

USER MANUAL

# Small Rantonen Rantele



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## INTRODUCTION

Kantele, also called kannel, is a traditional Finnish and Karelian plucked string instrument. Similar instruments include the Estonian kannel, Latvian kokles, Lithuanian kanklės, and Russian gusli.

The physical version of Small Rantonen Kantele is a historical, 5-string kantele made in 1770. This makes it one of the oldest still playable kanteles. The kantele was made famous by kantele player Antti Rantonen, who owned it and played it during his career.

Main idea for the virtual kantele was to create an instrument you can play live, almost like a real kantele. We used pedals, velocity layers, and special keyswitches to create a playing experience closer to the real instrument. Strumming is a crucial part of playing the small kantele, so we kept that in the middle of the development from start to finish.

Samples were recorded using different parts of the kantele, with resonance and without resonance, to give more options for the sound of the instrument. During the sampling the strings were tuned using a diatonic scale (CDEFG). With the virtual instrument it is possible to tune every string independently, so you can achieve the traditional D-tuning and many other tunings.

We captured 6 articulations, and in addition recorded percussion with the strings and the body of the instrument. Many other delicious samples are also present, including the sounds of hand damping the strings!

Small Rantonen Kantele was recorded with four microphones: Neumann TLM 103 as a middle microphone, two Sennheiser MKH 8040's on the sides, and AKG C411 PP as a contact microphone. We captured 3327 samples with 4 round robins.

## SYSTEM REQUIREMENTS

Native Instruments Kontakt 6.7.0 or higher (FULL)

Intel Macs (i5 or higher): macOS 10.14, 10.15, 11 or 12 (latest update)

Apple Silicon Macs (via Rosetta 2 & natively on ARM): macOS 11 or 12 (latest update)

Windows 10 or 11 (latest Service Pack), Intel Core i5 or equivalent CPU, 2 GB RAM

4 GB RAM

## INSTALLATION

Un-compress the downloaded package. Open the instrument with Native Instruments Kontakt 6.7.0 or higher.

## PLAY MODES

There are two play modes to choose from: Player, and Classic. Shortly put they differ on how the damping is used.



### Player

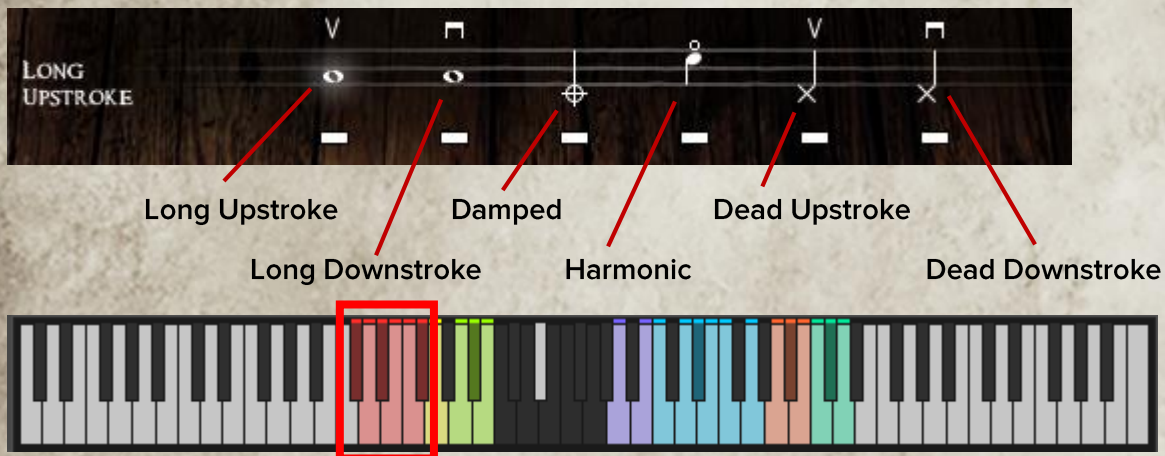
- As you would play a physical kantele. Full samples are played when pressing the keys, and the notes keep ringing even after releasing the keys. Pressing the sustain pedal down acts as a hand damping the strings. When the sustain pedal is pressed down, the played notes act as short notes, unless the keys are pressed down.

