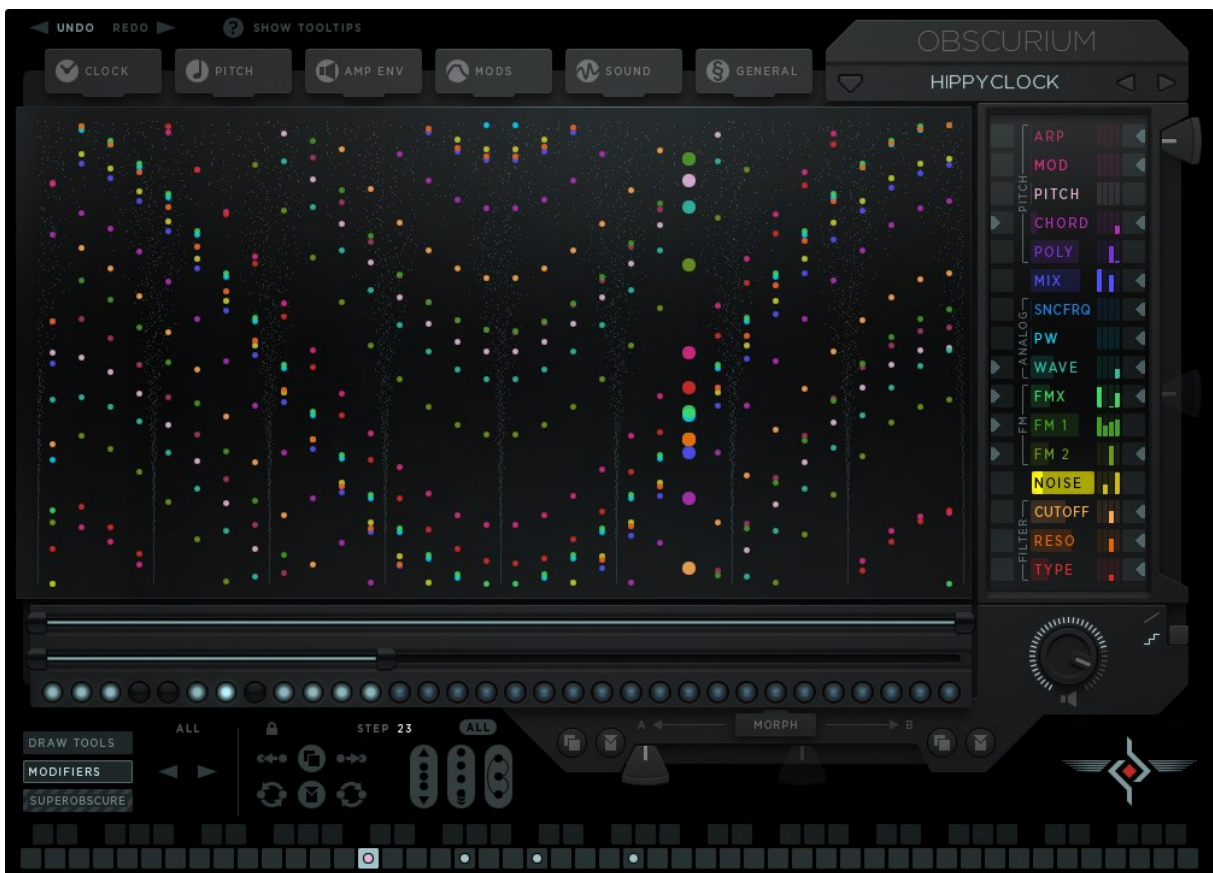




# Obscurium



# User Manual

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# About

Obscurium is a timbral organism, a generative synthesizer feeding on scales, chords and classic synthesis producing vivid harmonics paired with an elaborate aesthetic. It is the source of a dazzling array of organic and lively sounds, delivering spherical pads, bubbly arpeggios and deadly percussion attacks.

Obscurium offers detailed control over the musical grammar of its generative engines: its results are far from arbitrary. Get the sequencer going and define polyphony, chords and arpeggiator for each of the 32 steps. Detailed sound controls allow for a free mix between the FM analogue oscillators and ongoing modulation of three variables for each of the generators.

The playful user interface streamlines the complexity of the inner workings: You can freely change and swap all parameters and motion lanes leading to hundreds of new sounds from the init preset, so you can realize unique and surprising sequences in a matter of a few clicks. Thanks to its VST interface, you can host any of your sound generator plugins in Obscurium for fresh sounds.

We hope you will enjoy exploring the depths of Obscurium. In a best-case scenario, our latest instrument communicates our love for detail, humor and passion for what we are doing.

Our intention was to make the instrument immediate and intuitive. Your ear is probably the most important organ here and we believe Obscurium holds a vast potential for the experienced electronic musician.

# Getting Started

Hopefully this section saves you some time. We tried to explain as briefly as possible the most important aspects of the instrument.

[1\) CLEANING UP THE TABLE](#)

[2\) OSCILLATORS](#)

[3\) PITCH](#)

[4\) MODULATORS](#)

[5\) OUTPUT](#)

[6\) LOOP BARS AND THE TRIGGER SEQUENCER](#)

## 1) Cleaning up the table

Obscurium's settings, flexible parameters and moving modulators – many of these interdependent - can be overwhelming at first sight, so starting with a clean slate is probably the best approach:

**INIT preset:** Click the vertical triangle in the preset area & go to the USER folder.

If you want an even more reduced approach to Obscurium, you can switch off all its engines & effects like this:

*a) Activate „MIDI only“ in the Pitch Tab to switch off all generative engines.*

*b) Switch off all flexible parameters by deactivating the triangular indicator left to their slots in the flexible parameter column.*

*c) Leave the filter on (CUTOFF)! Switching it off would mute the output.*



*Flexible Parameter Column, switch on/off on the left*

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## 2) Oscillators

The oscillators produce the original sound, which is then fed through the filters and effects.

Obscurium has two oscillators: **Analogue & FM**. Find their main controls in the **Sound Tab**.

**Analogue.** The main control is the SPREAD dial. When set at zero, this gives you classic, synced oscillation in form of a saw- or pulse wave. Cranking up SPREAD will produce super-saw waves, resulting in broad pads.

**FM.** Obscurium's FM generator uses three FM modes. These can be routed in three different ways and harmonized with the **harmonic button** (this button also works as an indicator). You can also regulate the **RATIO** between the carrier frequencies and the modulating frequencies.



Have a look at the flexible parameters: Activate the **MIX parameter**:

- 1) Switch on its **left indicator** and
- 2) **Activate** its slot by clicking on its name.

You can now draw the MIX parameter's motion lane in the sequencer. If you want a clean analogue signal, draw at the low end of the grid, top for FM.

Start playing with the oscillator's features in the Sound Tab and the flexible parameters:

### Analogue

Check out the Analogue section of the flexible parameters:

|        |  |
|--------|--|
| SNCFRQ | Sets the sync frequency of the analogue oscillators.   |
| PW     | Pulse Width of the analogue pulse wave.  |
| WAVE   | Min=SAW, Max=PULSE -> relates only to the lower half of the SPREAD dial when the analogue oscillator is on synced oscillation. |

### FM

We included three operators to spice things up.

These three operators can be routed in three different ways (serial, parallel & always harmonic).

The interaction between modulating frequencies and carrier waves can produce unique and live-like sounds unachievable with other types of sound synthesis.

Flexible Parameters:

- FMX            This parameter **controls the carrier frequencies** of the three FM operators. It covers a massive spectral playground and should be used carefully. It works similar to the „Ratio“ control in the Sound Tab, but if the Ratio is harmonic, the carrier frequencies will also be harmonic. In Routing Mode 3 (Sound Tab) it controls formant-shifting.
  
- FM1            This parameter controls the amount of frequency modulation of the three operators. If this parameter is raised, the timbre will become brighter.
  
- FM2            This parameter controls a feedback circuit within the FM algorithm, adding complexity to the spectrum.

