SESSION GUITARIST

ELECTRIC RUBY
DELUXE

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1. Disclaimer

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2. Welcome to Electric Ruby Deluxe

Thank you for purchasing Session Guitarist – Electric Ruby Deluxe, a guitar sample library powered by Kontakt. This document will provide you with instructions and advice on how to use the library.

We hope that you will be truly inspired by using Electric Ruby Deluxe.

About Session Guitarist – Electric Ruby Deluxe

Electric Ruby Deluxe combines a pattern-based guitar library with a sophisticated multisample set, designed to deliver authentic-sounding riffs, picking, and strumming patterns for songwriting and music production. Its samples are sourced from a vintage hollow-body acoustic guitar built in the USA in 1969. This instrument features two P-90 pickups at the bridge and neck positions, with individual volume controls and a combined tone control.

For the first time in an electric guitar model within our Session Guitarist series, we have introduced multiple stereo mic setups, featuring ribbon and condenser AB signals. These stereo mic configurations capture the instrument's unique, rich acoustic character. Phase and delay across all four signals have been optimized for seamless combination, enabling flexible blending of mic and DI signals.

The instrument's pickup signals were recorded through the DI inputs of a vintage Universal Audio 2-610 preamp, connected via Gibson Pure cables to ensure maximum sonic integrity. The microphone setups utilized Gefell UM70 and AEA R84 microphones through vintage Neve preamps. All signals were converted using an Antelope Orion Gen 4 A/D converter and fed via MADI to an RME MADIface XT, with both externally clocked by an Antelope Audio 10MX Rubidium atomic clock for unparalleled precision.

A total of 232 patterns, covering a wide range of musical genres and playing styles, were performed live by professional session guitarists Eduard Hausauer, Joschi Joachimsthaler, Matthias Kirchgessner, and Jonas Roßner. The library includes single notes with numerous articulations, round-robin variants, and velocity layers across nearly four octaves.

Electric Ruby Deluxe offers 39 meticulously curated sound presets, categorized into DI, acoustic, clean, crunchy, high gain, modulation, and spacious. Each preset incorporates up to 24 effects, including amp and cabinet emulations, equalizers, reverbs, tape emulations, compressors, and more. As a new addition from Guitar Rig 7 Pro, the Reverb Delight amplifier expands the sonic possibilities.

Electric Ruby Deluxe features the same multiple parallel effect chains introduced in Electric Storm Deluxe, enabling advanced sound design possibilities. These include using different amplifiers for the left and right channels, creating custom effect chains for the microphone signals, or blending clean and high gain tones for hybrid sounds.

Riffs, strumming, and picking patterns are organized into 55 song presets, each containing four to eight patterns. These patterns come with matching chord progressions that can be dragged and dropped into your DAW for MIDI editing. Patterns can be triggered via keyswitches and played as chords on a MIDI keyboard. When using Electric Ruby Deluxe within a DAW, playback stays in sync with the host tempo.

The core of Electric Ruby Deluxe is its advanced playback engine, which allows seamless switching between patterns and dynamic control in real time, creating lifelike musical performances. With all timing and dynamic nuances of the original performances preserved, the instrument feels natural and organic. Every pattern performs beautifully across a wide tempo range, delivering outstanding sound quality for any production.

Document conventions

In this document the following formatting is used to highlight useful information:

Italics	Indicates paths to locations on your hard disk or other storage devices.
Bold	Highlights important names, concepts, and software interface elements.
[Brackets]	References keys on the computer keyboard.
►	Denotes a single step instruction.
→	Denotes the expected result when following instructions.

The following three icons denote special types of information:

The **light bulb** icon indicates a useful tip, suggestion, or interesting fact.

The **information** icon highlights essential information in a given context.

The **warning** icon alerts you of potential risks and serious issues.

3. Installation and setup

Before making music with Electric Ruby Deluxe, you must install and set up the necessary software. Follow these instructions to get started.

Installing Electric Ruby Deluxe using Native Access

Native Access is your go-to app for downloading, activating, and updating all your NI music creation tools including Electric Ruby Deluxe. If you are new to Native Instruments, you will first have to create your Native ID user account. To learn more about Native Access, visit our support page.

1. Download and install Native Access here.
2. Open the Native Access application.
3. Create a Native ID, if you do not have one already.
4. Login to Native Access using your Native ID.
5. Click **Library** on the left side of Native Access.
6. Click **Available** at the top of Native Access.
7. Click the **Kontakt** category to only show products related to Kontakt.
8. Click **Install** for the following products:
   - Electric Ruby Deluxe
   - Kontakt or Kontakt Player

→ The software is installed automatically.

> ⓘ If the software is already installed, click the **Updates** tab and install the available updates before proceeding.

Loading Electric Ruby Deluxe in Kontakt

Once installed, you can start using Electric Ruby Deluxe in Kontakt. Electric Ruby Deluxe is not an independent plug-in, so you first need to open an instance of Kontakt or Kontakt Player.

Kontakt offers two ways to load an instrument, the Library browser and the side pane browser.

To load an instrument using the Library browser:

1. Open Kontakt as a plug-in in your host software (DAW) or as a stand-alone application.
2. By default, Kontakt opens the Library browser on first launch. If you have turned this off, click **Library** in the Kontakt header to open the Library browser.
3. In the Library browser, make sure that the **Instruments** category is selected at the top (this should be the case by default), otherwise click **Instruments** to select that category.
4. Locate Electric Ruby Deluxe in the Library browser. You can use the search bar at the top to quickly find it.
5. Click on the arrow icon (**>**) in the top right corner of the instrument's artwork to load the instrument and its first preset.
6. Alternatively, you can click the instrument's artwork to display its presets in the list on the right of the browser window.

7. Double click any preset to load it. The first entry, identified by a keyboard icon, loads the instrument with its default preset.

To load an instrument using the side pane browser:

1. Open Kontakt as a plug-in in your host software (DAW) or as a stand-alone application.

2. In the side pane on the left, make sure that the **Instruments** category is selected (this should be the case by default), otherwise click **Instruments** to select that category.

3. Locate Electric Ruby Deluxe's artwork tile below.

4. Click on the arrow icon (**>**) in the top right corner of the instrument's artwork to load the instrument and its first preset.

5. Alternatively, you can click the instrument's artwork to display the list of its presets.

6. Double click any preset to load it. The first entry, identified by a keyboard icon, loads the instrument with its default preset.

> 🔅 If you are new to Kontakt and want more information, visit Kontakt Player and Kontakt.

4. Using Electric Ruby Deluxe

Electric Ruby Deluxe contains two different instrument variants, the Pattern instrument and the Melody instrument. While the Pattern instrument, **Electric Ruby Deluxe.nki**, is designed for the convenient playback of patterns, the Melody instrument, **Electric Ruby Deluxe (Melody).nki** allows you to play your own melodies and combine them with the included patterns within a single instrument.

The Electric Ruby Deluxe instruments are designed to be played using a MIDI keyboard. The patterns are triggered and selected via MIDI keyswitches, allowing for fast arranging.

Patterns automatically synchronize to the tempo of your DAW and can be played at any tempo from 60 to 160 bpm while preserving the highest possible sound quality. Since the patterns are based on actual recordings by a professional studio musician, they sound best in the typical tempo range of a given musical style.

Kontakt's on-screen keyboard, presenting the current keyboard layout.

On Kontakt's on-screen keyboard, all relevant keys and key ranges are color-coded: keyswitches for melody articulations (yellow), patterns (red), endings (purple), and slide (green). Melodies or chords can be played in the blue key range.

> (i) To view a detailed description of each key, you can open the Mapping Panel by clicking the small keyboard icon in the bottom right corner of the instrument.
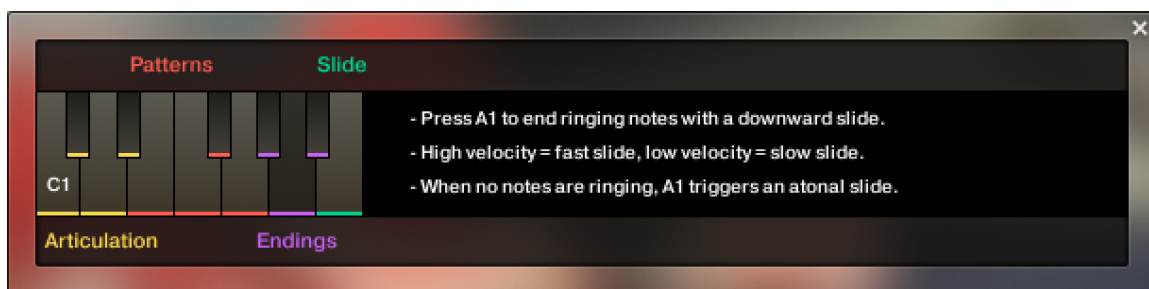
The Mapping panel, which presents a more detailed graphical overview of the keyboard layout.

