

# Knowledge Base

Welcome to FrozenPlain's Knowledge Base.

- [Frequently Asked Questions](#)
- [Mirage Installation](#)

## FAQ

### Kontakt

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#### What is Kontakt?

Kontakt is a software sampler developed by Native Instruments. It is widely used by producers and composers - especially for those who are wanting to use realistic sounding instruments instead of just synths. It is available in all the major plugin formats. It is a paid product, but also has a free version called the Kontakt Player, which some libraries will fully work with. FrozenPlain libraries require the paid version. FrozenPlain is not linked to Native Instruments in any way, we just create libraries for their platform.

#### What is the difference between the full version of Kontakt and Kontakt Player (the free version)?

The full version of Kontakt is a premium product, costing around £300 (2018). It allows editing and creation of Kontakt patches. With this version, third party developers - like FrozenPlain - can create libraries and anyone with the full version too can load them up with no licence codes or online activation required. Libraries for the paid version of Kontakt are not added with the 'add library' button or with Native Access. Instead, the NKI files provided are dragged into Kontakt or are found using the file browser inside Kontakt. All FrozenPlain libraries require the paid version.

The free version of Kontakt is called the Kontakt Player. It is restricted in that libraries made by for the paid version can only be used for 20 minutes in 'demo' mode before becoming inactive and needing to be reloaded. Third party developers can enter a licence agreement with Native Instruments to make their libraries work in the Kontakt Player. This licence agreement is not free, and often means that libraries 'Powered by Kontakt Player' have to be more expensive. Libraries for the Kontakt player have licence codes are encoded into a closed format and activated with a provided code.

#### Why does my purchased Kontakt library say DEMO?

All FrozenPlain libraries require the paid version of Kontakt to work. If you are using Kontakt Player (also called the free version), our library will show as DEMO and will time out after 20 minutes of use.

#### How do I install my FrozenPlain Kontakt library?

There is no installation necessary for FrozenPlain Kontakt libraries. They just require being loaded into Kontakt. Firstly, extract the ZIP file to a place of your choosing. Then load up Kontakt as you would normally, either as a plugin in your DAW or as the standalone. Then there are few options to load the library into Kontakt for use:

Either drag the NKI file that you want into the Kontakt GUI (NKI files are found in folder you just extracted).

Or use the 'file browser' tab inside Kontakt to navigate to where you saved the library and double-click on the NKI file.

As an extra step, you can add libraries to the 'quick load' panel of Kontakt, allowing you to have many libraries ready to go in one place. At the top of the Kontakt GUI there is an icon for the Workspace Management menu, which is next to the cog icon. From this menu you can open the quick load panel which will appear at the bottom. Then you can drag NKI instruments to this place (using either method above) so they are added to the quick load space.

#### Can I use my Kontakt libraries inside Mirage?

No, for a library to work inside Mirage, it must be specifically created by our internal tools. However, we have manually 'recreated' some of our old Kontakt libraries in Mirage. If you own the Kontakt version, you can purchase the new version for a discount. Just sign in to your FrozenPlain account and visit the product page of the new version. It will detect if you have the Kontakt version on your account and offer you a discounted price.

## Do I need to have Kontakt in order to use a Mirage product?

No, weâ€™ve created Mirage from scratch. It has no requirements other than a DAW that can host a VST or an AU. Mirage is free - it is included in the installer of any powered-by-Mirage product. See the full details about Mirage [here](#).

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## Purchases

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### Can I use your libraries for the creation of music that I indent to sell?

Yes, please see our licence agreement for full details.

### What do I get after I order from you?

All FrozenPlain products are digital only. After making a purchase, the product will be able to be downloaded from your FrozenPlain account. It will also be emailed to your email address. You may re-download your product many times - up to a limit.

### Can I sell my licence to someone else?

No, when you purchase a product, it is licenced to you. It cannot be transferred. For the full details, see the [licence agreement](#).

### Do you offer student or education discounts?

No, we donâ€™t offer any special case discounts. Our goal is to help everyone make great music, and so deliberate over setting each producâ€™s price to be as affordable as possible to everyone, no matter their situation.

# Mirage Documentation

Here you will find documentation about our Sample-Based-Synthesis engine, [Mirage](#).

## Quick Tips

### Use Tooltips

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Hover your cursor over a control to see a description of what the control does. You can toggle whether or not you want to see these by clicking the *Show Tooltips* option in the settings menu (three-dots icon at the top).

### Double-click on Knobs

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Double-click on knobs to open a text field allowing you to set the value by typing it in.

### Double-click presets on the Preset Browser

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By double-clicking on a preset in the preset browser you load the preset and close the browser. Single-clicking leaves the browser open.

# How to Install Mirage

The short answer is: just run the installer! It will install the files on your computer in the appropriate places. However, this page contains more information about the installation process if you need.

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## Requirements

[text-blocks id="mirage-requirements" product="Mirage"]

## Detailed steps

1. Download the installer file from your account. Be sure to select the file appropriate for your operating system: Windows or Mac.
2. The downloaded file is a ZIP file which contains the installer. Double click on this file and either follow the steps to extract it, or just open the installer if it is displayed already.
3. Follow the steps of the installer.
4. Once completed, close and reopen your DAW (if it was opened during this installation).
5. Done! Open the plugin called 'Mirage' in your DAW. From there you will find your Mirage libraries.

## What does Mirage install?

There are three types of components that make up Mirage's system. The installer will handle installing all of these.

1. **The plugin:** There is a single file for each plugin format, such as VST or AU. These are installed to your audio plugins folder - a common location where DAWs scan to find plugins. These files are small - a few MB each.
2. **Library files:** Each library has a single file in the MDATA format. These contain all of the audio data of the sample-library. Library files can be large - over 1 GB in some cases.
3. **Preset files:** Each library normally comes with a pack of presets. These are separate .mirage-something files. They are installed to your Presets Folder. These files are very small; in total, they will only make up a few MB.

You can find the full details of the [file locations here](#).

## Troubleshooting

### On Windows, Mirage isn't showing up in my DAW

If your DAW cannot find the Mirage plugin you can try one of these options:

- Run the installer again and choose one of these alternate plugin folders: C:/Program Files/Steinberg/VSTPlugins or C:/Program Files/Common Files/VST2.
- In your DAW's settings, there is often a way to add extra folders VST searching. Add to that list the folder that you installed Mirage to.

### On Mac, how do I install the libraries to a separate hddrive?

Libraries can be large files, and so you might not want them on your default hard drive. Once installed, you can move the MDATA file using Finder to any location that you want. If you do this, you will be prompted by Mirage to set the new location for the library file when you next open up Mirage. Be careful doing this though - some DAWs like Logic Pro X can block Mirage's access to folders.

## New Mirage Installer

Since version 2.0.3, Mirage has a new installer. This installer is a small file that will download and install the components that you need.

In order for the installer to know what files you need, you must *either*:

1. Enter your frozenplain.com email address and password.
2. Use a download ticket.

### Download tickets

A download ticket is like a password that grants you access to specific products to install.

There are a few publicly available download tickets at the bottom of [this page](#).

You might also get a unique download ticket if you purchase a product through a third-party store.

You cannot share your unique download ticket with other people - the ticket's usage is monitored and blocked.

## Email and password

Instead of using a download ticket, you can also use your [FrozenPlain account](#) email and password. The installer can then know which products you have in your account, and give you the option to install them if you haven't already.

If you have a download ticket and want the products that it refers to added your FrozenPlain account, you can [get in touch](#).