### 3) Pitch

Here's where the magic starts: Obscurium generates notes, sound, pitch along with the notes you are playing on your keyboard.

Switch off the MIDI only option in the pitch tab to activate Obscurium's pitch features.

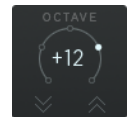
Pitch can be controlled via the **Pitch Tab** (fixed settings) or the top-five (flexible) parameters. Both controls have maximum impact on Obscurium's output.

#### Pitch Tab (fixed settings)

The **Pitch Tab** holds the general fixed settings for Obscurium's generated voices (up to seven):

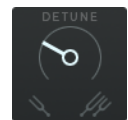
##### OCTAVE

Octave sets the root note's position of Obscurium's generated voices by +/- 2 octaves.



##### DETUNE

Detune Obscurium's voices from each other to achieve more organic results.



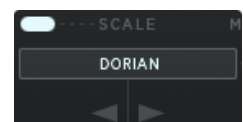
##### GLIDE

Glide will create smoother transitions between the individual pitch voices over time. It works as a classical portamento control and causes the pitch to glide from one note to another.



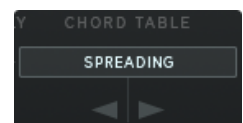
##### SCALE

Choose from 34 different scales to define the harmonic structure of the generated voices. A detailed overview of the different scales can be found in the [APPENDIX](#).



##### CHORD TABLES

The chord table picks notes from the scale selected and stacks them to a chord. One chord table consists of 24 chords.



##### MIDI ONLY

This will switch off Obscurium's voice generator.



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## PITCH: Flexible Parameters

|       |  |
|-------|--|
| ARP   | <p>The Arpeggiator automatically steps through a generated sequence of notes based on the input chord and the scale selected, thus creating an arpeggio. Define the <b>arpeggiator's offset</b> in the central grid (max. + 3 octaves) and/or with the pitch parameter.</p> <p>The Arp uses the current 8-voice pitch and has its own polyphony. Just open the <b>AMP ENV</b> Tab and use the ARP control to define the polyphony of the arpeggio.</p> |
| MOD   | <p>This is a plain <b>manual modulator</b>. Define its amount in the central grid. Choose from these targets:</p> <ul style="list-style-type: none"><li>• the Arp Envelope's Attack/Sustain/Release (see tab AMP ENV)</li><li>• The main modulators themselves (envelope's ASR and the LFO rate (see tab MODS)).</li></ul>   |
| PITCH | <p><b>Fine tunes the root note</b> of the generated voices/chords (max +24).</p>   |
| CHORD | <p>Depending on your chosen SCALE and CHORD TABLE in the pitch tab, you can <b>trigger any of up to 24 chords</b> in the central sequencer.</p> <p>Usually 24 chords are available (unless you chose the 54 chords table). In the PITCH Tab, you can select chord tables and scales.</p>   |
| POLY  | <p>Check the y-axis in the sequencer – it shows the total <b>number of voices</b> played by Obscurium (one up to eight).</p> <p>Here, the maximum polyphony is defined. For each step in the motion screen, you can define an individual value. This also affects the arpeggiator polyphony in the AMP ENV tab.</p>  |

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## 4) Modulators

Obscurium offers six modulators:

An **envelope follower**, tracking the amplitude of the output (MODS tab)  
Targets: all flexible parameters

A **Low-frequency oscillator** (MODS tab)  
Targets: all flexible parameters

The **MOD parameter** as part of the Motion Sequencer (flexible parameters)  
Targets: AHR envelopes, LFO rate (AMP ENV & MODS tab)

**LFO, envelope & Step Sequencer** (MORPH pop-up)  
Target: Morph- and Shift Fader

For the sake of clarity, we will focus on the envelope follower and the LFO here:

The **MODS tab** holds settings for envelope's AHR, the frequency of the LFO and the modulators' principal amount controls.

Each flexible parameter can be made a target for these two modulators.

The tiny column chart next to the parameter's name holds a pop-up to



- 1) Define the final **min/max values** – „final“ meaning after the y-axis setting in the sequencer and after modulation impact.
- 2) Parameter's **individual amounts** of the incoming modulator signal (ENV & LFO)

## 5) Output

### Filter

Obscurium's Filter can be controlled via the flexible parameters in the central grid.

|           |  |
|-----------|--|
| CUTOFF    | Define cutoff frequency between 35Hz and 16 kHz – switching this parameter off will mute Obscurium's output! |
| RESONANCE | Set the filter's resonance.  |
| TYPE      | Use the grid to switch between <b>Low-, Band- &amp; High Pass.</b>   |

### Tab „AMP ENV“

#### ARP Envelope

The ARP ENVELOPE is triggered on a step by step basis through the white-globe sequencer at the bottom. It is the gateway to Obscurium's arpeggiator opening up the dynamics of Obscurium's generated pitch.

#### MIDI Envelope

Use the MIDI envelope to manipulate the amplitude of the incoming signals.

## 6) Loop Bars and the Trigger Sequencer

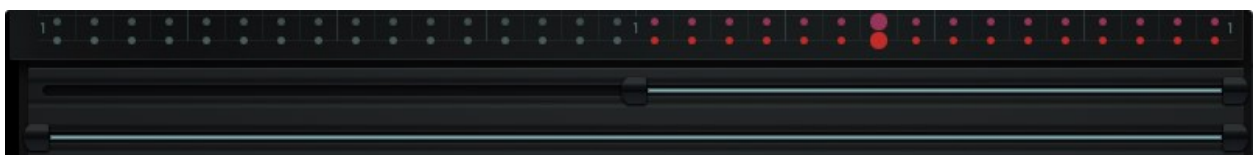
### The Trigger Sequencer



This sequencer triggers the **Arp Envelope** (to be found on the [AMP ENV](#) tab) and the **Mod Envelope** (to be found on the [MODS](#) tab).

Also, each trigger will select voices from the current scale for the arpeggiator.

### The Loop Bars



The Loop bars determine which part of the sequence is being played.

The upper Loop bar sets the part played by the [THE MOTION SEQUENCER](#).

The Loop bar below defines the part of the sequence which is played by the Trigger Sequencer.

Drag the start- and endpoints to resize the loop bars. Drag the centre to move the loop bars.

The loop bars also determine which part of the sequence is used for copy and paste.

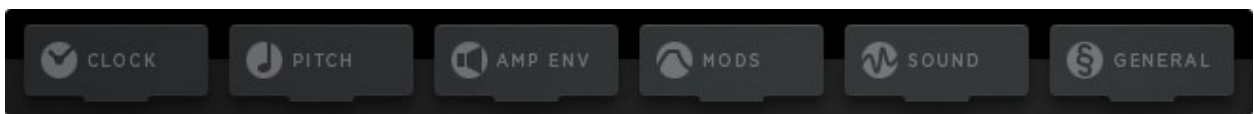
#### Goodies

1. Obscurium's [PLUGIN HOSTING](#)
2. Tune in to the universe: changing Obscurium's [MASTER TUNE](#).
3. [SHIFT FADER](#).
4. [MORPH](#) between two sequencer states.
5. Work with the [MODIFIERS](#).
6. [SUPER OBSCURE MODE](#).
7. [STEP KEYS](#)/[STEP PLAY](#) Feature.

# Reference Guide

[MAIN TABS](#)  
[PLUGIN HOSTING](#)  
[THE SEQUENCERS & LOOP Bars](#)  
[FLEXIBLE PARAMETERS](#)  
[TOOLS](#)  
[PRESET BROWSER](#)  
[ABOUT SCREEN](#)

## Main Tabs



Obscurium's tabs hold a variety of settings throughout the signal path:

[CLOCK](#): all you need to read the sequencer.

[PITCH](#): all about Obscurium's harmony.

[AMP ENV](#) controls the duration and the amplitude shaping.

[MODS](#) controls the properties of the two modulators.

[SOUND](#) controls the sound generating engines / Plugin Hosting

[GENERAL](#) Other Settings.

