

Evolution Engine

Version 1.2.5

User Guide

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Preface

The Evolution Engine is a unified interface that hosts many of our guitars, basses, and other stringed instruments. By sharing the same engine, the workflow is the same for each of these instruments. While the interface is packed with features and capabilities, this means that you don't need to re-learn a new workflow with every Evolution-based instrument.

We've focused on making as many aspects of the instrument configurable, from the mapping to the effects and numerous advanced settings that let you tailor the instrument's playability to your taste.

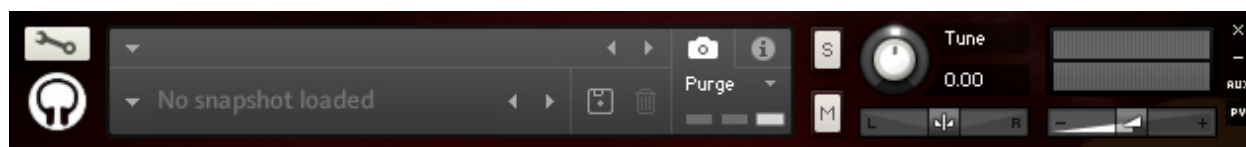
However, we've also designed the instruments to be instantly playable, which is why we include many ready-to-use factory presets as well as making the instrument's playability optimized for playing from your MIDI controller without having to worry about the physical limitations of the real instrument. All the logic under the hood of the Evolution Engine handles interpreting your playing in order to maximize the realism and authenticity of the instrument's sound.



Factory Presets

Instruments based on the Evolution Engine use Kontakt's snapshot preset system to manage factory and user presets. This offers a convenient way to navigate through presets one-by-one, or access a dropdown list of all the available presets. It also integrates nicely with the Native Complete Standard, which gives you access to the presets through the Complete Kontrol software as well as hardware such as the Kontrol S-Series keyboards and Maschine.

You can access the snapshots from the header portion of the instrument's interface, which is directly above the instrument's interface.



Kontakt's snapshot preset system

In order to see the snapshot controls as shown in the picture above, the camera icon needs to be selected (as opposed to the "i" icon, which is for accessing the audio and MIDI settings and other instrument-related options). In the snapshot preset panel, you can click on the downward-pointing arrow button to the left of the snapshot name to open a dropdown menu of all the presets available. You can also audition the presets one-by-one by using the left and right arrow buttons to the right of the snapshot name.

When you first open the instrument, there isn't a snapshot loaded, which is why it shows "No snapshot loaded". Without a snapshot preset loaded, the instrument is in its default, initialized state.

You can store your own user presets using the disk icon button. Once you've created your own user preset(s), they will be present in the snapshot dropdown menu alongside the factory presets for easy and convenient access.

Automation

Most of the effects and settings in the Evolution Engine can be assigned to MIDI CCs so that they can be dynamically controlled during the performance. This is achieved through KONTAKT's built-in automation system.

There are two ways of automating a control within KONTAKT:

The simplest way is to right-click on the control and click the “Learn MIDI CC# Automation” option in the menu that appears. Once this is selected, the very next MIDI CC that gets changed will be linked to that control. If you want to cancel the MIDI learn operation, you can always right-click on the control again and select “Cancel Learn MIDI Automation”, or if you’ve already assigned the control to a MIDI CC and want to remove the automation, you can right-click on the control and select the “Remove MIDI Automation: CC# ...” option.

For more advanced control over the MIDI automation, KONTAKT has a panel dedicated to MIDI automation, which is accessed by clicking on the “Automation” tab in Kontakt's left sidebar and then navigating to the “MIDI Automation” section below. This area lists all the MIDI CCs and any controls they're assigned to. You can link a MIDI CC to a control in the interface by dragging it from this list onto the control on the library's interface that you want to automate it to. Selecting one of these MIDI Ccs from the list will also display more details about the automation below, showing which control(s) the CC is currently linked to as well as “From” and “To” values that allow you to change the control's range.



Polybend

One of the innovative capabilities built into the Evolution Engine is the ability to play polyphonic pitch bends. The Polybend functionality lets you bend notes independently by putting the notes and their associated pitch bends in different MIDI channels in order to distinguish which notes the bend information should apply to.

In order for a single instance of the Evolution instrument to receive MIDI from multiple channels, you'll need to set Kontakt's MIDI input channel to "omni". To do this, click on the button with an "i" icon that's in the header portion at the top of the instrument's interface. This switches from the snapshot view to the "info view", and by clicking on the "MIDI Ch" dropdown menu and selecting the "omni" option, you can allow the instrument to receive MIDI from any channel.

One additional benefit is that the legato articulations—including slides—also follow this same logic of isolating their behavior between separate MIDI channels. Using a similar process as with working with Polybend, you can move notes to separate MIDI channels to keep certain notes from getting played as legato, or making sure that the starting notes go to the correct destination note.

Although the Evolution libraries aren't fully MPE compatible at the moment, the Polybend feature allows the libraries to respond to MPE compatible MIDI controllers' polyphonic pitch bend capability. Bear in mind that you will need to change the Evolution instrument's pitch bend range in the SETUP section to match the bend range that your MPE compatible MIDI controller is set to.



Interface

Sections

At the top of the interface, there are buttons to navigate to different sections of the interface. The controls and interfaces are organized into these sections to make it faster to get to the options you're looking for. For instruments that include chords and strumming, like guitars, you'll see a total of five sections labeled "Play", "Strum", "Chords", "Tone", and "Setup", while instruments without strumming, like basses, only have "Play", "Tone", and "Setup".

In the "Play" section, you have controls to customize how you want to trigger the included articulations. For example, you can set articulations to velocity ranges, latching and non-latching keyswitches, MIDI CCs, and more.