# Mirage Glossary

- **Layer:** One of the three sound-generating parts that can be controlled and modulated. The effects rack is applied to the mix of these three layers.
- **Library:** A collection of sampled instruments that are bundled together into a pack. Libraries can only be created by FrozenPlain - there currently are no capabilities for users to make libraries. Wraith is an example of a library.
- **Instrument:** A sample-based playable instrument - meaning the sound is generated from audio files rather than algorithms or wavetables. An instrument can be selected for each layer. Instruments are either multi-sampled or just a single sample.
- **Preset:** A saved Mirage configuration. Mirage can load any .mirage-something preset. The filename ending will be different depending on what library the preset uses.
- **Preset Folder:** This is the folder that Mirage keeps track of. Preset files within this folder (and its subfolders) can be browsed via Mirage's preset browser.
- **Settings Menu:** The popup menu found by clicking on the three-dots icon at the top of the Mirage GUI.
- **MDATA:** The proprietary file format that Mirage libraries are stored in. An MDATA file contains all of the audio files that make up the sample library, as well as various other pieces of configuration data. These files can be over a GB in size.

# The Three Layers

Mirage is built around an architecture of three layers. These are displayed in three columns starting from the left of the main panel. Each layer is identical. Mirage's layers are the first things in the processing chain; each layer is processed in parallel, and then the three streams of audio are mixed together and fed through the effects rack, from top to bottom.

## Instruments

The topmost control of each layer is perhaps the most important: the instrument picker menu. These are often multi-sampled instruments, but also sometimes just a single sample that is playable across the keyboard. What instruments are available for you to pick is determined by which library is loaded.

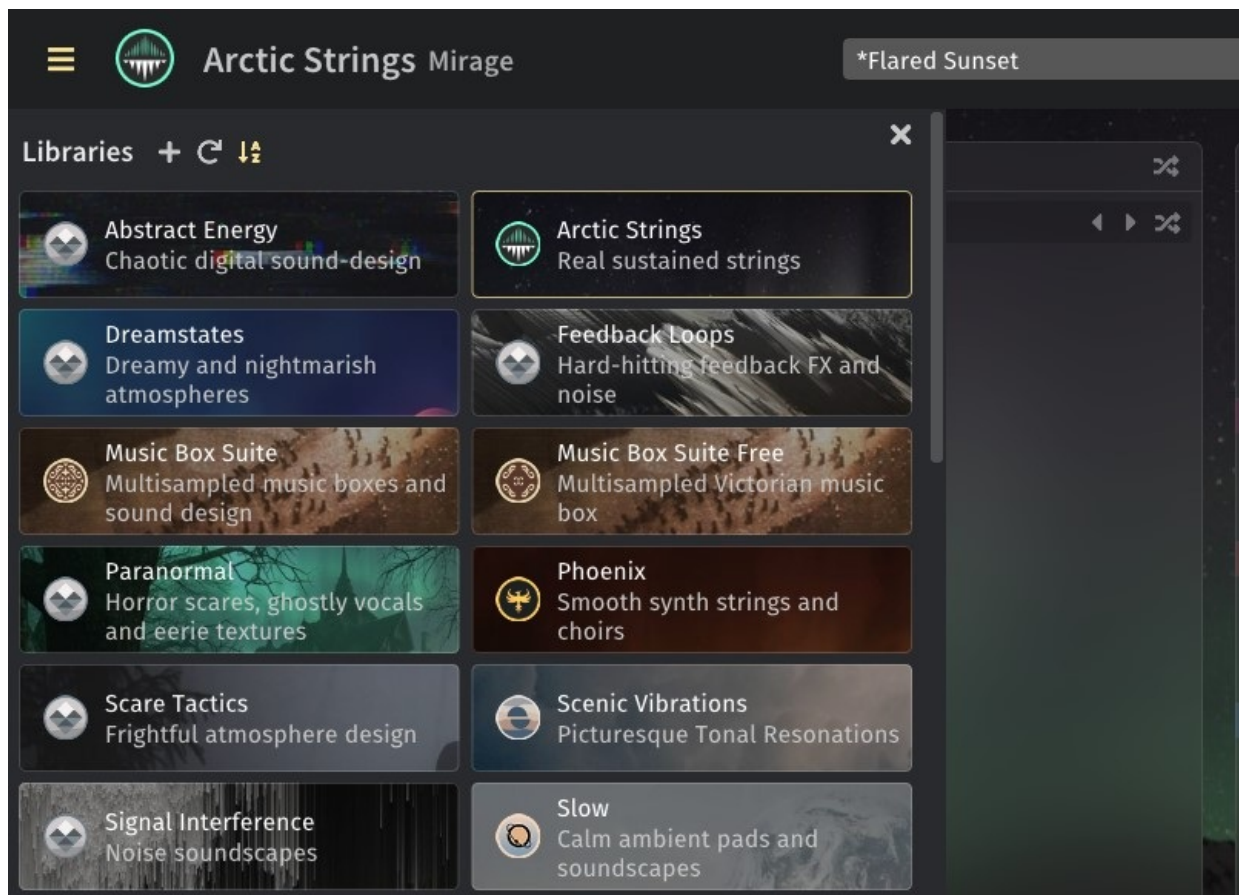
Depending on which instrument is loaded, you might notice minor differences in what controls are available; this is normal.



## Libraries

Mirage is an engine that can load MDATA sample libraries (FrozenPlain's custom format). At the moment, these libraries can only be created by FrozenPlain.

Mirage can only load one library at a time. When you first open a new instance of Mirage, no library will be loaded; choosing a library will be your first step. Simply click on the library in the side panel. This side panel can be opened and closed with the three-lines icon at the top-left of Mirage's GUI.



## Presets

### Preset Files

Mirage uses the same preset format regardless of what library is loaded. However, the preset file name will end differently depending on what library the preset refers to. For example, a Mirage preset which uses Wraith might be called `preset.mirage-wraith`. Mirage can load any preset file that ends with `.mirage-something`.

### The Preset Folder

Mirage keeps track of a single dedicated presets folder. Mirage scans this folder (and its subfolders) for `.mirage-something` files. These are then displayed in the preset browser GUI, and can be conveniently loaded in various ways.

Your Preset Folder is most likely `C:/Users/name/FrozenPlain/Mirage/Presets` on Windows or `/Library/Application Support/FrozenPlain/Mirage Presets` on Mac.

You can manually organise this folder in any way you like. By default, presets are grouped into which library they are from and whether they are factory or user presets.