Playing melodies

After loading the Melody instrument up, you are presented with a melody section on the left and a pattern section on the right. If the melody section is selected, the instrument will play the notes you press instead of sequencing a pattern. This enables you to play your own melodies with Electric Ruby Deluxe.

Melody and pattern sections in the melody instrument.

- To **change melody articulations**, use the keyswitches from C1 to D#1 to switch between open, muted, flageolet, and tremolo styles.

- The **Open articulation** is the most commonly used articulation: plucking individual strings. To trigger hammer-ons and pull-offs, play overlapping notes from which the subsequent note is played with softer velocity than the initial note.

- The **Muted articulation** is created by resting the palm of the plucking hand on the strings, close to the bridge of the guitar while plucking the strings. Muted hammer-ons and pull-offs can be triggered in the same manner as open hammer-ons and pull-offs.

- The **Flageolet articulation** is also called harmonics. It is created by dividing the string into sections of equal length by lightly touching the string either exactly in the middle or at one third, fourth, fifth etc. of the string's length while plucking it at the same time. As a result, higher overtones are played instead of the original note.

- The **Tremolo articulation** is created by repeatedly plucking the strings. When playing overlapping notes, the instrument will create a continuous volume modulation. When playing notes without overlap, the tremolo samples are velocity-sensitive.

- To **change the fret position value** of the selected melody articulation, adjust its **Fret Pos** value. Choose higher values to have the instrument perform notes in higher fret positions on lower strings, resulting in a more mellow tone. You can control the fret position in real-time for all melody articulations combined with the MIDI CC#114.

- **Plectrum / Finger switch**: Below the articulation keyswitches, you can choose to play all of the above articulations with either **Plectrum** or **Finger**.

- **Poly / Mono switch**: The monophonic mode creates smooth transitions between notes, which helps to create realistic sounding solo lines and riffs. The polyphonic mode enables you to play multiple notes at the same time. Use this mode only if you intend to play multiple notes at the same time. In both modes, you can use the sustain pedal just like on a piano.

- To **apply vibrato or pitch bend**, use the pitch and modulation wheels of your keyboard.

  - When playing patterns, the pitch wheel doubles as an **Impact** controller, modifying the velocity and accent intensity of performed patterns (for more information, refer to Controlling the dynamics of the performance).

  - Using the **Vibrato** drop-down menu, you can choose between different vibrato styles.

  - The **Bend** drop-down menu offers the standard pitch bend mode (**All**), as well as a mode in which only specific notes (lowest, highest, softest, loudest, latest note) in a voicing are affected by the pitch bend. This enables the emulation of a specific playing technique by which only some of the played strings are bent and others, for example open strings, retain their original pitch.

> 🔅 You can switch between the different vibrato speeds via MIDI CC#112 and choose between different pitch bend modes via MIDI CC#113. For more information on MIDI controllers, refer to chapter Further MIDI controllers.

> 🔅 When playing adjacent open notes, hammer-on and pull-off samples are added automatically if the velocity of the following note is significantly softer than the one previously played. This works only for overlapping (legato) notes up to an interval of a minor third. Monophonic mode is recommended, but not required to use this feature.

Combining melodies and patterns

The melody instrument provides two different modes, namely the **Melody** mode and the **Pattern** mode. By default, it is in **Melody** mode.

- To **switch from melody to pattern**, hold down one of the pattern keyswitches from E1 to G1 with your left hand, while playing notes with your right hand. The instrument will temporarily perform those notes as a pattern. If a pattern is in **Voicing** or **Riff** mode, triggering its keyswitch will cause the pattern to be played back using the notes contained in the voicing or riff, transposed to the key of the note you play on the keyboard.

- To **switch back to melody**, release the pattern keyswitch with your left hand. If you still hold notes in your right hand at that moment, the instrument tries to sequence one more note that would have followed had you continued with the pattern playback. For example, if you release the pattern keyswitch shortly before the next downbeat while still holding notes with your right hand, the instrument will switch back to melody mode with one last note onto that downbeat.

- To **play patterns instead of melodies by default**: If you are mainly intending to use the melody instrument to play patterns, you can change the default mode from **Melody** to **Pattern** on the Playback page (refer to The Playback page). When **Pattern** is selected as the default mode, holding down one of the **Melody** keyswitches (C1 to D#1) will engage the melody mode temporarily. However, the Pop articulation is not available when **Pattern** is selected as the default mode.

> 🔅 To achieve musically convincing results, it is advisable to use the instrument within your sequencer and to play along with its metronome.

ⓘ The included pattern library is identical in the pattern instrument and the melody instrument, and the procedures to load, modify and play back patterns are similar. However, to accommodate the melody articulations, the number of pattern slots has been reduced from eight to four in the melody instrument.

Pattern selection and playback

The following section describes the pattern instrument. While most of the information also applies to the melody instrument, refer to Playing melodies and Combining melodies and patterns for detailed information about the features which are specific to the melody instrument.

- To **select a pattern**, press the corresponding keyswitch MIDI note or click on the pattern you wish to play.

- To **play a pattern**, play notes on your MIDI keyboard. After releasing the keys, playback will be stopped within a specified note duration (refer to Latch Mode in The Playback page).

- To **end the playback at a precise point in time**, it is recommended to use the Bb1 keyswitch or one of the other **ending** keyswitches (refer to Playing dead notes, endings and slides).

- To **load a different pattern into a slot**, click on the magnifier icon in the current slot. This will open the Pattern Browser (refer to The Pattern Browser).

- To **load the next or previous pattern** of the pattern library, click on the little left or right arrow buttons in the current slot.

- To **remove a pattern (clear the slot)**, [Alt] + click on a slot.

ⓘ It is recommended to play notes or pattern changes briefly ahead of the beat and avoid overlapping notes to give the playback engine time to anticipate the transition. This way, the engine has enough time to add fret noises and the transition will sound more natural. As the performance is bound to the metronome of the sequencer, the timing of incoming MIDI events has no effect on the timing of the performance. For more information, read Tips and tricks.

💡 If available, **Chase Events** should be activated in your DAW settings. This will ensure that the engine gets proper note information on sequencer start or cycle jumps.

Pattern types

The playback engine creates patterns in different ways: Some of the patterns are based on recorded performances, while others are based on sequenced single note samples (referred to as single note patterns, or arpeggio patterns, below).

Pattern types, distinguished by different icons.

- **Strumming patterns**: Recorded loops based on a strumming performance are indicated by small up and down arrows next to their name. If you play more than one note, additional notes will be added on top of the originally recorded loop, which allows you to create voicings with up to six notes sounding at a time.

- **Arpeggio patterns**: Arpeggio patterns based on single notes are indicated by a small staircase icon next to their name in the pattern browser. When playing arpeggio patterns, the playback engine analyzes the incoming chord and allocates the individual notes to different strings of the guitar. The more notes you press on the keyboard, the more sophisticated the resulting arpeggio pattern will sound. Therefore, playing up to six notes at a time can lead to interesting variations. depending on the selected pattern, several notes of a voicing will be performed as hammer-ons and pull-offs.

- **Riff patterns**: If a recorded loop includes melodic lines, it is referred to as a riff. those patterns are indicated by a small note icon next to the name.
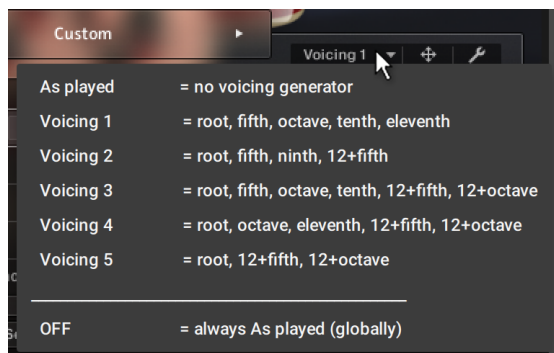

ⓘ   The chord detection engine cannot successfully process overlapping notes since an overlap would technically mean that two different chords exist at the same time. To avoid overlaps, release a chord, or some of its notes, shortly before you play new notes.

