

Gotharman's Little deFormer 3



Granular Workstation

Quick Manual

Temporary Issues

At the moment of writing this manual, a few functions are not yet fully functional:

- Song mode
- Copy/Paste system
- Synthesizer Parameter Randomizer
- Controller tracks realtime recording
- When exporting samplings and reloading them, using the USB reload function, chop points are not reloaded. This only applies to the reload function. Importing samplings using the Import functions, will import both chop points and cue points.

These functions will be working in updates that will be released as soon as possible.

Getting Started

Connecting:



On the right end panel of your LD3, you will find the power switch, connection for power supply, stereo audio outputs, USB, and MIDI in and out.

You would probably like to connect the audio outputs to a mixer or an amplifier, or anything else that ends out in a speaker/a set of speakers. Since LD3 doesn't have built in speakers, it just needs to be connected to something, that can transfer its amazing sound to you. These should be connected, using ¼" mono jack cables.

The left audio output (marked "AUDIO OUT L(hp)") doubles as a stereo headphone connector. Please make sure that nothing is connected to the right audio output, when plugging headphones into this connector.

If the LD3 touch screen keyboard and step buttons seems a bit too limited, you might want to connect a MIDI keyboard to MIDI in, in order to take full advantage of LD3's fully chromatically

playable sounds. It is also possible to connect anything that transmits a MIDI clock, if you would like the sequencer of LD3 to sync to the rest of your setup.

On MIDI out, MIDI clock, MIDI CC's from the LD3 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 LD3.

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 deFormer .lds samples

- Import, export and back up LD3 presets and songs

- Update LD3

- PLEASE NOTICE: The included factory samples CANNOT be exported. So if you want to keep these, you should take care not to delete them. A USB stick with the factory samplings might be available in the future.

To import a .wav file from another device, it must be:

- Mono or stereo

- 44.1 KHz sample rate – LD3 will import other sample rates, but they will play back in a wrong speed

- 16 bit or 24 bit native PCM

- Standard wav's or broadcast wav's



On the left end panel of your LD3, you will find the stereo audio inputs. The optional extra audio inputs and outputs and the CV inputs and outputs are also found here, if installed.

Audio inputs L and R

The two rightmost 1/4" jack connectors, marked "AUDIO IN R L" are always the stereo audio inputs.

Connect any line stereo/mono audio sources to the audio input, for sampling and/or processing through LD3's effects and optional analog filters.

When 2 extra audio inputs and 2 extra audio outputs were ordered:

AUDIO IN/OUT 3 4 are the additional audio inputs 3 and 4, and AUDIO IN/OUT 5 6 are the additional audio outputs 3 and 4.

When 4 extra audio inputs and 4 extra audio outputs were ordered:

This option were only available at pre-ordering.

The tip of AUDIO IN/OUT 3, 4, 5 and 6 are audio inputs 3 to 6, the ring of AUDIO IN/OUT 3, 4, 5 and 6 are audio outputs 3 to 6.

PLEASE NOTICE:

In order to use the audio in's and out's 5 and 6, you must remove any installed analog filterboards. See how to do this later in this manual, in the chapter named: "Installing/exchanging Analog FilterBoards".

CV inputs and outputs

If you start counting from the left, the first 4 minijacks are CV input 1 to 4. The next 4 are CV output 1 to 4.

Connect any CV voltage 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 set up to modulate many parameters and they can be set up to act as trigger sources. They also accepts clocks, start/stop and reset pulses 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 LD3 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 is also possible to output triggers via these, to trigger external gear.

Starting Up

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



It's a 9V, minimum 2.0A type with a 2.1 mm DC plug, with positive middle. The powersupply on the picture is only for reference. The actual one might look different.

Some LD3'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 aligned to the text "Tip":

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



Turn it on

Push the “I” on the power switch. Your LD3 should now turn on.

The User Interface



LD3 has a highly sensitive and responsive capacitive touch display, 16 step/trigger/part select/quick jump buttons, a Morph Set button, a Func/Mute button, a Steps/Part button and a Sequencer Start/Stop button. It has 8 Edit/Quick Edit Knobs for controlling and editing parameters and sending MIDI CC's, a (synth) Morph knob, a Sequencer Morph knob and a volume knob.

Pushing the **Trigger 1-16** buttons, with Func/Mute and Steps/Part unlit, will trigger the respective LD3 part. In this mode any of the 4 trigger buttons will trigger all of the 4 PolySpaze voices at the same time. Each trigger button will send a settable note number (Settable in the Synth "Trig" section). When a trigger is triggered, the button will light up.

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

The **Morph Set** button, will toggle the parameters on any Synth and Sequencer page, between 2 layers of parameters, A and B. The **Morph** knob (**MIDI CC#1**) will morph between the two layers of

Synth parameters, and the **Seq Morph** knob (**MIDI CC#2**) will morph between the two layers of Sequencer parameters.

When the **Func/Mute** button is held down, it is possible to **mute/unmute** the 16 note tracks, by pushing any of the 16 step buttons. When it is lighting up, the 16 step buttons functions as **Quick Jump** buttons, that will take you to the edit pages, which names are showed right above each step button.

When the **Steps/Part** button is held down, the 16 step buttons functions as **Part Select** buttons. Pushing any of these, will select part 1 to 16.

When it is lighting up, the 16 step buttons will show the **steps** of the selected sequencer note track. Steps that are on will light up, steps that are off will not light.

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

The **Edit 1-8 Knobs** to the left of the display, adjusts the parameters on each edit page. On the **Preset Select screen**, they acts as modulation sources, that controls any parameters that has knob1 to 8 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: Digital filter 1 cutoff (**MIDI CC#4**).
- Edit Knob 2: Digital filter 1 resonance (**MIDI CC#5**).
- Edit Knob 3: Digital filter 1 mix (**MIDI CC#8**).
- Edit Knob 4: VCA envelope release time (**MIDI CC#9**).
- Edit Knob 5: Digital filter 2 cutoff (**MIDI CC#10**).
- Edit Knob 6: Digital filter 2 resonance (**MIDI CC#11**).
- Edit Knob 7: Digital filter 2 mix (**MIDI CC#12**).
- Edit Knob 8: The level of the selected part (**MIDI CC#7**).

The Touch Screen Keyboard

The LD3 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.



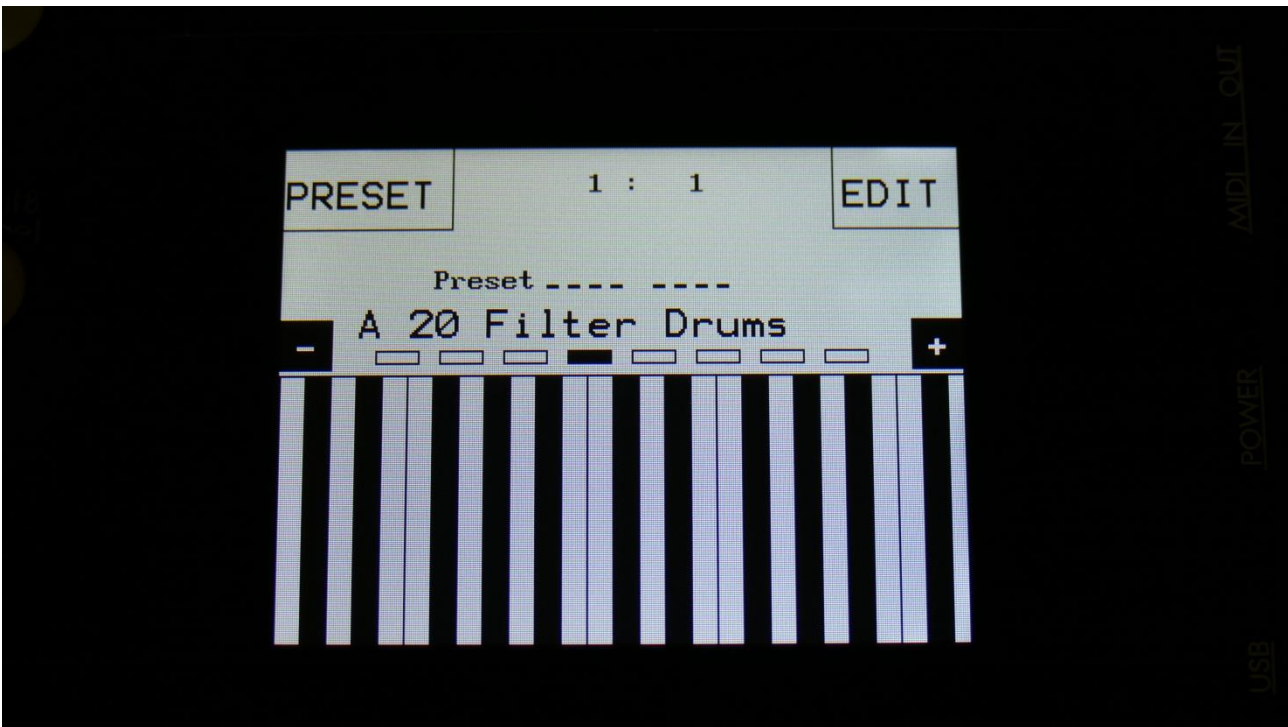
On the Preset and Song Select pages, it is, besides from playing notes on the touch keyboard, also possible to apply modulation to the sound, by placing your finger on different positions between the top and the bottom of the keyboard. This is referred to as Keyboard Y modulation. On any other pages,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

The touch keyboard is always controlling the selected part.

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 LD3's start-up screen, unless you left your LD3 in Song mode, the last time it was turned off. Here you can change preset, jump to LD3'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 LD3 is currently in preset mode, or "Song" if it is currently in song mode.

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

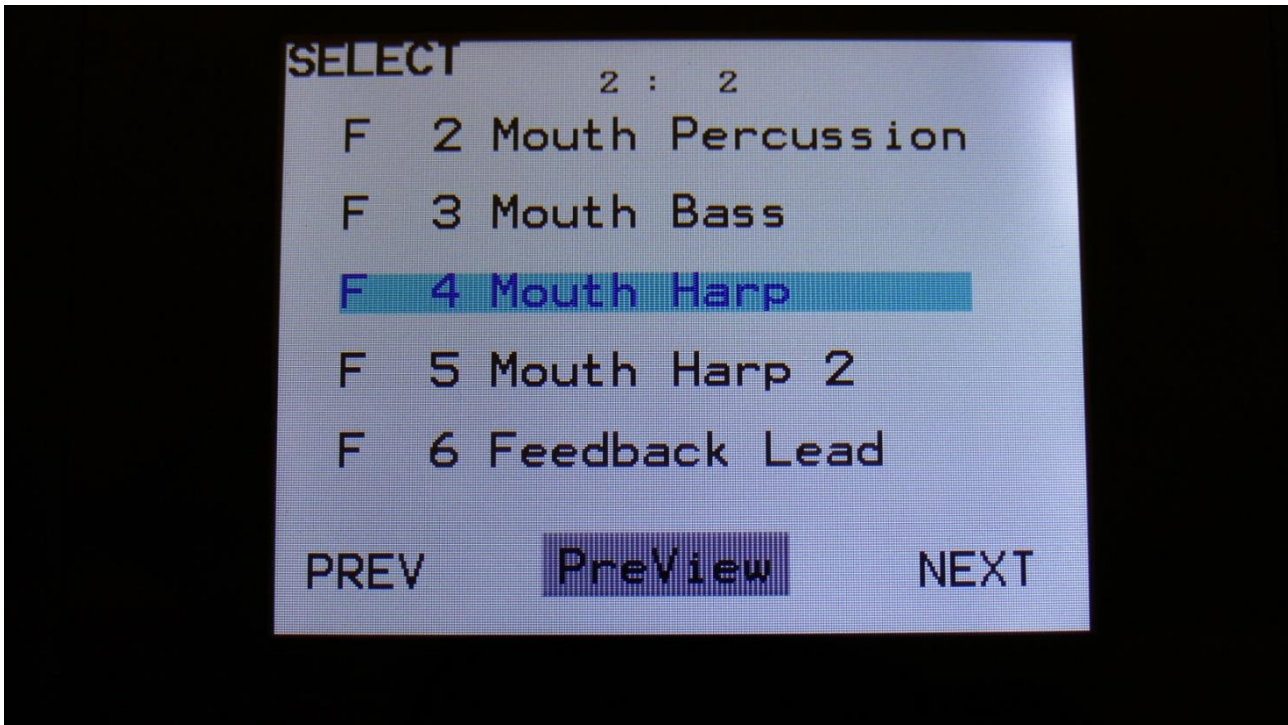
Below the preset name/number, you will find the touch screen keyboard.

Right above the preset name, 8 small VU-meters are shown. These shows the activity of voice 1 to 8.

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.

LD3 will now jump back to the main Preset Select screen, and show the name of the newly selected preset.

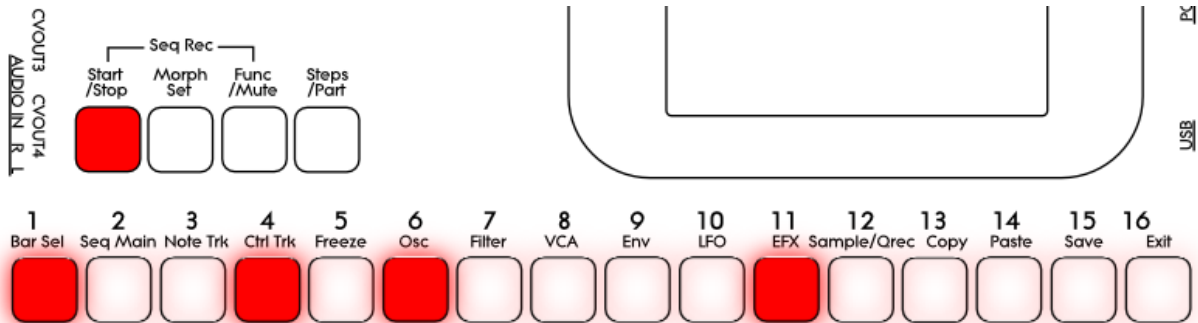
If the sequencer is playing back, the Start/Stop LED will now start to flash, and the text "NEXT:" will show right above the new presets name, awaiting track 1 to reach its start/end step. As soon as this happens, LD3 will switch to the newly selected preset, the Start/Stop LED will stop flashing, and "NEXT:" will disappear.

If the sequencer is not playing back, LD3 will immediately switch to the new preset, when you touch the preset name.

When LD3 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.

Operating LD3

Starting and stopping the Sequencer, and trigger parts manually:



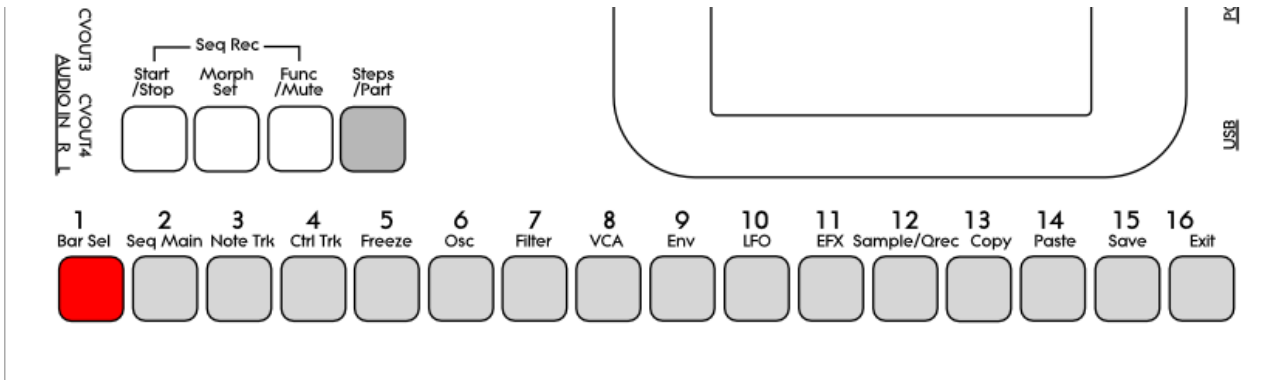
To start the sequencer playback, push and release the Start/Stop button, so that it lights up.

The sequencer will now start to play back. When the Func/Mute and the Steps/part buttons are not lighting up, every time a part is triggered to play back, the corresponding step button will light up shortly.

To stop the sequencer, simply hit the Start/Stop button again, so that it is no longer lighting up.

To trigger the 16 parts manually, make sure that neither the Func/Mute button or the Steps/Part button is lighting up, and then push any of the 16 step buttons, to trigger the sounds that are programmed on each part.

Selecting a part:



Push and hold the Steps/Part button.

The selected part number will now be shown, by one of the 16 step buttons lightning up. The number above the step button, is the part number that is currently selected.

To select another part, while still holding down the Steps/Part button, push any of the 16 step buttons.

The selected part, is the part which parameters will be shown on the display, when entering the edit pages.

Selecting a part, also selects the equally numbered Sequencer Note Track.

When entering the Sequencer Controller tracks 1 to 16, track 1 to 16 is selected in the same way.

When entering the Sequencer Controller tracks 17 to 32, 1 will equal 17, 2 will equal 18, and so on.

Selecting Effects Processors

The 8 insert effects processors and the 2 output effects processors are also selected, using the part select buttons.

Part 1 is insert effect 1

Part 2 is insert effect 2

Part 3 is insert effect 4

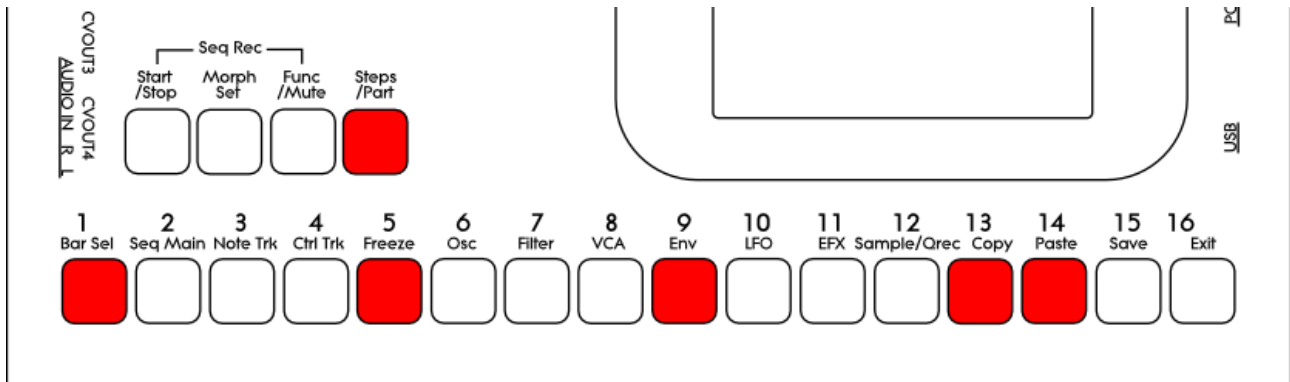
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Part 8 is insert effect 8

Part 9 is output effect 1

Part 10 is output effect 2

Sequencer Note Track Steps view/edit:



First, select the part, for which you would like to view/edit the note steps, as described earlier in this manual. You can, of course, select another part at any time, also after you have entered note step edit mode.

To enter note step edit mode, push and release the Steps/Part button. This should now light up. Any note sequencer steps that are switched on to play back, will now also light up on the 16 step buttons.

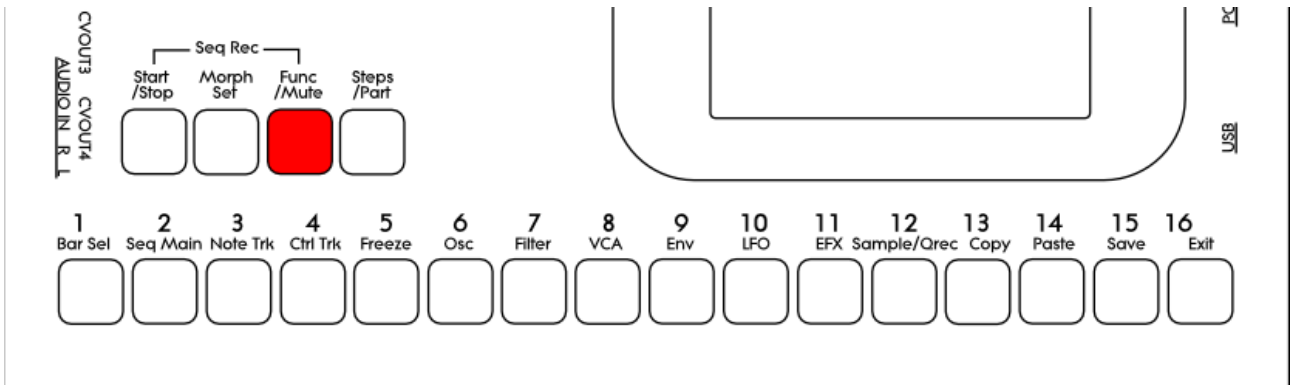
If the sequencer is running, the light state of each step button will be reversed, when a step is playing back.

To switch a step on or off, simply hit the corresponding step button, as it will toggle its state.

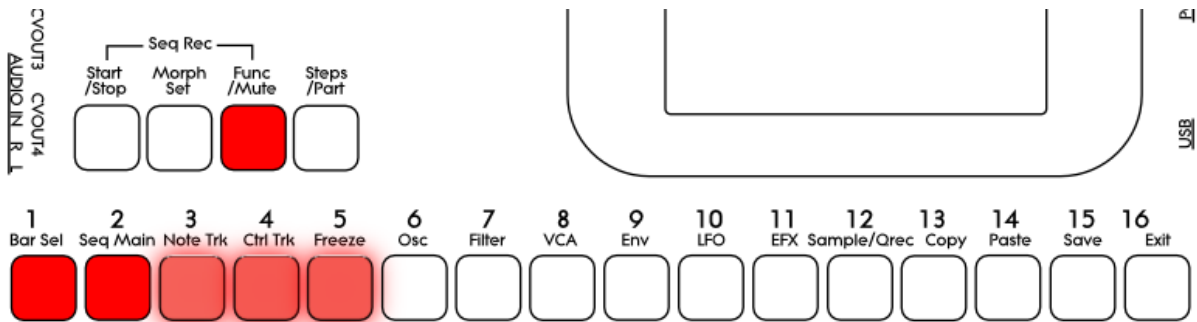
When using the LD3 sequencer as a usual step sequencer, the steps will play back from left to right. In this case, step 1 plays back at position 1, step 2 plays back at position 2 and so on. On the LD3 sequencer, it is though possible to break this pattern, and make each step play back on any position, using the position subtrack. It is even possible to make more steps playing back at the same position, for polyphonic step sequencing. But more on that in the final manual...

Only 16 steps are shown at a time. The note tracks of LD3 has 64 steps. Please read on, to experience how to switch between step 1-16, 17-32, 33-48 and 49-64.

Selecting Sequencer Note Track steps 1-16, 17-32, 33-48 and 49 to 64:



Push and release the Func/Mute button, so that it is lightning up. Now, push and release step button 1, Bar Sel:



Now step button 1, Bar Sel, will light up.

If steps 1-16 are selected, step button 2 will also light up, and step buttons 3, 4 and 5 will flash.

To select steps 1 to 16, push step button 2. This will light up, and step button 3, 4 and 5 will flash.

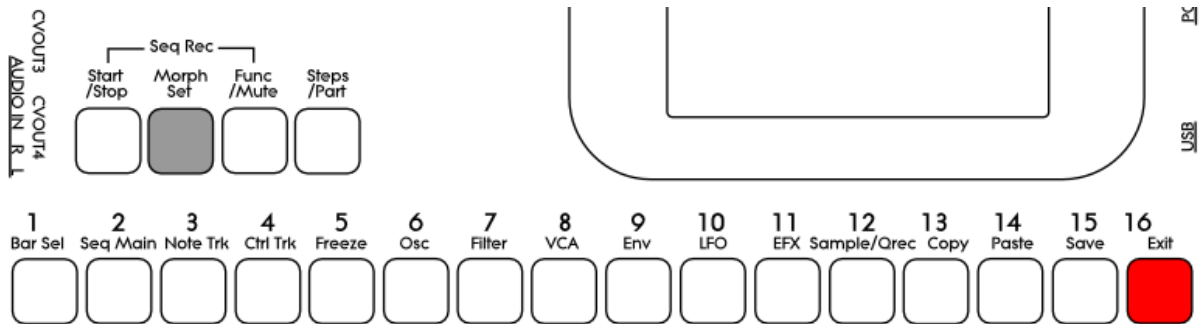
To select steps 17 to 32, push step button 3. This will light up, and step button 2, 4 and 5 will flash.

To select steps 33 to 48, push step button 4. This will light up, and step button 2, 3 and 5 will flash.

To select steps 49 to 64, push step button 5. This will light up, and step button 2, 3 and 4 will flash.

After selecting the desired steps, hit the Steps/Part button, to switch steps on and off. At any time, return to the steps select, just by hitting the Func/Mute button.

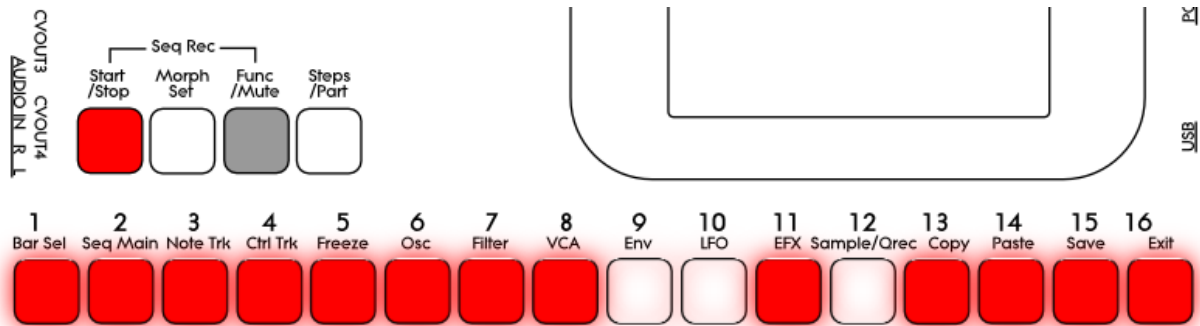
Setting the last step of a Note Track



This can be done on the Note Tracks edit pages, but it can also be done via the pushbuttons.

Push and hold the Morph Set button. If the last step of the selected note track are inside the selected step range, this will now be shown, as a step button that lights up. Push any step button, while still holding down the Morph Set button, to set the last step of the selected Note Track.

Mute/Unmute Note Tracks:



To mute, unmute or view the mute state of the 16 note tracks, push and hold the Func/Mute button.

Unmuted tracks will now be shown by a step button that is lighting up, and shortly flashes off, every time the track is triggering.

Muted tracks are shown by a step button that is unlit, and that lights up shortly, every time the track would have triggered something, if it weren't muted.

To mute or unmute a track, simply hit the corresponding step button, while still holding down the Func/Mute button.

Audio Bus System

Each of the 16 parts in LD3, consists of a sound generator, that can be selected to be either a multi waveform oscillator, a sampler or a noise generator. The audio signal from the sound generator goes into 2 digital multimode filters. The output signal from the filters goes into a VCA.

In order to make the sound of the part audible, it must be assigned to one of the 8 audio busses. The audio bus must also be sent to an audio output, or output effects processor 1 or 2.

In the VCA section of the part, it is possible to assign the selected part to output to one or two audio busses. When outputting to two audio busses, the output signal from the part will be a stereo signal, and one of the two digital filters will be placed on the left channel, and the other on the right channel.

The default settings is that all parts are mono routed to Bus 1. Bus 1 is set to output on the main Left and Right audio jack connectors.

On each of the 8 busses, it is possible to place any of the 8 insert effect processors and the analog filters (if installed), for processing the sounds, that are sent to the busses.

Each audio input can also be routed to any Bus, for realtime processing of external gear through the effects and analog filters.

The Synth/Sampler Parts

LD3 has 16 parts, that is playing back through 8 voices, using dynamic allocation.

Each part must be set up to output to one or two of the 8 audio busses (see the “Audio Bus System” section earlier in this manual).

Each part has:

-**1 oscillator**. This can play a morphable synth waveform, up to 4 samplings (stereo or mono) or a noise waveform.

-**2 digital multimode filters** with resonance.

-**1 VCA**, where both output level and pan can be adjusted and modulated.

-**3 envelopes**. Two ADSR types and one decay envelope.

-**1 Random Generator**. Always key triggered.

Shared between the 16 parts:

-**16 LFO's** with morphable waveforms.

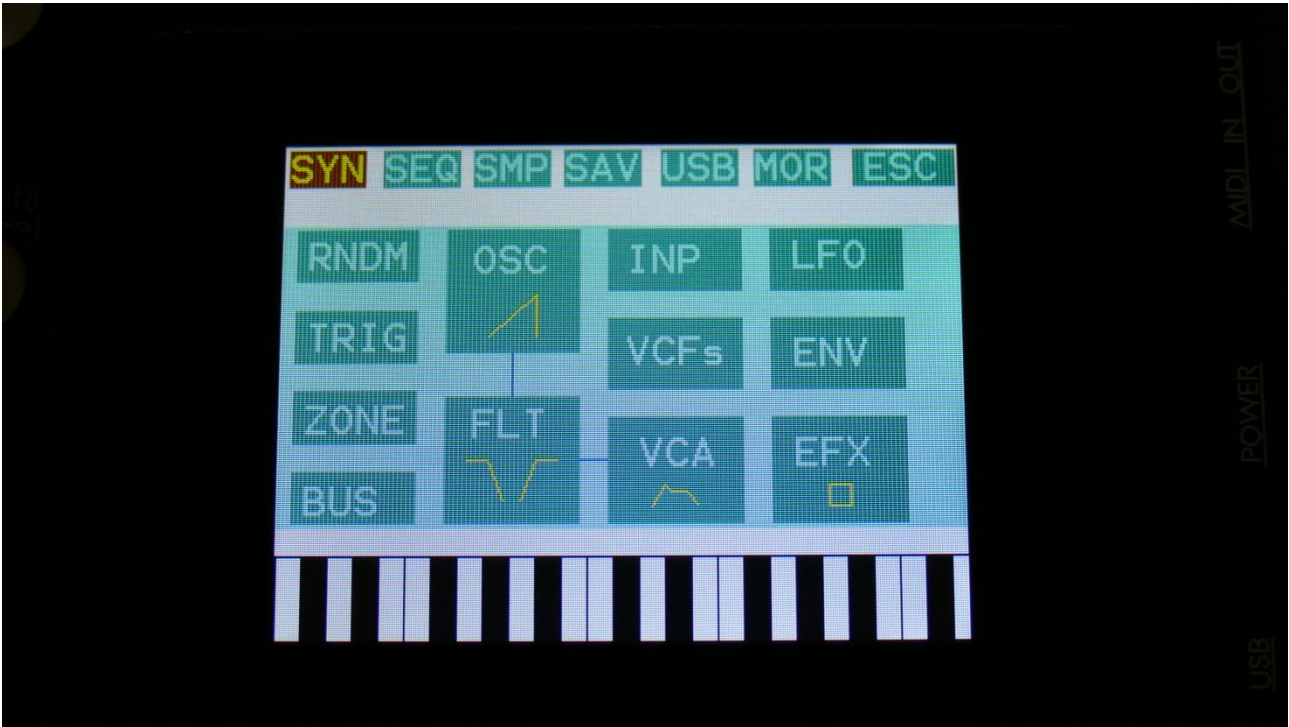
Remember to save all edits you do in the synth/sampler section. Else they will be lost when you change preset, or turn LD3 off. See how to in the “Save Preset” section.

