Gotharman's Little deFormer 3

Granular Workstation

Update Manual 12.15

-Percussion Synthesizer trial version included (fully functional, but save disabled). 4 new percussion oscillator types will let you use LD3/Tiny LD as an advanced drum machine. Page 3

-Long envelope times are now possible. Page 14

Bug fix:

-Envelope 2 Decay was not morphing. This has now been fixed. When selecting a preset, that has not been saved after this update, the value of this parameter on layer A is copied to layer B, so that it will not affect your presets.

Percussion Synthesizer

4 new percussion oscillator types have been added to the oscillator section.

Please notice that the percussion oscillators are implemented in trial mode. You can tweak them and make sounds with them, and even resample the outputs of them, but you can't save or export presets made with them, and every time you switch oscillator type to one of the percussion oscillators, the oscillator parameters will be initialized.

You must purchase a Percussion Synthesizer activation license, to activate save and export, and to get rid of the parameter initialization. By purchasing this license, you are also supporting the large amount of work, that has been required to make all the LD3/Tiny LD updates.

In trial mode it is possible to import the preset set made for the Percussion Synthesizer, but you must import all presets from a folder, in order to get them stored in the LD3/Tiny LD preset memory. If you import them one preset at a time, it is not possible to save these presets.

The 4 Percussion Oscillator types:

Perc: Percussion oscillator 1. This outputs 2 percussion waves, that can be detuned from each other, and noise FM can be applied. Atk will morph between the attack and the body of the percussion sound. To imitate the strike of the drum, modulate Atk with an envelope. Noise PW can also be set, to adjust the intensity of the FM noise. This percussion oscillator is optimized for **kicks, snares and noise sounds**, but can also produce a lot of other sounds. Like the other oscillator types, its parameters can be modulated by any modulation source, and it can be routed through filters and effects, which expands the possibilities.

Prc2: Percussion oscillator 2. This outputs 2 percussion waves, that can be detuned from each other. Squared noise FM can be applied, and noise PW can be adjusted, to set the intensity of the FM noise. Atk will morph between the attack and the body of the percussion sound. To imitate the strike of the drum, modulate Atk with an envelope. This percussion oscillator is optimized for **analog style hi hats and cymbals**, but can also produce a lot of other sounds. Like the other oscillator types, its parameters can be modulated by any modulation source, and it can be routed through filters and effects, which expands the possibilities.

Prc3: Percussion oscillator 3. This outputs 2 percussion waves, that ring modulate each other, and that can be detuned from each other. Noise FM can be applied. Atk will morph between the attack and the body of the percussion sound. To imitate the strike of the drum, modulate Atk with an envelope. Noise PW can also be set, to adjust the intensity of the FM noise. This percussion oscillator is optimized for **hi hats, toms and bell type sounds**, but can also produce a lot of other sounds. Making kick and snare drums with this, results in very special sounds. Like the other oscillator types, its parameters can be modulated by any modulation source, and it can be routed through filters and effects, which expands the possibilities.

Cymb: Cymbal oscillator. A cymbal sound is a complex sound, and this is a complex oscillator. It is made up of a small group of squarewave oscillators, that modulate each other (CymFM). The pulse width can be set for the oscillators, they can be detuned from each other, and the amount of CymFM can be set. Self FM can be applied to the first oscillator in the chain, which is only a modulator, so the effect of self FM can only be heard, if CymFM is turned up. This percussion oscillator is optimized for **cymbals and weird metallic noises**, but can also produce a lot of other sounds. Like the other oscillator types, its parameters can be modulated by any modulation source, and it can be routed through filters and effects, which expands the possibilities.

Sound ideas / Start points

You can, of course, use the percussion synthesizer presets as starting points, and copy/paste sounds from these to a new preset. But if you would like to start from scratch, or you just want to get an idea of, how specific sounds can be generated, here are some ideas.

Analog style kick drum

Select the Perc oscillator type. Set the Dtun, Atk and Noiz parameters all to zero. Set pitch modulation to Env1 and something around 100 for a start. Set Atk modulation to Env1 and something around 150. If you are triggering the sound from the trigger buttons, set Tune to -15.

Set VCA envelope to LogSm mode, A to 0, D to 137, S to 0 and R to 130.

Set Env to Log mode, A to 0, D to 45, S to 0 and R to 0.

Now you should hear an analog style kick drum. Experiment with the settings of pitch and Atk modulation, the envelope decay time, and of course the Tune parameter, to get variations of this.

To make a long kick sound, set pitch modulation to Env2, and set the decay value of this to around 40. Keep Env1 controlling Atk (Attack). Adjust the VCA envelope decay and release, and the Env1 decay and release.

