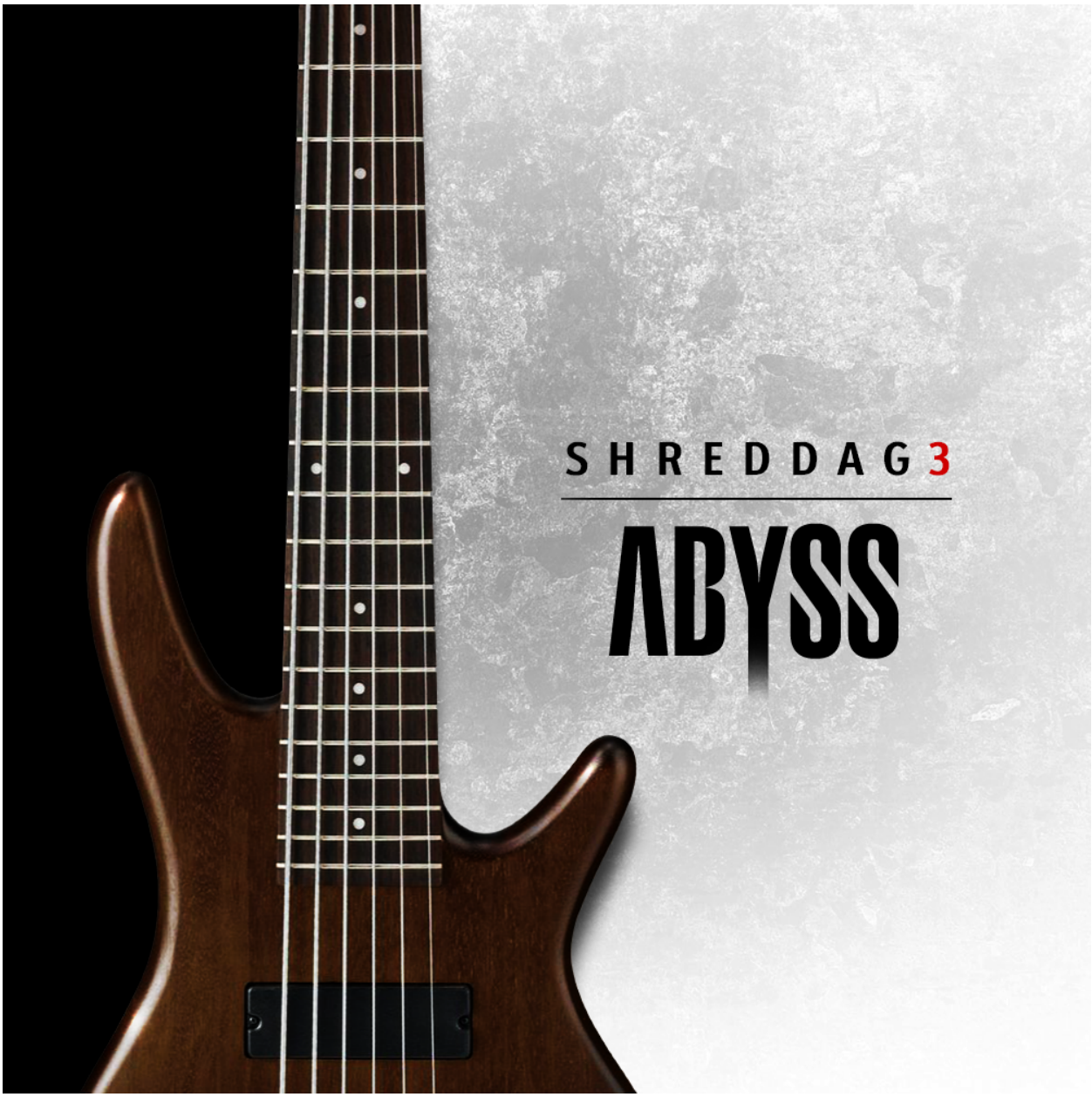


Shreddage 3.5 Abyss

An Impact Soundworks Instrument
for Kontakt Player 6.7+
Instrument Version 2.0.0

Product Manual

Introduction

Shreddage 3.5 Abyss is the next step in the evolution of our custom six-string bass library **Shreddage Bass 2**, taking the complete set of over 10,000 recordings and placing them in our cutting-edge Shreddage 3.5 engine. Featuring the sound of a one-of-a-kind, custom Muckelroy electric bass, **Shreddage 3.5 Abyss** is a super-versatile instrument that starts at a floor-shaking drop A and extends up four and a half octaves. Now you can enjoy these incredible samples with even better performance playback, strumming, articulation mapping, and tone options!

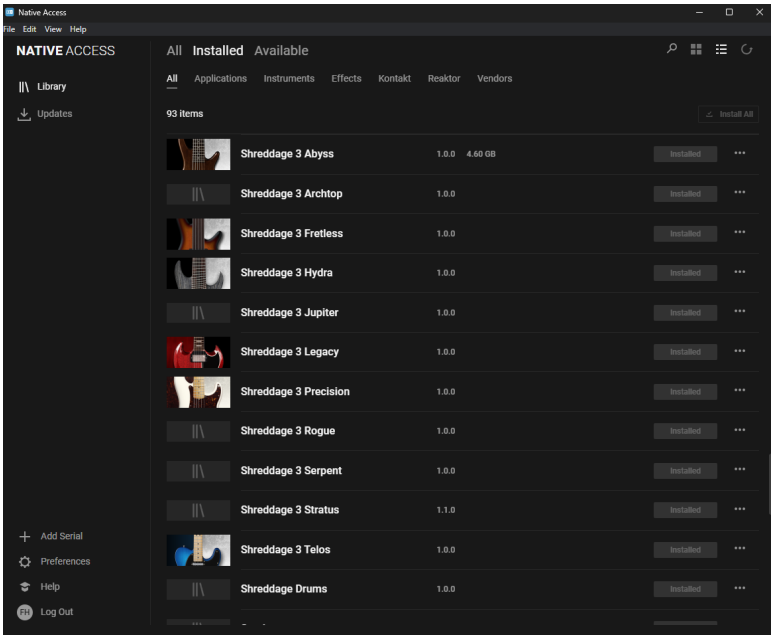
This instrument was performed by master bassist, composer, and session musician Tony Dickinson, who brought his massive experience and skill to recording the library from both the perspective of a performer and a producer. To capture the most pristine and well-rounded DI tone possible, we used a Universal Audio Solo/610 analog tube pre for maximum fatness, punch, and warmth. Each string was recorded in exhaustive detail across every fret at multiple dynamics, with up to 8x round robin (RR) variations per note.

Now, with the included `Console` FX rack and mixer, you don't even need external plugins to mix and process the instrument; just choose from our dozens of included presets and you're ready to shred. Every articulation can be mapped or triggered however you want. There are more ways to tweak and play these articulations than ever: dynamic layer and mute level adjustments, per-articulation velocity to volume, Strum Mode, and much more.

Welcome to the next generation of virtual bass instruments!

Installation

1. Download and install the Native Instruments Kontakt Player, which will also install an auxiliary Kontakt library management software called Native Access:



   If your Native Access looks like the above (i.e., it is in 'dark mode'), you have Native Access 2. ***Please continue on with [our online installation guide](#).***

   *If it does **not** (i.e., it is in 'light mode'), you have Native Access 1; continue with the installation steps below.*

2. Next, install the Pulse Downloader.*

3. Once Pulse is installed, open it and enter your **Shreddage 3.5 Abyss** product code, which is also its serial number (*e.g.,* `A1B2C-3D4E5-F6G7H-8I0J1-K2L3M`). Follow the instructions to download and install the library. *(If you wish to move the library to an external drive [for example], then do this before moving on to step 4, below.)*

4. Open Native Access, click 'Add a Serial', and input that same product code to activate the library.

5. Once Native Access has activated your library, click 'View Products Not Installed'.

6. Find **Shreddage 3 Abyss**** in this list and click the 'Add Library' button to the right.

7. Select the folder where Pulse downloaded the library (or, if you moved it in step 3, the folder where it currently resides). *This completes the installation process!*

   ** Pulse is a cross-platform desktop app that lets you download and install your libraries with blazing speed! You'll need to create a Pulse account, but once you do, you can access your purchases from any developers using Pulse, anytime, from any computer.*

   *** Thanks to the way Native Access works behind-the-scenes, this library will appear in Native Access as 'Shreddage **3** Abyss', not 'Shreddage **3.5** Abyss'.*

The Shreddage 3.5 Performance Engine

As with all Shreddage 3.5 instruments, **Shreddage 3.5 Abyss** features recordings of every string, from the 'open' position all the way up the neck. This means many pitches are sampled multiple times on different strings, which yields a different tone depending on which string is played.

The Shreddage 3.5 engine features an advanced algorithm that emulates how a real bassist would perform notes across different strings and fret positions. When a MIDI note is received, Shreddage 3.5 will evaluate a number of factors to determine the best string & fret to place that note. These factors, which are weighted differently depending on your performance settings, include things like:

- ➔ What other strings are being held at the same time
- ➔ Whether the new note is played legato or not (and if so, the legato settings)
- ➔ The *virtual hand* position [see the next paragraph, below]
- ➔ Any 'force string' settings
- ➔ Fretting Mode selection

Shreddage 3.5 uses a virtual 'hand' to guide fret & string selection. This generally means if you are playing on the lower frets, new notes will *also* be placed on lower frets. If you are playing high up on the neck, new notes will *also* end up in that range.

However, for most users, you don't have to worry too much about any of this, outside of selecting the Performance Style you want and possibly moving the Hand Position as desired.

