



 **KFLUX** in

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Manual version 1.0 (05/2012)

Product version 1.0 (05/2012)

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1 This is Kfluxin

Thank you for choosing Kfluxin!

Kfluxin is one of the three MaxForLive devices we produce for sound granulation.



Kfluxin contains in addition to the software, a copy of this manual, which can help you to better understand this software and its potential.

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 8 and the MaxForLive add-on are required (refer to our website to know which are the Live versions supported for every released version): Kfluxin is a MaxForLive instrument and works both on Mac OS® X and Windows®.

Kfluxin is currently available as a single product and contained in the Kflux Bundle, with Kflux and Kfluxsy.

Kfluxin comes unlocked: it means that you can easily unlock it and take a look on the inside.

Thanks to the Max For Live total integration, you will find a description for each Kfluxin parameter in the Live Info View, and you can easily automate each parameter inside Live.

Kfluxin is fully OpenSoundControl compatible: the software is provided with a iOS Lemur template, and this manual contains the OSC implementation chart.

Please refer to our [website](#) for any update.

K-Devices

2 Notes About Sound Granulation

Sound granulation is the process of slice audio in very small parts, so called grains, and re-compose them in a new defined order and space.

The granulation of sound is very useful to generate complex organic textures, noises, time-stretch effects, and many others usual and unusual sound design techniques.

If you want go deep on this subject, we suggest to take a look to the fundamental text *Microsound*, written by Curtis Roads, edited by MIT Press.

3 Notes About Unlocked

This software comes unlocked: it means that you can open the device and explore it. This is very helpful for learning Max/MSP via the reverse engineering. At the same time the device or its parts cannot be re-used or recycled in other devices or patches.

You are free to modify it for your self only.

K-Devices does not offer support for modified devices.

Installing the device on your computer means that you have read and agree K-Devices End-User License Agreement. You have a copy of it downloaded with this software.

4 Installation

To install the device double click on the .alp file contained in the downloaded file. Device, presets, and Live Lessons will be automatically installed.

Kfluxin device and presets will be installed in the Ableton Live Library:

Audio Effects / Max Audio Effect / Kfluxsy by K-Devices

To see the Kfluxin Live Lesson please go to:

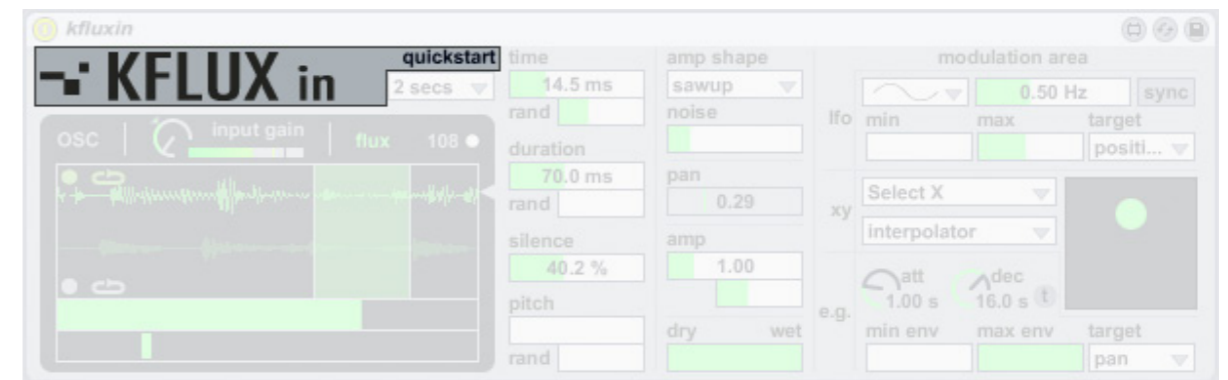
View / Help View / Lessons / Show all add-on Lessons / Kfluxin by K-Devices

5 Interface Overview

The interface is divided in five main areas:

- Info Area
- Generation Area
- Amplification Area
- Mixer Area
- Modulation Area

5.1 Info Area



Kfluxin button shows the about window, which includes the software version and the link to K-Devices website and social networks.

