SCARBEE
JAY-BASS

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NATIVE INSTRUMENTS

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1 Welcome to Scarbee Jay-Bass!

Scarbee Jay-Bass is built on the samples of J-Slap'n Fingered, but has been reprogrammed to take advantage of our highly advanced scripting technology originally developed for MM-Bass. Three pick-up settings: Bridge, Both and Neck have all been recorded in both a fingered and slapped version – without the use of compression, tubes or EQ to ensure maximum flexibility in the sound production. It features an extensive set of playing techniques, for example:

- sustains
- mutes
- harmonics
- hammer-on & pull-off
- fast grace notes
- slides (in most any speed you could want)
- trills
- buzz-trills
- cross hammering
- chords
- chord slides
- index and middle finger alternation
- multiple sets of release samples: loose, tighter and tight.

Jay-Bass was designed to make it very easy to use all these while playing live. Except for the trills and cross hammering you can trigger all of the articulations and techniques above without the need for any keyswitches.

The full strings of the bass have been sampled in order to reproduce the timbre changes that occur when you move between low and high frets on the string of a real bass. This results in a very rich sound with all the natural overtones.

It should be noted that Jay-Bass is much more than just a collection of samples. It features a sophisticated script, which takes care of many things automatically for you, for example:

- string selection

- a fretboard display updated dynamically as you play

- alternation between index and middle finger

- chord recognition

- random alternation between three different types of release samples

- realistic vibrato

Furthermore, the script enables you to configure all settings including EQ, load and store FX presets, and access documentation covering every aspect of the instrument directly through the instrument performance view.

1.1 About the Bass

The instrument we used was an excellent and expensive danish hand built bass that has the features of a classic funky late ´70s bass: The same shape and dimensions of the back of the neck, the same pick-up placement, the same wood (body made of ash; neck and fingerboard made of hardrock maple), Dunlop 6110 "jumbo" frets and bone nut.

1.1.1 Neck

Wood	1-piece hard rock maple, reinforced with graphite bars
Attachment	Bolt-on with threaded steel bolts and inserts
Fingerboard	Hard rock maple, black dot position markers
Scale	34"
Radius	Compound 7 1/4" / 12"
Frets	21, "jumbo" frets (Dunlop 6110)
Nut	Brass
Truss-rod	Single, adjustable at body
Tuning gears	Hipshot HB-1s
Finish	Matt satin acrylic, clear

1.1.2   Body

Wood	Finest select Danish White Ash
Pickup	Lindy Fralin (vintage edition)
Controls	2 x volume, 1 x active bass, 1 x passive treble
Preamp	Aguilar OBP-P passive/active
Bridge	Badass Bass II
Straplocks	Schaller
Finish	High gloss, polyester
Strings	DR MR-45 "Hi-BEam"

1.2   Note to Users of Scarbee MM-Bass

Jay-Bass was designed to mimic the functionality of MM-Bass as closely as possible, but using the samples from the J-Slap'n Fingered library. As a consequence most material in this manual is equal to that of the MM-Bass manual. If you know MM-Bass well, you can safely skip ahead to the section near the end that explains the various differences between MM-Bass and Jay-Bass.

1.3 The People Behind Scarbee Jay-Bass

Thomas Hansen Skarbye – The Bassist and Producer

When I was a boy, I wanted to be a great Magician. I wanted to amaze the audience and leave them wondering: "How did he do that?" Years later, I am still very fond of "illusions" in any media. I watch almost every movie that raises the bar of special effects and I share true interest in computer and console games with my sons for the same reason. These days my magic wand and top hat are the Scarbee Sample Libraries.

I have played in various funk bands as a bassist during my younger years, but started soon to compose music for TV documentaries and aimed for a career as a film composer. After having composed and produced music for more than 150 commercials for TV and Cinema (even working with Oscar winning director Bille August), I began to create Sample Libraries and Virtual Instruments as I wanted better sounds to use for my productions. These products are used by top artists around the world on albums and live.

Due to "Carpal Tunnel Syndrome" (weak wrists) I invented an artificial way of playing bass using software in 1998 and released the Scarbee J-Slap & J-Fingered in 2000.

Originally I had planned a fretless bass release but I instead decided to take a break from the basses and do some "easy" vintage keyboard sounds to use in my productions. Ironically it took me 5 years to complete the Vintage Keyboard Collection and the Vintage Keyboard FX plugin! Not exactly an easy job as I expected, but this is me in a nutshell; I get into some-thing, dig deeper and deeper, and slowly reveal the secrets and soul of an instrument, and cannot stop until the job is done.

