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SOUND



TERRA

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Product Version 1.0 (11/2015)

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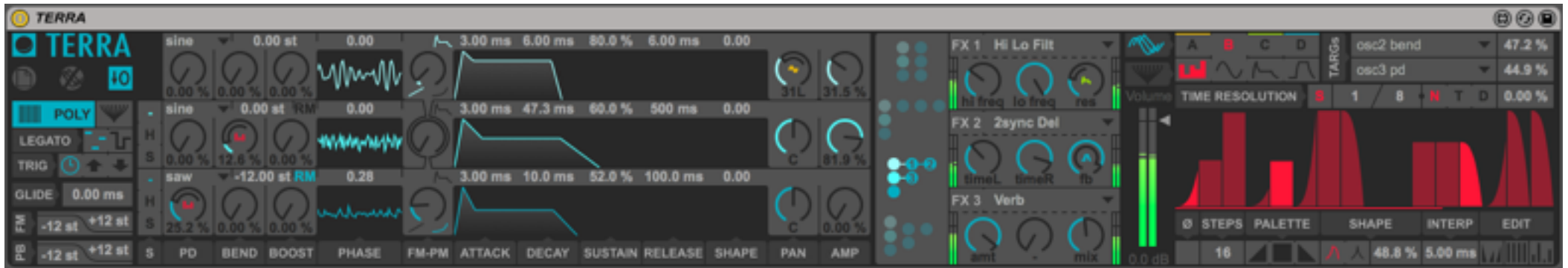
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# 1. THIS IS TERRA

Thank you for choosing TERRA!

TERRA is designed to be your deep and easy to use sonic weapon. Its straight but flexible structure will let you work in total confidence, setting things up to reach many different kind of sounds!



This document will guide you through a complete overview of the product. After reading it, you should be able to use it on perfect, so we recommend that you take the time to read this guide in its entirety.

Ableton Live 9 and the Max For Live add-on are required (refer to our website to know which are the Live and Max versions are supported for every released version): TERRA is a Max For Live device and works both on Mac OS® X and Windows®.

TERRA is currently available as single product.

Thanks to the Max For Live total integration, each TERRA parameter is described in the Live Info View.

We suggest to follow K-Devices via [Facebook](#), [Twitter](#) or sign up our [Newsletter](#), in order to stay updated with K-Devices news and future TERRA updates.

## 2. INSTALLATION

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To install the device double click on the .alp file contained in the downloaded package. The device, presets and Ableton Live Lesson will be automatically installed.

The TERRA device will be installed in the Ableton Live Library: you can find it in the “packs” tab of the Live 9 browser.