Quickstart shows the quickstart built-in guide.

5.2 Generation Area

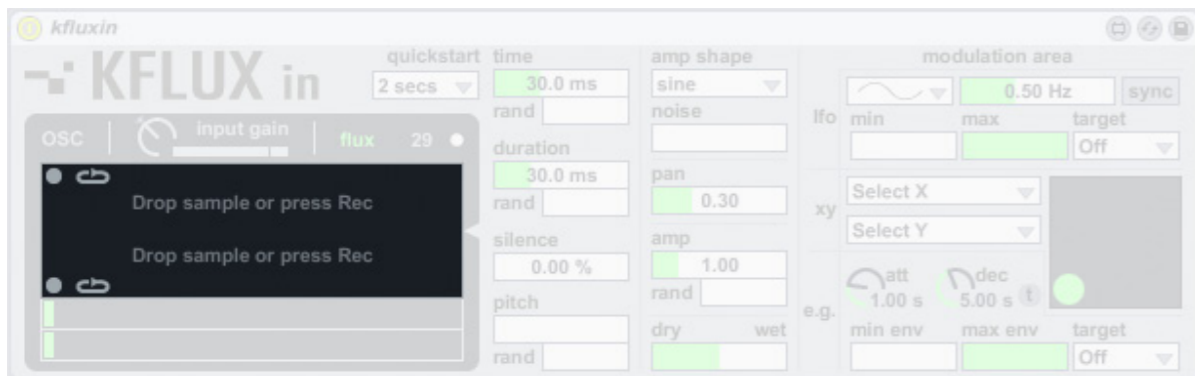


This area is the core of Kfluxin. The parameters on its inside are used to control the way grains are generated.

5.2.1 Granulate existing samples

To generate grains Kfluxin needs to use at least one sample. This is a news for the Kflux product family: Kfluxin manages two audio samples at the same time, and lets you mix them to generate an hybrid grain-stream!

To insert the audio sample you can just drag and drop the sample in one of the two **sample areas** and the engine is ready! Sample area 1 is in the top, sample area 2 is in the bottom.



5.2.2 Record new samples

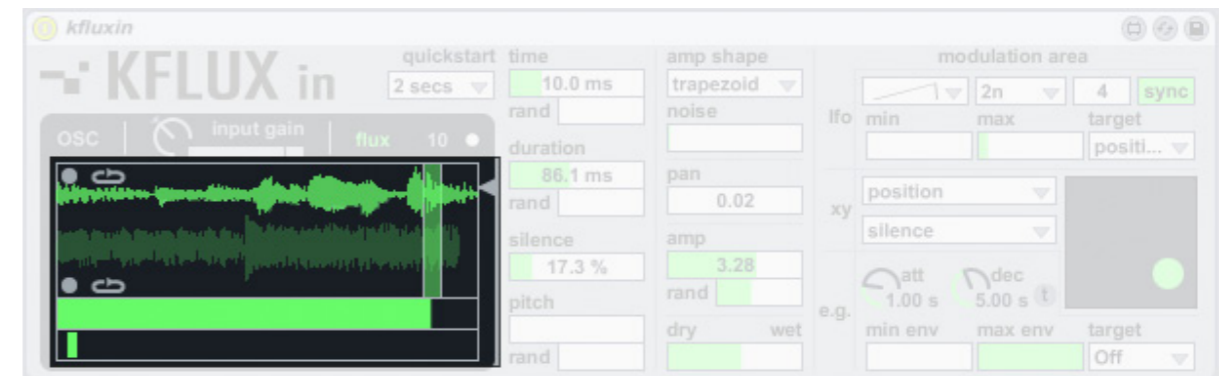
This is not the only way to use samples: in Kfluxin you can record the samples directly from the incoming audio signal.

The **rec in** dial is used to adjust the incoming audio volume.

