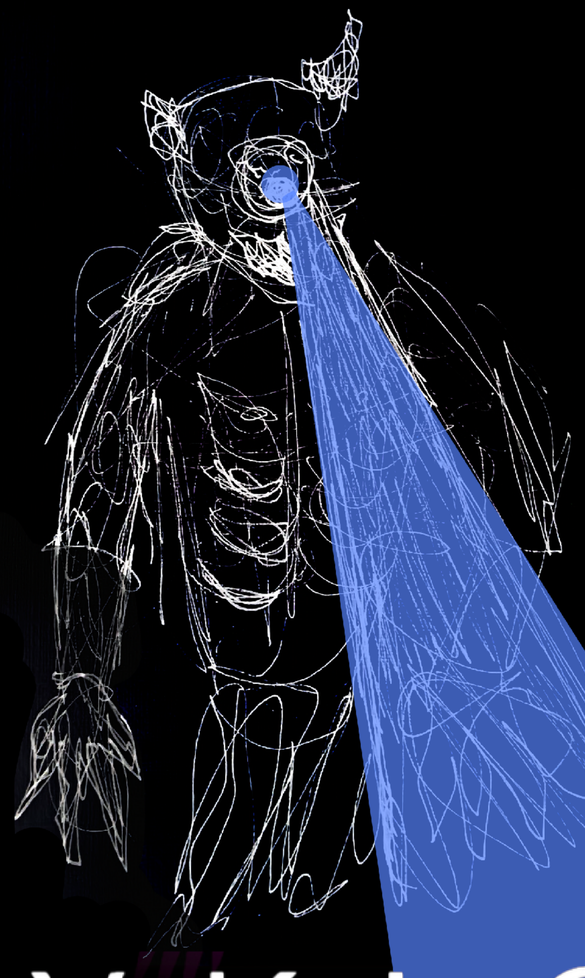


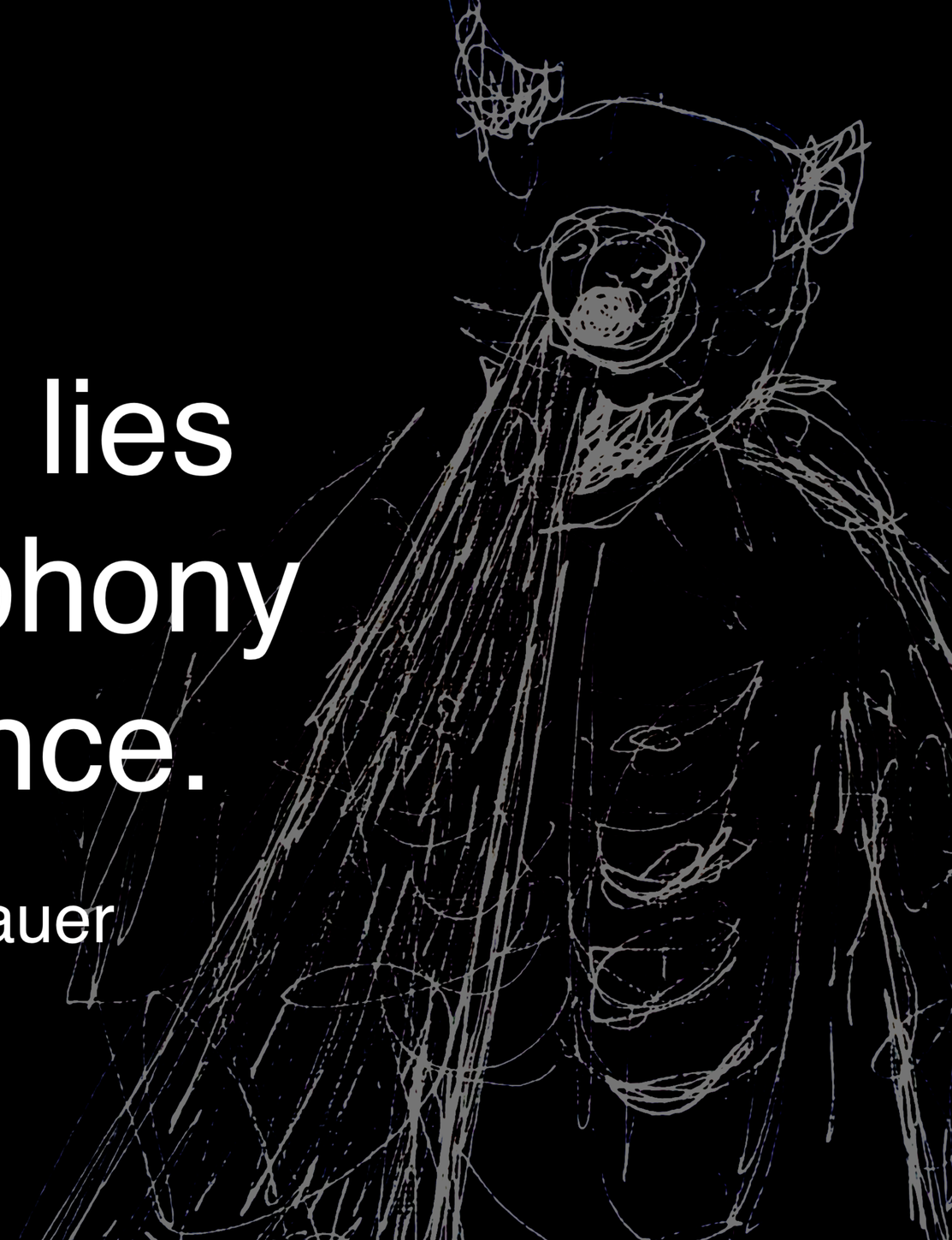
# ZYKLØP

DAWESOME

“

In the Iris lies the Symphony of Existence.

Arthur Schopenhauer



# THANK YOU

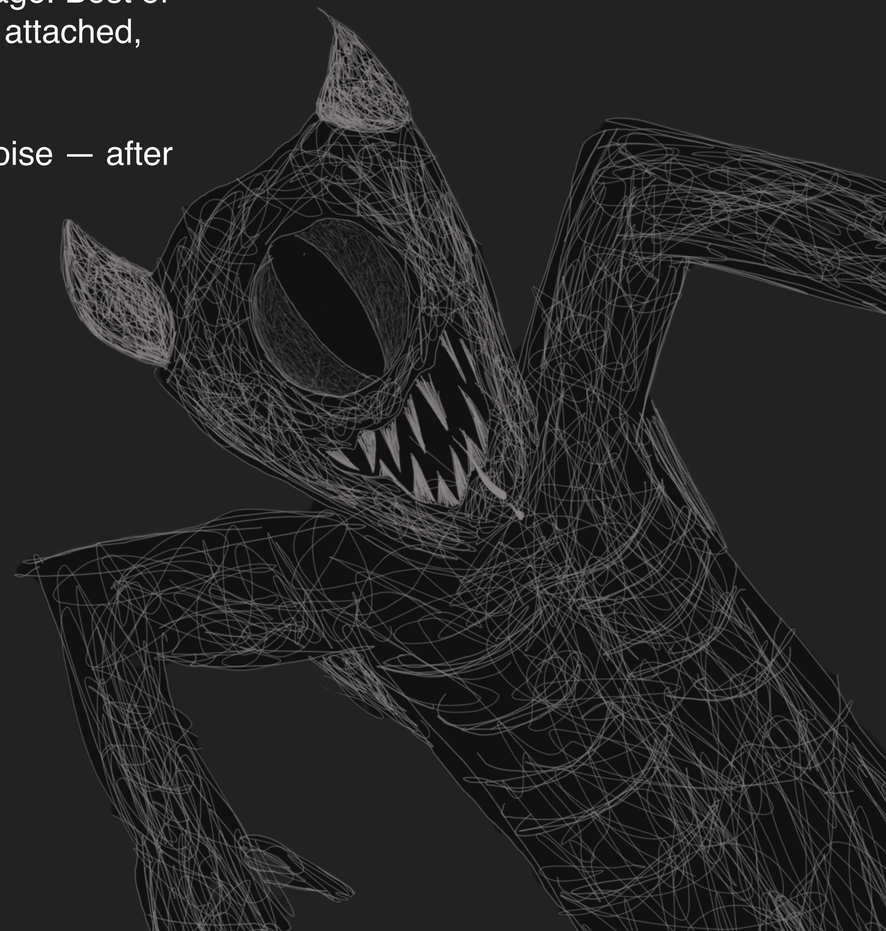

*ZYKLØP is a free synth plugin by Dawesome.*

We're all riding the wave of some pretty amazing synth history here… and I figured it's high time to give back to the community that's been awesome to me.

So here's ZYKLØP — the little sibling to MYTH and an absolute blast in a tiny package. Best of all, it's free, which means no strings attached, just pure sonic fun.

Dig in, get weird, and make some noise — after all, isn't that what this is all about?

All the best
Peter (Dawesome)



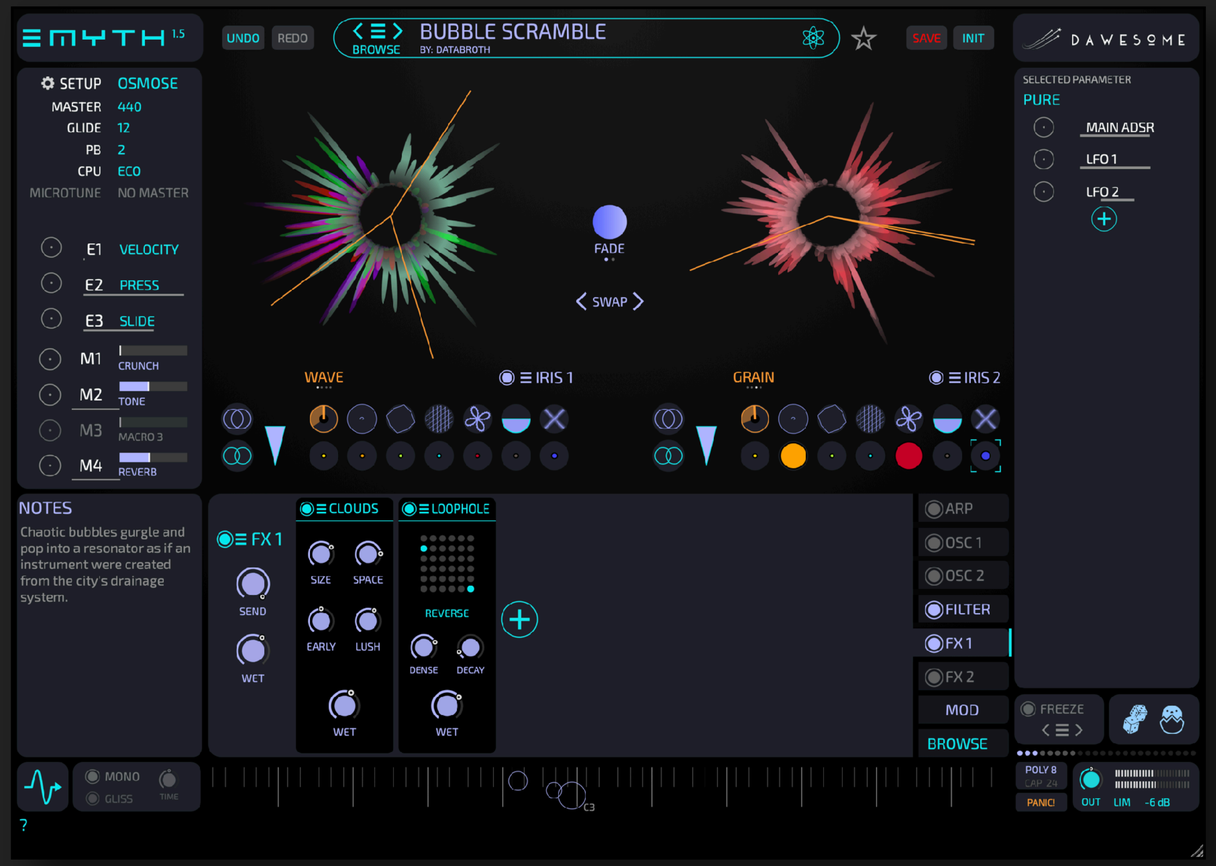
# MYTH

You may have guessed it already ...
ZYKLØP is MYTH's fun, free-spirited little sister.

## Why you might want to go Mythical:

- Two Eyes, not just one
- 900+ presets
- True stereo re-synthesis
- More modules, 6 per section
- Two separate FX sections
- Macros & advanced modulation system
- 24-voice polyphony

ZYKLØP's a blast ...
but if you're ready to go big, "Myth" is where it's at!




