SESSION BASSIST

UPRIGHT BASS

Table of Contents

1. Disclaimer

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2. Welcome to Session Bassist - Upright Bass

Thank you for purchasing Session Bassist - Upright Bass, a bass 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 Upright Bass.

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 Upright Bass, you must install and set up the necessary software. Follow these instructions to get started.

Installing Upright Bass using Native Access

Native Access is your go-to app for downloading, activating, and updating all your NI music creation tools including Upright Bass. 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:
   - Upright Bass
   - Kontakt or Kontakt Player

→ The software is installed automatically.

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

Loading Upright Bass in Kontakt

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

1. Open Kontakt as a plug-in in your host software (DAW) or as a stand-alone application.
2. Locate Upright Bass in the Browser, on the left side of the user interface.
3. Click **Instruments** to open the product's content.
4. Double-click the **Upright Bass.nki** file to load the instrument.
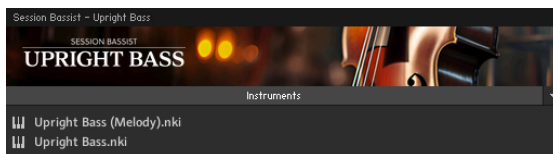
> 💡 If you are new to Kontakt and want more information, visit Kontakt Player and Kontakt.

4. About Session Bassist - Upright Bass

Upright Bass combines a pattern-based bass library with a sophisticated set of multi-samples, designed to provide authentic bass lines, patterns, and riffs for songwriting, music production, and scoring. The samples have been recorded using an extraordinary upright bass, built at the renowned violin making school in Mittenwald, Germany. It features a unique back construction: a flat back glued in a curve over the contoured ribs and soundboard. The result is the rich, mellow character of a curved back, coupled with the direct response and definition of a flat back.

The instrument was recorded using high-end vintage condenser and dynamic microphones in multiple microphone configurations, as well as a Balsereit pickup through SPL Gainstations and vintage Universal Audio 610 preamps. The signals were then converted by an SPL Madison A/D converter and fed via MADI to an RME MADIface XT, both externally clocked by an Antelope Audio 10MX Rubidium atomic clock.

A total of 224 loops, single notes in many different picked articulations, round-robin variants and velocities in multiple positions over a range of three octaves, as well as additional sample content such as a bowed articulation and percussive playing styles, were performed live by professional bassist Andreas Schmid. The loops and phrases are grouped into song presets, each containing four patterns and a matching sound preset. Patterns can be selected using keyswitches and played as chords on a MIDI keyboard. Playback is always in sync with the host sequencer. Phrases can also be dragged and dropped into the DAW for MIDI editing.

You can customize the sound of the instrument by choosing between three distinct microphone setups and an additional D.I. signal with tone control. The 39 carefully curated sound presets consist of up to seven effects. These include various equalizers, reverbs, tape emulations, compressors and more. A notable addition is the Split FX module, which lets you set up send effects such as reverb or delay.

The key feature of Upright Bass is its revolutionary playback engine. You can seamlessly switch between patterns, and change dynamics in real time to create true-to-life musical performances. Since Upright Bass preserves all of the nuances of the original performance such as exact timing and dynamics, you will notice that the instrument feels very natural and organic. All built-in patterns can be played at any tempo in superb sound quality.

5. Using Upright Bass

Just like in other products of the Session Bassist series, the melody feature is provided in a separate **Melody** instrument. While the regular **Upright Bass.nki** is designed for the convenient playback of patterns, the melody instrument allows you to play your own bass lines and combine them with the included patterns within a single instrument.

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

Patterns will automatically sync to the master or host tempo. The patterns in this library can be played at any tempo from 60-65 bpm to 140 bpm and above. Since there is no time-stretching involved in the process, you will always hear the patterns in the highest possible quality.

> (i) The patterns are based on actual recordings by a professional studio musician, so they sound best in the typical tempo range for a given musical style.
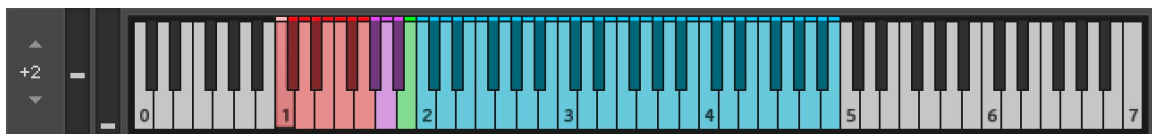
Kontakt's on-screen keyboard, presenting the current keyboard layout.