🔆   When playing arpeggio patterns, you can trigger slides between different chords or voicings by playing the newly added keys with a very high velocity: The next suitable note will start with a slide if it is being played with a velocity greater than 110. To use slides when playing melodies, hold down the B1 keyswitch while playing melody notes.

Voicings and As Played mode

Strumming and Arpeggio patterns allow you to play a large variety of different chords and voicings. If you are less familiar with playing typical guitar voicings on a piano or keyboard, you can use the integrated voicing presets instead of playing your own voicings.

- **To activate the voicing generator**, select a pattern and choose the desired voicing 1–5 from the voicing drop-down menu, which is available for strummed and arpeggiated patterns.

| Custom	▸			
		Voicing 1 ▾	✛	🔧
As played	= no voicing generator			
Voicing 1	= root, fifth, octave, tenth, eleventh			
Voicing 2	= root, fifth, ninth, 12+fifth			
Voicing 3	= root, fifth, octave, tenth, 12+fifth, 12+octave			
Voicing 4	= root, octave, eleventh, 12+fifth, 12+octave			
Voicing 5	= root, 12+fifth, 12+octave			
OFF	= always As played (globally)			

- **Press one single key** to hear the unaltered voicing.

- **Play chords or intervals** to adapt the selected voicing to incoming notes. For example, if a voicing contains a minor third, pressing a C major chord on the keyboard will turn all minor thirds into major thirds. You can adjust sevenths and other options in the same way.

- **To add additional notes to a voicing**, simply play them on the keyboard.
- **To deactivate preset voicings**, select As played in the voicing menu. This lets you play a virtually endless number of different voicings, chords, inversions, suspensions, top lines, bass lines etc. over the entire pitch range.
- **To permanently deactivate preset voicings** for all patterns and songs, select OFF from the voicing menu.

Riff and One Pitch mode

Riff patterns, indicated by a small note icon next to the pattern name, can be toggled between Riff mode and One Pitch mode.
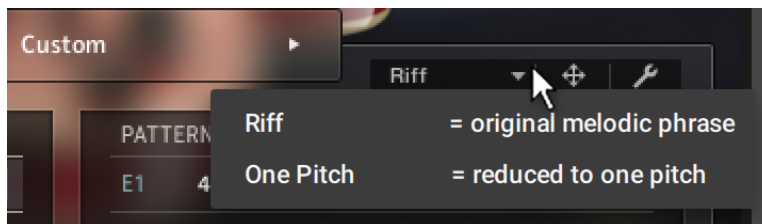

- In **Riff mode**, the pattern will be played back with its original note sequence. You can still adjust specific notes within the riff by playing a minor chord when the riff comes as major, or vice versa. Likewise, you can also adjust sixth, seventh, or ninth intervals.
- In **One Pitch mode**, the rhythm of a Riff pattern will remain the same, but the melody is reduced to one single pitch. Play different pitches on the keyboard to create custom note progressions, which are still based on the rhythm and articulation of the selected riff.

MIDI export and chord progressions

Electric Ruby Deluxe lets you drag and drop voicings, riffs and entire chord progressions into your sequencer or DAW. Voicings and riffs can be dragged using the MIDI drag icon on the right-hand side of the user interface. Chord progressions can be dragged using the MIDI drag icon next to the Progression button on the left-hand side of the user interface.

- **To play back the included chord progression of a pattern**, select the pattern and press the Progression Playback button.
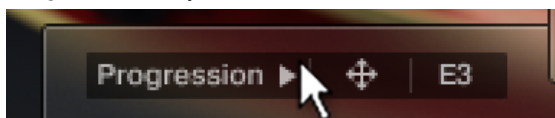

- **To export the included chord progression into your DAW**, drag and drop the arrow icon next to the Progression button into your DAW.
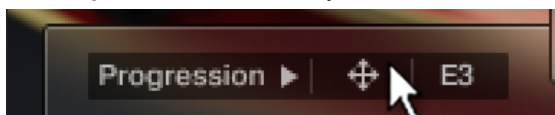
- **To export the voicing or riff of a selected pattern into your DAW**, drag and drop the arrow icon next to the Voicing/Riff menu into your DAW. If no voicing is selected, MIDI drag will be deactivated.

- **You can set the key** of voicings, riffs and chord progressions using the prelisten key field before dragging them.
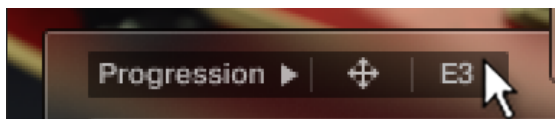
Dragging a progression, riff or voicing into your DAW will create a MIDI part with the notes contained in the progression, riff or voicing, positioned slightly ahead of the beat to enable natural sounding transitions (refer to Tips and tricks). Additionally, the MIDI part contains a keyswitch ensuring that the correct pattern is selected. Since the different MIDI notes of a riff are now being sequenced by the DAW, the pattern will be automatically switched to One Pitch mode (for Riffs), or As Played mode (for Strumming and Arpeggio Patterns). Now, you can transpose the MIDI notes to change the melodic line. Ensure to not transpose the keyswitch note, however. The original rhythmic structure is still being provided by the pattern and cannot be changed in the MIDI editor of the DAW.

> (i) Since Electric Ruby Deluxe is based on two-bar patterns, make sure to drag the MIDI loop onto an uneven bar number (bar 1, bar 3, bar 5, bar 17 etc.). Please note that loading a different pattern, changing the pattern tempo (half time, double time), or adjusting the length or the start shift in the pattern inspector will render the corresponding MIDI part incompatible. In this case, delete the old MIDI part and drag the MIDI loop into your DAW again.

Playing dead notes, endings and slides

In addition to the actual patterns, Electric Ruby Deluxe provides a variety of endings, as well as slides and percussive sounds. The corresponding sets of keys are marked purple and green on the Kontakt on-screen keyboard. The table below describes the functionality of each keyswitch for both the pattern instrument and the melody instrument:

	Pattern Instrument	**Melody Instrument**
G#1	Long ending	Slide up: End sounding notes with an upward slide. If there are no sounding notes, you will hear a regular slide. The speed of the slide depends on the incoming velocity.

	Pattern Instrument	Melody Instrument
A1	Slide down: End sounding notes with a downward slide. If there are no sounding notes, a long ending will be played and the slide will sound only when releasing the key.	Slide down: End sounding notes with a downward slide. If there are no sounding notes, you will hear a regular slide. The speed of the slide depends on the incoming velocity.
Bb1	Mute strings → Hit guitar body with knuckles → Slap strings with thumb	Mute strings → Hit guitar body with knuckles → Slap strings with thumb
B1	Pickup slide down	Slide modifier: Hold this key to start melody notes with a slide. The slide interval and direction depends on the previous note.

Controlling the dynamics of the performance

The patterns included in Electric Ruby Deluxe ignore the velocity information coming from your MIDI keyboard or DAW. Instead, you can continuously control the dynamics of the performance with the impact slider. As the melody instrument is velocity-sensitive while in melody mode, the pitch bend wheel doubles as a pitch bend controller when playing melodies.

The Impact feature

Use your MIDI keyboard's pitch wheel to control the Impact/pitch bend. It works as a bi-polar control to increase or decrease the playing intensity of the musician. The neutral default position is the center position which can also be recalled via [Cmd] + click.

> 💡 The Impact feature can be used to smoothen transitions between patterns with differing overall dynamics.

> 💡 While the velocity coming from your keyboard doesn't affect the dynamics of the performance, you can use it to trigger slide transitions when playing patterns. Try playing notes with a velocity greater than 110, a slide transition will be added at the next suitable position.

Loading and saving sound presets

With Electric Ruby Deluxe, you can easily customize the sound. Each sound preset includes all parameters of the **Amps & FX** page as well as some of the parameters of the **Guitar Settings** page (refer to The Amps & FX page and The Guitar Settings page). You can load sound presets from the Sound Preset drop-down menu in the top right corner of the instrument.
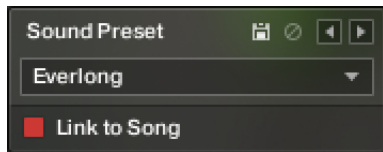
The Sound Preset box in the top right corner of the instrument

- To **load a factory or user sound preset**, either select a preset from the drop-down menu, or cycle through all presets by clicking the little left and right arrow buttons.
- To **save a new user sound preset**, enter a preset name into the text field and click on the floppy disk icon. This will store the current sound settings into a new user preset.
- To **overwrite a user sound preset**, first load it and then make changes on the Guitar Settings or Amps & FX page. Then click the floppy disk icon without changing the preset name. If you change the preset name before saving a preset, a new sound preset will be created instead of overwriting the existing one.
- To **delete a user sound preset**, select it from the drop-down menu, then click the circular Delete button.
- **Linking sound presets to Song presets**: If the **Link to Song** switch is activated, selecting a song preset (refer to The Song Browser) will also load its corresponding sound preset. Deselect it to change songs without altering your guitar and effects settings.