The Jay-Bass project started in 2007 just after the release of MM-Bass. Many users of J-Slap'n Fingered emailed me and asked if it was possible to use the BB programming with

JSF. To begin with, I did not think this was possible but slowly I was convinced by Nils Liberg that it could be possible if we only were prepared to spend some time on it. At the same time I was involved in some bass programming for a funk producer; using J-Slap and Fingered it was hard for me to go back to that "old" programming now that I had become used to the wild luxury of the MM-Bass fretboard display and intelligent script. So eventually, I decided to start the conversion, which proved to be just as time consuming and difficult as I had expected but at the same time extremely rewarding.

Please enjoy our bass – we surely put a lot of love into it!

Nils Liberg – Script Developer

I was contacted by Thomas in the autumn of 2006 to create a KONTAKT script for what would later become MM-Bass. After having completed it, we realized that this system also had the potential of significantly increasing the playability of J-Slap and Fingered. It took quite some effort to translate JSF to function like MM-Bass, but I like to believe it turned out very well in the end.

My goal with the script has been to make the instrument so easy to play that the user will never feel it's too much trouble to use any of the articulations. It feels doubly rewarding to have been able to put all my creativity into something that I know will finally be used as part of and benefit another person's creative expression. It is my hope that you will find Jay-Bass an inspiring instrument to use.

Nils Liberg is an experienced script developer and the author of a widely used script development environment for Mac/PC.

2 Playing Bass Notes on a Keyboard

With stringed instruments a certain note can often be played on multiple strings, and so the player has to choose. For example, G2 can be played on all four strings of the bass with each string having its own very distinctive sound. Many sample libraries and virtual instruments take the simplistic route of recording only one sample per note (from the lower playing positions), which means that the user gets a very limited instrument.

Jay-Bass on the other hand includes samples of all the different strings each note can be played on, thus capturing the sound of the whole instrument. In our view the samples at higher frets is an integral part of the instrument and adds spice and variation to the sound.

When a real bass player is about to play a note, he/she typically chooses the string on which the note can be played with minimum effort. That is, without moving the left hand too much. On a keyboard, it's difficult to manually perform this string selection in real-time and laborious to do it after recording, so we came up with a way to let the Jay-Bass script do it for you.

2.1 Automatic String Selection

The figure below shows the main view of the instrument user interface. Note the white dotted line above the fretboard. It represents the position of the left hand on the bass neck – the playing position. When you play a note on the keyboard Jay-Bass automatically chooses a string that minimizes the need to move the playing position (the left hand), similar to a real bass player. This way you can get the full sound of the bass with minimum effort. Eg. if you play an octave interval the correct strings will automatically be used.

That's the basic operation, but the automatic string selection also takes many other things into account such as when to use open strings and what special rules to use for each articulation.

Articulation specific symbols are displayed on the fretboard on the selected string/fret as shown above, and the text label below the fretboard shows the name of the last used articulation. Each string is monophonic so a new note interrupts any earlier one on the same string – just like on a real bass. Simply trying out Jay-Bass, oneself is perhaps the best way to understand how it works.

2.2 Manual String Selection

It is also possible to control the string selection manually. Each string has an associated key switch: E0, A0, D0, G0 – picked to be easy to remember. In MM-Bass-Amped, a key switch affects the following note or remains active for as long as you hold it pressed. To return to the normal mode of operation, just release the key switch. It is possible to combine more than one string key switch. For example you can hold A0 and D0 pressed simultaneously to make A and D be the preferred strings.

