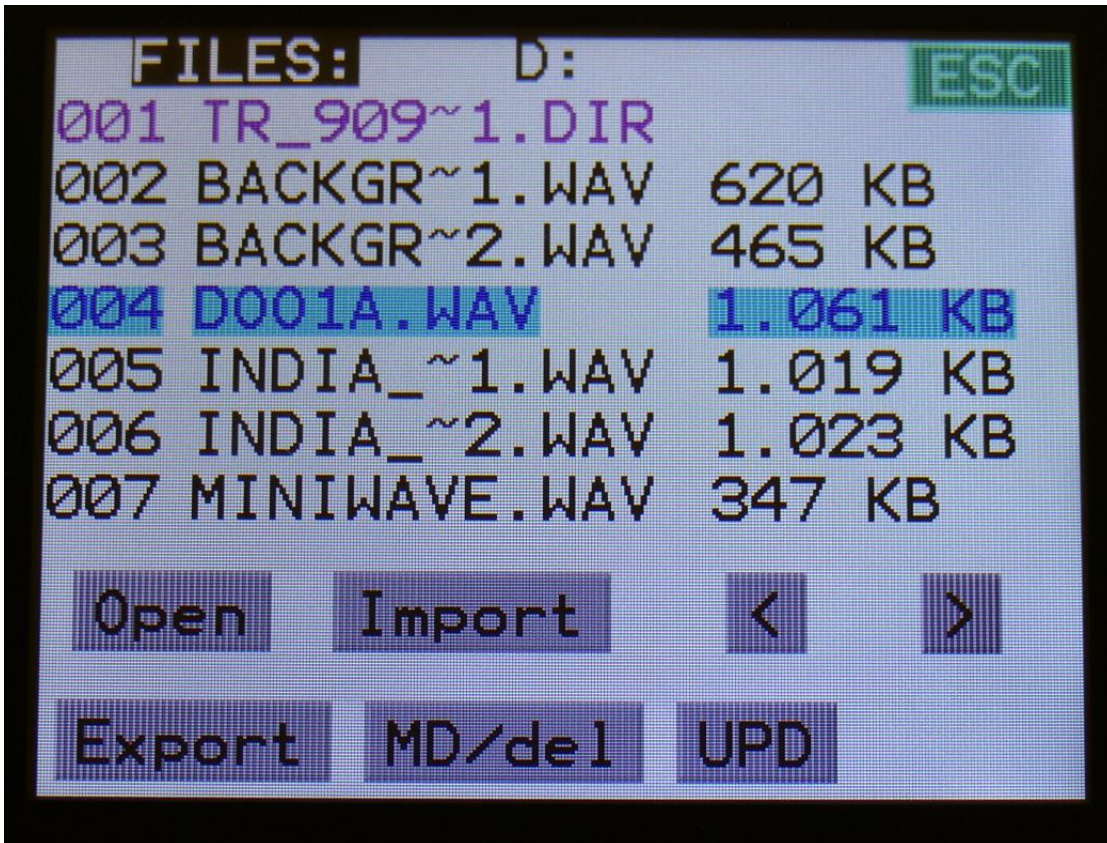
USB drives used with Xmini should be:
-Maximum 32 GB
-FAT formatted

From the Preset Select screen, touch the EDIT field, to enter the Synth modules page:
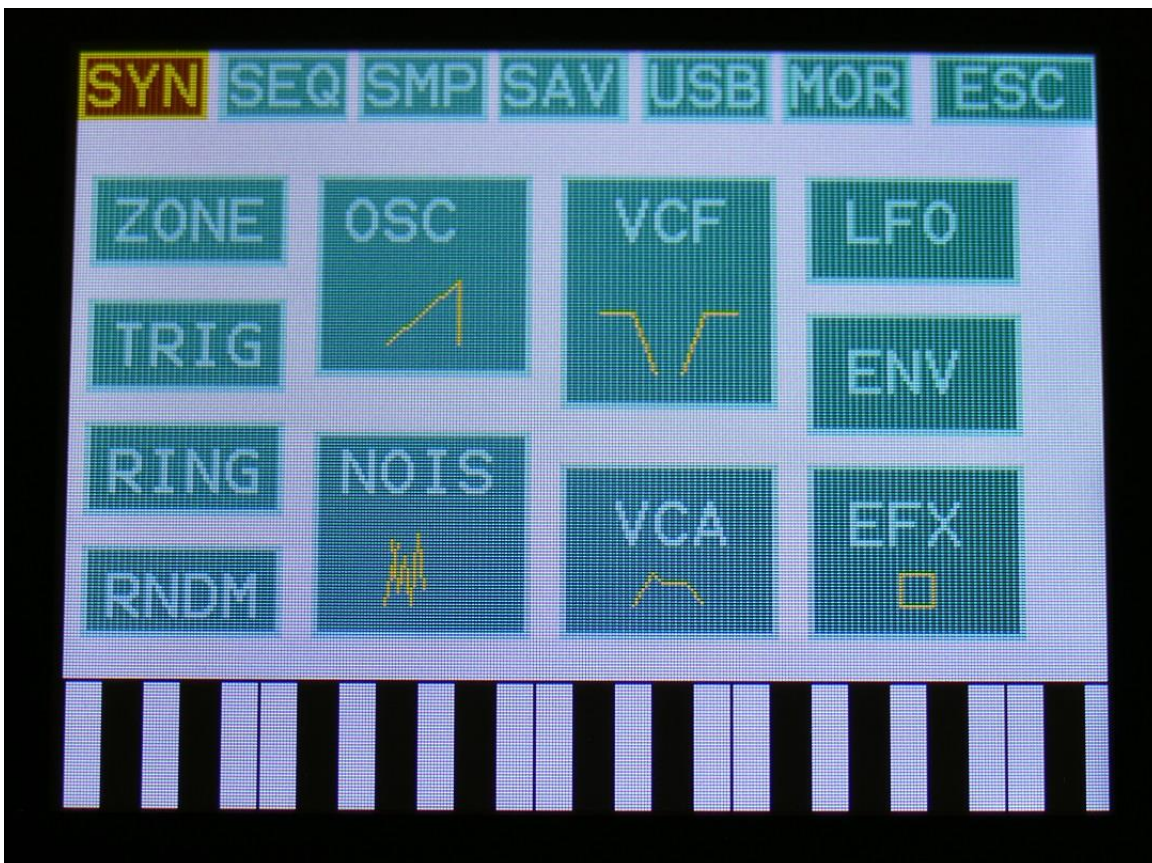
Touch USB on the navigation bar at the top of the screen.

On this first page that you will enter, the root directory of the connected drive is shown. You can see that it is the root directory, by the "D:" in the top of the page. If you have accessed a directory, the name of this will replace "D:".

If you do not see the root directory of the drive, make sure that it is connected properly, and that it is has the right specs, as described in the start of this section.

The names you see on the screen, are the names of the files and directories on the drive. File names are in black, and directory names are in purple. The currently selected file has a blue box around it. To select a file, simply touch it.

Xmini will only show 7 files/directories at a time. By pushing the arrows, you can select the previous/next 7 files.

Open a directory (or folder)

To open a directory, to see what's inside, or to import single files or sub-directories, simply select the directory you would like to open, by touching it, and then touch the "Open" button.

Xmini will now open the directory, and show the first 7 files in it. The "D:" in the top of the screen, will now be replaced by the opened directory's name.
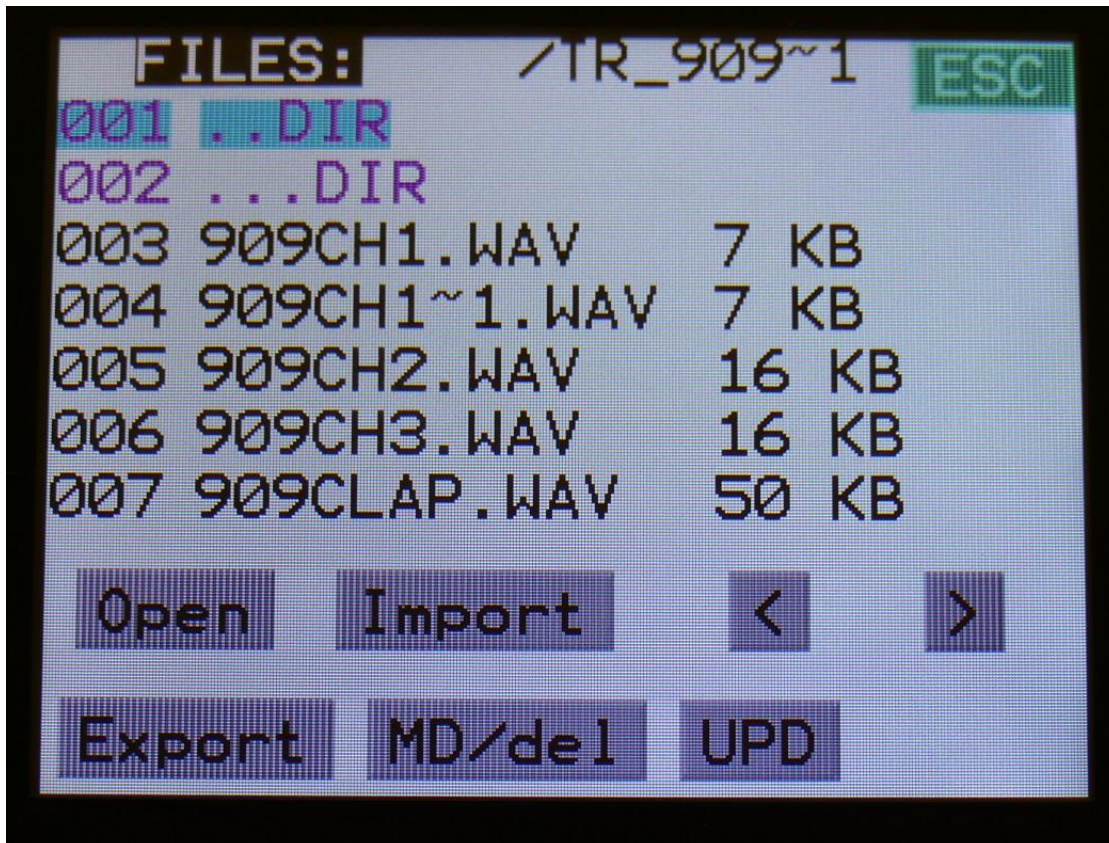
Importing files

File that can be imported to Xmini are:
-Samplings with the ending .WAV
-Little deFormer samplings with the ending .LDS
-Presets with the ending .AXP
-Songs with the ending .AXO

Files that are shown, but can't be imported directly are:
-Update files with the ending .hex

Files with any other ending will not be shown on Xmini's screen, regardless of if they are present on the drive.

