



VERSILIAN STUDIOS LLC.



C A L D E R W O O D

DRUMS

P R O D U C T M A N U A L



INTRODUCTION

In a small shop on the outskirts of Boston, MA, a nearly millenia-old tradition of drum making continues. Before modern rod-tension drums, rope was used to maintain tension between the top and bottom head. These forms of drums live on in historical reenactment, historical plays, and fantasy films scores with their unique tuning and sound standing apart from modern concert snares and marching percussion.

Calderwood Percussion, the brainchild of William Austin Whitney, has been producing custom rope and rod tension drums for over a decade. Featured in the Broadway show 'Hamilton: An American Musical' as well as the TV series 'Black Sails' and 'Outlander', as well as countless historical reenactment groups, drummers, and collectors, Calderwood's instruments cover an enormous range of shapes and sizes.

This project serves as not just a collection of Calderwood drums, but also a celebration of historical, folk, and just plain weird examples too. From adorable toy snares to the funky 'octajons' and a thunderous 90" bass drum, 1800's originals to fresh-off-the-bench designs, there's a drum here for every occasion.

DEVELOPMENT

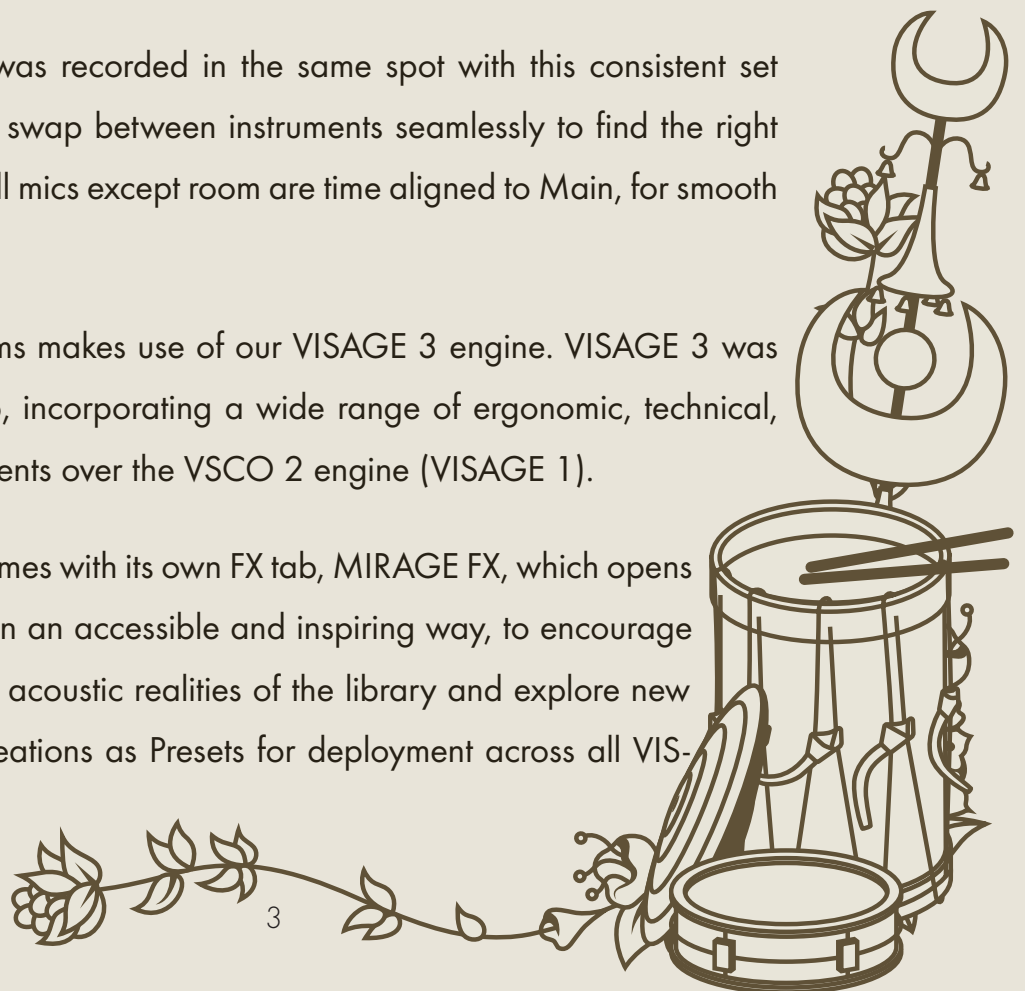
Calderwood Drums is our most ambitious recording project to date, with a massive 42 instruments, 9 mic arrays, up to 14 dynamic layers and 12 round robins, and performances by one of Boston's finest historical percussionists. Each drum was carefully tuned & adjusted by Calderwood's owner and the performer prior to sampling.

A huge array of microphones were hand-selected for this purpose. 9 pairs of microphones were used, including a close mics both above and below each drum (blendable), two overhead choices (reference-grade measurement omnis & supercardioid SDCs with massive transformers), mid mics including stereo ribbon and transformer-equipped LDCs, as well as vintage main and low-noise room pairs in a silent studio, allowing virtually any sound concept or mic technique imaginable.

Each drum type was recorded in the same spot with this consistent set of mics, allowing you to swap between instruments seamlessly to find the right sound for your project. All mics except room are time aligned to Main, for smooth blending.

Calderwood Drums makes use of our VISAGE 3 engine. VISAGE 3 was built from the ground up, incorporating a wide range of ergonomic, technical, and graphical improvements over the VSCO 2 engine (VISAGE 1).

VISAGE 3 also comes with its own FX tab, MIRAGE FX, which opens up Kontakt's internal FX in an accessible and inspiring way, to encourage you to move beyond the acoustic realities of the library and explore new visions. Save your FX creations as Presets for deployment across all VISAGE 3 products.



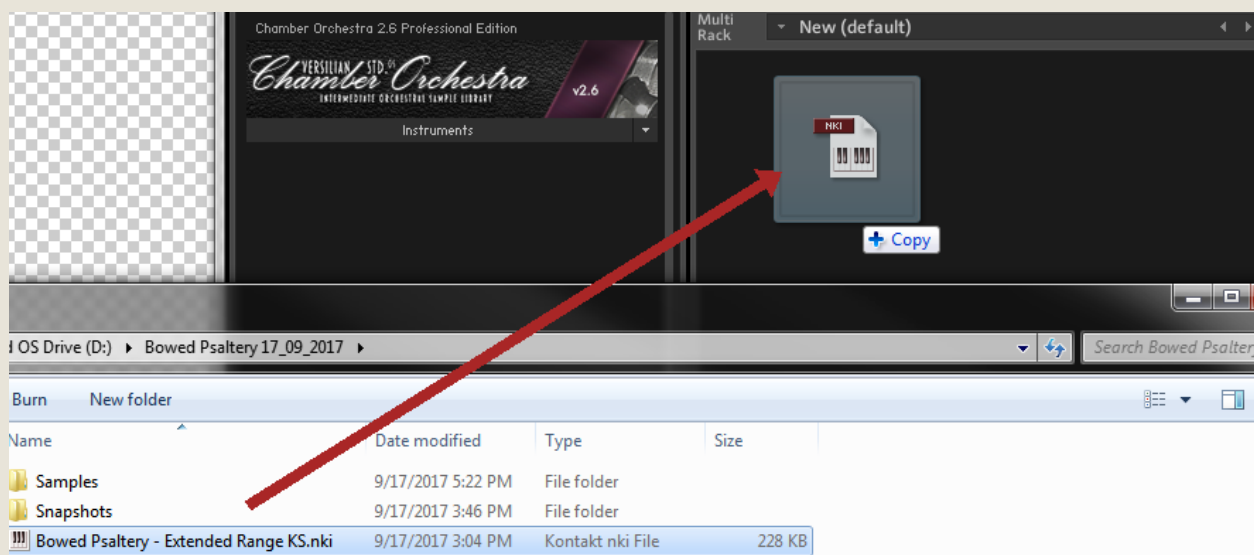


INSTALLATION

Begin installation by downloading the library after completing checkout, using [Pulse Downloader](#). Pulse is a special application designed specifically to distribute, verify, and update sample libraries and is used widely in the industry. Click 'Add a Product' and enter the code given at checkout.

Pulse will prompt you to select an install location— this could be on an external hard drive, an internal SSD, or your main hard drive.

