# RESOMONICS

## INSPIRING INSTRUMENTS FOR COMPOSERS

www.resomonics.co.uk

# REFLECTION

## VERSION 1.7

# Table of Contents

# INTRODUCTION

'Reflection'  is an inspiring Cinematic sound library and tool for composing Soundtracks and trailers. Perfect for anything from a subtle underscore to driving action. It contains over 400 designed presets and a highly flexible interface with a multitude of tools for designing your own sounds, rhythms / pulses and arpeggiations.

There are LFO's for pitch, volume, pan and filters as well as an arpeggiator with powerful randomisation. In addition there are a multitude of effects to help design your sound!

The included samples are exclusively recorded from two 80's 'toy' keyboards and processed to get the best sound quality. The sampled waveforms have a lovely raw & imperfect character, and are a great starting point for the library. Some of the samples were also 'mangled' through various means to produce more complex sounds.

The majority of patches are mapped from C0 or C1 to C6 and I encourage to try both the low and the high, as they often give a completely different feel / sound. There are various rhythmic sounds / pulses included which take advantage of the step and filter sequencers and oscillators, as well as some prepared arpeggiations. These are both meant to showcase what can be done and again, I would encourage you to explore and create your own rhythms and arpeggios - and if the existing ones don't quite match the feel or pace you need, just grab the Sync knobs and change the timings. You are also provided with a powerful randomisation tool to quickly look for inspiration and if you find something you like you can save it!

Automating the filters and LFO's can also give some excellent results!

The following information is an overview of the interface showing what is available ands what everything does; for the best experience, explore everything and see what you can come up with! You can also find an interface tutorial on the Resomonics web site. All knobs, sliders and buttons also have help text associated with them in Kontakt, so just hover over something and view the help text at the bottom of Kontakt for more info.

Since version 1.5, you can now alter the sound for each of the 3 layers separately, allowing you to have different envelopes, filters, pitch and start positions for each of them. Also included are some Raw unprocessed patches with either 2 or 3 layers to encourage you to design your own sounds! In 1.6, the ability to have separate LFO's and Filter sequence for each layer was also added as well as individual send levels per layer for the send effects.

As with any Kontakt insprument, Cmd (Mac) / Ctrl (Windows) clicking on any control will set it back to its default value and holding shift will allow finer adjustment of controls.

Happy composing.

## CHANGES IN VERSION 1.7

- 3 More Filter Types added to Layers Page
- You can now select from 6 Filter Types for Pre-Filter Rhythm & LFO
- A Different filter type is allowed per Rhythm layer
- 60 New Patches (Now at 435!)
- New patches in: Synth Rhythm, Soundscapes, Pads, Multi-Rhythms, Drones, Distopia, Ambient Keys & Pads
- Minor GUI Updates (Menu's)
- Fixed some looping on Raw starter patches
- Updated Manual
- Minor Bug Fixes

## CHANGES IN VERSION 1.6

- Separate Source LFO's for each of the 3 layers (Gain, Pan & Pitch)
- Separate Pre-FX Filter, Filter Sequence & Filter LFO's for each layer
- Pre-FX Filter sequencer can now be enabled separately for each layer
- Different Filter Sequencer pattern per layer
- Filter sequencer increased to 64 steps to allow smoother patterns
- 20 New Convolution IR's including Ambient Reflections, Reverse, Spacious & Rooms
- Rhythm & Effects pages GUI updates
- Mini mixing tools added to Rhythm & Effects pages for easier sound design
- 10 New custom sampled Toy Synth sounds, 1980's drum machines samples and 2 Drone samples added
- Now 967 samples
- New Multi Rhythms / Pulses added taking advantage of separate LFO's
- New Soundscape preset category added with new samples
- New Ambient preset category using the new IR's
- 84 New Designed Presets taking the total to 375!
- 12 New Starter patches taking the total to 96

## CHANGES IN VERSION 1.5

- Complete graphical re-design
- All controls now have help associated with them, so no more wondering what things do!
- Envelopes and Filters now separate for each of the 3 Layers offering much more powerful sound design
- You can link layers to edit as one if required
- Link / unlink button can be locked to prevent accidental changes to other layers
- Sample start position and random start position added
- Random pattern generator for Pre-FX filter added
- Step sequencer and Arpeggiator now combined in one page
- Complete randomisation of all arpeggiator parameters added!
- Set what parameters to randomise and the minimum / maximum ranges
- Handy step shortcut buttons added to quickly fill all / clear all steps
- Handy step shortcut buttons added to quickly select 4, 8, 16 or 32 steps
- Ability to Save and load all parameters or rhythm for use in other patches added
- Forward and back navigation added to most menu's for easy browsing
- 80 New designed patches added bringing the total to 278
- Includes 10 new Drones that crossfade between layers using the Mod-wheel
- In addition 13 Dry percussion patches added

- 83 Raw initialised patches with 2 or 3 sample layers added to allow easy sound design from scratch
- New user manual with much more detail
- Please note that the Post FX-Filter in the Rhythm has been removed as I didn't think it was worth having and also the Source sequencer is now part of the Arpeggiator page making it much more powerful and introduces the ability to randomise.
- All original patches have been upgraded to reflect this and therefore nothing has changed with the sound of the existing the designed patches from version 1.0

## 1.7 INSTALLATION

New

If you are installing for the first time, just copy the whole 'Reflection 1.7' folder in the location of your choice and then browse to it through Kontakt. You can then add the instruments to Kontakt's quick access menu if you like.

Upgrading Versions prior to 1.6

If you are upgrading from any version before 1.6 you must install 1.7 it as a separate instrument. The older version can be kept should you need to use it in older projects. To install, just copy the entire folder structure to a drive / folder of your choice! If you have any existing projects using an earlier version, this is the recommended way of upgrading. You can then add the instruments to Kontakt's quick access menu if you like.

Upgrading 1.6 or newer

If you are upgrading from version 1.6 or newer, you can either install as above as a new instrument using the full zip, or you can install the 1.7 upgrade. To do so, first copy Reflection_1_7.nkc and Reflection_1_7.nkr into the root of the main Reflection folder, replacing the original files. Then replace the instruments folder with the new one - you can either delete the old folder if you don't need it, or rename to something like 'Reflection 1.6'. Finally, replace the documents folder to get the latest version of this manual.

If upgrading like this, don't forget to update / replace your Kontakt Quick Access menu with the new instruments.

## PATCHES, IR's & SAMPLES

Included in Reflection 1.7 are now 425 designed patches to inspire you when composing. Using all of the tools at hand, you can also alter the sounds to suit your needs. Patch categories include:

Pads, Synths, Drones, Bass, Ambients, Soundscapes, Distopia (New in 1.7), Cinematic Hits and Noise, Rhythms, Arpeggiated,
Mod-wheelMod-wheel Drones, Dry Percussion

Patches added to new version are identified with the version number in brackets, e.g. Distopia Short 01 (1.7). This is the same for folders. The Distopia category is new for version 1.7 and contains highly distorted synths and pads, influenced by the excellent Blade Runner 2049 score!

The Mod-wheel drones contain either 2 or 3 layers which you can crossfade between using the Mod-wheel in order for the sound to evolve - best when moved slowly.

The Dry percussion patches are unprocessed so you can use as is or add your own required Reverb, Delay etc. Added to 1.6 were sounds from a 1980's RX drum machine.

## Raw Starter Patches

Added from version 1.5 are Raw Starter Patches containing either 2 or 3 layers of samples already loaded, but are completely untouched with all effects off and setting at default. These are meant to be a starting point for you to design your own patches from scratch and should not be used as is! You can mute layers you don't need, or if you are familiar with dealing in to the mapping editor of Kontakt, you can delete samples from layers you do not want.