Another way of controlling the string choice is by using key switches F5-B6 to specify which frets you prefer. The F5 key corresponds to the first fret, F#5 to the second fret and so on. To make it easier to learn we made the fret key switches match the corresponding note on the E-string of a bass (F is the first fret on this string, F# the second and so on). By pressing and releasing one of these key switches you move the playing position and at the same time trigger a fret noise sample (different noises are used depending on how far you move). You can also lock the playing position by holding one of these key switch pressed while playing. As will be shown later it is also possible to use a MIDI Controller for fret selection.
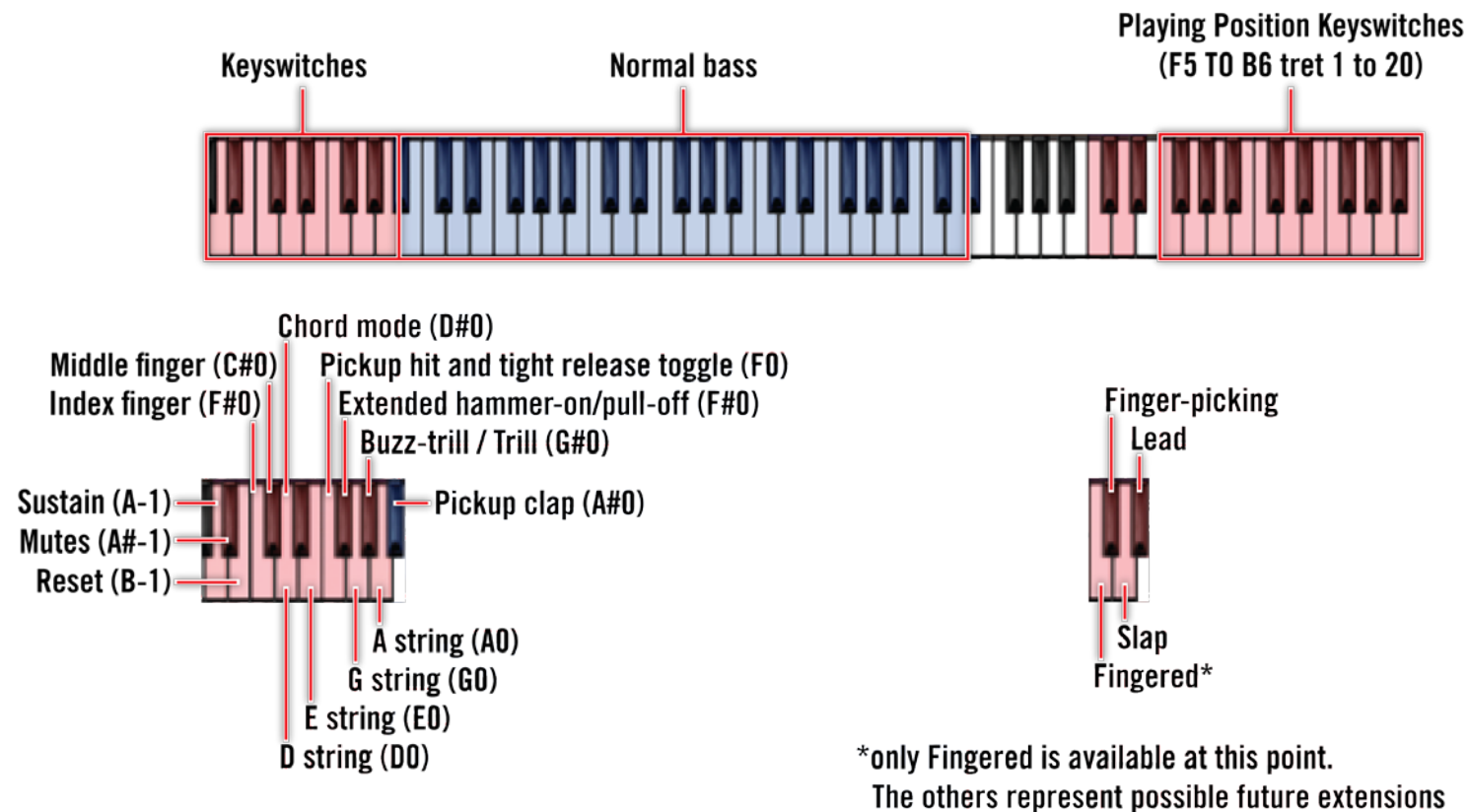

Markers show the notes being played on which string/fret. The symbols are specific to each articulation.

3   Key Layout

Here is a schematic of the keys in Jay-Bass. The red keys are key switches and the blue ones mapped to normal samples[1]. This is just an overview. Instructions on how to use each key switch and what it does is given in the following text sections.

Keyswitches   **Normal bass**   **Playing Position Keyswitches (F5 TO B6 tret 1 to 20)**

Chord mode (D#0)
Middle finger (C#0)   Pickup hit and tight release toggle (F0)
Index finger (F#0)   Extended hammer-on/pull-off (F#0)
                         Buzz-trill / Trill (G#0)
Sustain (A-1)   Pickup clap (A#0)
Mutes (A#-1)
Reset (B-1)

A string (A0)
G string (G0)
E string (E0)
D string (D0)

Finger-picking
Lead

Slap
Fingered*

*only Fingered is available at this point.
The others represent possible future extensions

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[1] The bass has no B string, but for flexibility the notes B0 to D#1 have been mapped to a virtual B string. These notes use stretched E string samples. Only basic articulations like sustain, mutes, hammer-on and pull-off are available on the virtual B string.

3.1 Fingered and Slapped

► To use fingered playing style, load one of the instrument (.nki) files.

► To use both fingered and slapped, load one of the Both multi (.nkm) files.

• The C5/D5 keyswitches are used to switch between fingered and slap respectively.

• See the installation notes above for a short description of each patch.

• If you use a combi with both fingered and slapped, you don't need to have the performance view of slapped open. The visibility of performance views can be toggled by clicking on the corresponding instrument icon.
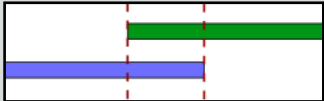
4 Articulations

4.1 Sustains, Mutes and Harmonics

Sustain is the default articulation. For velocities below 40, you get mutes instead, and for velocities below 15, you get harmonics where available and mutes otherwise. Enough velocities layers have been recorded to achieve natural transitions from soft to hard playing. Please note that harmonics are mapped to the string/fret where they are played on a real bass and not to the pitch of the sound.

