NOIRE

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1. WELCOME TO NOIRE

Thank you for purchasing NOIRE. This document provides information about the library and a description of all of its functions. We hope that you enjoy using NOIRE.

1.1. About NOIRE

NOIRE is a virtual instrument that replicates a unique Yamaha CFX grand piano, belonging to the composer and pianist Nils Frahm, who personally handpicked the instrument in the Yamaha German headquarters in Hamburg.

To produce the NOIRE Library, this piano was sampled by Uli Baronowsky from Galaxy Instruments. It was recorded using rare, vintage microphones and preamps in Frahm's recording studio at the legendary Saal 3 of the Funkhaus Nalepastrasse, Berlin.

Baronowsky and Frahm have already contributed the critically acclaimed UNA CORDA Library. UNA CORDA was based on the recording of an upright piano and was characterized by its intimate feeling and nuanced sound. NOIRE presents a variation of this intimate concept, using the huge sound of a grand piano.

As with UNA CORDA, Nils Frahm greatly contributed to the sound design of NOIRE, and provided input on how the strings could be prepared to achieve his distinctive intimate and emotional sound. In addition, he greatly influenced the sound by sharing his grand piano recording techniques and setup.

While you can use it for a wide range of styles, the NOIRE Library has been specially designed for the 'neo-classical' or 'post-minimalistic' genre, represented by musicians like Nils Frahm, Max Richter, Agnes Obel or Olafur Arnalds.

1.2. NOIRE's Special Sound

A number of sound design elements support the emotional and expressive tone of the NOIRE instrument:

To match the style of performances and recordings of Nils Frahm and similar artists, NOIRE features fully controllable hiss. Noises created by both the piano and the piano player, for example, noises the pianist makes when moving or breathing, are also included. Mechanical noises created by the piano were also recorded, which contributes to the intimacy and character of the sound. In NOIRE, you can add and adjust these noises as desired.

Due to the close microphone position, all the subtle mechanical noises are audible while remaining fully adjustable. You can use these noises to create a realistic sounding piano performance or use them for creative effect. The noises can also serve as a rhythmic element, especially when used within the particles engine. In NOIRE, fabric and mechanical noises are adjustable, in order to create different sounds and rhythmic effects.

Atmospheric and ambient sounds can be created by utilizing the built-in effects in the Style section. To modify the basic sound of NOIRE, you can add lo-fi effects such as tape saturation and filtering, as well as convolution-based effects and modulation. For a final touch, shape the sound by applying equalization and compression.

The piano sound by itself resonates nicely, creating tonal depth and a natural spaciousness. In NOIRE you can further enhance the spatial impression by using a convolution reverb based on impulse response samples from real acoustic reverb chambers, including the Saal 3 studio in the Funkhaus. NOIRE also features a set of vintage and modern delay types based on the acclaimed Native Instruments Replika XT delay.

To further extend the range of sounds the NOIRE piano is capable of creating, a separate control over the resonance and overtone samples has been added. The attack parameter for the basic NOIRE tones can help to create pad-like soundscapes.

1.3. The Particles Engine

NOIRE features an innovative Particles Engine. This is a complex note generating algorithm incorporating various degrees of tonal shifting, which triggers different source samples based on the notes played on the keyboard. The Particles Engine adds motion to your playing by automatically generating clouds of pulsating, swirling harmonic elements created from piano tones, plucked piano strings, mallets or brush hit samples. It is useful to create accompaniment sounds, from convoluted arpeggios to deep textures based on complex clouds of sound, and it also allows you to experiment with new sound design possibilities.

The Particles Engine is not only a sound effect but an inspirational tool that interacts with the piano player and helps to spark creativity.