To import a single sampling or preset/song, select the .WAV/.LDS/.AXP/.AXO file you would like to import, by touching it.
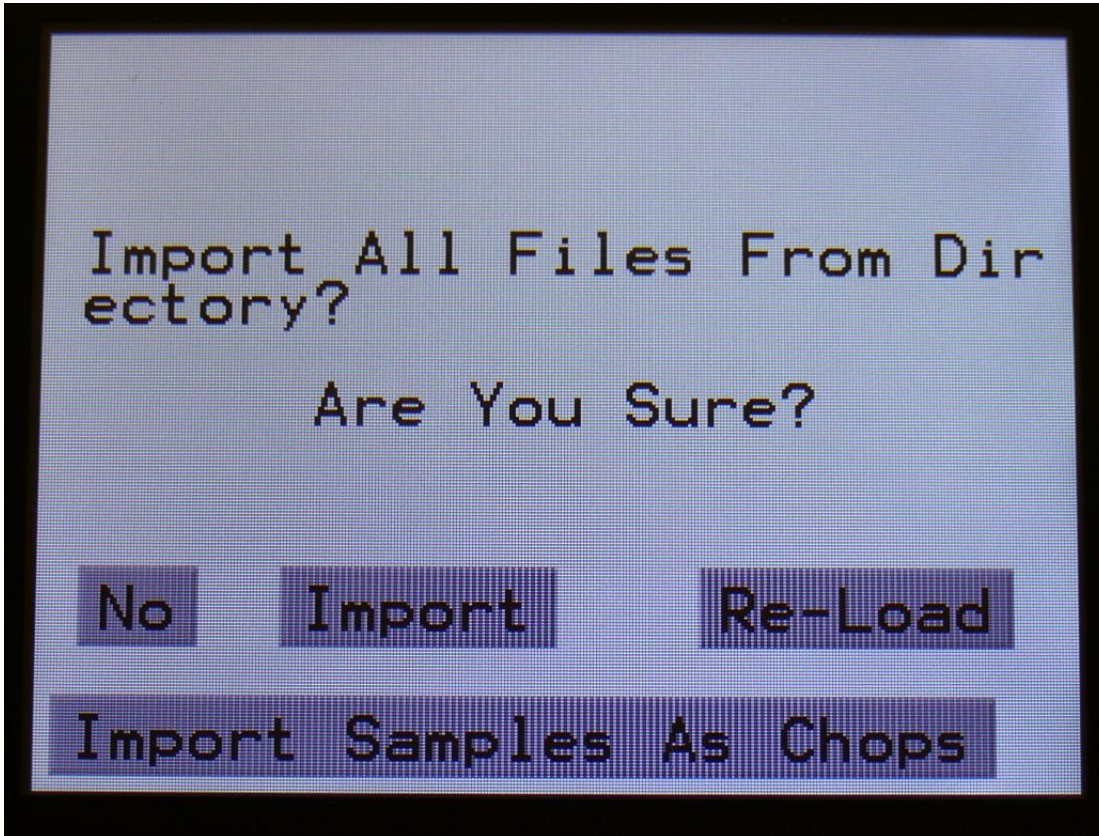Samples are imported to the sample bank selected on the Sample Edit page.
When importing a single preset or song, it is only loaded to the preset/song buffer, and you will have to save it manually, to keep it.

Touch the "Import" button. Xmini will now import the selected file, and show the progress on a progress bar:
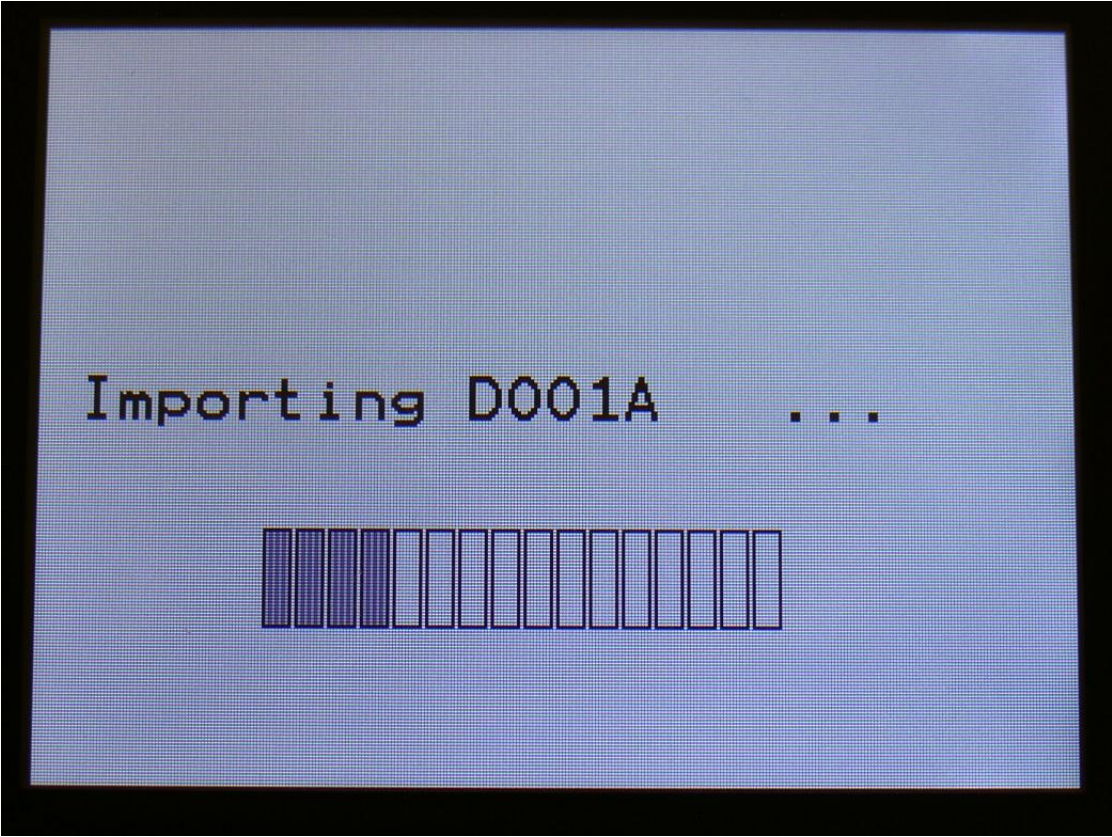
Importing multiple files

To import multiple files at one time, select a directory, by touching it. Touch the "Import" button. Xmini will now ask:

Touch "Import" to continue, or "No" to exit.

If you pushed Import, Xmini will now import all samples, presets and songs, that the selected directory holds. It will though not import files from any sub-directories.

Samples are imported to the sample bank selected on the Sample Edit page. Presets are imported to the selected preset and forwards, so make sure that you have not selected a preset that you planned to keep, before using this function. Songs are also imported to the selected song and forwards, so make sure that you have not selected a song that you planned to keep, before using this function.

Reload multiple files

A reload function is also available. This will only import presets, songs and samples that has been exported from Xmini, or that has been renamed to to fit the Xmini export standard –samples must be named: A0001.WAV, A0002.WAV…..A0220.WAV, B0001.WAV, B0002.WAV…..B0256.WAV, presets and songs must be named: A01.AXP, A02.AXP….A64.AXP, B01.AXP, B02.AXP…..P64.AXP .

This will import presets on the same locations as they were originally stored to.

Reload will also import samples to the exact same location, as they were placed when exporting. This will make sure, that samples used in your presets, will always be placed in the right locations. Sample locations that are already occupied, will be skipped by Reload, so make sure to erase sample bank A and B, if you want a complete reload.

To Reload multiple files, select a directory, by touching it. Touch the "Import" button. Xmini will now ask:
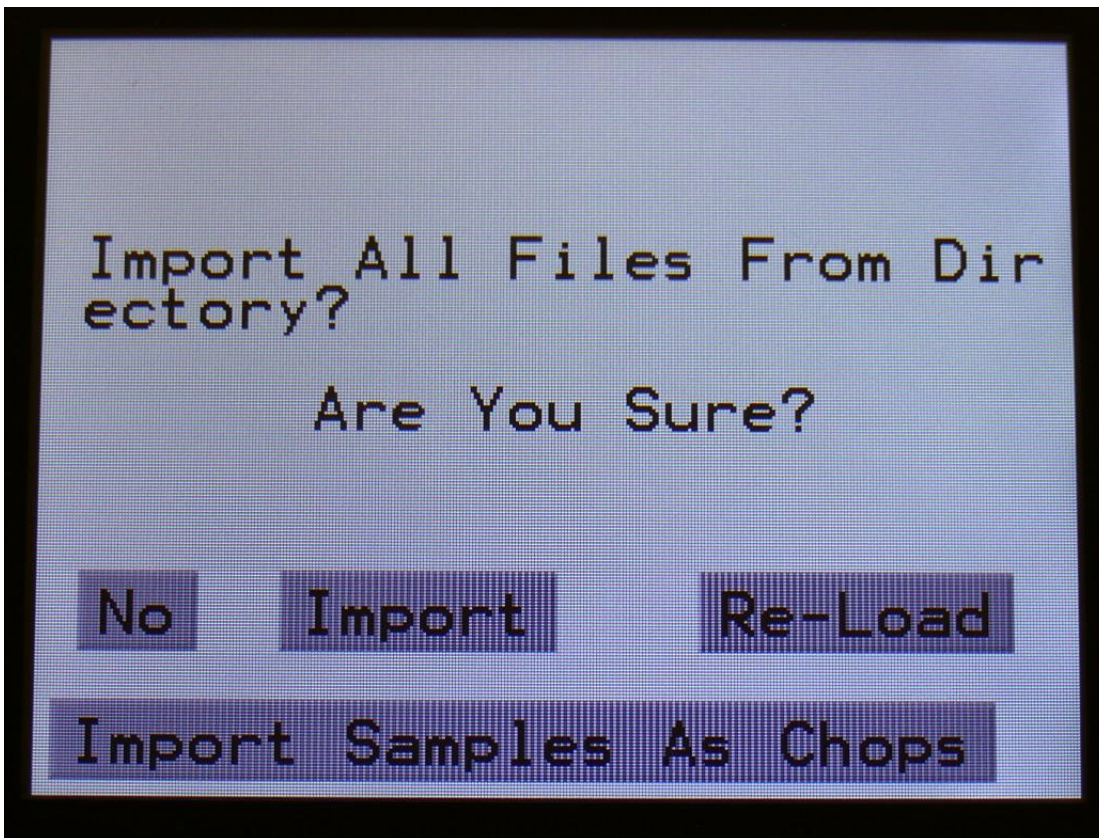
Touch "Re-Load" to continue, or "No" to exit.
If you touched Re-Load, Xmini will now import all samples, presets and songs, that the selected directory holds, and that are correctly named. It will though not import files from any sub-directories.