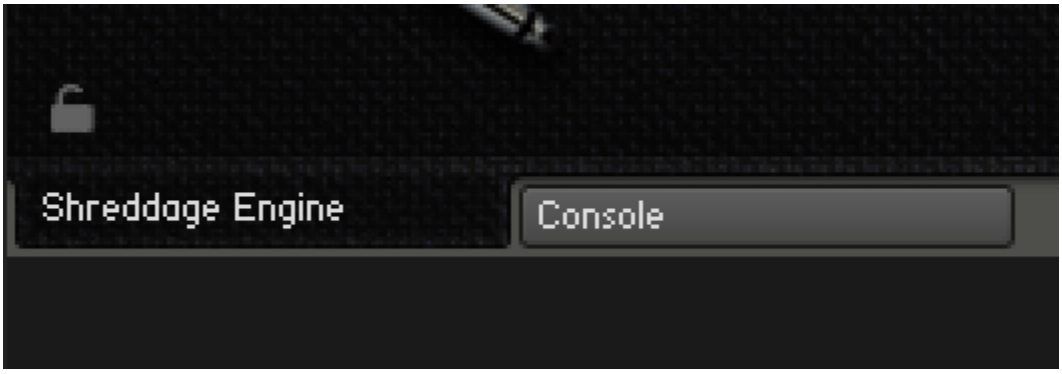
Using Shreddage 3.5 Abyss

Snapshots & Script Tabs

Shreddage 3.5 uses Kontakt's native 'Snapshots' feature to handle various types of presets. We've extended this feature allowing you to save and load specific types of Snapshots without overwriting your entire patch.

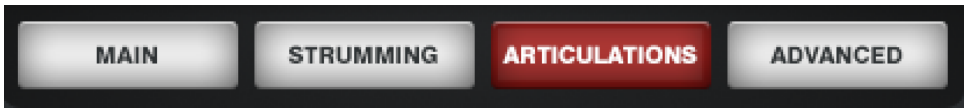
Data is loaded and saved in three areas:

A. **`Shreddage Engine`** (first bottom-left tab), which contains the main engine performance settings;



B. **`Console`** (second bottom-left tab), which contains all FX and mixer settings;

C. **`Articulations`** (top tab in **`Shreddage Engine`** UI), which contains all articulation mapping info.



It is important to note that *each of these tabs can save or load its data* ***independently***!

For example, you can load a bass tone from `Console` without affecting your mapping, or load a specific performance preset without affecting your tone.

At the bottom of each tab's UI, you'll see two icons: a Lock (lower-left) and a Camera (lower-right):

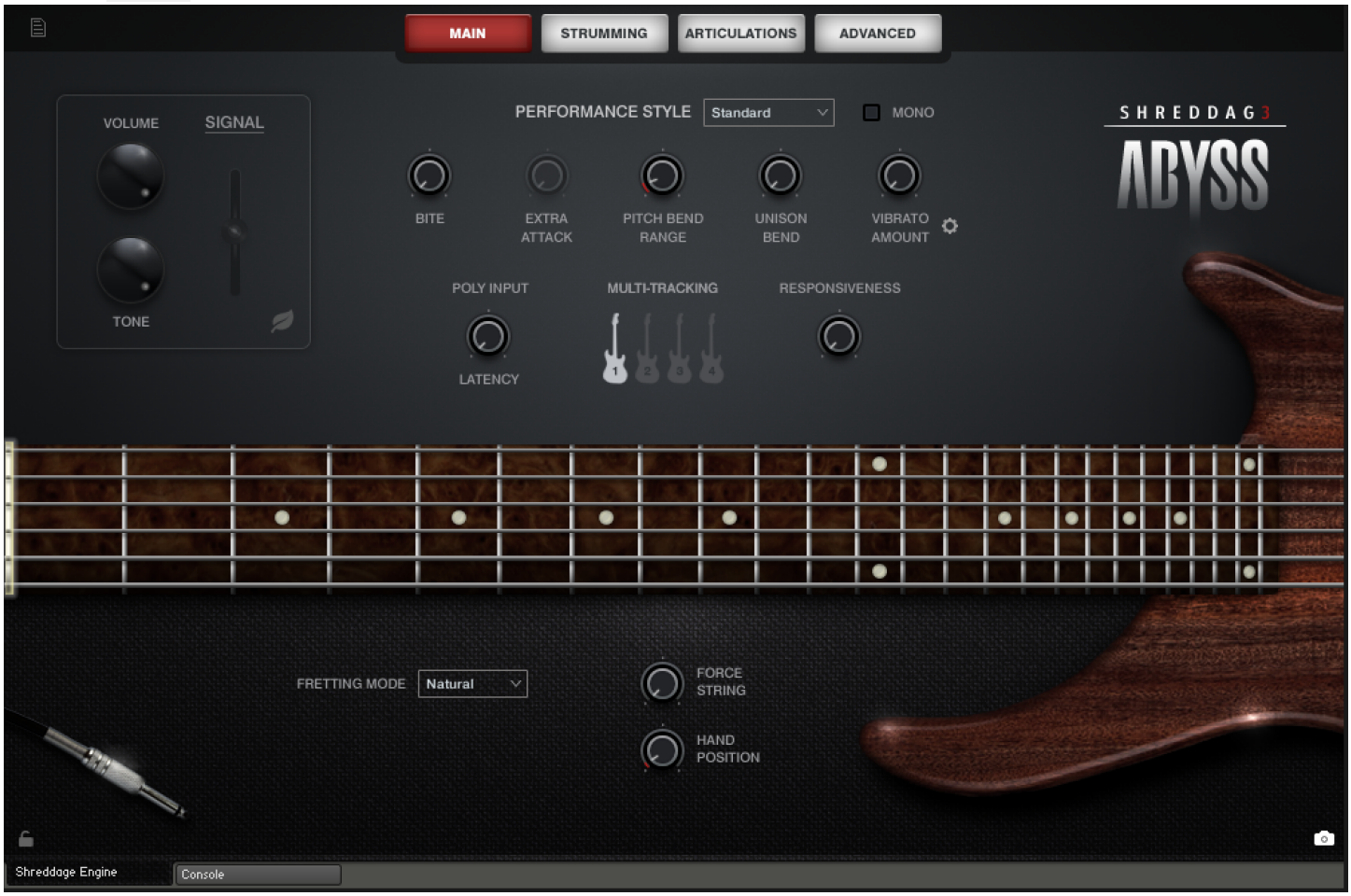
When the **Lock** icon is *enabled* (white), the contents of that tab will not be overwritten when you load a new Snapshot.

When the **Camera** icon is *enabled* (white), the contents of that tab will be saved when you save a Snapshot.

Snapshots included with **Abyss** are saved for the `Console` tab by default, meaning they will *not* affect your mapping or performance settings. However, you can save your *own* Snapshots using whatever combination of tabs you'd like. (Make sure to check your Lock & Camera settings when saving and loading!)

View 1: `Shreddage Engine`

Tab 1: `Main`



IMPORTANT: Virtually every knob on the interface can be MIDI learned! Simply right click and then move the desired MIDI CC to create a link. Also, you can **hover** over any control to see help text at the very bottom of the Kontakt UI. *(See section **Setup & Tweaking** for more details)*

Tone & Signal Controls

These controls (with the exception of 'Lite Mode') behave very similarly to the control setup found on a physical bass:

Volume

Controls the overall pre-FX gain of the instrument.

Tone

Controls a gentle pre-FX lowpass filter on the entire instrument. Maximum value is 'wide-open', while a lower value results in a darker tone.

Signal Switch

*Not used in **Shreddage 3.5 Abyss**.*

Lite Mode [Leaf Icon]

When *enabled*, time stretching is disabled for slides and tremolos, freeing up a good amount of RAM and reducing CPU usage.

Performance Controls

Performance Style

This drop-down menu selects from various preset styles that determine how the virtual bassist decides which strings and fret positions to play:

Standard	Plays lower on the neck and prefers open strings.
Solo Melody (Mid/High)	Plays mid or high on the neck in 'mono' mode, perfect for lead parts.
Solo Virtuoso (Mid/High)	Plays mid or high on the neck with a small amount of Poly Input Latency, making it easier to play realistic chords and strums in between riffs.
No Legato (Low/Mid/High)	Plays without legato in the specified area of the neck.
Workstation	Enables Keyboard Mode and plays without legato, alternating between up and down strokes for each note.
Custom	Allows you to set your own preferences.
Keyboard Mode	When enabled, the regular string/fret selection algorithm is disabled. You can play unlimited notes 'per string', and every MIDI note is pre-assigned to a specific string/fret. In other words, the instrument will behave like a traditional workstation keyboard patch, which may be more useful in some situations.

Mono

When enabled, only one note can be played at a time. Overlapping notes will always trigger legato.

Bite

Applies an EQ to all signals pre-FX, adding more brightness and removing some low-mid ‘body’ from the sound. The resulting tone becomes more and more aggressive as the knob value is increased.

Extra Attack

Adds an emphasized pre-transient pluck noise to notes. This scales with velocity, so playing softly will result in quieter attacks. This is useful for emphasizing some notes and not others.

Pitch Bend Range

Changes the maximum range for the MIDI pitch bend message, defaulting to +/- 2 semitones. This means that when your pitch controller (hardware, or in automation) is at maximum or minimum values, the instrument will be shifted down or up 2 semitones.

Unison Bend

When moving this knob above minimum value, the LOWEST held note will be pitch bent, as long as the lowest note is no more than a perfect fourth away from the higher note.