All of the new designed patches (except the Mod-wheel Drones) were created using these Raw Starter Patches as the basis.

## Use your Own Samples

You can of course start from the Reflection INIT patch and load up your own samples to make use of the tools that Reflection provides. I am not going to go into detail here on how to do that, you should therefore refer to the Kontakt manual if you are not familiar with how to do so.

I will however note that samples for Layer 1 should be loaded in to 'Layer1_RR1', layer 2 into 'Layer2_RR1' and of course layer 3 in to 'Layer3_RR1'. If you wish to use samples that have different takes for round robins, then load those in to RR2 - RR4 in each layer as required.
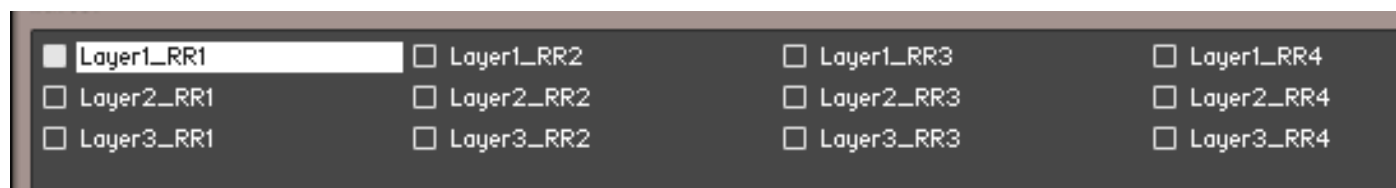
## INTERFACE

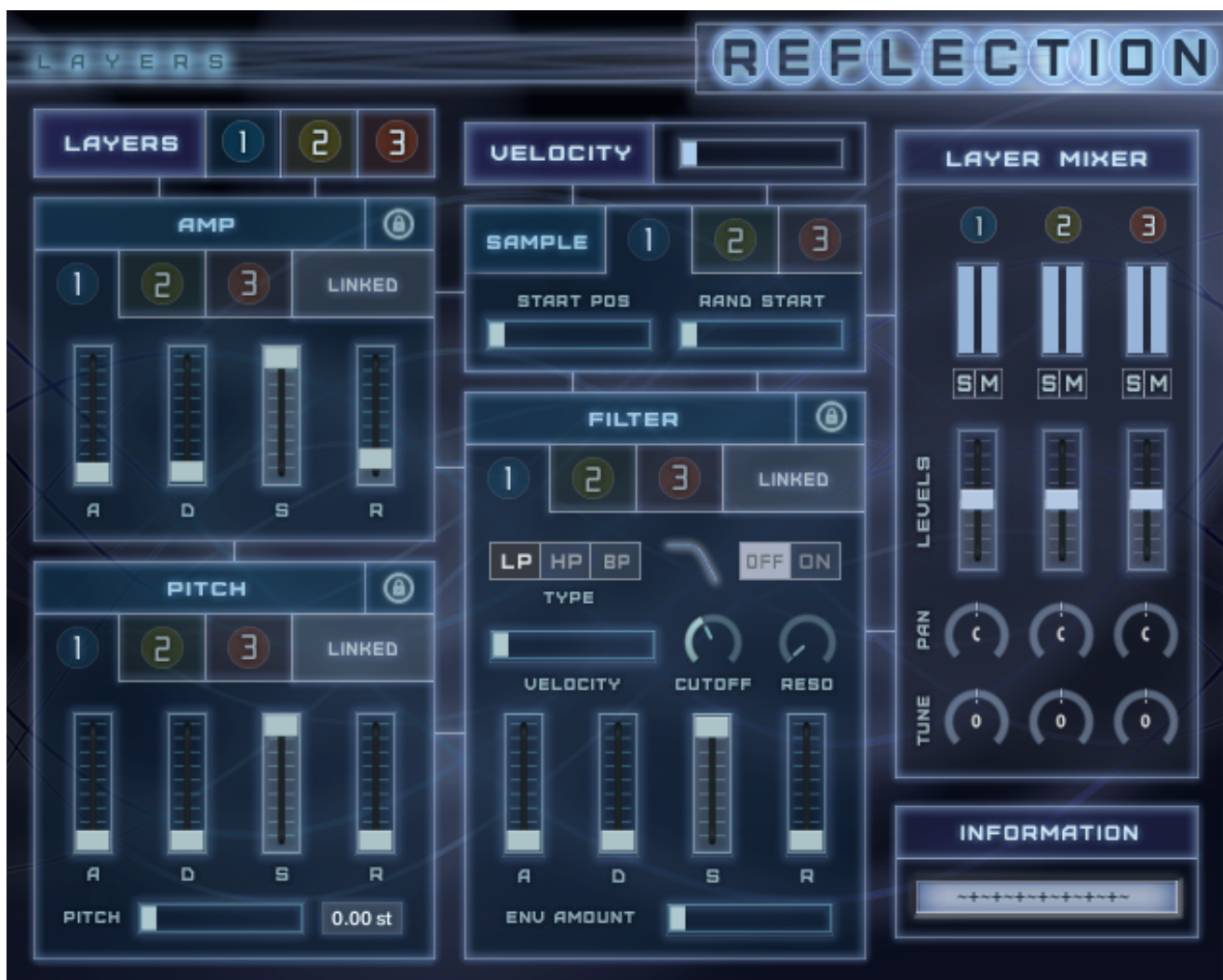Reflection is divided in to 5 main tabs, which can be accessed using the buttons at bottom, as shown here:
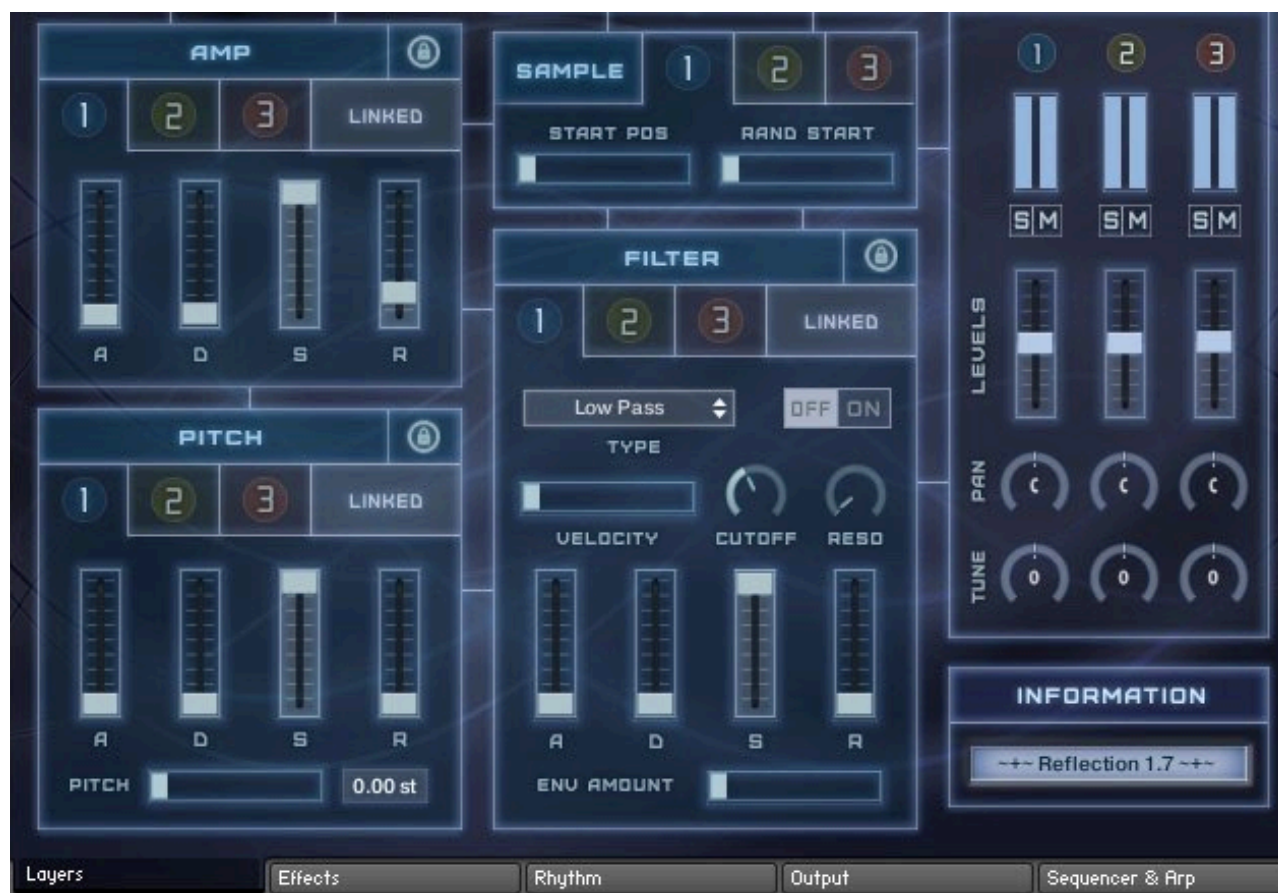