The "Strum" section has a built-in strumming pattern editor to make it convenient to create and play realistic strumming patterns right inside the sample library.

The "Chords" section lets you how the chords are detected. One option is to make the exact notes you hold to get strummed. There's also an automatic mode, which takes the chord that you have held and translates it into a real voicing that takes into consideration the inversion of the chord. It also uses the current fretting position to figure out whether the chord should be voiced at the base of the fretboard or high up on the neck. The last chord option gives you a custom chord editor, in case you have very specific chord voicings you want to use.

The "Tone" section puts a vast collection of effects at your fingertips, allowing you to get production-ready sounds without having to use external plugins.

Finally, the "Setup" section gives you a list of advanced controls to fine-tune the sound and playability of the instrument.

Fretboard

The fretboard view lets you see the notes as they're played. That way you can see which strings are getting played and where on the fretboard they are. It also helps visualize how



elements like the fretting position, capo, and tuning of the instrument affect where notes get played on the fretboard.

Controls

At the bottom of the interface are all the available controls for the section of the interface you're currently viewing. In certain sections, a scrollbar is included on the right side of the control panel, allowing you to scroll through the lists of articulations, effect modules, and settings.



Play

Mapping



This section displays a scrollable list of all the instrument's available articulations. On the left-most side is the name of the articulation, and in the center column is the condition necessary to trigger the articulation. The conditions, explained in the next section, include things like a velocity range, sustain pedal, MIDI continuous controller, or latching and non-latching keyswitches. If you use a condition such as the velocity range, you can set the exact range of values necessary to trigger the articulation in the column on the right by dragging the handles on either side of the value range horizontally.

If you have the articulations mapped in a way where there's overlap, only one articulation will get played. The articulation that gets chosen is based on the condition as well as its position on the articulation list. Velocity ranges have the lowest priority, followed by MIDI controllers, sustain pedal, non-latching keyswitches, and finally latching keyswitches with the highest priority. Beyond that, the lower on the list the articulation is, the greater priority it has.

In other words, if you set the full palm mute articulation to a keyswitch, and the half palm mute articulation to a low velocity range, playing a note at a low velocity, yet holding down the keyswitch will trigger the full palm mute articulation rather than the half palm mute articulation. Although the conditions are met for both articulations, the instrument chooses the full palm mute articulation because it has a higher priority, since keyswitches take priority over velocity ranges.



Articulation Locking

The buttons with icons of locks on the left side of the articulation names can be toggled. When enabled, that articulation's current mapping will be preserved in its current state rather than getting overwritten when changing snapshot presets.

Conditions

There are a variety of conditions to choose between for how you want a particular articulation to get selected. After selecting the condition from the dropdown menu, there's a control to the immediate right of the menu that lets you set the value or range of values the condition responds to in order to select the associated articulation.

Unmapped

When the articulation is unmapped, it is not accessible, and will be unloaded from memory, provided that the dynamic memory setting is enabled.

Velocity

With the velocity condition, an articulation can be mapped to a specific range of MIDI velocities. That way you can have it only get selected when playing quietly or loudly, for example.

Keyswitch

This condition lets you select an articulation using a keyswitch. As this is a non-latching keyswitch, the key needs to be held during the time you play notes in the main playing range. The keyswitch can be played either at the same exact time as the note(s) you want it to apply to, or anticipate the note(s). As soon as you release the keyswitch, the associated articulation will no longer be selected.

Latching Keyswitch

This form of keyswitching works similarly to the non-latching keyswitches except the articulation it selects it continues to be active even after releasing the keyswitch. Because of that, when using any latching keyswitch a "keyswitch unlatch" key will also automatically get added to your mapping. You can change where this additional keyswitch is



mapped from the SETUP section of the interface. Pressing the unlatch key will release the currently active articulation keyswitch, allowing other non-keyswitched articulations to be used.

Sustain Pedal

Although specific MIDI CC numbers can be used as a condition, this is a shortcut to assign the MIDI CC #64 (sustain pedal) to an articulation. Bear in mind that the sustain pedal will continue to hold notes as usual.

Soft Pedal

This is a shortcut for adding MIDI CC #67 as the condition to select the articulation.

Random

This condition lets you have the articulation get randomly activated. The range of the random percentage value lets you control how often the articulation will randomly get selected, but also lets you coordinate the range in respect to any other articulations using the random condition.

For example, if you have a palm mute articulation assigned to a random range of 0-25%, it will happen roughly every four notes—a quarter of the time. If you want the “whole step slide in” articulation to trigger randomly as well, but never at the same time as the palm mutes, you could assign it to a range of 26-50%. It will trigger about every four notes as well, but because the random range doesn’t overlap, they’re kept separate. On the other hand, if you want the “whole step slide in” articulation to only happen when the palm mute articulation is randomly selected, you can achieve that result by assigning it within the same 0-25% random chance.

Controller #1-127

These conditions allow you to use a MIDI CC to select articulations. The value that the MIDI CC needs to be currently set to in order to select the associated articulation is set using the value range to the right of the condition dropdown menu.



MIDI Articulations

All the articulations on the list starting from “Grace note up” onward are MIDI-based articulations, which means that they can be applied in addition to any of the sampled articulations on the list above “Grace note up”. That way you can play the palm mute articulation in conjunction with the powerchords MIDI-based articulation, for example. For this reason, it’s required to have a sample-based articulation also mapped so that the instrument knows which articulation to use when playing the MIDI-based articulation. When in doubt, a good practice is to leave the articulation at the very top of the list assigned to a velocity condition of 1-127 so that it’s always applicable as a fallback.