[MYTH is available via tracktion.com]

# CONTENT


## The Basics
Getting started
The Setup
Overview
Browse & Play
Save Presets

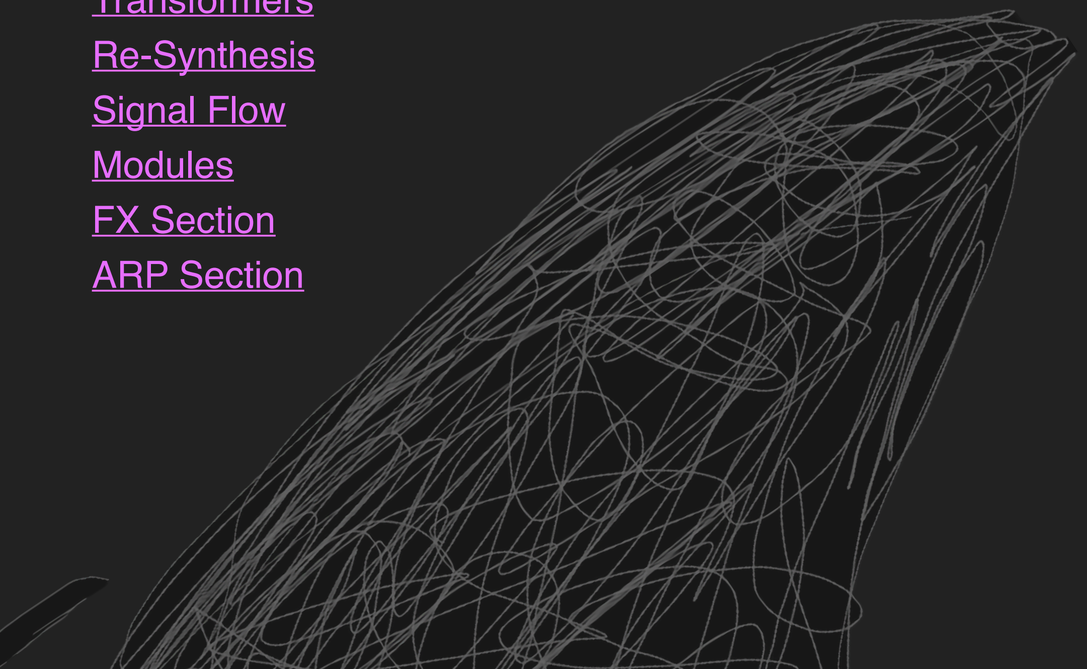
## The Sections
The IRIS
Transformers
Re-Synthesis
Signal Flow
Modules
FX Section
ARP Section

## Modulation System
Modulate Parameters
Modulation Sources
Modulation Modules
Modulation: Keytrack
Modulation Matrix

## Modules
Analog Filters
Comb and Resonator
Wave Generator
Sweet / J-60
Clouds / Reverb / Shimmer
Loophole
Grains
Orbit
OTT
FM
RM
Saturation / Distortion
AM
Trans

## Special Functions
Mono Mode
CPU Performance
Preset Packs

## General
FAQ / Troubleshooting
Credits / Thank you
About Dawesome
Dawesome Village

# GETTING STARTED

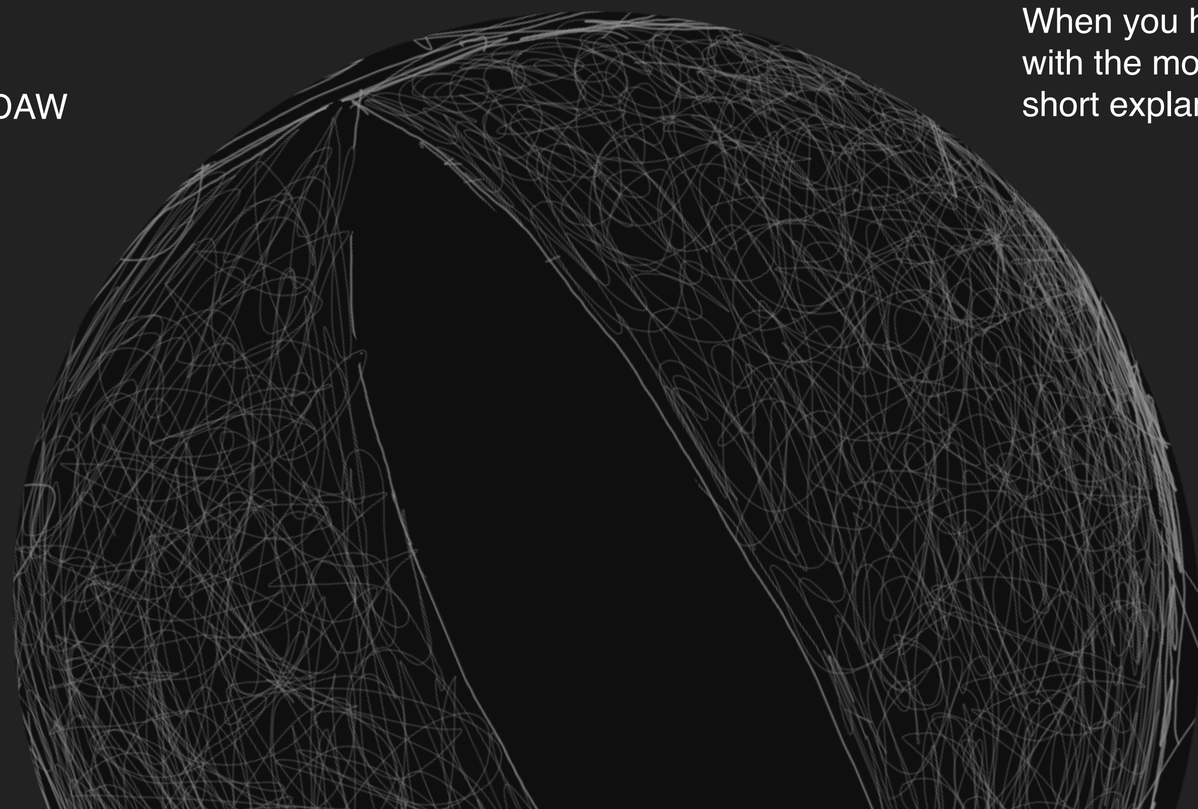
This involves two steps:

## 1 Install the software

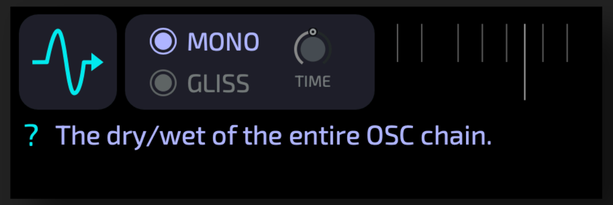
This is straight forward: download the right installer for your system:
For example: Zyklop_1.00.pkg for Mac or Zyklop_1.00.exe for Win.
You can start the installer with double-click.

## 2 Have fun!

Open as many instances of ZYKLØP in your DAW
as your mom will let you



## TIP




ZYKLØP has built-in help. You can de-/activate it with the question mark ? in the lower left corner.

When you hover over any element with the mouse you will see a short explanation.

# THE SETUP

The word SETUP may not sound very sexy, but this is really important.

Nowadays there are a variety of midi-controllers to choose from, and these come with different methods for expression, e.g., velocity, mod-wheel, MPE, aftertouch.

This creates a problem: the sound designer who created presets most likely used a different controller than you.

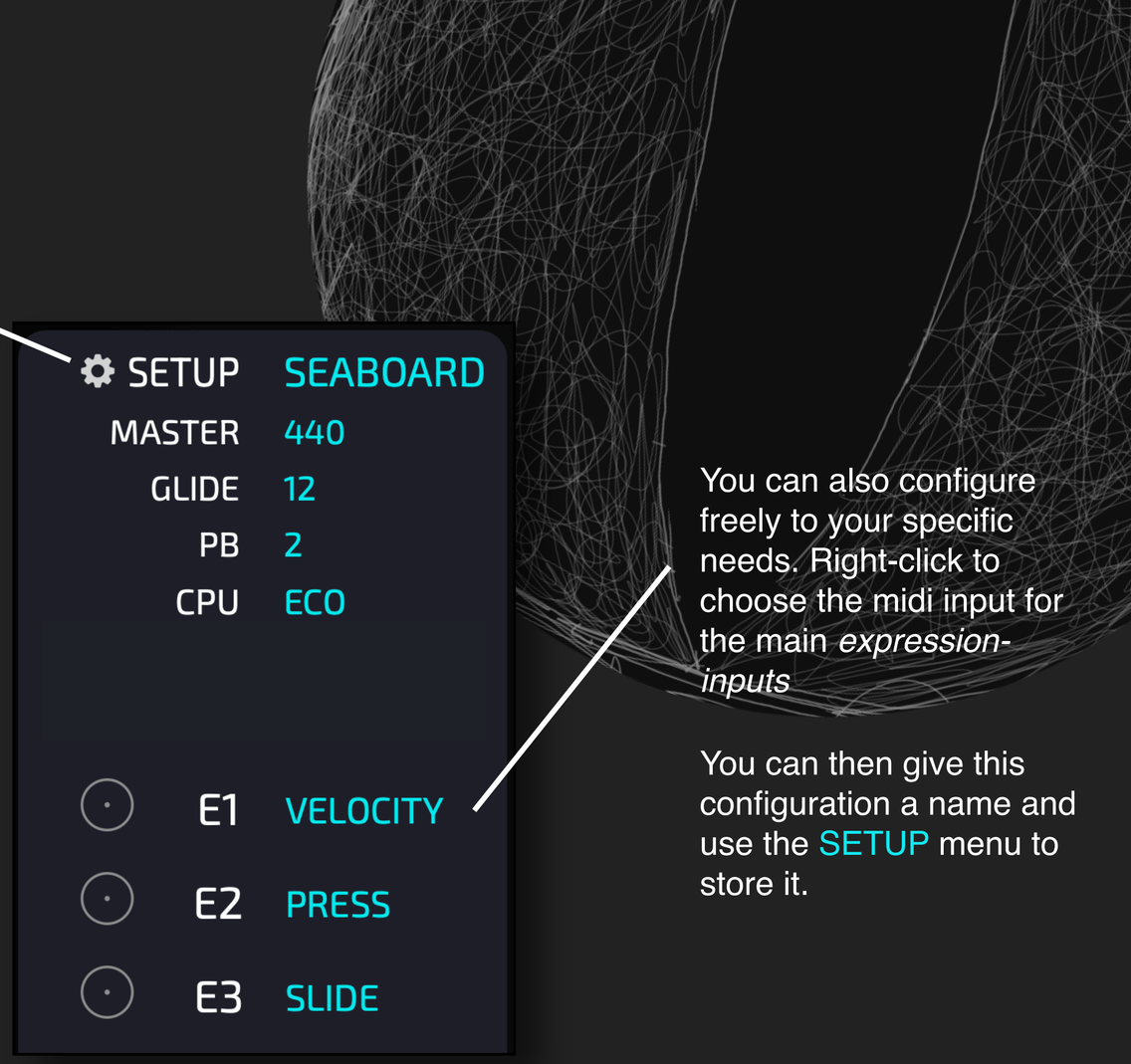
ZYKLØP addresses this via the SETUP. You just need to tell ZYKLØP what kind of expressive midi data is sent by your controller.

## CAUTION

Important point: this information is stored for the plugin, not with the preset. Hence you need to choose your SETUP only once, and then you can browse presets and they will always match to your controller.

Click the gear symbol to choose a pre-defined setup.

You can also save the current setup.




You can also configure freely to your specific needs. Right-click to choose the midi input for the main *expression-inputs*

You can then give this configuration a name and use the SETUP menu to store it.

## TIP

There are two different pre-defined setups for the OSMOSE. The first one has E2 = PRESS and E3 = SLIDE. The second one uses an input source called OSMOSE which combines PRESS and SLIDE to one gesture.

# THE SETUP - for Sound Designers

Acoustic music instruments do not simply switch notes on and off - the performer usually plays notes with *expression.*

How this is performed and how this sounds is different from instrument to instrument. On a piano you vary the speed and force when hitting a key, on a wind instrument you control the speed and pressure of the air flow and the size of the oral cavity.

ZYKLØP uses three specific modulation sources for expressive playing:

E1 - for *NOTE-ONSET* expression

E2 - for expression via *INTENSITY*

E3 - for expressing with *TIMBRE*

How the musician physically *performs the expression* depends on their midi controller - hence this is configured here in the SETUP. This is the same for all presets.

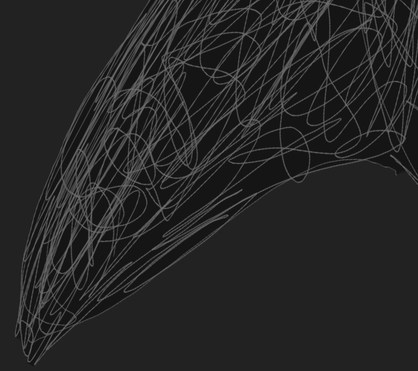
How the preset *reacts to the expressive midi data* and how the sound is affected by it are saved as part of the preset.

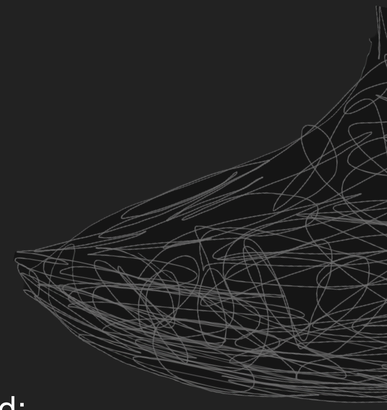
## TIP

1. For E1 you should always assume Midi-Velocity

2. Increasing E2 should increase the perceived intensity of the sound - in most controllers increasing E2 means that you apply more force. It feels very unnatural if applying more physical force leads to a softer tone.