Accessing The Synth/Sampler Pages



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

Now LD3 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.

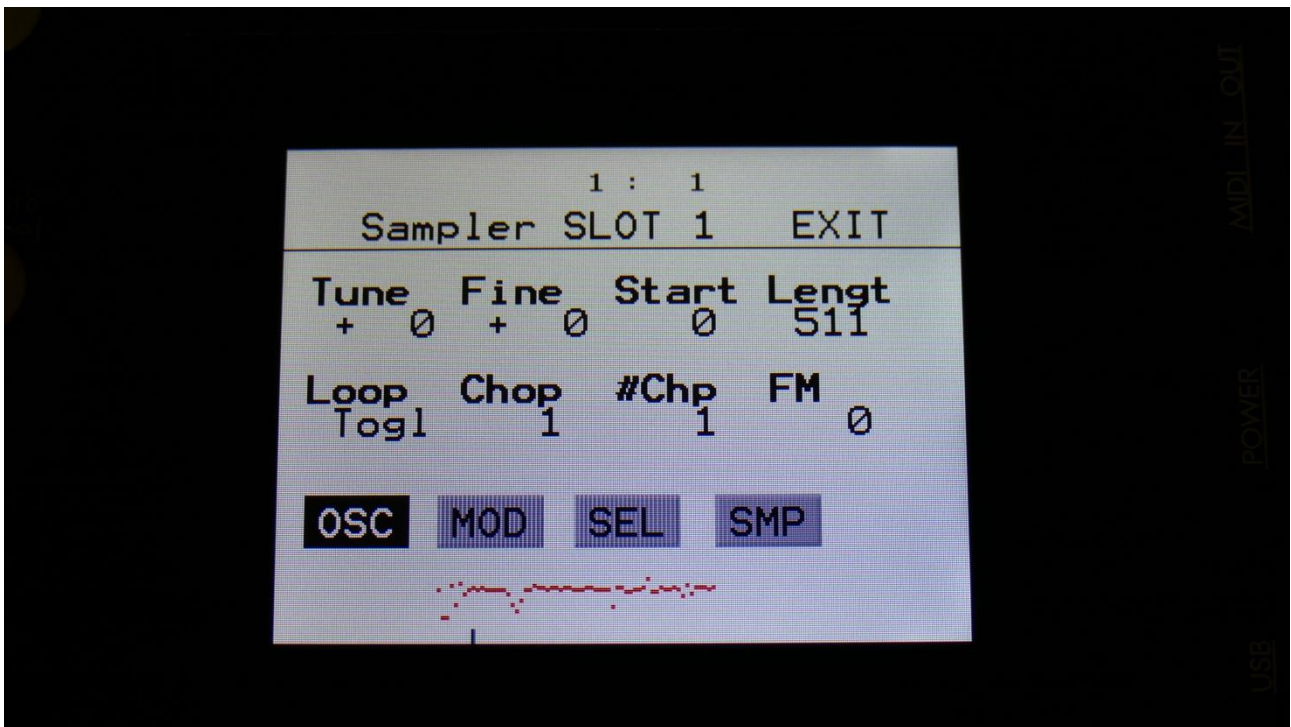
The touch button of the currently selected edit group is brown/yellow, while the buttons of the other groups are green.

The group of touch buttons, will be referred to as the “group select bar”.

Below the group select bar, you will find the synth blocks. Touch any block, to access the parameters of it, and edit these. Part 1 to 16 is selected using the Steps/Part button in combination with the step buttons.

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

Editing The Parameters Of The Synth Blocks



Each edit 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.

When turning any of the 8 Edit Knobs, the corresponding parameter will be adjusted, and you will hear a change in the sound, if the block is active.

Right below the parameters, you will find the subpage select touch buttons. Touch any of these, to access the desired parameter sub page. The touch button that is black with white text, shows that this is the currently selected sub page. The grey touch buttons, are the sub pages, that you can select.

In the upper right corner of each block you will find "EXIT". Touch this to exit to the main Synth page.

Some of the synth edit pages:

```

1 : 1
Trigger SLOT 1 EXIT
Mode      TriggerNote
Normal    C 4
Bend Range Chan Int/Ext
2         1     Int
  
```

```

1 : 1
ZONE      SLOT 1 EXIT
LowK1 HiK1 Trps1 Chan1
C -1 G 9 + 0 1
  
```

```

1 : 1
BUS OUT   SLOT 1 EXIT
Bus1 Bus2 Bus3 Bus4
L+R L+R L R
Bus5 Bus6 Bus7 Bus8
L R L R
Out Frl Fga
  
```

```

1 : 1
OSC       SLOT 1 EXIT
Tune Fine Wave PW
+ 0 + 0 Sin 0
FM 0
Porta 0
OSC MOD SEL SMP
  
```

```

1 : 1
Samples SLOT 1 EXIT
1: C 12 KICK12_M
2: D 10 ANGLITBS
3: C 28 SNARES_M
4: C 58 CH7_M
OSC MOD SEL SMP
  
```

A	B	C	D	PREV	NEXT	OK
0001	KICK1_M	..	0002	KICK2_M	..	
0003	KICK3_M	..	0004	KICK4_M	..	
0005	KICK5_M	..	0006	KICK6_M	..	
0007	KICK7_M	..	0008	KICK8_M	..	
0009	KICK9_M	..	0010	KICK10_M	..	
0011	KICK11_M	..	0012	KICK12_M	..	
0013	KICK13_M	..	0014	KICK14_M	..	
0015	KICK15_M	..	0016	KICK16_M	..	

```

1 : 2
FILTER1 SLOT 1 EXIT
Cut Reso Inp Mix
165 451 256 +255
Type Nrw Low Boost
LPF4 0 0
FL1 M01 FL2 M02 SET
  
```

```

1 : 2
FLTSETUPSLOT 1 EXIT
Stereo Conn Link
Off Par Off
FL1 M01 FL2 M02 SET
  
```

Insert Effects 1 to 8

LD3 has 8 insert effects. Each of these can be placed on any of the 8 audio busses, to process the synth/sampler parts and audio inputs, that are assigned to the same bus.

List of Insert Effects

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. LD3'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.

Glitch Shifter – Imperfect pitch shifter.

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

Glitch Shifter 3 – Imperfect pitch shifter with a slightly different sound than the first two.

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.

FAT - Adds up to 3 layers of the sound to itself, and it is possible to adjust the phase of these, and to select whether the effect sound should be boosted or just layered.

Output Effects 1 and 2

LD3 has 2 output effects processors, that the audio busses can be sent to.

List of Output Effects

Delay 1 – 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 – 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 – First delay, but with a brighter sound, created by a resonator.

Bright Roto Delay – Roto delay, but with a brighter sound, created by a resonator.

Granulator – Cuts the input signal up in grains, that can be re-arranged. The PolySpaze granulator can sync to the sequencer.

Variator – **Max 2 at a time.** Creates new variations of the input signal. Both pitch and rhythmic variations.

Reverb – **Max 2 at a time.** A FAT high resolution synthesized reverb with granular Size parameter.

The Sequencer

The LD3 sequencer has 2 different types of tracks: Note tracks and controller tracks. It has 16 note tracks and 32 controller tracks.

Each note track controls 1 part – Note track 1 controls part 1, note track 2 controls part 2 and so on, and each track has a note number subtrack, a gate time subtrack, a velocity subtrack, a position subtrack and a step on/off subtrack. Note number, gate time, delay time, swing, velocity and position can be modulated. All 16 note tracks can either control an internal part, or an external MIDI device. Each note track can be up to 64 steps long, and the resolution can be set from 1/64 to 1/2. Each step of a note track, can play back at any position of the sequence, allowing polyphonic step sequencing. A Strum parameter has also been added, to make polyphonic chords strum.

A scale can be added on the output of a note track. This can be a harmonic scale, or a scale that swaps the keys of an octave, or a scale that swaps the black and the white keys.

Each controller track outputs their value to the modulation sources matrix and, if selected, to MIDI out. They can be up to 128 steps long, and resolution can be set from 1/64 to 1/2. A smooth parameter are available, that when on, will make a controller track slide from one step to the next.

Templates are available, like ramp up, ramp down and randomize. The percentage of how much the template should affect the track is settable.

The position track has special templates for forwards, backwards, alternating, random, 2 note and 4 note sequences.

All tracks has separate last step, start step and resolution settings, so even polyrhythmic sequences are possible.

The tempo of the sequencer can be set between 51 and 306 BPM. It can sync to MIDI clock, and it is both possible to transmit and re-send MIDI clock to MIDI out.

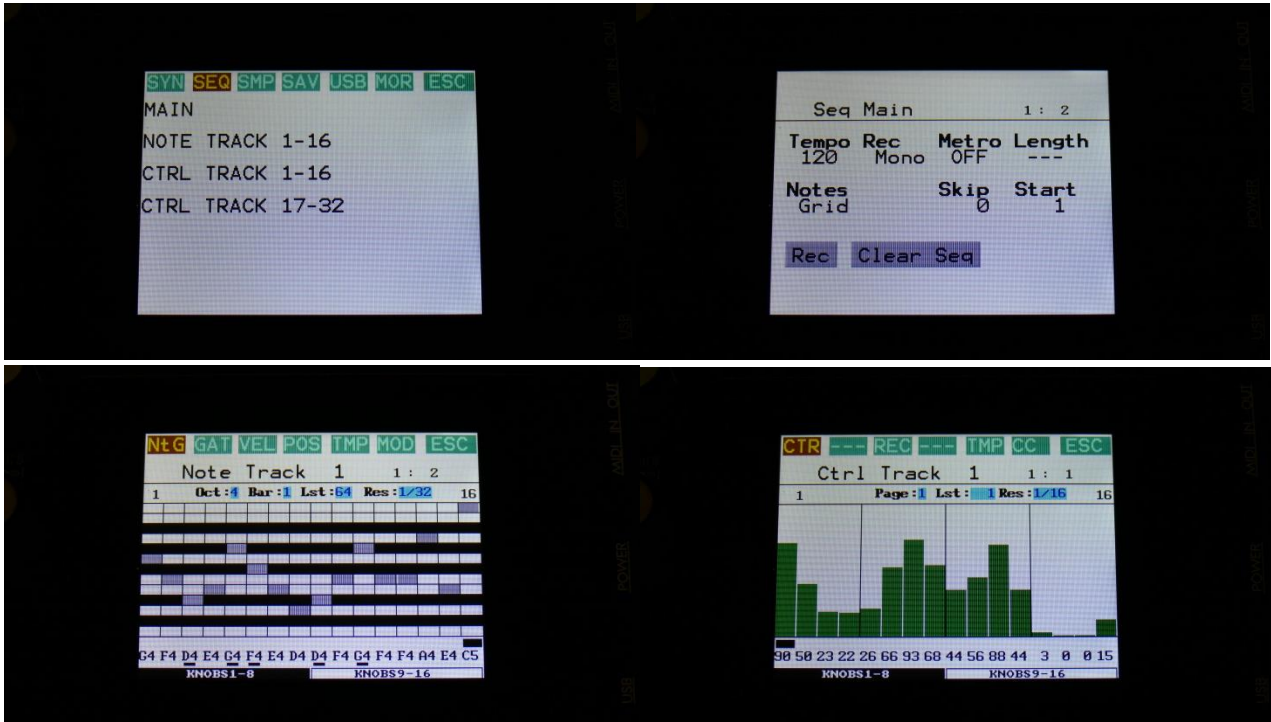
Inputting of note number values can be done in analog/TR fashion, via the step buttons, and it can be done by realtime recording, either monophonic or polyphonic. To assist the realtime recording, a metronome is present. It is also possible to record samplings as audio tracks via the sequencer.

Inputting of controller track values can only be done via the touch screen, not by yet realtime recording, but this is a planned feature

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 LD3 off. See how to in the "Save Preset" section.

Some Sequencer screenshots:



Realtime recording of notes

You can, at any time, hit the Steps/Part button, and switch note steps on or off, but sometimes you might like to just record something, that you play on a connected MIDI device, like a keyboard or some drum pad, on the touch screen keyboard, or on LD3's trigger buttons. For this, realtime recording is usable.

You can start realtime recording by holding down the Func/Mute button, while pressing the Start/Stop button. If the sequencer is already running, it will immediately enter realtime recording mode, and any note you play will be recorded. If the sequencer is stopped, you will have to push the Start/Stop button, to start it. Before it starts realtime recording, it will count in for 2 bars with audible metronome.

When realtime recording, the Start/Stop button will flash in time with the beat.

To switch off realtime recording, simply hit the same button combination again, so the Start/Stop button stops flashing.

LD3 has two different note realtime recording modes: Mono and poly.

In mono recording mode, it records the notes in a linear time fashion, like a traditional step sequencer: One note per step. The notes you play are placed at the position where the sequencer was playing back, at the moment that you played the note. If you play more than one note on the same position, only the last note you play are recorded.

If you play several parts at the same time, each part will be recorded on separate tracks, so more parts can be recorded to sound at the same time.

In poly recording mode, the position subtrack is modified every time you play a note to be recorded. The first note you play, will be placed at step one, and the position of step one, will be set to the position, that the sequencer was playing back, when you played the note. The second note you play, will be placed at step two, and the position of step two, will be set to the position, that the sequencer was playing back, when you played the note. And so on, until you have played 64 notes. Any step can be at any position, and therefore polyphonic recording and play back is possible.

The realtime recording mode is set on the Sequencer Main page, by adjusting the Rec parameter.

The choices are:

-Mono: Monophonic recording

-Poly: Polyphonic recording

-Audio: Audio track recording (Explained a little bit later in this manual)

-AudCH: Chopped audio track recording (Explained a little bit later in this manual)

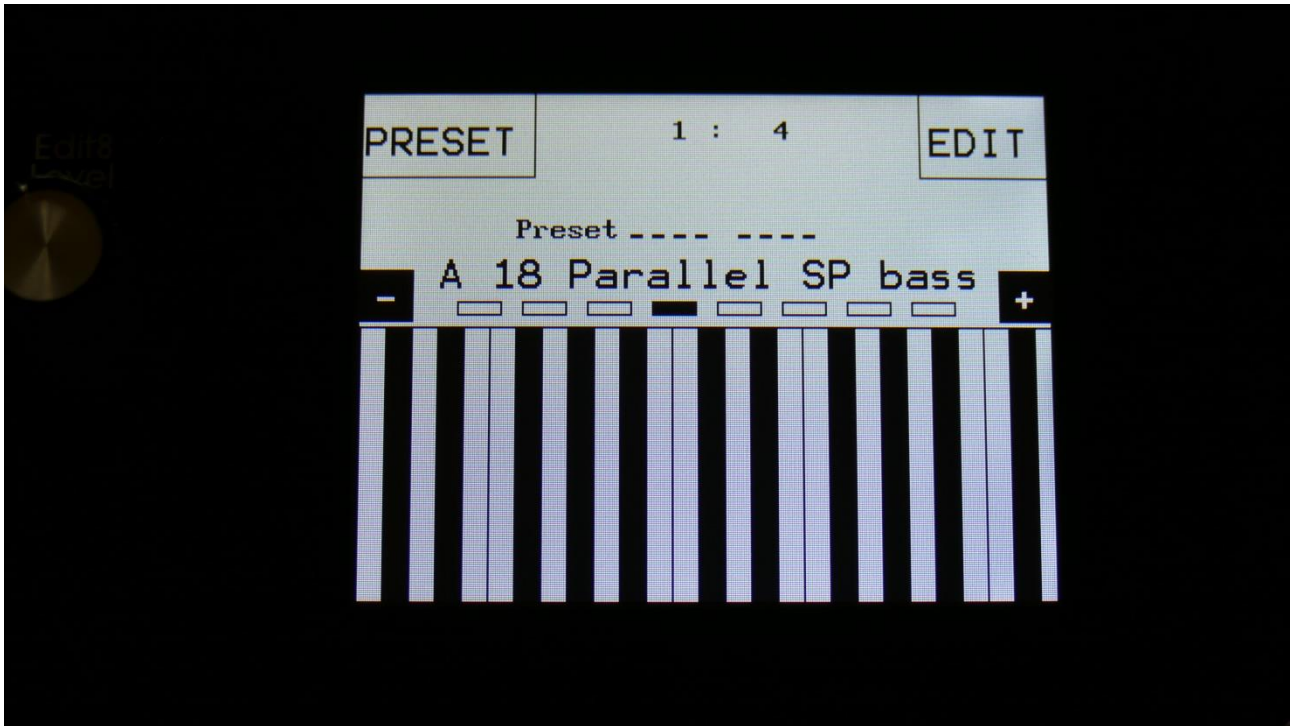


On the Sequencer Main page, it is also possible to switch realtime recording on and off, by touching the Rec touchbutton.

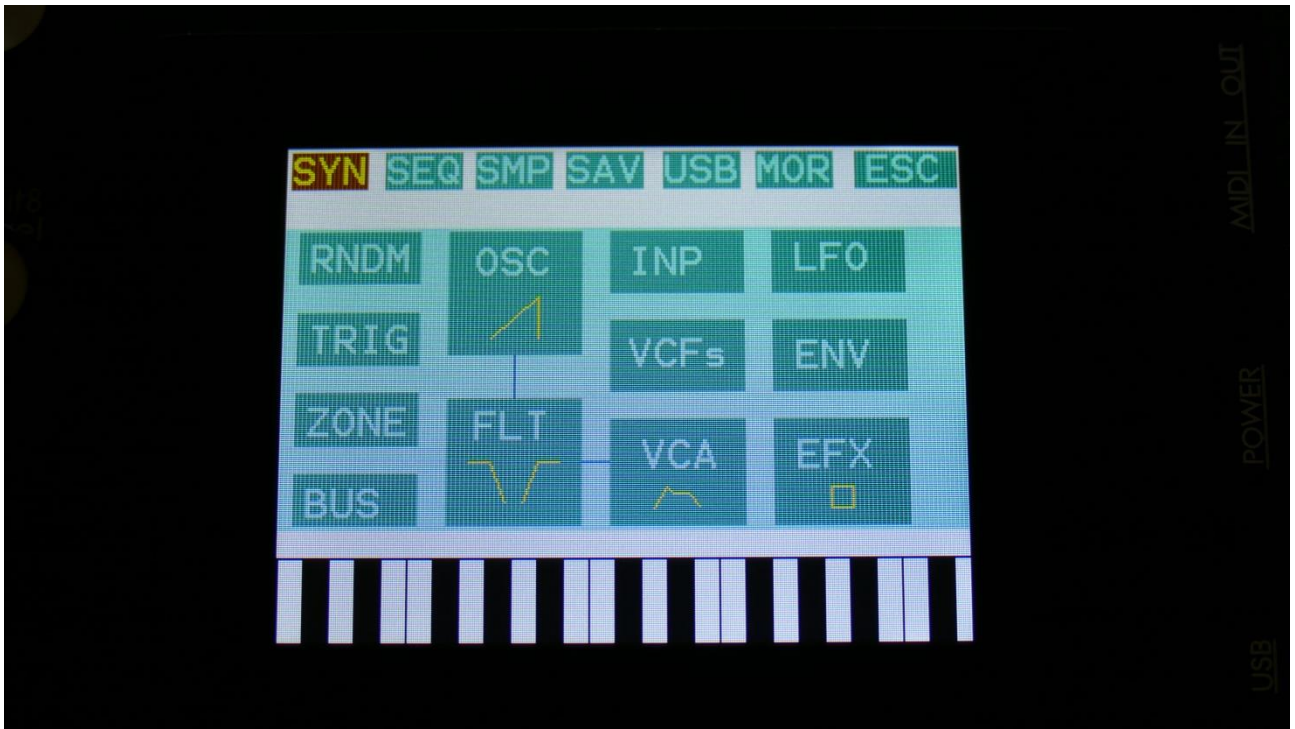
Setting up a track/part to internal or external operation

Each of the 16 LD3 note tracks, can control either the internal part, that they are hard assigned to, or external MIDI gear.

When a part/track is set up to external MIDI control, the internal part can not make any sound.

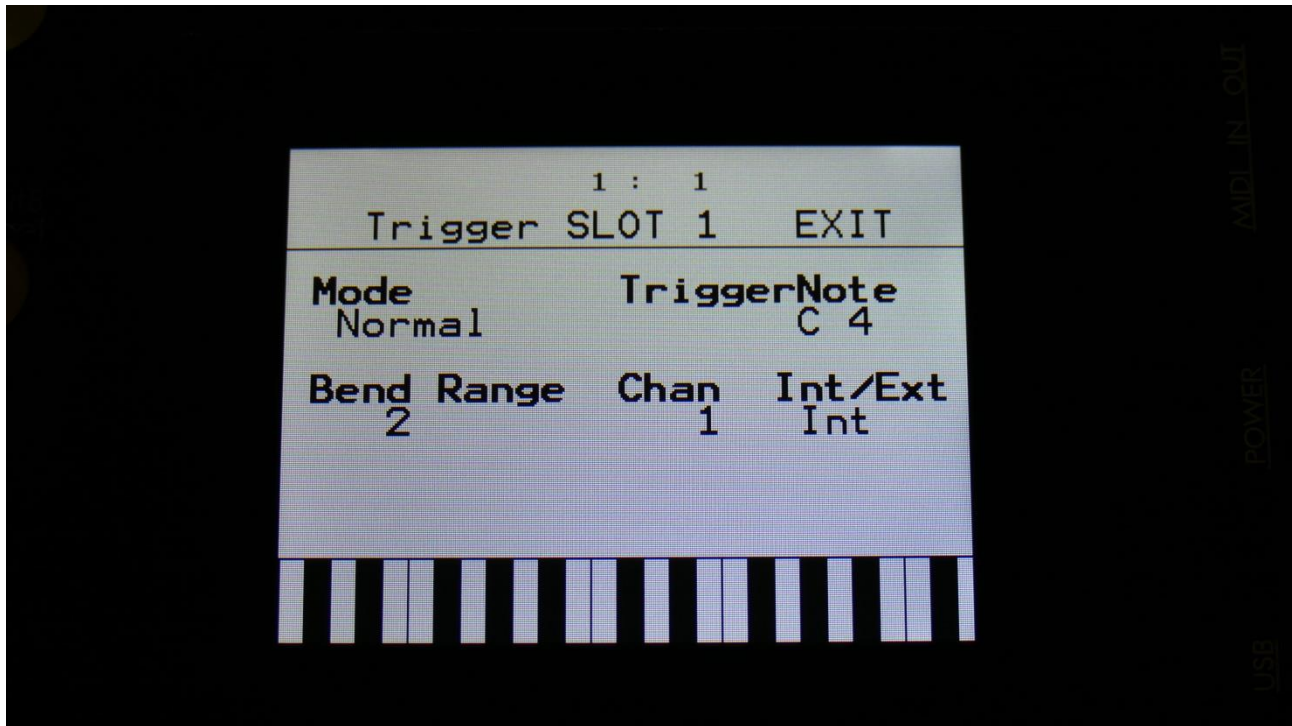


From the Preset Select page, touch the EDIT field, to enter the main synth page.



On this page, touch TRIG.

Now you will enter this page:



Select the part, that you would like to set up as internal or external, by holding down the Steps/part button, while pushing the step button, that has the desired part number.

Set the Int/Ext parameter to Int (Internal) or Ext (External).

If you set the part to external, set the Chan parameter to a MIDI channel that matches the MIDI gear, that you would like to control.

Set other track up, if desired.

Audio Track Recording

Each of the 16 LD3 note tracks, can be set up to function as an audio track. 8 audio tracks can play back at a time, and each can be either in mono or in stereo. One audio track can be recorded at a time.

Audio tracks can either be recorded as one whole piece (un-chopped), or they can be recorded as a number of smaller pieces, that can be re-arranged afterwards (chopped).

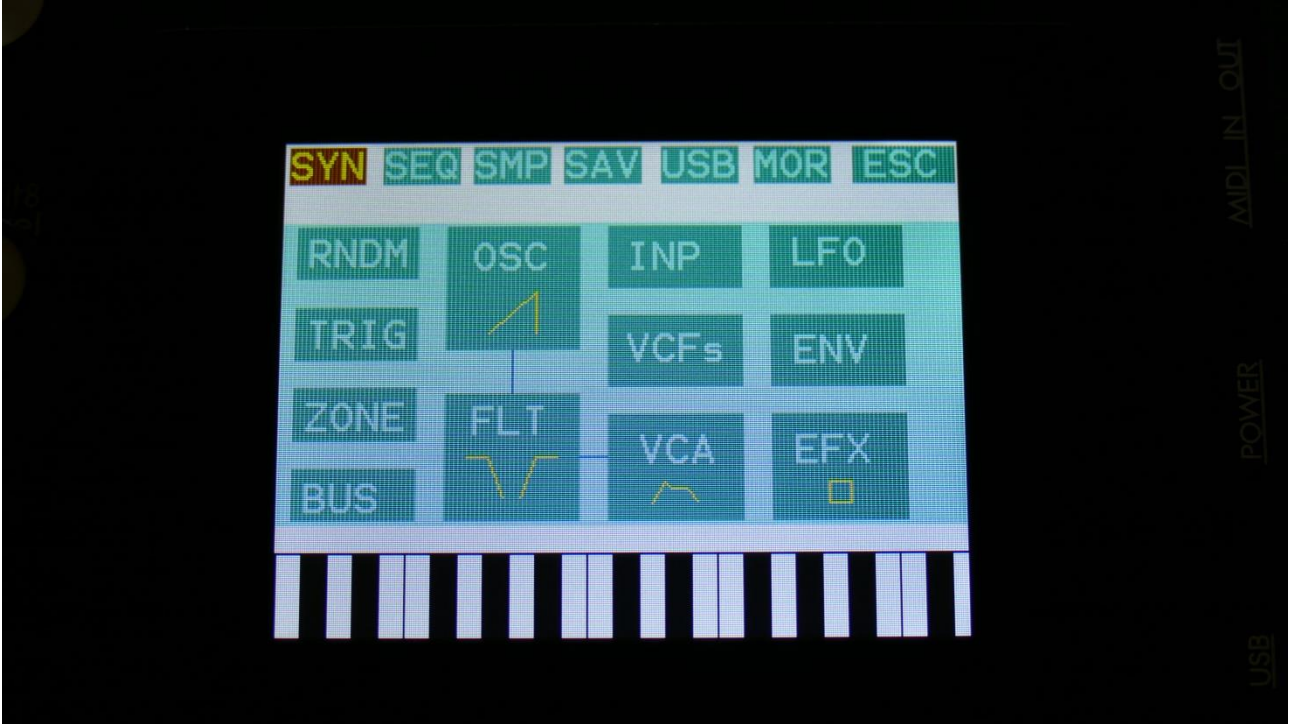
An audio track will be the same length, as the note track you are recording to, is set to. When recording chopped, the chops size will follow the resolution set on the note track. So if you plan to rearrange the track afterwards, it will probably be best to set it to as low a resolution as possible, while still getting the desired length.

When you just wants to record one whole piece, it is best to set the resolution as high as possible, so that you will get a longer recording – up to 32 bars, when resolution is set to $\frac{1}{2}$.

When recording a chopped audio track, the controller track that has the same number, as the note track you are recording, will be reserved by the system as a modulator for the oscillator chop select parameter. To rearrange the chopped pieces of the audio track, you will have to enter this controller track, and change the controller step values.

Audio track setup.

From the Preset select page, touch the EDIT field, to enter the synth main page.



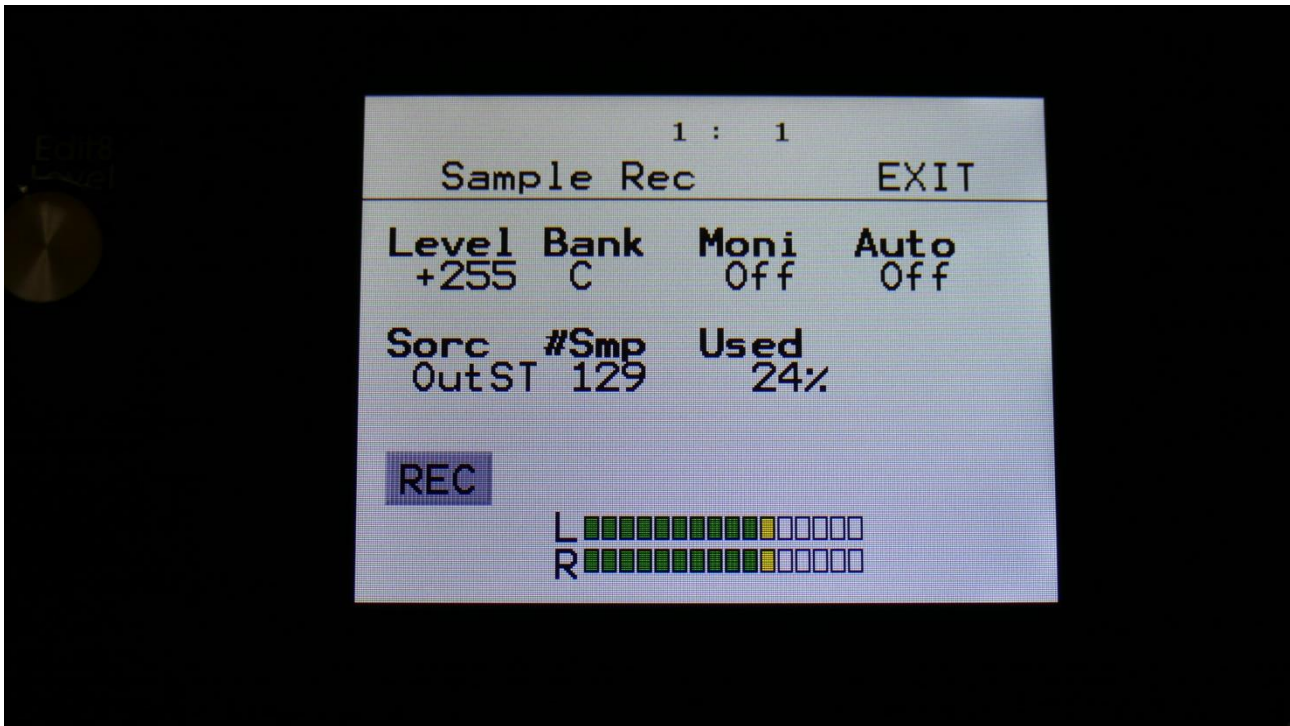
Touch SMP on the top navigation bar.