If you activate the mutes key switch (A#1), you will get mutes irrespectively of the velocity. This can be used to make it easier to trigger mutes since you do not need to rely on getting the right velocity when using it.

4.2 Hammer-on/Pull-off

Legato	To trigger a hammer-on or pull-off you simply play a half- or whole note either down or up legato (overlapping the earlier note). If a hammer-on or pull-off is not available (eg. when playing a note legato downwards from fret 1), you will get a sustain instead.
	Hammer-on / pull-off for intervals greater than 1-2 semitones may be played by activating the F#0 key switch. See more about this further down.

4.3 Fast Grace Note Up
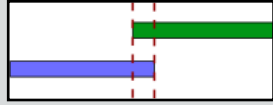
Fast Legato	A fast grace note is triggered in the same way as a hammer-on, one needs to play the legato note very quickly after the previous note. Eg. play a C2, hold it pressed and press a D2 quickly after (between 20 and 60 milliseconds).
	The velocity of the lower note – the pre-hit note – is used as the velocity for playing the fast grace note sample. This allows you to play the second note at any velocity, which can help because one often ends up hitting it a bit harder since it has to be triggered so fast.
	It was an old dream since the year 2000 to be able to trigger fast grace notes in an intuitive way and now it has finally come true – no key switches are necessary!

4.4 Slides
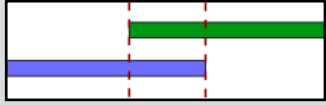
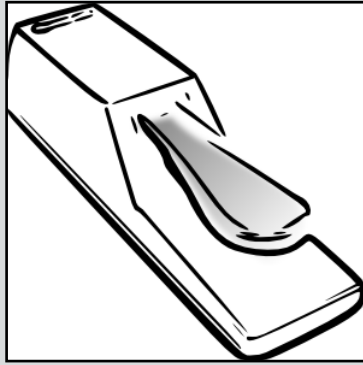| Legato	Slides are available in two, for some strings three, different speeds. To trigger a slide play a note legato while holding the sustain pedal pressed. If you played a short slide of one or two semitones the slide will end automatically. For longer slides you need to press the target note once again when you want the slide to end.
+	If it's not possible to slide the played interval without going outside of the available frets, a sustain will be used instead. The velocity of the target note determines the speed of the slide. There are three recorded slide speeds:
	• Velocities 1-30 trigger the slowest slide sample
	• Velocities 31-60 trigger the middle slide sample
	• Velocities 61-127 trigger the fastest slide sample
	If you trigger a speed, which is not available, the closest matching speed will be used instead.

Below there is a table of ranges where each type of slide sample is available. You typically don't have to think about this since they are remapped automatically, but it's here for completeness.

|	Fingered	Slap
Slow slides up	E string: Fret 0-9 A string: Fret 0-9 D string: Fret 0-9 G string: Fret 0-11	E string: Fret 0-9 A string: Fret 0-9 D string: Fret 0-9 G string: Fret 0-11
Middle slides up	E string: Fret 0-9 A string: Fret 0-9 D string: Fret 0-9 G string: Fret 0-11	E string: Fret 0-9 A string: Fret 0-9 D string: N/A G string: N/A
Fast slides up	E string: Fret 0-9 A string: Fret 0-9 D string: N/A G string: N/A	E string: Fret 0-9 A string: Fret 0-9 D string: N/A G string: N/A
Slow slides down	E string: Fret 4-21 A string: Fret 4-21 D string: Fret 4-21 G string: Fret 3-21	E string: Fret 4-21 A string: Fret 4-21 D string: Fret 4-21 G string: Fret 5-21
Middle slides down	E string: N/A A string: N/A D string: N/A G string: N/A	E string: N/A A string: N/A D string: N/A G string: N/A
Fast slides down	E string: Fret 4-21 A string: Fret 4-21 D string: Fret 4-21 G string: Fret 3-21	E string: Fret 4-21 A string: Fret 11-21 D string: N/A G string: N/A

4.5 Buzz-trills, Trills

A buzz-trill is the sound of a real bass player moving his finger back and forth over a fret quickly. A trill on the other hand is a sequence of repeated hammer-on and pull-offs. Buzz-trills and trills are activated by pressing the G#0 key switch. Buzz-trills are available on the D and G string and trills on the G string.

- Velocities 1-59 give trills on G string and buzz-trills on D string.
- Velocities 60-127 give short buzz-trills

Note that unlike the other key switches G#0 only affects the following note even if it were to be held pressed. We made it like this to make it easier to trigger a single trill without accidentally affecting other notes.

