



**spicy guitar**

## **User manual**

**[spicyguitar.com](http://spicyguitar.com)**

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# 1. Introduction

Spicy Guitar is an easy-to-use acoustic guitar simulation software. Light and powerful, it enables you to generate realistic guitar parts as well as original string-based sounds. Its simple playing mode lets you play rhythms, arpeggios and solo parts easily. Spicy Guitar has also extensive MIDI learn and automation features.

Spicy Guitar is a sound synthesis software. Its sounds are generated from scratch using physical modelings of the guitar body, the strings and the guitarist's fingers.

The complex and coupled interactions between these elements are precisely described by Spicy Guitar's modelings which enable it to synthesize playing techniques such as palm muting or vibrato and to shape the sound via physical modifications of the guitar body or of the strings' materials.

## 2. Installing Spicy Guitar

### Minimum requirements

We recommend that your computer meets at least the following requirements for using Spicy Guitar. If you are using Spicy Guitar as a plug-in inside a host application along with other plug-ins, you might need a faster computer than what is indicated.

### PC requirements

- Microsoft® Windows® XP, Vista or 7
- Intel® Pentium® IV or equivalent processor
- 512 Mo of RAM
- 10 Mo of available hard-disk space
- Windows® compatible audio interface (built-in or external)

### Mac requirements

- Mac OS® X 10.7
- Intel® processor. Power-PC processors are **not** supported
- 512 Mo of RAM
- 20 Mo of available hard-disk space
- Mac OS® compatible audio interface (built-in or external)

## Installing

### Windows installation

If you choose to install the **plug-in** version, you will be asked during the installation for the location of your VST folder where you will be able to find the plug-in at the end of the installation.

If you choose to install the **standalone** version, you will be able to find it under the **Keolab** program group in the Start menu at the end of the installation.

### Mac installation

Run the installer and follow the instructions.

At the end of the installation, you will find the standalone version and this manual in the **Keolab** folder in your **Applications** folder.

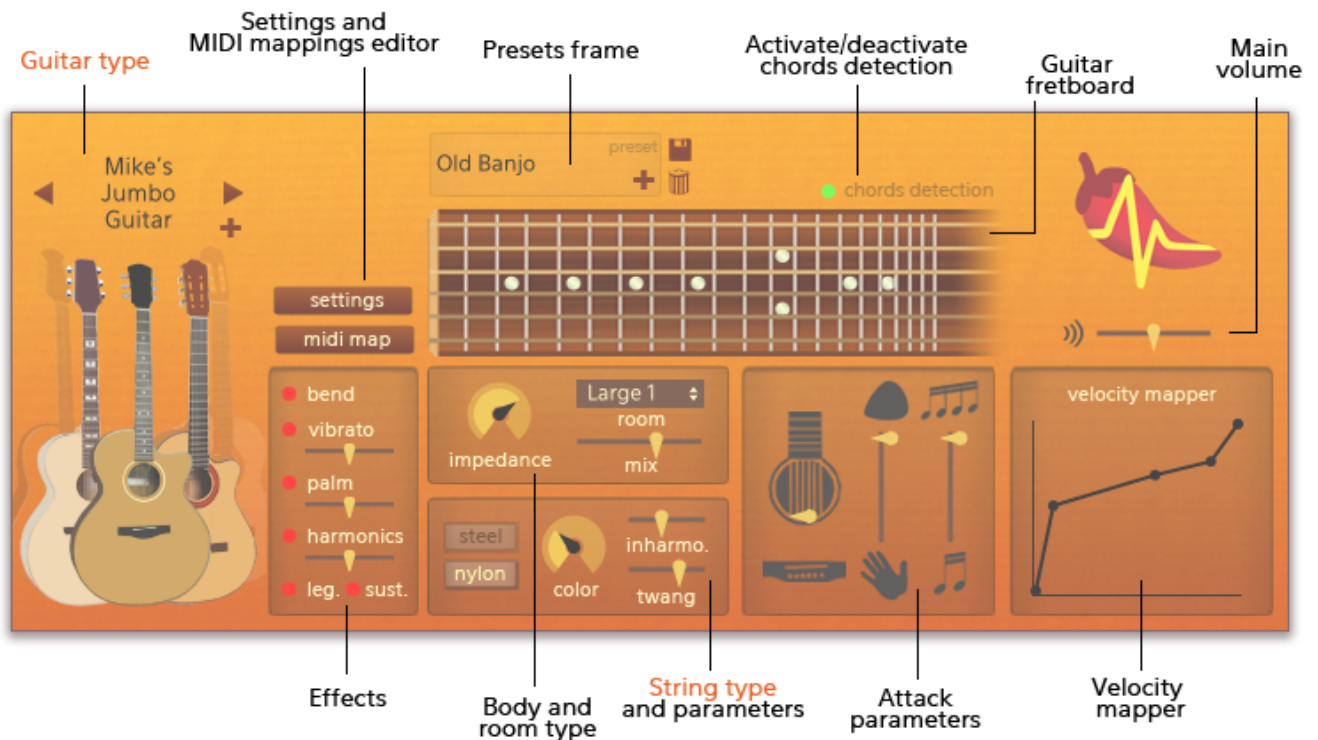
## Installing ASIO drivers (standalone)