## 3. PACK CONTENTS

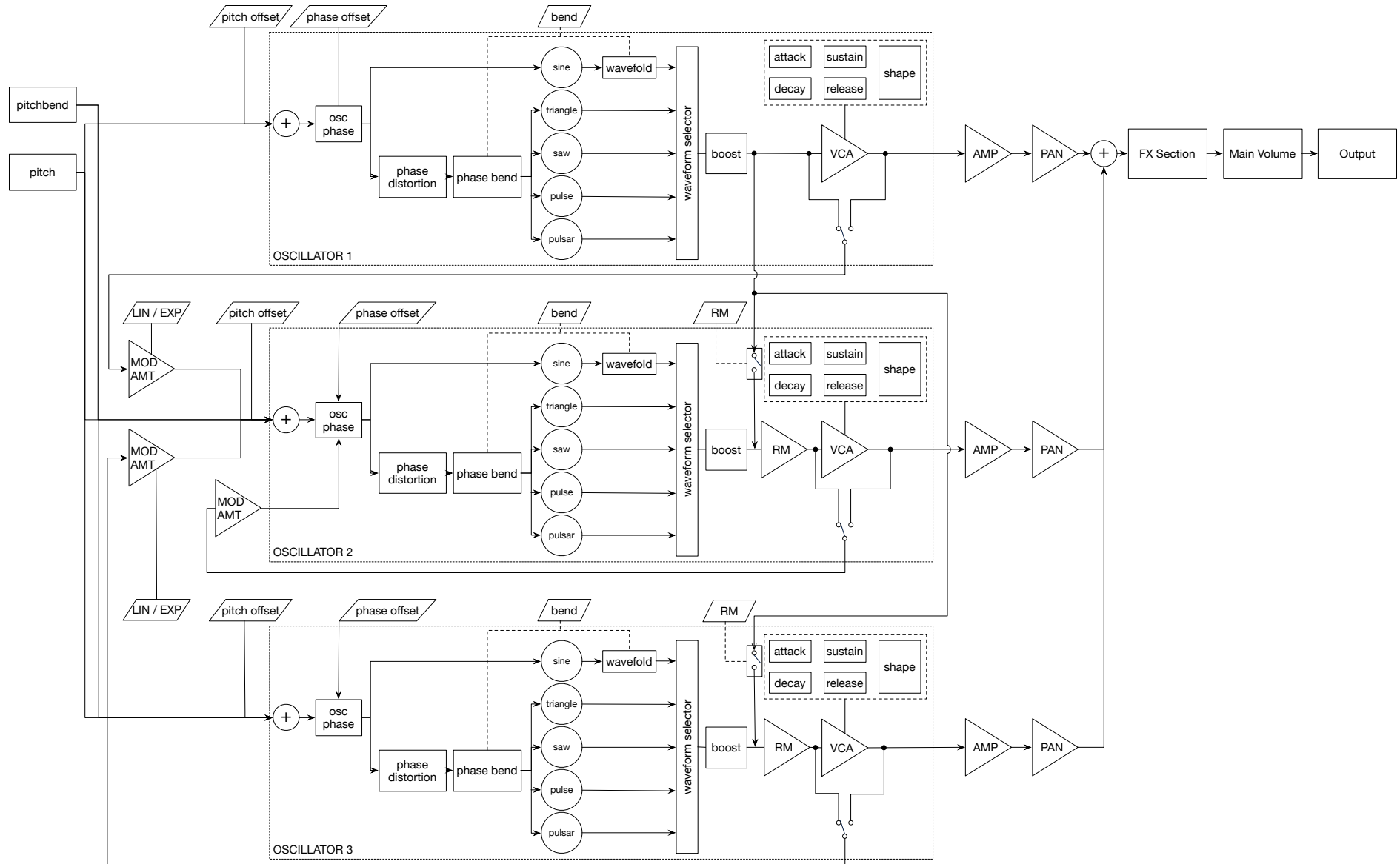
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In addition to the Max For Live device, TERRA contains:

- 133 presets.

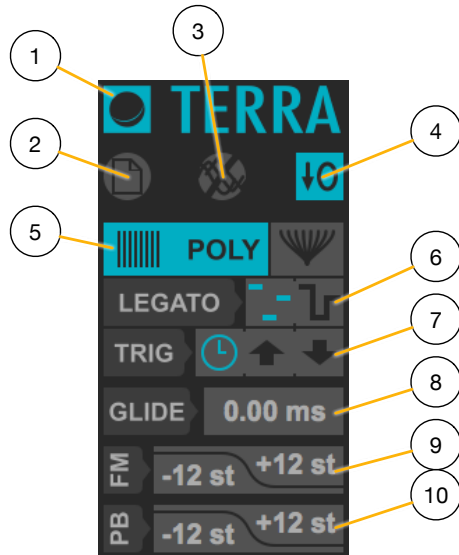
# 4. HOW TERRA WORKS

With TERRA, you can get any sound you want thanks to its structure.



## 5. THE GLOBAL PARAMETERS SECTION

TERRA's sound section is based on two main areas, the oscillators/generation section and the effect section.

