

USER MANUAL

# Large Rantonen Kantele



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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 Large Rantonen Kantele is an old, large 30-string concert kantele made in 1902 in kantele workshop owned by Pasi Jääskeläinen. The kantele was made famous by kantele player Antti Rantonen, who owned it and played it during his career. The strings were tuned from B1 to C6 using diatonic scale (CDEFGAB), and it didn't have a damping board, or a switch mechanism for making sharps and flats, which most modern concert kantele's have.

Main idea for the virtual kantele was to create an instrument you can play live, almost like a real kantele. As both hands are on the strings when playing a physical kantele, we used pedals, velocity layers, and special keyswitches to create a playing experience closer to the real instrument.

The samples of the virtual instrument were recorded in Kalajoki, Finland. We recorded long notes, damped notes, harmonics, and mallet hits. For the virtual instrument, we expanded these notes to cover the missing sharps and flats, and even more lower and higher notes. We also added a virtual damping board, two play modes, and a large number of options to help you to create your own sound and playing style.

Large Rantonen Kantele was recorded with three microphones: Neumann TLM 103 as a middle microphone, and two Sennheiser MKH 8040's on the sides. We captured 1464 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

Everything starts by choosing a play mode. There are two to choose from: *Player*, and *Classic*. Shortly put they differ on how the damping board is used.



### *Player*

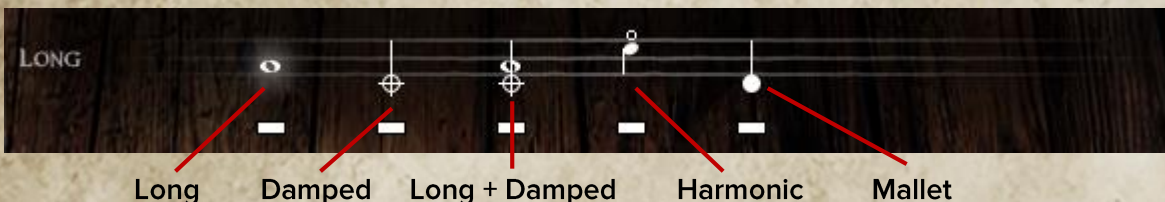
- As you would play a physical kantele. Full samples are played when pressing the keys (sample length can be adjusted using the *Note length* controller). Pressing the sustain pedal down acts as a damping board, and it kills the notes, unless this feature is disabled by the user. Keeping the sustain pedal down makes the notes damped. Sustain pedal can be changed to a different CC if preferred inside the *Control* tab, using the *Damping board* menu. If for example a slider is used as a damping board, note that lower slider values mean that the damping board is not used, and higher slider values mean that the damping board is used.

### *Classic*

- As you would play a piano. You have to press the sustain pedal down to make notes last long. Releasing the sustain pedal acts as a damping board, and it kills the notes, unless this feature is disabled by the user. When the sustain pedal is up, the then played notes act as short notes, unless the keys are pressed down. Sustain pedal can be changed to a different CC if preferred, inside the *Control* tab, using the *Damping board* menu. If for example a slider is used as a damping board, note that higher slider values mean that the damping board is not used, and lower slider values mean that the damping board is used.

## ARTICULATIONS

There are 5 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 more flexible ways are explained below. You may load or unload the samples using the purge buttons below the articulations.



### Long

- Long, normally plucked notes.

## Damped

- Damped notes.

Additional ways to play damped notes:

- When in the Player mode, you can play damped notes by keeping the damping board (sustain pedal) down.
- You can play damped notes by keeping the Trigger damped keyswitch down and then playing the notes.
- From the Damped menu you may control other ways to use damped notes:
  - Pedal+velocity: You can trigger the mode on by pressing the Note length controller (expression pedal) to the maximum or close to the max. When the mode is triggered, you can play damped notes by controlling the key velocity. Set the velocity range using the Velocity control.
  - Velocity: You can play damped notes by controlling the key velocity. Set the velocity range using the Velocity control.
  - Pedal: You can play damped notes by pressing the Note length controller (expression pedal) to the maximum or close to the max.
  - Off: The only ways to play damped notes is by using the Damped articulation, or by using the Trigger damped keyswitch.

## Long + Damped

- With higher key velocity, long notes are played, and with lower key velocity, damped notes are played. There is a dynamic crossfade between these articulations.