4.6 Trill Tails

+
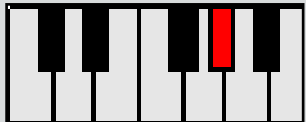
Legato (down)

Trill tails are based on the same samples as trills except that their attack has been removed in order to make it possible to use them after any other articulation – as a tail. They are available on the G string.

To trigger a trill tail press the G#0 key switch to activate trill mode and then play a pull-off (a half or whole note legato down). Please note that the key switch must be pressed just before the pull-off note and not earlier or you will get a trill or buzz-trill instead of a sustain on the preceding note.

Here's an example of how a trill tail can be performed: play A3 and hold it pressed, play the G#0 key switch, play a legato down to G3. The G3 legato note is played back as a trill tail.

4.7 Pickup Clap
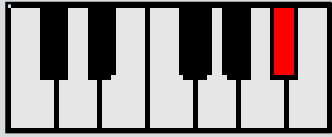
Play A#0 to get the sound of a pickup clap. Please note that A#0 behaves more like a normal note than a key switch – the A#0 itself triggers the sound and it does not affect other notes. As many as 27 different pickup clap samples are included.

A real bass player typically hits the pick-up with his/her right hand on snare drum hits (2/4) to keep the beat – or as some advanced players: hit the pick-up as a flaminco guitarist in between notes for a funky, unique bass groove.

4.8 Release Samples

Toggles loose/tight

A release sample is played whenever a note is released. With one exception: when a note is played legato (overlapping the earlier note) a release sample is not played for the earlier note. There are two sets of release samples tight and loose.

The loose samples are noisier and adds character to the sound, whereas the tight samples represent a more tightly played type of release which is less prominent and cleaner. In the settings you can setup how often you want to hear each one of the types.

So which type should one use then? Well, it depends on the style and what kind of bass player one wants to imitate. The professional and often hired studio musicians usually have a very fine dampening technique – so you rarely hear the releases – even when they are playing fast. These bass players, who you hear on so many albums, mute the stings with a combination of the left and and right hand to avoid ringing and other noise from the bass.

However, even they sometimes decide to play a bit more relaxed and then you will hear more of the release sound. In more rock oriented songs you will play much more relaxed and even appreciate the raw sound of loose dampening.

In the settings you can specify whether you want both types of release or just the tight by default. The F0 keyswitch can then be used to alternate between the default mode and other one.
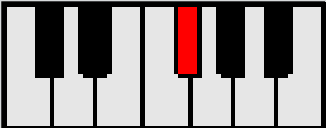
5   Playing Techniques

5.1   Index and Middle Finger Alternation

Separate sample sets for right hand index finger and middle finger playing has been recorded for many articulations. The alternation between these two is performed automatically. When you play slowly, you only get index samples and when you play faster Jay-Bass alternates between index and middle finger samples as a real bass player would. You can configure the speed threshold for when alternation is to start (see Alternation in the settings).

The alternation can also be controlled manually by using keyswitch C0 to activate index finger and C#0 to activate middle finger samples. Like the other keyswitches these affect the following note or remain active for as long as they are held pressed. Pressing any of these keyswitches will inhibit the automatic alternation.

The articulations with two alternations are sustains, mutes, harmonics, fast grace notes and release samples.

5.2 Extended Hammer-on/Pull-off

+

Legato

Normally hammer-on and pull-off are triggered by playing an interval of one or two notes up or down legato with the previously held note. However, it's possible to use the same articulations for larger intervals. To do this activate Extended hammer-on / pull-off mode by pressing the F#0 keyswitch.

For example if you play A1, hold it pressed and then play E2 while holding the F#0 keyswitch pressed the E2 will be played as a whole-note hammer-on on the same string as the A1 even though the interval is a fifth.

Please note that the extended mode affects the automatic string selection – the script will try to stay on the same string even if the target note is not near the current playing position.

5.3 Cross Hammering

+

You can get cross hammering by combining a string keyswitch with the extended hammer-on / pull-off mode described above. When this keyswitch combination is activated you no longer have to play legato to trigger a hammer-on. Instead, any note will trigger a whole-note hammer-on.

Let's say you want to cross hammer E2 on the A string. In order to do this hold the E0 and F#0 keyswitches pressed (E string + extended mode) and then play E2 on the keyboard.