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 patterns 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.
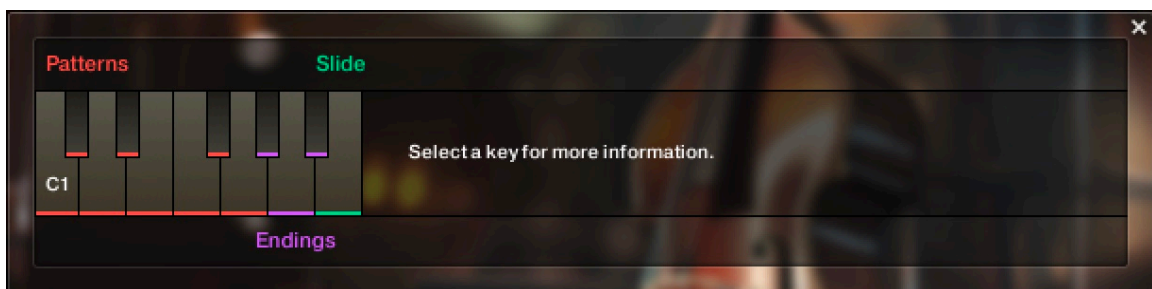
The Mapping panel, which presents a more detailed graphical overview of the keyboard layout.

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 bass lines with Upright Bass.
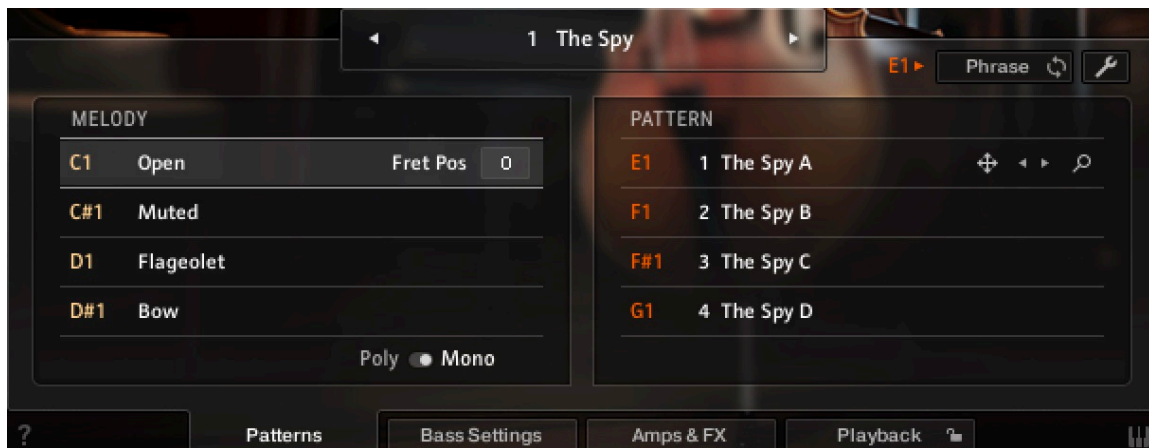
Melody and pattern sections in the melody instrument.

- To **change melody articulations**, use the keyswitches from C1 to D#1 to switch between different playing styles.

- The **Open articulation** is the most commonly used articulation: Plucking individual strings with the fingers.

- The **Muted articulation** is created by resting the palm of the plucking hand on the strings, close to the bridge of the bass while plucking the strings.

- The **Flageolet articulation** is also called "harmonics". It is created by dividing the string into sections of equal length by lightly touching the string at specific points. As a result, higher overtones are sounding instead of the original note. In this case, you will hear the octave above the played note, which is the first overtone.

- The **Bow articulation** is created by playing the bass using a bow. When playing sustained notes, re-bows can be heard. The timing intervals between re-bows depend on the note velocity. High velocity result in longer re-bows, short velocities result in shorter re-bows.

- 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. For more information on MIDI controllers, refer to Further MIDI Controllers.

- **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).
  - From the **Vibrato** drop-down menu, you can choose between three 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.

- **Octave down**: Use the Octave down switch in the top left box to transpose the entire sample set down by an octave. This is not an insert effect like an octaver, but a powerful sound design feature, which works great for electronic and film music genres.

:Q: 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.