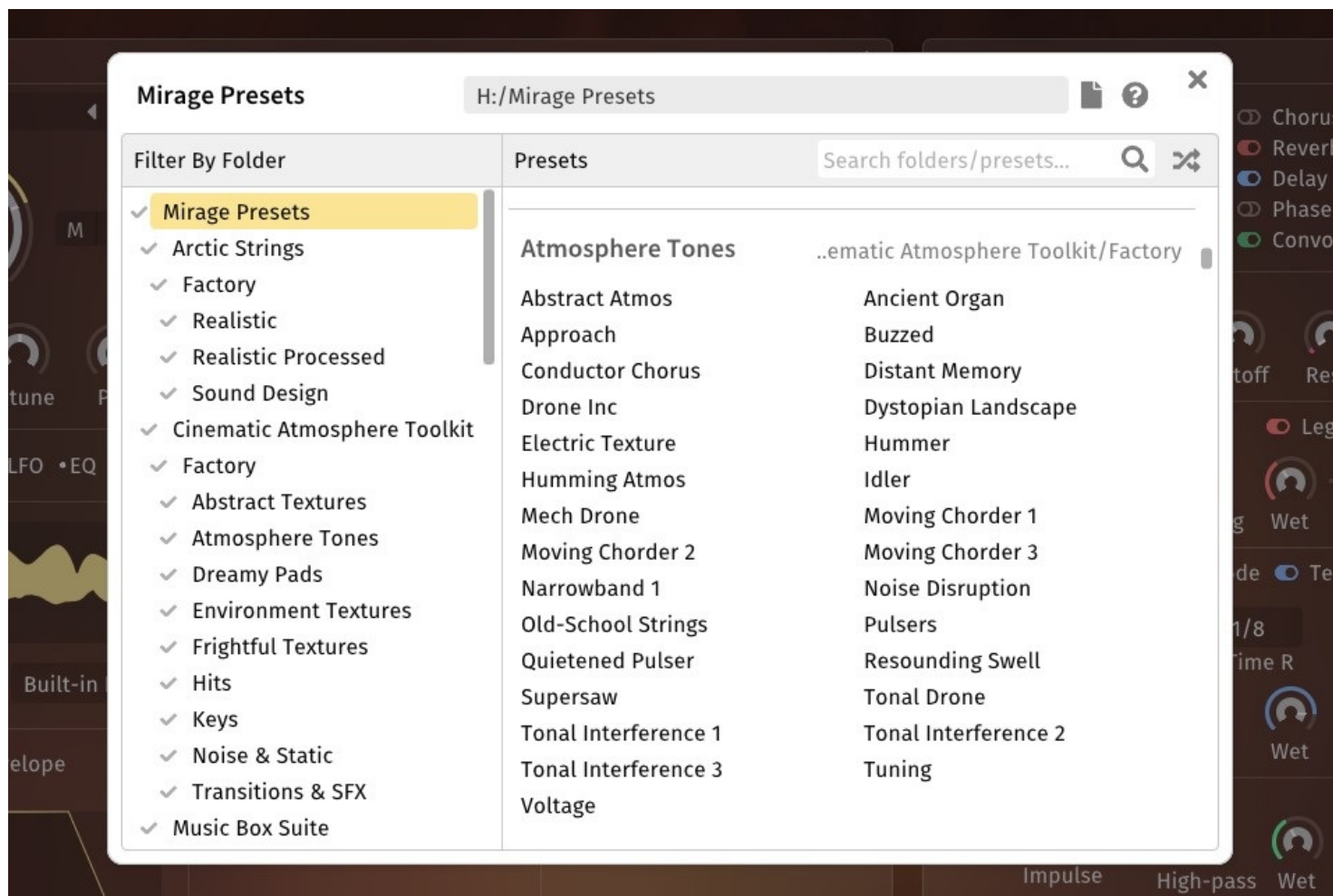
You can select an alternate folder by clicking on the preset text at the top of the GUI and then clicking on the folder that is shown at the top of the shown window. On Mac, it is recommended to not change your preset folder. DAWs such as GarageBand are strict regarding which folders a plugin is allowed to access.

### Preset Browser

Mirage features a browser for conveniently navigating and loading presets from your Preset Folder. This browser has two panels. The panel on the left is used to select the folder to browse. The panel on the right is used to load presets from within the selected folder and its subfolders. You can use the arrow keys on your keyboard to move to different presets on the right panel.

You can also search for folders or files by typing into the search bar on this panel. Your search term is compared against

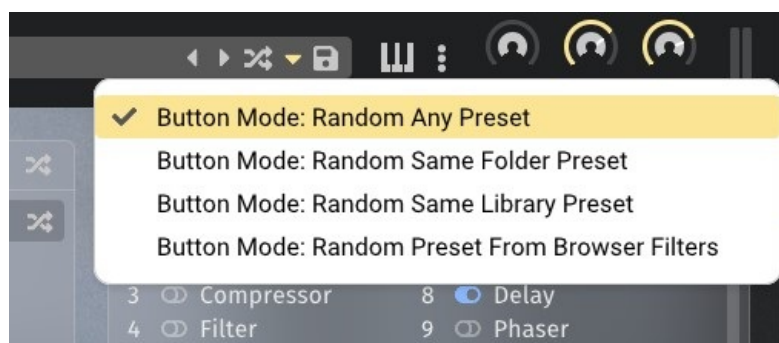
each filepath of every preset in the currently shown folder.



## Randomising Presets

Mirage has a multi-mode 'randomise preset' button. This button can be found in the top panel of Mirage's GUI. To the left of this button is a downwards arrow icon. By clicking on this arrow you can select the mode of the randomise button. These are the options:

- Randomise Any: Loads any Mirage preset in the presets folder (included any presets in subfolders). The preset could be for any library.
- Randomise Library: Loads any Mirage preset that is for the same library that is currently loaded. For example, if you have the Wraith library loaded, this button will load another Wraith preset.
- Randomise Folder: Loads any Mirage preset that is in the same folder as the current one. For example, if your current loaded preset is in a folder called 'Pads', another preset from 'Pads' will be loaded.
- Randomise based on filter text: Loads a folder that matches the filtered folders and search text that you have typed into the preset browser. This button works the same as the randomise button that is adjacent to the search bar on the preset browser panel.



## Installing New Presets

When you install a new library, its presets will be placed into your Preset Folder. This will most likely be

C:/Users/name/FrozenPlain/Mirage/Presets on Windows, and /Library/Application Support/FrozenPlain/Mirage Presets on Mac.

If you have manually set an alternate Preset Folder (using the *Set Presets Folder* button on Mirage), it will be that location instead.

You can manually add new presets to your Preset Folder or rearrange the directories. Mirage will update to reflect any change you make.

Presets can also exist elsewhere on your computer. However, these will not automatically appear in the preset browser menus. These must be loaded by clicking on the file icon on the presets browser panel and then navigating to the individual file.

## Making Your Own Preset Packs

You can save presets by clicking on the floppy disk icon at the top of Mirage's GUI. To make these into a pack for distribution online, bundle the presets files together (the ZIP format is common for this), and point whoever is installing them to this manual. You are allowed to share or sell Mirage presets, but you may not share or sell any other type of Mirage file.

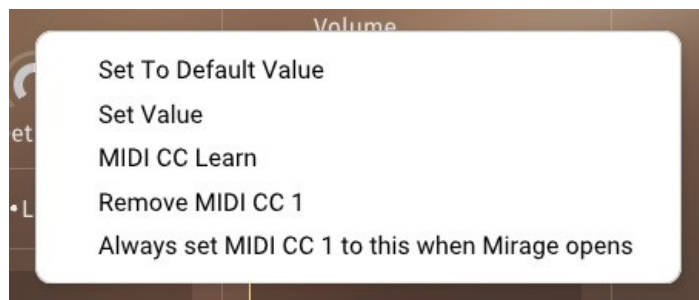
# MIDI

## MIDI Learn

All automatable parameters in Mirage can be easily assigned to a MIDI CC. Perhaps the most common MIDI CC used is the mod-wheel, which is CC number 1.

Any CC number can be used to control any parameter of Mirage. This is done by right-clicking on a parameter on the GUI and then selecting *MIDI learn* from the menu that pops up. Next, move the knob/slider on your physical MIDI controller - Mirage will detect this movement and bind the CC number to the parameter in Mirage. The mapping is now set: whenever you move that knob, the parameter in Mirage will move too. This binding can be undone by right-clicking the parameter and selecting *Remove MIDI Learn*.

This relationship lasts for as long Mirage exists in your DAW - if you remove and then re-add Mirage, this MIDI CC relationship will be lost. However, this relationship is preserved when you save or load your DAW project.



## Always set a MIDI CC to a parameter

Alongside the MIDI learn functionality, you can set up a more permanent relationship between parameters in Mirage and sliders/knobs on your MIDI controller. To do this, *MIDI Learn* a parameter, as explained above. Once completed, when you right-click the parameter, you will see a new toggleable option for *Always set MIDI CC to this*. You can toggle this option to set the permanent relationship. If enabled, whenever you load up a new instance of Mirage, the CC number will be bound to the parameter.

