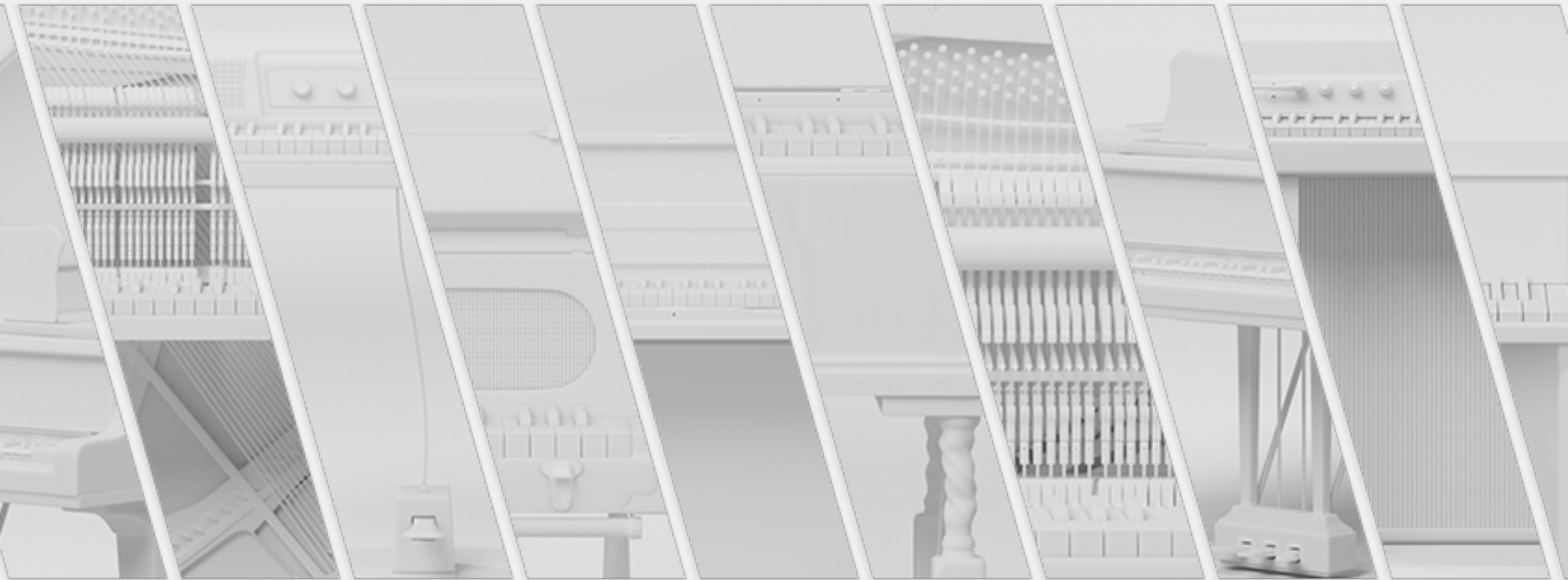


# HAMMERS ⇄ WAVES

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## USER MANUAL



# DISCLAIMER

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# WELCOME TO HAMMERS + WAVES

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## FOREWORD

It's a feeling. Something that can't be captured in words. When you press a key and the sound just draws you in. It's that moment of inspiration that skybox strives to capture and deliver directly through your speakers.

In this bundle you'll find 10 remarkable keyboard instruments that are sure to spark your creativity and add fire to your tracks. Every note was precisely recorded through world class microphones and preamps by a robotic automation system of our own invention. The result is a collection of instruments that are stunning and dynamic replicas of the originals.

But **REAL** is only the beginning. All of the instruments are powered by the new **Hammers + Waves Engine**. A truly powerful playback engine that was developed by skybox exclusively for this series. The innovative flexibility of the engine unleashes a torrent of new sonic possibilities for creative tone shaping. Extreme timbre shifting, deep granular synthesis and hyper-realism controls, are just a few of the unique features that are packed into Hammers + Waves. As deep as the potential for sound manipulation is, a great deal of time was spent making the workflow as effortless and intuitive as possible.

To put it simply, we made something cool and we're super stoked you're going to use it to make music.

Thank you for inviting us to be part of your musical journey.

The skybox Audio Team

# COLLECTION

We carefully curated the very best versions of each of these instruments that could be found. From traditional to rare and unique, this collection covers miles of sonic real estate. We're sure you will find the variety as inspiring as we do.

ACOUSTIC	ELECTRIC	CHIME	PREPARED
MODERN GRAND	SUITCASE 73	DULCITONE	OBSCURA GRAND
UX UPRIGHT	EP 200A	J CELESTE	MUTED RELIC
RELIC UPRIGHT		J TOY PIANO	

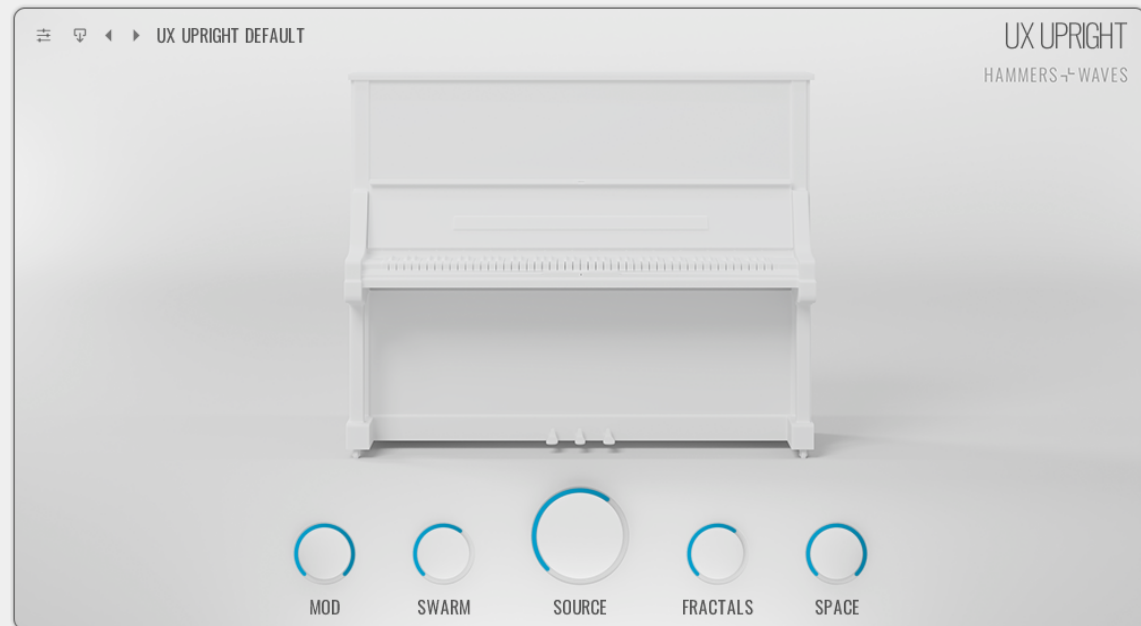




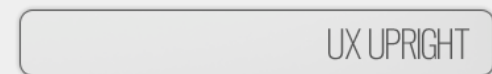
# HOME SCREEN

## OVERVIEW

The main screen contains amount controls for all three available sound layers, SOURCE, SWARM and FRACTALS, controls for the amount of global MODULATION and SPACE, as well as access to PRESET NAVIGATION / SAVING and SETTINGS.



TIP - Clicking the instrument name while on the HOME SCREEN will go to the CREDITS page. However, clicking it while on any other pages returns to the HOME SCREEN



# MAIN CONTROLS AREA

- This section contains controls that adjust the levels of the three available sound layers
- **CLICK on the TEXT below the controls to navigate to the parameter page for each layer accordingly**
- Blue rings indicate the current level. Dark grey rings indicate that the control is mapped to a MIDI controller and can be adjusted via MIDI. For example, if it shows “MODWHL” above the knob, adjust your CC1 (Modwheel) to see and hear the levels change dynamically. These are determined by the MIDI ASSIGNMENT section in the SETTINGS page



TIP - You can reset a control to its default value by using Command/Control + Click

TIP - You can quickly toggle a component on or off by quickly double clicking its text or using Option/Alt + Click

TIP - Adjusting any control swaps its description text for its readout value. Click anywhere on the background to reset all text states

## SOUND LAYERS

- These knobs control the amount of the three sound layers
- SOURCE controls the level of the natural sound of the sampled instrument
- SWARM controls the level of a deep granular synthesis layer
- FRACTALS controls the level of a motion/arpeggiation engine



TIP - Command/Control + Click SWARM/SOURCE/FRACTALS text for quick access to their relevant FX page

## GLOBAL SOUND MANIPULATION

- MOD controls the global amount of modulation applied to the instrument
- SPACE controls the global amount of reverb and delay applied to the instrument



# PRESETS + SETTINGS AREA

This area contains controls to access the SETTINGS and PRESETS / SAVE pages as well as arrows to scroll through presets.



## PRESETS PAGE

- Click on the preset name to enter the PRESETS page



## PRESETS SCROLL

- Quickly load the previous/next available preset of the instrument by clicking the left and right arrows



## PRESET SAVE

- Click on this icon to enter the PRESET SAVE page.



## SETTINGS PAGE

- Click on this icon to enter the SETTINGS page (available only on the HOME SCREEN)
- This button is swapped for a BACK button on any other page (to return to the previous page)



TIP - Command/Control + Click the PRESETS PAGE to reload current preset  
TIP - Command/Control + Click the BACK button to enter SETTINGS page (regardless of which page you are on)

# PRESETS

## OVERVIEW

Browse the huge variety of inspiring presets from this page.

Every instrument in the Hammers + Waves collection has presets that range from natural and intimate to giant and cinematic. Find inspiration and explore them all to find the perfect sound for your track!



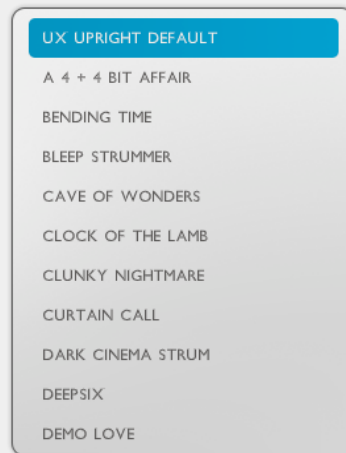
TIP - You can use [Komplete Kontrol's Native Browser and Snapshots](#) to browse through all available presets if you prefer. Hammers + Waves is a fully encoded NKS compatible library

# BROWSER

This area displays all the available presets.

## LOADING PRESETS

- Click the name of the PRESET to load
- The PRESET list is dynamic and based on the selected TAGS
- If PREVIEW is on, loading a preset will play a small musical example



- TIP - Clicking on the same loaded cell will reinitialize the loaded preset
- TIP - Alternatively, Command/Control + Click the PRESETS PAGE to reload current preset



## FAVORITE

- Use these icons to mark your favorite presets for later use
- Show them in the PRESETS BROWSER results using the FAVORITE tag



## NAVIGATION

- Drag the blue scroll handle to show more results
- The up and down arrows can also be used to scroll



# TAGS + PREVIEW AREA

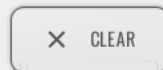
## TAGS

- Use combinations of TAGS to find sounds with the selected characteristics.



## CLEAR

- Click on this text to clear out active TAGS



## PREVIEW

- If PREVIEW is on, loading a preset will play back a quick musical example to showcase the preset's capabilities
- PREVIEW will only play while in the PRESETS page



TIP - Command/Control + Click the PREVIEW text to play the musical snippet of the active preset without having to reload the preset  
TIP - Factory previews are created at 120BPM. For optimal playback of PREVIEWS, set host tempo to 120BPM

# SAVE

Get inspired and save your own custom presets by using the controls here .

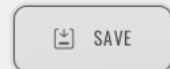


You access this page by clicking on the dedicated PRESETS SAVE icon.



## SAVE

- Click this button to save your preset
- It is recommended to give your preset a unique name, assign relevant tags and record a musical preview before executing this action
- If the Preset name matches an existing Factory Preset, there will be a confirmation page to overwrite the preset. We recommend giving it a unique name instead, which is why a “(USER)” suffix is automatically added whenever a preset is being saved from a factory preset



## REMOVE

- Removes the preset from the instrument’s database. This option is only available when dealing with user presets
- As a safety measure, there will be a confirm page to ensure that you truly intend to remove the preset from the database before committing the action



## CANCEL

- Click on this to go back to the PRESETS page

< CANCEL

## PRESET NAME

- Enter a unique name for your presets that you wish to save
- Generally speaking, all ASCII characters are available to be used when storing the preset name. It is advised however to use standardized characters (A-Z, 0-9, spaces, etc) when naming your preset. Some characters are reserved for internal use for the instrument and some will not display between Mac OS X + Windows machines as expected

ENTER PRESET NAME

(USER) CUSTOM PRESET

## PREVIEW RECORD

- Use this to record a musical snippet tailored specifically for your preset
- If no preview is recorded when saving your preset, the instrument will play back a default preview instead

RECORD

## PREVIEW PLAY

- Use this to play back your recorded musical snippet

PREVIEW

## TAGS

- Choose characteristic TAGS so you can find your sound easily at a later date

## CLEAR

- Use this to quickly clear out active TAGS

× CLEAR

● FAVORITE	NATURAL	SIMPLE	INTIMATE	LAYERED	COMPLEX
ARP	RHYTHMIC	TRIPLET	PLUCK	STAB	PAD
DRY	ROOMY	WET	DELAY	REVERSE	SWELL
NEUTRAL	DARK	BRIGHT	LO-FI	DIRTY	AGGRESSIVE
TREMOLO	PITCH MOD	PHASE MOD	EVOLVING	SYNTHY	CREATIVE



# SOURCE

## OVERVIEW

SOURCE handles the playback of the original sample recordings in an expected way.

But, don't let this fool you. This page is very capable of creative and interesting sound design through its various controls.

You access this page by clicking on the label that reads SOURCE located under the SOURCE knob.



TIP - If any text turns blue on mouse hover, it means that this text is CLICKABLE. Most will toggle between last used and off values, while some change between sync and free rate

# TWEAK

This area contains 5 powerful sound shaping controls that alter the SOURCE sound in unique ways.