Reload does also have other functions:
-On Xmini itself, it is only possible to erase the last recorded sampling of bank A and B. By exporting all your samplings to a USB drive, and then delete sample bank A and B on Xmini, delete the sample wav files you want to erase on the USB drive, from Xmini itself or on a computer, and reload all the samples. Samples that are erased, will just be left blank.
-If you would like to import a number of wav files in a specific order, or in a specific sample bank, you can rename the samples on a computer to: A0001.WAV, A0002.WAV…..A0220.WAV, B0001.WAV, B0002.WAV…..B0256.WAV, and then import them using Reload.
-If you would like to rearrange the order of samples and/or presets, you can rename the files and reload them. Presets are named: A01.AXP, A02.AXP….A64.AXP, B01.AXP, B02.AXP…..P64.AXP .

Import Multiple Samplings From Directory As one sampling with Chop points

This new function will make it easier than ever, to make your Xmini hold more than 255 samplings, in an easy way! Without splicing samples on a computer!

On your computer:
Make a directory (or folder) on a Xmini compatible USB drive. Name the directory with the name, that you want the sampling to have. Copy any single samplings you would like this sampling to contain, into the directory. Max 64 samplings.

Create multiple such directories, if desired.

Unmount the USB drive from your computer, and insert it in the Xmini USB port.

Enter the USB menu, select the directory you just created, and push "Import".

This screen will now show:
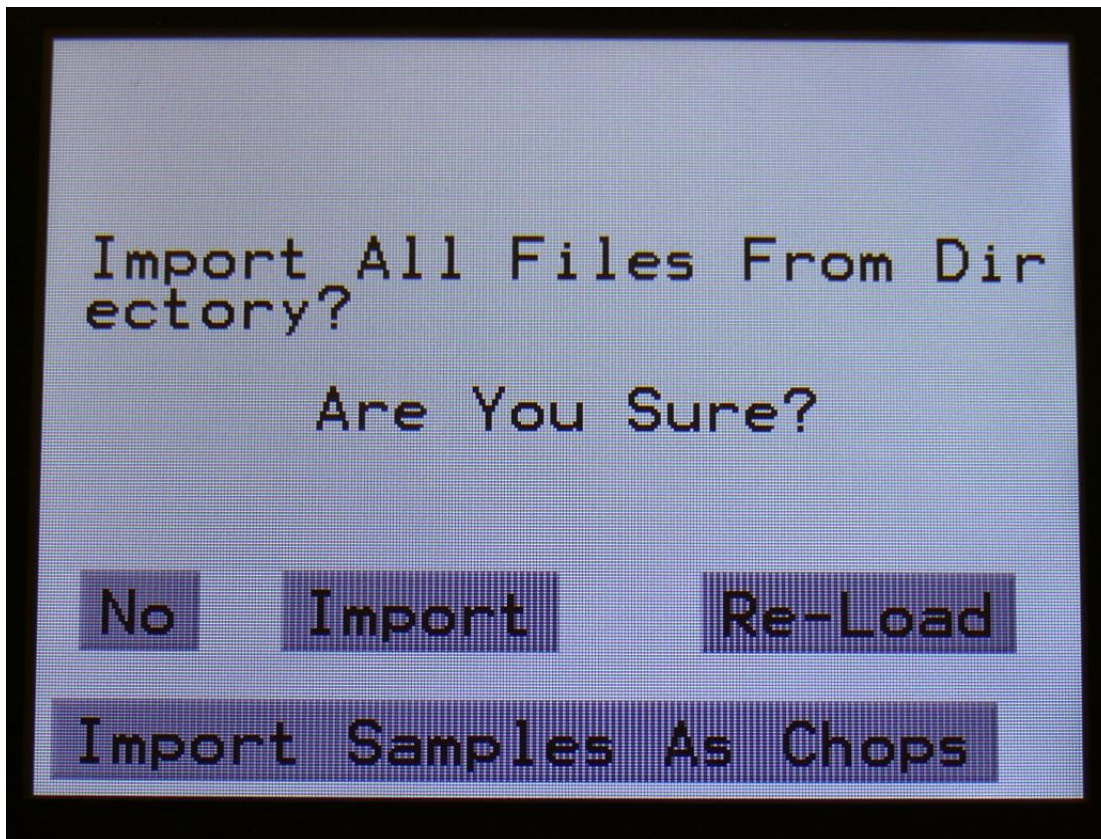
Touch "Import Samples As Chops".

Xmini will now create one sampling from all of the samplings in the selected directory, and insert a chop point at the start point of each sampling.

After the import is done, go to the sample edit page, select the sampling you just imported (named from the directory name), and enter the Chop edit page. You will now be able to hear each of the samplings, by selecting chops.

On the synth sampler pages, the procedure is the same. Select the sampling, and select the chop point. Modulate the chop point selection, to create great variation.

I have found this function especially useful, when working with acoustic drum samplings. There are many acoustic drum sample packs on the net, that has different variations of the same drum sound. Put all the variations of a sound in one directory, import as chops, and modulate the chop selection with velocity, random or any other modulation source, to make some great dynamic acoustic drum beats.

Make a new directory

A new directory can be created in the root directory, or inside another directory.

To do this, touch the "MD/Del" button.
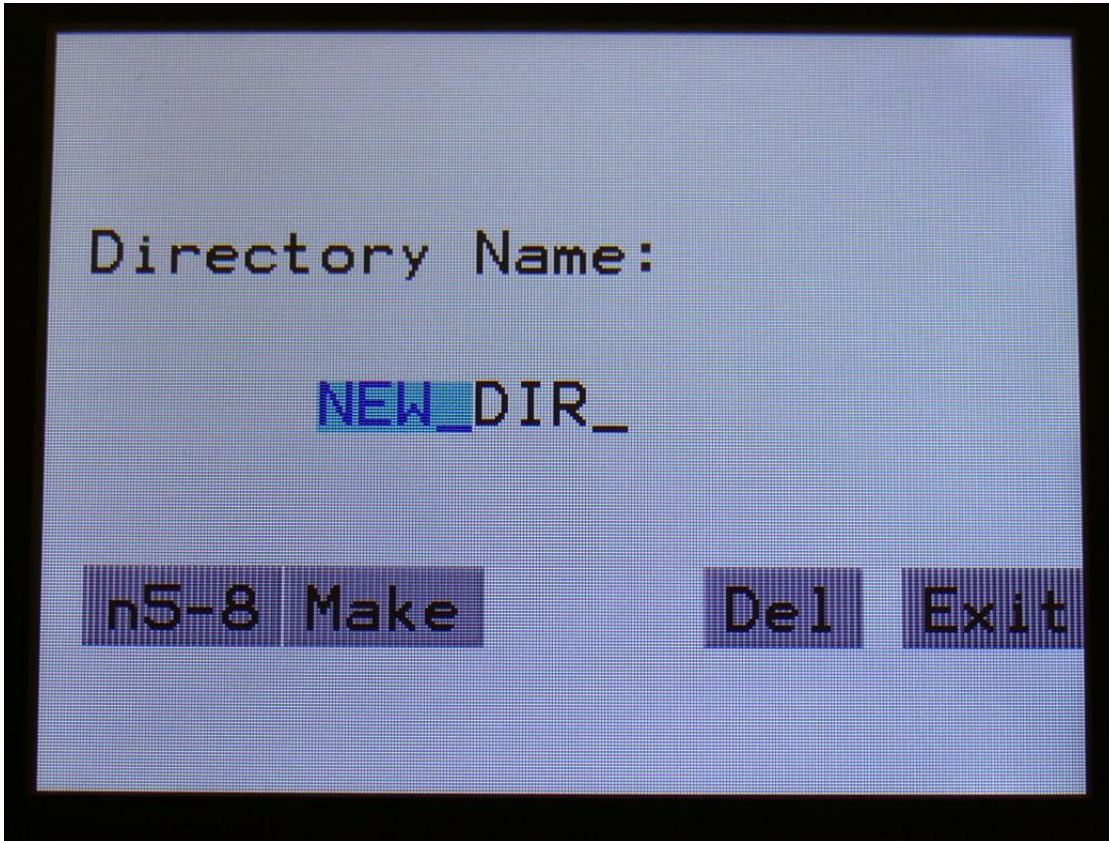
Turn the 4 edit knobs to select the first 4 characters of the name for the new directory. Touch "n5-8", so it turns black, to select the characters 5 to 8 of the name. When you are done with this, touch the "Make" button. The new directory will now be created.

You can, of course, also just touch "Exit", if you do not want to make a directory anyway.

Delete file from USB drive

It is possible to delete a file from the attached USB drive, directly from Xmini.