By default, MIDI CC1 (AKA the mod-wheel) is set up to control the Dynamics slider in Mirage in this semi-permanent fashion.

It's worth clarifying that these settings are stored in different places. MIDI CC-to-parameters are stored/loaded when you save/load your DAW project; they are not saved/loaded when saving/loading presets. The option for permanent MIDI CC-to-parameter mapping is neither saved in preset files nor in your DAW project. Instead, it's saved in a preferences-file on your computer.

## Sustain Pedal

Mirage can be controlled with a sustain pedal. A sustain pedal is a special kind of MIDI controller that sends MIDI CC-64 messages. These messages represent an on or off state.

When Mirage receives a sustain pedal on message, all notes that are currently held will sustain until a corresponding sustain pedal off message is received. The notes will persist even if the notes are released from the keyboard. Only releasing the sustain pedal will trigger them to stop. This is a common behaviour for synths and samplers alike. It roughly simulates the behaviour of a real piano sustain pedal.

## Sustain Pedal Retrigger Mode

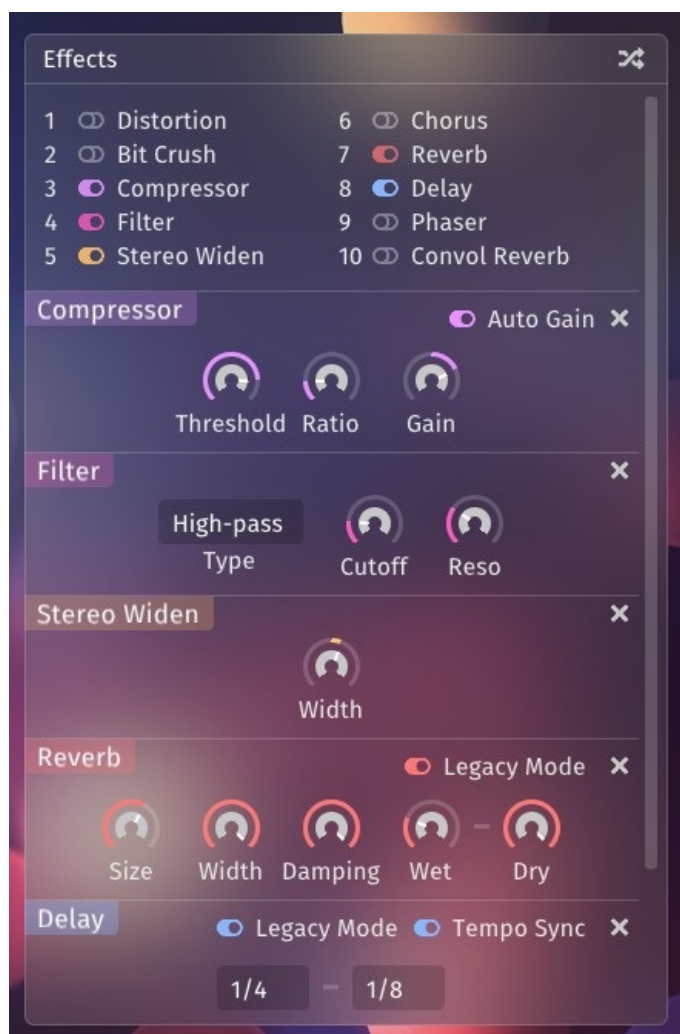
Each layer in Mirage has a switch that changes the behaviour when pressing the same note multiple times while the sustain pedal is held down. This parameter can be found in the MIDI tab of each layer and is called 'CC64 Retrig'.

When 'CC64 Retrig' is turned off, and you are holding the sustain pedal down, nothing happens if you press the same key multiple times - the new up and down is ignored - the sound continues to sustain just as it did before.

However, when 'CC64 Retrig' is on, the note is retriggered (the sound ends and a new one starts); this behaviour tends to be the more intuitive option. Note that this switch is per-layer, not global. This allows for more powerful customisation of a preset.

## Effects

Mirage has a selection of simple effects that can be applied to the audio. These effects are applied to the mix of the three layers. The effects are shown in a list on the right-hand side of the main panel. You can change the ordering of the effects by dragging and dropping.



# Mirage's Parameters

## Master Parameters

Parameters at the top level of Mirage.

Name	Type	Description	ID
Vol	Knob	Master volume	MastVol
Velo	Knob	The amount that the MIDI velocity affects the volume of notes; 100% means notes will be silent when the velocity is very soft, and 0% means that notes will play full volume regardless of the velocity	MastVel
Dyn	Knob	The intensity of the sound. Not every instrument contains dynamics information; instruments that do will be highlighted when you click on this knob.	MastDyn

## Layer Parameters

The parameters for each of the 3 layers of Mirage.

### Top

Name	Type	Description	ID
Volume	Knob	Layer volume	L0Vol
Mute	Switch	Mute this layer	L0Mute
Solo	Switch	Mute all other layers	L0Solo
Pan	Knob	Left/right balance	L0Pan
Detune	Knob	Layer pitch in cents; hold shift for finer adjustment	L0Detune
Pitch	Number	Layer pitch in semitones	L0Pitch

### Main

Name	Type	Description	ID
Loop	Switch	The mode for looping the instrument samples	L0LpOn
Start	Knob	Loop-start	L0LpStrt
End	Knob	Loop-end	L0LpEnd
XFade	Knob	Crossfade length; this smooths the transition from the loop-end to the loop-start	L0LpXf
Ping Pong	Switch	not used	L0LpPP
Start	Knob	Change the starting point of the sample	L0Offs
Reverse	Switch	Play the sound in reverse	L0Rev
Volume Envelope	Switch	Enable/disable the volume envelope; when disabled, each sound will play out entirely, or until the key is pressed again	L0VIEEnOn
Attack	Knob	Volume fade-in length	L0Att
Decay	Knob	Volume ramp-down length (after the attack)	L0Dec
Sustain	Knob	Volume level to sustain (after decay)	L0Sus
Release	Knob	Volume fade-out length (after the note is released)	L0Rel

### Filter

Name	Type	Description	ID
Filter	Switch	Enable/disable the filter	L0FION
Cutoff	Knob	The frequency at which the filter should take effect	L0FICut
Reso	Knob	The intensity of the volume peak at the cutoff frequency	L0FfRes
Type	Menu	Filter type	L0FITy
Envelope	Knob	How strongly the envelope should control the filter cutoff	L0FIAM
Attack	Knob	Length of initial ramp-up	L0FIAtt
Decay	Knob	Length ramp-down after attack	L0FLDec
Sustain	Knob	Level to sustain after decay has completed	L0FISus
Release	Knob	Length of ramp-down after note is released	L0FIRel

### LFO

Name	Type	Description	ID
LFO	Switch	Enable/disable the Low Frequency Oscillator (LFO)	L0LfoOn
Shape	Menu	Oscillator shape	L0LfoSh

Mode	Menu	Oscillator phase mode. Retrigger: each voice has its own phase, Free: all voices that are playing simultaneously will have the same phase	L0LfoMd
Amount	Knob	Intensity of the LFO effect	L0LfoAm
Target	Menu	The parameter that the LFO will modulate	L0LfoTg
Time	Menu	LFO rate (syncd to the host)	L0LfoSyt
Time	Knob	LFO rate (in Hz)	L0LfoHZ
Sync	Switch	Sync the LFO speed to the host	L0LfoSyO