Slide Articulations

There are several options for slide articulations depending on your needs. When active, the slide articulations replace the normal legato articulations. Specifically those are the hammer on and pull off articulations that happen when playing overlapping notes within the currently set legato range. By default the legato range is set to a major 2nd interval up and down, which works well for hammer ons and pull offs, but for achieving wider slides, it’s recommended to enable the “Separate slide range” setting and then set a much wider range that applies only to the slides specifically.

To play a slide, hold down the starting note, and then with that note still held, play the destination note. In order to trigger a slide, both notes need to at least slightly overlap. Bear in mind that one of the slide articulations will need to be active, so for testing purposes you can always map the slide articulations to a velocity range of 1-127 so that it will always be active. Once you’re able to successfully play slides between notes, you can always map the slide articulation to a keyswitch or MIDI CC.

Each MIDI channel handles the legato separately. In specific situations where you need to play a slide while keeping another note stationary, it might be necessary to put the notes on separate MIDI channels to ensure that the slides are played between the intended notes. This is possible within a single instance of the instrument, although you will need to change Kontakt’s MIDI input channel to “omni” so that it receives input from all MIDI channels.

Here is more information about how each of the slide articulations behave:



Velocity Slide - This articulation refers to the MIDI velocity of the destination note to determine the speed of the slide. Playing the destination note with a high MIDI velocity results in a very quick slide to that note, while playing it with a low velocity will create a slow slide.

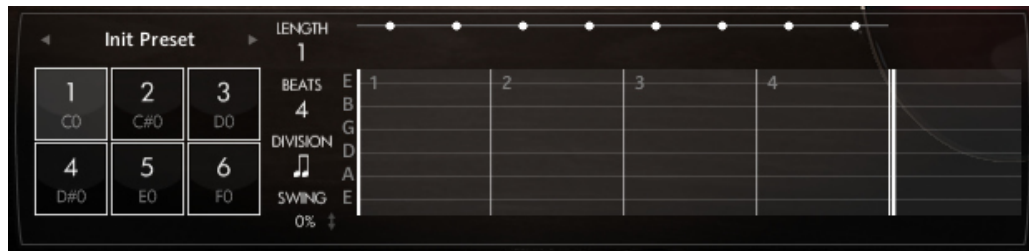
Quarter Note Slide - This slide articulation tempo syncs to your DAW, making the slide from the starting to destination note fill the duration of a quarter note.

Eighth Note Slide - Similar to the quarter note slide articulation, this slide is tempo synced, and makes the slide fill the duration of an eighth note.

Sixteenth Note Slide - This tempo-synced slide articulation fills the duration of a sixteenth note.



Strum



The Evolution Engine has a sophisticated built-in strumming pattern editor. There are six available slots for strum patterns within a single instance of the instrument.

Strum Pattern Slot

You can select the slot to edit using these six buttons. Each strumming pattern slot has a keyswitch that it's assigned to--by default these are set to C1 through F1, although you can click on the value to enable a MIDI learn mode, and after pressing the new key on your keyboard the pattern will be mapped to that key instead.

Pattern Options

- **Length**
The length in measures of the strumming pattern.
- **Beats**
The number of beats in a measure, allowing you to create patterns in a variety of meters.
- **Division**
How many units each beat is divided into in the strumming pattern.
- **Swing**
The amount of swing applied to the strumming pattern. At 0%, the rhythm is played evenly, while at 100% the strumming pattern uses the maximum amount of swing available.



Articulation Selection

Clicking on the small circles at the top of the strumming pattern display brings up a drop-down menu with a list of available articulations to use for the strum. You can also add oneshot effects such as string slaps to the pattern here.

Bear in mind that if there is no articulation selected for the particular strum, the previous strum will continue to ring. If you wish to mute the strum, use the "rest" articulation. You can also use oneshot effects, such as a string slap effect to mute the currently playing notes.

Strum Velocity

This percentage controls how loud the strum is played, relative to the velocity that the strum pattern key is held.

Strum String Range

The strum graphic has handles on the top and bottom that you can drag vertically to select which strings get strummed. The strum begins at the small circle, and plays up to the pick graphic. The arrow icon inside the pick direction clarifies the direction of the strum.

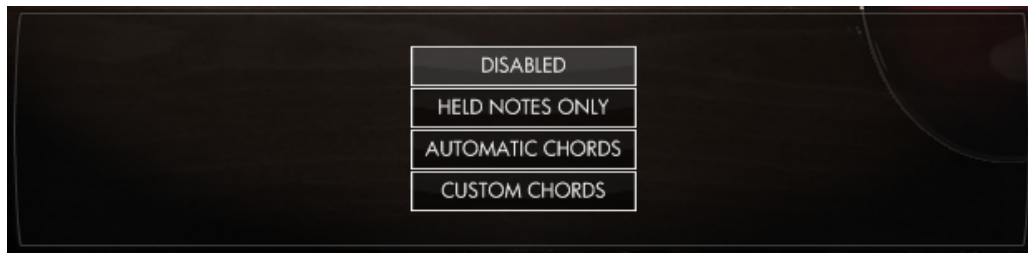
If you want to flip the strum direction, you can drag the top handle beneath the bottom handle, and the direction will be inverted. You can also set the top and bottom handles to the same string to have the pattern pluck a single note, which is useful for playing picking patterns.

Strum Speed

The handle in the middle of the strum graphic can be dragged vertically to adjust the speed of the strum. The strums are played at the beginning of their respective rhythmic divisions, so using slower strums can result in a delay in the perceived rhythm. However, if you need a strum to anticipate the rhythm, this can be achieved by anticipating the beat with a very slow strum, and use a single note strum on the beat. This technique can be seen in the "Spicy Stuff" factory strum pattern, for example.