To do this, select the file you would like to delete, and touch the "MD/Del" button.
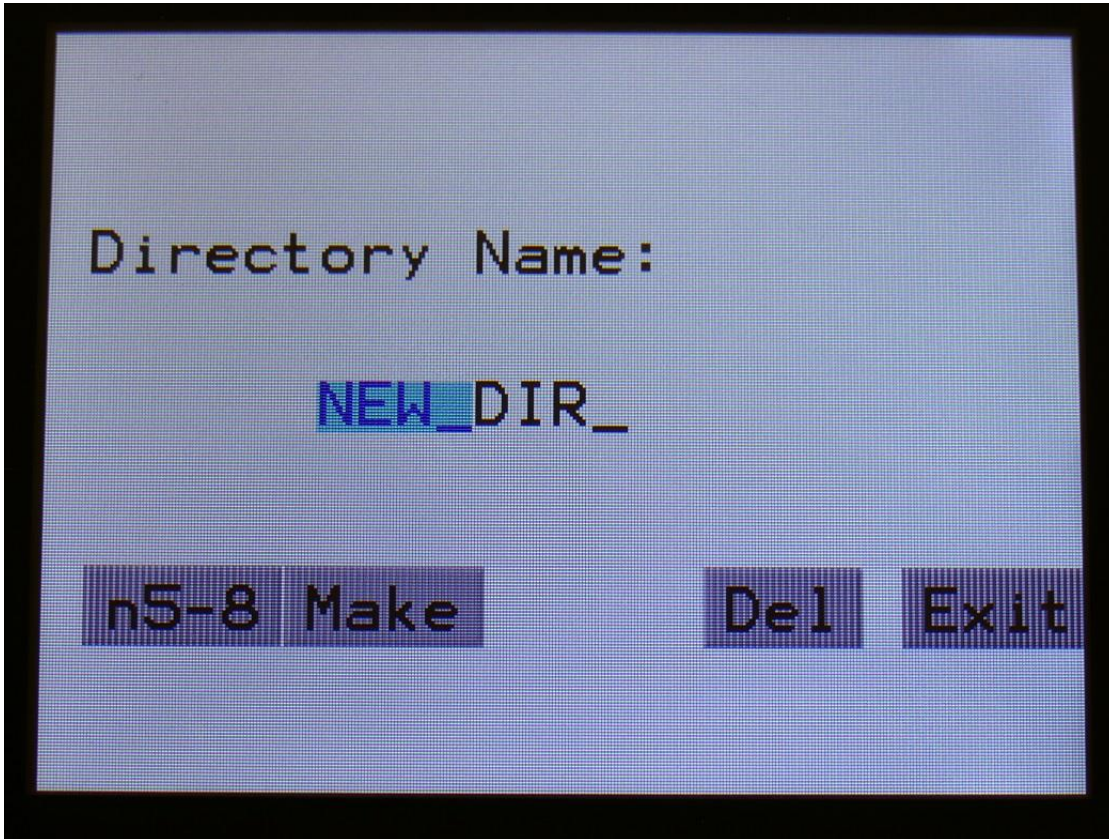
Now touch the "Del" button.

Export samples, presets and songs to a USB drive

The samples, presets and songs held in Xmini's FLASH memory can be exported to a USB drive, for back-up, or for use with other gear or computers. Xmini exports samples as standard 16 bit, 44.1 KHz, native PCM .wav files, so they can be used with any other gear, that supports this format. Xmini exports presets and songs in its own .axp/.axo format, so these can at writing moment only be used by Xmini and Anamono X.

To enter the export page, touch the "Export" button:
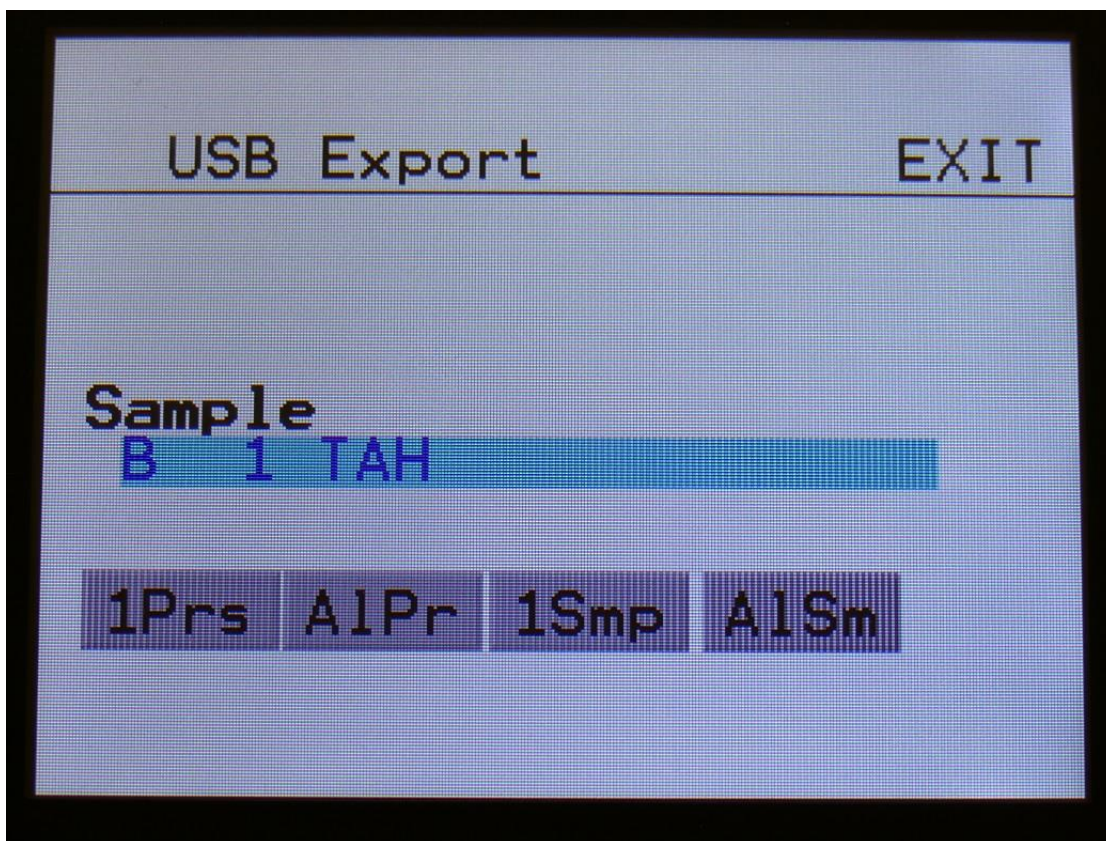
All exports are done to the currently open directory. There are 4 different possibilities for exporting:

"1Prs"
Export 1 preset (song). Touching this button will export the currently selected preset. If Xmini are in song mode, it will export the selected song.

"AlPr"
Export All Presets/Songs . Touching this button will export all programmed presets. If Xmini are in song mode, it will export all programmed songs.

"1Smp"
Export 1 Sample. Touching this button will export the selected sample. Turn Edit Knob 1 to select the sample bank of the sample to be exported, and turn Edit Knob 2 to select the sample number.

"AlSm"
Export All Samples. Touching this button will export all samples of the selected sample bank. The Sample Bank can be selected, by turning Edit Knob 1.

When in song mode, the Export screen looks like this:
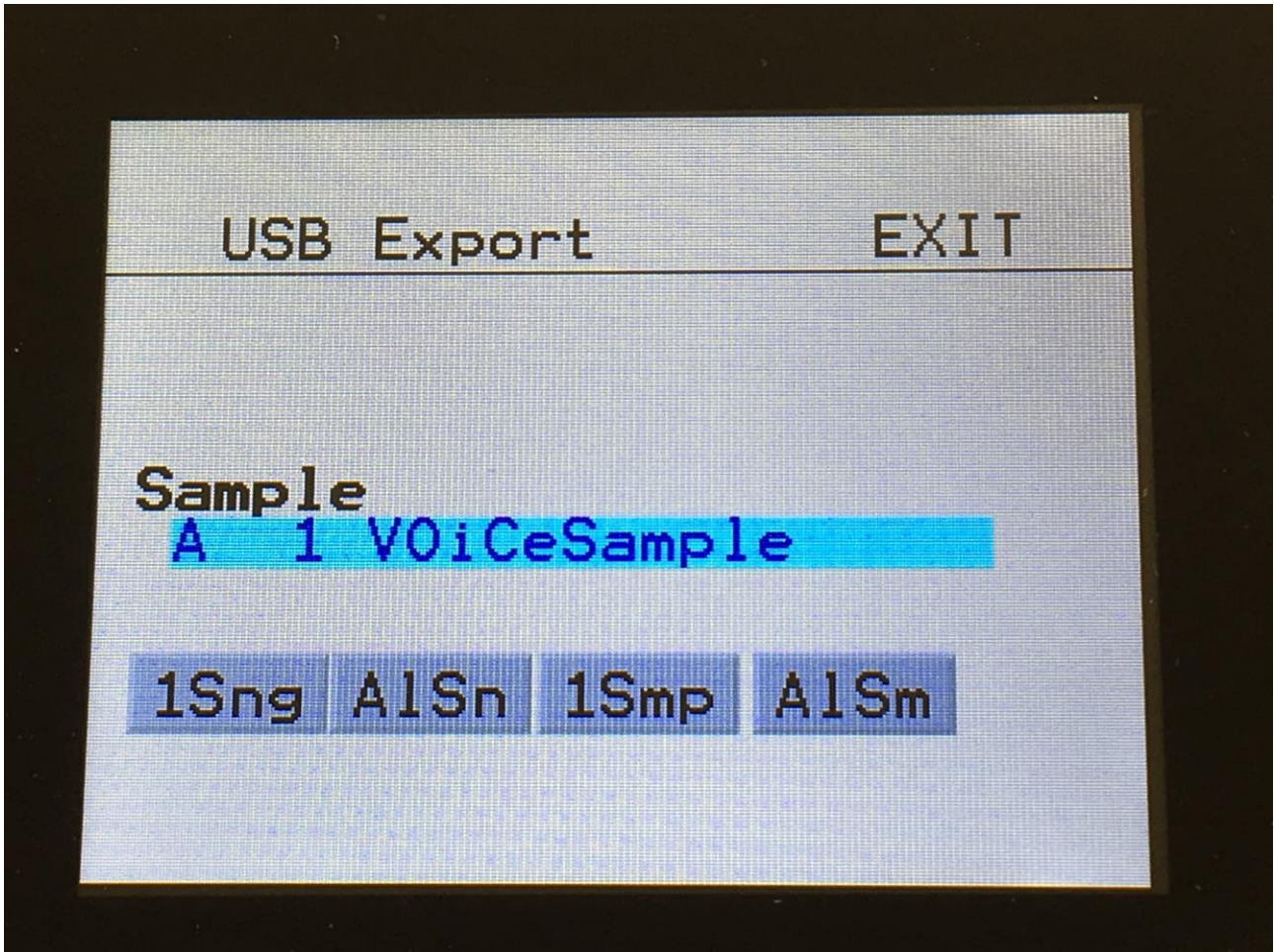
Updating the Xmini firmware

