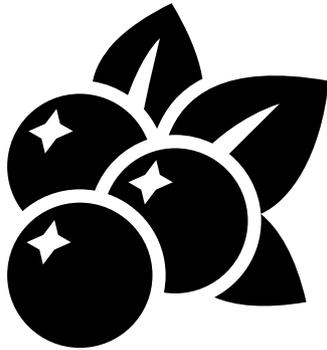


Superberry

user's handbook



digital & delicious
synthesizer



Thank you.

This year we found a way to nurture a sense of togetherness, while being far apart, by working on new tools for making music. We spent hours, days, exploring and talking about different ideas.

We are both endlessly inspired by music, and this synthesizer is no exception. Our adoration for melodramatic 00's trance melodies lead to an exploration of *that* sound; the *supersaw*. We wanted to be able to have that sound at the tip of our fingers, just a knob twist away from that single tear running down your cheek in bullet time.

Our concept grew and after a few weeks, we had something that used the supersaw as a springboard into a whole new whirlpool of sound, using an unorthodox synthesis core into a pair of out of focus delays.

We hope you enjoy using this synthesizer as much as we did making it.

Much love and appreciation,

Ess & Felisha

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Supersaw

Detune



32.0 %

Detune Mix



0.00 %

Brightness



100 %

Sub Osc

Sub Mix



0.00 %

Oct



0

Fine



0.0

Width



100 %

Amp Env

Attack



0.00

Hold



0.00

Release



32.00

Voice ▼

Pitch



0

Slide



0.00 %

Volume



75.0 %

Bright



0.0

Sequence

Pitch

C3



C ▼

● 00:00:00.000

⬆️ ⬇️ ⬇️ LFO

er

Len: 8



⌘ 120

First Transpose

Div: 0

0

Second Transpose

Div: 0

0

Trig

Reset: 16



Velocity

Div: 0

127

Chromatic ▼

Delay A

Delay B

125ms ▼

250ms ▼

Tone Fbk

Tone Fbk



0.0 0.0

0.0 0.0

Blur

Blur



0.00 %

0.00 %

Volume

Volume



0.00 %

0.00 %

Send



0.0



→ Bright Depth: 0.00 % Speed: 5.00 🔒 🎵 ⇌



Superberry



A delicious synthesizer for
macOS & Max for Live featuring:

- 1 × Super sharp Supersaw Oscillator*
- 1 × Stackable Sub Oscillator*
- 1 × Ordinary AHR Envelope*
- 2 × Diffusing Bokeh Delay*
- 1 × Poly/Asymmetric Roulette Sequencer*
- 1 × Flexible LFO Modulator*

The Supersaw

This oscillator is a cluster of seven voices that can be spread apart in pitch, creating a buzzy and animated sound simulating a chorus.

Detune controls the amount of pitch spread of the cluster oscillators. At 0% there is no detuning, and at 80% it is maximum supersaw. At 100% it shifts the oscillators into octaves.

Detune Mix controls the balance between the output of a single oscillator and the rest of the cluster.

Brightness controls the amount of harmonics in the Supersaw. At 0% the oscillators take the shape of a simple sine wave, and at 100% it turns it to a supersharp saw wave.

The *Link* button next to it lets Brightness affect the harmonics of the sub osc as well.

Supersaw

Detune



32.0 %

Detune Mix



0.00 %

Brightness



100 %

The Sub Oscillator

This oscillator follows the Supersaw, and can be transposed in octaves above or below it, useful for adding some sparkle or low end.

Sub Mix controls the balance between the Supersaw and the Sub Oscillator.

Sub Oct sets the octave of the Sub Oscillator relative to the Supersaw.

The Buttons select between a pulse wave (top) and a triangle (bottom) for the Sub Osc.

Width sets the narrowness of the pulse wave, or the amount of wavfolding of the triangle wave.

Sub Osc

Sub Mix



0.00 %

Sub Oct



0

Width



100 %

The Amp Envelope

This AHD envelope controls the dynamics of the synthesizer voice, attenuating the volume over time.

Attack sets the duration of the initial stage of the envelope, which fades in the sound. At 0 the envelope will be very clicky, and a small fade in around 0.5 is recommended for softer onsets if desired.

Hold sets the duration of how long the envelope will hold the maximum volume after the Attack stage, until entering the Release.

Release sets the duration of the fade out of the envelope and is the last stage. At 0 the sound will cut immediately when Hold is done, and a value above 0 is recommended to avoid clicking.

Bright sets the amount of which the envelope affects Brightness.

Amp Env

Attack



0.00

Hold



0.00

Release



32.00



Voice Control

These parameters control the entire synth voice, including both of the oscillators.

The triangle next to *Voice* opens a menu where you can set the number of voices that are at disposal.