## SHIFT

- Change the tonal character of the keyboard with this powerful control
- Turn left for a darker sound
- Turn right for a brighter sound



## SHAPE

- Sculpt the SOURCE's ADSR envelope with a single control
- Turn left to make the keyboard sound shorter (RELEASE samples will still play)
- Turn right to make it ring out longer or further right to ramp the attack. (great for making pads)
- Click on the text to toggle between sync or free lengths



## COLOR

- A bipolar control to quickly apply a gentle hi-pass or lo-pass filter to SOURCE
- Turn left to engage lo-pass, turn right to engage hi-pass



## OCTAVE

- Transpose the SOURCE sample playback up or down in octaves



## BLEND

- Blend between Close and Far microphone positions
- Available only in non-electric piano instruments



## AMP

- Blend between the dry DI and the amped sound
- Click on text to enter the AMP page to further tweak its parameters
- Available only in electric piano instruments



# DIFFERENCES BETWEEN ELECTRIC + OTHER INSTRUMENTS

It is important to note that when using an electric instrument (SUITCASE 73 or EP 200A), there are some differences in the controls.

- Under the REALISM panel, electric pianos have the MECHANICAL slider instead of the DAMPER slider. This adjusts the mechanical sound of the unamplified keyboard in the room.



- In the middle of the section, electric pianos have the DI / AMP BLEND knob while others have the CLS / FAR BLEND knob.



- Only the electric pianos have the unique AMP section page of controls for adjusting the tone of the amplifier as well as speaker cabinet and microphone type/position.



# VELOCITY RESPONSE

Customize the dynamic response of the instrument to the feel of your performance and/or physical keyboard controller. Use these controls to tailor to your playing preference.

## CURVE

- Shape the amount of curve applied to the velocity response by dragging the control horizontally

## SHAPE

- Change the shape of the velocity response
- Choose between an C-curve or S-curve response



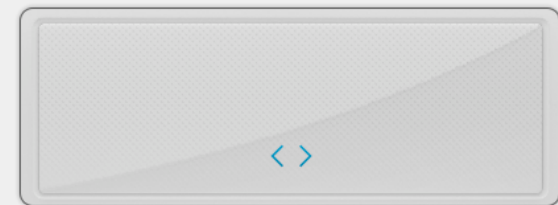
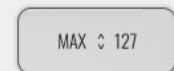
## MIN

- Set the minimum velocity range of the velocity response



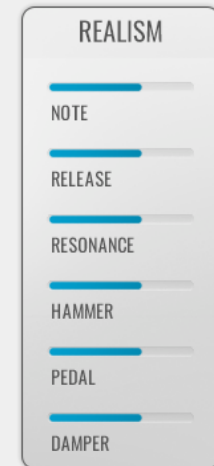
## MAX

- Set the maximum velocity range of the velocity response



# REALISM

Use the controls in this area to change the balance of various components of the recorded keyboard instrument. Based on the loaded instrument, only select controls may be available (based on the real world properties of the sampled instrument). For example, only NOTE and HAMMERS are available for J TOY PIANO.



## NOTE

- The main sound of the keyboard instrument
- This is heard whenever a key is pressed
- If PRE-STRIKE is on, the NOTE samples are delayed by 200ms on key press. This is to allow the PRE-STRIKE samples to sound first followed by the NOTE samples



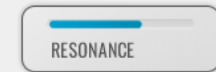
## RELEASE

- The sound of the release of a key
- This is heard whenever we stop playing a key and the sustain pedal pedal is off
- If multiple keys are pressed while the sustain pedal is down, the release will play all the release samples of the multiple keys at the same on pedal up
- The intensity of this group is determined the length of time a key is held. The longer the key is pressed, the “weaker” the release level when it is played



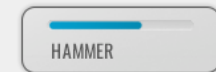
## RESONANCE

- The overtones through sympathetic resonance of neighboring strings
- This is heard when a key is played while the sustain pedal is pressed down
- If a key is played while the pedal is not pressed, the RESONANCE is not heard
- If the sustain pedal is pressed later than when the key is pressed, the intensity of the RESONANCE playback will be “weaker” sounding



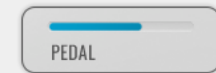
## HAMMER

- The sound of the mechanical hammers returning to its default state whenever a key is lifted
- This occurs regardless of whether the sustain pedal is on or off



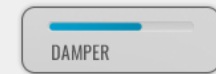
## PEDAL

- The mechanical sound of the sustain pedal whenever it is pressed or lifted
- The intensity of this sound is determined by the last key velocity received



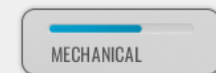
## DAMPER

- The overtones of the sympathetic vibrations of all strings vibrating or dampened when the instrument's damper is off or on
- Like PEDAL, the intensity of this playback is determined by the last key velocity received
- DAMPER controls can only be found on non-electric keyboards



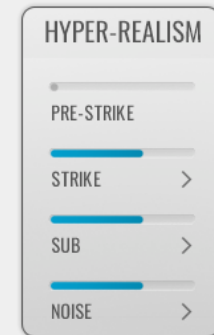
## MECHANICAL

- The mechanical noise generated by the physical properties of the electric keyboard from the player's perspective
- MECHANICAL controls exist only for the electric keyboards



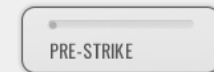
# HYPER-REALISM

Elevate your sound by adding complexity to SOURCE sound. Utilize PRE-STRIKE to add the natural mechanical noise before a key is pressed (missing in most other keyboard virtual instruments). Add percussiveness to the sound by enabling STRIKE. Add enhanced low end with SUB. Emulate the vibe and atmosphere of different recording mediums with NOISE.



# PRE-STRIKE

- Add the mechanical noise during the moment when a key is pressed and before the hammer strikes the instrument's strings
- Engage this control for optimal realism
- Using this feature adds 200ms of latency
- It is recommended to record your MIDI performance into your DAW of choice with PRE-STRIKE off first, then activate it during playback
- Offset the recorded MIDI notes to the left (earlier) by 200ms in your DAW to maintain timing



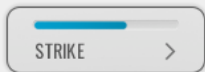
TIP - Click on the PRE-STRIKE text to toggle between its off and on value

TIP - Check out the **TIPS & TRICKS - PRE-STRIKE** section at page 61 for alternative ways to set the midi playback earlier automatically in various DAWs

# STRIKE

Blend in an additional layer of percussive attack or personality to the sound.

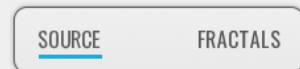
Every STRIKE sample has been recorded across the full keyboard range to create a natural and authentic stereo imaging effect.



Access this page using the “>” button next to the text “STRIKE”.



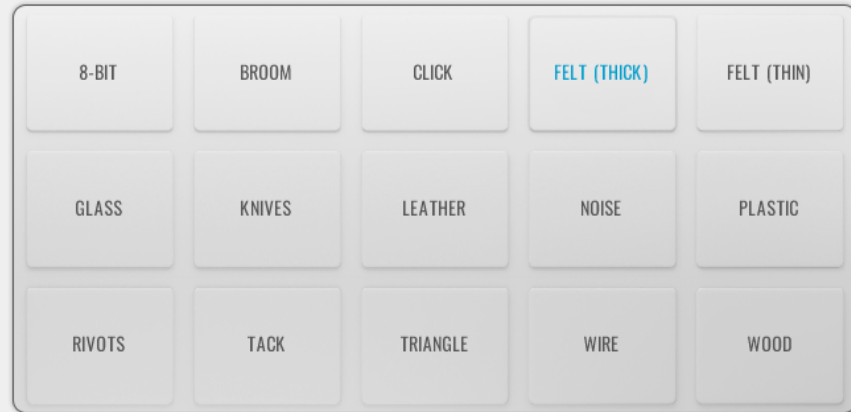
TIP - Quickly switch between SOURCE + FRACTAL'S STRIKE pages using the tab switcher at the top





## SELECTION GRID

- Select STRIKE samples to be played every time a key is pressed
- The majority of STRIKE samples are non-tonal
- TACK, TRIANGLE and 8-BIT are the exceptions



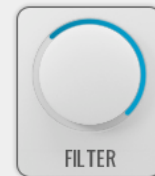
## VOLUME

- Set the level of the STRIKE layer
- This can be set in the main SOURCE page and in the STRIKE page



## FILTER

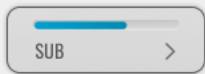
- Sets a lo-pass filter to darken the STRIKE playback
- This is useful to blend the STRIKE and the overall keyboard sound



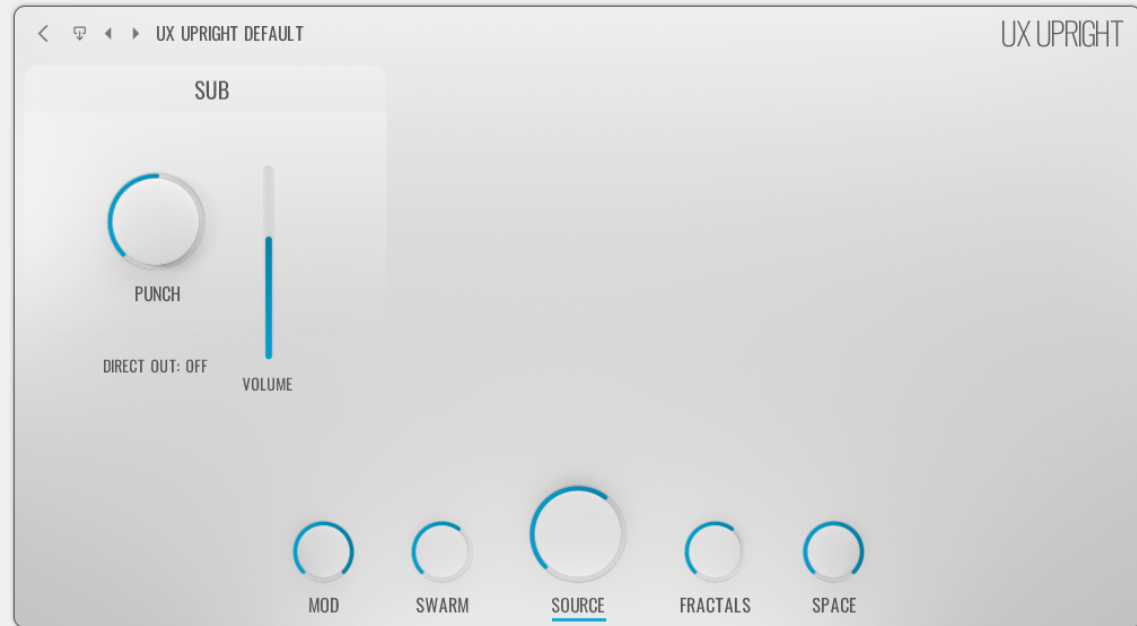
# SUB

Blend an additional layer of sub in the lower key ranges. This is great to get that huge and weighty low-end to your sound.

Its intensity gradually decreases across the keyboard ending at C3.

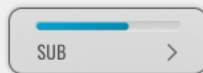


Access this page using the “>” button next to the text “SUB”.



## VOLUME

- Set the level of the SUB layer
- This can be set in the main SOURCE page and in the SUB page



## DIRECT OUT



- Route the SUB samples to the instrument’s direct output so its sound will not be affected by SOURCE’s FX and SPACE effects
- This is useful to preserve the clean sound of the SUB without compromising its low-end sound

## PUNCH

- Shape the sub to be more percussive by adding PUNCH
- Engaging this controls adds a quick pitch dive modulation that decays to its natural pitch

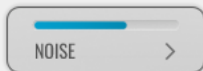
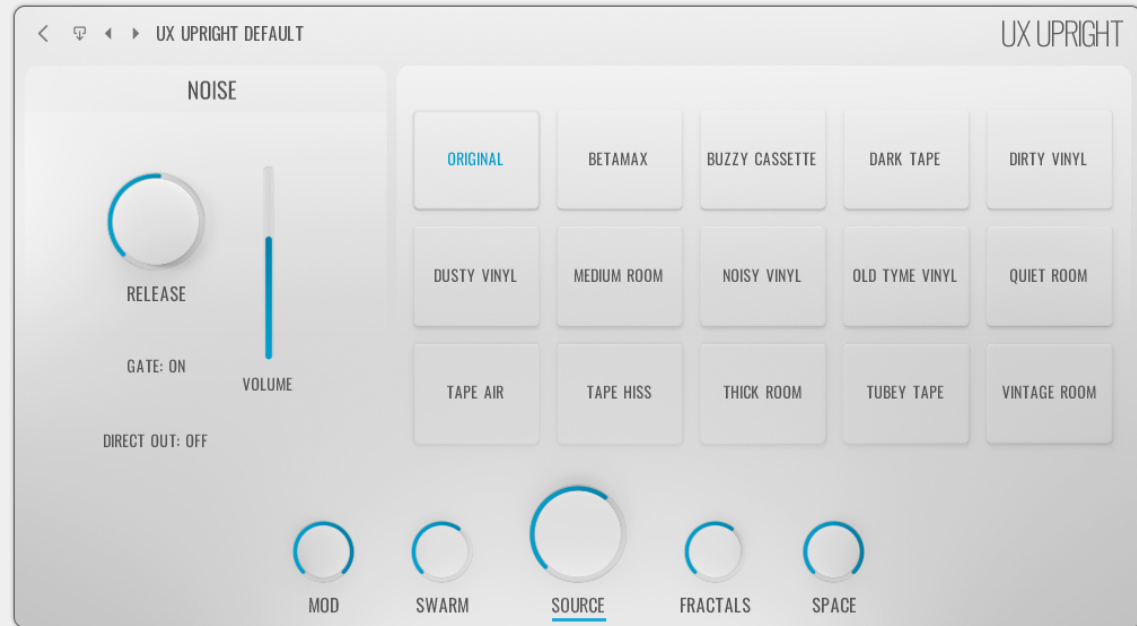


# NOISE

Add an additional layer of noise and give your sound a little bit more vibe.

All NOISE samples are very long in duration. Its playback is set up in a way that the voice will keep running and not retrigger immediately after a key press. This is so to avoid hearing the same sample start over and over again.