### Classic

- As you would play a piano. You have to press the sustain pedal down to make notes sustain. Releasing the sustain pedal acts as a hand damping the strings. When the sustain pedal is up, the played notes act as short notes, unless the keys are pressed down.

## ARTICULATIONS

There are 6 articulations in this virtual instrument. Classic way to switch between these is to either use keyswitches or to select the notes on the staff. Other ways are explained below. You may load or unload the samples using the purge buttons below the articulations.

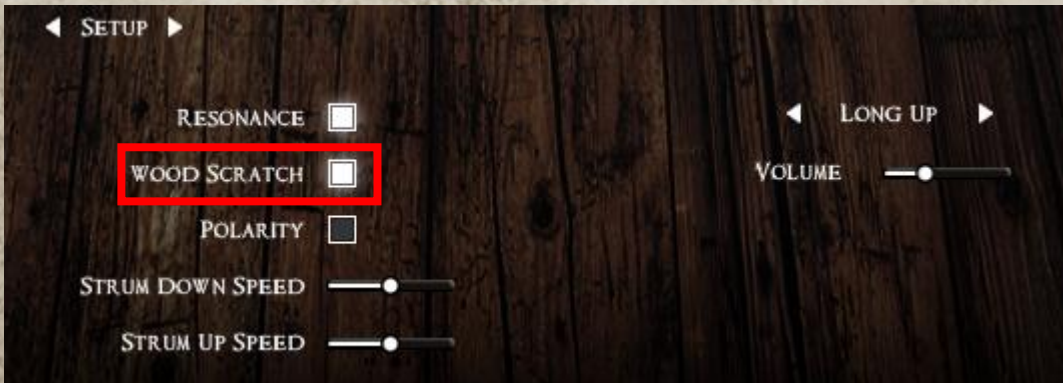


### Long Upstroke

- Long plucked notes, using upstroke with a fingertip.

## Long Downstroke

- Long plucked notes, using downstroke with a nail. There is an option to use special sample with the highest string. When playing the highest string of the instrument, sometimes your nail may first scratch the side of the kantele. We sampled the scratch, so it can be triggered either automatically (50% random possibility) using the Wood Scratch checkbox under the Setup tab, or by using the Wood scratch / Trigger downstroke keyswitch.

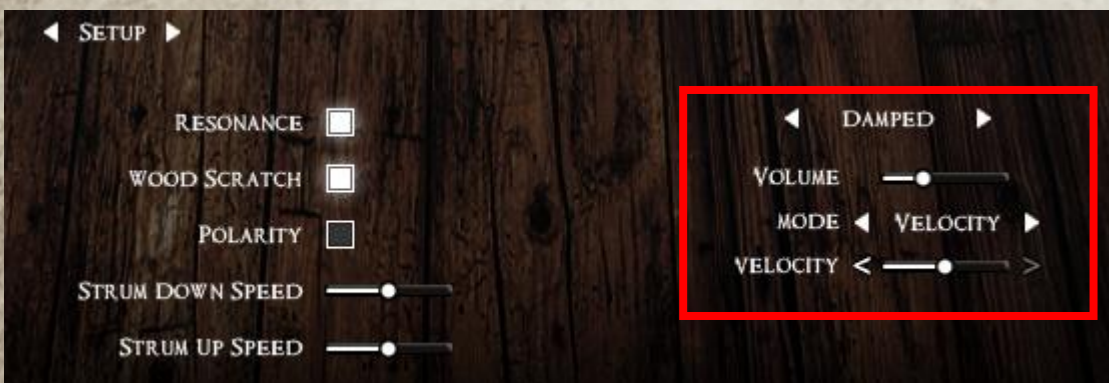


## Damped

- Damped notes.

Additional ways to play damped notes:

- You can play damped notes by keeping the Trigger damped keyswitch down.
- From the Damped menu under the Setup tab you may choose to use the key velocity to trigger the damped notes. Set the velocity range using the Velocity control.