1.4. Two KONTAKT Instruments
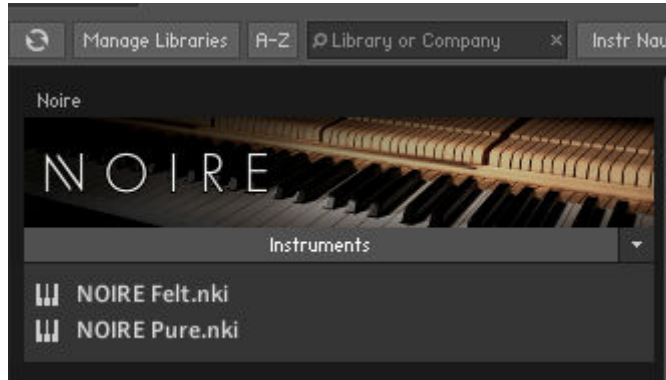
NOIRE in the KONTAKT Browser

Nils Frahm's physical Yamaha CFX piano was sampled using two different methods; without preparation, and with a custom felt moderator installed. NOIRE offers two distinct tones captured in these recordings as individual KONTAKT Instruments: NOIRE Pure and NOIRE Felt.

1.4.1. NOIRE Pure

The NOIRE Pure samples the Yamaha CFX piano without any preparations. It reproduces the clear, bright, unaltered grand piano tone. The basic sound character of this instrument has been intonated and tuned by Carsten Schulz. In order to capture Frahm's idea of the perfect grand, a new set of hammers was specifically selected and installed. Frahm's CFX is characterised by a specially vibrant, round, vocal tone with great sustain and depth. It is warm and clear with soft dynamics, while remaining vocal and round when played fortissimo.

NOIRE Pure is a musical allrounder. With its lively, deep and emotional sound character, it works for every genre, from classical music and jazz, through to pop and music scoring.

1.4.2. NOIRE Felt

Although the recordings are based on the same grand piano, the NOIRE Felt has a vastly different tonal character. Prepared with a custom felt moderator by Nils Frahm and his piano technician Carsten Schulz, it combines the fragile, intimate and smooth character of a felted piano with the depth and richness of a nine foot grand piano.

Intimate and atmospheric, whilst offering the power of a big piano sound, NOIRE Felt is a perfect instrument to be used for 'neo-classical' or 'post-minimal' compositions.

2. USER INTERFACE

After loading NOIRE, you will see a picture of the instrument you are playing, as well as the main controls:
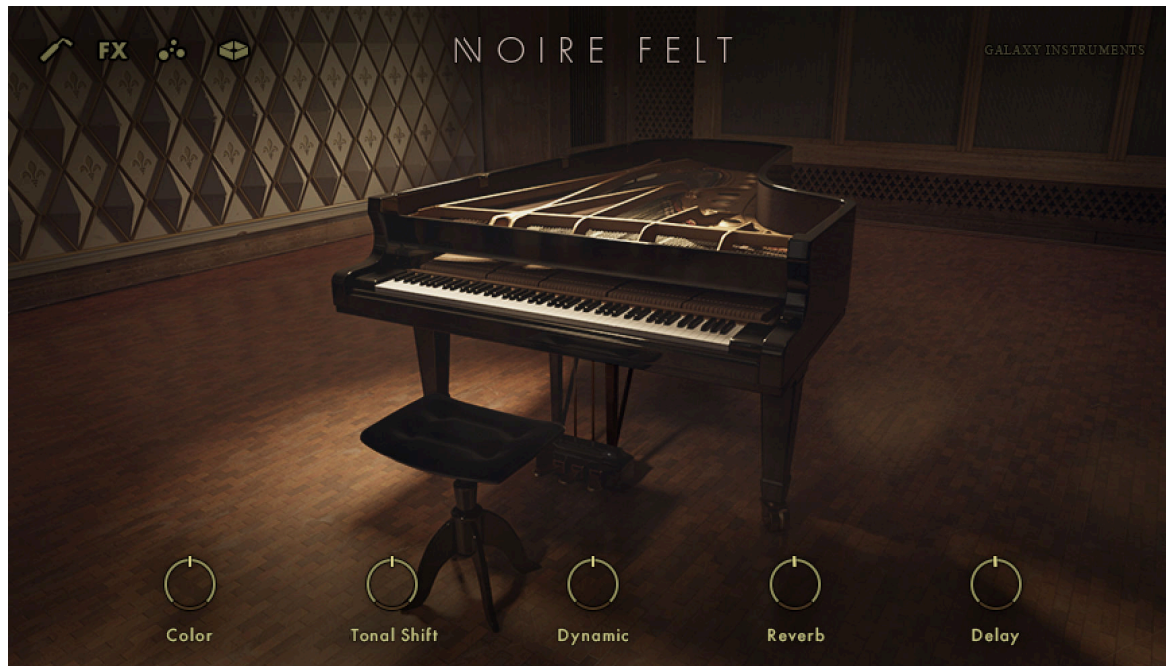
The User Interface