EQ

Name	Type	Description	ID
EQ	Switch	Turn on or off the equaliser effect for this layer	L0EqOn
Freq	Knob	Band 1: frequency of this band	L0EqFr0
Reso	Knob	Band 1: sharpness of the peak	L0EqRs0
Gain	Knob	Band 1: volume gain at the frequency	L0EqGn0
Type	Menu	Band 1: type of EQ band	L0EqTy0
Freq	Knob	Band 2: frequency of this band	L0EqFr1
Reso	Knob	Band 2: sharpness of the peak	L0EqRs1
Gain	Knob	Band 2: volume gain at the frequency	L0EqGn1
Type	Menu	Band 2: type of EQ band	L0EqTy1

MIDI

Name	Type	Description	ID
Velocity Mapping	Knob	Choose how MIDI velocity should affect the volume of this layer. There are 6 modes that can be selected for this parameter via the buttons on the GUI. By setting one layer to be quiet at high velocities and another layer to be quiet at low velocities you can create an instrument that sounds different based on how hard the notes are played. (0) Ignore velocity, always play full volume. (1) Loudest at high velocity, quietist at low velocity (2) Loudest at low velocity, quietist at high velocity (3) Loudest at high velocity, quietist at middle velocity and below (4) Loudest at middle velocity, quietist at both high and low velocities (5) Loudest at bottom velocity, quietist at middle velocity and above,	L0Vel
Keytrack	Switch	Tune the sound to match the key played; if disabled it will always play the sound at its root pitch	L0KTr
Monophonic	Switch	Only allow one voice of each sound to play at a time	L0Mono
CC64 Retrigger	Switch	When the sustain pedal (CC64) is held, keys that are pressed again are retriggered	L0SusRe
Transpose	Number	Transpose the mapping of samples by the given semitone offset, meaning a higher/lower sample may be triggered instead of stretching/shrinking the audio by large amounts (only useful if the instrument is multi-sampled)	L0Trn

Distortion Parameters

Distort the audio using various algorithms.

Name	Type	Description	ID
Type	Menu	Distortion algorithm type	DistType
Drive	Knob	Distortion amount	DistDrive
Distortion	Switch	Enable/disable the distortion effect	DistOn

Bit Crush Parameters

Apply a lo-fi effect to the signal by either reducing the sample rate or by reducing the sample resolution. Doing either distorts the signal.

Name	Type	Description	ID
Bits	Knob	Audio resolution	BitcBits
Samp Rate	Knob	Sample rate	BitcRate
Wet	Knob	Processed signal volume	BitcWet
Dry	Knob	Unprocessed signal volume	BitcDry
Bit Crush	Switch	Enable/disable the bitcrush effect	BitcOn

# Compressor Parameters

Compress the signal to make the quiet sections louder.

Name	Type	Description	ID
Threshold	Knob	The threshold that the audio has to pass above before the compression should start taking place	CompThr
Ratio	Knob	The intensity of compression (high ratios mean more compression)	CompRt
Gain	Knob	Additional control for volume after compression	CompGain
Auto Gain	Switch	Automatically re-adjust the gain to stay consistent regardless of compression intensity	CompAuto
CompressorSwitch		Enable/disable the compression effect	CompOn

# Filter Parameters

Adjust the volume frequency bands in the signal, or cut out frequency bands altogether. The filter type can be selected with the menu.

Name	Type	Description	ID
Filter	Switch	Enable/disable the filter	FIOn
Cutoff	Knob	Frequency of filter effect	FIGut
Reso	Knob	The intensity of the volume peak at the cutoff frequency	FIRes
Gain	Knob	Volume gain of shelf filter	FIGain
Type	Menu	Filter type	FIType

# Stereo Widen Parameters

Increase or decrease the stereo width of the signal.

Name	Type	Description	ID
Width	Knob	Increase or decrease the stereo width	SterWd
Stereo Widen On	Switch	Turn the stereo widen effect on or off	SterOn

# Chorus Parameters

An effect that changes the character of the signal by adding a modulated and pitch-varying duplicate signal.

Name	Type	Description	ID
Rate	Knob	Chorus modulation rate	ChorRate
High-pass	Knob	High-pass filter cutoff	ChorHP
Depth	Knob	Chorus effect intensity	ChorDpth
Wet	Knob	Processed signal volume	ChorWet
Dry	Knob	Unprocessed signal volume	ChorDry
Chorus	Switch	Enable/disable the chorus effect	ChorOn

# Reverb Parameters

Algorithmically simulate the reflections and reverberations of a real room.

Name	Type	Description	ID
Dry	Knob	Unprocessed signal volume	RvDry
Size	Knob	Virtual space size	RvSize
Reverb	Switch	Enable/disable the reverb effect	RvOn
Legacy Mode	Switch	Enable/disable the legacy version of the algorithm	RvLeg
Predelay	Knob	Delay before reverb effect happens	SvRvPre
Mod Rate	Knob	Rate of pitch modulation	SvRvMs
Depth	Knob	Intensity of pitch modulation	SvRvMd

Filter	Knob	Low/high frequency reduction	SvRvDm
Wet	Knob	Processed signal volume	SvRvWet

Legacy

Name	Type	Description	ID
Damping	Knob	High frequency reduction amount	RvDamp
Width	Knob	Stereo width	RvWidth
Wet	Knob	Processed signal volume	RvWet

Delay Parameters

Simulate an echo effect, as if the sound is reflecting off of a distant surface.

Name	Type	Description	ID
Time L	Menu	Left delay time (synced to the host tempo)	DISyncL
Time R	Menu	Right delay time (synced to the host tempo)	DISyncR
Feedback	Knob	How much the signal repeats	DIFeed
Tempo Sync	Switch	Synchronise timings to the host's BPM	DISyncOn
Wet	Knob	Level of processed signal	DIWet
Delay	Switch	Enable/disable the delay effect	DION
Legacy Mode	Switch	Enable/disable the legacy version of the algorithm	DILeg
Mode	Menu	Delay type	SvDIMode
Time L	Knob	Left delay time (in milliseconds)	SvDIMsL
Time R	Knob	Right delay time (in milliseconds)	SvDIMsR
Filter	Knob	High/low frequency reduction	SvDIFI

Legacy

Name	Type	Description	ID
Time L	Knob	Left delay time (in milliseconds)	DIMsL
Time R	Knob	Right delay time (in milliseconds)	DIMsR
Damp	Knob	Amount of high frequency reduction	DIDamp

Phaser Parameters

Modulate the sound using a series of moving filters

Name	Type	Description	ID
Freq	Knob	Base frequency of the effect	SvPhFr
Rate	Knob	Filter movement rate	SvPhMf
Depth	Knob	Filter movement amount	SvPhMd
Feedback	Knob	Intensity	SvPhFd
Stages	Knob	Number of filters	SvPhSg
Mod Stereo	Switch	Stereoise the filter movement	SvPhSt
Wet	Knob	Processed signal volume	SvPhWet
Dry	Knob	Unprocessed signal volume	SvPhDry
Phaser	Switch	Enable/disable the phaser effect	SvPhOn

Convolution Reverb Parameters

The Convolution reverb effect applies a reverb to the signal. The characteristic of the reverb is determined by the impulse response (IR). The IR can be selected from the menu.

Name	Type	Description	ID
Impulse		The impulse response (IR) that defines the character of the reverberation	ConvIR
High-pass	Knob	Wet high-pass filter cutoff	ConvHP
Wet	Knob	Processed signal volume	ConvWet
Dry	Knob	Unprocessed signal volume	ConvDry
Convol Reverb	Switch	Enable/disable the convolution reverb effect	ConvOn

# Mirage files

These tables show the locations of all of Mirage's files.