The 'Effects' & 'Rhythm' pages both have 2 sections available (making a total of 7 pages altogether). These can be accessed via the the buttons located at the top left as when here:

## THE LAYER PAGE



This is a great starting point for sounds, offering ADSR Amp, Filter and Pitch Envelopes to shape the sounds, as well as a High Pass, Low Pass and Band Pass filter and since version 1.5, you can now change the position of the sample start or randomise it. Some patches feature 2 or 3 layers of sounds, and version 1.5 allows you to edit each layer separately, vastly increasing the scope for sound design!

## Information Panel

This panel displays the parameter for the current control being adjusted and other useful information such as the layer selected or type of filter selected.
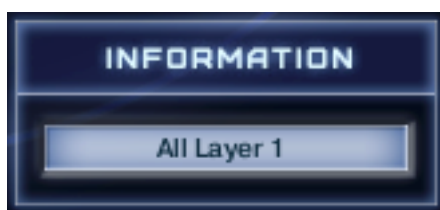
## Layer Section

You can access each of the 3 layers via the circular numbered buttons, either using the 'all layer' buttons which will switch all of the sections together (Amp, Pitch, Filter and Sample):



Or you can switch each individual section separately using the buttons below the title, for example:



To help you differentiate between layers, they are coloured differently

## Layer Linking & Locking

The Amp, Pitch and Filter section can have their 3 layers linked if desired. Linking layers means that when you alter setting for one layer, the other 2 layers will be altered to match. E.g. if you have the link on and are on layer 2 of the Filter section, turning on the filter or changing the filter type will be applied to layers 1 & 3 at the same time. Alternatively, if not linked, then each layers parameters will be independent of each other.

To either Link or Un-link a section, click on the button to the right of the layer switches, which will display the current star - 'Linked' or 'Link':



**NB**: If the layers are not currently linked, then linking them will copy all of the parameters from the currently selected layers to the other 2, making them all the same. E.g. if you are on layer 2 of the Amp section, clicking to enable the link, will set the faders in layers 1 & 3 to exactly the same as layer 2.

Therefore, a 'Lock' button is provided which will lock the state of the link button and disable it, so clicking on it will not do anything (apart from letting you know that it is locked). To enable this, simply click on the small lock icon to the top right of each section:
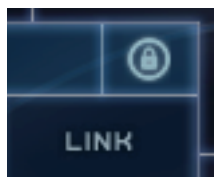


The lock will light up when enabled and you will also briefly see this where the link state is displayed:



Why would you want to lock the link? Well, if you had spent some time designing a sound with completely different parameters for each of the 3 layers, the last thing you would want to do is click to link layers by mistake and lose all of the hard work as each layer is set to the same - locking the button will prevent this from happening. I would encourage you to keep locked at all times until you are absolutely sure you want to use the link button. By default the lock is enabled on all patches provided.

*Note: The sample section are always separately controlled and therefore do not have either a link or lock option.*

## Velocity Section

This affects the velocity sensitivity; all the way to the left will mean all notes will play at full velocity / all the way to the right will give the most velocity sensitivity.

*Note: This slider effects all 3 layers and they cannot be altered separately.*

## Sample Start Section

This section allows you to adjust options relating to sample start which is separate for each layer:

Start Pos - *Adjusts the point at which the sample is played from. All the way to the left, it will play from the start of the sample and all the way to the right it will play from 40% into the sample.*

Rand Start - *This introduces a random element to the start position from between 0-30%*

## Amp Section

This section allows you to adjust the ADSR Envelope for the volume of the sample. Adjust the Attack (A), Decay (D), Sustain (S) and Release (R) sliders as required. E.g. Setting the Attack slider to the top will increase the volume gradually from nothing to full over a slow period of time.

## Pitch Section



This section allows you to adjust the pitch envelope parameters for each layer. You set the required pitch using the slider at the bottom and then the Attack (A), Decay (D), Sustain (S) and Release (R) required to achieve the pitch. E.g. setting the pitch to 12.00st and the Attack to the top will start at the original pitch, and slowly rise to 12.00st.

## Filter Section



With this section you can apply a High Pass, Band Pass or Low Pass filter to each (or all) layers and adjust various parameters and the envelope relating to the filter.

Off/On - *Turn the filter on for off*

Type - *Select from 6 filter types; Low Pass, Band Pass, High Pass, Multi LP/HP, Vowel & Ladder Notch*

Cutoff - *Set the frequency above which the sound is attenuated by the filter*

Reso - *Sets the resonance (boost at the cutoff frequency) for the filter*

Velocity - *Affects how much of the filter is applied based on the velocity.*

Env Amount - *How much affect the Filter Envelope has on the sound; all the way to the right will just be the envelope.*

## Layer Mixer

The mixer allows you to adjust the volume, pan and pitch of the individual layers.

The meters will show the volume levels and will flash red at the top if too loud.

The Solo (S) and Mute (M) buttons are useful when designing a sound to be able to work on each layer individually.

The level sliders adjust the volume of the layers.

The Pan dials adjust the position in the stereo field of each layer

The Tune dials adjust the pitch in semi-tones of each layer from -36st to +36st

## EFFECTS PAGES

The Effects page contains 2 sections; Source and Filters, which are accessed via the appropriate button:

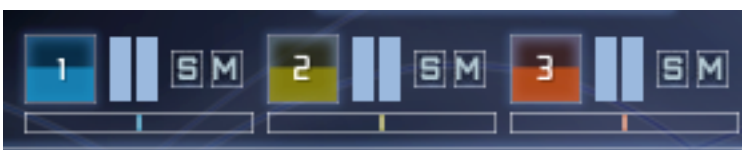The top section is the same for both section and the controls apply to both:

## Information Panel

This panel displays the parameter for the current control being adjusted and other useful information.
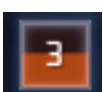
## The Mini Mixer

When adjusting the send level of the different layers it is useful to Solo and Mute layers in order to listen to each individually. Therefore, rather than having to switch to the Layers page constantly, a Mini Mixer is provided on the Effects page as follows:

It may be small, but it is very useful and the values are shown in the information panel to help. This is what everything does:

Volume

The square showing the layer number is the volume control - just drag it up and down like a slider to adjust the level - the fill colour moves up and down to indicate the level.

Meter



To the right of the square is a mini level indicator, which has no function other than to show the relative level of the sound.

Solo / Mute



To the right of this are the Solo and Mute buttons. Just click to enable or disable the relevant button.