Now and then updates will be available for Xmini, that adds new functionality and fixes bugs.
These will always be available for download here:
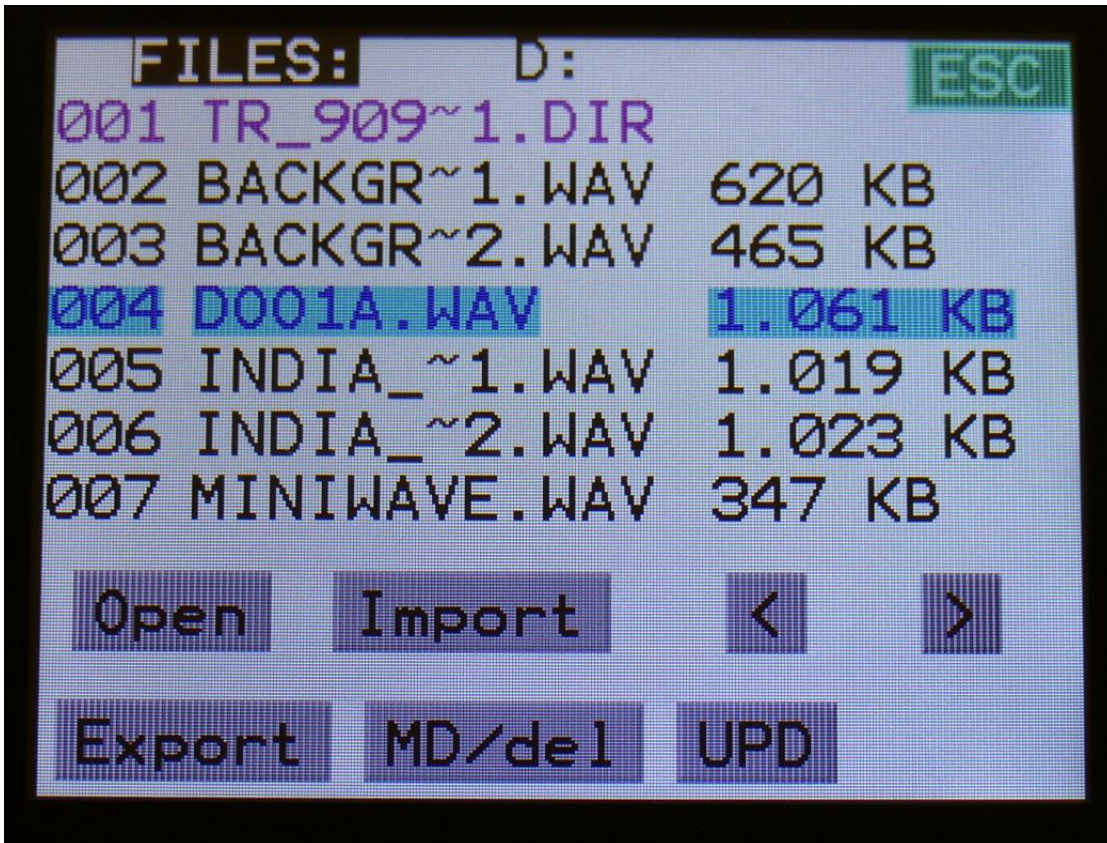http://www.gotharman.dk/anamonoxminiupdates.htm

To update Xmini, you must have a computer with an internet connection, and an Xmini compatible
USB drive ready. See the start of this section, for which USB drives are Xmini compatible.

Then you should follow these steps:

1. Download the update file of the latest update, from the Xmini Updates site, to your computer,
and unzip it.

2. Connect the USB drive to your computer.

3. Make sure that the USB drive is FAT formatted.

4. Create a directory in the root directory of this USB drive, that is named "UPDATE".
If the USB drive already contains a directory called UPDATE, please delete all files inside this.

5. Copy the update file from your computer to the USB drive UPDATE directory. Make sure that
no other files are present in this folder, and please don't rename the files.

6. Eject and remove the USB drive from your computer, and connect it to Xmini's USB connector.

7. Turn Xmini on, if it isn't already turned on.

8. From the preset select screen, touch the EDIT field.

9. Touch USB.

10. Wait for Xmini to register the USB drive, so all files and folders are presented on the screen.

```
FILES:         D:              ESC
001 TR_909~1.DIR
002 BACKGR~1.WAV   620 KB
003 BACKGR~2.WAV   465 KB
004 D001A.WAV      1.061 KB
005 INDIA_~1.WAV   1.019 KB
006 INDIA_~2.WAV   1.023 KB
007 MINIWAVE.WAV   347 KB

Open   Import        <    >

Export   MD/del   UPD
```

11. Touch the "UPD" button.

12. Xmini will now search for the "UPDATE" folder and a valid update file. If it finds both, it will ask: "Update Firmware?"
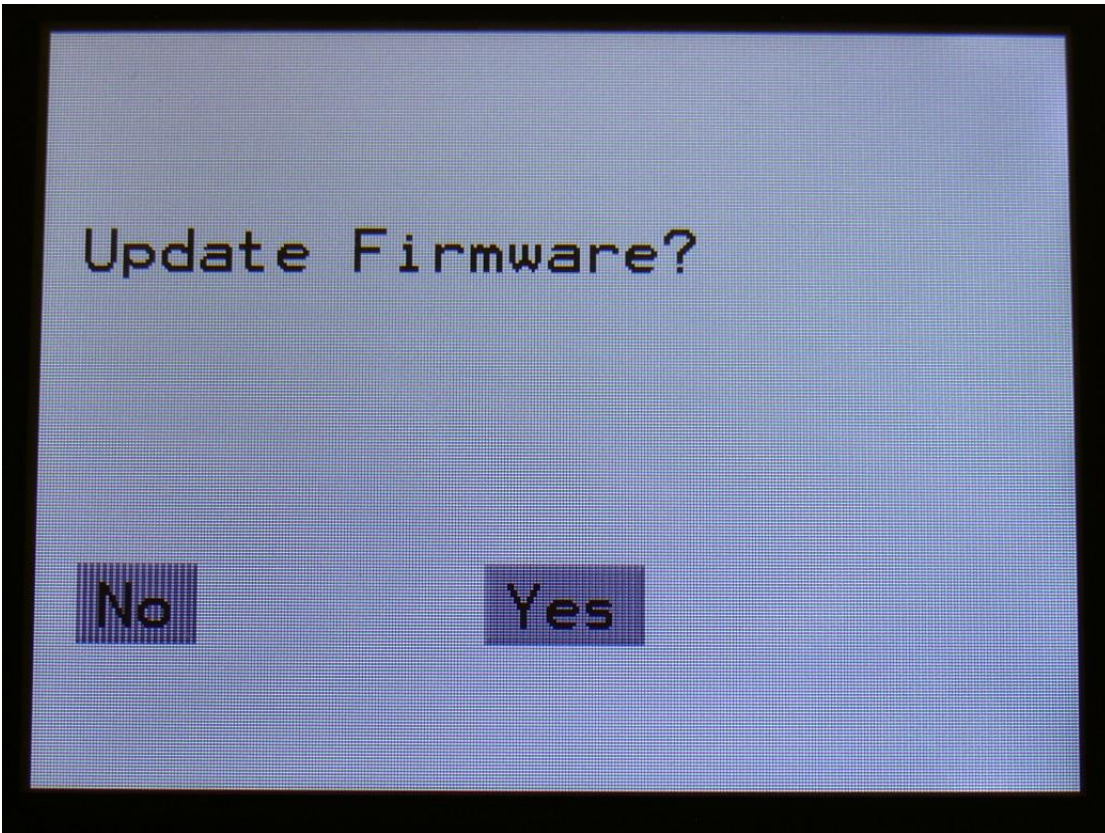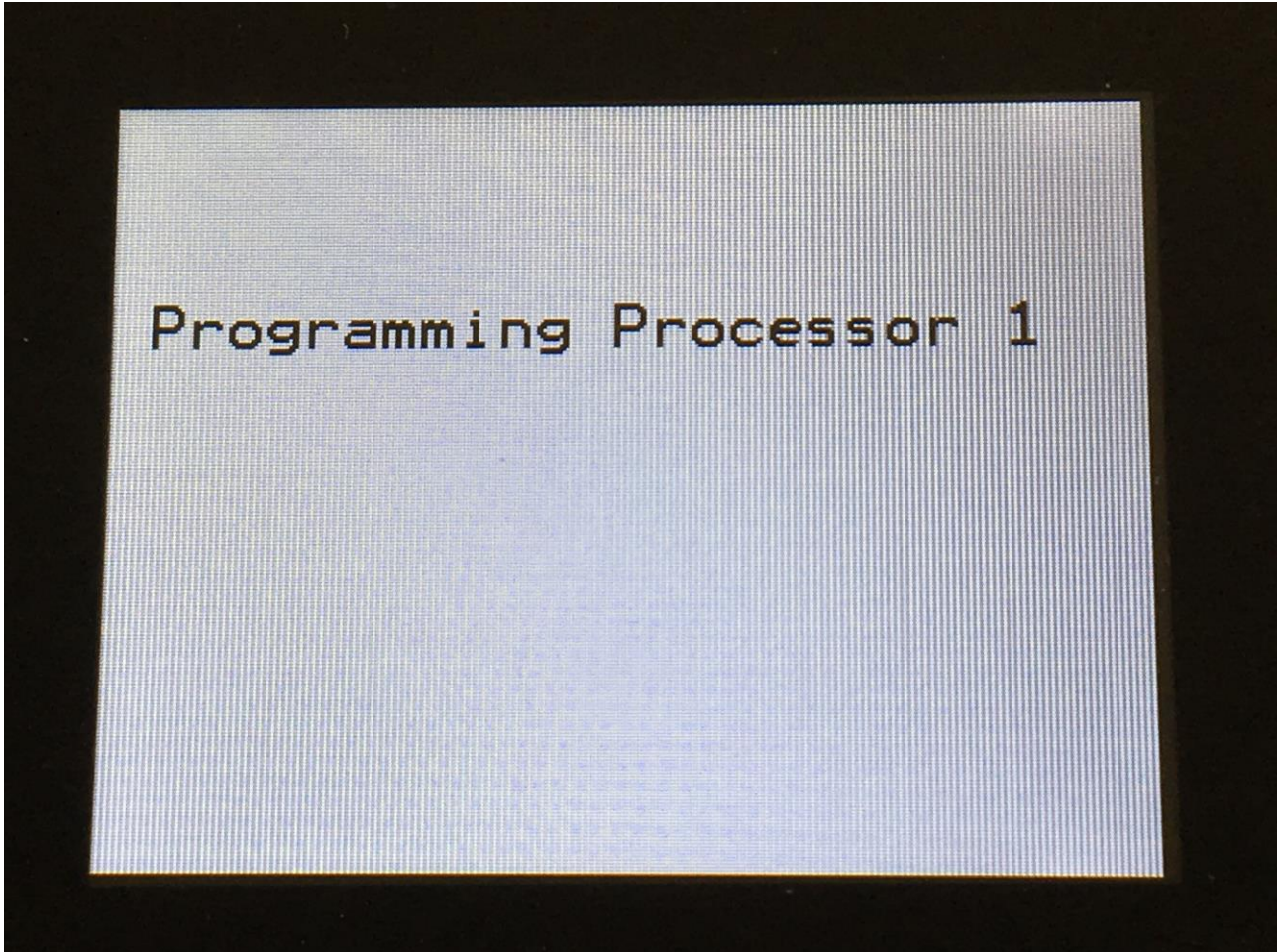