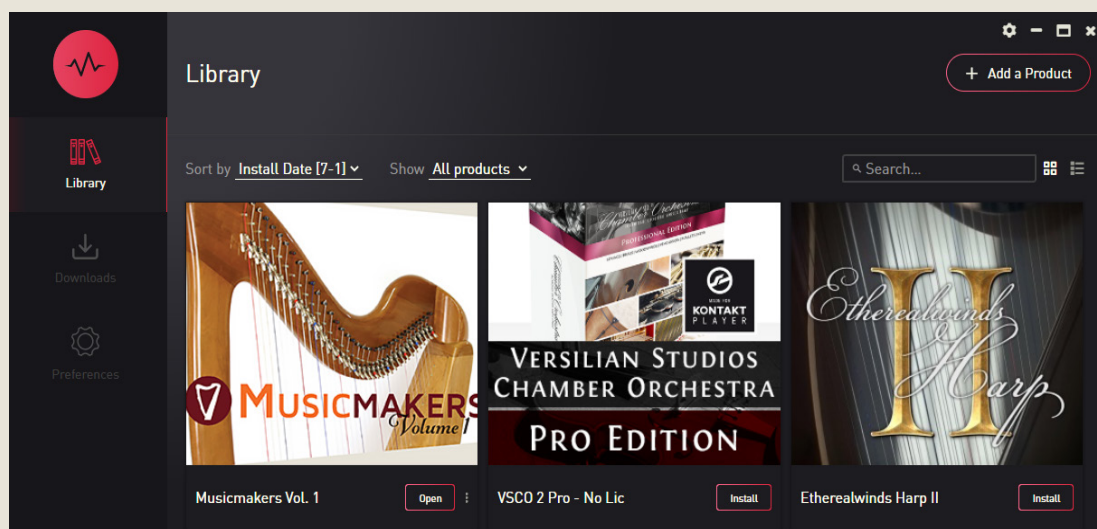
To use the library, drag and drop any of the .nki (Kontakt instruments) into an instance of Kontakt (either standalone or plug-in), as shown below.



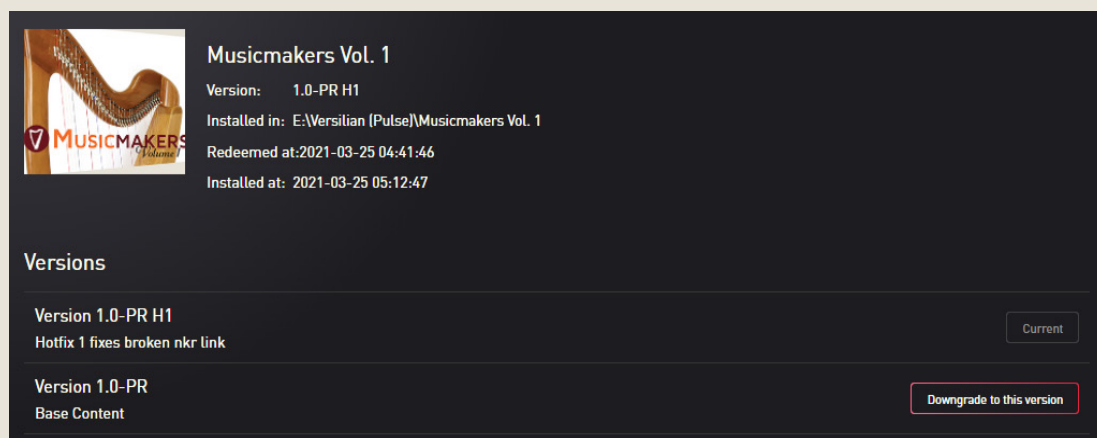
MANAGING YOUR INSTALLATION

Pulse Downloader not only manages the download process, it also allows you to maintain and update your installation in the event updates are provided for the library.

Once you have installed Calderwood Drums, it will appear in your Pulse Library. You can click 'Open' to jump to the files, or use the '...' to reinstall:



If an update is available, Pulse will prompt you to install it. Consider checking back every few months in case an update is provided. If you experience problems with an update or simply wish to learn more about what was changed, select the product and you will be able to see patch notes and select an earlier version to downgrade, as shown here on our internal test branch:





PATCHES & ARTICULATIONS

Within the main folder, you will find an 'Instruments' folder, with the patches organized inside by type of drum/instrument. Simply dig down into the desired folder, either in Explorer or the Files tab in Kontakt, to locate the instrument you wish to load, then drag and drop it into Kontakt.

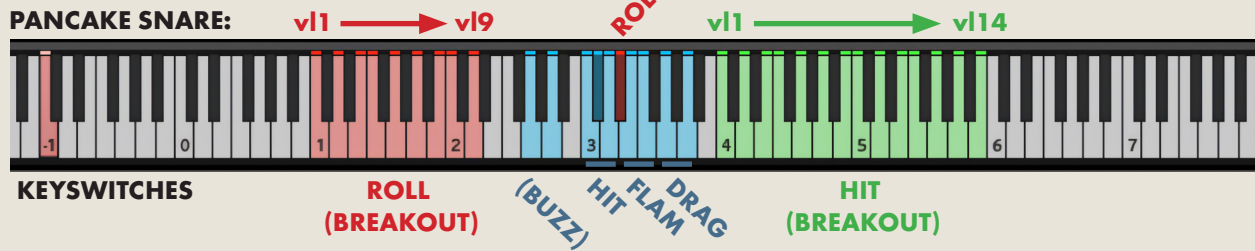
Once a patch is loaded up, such as one of the snares, you may use the < > arrow buttons to the right of the patch name to quickly and easily switch to other drums of that type. In this way it is possible to quickly audition the different instruments.

ARTICULATIONS

Certain drums, such as basses and toms, feature multiple mallet choices. For example, here in the basses we have a Normal (hard), Medium, and Soft mallet to choose from. Octajons also include a sticks or hand strike choice. You can change between these by clicking on the mallet, or by entering a MIDI note on the designated keyswitch note shown below the articulation.



KEYBOARD LAYOUT



The normal performance practice is to play notes C3 (middle C in Kontakt) and C#3 or D3 with separate fingers/hands on a keyboard or drum pad. This makes it easy to play tattoos and phrases realistically on the drum, but some very fast patterns or precise triggering of specific layers may be difficult without manual editing in post. E3-F3 & G3/A3 contain real flams/drags, likewise duplicated.

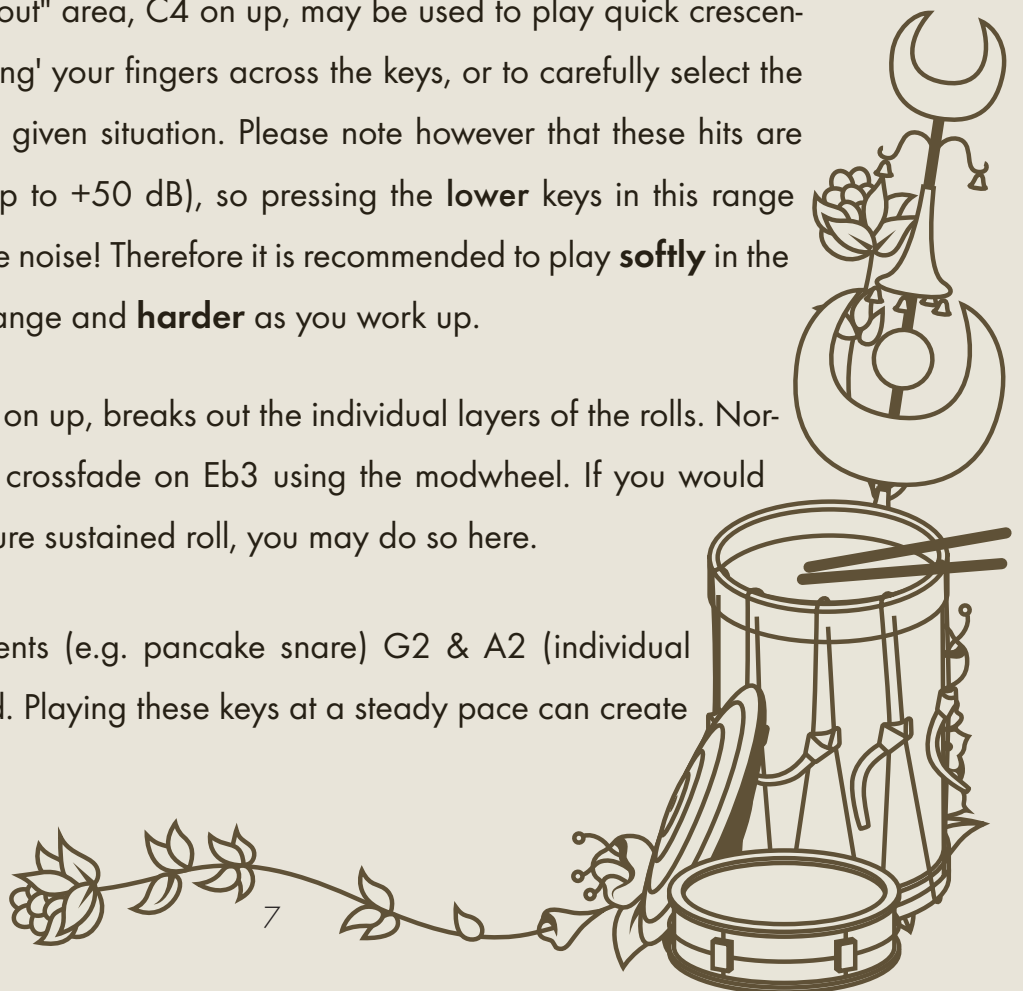
To solve this, the drums are designed to be played two ways:

1. Blue: Intensities (velocity layers) stacked on individual keys.
2. Red/Green: Intensities spread across white (C maj) keys.

The Green "breakout" area, C4 on up, may be used to play quick crescendos of single hits by 'rolling' your fingers across the keys, or to carefully select the perfect hit intensity for a given situation. Please note however that these hits are normalized in volume (up to +50 dB), so pressing the **lower** keys in this range hard may result in audible noise! Therefore it is recommended to play **softly** in the lower end of the green range and **harder** as you work up.