Vibrato Amount

Introduces pitch modulation (vibrato) into the sample. The specific vibrato settings can be adjusted by clicking the gear icon:

Controller Selects from either modwheel (`CC1`) or aftertouch to trigger vibrato.

Mode Abyss features only *Emulated* (most flexible & lightest on CPU; uses an LFO to modulate pitch) mode.

Speed The rate of the oscillation.

Depth The maximum intensity of the vibrato in Emulated mode.

Multi-Tracking

Sets which virtual guitar track(s) should be used. Each virtual guitar uses a different sequence of samples during playback. For example, if guitars 1 & 2 are enabled, two unique sets of samples will be played back with extra stereo panning.

If you would prefer to use multiple NKIs for double/quad-tracking (in order to use more channels in your host), you can always enable a single guitar at a time for each NKI. You can do this by enabling the guitar of choice (e.g. Guitar 2) and then disabling any other guitars in that NKI.

***NB**: It is important, if using multiple NKIs for multi-tracking, to set the anti-repetition parameters to be identical in each instance. Otherwise, phasing will occur as different NKIs may trigger the same sample in differing track numbers.*

Responsiveness

Controls the sample playback offset for all groups. Note that all samples were edited to preserve a certain amount of finger pluck and 'pre-pluck' sound, so while increasing this value makes the instrument more responsive (as the sound becomes more 'immediate'), doing so will also decrease the amount of realistic performance noise in each sample. *This offset value is mixed with other offsets for specific articulations and strokes.*

Poly Input Latency

When this knob is above `0ms`, a small amount of latency (controlled by the knob) is introduced before sample playback. The S3.5 Engine will capture any notes played within that latency window and create more realistic voicing for playback. Think of this as a 'Lookahead' that results in better performances when playing chords or other polyphonic parts.

- ➔ Poly Input Latency *does* apply to the following: playable range guitar notes when strum mode is OFF; thrash notes; slide notes; full strums; partial strums; and individual string plucks; in other words, any key-triggers that actually play sounds.
- ➔ Poly Input Latency does *not* apply to the following: playable range guitar notes when strum mode is ON (*e.g.,* to set the voicing); MIDI CC changes; MIDI pitch bends; TACT keyswitches; Shreddage 3.5 custom keyswitches; and strum mode keyswitches; in other words, any key-triggers that do *not* directly result in sounds.

Note 1: For *very fast* guitar parts, we recommend setting the latency either very low or at `0ms`! The polyphonic fretting placement will interfere with the natural fretting of the algorithms and fast passages will quickly devolve into fretting placements that jump around the fretboard, which is anatomically impossible and creates an unnatural tone.

For reference, 16th notes performed at 120 BPM are `125ms` apart*. Playing passages at (or faster than) 120 BPM 16th notes at a latency of* `125ms` will *result in a malfunctioning fret selection.*

Note 2: Even when latency is set to `0ms`, Shreddage 3.5 is programmed to always process with a tiny default latency of `50µs` (*i.e.,* `0.05ms`) so that chords 'blocked in' plainly in your MIDI editor will still work perfectly! Try with *Strum On Poly* for very quick and easy realistic chord parts with effectively no latency.

Additionally, this default latency enables processing of features listed above (such as keyswitches) before latency features (like note playback and strums). This means you can always place a keyswitch at the same grid position as a note, or in strum mode, you can place a chord voicing at the same grid position as a strum trigger. This is intended as a quality of life improvement for MIDI editing so that the user isn't required to nudge keyswitches or chord voicings behind the grid.

Finally, it is recommended to program the DAW track's offset to negate the Poly Input Latency. In other words, if the latency is set to `50ms`, programming the DAW track offset to `-50ms` will allow the user to compose on the DAW grid with great confidence in timing accuracy.

Fretting Controls

The Fretboard

Shows what notes are being played on which strings and frets. Note that you can drag horizontally across the fretboard to set a virtual capo position, which changes how the fretting and playback engine will select notes realistically.

Capo Position

Guitar-style transposing by placing a 'virtual clamp' in the shape of a wooden or metal bar on a particular fret. This can be MIDI-learned and automated by right-clicking. If Capo Position parameter has a larger value than Hand Position, Hand Position is disregarded. The Capo is used to allow a transposed set of open strings.

Fretting Mode

Selects which performance algorithm should be used. The factors described above will be evaluated differently depending on which of these modes you select:

Natural This mode is the most common usage for leads and leads mixed with chords created by polyphonic input. The fretting follows the hand size, where a bassist will ascend up and down strings to play notes at a static hand position.

Sweep This mode is very similar to Natural fretting, with the sole exception that it will slightly prioritize playing notes on adjacent strings a little more to simulate the sweep picking technique used in fast bass playing.

Moving Lead This mode is similar to Natural fretting but ascends the hand slightly when moving to strings upward in pitch. This allows a three-octave range for scales at a static hand position from bottom string to top string instead of about two. *The same range played in Natural mode would play the last octave all on the last string, which is not ideal.*

Polyphonic Prioritizes using as many strings as possible simultaneously. This is ideal for any kind of chordal playing, ensuring that each note of your chord is played (as opposed to triggering legato, fret changes, etc.)

Force String

Selects a single string that will be used for ALL played notes, if possible. The ‘forced’ string will be highlighted on the fretboard.

Hand Position

Sets the fret at which the hand starts its reach to other frets (taking Hand Size into account). Notes that don’t fit into this hand position and size will play outside of the range, but will not move the virtual hand from this position.

Current Parameter Display

Parameter Display

Displays the most recently-active knob or control and its value (*e.g.*, **`Volume: 100%`**).

Articulation Display Option

When this option is enabled (white; disabled is grayed out), displays the most recently-active articulation in the Parameter Display area.

Tab 2: `Strumming`

This feature allows you to easily play realistic-sounding strummed chords without finicky MIDI input or pixel-perfect sequencing. There is now a dedicated '**Strumming Mode**', but all strumming features (with the exception of *Strum Audition*) can be used even in regular performance mode!

Before we go over the strumming controls, let's take a look at the dedicated strumming keyswitches (multi), picking keyswitches (light blue), and other performance keyswitches (magenta) located above the instrument's normal playable range:

Strumming Keyswitches

F♯4 Toggles **Strumming Mode** to the *opposite* of what is currently set in the GUI when pressed down, and returns to the previously-selected setting when released. This is used in either mode to quickly and temporarily switch modes. *(Only available if **Strumming Mode** is set to 'Keyswitchable')*

G4 Toggles **Strumming Mode** on or off. *(Only available if **Strumming Mode** is set to 'Keyswitchable')*

G♯4 Plays a down-strum (*i.e.*, all downstrokes). The strummed notes will be whatever is currently being held in the normal playable range. The speed and dynamic of the stroke is based on the control settings on the Strumming page (see below).

A4 Plays an up-strum (all upstrokes), again based on what is being held in the normal range.

A♯4 Plays a partial down-strum. This plays an down-strum starting from the bottom string, with the engine selecting the number of strings traveled based on the Strum Distance setting (see below).

B4 Plays a partial up-strum. This plays an up-strum starting from the top string, with the engine selecting the number of strings traveled based on the Strum Distance setting (see below).

***NB**: For* **Force String** (**C6** *thru* **F♯6**) *and* **Force Hand** (**G6**, **G♯6**) *keyswitches, see page 33.*

Picking Keyswitches

Starting with F♯5 and moving up chromatically to B5, each note here corresponds to one of the six bass strings, starting with the lowest string (lowest A). Playing one of these notes will 'pick' the note that is being voiced on that string. If no note is 'voiced' on the selected string, the algorithm chooses another valid string to play, so that all pick keys will ensure that a note is performed. This allows you to retain the same picking patterns in MIDI data while changing the voicing on the strings, which is a common way of playing bass in many pop and rock songs. *(In general, this is a very useful and musical way of triggering notes from a chord: give it a try!*

Other Performance Keyswitches

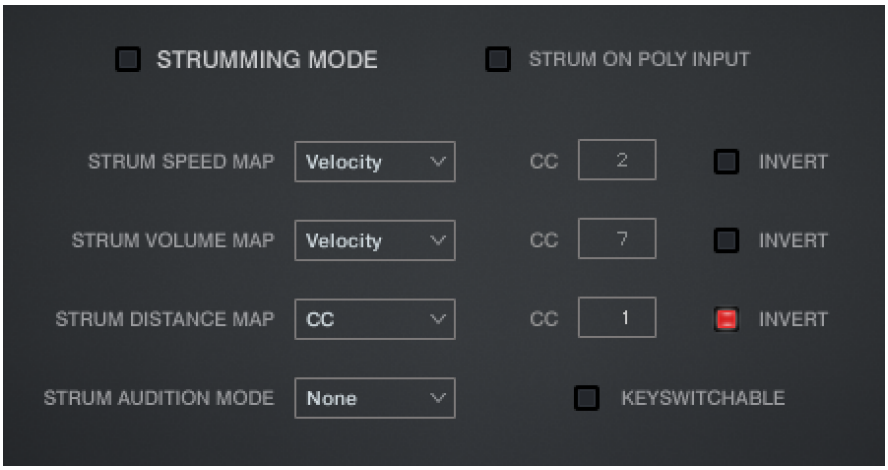
F♯7 Sets **Fretting Mode** to 'Natural'.

G7 Sets **Fretting Mode** to 'Sweep'.

G♯7 Sets **Fretting Mode** to 'Moving Lead'.

A7 Sets **Fretting Mode** to 'Polyphonic'.