Acoustic style kick drum

The percussion oscillators might not be able to perfectly imitate an acoustic kick drum, but they can get somewhere near.

Use the analog style kick drum, and adjust the Dtun parameter. To get it even more realistic, add a Pitch Shifter effect after it, and detune this too.

Snare drum

Select the Perc oscillator type. Set Noiz to 511, Dtun to 210 (sets the brightness of the snare), Atk to 0 and NzPw to +0. Turning up Atk, will give the snare drum more “bite”. Set Atk modulation to Env1 and set this to 270. If you are triggering the sound from the trigger buttons, set Tune to -43.

Experiment, by tweaking the parameters, to get the snare sound, that you want.

Tom

Select the Prc3 oscillator type. Set Dtun, Atk and Noiz all to zero. Set pitch modulation to Env1, to 42, and set Atk modulation to Env1, to 305. If you are triggering the sound from the trigger buttons, set Tune to -8. Set Env1 A to 0, D to 52, S to 0 and R to 118. Set the VCA Env A to 0, D to 84, S to 408 and R to 66. Now you should be able to hear a basic tom sound.

Make new tom sounds, by tweaking the parameters.

Closed Hi hat

Select the Prc3 oscillator type. Set Dtun to 19, Atk to 0, NzPw to +0, and Noiz to 85. If you are triggering the sound from the trigger buttons, set Tune to +33. Set Atk modulation to Env1, and set this to 226. Set VCA Env A to 0, D to 22, S to 0, R to 20. Env1 can be left at the default settings (A=0, D=40, S=0, R=0).

If you wish to do the traditional drum machine trick, where hats cuts each other off, assign this part as a “Mono To Voice”.

Tweak the parameters, to obtain different hi hat flavours.

Open Hi hat

Copy and paste the closed hi hat to another part. Set the VCA Env A to 0, D to 22, S to 415 and R to 208. Now you got an open version of the closed hi hat!

Analog style closed hi hat

Select the Prc3 oscillator type. Set Dtun to 186, Atk to 0, NzPw to +0 and Noiz to 62. If you are triggering the sound from the trigger buttons, set Tune to +21. Set Atk modulation to Env1, and set this to 80. Set VCA Env A to 0, D to 22, S to 0, R to 20. Env1 can be left at the default settings (A=0, D=40, S=0, R=0).

If you wish to do the traditional drum machine trick, where hats cuts each other off, assign this part as a “Mono To Voice”.

Tweak the parameters, to obtain different hi hat flavours.

Analog style open Hi hat

Copy and paste the analog style closed hi hat to another part. Set the VCA Env A to 0, D to 22, S to 415 and R to 208. Now you got an open version of the closed hi hat!

Cymbal

Select the Cymb oscillator type. Set SelFM to 255, Dtun to 127, PW to 120 and CymFM to 511. Set VCA Env A to 0, D to 39, S to 446, R to 434.

This will create a different cymbal sound on almost any key, so by adjusting the Tune parameter, you will obtain different sounds

Tweak the parameters, to obtain different cymbal flavours. Run it through filters, to make it less wild.

To make it a bit more metallic, try to run it through a Bit Crusher effect. Add a distortion effect, to give it more edge.

Hand Clap

Select the Prc2 oscillator type. Set NzPw to -23, Dtun to 0, Atk to 68 and Noiz to 256. If you are triggering the sound from the trigger buttons, set Tune to -1. No oscillator modulation is required for this. Set VCA Env A to 0, D to 61, S to 24, R to 182. Set FLT1 Cut to 210, Reso to 252, Inp to 256, Mix to +255, Type to LPF1, Nrw, Low and Boost to 0.

Tweak the parameters, to obtain different hand clap flavours.