The dBmeter located on its right side shows you a preview of the audio signal after the **rec in** adjustment.

Audio samples are stored in two buffers, one for each **sample area**. You have many ways to record audio. Here two examples:

- set a buffer length with the **rec length** menu (the white menu under the quickstart button); you can set values from 500 milliseconds up to 30 seconds. Then press the **record** button (it will stop automatically): the sample area will be updated with the new audio material.
- set a buffer length, then press the **loop** button before start recording. When the **loop** button is on, the recording does not stop until you switch off the **record** button. The buffer will be overwritten until you reach the desired audio sample in the sample area. It is up to you!



5.2.3 Blend the audio samples

The grey little triangle at the right of the sample areas is the **interpolator**, and it is used to mix the grain source between the two samples.

When moved to the top position only the sample 1 grain-stream will be used, when moved to the bottom position, only the sample 2. Even sample wave preview will be updated with lighter and darker green to give you a faster visual feedback.

Kfluxin uses the same playhead for the two audio samples. You can move it with the **position** slider (the slider under the sample area 2). The slider at the bottom is called **position j** (j suffix is used to indicate the random factor). You can move this value from 0 to 1 to increase the range of grain generation. Obviously it's linked to the playhead position.

5.2.4 PlayModes

You can generate grains in **Flux** or **Trig** mode using the **Flux/Trig** switch located to the right of the input gain section.

In **Flux** mode, grains are generated continuously, while in **Trig** mode the grain-stream is generated according to a trig. The trig is created when the XY tab in the interface is pressed with the mouse (note that also this parameter can be automated in Live). Furthermore, also the XY pad of the Kfluxin Lemur template works as a trig: just touch it and listen!

5.2.5 Set up the grains

Kfluxin has a lot of parameters used to characterize the grains produced. **Time** inserts silence between grains, and **duration** sets the duration of each grain. You can also fix a **pitch** for the grains stream.

By the way, if fixed parameters sound like a bond for you, do not worry: the small slider under these values acts as a **random**. These will add a percentage of randomness at their relative value, to create a more natural granulation.

The only parameter that does not have a random is the **silence**. That is because, in fact, silence is a random parameter: it sets the percentage of grains that will be amplified at a nil value. Keep in mind that have a grain processed by the silence parameter is a complete different thing that having silence between grains. Try it and see!

The **led** at the top right of the dark panel has two colors: white indicates that generated grains ends before the following grain starts. When a grains ends after the start of following grain led becomes red. This may generates artifacts like pops or clips. We suggest to take the time needed to test every sound generated in "white" or "red" mode: sounds created can be very interesting even with artifacts!

The **value** to the right of the led indicates the time elapsed between grains: it is constantly updated.

5.3 Amplification Area

Kfluxin has five different amplification algorithms, called **amp shapes**. Each one provides a different way to amplify grains:

- sine
- triangle
- sawup
- sawdown
- trapezoid



A noise generator is also available: with the **noise** slider you can blend the amount of grains to the amplification algorithm (as noise oscillator which modulates the selected amplitude algorithm).

As in many other parameters, the **amp** slider sets a fixed amplification value to each grain: you can easily randomize that value with the **amp j** slider under the **amp**.

5.4 Mixer Area

The mixer area contains two simple parameters.