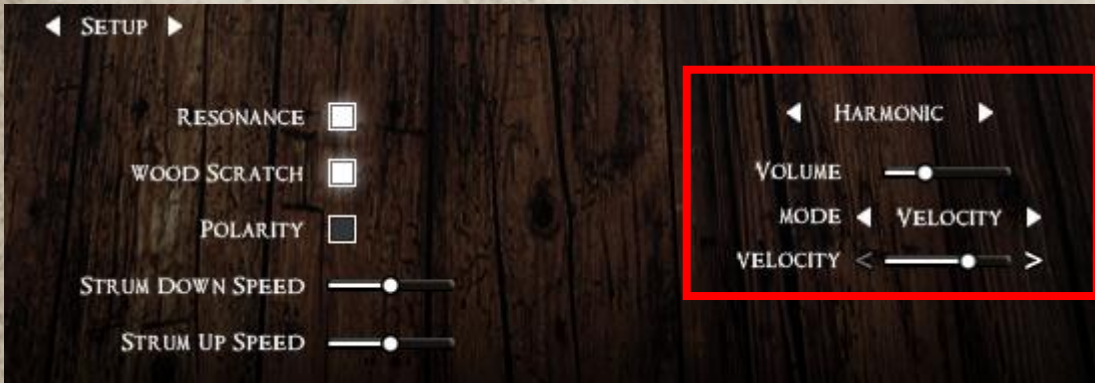


## Harmonic

- Note harmonics.

Additional ways to play harmonics:

- You can play harmonics by keeping the Trigger harmonic keyswitch down.
- From the Harmonic menu under the Setup tab you may choose to use the key velocity to trigger the harmonics. Set the velocity range using the Velocity control.



## Dead Upstroke

- Dead notes, or ghost notes, using upstroke with a fingertip.

## Dead Downstroke

- Dead notes, or ghost notes, using downstroke with a nail.

## STRUMMING

The strumming was created by combining individual samples. This way you can control every detail of the strum and create your own chords and patterns.

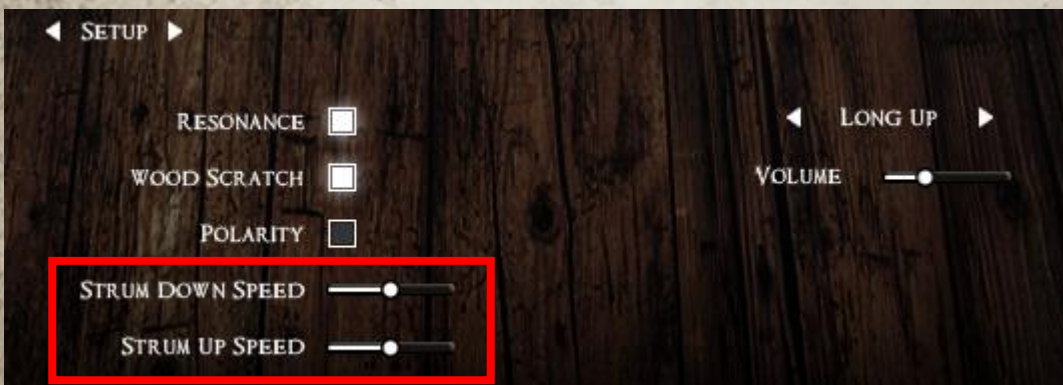


Strumming happens by pressing down the selected Chord keys, and then using the Strum down and Strum up keyswitches. Down strumming happens using the nail samples, and up strumming by using the fingertip samples. Keys C, D, D#/E, F and G can be used to form chords. D# and E represent one string, so only one of them can be selected simultaneously. Each string can be tuned individually, so at the end any chord can be formed.

Strings that are not selected are still played, but with the scratch samples instead of notes. Unselected strings before the first played string are an exception, and they are skipped (i.e. strumming starts from the first note). Single notes can also be played, and this way you can re-pluck the last played note while strumming. Volume of the scratched strings can be adjusted with the Dirty controller.