:Q: 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 **Phrase** mode (refer to Phrase and One Pitch Mode, MIDI Drag and Drop), triggering its keyswitch will cause the pattern to be played back using the notes contained in the phrase, 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.

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

(i) 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.

The playback engine creates patterns based on real life performances. The articulation and fret position of the patterns can be adjusted in the Pattern Inspector (refer to The Pattern Inspector), and their velocity can be adapted over a wider range (refer to Controlling the dynamics of the performance).

> (i) 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.

Phrase and One Pitch Mode, MIDI Drag and Drop

A large number of the included patterns contain melodic phrases, while others are based on just one single pitch. To display phrase patterns only, click the Phrase button in the pattern browser.

- To **play the unaltered, original phrase**, press only one single key.

- To **adapt a specific phrase to a given scale, chord or interval**, play the required chord or interval, such as a third, a sixth, a seventh on your keyboard. The corresponding notes contained in the phrase will be adapted accordingly. This way, you can easily convert a major third to a minor third, or vice versa.

- To **toggle between Phrase mode and One Pitch mode**, select a phrase pattern, and then click on the **Phrase** / **One Pitch** toggle button.


In **One Pitch** mode, the rhythm of a phrase pattern will remain the same, but the melody is reduced to a single pitch. You can then play the pitches on your keyboard ahead of any new note position within the pattern's rhythm. Patterns which do not contain melodic phrases cannot be toggled, and for those patterns the **Phrase** / **One Pitch** toggle button is not active.

> (i) You can change the playing style and fret position in the pattern inspector (refer to The Pattern Inspector).

- To **permanently switch all phrases to One Pitch mode**, press [alt] + click the **Phrase** button. Press [alt] + click again to switch back to Phrase mode. After that, the selected mode will be retained globally, even if you load new patterns or songs.

MIDI Drag and Drop

- To **export a phrase into your DAW as a MIDI file**, drag and drop the arrow icon next to the selected pattern into a MIDI track. The root pitch will be based on the last pitch you played.
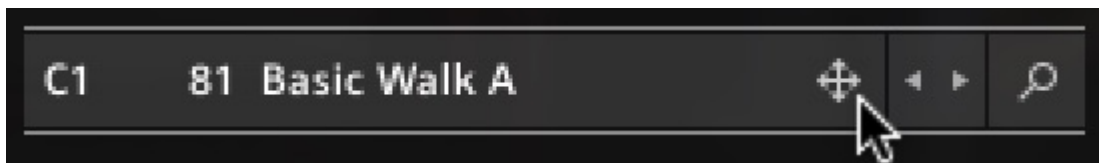
This will create a MIDI part containing the pitch progression of the respective phrase, with each MIDI note properly positioned ahead of the beat (refer to Create Natural Transitions in Tips and tricks). Additionally, the MIDI part contains a keyswitch ensuring that the correct pattern is selected. Since the different MIDI notes of a phrase are now being sequenced by the DAW, the pattern will be automatically switched to One Pitch mode. Now, you can transpose the incoming MIDI notes to change the melodic line, retaining the original rhythmic structure.

> (i) Since Upright Bass 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 phrase into your DAW again.

Playing Dead Notes, Endings and Slides

In addition to the actual patterns, Upright Bass 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.
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 → Slap strings with thumb	Play dead notes based on the selected articulation. Holding down this key will allow you to play dead notes chromatically. Dead notes are velocity sensitive.
B1	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 Upright Bass 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 Upright Bass, 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 **Bass Settings** page (refer to The Amps & FX page and The Bass Settings Page). You can load sound presets from the Sound Preset drop-down menu in the top right corner of the instrument.
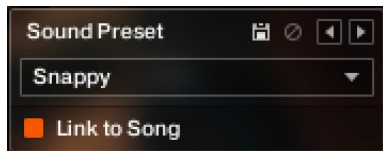

The Sound Preset box in the top right corner of the instrument

- 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 Bass 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 bass 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.
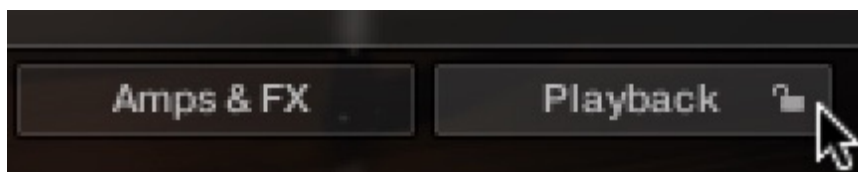
If the Playback parameters are locked, they will not be changed by snapshots or songs.