3. On the OSMOSE the SLIDE is activated by pressing the key further down. That means that E3 increases only once E2 reached its maximum. Hence E2 should not create complete tonal mess if you want to offer E3





Some examples of typical controller setups that you can find in the wild: The SETUP mechanism of ZYKLØP allows you to make sounds that translates from your setup to the users setup.

| | Midi | MPE | OSMOSE | User A | User B | ... |
|---|---|---|---|---|---|---|
| E1 | Vel | Vel | Vel | ModW | Vel | |
| E2 | ModW | Press | Press | Pedal 1 | ModW | ... |
| E3 | Pedal | Slide | ModW | Pedal 2 | PitchBend | |

# OVERVIEW

UNDO and REDO of last operation

Go to next or previous patch of your current selection. More info here.

Click to save the patch. Turns red if there are unsaved changes. More info here.

Choose a random preset.

Main menu ≡

Randomise the preset. Press longer for more changes.

Click the cogwheel ⚙ to change the SETUP

To get the most out of ZYKLØP you need to tell her what kind of midi setup you are using.

It's explained in detail here.

The IRIS is a core piece of the synthesis engine. You can drag and drop samples here to re-synthesize them. as explained here.

The modulation sources used in the preset. Explained here.

TRANSFORMERS are used to shape the sound as explained here.

You can enter notes for your preset.

You can drag and drop the last played notes as audio from here.

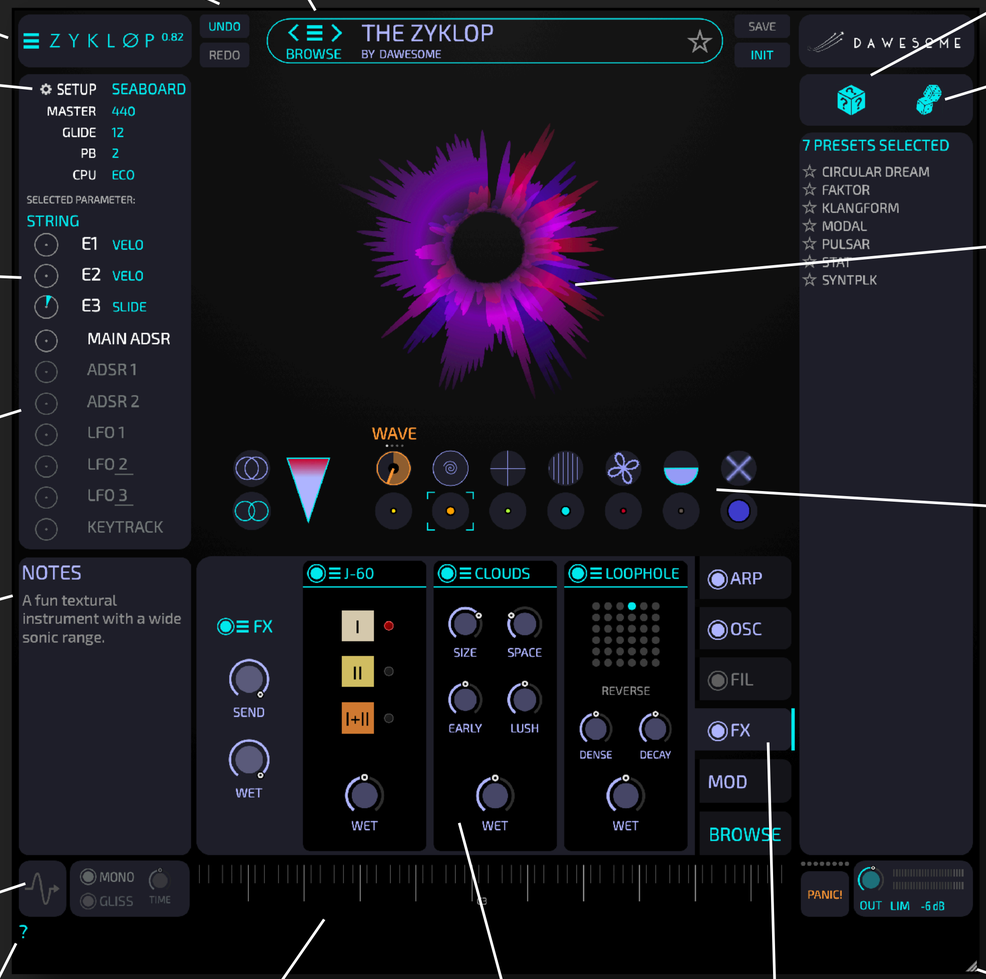
Click to enable or disable tooltips

The virtual keyboard displays incoming midi notes

ZYKLØP offers various MODULES, these are explained here.

The ZYKLØP engine has multiple SECTIONS - explained here.

The UI is resizable. Drag to shrink or expand



# BROWSE & PLAY

The easiest way to browse presets is to use the < and > buttons. This always refers to the current selection of presets you made on the browse tab.

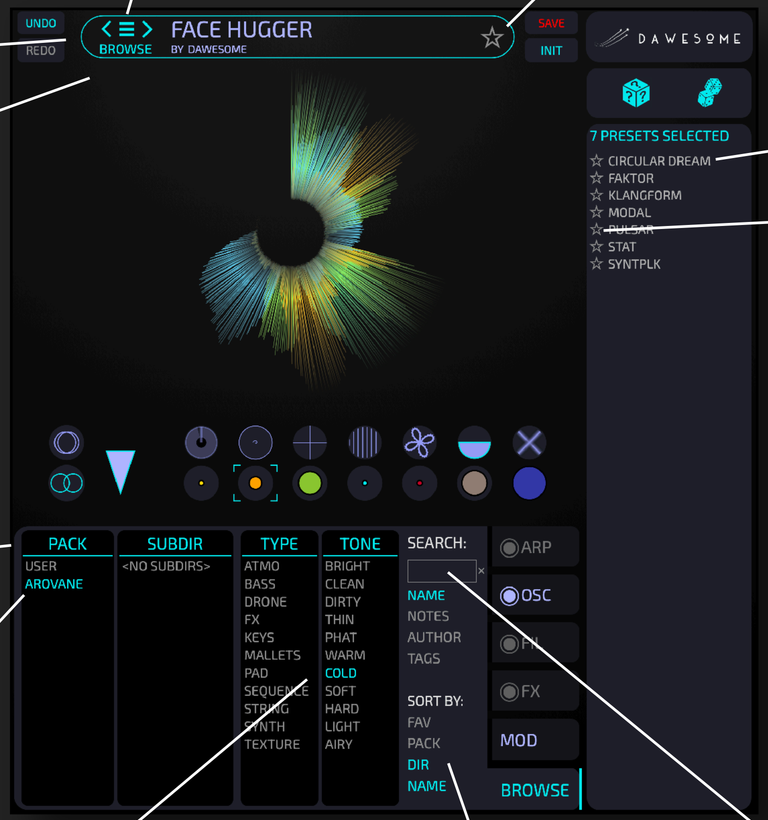
Click BROWSE to open the browse tab - this can be used to filter for a specific subset of presets as explained on the next page.

In the BROWSE tab there are up to four filters. The first two are for PACKS and their subdirectories.

Afterwards you can add up to two more filters.

The burger menu ≡ offers quick access to a specific preset.

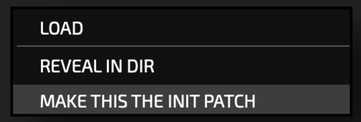
Click the star symbol to add the current preset to your favorites.




Click to switch to a preset.

Click on the star symbol to add a preset to your favorites.

Right-click for a few more options.




As displaced here, only presets from an AROVANE folder are selected.

Only presets that are tagged as COLD pass this filter.

You can specify the sorting order.

You can also filter with full text. Below you can set which text areas should be looked at.

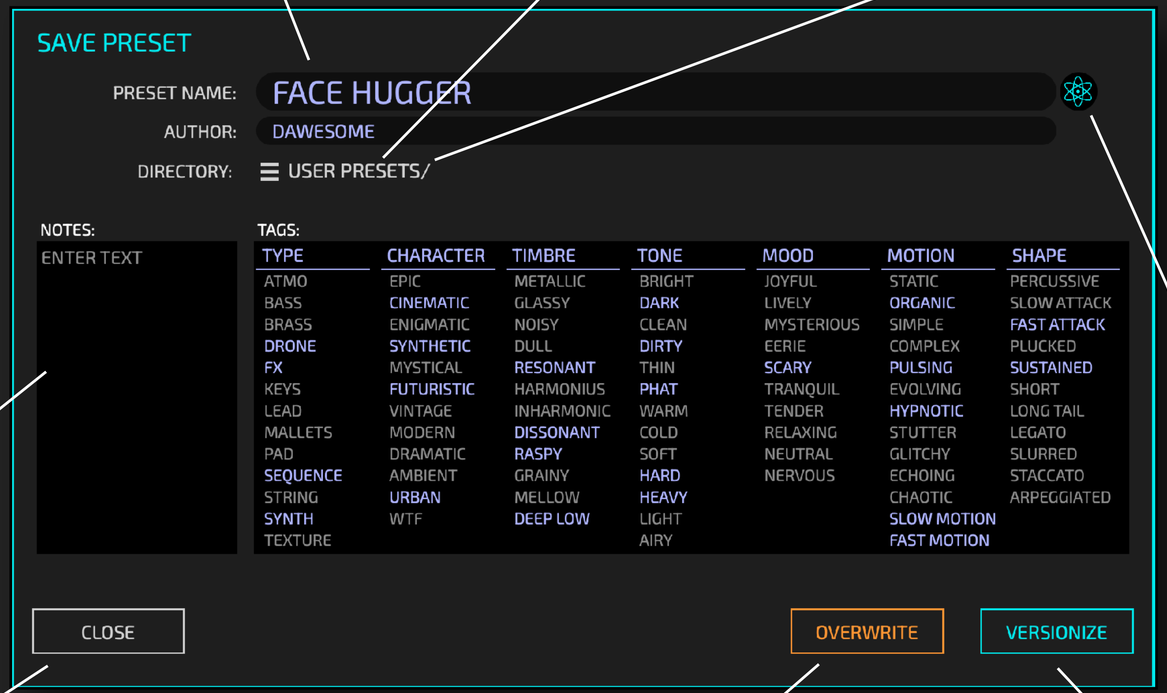
# SAVE PRESETS


The SAVE button indicates with red colour if there are unsaved changes.

When you click SAVE a special window opens.

Click to change the name of the preset

Click to choose a different subdirectory for saving




Review and/or edit your preset notes.

Close the window without saving the preset. The tags and preset notes are stored internally and are not discarded.

This button appears if a preset with the same name already exists.

When you hit VERSIONIZE a number will be added to the preset name to avoid overwriting the existing preset.

## TIP

Via the ≡ symbol, you can reveal the directory where the user presets are stored. Use this to create new subfolders to organize your presets.

## TIP

Sometimes it's hard to come up with a good name. Click on the symbol to invent a name.

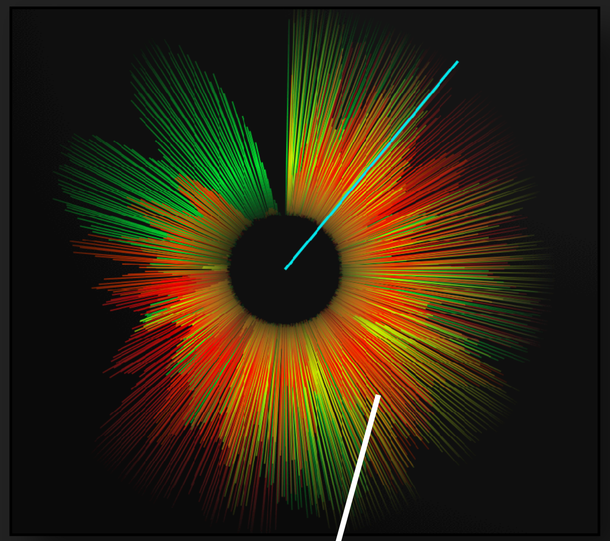
Right-click will provide you with a list of ten different name options. Often these names are not perfect, but spark a good idea.

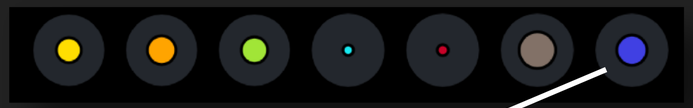
# SOUND DESIGN - INTRO

The IRIS is *not a sampler* - instead you should better think of it as an oscillator derived from an audio source.

Oscillators need to have a lot of overtones that can be filtered afterwards with a filter in subtractive synthesis, or to be used as an exciter for physical modelling.

Hence you will often hear, that the IRIS first sounds very harsh and noisy. This is by design ... and you will see: this is your friend!



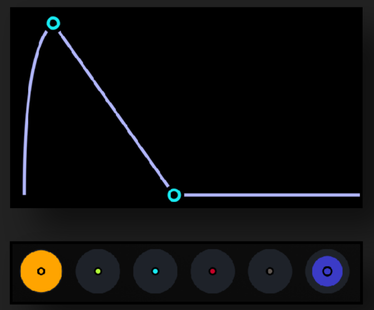


## TIP

Use the BLUE transformer to make the IRIS softer. Then you can use the other transformers to add new overtones. Why is this useful? You can now modulate the various colours of your sound!

## TIP

Hold a key on your controller and now you can click and drag on the IRIS to find a sweet spot. Or modulate the POS for example with an ADSR or a LFO



## TIP

Modulate the BLUE transformer with a smacky ADSR such that you have no BLUE at attack and during decay it adds more and more blue. In this way you can shape natural sounding transients.