You should now enter this page:



Touch the REC touch button.

And you should get here:



OR, from any page:

-Push and release the Func/Mute button, so it is lighting up.

-Push step button 12, marked "Sample/Qrec".

This will also get you to this page, just much faster.

If you can already hear the source, that you would like to record, leave the Moni parameter Off. If you have the record source connected directly to any of LD3's audio inputs, and can't hear it now, switch the Moni parameter to On.

Select the record source, by setting the Src parameter.

Choices are:

InpL : Left audio input mono

InpR : Right audio input mono

InpST : Left and right audio inputs stereo

OutpL : Left audio output mono

OutpR : Right audio output mono

OutST : Left and right audio outputs stereo

Inp 3 : Audio input 3 mono

Inp 4 : Audio input 4 mono

In3+4 : Audio inputs 3 and 4 stereo

Outp3 : Audio output 3 mono
Outp4 : Audio output 4 mono
Ou3+4 : Audio outputs 3 and 4 stereo
Inp 5 : Audio input 5 mono
Inp 6 : Audio input 6 mono
In5+6 : Audio inputs 5 and 6 stereo
Outp5 : Audio output 5 mono
Outp6 : Audio output 6 mono
Ou5+6 : Audio outputs 5 and 6 stereo

Now select the sample bank, that you would like to record to, setting the Bank parameter to bank A, B, C or D.

When choosing a bank, the **#Smp** parameter will show how many sampling that the selected bank already holds, and the **Used** parameter will show how many percent of the sample bank, that are already in use.

For optimal results, set the level parameter to +0, and adjust the level of the record source, so that the 2 VU-meters in the bottom of the screen does not get red.

You should only adjust the level parameter, to other values than +0, if it is not possible to adjust the level directly on the source.

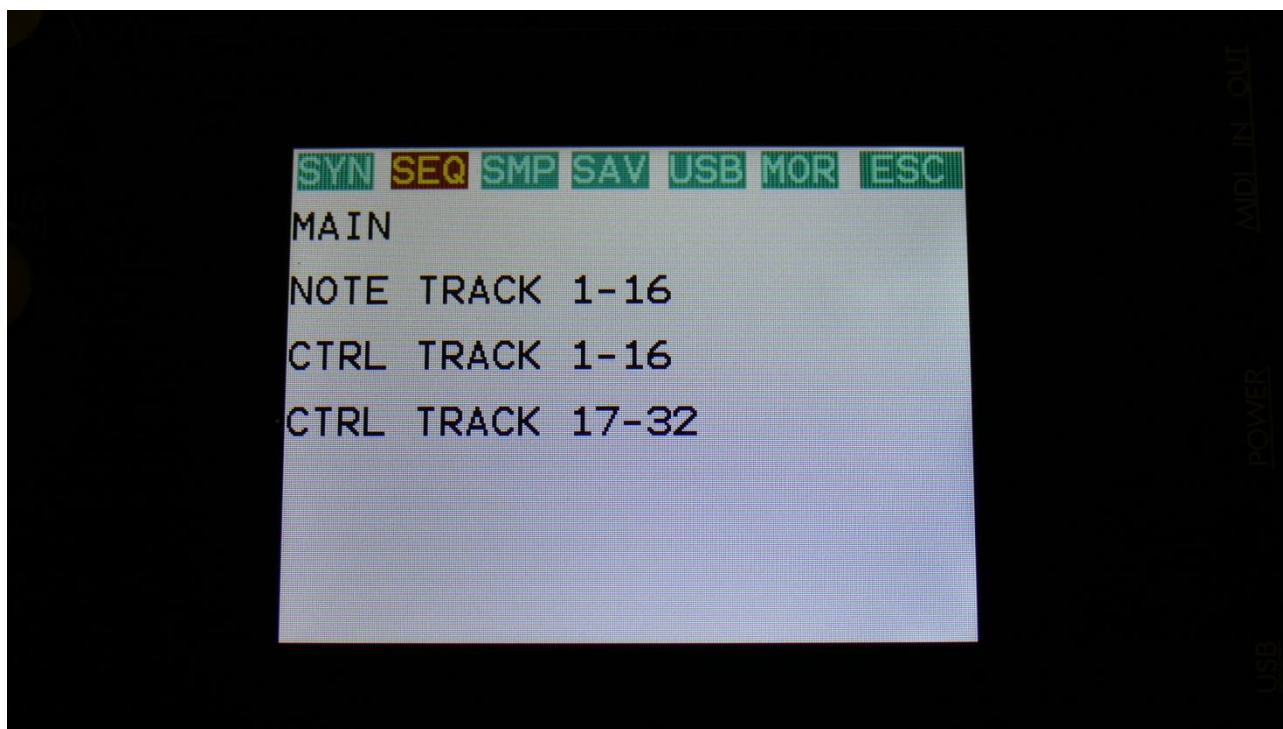
Now go to the sequencer note track page, either by:

Exit the Sample Rec page, by touching EXIT in the upper right corner, to go back to the Sample Edit page.

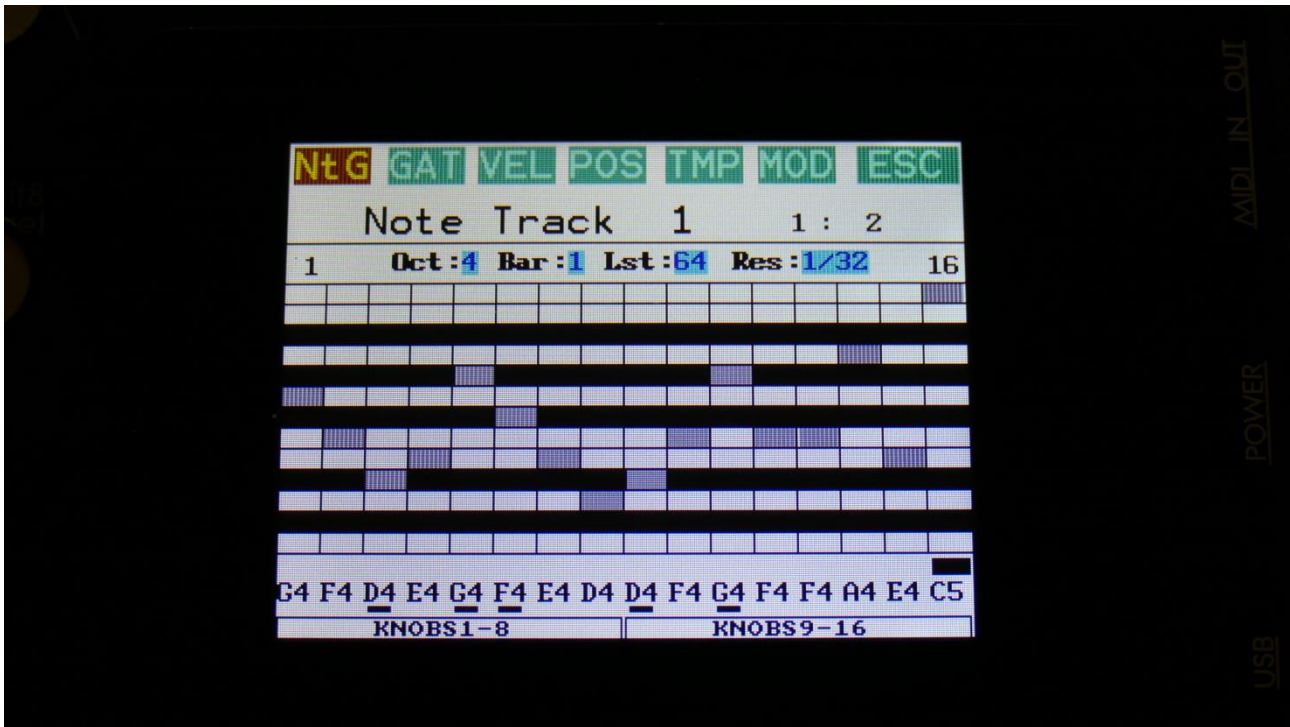


Touch SEQ on the top navigation bar.

You should now have entered this page:



Touch NOTE TRACK 1-16, to enter the note track page.

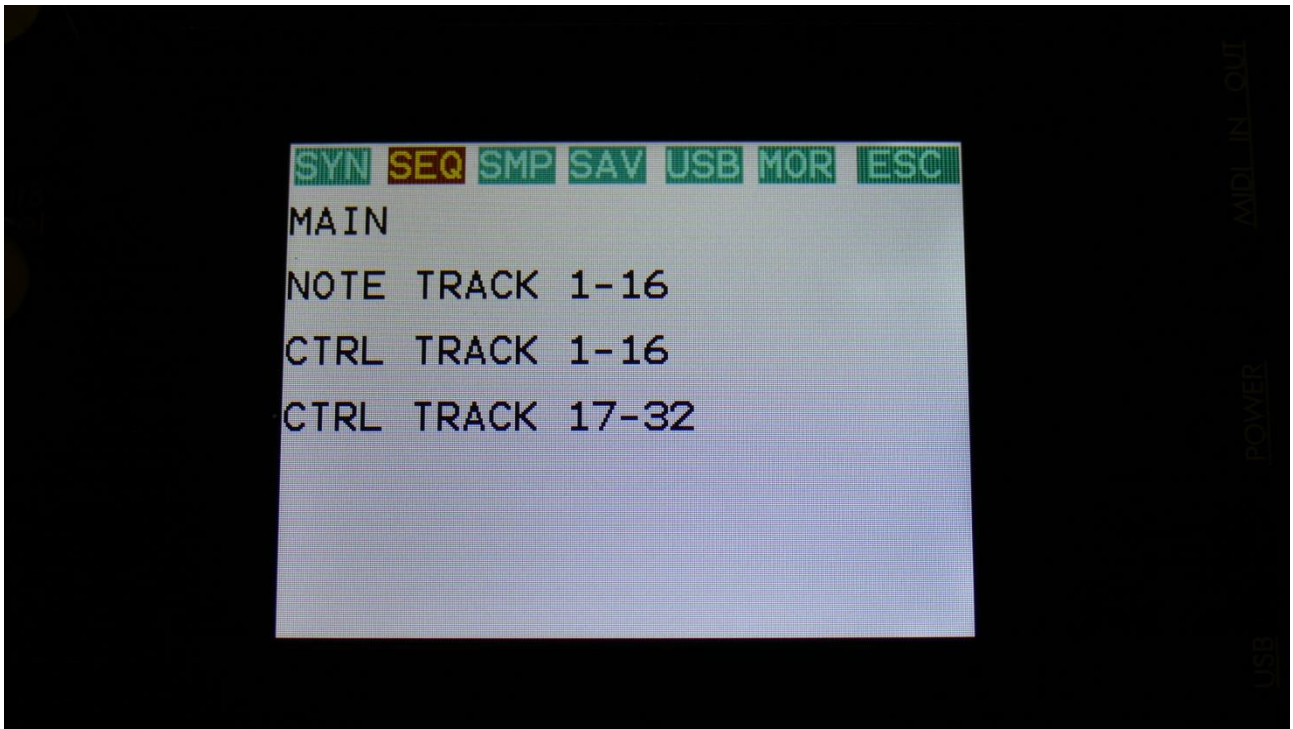


And the faster way to go from the Sample Rec page to the Note Track page:

- Push and release the Func/Mute button, so it is lighting up.
- Push step button 3, marked "Note Trk".

- Now, select the note track, that you would like to record.
- Set the desired length and resolution.

Go to the sequencer main page, by touching ESC on the top navigation bar, to go back to the Seq overview page.

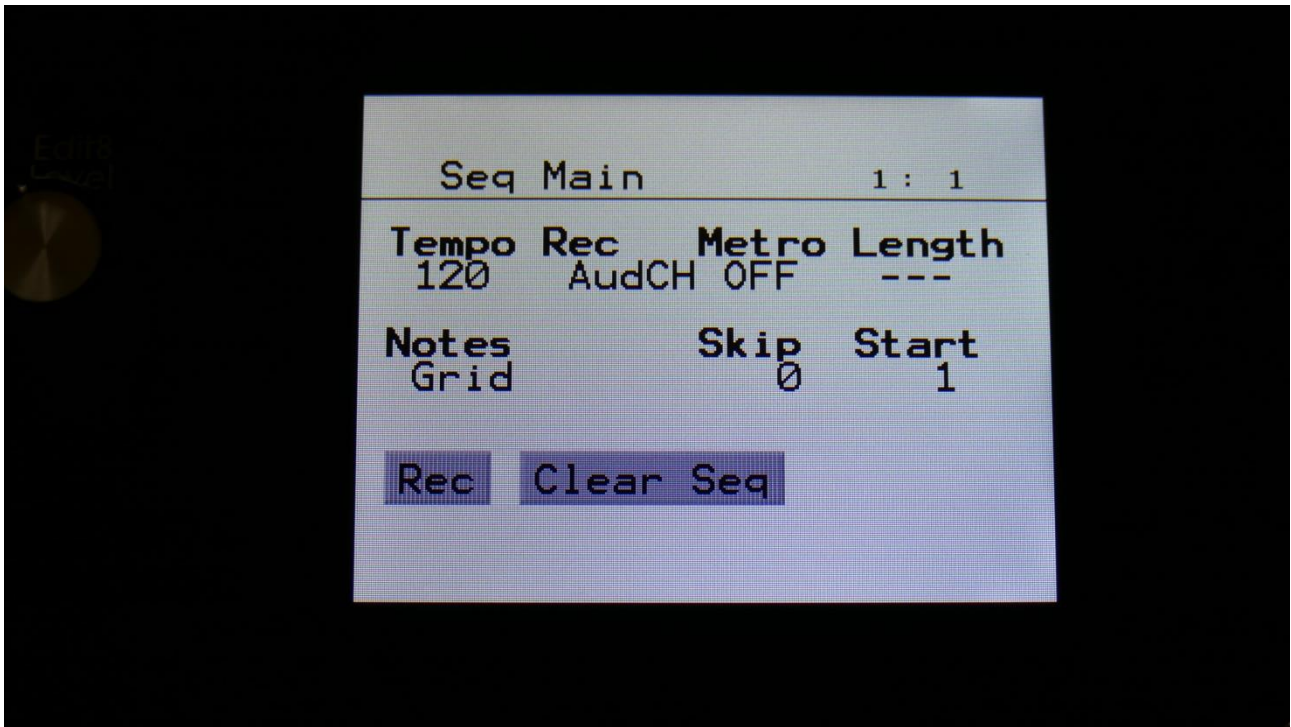


Touch MAIN.



And the faster way to go from the Note track page to the Sequencer Main page:

- Push and release the Func/Mute button, so it is lighting up.
- Push step button 2, marked "Seq Main".



Set the desired tempo.

Switch the metronome on, if desired.

Set the Rec parameter to either Audio, if you would like to record one long piece, or to AudCH, if you would like your recording chopped up.

To start recording, either touch the Rec touch button, or hold down the Func/Mute button, while pushing the Start/Stop button.

If the sequencer is already running, it will start recording the audio track, the next time the track starts over from step 1.

If the sequencer is not already running, push the Start/Stop button, to start it. LD3 will now count in for 2 bars, with the metronome audible, and then start recording.

As soon as it reaches the track last step, recording will stop, and the track will start to play back.

Synth and Sequencer Morphing

On LD3 it is possible to morph between 2 layers of parameters, layer A and B, by turning the Morph knob for the synth parameters, and the Seq Morph knob for the sequencer parameters. The Morph knob transmits and receives MIDI CC 1 (The Mod Wheel) via MIDI in and out, and the Seq Morph knob transmits and receives MIDI CC2.

To access the parameters of the second layers, on any synth and sequencer page, hit the Morph Set button, so it lights up. Now the parameters of layer B will be shown on the screen, and you can edit these, using Edit Knob 1 to 8, just like the layer A parameters.

All continuously adjustable parameters can be morphed. Switches are not morphed, except for the note tracks steps on/off.

In the MOR section under MORPH, it is possible to set static Morph knob values, and to modulate the morph knobs.

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

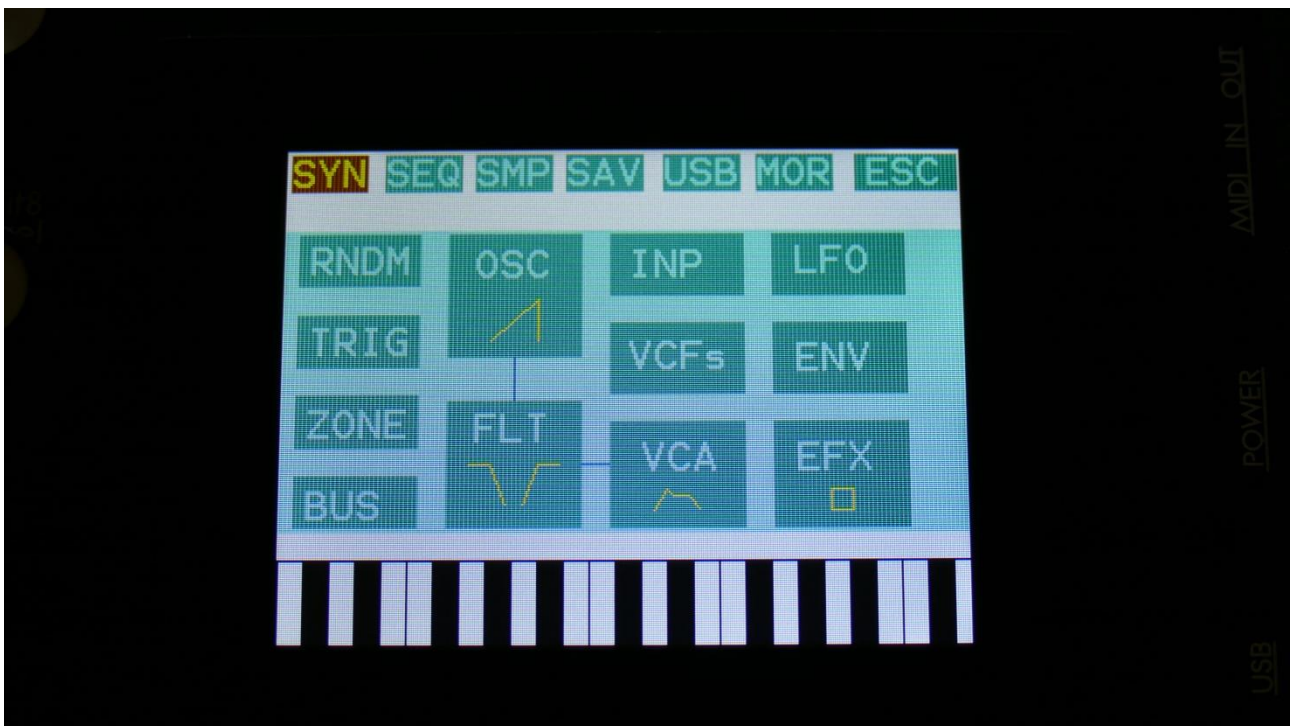
Save Preset

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 LD3.

A preset that is saved on LD3 contains all the data previously described in this manual:

- All sequencer data
- All synthesizers settings
- All effects settings
- All audio bus settings
- All CV in/out settings

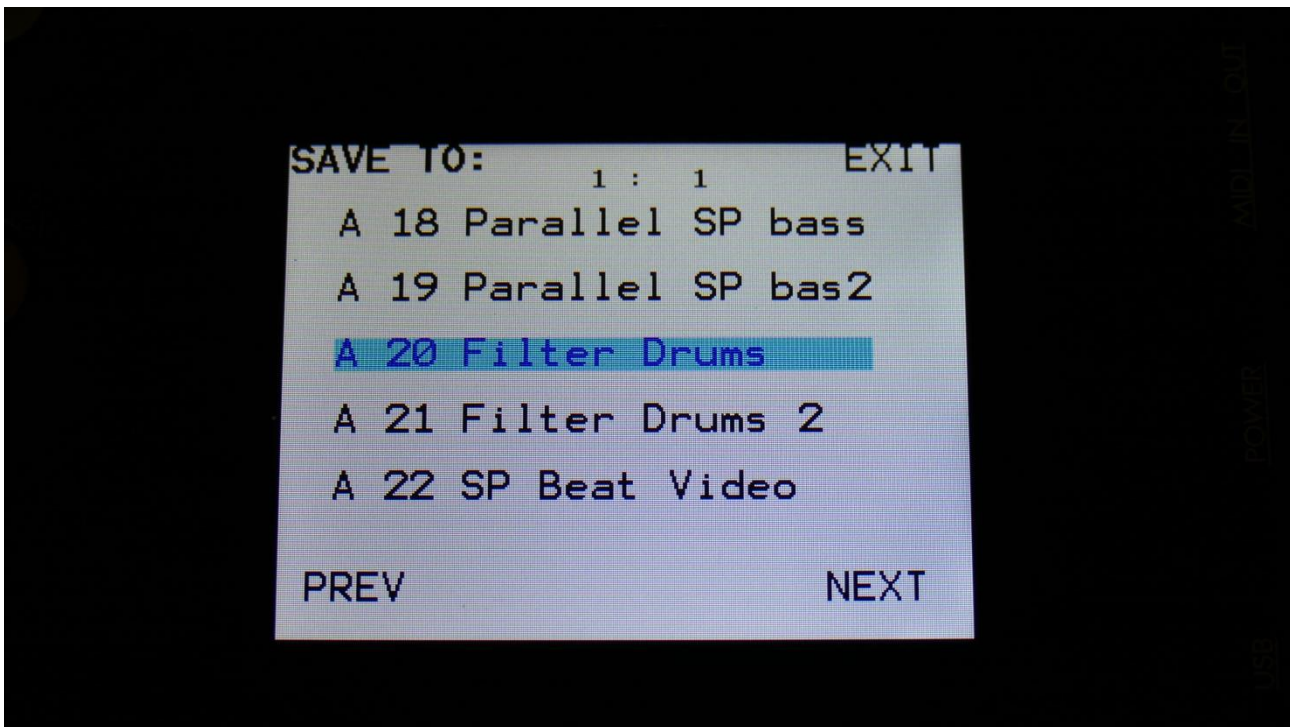
From the Preset Select screen, touch the EDIT field, to enter the Main Synth page:



On the navigation bar at the top of this page, touch SAV.

OR: Hit the Func/mute button, so it lights up, and hit step button 15, marked "Save".

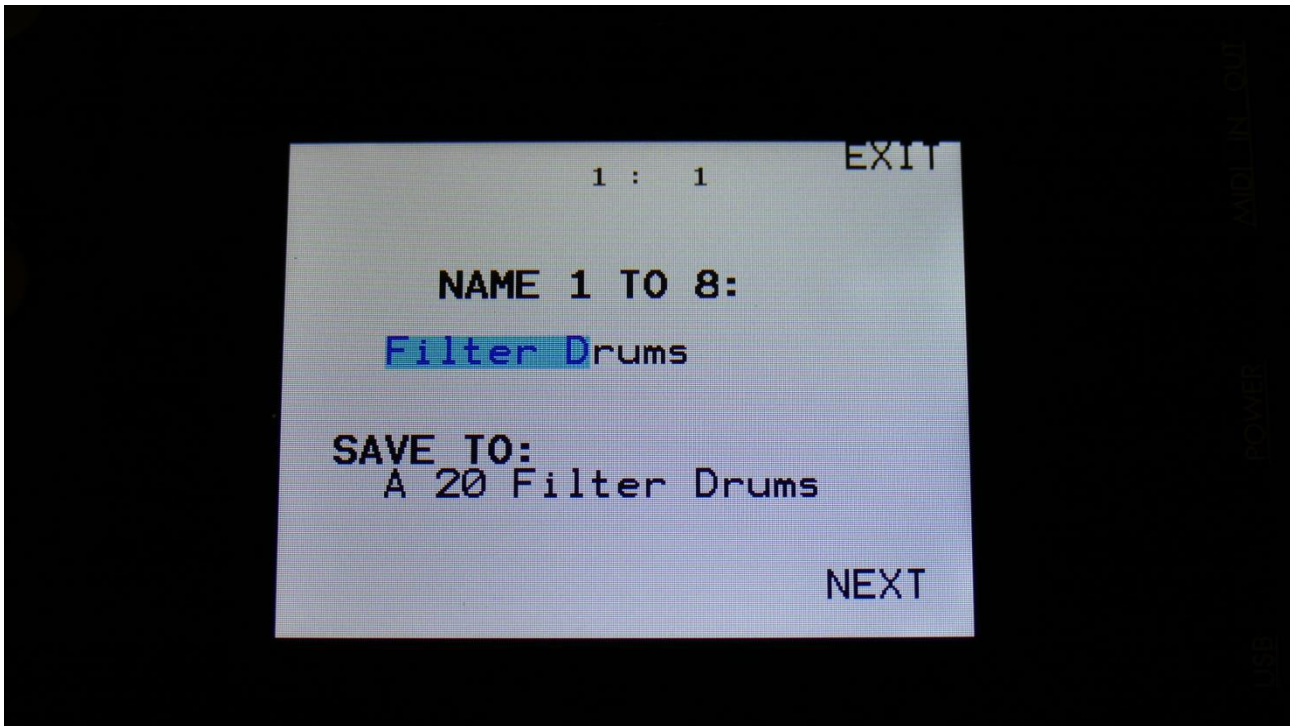
You should now enter this page:



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

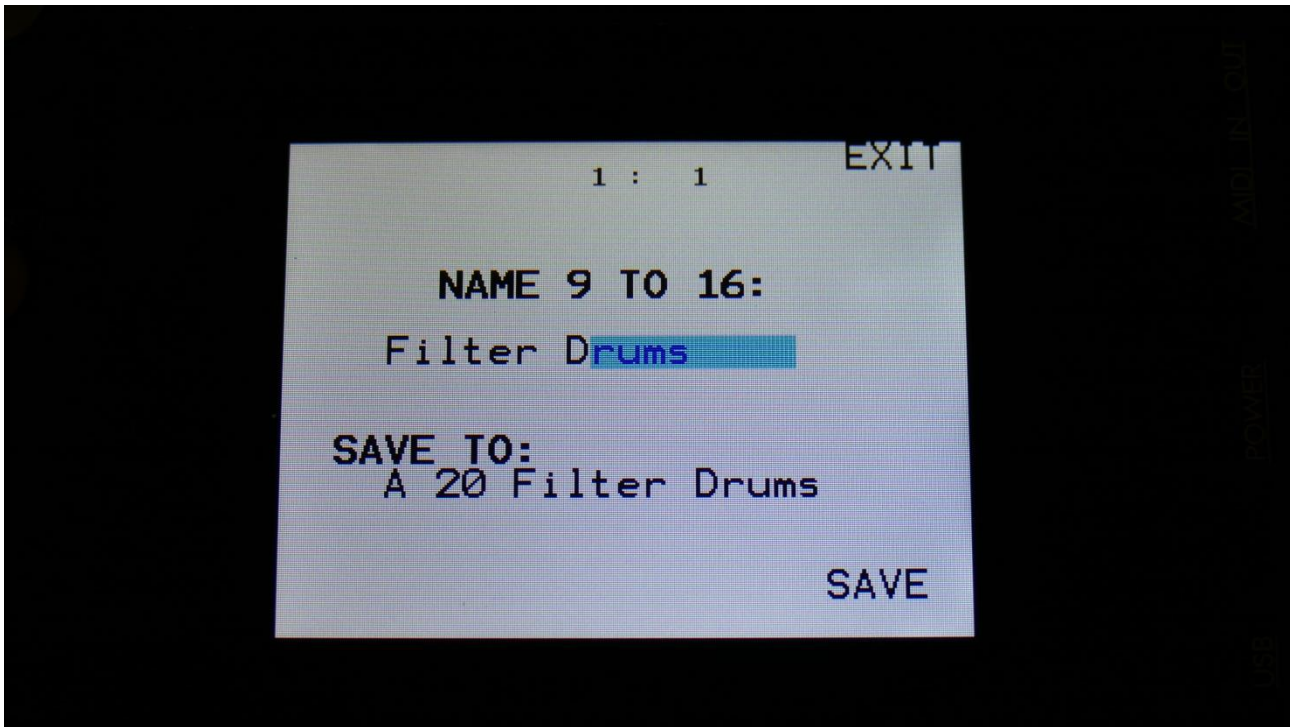
Preset number and name is shown for presets that are already saved. If you save your new preset on such a location, the old preset will be overwritten. On preset locations, where a preset has not yet been saved, the name will be shown as "<empty>".

When you touch the preset location, that you would like to save your preset to, you will enter this page:



Turn edit knob 1 to 8 to select the first 8 letters of the name for your new preset.

Touch NEXT when you are done.



Turn edit knob 1 to 8 to select letters 9 to 16 of the name for your new preset.

Touch SAVE when you are done. Your preset will now be saved, and LD3 will exit from the save pages.

Analog Options

A number of analog options are available for LD3. More audio inputs and outputs can be added, CV inputs and outputs can be added, room for 2 Anamono X series filterboards can be added, or a board with 4 chains of analog filter, like SPAZEboard, could be added. There are many options to customize your LD3, the way you like.