Locking parameters when loading snapshots or songs

Normally, when you load snapshots or songs (refer to The Song Browser) of the instrument, all parameters will be set accordingly. Therefore, snapshots and songs are stored and recalled globally. To prevent the Playback parameters from being changed by loading snapshots or songs, click the lock icon on the Playback tab.
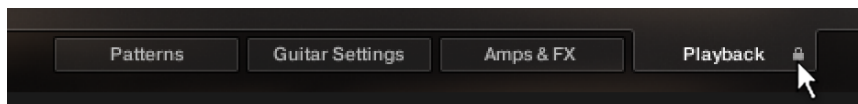
If the Playback parameters are locked, they will not be changed by snapshots or songs.

Resetting the Round Robin counter

To enhance the realism of Electric Ruby Deluxe, the entire sample content employs a method which is called "Round Robin": Each sample was recorded multiple times and if the same pitch is being played with the same velocity multiple times in a row, Electric Ruby Deluxe automatically alternates between those different recorded samples of a given pitch and velocity. These variations are called "Round Robins". The result is repetitions that sound less mechanical and more like a performance by a real musician, as the tone varies ever so slightly. As the instrument is automatically cycling through the different Round Robins, the performance will slightly differ each time you're playing it back in your sequencer.

While this is beneficial to the overall realism, you might find that a certain Round Robin sample matches the played section better than another. You can reset the Round Robin counter by sending continuous controller 3 (CC#3) to the instrument at the beginning of a song section. This way, you will be hearing the exact same samples every time the section is being played back.

> 💡 When exporting/bouncing your song, placing a CC#3 value at the beginning of your arrangement will lead to a deterministic result: Each bounce will be using the exact same samples, rather than a random constellation of Round Robins.

Defining the downbeat after signature changes

Since there is no way for the instrument to recognize signature changes or insertions of half a bar etc., present in your DAW session, its pattern playback would get out of sync in those cases. To solve this problem, you can use the global transport offset feature to compensate for a change of signature or bar length during playback.

→ To define a global transport offset in ticks, send MIDI CC#111.

The value you send (ranging from 0 to 127) will be multiplied by 80 ticks and added as an offset to the host transport. 80 Ticks is the length of a 32th triplet, which is the greatest common divisor for all note values available in the instrument. Twelve 32th triplets equal a quarter note. Therefore, to insert half a 4/4th bar (i.e. shift the playback by two quarters or 2 × 12 32th triplets), you would need to send MIDI CC#111 with value 24, etc.

The following table shows typical values needed for common offsets:

Offset	CC#111 value
No offset	0
One quarter	12
Two quarters	24
Three quarters	36
Four quarters (= one 4/4 bar)	48
Five quarters	60
Six quarters	72
Seven quarters	84
Two 4/4 bars (= no offset)	96
Minus one quarter	84
Minus two quarters	72
Minus three quarters	60
One eighth note	6
One eighth triplet	4

Further MIDI controllers

CC#112: Set Vibrato speed. You can change the setting for the Vibrato speed by sending a continuous MIDI controller event to Electric Ruby Deluxe:

Offset	CC#112 Value
Slow	0−42
Medium	43-84
Fast	85−127

CC#113: Set Pitchbend Mode (only available in the "Melody" nki). In the melody instrument, you can change the Pitch Bend mode by sending a continuous MIDI controller event to Electric Ruby Deluxe:

Pitchbend Mode	CC#113 Value
All: Bend all notes	0–21
Low: Bend lowest note only	22–42
High: Bend highest note only	43–63
Soft: Bend softest note only	64–84
Loud: Bend loudest note only	85–105
Last: Bend latest note only	106–127

CC#114: Set Fret Position for all melody artics (only available in the "Melody" nki). In the melody instrument, you can change the Fret Position of all Melody articulations sending a continuous MIDI controller event to Electric Ruby Deluxe:

Fret position	CC#114 Value
0 (= Open Strings included)	0–9
1	10–19
2	20–29
3	30–39
4	40–49
5	50–59
6	60–69
7	70–79
8	80–89
9	90–99
10	100–109
11	110–119
12	120–127

5. Navigating Electric Ruby Deluxe

The following sections describe the different browsers and pages in Electric Ruby Deluxe. These include the Pattern Inspector, Song Browser, Pattern Browser, as well as the Settings, Amps & FX, and Playback pages.
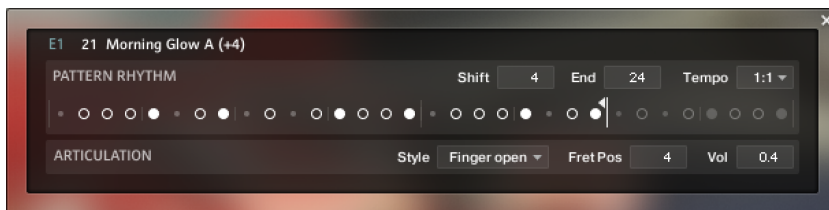
The Pattern Inspector

The Pattern Inspector provides access to various parameters that will modify the length, start position, volume, and tempo of any pattern. The values of the Pattern Inspector will always refer to the selected pattern. In other words, if you select a different pattern, the Pattern Inspector will adapt its content accordingly.

To **show or hide the Inspector Panel**:

▶ Click on the wrench icon button.
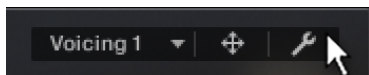
→ The Pattern Inspector opens.

The Pattern Inspector contains the following settings and controls:

- **Shift**: Edit this value to shift the selected pattern's start (entry) position. Alternatively, you can drag the pattern's rhythm display left or right.

- **End**: Edit this value to reduce the selected pattern's length so that it will loop earlier. Alternatively, you can drag the terminating flag left or right.

> 🔆 You can use the End Step feature very creatively. For example, you can trim a 4/4 signature pattern by eight 16th snippets, so that it will perfectly fit a 3/4 signature. You can also trim any pattern to odd signatures, such as 5/8 or 7/8. Combined with the Start Shift feature, you have very powerful tools to create whole new patterns and feels (e.g., start-shift a constant eighths pattern from on-beats to off-beats, etc.). Be creative!

- **Tempo**: With the three tempo choices in the drop-down menu, you can switch the selected pattern's tempo from normal (1:1) to half time (1/2) or double time (×2). Please note that there is also a global time scaling feature on the Playback page (refer to The Playback page). Its tempo factor will be multiplied by each pattern's individual tempo factor.

- **Style**: From this drop-down menu, you can select three different playing techniques: open, muted and flageolet, each played with fingers or plectrum. Choose **Original** to hear the pattern in its original state.
  For some of the patterns, you can also choose a pre-defined mixture of them (**mixed**).
  The style feature is only available for Arpeggio patterns.

- **Fret Pos**: Change this value to make the virtual guitarist play in higher fret positions, which typically results in a more mellow tone.
- **Vol**: Change this value to adjust the volume of the selected pattern, ranging from -24 dB up to +24 dB in 0.1 dB increments.