## TIP

You can also keep the "harsh" sound (or even make it stronger with the transformers) and then use its power to drive a MODAL or RESO module. You can drag and drop your own samples to use as timbres - an easy route to physical modeling.

# THE IRIS

In classical synthesis, oscillator waves are mostly static and you add filters and modulators to “program” variations that make the sound interesting.

ZYKLØP offers a paradigm shift: it uses machine learning to analyse your sound material and approximate it with a *synthesis engine* displayed as an IRIS.

The inherent variations and richness of the sample and its temporal changes can now be exploited and transformed.

Instead of “programming” sounds you create sounds by exploration and tweaking knobs. Of course - you can also add classical LFOs, envelopes or filters as much as you want. Just ... you will rarely feel the need!

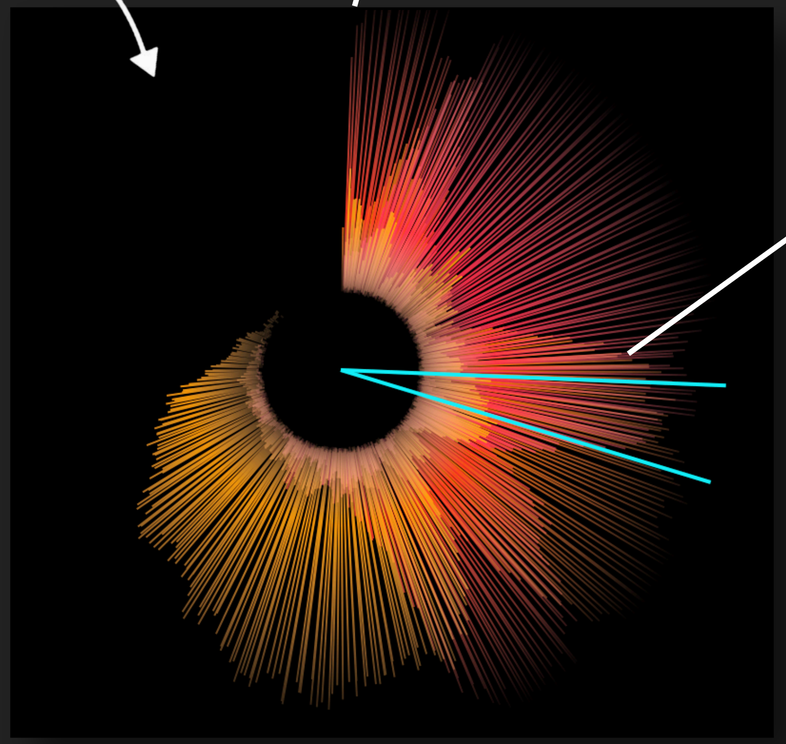
## TIP

The easiest way to tweak an existing preset: just drop your own samples onto the IRIS!

Drag and drop your own samples onto the IRIS

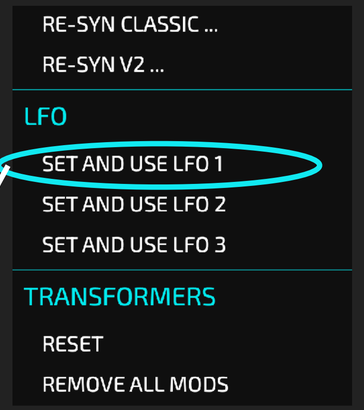
The IRIS is a representation of a sound source as a loop.

The start and end of the sample are at the12 o'clock position.



The play position for each note is indicated with a turquoise line.

You can click-and-drag the IRIS while playing to change the position.




## TIP

Often, you’ll want to modulate the play position with an LFO. You can right-click the IRIS and choose SET AND USE LFO from the context menu. This will set the RATE of the LFO to match the duration of the sample and create a modulation of the POS by the LFO.

# TRANSFORMERS

Transformers work as simple as the cutoff dial of a filter - they modify the sound and can be modulated.

The position of the "playhead" on the IRIS. The value range is two complete turns.

Animates the sound. Large values detune the sound.

FM Amount

FM Brightness

FM Inharmonics

Gain

Stereo-Width

L/R panning

SAW
Transforms the audio as if it were created with an analog SAW wave oscillator

STRING
Transforms the audio as if it were created with the physics of a string ensemble

BRASS
Transforms the incoming audio as if it were created with the physics of a brass instrument

SQ
Transforms the incoming audio as if it were the output of a square-wave osc.

SYNC
Stems from analog synthesis where two oscillators are synced. Here the nonlinear-synthesis engine creates a similar effect.

DIRT
Creates *sick* noise from your input. Can be great in itself, or to excite either the comb-filter or the modal filter.

PURE
Spectrally removes partials until only the strongest partials are left.

## TIP

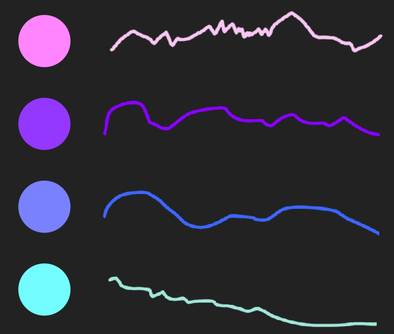
FM synthesis sounds great - but "algorithms" and "operators" are not your cup of tea? In ZYKLØP you simply apply FM as you would apply a filter.

FM adds overtones - and this can lead to pretty harsh tones. If you want softer FM you should use a good amount of PURE

# RE-SYNTHESIS

When you drop audio onto the IRIS, machine learning is used to re-synthesize the sample in a special way.

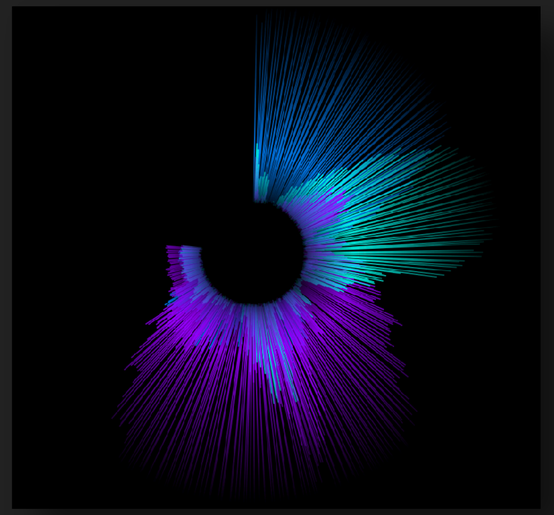
ZYKLØP approximates your sample by finding the optimal combination of four static sounds whose volume is controlled by an envelope curve.



Each of the four internal oscillators of the IRIS is capable of creating any *static sound.*

Each of the envelopes is a MSEG with up to 500 segments.

=



Together these are represented as an IRIS

There are two more transformers.

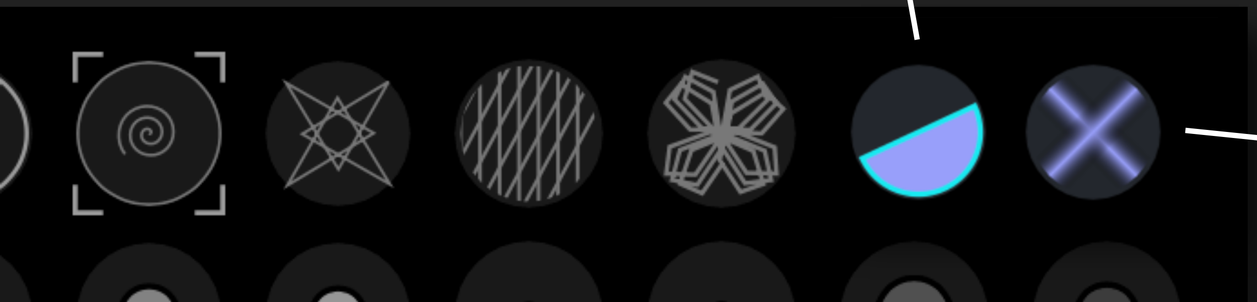
These don't act on the audio stream like the other transformers, instead they change the temporal evolution.

WTF
WTF changes the volume of all four internal oscillators at the same time.

If you turn it left, the brightest oscillators are faded out. If you turn it right, the darkest oscillators are.

TIP

Like all the other transformers - everything can be modulated and automated.



SMOOTH
This simplifies the envelope curve, making it smoother.

# RE-SYNTHESIS ALGOS

You import audio by drag and drop onto the IRIS.

The original re-synthesis algorithm V1 was optimised to extract timbral changes, but it is not very faithful to the original timbre in many cases.

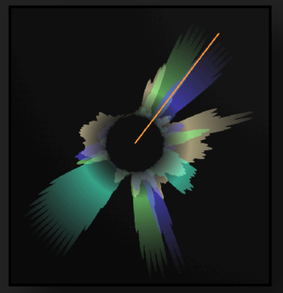
The V2 re-synthesis algorithm, optimised to preserve the characteristics of the source material.

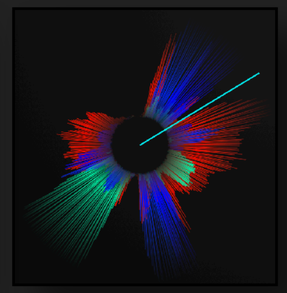

Drop audio here for the new re-synthesis algorithm.

This algorithm preserves the original timbre and offers multiple playback modes.


Drop audio here for the classic re-synthesis algorithm.

The appearance of an IRIS and its playhead will differ depending on which re-synthesis style was used.





# PLAYBACK MODES

If your IRIS was imported with the new re-synthesis algorithm you can choose between four playback modes.


Works great on wavetables and typical synth sounds.

You can export wavetables from any wavetable synth with note F, -1 octave and -23 cents These settings usually give good results in ZYKLØP.


This is the "general purpose" mode for acoustic instruments or voice.

Also gives good results at very slow speeds.


Gives very interesting result on some sources, for example drum loops.


This mode tries to flatten out pitch changes.

If the signal does not contain a clear pitch, is inharmonic, noisy or the weather conditions are bad the results may not be what you expect.

## TIP

Changing the playback mode is fast and simple, and sometimes a different playback mode gives you pleasant surprises.

# SIGNAL FLOW

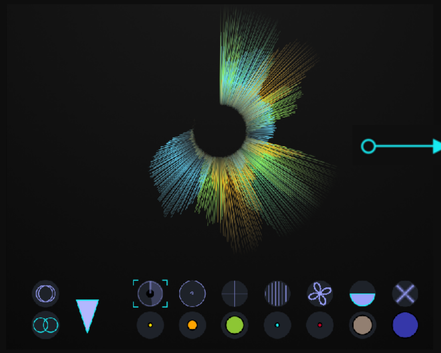
IRIS

OSC

FILTER

FX

OUT

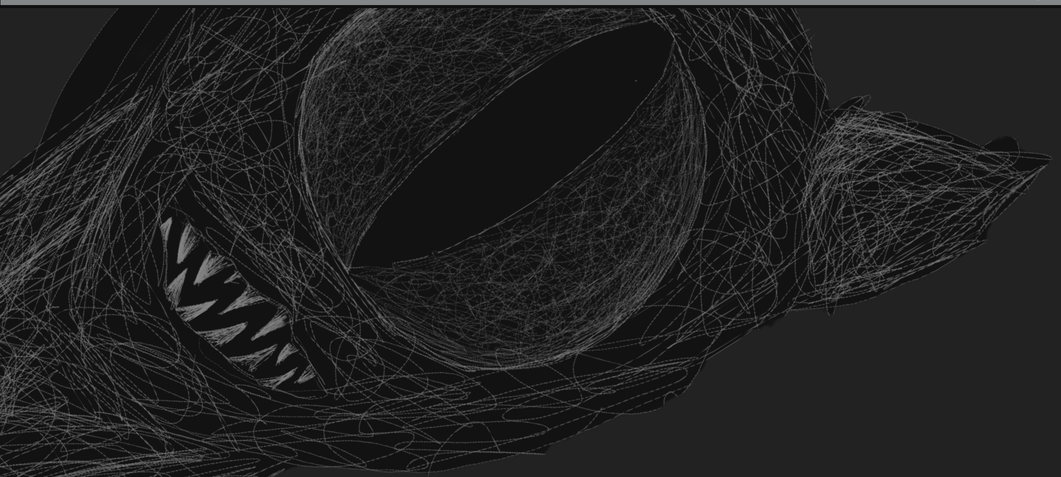






The IRIS, OSC and FILTER sections are per voice

The voices are summed and feed into the FX



# MODULES

Modular synthesis can be very flexible, but also can get very complex with all the cables.

ZYKLØP offers modules for great flexibility and sound shaping. The system takes inspiration from classical pedal boards - where the effects are simply *chained*.

The menu ≡ symbol offers multiple functions. For example, you can reset a module to its defaults or save the state as a named "sub-preset" for this module

Drag and drop a module by its name label to re-order. You can also revoke a module by dragging it out of view.

Click on the + symbol to add another module. Each section can have up to 3 modules.


Enable / disable the entire chain by clicking on ◉

Click on any tab to switch to the currently displayed section.

The menu ≡ symbol offers multiple functions. For example, you can remove all modules with one click, or you can save / restore the entire section as a "sub-preset".