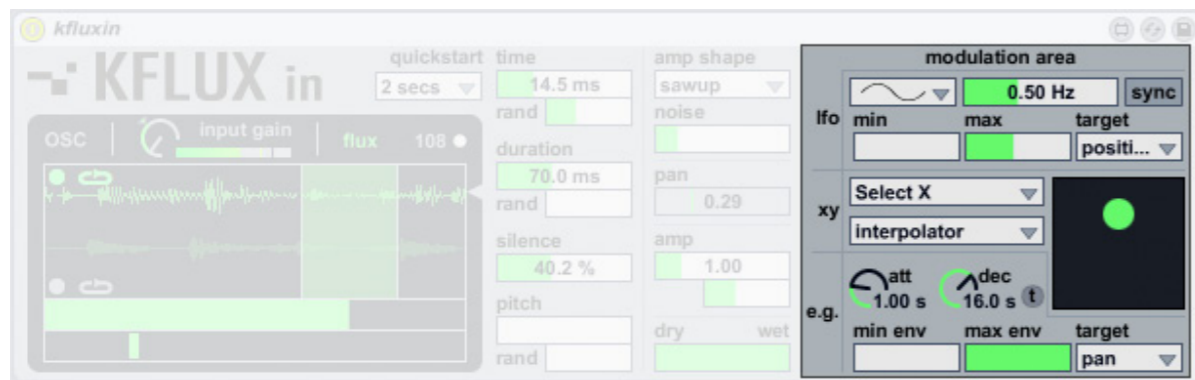
With the **dry/wet** slider you can easily adjust the amount of dry sound with the grain-stream from Kfluxin.

The **pan** slider controls the opening of the grain-stream in the stereo panorama.

5.5 Modulation Area

Modulation area offers you a wide range of solution to modulate Kfluxin's parameters: an LFO, an XY pad and an envelope generator.

Note that the parameter modulated by the LFO or by the envelope generator, is temporarily deactivated, and its position must be setted in its relative modulation area with **max** and **min** sliders.



5.5.1 LFO

Kfluxin has one LFO: it controls one parameter at a time, called **target**. You have 14 different targets (plus the Off Target).

It has 4 different **waves**: sine, sawtooth, triangle and random.

Its frequency can be synced with Live time with the **sync** button. In this mode you can select a **sync value** to match the desired tempo. In addition you can multiply this value for a variable, called **sync multiplier** (or **sync molt**) from 1 up to 64. This can be very useful to obtain particular LFO frequencies.

You can also switch off the **sync** button to use the LFO unsynced from Live's tempo: use the **LFO frequency** slider to adjust frequency up to 50 Hz.

The LFO outputs a control signal within a specific range of values: this range can be modified with **min** and **max** sliders.

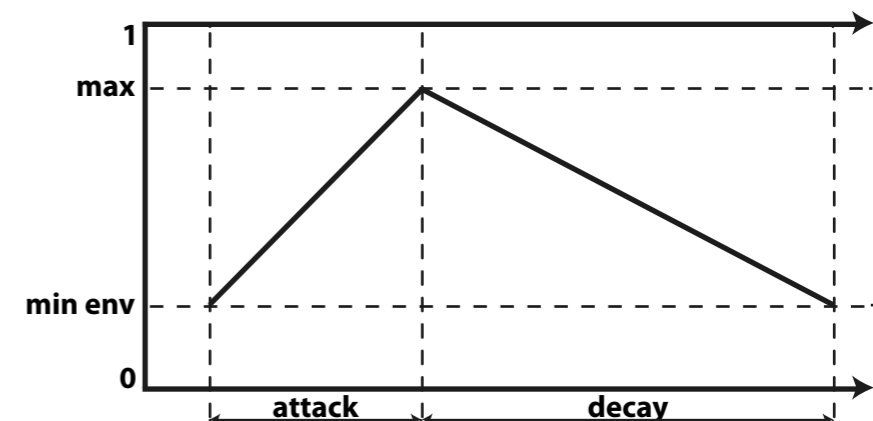
5.5.2 XY pad

XY pad links x and y axis to a Kfluxin parameter. In this way you can easily move the pad pointer to modulate two parameter at the same time.

Note that if you are working in **Trig** mode, clicking the pointer in the XY pad will trig the grain-stream. Refer to [“5.2.4 PlayModes”](#) for more informations.

5.5.3 Envelope Generator

The envelope generator is based on a very simple principle: trig it, with the **trig** button and its value will go from the **min** to the **max** value in the **attack** time, then it will take the **decay** time to go back to the **min** value. This variaton can be applied to any parameter chosen from the **target** menu.