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## CLOCK

The **Clock Tab** offers general settings for the speed and style of reading through the sequencer.

The mini sequencers for clock and direction need to be activated via the on/off switches on the right.

### CLOCK



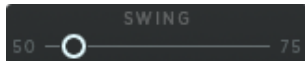
Here you set the note length of one step. Usually you would work with 16<sup>th</sup> or 8<sup>th</sup> notes, but here, also tripled divisions are available.

### DIR



The running direction of the sequencer. We implemented the usual options like forward, backwards, ping pong and random. Try 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> to play every second, third or fourth step in the sequencer.

### SWING



This will add a triolic feel to your groove, adding a delay to every second step.



### LEGATO

Activating Legato will result in an uninterrupted sequencer movement once an additional note is pressed.

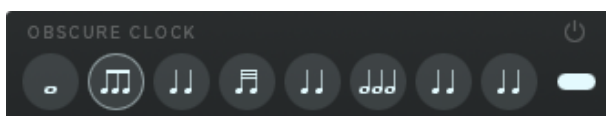
### STEP KEYS

Since we have 32 steps, we can put the information of the steps to 32 keys! With this button activated, the clock will run no longer and each key on the keyboard (from C1 to G3) now relates to a single step in the sequencer.

### STEP PLAY

If this button is on, the sequencer will move one step ahead when you hit a key. Hit two keys at once to reset to the first step.

### OBSCURE CLOCK



This sequencer lets you change the tempo divider in **1/4 note steps**.

So you can change tempo on the fly. That will make some great stumbling

grooves: put in some triplets and rolls...

## OBSCURE DIRECTION



This one also runs at quarter note speed. The upper field determines the playback direction. The direction contains funny settings like playing each 3<sup>rd</sup> or 4<sup>th</sup> step, or staying on a step for a number of counts.

The circled numbers set the number of repeats for each step. If the master clock is set to 1/16 notes, give it a 4 to make the step last for one bar. 8 would be two bars then.

## PITCH

The **Pitch Tab** offers vital controls for the generative engine.

As a pitch generator, Obscurium will take what you play on the keyboard and add melody and rhythm to it. When you play one note, Obscurium can add up to 7 more. When you play more notes, Obscurium will prefer the MIDI notes over the generated notes, but still the MIDI notes will be matched to the scale selected.



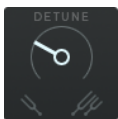
The lowest note played on the keyboard is the root note for generated scales and chords. The Pitch sequencer lane can change the root note by +/- 2 octaves.

### OCTAVE



The overall octave has a huge impact on sound. Try the setting that fits best: deep and sinister or shimmering and glimmering. The octave setting is also displayed by the keyboard, where the circle-icons show the final pitch.

### DETUNE



Detune the synthesizer-voices with each other. This results in a subtle and more organic pitch.

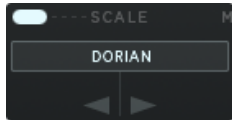
### GLIDE



The pitch will slide from one voice to another with increasing glide time, as you crank up the knob: a classical portamento control.

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## SCALE



Choose from lots of scales to define which notes will be played. Different scales will change the harmonic structure of your sound. Click [here](#) for a detailed explanation of the scales concept.

## CHORD TABLES

The chord table picks notes from the selected scale and stacks them to a chord. One chord table consists of 24 chords.



A chord table contains 24 variations. The CHORD motion lane will select any one of the 24 chords available.

The 54 chords table is taken from our MIDI Sequencer Thesis and contains, yep, 54 chords.

The chord is based on the root note. The root note is the lowest note on the keyboard, plus the Pitch sequencer value.

## MIDI ONLY



This will bypass all pitch generation and Obscurium will strictly use the pitch played on the keyboard. The number of MIDI voices might still be altered by the POLY parameter.

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## AMP ENV

Two Attack/Hold/Release (AHR) envelope generators work together to shape the final, polyphonic amplitude of Obscurium's output.

The Arp envelope can be modulated via the [MOD](#) parameter.



### Arp Envelope

The ARP ENVELOPE is triggered on a step by step basis through the white-globe sequencer at the bottom. It is the gateway to Obscurium's arpeggiator opening up the dynamics of Obscurium's generated pitch.



### MIDI Envelope



Use the MIDI envelope to manipulate the amplitude of the incoming signals. This one works together with your finger on the keyboard.

### MIX

Crossfades between ARP envelope (top) and MIDI envelope (bottom).



### MOD

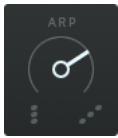


The MOD motion lane comes into play here.

Activate the MOD buttons to modulate envelope times via the MOD parameter.

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## ARP



The Trigger Sequencer starts a voice for the arpeggiator and this knob sets the number of voices played simultaneously by the Arp – it defines the Arp’s polyphony.

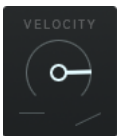
Obscurium generates up to eight voices of pitch, so up to eight voices can be triggered here. Note, that the **POLY motion lane can still limit the polyphony**.

0: full eight-voice polyphony (including your input). Here, the Arp would be hardly audible as it always plays all voices.

50: The Arp will cycle through the available voices playing a stack of four voices.

100: One voice monophonic. Here the Arp will cycle through the available voices, only playing one note at a time.

## Velocity



MIDI Envelope Velocity. Here you can determine how much MIDI velocity will be affecting the MIDI envelope output level.

Bottom: no velocity, Top: full velocity.

## MODS

The **Mods Tab** offers access to Obscurium's main modulators: **Envelope** and **LFO**. These can be assigned to modulate any of the 16 flexible parameters.

In the MODS tab, you can affect the principal **Amount** for both these modulators. Both of the amount controls here are powerful weapons that control the overall sound of Obscurium in an uncanny way. Tip: MIDI-Learn them for massive sound changes at your fingertips.



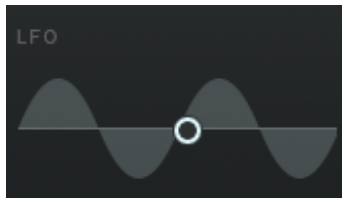
Besides the general amount setting here, you can also define the modulators' impact on the flexible parameters in their individual settings.

### Envelope



The envelope controls focus on Attack/Hold/Release (AHR) and is triggered by MIDI notes and the trigger sequencer (below the motion lanes).

### LFO



The LFO generates a sine wave, and the rate can be set in 1/16<sup>th</sup> notes.

### MOD



The envelope controls and LFO rate can be modulated by the MOD motion lane.

That makes it possible to vary your sequences with flexible AHR times and varying LFO rates. The LFO rate goes from 0Hz to 100Hz and is retriggered with MIDI notes.

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## SOUND

This tab holds the controls for Obscurium's **sound generators, three classic effects** and access to the **host functionality**.

Use the **pan control** to generate random stereo effects.

### SPREAD

The **Analog Oscillator's** main control is **Spread**. This control crossfades between the sync oscillator with a saw or pulse wave (min/max of the "WAVE" parameter) and a super-saw for broad pads and strings.

### ROUTING

The **FM Oscillator** features **three routing modes** (serial, parallel & always harmonic), a **ratio control** and an **"Always Harmonic" button** which will allow harmonic ratio settings only. The third routing mode is always harmonic whatever your ratio setting.

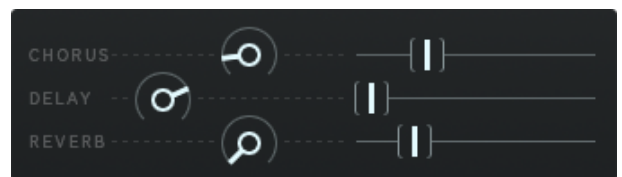


## EFFECTS

The **effect controls** are split, there's a knob and a fader. The knob controls the amount, the fader the dry/wet mix of the respective effects.