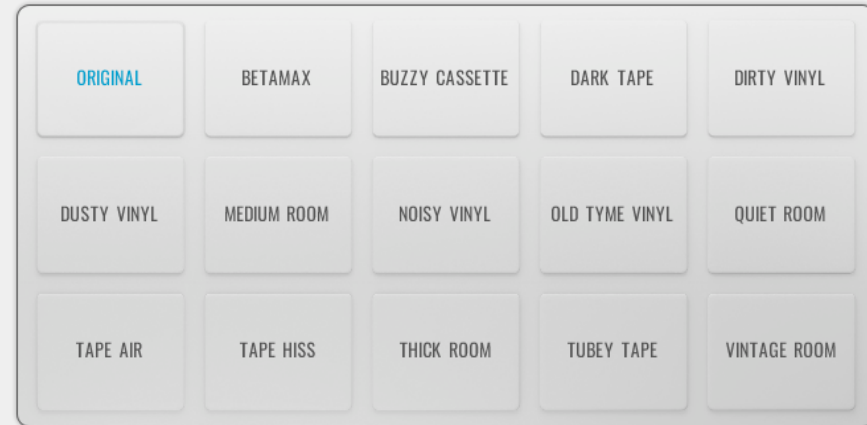
This means that when a key is repressed after a complete fade out, its position in sample playback will resume naturally from its last position.



Access this page using the “>” button next to the text “NOISE”.

## GRID

- Activate 1 from a selection of NOISE sample to be played
- ORIGINAL is the recorded sample that is taken from the actual keyboard recording
- All other NOISE samples are artificial additions that has interesting effects to the overall sound



## VOLUME

- Set the level at which the NOISE component will be played
- There are 2 locations to set this, in the main SOURCE page and in the NOISE page



## GATE

- When this is set to off, the NOISE sample is will play regardless if a key is pressed
- When it is set to on, the NOISE sample will only play when a key is pressed



## RELEASE

- This control determines how long the level fades out after all keys are released



## DIRECT OUT

- Route the NOISE samples to the instrument's direct output so its sound will not be affected by SOURCE's FX and SPACE effects
- This is useful to preserve the clean sound of the NOISE without compromising its low-end sound



# AMP

Blend the keyboard sound between the DI signal and amped signal using a single knob.

The effect of AMP section is applied to all sound generating components, including SWARM + FRACTALS



To tweak the amplifier and cabinet settings click on the DI / AMP text.



## ENABLE

- The AMP page consists of 2 areas; AMPLIFIER + CABINET
- Each areas have their dedicated ENABLE button that you can individually turn on and off independently



# AMPLIFIER

This area contains controls relating to the AMPLIFIER.



## MIX

- Blend between the DI + AMP signal



## PRE-AMP

- Sets the amount of gain added by the preamp



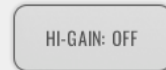
## OUTPUT

- Adjusts the overall output level



## HI-GAIN

- Enable to create distinctly saturated sounds



## EQ

- 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



# CABINET

This area contains controls to adjust the cabinet settings. It utilizes convolution reverb with all custom impulse responses that we have recorded specifically with electric pianos in mind.

Each cabinet impulse response is recorded with close and far mic positions. Using the distance slider, we can blend in between the two. Each cabinet is then recorded with an assortment of microphones.

All these controls allow for great flexibility to dial in the exact sound that you are after. We are confident that this will create for the most authentic electric piano sounds, even catering to the keyboard players with critical ears.



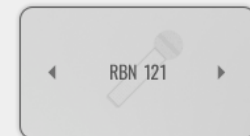
## IMPULSE RESPONSE

- Choose from a selection of custom cabinet impulse responses



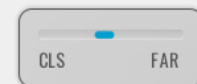
## MIC

- Choose from a selection of microphones



## DISTANCE

- Blend the CABINET mix between the CLOSE and FAR microphones

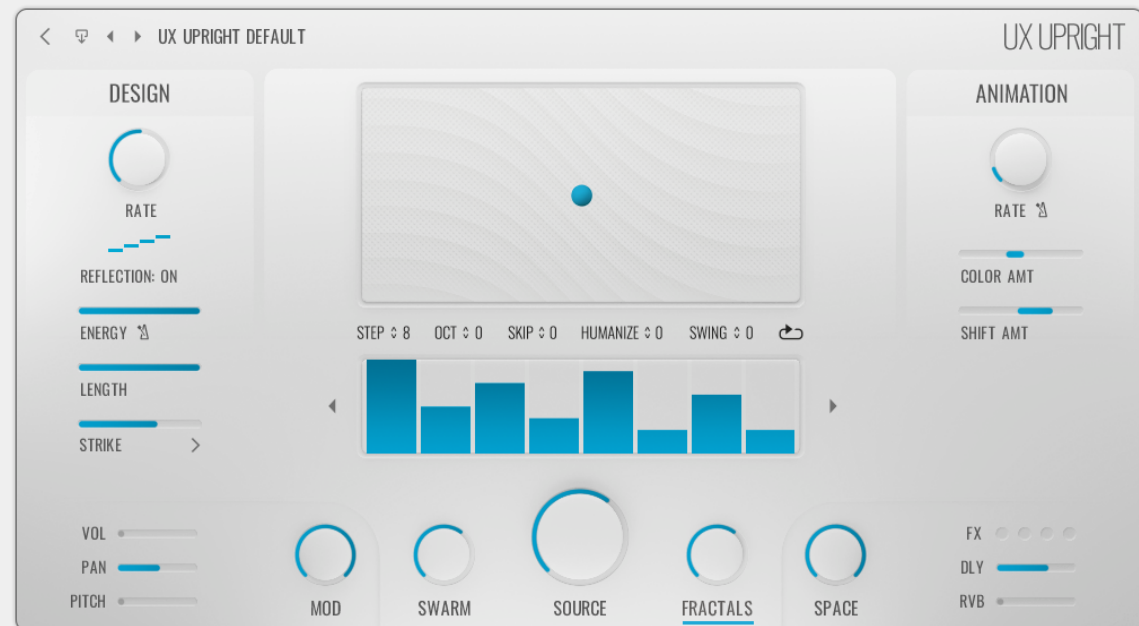


# FRACTALS

## OVERVIEW

FRACTALS is an arpeggiation engine that is designed specifically for keyboard instruments. Unlike conventional arpeggiators, it does not typically replace the main source sound. It compliments it. Create evolving rhythmic textures or thundering pulses easily with the intuitive controls.

You access this page by clicking on the label that reads FRACTALS.





# SEQUENCER

Modify the rhythmic complexity, transpose and determine note selection of your FRACTALS performance using the controls in this area.



## TABLE

- Each step has a potential resolution of 9 percentage values. Incoming midi will be scaled based on this value (ie. if incoming velocity is 90 and the active step is 50, the FRACTAL note will play at velocity 45)
- The sequencer will travel from left to right (indicated by the change in light blue color on active step)
- If the step has value of 0, then no new FRACTAL note will be played at that step. Instead, the previous FRACTAL note will be held over.
- Shift all step values left or right using the arrows on the side



### STEP

- Adjust the number of steps shown in the sequencer table

STEP 8

### HUMANIZE

- Adjusts amount of timing and velocity randomization

HUMANIZE 0

### OCTAVE

- Transpose the sound up or down in octaves

OCT 0

### SWING

- Adjust amount of swing applied to each step

SWING 0

### SKIP

- Ignore the lowest played midi note(s)

SKIP 0

### LOOP

- Determine whether the sequencer will loop or one-shot



# DESIGN

Shape the behavior and tone of FRACTALS using the controls located in this area

## RATE

- Adjust the speed at which the sequencer will run at



## PATTERN

- Select a pattern for FRACTALS to follow



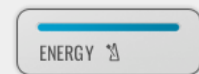
## REFLECTION

- Add instant polyphony by playing a second voice that “mirrors” the selected pattern
- More info on PATTERN + REFLECTION in the next page



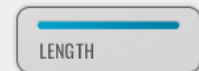
## ENERGY

- Gradually decrease the “intensity” of steps over time
- If energy is at MAX, the intensity never weakens



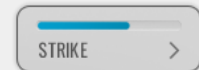
## LENGTH

- Adjust the note duration of each step
- When this is set to off, no tonal note will be played



## STRIKE

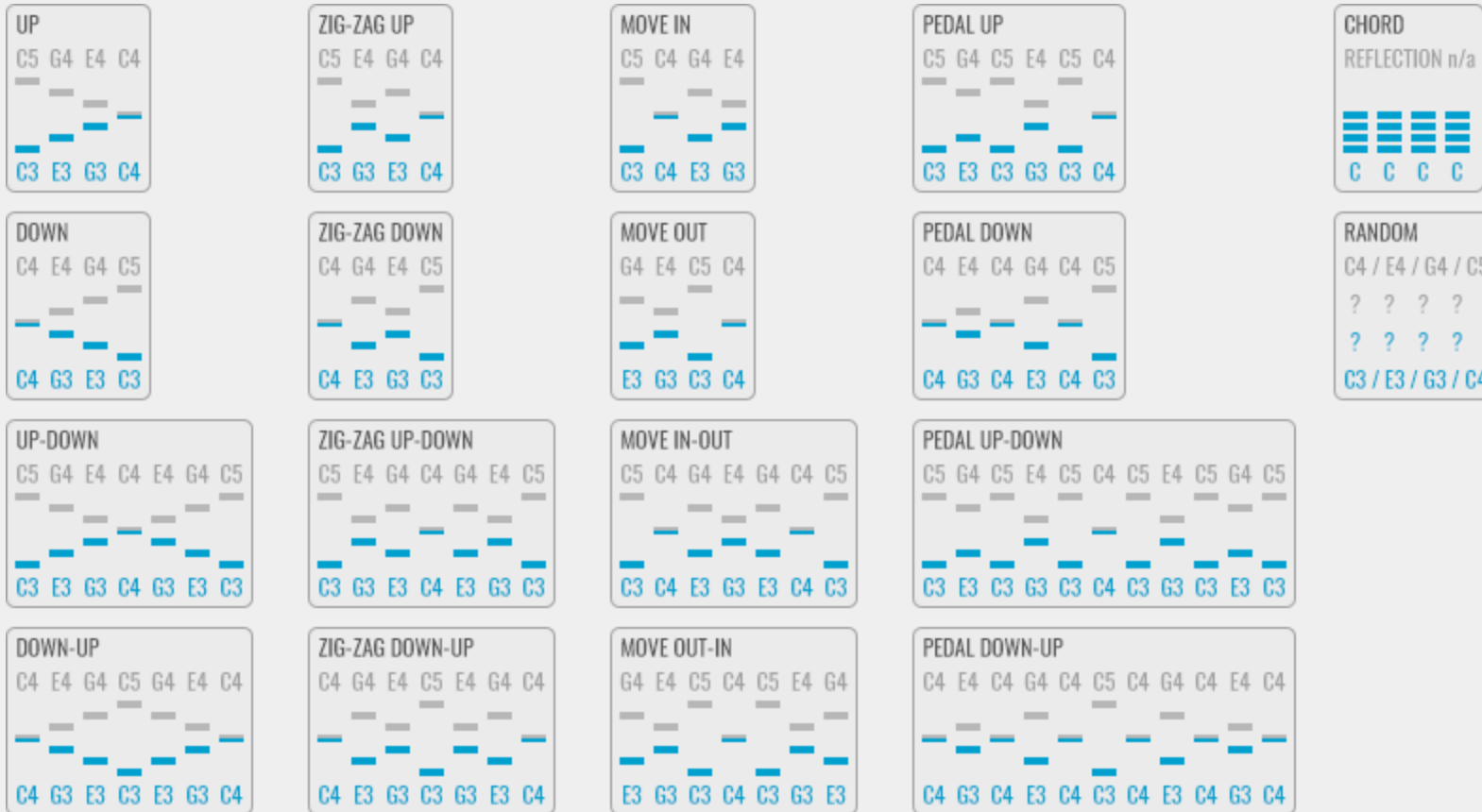
- Add a percussive layer to each step



TIP - By setting LENGTH to off and enabling STRIKE, FRACTALS behaves like a pseudo percussion sequencer

# PATTERNS

The following are all the available patterns displayed visually for clarity. The example shows a 4 note C Major triad (C3, E3, G3 + C4) being held over time:



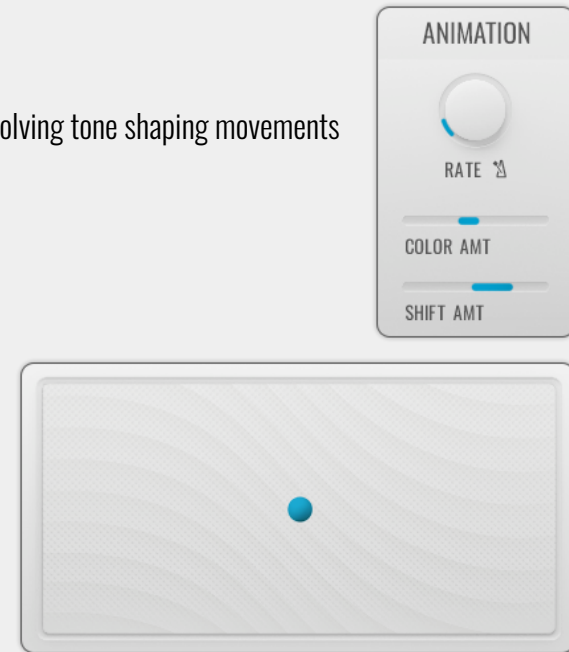
Blocks in blue represent the main FRACTAL notes while grey blocks represent additional notes when REFLECTION is on.

# XY / ANIMATION

Intuitively shape the tone of your FRACTALS sound using the large XY pad. In addition, add you can add evolving tone shaping movements using the controls in ANIMATION

## XY PAD

- Drag the blue cursor anywhere within the boundaries of the large XY pad to shape the tone FRACTALS
- X coordinates adjusts the amount of COLOR applied
- Y coordinates adjusts the amount of SHIFT applied
- A blue cursor is shown to show the active amount of COLOR + SHIFT being applied in real-time
- The amount of COLOR + SHIFT is always within the confines of XY boundaries



TIP - Double click anywhere within the boundaries of the XY pad to quickly reset the cursor to the center

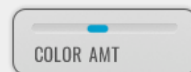
## RATE

- Adjust the speed at which the ANIMATION will update itself



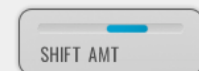
## COLOR AMOUNT

- Applies a lo-pass or hi-pass to the sound
- This amount determines the range of cursor travel horizontally (X)



## SHIFT AMOUNT

- Darkens or brightens the overall tone of FRACTALS
- This amount determines the range of cursor travel vertically (Y)



# STRIKE

The controls in this section are identical to the STRIKE section in SOURCE. For more info, see [SOURCE - STRIKE section at page 23](#) of this manual.