If you are using a PC, it is recommended to use **ASIO drivers**. Otherwise, you might experience important latency which is the delay between the moment when you hit a key on your MIDI keyboard and the moment when the note can be heard.

If you don't have an external soundcard or if your soundcard did not come with ASIO drivers, you can try to install and use the **ASIO4ALL** drivers, available at [www.asio4all.com](http://www.asio4all.com).

To use ASIO drivers in Spicy Guitar, please see the section “Changing the settings”.

### 3. Discovering Spicy Guitar

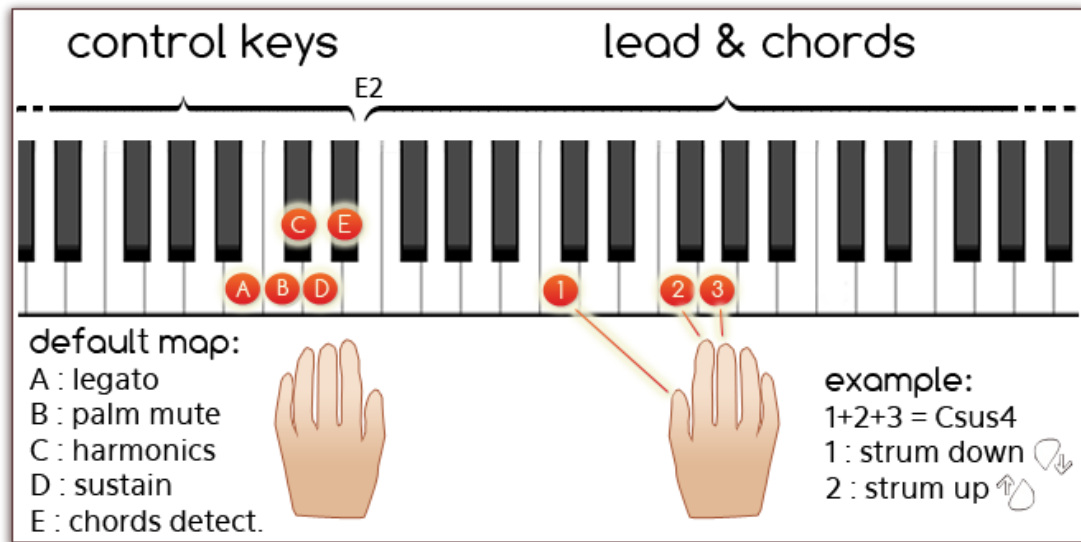


Here is an overview of the interface of Spicy Guitar to help you while you get started.

If you need help, you can simply let your mouse rest over any region of the interface and a tooltip will appear to help you. To get more help or for a deeper understanding of the concepts of Spicy Guitar, please see the relevant section of this manual.

**Note:** If you are using Spicy Guitar in **standalone version**, you will first need to set your audio configuration and choose your MIDI keyboard. Please refer to the chapter "Changing the settings".

## 4. Playing Spicy Guitar



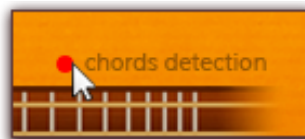
Spicy Guitar is built on a simple but powerful playing mode that allows you to play both solo parts and chords.

Any key of the keyboard can be set to be a control key and associated to one of the effects.

### Playing solo parts

When you play notes on a MIDI keyboard or input device, Spicy Guitar automatically find a position to play them on the guitar fretboard.