Resetting the Round Robin counter

To enhance the realism of Upright Bass, 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, Upright Bass 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 Upright Bass:

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 Upright Bass:

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 Upright Bass:

| 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

6. Navigating Upright Bass

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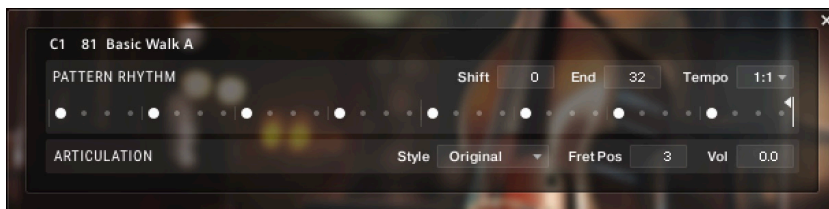
The Pattern Inspector

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.
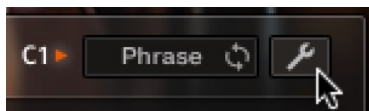
→ The Pattern Inspector opens.

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.

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- **Fret Pos**: Change this value to make the virtual bassist 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 Upright Bass, 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.
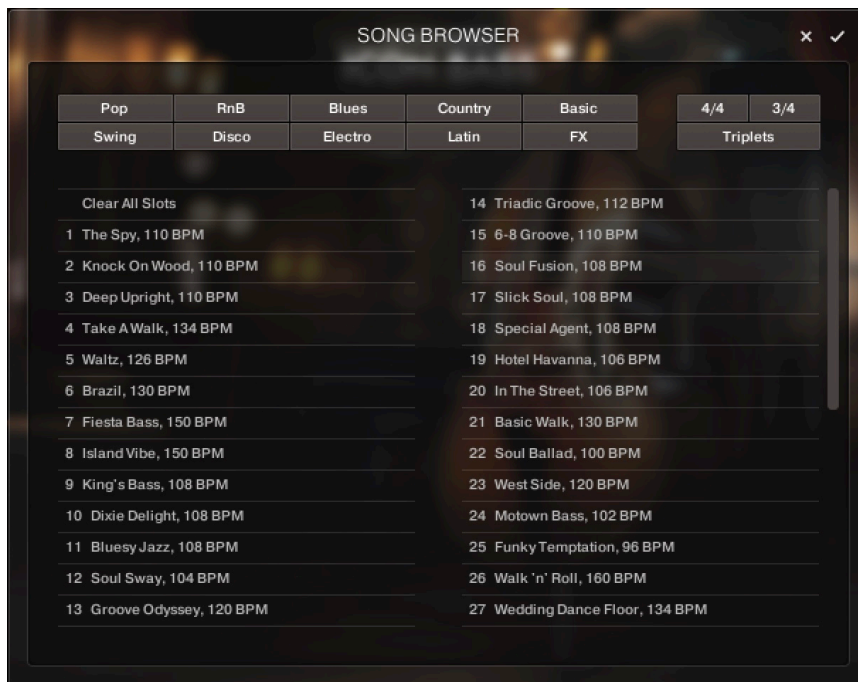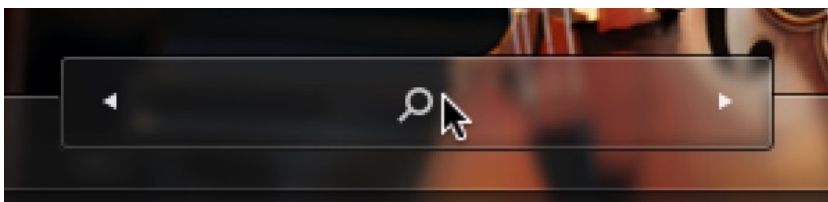

The Song browser

> (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.
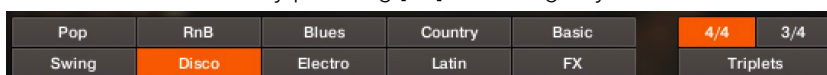
3.   Clicking on the name of a song preset will play back an audio preview. Unlike pattern prelisten, the prelisten tempo of a song will not follow the host sequencer. Instead, the pattern will be played back at its recommended tempo.