The **delay** uses 16th notes as a resolution:

- 0: One 16th note delay
- 50: One bar (16 16th notes)
- 100: two bars (32 16th notes)




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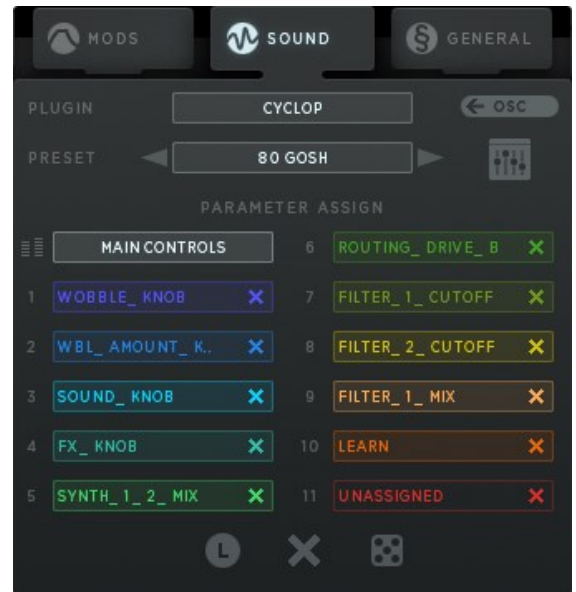
## Plugin Hosting

Obscurium offers plugin hosting as an **experimental sound-design feature**. We put in a lot of effort into this based on our expertise we gathered when developing Trans VST. However, we also faced some instability with outdated plugins. The older software just can't cope with the data being sent by Obscurium. We recommend saving your preset before going into hosting.

Obscurium will only be able to host 64bit.

 If Plugin Mode is activated, the internal sound engine will be bypassed and a plugin can be used instead.

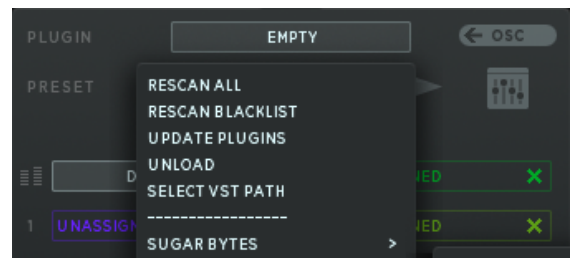
The lower 11 flexible parameters can be sent to the plugin as automation data. The top five remain in Obscurium



## Plugin Menu

### Rescan All

This should be your first step when you plan to integrate your existing plugins into Obscurium. Obscurium's scanner will focus on the **installation VST path**, unless you *Select VST Path*.



### Rescan Blacklist

Will rescan previously excluded/crashed/unloadable plugins.

### Update Plugins

Initiates a new scan, ignoring the plugins already registered with Obscurium – this option will save you time, when you want to include a recently installed plugin.

### Unload

This button will remove the currently loaded plugin from Obscurium.

### Select VST Path

Here, you can select a path for Obscurium's VST scanner manually.

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### Preset

If available, plugin presets will be shown here.

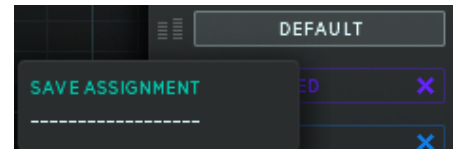
### GUI Button



Open the plugin's graphical user interface.

### Assignment Presets

Save and Load plugin-specific automation assignments.



### Parameter Displays (1-11)

Click to learn or unlearn an automation parameter.

Click for learn mode, then open plugin interface and move the control you want to learn. The display will then show the name of the assigned parameter.

### Learn All Button



This will activate the sequential learn mode and makes it possible to learn all 11 parameters one after another:

Click to activate learn mode.

Open plugin interface and move 11 controls, one after another.

You can now see that all 11 automation parameters are assigned to their respective plugin controls.

### Unassign All Button



Click this button to unassign all automation connections.

### Random Assign Button



Click this button to assign all automation lanes at once, randomly.

## GENERAL

### Ignore Program change

Only presets from the folder “MIDI Programs” will be used for program changes. Incoming program-change messages will be ignored.

### CC Map

Load or save your current MIDI CC assignment.

### Isolate CC Map from Preset Change

MIDI-CC assignments (MIDI Learn) will still be saved or changed along with the presets.

### Master Tune

Tune the whole instrument. Have a look for more details: [THE GOD NOTE](#)

### Lag

This lag processor will interpolate all data changes over a certain amount of time.

### Latch by the trigger sequencer

All data will be triggered by the Trigger Sequencer. That means no parameters will change when no trigger is played. When your sequence includes un-rhythmical sound changes, you should activate this control.

### Isolate Plugin from Preset Change

You can unchain the plugin from being recalled. This makes it possible to change Obscurium presets without losing the plugin and its related settings.

## MIDI OUT

The same MIDI that is sent to the plugin hosting interface is also sent to the MIDI-out port.

Additionally, the same 11 Motion Lanes that are used for plugin automation can be assigned to MIDI CCs.

Enter the MIDI CC page in the General Tab.



Use the CC number as a knob to dial in the desired CC number. The display to the right will show the General MIDI (GM) standard target.

Use the **preset menu** to save your CC assignments. Assignments are being saved and recalled with the host's song file.

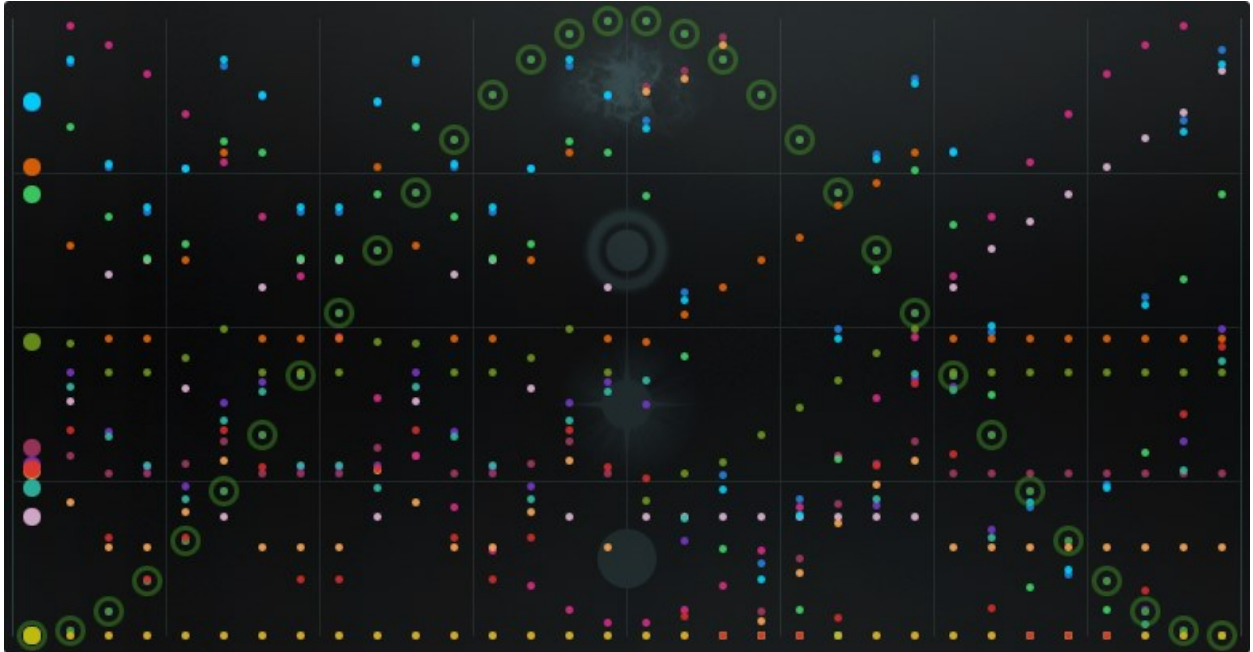
Activate the **Isolate** feature to prevent your assignments from being changed by Obscurium's global presets.



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# The Sequencers & Loop Bars

## The Motion Sequencer



The Motion Sequencer basically is a step sequencer and contains **16 motion lanes**, one for each flexible parameter.