13. Touch "Yes" to proceed with updating, or "No" if you regret.

14. If you pushed Yes in step 13, Xmini will now start to get the update file, and program its processor.
When it starts to program the processor, it will look like it halts for a couple of minutes. This is because it does halt, when erasing the program memory of a processor.
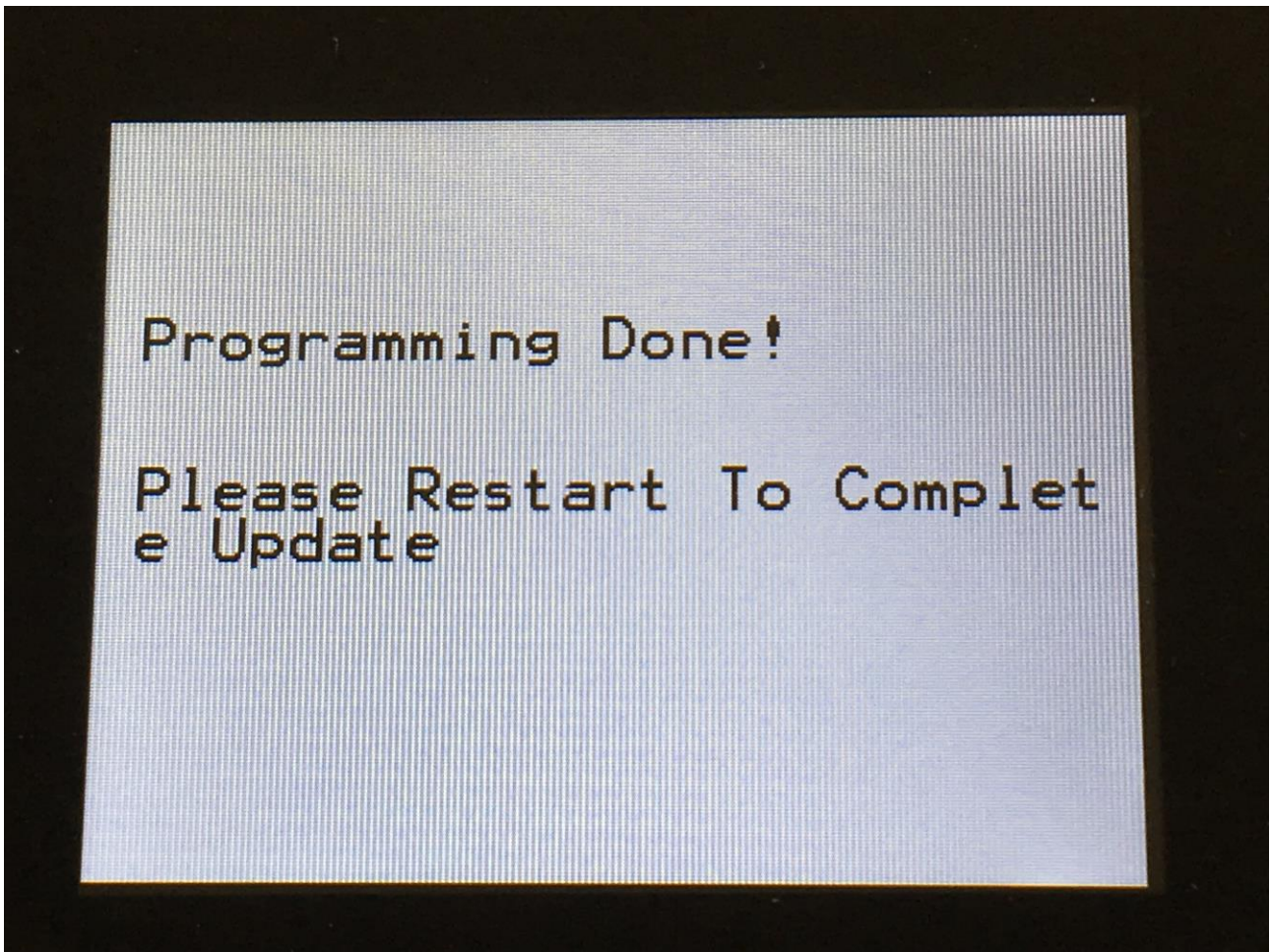
Erasing the program memory of the processor:

Programming processor (counter in the bottom counts up):

Programming Processor 1

0026B95B   2D
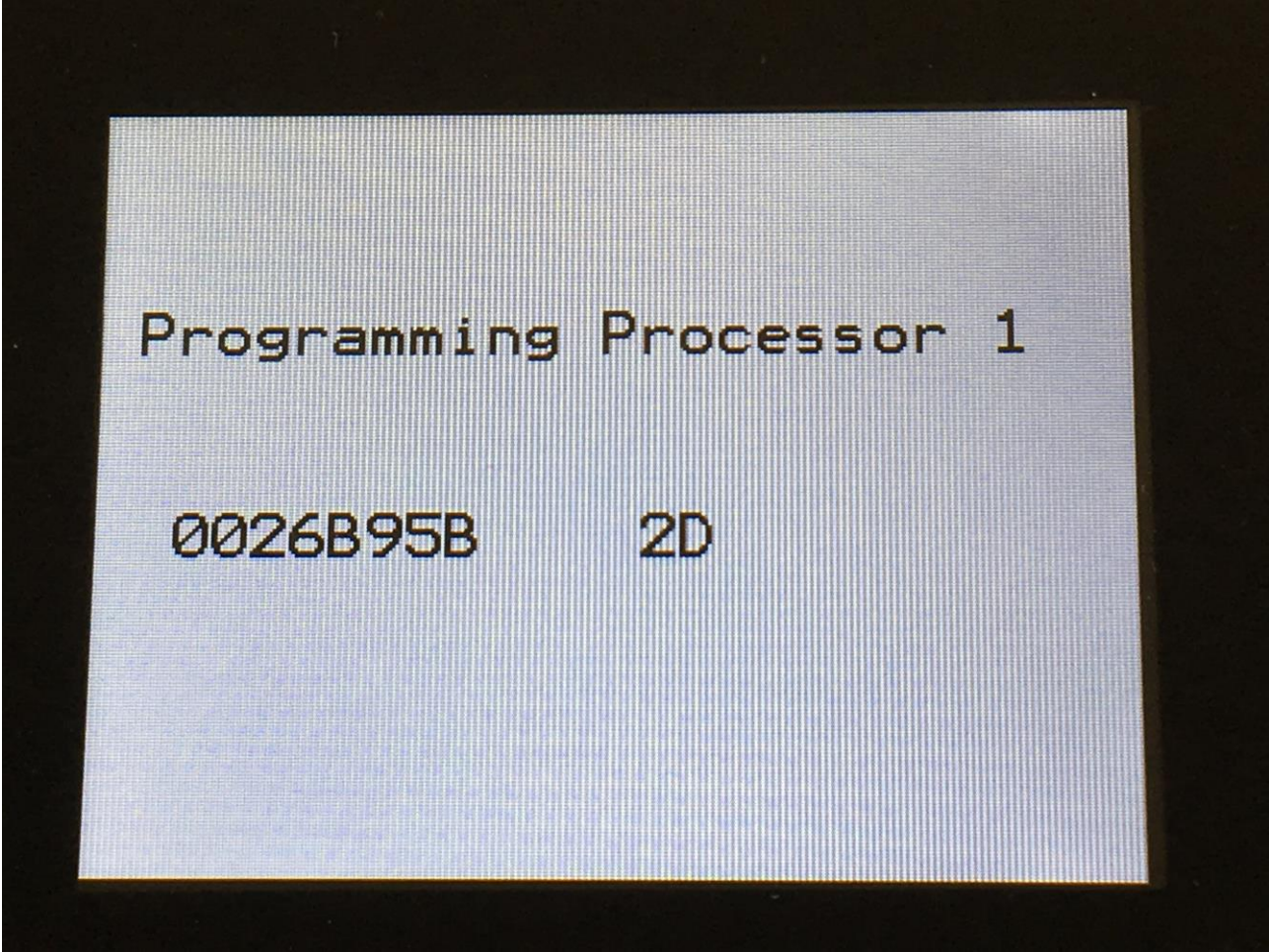
15. When programming is done, Xmini will ask you to restart it. Please turn Xmini off and then on again.

Programming Done!

Please Restart To Complet
e Update

16. When you turn on Xmini after an update, it will need to finalize this. It will show this by turning 3 LED's on and off sequentially, one by one. After it has done this for a little while, it will start normally and are ready to use.

While it is finalizing the update, and initial text will show on the display:

If something goes wrong:
-If the power should go off, while Xmini is getting the update from the USB drive, and programming the processors, simply start over again from step 7.
-If the power should go off, while Xmini is finalizing the update (3 LED's turn on and off), simply turn Xmini on again, and it will now finalize the update.

Analog Filter Install/Replace

If you should ever get in the need for new sounds and inspiration, you might not need to purchase a completely new synth. The analog filter of your Xmini can be replaced, to enter a new sound universe!

This section of the manual will describe how to do that.