Edit page selector

Piano Tab: Selects the Section 2.1, "Piano Edit Page" [5]

FX Tab: Selects the Section 2.2, "FX Edit Page" [10]

Particles Engine Tab: Selects the Section 2.3, "Particles Engine Edit Page" [13]

Space Tab: Selects the Section 2.4, "Space Edit Page" [18]

Main controls

Color Knob: Adjusts the tone from soft to hard by readjusting the sample mapping. Turning the knob right will make the instrument sound harder and crisper, with a more pronounced attack phase. Turning the Color knob to the left will achieve a warmer and softer sound, and the attack phase will be less pronounced. 6. **Tonal Shift Knob**: Adjusts the playback speed of each sample, resulting in formant or character changes. Turning the knob left will make the instrument sound sharper and turning it to the right will result in a deeper, darker sound with a less defined attack.

Dynamics Knob: Controls the dynamic range by adjusting the volume while still using all velocity samples. Turn the knob left to compress the sound, or turn it to the right to expand the dynamic range of NOIRE.

Reverb Knob: Controls the amount of signal sent to the reverb unit, and thus determines the volume of the reverb signal. The reverb unit must be turned on in the FX area for this knob to function. For more information, refer to Section 2.4.1, "Reverb Area" [18].

Delay Knob: Controls the amount of signal sent to the delay unit, and thus determines the volume of the delay signal. The delay unit must be turned on in the FX area for this knob to function. For more information, refer to Section 2.4.2, "Replika Delay Area" [20].

The following sections describe the user interface of NOIRE in detail.

2.1. Piano Edit Page

The Piano Edit Page

Use the controls on the Piano Edit Page to shape NOIRE's tonal character and adjust parameters related to the additional sample layers, like release samples, resonance and overtones. Here, you can also define the amount of mechanical and background noises to be added to the piano's sound. Choose different velocity settings to set how NOIRE will react to your MIDI keyboard and select the type of tuning you wish to use.

2.1.1. Anatomy Area

Anatomy

- **RELEASE SAMPLES Button**: Activates the release samples. When releasing a key on a pia-no, the damper stops the vibrating string. The noise of the 'dying string' is captured with the release samples.
- **RELEASE SAMPLES Slider**: Adjusts the volume of the release samples being triggered when releasing a key.
- **RESONANCE**: Pressing the sustain pedal on a piano raises all the dampers at once, enabling all strings to resonate sympathetically. This adds a much fuller and deeper sound to the note. The Resonance slider adjusts the volume of these string resonances when the sustain pedal is down.
- **OVERTONES On/Off Button**: Enables the overtone samples. When enabled, after hitting a key, the corresponding strings may resonate at their fundamental or overtone frequencies when other strings are triggered. These overtones add liveliness to the sound. This is also known as Sympathetic String Resonance.
- **OVERTONES Slider**: Adjusts the volume of overtones triggered when hitting more than one key with sustain pedal up.
- **ATTACK**: Controls the attack time of NOIRE.