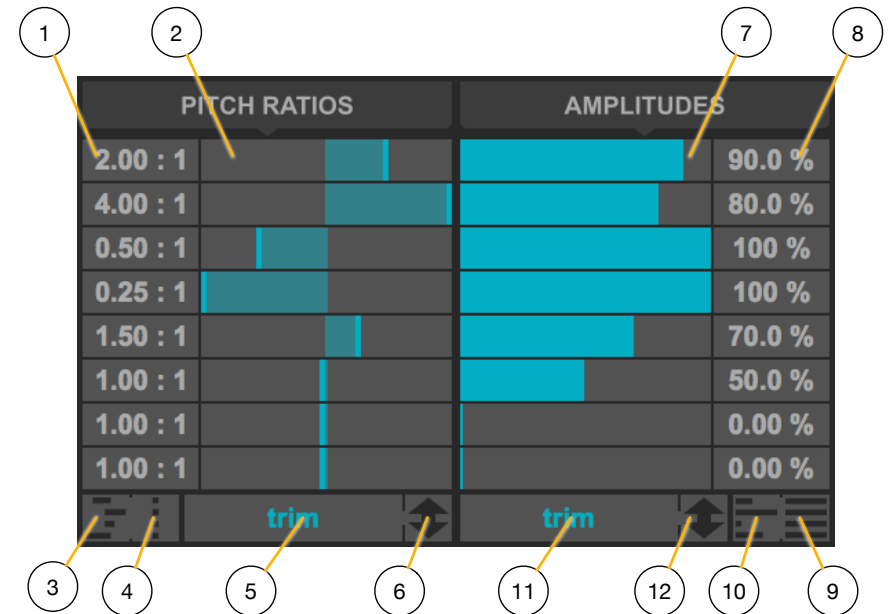


1. **Info** - Shows the device informations and version.
2. **Default** - Initializes the device to default status.
3. **Initialize Modulations** - Initializes all modulations.
4. **Thru Zero** - Toggles between classic or thru zero linear FM.
5. **Poly / Uni** - Toggles between polyphonic mode and unison mode.
6. **Legato** - Toggles between staccato and legato in unison mode.
7. **Trig** - Sets the Priority note trig between last, higher or lower.
8. **Glide** - Sets the glide time in milliseconds.
9. **FM** - Sets the upper and lower range for the exponential FM.
10. **PB** - Sets the upper and lower range for the pitchbend.

## 6. UNISON MODE

Terra can work in poly mode or in unison mode. In Unison mode, all its eight voices plays together when a MIDI note is received. The useful thing, in this mode, is that you can edit independently each voice pitch and amplitude as described below.

1. **Pitch Ratio** - Set the pitch ratio of each voice precisely.
2. **Pitch Ratio Slider** - Set the pitch ratio graphically.
3. **Randomize Pitch**
4. **Default Pitch**
5. **Trim / Continued** - Let you choose between trim or continued quick edit modes.
6. **Up Down Quick Edit** - Dragging up and down this parameter you can increase or decrease all the pitch values according to the selected mode trim or continued.
7. **Amplitude Ratio** - Set the amplitude ratio of each voice precisely.
8. **Amplitude Ratio Slider** - Set the amplitude ratio graphically.
9. **Randomize Amplitude**
10. **Default Amplitude**
11. **Trim / Continued** - Let you choose between trim or continued quick edit modes.
12. **Up Down Quick Edit** - Dragging up and down this parameter you can increase or decrease all the amplitude values according to the selected mode trim or continued.





## 7. THE SOUND SECTION

TERRA's sound section is based on two main areas, the oscillators/generation section and the effect section.

### 1. THE OSCILLATORS SECTION

TERRA's sound generation is based on three oscillators. For each of these oscillators you can select its waveform and edit it. Oscillators 2 and 3 can be hard or soft synced and/or Ring Modulated by oscillator 1.

Oscillators also offer a wide range of modulations: Oscillators 1 and 3 can modulate the frequency of oscillator 2, the carrier: the modulation amount is exclusive per each modulator and can be up to 500%, pre or post ADSR, exponential or linear (with a global thru zero modulation option). Furthermore, the oscillator 2 can self-modulate its phase up to 5 times, and the source signal for this modulation can be pre or post ADSR.

Each oscillator has its own ADSR, then the audio signal is routed to the Panorama dials, which let you define the L/R balance of each oscillator. The volume dials, in the end, help you mix the 3 oscillators together before the FX section.