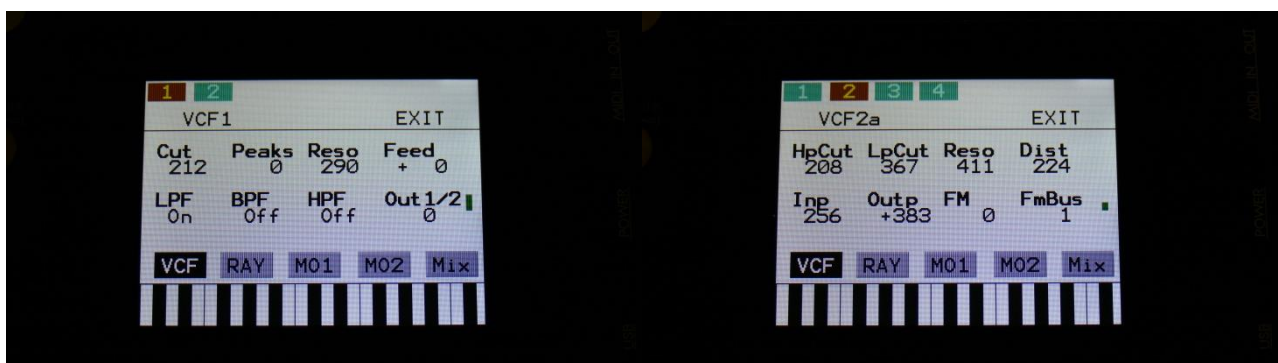
On the CV inputs any voltages inside the range of +/-15volts can be added, and used for modulation of many of the parameters. Clocks and sequencer controls, like start/stop and reset, can also be applied to these inputs.

All LD3 modulation sources can be outputted through the CV outputs.

The 2 analog filterboards can be placed on any of the 8 audio busses, to add some analog sonic character to the sounds. When both filters are assigned to the same bus, they can be set to run in serial or parallel to each other.

SPAZEboard doubles the number of analog filter chains to 4. Each filter chain can be inserted on any audio bus. When more filters are assigned to the same bus, they can be set to run in serial or parallel to each other.

SPAZEboard has 2 chains with each 2x HPF and 2x LPF, 1 chain with LPF + HPF + analog distortion, and one chain with LPF + HPF + analog fuzz.



Song Mode

Will, very soon, be functional.

Sample Record and Edit

To get samples into LD3, for using them in the synth section samplers, you can either import .wav files from a USB drive, or record your own samples from LD3's audio inputs or outputs. This section will describe the latter. For how to import .wav files, please see the USB section of this manual.

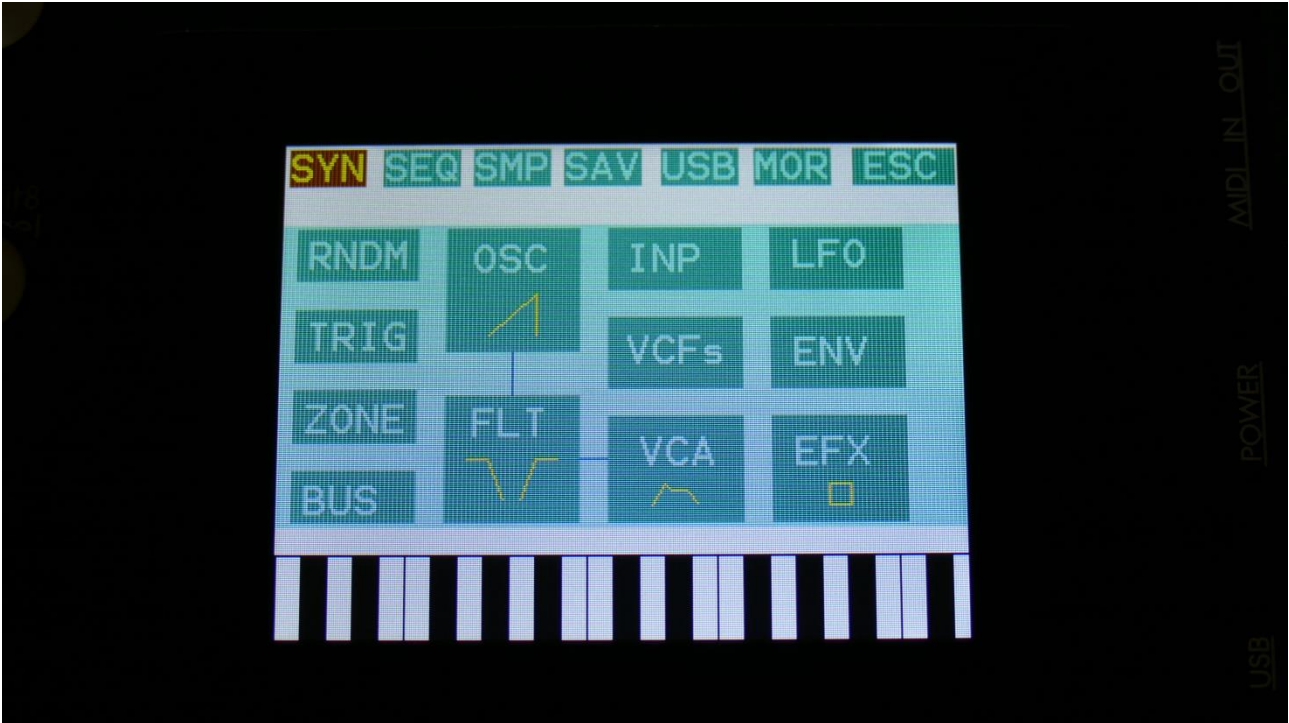
Samples are recorded and played back in mono or stereo.

LD3 has 4 banks of FLASH memory for storing samples, Bank A, B, C and D. Bank A holds up to 18 minutes of mono samplings (43 minutes in the Xpanded model), maximum 2048 samplings, Bank B, C and D each holds up to 25 minutes of mono samplings (50 minutes in the Xpanded model), maximum 2048 samplings – A total of 8192 samplings/93 minutes or 193 minutes. One sampling can maximum be 50 minutes long. Sample times in stereo are half of the mono sample times.

All samples that are imported or recorded, stays in LD3's FLASH memory, even after a power off. Since they are played back directly from the FLASH memory, there are no loading times. All LD3's samplings are immediately available, right after power on, and can be selected in the synth oscillator section, just like synth waveforms.

Recording a sampling

From the Preset Select screen, touch the EDIT field, to enter the Main Synth page:

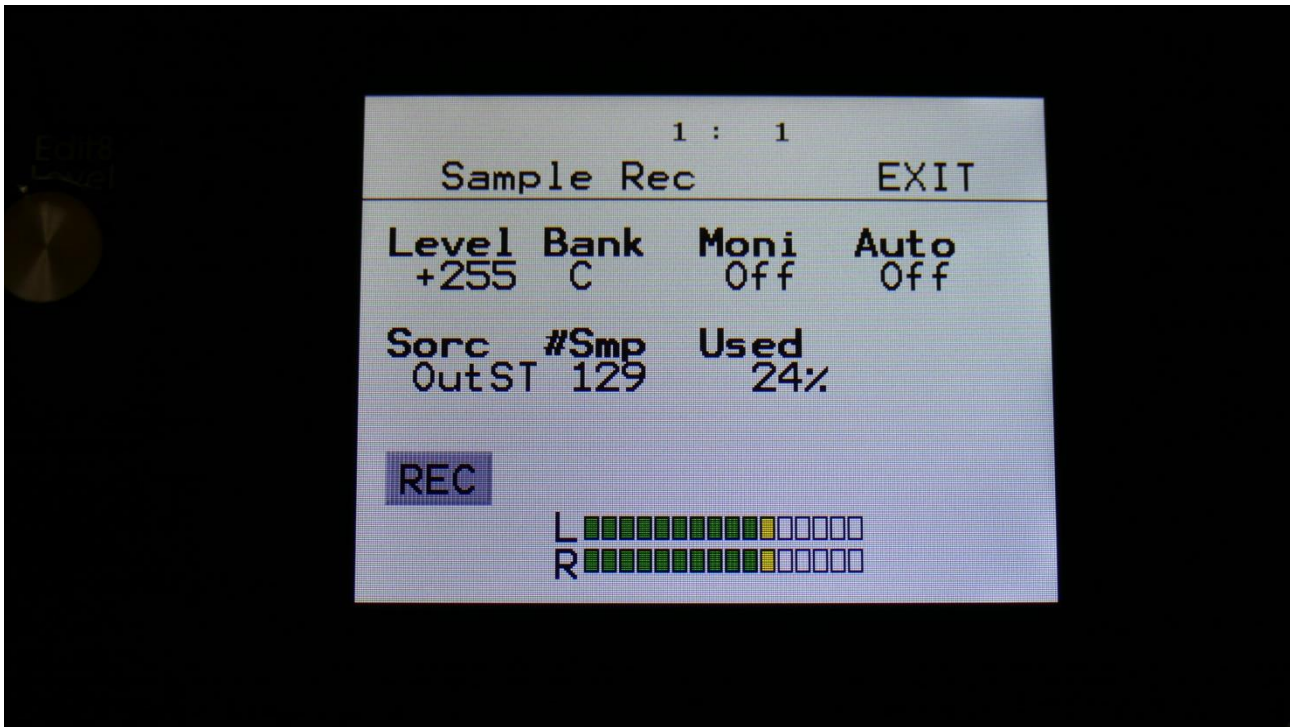


Touch SMP at the top navigation bar.



You will now enter the Sample Edit page.

Touch the REC touchbutton, to enter the Sample Rec page.



OR, from any page:

-Push and release the Func/Mute button, so it is lighting up.

-Push step button 12, marked "Sample/Qrec".

This will also get you to this page, just much faster.

If you can already hear the source, that you would like to record, leave the Moni parameter Off. If you have the record source connected directly to any of LD3's audio inputs, and can't hear it now, switch the Moni parameter to On.

Select the record source, by setting the Src parameter.

Choices are:

InpL : Left audio input mono

InpR : Right audio input mono

InpST : Left and right audio inputs stereo

OutpL : Left audio output mono

OutpR : Right audio output mono

OutST : Left and right audio outputs stereo

Inp 3 : Audio input 3 mono

Inp 4 : Audio input 4 mono

In3+4 : Audio inputs 3 and 4 stereo

Outp3 : Audio output 3 mono

Outp4 : Audio output 4 mono

Ou3+4 : Audio outputs 3 and 4 stereo

Inp 5 : Audio input 5 mono

Inp 6 : Audio input 6 mono

In5+6 : Audio inputs 5 and 6 stereo

Outp5 : Audio output 5 mono

Outp6 : Audio output 6 mono

Ou5+6 : Audio outputs 5 and 6 stereo

Now select the sample bank, that you would like to record to, setting the Bank parameter to bank A, B, C or D.

When choosing a bank, the **#Smp** parameter will show how many sampling that the selected bank already holds, and the **Used** parameter will show how many percent of the sample bank, that are already in use.

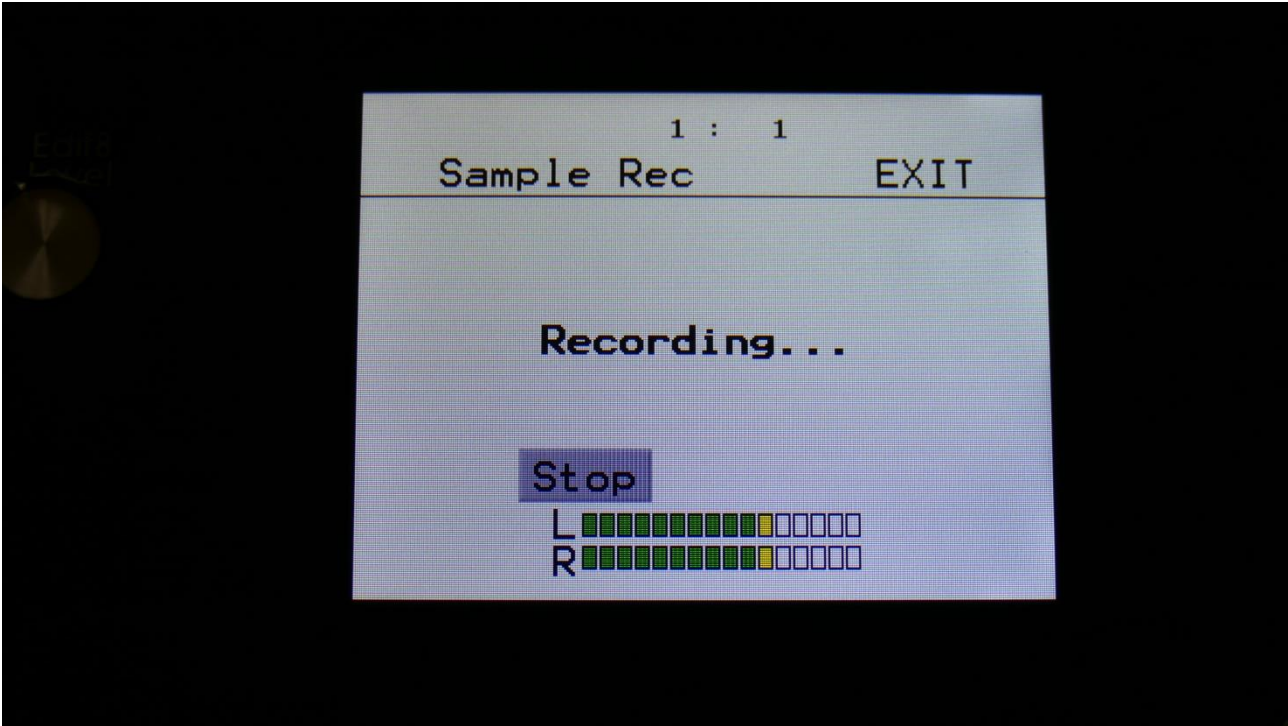
For optimal results, set the level parameter to +0, and adjust the level of the record source, so that the 2 VU-meters in the bottom of the screen does not get red.

You should only adjust the level parameter, to other values than +0, if it is not possible to adjust the level directly on the source.

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

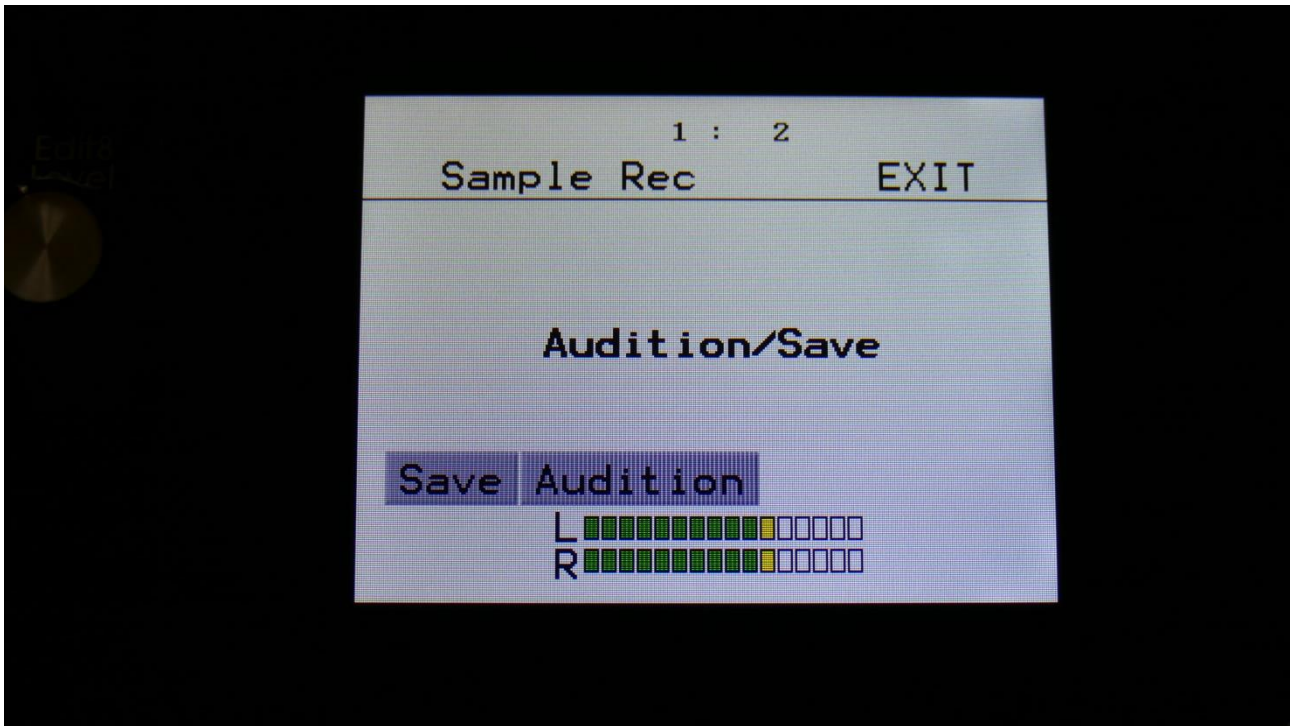
If you have the Auto parameter set to anything else than Off, it will now write: "Waiting for trigger", until a signal that is loud enough to trigger the auto offset applied.

Otherwise LD3 will now start to record the new sampling:



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

LD3 will now jump to this screen:

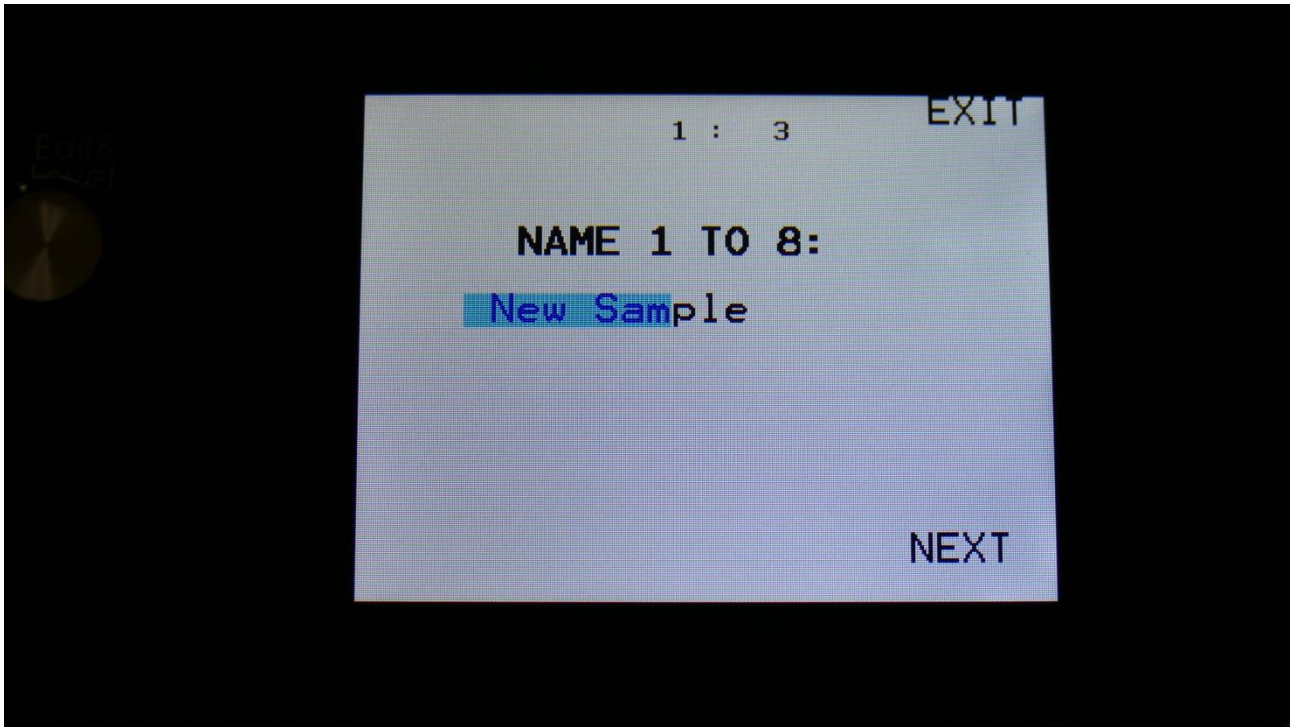


To audition the sample you have just recorded, touch the "Audition" button.

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

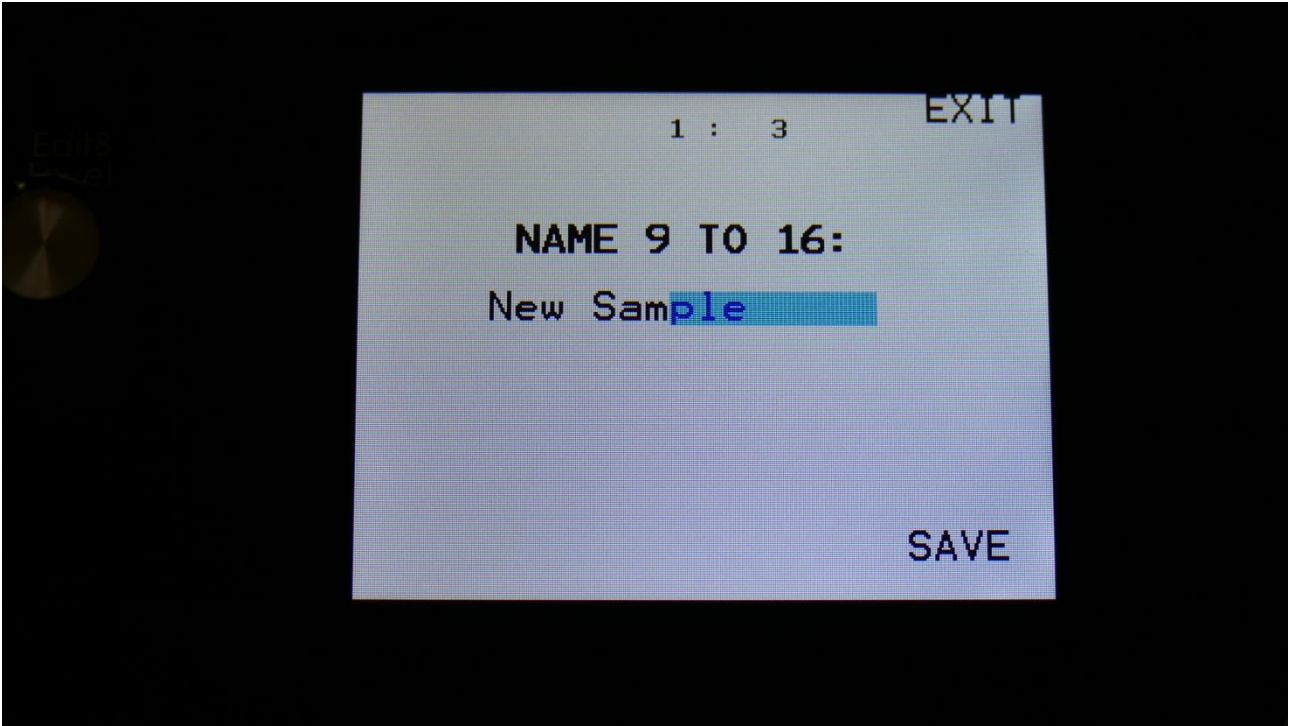
If you decide not to keep this sample, touch EXIT, and the new sample will be erased.

If you touch the "Save" button, LD3 will jump to this page:



Here you can turn edit knob 1 to 8, to select the first 8 characters of the new sample's name.

Touch NEXT to go on.



Turn Edit Knob 1 to 8, to select character 9 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 Main Synth page, touch SMP at the top navigation bar., to enter this page:



OR: Hit the Func/Mute button, so it lights up, hit step button 12 "Sample/Qrec", and hit step button 16 "Exit".

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 LD3 holds, touch the **Sample** name, and the Sample Select screen will appear:



Touch A, B, C or D to select sample bank A, B, C and D, touch PREV and NEXT to view the previous or next 16 samplings.

To select a sampling, touch the sample name. To audition it, touch the Play touchbar in the bottom of this page.

When you have found the right sampling, touch OK to return to the Sample Edit page.

The Play touchbar on the sample select page re-triggers the sampling every time it is touched. If you should wish to start and stop sample playback, every time you hit play, exit to the Sample Edit page, and touch the Play button there.

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 necessary to adjust the start and end points of it.

To do this, select the sample you would like to adjust.

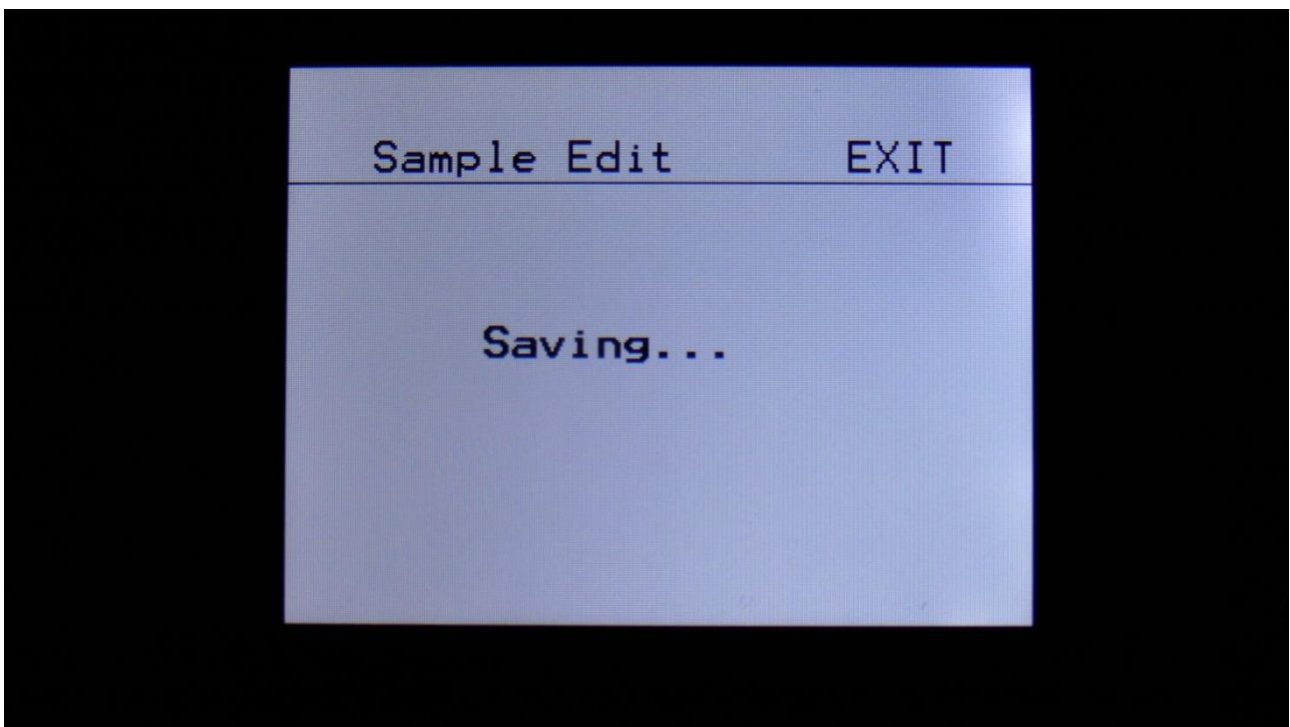
Adjust the start point by turning edit knob 1, fine adjust by turning edit knob 2.

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.

LD3 will now show:



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 LD3 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 LD3 isn't though limited to this. On LD3 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.

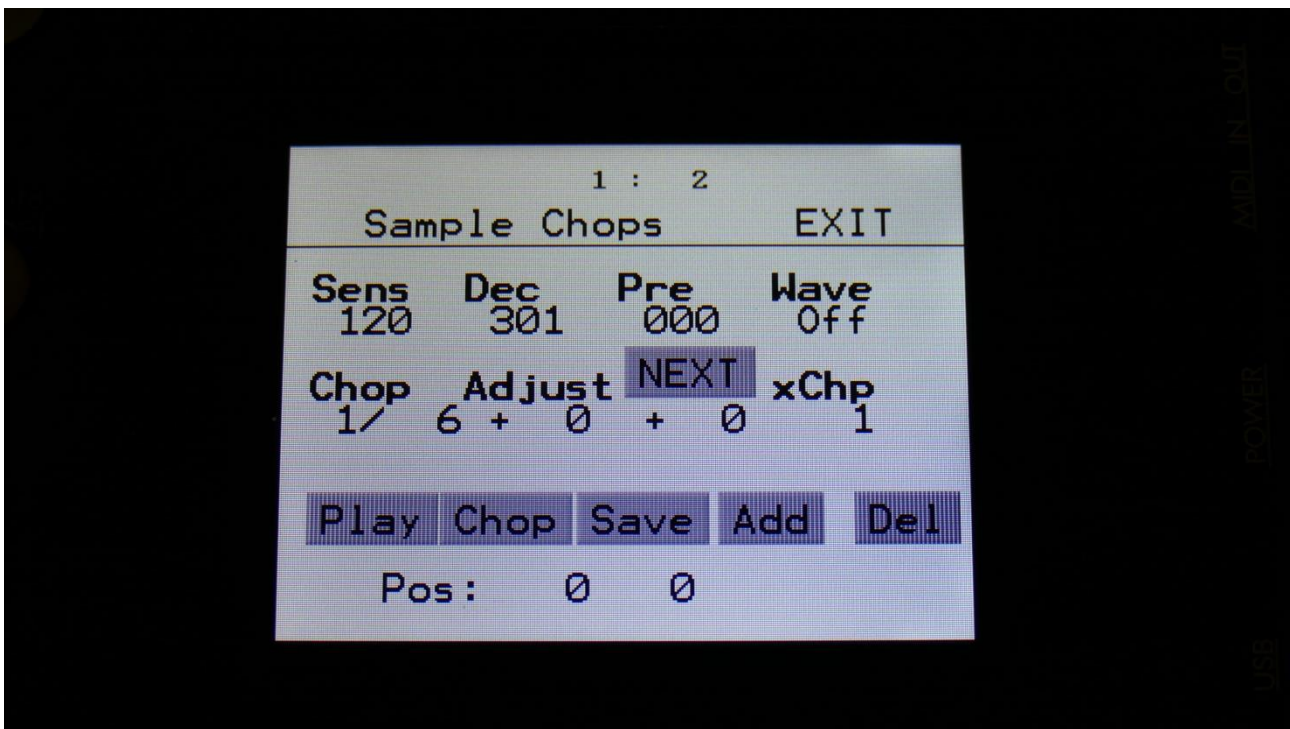
Up to 64 chop points can be created for each sampling.