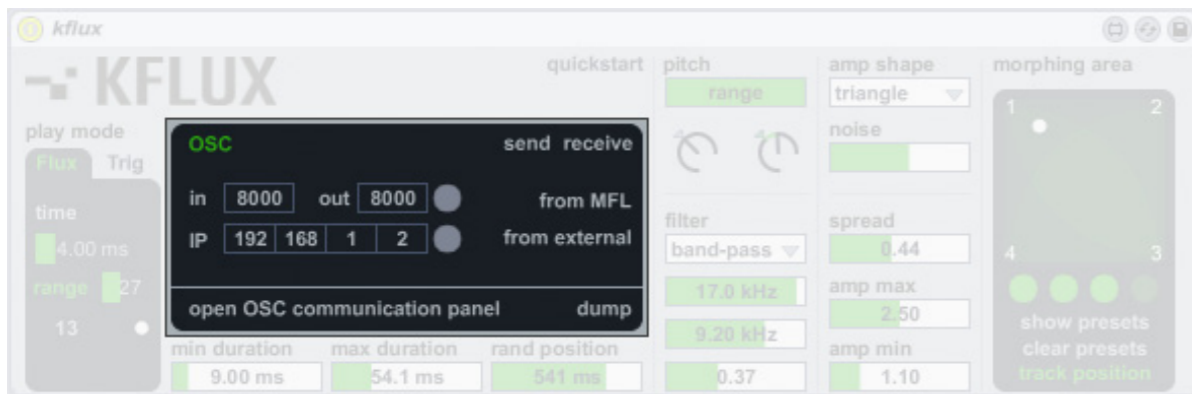


6 Open Sound Control

Kfluxin offers a complete integration with the ultra-flexible and powerful Open Sound Control protocol.

For more information about OSC protocol please take a look [here](#).

To use OSC in Kfluxin you need to access and configure it, via the OSC Panel. Click on the **OSC** button above the sample area to open it.



6.1 OSC Panel Overview

In sets the input port. If you only need to control Kfluxin from a remote OSC application, you only need to set up this port in Kfluxin, and enable the **receive** button in the top right of the panel (when enabled it becomes green). Then click the **gray button** on the right of the out box to enter the value.

By the way, if you move parameters on your computer and on your OSC remote controller, you may have a response from Kfluxin updating parameters on your controller.

In this case you have to setup also the destination **IP** address

and the **out** port, and enable the **send** and **receive** button in the right of the panel. Then click the two **gray buttons** on the right to enter the values.

From MFL displays messages from Kfluxin in the Max window.

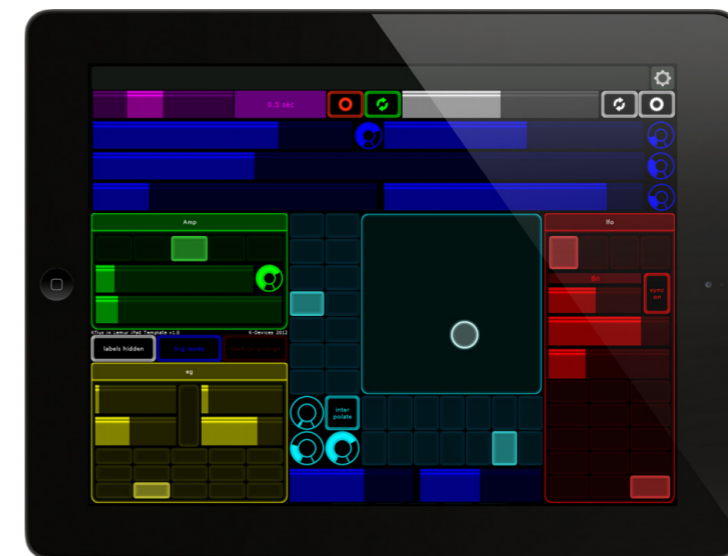
From external displays incoming messages in the Max window.

Open OSC communication panel button opens Max window.

The **dump** button sends current status of each parameter to OSC external device. This is very helpful to update all the parameters in your OSC remote.