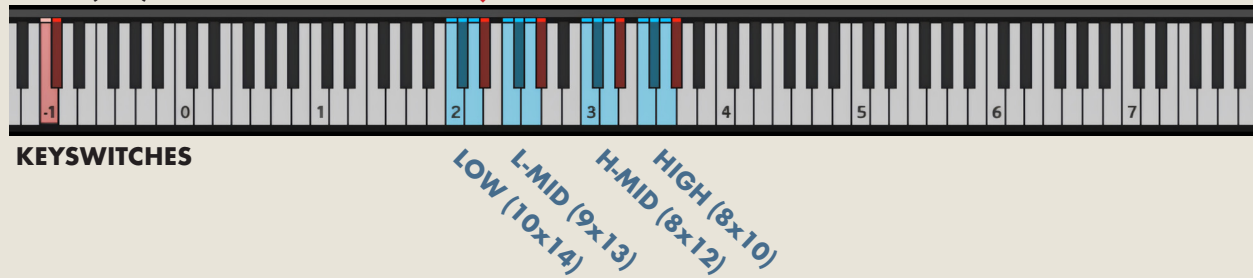
The Red area, C1 on up, breaks out the individual layers of the rolls. Normally these dynamically crossfade on Eb3 using the modwheel. If you would rather access a single, pure sustained roll, you may do so here.

On some instruments (e.g. pancake snare) G2 & A2 (individual buzzes) can be accessed. Playing these keys at a steady pace can create a fairly realistic buzz roll.



CONCERT TOMS

TOMS (SET):

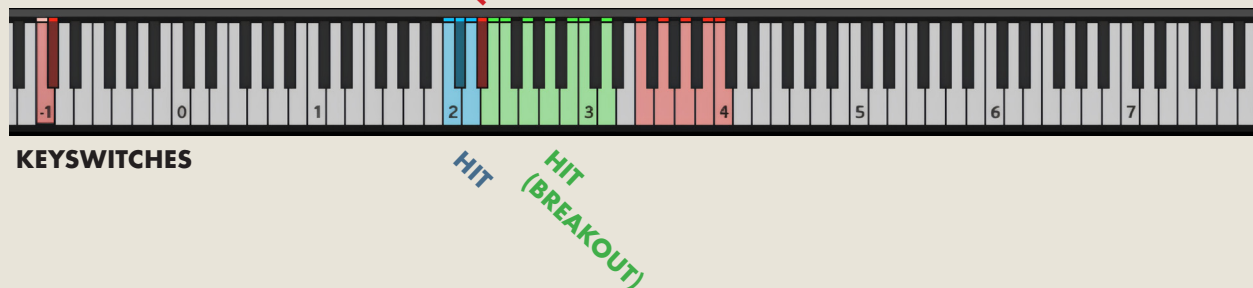


The Concert Toms Set is laid out so each instrument falls on a C or F, from the lowest to highest, with their rolls a minor 3rd above (Eb & Ab) and all under Mod (CC1) dynamic crossfading. Switching between sticks and mallets will be in the same spot, making it easy to audition. Green/Red "breakout" ranges are not included. Note that the individual patches are instead placed all on C3 and have "breakout" ranges included.

The concert toms are recorded as physically laid out from Audience perspective.

BASSES

CONCERT BASS:

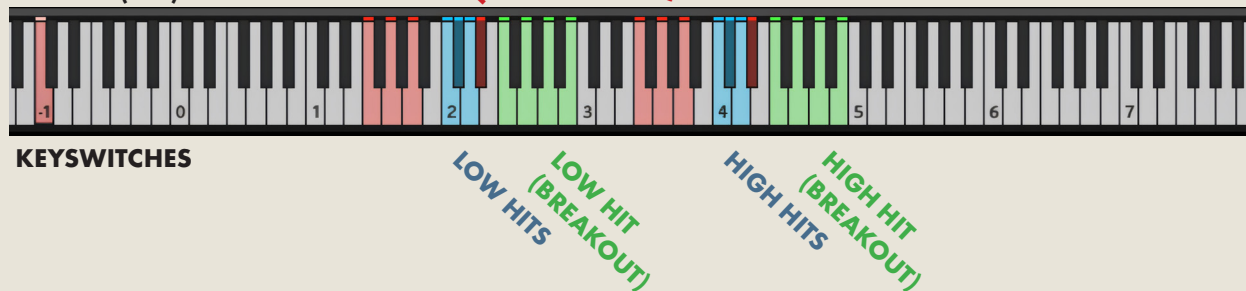


Basses are mapped one octave below the other drums, at C2 by default. This allows them to reach down to GM bass range via Transpose, while still able to be shifted up to C3 to layer with other drums. Hits are stretched C2 - D2 so you can still finger-drum effectively on a keyboard or across multiple pads.

Basses also uniquely have their Roll and Hit breakouts in different spots: Hits (green) are broken out from E2 up, while Rolls (red) are broken out from F3 up.

NAKERS

NAKERS (SET):

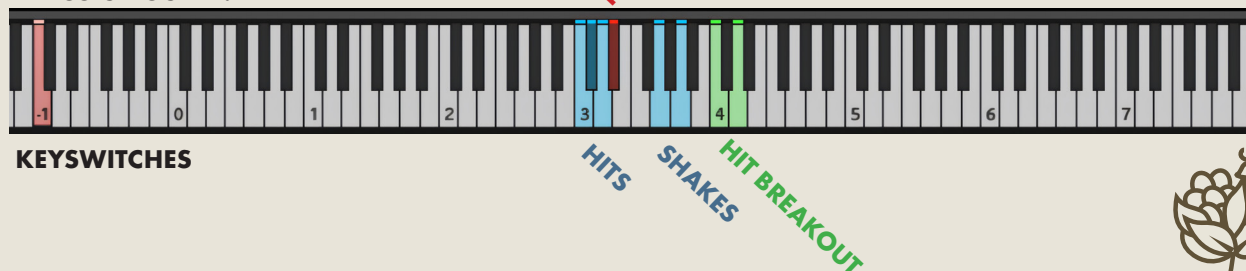


Nakers are spread two octaves apart, providing enough space to include the breakouts directly in the Nakers Set as they have limited dynamics.

Note that like the Octajons and Concert Toms, Nakers are recorded as a stereo set, so one will appear on the left and the other on the right, even in single use.

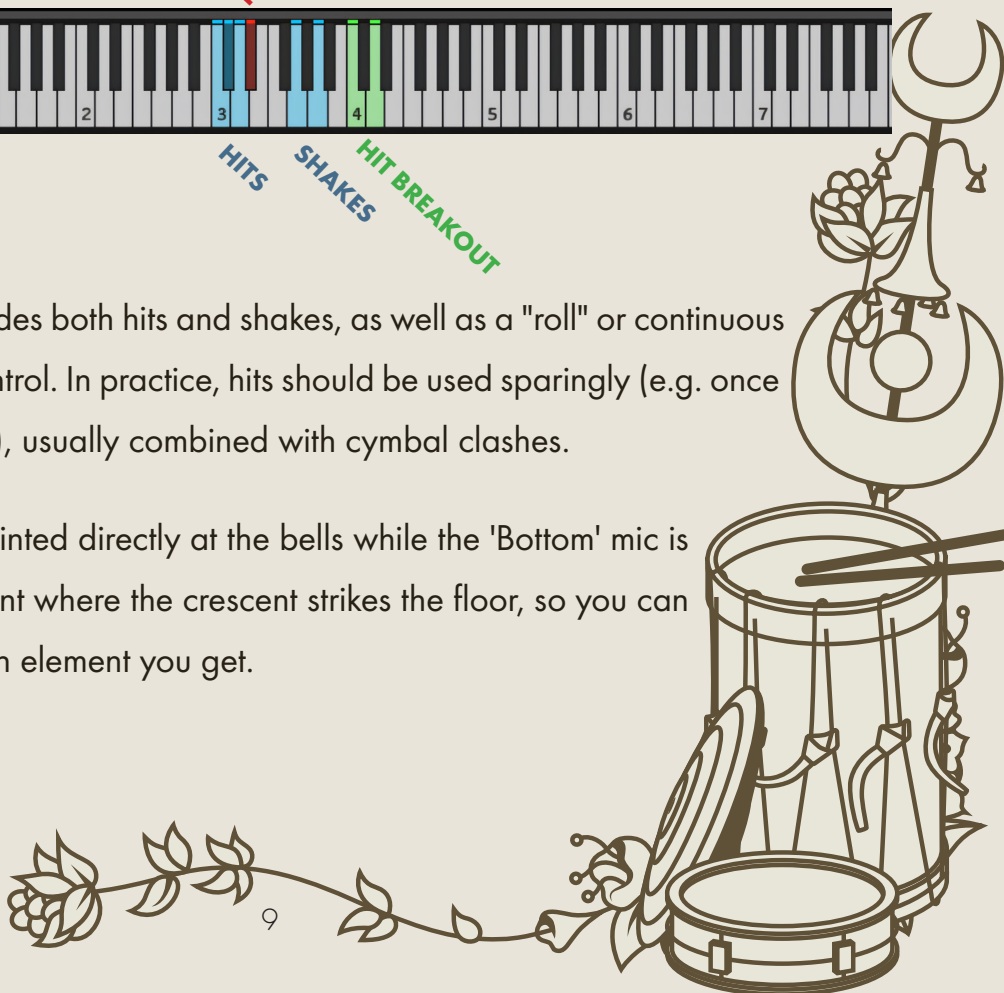
CRESCENT

BRASS CRESCENT:



The Crescent includes both hits and shakes, as well as a "roll" or continuous shake with modwheel control. In practice, hits should be used sparingly (e.g. once per half measure at most), usually combined with cymbal clashes.