2.1.2. Noises Area
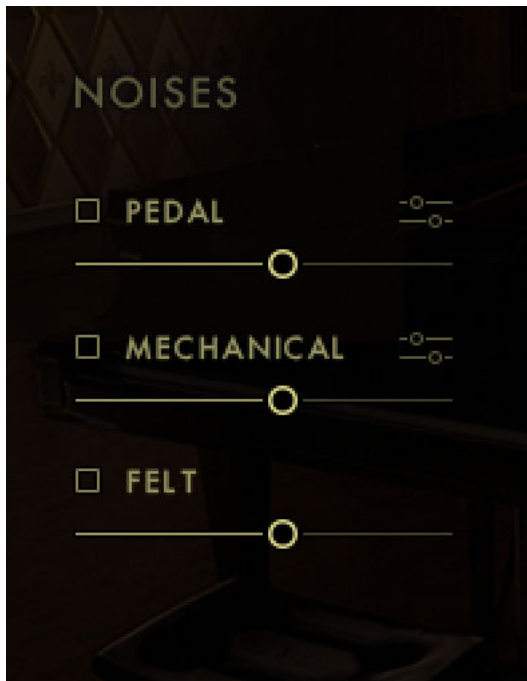
Noises

- **PEDAL Noise On/Off Button**. Activates the noises created by the sustain pedal.
- **PEDAL Noise Detail Menu**: Displays the details of all the pedal noises. Here you can set individual levels for RUMBLE, DAMPER and STRINGS.
- **PEDAL Noises Volume Slider**: Adjusts the volume of all sustain pedal noises.
- **MECHANICAL On/Off Button**: Mechanics Noise On/Off: Activates the mechanical noises created when hitting and/or releasing a key.
- **MECHANICAL Noise Detail Menu**: Shows the balance control for the note on and note off mechanical noises, as well as the frequency control for a low-cut filter.
- **MECHANICAL Volume Slider**: Adjusts the volume of the note-on and note-off noises created by the piano's mechanics.
- **FELT Noise On/Off Button**: Activates the noise created when the hammers hit the felt strip, which is positioned between the hammers and the strings.
- **FELT Noise Volume Slider**: Adjusts the volume of the sound created when the hammers hit the felt strip, which is positioned between the hammers and the strings.

2.1.3. Tone Area

Tone

- **TONAL DEPTH On/Off Button**: Activates additional resonance for achieving a deeper sound character.
- **TONAL DEPTH Volume Slider**: Adjusts the volume of the additional resonance. These resonances will add depth to the sound of NOIRE.
- **LOW KEYS Volume Slider**: Adjusts the volume of the keys below middle C. Moving the slider to the left decreases the volume of the lower keys, moving the slider to the right will increase it. The lower the key, the stronger the effect.
- **SUB On/Off Button**: Activates the Sub microphone samples, which were recorded with a reverse-wired NS10 speaker under the low keys of the grand piano.
- **SUB Key Selector**: Sets the split key below which the Sub samples are being triggered.
- **SUB Volume Slider**: Changes the volume of the Sub microphone samples.