# SWARM

## OVERVIEW

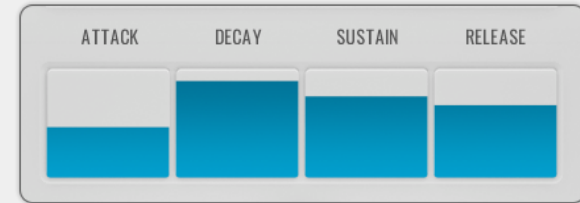
SWARM is part granular synthesis, part innovative sampling. We're calling the technique **Deep Granular**. Under the hood, SWARM performs complex sample playback while offering an easy to use set of controls. From gentle evolving pads to gritty angular textures, SWARM is sure to kickstart your imagination.

You access this page by clicking on the label that reads SWARM.



# ENVELOPE

The envelope section of SWARM controls the granular pivot point sample selection over time. Since SWARM is fundamentally a granular synthesis sound generation component, the “grain” of every playback will evolve in its “intensity” through ATTACK, DECAY, SUSTAIN and RELEASE phases.



An important point to mention is that each SWARM “voice” follows its own envelope stages. This is reflected with light animation overlay over each control.

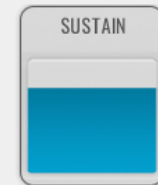
## ATTACK

- Adjust the time taken for initial run-up of grain selection from the lowest to the loudest sample, beginning when the key is pressed
- If ATTACK is off, then ENVELOPE starts at the DECAY stage when the key is pressed



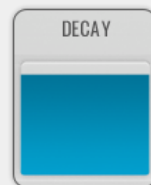
## SUSTAIN

- Adjust the target sample level during when the key is held, until the key is released
- If SUSTAIN is off, then the DECAY or RELEASE will fade out completely upon completion



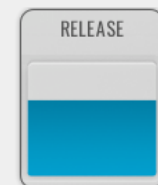
## DECAY

- Adjust the time taken for the subsequent run down from the loudest sample to the target sustain sample
- If DECAY is off, then ATTACK will “snap” to the SUSTAIN sample



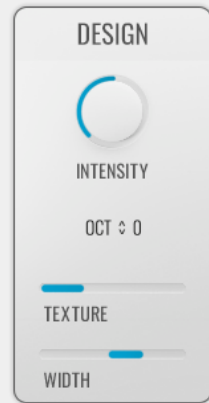
## RELEASE

- Adjust the time taken for the sample level to decay from the SUSTAIN target to zero after the key is released
- If RELEASE is off, then SUSTAIN will “snap” to 0



# DESIGN

This area contains controls to shape the behavior of SWARM. These controls were carefully curated to provide the impactful effect to the overall sound.



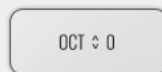
## INTENSITY

- This control combines adjustment to the rate (or grain size) while also adjusting its amplitude ADSR shape
- Turn to the left for a more pad-like sound
- Turn to the right for a more grainer sound



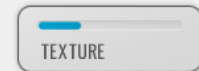
## OCTAVE

- Transposes the sound up or down in octaves



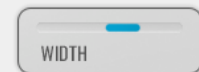
## TEXTURE

- Adjust how wide the grain selection “scatters” from the current granular pivot point
- The higher the value, the more varied the texture of the grain
- Lower value creates a very focused tone to the overall sound



## WIDTH

- Adjusts the width of SWARM's stereo imaging
- Turn to the right to widen the stereo imaging
- Turn to the left to narrow it down (all the way sums the signal to mono)





## XY / ANIMATION

The controls in this section is identical to the XY / ANIMATION section in FRACTALS. For more info, see [FRACTALS - XY ANIMATION section at page 35](#) of this manual.

# MOD

## OVERVIEW

Evolve your sound with MOD. From subtle changes to extreme creative effects, MOD is capable of modulating 3 main parameters of your sound; VOLUME, PAN and PITCH.

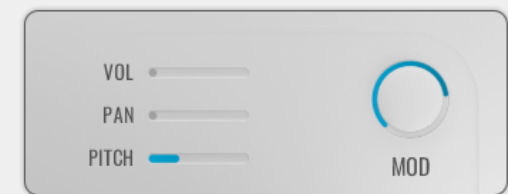
Set different amounts of modulations independently to SOURCE, SWARM and FRACTALS. The flexibility is right at your fingertips.

Under the hood, MOD uses custom scripted LFOs built from the ground up. These periodic waveforms allow for much greater efficiency in cpu processing performance all while maintaining super tight sync to your host tempo.

You access this page by clicking on the label that reads MOD.

## QUICK ACCESS

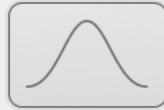
You can also adjust MOD values from within the SOURCE, SWARM + FRACTALS pages (located bottom left corner)



# COMMON CONTROLS

## SHAPE

- Select a waveform shapes for the modulation (SINE, SQUARE, TRIANGLE, SAW + RANDOM)



## PHASE

- Adjust the position within a cycle at which the LFO will start its waveform when triggered
- There are 4 possible phases to choose from (0°, 90°, 180°, 270°)
- For SAW, the PHASE buttons will swap between saw up or saw down
- For RANDOM, these buttons are unavailable



## RATE

- Adjust the speed at which the modulation updates itself



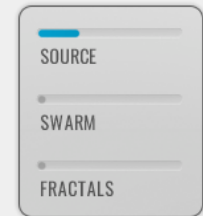
## PULSE WIDTH

- Adjusts the duty cycle of the waveform, which determines the ratio between the high and low parts of the cycle
- PULSE WIDTH of 50% results a perfect SQUARE waveform
- This control is available only when the SQUARE shape is selected



## DESTINATION

- Adjust the amount of modulation applied to SOURCE, SWARM + FRACTALS
- These values are independent to the other MOD parameters (VOLUME, PAN, PITCH)



# TRIGGER

- Select how MOD gets triggered (NOTE / TRANSPORT)
- NOTE - Phase of MOD starts on the first MIDI note. If all keys are released, then the MOD will retrigger on the next MIDI note. Sustain pedal takes into account of key held and released accordingly
- TRANSPORT - Phase of MOD locks to host transport. If we press a key late or early, the phase of the MOD will automatically lock onto the nearest downbeat. Please note, in most DAWs, built-in delay compensation may affect the timing of this mode. Please see [TIPS + TRICKS section at page 66](#) to improve timing



# SPACE

## OVERVIEW

Instantly adjust the amount depth and fullness of your sound with a single control, SPACE.

SPACE consists of Native Instrument's REPLIKA DELAY and CONVOLUTION REVERB with a collection of skybox Audio's custom made impulse responses.

You access this page by clicking on the label that reads SPACE.



**TIP - SPACE are pre-delay effects. This means you can have fully “wet” signals of SOURCE, SWARM or FRACTALS if SPACE controls are up while the rest are down low (they can’t be completely off as that’ll turn off SOURCE, SWARM or FRACTALS signal generation entirely)**

## QUICK ACCESS

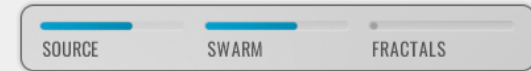
You can also adjust SPACE values from within the SOURCE, SWARM + FRACTALS pages (located bottom right corner)



# COMMON CONTROLS

## DESTINATION

- Adjust the amount of DELAY or REVERB applied to SOURCE, SWARM + FRACTALS
- These values are independent to the other SPACE parameters (DELAY / REVERB)



## TYPE SELECTION

- In the DELAY section, choose between 1 of 5 REPLIKA DELAY modes
- In the REVERB section, choose from a selection of custom impulse responses



## PREVIOUS / NEXT

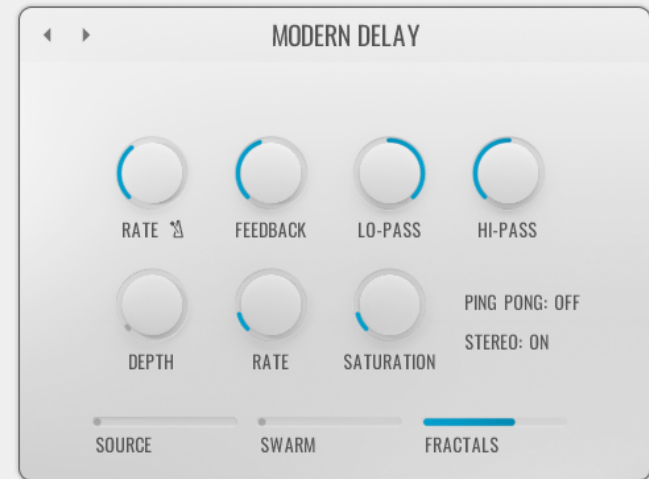
- Select previous or next delay mode or impulse response



# DELAY

This delay module is based on Native Instruments' dedicated Replika XT delay plug-in. It features 5 different modes (MODERN, ANALOG, TAPE, VINTAGE + DIFFUSION). Each adds distinct colour to your sound.

All modes offer controls for RATE, FEEDBACK, LO-PASS + HI-PASS.



## RATE

- Adjusts the speed of the delay time



## LO-PASS

- Cuts low-frequency content in the feedback path of the delay with a non-resonant filter



## FEEDBACK

- Adjusts the level of the signal that is fed back to the input
- Turning up the control adds delay repeats



## HI-PASS

- Cuts high-frequency content in the feedback path of the delay with a non-resonant filter



## DYNAMIC CONTROLS

- Each mode provides a unique range of parameter controls that allows you to tailor the effect to your specific needs



# REVERB

We have included an extensive collection of impulse responses for you to choose from. From straight ahead reverb to mangled and synthetic creative effects, these are all unique to the Hammers + Waves collection.



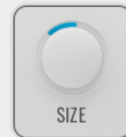
## PRE-DELAY

- Add a short amount of delay between the direct signal and the convolution output
- This is useful when used with reverb responses to simulate the reverberation of big rooms



## SIZE

- Compress or stretch the impulse response in time



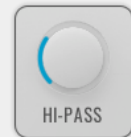
## LO-PASS

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



## HI-PASS

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



# FX

## OVERVIEW

Shape your sound further by adding FX modules on SOURCE, SWARM + FRACTALS. Stack up to 4 effects on each and determine its signal flow independently. FX is designed to be flexible yet simple to work with.

Select from an assortment of audio processors. From standard mix effects such as EQ + DYNAMICS, to more drastic effects like creative FILTERS + REVERSE, you get to choose how subtle or extreme the effects get applied.



Access this page by clicking on “FX” within the SOURCE, SWARM + FRACTALS pages.

TIP - Alternatively, you can Command/Control + Click the SOURCE, SWARM or FRACTAL'S text at the bottom to access their respective FX pages quickly

TIP - Quickly switch between SOURCE, SWARM + FRACTAL'S FX pages using the tab switcher at the top



TIP - See at a glance if FX modules are active within the SOURCE, SWARM + FRACTALS pages (blue = on, grey = disabled, empty = no FX)





# COMMON CONTROLS

## TYPE

- Select from an assortment of FX modules to be placed on a particular FX slot (signal flow goes from left to right)
- If “NONE” is selected, no FX module will not be placed in that FX slot



## SUBTYPE

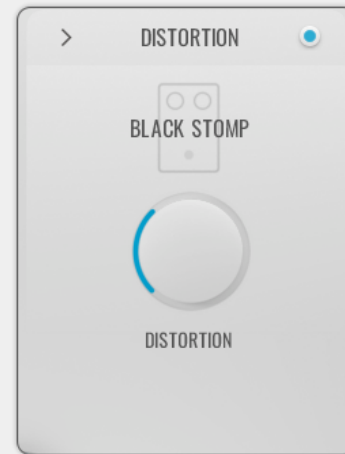
- Choose a specific SUBTYPE of FX module
- The content of this menu is dynamically updated based on the chosen TYPE effect



TIP - You can move FX modules around by calling on the option within the TYPE menu named “<- SWAP FX LEFT” or “SWAP FX RIGHT ->”

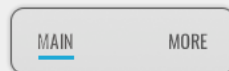
## ADVANCED

- Adding FX modules will initially present itself in SIMPLE view. Only the most important control(s) will be shown
- Dive deeper by going in ADVANCED view and tweak parameters further to really dial in the sound you are after



## SUB-PAGE

- SUB-PAGE will become available in ADVANCED view, there are more parameters that are tweakable with that selected FX module



## ENABLE

- Enable or disable a chosen FX using the button on the top right hand corner of the module



# FX LIST

The following are all the available FX modules within Hammers + Waves instruments:

## FREQUENCY BASED FX

### EQ

---

EQ (4-band)

### FILTER

---

LOW PASS  
HIGH PASS  
BAND PASS  
PEAK  
NOTCH  
FORMANT  
PHASER  
VOWEL

## DYNAMIC BASED FX

### DYNAMICS

---

CLASSIC COMP  
FEEDBACK COMP  
BUS COMP  
TRANSIENT MASTER  
LIMITER

## STEREO BASED FX

### STEREO IMAGING

---

STEREO MODELLER

## DISTORTION BASED

<b>SATURATION</b>	<b>DISTORTION</b>	<b>AMP</b>	<b>CABINET</b>
TAPE	GREEN STOMP	TWANG	2X12 TWEED (ON AXIS)
MODERN	BLACK STOMP	AC BOX	2X12 BRIT 60S (ON AXIS)
SMACK	ORANGE STOMP	JUMP	2X12 CHIEF (ON AXIS)
CLASSIC	TUBE	HOT SOLO NORMAL	2X12 CHIEF (BACK)
	TRANSISTOR	HOT SOLO OVERDRIVE	4X10 TWEED (ON AXIS)
	LOFI	VAN 51 RHYTHM	4X10 TWEED (FAR)
		VAN 51 LEAD	4X12 UK 70S (ON AXIS)
			4X12 UK 70S (FAR)
			4X10 BASS-WR (ON AXIS)
			4X10 BASS-WR (HORN)
			CLOSED LESLIE (ON AXIS)