Another way to create chop point, are to use the "Import Samplings From Dir As Chop Points", described in the USB section of this manual.

If you have already created chop points on a sampling, in a computer program that uses cue points, like FL Studio, or any other gear that generates cue points, LD3 will import these as chop/loop points. When you exports LD3 samplings via USB, any generated chop points will also be exported as cue points, for use in other gear or computer programs.

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** touchbutton, 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 LD3 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).

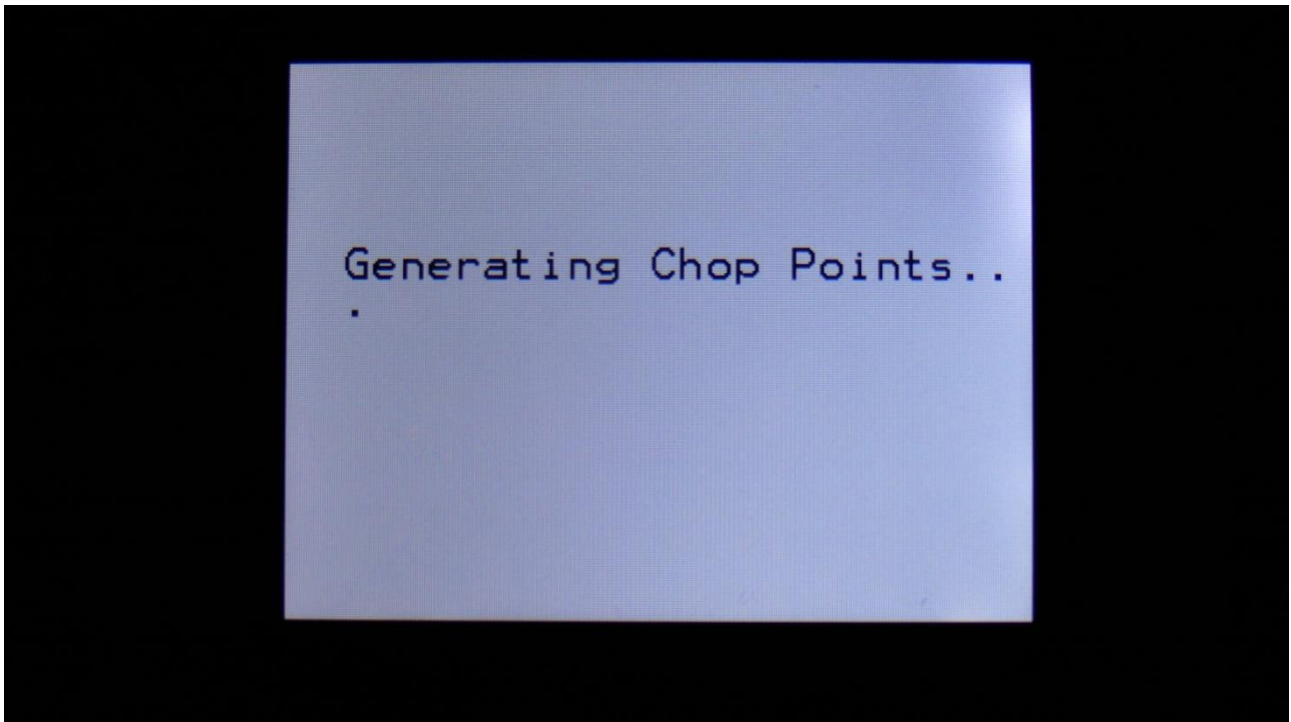
xChp: Number of chops in each chop point. Turning this up, before generating chops, will make each chop contain a number of chops. Especially usefull, when using the wave chop function for making sample loop points.

Generating Sample Chop Points

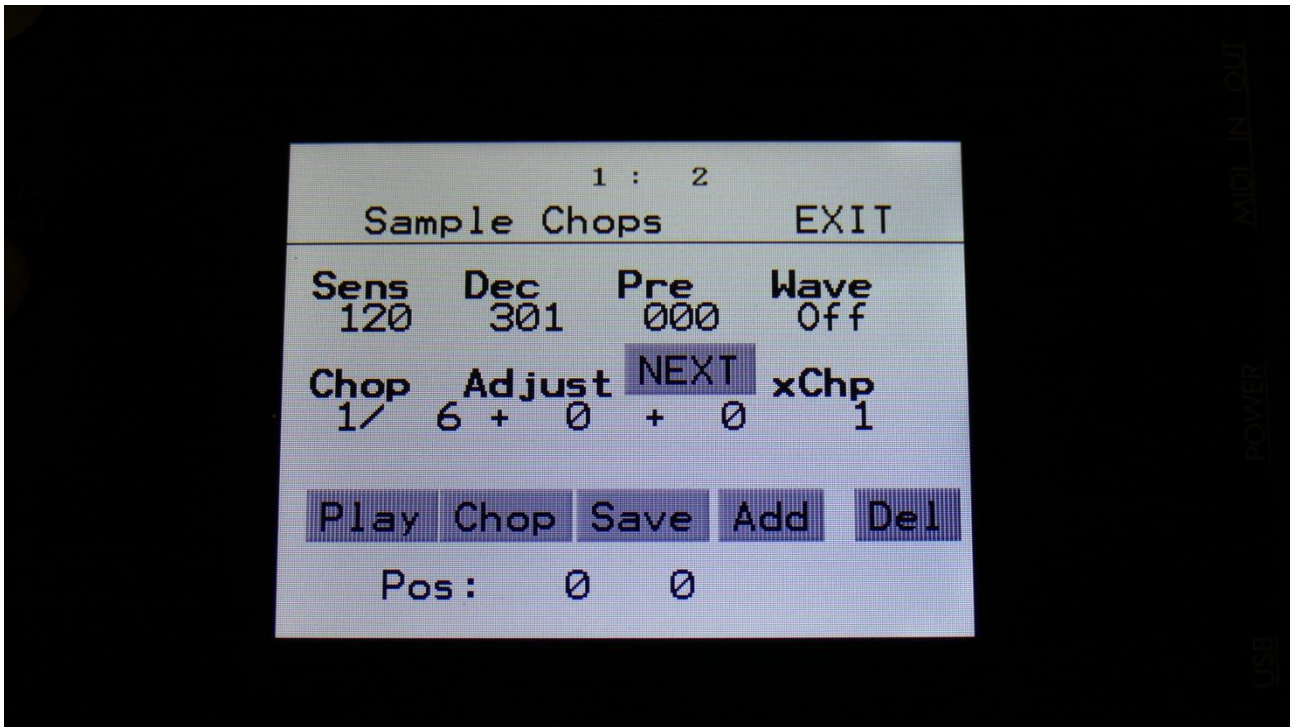
On the Sample Chops page, adjust the Sens, Dec, Pre and xChp parameters as desired, and switch wave mode on if desired.

Touch the **Chop** button.

LD3 will now look for chop points, in the selected sampling:



When it is done, it will jump back to the Sample Chops screen:



By adjusting the Chop parameter, it is now possible to select and audition the chop points that LD3 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.

It is also possible to adjust the end point of the chop point. Simply touch the NEXT button. Now, while auditioning the selected chop point, you can adjust the next chop point, which is also the end point for the selected chop point, using the Adjust parameters.

To add chop points, first touch 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 as cue points.

Wave Chop System

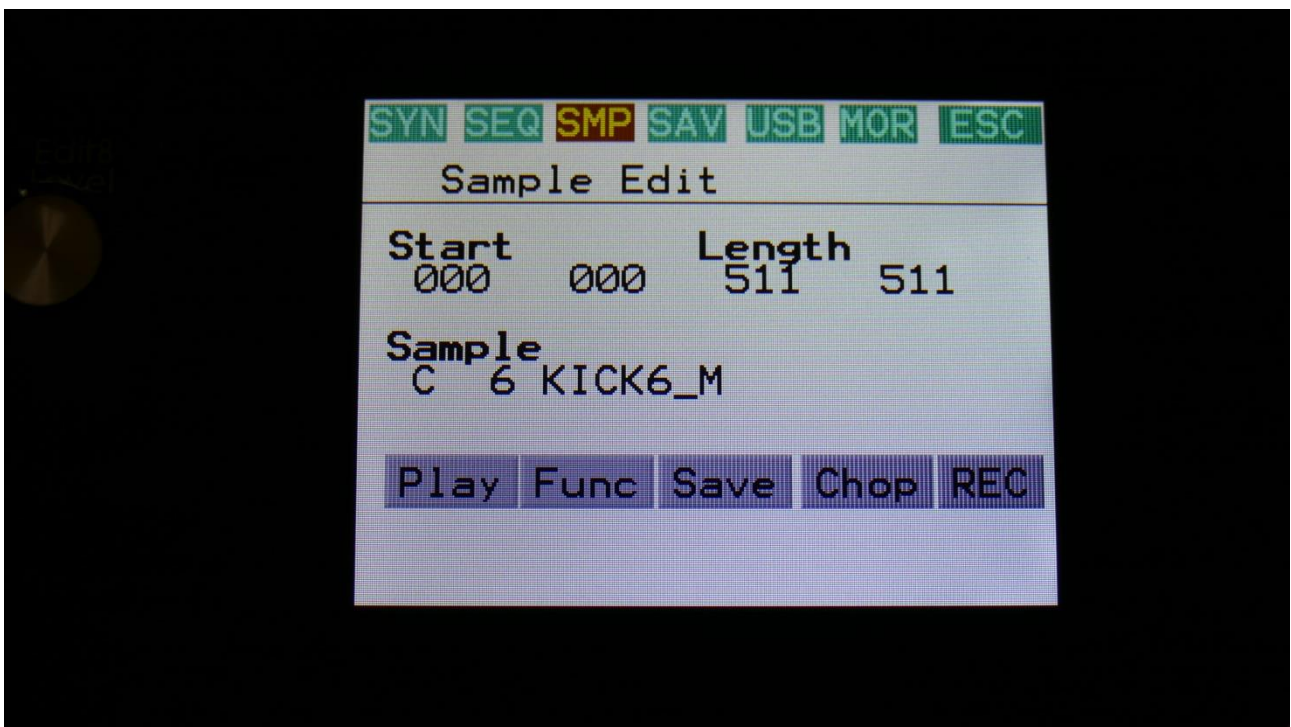
This system can take any of the samplings held in your LD3, and chop it up in, up to 64, single cycle waves.

If you already have a library of single cycle waves in .wav format, you can use the “Import Samples From Dir As Chops” function, to import the single cycle waves into one sampling with wave-chops.

When you have a sampling with the wavechops added, it is possible, in real time, to select which single cycle should play back, in the samplers in the synth section, using the “Chop” parameter. It is also possible to select single cycle waves, using any modulation source.

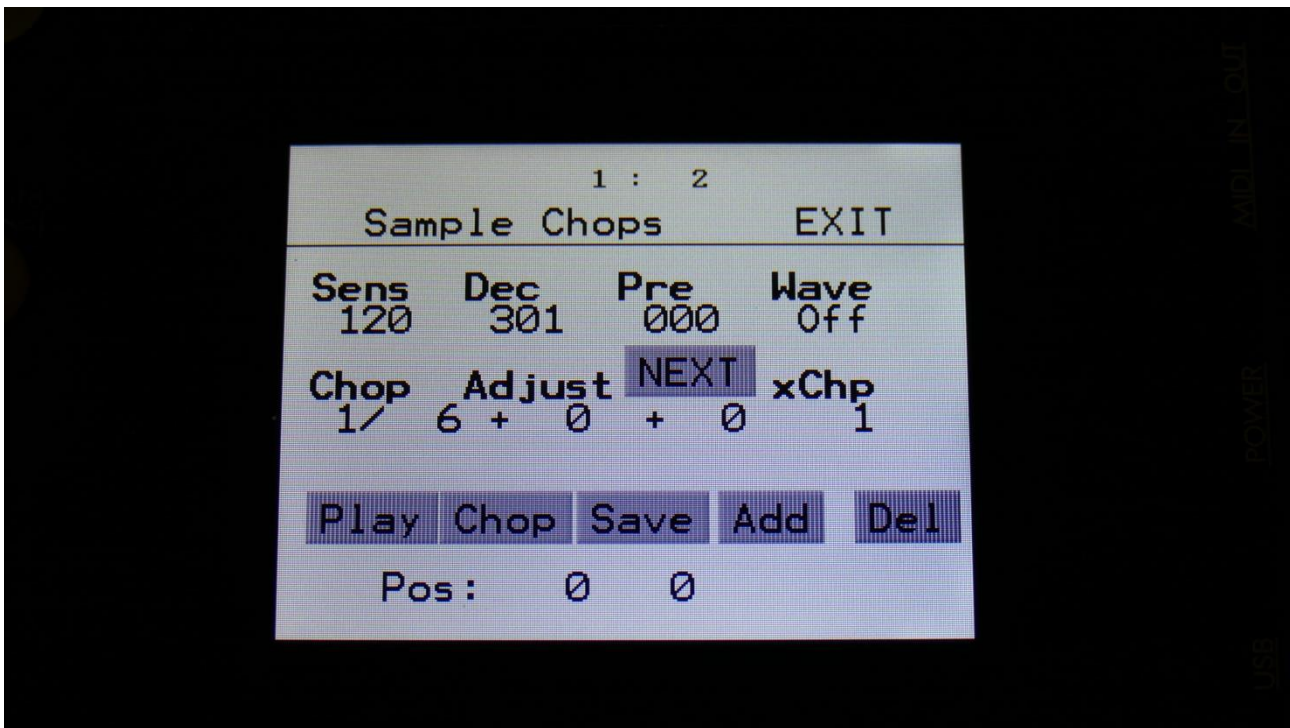
This gives some really cool possibilities, like wave sequencing, wave tables and time stretch.

How to wave chop a sampling:



On the sample Edit page, select the sampling, you would like to wave chop, and touch “Chop”.

That will get you to the Chop page:



Set the Wave parameter to On.

When in Wave chop mode, the Dec parameter functions in the opposite way, as when in normal chop mode. The lower the value, the faster the decay.

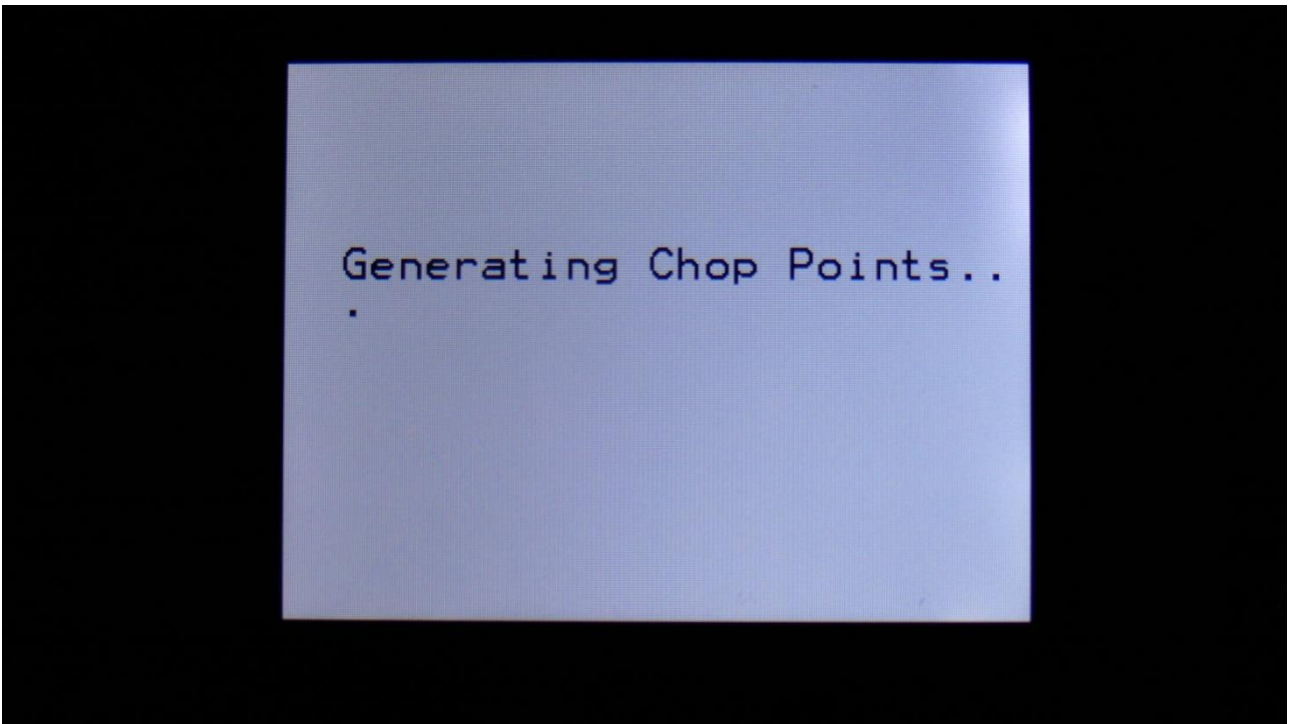
A good startpoint for wave chopping is to set Dec to 1 and Sens to 128. If the wave chops gets too long (very few chop points), try first to adjust Sens down. If this makes things worse, adjust it up. On simple waveforms, Sens should, in most cases, have a low value. On more complex waveforms, Sens should have a higher value.

If you wish your wavechops to be larger than single cycles, you can either turn Dec or xChp up.

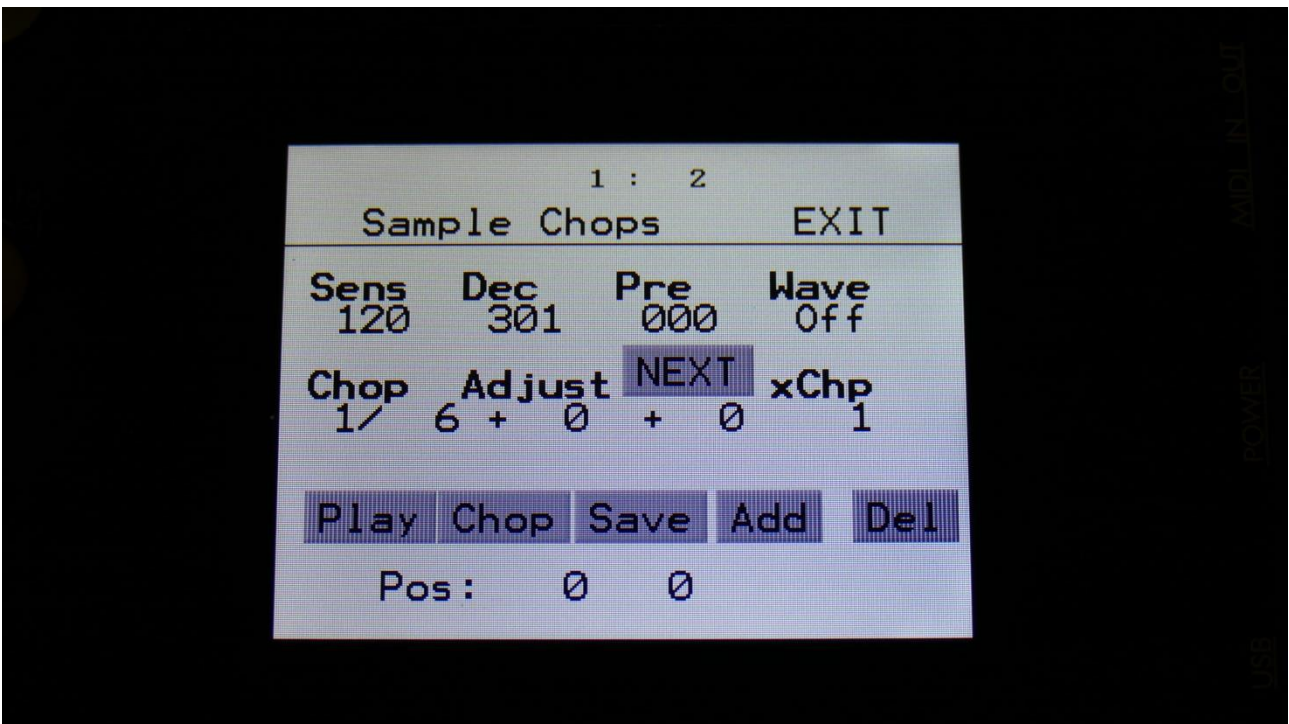
The Pre parameter should be kept at zero.

When you have switched Wave on, and adjusted the settings, touch the "Chop" button.

LD3 will now show:



When it has found some chop points, it will return to the Chop page:



Now touch the play button, and select chops by adjusting the Chop parameter, to audition the result.

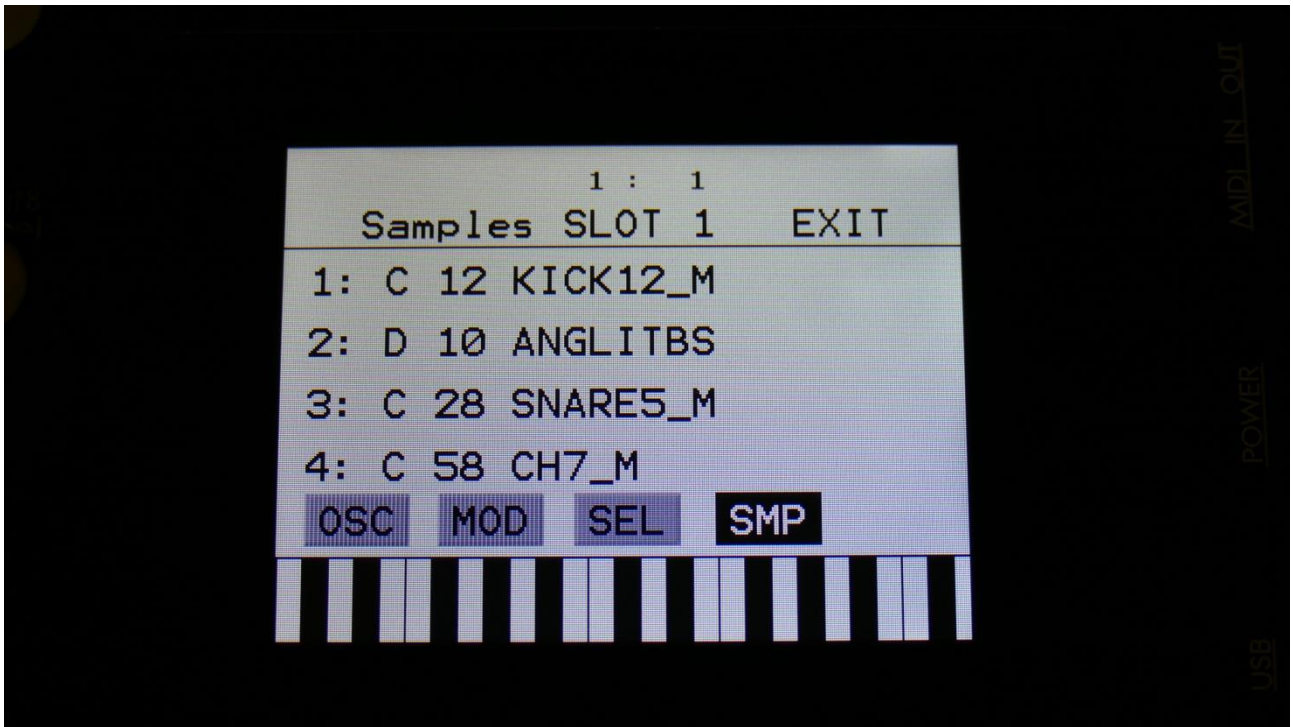
If you are not satisfied with the result, re-adjust Sens, and hit Chop again.

When you have found a result, that you are satisfied with, please remember to touch the "Save" button.

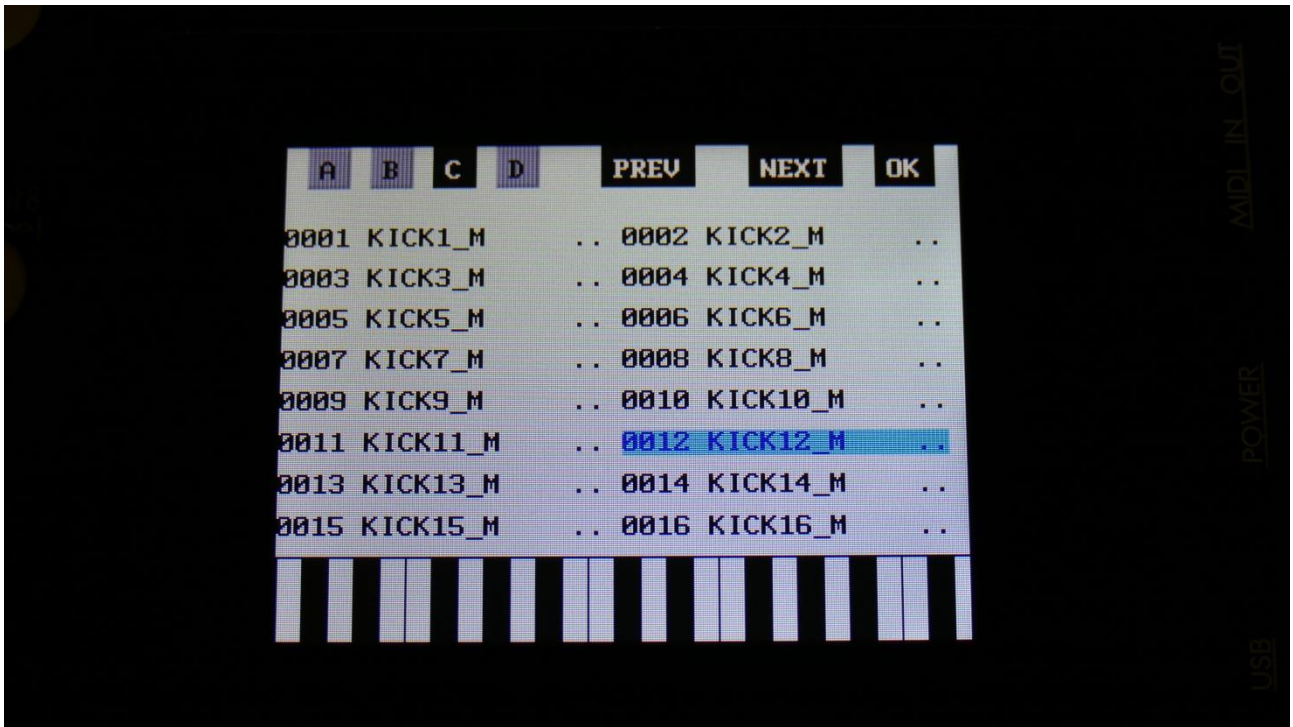
To use the wave chops for something, now exit Sample Edit, and go to a part Osc page.



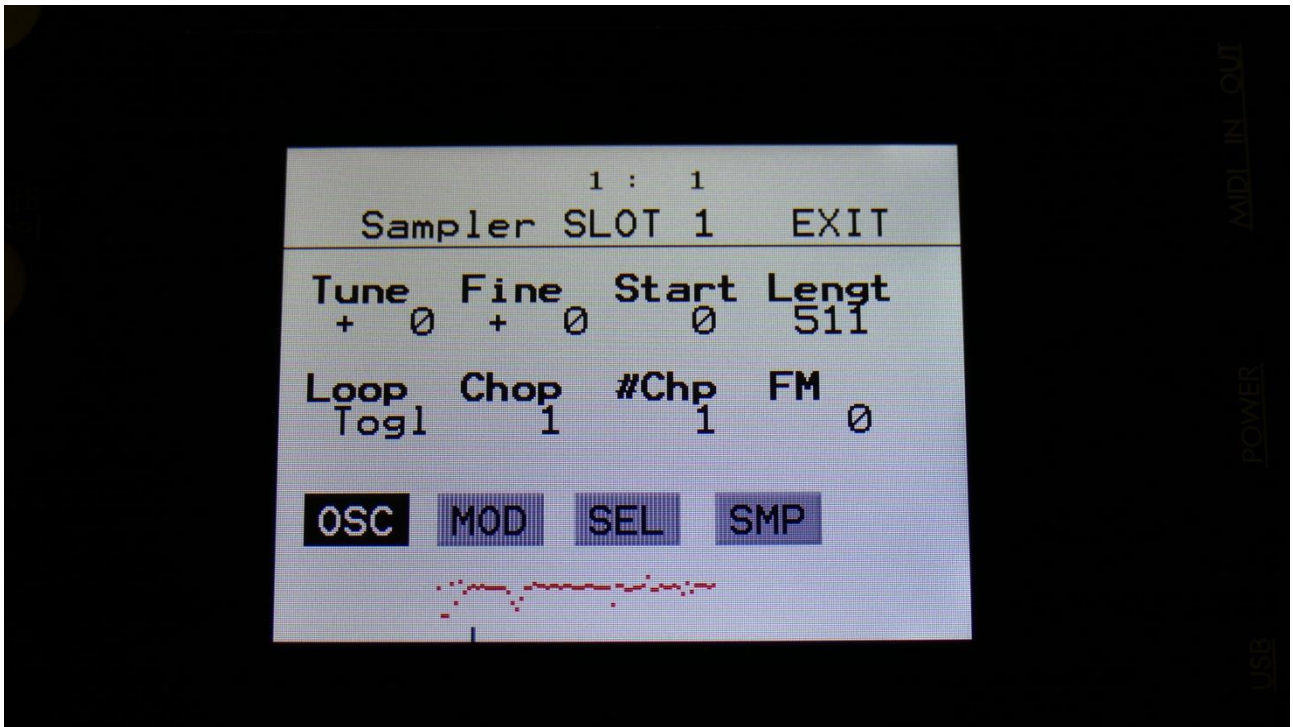
Set Osc1 in sampler mode, and touch the SMP touchbutton to select the sampling, that you just wave chopped (or any other sampling that you have wave chopped).



Touch the sample slot 1 name, to open the sample select page.



Select the sampling, touch OK, and touch the OSC touchbutton.