The 'Top' mic is pointed directly at the bells while the 'Bottom' mic is pointed at the impact point where the crescent strikes the floor, so you can control how much of each element you get.



REVERB

Reverb On/Off

Space Type Selection

Reverb Pre-Delay

Reverb Amount (mix -dB)

Reverb Time (T60)

MIXER

Mix Preset/Default Mix:

SAVE the mixer as Default

RECALL the saved mix

AUTO load saved mix on init (!)

Microphone Position Name

Microphone Model/XFade

Microphone Volume

Microphone Pan

Microphone Stereo Width

Microphone Solo/Mute

Microphone Load/Purge

Microphone Outputs

TONE control tab (active)

TUNING control tab (inactive)

Articulation Name & Info

Keyswitch Mover (drag)

Per-Articulation Settings

Articulation Attack Time

Hit Length

Roll Attack Time

Roll Release Time
(artificial fade out)

Release Volume
(sampled releases)

Release Length
(length of sampled releases)

ARTICULATION CONTROLS

These controls apply only to the currently active articulation, so that you might adjust each articulation to taste and need.



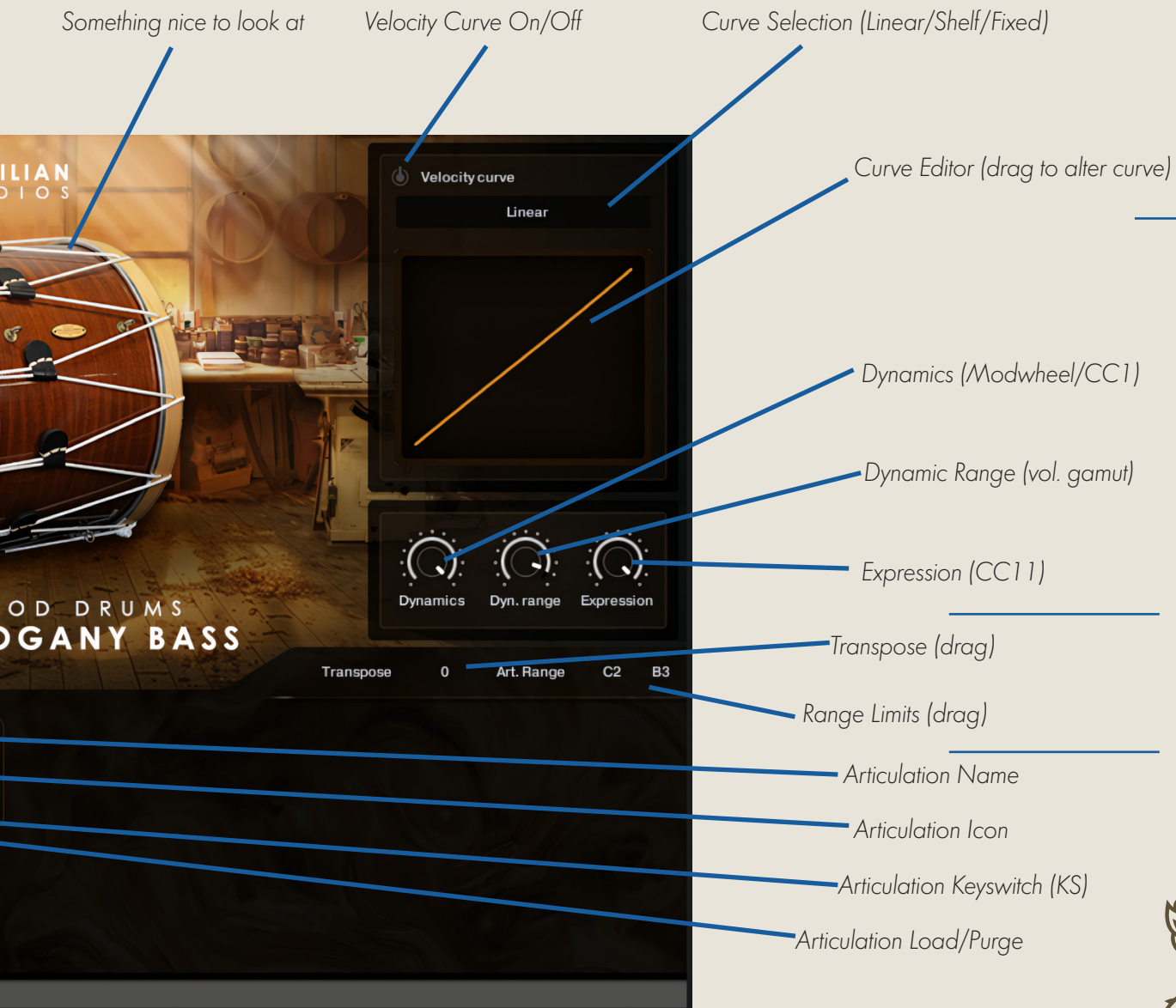
Active Keyswitch

Advanced Features

Disable Keyswitching (Lock)

MIRAGE FX Page

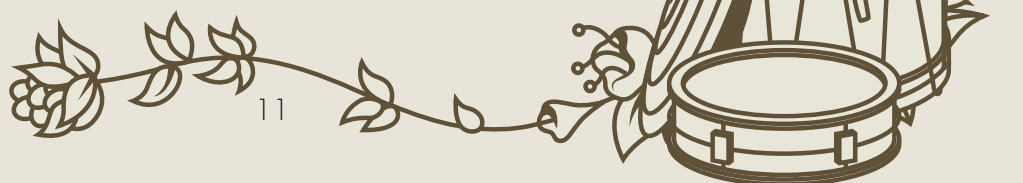
VELOCITY CURVE



**D
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C A L D E R W O O D
DRUMS

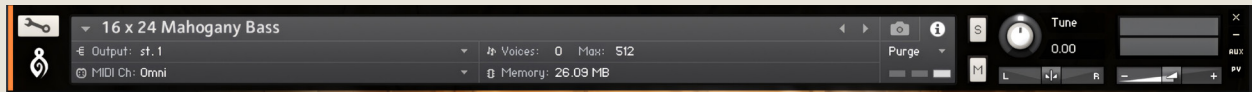




OPERATION

Calderwood Drums makes use of our new Kontakt engine, VISAGE 3, complete with its own effects system, MIRAGE. VISAGE 3 features numerous advanced systems and functions to simplify and speed up usage regardless of your use case or technical level. In this section, I'll go over all functions of the VISAGE 3 engine and share tips on how to get the most out of this library.





Starting with the top of the instrument, we have the default Kontakt header. This area provides basic instrument settings and allows you to shrink or expand the GUI as needed. Note that VISAGE uses a special 'extra wide' mode, allowing for a larger, easier to read interface.

On the left is the wrench icon, which allows access “under the hood” of the instrument. This is best for veteran Kontakt users only, but is worth exploring if you’re new to Kontakt as well.

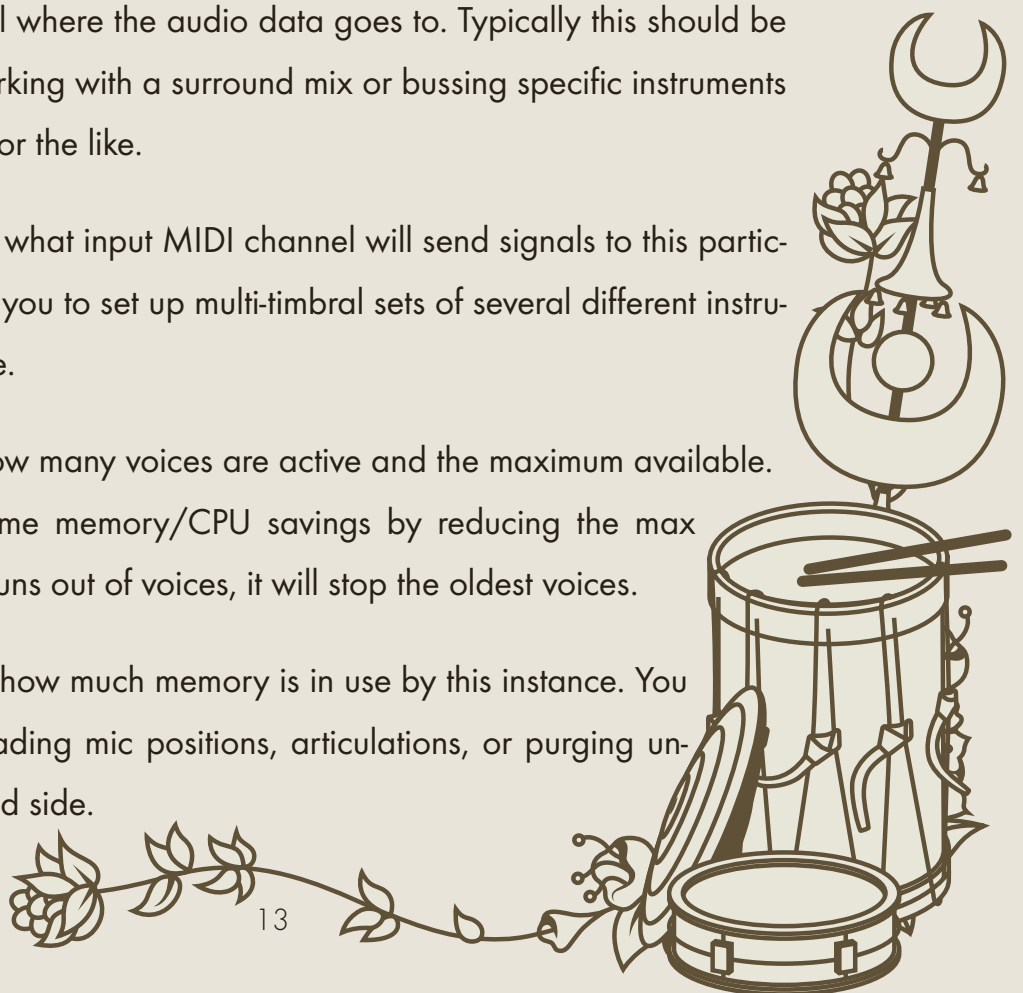
The central gray box displays general information and settings for the instrument. To the right of the instrument name are two arrow buttons (< >) which allow you to quickly swap to other instruments in the same folder. This way you can rapidly audition between different Snares, Fields, Basses, etc.