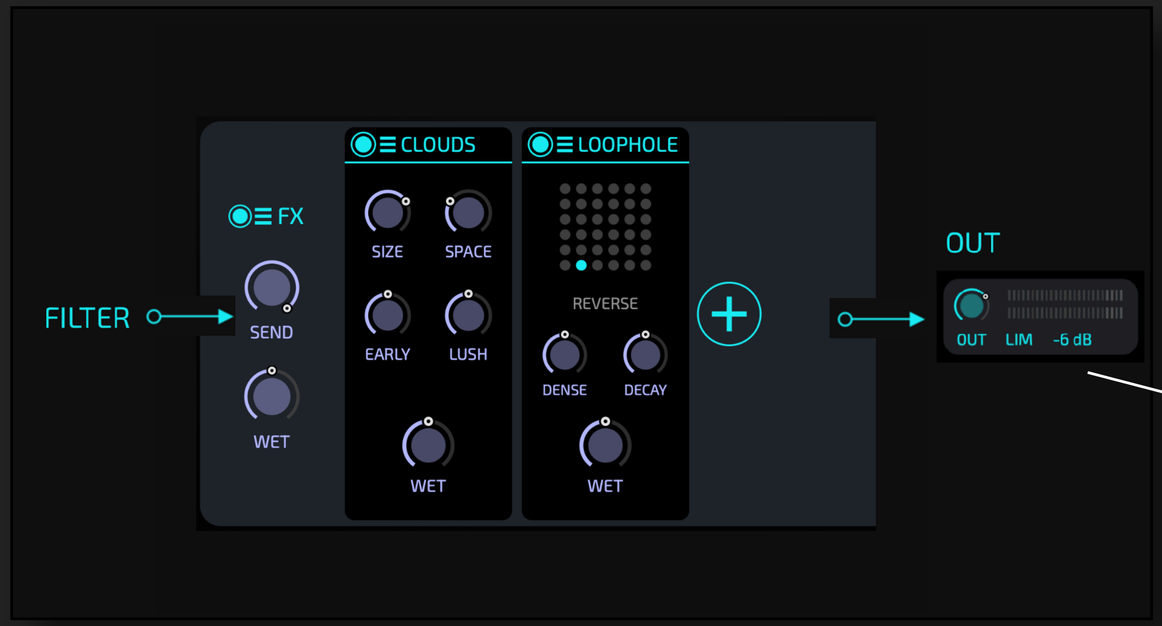
All parameters can be automated in your DAW or modulated within ZYKLØP as explained here.

## TIP

Every section has its own assortment of available modules. Some modules don't make sense for polyphonic material and hence are not available in the FX sections. Some are too CPU expensive to be rendered per voice and hence are not available in the OSC and FILTER sections.

# FX SECTION

The IRIS, OSC and FILTER sections are per voice. After the filter section the output of all voices gets summed and fed into FX section.




The SEND parameter determines how much of the signal is fed into the FX section.


## TIP

The SEND dials are PER VOICE. You can use this for example to modulate this parameter with an ADSR, such that the note onset is not sent into the FX to stay sharp and dry.

The OUT section has a LIMITER that can also be used for sound shaping.

The -6dB switch reduces the outgoing signal by -6dB.

## CAUTION

You should ALWAYS put a fast brick-wall limiter behind your synth when you are doing sound design to protect your ears!

# ARP SECTION

The ARP section processes the incoming midi data and offers a couple of midi-modules.

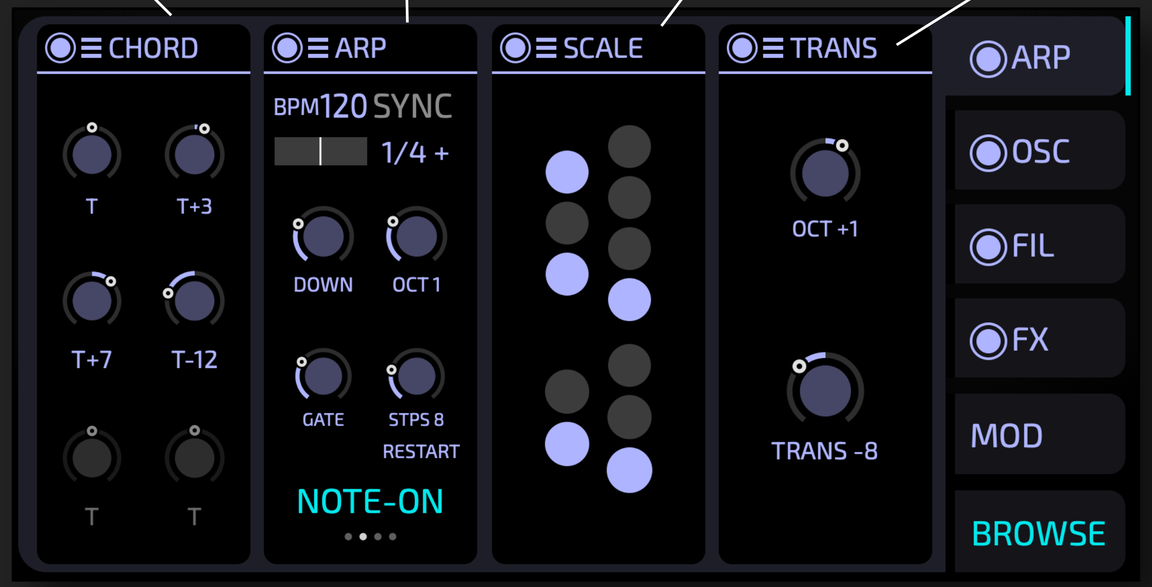
The CHORD module takes one input note and creates multiple transposed notes from it. For example, here the CHORD will produce the original incoming note T, one note 3 semi-tones above, one note 7 semi-tones above and one note that is one octave below the incoming note.

In this way you can play entire chords with one finger.

The ARP module takes all notes that are currently played (either on the keyboard or through the CHORD module) as an input for an arpeggio. GATE specifies the duration of the notes. OCT adds octavated copies. There are multiple modes to choose when the ARP should re-trigger.

The SCALE device allows you to choose which pitch classes are part of the scale. You can choose from plenty of pre-defined scales by clicking on the burger menu ≡. You can define your own scales by clicking on the circles.

The TRANS module can be used to transpose the midi-notes either by octaves or by semi-tones.



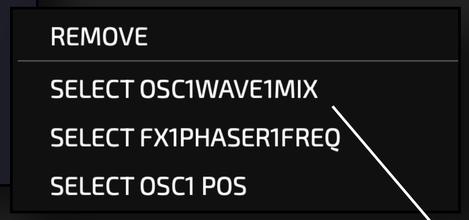
# MODULATE PARAMETERS


Modulating a parameter is really simple: click on the parameter to select it. The corners show that this parameter is selected.

Once a parameter is selected its name shows up on top of the modulators.

Now you can choose the depth of modulation for the selected parameter by dragging the circle next to the modulator.

In this example LFO 1 has a positive influence on CUTOFF. The KEYTRACK has no influence, and high values of MAIN ADSR will reduce the CUTOFF.




The modulation sources are listed in the right sidebar of ZYKLØP.

You can RIGHT-CLICK on a modulator to remove it and to show all parameters that are modulated by this modulator.


Click and drag a DIAL or SLIDER to change the value. You can drag horizontally or vertically.

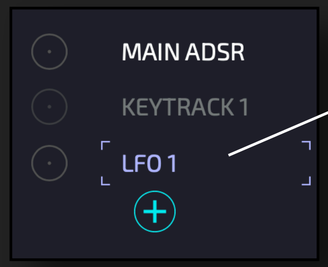
When a parameter is modulated the coloured ring indicates the current value. Every parameter can have as many modulations as you want. The modulations are added together.

## TIP

When holding SHIFT you can fine-tune values.

Double click resets the parameter to its default value.

# MODULATION SOURCES




Click to select a modulation source. You can now edit the settings in the detail page.

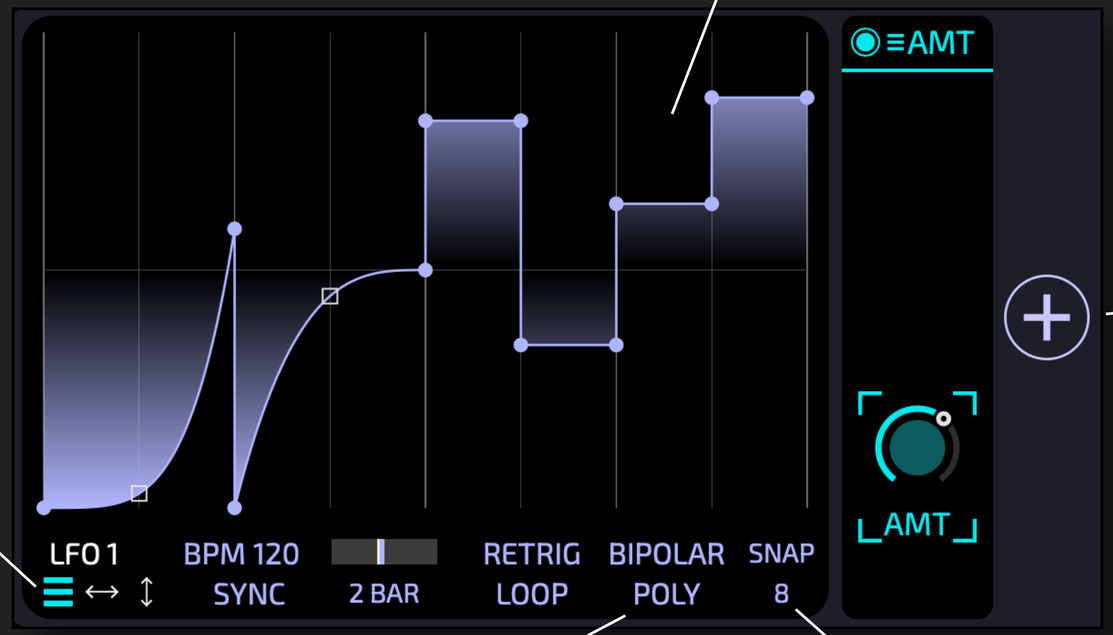
## TIP

You can create and edit steps based on the grid with SHIFT-CLICK or RIGHT-CLICK.

## TIP

With a few modulations you can turn any boring sound into something that sounds alive and interesting. Almost any parameter in ZYKLØP can be modulated.

You can also modulate the parameters of the Modulators. For example, you can modulate the rate of one LFO with another LFO. This allows you to setup complex, chaotic movements in your sound.




For special purposes you can add modules here. This works exactly like the "normal" modules - they modify the incoming modulation signal.

Click to choose from multiple pre-defined waveforms for the LFO.

## TIP

You can also save and restore your LFO curves here as a "subpreset".

In POLY mode each note played has its own LFO. Otherwise there is one shared LFO for all notes.

Click here to choose a different grid for snapping.

# MODULATION MODULES

You can shape the modulation sources with these little modules. This can be very powerful - this is like CV modules in modular synthesizers.

## TIP

You can chain multiple JIT modules with different settings to create unique random patterns.

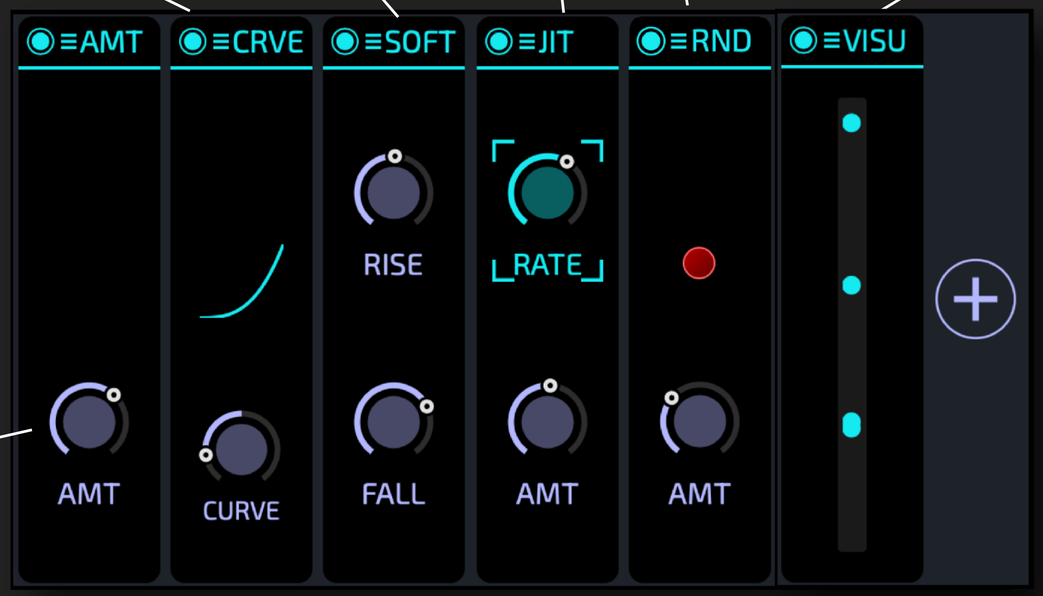
JIT adds random fluctuations to the signal. You can set the RATE of how often the random value changes and the AMT of randomness added to the incoming signal.

With SOFT you can apply smoothing of the signal. You can set the time it takes to RISE the signal, and the time it takes to adopt to a FALL of the incoming signal.

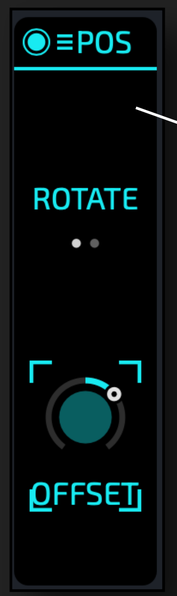
CURVE allows you to shape the signals characteristic from linear to exponential or logarithmic.