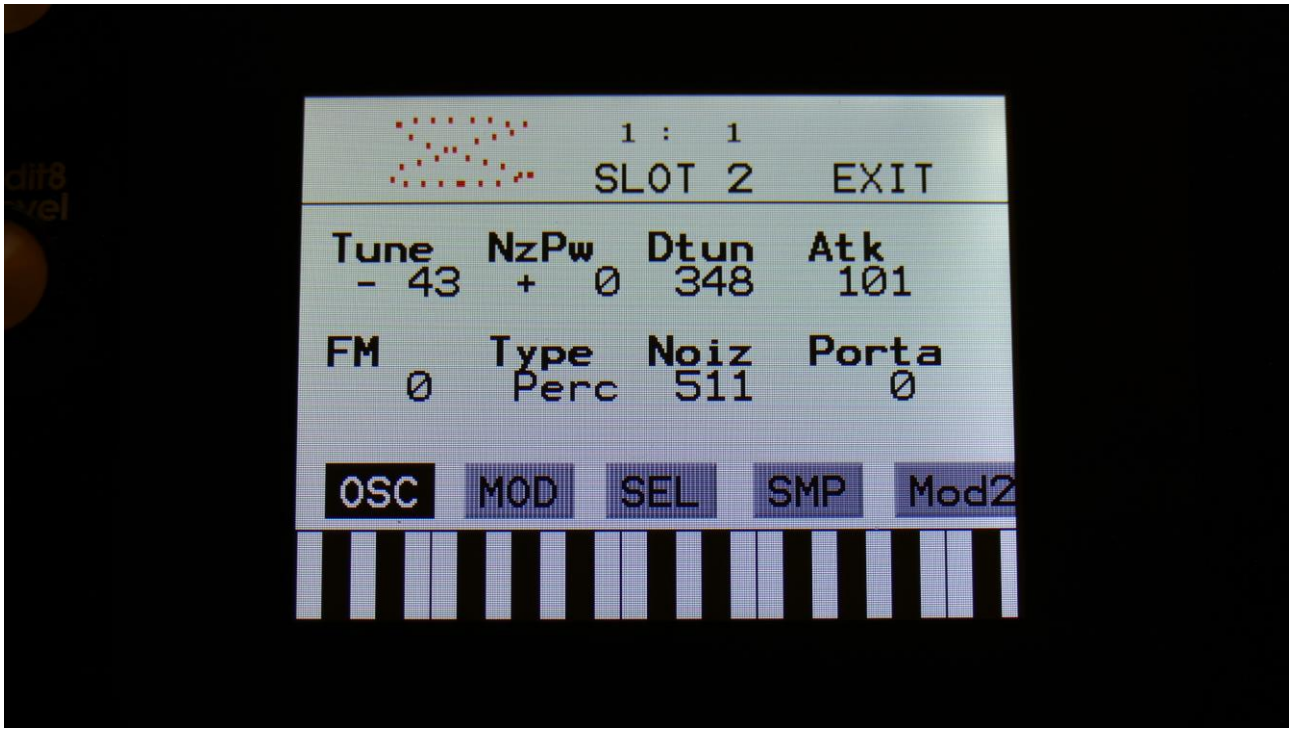
Bell sound

Select the Perc oscillator type. Set Dtun to 169, Atk to 120 and Noiz to 0. If you are triggering the sound from the trigger buttons, set Tune to +0. Set Atk modulation to Env1, and set this to 254. Set VCA Env A to 0, D to 22, S to 511, R to 191. Env1 can be left at the default settings (A=0, D=40, S=0, R=0).

Tweak the parameters, to obtain different bell sound flavours.

The Parameters

Only the new parameters are explained here. For a complete description of all parameters, please see the User Manual.



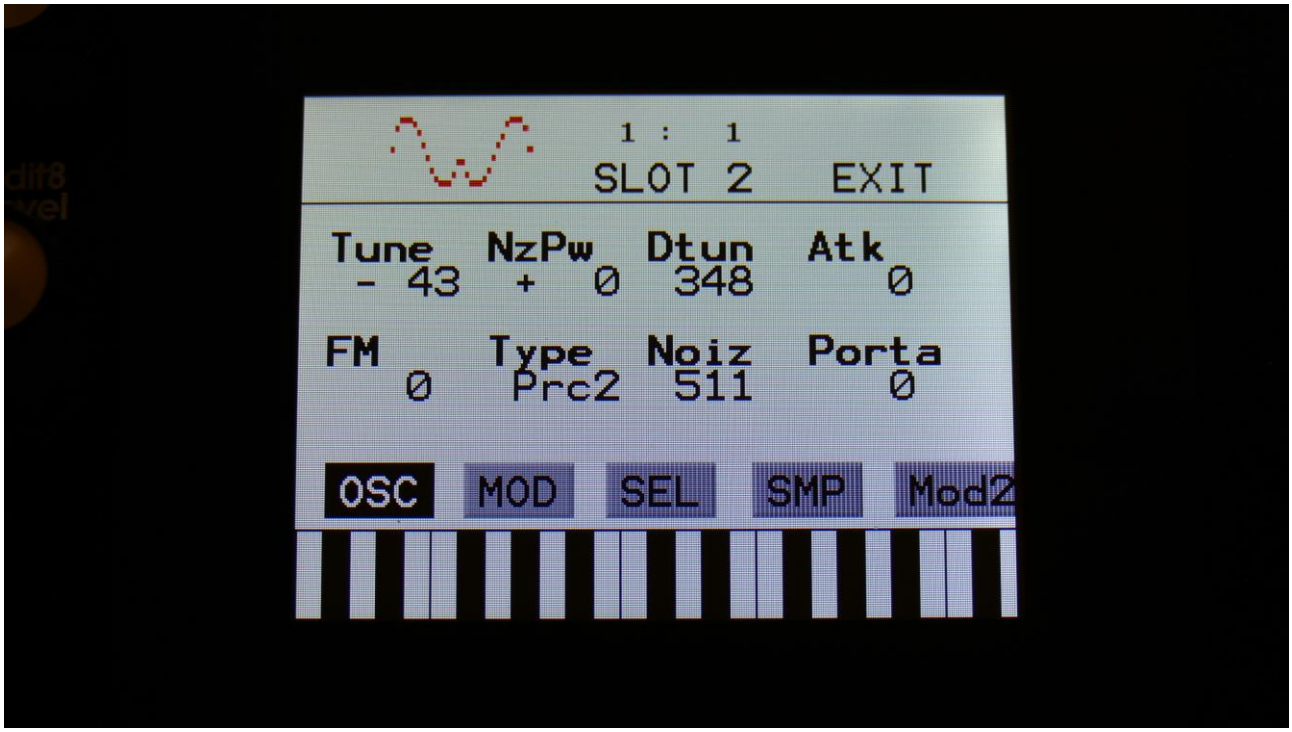
Perc:

NzPw: Value -256 to +255. Sets the intensity of the FM noise.

Dtun: Value 0 to 511. Detunes percussion wave 2 from percussion wave 1.

Atk: Value 0 to 511. Will morph from the percussion waves body (0) to the percussion waves attack (511). Modulate this parameter with an envelope, to imitate the strike of a drum.

Noiz: Value 0 to 511. Adds noise FM to the percussion waves pitch.



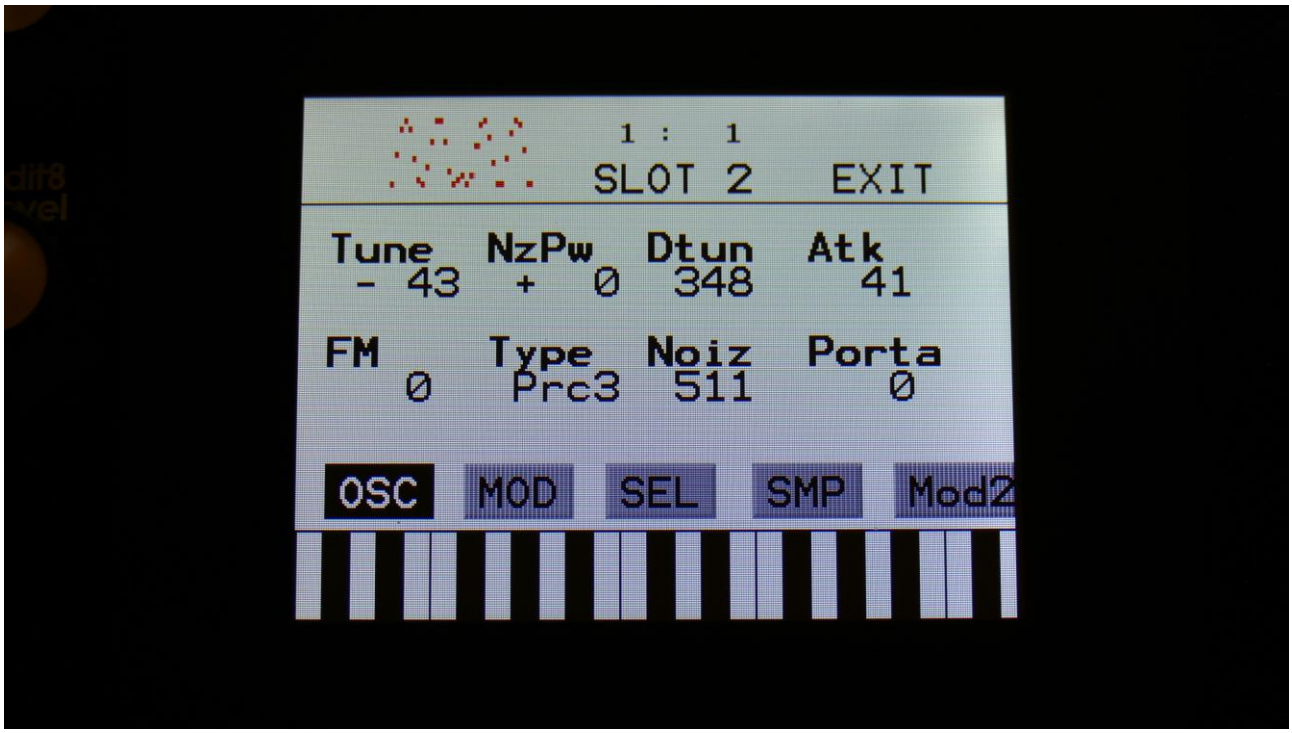
Prc2:

NzPw: Value 0 to 511. Sets the Intensity of the squared FM noise.