1. **Waveform Selector** - Let you choose the waveform for each oscillator (sine, triangle, sawtooth, pulse and pulsar).
2. **Pitch Offset** - Let you choose the tuning offset in semitones between each oscillators.
3. **Ring Modulation** - Let you Ring Modulate oscillator 2 and/or 3 using oscillator 1 as source.
4. **Phase offset** - Let you offset the phase of each oscillator from the other.
5. **Sync Modes** - Let you hard or soft sync oscillators 2 and 3 to oscillator 1.
6. **Phase Distortion** - Set the amount of phase distortion. These parameters can be modulated.
7. **Phase Bend / WaveFold** - Set the amount of phase bending (exponentially) for all the waveforms except for the sine, which instead of having a phase bending function uses a wave folder function. These parameters can be modulated.
8. **Boost** - Boosts the waveforms avoiding digital distortion. These parameters can be modulated.
9. **FM / PM Amount** - Set the amount of frequency modulation for oscillator 1 and 3 and the self phase modulation for oscillator 2. These parameters can be modulated.
10. **Linear / Exponential** - Choose between linear and exponential frequency modulation. In linear frequency modulation you can choose between classic or thru zero modulation (see global parameters section) while in exponential you can choose the upper and lower range of modulation in semitones.
11. **Attack** - Set the attack time for the ADSR.
12. **Decay** - Set the decay time for the ADSR.
13. **Sustain** - Set the sustain value for the ADSR.
14. **Release** - Set the release time for the ADSR.
15. **Shape** - Set the shape from logarithmic to linear to exponential for the ADSR.
16. **Panorama** - Let you choose the L/R position of each oscillator. These parameters can be modulated.
17. **Amplitude** - Let you choose the final maximum amplitude of each oscillator. These parameters can be modulated.

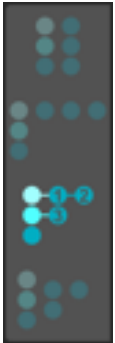
## 2. THE EFFECTS SECTION

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In TERRA, you can process your sound via onboard effects.

Current effects are: AM, AM+, Overdrive, Destroyer, Grains, Hi Lo filter, Lo Res filter, Free Delay, Sync Delay, 2sync Delay, Mad Volume, Verb, Chorus, and Flanger.

## 1. QUICK ROUTING SELECTOR



With just one click you can change the routing of the incoming signal from oscillators to and through effects. This creates immediate changes and unexpected nice surprises!

Routing options are:

- OSC1 in FX1, OSC2 in FX2, OSC3 in FX3
- All oscillators summed in FX1, then in FX2, then in FX3
- OSC1 in FX1, then in FX2. OSC2 in FX3. OSC3 dry.
- All oscillators summed goes in parallel to FX3 and FX1, which then goes in FX2.

## 2.EFFECTS SLOT STRUCTURE



Click on FX1, FX2, or FX3 toggle to bypass the effect.

The header menu let you select the effect you want to load

The dials, according to selected effect, assume different functions and names.

Use the pre/post effect stereo meters to keep track of the loudness of the incoming and outgoing signal.

## 3. EFFECTS REFERENCE

### Amplitude Modulation (AM)

#### frequency

#### noise

#### depth

This is a classic AM effect with a noise generator to twist the sound a bit more

Set the frequency of the amplitude modulator (from 1hz to 5khz)