Each lane has a certain colour and represents one of 16 flexible parameters on the right-hand side of the instrument: click the name of any parameter to activate its motion lane.

The Motion Sequencer has 2 states. You can morph between these, using the [MORPH FADER](#).

Motion lane assignments can be shifted around, using the [SHIFT FADER](#). If *Shift* is at work, Motion Lanes will switch places with each other.

The Draw Tools offer different ways to draw modify or just randomize sequences easily.

## The Trigger Sequencer



This sequencer triggers the **Arp Envelope** on the [AMP ENV](#) Tab and the **Mod Envelope** on the [MODS](#) Tab. You can also Latch by the trigger sequencer in the GENERAL Tab.

Also, each trigger will select voices from the current scale for the arpeggiator.

## The Loop Bars



The loop bars determine which part of the sequence is being played.

The upper loop bar sets the part played by [THE MOTION SEQUENCER](#).

The Loop bar below defines the playground of [THE TRIGGER SEQUENCER](#).

Drag the start and endpoints to resize the loop bars. Drag the centre to move the loop bars.

The loop bars also determine which part of the sequence is used for [COPY/PASTE](#).


## Flexible Parameters



The flexible parameter section contains 16 slots to manipulate Obscurium's manifold levers. Each of the 16 parameters is represented by a motion lane in Obscurium's sequencer.

To manipulate a single parameter in the motion lane sequencer, **click and highlight its name** - the 32 positions of this parameter in the sequencer will **then be circled** and you can vertically adjust them for each step.

 Deactivate individual motion lanes via the indicator buttons on the left.

 The Button to the right **unchains the parameter from the SHIFT FADER**. For example: If you like your Pitch and Chord, unchain these parameters from Shift, so they will not change when you move the Shift Fader.



Each parameter slot contains a little horizontal meter displaying the final value, being the sum of motion lane value, envelope and LFO, within the Min/Max range chosen.



The vertical meters offer a quick look at the parameters' settings. The four vertical columns show (from left to right):

- Envelope amount,
- LFO amount,
- Min value and
- Max value

Click the display to open the **Parameter window**.

The Min/Max controls determine the range for the **final parameter value**.

If you shift the parameters around using the Shift fader, the Min/Max range is a handy tool to keep your overall sound within a range.



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Here are all 16 flexible parameters explained in detail:

## ARP

The ARPEGGIATOR is the first of the PITCH parameters. These cover the generative engine of Obscurium.

ARP offers detailed control over the positioning of the generated notes. The y-axis of the motion-lane sequencer is divided into three octaves. These three octaves cover eight notes each.



## MOD

This is a plain **manual modulator**. Define its modulation in the motion-lane sequencer. Choose from these targets:

- the Arp Envelope's Attack/Sustain/Release (see tab AMP ENV)
- The main modulators themselves (envelope's ASR and the LFO rate (see tab MODS)).

Use Envelope and LFO in the MODS Tab to modulate MOD.



## PITCH

This parameter adds up to 24 notes to the root pitch note coming from MIDI and so it will shift scale tunings and chords.



## CHORD

CHORD selects one of 24 available chords.

Different chord tables can be selected in the edit screen. Chords always have the basic pitch as root note. The basic pitch is the lowest note you pressed on the keyboard. The "54" chords table contains 54 chords.



## POLYPHONY

Here, the maximum polyphony is defined. This also affects the arpeggiator polyphony in the AMP ENV tab.

Defines Obscurium's polyphony from 1 to 8 voices.



## MIX

Crossfades between the Analog and FM Oscillator.



## WAVE

Crossfades between Saw and Pulse wave when the **SPREAD** setting turned to its lower end, producing classic, synced oscillation in form of a saw- or pulse wave (cranking up SPREAD will produce super-saw waves).



## SYNFRQ

Sync frequency of the analogue oscillator.



## PW

This parameter controls the pulse width of the Analog Synth's pulse wave. It also controls the super effect of the Super Saw oscillator.



## FMX

This parameter controls the carrier frequencies of the three FM operators. It covers a massive spectral playground and should be used carefully. It works similar to the „Ratio“ control in the Sound Tab, but if the Ratio is harmonic, the carrier frequencies will also be harmonic.

In FM Mode 3 it controls the formant-shift feature.



## FM1

This parameter controls the amount of frequency modulation of the three operators. If this parameter is raised, the timbre will become brighter.



## FM2

This parameter controls a feedback circuit within the FM algorithm, adding complexity to the spectrum.



## NOISE

Provides noise when air is needed for pads and atmospheres or noise cymbals for percussions.

This control defines the level & the filter frequency of the noise algorithm.



## CUTOFF

Filter Frequency.



## RESO

Filter Resonance.



## TYPE

Filter Type (LP, BP, HP).

Tip: Use the Low Pass for Kick drums, Hi-Pass for Hi-Hats.



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# Arpeggiator

Obscurium generates up to 7 voices of pitch, according to the settings on the [PITCH](#) tab.

The arpeggiator can trigger these voices in order to create melodies and rhythmic chords.



The [ARP ENVELOPE](#) triggers the arpeggiator (in concert with the Trigger Sequencer). Shape its amplitude via the AHR faders on the AMP ENV tab.

The ARP knob then determines how many voices the arpeggiator will play.

On the [AMP-ENV](#) tab, the arpeggiator is crossfaded with the [MIDI ENVELOPE](#), which is the fully polyphonic pitch stack. So if you don't hear the arpeggiator working, make sure the crossfade is on top position, and the Arp knob should be cranked up.

The flexible parameter [ARP](#) selects the basic voice for the arpeggiator. If you apply an LFO modulation to the parameter, you will hear how it changes voices quickly.

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# Tools

## Keyboard

The virtual keyboard shows the MIDI input and the notes generated by Obscurium's pitch engine, and can also be clicked with the mouse (Left click to trigger a key).



The vertical click position within a key determines the velocity.

Right click to lock a key, left click it to unlock it.

The MIDI input is displayed with rectangles.

The generated pitch is displayed with circles.

The red circle shows the root note. (The root note is the lowest MIDI-note, plus the value coming from the [PITCH](#) parameter).

Obscurium generates an 8-voice pitch representing a chord.

## Draw Tools

The Draw area delivers a lot of features to create and edit motion sequences. For manual drawing there are different tools available, you can edit the existing data or let the Super Obscure Mode write a whole new sequence.



The Draw Tools are for manual drawing of a motion lane or for all motion lanes at once.

Different shapes help you creating beautiful content: just click a draw tool to select the respective mode.

### Draw All



**Draw all** is to draw all motion lanes at once. You can use this feature to define an overall starting point for a new sequence.

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The “**Offset**” control defines the vertical offset for all parameters. Drawing all lines at once with different offsets here and there leads to magical results and is the hot tip for percussive sequences.

#### Free Draw



Click on the fountain-pen control to activate the free draw mode. You can now freely draw a motion lane; change the amount of horizontal data points.

#### Line Draw



Click the “Ruler” control to activate the line draw tool. Depending on the angle of the “ruler” control, you will now draw ascending / descending motion lanes.

#### Random Draw



Click the “Brush” control to activate the random draw mode. The Brush control determines the random intensity.

#### Sine Draw



Click one of the Sine controls to select the sine draw mode. Define frequency and amplitude (bipolar) with the two controls.

## Modifiers



In order to change the sound of a single sequencer step, but also to create a whole new sequence, the modifiers come in quite handy. Here you can edit all step data at once and transport that step data all along the sequencer.

### Lock Button

This button locks the play position. When you are editing a step with the modifiers, activate the Lock button to hear that step only.

Deactivate the Lock button to hear the whole sequence while still editing the selected step.

Keep in mind that the copy function will always copy the step which is currently playing. With the lock button disabled, there might be surprises when using the copy / paste function of the Modifiers section.

### ALL Button



This button (above the modifiers) will apply any modification to all parameters of the step selected. Deactivate to edit the selected parameter only.