Pan



Finally, below the above controls is the pan control. Just drag it left or right to pan an the colour fill will show the pan amount.

## INSERT EFFECTS PAGE



This section is accessed by clicking the effects tab at the bottom and then the 'Insert Effects' button at the top.

The effects on this page are inserted directly into the sample layer and are therefore fully applied to the sound at source.

*Note: The effects are applied to all 3 layers and cannot be applied separately*
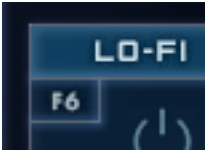
## Power Switch

To enable an effect just click the power button in the related panel:



The button will light up, as will the surround to the panel.

## Keyswitch



The note shown to the left of the power button indicate the Keyswitch for that particular effect. This Keyswitch works by enabling the effects when the key is pressed and will remain on whilst continuing to press. The effect is then disabled once you release the key.

This allows you to apply effects on the fly whilst playing. For example you might want to play a clean phrase followed by dirtying it up for the 2nd play through.

## Effects

The effects provided here are primarily for 'dirtying up' the sound.

## Lo-Fi
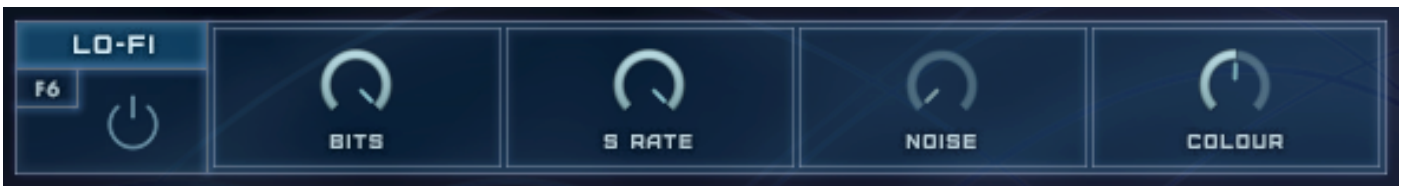


This adds digital artefacts, like quantisation noise or aliasing and will really 'rough up' a clean sound.

Bits - *Re-quantises the signal to an adjustable bit depth. Fractional bit levels (such as 12.4 bits) are possible and can add considerable "grit".*

S.Rate (Sample Rate) - *Re-samples the signal to an adjustable sample rate. The re-sampling is done without any kind of (usually mandatory) low-pass filtering, which causes all kinds of wonderful aliasing artefacts. The sample rate goes all the way down to 50 Hz, which will not leave much of the original signal.*

Noise - *Adds hiss to the audio signal.*

Colour - *Adjusts the frequency characteristic of the noise and acts as a low-pass filter.*

## Skreamer
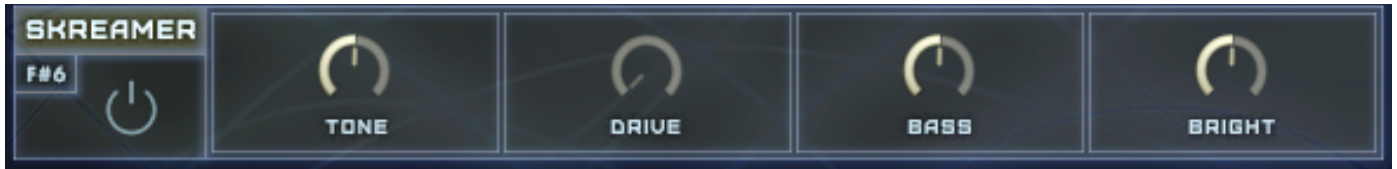


This offers an alternative overdrive algorithm that sounds warmer and smoother than the Drive effect.

Tone: *Controls the brightness of the sound. Turning this knob clockwise will result in a more pronounced top-end, which works great on bright, screaming leads and biting rhythms. Turning it counter-clockwise results in a mellower, darker sound.*

Drive - *Adjusts the amount of distortion.*

Bass - *Adjusts the low frequency gain.*

Bright - *Adjusts the high frequency gain.*

## Drive



This causes distortion by clipping or rounding off high sample values. It thereby simulates the behaviour of overloaded transistor or tube circuits, adding artificial harmonics to a sound.

Drive - *Adjusts the amount of distortion.*

Damping - *Turning this knob clockwise attenuates high frequencies in the output signal, thereby counteracting the brightness caused by the artificial harmonics.*

## Saturation



This allows you to recreate the effect of tape saturation, which causes an increase of high-level energy in your signal.

Amount -  *Adjusts the transfer curve. A negative setting results in a characteristic that will expand the signal — lower sample values will be attenuated, higher values will be amplified. Positive settings do the opposite and thusly simulate the compression-like saturation of an analogue circuit. At a value of 0.0,*

*the signal will pass the module unprocessed.*

## Jump
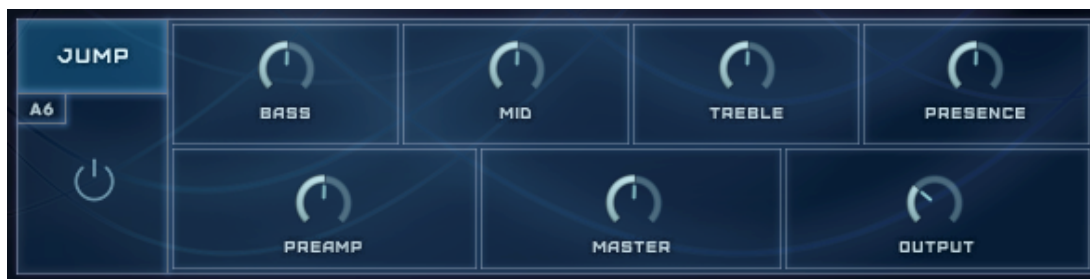


This effect simulates the classic tone of British guitar amplifiers. Be wary, this effects causes extreme distortion and loud levels so use with caution - start with the output turned low!

PreAmp - *Sets the amount of gain added by the preamp. Turning it clockwise adds drive, distortion and edge to the sound.*

Master - *Adjusts the amp's master volume.*

Bass - *Adjusts the low frequency response.*

Mid - *Adjusts the midrange frequency response.*

Treble - *Adjusts the high frequency response.*

Presence - *Boosts the frequency response in the upper midrange.*

Output - *Adjusts the module's output level.*

## SEND EFFECTS PAGE



This section is accessed by clicking the effects tab at the bottom and then the 'Send Effects' button at the top.

The effects on this page are on the output bus and as such the amount of the effects can be adjusted with the gain controls.

The effects on this page are routed to send bus, and the level of how much effects is sent for each layer can be controlled with the send level faders. However, the settings for the effects cannot be different for each layer and will be the same.
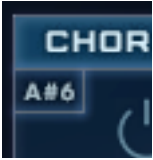
## Power Switch

To enable an effect just click the power button in the related panel:



The button will light up, as will the surround to the panel.

## Keyswitch

The note shown to the left of the power button indicate the Keyswitch for that particular effect. This Keyswitch works by enabling the effects when the key is pressed and will remain on whilst continuing to press. The effect is then disabled once you release the key. This allows you to apply effects on the fly whilst playing. For example you might want to play a clean phrase followed by dirtying it up for the 2nd play through.

## Gain Level

Each effect has a gain level; this actually determines how much of the effect is 'returned' to the sound, but is effectively a volume level for the effect. This control effects all 3 layers as it is effect based.

## Send Level Faders

Each send effect also has a 'send' level fader for each of the 3 layers. Whilst this has a similar affect to the gain knob, it is later based and can therefore be applied per layer. It determines how much of the sound of the layer is sent to the effect; setting to 0 will mean that no effect is heard, whereas setting to maximum will mean the entire signal will be the effect. Effectively this means you can 'turn off' an effect for a particular layer, or apply a different amount.