Set Loop mode to On, and adjust the Chop parameter, to select the single cycle waves. If you would like more single cycle waves to play back inside the loop, turn the #Chp parameter up.

Modulating the Chop parameter



Unlike most other parameters in LD3, only positive modulation are applied to the Chop parameter. So the Chop parameter selects the lowest possible chop to be played back.

Time Stretch

To time stretch a wave chopped sampling:

- Set the Chop parameter to 1.
- Set up Envelope 1- (Envelope 1 inverted) to modulate the Chop parameter, and turn the modulation amount up. You can obtain different effects, with different values of the modulation amount.
- Adjust the Envelope decay, to make the playback of the sampling faster (low decay values) or slower (high decay values).
- Adjust the attack parameter, to obtain a reverse playback effect, in the start of the sample playback.
- Modulate the envelope parameters, to have dynamic sample lengths.
- The sampling will play back at the exact same speed, over the entire keyboard range, regardless of the sample pitch.

Deleting last recorded sampling

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



Touch DEL.

Delete B25_02_AUDIOTRAK

Are You Sure?

No

Yes

To delete the sample, touch "Yes".

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

Deleting other samplings, than the last recorded one

Because of some security features of the flash memory used in LD3, it is only possible to directly delete the last recorded sampling in each bank.

By using its USB functions (explained in the next chapter of this manual), it is though possible to delete other samplings.

To delete another sampling:

- Connect a USB drive, that you have tested to be working (try to import some samplings from it), to the LD3 USB port.
- Create a new directory.
- Export all your samplings of the bank, where the sampling(s) you want to delete is located, to the USB drive, inside the new directory.
- Enter the directory, on the USB drive, and select the sampling(s), that you want to delete.
- Push "MD/del" on the USB page.
- Push "Del".
- Confirm.
- Leave the USB pages, go to the "More..." section, and delete the whole sample bank.
- Go back to the USB page, and select the directory, holding your samplings.
- Push "Import", and then "Re-Load".
- LD3 will now put your samplings back on the right place, except for the sampling(s), that you deleted.

USB

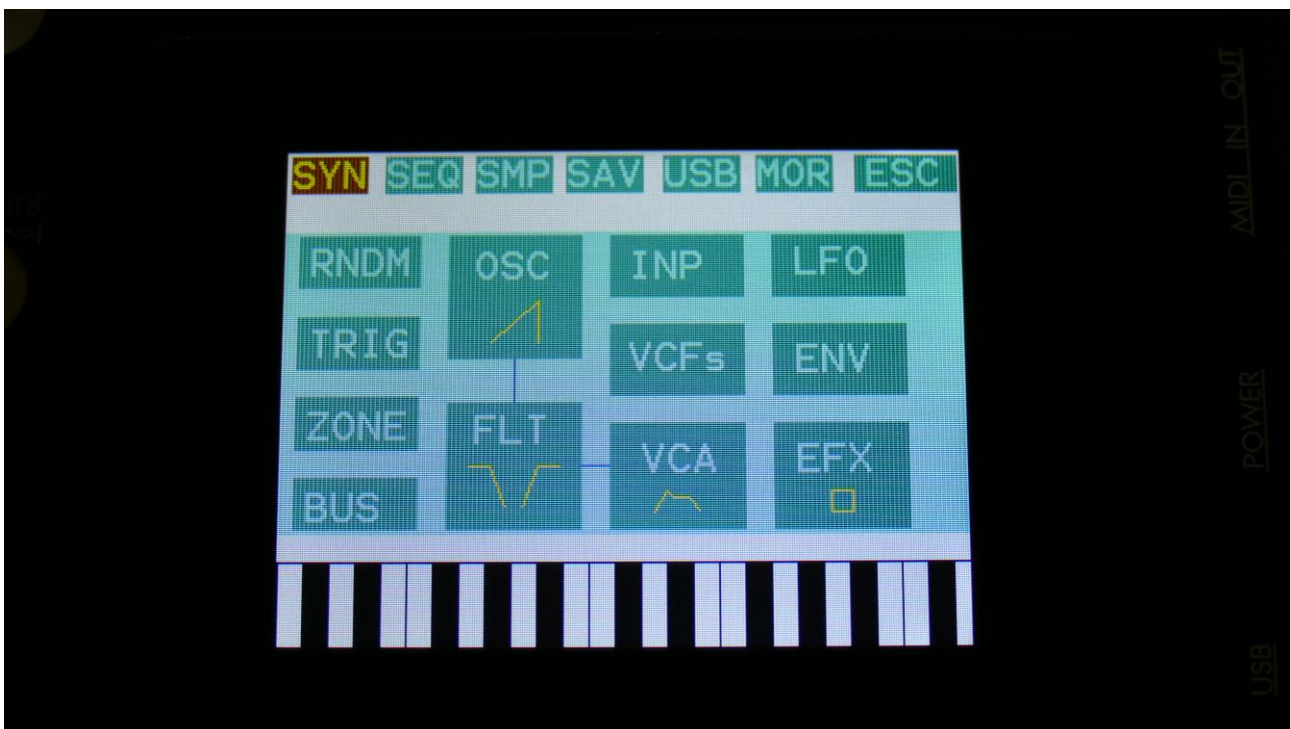
The USB pages lets you access the files and directories of a USB drive, attached to Id3's USB connector.

You can import and export samples as .wav files, import and export presets and songs, update the Id3 firmware, and make new directories.

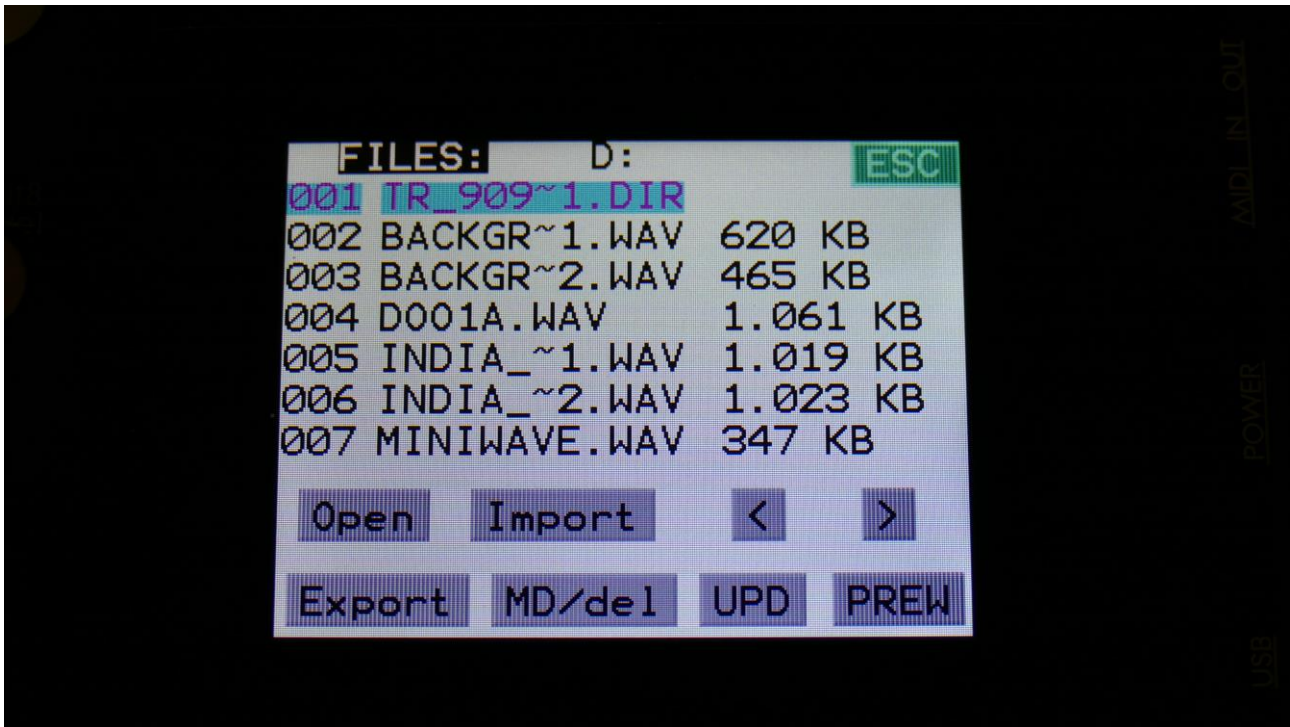
USB drives used with Id3 should be:

- Maximum 32 GB
- FAT formatted

From the Preset Select screen, touch the EDIT field, to enter the Main Synth 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 has the right specs, as described in the start of this section.

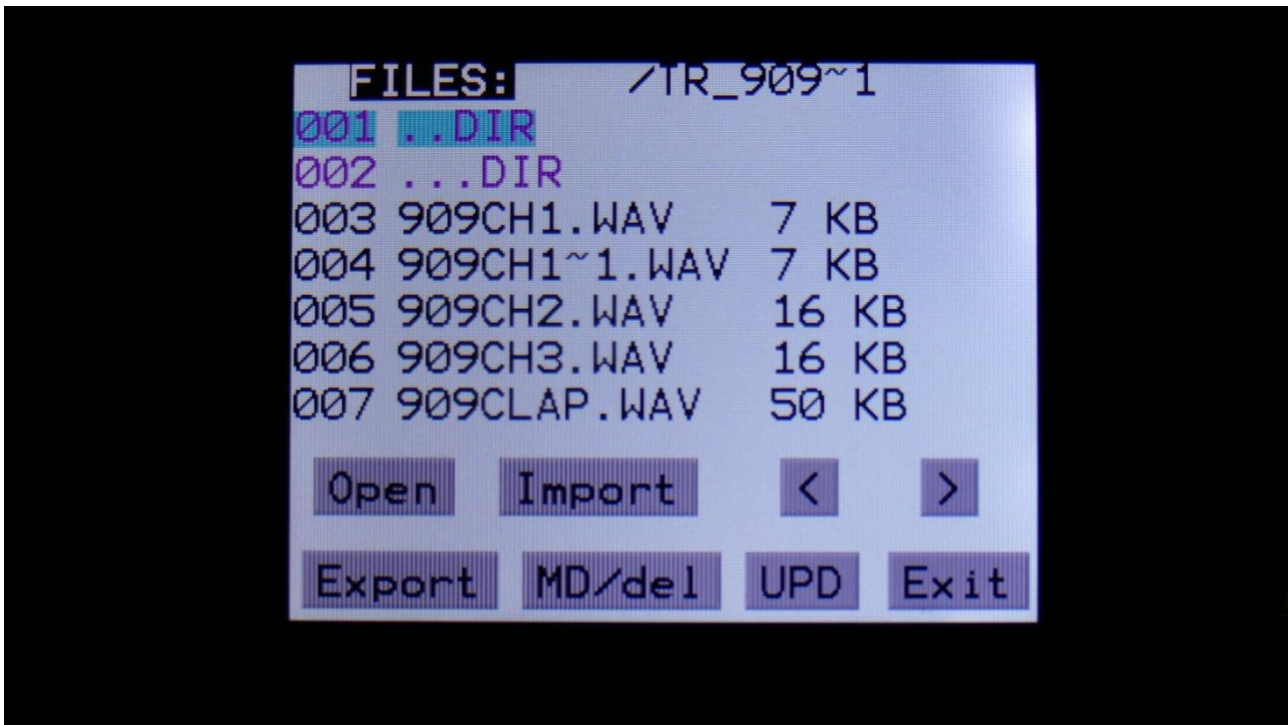
The names you see on the screen, are the names of the files and directories on the drive. File names are in black, and directory names are in purple. The currently selected file has a blue box around it. To select a file, simply touch it.

LD3 will 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.

LD3 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

Files that can be imported to LD3 are:

- Samplings with the ending .WAV, including LD3 generated chop points, and cue points generated by other gear/computer programs.
- Little deFormer samplings with the ending .LDS, including chop points.
- Presets with the ending .XDP
- Songs with the ending .XDO

Files that are shown, but can't be imported directly are:

- Update files with the ending .HEX

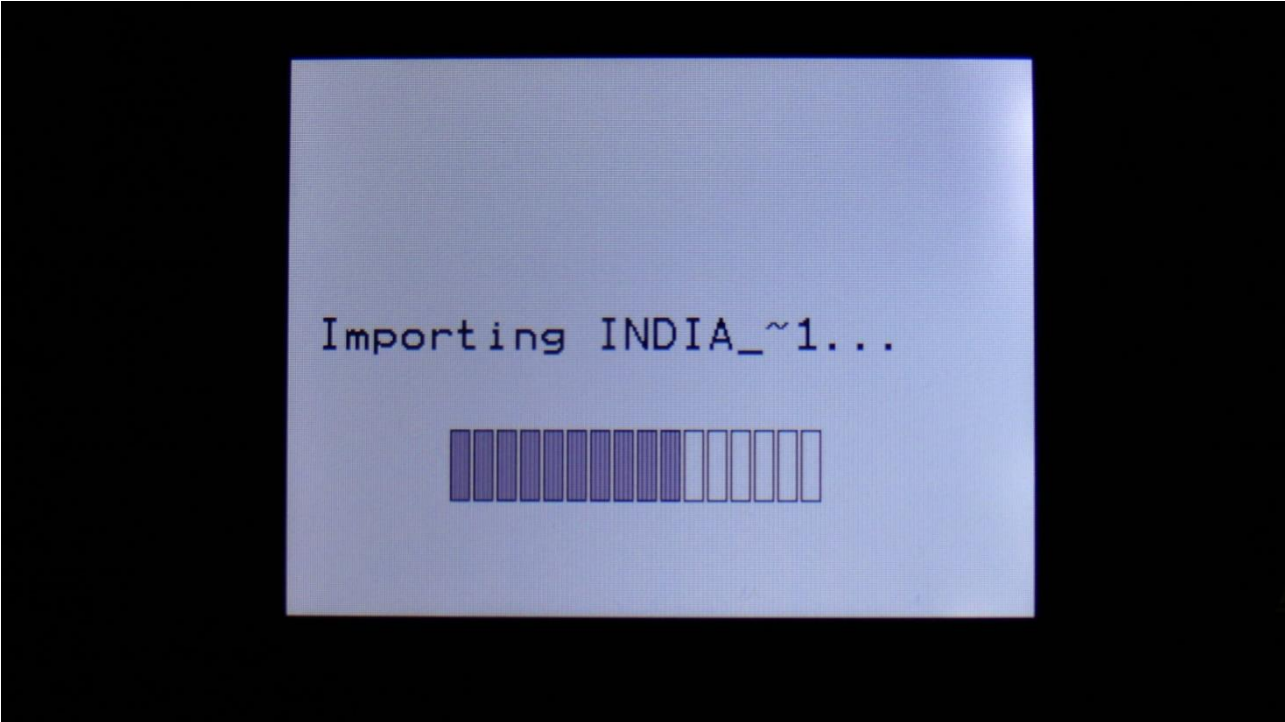
Files with any other ending will not be shown on LD3's screen, regardless of if they are present on the drive.

To import a single sampling or preset/song, select the .WAV/.LDS/.XDP/.XDO file you would like to import, by touching it.

Samples are imported to the sample bank selected on the Sample Edit page.

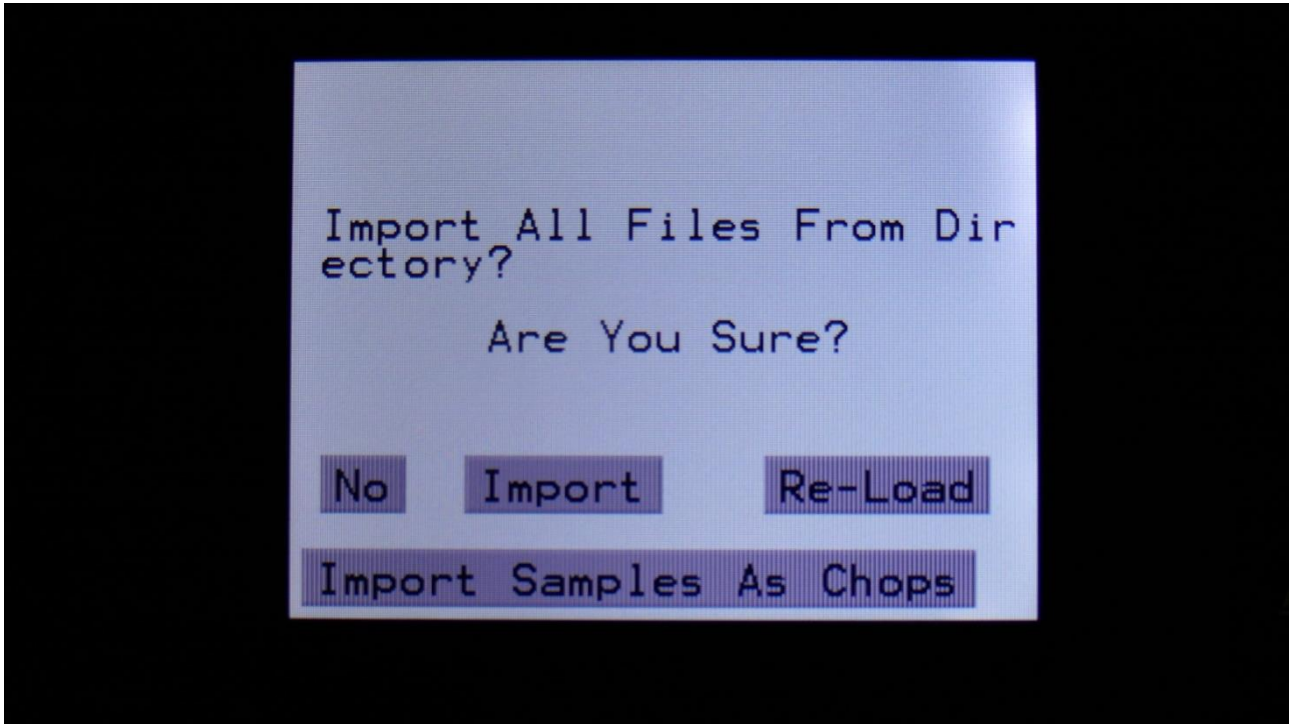
When importing a single preset or song, it is only loaded to the preset/song buffer, and you will have to save it manually, to keep it.

Touch the "Import" button. LD3 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. LD3 will now ask:



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

If you touched Import, LD3 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.

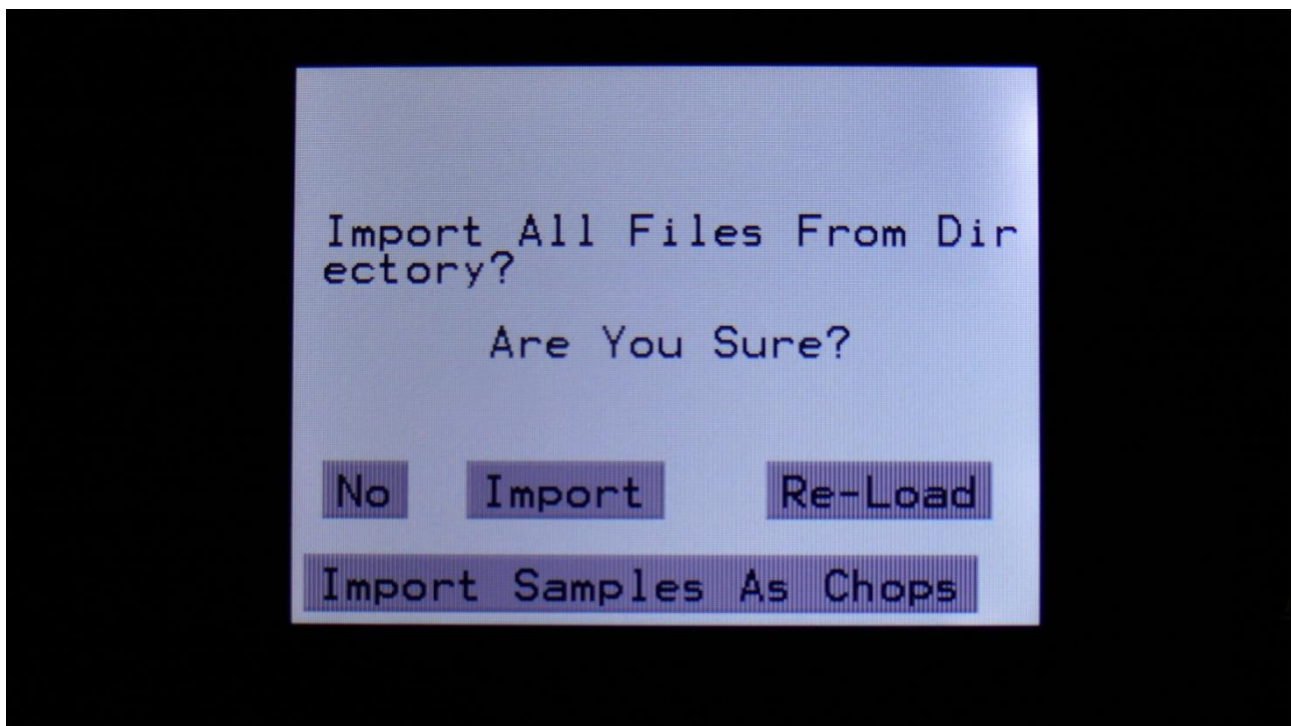
Reload multiple files

A reload function is also available. This will only import presets, songs and samples that has been exported from LD3, or that has been renamed to to fit the LD3 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.XDP, A02.XDP....A64.XDP, B01.XDP, B02.XDP.....P64.XDP .

This function will import presets and songs to 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. LD3 will now ask:



Touch "Re-Load" to continue, or "No" to exit.

If you touched Re-Load, LD3 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 LD3 itself, it is only possible to erase the last recorded sampling of bank A, B, C and D. By exporting all your samplings to a USB drive, and then delete sample bank A, B, C and D on LD3, delete the sample wav files you want to erase on the USB drive, from LD3 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.XDP, A02.XDP....A64.XDP, B01.XDP, B02.XDP.....P64.XDP .

Import Multiple Samplings From Directory As one sampling with Chop points

This new function will make it easier than ever, to make your LD3 hold more than 8.192 samplings, in an easy way! Without splicing samples on a computer!

On your computer:

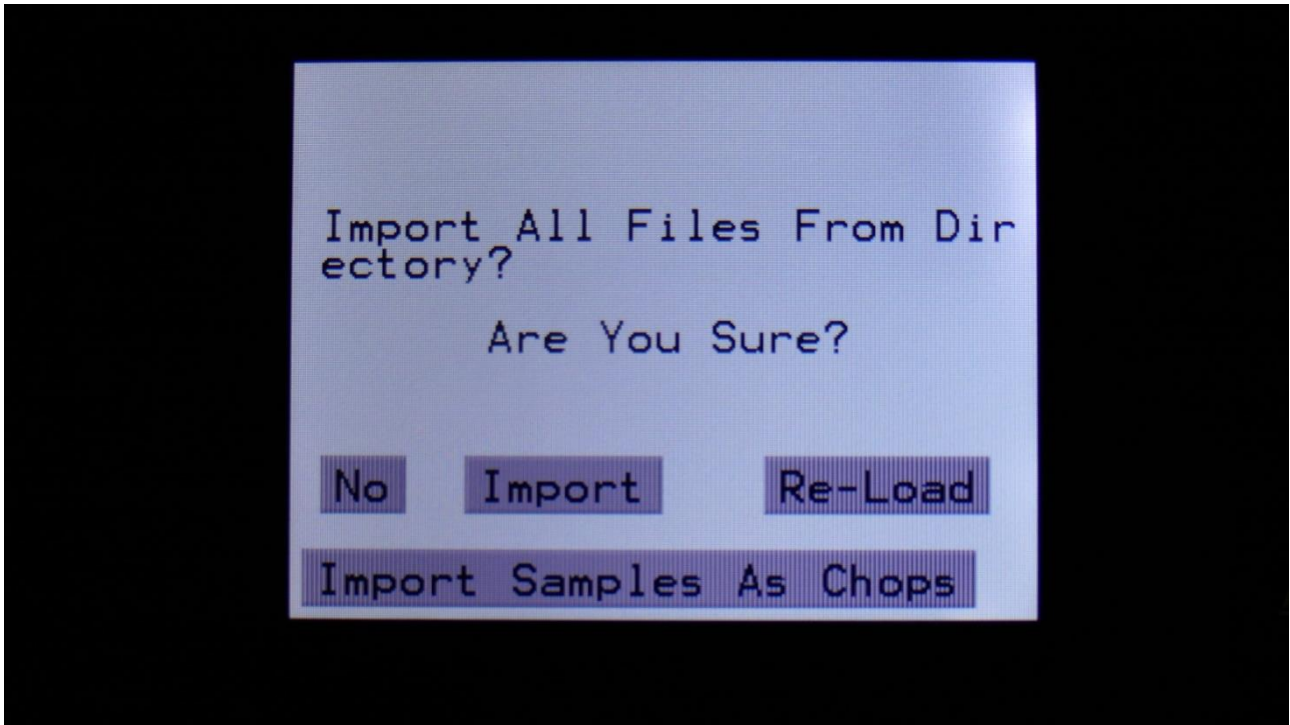
Make a directory (or folder) on an LD3 compatible USB drive. Name the directory with the name, that you want the sampling to have. Copy any single samplings you would like this sampling to contain, into the directory. Max 64 samplings.

Create multiple such directories, if desired.

Unmount the USB drive from your computer, and insert it in the LD3 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".

LD3 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.

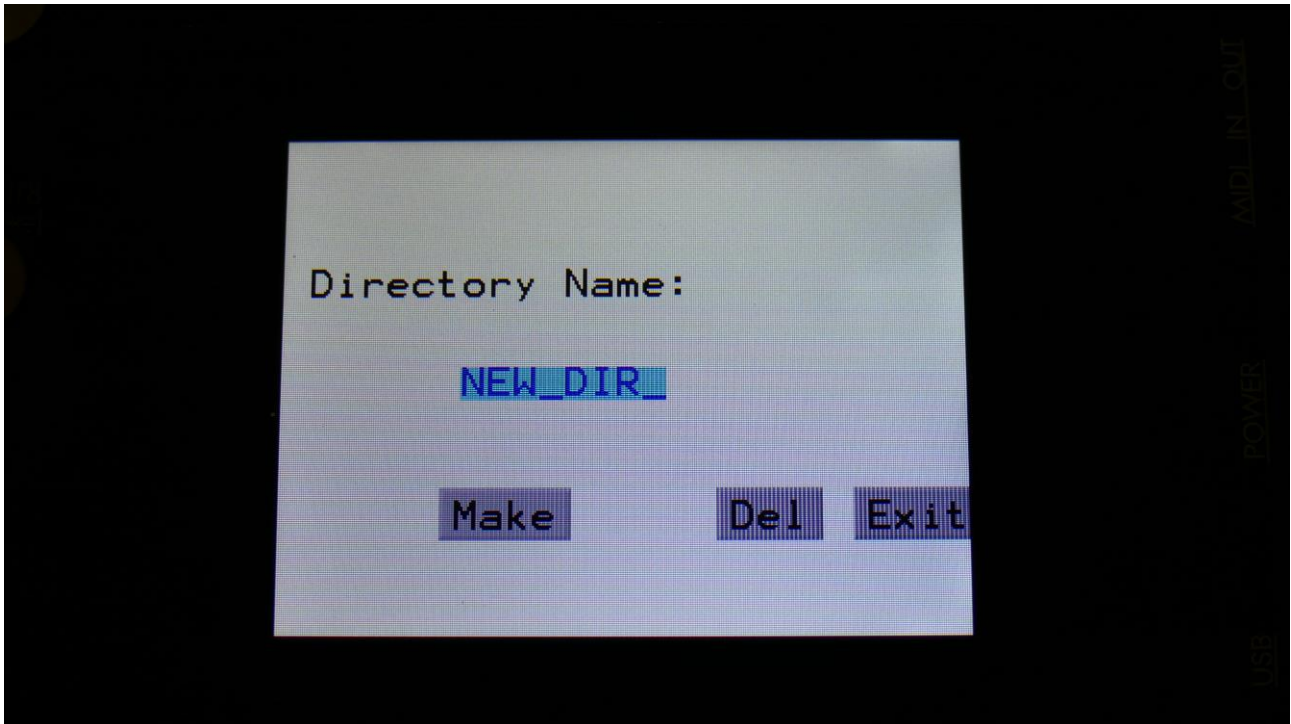
On the synth sampler pages, the procedure is the same. Select the sampling, and select the chop point. Modulate the chop point selection, to create great variation.

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.



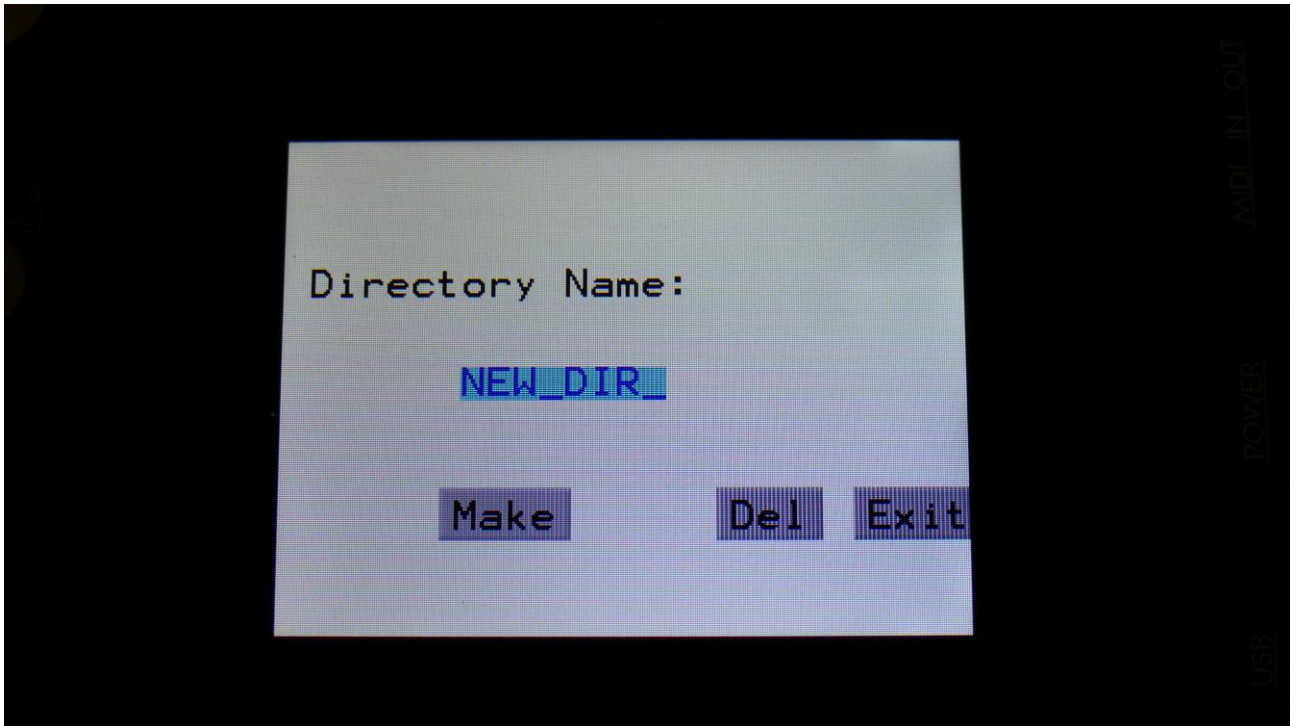
Turn the 8 edit knobs to select the 8 characters of the name for the new directory. When you are done with this, touch the "Make" button. The new directory will now be created.