### Copy & Paste



In the middle you have copy/paste buttons.

These copy the data of the selected step, in order to paste it on another step.

### Swap



Click these buttons to swap data with the step to the left/right. Use this control to push a certain sound to a certain position within the sequence.

### Step Edit

On the top you see the number of the currently selected step.

### Copy selected step



Click this button to copy the data of the step selected to the right/left. This will erase the data of the target step and replace it with the data of the source step. Use this control to spread a certain sound across a certain area within the sequence.

Furthermore, there are 3 controls to change the data of the selected step:

**Move Modifier:**



Click this control and drag the mouse up or down to move the step data vertically. On the upper and lower edges of the screen, the step data will be mirrored. That means, when step data rises across the upper frame border, it will then go down until it reaches the lower edge.



**Stretch/Shrink Modifier:**

Click this control and drag the mouse up to stretch the step data. Step data will be moving away from the mouse position.

Drag the mouse down to shrink the step data. All step data will be moving towards the mouse position.



**Rotate Modifier:**

Click this control and drag the mouse up or down to rotate the step data. This works exactly like the Shift Fader, but in a more destructive way.

Rotating the step data leads to massive sound changes, as the parameters and their related motion lanes are mixed up.

Use this to find different sounds for the step selected.

## Super Obscure Mode

The Super Obscure Mode selects individual draw tools for each of the 16 motion lanes and draws a whole new sequence. All draw-related settings are randomized within a certain range.



### Super Obscure Mode on/off



Switch on to generate new random/obscure patterns for each step and eventually complete sequences

### Loop Obscure Mode



When activated, the Super Obscure mode will remain active once you have completed a sequence or reached the end of the loop bar. Deactivate to auto-switch off Super Obscure at the end and continue playing the sequence generated before.

### Grid



Draw-settings will be randomised once the given number of steps has passed: 1 : will randomize on each step. 16: will randomize every 16th step.

### Multiply



Control the vertical spread of the randomized data here. If cranked up, data points will be mirrored at the top and at the bottom of the sequencer.

### Add



This knob controls the vertical center position of the randomized data points

### Random-Add



This one will randomize the vertical center position (Add).

**TIP:** After using Super Obscure, focus on parts of the sequence with the Loop bar and use the copy/paste functions to extend this parts to the whole sequence (copy/extend loop bar/paste). Copy your writing to the other morph slider position and then use obscurity again for the current morph slider position. Then you have two cool states to morph between.

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## Shift Fader



The Shift Fader changes the Motion Lane/Parameter assignments. That means the control curves are controlling different parameters, depending on the shift fader position. Put the fader to the bottom in order to have no shifting.

## Shift Mode



The Shift can be done in a continuous fade mode or stepped mode.

If the Shift is used in stepped mode, a modulation lane is always fully connected to a parameter. However, if the Shift is in fade mode, the parameter/motion lane connection changes will be interpolated. That might result in two lanes controlling one parameter. It might also mean that drawing affects two lanes at once.

The Shift fader can be modulated from the [MORPH WINDOW](#).

If the Shift fader is modulated, you see a ghost of the fader moving along.

**Troubleshooting Tip:** When you experience crazy timings, first look into the obscure tempo modes to make sure

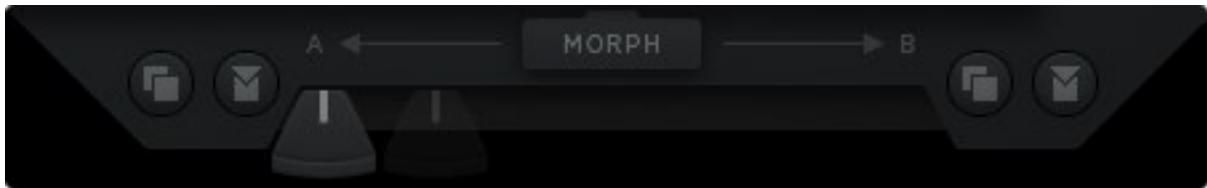
- 1) tempo- and direction-sequencer are off,
- 2) Step play and step keys are deactivated.

## Morph

The Morph Section allows you to crossfade between two sequencer states (except the trigger sequencer). You can easily create variations by using the copy/paste buttons.

## Morph Fader

The Morph fader is used to crossfade between the 2 states of the motion and the trigger sequencer. While the data transition is interpolated, the copy and paste targets switch at the 50% fader position.



## Copy/Paste

The Copy/Paste is a powerful function to create patterns. Each morph fader position (A & B) has its very own copy and paste...

Copy/Paste always uses the space between the loop bars.



**Copy** 4 steps into the clipboard, **extend** the loop bar & **paste** to loop the 4 steps.

## Morph Window

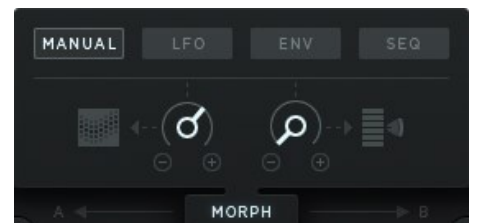
The morph window offers the modulators for the Morph and Shift fader. You can activate/deactivate modulation and set the amounts here.



Morph Fader modulation is active



Shift Fader modulation is active



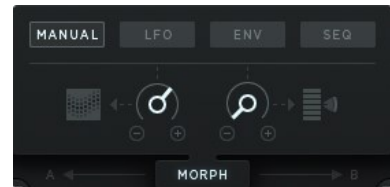
'+' – positive modulation (adding to current value)

'-' – negative modulation (subtracting off current value)

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### Manual

No automated modulation...just grab the faders and move them.



### LFO

Sine LFO, with a rate between 1/16<sup>th</sup> and 32/16<sup>th</sup> notes.



### ENV

AHR Envelope, triggered by MIDI.



### SEQ

A simple eight-step sequencer, with a step rate from 1/16<sup>th</sup> note to 32/16<sup>th</sup> notes.

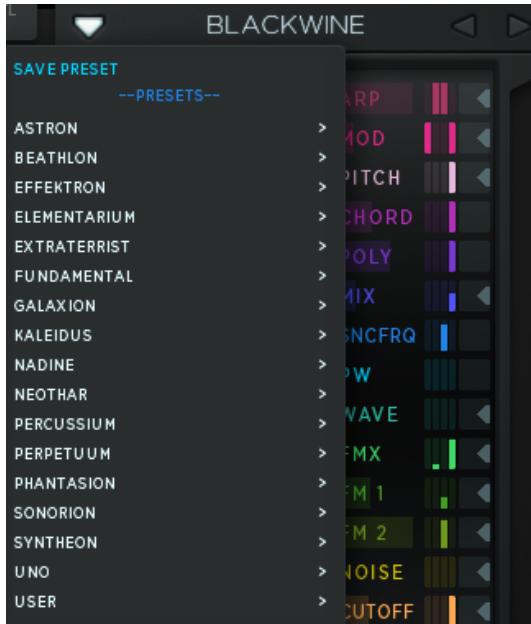


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# Preset Browser

The upper right-hand corner houses the Preset Browser.

Click the name of the current preset to open the preset library dialogue or step through the factory presets via the < > buttons.



Click “Save Preset” to save your own presets in the “User” folder.

The factory presets are stored here:

/USER/Documents/Obscurium/Presets.

In default mode, MIDI assignments are saved along with the Preset. Activate “Isolate CC Map from Preset Change” to avoid presets from recalling CC assignments when loaded.