If you have difficulties to play solo parts or arpeggios because of the detection of chords, you can **disable the chords detection** by clicking on the chords detection diode – over the fretboard – so that it turns red:



### Playing chords

As soon as you play 3 notes - or more - that make up a chord, Spicy Guitar automatically strums a full guitar chord and displays it on the fretboard.

**Releasing a chord:** a chord keeps playing until you have either released all the notes of the chord on your keyboard or played another chord.



As a consequence, once a chord is strummed, you do not have to hold all the keys to keep the chord going as long as you keep pressing at least one key.

**Adding notes to a chord:** once you have strummed a chord, you can add notes to it and strum a richer chord: for example you can add a major seventh to a C major chord to get a C7M chord.

To do so, simply play again the notes of your current chord that you have already released plus the note to add.

**Switching between close chords:** once you have strummed a chord, you can switch to a close chord very easily: for example, you can switch between a C major chord and a C minor chord.

To do so, release the note of your piano chord that should not be part of your chord any more, and play the note with which you want to replace it.

## Playing rhythms

Once you have strummed a chord, you can strum it again by pressing again any of the key that make up the chord:

- To strum up, press again the 2<sup>nd</sup> lower key. If you are playing with your right hand, you can for example use your **index finger**.
- To strum down, press again any key that you pressed to strum the chord - except the 2<sup>nd</sup> lower key. If you are playing with your right hand, you can for example use your **thumb**.

See also the figure at the beginning of the section.

**Note:** You can also define a control key to trigger either a down strum or an up strum. Please see the section “Editing MIDI mappings”.

Pressing a strum up or strum down control key will trigger the corresponding strum action.

As long as you keep holding the control key, the chords will be strummed in the direction chosen by the control key except if you use the “2<sup>nd</sup> lower key”. In this case, Spicy Guitar will always strum up.

## Detected chords and playing positions

Depending on the octave at which you play, the chord will be played at a different position on the guitar.

The **first position** ranges from E3 to D#4. The **second position** ranges from E4 to D#5. The octave numbers might differ depending on your host application.

Spicy Guitar will detect the following chords:

- Major chords:
  - 7
  - 7M
  - 6
- Minor chords
  - 7
  - 6
- Sus2 chords
- Sus4 chords

## Chords inversions

**Note:** This feature is not activated by default. You have to activate it in the settings (see section “Changing the settings”) by ticking Detect chords inversions.

For Spicy Guitar to detect a chord, the bass note does not need to be the root note.

Let us consider the notes of a C major chord **by order of increasing pitches**:

- C E G (root, 3<sup>rd</sup>, 5<sup>th</sup>):



You can also play:

- G C E (5<sup>th</sup>, root, 3<sup>rd</sup>)



- E G C (3<sup>rd</sup>, 5<sup>th</sup>, root).



In the two later cases, Spicy Guitar will detect that you inverted the order of the notes and display a special name for the chord to indicate the names of the **notes under the root note**:

**Notes by order of pitches**  
C E G

**Name displayed**  
C

G C E  
E G C

C\G  
C\E, G or C\E

Whenever possible, when the bass note is not the root note, Spicy Guitar will try to play an additional bass note:



C chord



C\G chord



C\E chord

## Per-string MIDI channels

The **per-string MIDI channels** allow you to control very precisely on which string each note is played. This can be usefully to create ultimately realistic solo parts if the automatic transcription isn't enough.

Each string has in fact its own **MIDI channel**. To play a note on a particular string, simply assign it to the MIDI channel of the string:

String	MIDI channel number
High e	7
B	6
G	5
D	4
A	3
Low E	2

## Sustain

Playing chords can be much easier when the **sustain** mode is enabled.

By using the **sustain** mode, you can sustain the notes of a chord while your hand jumps to another chord, hence avoiding gaps while you move between chords.

Hence, using sustain can allow you to play much smoother rhythms. Please see the section “Sustain” for more details about using the **sustain** mode.

**Note:** When you play chords while the **sustain** mode, Spicy Guitar is smart enough so that only the proper notes are sustained: playing an E chord – which uses the 6 strings – and then jumping to a D chord – which uses only 4 strings – will damp the unwanted notes that may remain from the E chord on the 2 strings left untouched by the D chord.

## 5. The sound

### Choosing a guitar

Select the guitar you want to use amongst the 9 guitars available: 4 folk guitars, 2 classical guitars, 1 flamenco guitar, 1 jumbo guitar, and 1 gypsy guitar.