2.1.4. Settings Area
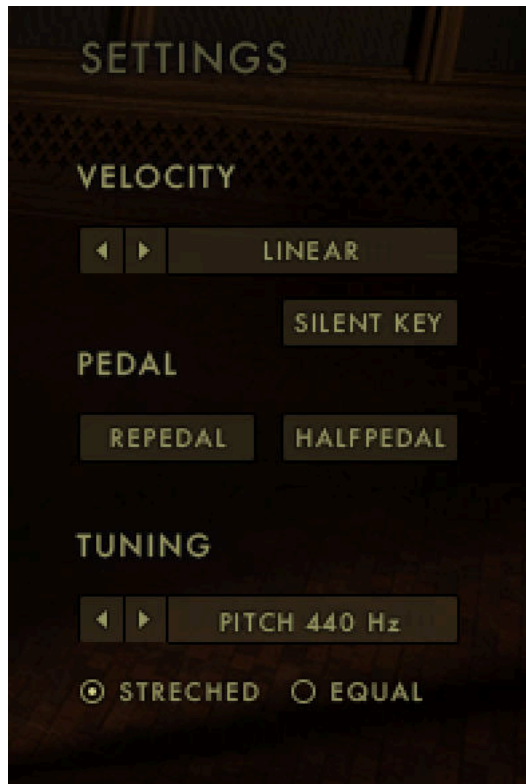
Settings

- **VELOCITY Curve Menu**: Selects from one of nine different key velocity presets, which customize the velocity response to your keyboard and your way of playing.
- **SILENT KEY On/Off Button**: Enables the silent key function. Very low velocities result in no sound. Fabric and mechanical noises will be triggered though and the overtone function is active as well as the virtual string is free to vibrate sympathetically.
- **REPEDAL On/Off Button**: Enables repedaling. When on, the sustain pedal is depressed during note release and the remaining sound sustains.
- **HALF PEDAL On/Off Button**: Enables the use of a continuous sustain pedal for half-pedaling, which affects the release time and the amount of resonance. For half-pedalling you need a special continuous sustain pedal. If the Half Pedal button is unchecked, a continuous sustain pedal is transformed into an on/off switch.
- **Basic Pitch Menu**: Selects the basic pitch, also called Concert Pitch, from 436 Hz to 444 Hz.
- **STRETCHED/EQUAL Tuning Scheme Selector** : The tuning (or temperament) of the piano can be switched between Stretched and Equal Tuning. The default tuning is stretched, which is the way the piano was tuned for sampling. Stretched tuning accommodates the natural 'inharmonicity' of metal strings.
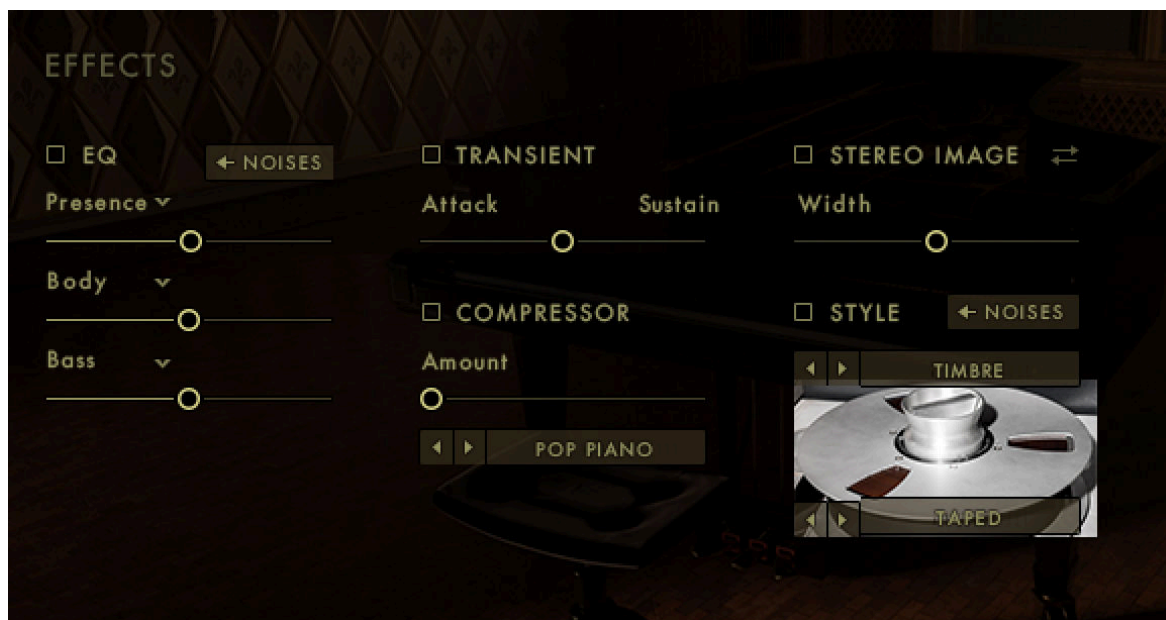
2.2. FX Edit Page

The FX Page

On the FX page, you can further shape the sound of the instrument with several effects like EQ, compression or use sound design tools like Style presets. You can also add noise ambiences and the noises created by the pianist and the piano.

2.2.1. Effects Area

Effects

- **EQ On/Off Switch**: Activates the EQ section.
- **NOISES to EQ Button**: Generally, all noises are not routed to the EQ section for enabling a separate EQ control of the piano's main sound. By turning on Noise to EQ, the EQ section also affects the noises.