## About Screen

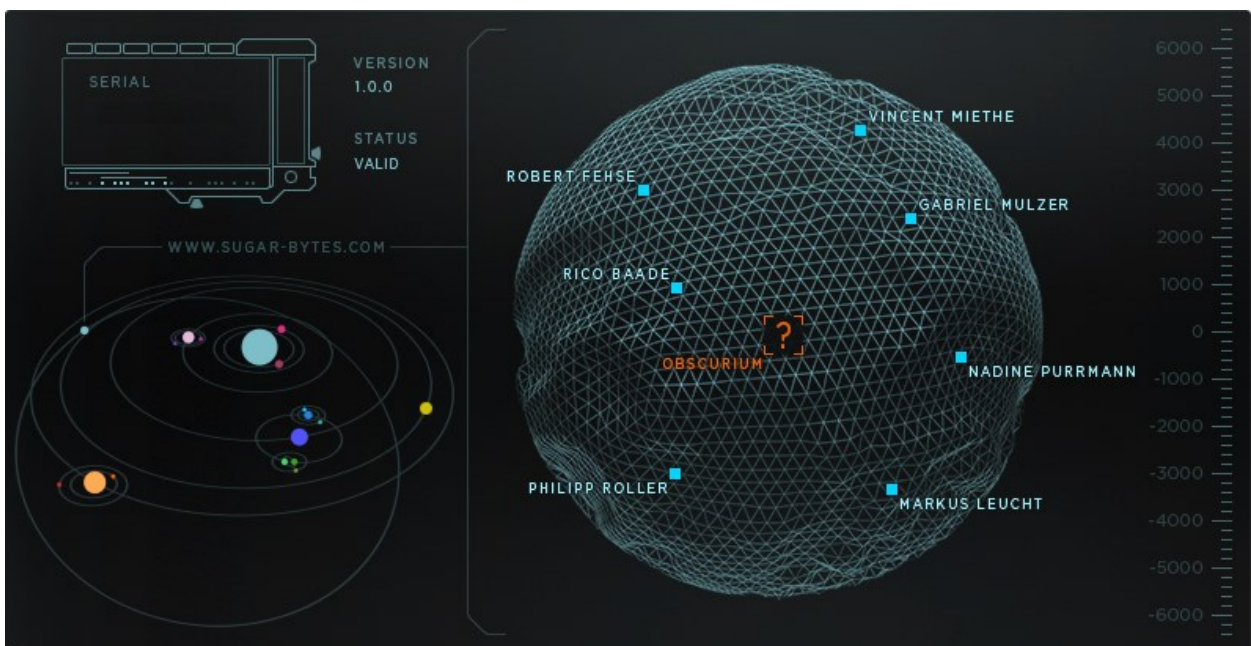


Clicking the Sugar Bytes logo at the bottom right of Obscurium opens the About Screen.

Your Serial Number is shown in the lower left-hand corner, along with its validation status. If you entered an incorrect serial number it will be marked as invalid. The serial number is needed for downloading updates and additional content.

Click NEED HELP for quick access to this Manual.

Click the Sugar Bytes Logo to open the Sugar Bytes Website.



# Host Integration

## Cubase

In the Cubase plugin manager, perform a full rescan.

Ensure that Obscurium.dll (Win) or Obscurium.vst (macOS) file is in Cubase's assigned VST Plugins folder.



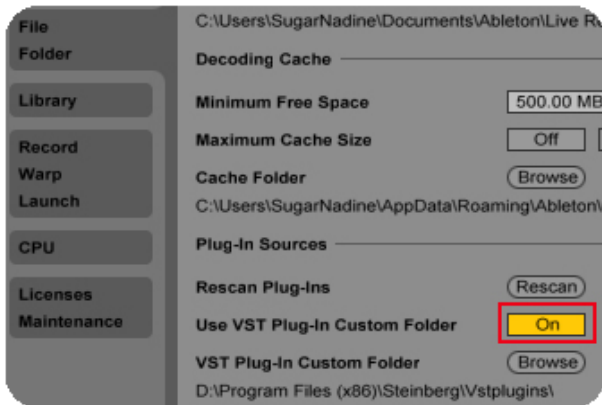
Load Obscurium as Instrument on an Instrument track.

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## Ableton Live

When on Mac macOS, we highly recommend using the VST version of Obscurium in Live.

In Live, plugins sometimes get marked as unloadable and aren't rescanned automatically. If this happens, force a rescan by unchecking and checking the 'Use custom VST Folder' checkbox in Preferences/File Folder/Plug-In Sources.



Set up a MIDI track and insert Obscurium as instrument.

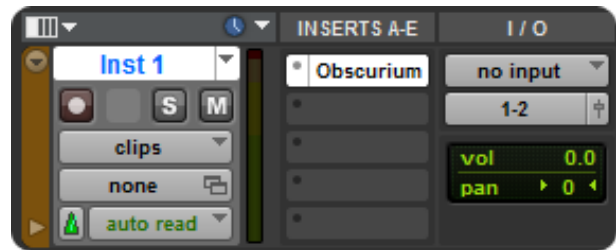


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## Pro Tools

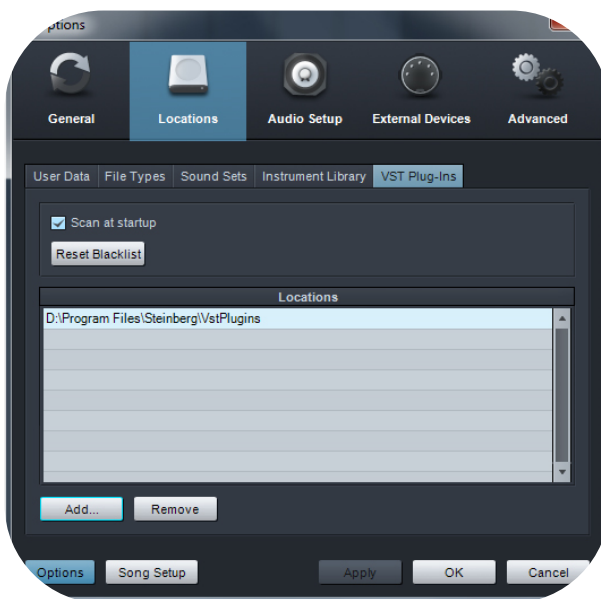
When installing Obscurium, select the AAX plug-in format.

Use Obscurium as an instrument.



## Studio One

Go to the Studio One menu and choose Options. Click Locations, then VST Plug-Ins.



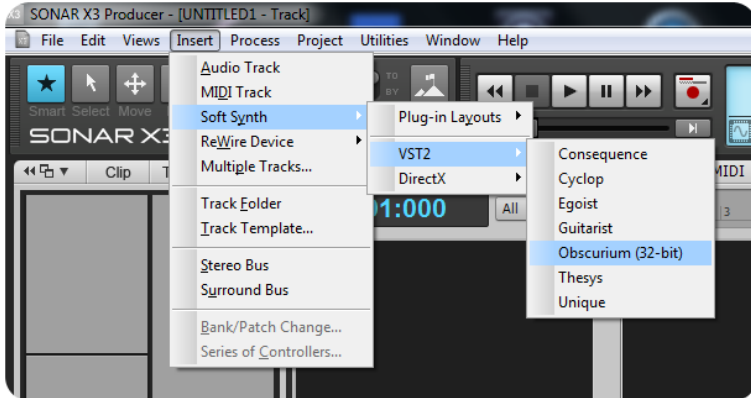
Click the Add button and select your VST Plugins folder. Press OK then close and reopen Studio One. If you don't see the plugin, go back into the settings screen of Studio One and click the Reset Blacklist button, then close and open Studio One again.

Create an instrument track and pick Obscurium up from the Instrument list.

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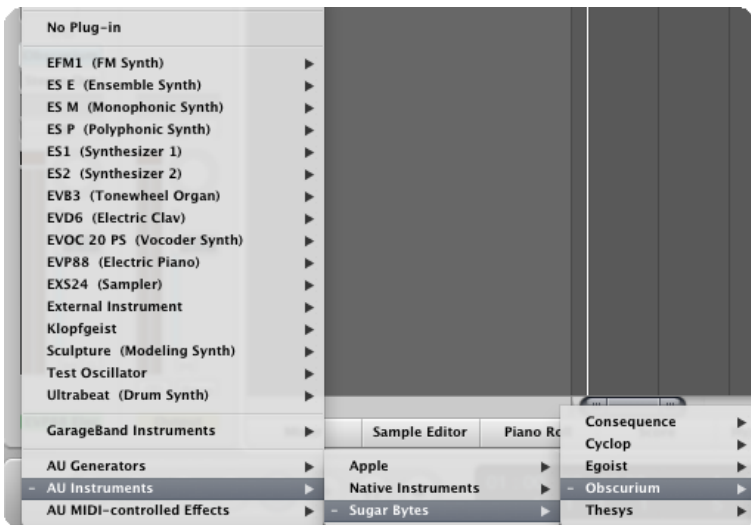
## Sonar

Ensure that Obscurium is installed in the VST Plugins folder used by Sonar. Plug Obscurium as a 'soft synth'.