5.4 Chords

Normally chords work well in the default mode. However, in some special cases the automatic string selection can fail since the script cannot see into the future. The notes of a chord never arrive at exactly the same time but typically some milliseconds after each other, and in a more or less random order. The string selection is usually performed one note at a time, but in unfortunate situations the optimal string for the chord note which comes first can be a suboptimal choice for the chord as a whole – it might be even better to use that string for a chord note which arrives just milliseconds later.
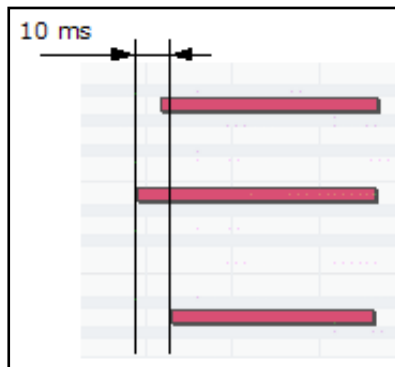
To solve this problem, we provide a chord mode which is activated by key switch D#0. When the chord mode is active, the script waits for all the notes in the chord to arrive before it decides on what strings to use. Only then is playback started.

The longer the script is allowed to wait for new notes in a chord the sloppier a user can play them and still have them recognized as a chord. But the longer the script waits the longer will also the playback of the notes be delayed. So there is a trade-off between allowing for sloppily played chords and latency.

In fact the script waits for extra notes in the same way even when chord mode is not active, but then a much shorter waiting time is used (the default is 0.5 ms) – so short that one cannot hear it. It is not possible for a human to play chords that tightly, but if you align notes in your sequencer and make the first and last note be close enough that will make it possible for the chord to be recognized.

Hence, for live playing you can use D#0 to activate chord mode, but if you choose to align notes after recording you don't have to use the key switch. It's up to you as the user.

In addition to proper string selection, another advantage of having a played chord recognized as a unit as opposed to a series of individual notes is that the lowest chord note is automatically played using index finger samples and higher notes using middle finger samples, just like one would play it in real life.

5.5 Chord Slides

Playing a whole chord legato with an earlier chord would be difficult so instead we came up with a single finger technique to make it easier to perform chord slides. In order to play a chord slide first play the chord. Then press the sustain pedal and play the target note to which you want to slide (just as before the velocity of this note determines the slide speed). The Jay-Bass script will determine the interval between the target note and the note in your chord that is closest to the target note. This interval is then used as the slide interval.

For example: let's say you play the chord G1-D2-G2. To slide up a whole note you can press A2 while holding the sustain pedal pressed. The chord note nearest A2 is G2 and the interval is a whole note up which is then used as the slide interval. As an alternative to A2 it would also be possible to use A1 (a whole note up from the chord base note) or E2 (a whole note up from the middle chord note). To slide up one octave you would play G3 (one octave up from the nearest note, G2).

Note that a chord slide will only be performed if it's possible to slide the interval for all notes in the chord.

6 Sustaining Notes

Since the sustain pedal is already used to trigger slides another way of sustaining notes is needed. This is what the A-1 note is used for: while it is held pressed any released note will be prolonged until the A-1 note is released. So this key works just like the pedal does for other instruments.

It is sometimes useful to be able to sustain repeated notes in order to get rid of the disconnected feeling that gaps between the notes can give. Try for example to play E1, E1, E1... without holding A-1 pressed and then with A-1 pressed. However, please note that by sustaining notes there will be no time to play the release sample of one note before the next starts, and without the release samples one looses some of the important variation that increases realism. So it's important not to overuse this feature. You can in many cases get better results if you don't use A-1 and instead adjust note lengths in your sequencer (making one note end just slightly before the next one starts).

You may also configure a MIDI CC to use for this purpose instead of the A-1 key (see the Controller settings below).

7 Vibrato

The vibrato characteristics of a real bass was analysed and the results incorporated into Jay-Bass. Jay-Bass is also capable of mimicing the slight fret noise generated by the finger movements used to create the vibrato.

Vibrato intensity is controlled by the modulation wheel (CC#1). If you select the Vibrato page from the main menu you can configure the vibrato speed, vibrato fret noise volume, and specify whether you want to use CC#1 or Aftertouch to control the intensity.

See Vibrato settings below.

8 Instrument Reset

Jay-Bass randomly chooses between different types of release samples, fret noises and when to insert pickup-hits. This randomness gives more variation and a more realistic sound. However, it is also good to be able to predict the behavior – to know that your song will sound exactly the same each time you play it. This is possible by using the B-1 keyswitch to reset the instrument. In order to get the same result each time you play back your song, insert a B-1 keyswitch note in the beginning of the song.

The velocity with which this keyswitch is played determines the random sequence of values which controls release samples, fret noises and timing of pickup-hits. You can use any velocity, but please note that if you change the velocity of this initial B-1 keyswitch note you will get a completely different sequence of release samples, fret noises and pickup-hits.

9 Main Menu and Instrument Settings

9.1 Player Profile

Here you can specify what type of playing style you want to use. This affects the automatic string selection and whether high or low frets are preferred. For example, when playing rock a bass player would typically not use the lowest fret numbers.