The default setting is 0db which is what it was set to in version 1.0 and 1.5 of reflection, which therefore makes the existing presets compatible.

## The Effects

The effects provided can really enhance your sound with modulation, delay and reverbs.

## Chorus
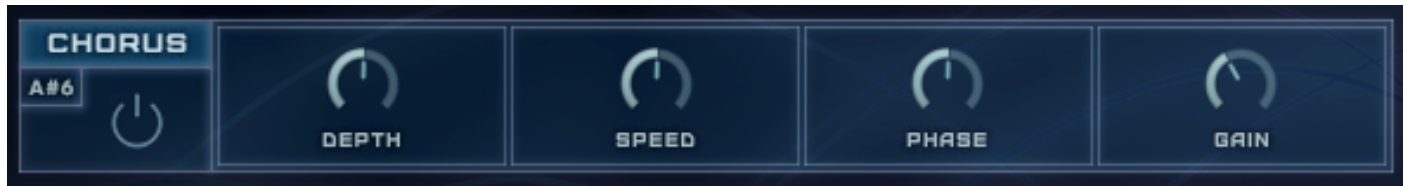


The Chorus "thickens" the audio signal by splitting it up and detuning one version in relation to the original. Separate LFOs with an adjustable phase relationship detune each stereo channel independently for creating wide-panorama effects.

Depth - *Adjusts the range of modulated detuning. Higher values give a more pronounced chorusing effect.*

Speed - *Adjusts the LFO speed. To synchronise the speed to your host or Master Editor tempo, click the Speed parameter's unit display and choose a note length value from the drop- down list.*

Phase - *Imparts an LFO phase difference between the left and the right stereo channel. This can considerably increase the width of the output signal's stereo base.*

## Delay
A delay which is synced to the host tempo.



Time - *Set the delay time which is synced to the host tempo.*

Damping - *Attenuates high frequencies in the delayed signal. Turning this control clockwise will increase the damping effect. If you have set a feedback level, the signal will gradually lose more high frequency content with each repetition.*

Pan - *Setting a value higher than 0 creates a panning effect, which alternates echoes between the left and the right side of the stereo panorama — this is affectionally called a ping-pong delay. Higher values will result in wider panning; at 100, signals alternate between the far left and far right channel.*

Feedback - *Controls the amount of the output signal that's being fed back into the input of the delay line, thereby creating a series of echoes that gradually fade into silence.*

## Reverb



This simulates the natural reverberation that occurs when a sound source is placed in an acoustic environment, thus adding a feeling of spaciousness to the sound.

Pre Delay - *Introduces a short delay between the direct signal and the reverb tail build-up. This corresponds to the natural reverberation behaviour of large rooms, where a short time elapses before the first reflection of a sound wave returns from a wall.*

Size - *Adjusts the size of the simulated room. This affects the duration of the reverb tail.*

Colour - *This control allows you to adjust the construction material of the simulated room and, consequently, the colour of the reverb tail. Low values simulate softer surfaces like wood, while high values simulate the reflection behaviour of hard surfaces like concrete.*

Damping - *Sets the amount of simulated absorption that takes place in rooms due to furnishings, people, or acoustic treatments affecting the reflection behaviour. It is like adding a Low Pass filter to the reverb tail.*

## Convolution



A convolution reverb which uses IR's (impulse responses) to affect the sound. This can lead to some very interesting and weird effects as well as some lovely large ambiences.

Select IR - *Use this menu to load an IR file. You can either use as a standard menu by clicking on the name and selecting from a list, or you can use the Previous / Next buttons to browse through them.*



Size - *Artificially compresses or stretches the impulse response in time.*

HighPass - *Adjusts the cutoff frequency below which the signal's frequency content will be attenuated.*

LowPass - *Adjusts the cutoff frequency above which the signal's frequency content will be attenuated.*

## Phaser



This effect continually changes the phase relationships in your signal with an all-pass filter. This results in a comb filtering effect, which attenuates some frequencies while boosting others. The sound is similar to that of a flanger, but in a more subtle manner.

Depth - *The amount of LFO modulation. Higher values cause the phaser effect to sweep over a wider frequency range.*

Speed - *The LFO modulation speed.*

Phase - *Imparts an LFO phase difference between the left and the right stereo channel. This can considerably increase the width of the output signal's stereo base.*

Feedback - *This control adjusts the emphasis of the peaks and notches that the comb filter effect imparts on the signal.*

# RHYTHM PAGES

The Rhythm page contains 2 sections; Source and Filters, which are accessed via the appropriate button:



The top section is the same for both section and the controls apply to both:



## Information Panel



This panel displays the parameter for the current control being adjusted and other useful information.

## Layer Selection

You can access each of the 3 layers via the circular numbered buttons. The layer switching is global and effects both the source and filters page :



To help you differentiate between layers, they are coloured differently and the selected layers is shown to the right of the buttons:

## Layer Linking & Locking

The 3 layers can be linked if desired; this means that when you alter setting for one layer, the other 2 layers will be altered to match. E.g. if you have the link on and are on layer 2, turning on the pre-filter will also turn on layers 1 & 3 at the same time.

Alternatively, if not linked, then each layers parameters will be independent of each other. This does not apply to the number of table steps and related options and the rate of the sequencer table - these will be the same for all layers wether or not they are linked. The actual pattern and the enable button are separate, as is the random button.

To either Link or Un-link, click on the button to the right of the layer switches, which will display the current star - 'Linked' or 'Link':
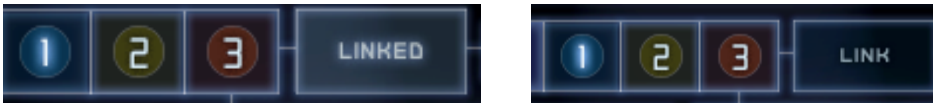


**NB**: If the layers are not currently linked, then linking them will copy all of the parameters from the currently selected layers to the other 2, making them all the same. E.g. if you are on layer 2, clicking to enable the link, will set all knobs, presets and table pattern to the same on layers 1 & 3.

Therefore, a 'Lock' button is provided which will lock the state of the link button and disable it, so clicking on it will not do anything (apart from letting you know that it is locked). To enable this, simply click on the small lock icon to the right of the link button:
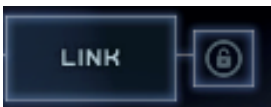


The lock will light up when enabled and you will also briefly see this where the link state is displayed:



Why would you want to lock the link? Well, if you had spent some time designing a sound with completely different parameters for each of the 3 layers, the last thing you would want to do is click to link layers by mistake and lose all of the hard work as each layer is set to the same - locking the button will prevent this from happening. I would encourage you to keep locked at all times until you are absolutely sure you want to use the link button. By default the lock is enabled on all patches provided.
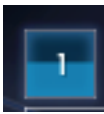
## The Mini Mixer

When using the LFO's and Filter sequencer with multiple layers, it is useful to Solo and Mute layers in order to listen to each individually, therefore, rather than having to switch to the Layers page constantly, a Mini Mixer is provided on the Rhythm page as follows:



It may be small, but it is very useful and the values are shown in the information panel to help. This is what everything does:

Volume



The square showing the layer number is the volume control - just drag it up and down like a slider to adjust the level - the fill colour moves up and down to indicate the level.

Meter



To the right of the square is a mini level indicator, which has no function other than to show the relative level of the sound.

Solo / Mute



To the right of this are the Solo and Mute buttons. Just click to enable or disable the relevant button.

Pan



Finally, below the above controls is the pan control. Just drag it left or right to pan an the colour fill will show the pan amount.