You will need a phillips screwdriver, and a screwdriver with a flat head, or a knife:
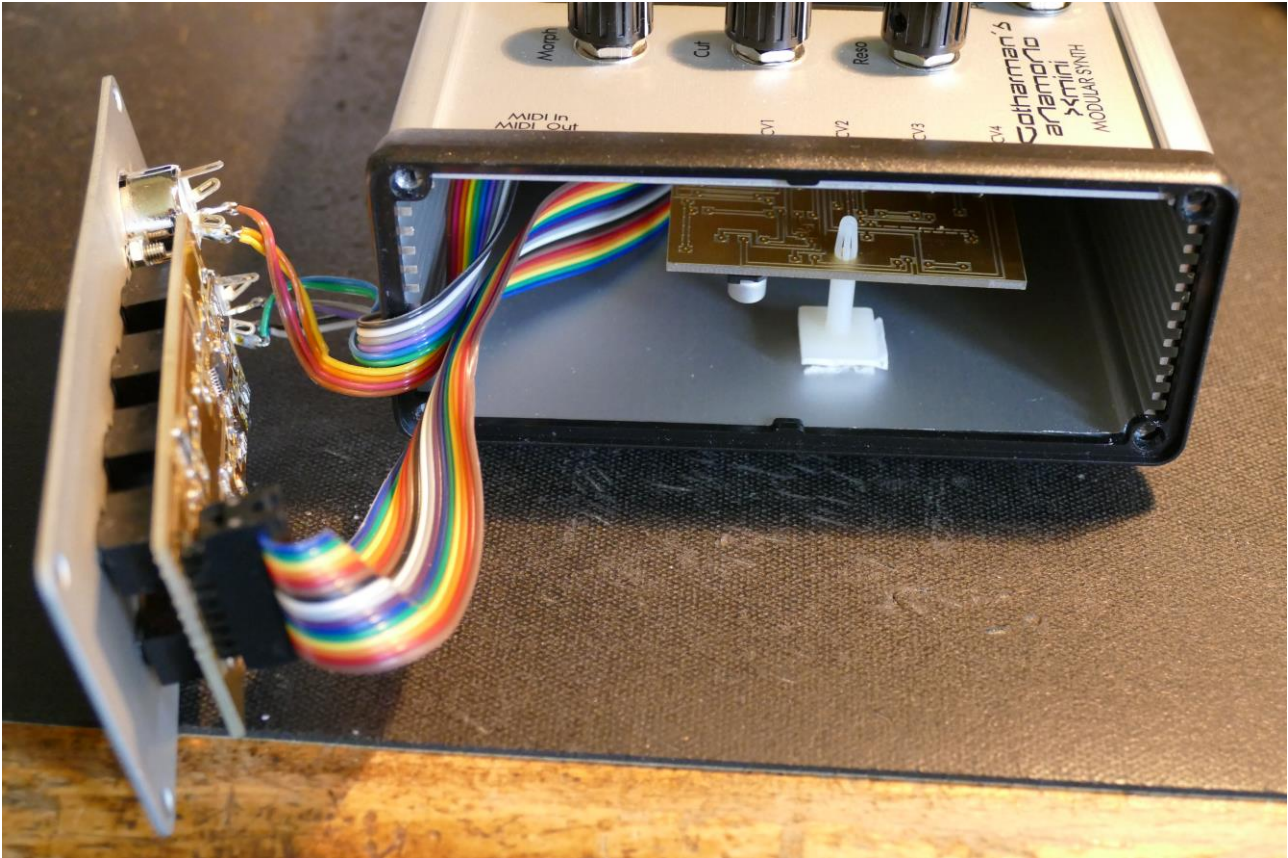
…And a filter board:
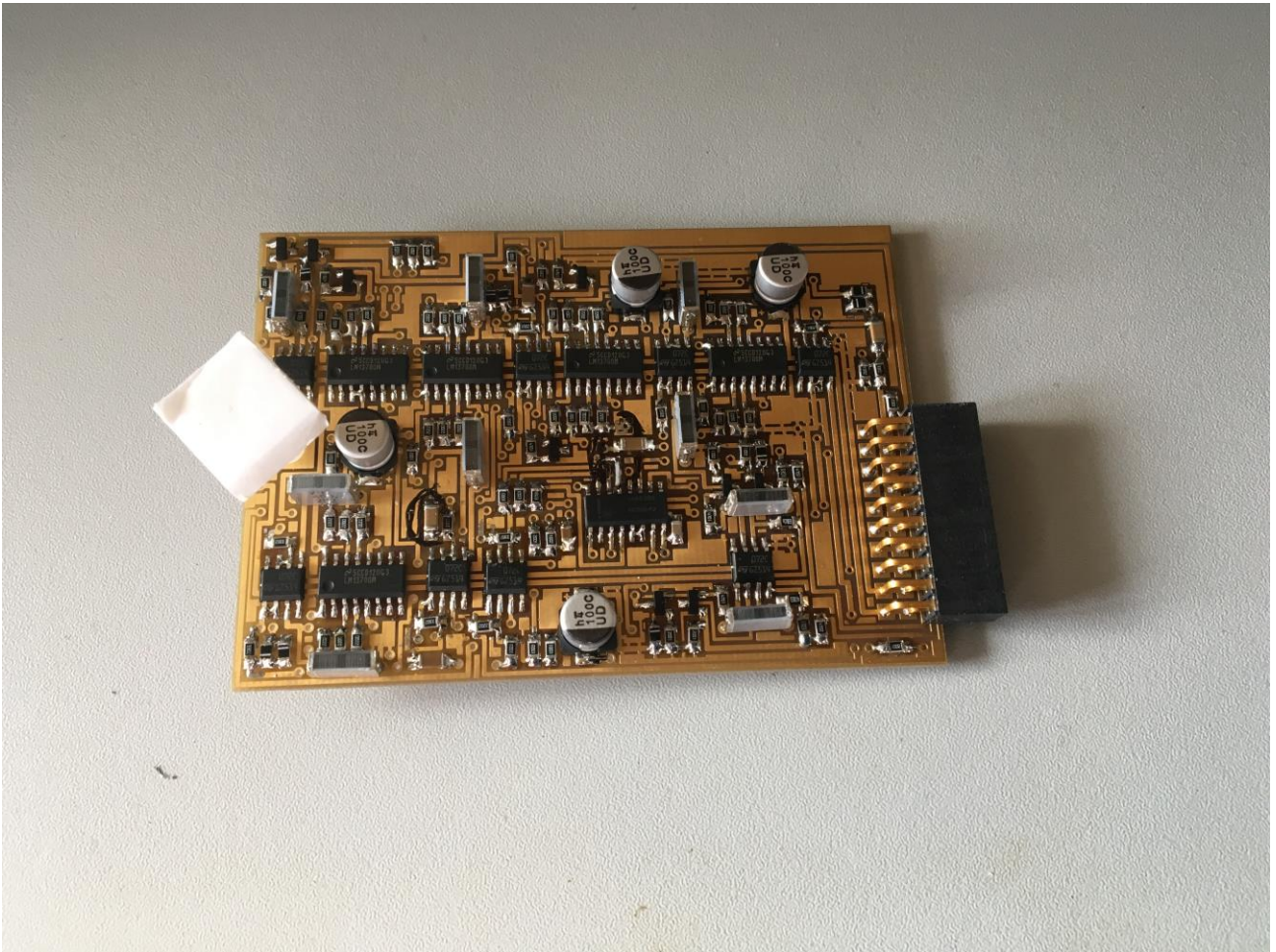
Make sure that your Xmini is turned off, and remove the power connector cable from its connector.
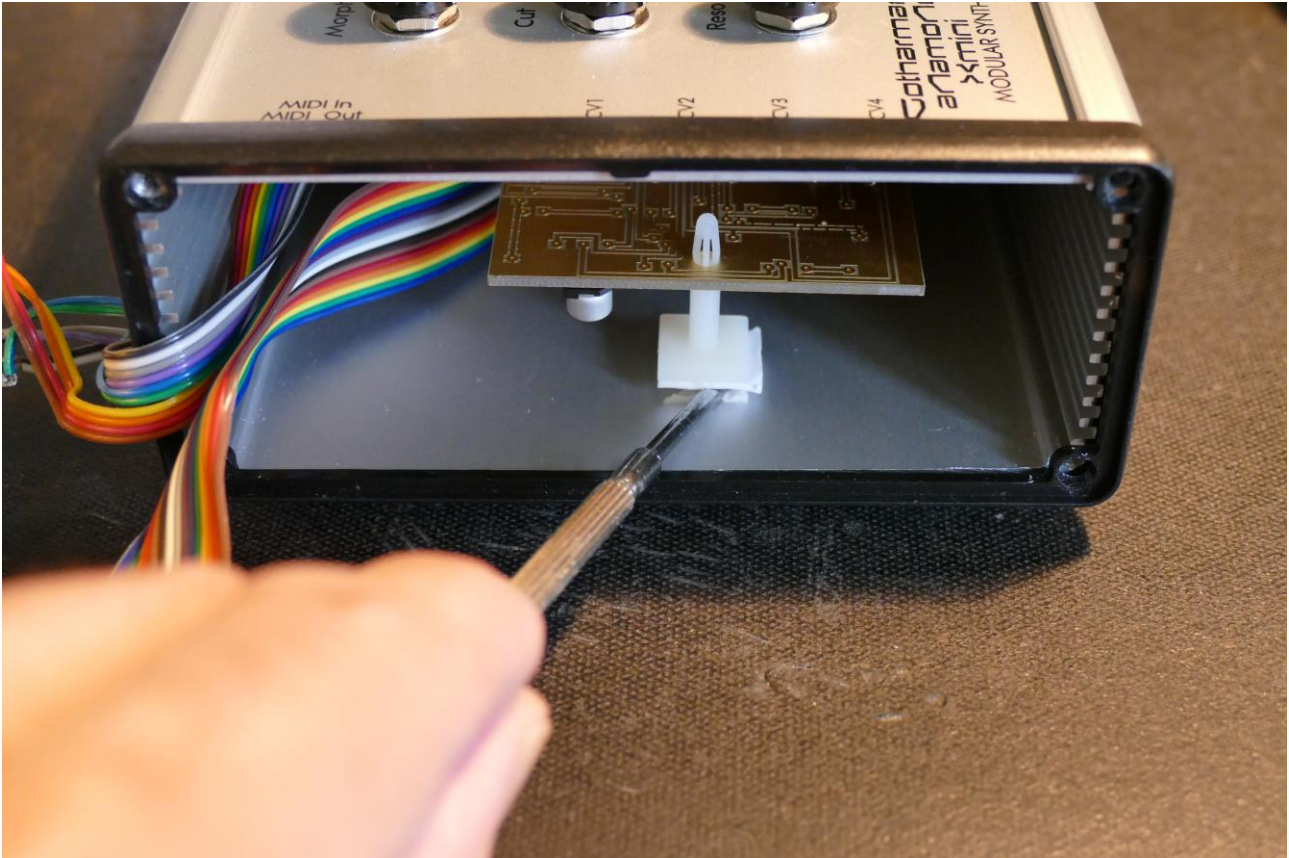
Remove the 4 screws in the corners of the left endplate, using the Phillips screwdriver.

Pull the endplate leftwards.