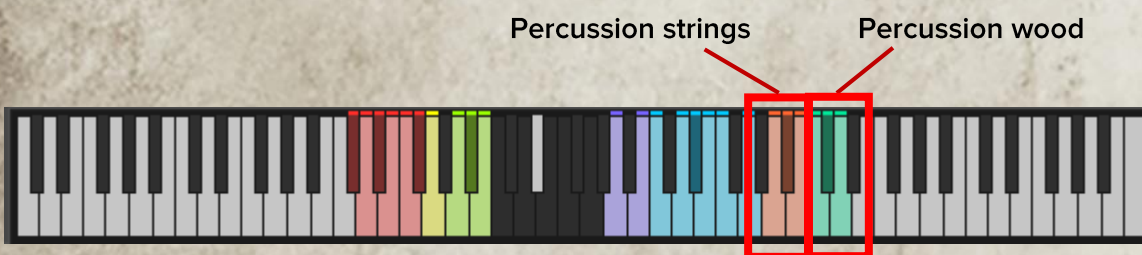
You can strum also with short notes. When in Player mode, keep the sustain pedal pressed to strum with short notes. When in Classic mode, keep the sustain pedal released to strum with short notes.

Strumming speed as a whole can be adjusted with the expression pedal (CC#11). It controls the Strumming speed controller. Individual speed controllers (CC#31 & CC#32) can be found under the Setup tab.