NOTE-RANDOM creates a new random value at note-on and holds it for the entire note.

VISU is a visualizer for the modulation signal. Each note's signal is represented with a dot.

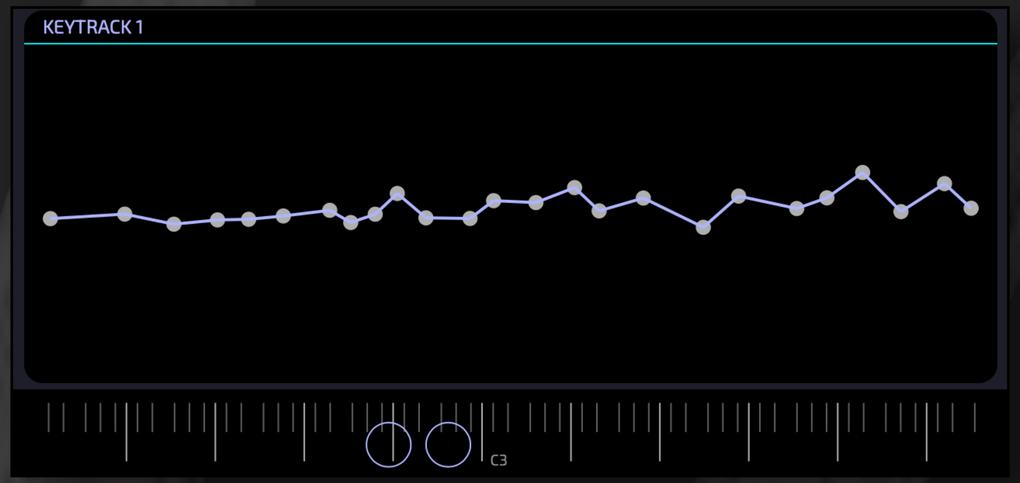



AMT simply scales the amplitude of the signal.




POS is an "extension" module for the LFO. It allows you to add an offset to the LFO position. Of course, this OFFSET can be modulated, e.g. by the LFO itself ... there are no limits.

# MODULATION: KEYTRACK



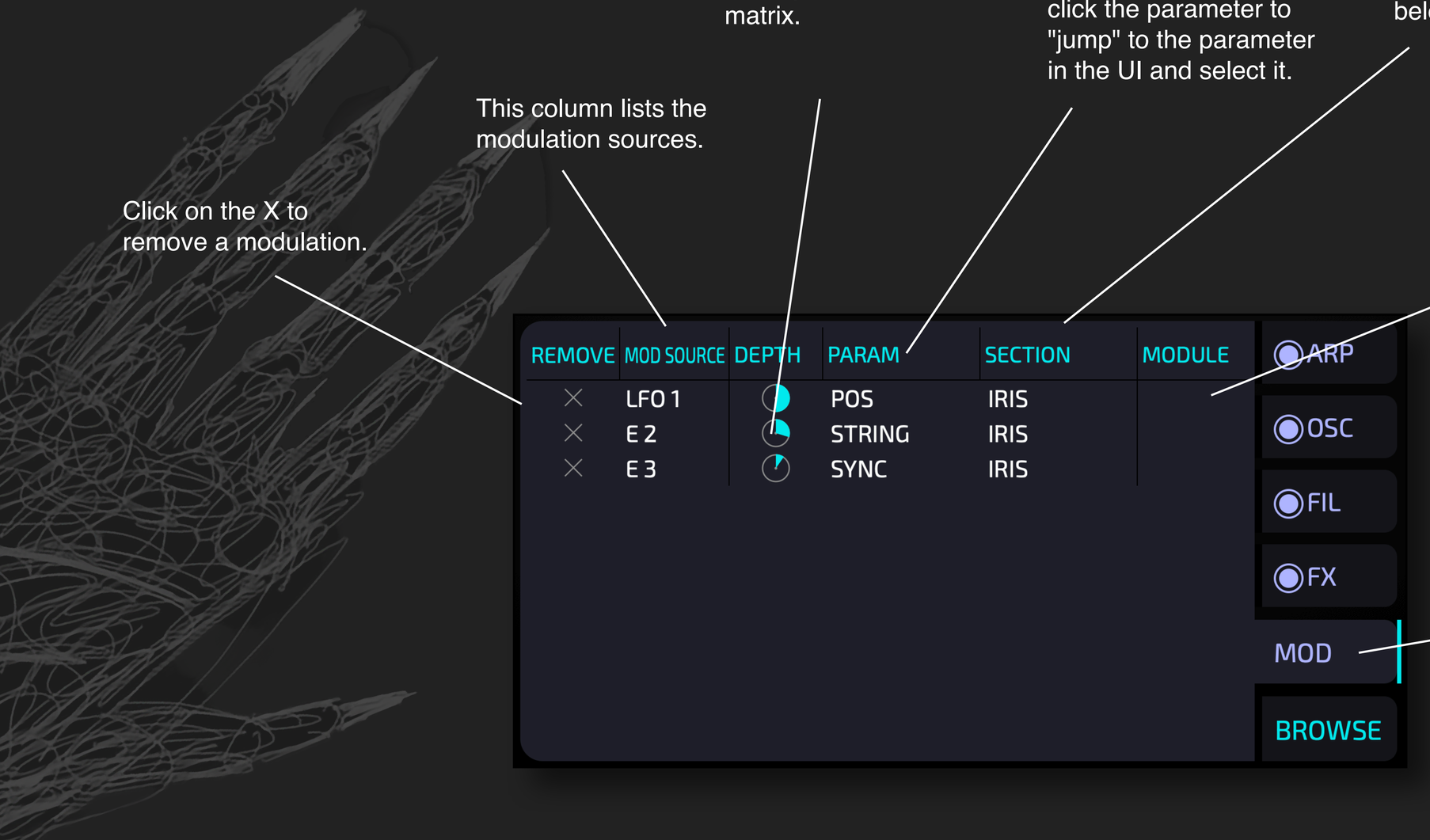

KEYTRACK takes the note input and uses a curve to determine the output signal.

## TIP

In the example I draw a random curve around center. This can now be used to modulate DETUNE of the OSC - in this way every note has its own slight imperfections. Techniques like this can breathe a lot of life into your sounds.

# MODULATION MATRIX

Sometimes it's useful to see an overview of all modulations in the preset. For this purpose click on MOD to bring the MODULATION MATRIX up.



Click on the X to remove a modulation.

This column lists the modulation sources.

You can adjust the modulation depth directly here in the matrix.

This column shows the parameter that gets modulated. You can click the parameter to "jump" to the parameter in the UI and select it.

This column shows the section that the modulated parameter belongs to.

If the modulated parameter is from a module, then the module name is showed here.




Click on MOD to bring up the modulation matrix.

# MODULE: ANALOG FILTERS

There are multiple filters that use virtual analog modeling.

The LPF (LOWPASS) module has multiple classical low pass modules with very different sound characteristics ranging from clean to dirty and screaming.

TRACK turned fully right shifts the CUTOFF frequency with the note you play.


This is a classical 4-pole ladder design that can be configured to work as a lowpass, highpass, bandpass or bandstop (notch) filter.

It can be run in a dual configuration with two filters either parallel or serial. The OFFSET parameter determines the difference between the two CUTOFF values.

## TIP

Put the filter into self-oscillating mode by using high resonance to use it as a generator. Turn TRACK fully right. To tune, add a sine generator after the filter (WAVES module) and tune the CUTOFF by ear.

# MODULE: COMB and RESONATOR

The RESONATOR module uses a so called "modal filterbank" - 32 bandpass filters in parallel. This filterbank can be "trained" by any sample via drag-and-drop.

A comb filter is a specific kind of resonator, often used for classic physical modeling.

HARM influences the inharmonics in the signal.

DAMP lowpass filters the feedback path.

FB sets the amount of feedback. It can be positive or negative feedback, which has a different sound.

There are two modes:
CLASSIC is the normal mode.
PHYSIS has a different tonal character, and the FB behaves differently.


RESO controls how easily the resonators respond and how long they "ring".

PITCH transposes the entire filterbank lower or higher.


**RESO** is a resonator with a *fixed pitch*. This is great to add character to a sound

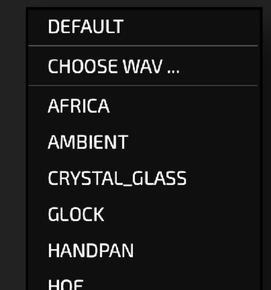
## TIP

The fun starts when you use your own samples to train the modal filter bank - you can simply drag-and-drop a sample. ZYKLØP will derive a "fingerprint" that is saved with the preset, access to the source sample is not needed.

TRACK can be set to full - and the filterbank will follow the pitch of the incoming notes

INHARM can be used to add in-harmonics to the sound.

Click here to train the filterbank to a specific sample.



# MODULE: WAVE

The WAVE module generates classic "vintage" synth waveforms with up to 5x unison. It acts like an analog oscillator

You can DETUNE the unison voices. For example you can use this to create super-saws.

UNI chooses the amount of unison voices.

MIX blends in the generated wave with the original signal. For example you can chain 2 WAVE modules for 10x unison.

You can choose the waveform: SAW, SQUARE, TRI, SINE and NOISE.


You can SPREAD the unison voices in the stereo panorama.

OCT transposes some of the unison voices by octave(s)

RAND randomizes the phase at note-on. Activate this to avoid a "zip" like start of the wave.

PM is pulse-width modulation for the SQUARE wave. For TRI and SINE it distorts the phase to make the waveform more sawlike. For NOISE it is a temporal bit-crushing effect.

You can transpose the oscillator by +-2 octaves.

## TIP

Use two WAVE modules and one LPF module, and you have a two-OSC analog modeled synth.

You can use the IRIS to add dirt and grit to make the sound more organic.

You can also create your own super-saw by using one or two WAVE modules and high unison.

# MODULE: SWEET / J-60

These modules can be used to add a subtle or not so subtle chorus effect.

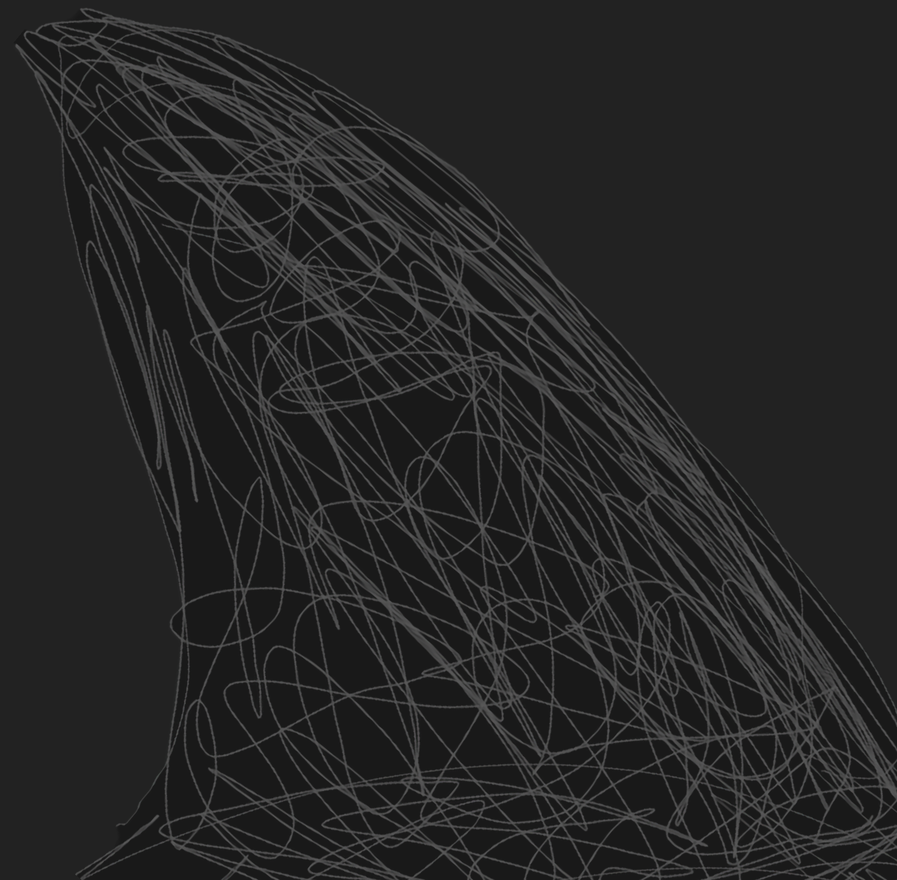
The JUNO 60 is an iconic vintage synth from Roland (Wikipedia). It contained a special chorus effect which became its signature sound. The J-60 module in ZYKLØP is a virtual analog model inspired by this chorus.

It is a cheat-code, as it can make almost everything sound better.

SWEET will make most sounds just ... sweeter. Used with subtle amount it can give a very modern and velvety sound.

High values of SUGAR create Ligeti-like detunings for an eerie or haunting sound character.

Simply the amount of the effect applied.

# MODULE: CLOUDS + REVERB + SHIMMER

There are three different types of REVERB modules available.

REVERB is a simple vintage reverb inspired by the 80s algorithmic reverbs.