## Harmonic

- Note harmonics.

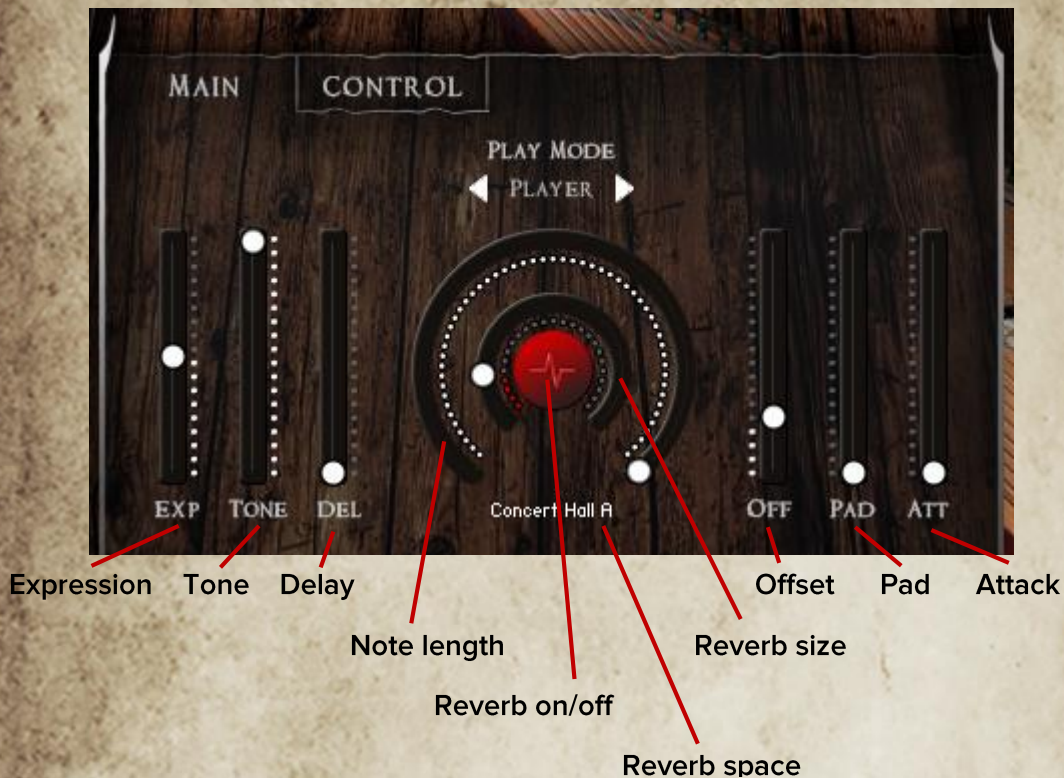
Additional ways to play harmonics:

- You can play harmonics by keeping the Trigger harmonic keyswitch down and then playing the notes.
- From the Harmonics menu you may control other ways to use harmonics:
  - Pedal+velocity: You can trigger the mode on by pressing the Note length controller (expression pedal) to the maximum or close to the max. When the mode is triggered, you can play harmonics by controlling the key velocity. Set the velocity range using the Velocity control.
  - Velocity: You can play harmonics by controlling the key velocity. Set the velocity range using the Velocity control.
  - Pedal: You can play harmonics by pressing the Note length controller (expression pedal) to the maximum or close to the max.
  - Off: The only ways to play harmonics is by using the Harmonic articulation, or by using the Trigger harmonic keyswitch.

## Mallet

- Mallet hits on strings. We used a hard rubber tip for the mallet.

## CONTROLLERS



Expression (CC#1): Overall instrument volume.

Tone (CC#26): How bright or dark the tone of the instrument is.

Delay (CC#27): How much delay, or echo, the notes have.

Note length (CC#11): Length of the notes before they are faded out. This can also be used to trigger damped notes and harmonics.

Reverb on/off: Convolution reverb on/off.