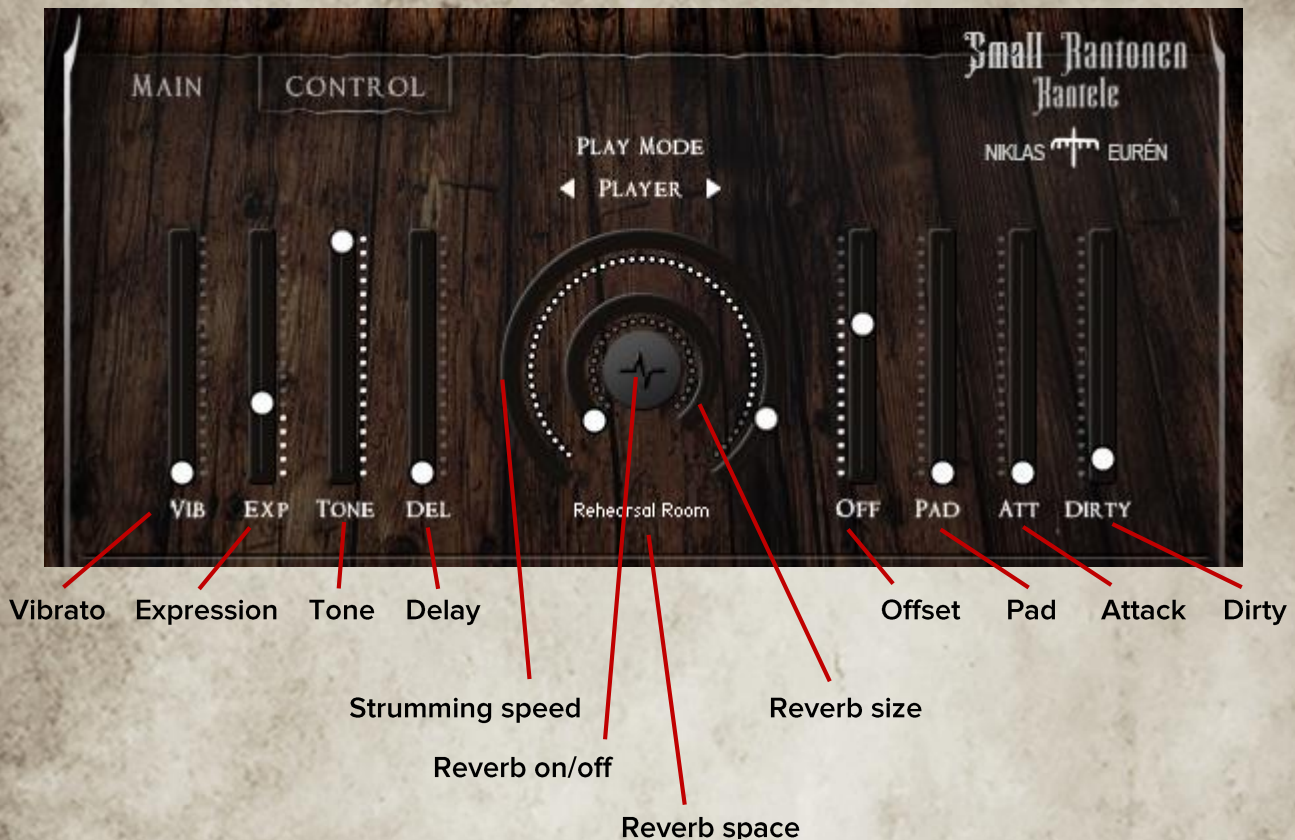


## PERCUSSION

We sampled (gently) two kinds of percussion using different parts of the instrument: Percussion by striking the strings with a hand, and percussion by striking the wooden body of the instrument. You can see the percussion positions (left, center, front etc.) visually on the kantele under the Play tab while you play.



## MAIN CONTROLLERS



**Vibrato (CC#26):** Amount of vibrato. Note that vibrato is triggered only if it's applied after playing a note, so it is not on automatically.

**Expression (CC#27):** Overall instrument volume.

**Tone:** How bright or dark the tone of the instrument is.

**Delay:** How much delay, or echo, the notes have.

**Strumming speed (Expression pedal/CC#11):** Overall speed of the strumming.

**Reverb on/off:** Convolution reverb on/off.

**Reverb space:** The room or space that is used for the reverb.

**Reverb size:** Size of the reverb.

**Offset:** Sample starting point.

**Pad (CC#28):** How ambient the notes are. The pad is created by using the expression, reverb size, offset and attack, and moving the controls visually. You can adjust the pad as you wish by controlling the individual controllers after touching the pad controller. For example, adding some delay can make the pad even more ambient or longer.

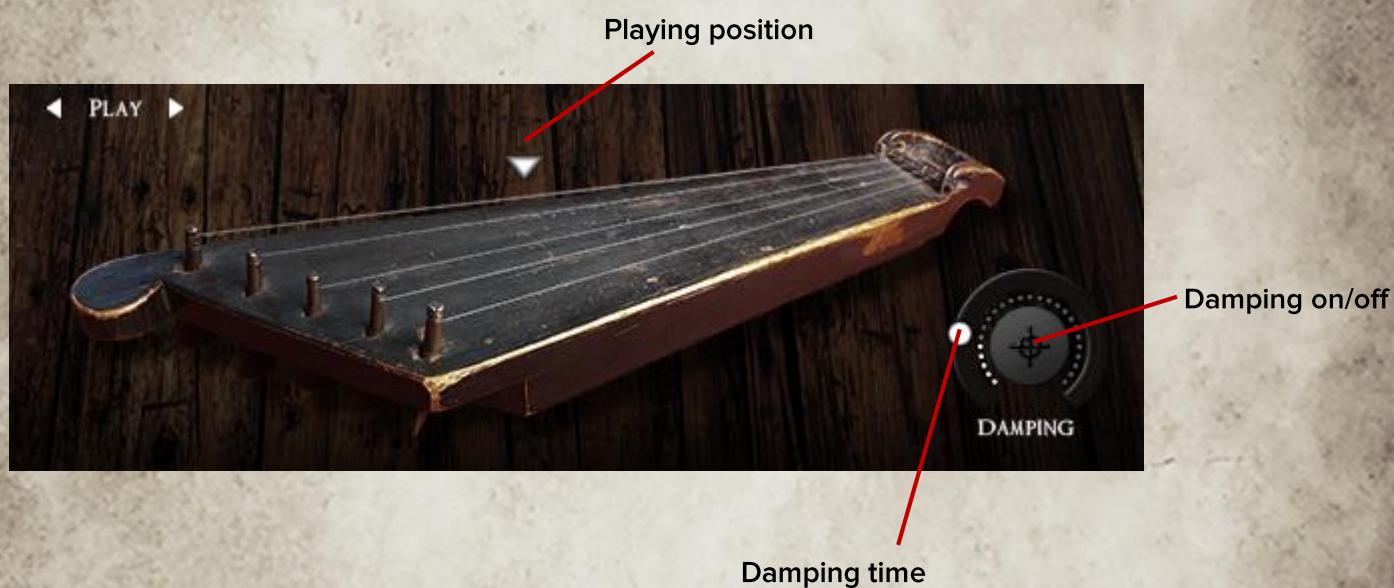
**Attack:** How fast the note reaches its full volume.