# SOURCE RHYTHM PAGE



This section is accessed by clicking the Rhythm tab at the bottom and then the 'Source' button at the top. It contains 3 Low Frequency Oscillators (LFO's) that can be applied to the original sample to create Rhythm's & Pulses. It does so by generating periodic (or in some cases, random) signals, which are applied to the sound. Since version 1.6, each layer can have it's own unique LFO or they can be linked so they are all the same.

The 3 LFO's are as follows:

Gain LFO - *This will apply an LFO to volume of the sound at the set rhythm and rate*

Pan LFO - *This will create an LFO which pan's from left to right at the set rate*

Pitch LFO - *This will apply an LFO to the pitch the sound*

# Controls

The controls are the same for all 3 LFO's and are as follows:

**Amount** - *Sets the amount that the LFO affects the sound. All the way to the right will fully effects the sound and to the left the sound is not affected at all.*
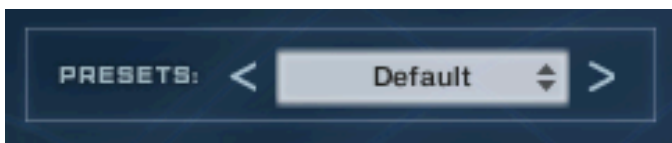
**Rate** - *Sets the rate/speed at which the LFO modulates. If sync is selected the rate will be in time with the host tempo.*

**Sync** - *Sets whether or not the rate should sync with the host tempo. It is on by default.*

**Sin / Tri / Rect / Saw / Rand** - *Adjusts the amount each waveform shape to be included in the LFO*

**Width** - *this only applies to the Rectangular waveform and it adjusts the ratio between the high and low parts of the waveform. Turning to the left with give a more pronounced rhythm whilst turning to the right less so.*

**Presets** - *Select a preset Rhythm. You can either click on the name to bring up a menu to choose from, or use the Previous / Next arrows to browse the presets:*

## FILTERS RHYTHM PAGE



This section is accessed by clicking the Rhythm tab at the bottom and then the 'Filters' button at the top.

This page contains 2 Filter Low Frequency Oscillators (LFO's) and a Step sequenced Filter that can be applied to the sound to create Rhythm's. Since version 1.6, the filter and LFO's can be applied different for each layer, as can the pattern of the sequencer.

## Filter Controls

In order for either the Sequencer or the LFO's to work, the filter must be enabled using the power button:



This will apply a Low Pass filter which is applied before any Insert or Send effects to the selected layer, or all layers if linked.
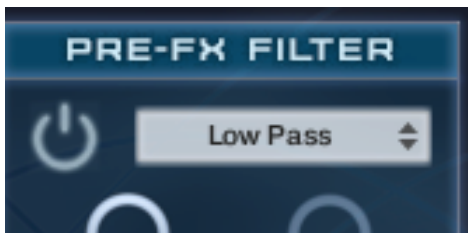
Next to the power button, is a drop down menu where you can select the type of Filter. This is separate for each layer if not linked, you you can have a different one for each sound. Give them all a try, as when used with either the sequence or LFO they give quite different results. They are:

*Low Pass, Band Pass, High Pass, Muli LP/HP, Vowel & Ladder Notch.*

Once the filter is enabled you need to alter the Cutoff and Resonance as required in order to affect the signal:

Cutoff - *Set the frequency above which the sound is attenuated by the filter*

Reso - *Sets the resonance (boost at the cutoff frequency) for the filter*

You can then use the LFO's to modulate the filter creating a Rhythm which can be synced to the host tempo.

## LFO Controls

The controls are the same for both LFO's and are as follows:

Amount - *Sets the amount that the LFO affects the sound. All the way to the right will fully effects the sound and to the left the sound is not affected at all.*
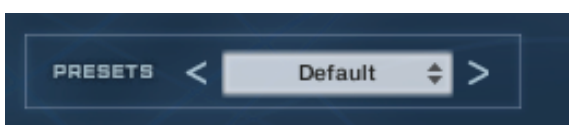
Rate - *Sets the rate/speed at which the LFO modulates. If sync is selected the rate will be in time with the host tempo.*

Sync - *Sets whether or not the rate should sync with the host tempo. It is on by default.*

Sin / Tri / Rect / Saw / Rand - *Adjusts the amount each waveform shape to be included in the LFO*

Width - *this only applies to the Rectangular waveform and it adjusts the ratio between the high and low parts of the waveform. Turning to the left with give a more pronounced rhythm whilst turning to the right less so.*

Presets - *Select a preset Rhythm. You can either click on the name to bring up a menu to choose from, or use the Previous / Next arrows to browse the presets:*

# Filter Step Sequencer
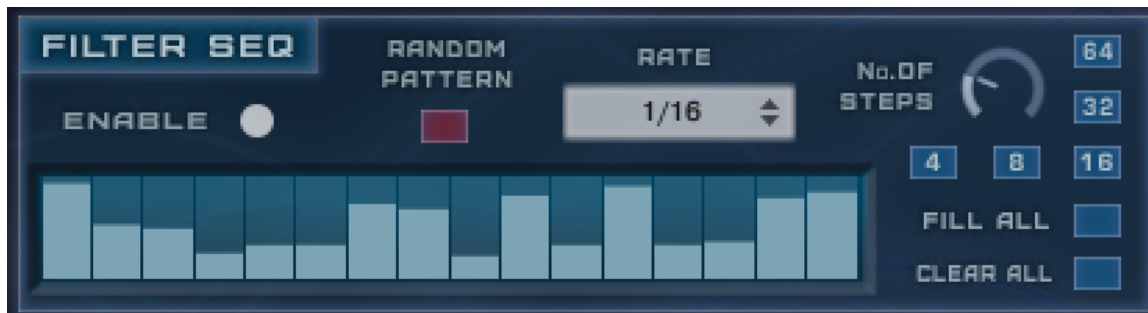


This allows you to apply the filter to create a Rhythm through the pattern in the table. A full step will not apply any filter, whereas an empty step will fully apply the filter, with anything in between applying the filter to varying degrees.
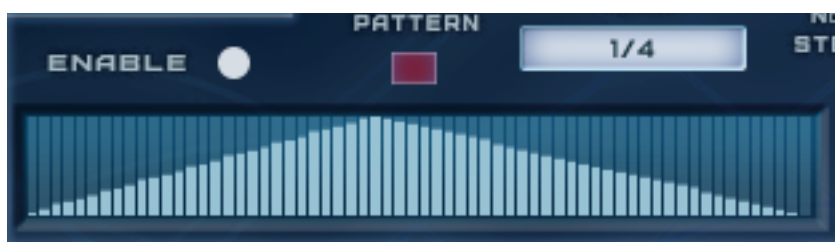


As of version 1.6, the maximum number of steps has been increased to 64. This will allow a smoother filter to be



applied. For example a pattern like that below with the rate set to '¼' will give an almost sooth up and down filter sweep (faster rates will start to introduce noticeable steps again):
To enable click on the circular button shown:
If the filter is not already enabled, this will automatically enable it.

The various controls are as follows:

Random Pattern - *Click the red button will randomise the pattern in the table; great for getting some inspiration (Can be different for each layer)*

Number of Steps - *Adjust this to set how many steps are shown, from 1 - 16 (NB. This will apply to all layers as the number of table steps cannot be different)*

4 /8/16/32/64 - *These are 'quick step' buttons and will instantly show either 4, 8, 16, 32 or 64 steps (Applied to all layers)*

Rate - *Click to bring up a menu to select the rate of the sequencer in sync with the host tempo. (Again this is the same for all 3 layers and cannot be separate)*

Fill/Clear all - *These will either clear all steps or fill all steps (Applies to selected layer, or all if link is on)*

TIP: Right click and dragging on the table areas will draw an imaginary line to which the steps will snap.
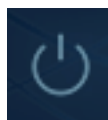
## OUTPUT PAGE



This page contains effects that are applied to the overall output signal, including effects.