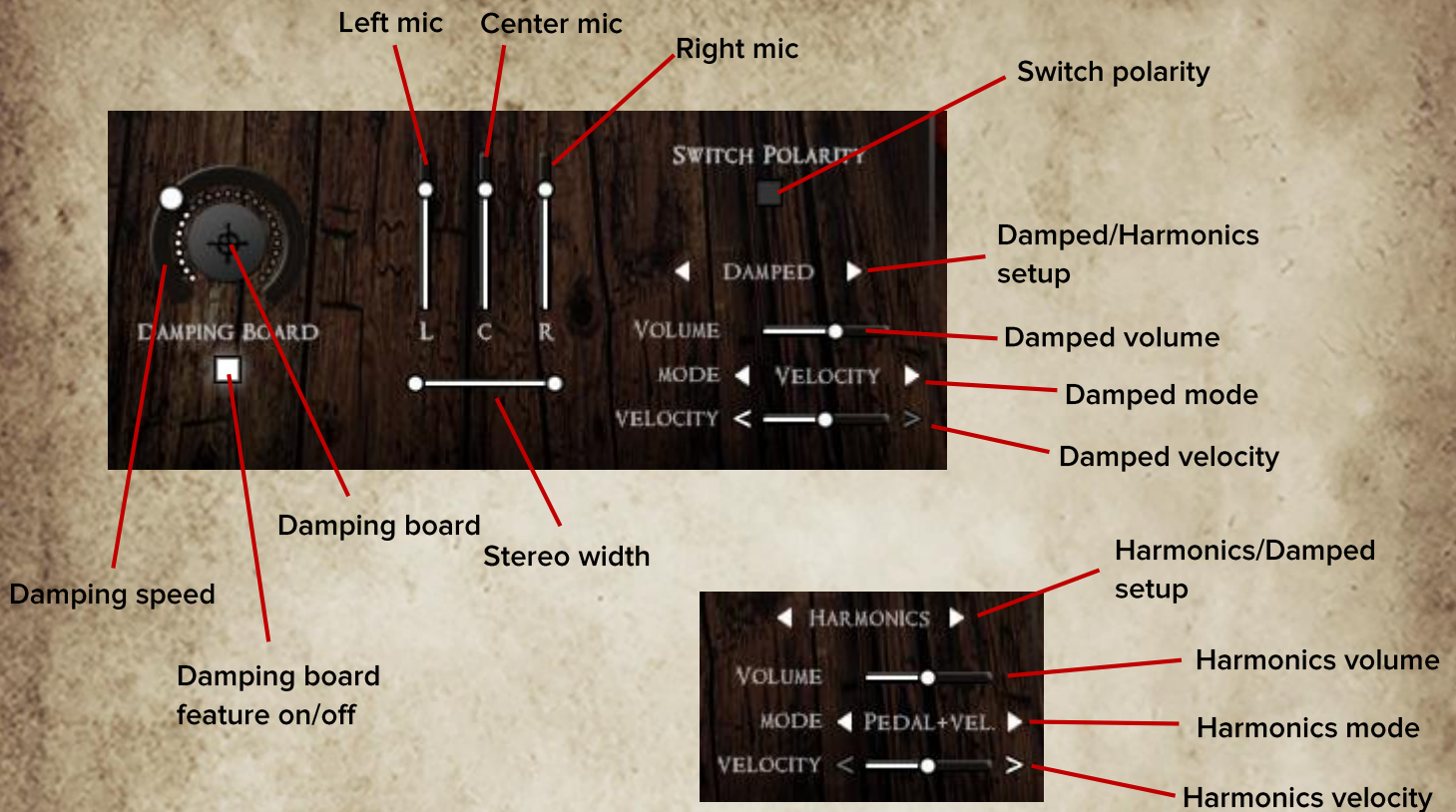
Reverb space: The room or space that is used for the reverb.

Reverb size: Size of the reverb.

Offset (CC#28): Sample starting point.

Pad (CC#29): How ambient the notes are. The pad is created by using the expression, note length, 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 (CC#30): How fast the note reaches its full volume.



**Damping board (CC#64):** Most modern concert kantele's have a damping board, which can be used to damp or kill the notes. Large Rantonen didn't have that option, but that didn't stop us creating one virtually! When the damping board is used, this button turns red. See the section **PLAY MODES** for more info how the play mode affects how the damping board is used.