The mechanical behavior of these 9 real guitars has been measured using state-of-the-art techniques to precisely characterize the way the guitar bodies vibrate: the jumbo guitar will not emphasize the same frequencies as the gypsy guitar. These data have been processed and included into Spicy Guitar to feed the other parts of the modelings.

You can use the **left and right arrows** above the guitar selector to automatically move to the next or to the previous guitar in the list.

You can also click on the **Plus sign** below the right arrow to display the full list of guitars and simply pick one in the list.

### Changing the string parameters

#### String Type

You can choose either **nylon strings** or **steel strings**, independently from the guitar you selected. Classical guitars are generally set with nylon strings whereas folk guitars are set most of the time with steel strings.

Please note that changing this parameter will stop all the notes currently played.

#### Color

This parameter is directly related to the string's material behavior and its way of damping the mechanical vibrations.

Turning the knob to the right will make the sound more dull (high harmonics are quickly damped) whereas turning it to the left will result in brilliant sounds (high harmonics last longer).

#### Inharmo.

What makes a musical sound's pitch is its harmonic content: the sound is made of different frequencies equally spaced on the frequency scale. However, the string's material has an inherent ability to stretch (called Young's Modulus) which tends to increase the space between frequencies as the harmonic number grows.

This results in a slight **inharmonic**ity, important for the musicality of the sounds. You can change this inharmonicity and affect the timbre, for neutral sounds or ones with more character.

## Twang

This parameter is related to the non-linear behavior of the string. When plucked hard enough, the string's length can no more be considered as constant and the tension changes during its motion.

This results in a highly recognizable pitch increase during the first part of the sound, well known from guitarists as the "twang" effect.

Move this slider to decide how much of this effect you want to hear.

## Changing the body & room parameters

### Impedance

This parameter affects the guitar's body design. The behavior of this kind of structure can be described by its mechanical admittance (or its inverse, the impedance) which is the guitar's body ability to move as a function of frequency. This characterizes for instance the top plate and bridge main resonances.

The knob **impedance** changes how good a vibrator the guitar body is, and how fast the vibration energy is transferred from the string to the body.

- Turned to the right, the string transfers its energy very fast and the body damps it quick: the note falls fast.
- Turned to the left, the string transfers its energy slowly and the body damps it as slow: the sound last longer.

### Room Type

As every musical instrument, the guitar interacts with its surrounding environment - the walls of the room, the player's body, the air - resulting in complex couplings between sound fields.

Select different modelings to change the general reverberation level and color of your sound.

### Mix

Move this slider to change the ratio between wet and dry signals.

## Adjusting the attack

### Attack place

Depending on where the guitarist excites the strings, they behave differently. As a consequence, the harmonic content of the sounds is strongly affected by this parameter.

When the slider is at a **low** position, the guitarist plays **close to the bridge**, resulting in a quite aggressive sound.

When the slider is **high**, the guitarist is **closer to the fretboard** and the sound is smoother.

### Excitation type

Guitarists usually pluck and strum the strings using either a plectrum or using their fingers.

When the slider is **high**, the guitarist plays using a plectrum, which is also commonly called a guitar pick. The pick is more used on steel-string guitars, and produces a precise and aggressive sound.

When the slider is **low**, the guitarist plays using its fingers. Plucking the strings with the flesh of the fingers produces a warmer and smoother sound.

### Strumming velocity

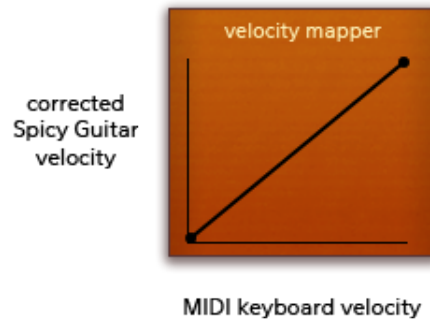
When Spicy Guitar strums a chord, the notes are not played at the exact same time. Instead, they are slightly spaced in time to mimic the speed at which the guitarist's right hand sweeps the strings when he strums the chord.

When the slider is **high**, the chords will be strummed quickly and the notes will be very close and harder to distinguish from each other.

When the slider is **low**, the chords will be strummed more slowly and the spacing between the notes will increase: it will be easier to distinguish the different notes of a chord.

## Velocity Mapper

You can adjust the curve of the velocity mapper depending on the velocity response of your keyboard.