CLOUDS is inspired by a reverb plugin called *CLOUDSEED* by Valdemar Erlingsson
It's great for epic ambient reverbs with long or even endless tails.


SHIMMER is a shimmer effect. It uses a pitch shifter within a feedback loop and can create angel-like clouds of sound, but also dark or dissonant textures.

TIP

If you find a nice setting you can save / restore it via the burger menu ≡

# MODULE: LOOPHOLE

LOOPHOLE consists of six parallel micro-loopers with incommensurable delay times.

It's very much fun ... you can take something plain (like a sine), and use a LOOPHOLE module. Just by playing a few notes and tweaking some transformers with the mouse you will get interesting sound textures.


Activate for REVERSE playback.

DECAY on full will loop forever, but new audio material is also slowly fed into it

With low DENSE you get stuttering echoes.

With high DENSE and DECAY you create very organic "freezes"

## TIP

LOOPHOLE is inspired by a plugin called Weeping Wall by Aqeel Aadam, which has much more functionality and works great on synths and keys as well as on other acoustic instruments like guitar.

# MODULE: GRAINS

This is basically the *SWARM* mode of the plugin LOVE as a module.

GLITT sets the probability that a grain is pitched an octave up (turn right) or down (turn left). In center position all grains are played back at their original octave.

JIT adds randomness to the grain creation. With low values the grains play at a steady rate, with high values it is chaotic.

Simply the amount of the effect applied.


Each grain gets its own tuning. This parameter controls how much the tuning is offset. High values create Ligeti-like clouds of dissonances.

CALM controls the grain duration from very short to very long and also the grain density. Turn fully right for smooth sound and long tail.

# MODULE: ORBIT

ORBIT is a new type of modulation effect. It shares similarity with (analog) ring modulation and frequency modulation, but has its own unique character.


Sonically behaves in a similar way as the RATIO of classical FM.

Technically it controls the ratio between the frequency of the moon orbits to the frequency of the planet orbiting the sun (see explanation to the right)

FLUX can be used to add inharmonics to the sound.

Technically this works by adding a fixed frequency to the moon's orbiting speed - this desynchronizes the orbits of the celestial bodies.

CHAR - the ORBIT effect is most pronounced in center position. There are two different ways to tone down the effect by either turning right or left.

Technically this influences the ratio between the sun-planet distance and the planet-moon distance.

## HOW IT WORKS

If you happen to own the KULT synthesizer you can use a sine OSC and then apply FM or AM. You will see that this transforms the signal trajectory by adding curves and spirals.

The orbit modulation interprets the incoming signal as a planet orbiting the sun. It then adds a moon to this planet and follows the moons trajectory. This new trajectory is then transformed back to sound.

Like a real moon, its orbits around the planet can be circular or elliptical, as well as centered or off-center. This can be chosen with the modes.

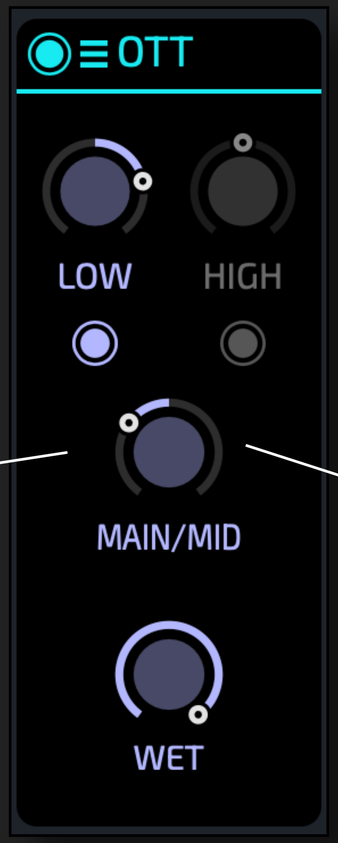
There are three different modes - each with its own sonic character. You don't need to understand the theory behind this, but it's explained here.

# MODULE: OTT

OTT stands for Over-The-Top and has become a standard technique in modern electronic music.

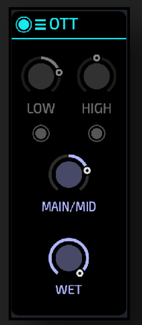
This module is a multiband-compressor and can be used to add texture, punch or saturation to a signal.

Its available in the OSC and FILTER section - hence you can use this per voice.




Turned to the LEFT this is (aggressive) upwards compression: silent signals are made louder. This can be used to bring up texture in the sound or bring out silent parts like tails.

Turned to the RIGHT this is "normal" downwards compression: loud signals are reduced to compress the signal. Gives punch.




MAIN/MID applies to the entire frequency range.


MAIN/MID applies to the low end and mid range. Separate dial for high range.


MAIN/MID applies to the high end and mid range. Separate dial for low range.


Separate dials for each of the bands.

## CAUTION

When you turn a dial to the left it is doing upwards compression. That is: silent signals get dramatic amplification. Be careful with very silent tails when you put the OTT in the FX section.

# MODULE: FM

FM uses the incoming signal to modulate a low frequency sine wave. This can be used to create metallic and inharmonic tones, to add sharp overtones, or to animate a static signal.


SPREAD can be used to treat the LEFT and RIGHT channels differently. This can range from subtle to wild.

The incoming signal modulates a low frequency sine wave. The frequency of this sine wave can be chosen here with a wide range from ultra-slow to far into the audio range.

Low values animate the signal. Higher values create inharmonics.

The amount of frequency modulation that is applied to the incoming signal.

## TIP

To best understand this module feed it with something simple, e.g. a sine wave. You can use the INIT preset for this.

## TIP

Unless you are seeking a rough and sharp sound chaining a J-60 chorus or a SWEET module can work wonders!

# MODULES: RM

The modules RM and can be used to create inharmonic, metallic sounds, or to add motion to a sound.

RM stands for Ring-Modulation

RM modulates the incoming signal with a sine wave. The frequency is set with the RATIO.

RIGHT-CLICK to choose from some integer ratios.

| | |
|---|---|
| 1/3 | -1/3 |
| 1/2 | -1/2 |
| 2/3 | -2/3 |
| 1 | -1 |
| 2 | -2 |
| 2.5 | -2.5 |
| 3 | -3 |
| 4 | -4 |


FLUX adds a fixed low frequency to the sine. It can be used to create a metallic sound.

There are two modes available: RING and BELL that have a very different sound character.

## TIP

To best understand this module feed it with something simple, e.g. a sine wave. You can use the INIT preset for this.

# MODULE: AM

This offers amplitude modulation. It can be used to add inharmonic character or animation to a sound.


The AM is tuned to the incoming signal. With RATIO you can choose the frequency ratio between the incoming signal and the signal used for modulation.

The amount of the amplitude modulation.

Normally the RATIO of an amplitude modulation creates harmonic tones for integer ratios, and inharmonic values in between. Hence sweeping the RATIO gives a pretty wild journey through all kind of inharmonics and is often of limited musical use.

This module uses the underlying technique of shepard tones (Wikipedia) to allow for a separation: with RATIO you determine how high or low the modulation sounds, with HARM you control the specific timbral character of the in-harmonics.

## TIP

To make yourself familiar with this module start with the INIT sound, or keep all the TRANSFORMERS to their defaults and dial up BLUE to the max.

Once you have an idea how RATIO and HARM influence the sound start experimenting with the colour-transformers.

# MODULES for Saturation / Distortion

These modules can be used to distort and shape the sound.

ASYM offers asymmetric distortion.

CRUSH offers two sorts of bit-crushing.


SATURATOR has multiple different distortion types. You can set the DRIVE.

Use ATT to attenuate the saturated signal, before the DRY / WET.

## TIP

These modules can be used to shape the sound, add punch, or more overtones. All parameters can be modulated. Often these create interesting effects if used in conjunction with other modules.

# MODULE: TRANS

This module is only available for OSC section It can be used for tuning the IRIS *and* the modules in the OSC section.

Tune the oscillator up or down in cents of a semitone. Modulate this with a PERLIN noise modulation source for sweet detuning.

Tune the oscillator up or down by octaves. It's fun to modulate this, eg with an LFO.


### TIP

This module also affects the IRIS, hence it will always be in the left-most position of the section.

### TIP

In many cases you just want to put the IRIS up or down in octaves. You don't need the TRANS module for this - just use this dial.

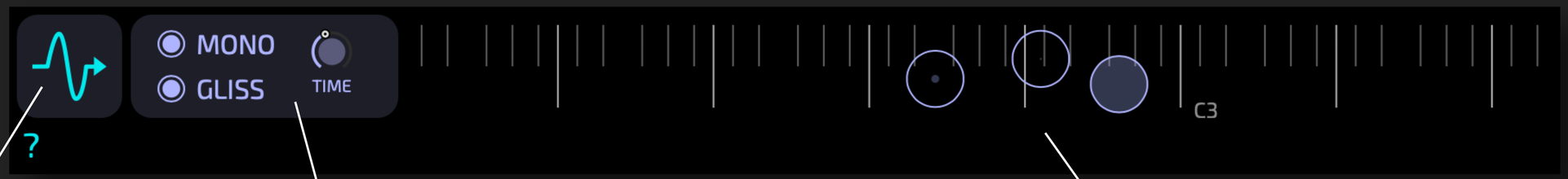
Transpose the oscillator up or down in semi-tones.

If active the TRANSPOSE snaps to integer semi-tones.

If active the oscillator always plays note C3, regardless of the note you play. You can use the TRANS + OCT to change this note.

# MONO MODE

The MONO MODE can be used for basses and leads that have similar behaviour to monophonic analog synths.




You can drag and drop the last played notes as audio from here.

## TIP

You can play a note and then drag this as audio from here to the IRIS - to get the sound re-synthesized!

Normally ZYKLØP is a polyphonic synth. By activating MONO you can make it a monophonic synth with legato function.

With TIME you can control the legato speed.

When GLISS is active you will also have a glissando between two notes if you play legato.

Incoming notes are displayed on the virtual MPE keyboard display.

The size of the outer circle line indicates (polyphonic) PRESSURE or AFTERTOUCH.

The filled circle area indicates the VELOCITY.

# CPU Performance

ZYKLØP has been designed and optimized with great care for CPU efficiency.

On the other hand, a single preset can have:

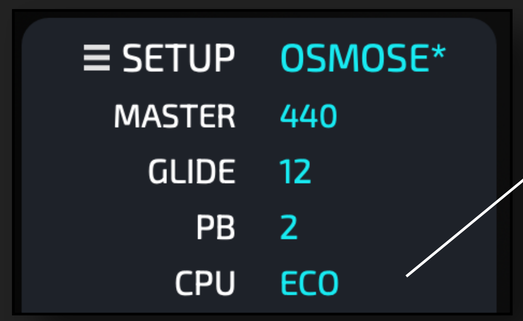
- IRIS with 10 transformers and 4 layers
- 6 modules which are per voice
- 4 midi effects
- 3 audio effects
- 10 modulation sources
- ...

It should not come as a surprise that this gives you some possibilities to strain your system.

**IMPORTANT**

When the CPU usage is problematic always check the voice indicator first.

Long, exponentially shaped release tails are a recipe for high CPU strain.




You can set the CPU mode here. This affects a lot of internal settings, but in most of the cases the effect will be subtle. ECO and SMART mode will be sufficient for almost all cases.

# PRESET PACKS

You can create PACKS from your presets and other users of ZYKLØP can install these.

PACKS are a great way to extend the sonic capabilities of your instrument.

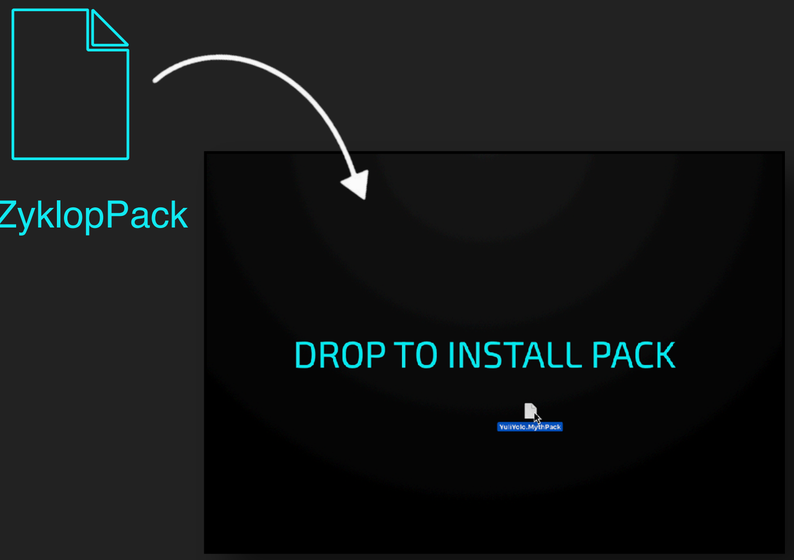
Installed packs shows up here


## TIP

It is easy to create your own packs. Simply use the file system and create a folder that contains ZYKLØP presets. You can organize these in a single level of sub-folders, deeper nesting is ignored.

Choose CREATE PACK ... from the main menu. You will only need to locate the folder with your presets and a name to save the pack.

You can simply drag any .ZyklopPack to the ZYKLØP user interface to install the pack, or choose INSTALL PACK from the main menu.