Dirty (CC#29): Adds a “dirty” layer on notes. We recorded scratch sounds on strings and the sound of a hand touching the strings. These can be added with the notes and when the Damping is used.

## PLAY TAB

Under the Play tab you can visually observe the instrument being played. There you can select the playing position by using the modwheel, or by dragging the Playing position controller. We recorded the samples in three different positions: Left, center and right. There is a crossfade between each position, which makes the switching smoother.



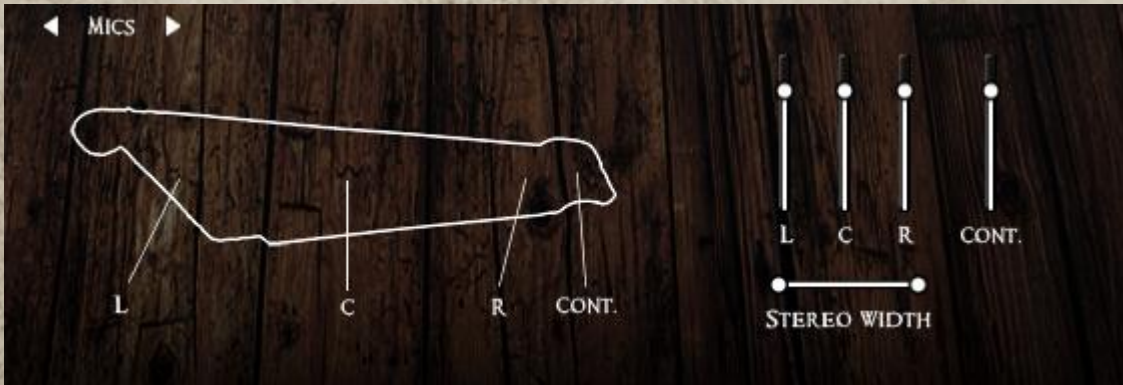
Damping controller can be controlled with a sustain pedal (CC#64). When damping is triggered, the middle Damping on/off button turns red.

In Player mode pressing the sustain pedal triggers the damping. Notes fade out after the damping time is expired. This can be set using the Damping time controller (CC#30). If you keep the pedal down, notes are played short.

In Classic mode releasing the sustain pedal triggers the damping. By keeping the pedal up, you can play short notes.

## MICS TAB

Under the Mics tab you can change the individual microphone volumes and the stereo width. You can also see how the microphones were positioned.



L = Left microphone, Sennheiser MKH 8040.

C = Center microphone, Neumann TLM 103.

R = Right microphone, Sennheiser MKH 8040.

Cont. = Contact microphone, AKG C411 PP. It's panned center.

Stereo width: Width of the stereo image. At the center the sound is mono.

## SETUP TAB

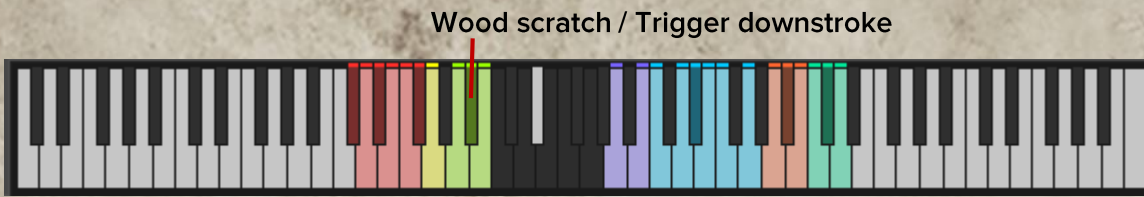
Under the Setup tab you have options for many kind of adjustments.