Click on the velocity mapper to add a point at the current position of your mouse. To change the curve, just drag the points. Double click on a particular point to discard it.



## 6. The effects

### Introduction

You can use many of the guitarist's playing techniques to humanize your tracks but also create new sounds.

Most effects can simply be turned on or off at any time while playing.

On top of these, you can also use **vibrato** and **bend**. These two are different as unlike on/off effects you need to control them directly using either a MIDI controller or automation.

### On/Off effects

This includes harmonics, palm mute, legato, or sustain.

For each effect, a color diode in the interface displays the current status of the effect.

- When the diode is **red**, the effect is off.
- When the diode is **green**, the effect is on: you have activated the effect either by pressing a control key on your MIDI keyboard or using automation.



To make it easier to activate effects without a MIDI controller or without automation, you can also **click on the diode** which will become **blue** to activate the forced mode. The effect will be on.

You can click at anytime on a diode to deactivate the effect.

### Harmonics

Harmonics are musical notes usually produced on the guitar by lightly pressing the string without fretting it. This produces high-pitched notes.

You can adjust the sound of the harmonics using the slider just below the **harmonics** text in the interface.

You can also change in the **settings** (see section “Changing the settings”) the difference of pitch between the triggering note and the note that will be produced, which can be:

- +1 octave
- +2 octaves

You cannot use both harmonics and palm mute at the same time: activating one of the two will deactivate the other.

## Palm mute

Palm muting is the action of applying one's right palm onto the strings near the bridge of the guitar to produce a damped sound.

You can adjust the amount of damping using the slider just below the **palm** text in the interface.

You cannot use both harmonics and palm mute at the same time: activating one of the two will deactivate the other.

## Legato

We refer to legato playing as the use of hammer-ons and pull-offs:

- Playing a hammer-on is produced by hammering the string using a right hand finger to play a note without plucking it.
- Playing a pull-off is produced by pulling the string using a right hand finger and letting it go to put it in motion without plucking it.

This results in more smooth transitions between notes and can be used for example to produce cleaner fast runs.

When the legato effect is on, Spicy Guitar tries to play close notes on the same string and automatically plays hammer-ons and pull-offs.

Two notes are deemed to be closed enough to be played like this if they are within 3 semi tones.

## Sustain

The sustain makes the notes last longer:

- Once activated, each note will **keep playing** even after you have released it, until a new note is played on the string on which the note was playing
- Deactivating the sustain clears the current notes all the sustained notes

It is particularly useful to activate the sustain in the interface if you have to play a long part of chords or arpeggios.

To play individual sustained notes, you should consider using a control key just like a piano pedal (see “

Mapping an on/off effect to a control key”).

## Vibrato

The vibrato is not an “on/off effect” and must be controlled using either a MIDI controller or automation (see the next sections about that).

A color diode in the interface displays the current status of the vibrato:

- When the diode is **red**, there is no vibrato.
- When the diode is **green**, the effect is on: you are currently playing vibrato using either a MIDI controller or automation.

To make it easier to add vibrato, you can also **click on the diode** which will become **blue** to activate the forced mode. The vibrato will become active – blocked at a fixed frequency.

At any time, you can always click on the diode to deactivate the effect.

You can change the maximum depth (combination of amplitude and frequency) of the vibrato using the slider just below the **vibrato** text in the interface.

## Bend

The vibrato is not an “on/off effect” and must be controlled using either a MIDI controller or automation (see the next sections about that).

You can also trigger a bend by using after touch or channel pressure on your MIDI keyboard. You can activate or deactivate this feature in the **settings** (see section “Changing the settings”).

You can also set the maximum pitch increase of the bend in the **settings**, which is the pitch shift that will result when your bend controller is at 100 percents.

A color diode in the interface displays the current status of the bend.

- When the diode is **red**, there is no bend.
- When the diode is **green**, the effect is on: you are currently playing a bend using either a MIDI controller, automation or aftertouch.

You **cannot** activate or deactivate the bend from the interface.

## 7. Using presets

Using the presets, you can save sets of parameters that you like or used frequently and reuse them later. You can also use the built-in presets directly.

You can find the preset frame just above the fretboard, on the right:



### Loading a preset

To load a preset, use the « Plus » symbol at the edge of the frame.

Once you have loaded a preset, if you change some parameters, a little star will show up next to the name of the preset to indicate that there are **unsaved modifications**.