Pitch sets the transposition of the received note into the synthesizer. This mainly affects the sequencer and follows any scale settings.

Slide controls the amount of portamento between received notes.

Volume controls the loudness of the synthesizer voice. Note that this does not affect the synthesizer volume into the delays.

Voice ▼

Pitch



0

Slide



0.00 %

Volume



75.0 %

The *Bokeh* Delay(s) - A

This effects pair creates a rhythmic echoing delay that can be diffused and filtered to turn into a reverb-like sound.

ms sets the delay time in milliseconds and can be set to a note value by opening the triangle menu.

Tone controls the tonal balance of the delay, negative values removes high frequencies and vice versa.

Fbk controls the feedback amount of the delay, high values will repeat the echoes longer.

Blur controls the amount of diffusion, making the repeats softer in sound. At higher values it starts to sound reverb-like.

Volume controls the loudness of the delay.

Delay A

125ms ▼

Tone Fbk
 
0.0 0.0

Blur



0.00 %

Volume



0.00 %

The *Bokeh* Delay(s) - B

Delay B differs from A in that it's in stereo and has a more dramatic Blur effect. It can also use Delay A as input for maximum ambience.

The controls of Delay B are the same as A with the exception of two extra features:

Send controls the amount of signal received from Delay A. The Volume of Delay A does not affect the Send level.

The Buttons control whether the delay is in ping-pong (top) or centric mode (bottom). Ping-pong will distribute the repeats in the left/right stereo channels while centric keeps it in the middle, useful for reverb-like sounds.

Delay B

250ms ▼

Tone Fbk
 
0.0 0.0

Blur

Send

0.0
→


0.00 %
Volume

0.00 %

The LFO

The Low Frequency Oscillator is a modulation source that can be routed to some synth parameters and animate the sound.

To change the LFO *destination*, click on the Arrow icon (1) then click on any of the knobs with a Dot (2) next to it to select it. The LFO will then display the new destination (3)

Depth sets the modulation amount.

Speed sets the modulation frequency. If the LFO is synced to the BPM or Note, divisions of 5 are used as the base multiple.

Fade adds a fade (-/+) envelope that is triggered by the sequencer.

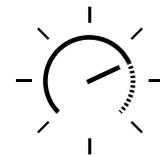
The Pad Lock toggles BPM-sync

The Musical Note toggles pitch tracking

The Arrows toggle between free running and synced to trigger - meaning it will reset the phase of the LFO on every note trig.



2. • Volume



3. LFO → Vol

Depth: 0.00 %

Speed: 5.00

Fade: 0.00%



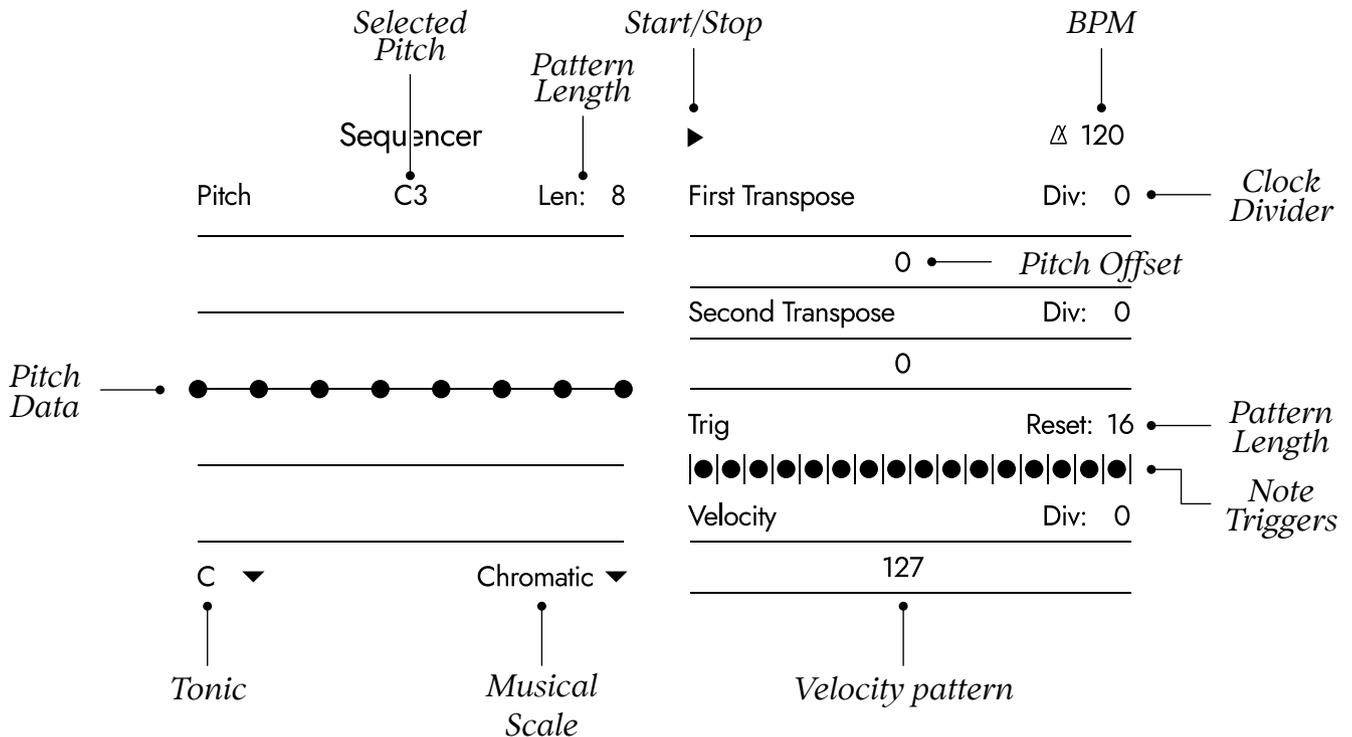
Here's a trick!