Dtun: Value 0 to 511. Detunes percussion wave 2 from percussion wave 1.

Atk: Value 0 to 511. Will morph from the percussion waves body (0) to the percussion waves attack (511). Modulate this parameter with an envelope, to imitate the strike of a drum.

Noiz: Value 0 to 511. Adds squared noise FM to the percussion waves pitch.



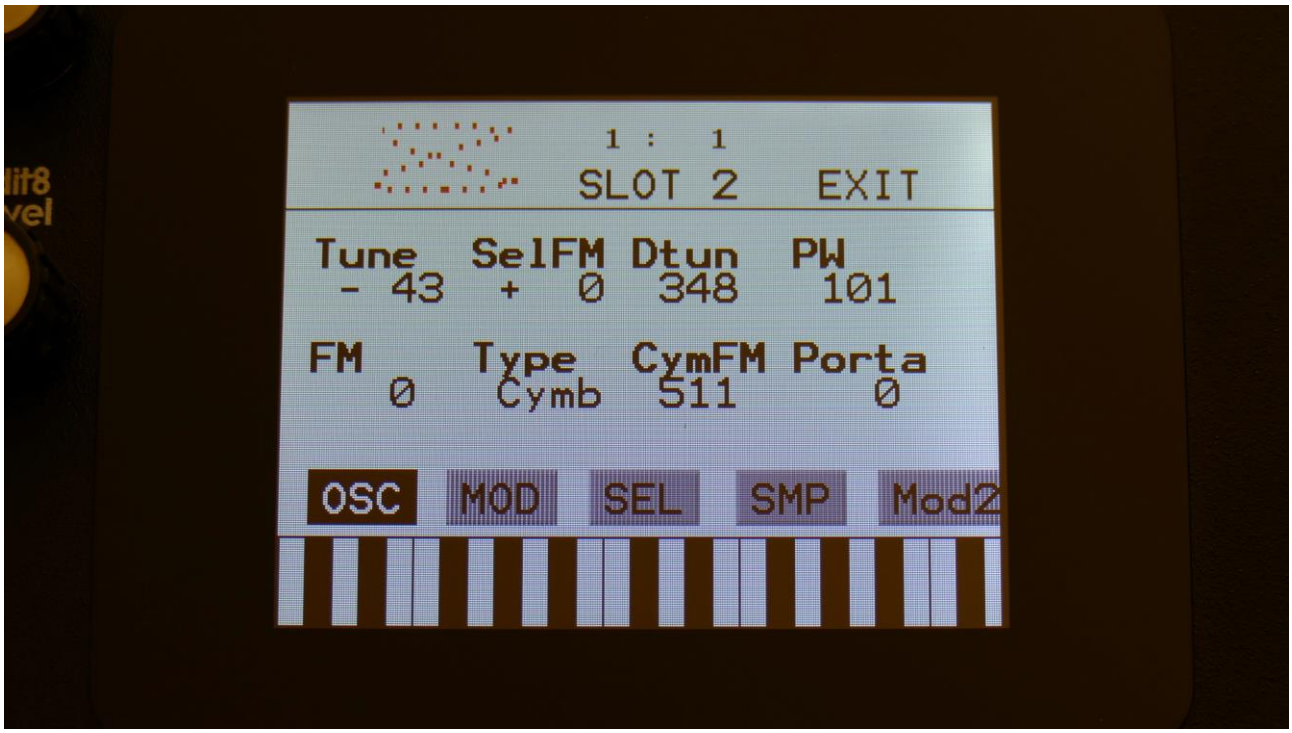
Prc3:

NzPw: Value -256 to +255. Sets the intensity of the FM noise.

Dtun: Value 0 to 511. Detunes percussion wave 2 from percussion wave 1.

Atk: Value 0 to 511. Will morph from the percussion waves body (0) to the percussion waves attack (511). Modulate this parameter with an envelope, to imitate the strike of a drum.

Noiz: Value 0 to 511. Adds noise FM to the percussion waves pitch.



Prc3:

SelFM: Value -256 to +255. Sets self FM amount of the first square wave oscillator (A modulator)

Dtun: Value 0 to 511. Detunes the square waves away from each other.