## TIME BASED FX

<b>DELAY</b>	<b>MODULATION</b>
DIGITAL	CHORUS
MODERN	PHASER
ANALOGUE	FLANGER
TAPE	ROTATOR
VINTAGE	
DIFFUSION	

## REVERB BASED FX

### SMALL

S CHEAP PLATE  
S MEDIUM ROOM  
S RAW ROOM  
S REFLECTION ROOM  
S SMALL ROOM  
S SMALL TILE ROOM  
S SMALL WIDE ROOM  
S WIDE ENERGY  
S WOOD ROOM

### MEDIUM

M DARK MOD  
M IMPRESS ME  
M MEDIUM CHAMBER  
M MEDIUM DARK  
M MEDIUM HALL  
M SMOOTH HALL  
M WARM CHAMBER

### LARGE

L AMBIENT SWELL  
L ANTHEMIC HALL  
L BRIGHT NARROW CHAMBER  
L CINEMATIC HALL  
L CONCERT HALL  
L DARK HALL  
L GHOST HALL  
L HALL OF MIRRORS  
L LARGE PLATE  
L LONELY CHAMBER  
L LONG SPARKLE  
L OPEN SHIMMER  
L SMOOTH PLATE

**EXTRA LARGE**

XL DARK WATER  
XL DEEP FREEZE  
XL ETERNITY PLATE  
XL HUGE WASH  
XL NEBULA SWELL  
XL OCEAN HALL  
XL SHIMMER HALL

**VINTAGE**

V DIRTY SPRING  
V DRUNK SPRING  
V GARAGE SPRING  
V ROCKET ECHO  
V VINTAGE HALL  
V WASHY SPRING

**CREATIVE**

C ANALOG FEEDBACK  
C BLACK REFLECTION  
C DARK ANALOG PULSE  
C FIRST CONTACT  
C GATED CHORUS VERB  
C LONG RIPPLES  
C POINTED LOFI  
C SATURATION SWELL  
C WET ROCKS

## REVERSE BASED FX

**STRAIGHT**

BAR  
1/2  
1/4  
1/8  
1/16

**TRIPLET**

BAR TRIPLET  
1/2 TRIPLET  
1/4 TRIPLET  
1/8 TRIPLET

**DOTTED**

1/2 DOTTED  
1/4 DOTTED  
1/8 DOTTED  
1/16 DOTTED

# SETTINGS

## OVERVIEW

The SETTINGS page contains controls to change the behavior of the instrument on a high level. This includes MIDI assignment to dynamically affect controls as well access to select global settings controls.



Access this page by clicking on SETTINGS icon from within the HOME SCREEN pages

	SWARM	SOURCE	FRACTALS	SETTINGS
LEVEL	+	PBEND DN ▾ -100%	+	DYNAMIC PURGE: ON
SPC RVB	+	PBEND UP ▾ -100%	+	DYNAMIC FX: ON
SPC DLY	+	+	+	EXT. KEYPAGE: ON
COLOR (X)	+		+	REBUILD TAG DATABASE
SHIFT (Y)	+		+	

MOD SWARM SOURCE FRACTALS SPACE MODWHL 100%

TIP - Command/Control + Click the BACK button to go to this SETTINGS page (regardless of which page you are on)



# MIDI ASSIGNMENT

Map your MIDI CC controller of choice to dynamically adjust various controls of the instrument. These settings are updated based on the preset loaded. Every assignment contains 2 parts that can be adjusted: the controller type (CC) and the range of its values.

## CONTROLLER

- Assign a CC controller of your choice to handle dynamic changes to the chosen component



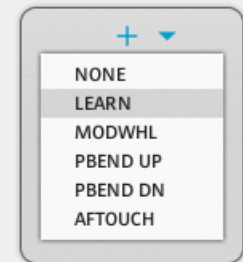
## RANGE

- Adjust the potential range that the assigned CC controller can change (-100% to 100%)



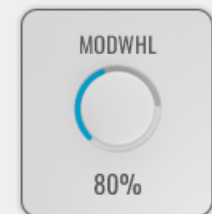
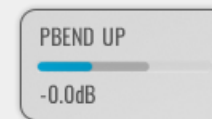
## LEARN

- Within the controller dropdown menu is an option for the LEARN functionality
- Once set, move any CC controller of your choice and the text will update to the controller number you chose
- This literally allows you to set any available CC of your choice (CC 1 - 127)



## INDICATOR

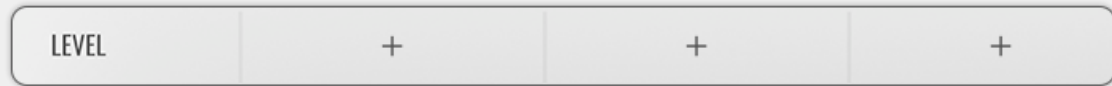
- When an assignment is successful, the control may show 2 different colors
- Blue indicates the actual value of that component while dark grey shows its potential range
- Adjusting those controls directly with the mouse will now update the value readouts (replacing its text as normal) while also showing its assigned controller type as well



## LEVEL

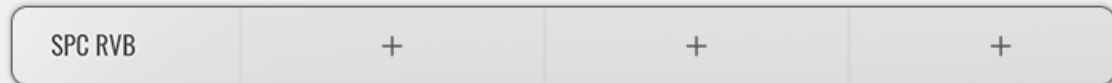
- Adjust amount of SOURCE, SWARM, FRACTALS, MOD + SPACE in real-time using your MIDI CC controller of choice

- Note that moving the assigned controller down while the DYNAMIC PURGE or FX on will not purge or bypass any FX. That requires moving the controls down to a minimum (to avoid unintended purging of samples and enabling fx while performing)



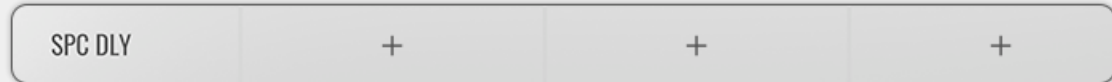
## SPACE REVERB

- Adjust amount of SOURCE, SWARM + FRACTALS signal going to the SPACE REVERB



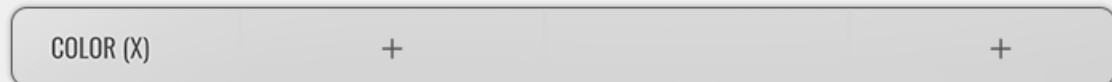
## SPACE DELAY

- Adjust amount of SOURCE, SWARM + FRACTALS signal going to the SPACE DELAY



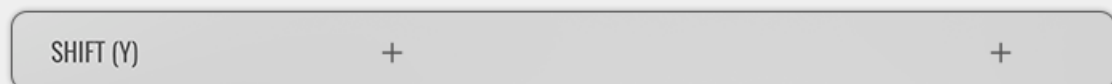
## COLOR (X)

- Assign a CC controller of your choice to handle the X-position of the SWARM or FRACTALS XY cursor



## SHIFT (Y)

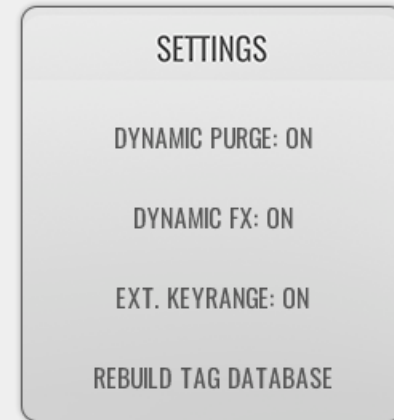
- Assign a CC controller of your choice to handle the Y-position of the SWARM or FRACTALS XY cursor





# SETTINGS

Adjust the behavior of the instrument when certain conditions are met. Use the controls to optimize CPU and RAM usage or have access to note ranges beyond the sampled range.



## DYNAMIC PURGE



- When on, turning down select controls in SOURCE, SWARM + FRACTALS down to 0 will dynamically purge samples
- This is to save unused samples from being loaded into RAM
- We recommend turning on only if you are certain you will not change presets further. Having it on will potentially reload samples on the fly while browsing for presets, slowing down the audition process

## DYNAMIC FX



- When on, turning down select controls in SOURCE, SWARM + FRACTALS down to 0 will dynamically bypass relevant FX
- This is to ensure unsure FX will not use any CPU processing

## EXTENDED KEYRANGE



- Enable to allow playing notes beyond the sampled range
- This will perform pitch shifting on the upper and lower limit of the keyboard's sample range in order to achieve this

## REBUILD TAG DATABASE



- Running this process will recreate all tag .nka files that are used to hold preset tag information used in the PRESETS page
- This process should only be used if you are experiencing issues when using the presets tag functionality
- Please allow time for the process to complete

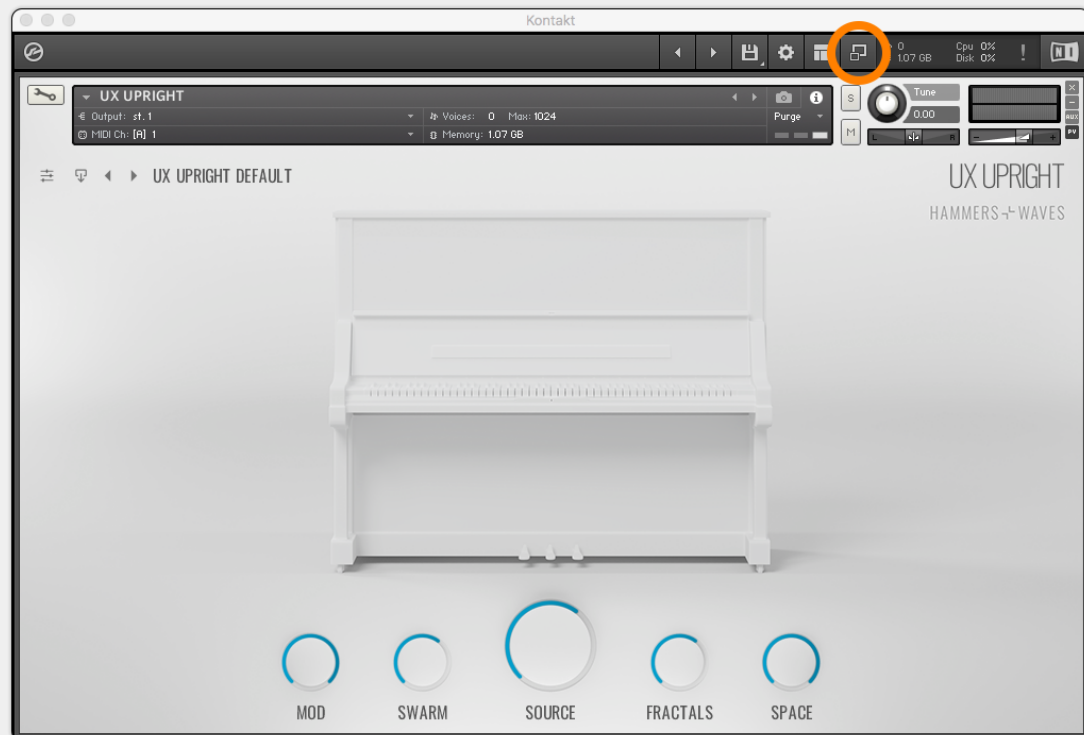
# TIPS & TRICKS

## KONTAKT WINDOW

There are many ways in improving the use and handling of Kontakt windows. Here are a collection of our favorite tips and tricks.

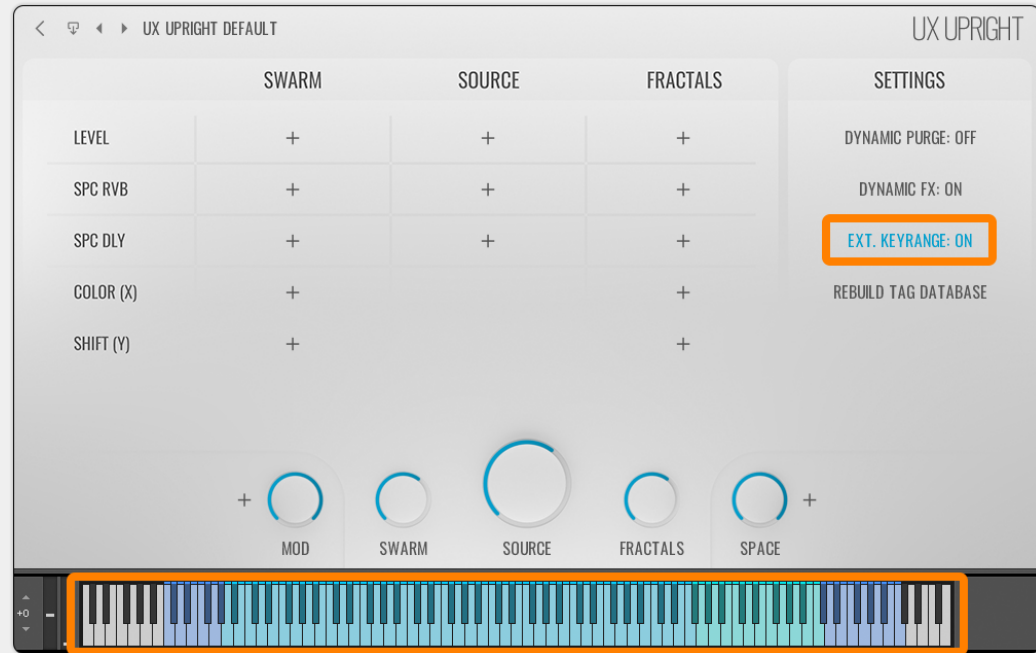
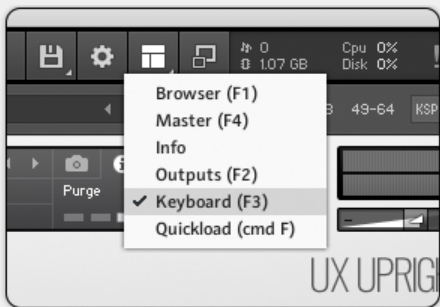
### MINIMIZED VIEW

Instantly optimize the Kontakt window using the MINIMIZE ICON located at the top right. This automatically focuses the view on the nki at hand, hiding the Multi Rack panel and certain Workspace Management panels such as the Browser and Master view. This is especially useful when screen real estate is at a premium and when we are only dealing with only a single nki.