If you use the LFO with pitch tracking enabled and assign it to *Pitch* it will modulate the phase of the oscillators, making the Superberry a 2-OP FM synth*

*The Superberry is already an FM synth

The *Roulette* Sequencer

The sequencer sends note and rhythm data to the synth engine for generating melodies. It is entirely polymetric and asymmetric.



Pitch, Transposition & Trig

The sequencer starts with 'Pitch' for its base note. It then goes through two transposition stages and is finally sent as a note by Trig.

Pitch is a list of pitches that can have a length of up to 16 values set by *Len*. In the *Pitch* section, you can also set a *Tonic* and a *Scale* which will quantize all notes as desired.

Transpose is a list of intervals in semitones that affects the incoming notes in succession. The intervals are changed by typing into the *Transpose* text fields. For example; "0 5 7" is a pattern length of 3 wherein 0 will have no effect, 5 is a perfect fourth and 7 is a perfect fifth. *Each number needs a space in between.* *Div* divides the incoming clock and will repeat each number according to the division.

Trigs sends out the current pitch, a result of $Pitch + 1st\ Transp + 2nd\ Transp$. Reset determines the length of the Trig pattern.

The *Velocity* lane can be used like transpose to introduce different velocities for the trigs.

The screenshot shows a sequencer interface with several lanes. The top lane is labeled 'Pitch' and contains 'C3' and 'Len: 8'. Below it is a lane with a horizontal line and eight black dots. The next lane has a dropdown menu set to 'C' and a 'Chromatic' dropdown. Below that are two 'Transpose' lanes, each with a text field containing '0' and a 'Div: 0' label. The 'Trig' lane has a 'Reset: 16' label and a row of 16 vertical bars. The 'Velocity' lane has a 'Div: 0' label and a text field containing '127'.

Polymeters & Asymmetry

As mentioned previously, the sequencer is always polymetric and also asymmetric. This means that the pitch information is detached from the trig events. This means you can create complex sequences that evolve over time depending on the numerical relationships of the different sequence lengths and how they create a continually rotating pattern. You could see it as an algorithmic arpeggiator, and can take a while to fully grasp. *We highly recommend setting a Scale.*

Monometric

The sequences have the same length

$$\begin{array}{ccc}
 \text{Len: } 3 & \text{Transpose} & \text{Div: } 0 \\
 \hline
 \begin{array}{c} \bullet \\ \bullet \\ \bullet \end{array} & \rightarrow & \begin{array}{c} 0-7-7 \\ \hline \end{array} \\
 \hline
 \boxed{\rightarrow G2 \ C3 \ F3 \leftarrow} & & \boxed{\rightarrow G2 \ C3 \ F3 \leftarrow} \\
 (-5 \ 0 \ +5) & & + \\
 & & \boxed{\rightarrow +0 \ -7 \ +7 \leftarrow} \\
 = & & \\
 & & G2 \ F2 \ C4
 \end{array}$$

Polymetric

The sequences have different lengths

$$\begin{array}{ccc}
 \text{Len: } 3 & \text{Transpose} & \text{Div: } 0 \\
 \hline
 \begin{array}{c} \bullet \\ \bullet \\ \bullet \end{array} & \rightarrow & \begin{array}{c} 0-7 \\ \hline \end{array} \\
 \hline
 \boxed{\rightarrow G2 \ C3 \ F3 \leftarrow} & & \boxed{\rightarrow G2 \ C3 \ F3 \leftarrow} \\
 (-5 \ 0 \ +5) & & + \\
 & & \boxed{\rightarrow +0 \ -7 \leftarrow} \\
 = & & \\
 & & \left(\begin{array}{c} G2 \ C3 \ F3 \uparrow G2 \ C3 \ F3 \uparrow \\ +0 \ -7 \uparrow +0 \ -7 \uparrow +0 \ -7 \uparrow \end{array} \right) \\
 = & & \\
 & & G2 \ F2 \ F3 \ C2 \ C3 \ A\#2 \dots
 \end{array}$$

Don't worry!