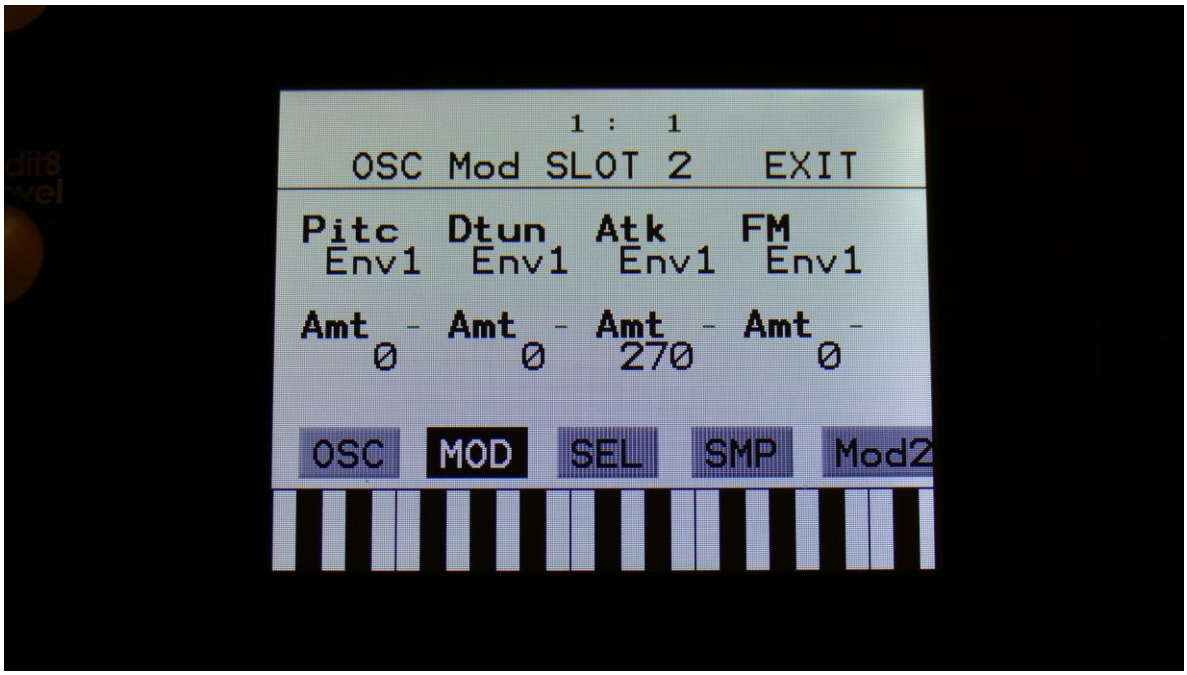
PW: Value 0 to 511. Sets the pulse width of all square waves.

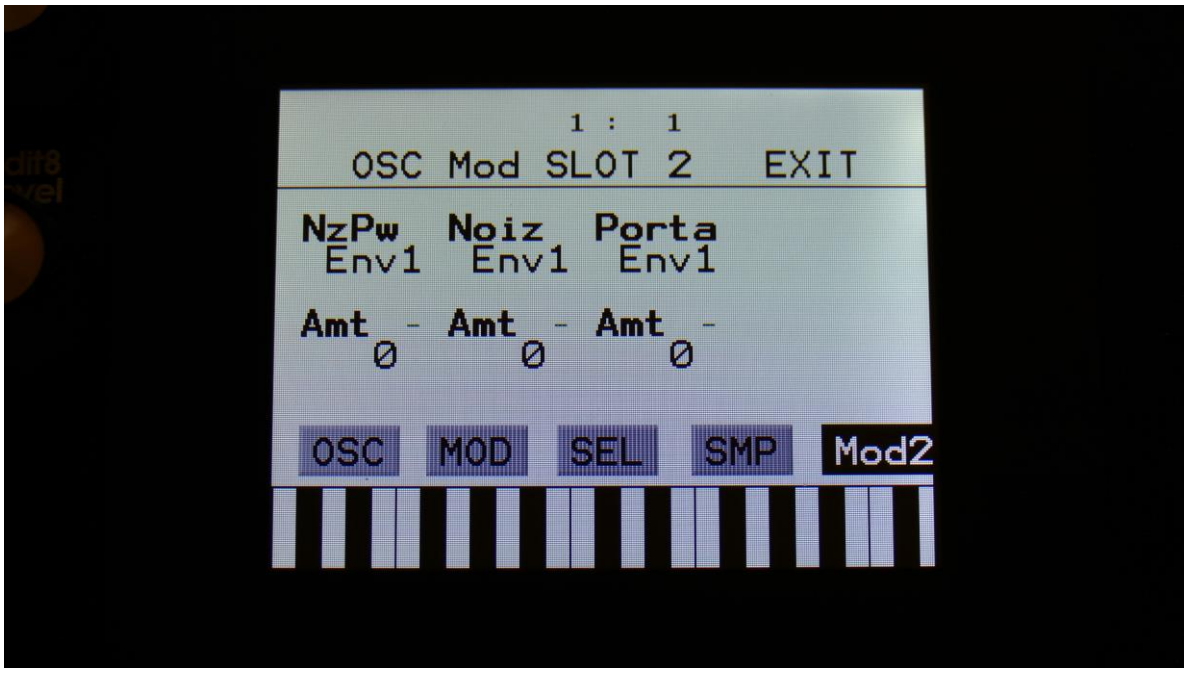
CymFM: Value 0 to 511. Set the FM amount between the square wave oscillators.