Output will control where the audio data goes to. Typically this should be left untouched unless working with a surround mix or bussing specific instruments to different reverb sends or the like.

MIDI Ch. controls what input MIDI channel will send signals to this particular instrument, allowing you to set up multi-timbral sets of several different instruments in a single instance.

Voices displays how many voices are active and the maximum available. You may experience some memory/CPU savings by reducing the max number. When Kontakt runs out of voices, it will stop the oldest voices.

Memory displays how much memory is in use by this instance. You can reduce this by unloading mic positions, articulations, or purging unused files to the right-hand side.





The central part of the GUI is where you can shape the **Tone** of the instrument.

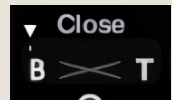
On the left are the controls for Kontakt's new algorithmic **Reverb**, which lets you switch between Room and Hall style reverberances. Time controls the length of the reverb tail. Imagine this as an extra "ambient" pair of mics out in the space, with the 'Amount' as your mixer level. The pre-delay is similar to placing the virtual "mics" farther or closer to the sound source (1 ms = approx. 1'/0.3m).

Below the Reverb you will find the **Mic Mixer**. When we recorded Drums, we used 12 different *microphones*, arranged in 6 stereo pairs/arrays, consistently across every instrument. Here you can load and mix together each of these microphones, blending them together to get a *brighter* or *darker* sound, or a *closer* or *further* sound.

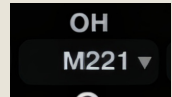
The 9 arrays are organized here in 5 positions: **Close**, **OH**, **Mid**, **Main**, and **Room**, each progressively further away. The close and OH (overhead) mics will provide the driest, cleanest sound, while the room mic will provide the most spacious sound. The mics in between provide various colors and widths of sound for various tastes.

The Close mic has a special feature, where you can *blend between* a microphone placed above the drum (**T**op head) and one placed below the drum (**B**ottom or snares).

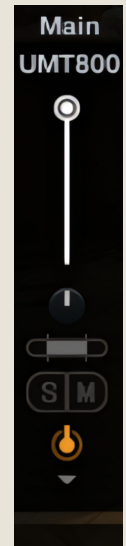
A small slider below 'Close' can be moved side to side to accomplish this, with any blend between being possible. On snares and fields, the bottom is more sizzly with the top capturing more contact noise, while on basses the bottom tends to be more sonorous/full and the top again mostly contact noise/hit.



For OH and Mid positions, click on the **microphone model** to bring up a dropdown, allowing you to swap out mics like an engineer during the session. In this way, you can pick the model of microphone that fits your exact use.



Beneath the positions, round white *sliders* can be moved up or down to change the **Volume** of mics, followed by a small **Pan** knob, a stereo **Width** control (to reduce/enlarge width of a mic), and **Solo/Mute** buttons.



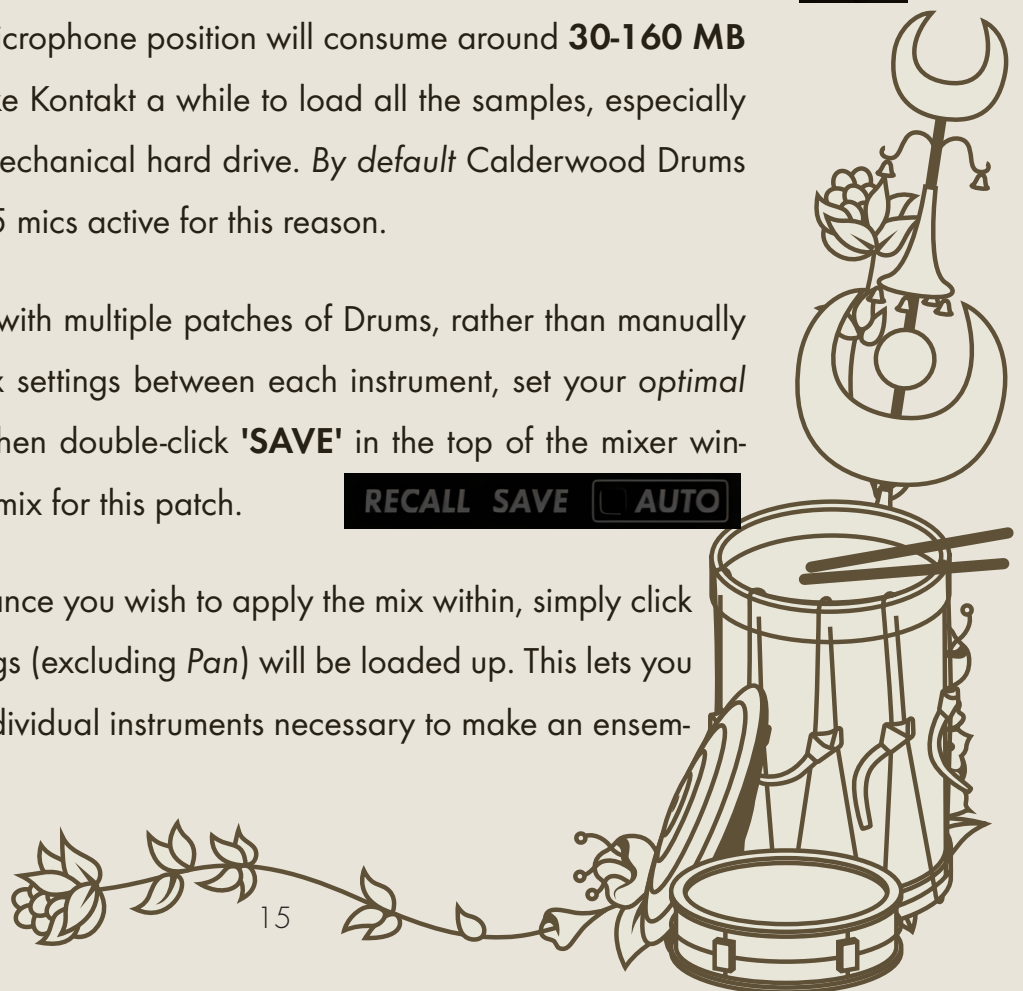
At the bottom, most critically, is a **Load/Purge** button in the shape of an off/on toggle. When loaded, this will show *orange*. When not loaded, it will be *greyed out*, showing that mic position is not loaded.

Note that each microphone position will consume around **30-160 MB of RAM**. It also may take Kontakt a while to load all the samples, especially if loading from a slow mechanical hard drive. *By default* Calderwood Drums only loads up with 2 of 5 mics active for this reason.

If you're working with multiple patches of Drums, rather than manually trying to match your mix settings between each instrument, set your *optimal mix* on one instrument, then double-click **'SAVE'** in the top of the mixer window. This will save your mix for this patch.



Now in each instance you wish to apply the mix within, simply click **'RECALL'**. The mix settings (excluding *Pan*) will be loaded up. This lets you retain any panning to individual instruments necessary to make an ensemble mix.





The **Velocity Curve** panel in the top right side allows you to adjust how the instrument responds to the velocity input of your keyboard. Select a curve type, then drag the curve around in the box below to change the behavior.

This is very helpful when you want to play more softly or more aggressively with greater consistency, such as in a soft ballad or to stick out in a full orchestration, as it will ease your input towards the direction you curve the line. S and fixed type curves are also present for further tweaking to handle inconsistent or limited keyboards.

The three controls below the velocity curve shape the volume of the instrument:

- **Dynamics** controls the volume of sound within the gamut of *Dynamic Range*.
- **Dynamic Range** is the total gamut between the highest and lowest velocity.
- **Expression** is an additional volume control for balancing/mixing use.



The bottom third of the user interface controls the articulation, pitch, and performance parameters of the instrument. Here you will find a range of different sampled articulations to choose from, controls for those articulations and their keyswitch triggers, as well as options for transposing and limiting the range of the instrument.