- **HIGH EQ Frequency Type Menu**: The frequency of the high EQ band can have 3 settings: PRESENCE, SHIMMER and AIR.
- **HIGH EQ Level Slider**: Controls the level of the high frequency band.
- **MID EQ Frequency Type Menu**: The center frequency of the mid EQ band can have three different settings: Body, Punch and Presence.
- **MID EQ Level Slider**: Controls the level of the mid frequencies.
- **LOW EQ Type Menu**: The frequency of the low EQ band can have 3 settings: Bass, Bottom and Sub.
- **LOW EQ Type Menu**: Controls the level of the low frequency band.
- **TRANSIENT On/Off Button**: Activates the Transient control section.
- **TRANSIENT Control Slider**: Accentuates the attack when pushed to the left, or lengthens the sustain when pushed to the right.
- **COMPRESSOR On/Off Button**: Activates the Compressor section.
- **COMPRESSOR Amount Slider**: Adjusts the amount of compression.
- **COMPRESSOR Type Menu**. Selects your desired compression type with different ratio, attack and release settings as well tape saturation within certain presets.
- **STEREO IMAGE On/Off Button**: Enables the Stereo Image section.
- **Stereo Swap Button**: The samples of the grand piano are panned with the low notes on the left and the high notes on the right, which corresponds to the listening position of the player. Using the Swap button swaps the left and right channels, changing the listening position to that of the audience.
- **Stereo Image Width Slider**: Widens or narrows the stereo field. The mid position corresponds to the stereo width of the original recording; turning the knob to the left position makes the sound mono, while turning it to the right artificially enhances the stereo width.
- **STYLE On/Off Button**: Activates the Style section. The Style presets feature complex effect chains ranging from timbre changing, LFO controlled and convolution based sustain creating effects.
- **NOISES TO STYLE On/Off Button**: Generally, all noises are not routed to the Style section for enabling a separate effects processing of the piano's main sound. By turning on Noises to Style, the chosen Style preset also affects the noises.
- **STYLE Category Menu**: Selects from one of three categories of complex effect chains. Timbre changes the tonal color including some vintage effects. Moving is best used for LFO-controlled modulations. Continuous can be used for creating sustaining sounds.

2.2.2. Ambience Area

Ambience

- **NOISE On/Off Button**: Enables the continuous ambient noise.
- **Ambience Noise Volume Slider**: Adjusts the volume of the selected ambient noise.
- **NOISE Type Menu**: Selects from 32 different ambient noises.
- **PIANIST On/Off Button**: Activates the noises created by the pianist and the piano such as squeaks, breaths, rumbles, etc. Pianist noises are only triggered if the piano is actually being played. You can also trigger additional piano noises when using aftertouch.
- **PIANIST Volume Slider**: Adjusts the volume of ambient noises created by the pianist and the piano.
- **PIANIST Intensity Slider**: Adjusts the rate of ambient noises created by the pianist and the piano such as squeaks, breaths, rumbles etc. Pianist noises are only triggered if the piano is actually being played. You can also trigger additional piano noises when using aftertouch.

2.3. Particles Engine Edit Page

The Particles Engine

Here, you can configure the parameters of the Particles Engine (Section 1.3, "The Particles Engine" [2]). The Particles Engine triggers and processes additional notes and sounds in relation to the keys played on the keyboard, in order to achieve a sequence or cloud of notes based on the notes played on the keyboard. Different modes allow you to configure the key ranges and octaves as well as the tonal quality of the triggered samples. The central area offers a visual display of the generated cloud (notes and panning).

2.3.1. Central Area

The Central Area

- **PARTICLES ENGINE On/Off Button**: Activates the Particles feature in NOIRE, which triggers additional samples resulting in an aleatoric cloud based on the settings of the Particles Engine and the keys being played.
- **PARTICLES ENGINE Presets Menu**: Selects a Particle Engine preset from the menu.
- **PARTICLES ENGINE Mix Slider**: Adjusts the mix setting of the piano sound and the additional sound created by the Particles Engine. Moving the slider far left leaves the solo piano sound, while moving the slider far right solos the Particles Engine and makes it possible to solely play the Particles cloud.
- **PARTICLES ENGINE Visual Display**: Displays a visual representation of the particles cloud. Here you can see the notes played by the Particles Engine and their panning in the stereo field.