Percussion Oscillator's Modulation

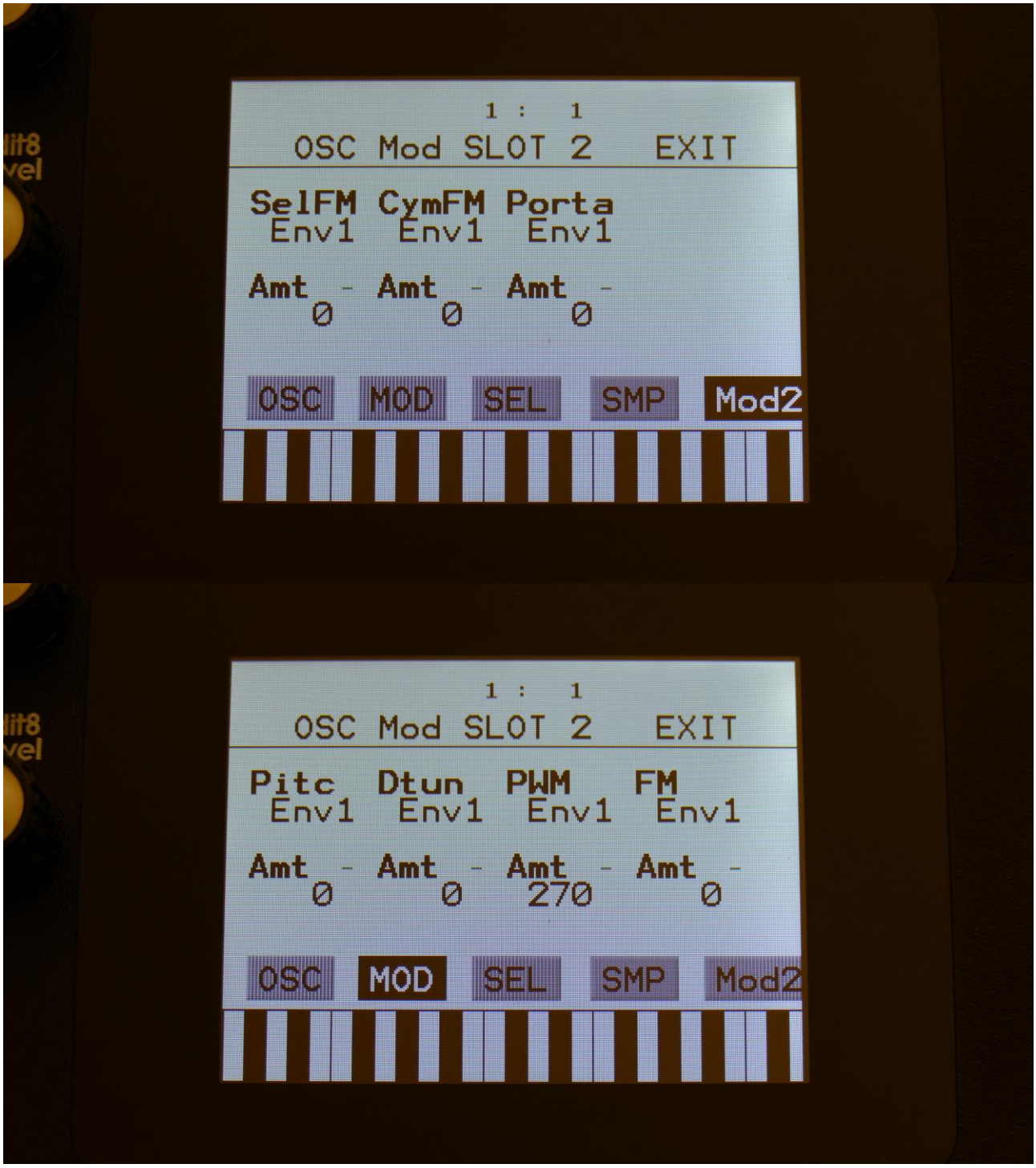
Some of the parameters on the oscillator modulation pages, will change name, to fit the selected percussion oscillators.