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.
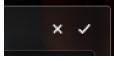
💡 Alternatively, you can cycle through the included songs, without entering the Song browser, by clicking on the triangular arrows to the left and right of the current song name.

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.
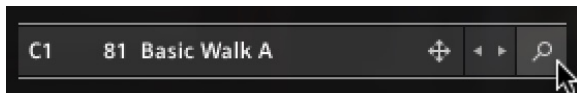
Clicking the magnifying glass icon will open the Pattern Browser.

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.

ⓘ   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.
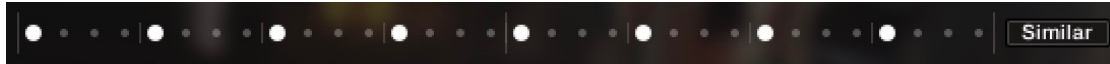

- This will start a search and put the selected pattern at the very top of the listed results, since that pattern matches its own rhythm a 100 percent, of course. Rhythmically similar patterns will be listed subsequently.

- 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 pitch**, select a pitch 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.)
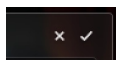
- To **load a pattern to a different slot** than the currently selected one, choose one of the eight available pattern slots from the drop-down menu in the upper right corner. Confirm by clicking the tick button, or double-click the respective pattern.
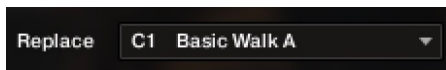
- The selected pattern will now be loaded into the selected slot; a previous pattern of that slot will be replaced. The pattern browser will be closed.

The Bass Settings Page

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

The Bass Settings Page

- **MICROPHONES**: Use the microphone selector to choose either the **Condenser MS**, **Mixed LCR**, or **Dynamic AB** recording setup, providing different characters in sound and spatiality.
    - **Condenser MS** uses two vintage large-diaphragm condenser microphones in a mid-side configuration (omni and figure of eight characteristics), creating a crisp and solid stereo image. When turning the **Width** control fully to the left, the signal is perfectly mono as recorded using the mid microphone.
    - **Mixed LCR** uses a microphone configuration originating from orchestral recordings, mixing a dynamic center microphone with two small-diaphragm condenser microphones (omni characteristic) placed left and right.
    - **Dynamic AB** uses two vintage dynamic microphones in AB configuration (spaced pair) to provide a warm and earthy sound.
- **MICROPHONES - Volume**: Use the Volume control to adjust the volume level of the microphone signals.
- **MICROPHONES - Width**: Use the Width control to adjust the width of the stereo image produced by the microphone setups from mono at the leftmost position to the original stereo width in center position, to extra wide stereo in the rightmost position.
- **MICROPHONES - Low Cut**: Use the Low Cut control to remove low frequency content from the microphone signals. This is especially useful when combining the microphone signal with the D.I. signal.
- **D.I. SIGNAL - Volume**: Use the Volume control to adjust the volume level of the D.I. signal.
- **D.I. SIGNAL - Tone**: Use the Tone control to adjust the brightness of the D.I. signal. For example, you can mix a darker D.I. signal with a brighter mic signal to achieve a unique sound.
- **MUTED NOTES - Decay**: You can set the decay time of muted notes 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**: Use this control to add sympathetic resonance. Melodies and notes played with vibrato will especially benefit from this feature.
- **NOISE - Frets**: 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 fingering noises and the ringing of the section of the strings between the saddle and the left hand of the bassist.
- **NOISE - Noise Floor**: Use this knob to raise the noise floor. The noise floor is switched off while the instrument is not playing.
- **INTONATION - Tuning**: Use this knob to detune the bass.

> 💡 Moderate levels of noise floor, fret noises, and detune can help add realism and create a more tangible bass sound.

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 **clear the entire effects chain**, click on the **Clear All** button in the upper right corner and confirm.
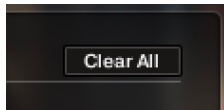

💡 If you want to process the unaltered recorded signal with external effect plugins, you can save CPU resources by clearing the entire effects chain instead of just bypassing it.