## Windows

Type	Path
VST2 64-bit	C:/Program Files/VSTPlugins OR C:/Program Files/Steinberg/VSTPlugins OR C:/Program Files/Common Files/VST2 OR C:/Program Files/Common Files/Steinberg/VST2
VST2 32-bit	C:/Program Files (x86)/VSTPlugins OR C:/Program Files (x86)/Steinberg/VstPlugins
Settings file	C:/Users/your-name/AppData/Local/FrozenPlain/Mirage OR C:/ProgramData/Mirage/Settings
Libraries	C:/Users/name/Documents/FrozenPlain/Mirage/Libraries OR C:/Users/Public/FrozenPlain/Mirage/Libraries
Presets	C:/Users/name/Documents/FrozenPlain/Mirage/Presets OR C:/Users/Public/FrozenPlain/Mirage/Presets

## Mac

Type	Path
VST2	/Library/Audio/Plug-Ins/VST
AU2	/Library/Audio/Plug-Ins/Components
Libraries	/Library/Application Support/FrozenPlain/Mirage/Libraries
Presets	/Library/Application Support/FrozenPlain/Mirage/Presets
Settings	/Users/your-name/Music/Audio Music Apps/Plug-In Settings/FrozenPlain OR /Library/Application Support/FrozenPlain/Mirage/Settings

## Changelog

### Version 2.0.3

1. Perfect seamless switching of presets. No more pops or intermediate sounds. If for example, you hold down some keys, and cycle through presets, you will find it to be a greatly improved experience.
2. New animations to show each voice's ADSR position and volume.
3. Added the ability to add crossfade to ping-pong loops.
4. New setting for high-contrast GUI mode. This removes the background images for improved readability.
5. Lots of fixes and groundwork for big future updates.

### New features

- Added markers to the ADSR envelopes to show the state of each voice.
- Added the ability to add a crossfade to ping-pong loops.
- Added a high-contrast option to the Appearance menu which makes the GUI always have a dark, flat background.

### Visual improvements

- Made the blurred background images darker and more opaque so that controls are more visible.
- Made the voice markers fade in and out to match the volume of the voice.
- Made all of the animations on the GUI smoother.

### Fixes and improvements

- Improved the speed of loading a library.
- Improved the experience of changing presets in the following ways:
  - Show a 'loading' box when the preset is taking a while to load.
  - Change all of the parameters at exactly the same time; therefore eliminating intermediate pops and noises.
- While waiting for a new instrument to load, show 'loading' instead of the old waveform image.
- Provide more useful error messages when something goes wrong.
- Reduce pops and clicks when changing the loop points of a sound that is playing.
- Fixed potential glitches caused when clicking the GUI keyboard or changing parameters at the same time as playing audio.
- Fixed letters from being cut off when pasting text into a text input.
- Fixed the value from jumping after releasing the shift key when doing fine adjustments with a parameter.
- Made the default location for libraries, presets, and settings files to be in an 'all-users' location, meaning that any user of the PC has the same configuration of Mirage. This only applies if you are doing a fresh install of Mirage. These are the specific changes:
  - Mac: the settings file is now saved in /Library/Application Support/FrozenPlain/Mirage/Settings
  - Windows: the settings file is now saved in C:/ProgramData/FrozenPlain/Mirage/Settings and the libraries and

presets are now saved in C:/Users/Public/Documents/FrozenPlain.

## Version 2.0.2

- Fix crash when trying to load a preset when you have no preset folder set.
- Fix being unable to set a preset folder if the path had non-latin characters in it.
- Improve speed of waveform GUI loading and background image loading.
- Fix crash when clicking randomise instrument when there is no library loaded.
- Make purchasable libraries and news much more unobtrusive. It is now opt-in and much more out of your face.

## Version 2.0.1

- Speed up background image loading.
- Fix potential crash when closing the GUI window on Mac.
- Fix potential crash when moving a knob at the same time the DAW is automating it.
- Windows installer: improvements to its reliability and display more information in the log and on the completion screen.

## Version 2.0.0

- Brand new GUI “ with improvements to both visuals and functionality.
  - Each library now has its own background image and icon.
  - ADSR envelopes now have a custom GUI instead of 4 sliders.
  - Looping and sample-start controls have been improved and combined into a custom GUI, instead of a set of sliders.
  - Libraries on the side panel are more compactly organised and feature icons and backgrounds, making it easier to find a library at a glance.
  - Mirage news messages are shown at the bottom the side panel rather than covering the main area, and can be more intuitively hidden or dismissed.
  - The GUI keyboard can be hidden.
  - The preset browser has an improved look, a “search” feature and a corresponding randomise button.
  - Change the mouse cursor when hovering over controls.
  - Numerous minor UX and UI improvements throughout.
- New and improved effects.
  - Brand new high-quality reverb and delay algorithms. These are much better than the old versions. However, for backwards compatibility, a “legacy mode” button is available.
  - Added a Phaser effect.
  - Added the ability to reorder the FX.
- New ADSR envelope for each layer’s filter.
- Added a button to randomise the whole FX rack.
- Improved speed for loading instruments.
- Increased the precision of note’s start times based on the given MIDI.
- Windows installer: improved the default suggestion for where to install VSTs.
- Windows installer: improved some crash handling.
- Windows installer: added an easy-install mode.

## Version 1.2.2

- Added a set of features for hiding news, updates and available-to-buy libraries for a more distraction-free workflow. Specifically, these are: (1) there are now 2 options in the settings menu for permanently hiding news or updates. (2) When you first install Mirage, it will no longer show a whole list of old news. (3) When the first news item appears, another box will appear alongside it, allowing you to select “never show me these” (which can be later changed in the settings menu). (4) Next, the “available-to-buy” section of the library picker can be toggled open or closed; your preference will be saved for the next time Mirage is loaded up. (5) Finally, if you own all the libraries of Cinematic Atmosphere Toolkit, it will not show in the available-to-buy, the same goes for Music Box Suite and Music Box Suite Free.
- Fix a bug when the DAW was automating parameters that the parameters would not move the GUI until you hovered over them.
- Fix a bug where turning the convolution effect would continue playing the tail of the sound from when it was previously turned on.
- Added an “info” button on each layer that appears when an instrument is loaded. Clicking it reveals some stats about the instrument.
- Added 2 new cathedral-style convolution reverb impulses.
- Make the panic button silence all of the effects as well as the voices.
- Fix bug where the preset name would not change after saving it to a file until you manually triggered the GUI to update (such as moving the mouse).
- Allow the Wet knob of the Convolution effect to go up to 3dB.
- Allow MIDI CC values to be more permanently assigned to parameters in Mirage. This is done by right-clicking a

- parameter, “MIDI learning” it, and then right-clicking the parameter again and turning on “Always set MIDI CC”.
- Popup text displaying the numerical value of a parameter now shows when it was moved by a MIDI controller as well as the mouse.

## **Version 1.2.1**

- Fixed a bug where there would be a peak of volume after changing the master volume when no voices are playing.
- Mac: fixed a bug where changing the sample rate in Logic would cause sync issues.
- Mac: add native support for running on M1 Macs as well as Intel.
- Mac installer: the default for presets is now /Library/Application Support/FrozenPlain due to it being more accessible to DAWs such as Garageband. If you already have a presets folder, new presets are installed to that location.
- Internal: add support for smooth blending of velocity layers in an instrument such as Terracotta.