6.2 Touch Templates

Kfluxin comes with iOS Lemur template.



6.3 OSC implementation chart

Address	OSC				Function
	Data Format	Input Values	Recognized	Transmitted	
/kfluxin/amp	floating	0.÷1.	O	O	Amp Value
/kfluxin/amp_j	floating	0.÷1.	O	O	Percentage of Random Amp Value
/kfluxin/amp_menu	integer	0-4	O	O	0 sine, 1 triangle, 2 saw up, 3 saw down, 4 trapezoid
/kfluxin/amp_noise	floating	0.÷1.	O	O	Adds Noise To Amp Shape
/kfluxin/drywet	floating	0.÷1.	O	O	Dry/Wet Mixer 0 full dry, 1 full wet
/kfluxin/duration	floating	0.÷1.	O	O	Grain Duration
/kfluxin/duration_j	floating	0.÷1.	O	O	Percentage of Random Grain Duration
/kfluxin/eg_attack	floating	0.÷1.	O	O	Envelope Generator Attack Time
/kfluxin/eg_decay	floating	0.÷1.	O	O	Envelope Generator Decay Time
/kfluxin/eg_min	floating	0.÷1.	O	O	Min Envelope Generator Value
/kfluxin/eg_max	floating	0.÷1.	O	O	Max Envelope Generator Value
/kfluxin/eg_target	integer	0÷14	O	O	0 no target, 1÷14 select target
/kfluxin/eg_trig	message	bang	X	O	Envelope Generator Trig
/kfluxin/grains_mode	integer	0÷1	O	O	0 for Flux Mode, 1 for Trig Mode
/kfluxin/interpolator	floating	0.÷1.	O	O	Sample Interpolator
/kfluxin/lfo_freq	floating	0.÷1.	O	O	LFO Frequency
/kfluxin/lfo_min	floating	0.÷1.	O	O	LFO min Value
/kfluxin/lfo_max	floating	0.÷1.	O	O	LFO max Value
/kfluxin/lfo_modes	integer	0÷1	O	O	0 for not synced LFO, 1 for synced LFO
/kfluxin/lfo_sync_molt	integer	1÷64	O	O	LFO sync multiplier
/kfluxin/lfo_sync_val	integer	0÷20	O	O	sync duration value
/kfluxin/lfo_target	integer	0÷14	O	O	LFO target
/kfluxin/lfo_wave	integer	0÷3	O	O	Select LFO wave
/kfluxin/loop1	integer	0÷1	O	O	Engage loop for sample 1
/kfluxin/loop2	integer	0÷1	O	O	Engage loop for sample 2
/kfluxin/pan	floating	0.÷1.	O	O	Panorama
/kfluxin/pitch	floating	0.÷1.	O	O	Pitch Value
/kfluxin/pitch_j	floating	0.÷1.	O	O	Pitch Random Value
/kfluxin/position	floating	0.÷1.	O	O	Playhead Position
/kfluxin/position_j	floating	0.÷1.	O	O	Random value for Playhead Position
/kfluxin/rec1	integer	0÷1	O	O	Engage record for sample 1
/kfluxin/rec2	integer	0÷1	O	O	Engage record for sample 2
/kfluxin/rec_in	floating	0.÷1.	O	O	Input Level for Record

OSC					Function
Address	Data Format	Input Values	Recognized	Transmitted	
/kfluxin/rec_length	integer	0÷5	O	O	Record Length
/kfluxin/silence	floating	0.÷1.	O	O	Percentage of silence
/kfluxin/target_x	integer	0÷13	O	O	X axis target
/kfluxin/target_y	integer	0÷13	O	O	Y axis target
/kfluxin/time	floating	0.÷1.	O	O	Time Between grains
/kfluxin/time_j	floating	0.÷1.	O	O	Percentage of Random Time Between grains
/kfluxin/trigger	integer	0÷1	X	O	Trigger
/kfluxin/xy	floating list	0.÷1. 0.÷1.	O	O	XY pad