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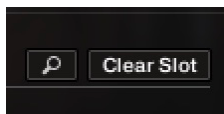
- To **load a different effect into the current slot**, click the magnifier icon next to the inspector heading or click the magnifier icon that appears when hovering the name of an effect slot. This will open the AMPS & FX BROWSER. In that browser, click on the desired effect to load it into the selected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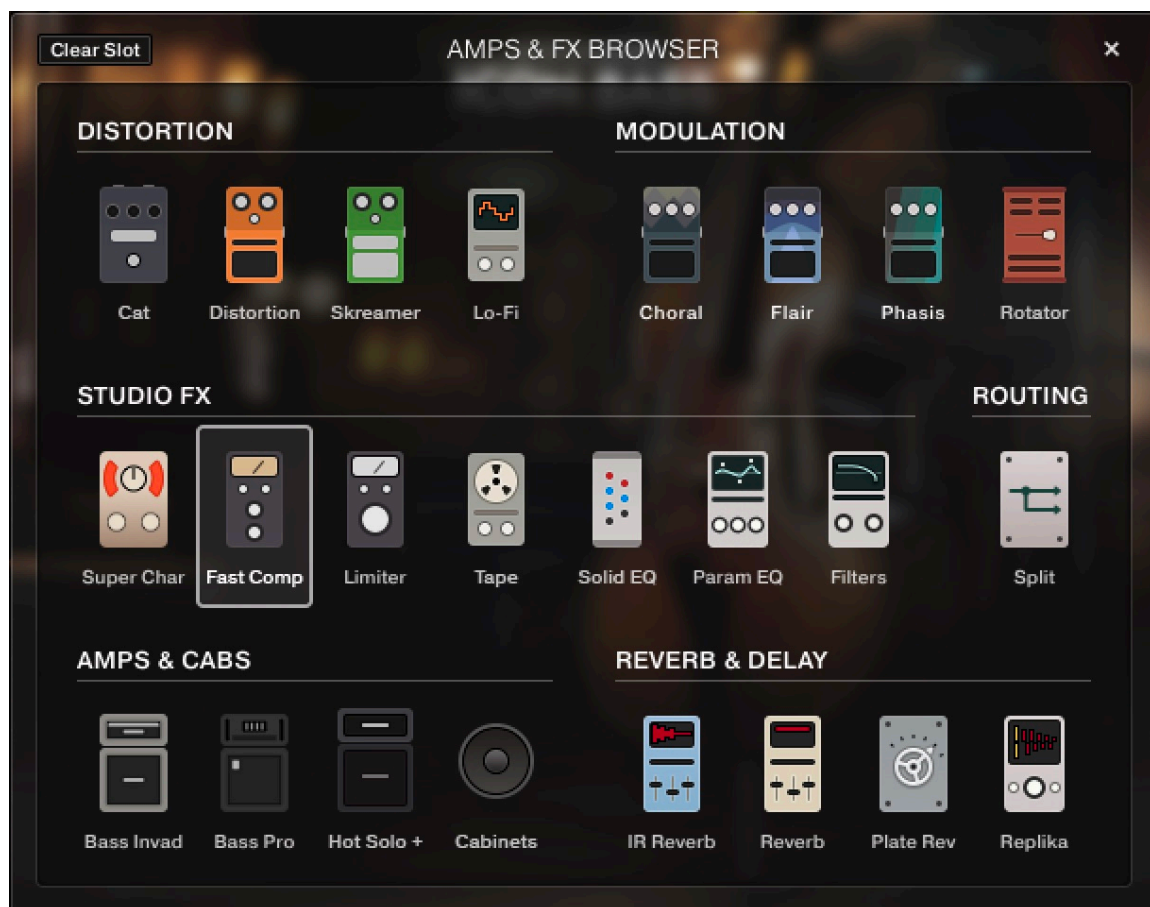

The Amps & Effects Browser

Split

Split is a utility effect for changing the routing in the effect chain. You can load it into any slot, just like the other effects. Instead of changing the sound, it splits the signal at the respective position in the effects chain, sending it both to the following slots as well as directly to the output. This enables you to treat the slots following the Split like send effects on a mixing desk.