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 PolySpaze.

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 LD3's FLASH memory can be exported to a USB drive, for back-up, or for use with other gear or computers. LD3 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. LD3 exports presets and songs in its own .xdp/.xdo format, so these can at writing moment only be used by LD3.

The factory sample bank can't be exported.

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 LD3 are in song mode, it will export the selected song.

"AlPr"

Export All Presets/Songs . Touching this button will export all programmed presets. If LD3 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.

If you have selected any of the factory samplings, this will do nothing.

"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.

If the selected sample bank contains any factory samplings, these will not be exported.

Updating the LD3 firmware

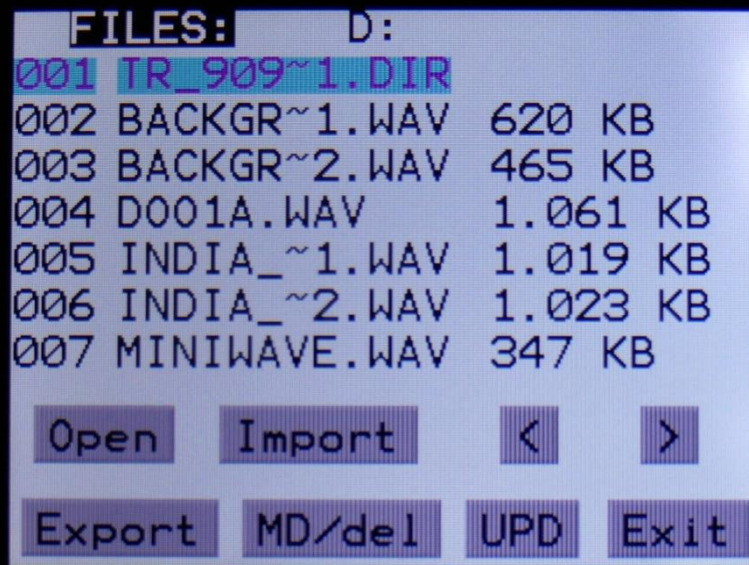
Now and then updates will be available for LD3, that adds new functionality and fixes bugs. These will always be available for download at:

<http://www.gotharman.dk>

To update LD3, you must have a computer with an internet connection, and an LD3 compatible USB drive ready. See the start of this section, for which USB drives that are LD3 compatible.

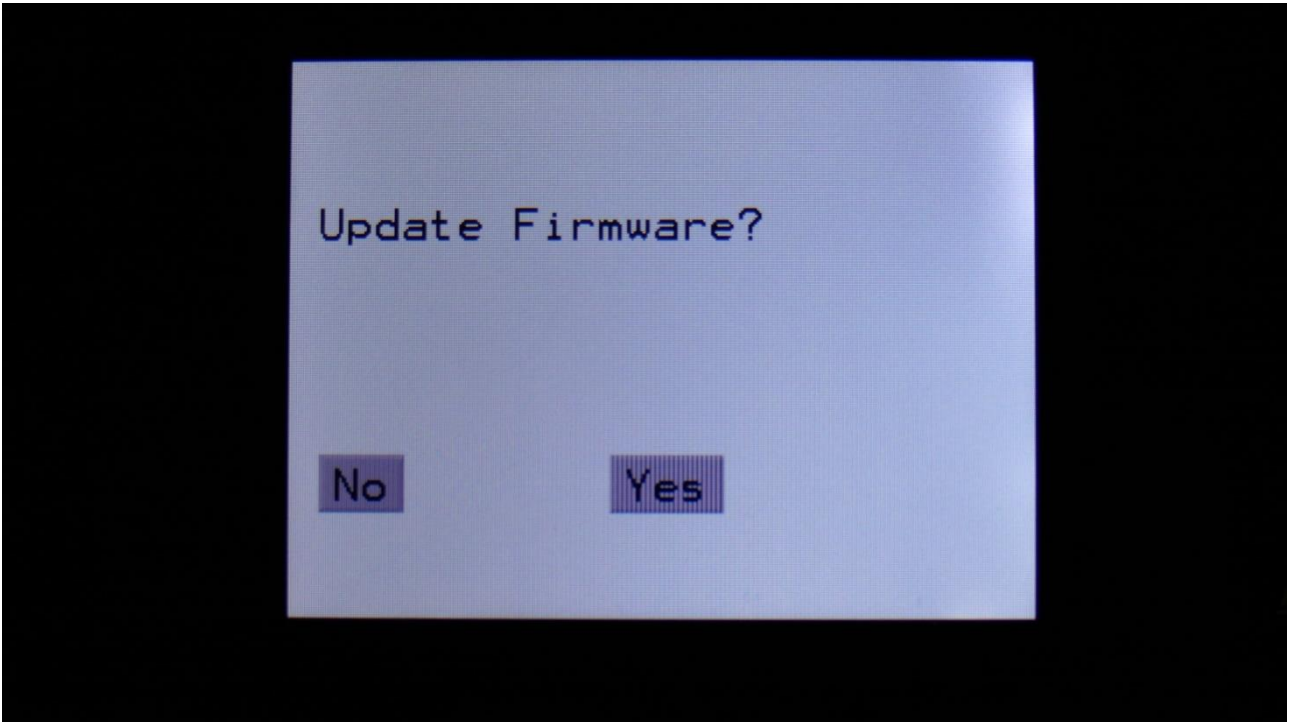
Then you should follow these steps:

1. Download the update file of the latest update, from the LD3 Updates site, to your computer.
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 LD3 's USB connector.
7. Turn LD3 on, if it isn't already turned on.
8. From the preset select screen, touch the EDIT field.
9. Touch USB.
10. Wait for LD3 to register the USB drive, so all files and folders are presented on the screen.



11. Touch the "UPD" button.

12. LD3 will now search for the "UPDATE" folder and a valid update file. If it finds both, it will ask: "Update Firmware?"

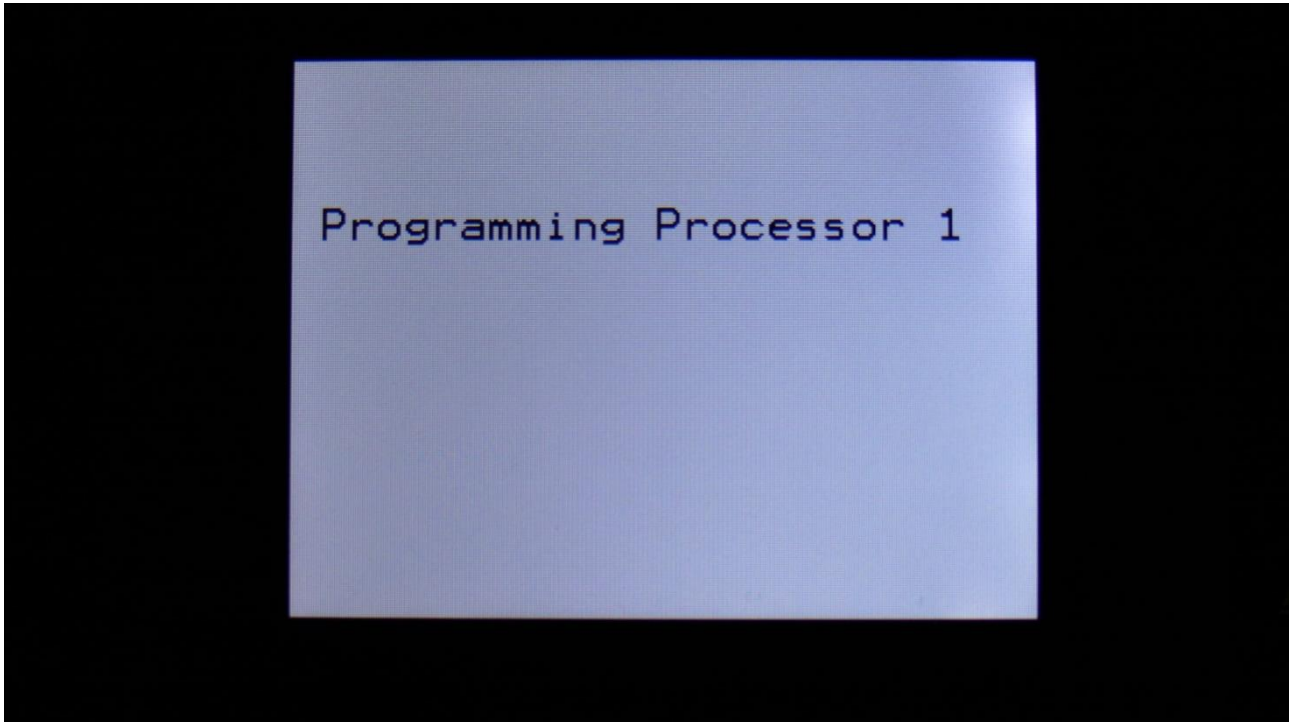


13. Touch "Yes" to proceed with updating, or "No" if you regret.

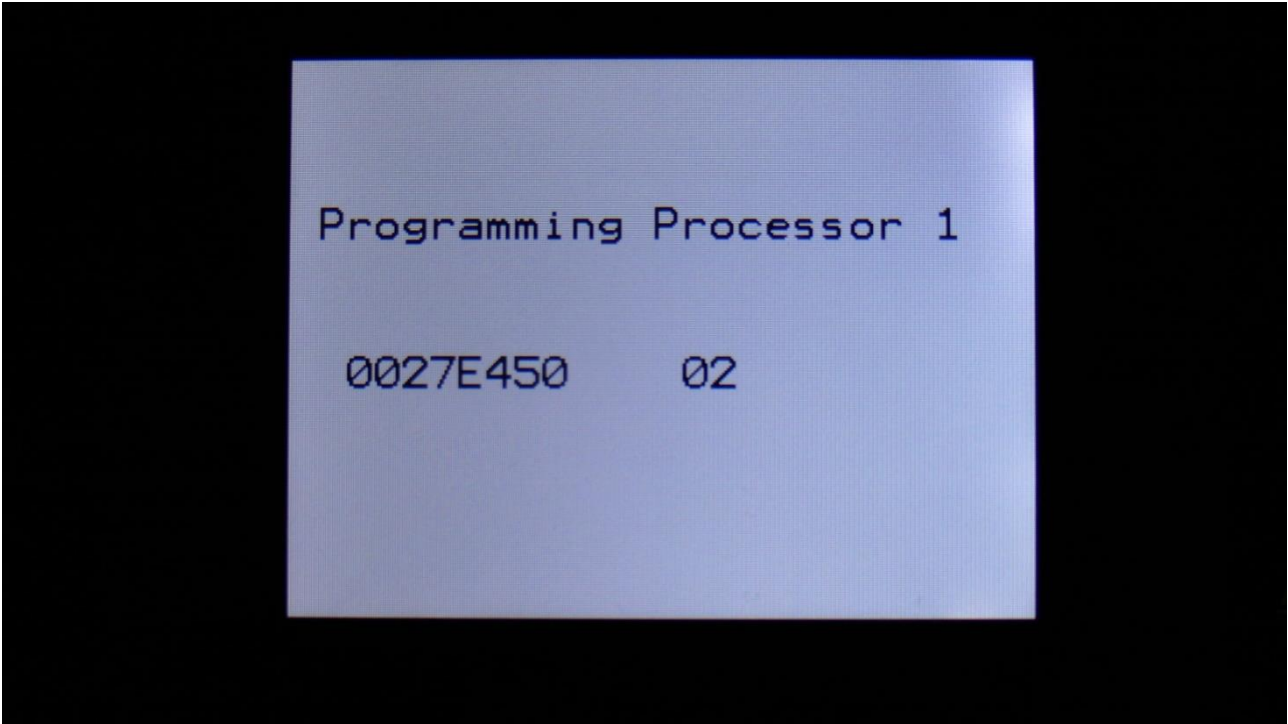
14. If you pushed Yes in step 13, LD3 will now start to get the update file, and program its processor.

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.

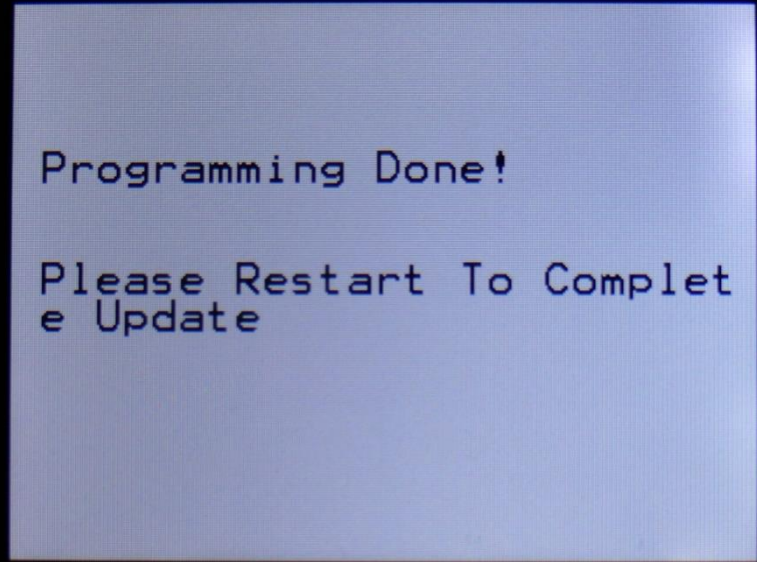
Erasing the program memory of the processor:



Programming processor (counter in the bottom counts up):

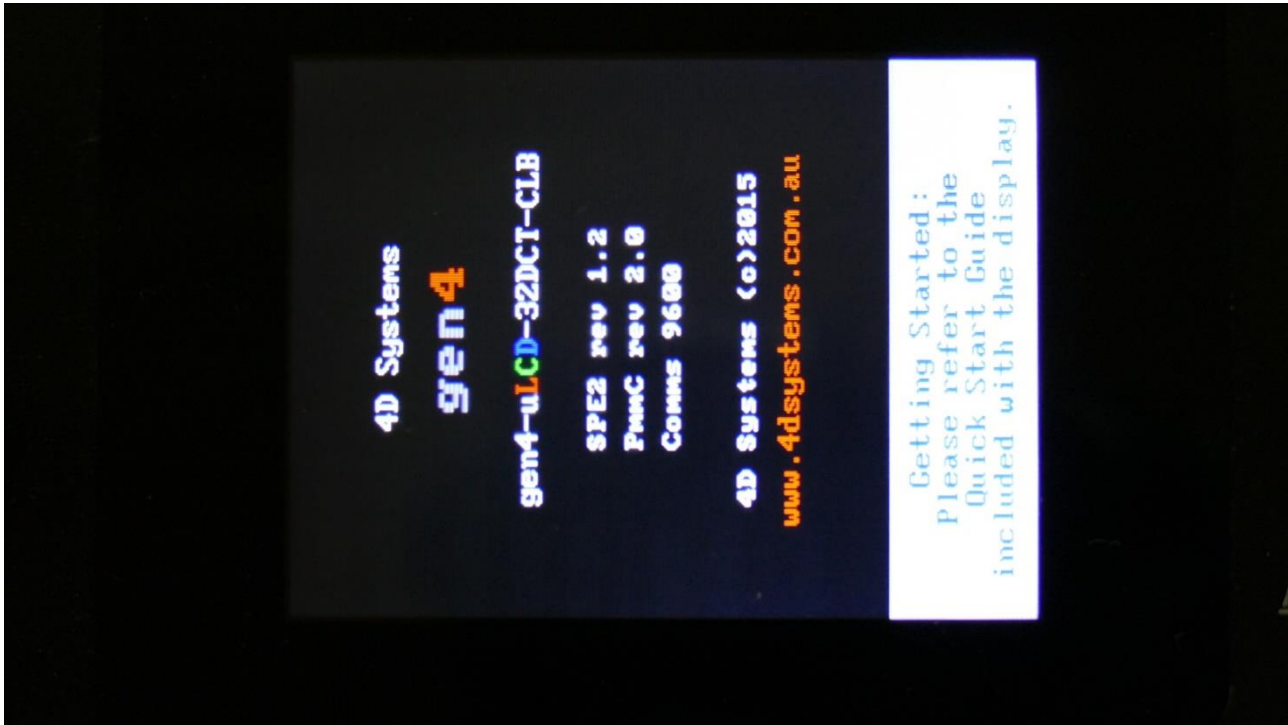


15. When programming is done, LD3 will ask you to restart it. Please turn LD3 off and then on again.



16. When you turn on LD3 after an update, it will need to finalize this. It will show this by turning 10 step button 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, an initial text will show on the display:



If something goes wrong:

-If the power should go off, while LD3 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 LD3 is finalizing the update (3 LED's turn on and off), simply turn LD3 on again, and it will now finalize the update.

MIDI Specs

Receives:

-Note on/off's on the LD3 global MIDI channel and on the individual part MIDI channels in Multi-timbral mode. These can trigger the parts and be recorded by the sequencer, when it is in realtime rec mode.

-MIDI CC 1, 2, 4, 5, 7, 8, 9, 10, 11 and 12 on the LD3 global MIDI channel and on the individual part MIDI channels in Multi-timbral mode. All parameters that are set up to be controlled by Edit Knob 1 to 8, are also controlled by these MIDI CC's.

More MIDI CC's will be added.

-Pitch Bend messages on the LD3 global MIDI channel and on the individual part MIDI channels in Multi-timbral mode. Controls the oscillators and samplers of part 1 to 16, and any parameter that has pbend set as its modulation source.

-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, 2, 4, 5, 7, 8, 9, 10, 11 and 12 on the LD3 global MIDI channel, from the knobs on the Preset/Song Select screen, and on any other pages, that has no other Edit Knob functions.
- Note on/off's on any MIDI channels from the sequencer/part system.
- MIDI CC's on any MIDI channel from the sequencer controller tracks.

Installing/exchanging Analog FilterBoards

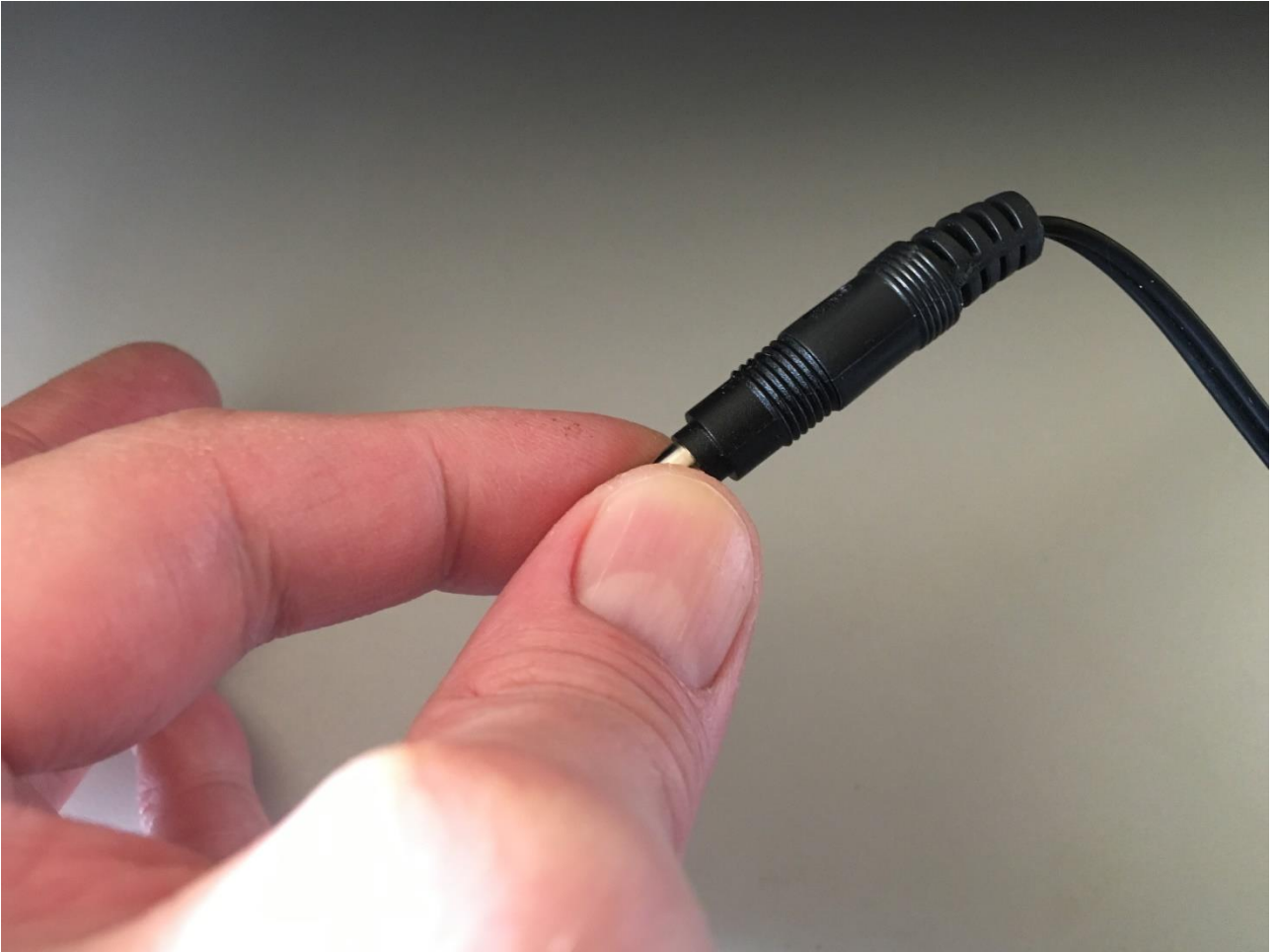
This chapter will describe how to install or exchange analog filterboards.

You will need the following tools:

- A Phillips screwdriver
- A 2.5mm Allen screwdriver



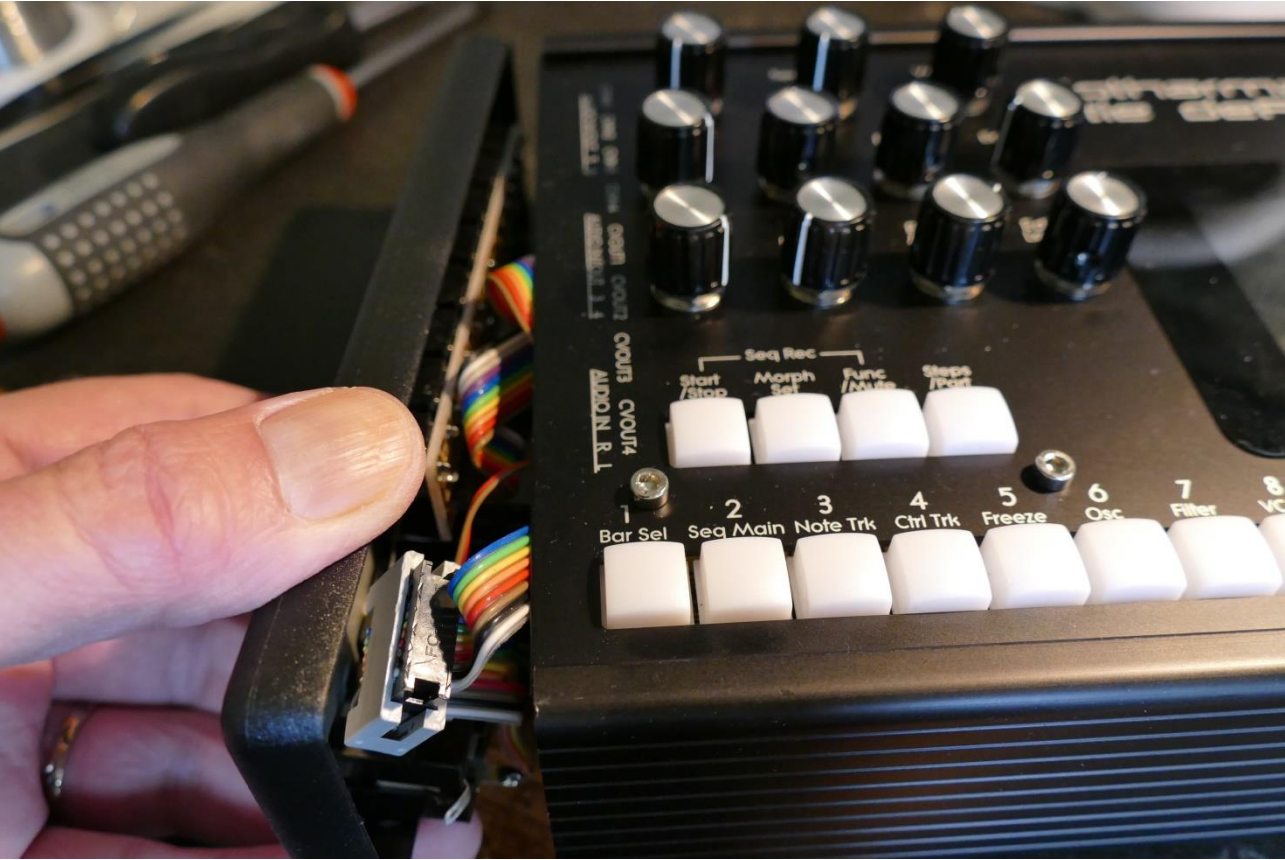
Before you open your LD3, insert the power supply in a wall socket, and touch the metal on the connector. This will unload you from any static electricity, that might damage the electronics.



Remove the 4 screws in the corners of the left end panel, using the Phillips screwdriver.



Take the left end panel a bit out.



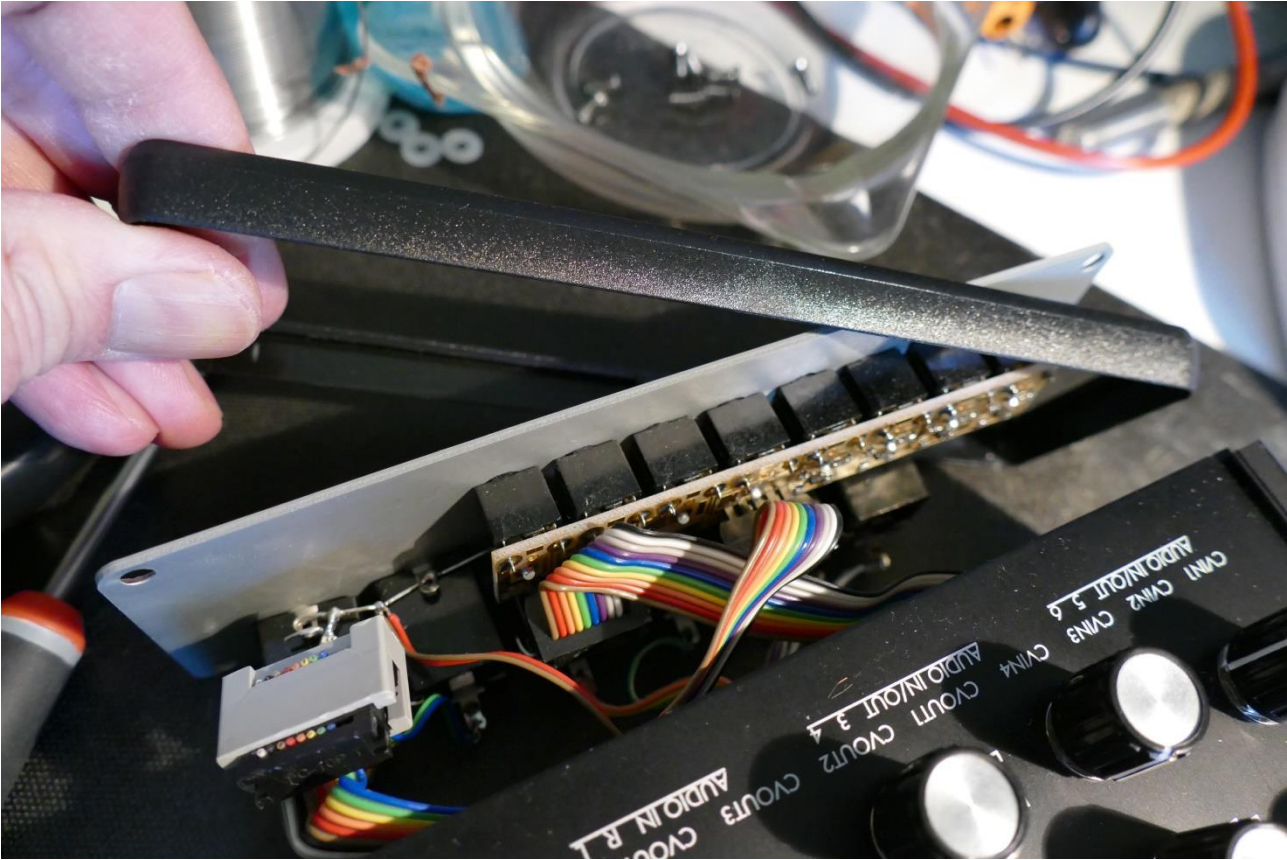
Turn your LD3 around, and remove the 4 screws in the corners of the right end panel, again using the Phillips screwdriver.



Take the right end panel a bit out.



Remove the plastic frame from the left end panel.