- **Pop & Country**: no specific preference for low/high frets
- **Soul & Funk**: frets above fret 4 are preferred
- **Rock & Retro**: frets above fret 6 are preferred

Even with the latter settings it is still possible to use lower frets if you tell the instrument to do so by activating string or playing position keyswitches.

9.2 FX Presets

The instrument comes with a number of factory presets, which can be loaded by simply selecting them from the preset menu (see image).

Be aware that whenever you load an effect preset any customization of the Jay-Bass insert effect parameters you might have done can be overwritten.

You can also save your own presets. To do this edit the insert effects parameters in KONTAKT to your liking and then choose one of the "Save..." menu items from the preset menu. Please note that due to a KONTAKT limitation, scripts cannot load new effects but only change parameters of already loaded ones. This has been worked around by loading all kinds of effects and bypassing the ones which are not necessary. The status of the bypass buttons is stored in each preset and restored when one is loaded.

Presets are stored within the KONTAKT instrument file (.nki file) so in case you later download an update to Jay-Bass that file will lack any customized presets of yours, which is useful to be aware of. However, you can transfer a preset from one instrument to another by using the native preset feature in KONTAKT and then choose "Save..." from the menu to reintegrate it into the script preset system.

9.3 EQ

In this section the Bass, Middle and Treble can be adjusted. Beware that loading an FX pre-set can change the EQ.

9.4 Vibrato

Here you can specify the vibrato speed and the volume of the fret noises that are automatically generated in order to mimic the noises generated as the finger move back and forth on a string. You can also decide whether to use CC#1 or Aftertouch to control the vibrato intensity.

9.5 Release
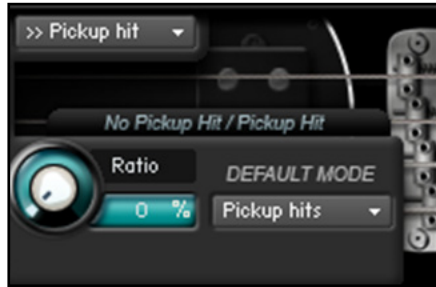
The Decay knob in the upper right corner controls how much more silent a release sample becomes for each second longer you hold a note pressed. The unit is dB/second. E.g. if it is set to 15 dB/s, then the volume of a release sample of a 2s long note will be turned down 30 dB.

There are two types of release samples: *loose* and *tight*. The tight samples are played more carefully and are less noisy than the loose ones. You can set the default release mode to be one of:

- **Random mode**: uses random mix of loose and tight samples

- **Tight mode**: uses only tight samples

By using the F0 keyswitch you can switch to the non-default mode at any time. E.g. let's say the default mode is set to Random. Then you will sometimes get loose release samples when playing. If you want only tight release samples for some passage of a song you can hold F0 pressed during that time to temporarily toggle to Tight mode.

The loose / tight knob controls the probability of getting either loose or tight release samples. Turn it up to increase the chance of getting tight samples.

9.6 Release

The Decay knob in the upper right corner controls how much more silent a release sample becomes for each second longer you hold a note pressed. The unit is dB / second. If it is set to 15 dB/s then the volume of a release sample of a 2s long note will be turned down 30 dB.

There are three types of release samples: loose, tight 1 (quite tight) and tight 2 (very tight). The tight samples are played more carefully and are less noisy than the loose ones. You can set the default release mode to be one of:

• **Random mode**: use random mix of loose, tight 1 and tight 2 samples

• **Tight mode**: use random mix of tight 1 and tight 1 samples only

By using the F0 key switch, you can switch to the non-default mode at any time. Let's say the default mode is set to Random mode. Then you will sometimes get loose release samples when playing. If you want only tight release samples for some passage of a song you can hold F0 pressed during that time to temporarily toggle to Tight mode.

The loose/tight knob controls the probability of getting either loose or tight release samples. Turn it up to increase the chance of getting tight samples.

The tight 1 / tight 2 knob controls the probability of getting tight 1 versus tight 2 samples. Turn it up to increase the chance of getting tight 2 samples.

9.7 Chords

The illustration below shows how the notes of a chord never arrive at exactly the same time – there is always a period of time between the first and last last note. As long as this period of time is shorter in milliseconds than the Sloppiness knob value shown to the right, the chord will be properly recognized and automatic string selection will work optimally.