The routing is visualized in the Split's interface:
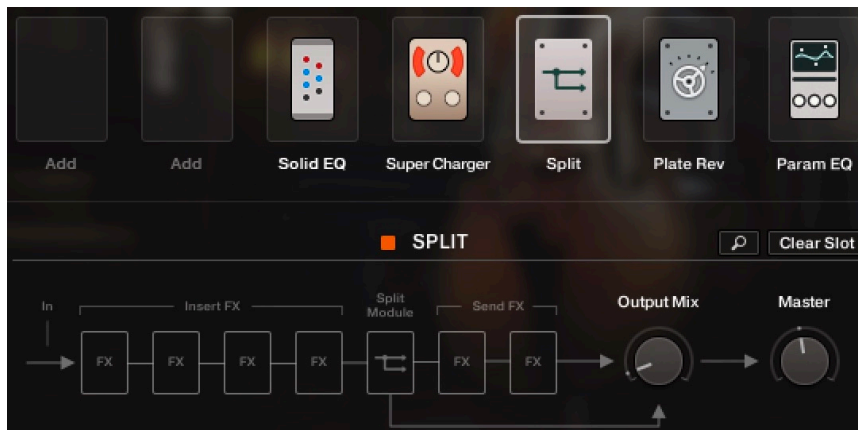
Using the **Output Mix** control, you can blend between the output of the effect slots preceding the Split (**Insert FX**) and the output of the effect slots following the Split (**Send FX**). The **Master** control lets you set the final output level of effect chain.

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).
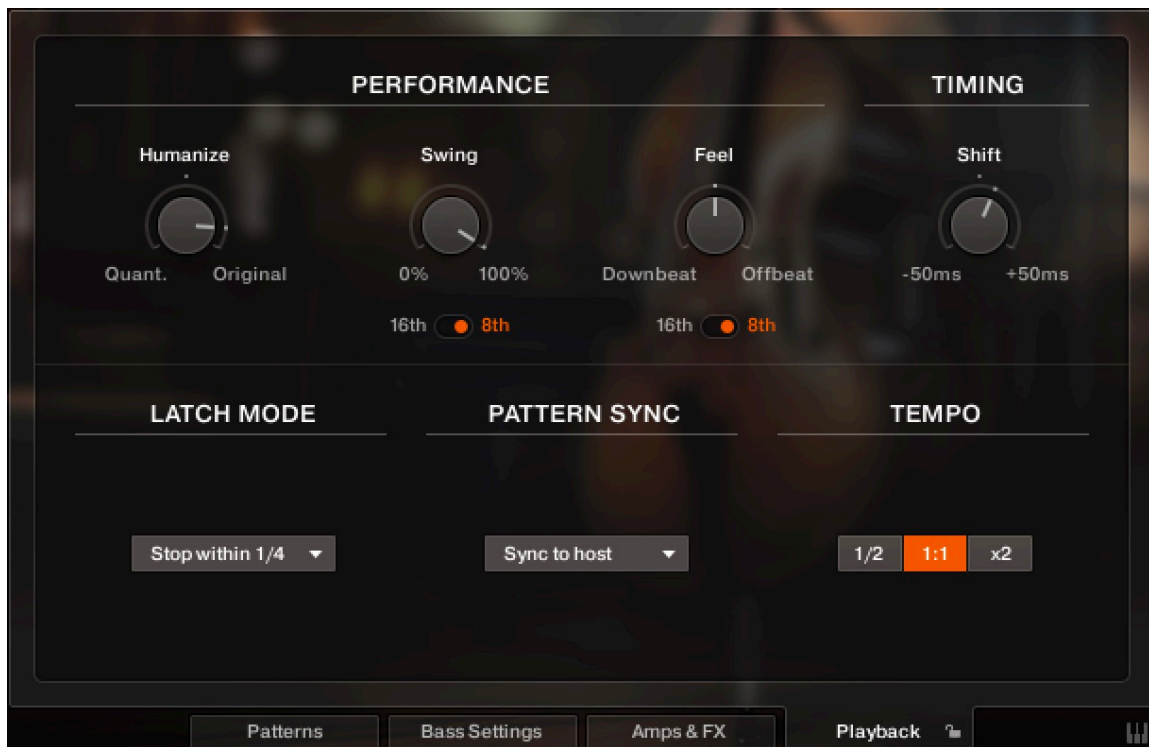
The Playback page

- **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 bass 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 Upright Bass 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.