In the upper left of this area, you can toggle the middle of the interface between the Tone controls and Tuning controls. The adjacent **<KS>** slider will allow you to move the keyswitches to a more optimal spot. Tuning falls outside the scope of this product.

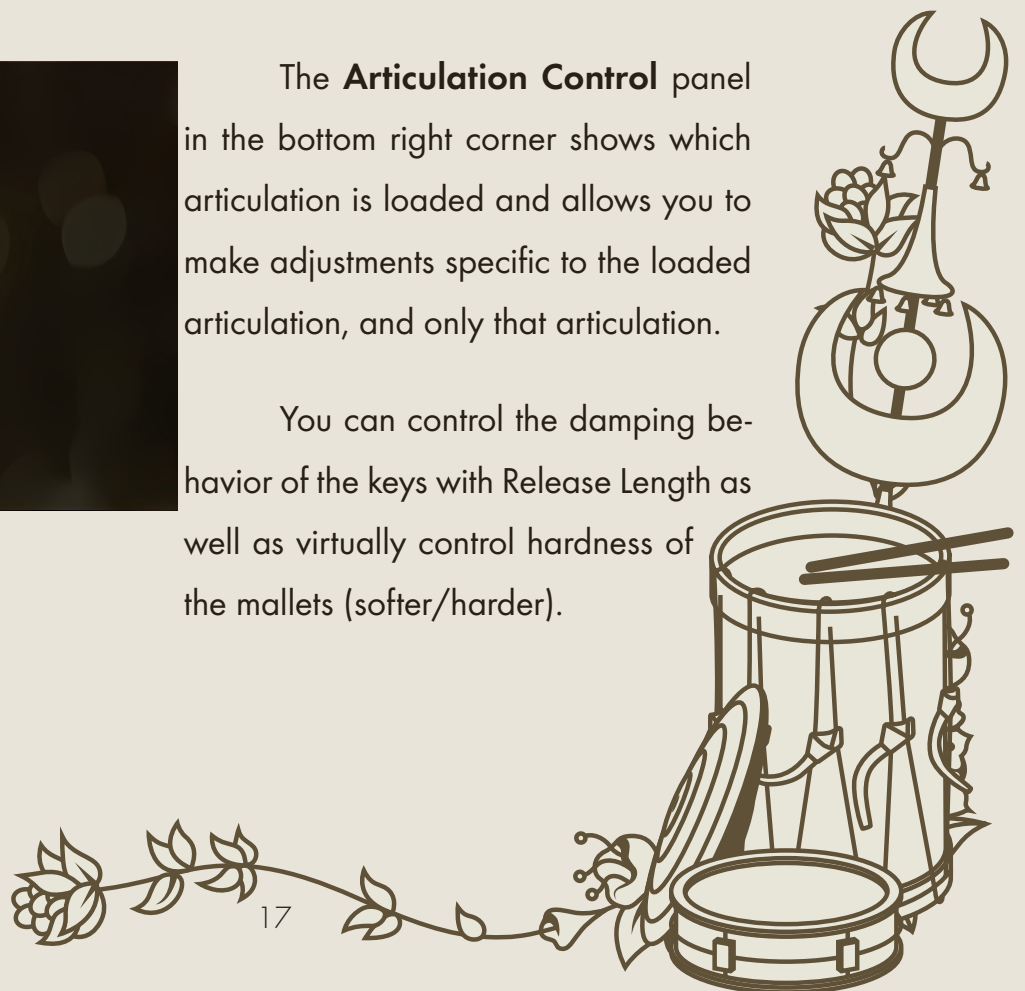
Transpose can be useful in situations where you need to transpose the instrument up or down an octave or two in order to line up with a MIDI part designed for another product. Double-click and type the desired halfsteps (eg 12, -12). For example, the snares and bass can be shifted to cover GM parts if needed; that is why the basses mapped an octave below the other drums, as transpose is limited to -24 to 24.

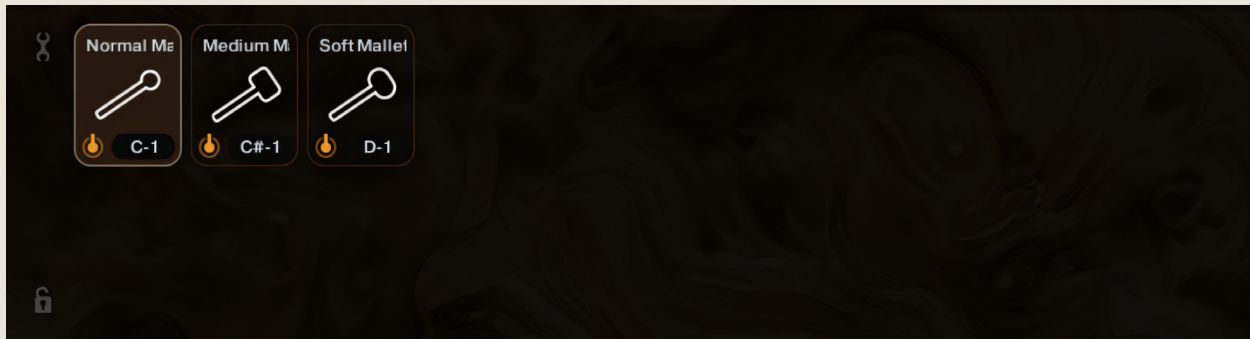
Art. Range can be combined with this to limit the drum to only one playable area, in order to easily make Multis of multiple drums overlapping or spread across a keyboard. For example, if you wish to use three fields in different octaves, but want to eliminate the broken-out key sections (discussed shortly) so only the normal (blue) key ranges are visible/playable and do not create any weird overlaps. You might also create a multi of 3 snares overlapping plus one bass drum an octave below, for an ensemble sound.



The **Articulation Control** panel in the bottom right corner shows which articulation is loaded and allows you to make adjustments specific to the loaded articulation, and only that articulation.

You can control the damping behavior of the keys with Release Length as well as virtually control hardness of the mallets (softer/harder).





The **Articulation Palette** shows all available articulations in the instrument, as well as what *Keyswitch* each articulation is tied to. As noted earlier, the keyswitch range can be adjusted by dragging the **<KS>** control.

Articulations can be *selected* either by clicking, or, for changes during a piece, by entering keyswitch notes in the piano roll or recorded during your performance. A lighter selection box will appear around the active articulation.

If you know you won't be using an articulation, you can disable it by pressing the *on/off toggle*. If the samples are not used elsewhere, they will be purged, saving memory.

If you plan on using only one articulation in your project and do not want to accidentally press a keyswitch, click the **Lock** in the bottom left corner to prevent the chance of changing articulations via any method.

The **Wrench** icon in the top left corner allows access to some extra features, namely neighbor-borrowing round robin (which increases the number of round robins by repitching samples from neighboring notes) and using aftertouch to stop notes.

Neither are that useful for this library as neighboring notes are totally different samples, and the aftertouch releases are not useful in this library given the short sounds, but could be used in theory with triangle or cymbals.



The **MIRAGE FX** system provides easy access to Kontakt's internal suite of FX. VISAGE lets you shape the vision of the sound as it exists, MIRAGE lets you twist and shift those sounds into something mix ready or even surreal.

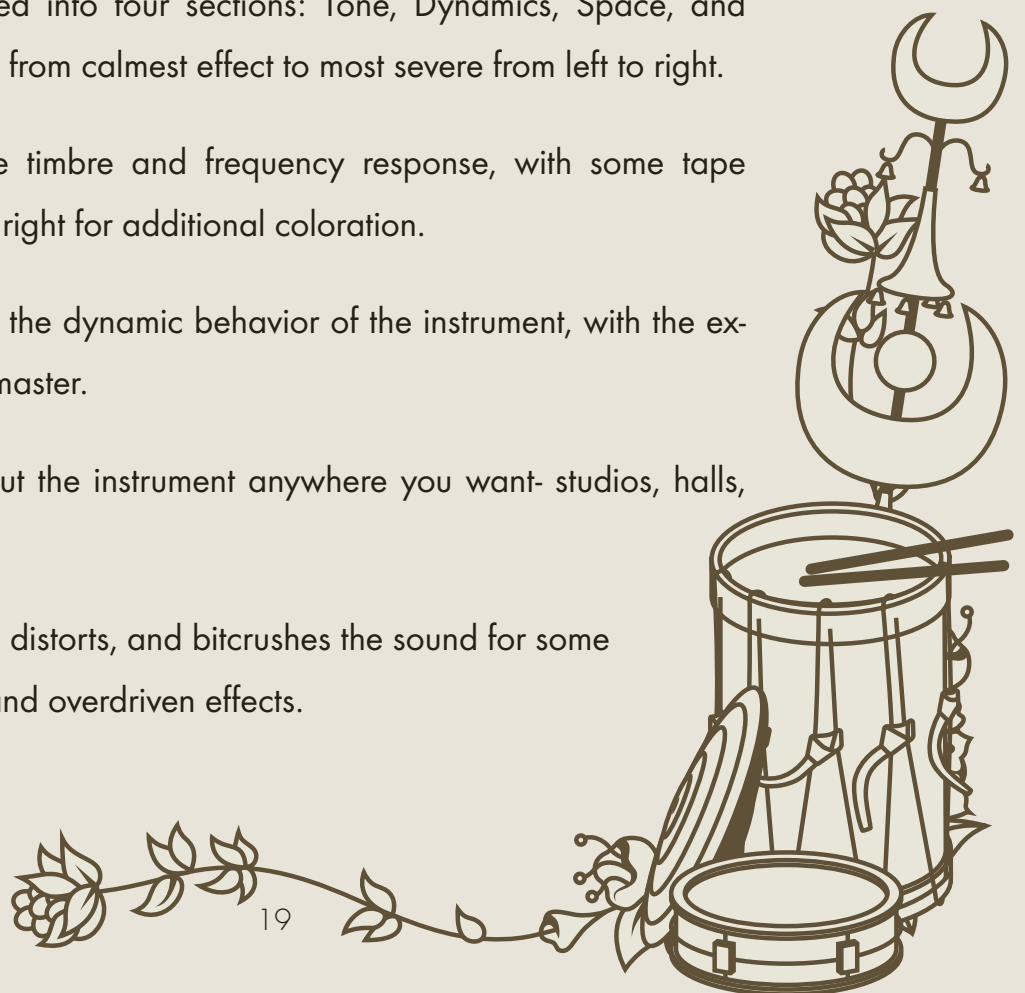
MIRAGE is divided into four sections: Tone, Dynamics, Space, and Crunch. Each row moves from calmest effect to most severe from left to right.