Resonance: The kantele was recorded both with resonance and without it. When you pluck a string, other strings resonate with it.

Wood Scratch: When playing the highest string of the instrument (G in the original tuning) with long downstrokes, sometimes your nail may first scratch the side of the kantele. We sampled the

scratch, so it can be triggered either automatically (50% random possibility) using the Wood Scratch checkbox, or by using the Wood scratch / Trigger downstroke keyswitch.



**Polarity:** With this you can switch the polarity of the expression pedal.

**Strum down speed (CC#31):** Adjust the speed of the down strumming.

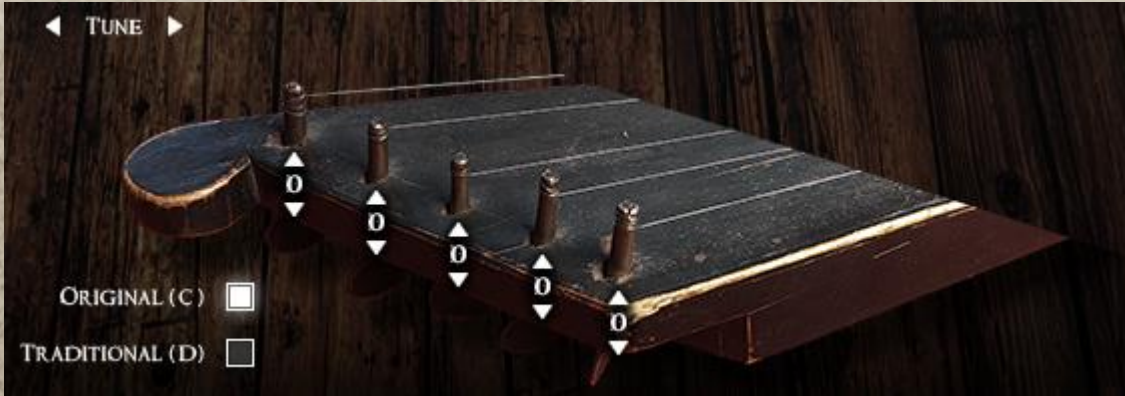
**Strum up speed (CC#32):** Adjust the speed of the up strumming.



**Articulation setup:** You can adjust the volume of individual articulations. With the damped notes and harmonics, you can switch to a velocity mode for controlling those articulations without keyswitches. So you select if the key velocity should be lower or higher than the slider amount to trigger the articulations. In the image the harmonics are triggered if the key velocity is higher (arrow pointing right) than the slider amount.

## TUNE TAB

Under the Tune tab you can switch between the original and the traditional tuning, and even tune each string separately. If the original tuning is changed, the keys in the keyboard are not changed; they stay in the original key.



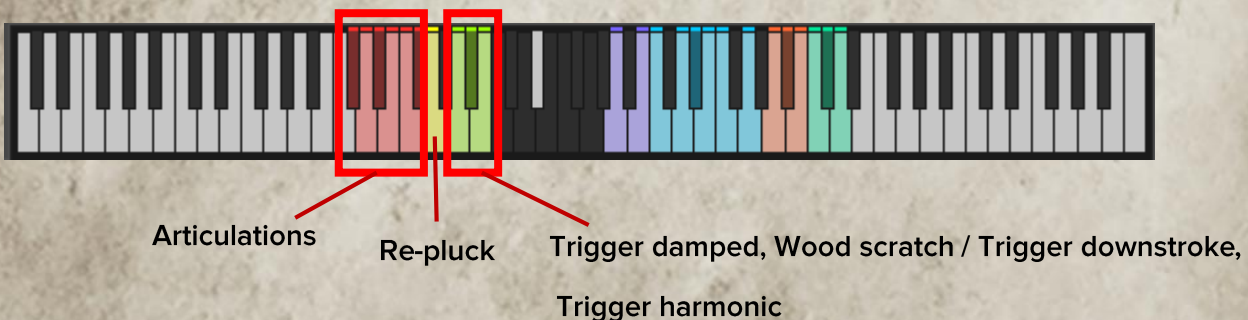
**Original (C):** C-D-E-F-G. The tuning the instrument was tuned to when sampled. The middle string (E) represents also the note that's half step lower, so in this case D#. When playing the D#, the tuning becomes minor. In the physical Small Rantonen this was not possible, but in some modern kanteles this is done with a switch.