### Saving your parameters as a preset

To save your parameters, click on the **floppy icon** next to the frame and a popup menu will show up:

- **Save current preset** saves any modifications to the current preset. If you selected a built-in preset, you will have to choose a new name as these cannot be modified.
- **Rename current preset** allows you to choose a new name for the current preset. It does not save it. You cannot choose the name of a built-in preset as these cannot be overwritten.
- **Save as new** allows you to choose a new name for the current preset and saves it. You cannot choose the name of a built-in preset as these cannot be overwritten.
- You can also overwrite a previous preset of yours using your current parameters by choosing its name in the menu.

### Removing a preset

You can remove a preset by clicking on the **trash can icon** next to the frame – a popup menu will show up, allowing you to remove either the current preset or any preset that you have created.

## 8. MIDI mapping

### Introduction

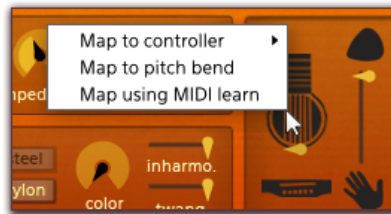
Most parameters of Spicy Guitar can be mapped to MIDI controllers and keys.

To do so, you can right click on any slider or diode in the interface and a MIDI mapping menu will show up.

We first present how to choose a controller manually, but we recommend that you look at the “MIDI Learn” section just after that.

### Mapping a slider to a controller

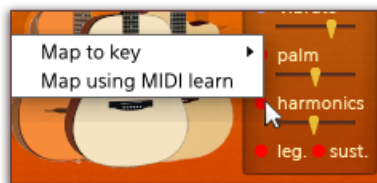
You can control sliders and knobs using either a MIDI controller or a pitch bend controller. Simply choose a controller in the menu and moving the controller will change the value of the parameter.



### Mapping an on/off effect to a control key

You can control on/off effects by using keys on your MIDI keyboard. Simply right click on a diode and choose a key in the **Map to key** menu.

Holding the key will toggle the diode and the effect on, and releasing the key will toggle them off.



### Mapping chords detection to a control key

The **chords detection** diode behavior differs. When mapped to a key, pressing the key will alternatively toggle the diode on or off. You don't have to hold the key.

## Mapping the vibrato and the bend

You can control vibrato and bend just like knobs and sliders either with a MIDI controller or a pitch bend controller. Simply choose a controller in the menu and moving the controller will control the effect.

In the case of the vibrato, you control the frequency of the vibrato.

In the case of the bend, you control the pitch shift of the bend.

## MIDI Learn

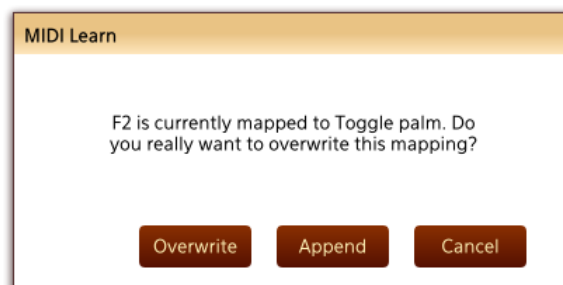
The MIDI learn feature allows you to map a controller to a parameter automatically without having to select a MIDI controller or a key manually.

To do so, right click on a slider/knob/diode, choose **Map using MIDI learn**, and either move a controller or press a key according to the on screen instructions.

Spicy Guitar will detect it and automatically map the parameter to what you did.

## Overwriting a mapping

If you try to assign a parameter to a MIDI controller or a keyboard key that is already mapped to something, Spicy Guitar will ask for your confirmation.



You will have the choice to:

- **Overwrite:** discard the previous mapping(s) by replacing it with the new assignation
- **Append:** the MIDI controller/keyboard key will be mapped to both the previous action(s) and the new one
- **Cancel**

## Editing MIDI mappings

You can review and edit the MIDI mappings using the **MIDI mappings editor** which is accessible using the **midi map** button in the interface at the left of the fretboard.



The **event** column allows you to review and change the controller/keyboard key used for a mapping.

The **action type** column allows you to review and select an action to perform amongst the following:

Set Parameter	Change the value of a slider or knob
Load Preset	Load a new preset
Vibrato	
Strum up	
Strum down	
Toggle (...)	Toggle on/off effects
Toggle chords detection	Enable or disable chords detection
Pitch bend	

As explained in the introduction, on/off effects and chords detection can only be mapped to keyboard keys. As a consequence, these actions will only be available if you have selected a **Key** event.