Now, before you touch anything electronic, with the Xmini power supply connected to the wall socket, touch the metal on the connector. This will unload you from any static electricity, that might damage the electronics.

The plastic feet that helps holding the filter in place, might be glued. Use the screwdriver with flat head or a knife, to loosen it from the Xmini box.
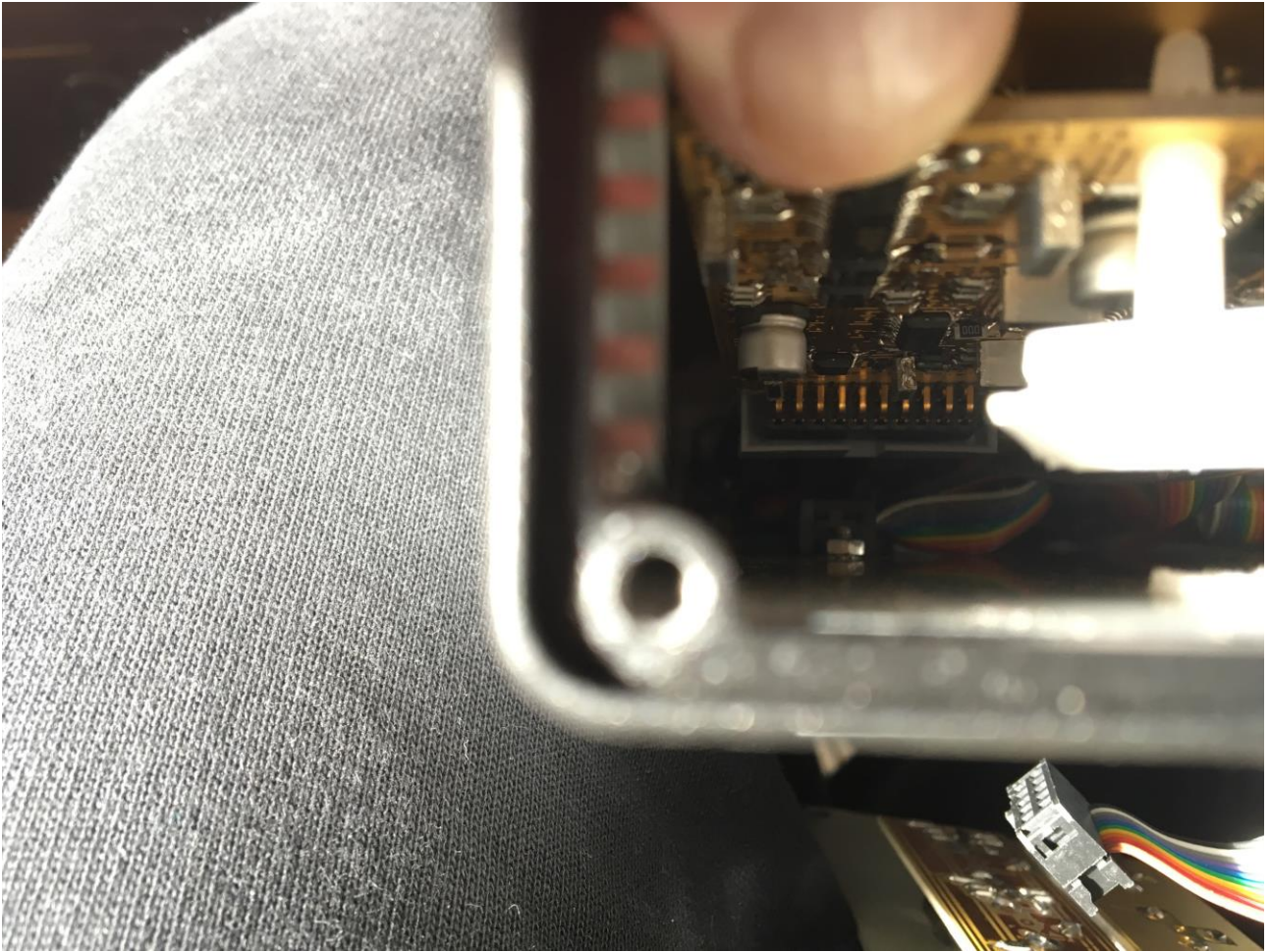
Grab the filterboard with 2 fingers. You will need to wristle it out of the filter connector. Take it all the way out.
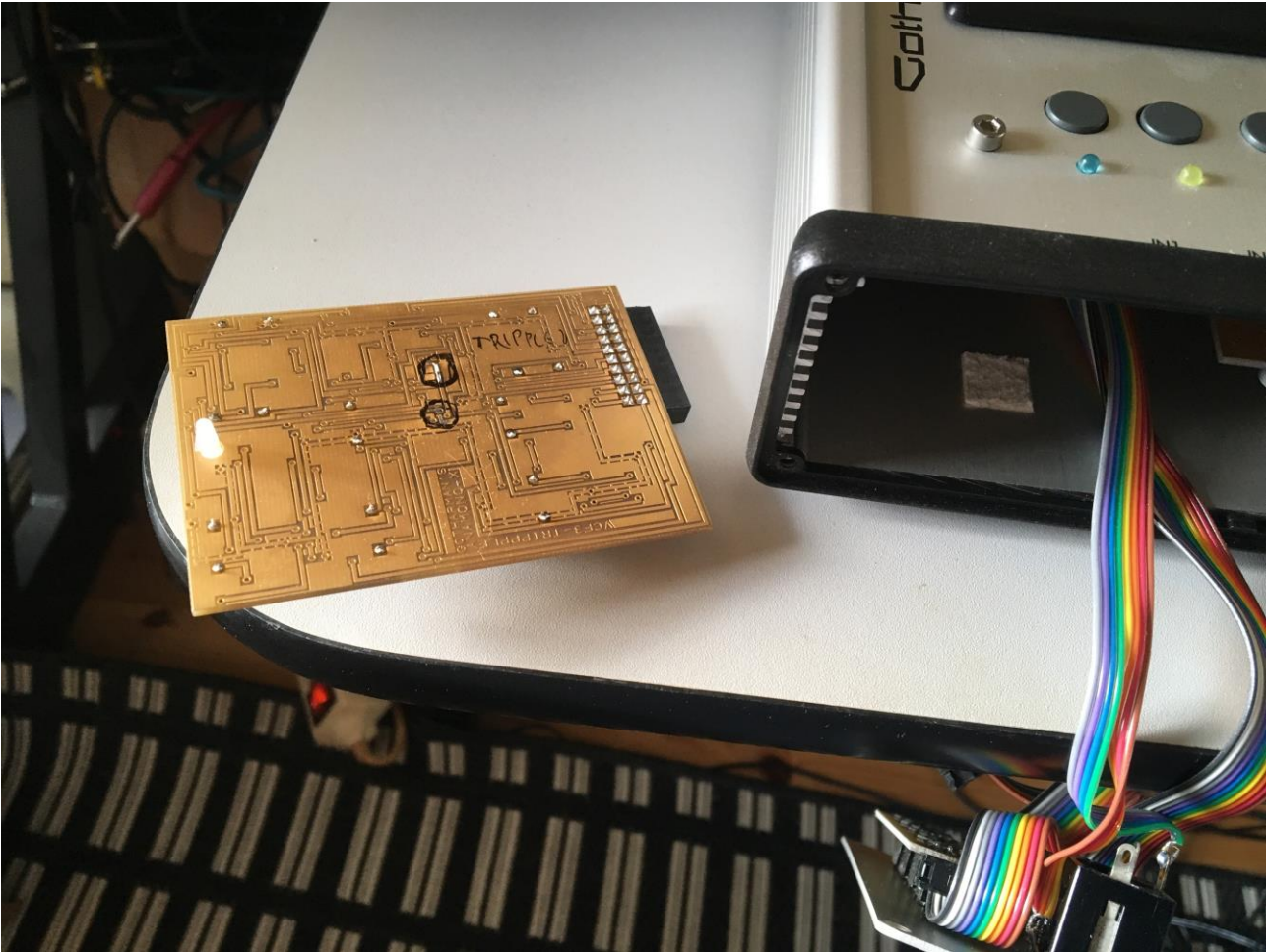
Old filterboard is out.

When you now look inside the box, you will see the filterboard connector. The new filter has to be connected in the middle of that.

Now mount the new filter in the filterboard connector. On filters produced by Gotharman's, the electronic parts and the plastic feet must point down.

MAKE SURE THAT IT GOES IN EXACTLY IN THE MIDDLE OF THE SOCKET. UNFORTUNATELY I HAVE NOT BEEN LUCKY TO FIND A SOCKET THAT FITTED 100%, SO THERE ARE A LITTLE AIR ON BOTH THE LEFT AND THE RIGHT SIDE.

If you like, you can now remove the paper slip below the plastic feet, to get it glued to the box.

Stuff the cables inside the box, and mount the left endplate again.

Turn your Xmini on, and enjoy the new filter.

MIDI Specs

Receives:

-Note on/offs on the Xmini global MIDI channel. These can control the trigger system and be recorded by the sequencer, when it is in reatime rec mode.

-MIDI CC 1 to 4 on the Xmini global MIDI channel. All parameters that are set up to be controlled by Edit Knob 1 to 4, are also controlled by these MIDI CC's. Edit Knob 1 to 4 equals MIDI CC 1 to 4.

-MIDI CC 9, 10 and 11 on the Xmini global MIDI channel controls the Morph, Cut and Reso knobs.

-Pitch Bend messages on the Xmini global MIDI channel. Controls ocillator/Sampler 1 to 4.

-Mono Aftertouch messages on the Xmini global MIDI channel. Modulates parameters, that has been set up to be modulated by this.

-MIDI clock and start/stop messages are received if the sequencer are in external sync mode.

-Program change and bank change (MIDI CC 32), if Prgr is switched on at the Common page.
Accepted bank changes:
0: Preset bank A and B.
1: Preset bank C and D.
2: Preset bank E and F.
3: Preset bank G and H.
4: Preset bank I and J.
5: Preset bank K and L.
6: Preset bank M and N.
7: Preset bank O and P.

Any other bank change messages will be ignored

Transmits:

-MIDI CC 1 to 4 on the Xmini global MIDI channel, from Edit Knob 1 to 4 on the Preset/Song Select screen.

-MIDI CC 9, 10 and 11 on the Xmini global MIDI channel, from the Morph, Cut and Reso knobs.

-Note on/off's on any MIDI channels from the sequencer/trigger system.

-MIDI CC's on any MIDI channel from the sequencer controller tracks.

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2019

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