## KEYBOARD VIEW

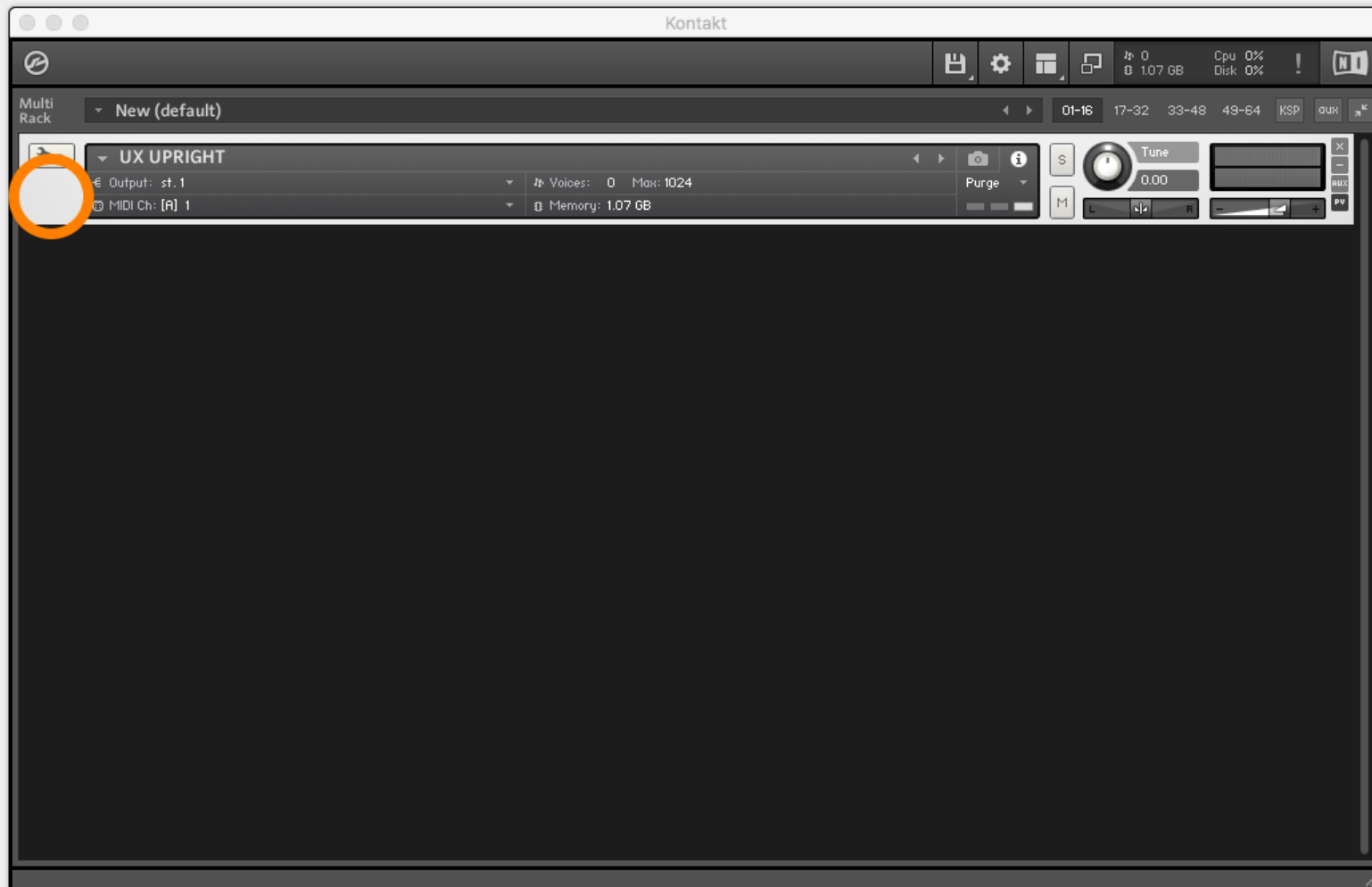
Viewing the available note ranges of any given instrument is useful when getting familiar with an instrument. Enable the Keyboard View under the Workspace Management dropdown menu located at the top right of Kontakt's window to visually see this.



For Hammers + Waves, medium blue keys show regular playable notes. Light blue keys show notes without dampers (meaning they will ring out naturally on key release - this follows the real world properties of the sampled instrument). Dark blue (purplish) keys indicate extended keyrange (only if EXT. KEYRANGE is on). These are keys that will playback transposed samples beyond the recorded range of the given instrument. Any key presses on the pure white or black keys have no samples assigned to them and thus will be ignored.

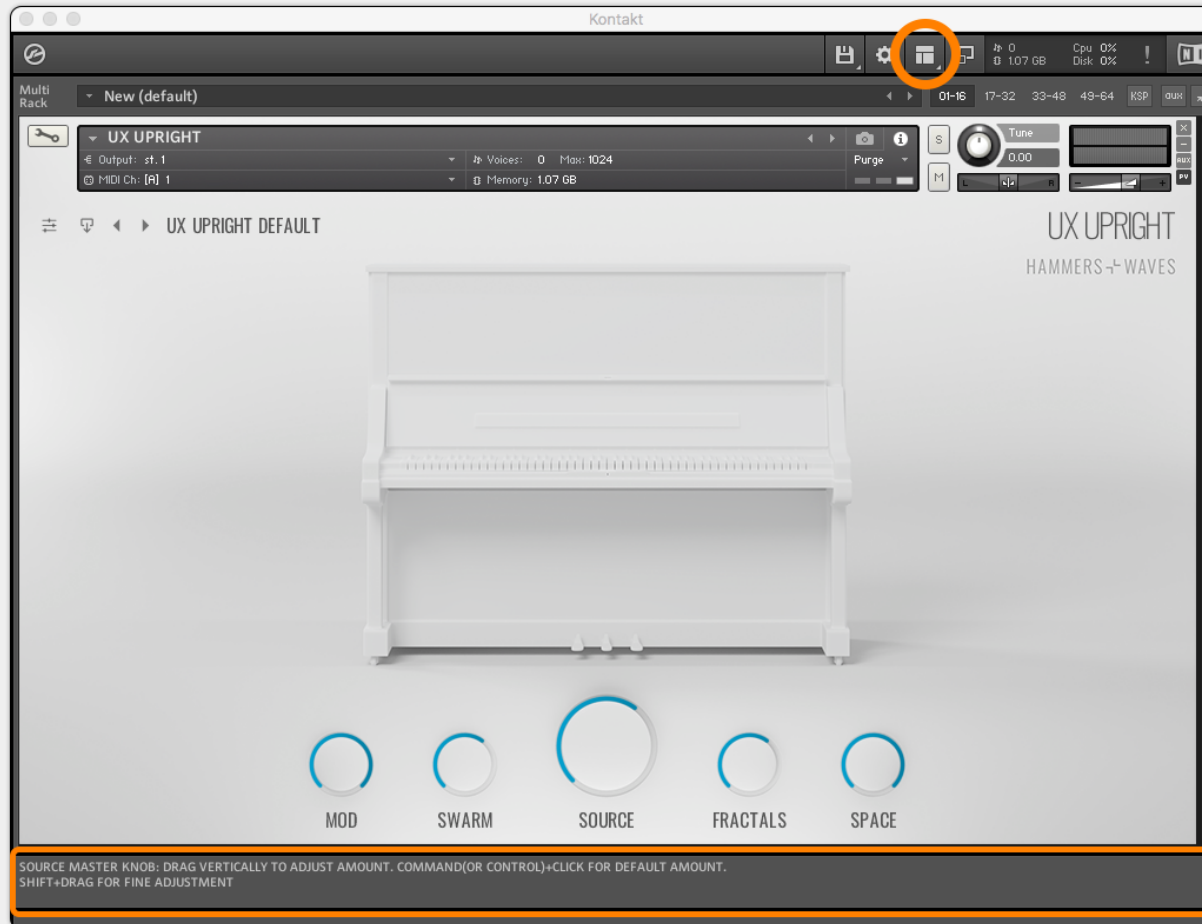
## RACK VIEW

- Click on the Instrument Icon area to hide the entire performance view, reducing the instrument's height to display just the rack view
- This can be useful when dealing with multiple nkis within a single Kontakt instance



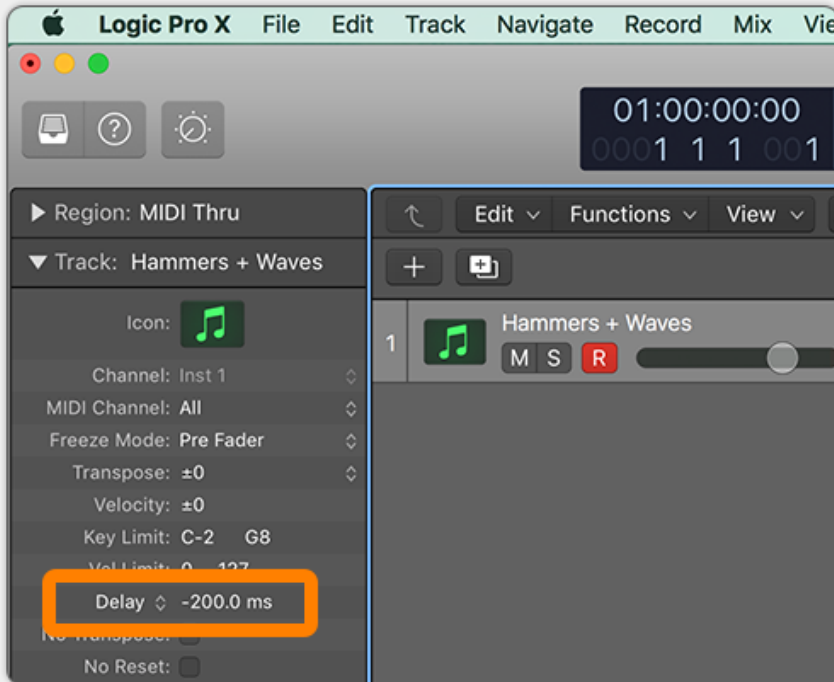
## INFO VIEW

- Enabling the Info View (under Workspace Management) will show a panel at the bottom of the Kontakt window
- Hovering your mouse over any control within the interface will display a help text
- This is useful to distinguish between controls as it confirms the full name of a given control as well as comments on the use of it



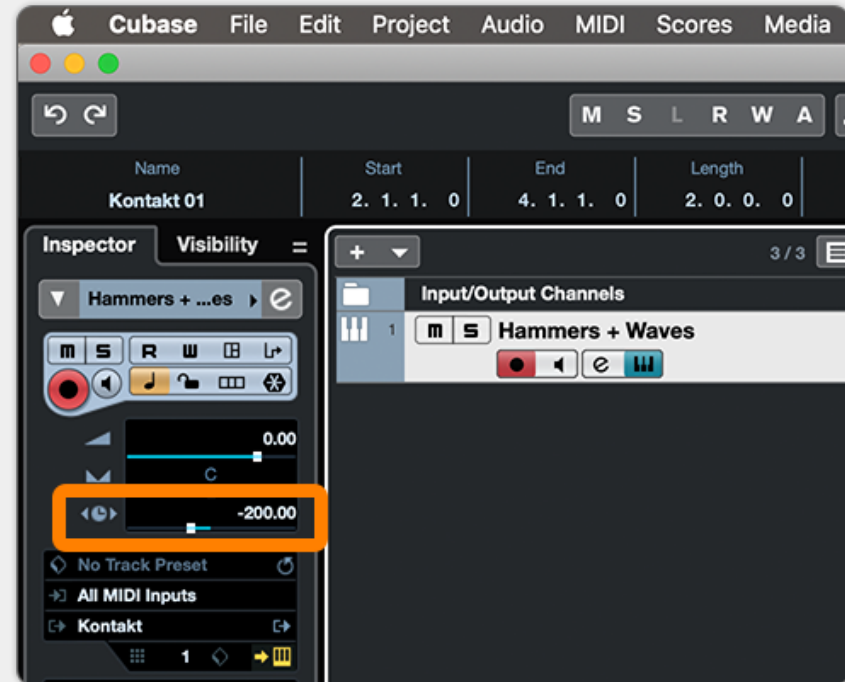
# PRE-STRIKE

Using PRE-STRIKE requires nudging the recorded midi notes back by 200ms to keep playback performance in time with the sequence. While we can certainly do this manually by moving all notes earlier, all modern DAWs have the functionality to do this automatically on a per track basis. Here are examples of how they're done in some widely used DAWs in the market.