The Song Browser

In Electric Ruby Deluxe, a song is a preset that contains related patterns along with a factory sound preset as well as some settings of the Playback page. The patterns contained in a song are loaded into the pattern slots.
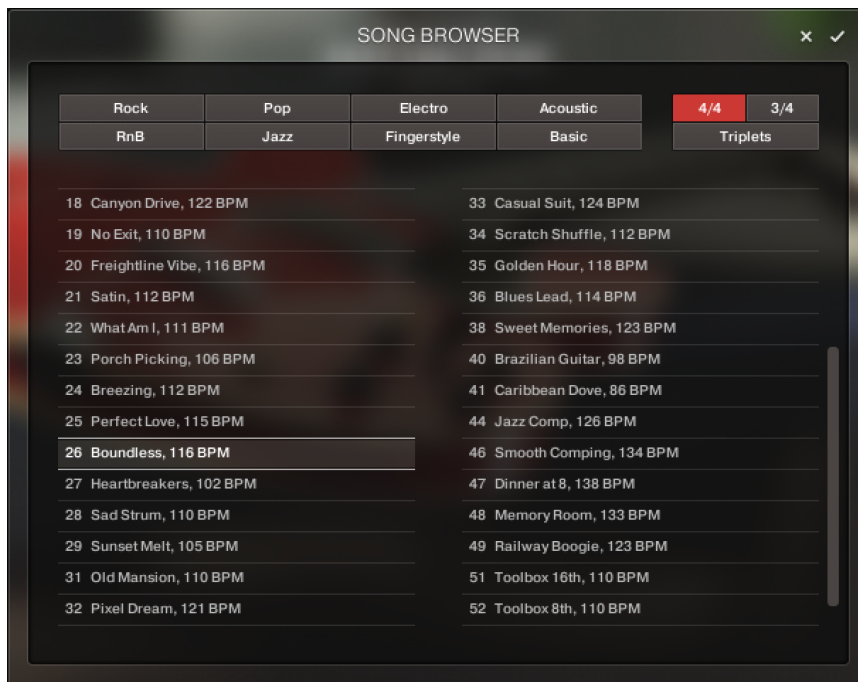

The Song browser

> (i)   If you want songs to apply their recommended sound settings, activate the **Link to Song** feature in the top right box. If you deactivate this feature, the current sound settings won't be changed when you load a song.

To **browse songs and then load a song**:

1. Click on the current song name; this will open the Song browser.
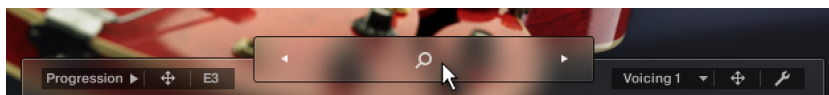
2. Use the attribute buttons at the top of the browser to filter the list of displayed songs. You can deselect all attributes by pressing [Alt] + clicking any button.
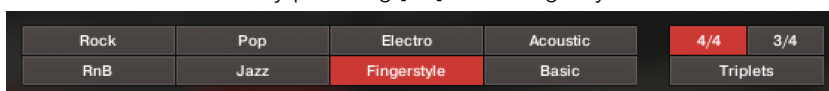
3. Clicking on the name of a song preset will play back an audio preview. Unlike pattern prelisten, the prelisten tempo of a song will not follow the host sequencer. Instead, the pattern will be played back at its recommended tempo.

4. To load a song, double-click its name or click on the tick button. If you wish to exit the Song browser without changing anything, click on the **X** button instead.
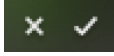
💡 Alternatively, you can cycle through the included songs, without entering the Song browser, by clicking on the triangular arrows to the left and right of the current song name.

The Pattern Browser

Since a preset song might not meet your exact needs, you might wish to change a slot's pattern, or load additional patterns into specific slots. Click on the magnifying glass icon right next to any pattern to open the Pattern Browser.
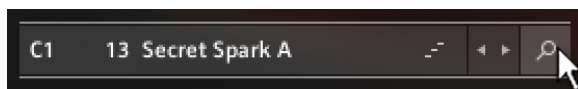
Clicking the magnifying glass icon will open the Pattern Browser.


The Pattern Browser

The top area of the Pattern Browser holds a series of buttons that you can use to refine your search, including a Rhythm Search strip, which is a very powerful tool for finding patterns that match your custom rhythm. The body of the Pattern Browser contains a list of all patterns matching the current search criteria. If the list is too long to fit the screen, you can scroll through the list by dragging the scroll handle on the right up or down.

(i)   The Rhythm Search strip is merely a tool to find pre-recorded patterns in the pattern library. It is technically impossible to create your own patterns by entering a certain rhythm, so, despite its look, the Rhythm Search strip should not be confused with a step sequencer.

- To **search a pattern by attributes** (and not by rhythm), make sure the Rhythm Search strip is cleared. If it is not, click the Clear button next to the strip. Then refine your search by selecting any of the attributes. If you want to bypass a category, deselect all attributes of that category. Consequently, you would need to deselect all attributes to display all patterns.
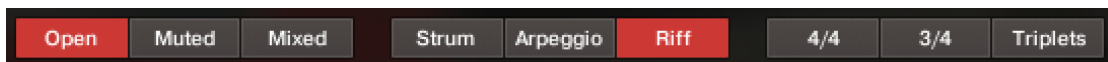
- To **search a pattern by attributes and rhythm**, first, select/deselect the desired attributes as described above. Then, enter the rhythm you are looking for into the Rhythm Search strip. With each new rhythm snippet that you enter, the pattern list will be refreshed in real-time, sorted by the similarity of the desired rhythm to the rhythm of all patterns available in the library, in descending order.
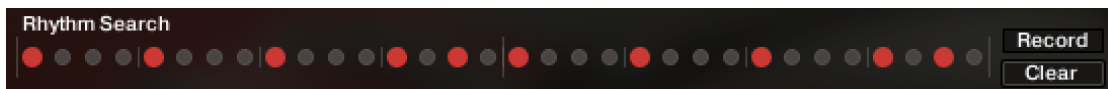
🔆   There is a powerful shortcut feature to quickly enter a repeating pattern into the Rhythm Search strip: enter the beginning of the pattern and then [Alt] + click on the position of the first repetition. Furthermore, if you [Alt] + click on the first snippet, all other snippets will be activated/deactivated.

- To **'tap in' a rhythm**: first press the Record button and hear the metronome count-in. Then start playing a rhythm on your MIDI keyboard or click on the 'Tap' button. You can start at any time, so you can also start with a pickup beat. After 2 bars the recording will automatically stop, and the search results will be listed.

The rhythm search algorithm is very powerful. It will compare the rhythm defined in the Rhythm Search strip not only to the rhythm of the other patterns from start but also from any possible shifted starting position. This way, patterns with specific start shift offsets might be revealed as musically matching-patterns which otherwise would simply be overlooked. If the perfect start shift offset is different from 0, the value is appended to the pattern name. Upon loading a pattern, that offset will automatically be applied and entered into the Pattern Inspector (refer to The Pattern Inspector). Also, the Rhythm Search algorithm will rate accents higher than non-accentuated snippets. So, if you're searching for accents following a certain rhythm, try entering the accents only.

🔆   If you cannot find the desired rhythm straight away, chances are that you can create that particular rhythm by separately searching for the first and second half of the rhythm of a desired pattern, loading the two halves into two different slots, and combining them during playback. Alternatively, you can load the same pattern into two different slots and adjust the Start Shift of one of them, in order to shift accents to the desired positions.

- To **search for patterns similar to the selected one**, you would need to search for patterns with a rhythm similar to the selected pattern's rhythm. Instead of entering and copying the rhythm manually, you can simply transfer the rhythm of the selected pattern into the Rhythm Search strip by clicking on the Similar button.
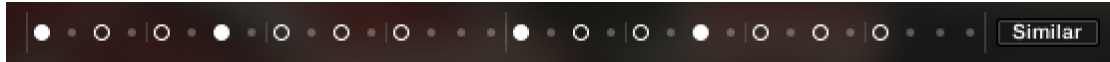
- This will start a search and put the selected pattern at the very top of the listed results, since that pattern matches its own rhythm a 100 percent, of course. Rhythmically similar patterns will be listed subsequently.

- To **play a preview of a pattern**, click on any of the listed patterns. This will also display the pattern's rhythm structure in the second strip. The preview playback will sync to the host tempo and transport position if the transport is running. However, only one selectable pitch can be previewed. Incoming MIDI notes will be ignored.

- To **stop the preview playback**, simply click on the playing pattern again or, if the host transport is running, stop it.

- To **change the preview chord**, select a pitch and a chord type in the top drop-down menus or value dragger.

- To **load a pattern**, simply double-click the pattern or click the tick button. (If you want to cancel the process, click the **X** button instead.)
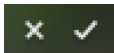
- To **load a pattern to a different slot** than the currently selected one, choose one of the eight available pattern slots from the drop-down menu in the upper right corner. Confirm by clicking the tick button, or double-click the respective pattern.

- The selected pattern will now be loaded into the selected slot; a previous pattern of that slot will be replaced. The pattern browser will be closed.