The same goes for the other actions which cannot be mapped to keyboard keys and will thus only be available if you have selected a **Controller** or the **Pitch Bend**.

Some actions require that you select an additional parameter:

- in the case of Set Parameter: the parameter update
- in the case of Load Preset: which preset to load

This is what the column **action details** is intended for.

## Adding a new mapping

You can add a new mapping to the list using the new button. A new entry will be added to the list that you can simply assign to the event and action of your choice.

## Removing mappings

You can remove a mapping by clicking on the brown **x** button at the right of its line.

You can also remove all the mappings at once by using the **Clear** button below the list.

## MIDI mappings presets

You can save, load and discard preset of your MIDI mappings following the same process as for Spicy Guitar parameters mappings. Go to “Using Presets” chapter for more information.



## 9. MIDI automation

Using the interface, you can control the parameters and turn on or off the effects. Using the **MIDI mapping** and **MIDI learn** features, you can associate almost anything to a MIDI controller. However, in the process of editing and producing songs, you might want to make parameters vary and toggle effects on or off as a part of your musical score directly.

Most audio plug-in host applications have **automation** capabilities to do so, and this is fully supported by Spicy Guitar. Please see the documentation of your host application before you get started if you are not familiar with this.

### Automating a diode/an effect

To control the **on/off effects** or the **chords detection**, put the automation curve below 0.5 to toggle off, and over or at 0.5 to toggle on.

The screenshot below demonstrates how to do automation on the chords detection: it is initially turned off, and it is activated for the last notes of the score.



# 10. Changing the settings

The settings button at the left of the fretboard allows you to define settings for each of your instances of Spicy Guitar.

After tweaking the settings, you can set your current settings as the default settings for when you start a new Spicy Guitar by using the **Save as default** button in the first tab.

The settings panel has 2 or 3 tabs, which can be selected by clicking on the icons on the left.

## Performance settings

**Latency samples** controls the number of samples of latency which is the delay between the moment when you hit a key on your MIDI keyboard and the moment when the note can be heard.

Set it to a lower value if you have too much latency. This will increase the CPU consumption though, so you might not want to always keep it to the lowest possible value.

**Chords detection delay** controls the duration under which a group of note may result in a chord directly without hearing the individual notes. Set it to a lower value if you have too much latency.

If you are having some difficulties to play crisp and clean chords, you should avoid lowering it too much.

**Sound precision** controls the quality of the sound and also has a direct effect on the CPU load. You can lower the precision to decrease the CPU consumption, but the sound will be of a lesser quality.

In a nutshell:

- To decrease **latency**, decrease latency samples and chords detection delay.
- To decrease **CPU consumption**, increase latency samples and decrease sound precision.

## Effects and playing modes settings

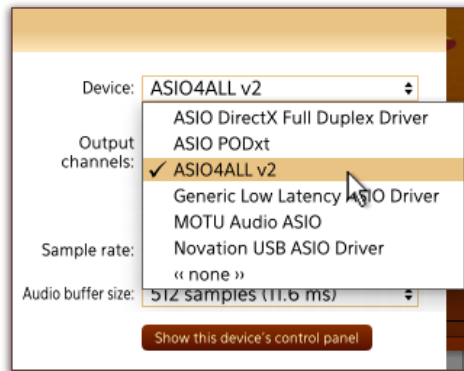
You can adjust the behavior of effects and playing modes.

Please see “Chords inversions”, “Harmonics”, and “Bend” sections for a description of these settings.

## Audio devices (standalone only)

If you are using the standalone version, a third tab will be present to select the audio device and the MIDI inputs to use.

**Using ASIO drivers:** To use ASIO drivers, set **Audio device** to **ASIO**. In the **Output** drop-down list, select the drivers of your sound card (or ASIO4ALL if you are using these drivers).



**Choosing the audio buffer size:** If you are hearing cracks and if you have already set the performance settings to decrease the CPU consumption, you might need to change your audio buffer size.

- If set to a too low value, you might be hearing cracks or clicks in the sound.
- If set to a too high value, you might experience too much latency.

# 11. Getting help

If you cannot find the answer to your question in this manual, you can also get help online at <http://support.spicyguitar.com/>.

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