Strumming Controls



Strumming Mode

When **Strumming Mode** is *enabled*, playable range notes no longer result in sound playback. Instead, the fretboard algorithm will visually display the most recent notes held together (up to the number of available strings), re-calculating the shown voicing on every new note to select the best and most 'natural' way to play the chord. This voicing is stored in perpetuity, so all string picks and strum triggers will act on this voicing.

Strum on Poly Input

When **Strumming Mode** is *disabled*, notes played within the Poly Input Latency window will activate a full down-strum following the strum mappings for timings and velocities. *Using this option, you can seamlessly mix strummed chords and lead/melody parts without doing any keyswitching at all!*

Strum Speed Map

Selects how the speed of strums is modified (velocity or MIDI CC).

Strum Speed CC

This CC is used for calculating strum speed when ‘CC’ is selected in the Strum Speed Map menu.

Strum Speed Invert

Inverts the input values when calculating strum speed.

Strum Volume Map

Selects how the volume of strums is modified (velocity or MIDI CC).

Strum Volume CC

This CC is used for calculating strum volume when ‘CC’ is selected in the Strum Speed Map menu.

Strum Volume Invert

Inverts the input values when calculating strum volume.

Strum Distance Map

Selects how the distance of partial strums is modified (velocity or MIDI CC).

Strum Distance CC

This CC is used for calculating partial strum distance when ‘CC’ is selected in the Strum Speed Map menu.

Strum Distance Invert

Inverts the input values when calculating partial strum distance.

Strum Audition Mode

Setting this to ‘New Note’ will play new individual notes in the playable range. Setting this to ‘All Notes’ will play all current stored notes in the set voicing on every new note.

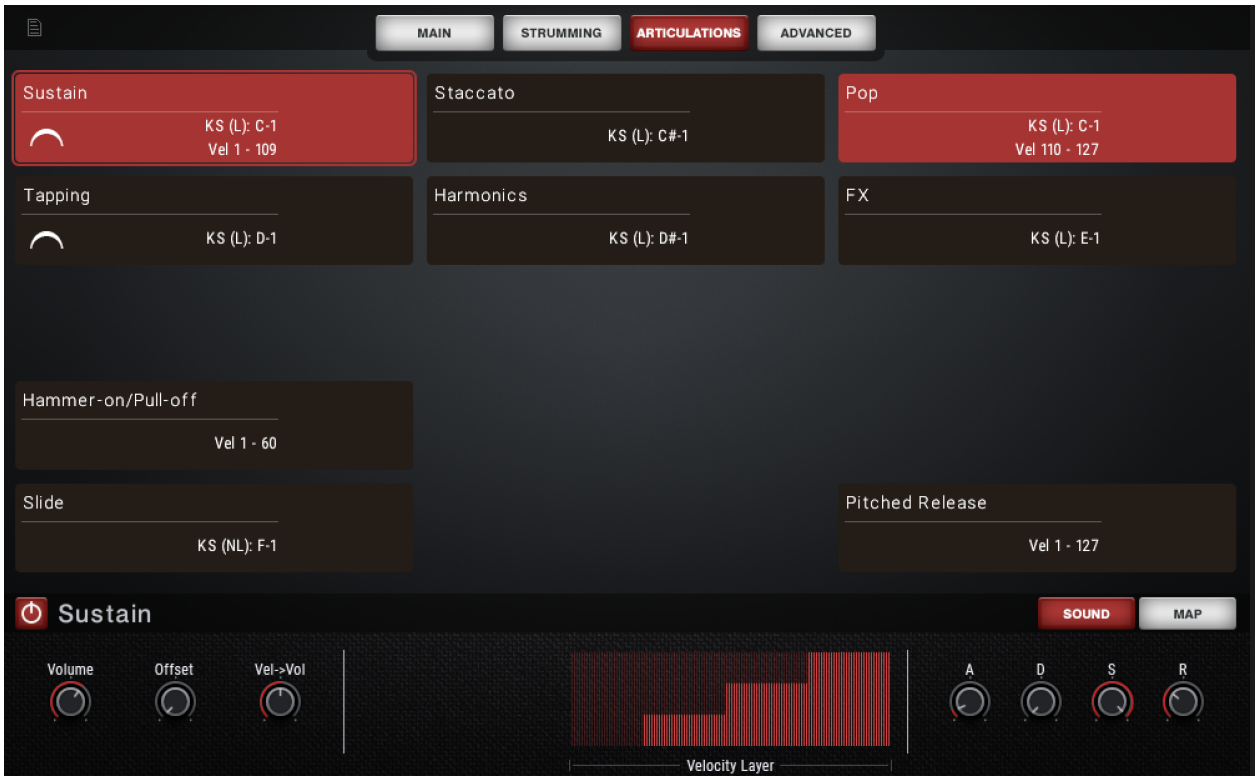
Hint: When this is set to ‘New Note’, you can essentially play notes in the playable range with full confidence that they will be voiced polyphonically and as close to the actual played voicing as possible. *This can be just as effective—if not more so—than the Polyphonic fretting mode!*

Keyswitchable

This control will activate the keyswitches that can toggle **Strumming Mode** on or off. *Deactivated by default to prevent accidentally swapping modes.*

Tab 3: `Articulations`

Our 'Total Control Articulation Control' (TACT) technology has been upgraded to Version 3 in this product, offering more convenience and power than ever in a single UI!



TACT Overview

Enabling / Disabling Articulations

Any articulation can be disabled or enabled by ***alt+clicking*** or by pressing the power button  in the `Sound` tab (located at the bottom of the UI). Disabled articulations will not trigger, and will be purged from memory (thereby freeing up RAM).

Selecting an Articulation

To select an articulation for editing, simply ***click*** on it. The selected articulation will be *highlighted* with a red border. If you are using *latching keyswitches* (see next page for more details) for articulation selection (which is the default setting), ***click***ing on an articulation will also *activate* your corresponding keyswitch, blotching it fully red. *This functionality makes quickly auditioning articulations a snap!*

Multi Selection

To select more than one articulation at once: hold ***Control*** or ***Shift***, and ***click*** the articulations you want to select. When multiple articulations are selected, adjustments made to the `Sound` tab will be applied to all of the selected articulations.

Mappings (made in the `Map` tab; more information below) cannot be applied to multiple articulations simultaneously.

Mapping Info

The text in each articulation box (such as `Vel 1 - 27` or `KS (L) C-2`) shows the current mapping for that articulation.

The current mapping section shows how the articulation is currently triggered. Here are the relevant abbreviations:

`KS`	**Keyswitch**. Press the listed key (in this example, `C-2`) to trigger the articulation.
`(L)`	**Latching**. A **latching** keyswitch does not need to be continually held down to work.
`C-2`	The MIDI note that will trigger the articulation. (`C-2` is the lowest MIDI note.)

Here are some other examples of mapping abbreviations you might see:

`Vel 1 - 19`	Articulation must be played at MIDI velocities `1` and `19` to trigger.
`CC1 12-127`	MIDI Controller 1 (`CC1`) must be between values `12` and `127` for the articulation to trigger.
`PW 1024-8192`	The Pitch Wheel controller must be between values `1024` and `8192` to trigger. *(**NB**: The minimum Pitch Wheel value is `-8192`.)*
`Key C4 - C5`	The articulation will only trigger on MIDI notes between `C4` and `C5`. *(**NB:** This is NOT a KS; this refers to actual playable notes that make sound.)*
`Ped Down / Up`	The Sustain Pedal (`CC64`) must be down (or up) for the articulation to trigger.

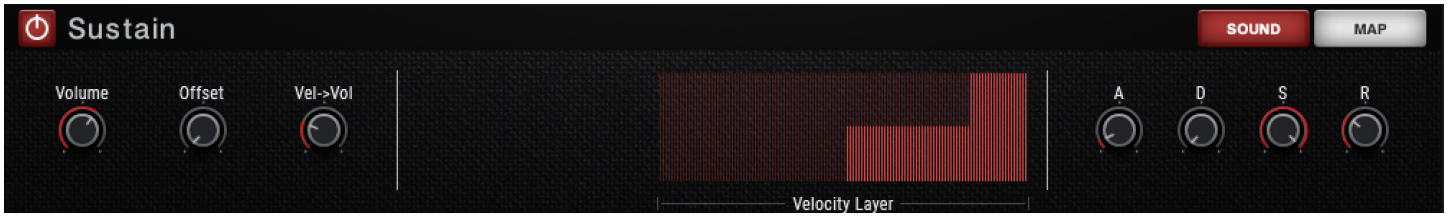
Legato Toggle Button

This button  can be ***clicked*** to enable, for certain articulations. When disabled, a **`...`** symbol will instead appear, and that articulation will not trigger legato or portamento transitions.

The `Sound` Tab

Each articulation has slightly different controls in the `Sound` Tab. These include:

SUSTAIN



Volume

Controls the overall volume of the articulation.

Offset

Controls the sample start offset. At `0`, the sample will be played back from its natural beginning. For values above `0`, the early part of the recording will be 'cut off'.