## Logic

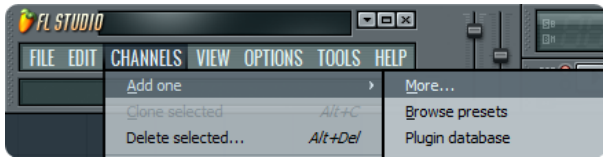
Choose Obscurium as an AU-Instrument from the I/O dialogue of a Software Instrument track.



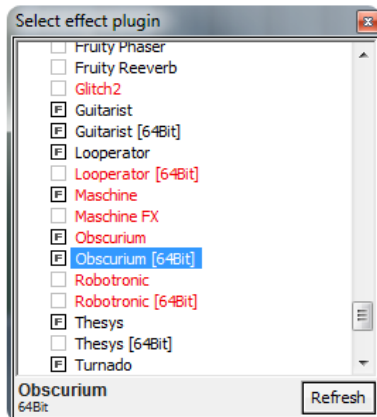
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## FL Studio

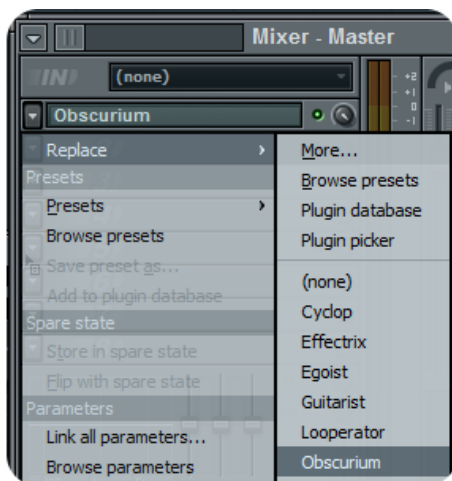
Go to Channels>Add one>More...



There you should find Obscurium and do a refresh.



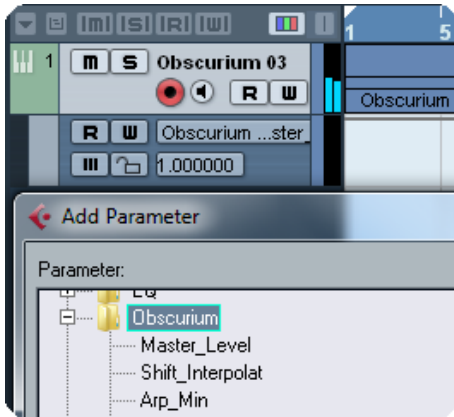
You can now open Obscurium in the Mixer-Inserts



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## MIDI remote

Most of Obscurium's parameters can be controlled via host automation and MIDI controllers.



Right-click/Ctrl+click a control to bring up the MIDI Learn option.



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# Troubleshooting

## Can't draw anything in the sequencer.

Most probable reason is that „Draw All“ is activated in the Draw Tools

## Obscurium makes no sound

MIDI envelope or Trigger?

Cutoff Frequency needs to be activated!

Check if your serial is valid in the About Screen (Click Sugar-Bytes logo)

## My Sequencer motion lane grid is empty

Probably your audio engine is used by another program.

## Obscurium shows strange tempo behaviour

When you experience crazy timings, first look into the obscure tempo modes to make sure tempo- and direction-sequencer are off and step play and step keys or pitch recording are not activated.

# Installing Obscurium & Deleting it

## Installation

Download (requires login) the latest version [here](#).

The standalone version and manual will be installed to

Windows: C:\Program Files\Sugar Bytes\Obscurium  
macOS: /Applications/Sugar Bytes/Obscurium

Presets will be installed into Documents\Sugar Bytes\Obscurium

Do not move Obscurium presets after installation!

## WINDOWS

Default installation paths:

VST C:\Program Files\VSTPlugins  
AAX C:\Program Files\Common Files\Avid\Audio\Plug-Ins

## macOS

All versions of Obscurium will be installed by default.

Default installation paths:

VST /Library/Audio/Plug-Ins/VST/  
AU /Library/Audio/Plug-Ins/Components/  
AAX /Library/Application Support/Avid/Audio/Plug-Ins

## Uninstalling

To uninstall Obscurium:

**Windows:** Uninstall Obscurium under Control Panel>Add/Remove Software.

**macOS:** Delete all the following files and folders.

*/Applications/Sugar Bytes/Obscurium*  
*/Library/Audio/Plug-Ins/VST/Obscurium.vst*  
*/Library/Audio/Plug-Ins/Components/Obscurium.component*  
*/Library/Application Support/Avid/Audio/Plug-Ins/Obscurium.aaxplugin*

*~/Documents/Sugar Bytes/Obscurium*  
*~/Library/Preferences/com.sugar-bytes.Obscurium.plist*  
*~/Library/Preferences/Sugar Bytes/3rdParty*

'~' means: /Users/YOURLOGINNAME (your home folder)

If you **cannot locate your Library folder** in Finder: Select the "Go to Folder" from the Finder's Go menu and enter '~/Library'.)

## Authorization

The serial number is requested during installation. If the serial number is missing or incorrect, the software will not produce any sound. Check the About page to see if your serial is VALID. Entering the correct serial number or a quick reinstall should fix any issues.

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# Contact & License

License covers both the macOS and Windows version and can be activated on two computers. For use on more than two computers, please buy an additional license.

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# Appendix

## Scales

All Scales available in the scale menu, with C as root note:

|                   |                              |
|-------------------|------------------------------|
| Chromatic:        | C C# D D# E F F# G G# A A# B |
| Major:            | C D E F G A B                |
| Dorian:           | C D D# F G A A#              |
| Phrygian:         | C C# D# F G G# A#            |
| Lydian:           | C D E F# G A B               |
| Mixolydian:       | C D E F G A A#               |
| Aeolian:          | C D D# F G G# A#             |
| Locrian:          | C C# D# F F# G# A#           |
| General Bebop:    | C D E F G G# A B             |
| Harmonic Minor:   | C D D# F G G# B              |
| Melodic Minor:    | C D D# F G A B               |
| Major Pentatonic: | C D E G A                    |
| Minor Pentatonic: | C D# F G A#                  |
| Augmented:        | C D# E G G# B                |
| Blues:            | C D# F F# G A#               |
| Diminished:       | C D D# F F# G# A B           |
| JazzMinor:        | C D D# F G A B               |
| Whole Tone:       | C D E F# G# A#               |
| Bebop:            | C C# D# F F# G G# A#         |
| Minor Bebop:      | C D D# E F G A A#            |
| Arabian:          | C D E F F# G# A#             |
| Balinese:         | C C# D# G G#                 |
| Enigmatic:        | C C# E F# G# A# B            |
| Gypsy:            | C C# E F G A A#              |
| Hindu:            | C D E F G G# A#              |
| Hngarian Minor:   | C D D# F# G G# B             |
| Hungarian Major:  | C D# E F# G A A#             |
| Japanese:         | C C# F G G#                  |
| Jewish:           | C C# E F G G# A#             |
| Neapolitan Major: | C C# D# F G A B              |
| Neapolitan Minor: | C C# D# F G G# B             |
| Oriental:         | C C# D# F F# A A#            |
| Persian:          | C C# E F F# G# B             |
| Spanish 8 Tone:   | C C# D# E F F# G# A#         |