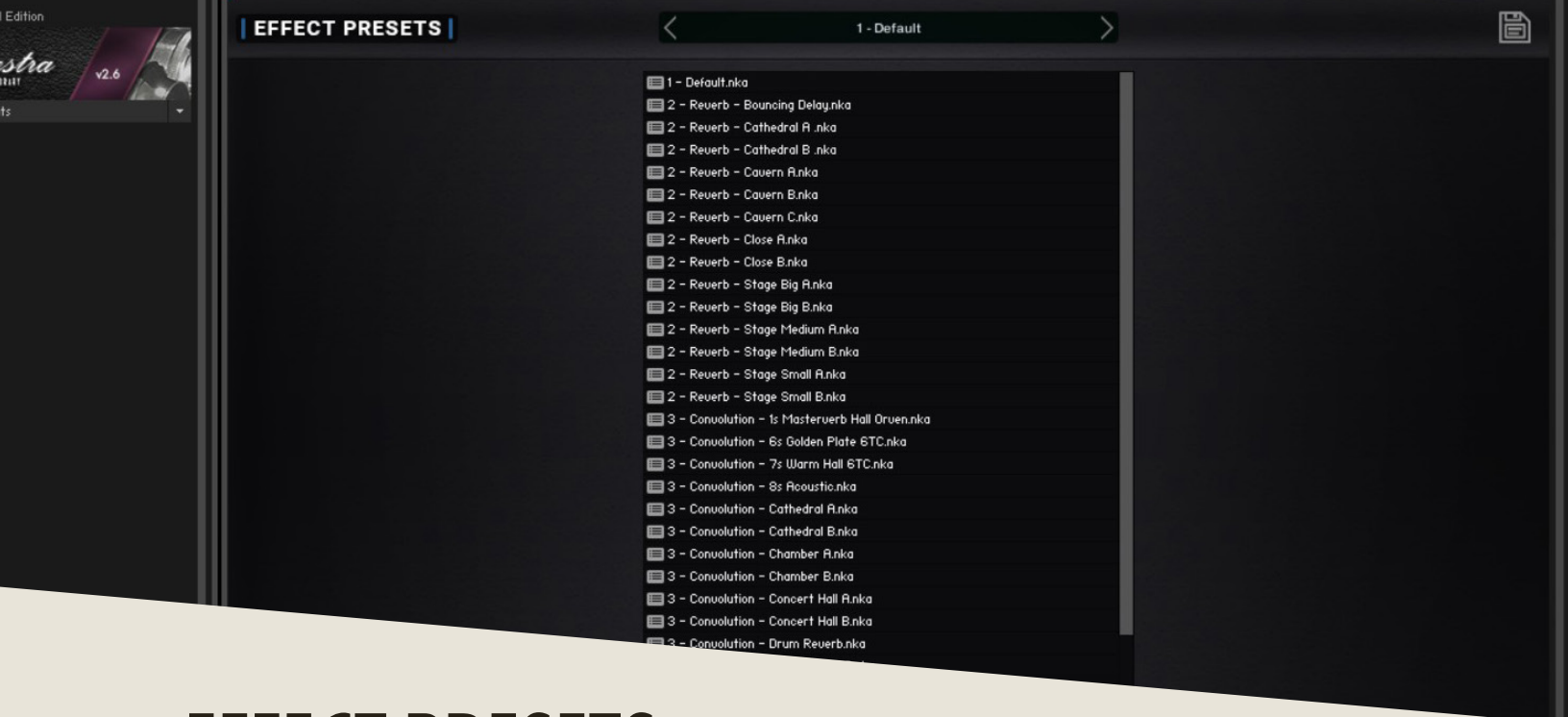
Tone controls the timbre and frequency response, with some tape warmth available on the right for additional coloration.

Dynamics shape the dynamic behavior of the instrument, with the extremely handy transient master.

Space lets you put the instrument anywhere you want- studios, halls, even surreal landscapes.

Crunch saturates, distorts, and bitcrushes the sound for some scintillating resonances and overdriven effects.





EFFECT PRESETS

Effect Presets let you immediately get into action with a variety of reverb and other effects, augmenting Kontakt's default Snapshots feature. Create and deploy your own presets across multiple VISAGE 3 products with portable .nka.

Reverb

- Bouncing Delay
- Cathedral A, B
- Cavern A, B, C (adds delay)
- Close A, B
- Stage Big A, B
- Stage Medium A, B
- Stage Small A, B

Convolution Reverb

- 1s Masterverb Hall
- 6s Golden Plate 6TC
- 7s Warm Hall 6TC
- 8s Acoustic
- Cathedral A, B
- Chamber A, B
- Concert Hall A, B
- Drum Reverb
- Music Studio A, B
- Tavern Close, Far

Effect

- Buzzing
- Crunchy Echoes
- Focussed
- Hard Tape
- Lofi Distortion A, B
- Old Radio
- Saturated Plate
- Transistor Distortion

*Reverb and Effect presets
designed by Simon Autenrieth.*



MICROPHONES

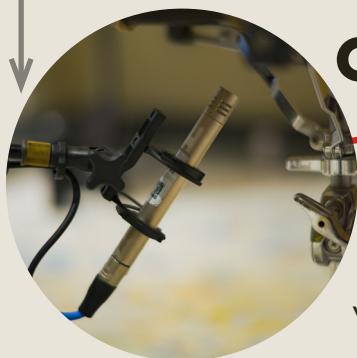
Contrary to popular belief, there is no such thing as a "perfect" or "best" microphone. Each microphone presents us with a specific sound concept, sense of space/focus, and character, be it neutral, bright, dark, open, focused, or any number of endless adjectives people who probably have better things to do like to throw around late at night on internet forums.

9 different pairs or arrays of microphones from around the world were used:



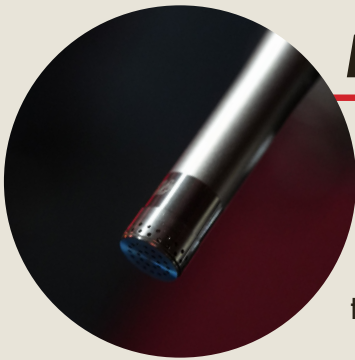
UM 930 8 // MICROTECH GEFELL GmbH

This German behemoth (seriously, it weighs over a pound!) has a huge dynamic range and sound to match. Just above the head in bidirectional mode for max isolation and proximity effect, it accurately captures the articulation of each drum hit without distortion.



C451 B // AKG Acoustics

Featured on countless recordings since the 1970's, the C451B has a unique 'bite' to its sound thanks to a strong emphasis around 8-15 kHz. Placed below the drums, it captures the grit of snares and the warm resonance of toms and basses with minimal stick noise.



M221 ○ // MICROTECH GEFELL G m b H

One of the flattest, purest microphones in existence, the omni directional M221 is quite literally the microphone by which all other microphones are measured. The tiny, ultra-thin nickel diaphragm captures transients and room reflections with incredible accuracy but no 'hype'.



RN17 ☯ // s E ELECTRONICS

To contrast with the spacious linearity of the M 221's, the highly directional RN17's provide a colorful but focused capture of the drums, with more texture and grit to the sound. The narrower spacing enhances this tighter feel, blending with existing drumkit overheads and typical close mics in scoring stage and concert hall sample libraries.



M930Ts ☯ // MICROTECH GEFELL G m b H

This is one of our favorite mics from the library, with a very balanced sense of space and detail thanks to its articulate sound and hefty transformers. "Mid" placement is perfect if you need to operate with low RAM and want something not too articulate or too washy.



VL373A ☯ // S A M A R A U D I O D E S I G N

The VL373A draws attention to the lower mids, naturally bolstering the weight and power of the drums. Compared to the M 930 Ts, it is heavier and darker, and its blumlein configuration gives it a particular sense of width due to the high degree of decorrelation. At the same time, it is also fully collapseable to mono without phasing issues.



UMT800 // MICROTECH GEFELL GmbH

Bearing the original M7 capsule used across countless historical models and replicas, the UMT800's "egg"-like headbasket provides remarkable spaciousness. Relaxed response gently reduces harshness without appearing too dull. Comparable to modern M7/K47 models.