Vel → Vol

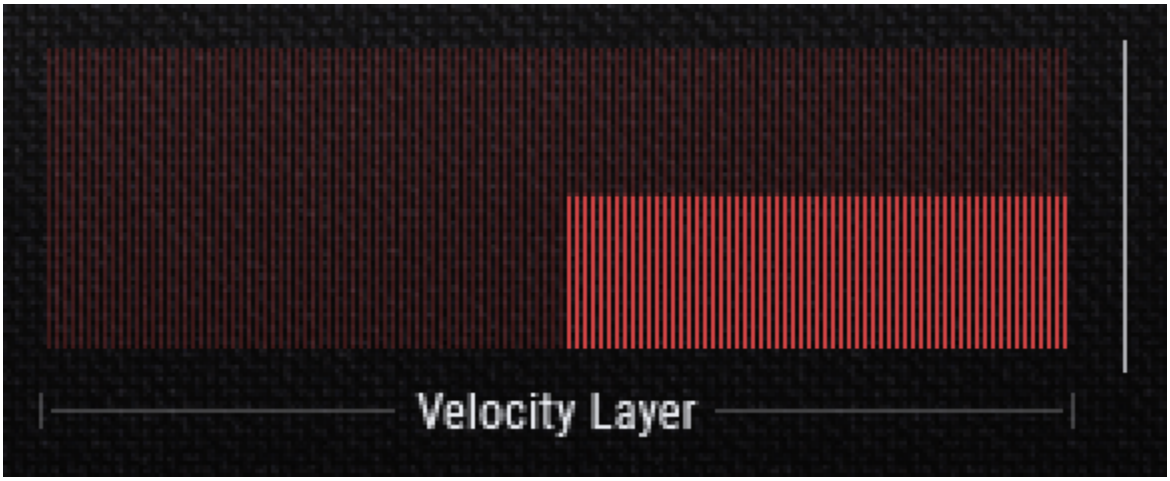
Controls the degree to which velocity affects the volume of this articulation. At `0`, velocity will have no impact on volume (but will still be used to switch which dynamic ['velocity'] layer is selected.)

Velocity Layer

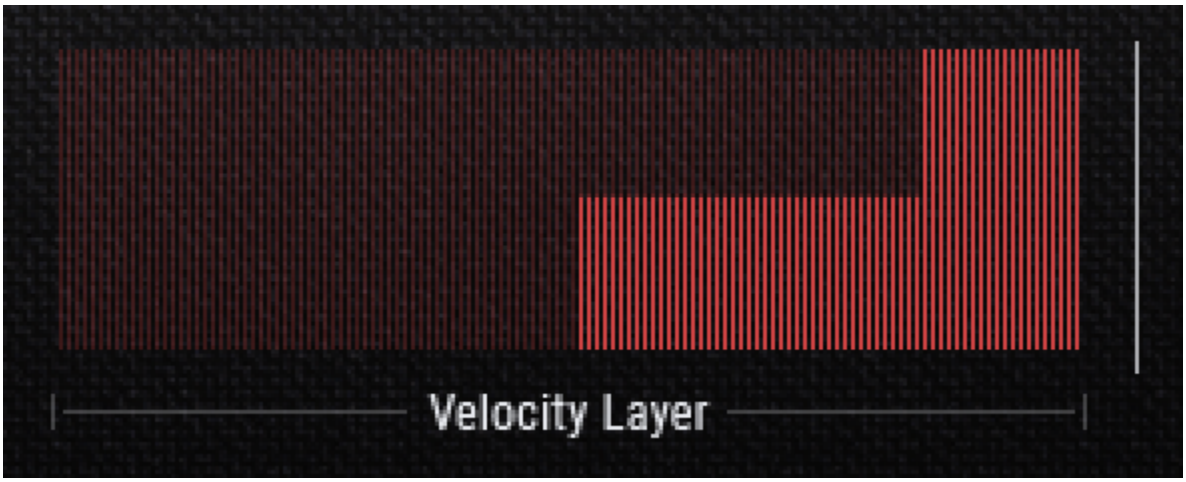
For short articulations with multiple dynamics (such as *Sustain*, shown above) this table can be used to assign the dynamic levels to be triggered within certain MIDI velocities:

- ➔ The X-axis of the table is the MIDI velocity, so the leftmost side is velocity `1`, and the rightmost side is velocity `127`.
- ➔ The Y-axis is the dynamic level, with the lowest at the bottom and the highest at the top. This will automatically 'snap' into place.

This can be useful if, for example, you're writing a very quiet piece and don't want to use the recordings of the top sustain dynamic. You could use your mouse to draw the Velocity Layer table such that the 2nd 'step' extends all the way to the right, like so:

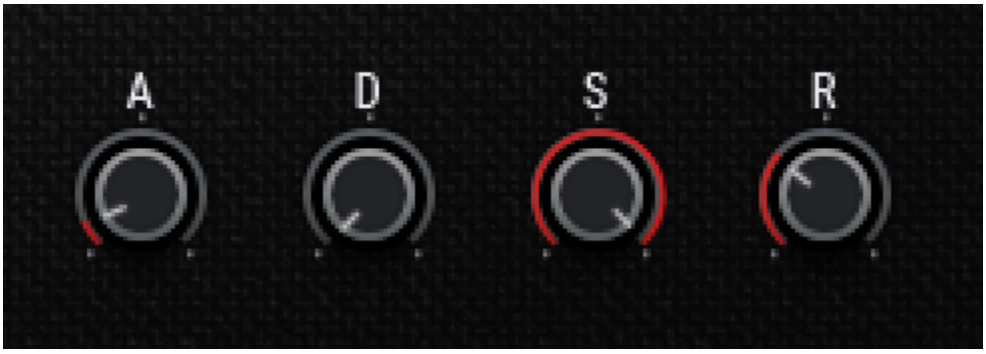


Or, if you want the highest dynamic to require a very hard key press (that is to say, a very high velocity), you could draw this table like this:

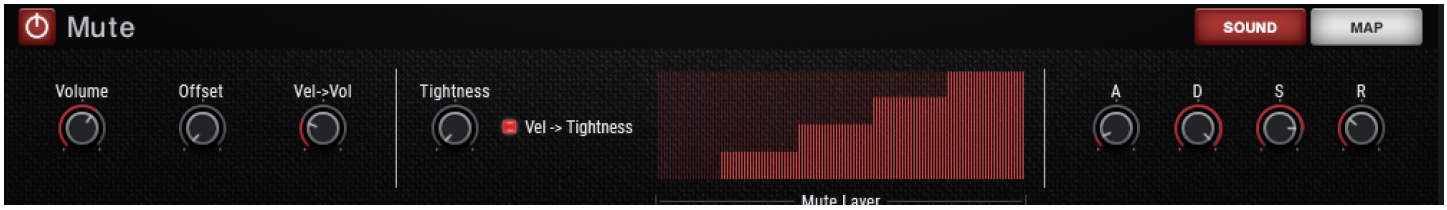


ADSR (Volume) Envelope

Controls the volume envelope triggered each time the articulation is played.



MUTE



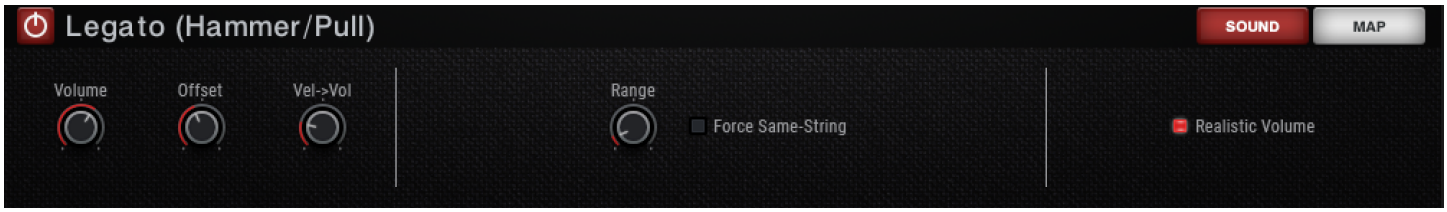
Tightness

Adjusts how quickly palm mutes decay. This is basically a combination of adjusting the `Decay` and `Sustain` controls on the ADSR envelope.

Vel → Tightness

When enabled, lower velocities will decay even faster than normal.

LEGATO (HAMMER/PULL)



Range

Sets the max distance in semitones that hammer/pulls can trigger. *Defaults to 2 semitones*.

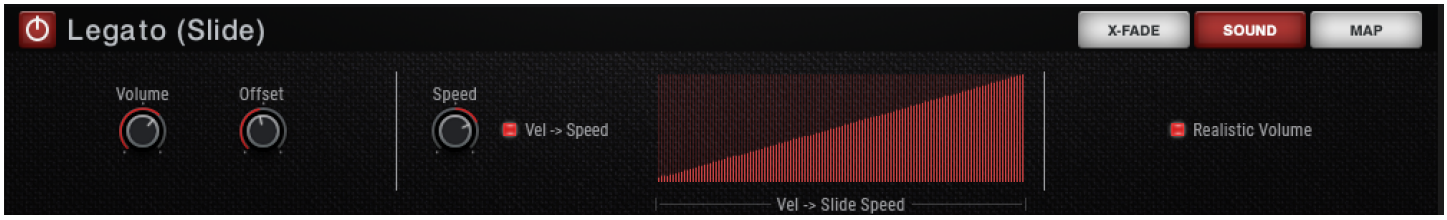
Force Same-String

Enabled by default. When *dis*abled, the engine will allow triggering hammer/pulls from one string to another, which isn't technically realistic but may 'feel' better in certain situations.

Realistic Volume

When enabled, the volume of hammer/pulls will scale down over time until you strike a new non-legato note.

LEGATO (SLIDE)



Speed

Time stretches or compresses the slide transition samples to make slide transitions faster or slower overall. *Not available when 'Lite' is enabled.*

Vel → Speed

When enabled, higher velocities will trigger faster slides.

Realistic Volume

When enabled, the volume of slides will scale down over time until you strike a new 'non-legato' note.