Perc, Prc2 and Prc3:





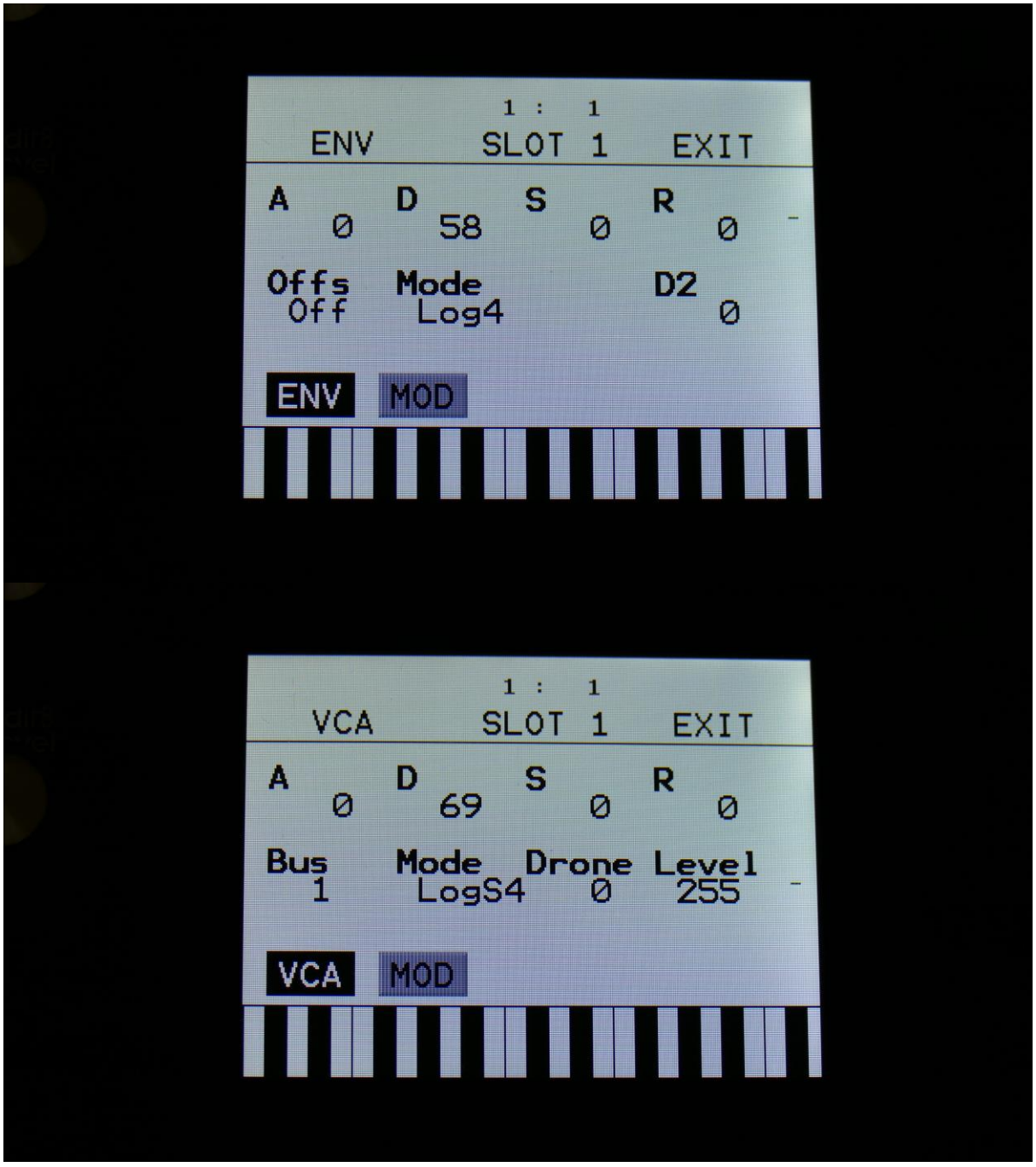
Cymb:


1 : 1
OSC Mod SLOT 2 EXIT
SelFM Env1 Amt 0
CymFM Env1 Amt 0
Porta Env1 Amt 0
OSC MOD SEL SMP Mod2
1 : 1
OSC Mod SLOT 2 EXIT
Pitc Env1 Amt 0
Dtun Env1 Amt 0
PWM Env1 Amt 270
FM Env1 Amt 0
OSC MOD SEL SMP Mod2

Envelope Times

On the VCA envelope, 4 new modes have been added: Lin4, Log4, linS4 and LogS4. On the modulation envelope, 2 new modes have been added: Lin4 and Log4.

When selecting these new modes, the envelope times will get 4 times longer, than in the “normal” modes.



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