The Guitar Settings page

Click on the Guitar Settings tab (at the bottom of the instrument) to display the Guitar Settings page. This page provides controls that you can use to adjust the sound of the guitar itself, whereas the Amps & FX page provides virtual effects, such as amplifiers, EQ, or reverb. This page is divided into several sections, each of which is described below.

The Guitar Settings page

- **D.I. Signal Bridge** and **Neck**: Choose either the bridge pickup, neck pickup, or a combination of both pickups by setting their individual volumes. The bridge pickup provides a brighter sound with a stronger attack while the neck pickup sounds more mellow and round.

- **D.I. Signal Tone**: Use the Tone control to adjust the brightness of the D.I. signal.

- **Mic 1** and **Mic 2**: In addition to the D.I. signals, you can use two microphone signals (1 = condenser mic, 2 = ribbon mic) for sonic versatility. If you do not want to use either of the mic signals, you can save memory by deactivating it with its square switch. If you want to process the mic signal differently from the D.I. signal, activate the mic effect chain in the Amps & FX page.

- **Muted Notes Decay**: You can set the decay time of muted melody notes and muted arpeggio patterns by adjusting the Decay control. To adjust the decay in real-time, right-click to assign a MIDI controller to this knob. This way, it is possible to emulate continuous progressions from very short notes to a gradually longer decay or vice versa.

- **Resonance Amount**: With this control, you can add sympathetic resonance. Melodies and notes played with vibrato will especially benefit from this feature.

- **Fret Noise**: Use this knob to adjust the volume of fret noises, which are automatically added upon changing pitches. When playing melodies or pattern pitch changes, the instrument emulates playing noises and the ringing of the section of the strings between the saddle and the left hand of the guitarist.

- **Noise Floor**: Use this knob to raise the noise floor. The noise floor is switched off while the instrument is not playing.

- **Tuning**: Use this knob to detune the guitar.

> 💡 Moderate levels of noise floor, fret noises, and detune can help add realism and create a more tangible guitar sound. Note that some of the included effects like amp emulations and delays may add additional noise, even if the noise control is turned all the way down.

> 💡 If you prefer to use external amp simulations instead of using the effects provided on the Amps & FX page, keep in mind that stereo doubling requires two individual signal chains, i.e. one amp simulation for the left output channel and another one for the right output channel. If in doubt, listen to the stereo width: If the stereo doubled signal collapses to mono when applying external effects, the signal path is not "true stereo".

The Amps & FX page

Clicking on the **Amps & FX** tab (at the bottom of the instrument) will open a page where you can apply several studio effects to the signal.

The Amps & Effects page

The effects chain displays the currently loaded effects. Clicking an effect icon displays its settings in the inspector section below.

- To **change the order of the effects**, simply drag and drop the respective icon in the effects chain left or right.

- To **bypass an effect**, click the blue square button next to its name.
- To **bypass the entire effects chain**, click on the blue square to the left of the Amps & Effects page title. Please consider that the effects still require processing power, unless the effects chain is cleared.
- To **clear the entire effects chain**, click on the **Clear All** button in the upper right corner and confirm.


> 💡 If you want to process the unaltered direct signal with external effect plugins, you can save CPU resources by clearing the entire FX chain. Keep in mind that if stereo doubling is activated, two individual signal chains are required, i.e., one amp simulation for the left output channel and another one for the right output channel. If in doubt, listen to the stereo width: If the stereo doubled signal collapses to mono when applying external effects, the signal path is not "true stereo".

- To **remove an effect**, click on the **Clear Slot** button on the right-hand side.

- To **load a different effect into the current slot**, click the magnifier icon next to the inspector heading or click the magnifier icon that appears when hovering the name of an effect slot. This will open the AMPS & FX BROWSER. In that browser, click on the desired effect to load it into the selected slot. If the effect slot wasn't empty, the loaded effect will automatically replace the previously loaded one.
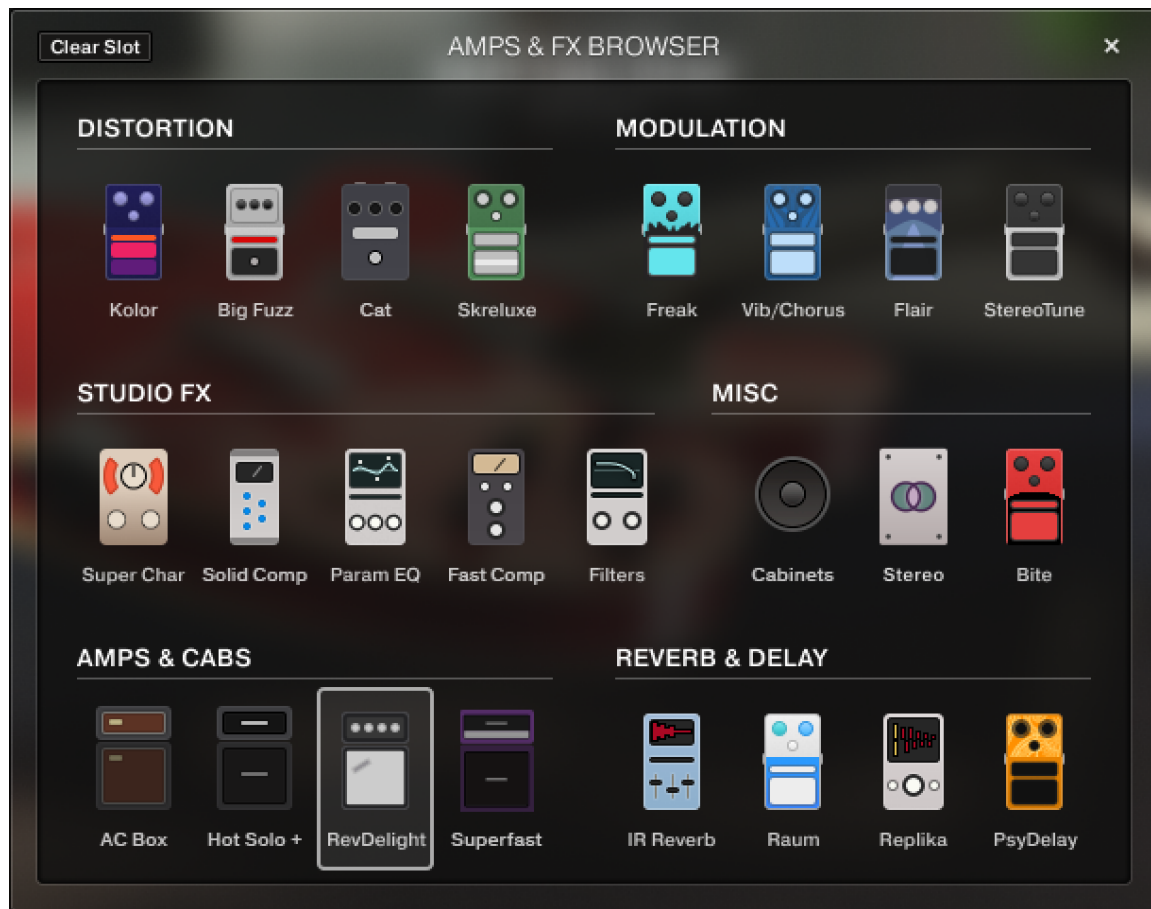
The Amps & Effects Browser

> ⓘ For greater sonic versatility, the included amp models do not include speaker models. Instead, you can freely combine each amp model with each virtual speaker cabinet. Therefore, to simulate a traditional guitar amplifier, make sure that an amp model is always followed by a virtual speaker cabinet in a separate effect slot. It is advisable to study some of the included presets for reference.