7. 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 Upright Bass:

## Use the Melody Instrument to enhance the 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 whenever possible.

Create Natural Transitions

To create realistic sounding transitions between different pitches or patterns, do not quantize your keyboard performance. Instead, make sure that all pitch and pattern changes are played slightly ahead of the beat. This way, Upright Bass can anticipate that a pitch or pattern change is about to take place and perform the transition in the most natural way. Depending on the note progression, an appropriate fret noise is added automatically. These natural transitions would be impossible if you quantized your MIDI data. 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 notes do not overlap, because an overlap would technically mean that two pitches are played at the same point in time.
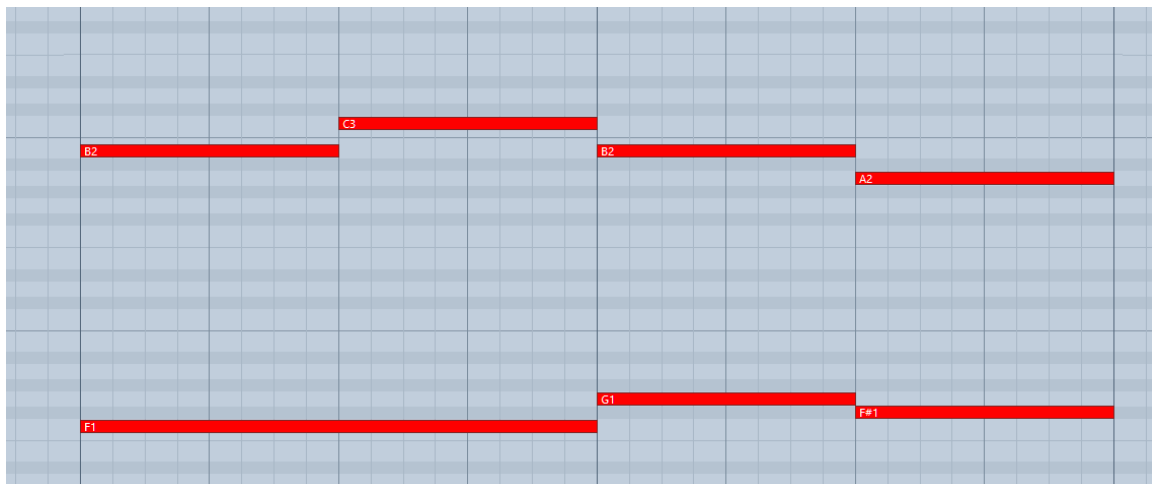
Bad: Quantized MIDI data will cause the pitch changes to happen too late for the fret noises to be played back; this will not create realistic transitions.
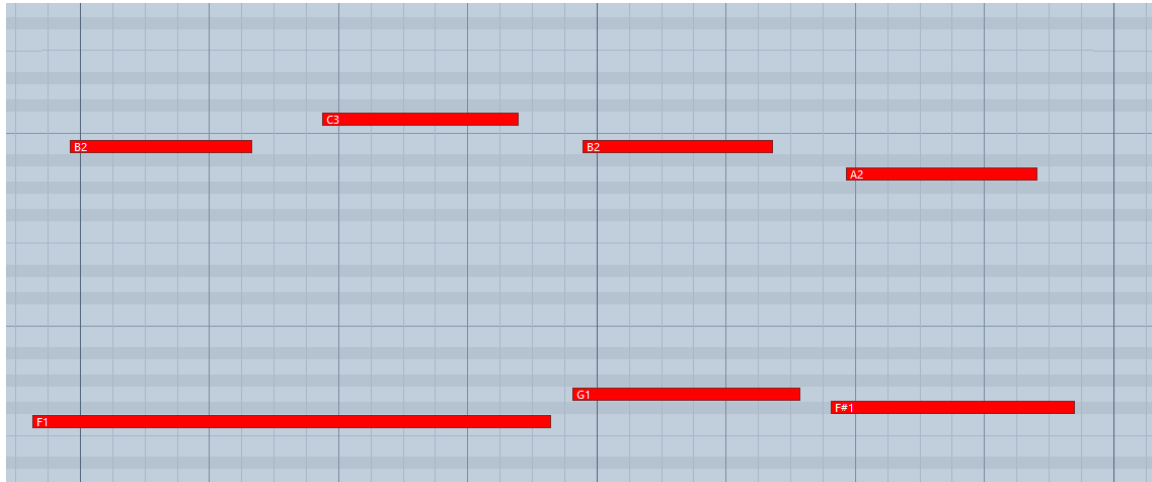
Good: MIDI notes placed ahead of the quantized position will result in realistic sounding transitions. Note that the keyswitches are triggered slightly before the actual notes.

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 bassist when performing the patterns during the recording session. Even if subtle, the **Original** setting sounds more akin to a real bassist 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 bass 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.

8. Credits

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