**Traditional (D):** D-E-F#-G-A. The traditional tuning of the instrument. The middle string (F#) represents also the note that's half step lower, so in this case F. When playing the F (in the keyboard the D# key), the tuning becomes minor. In the physical Small Rantonen this was not possible, but in some modern kanteles this is done with a switch.

Individual tuning of the strings is also possible. Each string can be tuned 6 half steps lower or higher.

## KEYSWITCHES

Hover the cursor over a key to see the name of the keyswitch. If you want to change the position of the keyswitches, you may do it under the Control tab.



Articulations: Keyswitches for the long upstroke, long downstroke, damped, harmonic, dead upstroke and dead downstroke articulations.

Re-pluck: Using this keyswitch you can re-pluck the last played note. This way you can play the note like a tremolo. Another way to re-pluck the last played note is to strum just one note (the same that was played). It may be easier to re-pluck that way while strumming.

Trigger damped: With this keyswitch pressed down you can play damped notes whenever.

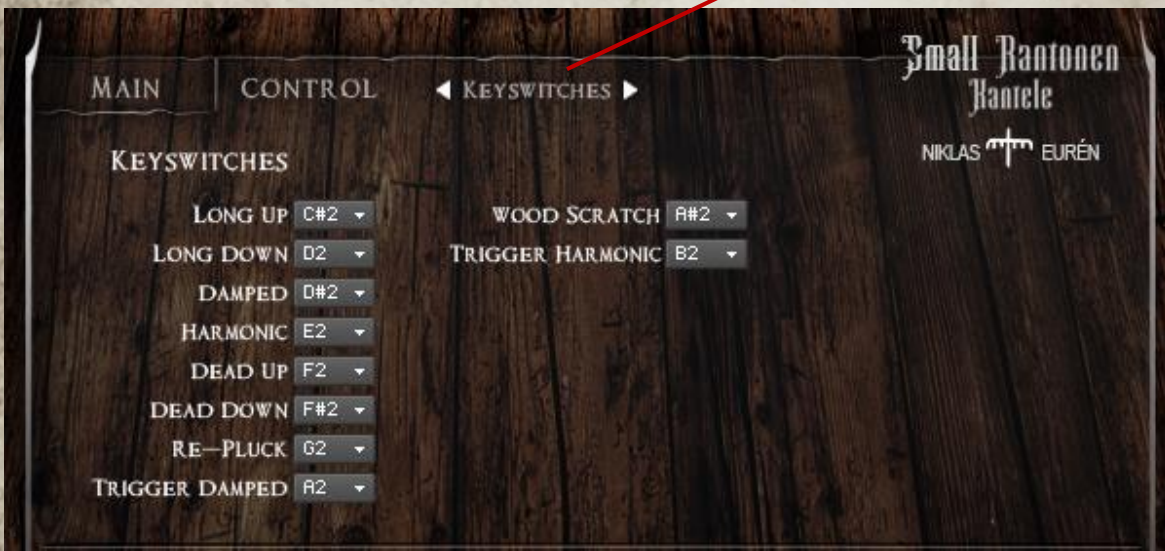
Wood scratch / Trigger downstroke: With this keyswitch pressed down you can play long downstrokes whenever. When playing the highest string, wood scratch (nail scratching side of the instrument) is added.

Trigger harmonic: With this keyswitch pressed down you can play harmonics whenever.

## CONTROL TAB

Here you can customize keyswitches and CC's.

Switch between the  
Keyswitches / CC's  
views



## OTHER CONTROLS

- Pitch Bend can be used for bending the pitch

## CONTACT

For any questions or issues, please contact via [niklaseuren.com](http://niklaseuren.com)