Amp Chains

Electric Ruby Deluxe enables you to load up to 24 effect modules in up to four different effect chains. The levels of the unprocessed D.I. and Mic signals can be set on the Guitar Settings page. Depending on which chain is active at a given time, the routing updates automatically. The signal flow charts at the top of the interface show the current routing:

- If none of the chains is active, the D.I. and Mic signals are sent directly to the main chain.
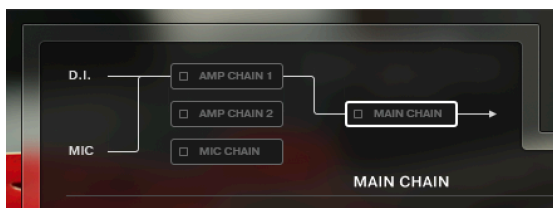
- When the main chain is active, signals are always routed through it.
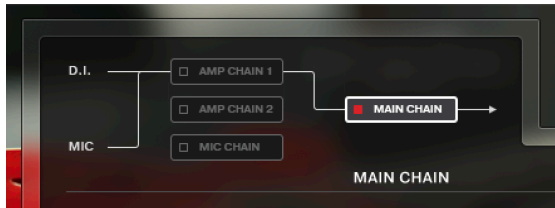
- When Chain A and/or B are active and the Mic chain is inactive, the D.I. and Mic signals are routed through Chains A and/or B, and from there to the Main Chain. This is useful for enhancing the D.I. signals, giving them a punchy sound with stronger attacks.
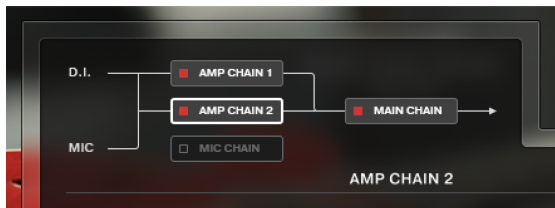

- When the Mic chain is active, the Mic signal is routed through the Mic chain and then to the Main Chain. In this case, the Mic signal does not pass through Chains A or B. This setup is ideal for creating hybrid or semi-acoustic sounds that combine the amped D.I. signal with an unamped acoustic microphone signal.
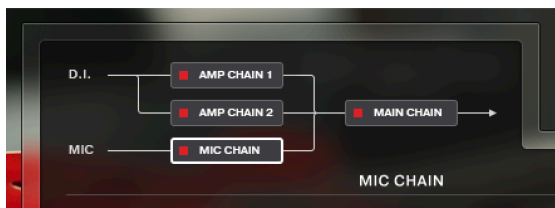

- If you want to apply effects to the Mic signal and send this processed signal through an amp alongside the D.I. signals, you can insert the amp and cab in the main chain. Additionally, you can process the D.I. signals individually in Chains A and B and then send those pre-processed signals, along with the Mic signal, into an amp in the main chain.
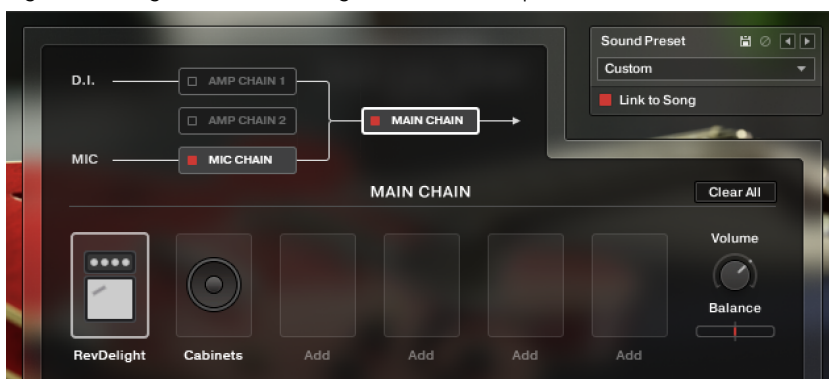
- To create sounds where a different amplifier and speaker are used on the left and right sides, pan two chains fully to the left and right:
  - Chain A panned all the way to the left.
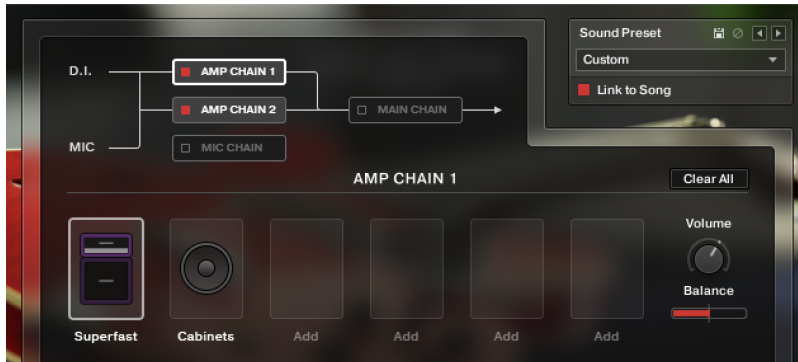
  - Chain B panned all the way to the right.
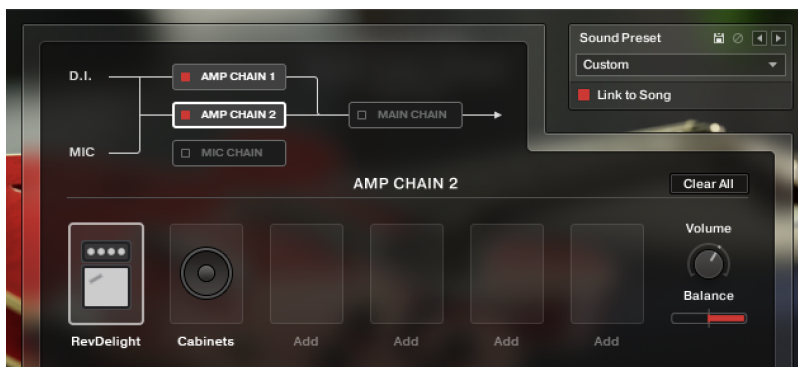
The Playback page

Clicking on the **Playback** tab (at the bottom of the instrument) will open the Playback page. This page contains settings that affect the way the patterns are played back. This page is divided into several sections, each of which is described below.

To exclude the playback settings from songs or snapshots, click the lock icon on the Playback tab at the bottom of the instrument (refer to Locking parameters when loading snapshots or songs).

The Playback page

- **Humanize**: Use the Humanize knob to set the amount of quantization added to all patterns. In the right position, the timing of the original performance will remain unaltered. At the left position, the performance will be fully quantized.

- **Swing**: Use the Swing knob to set the amount of swing added to each pattern. You can select between a 16th note or a 8th note base via the switch below.

- **Feel**: Use the Feel control to shift accents in a pattern from the downbeat to the offbeat and vice versa. Make sure the correct time base is selected (16th or 8th notes).

> ⓘ   If the Swing or Feel knobs don't affect the playback, it is very likely that either a triplet pattern is selected, or the respective time base has to be changed from 16th to 8th notes.

- **Timing Shift**: Increase the offset for a laid back feel or decrease the offset to have the virtual guitar play ahead of the beat.

- **Latch Mode**: After you have released all keys, the pattern playback will automatically stop within the note duration specified in the **Latch Mode** drop-down menu.

> 💡   The slightly delayed stopping of the playback enables the engine to perform smooth transitions from one pitch to the next, even if the incoming MIDI notes are not played as a seamless legato performance. However, if you want to stop the performance at a specific position in the arrangement, e.g., to perform a break, it is advisable to trigger one of the "ending keys" (G#1, A1, Bb1) at the desired position.

- **Pattern Sync**: Use the drop-down menu to select one of two available sync modes.
    - **Sync to host**: With this mode selected, pattern playback will start in sync with your host sequencer. As Electric Ruby Deluxe is based on two-bar patterns, make sure to start your song on bar one or any other uneven bar number (e.g. bar 3, bar 5, bar 17).
    - **Start on a key**: With this mode selected, pattern playback will start from the beginning as soon as the first note is being played, ignoring the current host playback position. As long as the playback does not get interrupted (according to the Latch mode setting), this shifted performance will be retained even if you subsequently play notes.
- **Default Mode (melody instrument)**: In the melody instrument, you can combine melodic playing and pattern playback into one cohesive performance. When set to **Melody**, you can play melodies by default, and holding down a pattern keyswitch will temporarily trigger a pattern. When set to **Pattern**, the instrument will perform patterns by default, and holding down one of the melody keyswitches will temporarily allow you to play melodies (for more information, refer to Combining melodies and patterns).
- **Tempo**: Here, you can select between three tempo ratios 1⁄2 (half time), 1:1 (normal time), or ×2 (double time), which will globally affect the pattern playback speed relative to the host tempo. Please note that there is also a local time scaling feature available for each pattern (refer to The Pattern Inspector). The individual patterns' tempo factors will each be multiplied by the global tempo factor.

6. Tips and tricks

Last, but not least, the developers would like to share a couple of tips to help you get the most out of Electric Ruby Deluxe:

## Using the Melody instrument to enhance pattern playback

The melody feature makes it possible to add melodic fills to spice up an otherwise repetitive performance: Load the Melody.nki and switch the default mode on the Playback page to **Pattern**. Now, you can perform patterns just like in the regular instrument, but holding down a melody keyswitch will enable you to add monophonic or polyphonic fill-ins or variations to the pattern performance. The instrument will create smooth transitions between patterns and melody notes, if possible. If **As played** or **Off** is selected in the voicing drop-down menu, the voicing will be an exact representation of the incoming MIDI notes. This way, playback in melody mode and pattern mode will be based on the exact same notes, which helps create smooth transitions between patterns and melodies.