Add noise to modulator signal

Set the modulation depth

### Amplitude Modulation Plus (AM+)

#### frequency

#### x4freq

#### depth

A complex amplitude modulation effect where the AM oscillator is frequency modulated by another one.	Set the frequency of the amplitude modulator (from 1hz to 5khz)	Add frequency modulation to modulator	Set the modulation depth
<b>Overdrive</b>	<b>ring</b>	<b>amount</b>	<b>mix</b>
A classic overdrive with an unusual dynamic ring modulation.	The incoming signal handles the frequency of a sine oscillator. This parameter manages the amount of this oscillator, whose signal ring modulates the original one before the overdrive algorithm.	amount of overdrive	balance between dry and wet signal
<b>Destroyer</b>	<b>crush</b>	<b>down</b>	<b>mix</b>
A massive digital sound annihilator, great for big distortions and odd vibrations.	Set the bits for the bit crusher effect.	Set the downsampling factor	balance between dry and wet signal
<b>Grains</b>	<b>length</b>	<b>silence</b>	<b>mix</b>
A smart and fast granulator effect. Useful to reach gently swarmed sounds, or to massively micro-cut your waves.	length of each grain	chance to get silent grains	balance between dry and wet signal
<b>Hi Lo filter</b>	<b>hi freq</b>	<b>lo freq</b>	<b>res</b>
Classic hi pass - lo pass filter, with a bit of resonance	high frequency cut factor	low frequency cut factor	resonance
<b>Lo Res filter</b>	<b>freq</b>	<b>res</b>	<b>mix</b>

Classic resonant low pass filter with mix control of unfiltered/filtered sound	low frequency cut factor	resonance	balance between dry and wet signal
<b>Free Delay</b>	<b>time</b>	<b>fb</b>	<b>mix</b>
Classic delay with time expressed in milliseconds	time delay in ms. From 0 to 1000ms	feedback	balance between dry and wet signal
<b>Sync Delay</b>	<b>time</b>	<b>more</b>	<b>fb</b>
Classic delay with time factor expressed in time relative units. It adds a second time value to obtain strange-but-synced delays	transport-relative delay time. From 128n to 1n	modify time value by adding ms. Range is from 0 to a number of ms equal to time value	feedback
<b>2sync Delay</b>	<b>timeL</b>	<b>timeR</b>	<b>fb</b>
Transport synced delay with independent time factor for each channel	transport-relative delay time for left channel. From 128n to 1n.	transport-relative delay time for right channel. From 128n to 1n.	feedback
<b>Mad Volume</b>	<b>noise1</b>	<b>noise2</b>	<b>mix</b>
Noise driven amplitude modulation effect. It adds an interpolation value to modulation. It goes from micro-noisy modulations to longer amplitude modulation gestures	dynamically changes frequency and range of a noise-based amplitude modulator	amount of a lower rate signal interpolation added to modulator	balance between dry and wet signal
<b>Verb</b>	<b>amount</b>	<b>dry</b>	<b>wet</b>
A classic reverb effect	manage the size and the decay of the reverb	amount of dry signal	amount of wet signal

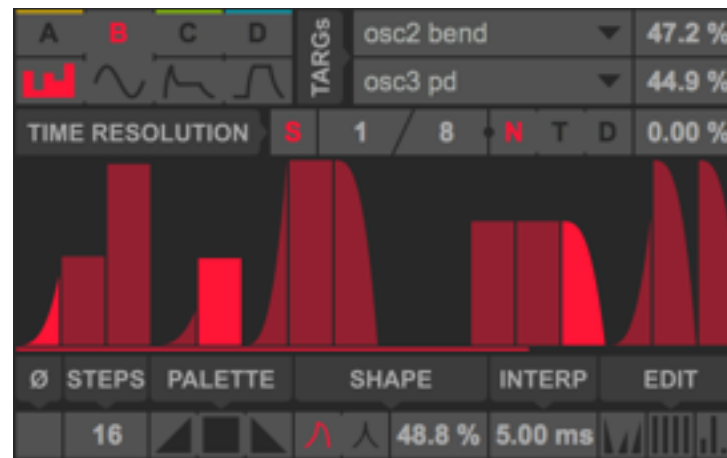
<b>Chorus</b>	<b>width</b>	<b>speed</b>	<b>fdbk</b>
A classic chorus effect	Modulation width	LFO speed	feedback amount

<b>Flanger</b>	<b>amount</b>	<b>speed</b>	<b>fdbk</b>
A classic flanger effect	Modulation amount	LFO speed	feedback amount

## 8. THE MODULATORS SECTION

In this section you can create complex and beautiful modulations. TERRA have four modulators; each modulators can be set as an advance step sequencer (that acts also as a powerful envelopes generator), an LFO, and ADSR, or a DAHR.