X-Fade

Note that in the *Legato (Slide)* image above, there is a third tab in the top-right corner of this area of the UI: `X-Fade`. This tab only appears for *Legato (Slide)* articulations, and is covered in the section directly below.

The Special, Additional *Legato (Slide)* Tab: `X-FADE`

This tab is only available for the Slide articulation and should generally only be used by advanced users!

NB: *For the purposes of describing these controls, we will use an example interval of* `C3` *(the 'source') transitioning to* `G3` *(the 'destination'). The controls are described from left to right, starting with the* `Source` *knob.*

Source [Fade-Out Time]

When a legato transition is detected, the source note (`C3`) will be faded out over this much time.

Transition [Fade-In Time]

The transition recording (`C3` to `G3`) will be faded in over this much time.

Transition [Length]

The amount of time the transition recording will be played for before fading out.

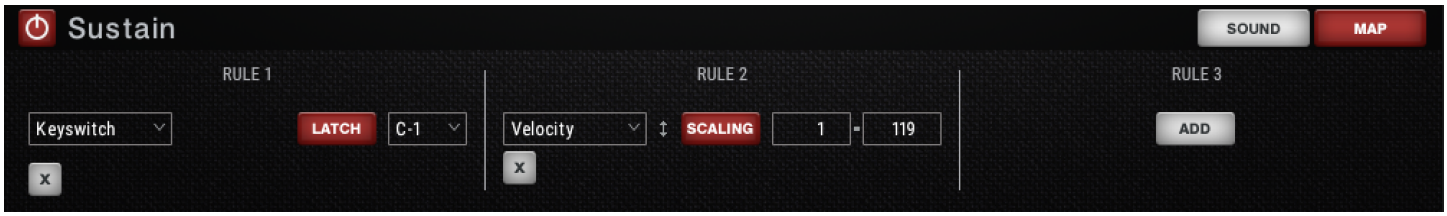
Transition [Fade-Out Time]

After the transition length, the amount of time before the transition fades out completely.

Destination [Fade-In Time]

The destination note (`G3`) will be faded in over this much time.

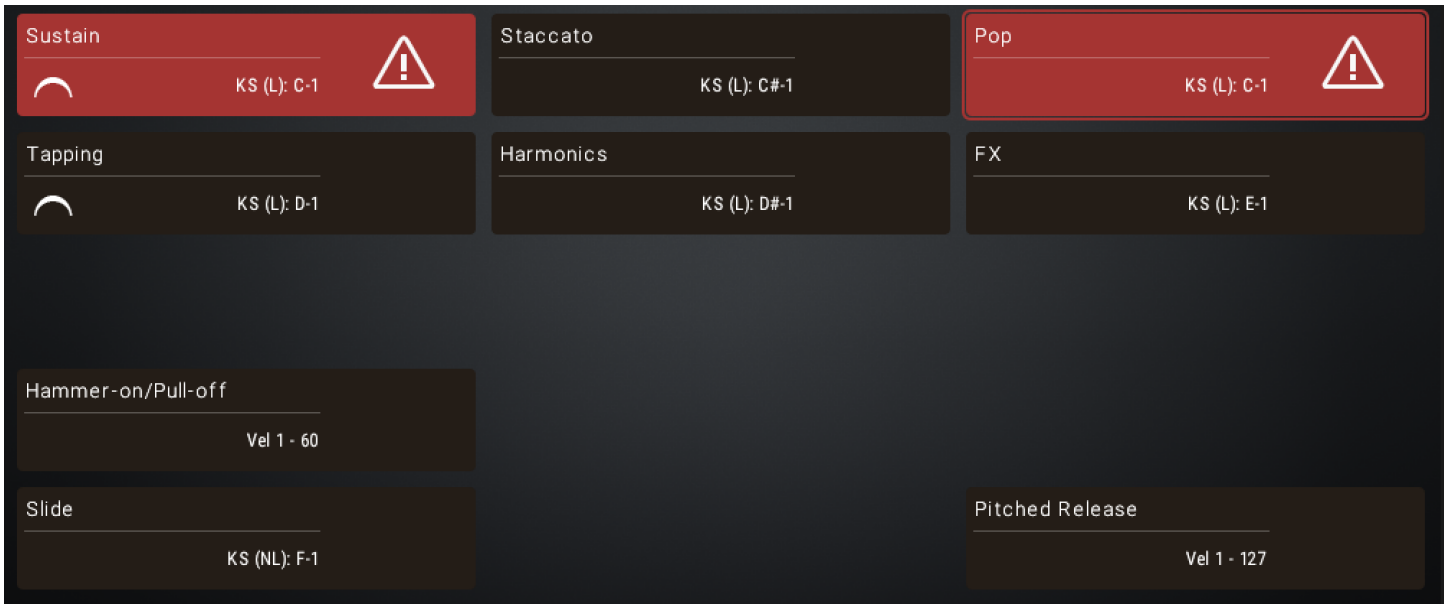
The `Map` Tab



Each articulation can have up to three 'rules', or conditions under which that articulation may trigger.

In the example image above, *Sustain* will trigger if the keyswitch `C-1` is pressed. The `Latch` button is *enabled*, meaning the keyswitch will stay down even if you were to release the keyswitch.

Multiple articulations can share the same keyswitch or velocity range. However, if you do this, the UI may show a conflict, *e.g.*,:



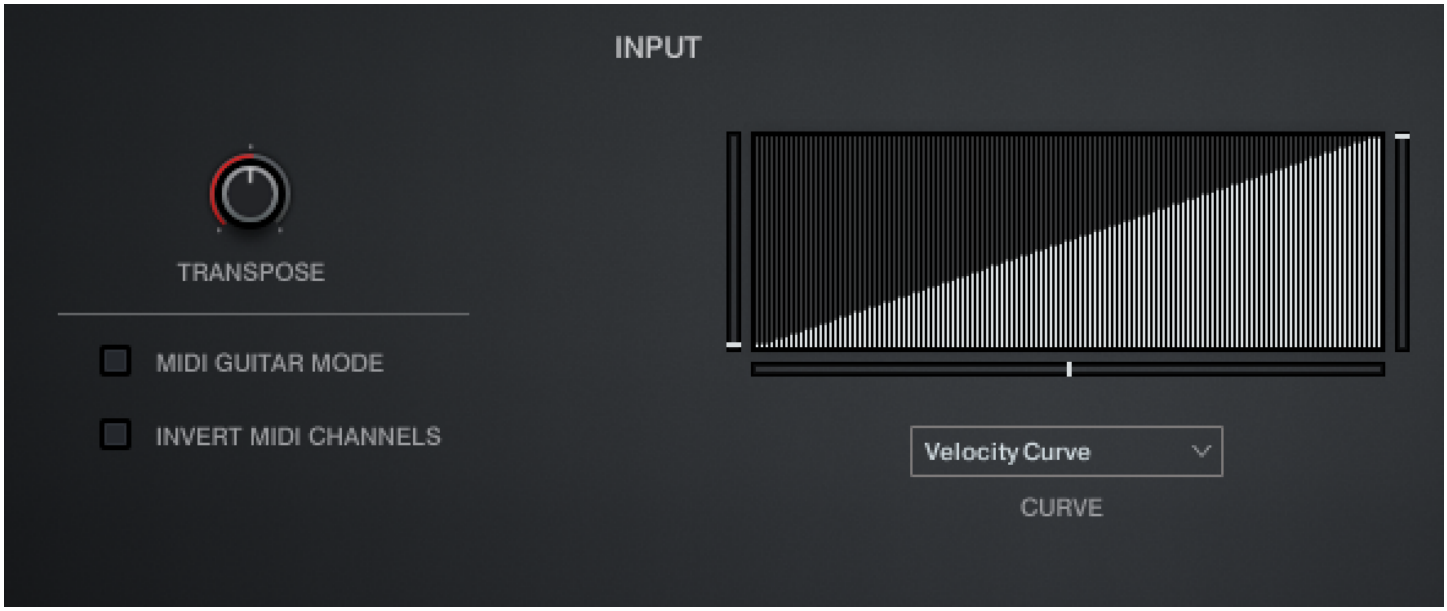
Here, *Sustain* and *Pop* are both set to trigger on the keyswitch `C-1`. Note the warning triangle ⚠ and the red fill in both the *Sustain* and *Pop* articulations.

If you encounter such a conflict, you must then add an additional, unique rule to each of these articulations to tell the engine when and how to play them, and thereby remove the conflict.

In this instance, for example, you could assign an additional rule to *Pop* to be triggered via velocity values `110` through `127`, and a complementary rule to *Sustain* to be triggered only via velocity values `1` through `109`. This way, though they share the same `C-1` keyswitch, they are uniquely situated in their velocity ranges, and thus no longer have a conflict.

Tab 4: Advanced

In this tab, you can easily control a number of engine playback parameters.



Transpose

Shifts all MIDI input up to +/- 12 semitones.

MIDI Guitar Mode

When enabled, the patch is enabled for use with MIDI guitars or pickups that send MIDI messages on different channels for each string of the guitar. The lowest string corresponds to MIDI ch. 6, while the highest string corresponds to MIDI ch. 1. *You MUST first set the patch to **OMNI MIDI** input in Kontakt for this to work!*

Invert MIDI Channels

When MIDI Guitar Mode is enabled, this simply flips the expected channel input: the *lowest* string corresponds to MIDI ch. 1, while the *highest* matches with MIDI ch. 6. *You may need to do this depending on the configuration of your MIDI-equipped guitar.*

Curve [Dropdown Menu]

There are two options, which select which engine curve the graphical curve (and its controls, outlined below) currently controls:

Velocity Curve This curve maps input velocity for the `Velocity → Volume` processing. Lower values result in quieter samples at the chosen velocity, while higher values are louder. The degree of the effect is controlled personally by each articulation in the TACT tab on the second parameter page. *(See the TACT manual for more information.)*

Strum Speed Curve This curve maps input velocity to select different dynamic layers. Due to different articulations having a different number of layers, it is a general curve from `1` to `127`.