Chords



Disabled

With the chord mode disabled, the strum downstroke and upstroke keys are still available, but as keys to repeat the last played note or chord. This can be a useful performance aid when playing repeated notes (like tremolo or repeating powerchords), by alternating between playing notes in the main playing range and playing the downstroke/upstroke keys.

Held Notes Only

In this chord mode, the main playing range is muted, allowing you to hold a note or chord and use the strum downstroke and upstroke keys to strum the exact notes you have held. This mode is great if you want to strum very specific chords and chords that have fewer notes in them.

Automatic Chords

This chord mode also mutes the main playing range, but translates the held notes into a real voicings that takes the fretting position, capo setting, and alternate tuning into consideration when selecting a voicing. The inversion of the chord you hold on the keyboard makes a difference in the resulting voicing.

Custom Chords

In this chord mode, the main playing range is muted. However, it lets you specify which notes and chords translate into custom voicings. For example, you could make it so that holding a single "C" key will translate into a full custom C major chord voicing, or literally



any other voicing you want. The chord recognition also works with very complex chords as well, so you can create a simple or complicated custom chord system. The chords are automatically sorted on the list of custom chords to keep them organized by root and chord type.

- **Learn New Chord**

After pressing this button, you can play a note or chord on your keyboard, and that exact note or notes will be included as a custom chord to trigger a custom voicing that you can specify using the string fret value controls.

- **String Fret Values**

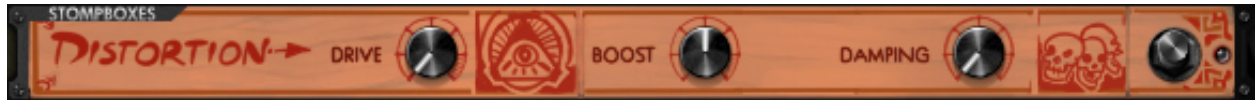
You can use these controls to create your own chord voicing. The resulting note names are displayed below as well as displayed on the main fretboard graphic.

Note: When using any chord mode, you can play the very lowest MIDI keys to manually strum individual strings. This is useful for performing intricate picking patterns in real-time. When the chord mode is disabled, these keys become non-latching (meaning they only affect notes as long as the keys are held) manual string selection keyswitches, which are used to force a note to be played on a specific string.



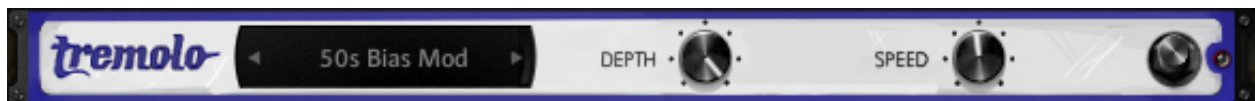
Tone

Distortion



- **Drive**
The amount of distortion to apply to the signal.
- **Boost**
The saturation of the tone to add to the distortion.
- **Damping**
Controls the damping of high frequency distortion content, allowing you to achieve a bright distortion effect or a darker one.

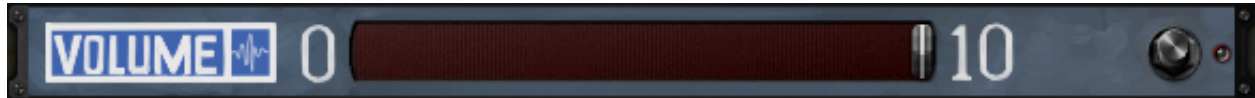
Tremolo



- **Type**
Selects among several famous types of tremolo, from old '50s and '60s tube tremolos to photocell tremolos and even a harmonic tremolo.
- **Depth**
Sets the depth of the tremolo effect.
- **Speed**
Sets the speed of the tremolo effect.



Volume



- **Amount**
Adjusts basic volume effect that can be automated to a MIDI CC for emulating volume pedal swells

Wah



- **Type**
Wah pedals have a wide variety of tones, so this allows you to select between the included options for different pedals.
- **Low**
Sets the low limit for the wah effect.
- **High**
Sets the high limit for the wah effect. If you automate both the low and high knobs to the same MIDI controller, it switches to a manual mode, where you can control the position of the wah pedal yourself using a MIDI CC.
- **Speed**
Sets the speed of the wah effect oscillation, which uses a custom LFO curve for increased realism.



Reverb (Pedal)



- **Reverb Pedal**

We've included a plethora of iconic reverb pedals to select between. When applicable, we included several options per pedal for ones that have several modes.

- **Volume**

Adjusts the length of the reverb tail. Certain pedals naturally have longer decays than others, so some pedals are more suitable for different lengths of reverb.

- **Size**

Adjusts the length of the reverb tail. Certain pedals naturally have longer decays than others, so some pedals are more suitable for different lengths of reverb.

- **Body**

Attenuates the low/mid frequencies of the reverb.

- **Top**

Attenuates the high frequencies of the reverb.

EQ



- **Frequency**

Sets the frequency of the EQ band.

- **Width**

Sets the range of frequencies affected in the EQ band.

- **Gain**

Sets the gain amount of the EQ band, allowing you to attenuate or boost frequencies.



Compressor



- **Threshold**
Sets the volume threshold necessary to trigger the compressor.
- **Ratio**
The rate at which the volume is compressed above the threshold value.
- **Attack**
The speed at which the compressor starts to affect the signal. Lower attack values allow the compressor to take immediate effect, while using higher attack values allow you to preserve the original transient, which in most cases makes it more pronounced.
- **Release**
The "cooldown" time after the signal passes below the compressor's threshold volume to allow the volume to return to its original value.
- **Gain**
The makeup gain for the compressor. Highly compressed tones usually need the volume boosted to make up for the loss of volume. You can also use this control to either under-power or overdrive the amp modeling for additional control over the level of distortion in the tone.