2.3.2. Algorithm Area
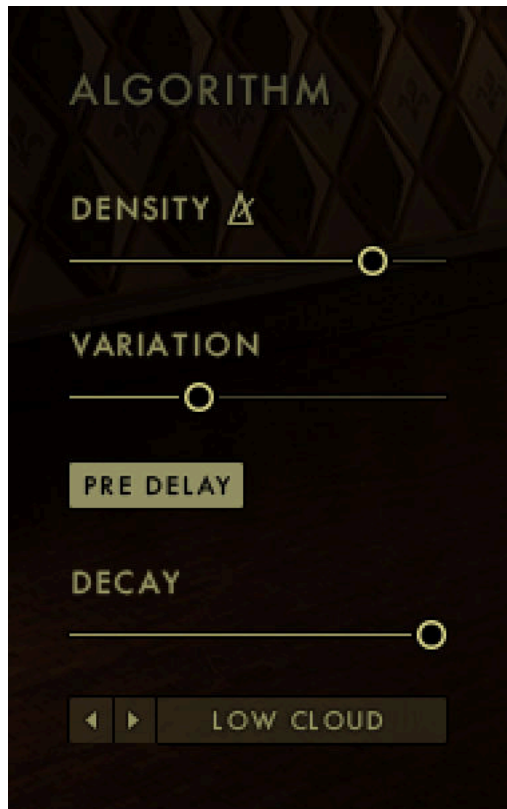
The Algorithm Area

- **Particles SYNC On/Off Button**: Activates the Sync parameter to synchronize the Particle cloud to tempo, creating an aleatoric cloud sequence.
- **DENSITY Slider**: Adjust to determine the amount of Particles being played and thereby the Density of the created Particles cloud. The result is often unexpected and serves a free musical arrangement. When Sync is switched on, the algorithm creates a tempo synced sequence and the Density adjusts in note values.
- **VARIATION Slider**: Adjusts the time values between the triggered particle events. When in Sync, the note values will be varied and the resulting cloud sequence becomes more complex.
- **PRE DELAY Button**: With Pre Delay switched on, the Particle cloud is not triggered at the same time as the piano sound, so the cloud starts after the first note of the piano. When switched off, the Particle cloud starts at the same time as the first piano note.
- **DECAY Length Slider**: Adjusts the length of the decaying cloud in milliseconds, after a key is pressed. When set to Infinite (far right position), the cloud continues until all keys are released.
- **Engine Mode Menu**: Selects the Mode of the Particles Engine, which is the principle of triggering the additional notes. The Modes vary in key ranges and octaves as well as the tonal quality of the samples triggered.

2.3.3. Source Area

The Source Area

- **Particle SOURCE Tab Button**: Open the settings for the source sounds triggered by the Particles Engine.
- **Tonal Source SOUNDS Menu**:Select one of four tonal source sounds as the tonal basis for the Particles cloud: Piano, Plucked, Brush or Mallet.
- **Particles Source SOUNDS Mix Slider**: Adjusts the mix level of the tonal and the attack noise Source Sound.
- **Noise Source SOUNDS Menu**: Selects from one of four attack noise source sounds, as the noise basis for the Particles cloud: Combined, Mechanics, Felt and Soft Stick
- **Source Sound TIMBRE Slider**: Adjusts the dynamic range of the triggered Particles Source Sounds.
- **Source Sound ATTACK Slider**: Controls the attack time of the Particles Source Sounds.

2.3.4. Effects Area

The Effects Area

- **EFFECTS Tab Button**: Opens the settings for the Filter and Diffusion effects which can be applied to the Particles cloud.
- **FILTER On/Off Button**: Activates the Low Cut and High Cut filters for the Particles cloud.
- **FILTER On/Off Button**: Activates the Low Cut and High Cut filters for the Particles cloud.
- **DIFFUSION On/Off Button**: Activates the Delay or Reverb effects for the Particles cloud.
- **DIFFUSION Type Preset Menu**: Selects the Delay or Reverb engine to create an additional space for the Particles cloud. Choose from 11 Delay and 6 Reverb Presets.
- **DIFFUSION Strength Slider**: Adjusts the volume of the Diffusion space added to the Particles cloud.
- **DIFFUSION Time Sync On/Off Button**: Activates the Sync parameter to synchronize the Diffusion delay type presets to tempo.
- **DIFFUSION Time Slider**: Adjusts the time and thereby the length of the Diffusion space in milliseconds. If a delay type preset is selected, it is also possible to Sync the delay to tempo, which changes the time from milliseconds to note values.