## **Version 1.2.0**

- Added a button to the settings menu to randomise all of the parameters of Mirage at once. It tries to be smart about the randomisation to produce usable results. Only works if a library is loaded.
- Added a button to the MIDI tab of each layer for setting whether notes should retrigger while the sustain pedal is held. The default of this control is to be turned on. However, the old behaviour (turned off) is maintained when loading presets or old DAW projects.
- Fixed a bug where the pitch and detune of a layer with “keytrack” turned on would do nothing. Loading old presets and DAW projects will set the pitch to 0 for non-keytrack layers (which recreates the old behaviour).
- Fixed a bug where a layer would be silent if the sample offset was way beyond the end position of a ping-pong loop. The old silent behaviour is recreated when loading old presets or DAW projects that inadvertently had this bug so as not to introduce unexpected results.

## **Version 1.1.7**

- Fixed a very rare bug where loading an instrument would cause a crash.

## **Version 1.1.6**

- Windows: fixed a bug where the installer would sometimes not open.
- Windows: fixed a bug where preset folder paths using non-latin characters were not handled correctly.

## **Version 1.1.5**

- Fixed a bug where parameter names would just show as {}.
- Fixed a rare bug that would cause the plugin to stall at startup.

## **Version 1.1.4**

- Fixed a bug that caused the plugin to be blacklisted in Cubase.
- Fixed a bug that caused the plugin to stop some keyboard shortcuts from reaching the DAW.
- Fixed a bug that caused the GUI window to flicker when trying to click back on the DAW window.

## **Version 1.1.3**

- New feature: add even slower times to the LFO, both synced and unsynced.
- Fixed a click that sometimes occurred when looping a sound without any crossfade.
- Fixed a bug where the delay effect would switch off even when it still had audio to play.

## **Version 1.1.2**

- AU: Fixed issue that sometimes caused the plugin to not be found on OSX 10.10.

## **Version 1.1.1**

- AU: Fixed bug that caused Mirage to not sync the rate of the LFO and Echo to the host’s tempo.

## **Version 1.1.0**

- New feature: Added a new simple-but-effective preset browser. It is opened by clicking a new button at the top of the GUI. Preset subfolders are selected on the left panel of this browser, and preset files are shown on the right

- panel. You can navigate presets using keyboard arrow keys. New features will be added to this browser in future updates.
- New feature: Added notification popups to display new versions of Mirage, and other related news. These appear to the right of the side panel when it is open. These notifications do not interrupt any functionality and each one can be permanently dismissed.
  - Greatly improved CPU performance.
  - Debugging: Improved performance of logging.
  - Fix plugin from stealing keyboard messages away from DAW.
  - Mac: Fix bug with plugin becoming silent after a little while.

## **Version 1.0.14**

- Fixed potential crash with the startup of the plugin.
- Debugging: Enable a better subset of log messages.

## **Version 1.0.13**

- Debugging: Only log warning or error messages.

## **Version 1.0.12**

- Fix potential crash when first starting up the GUI.
- Windows installer: Fix potential crash when trying to write large MDATA file.

## **Version 1.0.11**

- Fixed hang that sometimes occurred during startup.
- Fixed potential crash with loading an instrument.
- Internal: Improved debug logging system.
- Mac: Improved consistency of open/save file dialogue windows.

## **Version 1.0.10**

- Mac: Improved handling of new config path in library/presets installer.

## **Version 1.0.9**

- Fixed bug where setting the loop end to 100% would stop the layer from making any sound.
- Improved the popup menu behaviour.

## **Version 1.0.8**

- Mac: disallow mono instances of the AudioUnit plugin. Mirage only functions stereo.
- Improvements to the PDF manual.

## **Version 1.0.7**

- Mac: Added deep codesigning to VST and AU bundles.

## **Version 1.0.6**

- Improved plugin stability.
- Windows: Fixed bug where the whole DAW was being shutdown when closing the GUI window. (PostQuitMessage() was being called when the GUI window was closed).
- Fixed bug with popup submenus flickering on some computers.
- Fixed crash caused by multithreading issue that happened in DAWs such as Cubase.
- Multithreaded voices are now off by default and can be turned on in the settings menu.
- Mac: Fixed error where preset folders could not be written to when trying to save a preset file (the installer now writes files and folders with less strict permissions).
- Mac: Fixed missing / at the start of the folder names for the postinstall script.
- Mac: Moved config file save location to be user Music directory instead of Application Support.
- Debugging: Log files write separate log files for each format – AU/VST/Installer etc.
- Debugging: OSX installer logs are written to separate files in /tmp.

## **Version 1.0.5**

- Fixed potential crash caused by fetching available library list from online.

## Version 1.0.4

- Windows: Fixed issue with installer where file paths with non-English characters would fail to write.
- Fixed multi-threaded related crashes.
- Reduced pops and clicks when turning on or off effects.

## Version 1.0.3

- Fixed audio pops when starting an instrument with 0ms attack.
- Fixed audio pops when using square or sawtooth LFOs.

## Version 1.0.2

- Added a check when loading a library for if the current Mirage version has the features required for the library.
- Detune slider is now skewed to be more precise for adjustments close to 0.

## Version 1.0.1

- Mac version released.
- Fixed a bug where saving the plugin state after it failed to load would forget about the failed plugin state.
- Fixed a bug where trying to load a preset from a library that is not installed would cause a crash.
- Made the column headings fit better in the Windows installer.

## Version 1.0.0

- Initial release.

# Obelisk Documentation

## Installing Obelisk

Simply run the installer application and follow the instructions. Obelisk is currently available as a VST2 (for Windows and Mac), and Logic X AU plugin (for Mac). If you use Logic X as your DAW then use the AU version, for any other DAW use the VST version. If you would like to learn more about what these different formats are, see <https://frozenplain.com/audio-plugin-formats/>.

Extra info: The AU version of Obelisk is designed for Logic X. It will not work with Logic 9 or lower. It also is not guaranteed to work in other DAWs aside from Logic X. For these other DAWs, it is recommended that you use the VST version instead. Obelisk works as a MIDI FX in Logic and is opened in the MIDI FX slot on the mixer tracks.

## Connecting Obelisk to a Synth

VST: The way that Obelisk is connected to a synth is different for each DAW. Obelisk needs to receive MIDI input and needs to be routed to output MIDI into something else. There is an instructions page on <http://frozenplain.com/products/obelisk> showing how to set up Obelisk in some of the popular DAWs.

Logic X: In logic, Obelisk is opened as a MIDI FX plugin in your instrument mixer tracks.

## Top Section

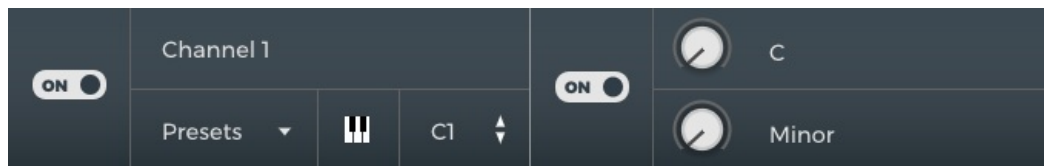
- The menu button shows a selection of options. As will all controls, a tool tip will appear explaining them when hovering the cursor over each.
  - GUI size - lets you set the size of the GUI. This setting is global to all instances of Obelisk.
  - GUI theme - lets you set the colour scheme of the GUI. This setting is global to all instances of Obelisk.
  - Default constrain search down - subtly changes the constraining algorithm. When shifting a note to fit into the constrained scale, the algorithm will try to match intervals of the same type. For example if the interval is a

third, it will always try to keep third (either major or minor) if that is allowed. If there is no obvious way it should be shifted (for example a tritone), then this option is taken into account. When set to search down, the note will be shifted down to the next available interval (for example tritone to 4th), else it will be shifted up (tritone to 5th).