Chorus



- **Mix**
The wet/dry balance for the chorus effect.
- **Depth**
Controls the depth of the chorus effect.
- **Speed**
Controls the speed of the chorus LFO.
- **Phase**



You can adjust the difference in phase between the left and right audio channels using this knob, which essentially controls the stereo width of the chorus effect.

Flanger



- **Mix**
The wet/dry balance for the flanger effect.
- **Depth**
Controls the depth of the flanger effect.
- **Speed**
Controls the speed of the flanger LFO.
- **Phase**
You can adjust the difference in phase between the left and right audio channels using this knob, which essentially controls the stereo width of the flanger effect.
- **Color**
Essentially controls the range in which the flanger operates.
- **Feedback**
Adjusts the amount of signal that's fed back into the flanger for a more pronounced effect.

Reverb (Rack)



- **Volume**
Sets the overall volume level of the reverb rack effect.
- **Delay**
The reverb signal can be delayed to simulate a larger environment, where the sound is audibly delayed.
- **Size**
Controls the length of the reverb effect.



- **Color**
Sets the general tone of the reverb from a bright to dark sound.
- **Damp**
You can use this control to set how much the high frequencies are dampened in the reverb.
- **Stereo**
Controls the stereo width of the reverb effect.

Delay



- **Volume**
Sets the volume of the delay effect.
- **Time**
Sets the time of the delay effect. You can tempo-sync this value using the “sync” button described below.
- **Pan**
Alters the panning of the delayed signal.
- **Damp**
Dampens the high frequencies of the delayed signal.
- **Feed**
The delayed signal can be fed back into the delay effect for additional delay lines. Since this also affects the volume of the delayed signal, you can balance it with the “volume” knob in the delay effect.
For example, if you only want a single slapback delay, you'll find that using a very low feedback value requires you to increase the overall volume of the delay.
- **Sync**
When enabled, this switches the delay's time knob to tempo relative values instead of absolute ones. That way you can sync the delay time to your song's tempo.



Amp



- **Type**
Selects between a few amp models that specialize in different styles of tones.
- **Gain**
Adjusts the amount of gain to overdrive the amp for more distortion.
- **Output Volume**
Controls the master volume of the signal. Usually the more effects that add volume to the signal, from distortion to EQ and reverb, you'll need to reduce the output volume to prevent clipping.

Spring Reverb



- **Type**
Selects the model from a list of available spring reverb types.
- **Volume**
Controls the volume of the spring reverb from the amp's spring reverb tank.
- **Time**
Adjusts the amount of decay in the spring reverb by stretching the spring reverb impulse. While typically not possible on a reverb tank inside a real amp, this gives you extra flexibility in fine-tuning the decay length of the spring reverb.
- **LP**
Sets the frequency for a lowpass filter on the spring reverb.
- **HP**
Sets the frequency for a highpass filter on the spring reverb.



Cabinet



- **Type**
Selects the cabinet model from a list of available cabs.
- **Mic**
We've included several types of mics that you can choose between, each with their own tonal characteristics.
- **Position**
While not exhaustive by any means, we sampled each cabinet and mic combination in a few common mic placements for further tonal control.
- **Mix**
Adjusts the mix between the miced cab tone and the direct output from the amp, which is especially useful for adding back some of the direct output tone for clean tones.
- **Room**
Adds an additional convolution impulse to add room ambience to the signal for a thicker, more resonant tone.



Setup

The **SETUP** section of the interface contains many settings that let you fine-tune the sound and playability of the instrument to suit your preferences.

On the scrollable list of settings, the name of the setting is on the left side, along with a button with a lock icon. This lock button allows you to preserve the setting's current state, preventing it from getting overwritten when changing snapshot presets. On the right side of each setting name is the control, which is often a slider that can be dragged horizontally. In certain cases it's a dropdown menu with a list of options to choose between.

Pickup

Depending on the instrument, this setting allows you to either switch between pickups or blend between them for a variety of tonal options.

Stereo Width

This slider allows you to adjust the amount of stereo width, from a mono signal all the way to an extra wide mix of the stereo signal.

Signal Blend

This slider allows you to blend between the as-is guitar signal and an enhanced version of the signal. Because guitars tend to be attack heavy and light on the sustain, this signal has been processed to accentuate the richness and volume of the sustain in a way that makes the guitar sound more real and less flat.

Signal

Depending on the instrument, this slider lets you switch/blend between alternate signals. Sometimes this is an enhanced version of the signal to accentuate the richness and volume of the instrument's sustain, and other times it offers a version of the signal that's been run through an effects chain geared for that instrument.



For example, Evolution Texas Twang's alternate signal was run through a distortion pedal commonly used in Country music.

Evolution Songwriter includes a version of the signal that has been run through a cassette tape deck. The tape signal adds saturation to the tone, but bear in mind that it also includes natural artifacts as well as slightly affecting the tuning of the samples. We decided to leave these tuning imperfections present because it's part of the character of the tape.

Evolution Vision Bass's enhanced signal was run through a pedalboard to add a specific flavor of heavy distortion we felt wasn't possible through the onboard distortion.

Noise Floor

Depending on the instrument, this slider lets you adjust the volume of the noise floor. At 0%, the noise floor is completely disabled.

Multitracking

Multitracking is where the track is recorded several times and layered together, usually panned separate directions for a wide stereo field. This setting automates this technique, allowing you to create double tracked, triple tracked, and even quadruple tracked parts all within a single instance of the Evolution library.

Multitrack Humanization

This sets how much the timing of notes and their releases are randomized.