*Note: The effects are applied to all 3 layers and cannot be applied separately*

## Power Switch

To enable an effect just click the power button in the related panel:



The button will light up, as will the surround to the panel.

## Information Panel



This panel displays the parameter for the current control being adjusted and other useful information such as whether a control is enabled / disabled.

## Effects

### Equaliser



This EQ is modelled on high quality analogue circuitry. It is a 4-band parametric EQ and offers the choice of bell or shelf style control of the low and high frequency bands.

LF Gain - *Adjusts the amount of boost or cut at the LF Frequency.*

LF Freq - *Adjusts the centre frequency of the low frequency band at which the boost or cut will occur.*

LF Bell - *Toggles the bell shape of the low frequency band. If turned off the band becomes a shelf.*

LMF Gain - *Adjusts the amount of boost or cut at the LMF Frequency.*

LMF Freq - *Adjusts the centre frequency of the low-mid frequency band at which the boost or cut will occur.*

LMF Q - *Controls the Quality (or Q) of the low-mid frequency band. For most EQs, the high- er the quality, the narrower the frequency band, but with this EQ the control is reversed to match the hardware it emulates and becomes a bandwidth control.*

HMF Gain - *Adjusts the amount of boost or cut at the HMF Frequency.*

HMF Freq - *Adjusts the centre frequency of the high-mid frequency band at which the boost or cut will occur.*

HMF Q - *Controls the Quality (or Q) of the high-mid frequency band. For most EQs, the higher the quality, the narrower the frequency band, but with this EQ the control is re- versed to match the hardware it emulates and becomes a bandwidth control.*

HF Gain - *Adjusts the amount of boost or cut at the HF Frequency.*

HF Freq - *Adjusts the centre frequency of the high frequency band at which the boost or cut will occur.*

HF Bell - *Toggles the bell shape of the high frequency band. If turned off the band becomes a shelf.*

## Stereo
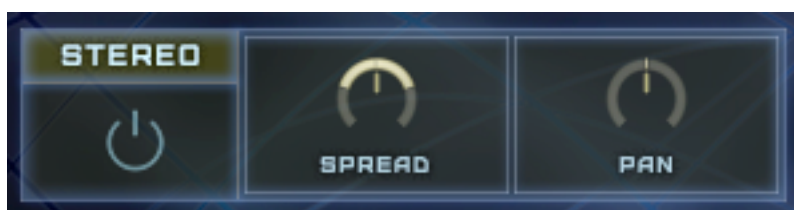


This allows you to control the width of the sound's stereo base and change the panning.

Spread -  *Collapses (turn left) or expands (turn right) the sound's stereo base. At the far left position, stereo signals will be summed to mono. Positive values will result in an artificial widening of stereo sources.*

Pan - *This control allows you to place the sound within the stereo field.*

## Transients
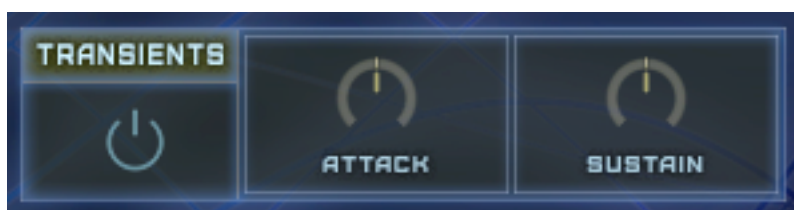


This controls the attack and sustain of the sound.

Attack - *Controls the attack portion of the sound's volume envelope. Increasing this parameter will add more punch and decreasing it will reduce sharp attacks.*

Sustain - *Controls the sustain portion of the sound's volume envelope. Increasing this parameter will add more body to the sound and decreasing it will reduce the sound's tail.*

## Compressor



This Compressor is modelled on a classic analog bus compressor. It offers a more characteristic dynamic control than a standard compressor.

Threshold - *Sets a level threshold above which the Compressor starts working. Only levels that rise above this threshold will be reduced by the compression; signals that stay below it will be left unprocessed.*

Ratio - *Controls the amount of compression, expressed as a ratio of "input level change" against "output level change". A Ratio of 1:1 means that no compression will be happen- ing. For example, a Setting of 4 represents the ration 4:1, which means for every 4 decibel increase of amplitude above the threshold, the output will increase by only 1 decibel.*

Attack - *Adjusts the time the Compressor will take to reach the full Ratio value after an in- put signal exceeds the Threshold level.*

Release - *Adjusts the time the compressor will take to fall back to non-compression after the input signal falls below the threshold.*

Makeup - *Controls the output gain of the compressed signal. Used to compensate for the gain reduction of the effect.*

Mix - *Controls the dry/wet mix of the compressor. This can be used to create a parallel compression style routing, which increases the quieter signals rather than reducing the louder ones. At a setting of 100% you will only hear the compressed signal, at a setting of 0% you will only hear the unprocessed input signal.*

## SEQUENCER & ARPEGGIATOR PAGE
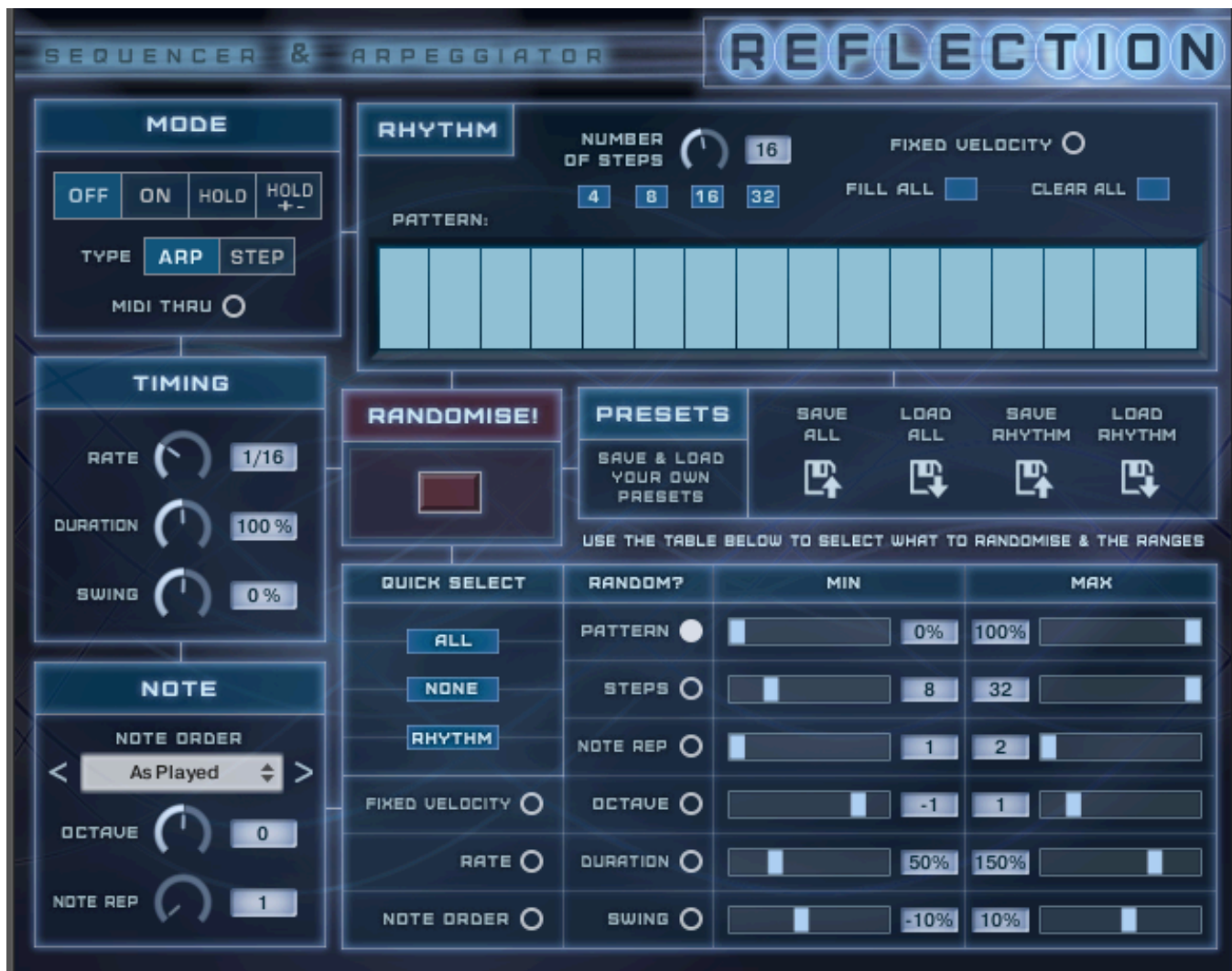


This page contains a Step Sequencer and Arpeggiator for creating inspiring rhythms and arpeggiations, and is complete with a powerful randomiser!