## Varying the number of played notes in Arpeggio patterns

Most Arpeggio patterns contain a lot more variability than meets eye: Depending on the number of notes contained in a voicing, the rhythmic structure, as well as the distribution of the incoming notes varies significantly. To get a general idea of a pattern's possibilities, it is advisable to listen to its included voicings. For maximum flexibility, however, try deactivating the voicing feature by selecting **As played** in the voicing drop-down menu. Now, you can smoothly transition between the different variations of a pattern, simply by altering the number of notes you play simultaneously.

Creating natural transitions between chords

To create realistic sounding transitions between chords, do not quantize your keyboard performance. Instead, make sure that all chord and pattern changes are played as early as possible, up to a 32th note ahead of the beat. This way, Electric Ruby Deluxe can anticipate that a chord change or pattern change is about to take place and perform the transitions between patterns and chords in the most natural way. Depending on the chord progression, an appropriate fret noise is added automatically. These natural transitions would be impossible if you quantized your MIDI data. Don't worry about the timing, triggering the patterns before the beat will not make the performance sound out of time, as the timing is bound to the internal metronome of your sequencer. Also make sure that chords do not overlap, because an overlap would technically mean that two chords are played at the same point in time. Pattern keyswitches should be placed before chords.
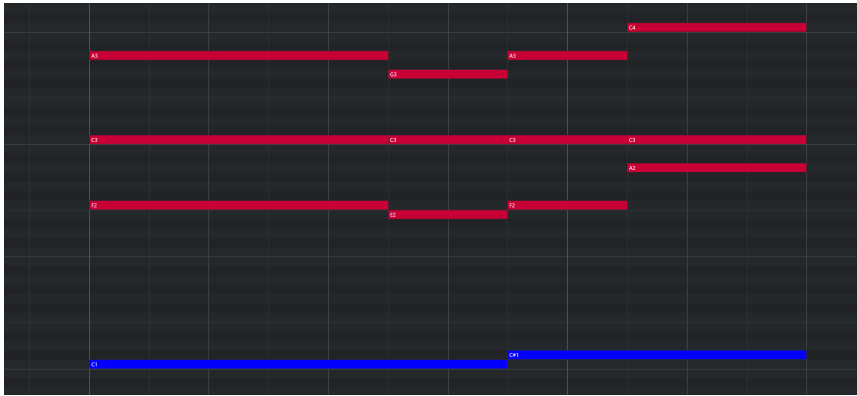
Bad: Quantized MIDI data will cause the chord changes to happen too late for the fret noises to be played back; this will not create realistic transitions.
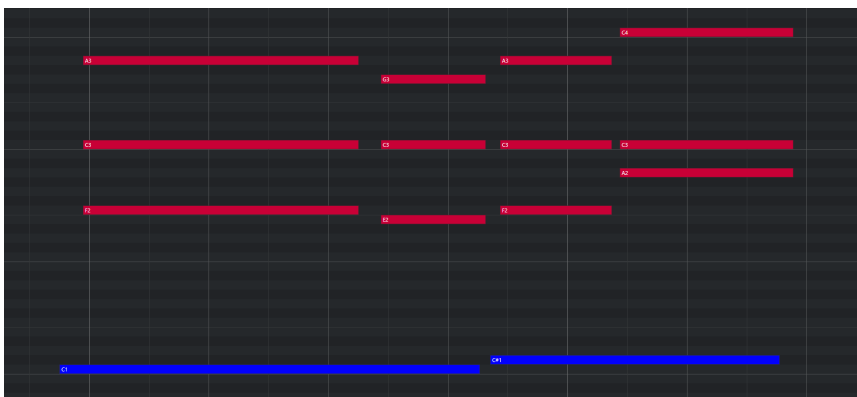
Good: MIDI notes placed ahead of the quantized position will result in realistic sounding transitions. Note that the keyswitches are also triggered slightly before the actual chords.

Combining patterns creatively

We spent a lot of time making transitions between patterns and notes as smooth and natural as possible. Therefore, if you switch between patterns that have a similar playing style but different rhythms, the transitions will very likely sound as smooth as if the resulting rhythm would have actually been performed this way. So instead of sticking to a single repetitive pattern for a long time, you can enhance realism by switching back and forth between patterns to add variations here and there. In most cases, adding minor rhythmical changes at the end of the second bar does the trick.

Creating custom groove variations

If you'd like to add variations to spice up a pattern using the technique described above, you might find yourself in a situation where the beginning of a pattern contains the bit of rhythmical variation you'd like to use at the end of another pattern. You can move the variation into place by clicking the wrench button (refer to The Pattern Inspector for more information) to open the Pattern Inspector and shift the pattern to the desired position. Another way to get there is to use the **End Step** feature: shorten the pattern to e.g. 8 steps (two quarter notes). Although the resulting pattern will be very short and thus will sound pretty repetitive in itself, it will contain a predictable rhythm that you can use to add a variation to another pattern.

Using authentic humanization

The **Humanize** knob on the Playback page does not simply add random offsets to approximate realism. Instead, it recreates the actual timing of the guitarist when performing the patterns during the recording session. Even if subtle, the **Original** setting sounds more akin to a real guitarist playing the instrument. Adding small amounts of **Shuffle**, slightly increasing the **Timing Shift**, and shifting the accentuation of patterns towards the downbeat or backbeat with the **Feel** control can greatly improve how the groove of the guitar fits in with the other instruments of an arrangement.

Using the Impact slider as a drama controller

When moving towards a quiet passage in your song, move the impact slider to the left. As you approach the chorus, slowly move it to the right. If applied correctly, this makes the virtual musician play towards a certain musical event, e.g. the chorus or a break. You can also use the pitch wheel to smoothen the transition between patterns which are played at different volumes.

Using multiple instruments simultaneously

Instead of using just one single pattern at a time, try the following: Open two instances of Electric Ruby Deluxe. While instance one plays the regular chord progression of the song in a low voicing, instance two plays only an empty fifth chord as a pedal point in a higher register. Combining several different instruments and/or patterns in this manner can really help to open up your arrangement. Try creative panning and/or doubling settings.

Using vibrato for patterns

Adding vibrato can greatly enhance the musicality of the pattern playback, especially for arpeggio patterns and patterns which contain long, ringing notes and chords.

To see how the Mod Wheel can be used to do that, drag included chord progressions into your DAW and show the controller lane of MIDI CC#1. Many of the included riffs contain vibrato information.

> 🔅 The intensity and speed of the vibrato feature in Electric Storm Deluxe have been increased to accommodate more intense and aggressive playing styles.

Using the advanced pitch bend and vibrato modes in Melody mode

Bending, vibrato and especially unison notes created by playing a semitone interval and bending the lower note up is a technique that creates sustained melody notes with a more interesting texture than playing single note melodies without vibrato or pitch bend.

> 🔅 The intensity and speed of the vibrato feature in Electric Storm Deluxe have been increased to accommodate more intense and aggressive playing styles.

Using the slide and ending keyswitches

To end single notes, chords or patterns with a slide or with the sound of damping the strings with the right hand, use the slide (G#, A) and ending keyswitches (Bb). This is great to add stops at specific points in time, but it can also help with creating interesting-sounding transitions between notes and patterns.

When playing melodies, you can hold the B keyswitch between two consecutive notes to insert a slide into the second note. The actual slide will depend on the played interval and direction (up or down).

The loudest velocities of the Bb key contain "chicken scratch" sounds which can also be used for pick-ups or rhythmic breaks.

7. Credits

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KSP Scripting: Daniel Scholz

Product Management: Ilay Bal Arslan

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Recording Engineer: Jonas Roßner

Sample Post Production: Peter Scholz

Pattern Library: Jonas Roßner, Luke Batterbury, Adam Surace, Eduard Hausauer, Joschi Joachimsthaler, Matthias Kirchgessner, Samuel Dalferth, Sebastian Müller

Chord Progressions: Daniel Scholz, Aurid Gjini, Samuel Dalferth

Sound Presets: Samuel Dalferth, Jonas Roßner, Sebastian Müller, Daniel Scholz, Aurid Gjini, Angelos Liaros, Andreas Rogge

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