- Repeated notes retrigger - when there is a note that is already down, that is pressed down again, should the note retrigger (send a note-off message followed by a note-on), or just sustain the notes. Sustaining usually works nicely for pad type sound, while retrigger usually works better for sharp sounds.
- Show interval names - toggles the text on the note picker GUI.
- Always show key and scale on keyboard GUI - Toggles whether the key and scale should be always shown, or if not whether only when constrain is on.
- Toggle whether tooltips should appear after hovering on a control for a moment.
- Set all keyswitches macro - a handy way of setting all the keyswitches to a range that is useful to you.
- Third-party licences - text and licences related the third party tools used to help make Obelisk.
- About - description of Obelisk.
- Edit user scales shows a menu allowing you to pick the exact interval and names of the custom scales.
- Load preset shows a menu for loading an .obelisk file from your computer.
- Save preset opens a dialog box allowing you to pick a name and location to save the current state of Obelisk to a .obelisk file.
- The midi channel selector can be dragged vertically to select which midi channel Obelisk should output to.
- ON button - this switch will bypass all of Obelisk's MIDI generation, meaning notes will pass through the plugin unchanged. This can be automated.

## The 4 Slots

Obelisk consists of 4 identical slots, only 1 channel can be active at a time. Having multiple slots allows you to easily change between chords, keys and scales as you play. The ON switch on the left of each is used to select which slot is currently active. This can also be done with keyswitches. Just right of the PRESETS button is a keyswitch icon, this can be toggled on and off. When on, when the key is pressed (set by the control just right of the button), this slot will become active. The second ON switch will turn on the constraining algorithm. When on all output from this slot will be constrained to the key and scale set by the 2 knobs just next to it.



## Note Picker

Each slot has its own chord picker, this is shown on the right of the GUI. The chord picker shows the chord for the current active slot. This is the interface that you use to select the intervals that you want to harmonise the input with. This is simply done by clicking on the notes that you want. Active notes are highlighted blue. If you select no notes, there will be no output from Obelisk.

Chord Picker: Channel 1	
15	Minor 3rd (+1)
14	Major 2nd (+1)
13	Minor 2nd (+1)
12	Octave (+1)
11	Major 7th
10	<b>Minor 7th</b>
9	Major 6th
8	Minor 6th
7	<b>Fifth</b>
6	Tritone
5	Fourth
4	Major 3rd
3	<b>Minor 3rd</b>
2	Major 2nd
1	Minor 2nd
0	<b>Unison</b>
-1	Inverted Major 7th
-2	Inverted Minor 7th
-3	Inverted Major 6th
-4	Inverted Minor 6th

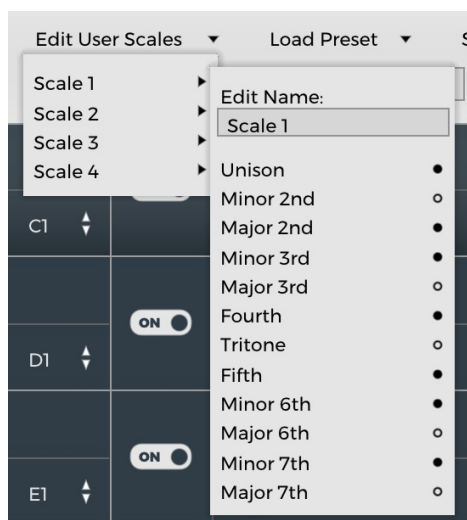
## Keyboard

The GUI keyboard shows you lots of information about the MIDI input and output of Obelisk. The range that you want to show can be chosen with the left and right arrows either side. In the picture below the bottom 3 white notes are highlighted in a dull blue. This is to indicate that they are keyswitches. You will also note that throughout the whole keyboard some notes are slightly coloured. This shows the current key and scale that you have selected. Right above the keyboard is the area where the notes that you play into Obelisk are shown. You can see a small marker above the G4 in this image. The bright blue notes show the output of Obelisk.



## Custom Scales

Obelisk has the option for you to create custom scales. This is done by just selecting the intervals that you want using the buttons in the menu. These custom scales are available from all of the 4 slots. They can be found as the last 4 options of the scale knob. As well as vertically dragged, the scale sliders can be right clicked which will bring up a menu.



## Setting up Obelisk in your DAW

Obelisk is a MIDI instrument and can be connected to any source that accepts MIDI, for example software synths and samplers. The way this is done is different for each DAW. This page explains how it is setup in some of the popular DAWs.

### Logic X – Use AU

- Add a new software instrument track and pick a synth
- Open the mixer panel
- On your new synth track click the MIDI FX button and add Obelisk



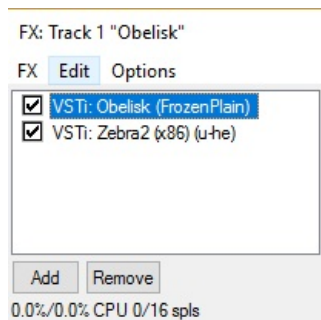
## Ableton Live â€” Use VST

- Add Obelisk to MIDI track
- Add synth plugin to a second MIDI track
- Both tracks have to be armed. Abletonâ€™s default settings only let you arm one track at a time, in which case you have to press ctrl+click on the arm recording button (command+click on Mac)
- On the In/Out section of the second track with the instrument plugin, change the Input Type of MIDI From â€” All Insâ€™ to â€”Obeliskâ€™
- Underneath Input Type is Input Channel. Change it from â€”Pre FXâ€™ to â€”Obeliskâ€™



## Reaper â€” Use VST

- Add a new virtual instrument track and select Obelisk
- In the FX window for this track you will see Obelisk listed as a VSTi on the left
- In the bottom left of this window is an Add button, press this and select the synth you want â€” the synth needs to be after Obelisk in the chain



## Cubase â€” Use VST

### Option 1: Obelisk Routing to a Single Synth:

- Add Obelisk to the project as a VST Instrument
- Add any other synth to the project that you would like to control
- In the synth trackâ€™s inspector, select Obelisk as the trackâ€™s MIDI input
- Enable â€œMonitorâ€ (little speaker icon next to Record Enable) on the synth track
- Arm Obelisk for recording and play

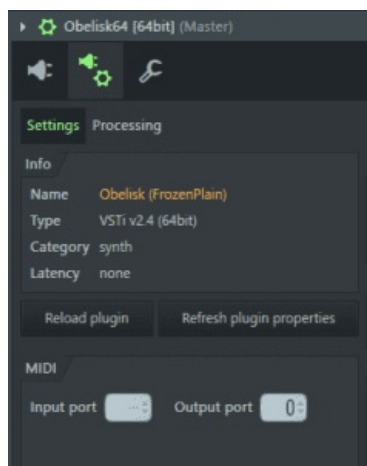
### Option 2: Obelisk Routing to Multiple Synths (up to 4):

- Add Obelisk to the project as a VST Instrument
- Add a MIDI track
- In the MIDI trackâ€™s inspector, select Obelisk as the trackâ€™s MIDI input
- Also in the MIDI trackâ€™s inspector under the â€œMIDI Sendsâ€ section, enable 1 send (up to 4) for each synth you wish to control
- Set the MIDI Send destinations to the MIDI inputs of each synth you would like to control
- Enable â€œMonitorâ€ on the MIDI track
- Arm Obelisk for recording and play



## FL Studio – Use VST

- Add Obelisk and your synth plugin to the channel rack
- Open Obelisk, and click the gear icon in the top left of the window
- Click the plugin settings button that appears – see picture
- Set the “Output port” to a number of your choosing
- In your synth plugin open the same settings GUI and set the “Input port” to the number you have chosen



## Studio One – Use VST

- Add Obelisk to one track
- Add your synth to another track
- The synth track needs to be enabled for input by clicking the blue button
- Set the MIDI input of the synth track to be Obelisk