**Damping speed (CC#31):** How fast the notes die when the damping board is used.

**Damping board feature on/off:** You can switch the damping board feature on/off. White when on, grey when off.

**Left mic:** Volume control for the left microphone. As a left microphone we used Sennheiser MKH 8040.

**Center mic:** Volume control for the center microphone. As a center microphone we used Neumann TLM 103.

**Right mic:** Volume control for the right microphone. As a right microphone we used Sennheiser MKH 8040.

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

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

**Damped/Harmonics setup:** Switch between the Damped and the Harmonics setup panels.

**Damped volume:** Adjust volume of the damped notes, so they blend better to your playing style.

Damped mode: Pedal+velocity / Velocity / Pedal / Off

- **Pedal+velocity:** You can trigger the mode on by pressing the Note length controller (expression pedal) to the maximum or close to the max. When the mode is triggered, you can play damped notes by controlling the key velocity. Set the velocity range using the Velocity control.
- **Velocity:** You can play damped notes by controlling the key velocity. Set the velocity range using the Velocity control.
- **Pedal:** You can play damped notes by pressing the Note length controller (expression pedal) to the maximum or close to the max.
- **Off:** The only ways to play damped notes is by using the Damped articulation, by using the Trigger damped keyswitch, or by keeping the damping board (sustain pedal) down.

**Damped velocity:** With this controller you can adjust what kind of key velocity is needed to trigger the damped notes. Usually you would try to put the velocity higher or lower the normal playing velocity, so it doesn't mess up the normal playing. With < and > buttons you decide should the velocity be lower (<) or higher (>) than the selected velocity to trigger the damped notes.

**Harmonics volume:** Adjust volume of the harmonics, so they blend better to your playing style.

Harmonics mode: Pedal+velocity / Velocity / Pedal / Off

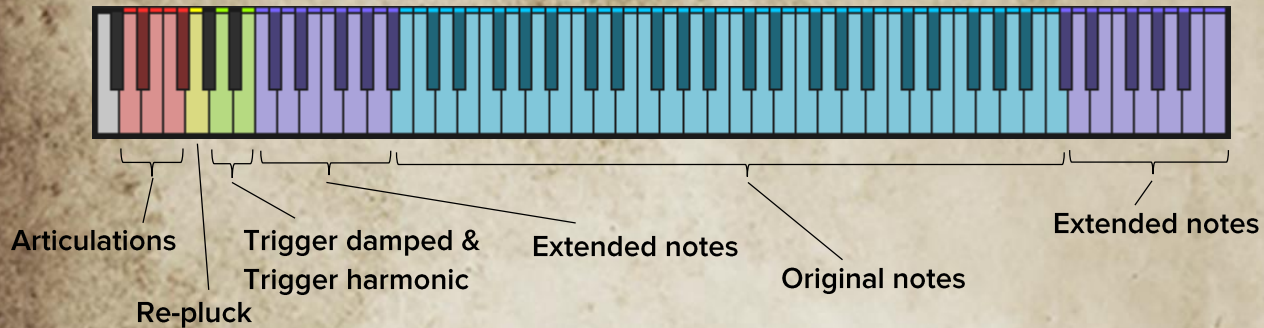
- **Pedal+velocity:** You can trigger the mode on by pressing the Note length controller (expression pedal) to the maximum or close to the max. When the mode is triggered, you can play harmonics by controlling the key velocity. Set the velocity range using the Velocity control.
- **Velocity:** You can play harmonics by controlling the key velocity. Set the velocity range using the Velocity control.
- **Pedal:** You can play harmonics by pressing the Note length controller (expression pedal) to the maximum or close to the max.
- **Off:** The only ways to play harmonics is by using the Harmonic articulation, or by using the Trigger harmonic keyswitch.

**Harmonics velocity:** With this controller you can adjust what kind of key velocity is needed to trigger the harmonics. Usually you would try to put the velocity higher or lower the normal playing velocity, so it doesn't mess up the normal playing. With < and > buttons you decide should the velocity be lower (<) or higher (>) than the selected velocity to trigger the harmonics.



## 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, damped, long + damped, harmonic, and mallet articulations.

**Re-pluck:** Using this keyswitch you can re-pluck the played note. So you can play the note like a tremolo!

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

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

**Extended notes:** Notes beyond the physical instrument!

**Original notes:** The physical kantele had just the notes C D E F G A and B. The sharps and flats were extended from those.

## CONTROL TAB

Here you can customize keyswitches and CC's. If you set duplicate values to keyswitches, you will see a warning until you change the values.



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)