Curve Minimum Value (left vertical slider)

Adjusts the value at which the velocity curve starts. Holding **Alt [Option]** will also move the maximum value at the same time, making it a fixed value across the whole velocity range.

Curve Maximum Value (right vertical slider)

Adjusts the value at which the velocity curve ends. Holding **Alt [Option]** will also move the minimum value at the same time, making it a fixed value across the whole velocity range.

Curve Curvature (bottom horizontal slider)

Adjusts the curvature of the velocity curve, from concave → linear → convex.

Keyswitch Functions

These dropdown menus let you specify keyswitches for specific engine functions. You must ensure these don't conflict, as they exist outside of TACT and have no built-in conflict detection. The keyswitch notes created by these menus are all **latching**.

Force String Sets up a keyswitch note for each string, plus a note to disable 'Force String'. When enabled, all notes will be played on the desired string if at all possible.

Set Hand Sets up a keyswitch note that, when pressed, sets the current *hand position*. The hand position selected equals the velocity of the keyswitch note (velocity 1 = fret position 1, velocity 2 = position 2, etc.)

Picking Mode *Not available in **Shreddage 3.5 Abyss***.

Fretting Mode Sets up a keyswitch note for each possible fretting mode.

Shred Window

The maximum amount of milliseconds between subsequent notes to trigger Shred processing.

Shred processing uses a combination of sample offset and low-pass filtering to reduce pick energy during fast passages and create much smoother lines. *This functionality is one of the latest developments towards the namesake of this series!*

Shred Offset

The amount of sample offset to use during Shred processing.

↓ Stroke Offset

Increases the sample offset for all articulations' downstroke RRs.

↑ Stroke Offset

Increases the sample offset for all articulations' upstroke RRs.

Anti-Repetition On/Off

When *enabled*, the instrument will randomly use neighboring samples during playback to create more variation.

[Anti-Repetition] Chance

Sets the probability that neighboring samples will be used during playback, when Anti-Repetition is enabled.

Ringing

When enabled, the virtual bassist will occasionally 'flub' a note, touching an adjacent open string or two. *Useful for adding extra 'dirtiness' and overtones to your parts, but it does cost extra CPU, so be careful!*

Chance

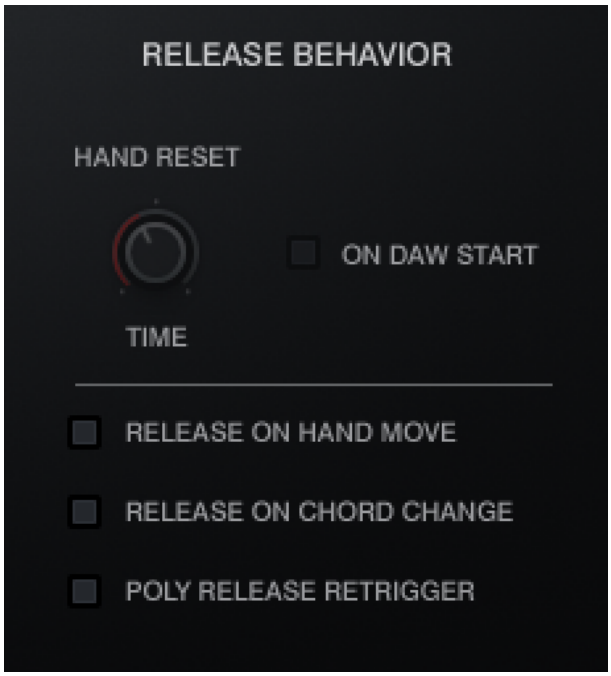
Controls % chance of *Ringing* occurring per note.

Volume

Controls the volume of the *Ringing* resonance.

DI Line Noise

Increases the volume of constant line noise. The noise will start when you start playing, and will fade out when you finish.



Hand Reset Time

Once all notes are released, the engine will reset the virtual hand position after this much time has passed. If you are using a forced hand position, this does nothing.

[Hand Reset] On Daw Start

When enabled, the hand position will reset on DAW transport start.

Release On Hand Move

When enabled, if the virtual hand moves to a new position, all held notes will be released.

Release On Chord Change

When enabled and strum mode is activated, all held notes will be released when new notes are entered into the playable (*i.e.*, blue range), changing the chord voicing.

Poly Release Retrigger

When enabled, released notes will retrigger legato-style just as in Mono Lead Mode. Unlike Mono Lead Mode, however, this behavior is constrained to each individual string.

Articulations

Sustain	**C-1**	Standard picked single notes that ring out fully. Simple! *Defaults to velocities 1-109.*
Pop	**C-1**	When playing with lots of force and enthusiasm, the strings produce a 'pop' before the tone is heard. We've isolated these pops so you can mix them in at whatever delay, volume, and dynamic threshold you would like. *Defaults to velocities 110-127.* ***NB:*** *This articulation plays before whatever articulation it is layered with, such as* ***Sustain****. It's ideal to emphasize lead notes while playing a melody.*
Staccato	**C♯-1**	Short, unmuted notes.
Tapping	**D-1**	All notes are played as hammer-on, ringing out fully. No picked notes here!
Harmonics	**D♯-1**	Natural harmonics that ring out fully.
FX	**E-1**	Various decorative performances to sprinkle in for added realism.

About Legato Articulations

Legato articulations are generally triggered when one note is held and another note within 12 semitones is played simultaneously (that is, their MIDI in the piano roll is overlapping). To ensure that you trigger legato only when intended, and not in the place of chord strums, remember to use *Poly Input*.

Hammer-On & Pull-Off	Brief transitions that end on a sustained note. *Hammer-On*s are triggered when playing within the Hammer-On Range on the same string while ascending in pitch; one finger is used to 'hammer' the fret a semitone higher. *Pull-Off*s are triggered the same way, but *descending* in pitch by one semitone, and have a softer attack. With the Force Hammer-On button *disabled*, this articulation will **not** play on strings that have not yet been picked.
Slide	Also known as *portamento*, this is a slide from one fret to another. The virtual hand will move to the new note as if the exact same finger had been on both the source and destination notes. *In Shreddage 3.5, the* ***Slide*** *transition is limited to 12 semitones (that is, one octave).*

About Release Articulations

As the name suggests, Release articulations trigger when a MIDI note is released (note-off message). These are incredibly useful for making your virtual bass parts sound more realistic by automatically adding scrapes, squeaks, and other little noises throughout the performance.

Pitched Release	The sound of a string being released on a given pitch.

Keyswitches

FX & FX Keyswitches

F-1 Dedicated 'slide' keyswitch. Performs a slide transition between the current note and the next note.

G-1 'Slide note' keyswitch: If activated *before* a note, performs a slide from the end of the fretboard up to that note. If activated *during* a note, performs a slide from that note down to the end of the fretboard.

G♯-1 'Thrash note' keyswitch: Re-triggers the last-played note, allowing you to easily riff between this and another note for fast patterns!

Behavioral Keyswitches

A-2 Legato ON. *This is the default.*

A♯-2 Legato OFF. *This forces Legato OFF despite whether Legato articulations are active in the* `Articulations` *tab.*
*(**NB**: The performance styles which disable legato do it via this keyswitch!)*

C6 *thru* **F6** 'Force string' keyswitch: **C6** forces lowest A string (string 6); each subsequent key forces each subsequent string, respectively.