2.4. Space Edit Page

The Space Edit Page

In the Space Edit Page, you can add reverb and delay to the master output of NOIRE. The reverb section features an IRC Reverb, which is a convolution reverb based on the impulse response samples of real acoustic spaces, and an Algorithmic Reverb, offering an additional hall or room reverb. The Replika Delay is based on the Native Instruments dedicated Replika XT delay plug-in. It includes 5 delay algorithms derived from Replika XT's basic algorithms: Modern, Analog, Vintage, Tape and Diffusion, allowing you to add different flavors of delay to your sound.

2.4.1. Reverb Area

IRC REVERB

The IRC Reverb

- **REVERB On/Off Button**: Activates the reverb section.
- **Type Menu**: Selects the convolution reverb engine based on various impulse responses or an algorithmic reverb.
- **Size Slider**: Adjusts the size of the reverb effect by lengthening or shortening the selected Impulse Response. If selecting the Reverse category, the Size slider will be synced to tempo enabling a time adjustment in note values.
- **Pre Delay Slider**: Introduces a short amount of delay before the reverb takes effect.
- **REVERB Category Menu**: Selects the category for the Impulse Response Files. Here you can choose an Impulse Response from the Vintage, Room, Mystique, Piano and Reverse categories.

ALGORITHMIC REVERB

The Algorithmic Reverb

- **REVERB On/Off Button**: Activates the reverb section.
- **Type Menu**: Selects the convolution reverb engine based on various impulse responses or an algorithmic reverb.
- **Time Slider**: Adjusts the duration of the reverb effect.
- **Pre Delay Slider**: Introduces a short amount of delay before the reverb takes effect.
- **HALL/ROOM Algorithm Selector**: Selects between the two modes that simulate the sound character of a reverberant Hall or Room.
- **Size Slider**: Adjusts the size of the Hall/Room simulated by the reverb effect. Higher values replicate larger spaces.
- **Damping Slider**: Adjusts the amount of absorption in the room simulated by the reverb effect. Higher values result in more absorption.
- **Modulation Slider**: Adjusts the amount of modulation applied to the reverb effect. Turned fully counter-clockwise, no modulation is applied.
- **Stereo Slider**: Controls the stereo image of the reverb effect. Higher values result in a wider stereo image.

2.4.2. Replika Delay Area

In this section, you can choose from different Replika Delay algorithms. The controls will vary depending of the algorithm type you have chosen. The parameters of the Modern Type delay are described below.

The Replika Delay

- **Delay On/Off Button**: Activates the DELAY Section.
- **Delay Type Menu**: Select one of the different delay types to change the character of the delay effect. Here, you can choose one of 5 different delay types: MODERN, ANALOG, TAPE, VIN-TAGE or DIFFUSION.
- **Time Sync Button**: Activates the Sync parameter to synchronize the delay repeats to tempo.
- **Time Slider**: Adjusts the delay time in milliseconds. If the delay is synced to tempo, the time value changes from milliseconds to note values.
- **Feedback Slider**: Adjusts the level of the signal that is fed back to the delay's input. Increasing Feedback adds delay repeats. Levels above 100% create swelling echo repeats up to self-oscillation.

Algorithm specific commands

- **STEREO Button**: When enabled, the modulation between the left and right channel is offset in time, resulting in a wide stereo effect.
- **PING PONG Button**: When enabled, the delay repeats are panned hard left and right in an alternating pattern.
- **Depth Slider**: Adjusts the amount of modulation applied to the delay time.
- **Filters Slider**: Adjusts the Low Cut and High Cut filters to change the sound of the delay repeats.
- **Saturation Slider**: Adds tube-like saturation at the delay input adding subtle warmth at lower settings and overdrive when fully cranked.

3. CREDITS

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