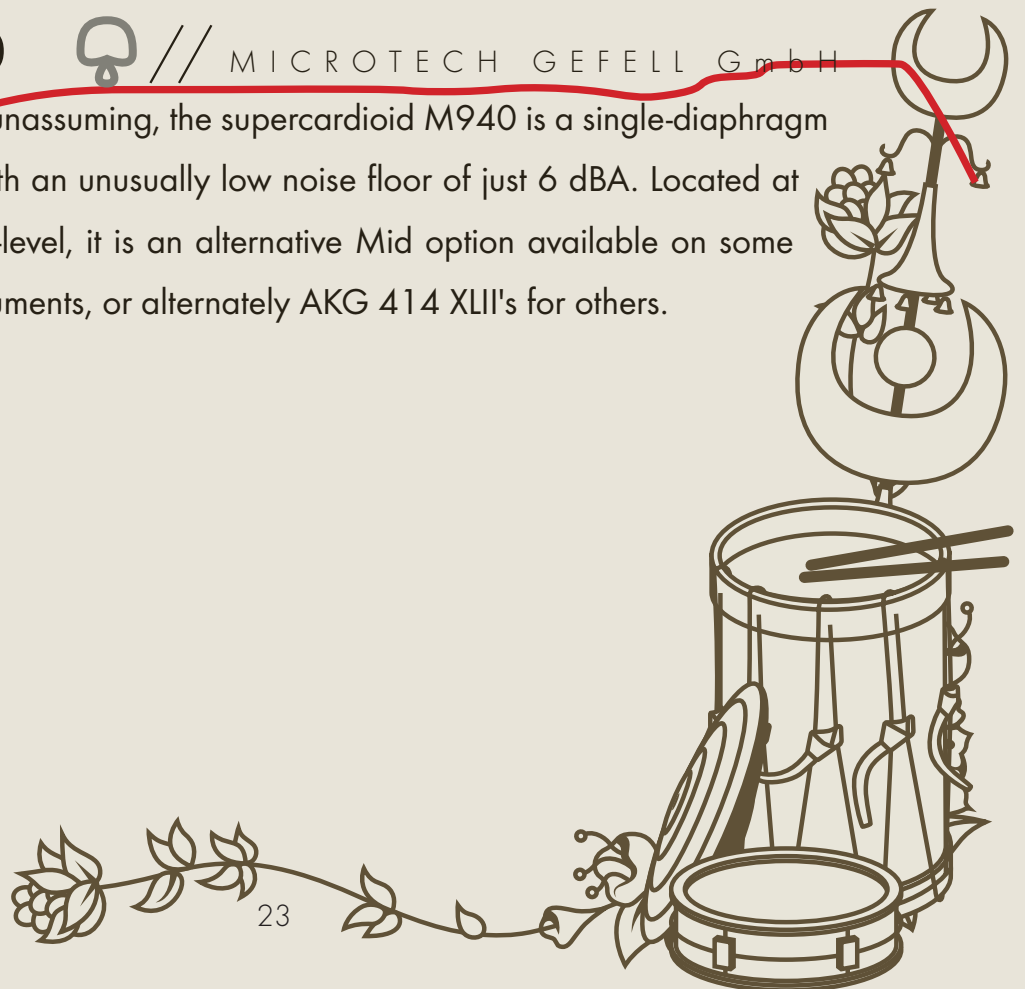
M950 // MICROTECH GEFELL GmbH

Designed as one of the world's quietest room mics, the M950 combines a tight wide-cardioid pattern with 7 dBA of self noise. Brighter than the UMT800 (more similar to the M 50); ideal for blending with other libraries recorded with diffuse field omnis.



M940 // MICROTECH GEFELL GmbH

Small and unassuming, the supercardioid M940 is a single-diaphragm LDC with an unusually low noise floor of just 6 dBA. Located at waist-level, it is an alternative Mid option available on some instruments, or alternately AKG 414 XLII's for others.





TROUBLESHOOTING

If you are experiencing issues with the library, there are a few steps you can try to resolve the issues before contacting us. Below is a list of common possible problems and 'home remedies' that will work to fix them.

1. Samples missing dialogue.

If you see this window, it means that the samples were moved or are missing from their original location. It is recommended to re-download the library via Pulse. If you still get the dialogue, do a batch re-save: select the floppy disk icon at the top of the Kontakt window towards the right and select 'Batch Re-save'. Navigate to the 'Calderwood Drums' folder and select it. When the dialogue pops up, click 'Search for folder' and select the samples folder. After the batch re-save is complete, you should not experience any further samples missing dialogues.

2. Instrument uses up too much memory or CPU.

Use the circles beneath the articulations to purge any you doubt you will typically need, and turn off any effects you don't use (filter/reverb). Save this patch (under the floppy disk/save icon at the top of the Kontakt window itself) so that way it will load this way

by default. Note that snapshots include which articulations and mic positions are selected and enabled/disabled.

3. Instrument is only available in "DEMO" mode.

This is caused by trying to run the instruments in Kontakt Player. Unfortunately there's nothing we can do about this- making libraries for Kontakt Player requires a licensing agreement with Native Instruments, which is not economical for specialty products like this.

However, Kontakt is on sale often around December/January for \$150 USD, and honestly that's not a bad price to pay for the "gateway drug" to literally thousands of free and commercial sample libraries. Regardless, we would be happy to offer you a refund if you are experiencing this issue and aren't interested in upgrading to the full Kontakt.

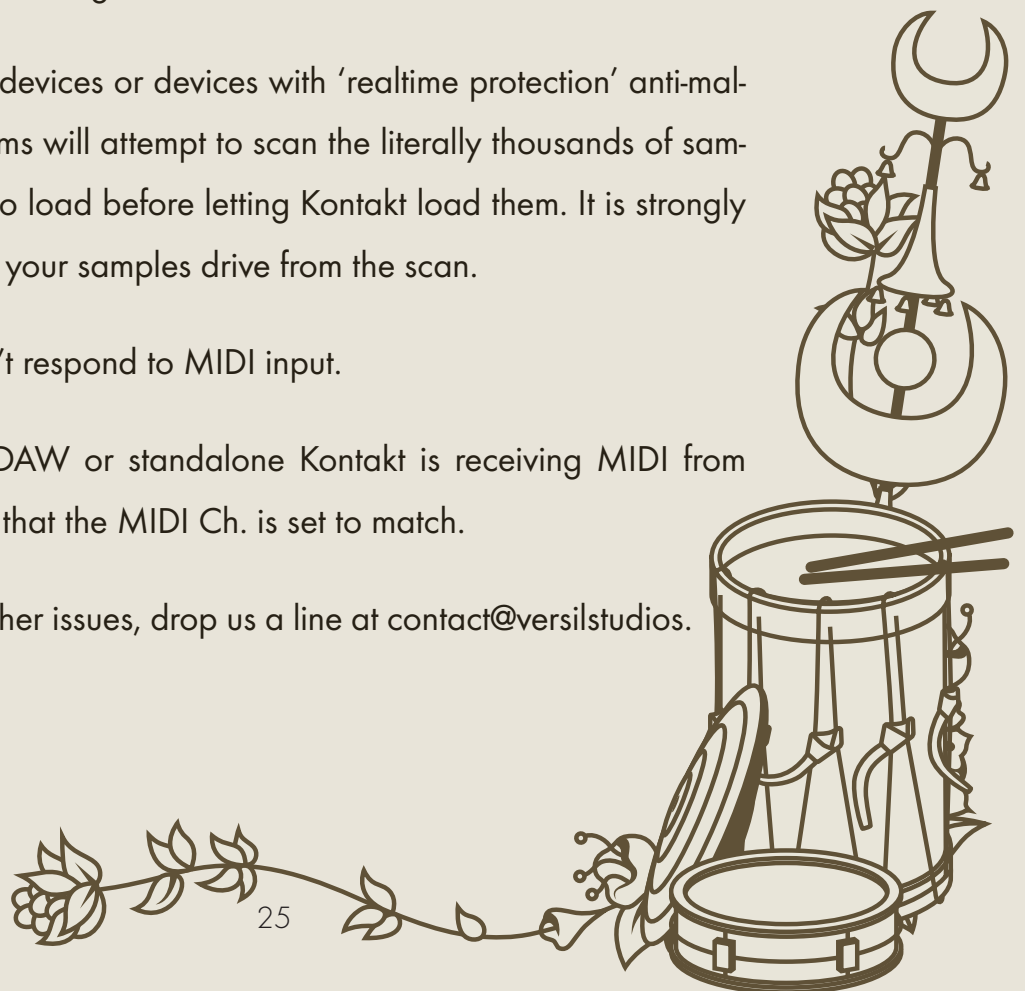
4. Instrument takes a long time to load.

On Windows 10 devices or devices with 'realtime protection' anti-malware systems, such systems will attempt to scan the literally thousands of samples that Kontakt needs to load before letting Kontakt load them. It is strongly advised that you exempt your samples drive from the scan.

5. Instrument won't respond to MIDI input.

Make sure your DAW or standalone Kontakt is receiving MIDI from your device, then ensure that the MIDI Ch. is set to match.

If you have any other issues, drop us a line at contact@versilstudios.net.





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