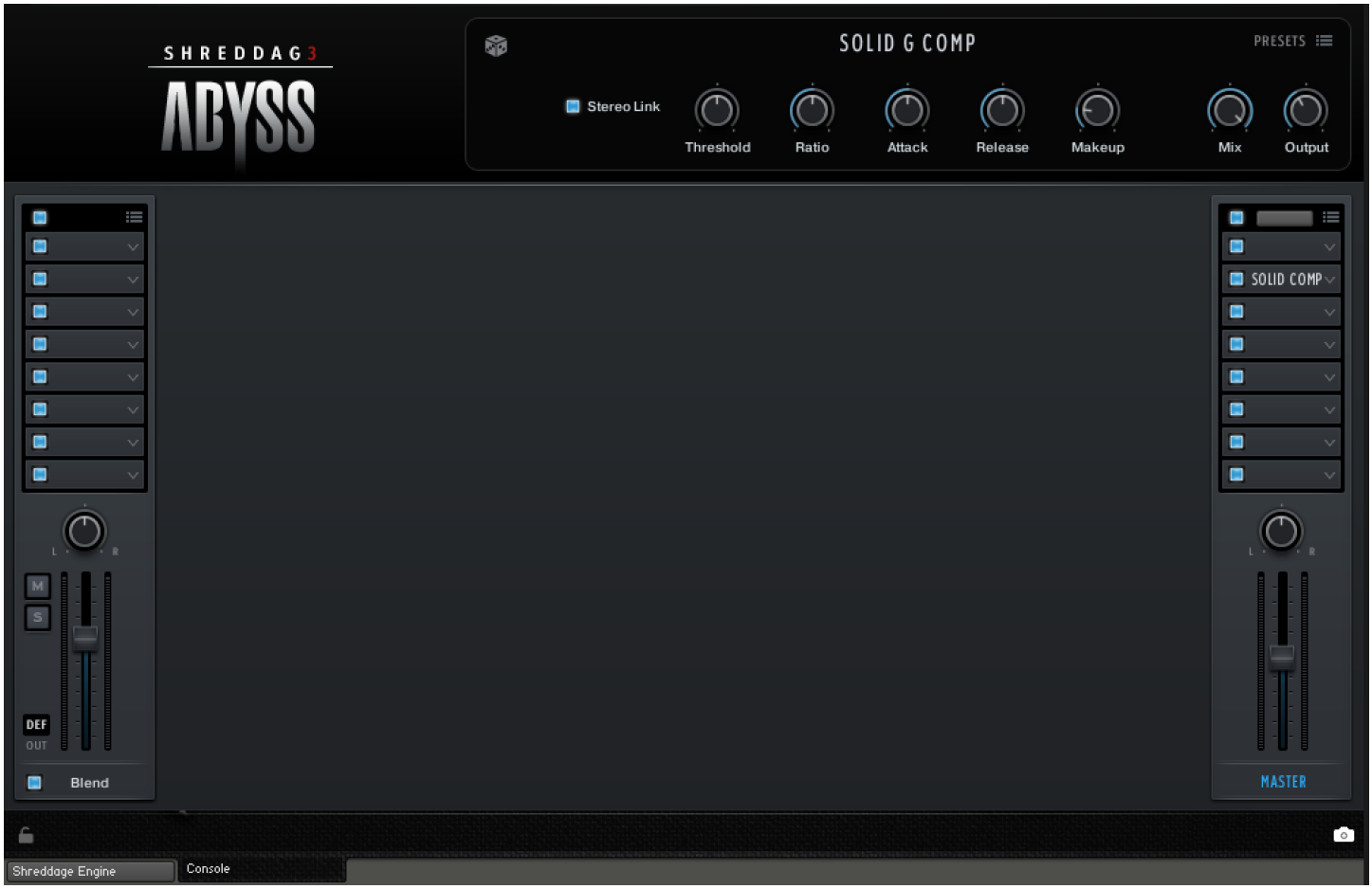
F♯6 Disables 'force string' behavior.

G6 'Force hand position' keyswitch. *Hand position corresponds to MIDI velocity on this keyswitch such that higher velocities trigger higher hand positions.*

G♯6 Disables 'force hand position' behavior. *Hand position is now AUTO.*

***NB**: for* **Strumming**, **Picking**, *and other* **Performance** *Keyswitches, see the* **Tab 2:** `Strumming` *section (starting page 15).*

View 2: `Console`



For more about the `Console` *view, please see our standalone* ***Console Manual****.*

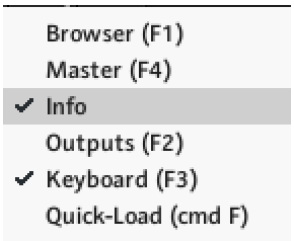
Setup & Tweaking

Tips for Getting the Most out of the User Interface

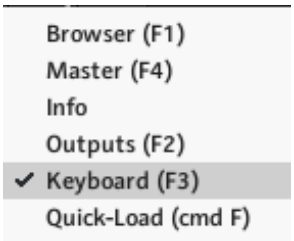
➔ Almost all controls can be MIDI-learned by (1) right-clicking the UI and (2) selecting 'MIDI Learn'. You will then need to move the control of your choice (*i.e.*, fader, knob, *et al.*) on your MIDI control surface or in your DAW to establish the link.

***Pro tip**: Once you MIDI-learn something, you should save your modified version of that NKI so you won't have to do it again!*

➔ You can view Help Text by hovering over controls in the **Shreddage 3.5 Abyss** UI. The Help Text will appear at the bottom-left of the Kontakt UI plug-in window. You can go to the Panels drop-down menu by clicking the (Panels) icon at the top-right of the plug-in window and ensure 'Info' is checked:



➔ The colorful Kontakt virtual keyboard, seen in our videos, is a Kontakt feature and not specific to **Shreddage 3.5 Abyss**. To enable the virtual keyboard, simply press **F3** on your computer (*not* MIDI!) keyboard. Alternatively, you can go to the Panels drop-down menu by clicking the (Panels) icon at the top-right of the plug-in window and ensure 'Keyboard' is checked:



➔ **Shreddage 3.5 Abyss** is fully NKS Compatible and features quite a few existing host-automatable controls. If you have a Komplete Kontrol keyboard or use the Komplete Kontrol application, you will be able to benefit from this functionality!

Tips for More Realistic Mockups

As with many aspects of music creation, think of these as guidelines, not hard-and-fast rules that can never be broken!

Recording Live vs. Sequencing

If you have decent keyboard skills, it's a good idea to try performing your bass parts one at a time, recording the MIDI data. The natural variations in timing and expression will often lead to a better result.

Stay Off the Grid

For bass, keeping every single hit 100% quantized to the grid will not sound very natural. Bassists usually push and pull with the beat to add emotion and musical 'direction'.

If you're quantizing your live playing, try using a 50% to 75% quantization value instead of 100%.

If you're clicking in notes with a mouse, try manually making very slight adjustments to certain notes!

Use Dynamics

It's tempting to gravitate toward very high dynamics, particularly when you are writing heavy rock & metal tracks. But even in these 'high-octane' genres, real bassists do not play at 100% maximum energy at all times, and this sound can quickly fatigue the ear. Even for very heavy parts, try using a spread of velocities within the same (albeit 'high') range.

Another possibility to make sure you retain volume/power in a loud mix is to decrease the values of `Velocity → Volume` on the `Advanced` page, then using a wider range of MIDI input velocities. This method acts somewhat like a compressor, pushing the maximum and minimum dynamic layer volumes closer together while maintaining timbral variety.

Finally, ensuring that you're monitoring your music at an appropriate level to begin with (not too quietly, not too loudly) will help you make correct, informed decisions about dynamic performance and dynamic range—not just for your bass parts, but for each element in your mix!

More Musical Tips for Mockups

- ➔ You can make the bass sound **deeper**, **darker**, and **larger** than it actually is by *lowering* the **Tune knob** of the Kontakt instrument slot itself by about 5 semitones, then *increasing* the **Transpose knob** within the S3.5 UI by the same 5 semitones. The result is the same pitch but with a more robust tone. *This is also a handy tool for creating even more convincing double-tracks. You can try less OR more extreme values as well!*

- ➔ Since **Shreddage 3.5 Abyss** was recorded DI, you can easily achieve drastically-different tones by experimenting with different amp, cab, and EQ combinations. Check out the included presets and dive into `Console` to find out more!

- ➔ Switching the **Fretting Mode** of the instrument can dramatically change the tone and character of your performances. If you aren't 100% pleased with the voicing of your parts, try simply changing modes; you may discover that you do not need to do any automation or MIDI tweaking whatsoever to get your ideal result!

- ➔ When mixing and mastering rock and metal (or any other genre where strict rhythmic precision is paramount) using Shreddage 3.5 instruments, offset the bass tracks backwards (in other words, apply a negative track offset) of `20ms` to `30ms`. If you are using poly input latency, add that number of milliseconds to that offset amount. If you are using global sample offset, subtract that number of milliseconds from that offset amount.

  Applying this negative delay offset will dramatically reduce the audible delay of the bass transients against (the grid-quantized) drum sounds. The bass will 'pop' better: drum transients hitting a master compressor will compress bass notes that arrive with or after them, whereas bass transients that arrive *before* the compression has fully kicked in will have a chance to be lively and sound with better detail.

Tips for CPU & Memory Optimization

If you experience high CPU and memory usage with **Shreddage 3.5 Abyss**, there are a number of things you can do to mitigate the issue.

Balance memory and CPU with DFD preload settings

Kontakt does not load all samples fully into memory; it only loads (or buffers) a small chunk of each one. By clicking on the wrench icon next to a loaded patch, clicking Instrument Options, and going to the DFD tab, you can adjust this preload buffer amount.

A higher buffer means less CPU usage but more RAM usage. A lower buffer means higher CPU usage but less RAM usage.

It's up to you to determine which setting is best for you.

Save CPU and memory by quitting unnecessary applications

For experienced users, this may seem obvious, but it's easy to lose track of how much computing power is being used by seemingly-innocuous applications. For example, it's not uncommon to have a Chrome browser, Discord, Slack, Skype, Zoom, and Dropbox all running at the same time. All of these not only take up RAM, but can also interfere with real-time audio playback by causing pops & crackles.

So, anytime you work on a very intensive DAW project, it's a good idea to close all applications and services you don't need - even if they just run in the background.

Avoid pops and crackles with a higher buffer size

This applies to your DAW settings in general. Typically, every DAW's audio settings allow you to change the 'buffer size' of the playback drivers. Sometimes, this may only be changeable in a separate application, such as with some RME products.

The buffer size (measured in milliseconds or samples, like `8ms` / `512 samples`) determines the amount of latency in DAW output and input, inversely correlated to CPU usage. In other words, lower buffer sizes are much more demanding on your CPU than higher ones.

Though it feels great to perform and record MIDI at very low buffer sizes, this is also most taxing on your CPU. Consider increasing your buffer size once you're out of the MIDI recording phase, and on to editing, mixing, and mastering.

Credits & Acknowledgements

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Troubleshooting

Having trouble with **Shreddage 3.5 Abyss**? Use it in a project you want to tell us about? Drop us a line via our **Contact page** (but be sure to read the FAQ first!)

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