Pick Style

Although subtle, you can select the pick style here. Alternate picking strictly alternates between downstroke and upstroke pick directions. However, it includes a release gate time that resets the pick direction to a downstroke. Economy picking, which is also known as conservative picking and sweep picking, preserves the pick direction to make the motion more efficient depending on which strings you play after one another. There are also 8th note and 16th note options, which alternate the pick direction based on the timing of



the note within the beat to ensure that downbeats are played with a downstroke and upbeats with upstrokes. Finally, there are "downstroke only" and "upstroke only" options to restrict the pick direction to single directions.

Pick Modeling

The position of the pick relative to the string is simulated using our proprietary physical modeling technology. Positioning the pick closer to the bridge typically gives you a brighter sound with a plucky attack, while playing closer to the neck provides a deep, hollow tone.

Pick Position

When the pick modeling option is enabled, this allows you to set the position of the pick relative to the string.

Pick Variance

Adds randomization to the pick position for even greater variety, which is especially useful for achieving realistic tremolo, when you need more variance than the round-robin samples naturally provide.

Preroll Amount

Adjusts the amount of lead-in time that plays before the initial transients of each note. At the expense of additional latency, this re-introduces the subtleties that happen right before the main attack of the notes, elements that ordinarily get removed during the samples' truncation.

Pick Noise Amount

Controls the amount of pick noise. Because the pick noises precede the sustain tone, they delay the perceived transients of the notes, so lowering the pick noise amount is important if you need more precise, instantaneous rhythm. This also takes the pick style



into consideration, as well as which string was previously played in order to determine the volume and length of pick noise.

Release Volume

Controls the volume of the release samples. While release samples add a lot of realism to the sound of the instrument, there are situations where you need to lower their volume for a track that has fewer extraneous noises.

Fretting Position

Sets the fretting position. Depending on your track, different settings are suitable. For example, a lot of melodic playing is executed higher up on the fretboard, which equates to a higher fretting position, whereas strumming tends to be played closer to the open strings--a lower fretting position. It can also serve as a tonal choice, since the lower fretting position has a brighter, more complex tone, whereas the higher fretting position has a smoother, warmer tone.

Prioritize Open Strings

Allows open strings to be always be accessible, despite the current fretting position.

Dynamic Morphing

This makes the velocity layers crossfade between each other rather than strictly switching between each other at set velocity ranges.

Velocity Curve

Biases the dynamics towards either the low or high velocities. At its default state, the dynamics have a linear response. Decreasing the setting biases the velocities toward the softer dynamics, while increasing it biases it toward the louder dynamics.



Velocity Low Limit

Sets the minimum limit of the dynamics. By increasing this setting, you can prevent the quiet dynamic layers from playing, despite triggering notes at low velocities.

Velocity High Limit

Sets the maximum limit of the dynamics, allowing you to limit the loudest dynamic that can be played. For example, if you want the instrument's tone to focus on softer playing even when using higher dynamics, you can decrease this setting to prevent those higher dynamic samples from getting triggered.

Dynamic Range

Allows you to reduce the amount that the velocity affects the volume of the instrument. At 100%, the dynamic range reflects the natural full range of the instrument, and reducing the setting's value reduces the volume difference of the lower dynamics, acting somewhat like a natural compressor.

MIDI Guitar Mode

Uses the MIDI channel number to dictate the string selection. While it depends on the instrument, generally channel 1 corresponds with the highest pitched string, moving to progressively lower pitched strings the higher the MIDI channel. If you play outside the range of that string, the instrument reverts to using a different string instead.

Capo Position

A capo is a device used to use standard chord voicings in other keys, especially chords that are reliant on open strings. Bear in mind that while commonly used as a transposition aid, a capo does not actually transpose the key of the instrument, rather changing the chord voicings that are accessible. The Evolution Engine's automatic chord voicings adjust to compensate for the capo position.



Drone Capo Position

For instruments with drone strings, this allows you to add a special capo to just the drone string, effectively changing its pitch.

Use Drone In All Chords

When enabled, the drone string will be included in all chord voicings, despite whether or not they are naturally part of the selected chord voicing. This is useful for ensuring that the drone string gets included as a pedal tone for certain chord progressions, for example.

Alternate Tuning

Alters the tuning of the instrument, providing options for various popular alternate tunings. Selecting the “Custom” option displays addition sliders for each string, allowing you to define your own alternate tuning. These tuning sliders are relative to the instrument’s as-recorded tuning. The strumming downstroke and upstroke keyswitches are automatically lowered to prevent overlap with the playable range.

Velocity To Strum Speed

Adjusts the degree that the velocity of the downstroke and upstroke strum keys affect the speed of the strummed chord. At 0%, velocity does not affect the strum speed whatsoever, and the greater the setting is, the wider range of speed is available through velocity.

Velocity To Strum Distance

This setting controls how much velocity affects the distance of the downstroke and upstroke strum keys. At 0%, all notes in the chord will be strummed regardless of the velocity. The greater the setting is, the more of a factor velocity plays. At the highest value, playing the strum keys quietly will result in only one or two notes out of the entire chord getting strummed.



Strum Velocity Decay

Adjusts the amount of dynamic "falloff" that occurs in the strum; that is, the first notes strummed getting played the loudest, and the later notes played at a lesser dynamic. At 0%, all notes are played at an equal dynamic, and the higher the setting is, the more of the velocity decay is applied.

Strum Low String

Sets the lowest string that's available to get strummed when using the single downstroke/upstroke strum keys. That way if you only want to strum the top three strings instead of full chords on all the strings, you can use this setting to limit strumming to only those strings.

Strum High String

Sets the highest string that's available to get strummed when using the single downstroke/upstroke strum keys.