Set the Scale to something nice like 'Phrygian' and type in some random numbers. You don't need to know how this works, really.

Settings

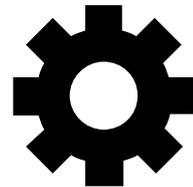
The standalone version of the Superberry has a settings page where you can select your sound output and MIDI input, etc.

The *Settings* menu is opened by clicking on the *cog-wheel* icon.

In this menu you can configure your audio interface, sample rate and change the performance of the audio engine. A samplerate of at least 48kHz is recommended, and vector sizes as low as possible without causing clicks. If you're hearing irregularities or clicking in the audio, try higher vector sizes.

You can also choose the MIDI Input device for note input, you can set this to play the Superberry with a MIDI keyboard.

In the *Synth Settings* you can enable *Oscillator Drift*, which will introduce some random detuning to the synth voices, this is useful for making it sound more organic.



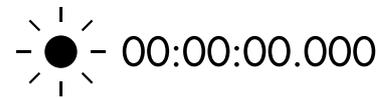
Recording

The standalone version of the Superberry can record directly to a file on your computer.

To record the output of the Superberry app, press the round Record button, it will then start blinking while indicating the elapsed time of the recording.

To stop the recording, simply click Record again. Record will stop blinking and a file will appear on your desktop labeled with the ISO 8601 date and time.

The output format is AIFF in 32-bit Stereo. The samplerate is the same as in the output settings.



Rec-20.09.04-
20h05m00s-Stereo.aif

Themes

The standalone version of the Superberry can use different themes and colors that can be custom or selected from a few presets.

To change the colors of Superberry, click on the *brush* icon to open the Paint menu.

Here you can set the color of each interface element in *HSL* values. *HSL* stands for *Hue*, *Saturation* & *Lightness*.

Hue sets the color tint, think of it like scrolling through a rainbow.

Saturation sets the color intensity, a value of 0 will make the color grayscale.

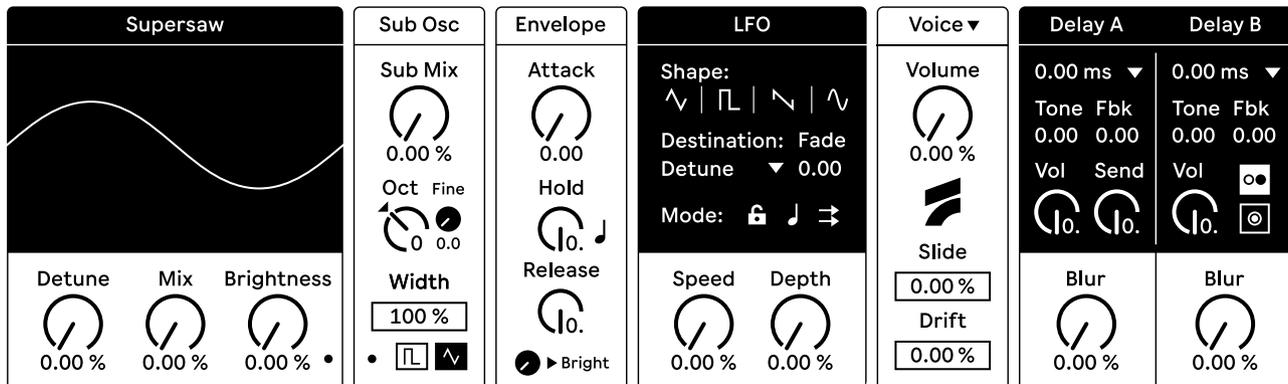
Lightness sets the shade of the color, a value of 0 will be black.

You can also select from a list of predefined themes which include both light and dark themes.



Max for Live

The Max for Live version of Superberry has the exact same controls and engine, but with the sequencer as a separate module.



The Max for Live device requires *Ableton Live Suite 10.1* or above.

Concept by *Ess Mattisson & Felisha Ledesma*
Design & development by *Ess Mattisson*

Questions? Contact us at *hi@fors.fm*

Manual typeset in *Blaze Type Inferi* & Colophon Relative

Max 8, Max for Live by *Cycling74 & Ableton*

*Jost** typeface by *Indestructible Type**