### 1. TARGETING



You can affect up to two targets to each modulators. This means that you can modulate up to eight parameters. As you'll see later, each target is modulated with an exclusive amount, that makes a richer modulation network!

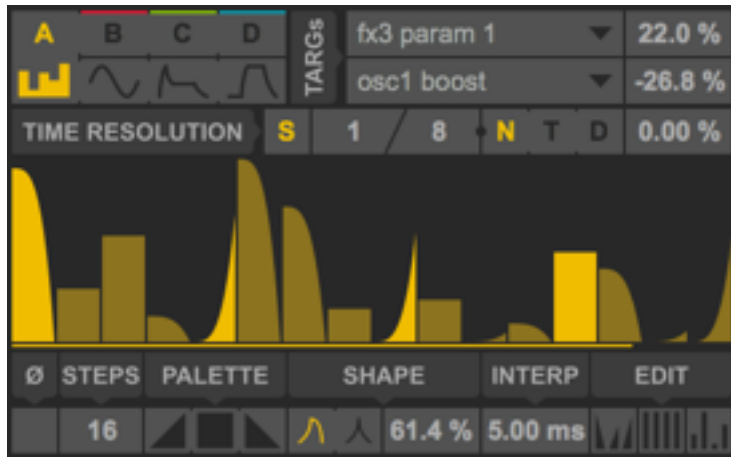


To edit modulations, click on modulators panel.

You have four modulators: A, B, C, D. Once you've selected a modulator, you can set the kind of modulator you want to use between step sequencer, LFO, ADSR, or DAHR. For each modulator you can set up to two targets: click on menus, and select your target. You'll see the target dial now shows the icon of kind of modulation, with the modulator's color.

You can set now an independent modulation amount for each target from -100% to 100%. The target dial will also show a ring the according to the modulation range and to dial's current value. Values out of range are clipped to the dial range.

## 2. SEQUENCER



- **time resolution** - you set the length of a sequencer entire cycle (according to “steps” value).
- **sync mode** - set numerator, denominator, and kind (normal, tripled, dotted). Last numbox lets add a swing factor.
- **free mode** - set time resolution in herz. Last numbox lets add a swing factor.
- **steps** - you can set values for steps with classic mouse operations: just click, or drag.
- **antiphase** - invert modulation signal
- **steps** - choose number of active steps
- **palette** - this allows to choose a shape for each step: ramp up, flat value, ramp down. Click on shape you want, then click or drag on steps.
- **shape** - choose between specular or not shapes. Set curve amount. This works only for non flat steps.
- **interp** - set the time interpolation factor for modulation signal
- **quick edit tools** - click to (from left to right) randomize all shapes and values, set all steps in default shape and value, randomize values only.

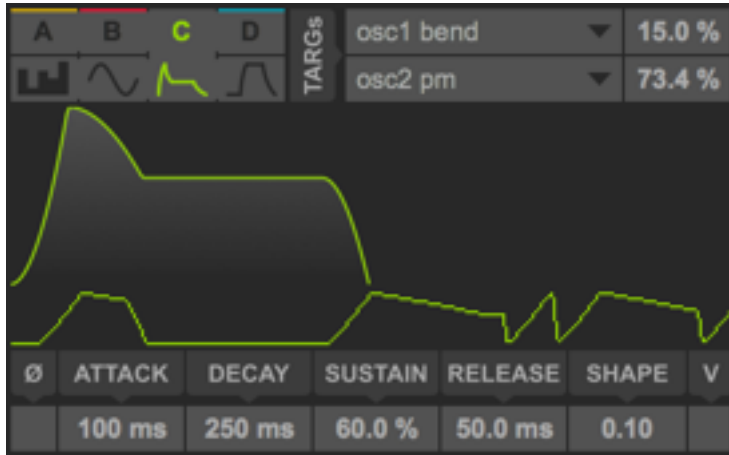


### 3. LFO



- **time resolution** - you set the length of a sequencer entire cycle (according to “steps” value).
- **sync mode** - set numerator, denominator, and kind (normal, tripled, dotted). Last numbox lets add a swing factor.
- **free mode** - set time resolution in herz. Last numbox lets add a swing factor.
- **antiphase** - invert modulation signal
- **phase** - set a phase offset.
- **shape** - set the LFO waveform. You can select waveform by picking on icons, of morph between two waveform using the slider.
- **s&h amount** - set the amount of sample and holding
- **s&h ratio** - set the ration of sample and holding, according to current time resolution
- **interp** - set the time interpolation factor for modulation signal