Legato Volume

Adjusts the volume of all the legato articulation samples. At 50%, this control is at its default natural volume. You can increase or decrease this value to attenuate or boost the volume of the legato to fit the needs of your track.

String Mode

Gives you the choice between polyphonic and monophonic string modes.

While using the polyphonic string mode, multiple notes can be played on the same string. While unrealistic to the limitations of the real instrument, this approach is better for non-guitarists, or when playing the library from a MIDI keyboard because it makes the instrument's playability more consistent. In this mode, you can determine the note range in which overlapping notes get interpreted as legato despite which string is being played.



In the monophonic string mode, only one note can be played per string. When playing overlapping notes on the same string, they will always be played as legato, so the notes that are available to be played polyphonically depends on the current fretting position, capo position, and the instrument's tuning. Because of this, it's usually necessary to automate the fretting position control in order to change it in real-time, or at least use the manual string selection keyswitches as needed.

While the monophonic string mode is useful for power users with specific parts to recreate, we usually recommend using the polyphonic string mode for its ease of use.

Bypass Legato Key

Allows you to map a non-latching keyswitch that temporarily disables the legato for the duration the keyswitch is held.

Legato Range Up

Sets the threshold interval for triggering a legato articulation above the current note.

Legato Range Down

Sets the threshold interval for triggering a legato articulation below the current note.

Separate Slide Range

Regularly the slides follow the same settings for the hammer-on and pull off legato articulations, including the legato range. When enabled, this setting provides you with additional controls for setting the range of the slides, which is useful because often slides encompass a wider range than what would be played with hammer-ons and pull offs.

Open String Legato

Allows open strings to always be available to play a legato interval to, which is useful for releasing notes to an open string, or for when playing fast arpeggios, especially involving tapping.



Bend Mode

Sets the bend mode that determines which notes are affected by the pitch wheel.

Bend Selection

Allows you to either exclude or include the selected bend mode. For example, if you exclude the highest note played, all other notes apart from the highest note are affected by the pitch wheel. However, if you include the highest note played, only the highest note will be affected by the pitch wheel.

Bend Range Up

Sets the range that notes can bend upward.

Bend Range Down

Sets the range that notes can bend downward--using large intervals are useful for simulating a whammy bar while still preserving the smaller interval of the upward bend for natural string bends.

Resonance Amount

Sets the amount of string resonance, which is particularly audible when playing legato passages or when utilizing effects like compression, which potentially brings up the volume of the string resonance. Effects like distortion will cause the resonance to much more audibly interact with the notes, so if that quality is undesirable and you need a more pristine distortion tone, try lowering or disabling the string resonance.

Resonance Release Length

Adjusts how long it takes for the resonance to decay after releasing notes. Lower values result in a tighter release sound, while higher values result in more string and body resonance being audible after notes are released.



Vibrato CC

Selects the MIDI CC used to control the vibrato amount. If your MIDI keyboard supports aftertouch, you can also set this to aftertouch.

Vibrato Curve

Sets the LFO curve of the vibrato between several custom curves that are modeled after different styles.

Vibrato Width

Controls the width of the vibrato from very narrow vibrato to wide vibrato. Bear in mind that the wider the vibrato is, the sharper the note's tuning will sound. This is because vibrato can only bend notes sharp and not flat (unless a whammy bar is used, of course), so that results in the average tuning being perceived as sharp.

Vibrato Speed

Sets the speed of the vibrato so that you can get slower or faster styles of vibrato.

Auto Fret Noise Volume

Automatic fret noises can be played after releasing notes while playing outside the general fretting position area. You can disable these noises entirely by setting the control to its minimum value.

Dynamic Memory

Samples can be dynamically loaded and unloaded from memory depending on whether or not they're used in the current mapping. While this can save you a considerable amount of memory, dynamically loading and unloading samples can cause audio artifacts and slows down the speed that factory presets are loaded. Disabling the dynamic memory setting is especially suitable for live playing where you don't want samples to be load-



ing in the background when switching patches. It also offers a smoother experience when auditioning factory presets.

Strumming Humanization

You can introduce random variation in strumming patterns by increasing the strumming humanization setting. The humanization affects the velocity, strum speed, and strings that are strummed. That way each time the pattern repeat, it can have slight, random variation.

Strum Key Downstroke

You can remap the strum downstroke key here. When set to "auto", the key is placed immediately below the main playing range. Its exact mapping depends on if the strum key upstroke and keyswitch unlatch keyswitches are also set to "auto" or not.

Strum Key Upstroke

You can remap the strum upstroke key here. When set to "auto", this key is mapped immediately below the main playing range.

Drone String Key

Allows you to change where the key to trigger the drone string is mapped on your keyboard. By default it's mapped directly below the main playing range.

String Selection Keys

You can remap the string selection keys using this slider. Although the order of these keys cannot be altered, they are mapped in order of the pitches of the strings, from lowest to highest. By holding down these non-latching keyswitches, you can force notes to be played on the string corresponding with the keyswitch. If the note is outside the range of the string, it will revert to the string automatically determined by the current fretting position.



Chord Mode Selection Keys

You can map keyswitches for changing chord modes using this slider. These keyswitches allow you to switch chord modes in realtime, which is useful if you need to momentarily switch between strumming and single notes, or if the instrument alternates between rhythm and lead roles.

Keyswitch Unlatch

While the keyswitch unlatch key is automatically mapped directly below the main playing range by default, you can override this and map it to any key you want. For example, you could map it nearby other latching keyswitches for convenience. Bear in mind that the keyswitch unlatch key only appears on your mapping if you actually have articulations mapped to latching keyswitches.