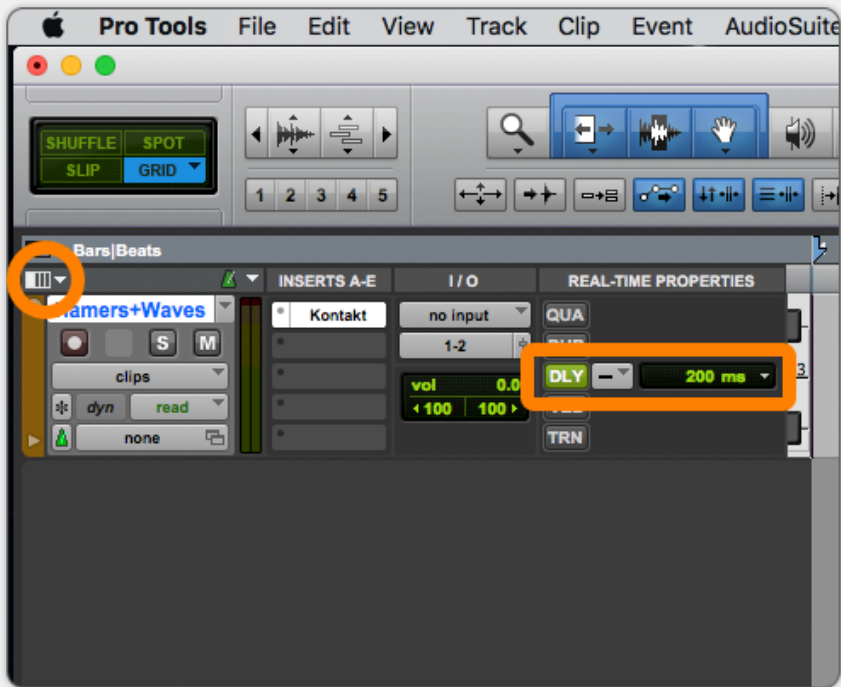
## LOGIC PRO

- Show the Inspector panel
- In the Track settings, set the Delay to -200ms



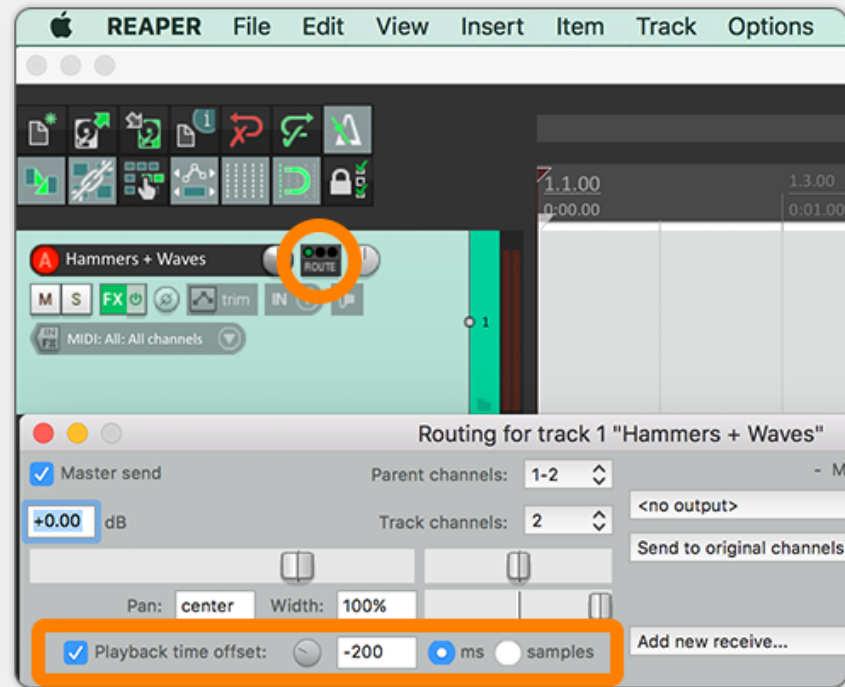
## CUBASE

- Open the Inspector panel
- Set the Track Delay in Milliseconds to -200



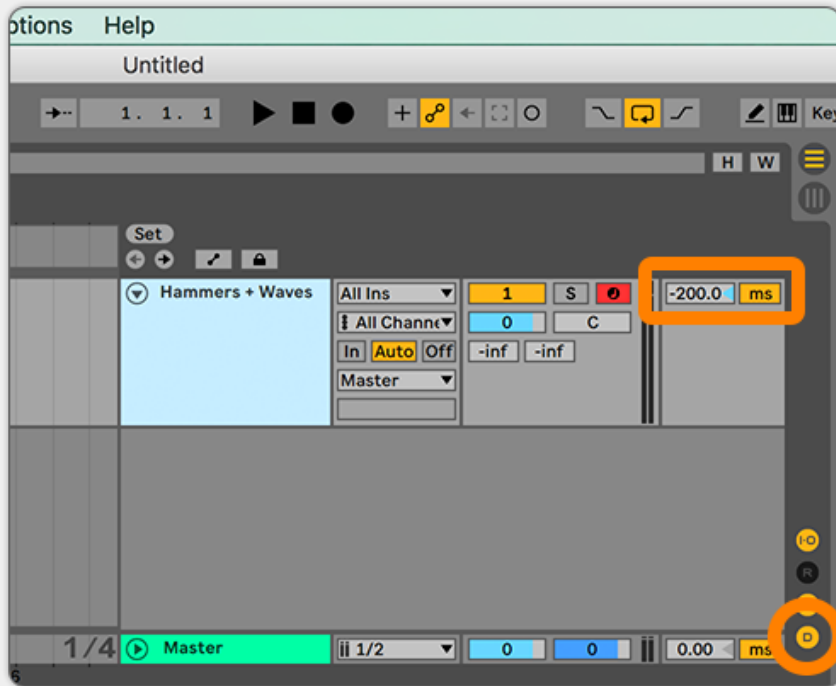
## PRO TOOLS

- In the Edit Window View selector, enable Real-Time Properties
- Enable Delay (DLY)
- Set to “-” (Advance)
- Set value to 200
- Ensure resolution is set to “ms” in dropdown on the right



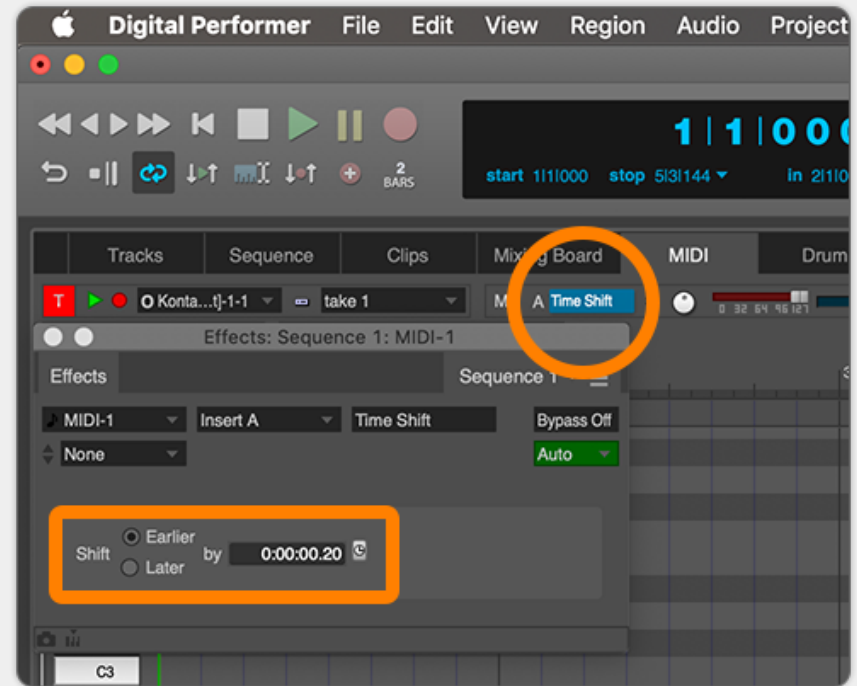
## REAPER

- Open the Routing for track window
- Enable Playback time offset
- Set value to -200
- Ensure ms is selected



## ABLETON LIVE

- Show the Track Delays view
- Set the value to -200
- Ensure that the resolution is set to “ms”



## DIGITAL PERFORMER

- Switch to the MIDI tab
- In Midi Insert, add the Time Shift effect
- Check that it is set to “Earlier”
- Check the edit resolution is set to the time format
- Set the value so it reads 0:00:00.20



## INFO

- Enable the INFO view under the Kontakt menu. All controls have additional information attached to them when you mouse over that control
- Adjusting any control swaps its description text for its readout value. Click anywhere on the background to reset all text states

## NAVIGATION

- Click the Instrument name (top right corner) while on the HOME SCREEN will go to the CREDITS page. Clicking it while on any other pages returns to the HOME SCREEN
- Command/Control + Click SWARM/SOURCE/FRACTALS text for quick access to their relevant FX page
- Command/Control + Click the BACK button to enter SETTINGS page (regardless of which page you are on)
- Quickly switch between SOURCE + FRACTAL'S STRIKE pages using the tab switcher at the top
- Quickly switch between SOURCE, SWARM + FRACTAL'S FX pages using the tab switcher at the top
- Command/Control + Click the BACK button to go to the SETTINGS page (regardless of which page you are on)

## PRESETS

- Command/Control + Click the preset name (top left) to reload current preset
- In PRESETS page, clicking on the same loaded cell will reinitialize the loaded preset
- Command/Control + Click the PREVIEW text to play the musical snippet of the active preset without having to reload the preset
- You can use Komplexe Kontrol's Native Browser and Snapshots to browse through all available presets if you prefer. Hammers + Waves is a fully encoded NKS compatible library
- Factory previews are created at 120BPM. For optimal playback of PREVIEWS, set host tempo to 120BPM

## FX

- You can see at a glance if FX modules are active within the SOURCE, SWARM + FRACTALS pages (blue = on, grey = disabled, empty= no FX)
- You can swap the locations of FX modules by clicking on the TYPE menu and selecting “<- SWAP FX LEFT” or “SWAP FX RIGHT”

## ADJUSTING VALUES

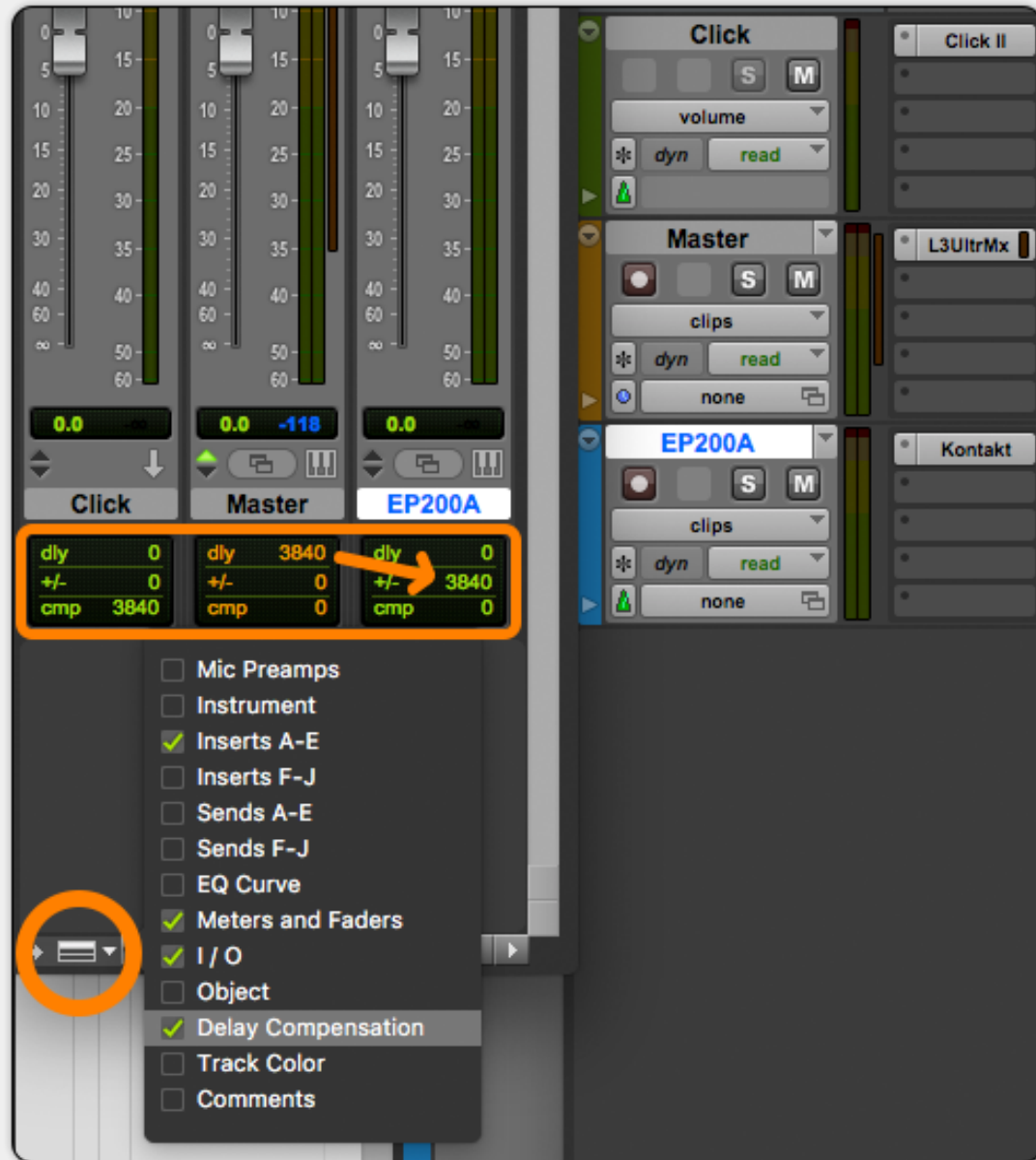
- If any text turns blue on mouse hover, it means that this text is clickable. Most will toggle between last used and off values, while some change between sync and free rate
- You can reset a control to its default value by using Command/Control + Click
- Quickly toggle MOD, SWARM, SOURCE, FRACTALS + SPACE's amount knob value on or off by using Option/Alt + Click or quickly double clicking its text
- Double click anywhere within the boundaries of the XY pad to quickly reset the cursor to the center
- On most knobs and sliders, you can Right Click and “Learn MIDI CC# Automation”. This will allow you to map your own physical CC controller to the assigned knobs. (Right Click again to show option for “Remove MIDI Automation”)
- When dealing with multiple instruments in a single Kontakt instance, we know how annoying it is to unintentionally move the instrument by dragging the background. So, we implemented a feature where you can have confidence in clicking and dragging around the interface and not have this happen. You can still move the instrument around by dragging the spaces near the Kontakt header area

## DESIGNING SOUNDS

- By setting LENGTH to off and enabling STRIKE, FRACTALS behaves like a pseudo percussion sequencer
- SPACE are pre-delay effects. This means you can have fully “wet” signals of SOURCE, SWARM or FRACTALS if SPACE controls are up while the rest are down low (they can't be completely off as that'll turn off SOURCE, SWARM or FRACTALS signal generation entirely)

# MOD - TRIGGER: TRANSPORT

- Running MOD in TRIGGER: TRANSPORT mode allows us to freely perform and have the waveform shapes to securely lock to host playback
- This means that even if we play early or late, the phase of the waveforms will musically start on the downbeat of the session
- However, the use of high latency plug-ins, like Waves L3 and iZotope Ozone, can introduce high amounts of delay to the project
- Most DAWs will automatically compensate for this delay using what's commonly called Delay Compensation
- The screenshot to the right shows a Pro Tools mixer with the Delay Compensation set to visible
- We can see that a single use of L3 adds 3840ms of latency to the project
- If we were to copy that number into the Hammers + Waves track, playback of the MOD in TRIGGER: TRANSPORT mod will once again lock to host transport accurately as intended