If on the other hand the period of time between notes gets longer than the Sloppiness value the automatic string selection is performed note by note which in some cases can yield sub-optimal results for chords.
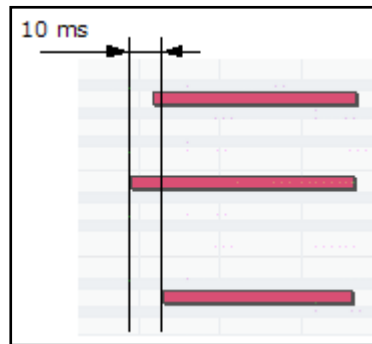
By increasing the sloppiness the tolerance for sloppily played chords increases, but at the same time the latency is increased by the same amount leading to a less responsive instrument. For this reason it's preferable to use a high sloppiness setting only when one is about to play chords and a low value otherwise in order to minimum latency.

When chord mode has been activated by the D#0 keyswitch, the left sloppiness setting is used. And when chord mode is not active, the normal sloppiness setting to the right is used. In other words, D#0 temporarily activates a higher latency which makes the string selection for chords more reliant and as soon as the keyswitch is released the low latency is restored again.

9.8 Alternation

When you play notes quickly after each other, automatic alternation between index and middle finger samples takes place. When you play more slowly, only index finger samples are used.

You can specify the threshold for what the script should consider fast playing by setting the Alt. *Time knob*. When you play a note, there will be automatic alternation only if the period of time since the last note is lower than this.

With the default setting automatic alternation starts when notes are played at shorter time intervals than 1 second.
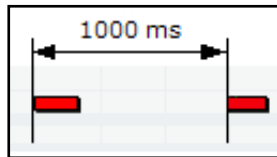
9.9 Noise Levels

Here you can adjust the volume of the various noise samples:

- Release samples

- Fret noise

- Pickup-hits, and

- Pickup clap

9.10 Controllers

In addition to keyswitches it is also possible to control some parameters using MIDI Controllers:

- **Playing position**: An alternative to the F5-B6 keyswitches. When it is set you can use that controller to move the playing position. Unlike the key switches this will not trigger fret noises and one cannot lock the playing position this way since there is no analogue to holding a key pressed.

- **Slide mode**: By default CC#64 (sustain pedal) is used to activate slide mode, but here you can specify another controller to be used if desired.

- **Release**: The CC used to control the balance between Loose and Tight release samples, i.e. the Loose/Tight knob on the Release settings page.

- **Sustain**: A CC number used to sustain notes (like a sustain pedal sustains notes). Please take care not to overuse this feature since some space between notes can be good in order to get a realistic release sound.

9.11 Help

For quick reference you can find documentation for articulations & playing techniques, settings and the script UI directly in the performance view. Select a help topic from the menu and a help text appears to the left.
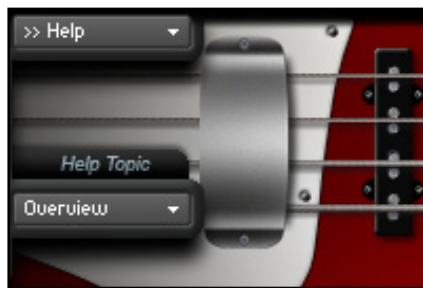
10 Differences Between Jay-Bass and MM-Bass

	MM-Bass	Jay-Bass
Pick-up mics	humbucker (1)	bridge, both, and neck (3)
Buzz-trills	short and long	short
Release	loose, tight 1 and tight 2	loose and tight
Pickup hit noise	automatic or manual	manual
Slide up available	on all frets	on fret 0-9
Slide down available	on all frets	on fret 4-21
Slide up range	1 octave	1 octave
Slide down range	1 octave	full string
Slide triggering	legato playing with sustain pedal pressed	legato playing with sustain pedal pressed, but for slide intervals greater than two semitones the slide has to be manually ended by playing the target note a second time
Index / middle	available	available, but middle finger samples have a shorter duration than index finger samples
Number of samples	4 003	6 092
Size	3 GB	2 GB
Size of download (compressed)	1.2 GB	747 MB

11 Production Credits & Thank You's

Producer, Bass Player & Programmer

Thomas Hansen Skarbye

Script Developer & User's Manual

Nils Liberg

Instrument Graphics

Stefan Kengen

Beta Testers

Jules Bromley and Stefan Kengen

Thank You's

My wife Anne, for all your work, support, and love. To Nils Liberg, you have been fantastic and one of the finest and brightest persons I have ever met, you should be proud of yourself! To Richard Hilton and Nile Rodgers for their support and friendship, Native Instruments for their powerful KONTAKT engine, Philip Pendleton for his help with web matters, Klaus Simone for his help in healing my soul, Jules Bromley for his beta feedback and Stefan Kengen for the MM-Bass instrument graphics, it looks so cool. To Jimmy Østbygaard from Futureware for fast help, Sound Soap, the great friends from Gaya Musik: Kim, Steffen and Victor. Big thanks to Garth Hjelte from Chickensys; could not have done it without Translator. To all Scarbee users: Thanks for your support. Finally to my sons Nikolaj, Oscar and Victor, I love you so much.