Performance Effect Keys

Allows you to set the starting note from where the performance effect keys get chromatically mapped. That way you can either make room for keyswitches or when extending the playable range through a custom tuning for example. If you don't use the performance effect keys at all, you can also use this setting to completely disable them by dragging the value all the way to the left until the setting reads "disabled".

Quantize Strum Pattern Keys

Usually, the strum patterns get played the moment you press their associated pattern keys. However, if your timing is slightly off from the metronome, this will impact the timing of every strum in the pattern. By enabling the option to quantize the strum pattern keys, you can ensure that the strumming pattern will start right on the beat. Specifically, the pattern key gets quantized to the nearest quarter note in the measure.



Changelog

Version 1.2.5

- Ability to lock individual settings and articulations, allowing you to switch snapshot pre-sets without overwriting certain settings and mapped articulations. Note that the old “Lock Mapping” setting is now removed. If you relied on that setting in any existing projects, the new version will automatically convert them to use the individual lock options instead.
- New setting: “Drone String in All Chords”, which lets the drone string be included in any chord voicing, or excluded from chord voicings that don’t include its pitch as a chord tone.
- New setting: “Performance Effect Keys”, letting you control the key range where the performance effects are mapped.
- Efficiency improvements to fretboard display.
- Change pitch bend and legato range settings to semitones instead of interval names.
- Fixed a bug with the dynamic memory when unmapping the sustain articulation, but try using one of the MIDI-based articulations such as the slides.
- Fixed a bug that affected “velocity slide” articulation in combination with the sustain pedal down condition.
- Capo position now modulates custom chord voicing selection.
- Open string legato mode now not only allows pull offs to open strings, but now allows for hammer ons from open strings to higher notes on the fretboard.
- Added hover tooltips.

Version 1.2.0

- New Native Map parameter pages which contain many more controls than previously.
- Evolution libraries can all share the same “.nkr” resources file, which will make applying future updates much easier.



- New collection of deluxe spring reverb options, including stereo spring reverbs.
- New option to have separate slide ranges from the standard legato ranges.
- New pick position variance setting for when the pick modeling feature is enabled, adding an adjustable amount of randomness to the pick position.
- Added the ability to create custom tunings rather than being limited to the tuning presets.
- Better dynamic memory handling, unloading unused signals/pickups for memory optimization.
- Improved the realism of the release slide articulation.
- Improved automatic string selection with MIDI-based articulations.
- Fixed bug with strumming patterns and using multitracking resulting in notes left ringing and/or unintentionally muted.

Build 1.1.83

- New dynamic range setting that allows you to reduce the volume scaling of the dynamics, bringing up the volume of the softer dynamics.
- Added an optional non-latching keyswitch that bypasses the legato temporarily.
- Fix a bug when loading external strumming pattern and chord voicing NKA files where sometimes the file wouldn't load the first time.

Build 1.1.82

- Added separate slide range settings.
- New deluxe spring reverb options.
- Fixed bug causing strumming pattern to eventually stop.

Build 1.1.81

- Added string mode setting that lets you choose between monophonic and polyphonic string handling.



Build 1.1.79

- New '60s "Danny 10" guitar cabinet model.
- Fix bug causing strumming patterns to occasionally happen an 8th or 16th note late in certain DAWs.

Build 1.1.68

- Additional fixes to strumming sync during tempo changes.
- New 1x12 Rattlesnake cabinet model.

Build 1.1.65

- New Polybend feature, allowing you to play polyphonic pitch bends within a single instance of the instrument.
- Fifteen new reverb pedal options.
- Improvements to strumming patterns going out of sync with tempo changes.

Build 1.1.62

- Fix bug with the sustain pedal handling that occasionally left notes hanging.
- Added five new cabinet models: 4x10 Supa, 1x12 Freed, 1x12 Tangerine, 2x12 Tangerine, 4x12 Tangerine.

Build 1.1.60

- Added more strumming settings.

Build 1.1.58

- Smoother note release transitions.

Build 1.1.57

- Fix strum keys when used in conjunction with the octave/powerchord articulations.



Build 1.1.56

- Separate spring reverb effect module with 11 spring reverb tanks to choose between.
- New line of guitar cabinet models, including modern and vintage guitar cabs.
- New “velocity to strum speed”, “velocity to strum distance”, and “strum velocity decay” settings to adjust the single downstroke/upstroke strum keys.
- Added legato volume setting.
- New sixteenth note slide articulation.
- Improved automatic chord detection algorithm.
- Improved dynamic memory mode for additional memory saving.
- Minor CPU efficiency improvements.

Build 1.1.41

- Use automatically generated chord voicings when no custom chord voicing is defined.
- Fixed legato up/down range automation being swapped.

Build 1.1.40

- Full NKS integration.
- Snapshot-based factory presets.
- Improved round-robin when using multitracking.
- Fixed bug when playing legato from an unmapped articulation.

Build 1.0.93

- Legato only happens within the same MIDI channel, allowing you to leverage multiple MIDI channel for separation between legato voices.
- New reverb pedals.



Build 1.0.1

- Two new reverb pedal effects.
- Converted several settings to sliders rather than dropdown menus so that they can be automated, such as the guitar pickup setting, pick style, bend mode, and bend selection.
- Added a setting to lock your articulation mapping, allowing you to switch presets while preserving your current articulation mapping configuration.
- New options to remap the strum downstroke, upstroke, and keyswitch unlatch keys.
- Strumming humanization setting to introduce random variation in the strumming patterns, which affects the timing, velocity, and number of strings that get strummed.
- Ability to quantize the strum pattern keys to ensure that they start on the downbeat rather than at the exact time you play the strum pattern key.

Build 1.0.0

- Initial release of the new Evolution Engine that originally applied to Evolution Strawberry, Evolution Steel Strings, and Evolution Stratosphere.



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