The 2 options are similar in that they use most of the same controls and the same rhythm table the differences being:

Arpeggiator - This will play all of the notes in sequence over and over

Step Sequencer - This will play all notes at once and as such is like a 'Chord' mode if you play more than one note.

*Note: This page affects all 3 layers*

## Mode

This is where you turn on either the step sequencer or arpeggiator and select the desired mode.

Arp / Step - *Set whether the Step Sequencer or Arpeggiator is selected.*

Off - *Neither the Arpeggiator or Step Sequencer is enabled when this is selected*

On - *Turns on either the Step Sequencer or Arpeggiator depending on which is selected*

Hold - *The same os 'On', but enables latch mode in which pressed notes will be held even when released, until the same note is pressed again.*

Hold +- - *As 'Hold' but subsequent played notes will also be added to the 'buffer' until played again.*

MIDI Thru - *Enable this to allows playing full notes along with the arpeggiated or sequenced notes.*

## Timing

Here you set the parameters relating to the timing of the sequence.



Rate - *Use the dial to select the tempo synced rate*

Duration - *Select the length of the played note; to the left will shorten the sound and to the right will lengthen it*

Swing - *Offsets every other note by the selected amount to add a 'swing' feel.*

## Note



Parameters relating to how the notes are played.

Note Order - *Arpeggiator Only: Select the order in which the notes of the Arpeggiator are played. Each option can give a very different fell. You can either select by clicking on the name to bring up the list to choose from, or use the Next / Previous arrows to browse through. Please note that this menu will be disabled when the Step Sequencer is enabled and it will look like this:*
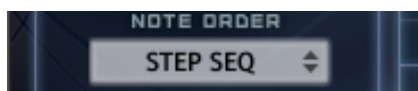


Octave - *Adds an Octave displacement to the played notes. When set to 0 the sequence will be as played, but setting anything else will repeat the sequence either up or down for the number of Octave selected. For example, selecting -2 will result in 2 further Octaves below being played. For the arpeggiator the entire sequence is play before playing the next Octave, where as with the Step Sequencer it alternates every note.*

Note Rep - *Sets the number of times each note is played. E.g. set to 3, each note will be played 3 times per step before moving to the next step.*

## Rhythm



This is where you set the rhythm for the sequence or arpeggiation using the pattern table.

Pattern - *Fill each step with the desired amount of the note you which to here. Any empty step will result in no sound, where as a fully filled step will result in maximum sound (dependent on whether fixed velocity is enabled). E.g. in the extreme, a pattern of 16 steps with alternating steps filled and empty, you would get the most pronounced sequence.*

Note: *You need to have the Amp Velocity set to something other than 0 on the Layers page in order for the Arpeggiator and Sequencer pattern to be most effective. Otherwise each step will simply act as note on or off no matter what it is set to.*

Number of Steps - *Adjust this to set how many steps are shown, from 1 - 16*

4 / 8/ 16 / 32 - *These are 'quick step' buttons and will instantly show either 4, 8, 16 or 32 steps*

Fixed Velocity - *With this enabled, it doesn't matter how hard you play the keys, the levels will be determined fully by the pattern in the table. When not on, the relative velocity of the played notes will be effected - so there is still a difference in level but how much depends on how hard each key is pressed.*

Fill all / Clear all - *These will either clear all steps or fill all steps.*

## Randomiser!

This is where the fun starts! Use this section to randomise some or all of the parameters to create instant sequences and arpeggiations for some musical inspiration.

Firstly, use the table to select which parameters you want to include when randomising. To do so, just select the round button next to the name of each parameter.

You can use the All, None and Rhythm buttons to quickly select options:



All - *Select all parameters*

None - *Clears all selections*

Rhythm - *Just selects the parameters in the Rhythm section*

You can then use the Minimum / Maximum sliders on the right to select the ranges for each of those parameters. For example, setting a minimum of 25% and a maximum of 75% for the pattern, will result in all steps being filled randomly between 25-75%. Likewise setting the Octave minimum to -2 and maximum to 0 will ensure the setting is always between -2 and 0 when randomising.
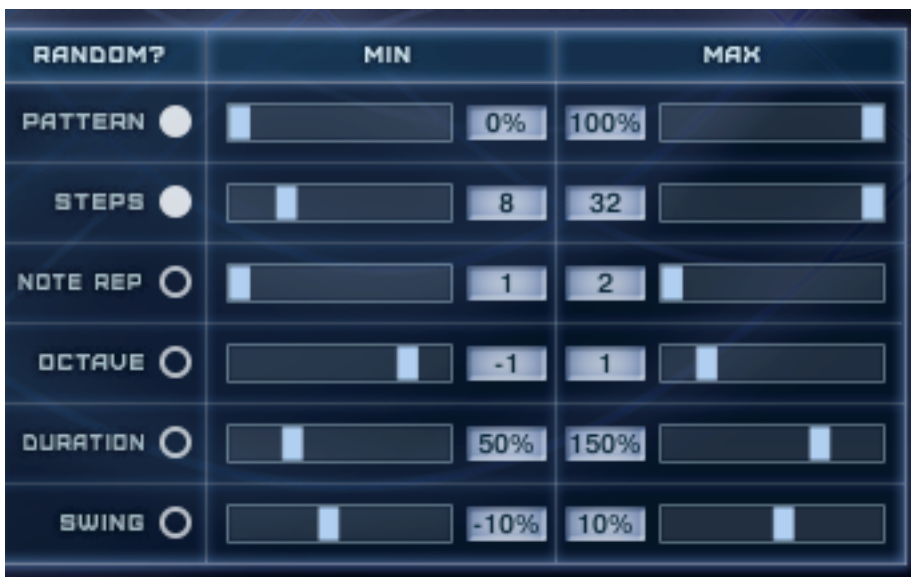


Once you have set everything to how you want, simply hit the red Randomise button:



The randomisation process is very quick, so just keep clicking until you hear something you like! You never know what you might come up with that you wouldn't have thought to do previously.

# Presets



Should you happen upon a pattern or complete set of parameters that you like, you can save them to use with other patches and sounds!

*Note: No presets are provided with the instrument*

Click on one of the disk icons which will do as follows:

Save All - *This will save all the parameters in the Mode, Timing, Note and Rhythm section. When you click to save you will be able to browse to a folder of your choosing and name the file whatever you want*

Load All - *Allows you to browse for a previous save file which will apply the settings to the Mode, Timing, Note and Rhythm section*

Save Rhythm - *This will save just the parameters in the Rhythm section. Again you will be able to choose where to save and what to call the file.*

Load Rhythm - *This will load saved parameters for the Rhythm section.*

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