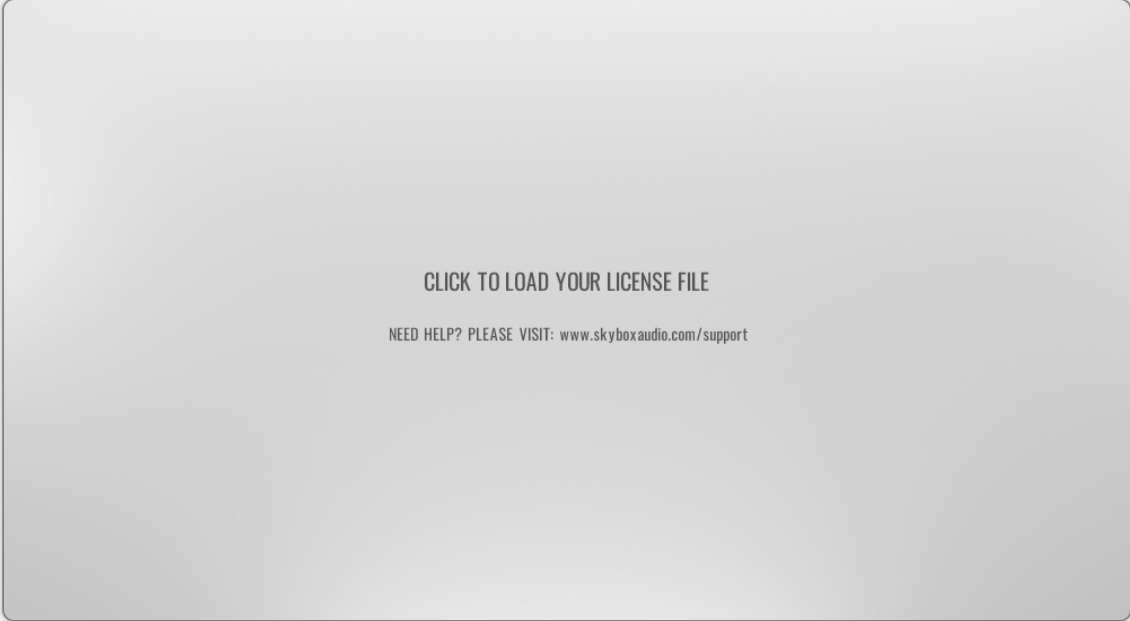
# TROUBLESHOOTING

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**I am trying to load a Hammers + Waves nki into Kontakt but am seeing the message “click to load your license file” - how do I resolve this?**

Hammers + Waves is authenticated and watermarked using proprietary techniques developed by skybox Audio. Click on the text that reads “CLICK TO LOAD YOUR LICENSE FILE” and select the hw\_licensefile.nka file that comes with your purchase. You only have to do this once.

If you do not have a valid license file, please log in to your account at [www.skyboxaudio.com](http://www.skyboxaudio.com) or visit [www.skyboxaudio.com/support](http://www.skyboxaudio.com/support).

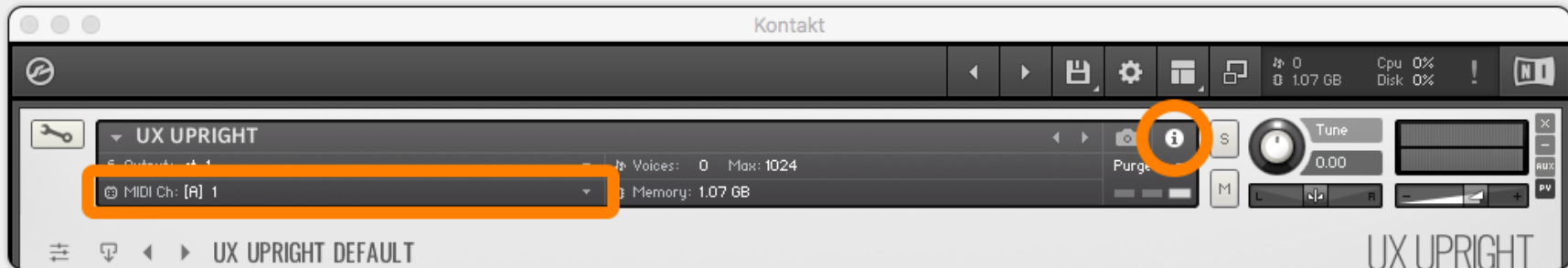
A screenshot of a software interface with a light gray background. The text is centered. The main text is "CLICK TO LOAD YOUR LICENSE FILE" in a bold, sans-serif font. Below it, in a smaller font, is "NEED HELP? PLEASE VISIT: www.skyboxaudio.com/support".

CLICK TO LOAD YOUR LICENSE FILE

NEED HELP? PLEASE VISIT: [www.skyboxaudio.com/support](http://www.skyboxaudio.com/support)

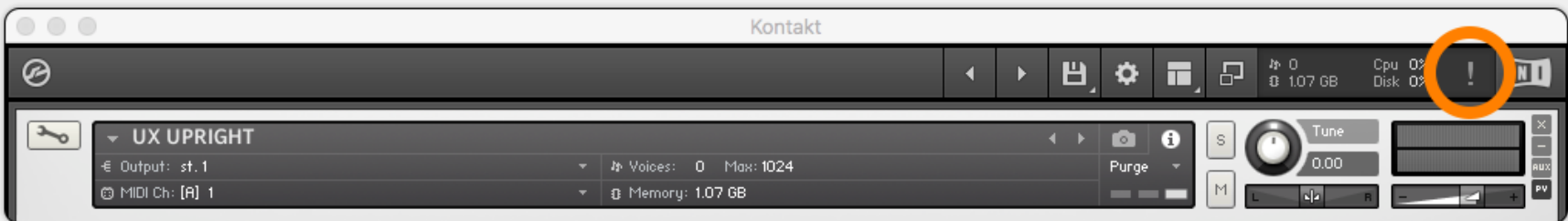
### I don't hear any playback when I play any keys. What is going on?

While we cannot anticipate every combination of DAW and midi controller everyone uses, it is worthwhile checking the following step. Assuming there is no issue with hardware and that your DAW is set up right, check the MIDI channel in the Kontakt header. It must match the MIDI channel of your MIDI controller or your MIDI / Instrument track in your DAW. Setting this to OMNI is a quick way for the Kontakt to receive MIDI information from any source. It is also helpful to note that the MIDI icon to the left of the "MIDI Ch" will blink if a successful connection is made and a key is pressed.



### Something strange is going on with the playback. Do I need to restart Kontakt?

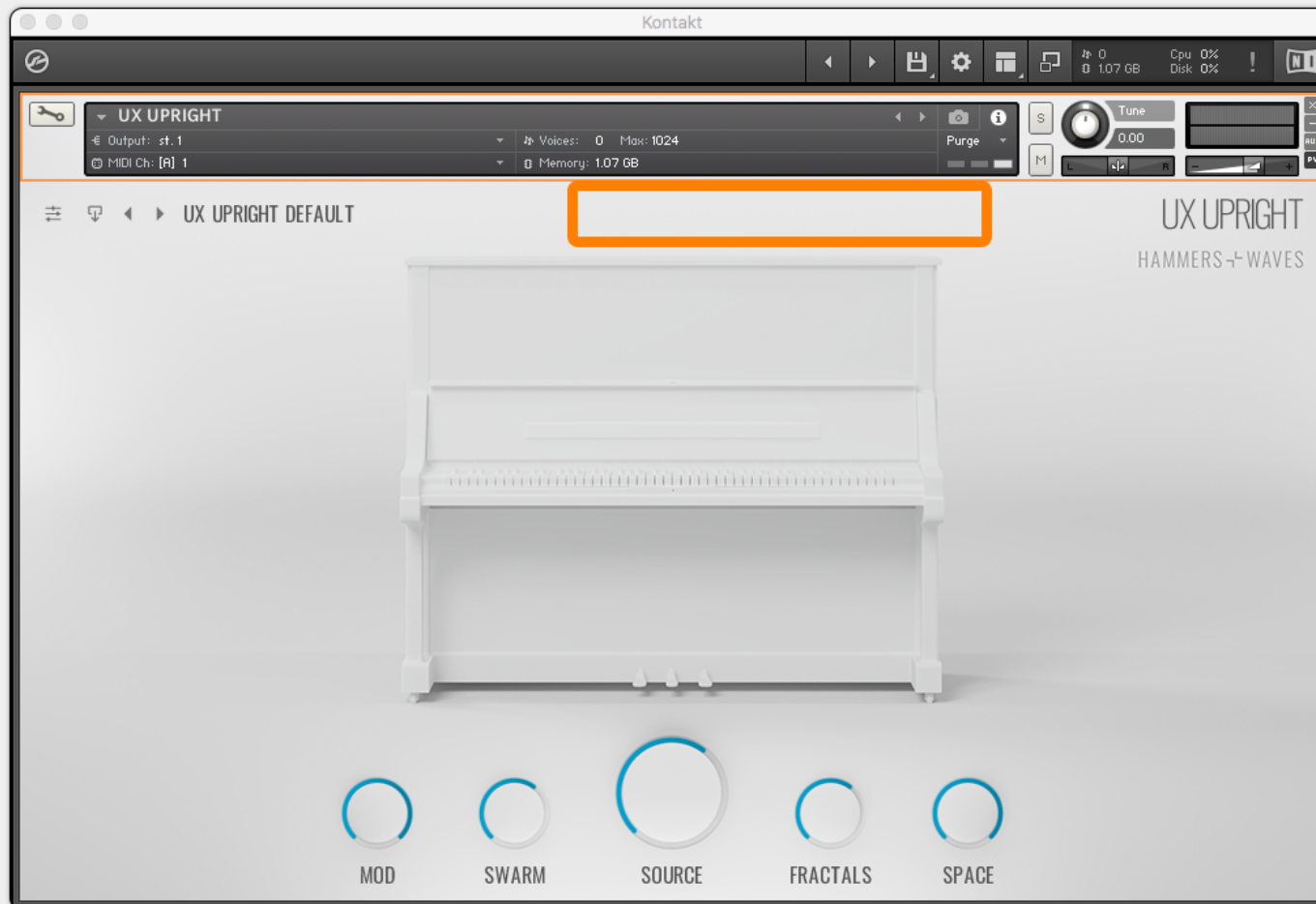
We designed Hammers + Waves to be highly optimized and as stable as possible before it reaches your hands. That being said, unforeseen situations may happen due to various factors and restarting Kontakt may be required. Before you do so, try restarting Kontakt by clicking on the "!" icon located at the top right of Kontakt's window first. In our experience, this usually fixes it. If that doesn't resolve the issue, proceed with reloading the Kontakt plugin, or try restarting the DAW software / computer.



If the issue you are experiencing is recurring one, please get in touch with us at [support@skyboxaudio.com](mailto:support@skyboxaudio.com)

## I have multiple instruments loaded into a single instance of Kontakt. How do I rearrange the positions of Hammers + Waves?

An issue we found when dealing with multiple instruments in a single Kontakt library is the action of unintentionally moving the instrument when clicking around the interface. You may have experienced this yourself when working with other Kontakt libraries. To combat this, we implemented only allowing to move the instrument by dragging in the empty spaces within the Kontakt header area or the empty space between the presets and instrument name (highlighted in the image).



### **How do I get access to more than the 5 controllers at the bottom and PRESETS in the upper left corner?**

Almost all text labels in Hammers + Waves are interactable. For example, click on the texts that read MOD, SWARM, SOURCE, FRACTALS or SPACE at the bottom of the screen to display their parameter pages. All text that turns blue on mouse hover means that they are interactable. Go ahead and explore the instrument!

### **Any way of speeding up loading PRESETS?**

In the SETTINGS page, turn off DYNAMIC PURGE. This ensures that samples are always loaded into RAM, and they don't have to be reloaded when browsing through PRESETS. This significantly speeds up the preset loading process, though at a cost of higher RAM usage.

### **The use of TAGS in the PRESETS page seems “off” somehow. Why is that?**

Tag info are stored in .nka files and referred to at the launch of the instrument. If the instrument files have moved around or the preset files themselves have been tampered with (through Finder/Explorer), it's possible that the database no longer points to the proper preset files at runtime. Run the REBUILD TAG DATABASE in SETTINGS to fix this. This process takes a minute to complete as it rebuilds the tag database to all instruments..

### **I am turning up the knobs at the bottom of the screen but I am not hearing any changes. Why is that?**

If this is happening, it is likely that the loaded preset is utilizing the MIDI ASSIGNMENT feature. Displayed above (or to the side) of the control is a visual readout of the assigned control. Move that assigned CC control (ie CC1 for “MODWHL”) and then play a note. All PRESETS that come with Hammers + Waves are designed to dynamically alter to your performance in real time. If you prefer, you can disable (or reassign) this behavior under the SETTINGS page and MIDI ASSIGNMENT.

### **Why do the notes from SOURCE sound like the instrument is lagging?**

Check to see if PRE-STRIKE is enabled. PRE-STRIKE is a feature that introduces 200ms of latency. This is in order to achieve the realistic sound of the moment when a key is pressed and the hammers travel toward the instrument's sound source (e.g. strings, tines, etc.).

### **I want to use PRE-STRIKE but the delay makes it hard to write with. What can I do?**

We recommend writing with PRE-STRIKE off first. Only after do we recommend turning it on and nudging the midi notes earlier (to the left) by 200ms. Even better, use the DAW specific workflow suggestion that applies to you in the [TIPS & TRICKS - PRE-STRIKE section at page 61](#) of this manual.

**Can I save this cool sound I just made?**

Absolutely! Enter the PRESETS SAVE page using the dedicated icon on the top left. There, you can add your own preset name, add tags and even add your own preview to capture your musical idea.

**I have a question that is not covered here. What can I do?**

Reach out to us at [support@skyboxaudio.com](mailto:support@skyboxaudio.com) with any additional questions and we will be happy to assist you.



# CREDITS

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Danny Dunlap, Azrul Saleh, Dana Nielsen

## **Special Thanks**

Fabian Alamazon, Jeremy Balliger, Rob Beaton, Alex Brown, Brian Chapman, Daniel Crawford, Ethan Cohen, Reagan Denius, Danielle Dunlap, AA Enriquez, Andrew Feltenstein, McKay Garner, Chidi Godwin, Larry Goldings, Mike Greene, Mark Hollingsworth, Eric Lynn, John Mark Nelson, John Nau, Charissa Nielsen, Joy Ngiaw, RJ Pirchinello, James Poyser, Outlier Studios (Daniel Ciurlizza, Bill Snyder III, Paul Connolly, Brandon Lau, Ryan Spratt, Matt Kelly), Ike Sturm, Adam Traister, Dewey Thomas, Voger Design, Alvin Wee, Dan Wilson, Colin Wolfe, Rendra Zawawi