Now carefully slide the front panel towards the right, while navigating the left end panel, to stay inside the box, in order not to scratch the top of the box.

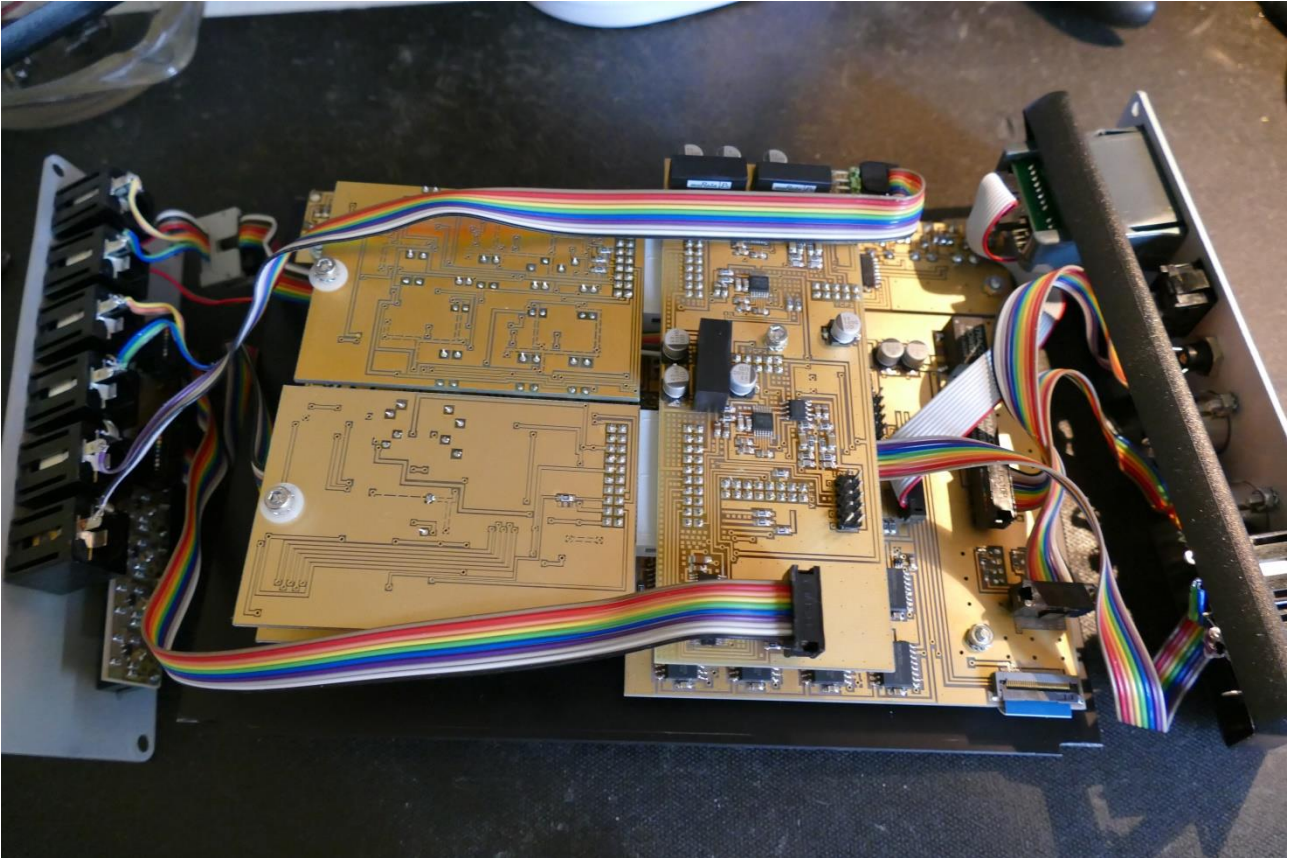


Slide the front panel all the way to the right, so that it is free of the box.

Put the box somewhere else, so you have the front panel and the two end panels for themselves.

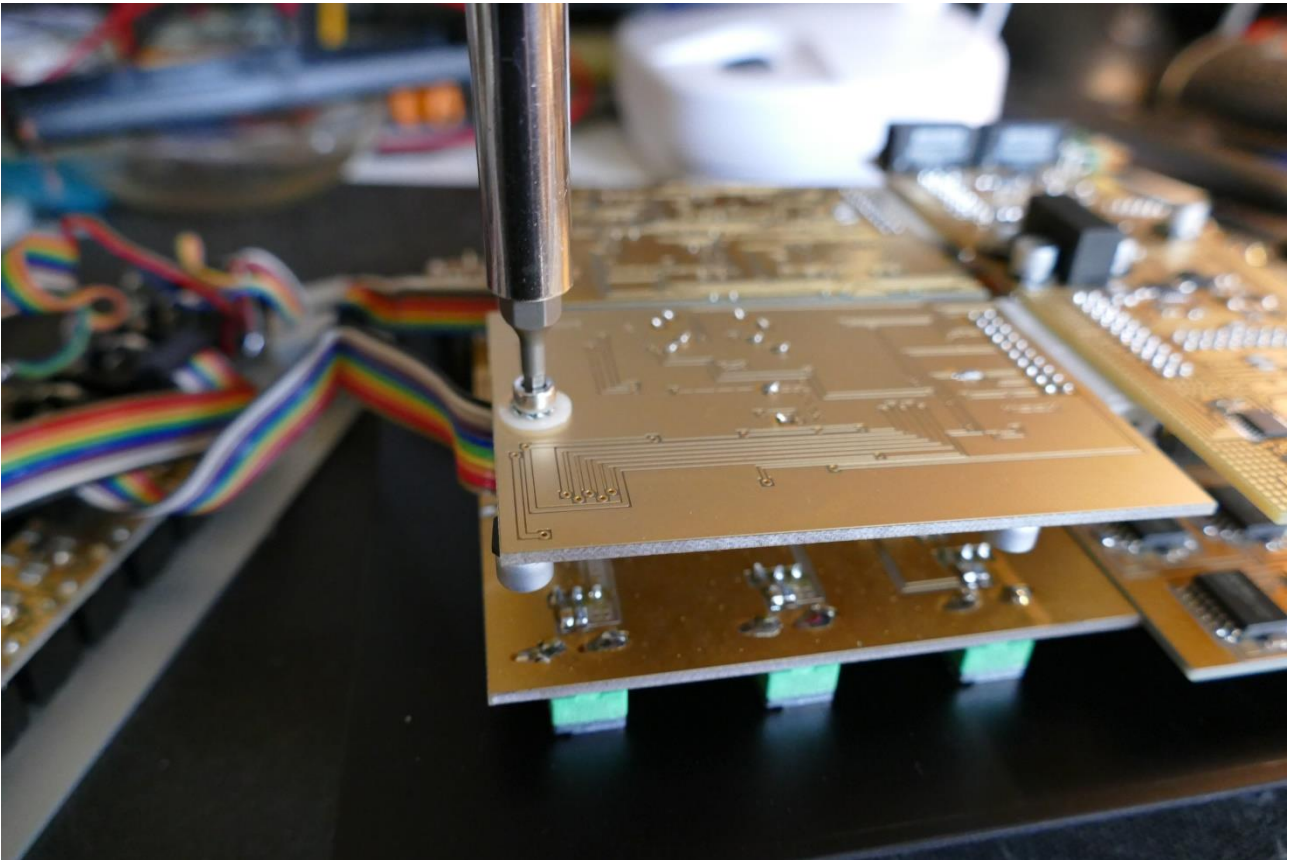


Flip LD3 around, so that the front panel is facing downwards.



If your LD3 already has filterboards installed, you will now see the two filterboards attached to the analog board.

Remove the screw holding the filterboard in place, on one or both of the filterboards, using the 2.5mm Allen screwdriver.

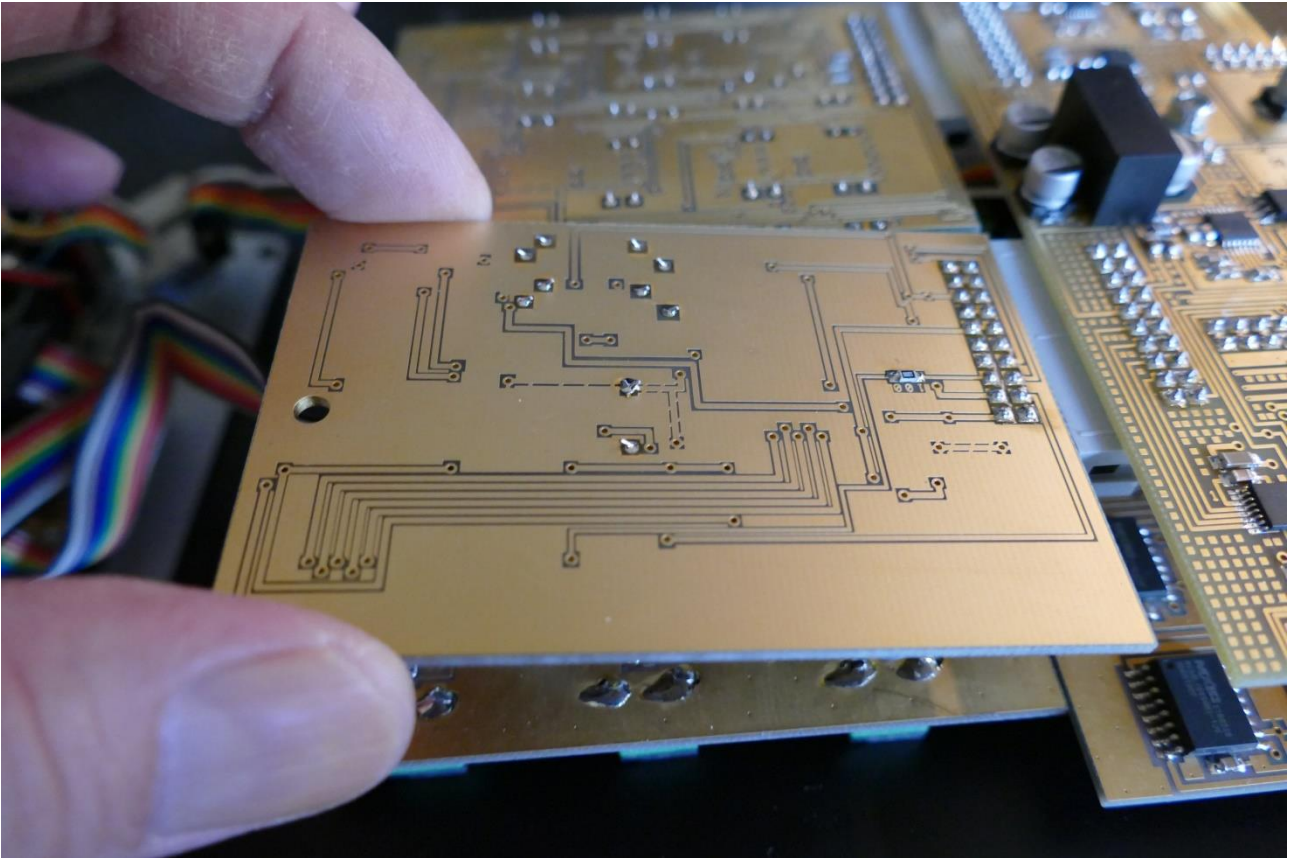


If your LD3 does not yet have any filterboards installed, just remove the screw and the 3 washers.

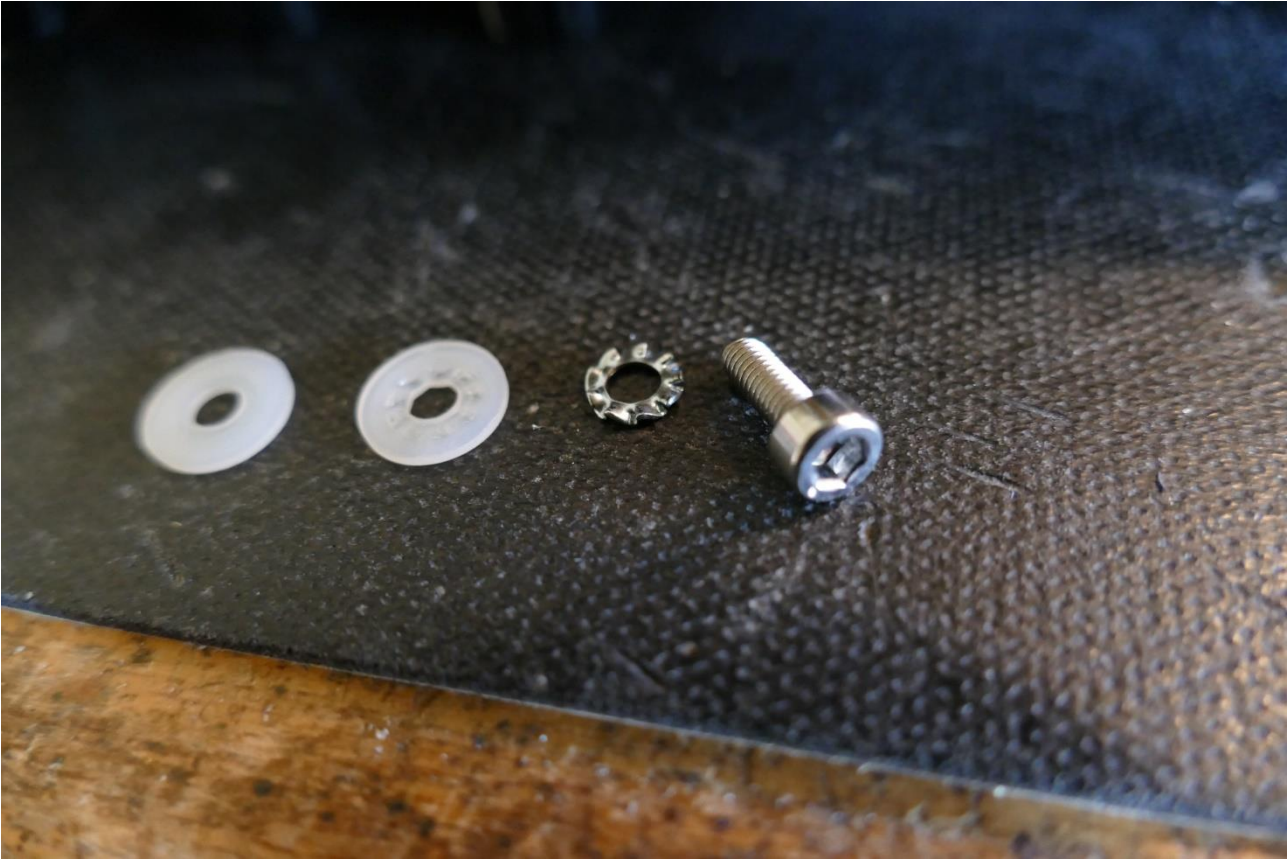
Take care of not losing the screw and the washers.

Hold the filterboard on the sides as shown. Holding only on the sides of it, will minimize the risk of applying static electricity to the board, and damage it. **DO NOT TOUCH THE ELECTRONICS!**

Gently tweak the board out of its socket.

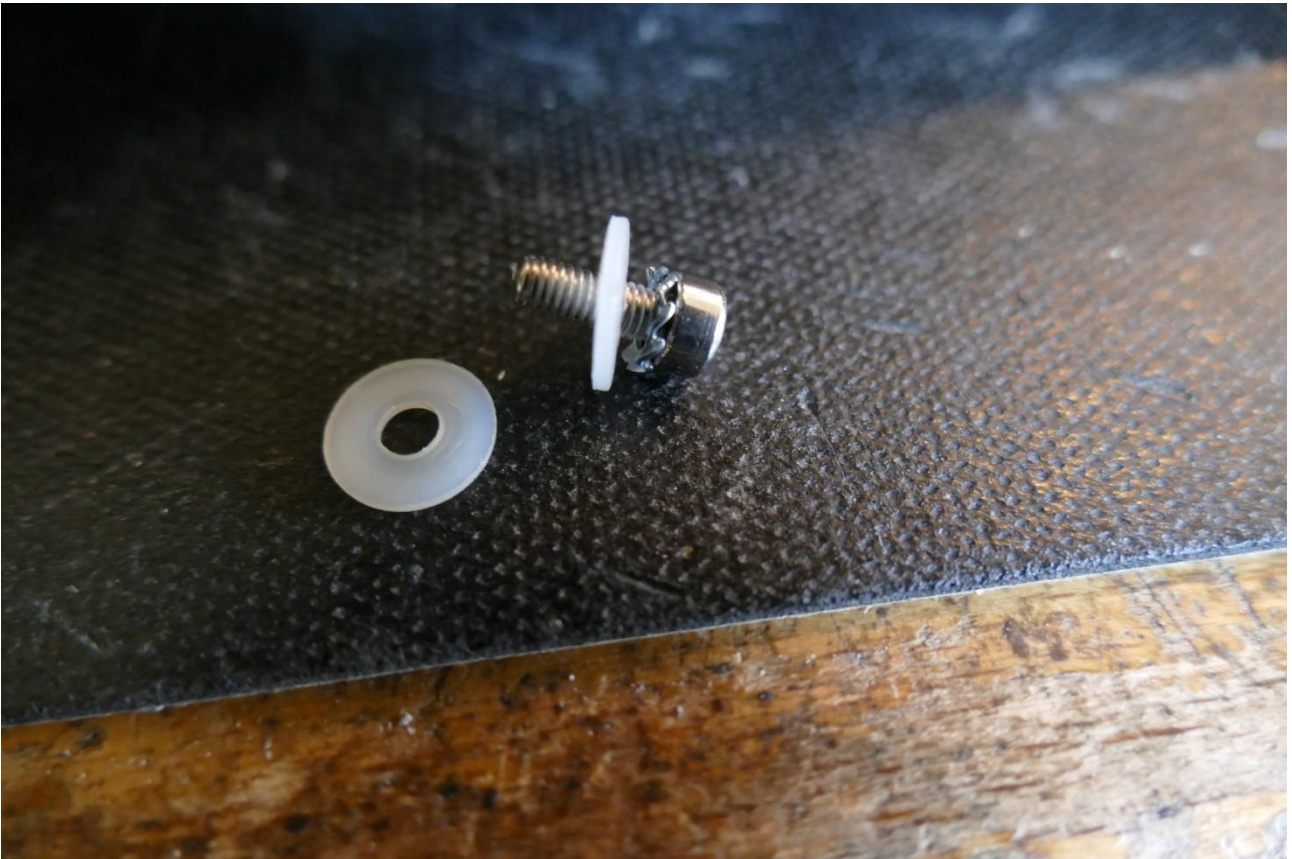


The screw and the washers, that is holding the filterboard in place:



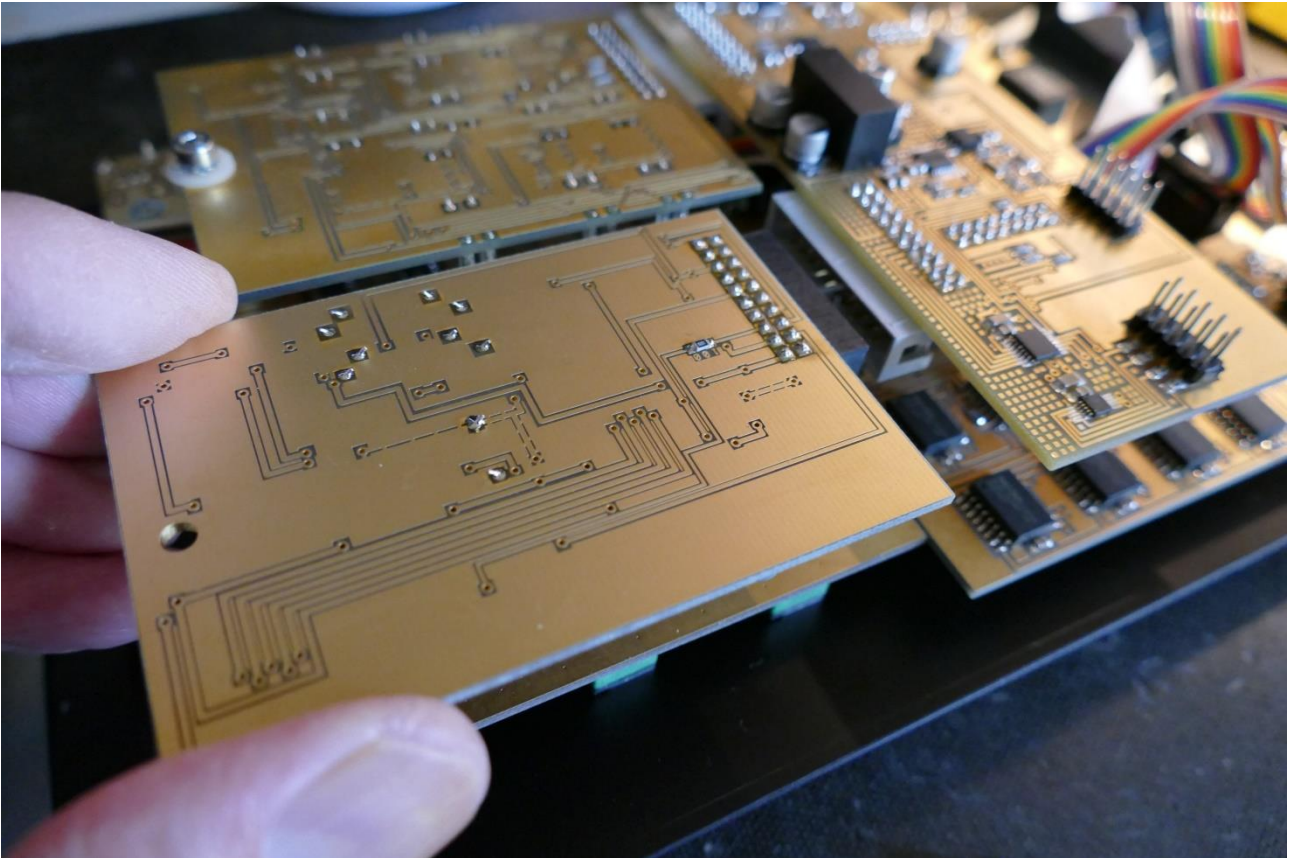
Before you start installing the new filterboard, you should assemble the screw and the washers like this:

- First place the shakeproof washer on the screw.
- The place one of the nylon washers on the screw.
- Leave the other nylon washer for now.



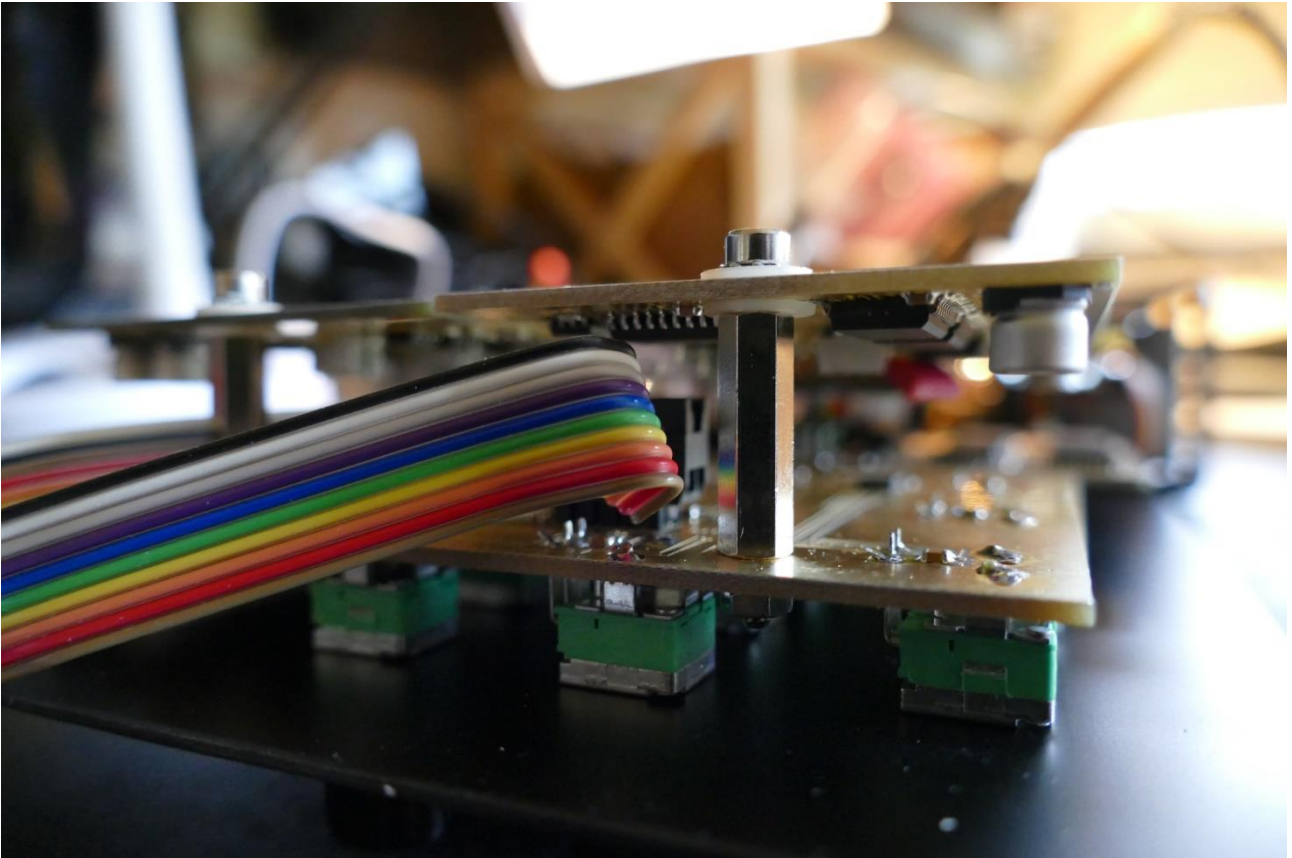
Now, take the new filterboard. Again, touch it only on the sides.

Place it so the connector on the filterboard goes into the middle of the connector on the analog board. Push it all the way in.



Place a nylon washer between the filterboard and the PCB spacer, that is holding it. Put the screw, with nylon and shakeproof washer mounted, back, and tighten it.

It should now look like this:

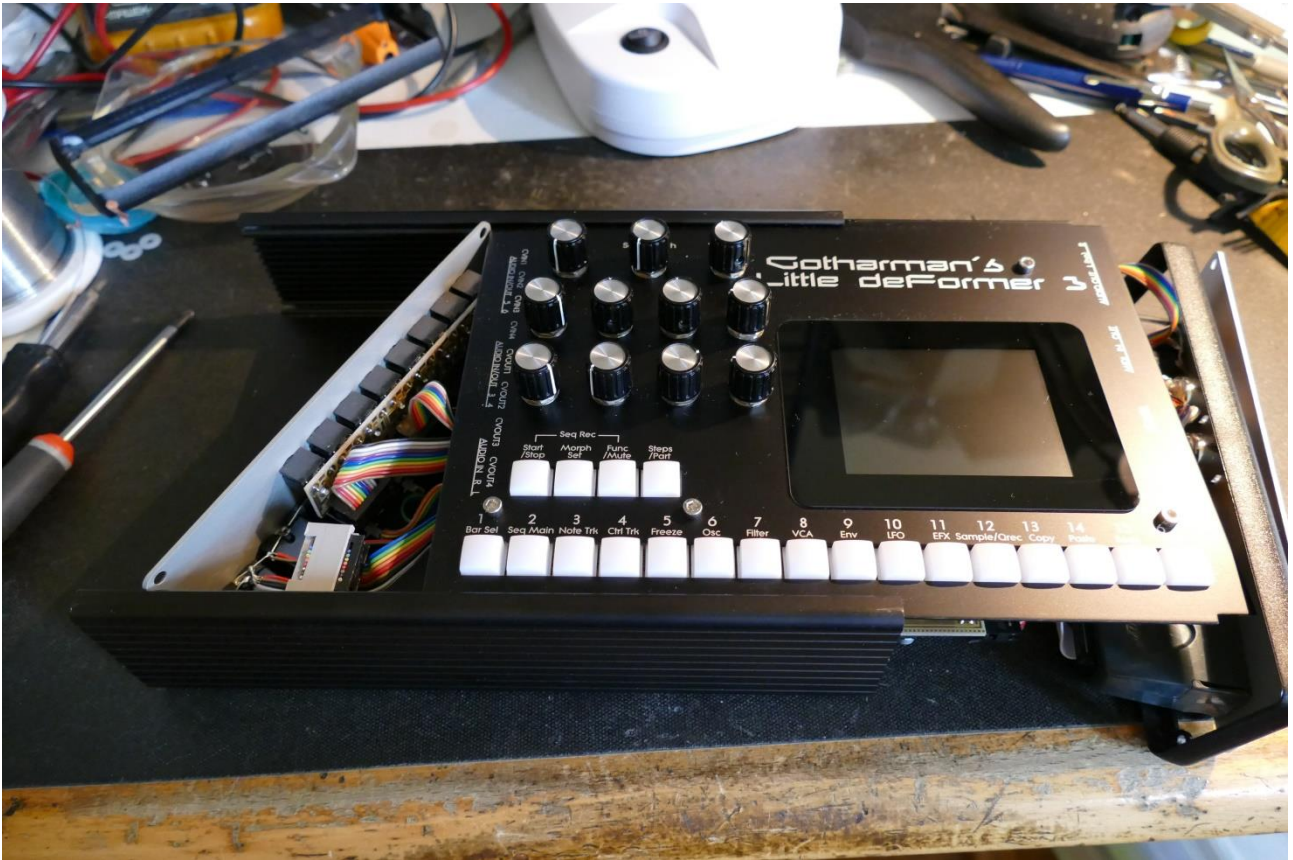


You have now successfully installed a filterboard!
Now it is time to put your LD3 back together again.

Turn it over, so the front panel is facing upwards again.



Slide the front panel into the box, from the right, towards left. Again, hold the left end panel, so that it stays inside the box, to prevent scratching the top of the box.



Put the plastic frame back on the left endpanel.

Put the right end panel in place. Take care that none of the cables attached to it, are squeezed between the panel and the box.

Put the 4 screws back, and tighten them.

Put the left end panel in place. . Take care that none of the cables attached to it, are squeezed between the panel and the box, or the panel and the filterboards.

Put the 4 screws back, and tighten them.

Turn your LD3 on and enjoy!

Written by:
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Gotharman
2018