## 4. ADSR



- **antiphase** - invert modulation signal
- **attack** - set attack time in ms
- **decay** - set decay time in ms
- **sustain** - set sustain value, range 0-100%
- **release** - set release time in ms
- **shape** - set the shape factor for envelope segments: from logarithmic, to linear, to exponential.
- **velocity tracking** - enable this toggles to multiply the envelope by incoming velocity value

## 5. DAHR



- **antiphase** - invert modulation signal
- **delay** - set delay time in ms
- **attack** - set attack time in ms
- **hold** - set hold time in ms
- **release** - set release time in ms
- **shape** - set the shape factor for envelope segments: from logarithmic, to linear, to exponential.
- **velocity tracking** - enable this toggles to multiply the envelope by incoming velocity value

## 9. PUSH IMPLEMENTATION

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	Unison	Legato	Trig Priority	Glide	FM Range Min	FM Range Max	PitchBend Min	PitchBend Max
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3rd page	17	18	19	20	21	22	23	24
	OSC 1 Wave	OSC 1 Phase Dist	OSC 1 Bend	OSC 1 Boost		OSC 1 FM To OSC 2	OSC 1 FM + ADSR	OSC 1 FM Knd
4th page	25	26	27	28	29	30	31	32
	OSC 1 Env Attack	OSC 1 Env Decay	OSC 1 Env Sustain	OSC 1 Env Rel	OSC 1 Env Shape		OSC 1 Panorama	OSC 1 Amplitude
5th page	33	34	35	36	37	38	39	40
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	Md C Trgt 1	Md C Trgt 1 Amt	Md C Trgt 2	Md C Trgt 2 Amt				
25th page	193	194	195	196	197	198	199	200
	Md C Seq Steps N	Md C Seq ShapeKnd	Md C Seq Shape	Md C Seq Interp		Md C Seq Rnd All	Md C Seq Def All	Md C Seq Rnd Val

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	Md C ADSR Attack	Md C ADSR Decay	Md C ADSR Sustain	Md C ADSR Rel		Md C ADSR Shape		Md C ADSR Trck Vel
28th page	217	218	219	220	221	222	223	224
	Md C DAHR Delay	Md C DAHR Attack	Md C DAHR Hold	Md C DAHR Rel		Md C DAHR Shape		Md C DAHR Trck Vel
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	Md D Knd	Md D Antiphase	Md D Time Res Sync	Md D Time Res Num	Md D Time Res Den	Md D Time Res Knd	Md D Time Freq	Md D TimeResSwing
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	Md D Trgt 1	Md D Trgt 1 Amt	Md D Trgt 2	Md D Trgt 2 Amt				
31st page	241	242	243	244	245	246	247	248
	Md D Seq Steps N	Md D Seq ShapeKnd	Md D Seq Shape	Md D Seq Interp		Md D Seq Rnd All	Md D Seq Def All	Md D Seq Rnd Val
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	Md D LFO Ph Offset		Md D LFO Shape			Md D LFO SH Amt	Md D LFO SH Ratio	Md D LFO SH Interp
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	Md D ADSR Attack	Md D ADSR Decay	Md D ADSR Sustain	Md D ADSR Rel		Md D ADSR Shape		Md D ADSR Trck Vel
34th page	265	266	267	268	269	270	271	272
	Md D DAHR Delay	Md D DAHR Attack	Md D DAHR Hold	Md D DAHR Rel		Md D DAHR Shape		Md D DAHR Trck Vel