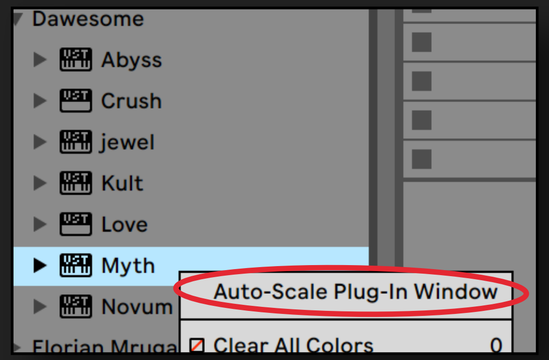



## CAUTION

If you handle preset files, you should ALWAYS make a copy beforehand.

Better safe than sorry!

# FAQ / Troubleshooting




Q: The UI looks pixelated / distorted

A: In the main burger menu in the upper left there is an entry to USE OPEN GL. Please try to de/activate this setting, then reload your project - the plugin needs to be reloaded to make this change active.
If you are using Ableton LIVE: make sure that “Auto-Scale Plug-In Window” is NOT ACTIVATED.

Q: I can’t hear anything!

A: First make sure that ZYKLØP receives midi data - you can see incoming midi on the virtual keyboard. Make sure that the OUT is not set to zero.

Q: I installed ZYKLØP, but it does not show up in my DAW?

A: In most DAWs plugins are listed by manufacturer name. You find ZYKLØP listed under DAWESOME.
If this does not help - please make sure that VST3 (or AU) is activated in your DAW.

For Pro Tools users: plugins come in various formats; the most common are VST, VST3 (and AU on Mac) - these are the industry standard. Pro Tools has a proprietary plugin format and is not able to host VST or AU plugins. ZYKLØP is available only as VST3 and AU. But there is a workaround: you can use a wrapper plugin. There are two that I can recommend:

- KushView Element - this one is even free
- BlueCatAudio Patchwork

You load the wrapper Plugin in Pro Tools, and then you insert ZYKLØP in the wrapper - it is simple and works as if you had opened ZYKLØP in Pro Tools itself. The advantage is: there are many plugins on the market that are available only as VST or AU - with this wrapper you can use them all in Pro Tools.

# FAQ / Troubleshooting

Q: I am experiencing audio drop outs - what a lousy plugin!
Q: I have a question / feedback - where can I leave it?
Q: I have a cool idea for a great feature!

A: Just drop me an email to peter@dawesomemusic.com - I appreciate any kind of constructive feedback and I am trying my best to have any user satisfied, regardless whether you purchased or not. Usually I try to answer within a few days.

If you want to share any idea with me please drop me an email to peter@dawesomemusic.com. Please note that I may have had the idea before and hence I won't pay you license fees if I choose to implement this idea or a related idea in one of my plugins. If you believe your idea has tremendous commercial potential make sure to get a signed agreement *before* sharing the idea with me / anyone.

Q: I like your work - how can I support you?

A: Thank you - this is my real reward for the work I am doing! I hope you will find lots of fun and inspiration with ZYKLØP or any other of my plugins. If you want to support me: spread the word - many (most?) people simply have not heard about DAWESOME.

Or send me a brief message via mail to peter@dawesomemusic.com - this will certainly cheer me up!

# CREDITS - THANK YOU!

- ZYKLØP is implemented in C++ using the Juce Framework. I am grateful for its existence and for the community of JUCE developers.
- Valdemar Erlingsson is the creator of the gorgeous free reverb plugin called Cloud Seed. I took inspiration from his work for the CLOUDS FX
- Nigel Redmon has published an intriguing series about analog ADSRs. I took inspiration and design choices from his series.
- ZYKLØP uses the awesome AVIR image resizing algorithm designed by Aleksey Vaneev of Voxengo
- Sample rate converter designed by Aleksey Vaneev of Voxengo
- Rich Whitfield and Frank Gesang aka SiL3NC3 and Saf Ro and DATABROTH painstakingly proof read this user guide
- DATABROTH + Spektralisk + HydraTek + Rich Whitfield have provided extensive feedback / discussion of various features over a long time
- Sound Author + Sabastian Weaver aka Azure Eyes gave feedback to improve features and had some very cool feature requests
- Sound Author has created and provided most of the IRIS samples
- BIIANSU created the official trailer track for MYTH, which is the big sister of ZYKLØP
- Jacky Ligon and Andreya are tremendously helpful. They convinced my to add MTS-ESP support for the bigger sister MYTH
- Jacky Ligon and Sound Author have provided samples for the modal filter / resonator
- KiroArt5 has made the charming Zykløp drawings

I am blessed with an awesome group of Beta Heroes who found bugs and provided many ideas:

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Cool WAV
Tomavatars
sadà\exposadà
Astralmuse

DATABROTH
El°HYM
Andreya
lab by the sea
dreamerOnGo

Spektralisk
Saf Ro
Squaremoons
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HydraTek
Florian Mrugalla
Mathias Brüssel
BIIANSU

Sound Author
HiEnergy
Philip Rampi
Jacky Ligon

Alessandro Cardinale
Frank Gesang aka SiL3NC3
David Lilja (PaleSkinnySwede)
Sabastian Weaver aka Azure Eyes

# ABOUT DAWESOME

Hey,

I’m Peter, the creator (and chief mad scientist) behind Dawesome plugins.

By day, I’m deep in the code, crafting synths and effects to inspire creativity. By night, you’ll find me playing bassoon and contrabassoon in a few ensembles — and bringing my lifelong love of synthesizers into everything I do.

With a PhD in math, I’ve earned my “professional nerd” badge, and I wear it proudly

Here are a few principles that keep me going:

* Creativity should be fun – If it doesn’t spark joy, let’s tweak it till it does.
* Sense and Simplicity – The simplest ideas often come from the toughest work
* Exploration is the royal road – There’s no map; we’re here to discover.

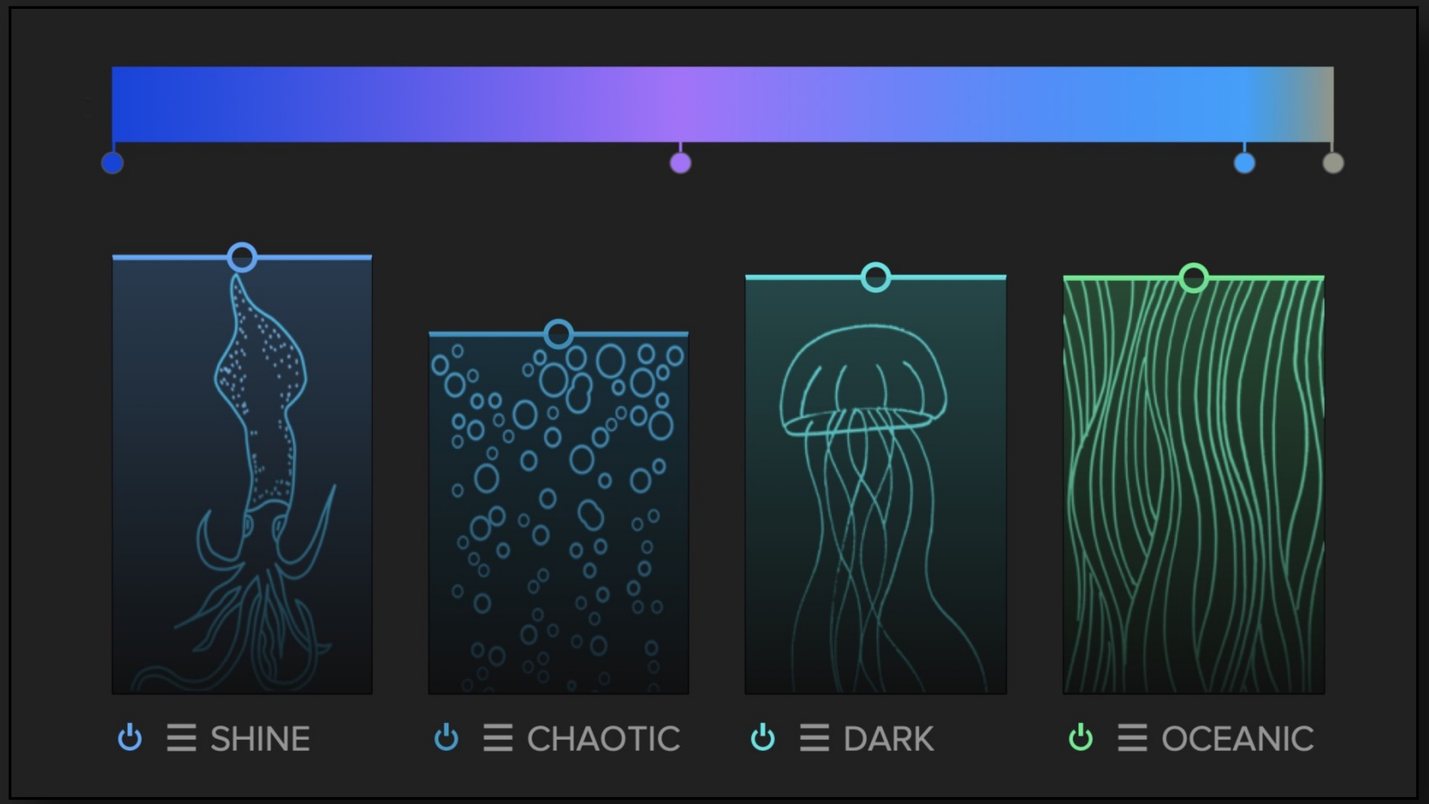
Thanks for being part of the Dawesome journey!

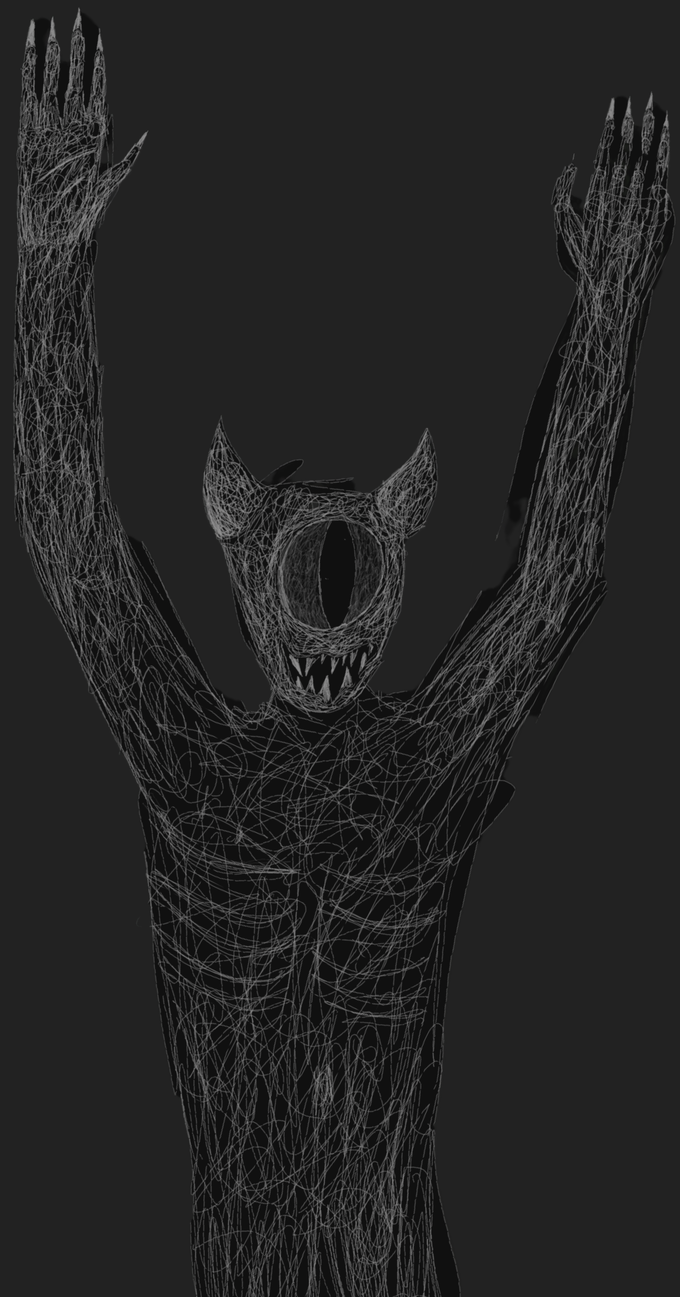
Peter V

# *Dawesome Village*

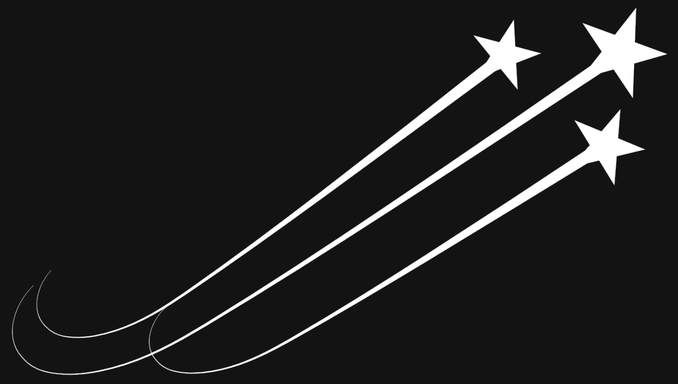
... is the **friendly and supportive community for sound lovers** on Discord!

You can join by clicking on the invitation link below. You will find many interesting people, tons of information, many freebies like sample packs and presets and much more...



Invitation Link: Dawesome Village



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