

KOTO 20

VIRTUOSO JAPANESE
SERIES



Sonica Instruments **KOTO 20**

Virtuoso Japanese Series

User Manual

Version 2.0 — July 2022

Thank you for purchasing **KOTO 20**, part of Sonica Instruments' *Virtuoso Japanese Series*. We hope you fully enjoy **KOTO 20**, which has been designed to achieve the ultimate in authentic Japanese sound.

The Sonica Instruments Team

Version History

Release notes for Update 2.0

- Groove Browser function added
- Half / Whole switching behavior changed to a latching behavior
- Updated Product Requirements (KONTAKT 6.6 or later)



Introduction

History of the 20-string *koto*

The 20-string *koto* was developed by Keiko Nosaka in 1969. Prior to this time, the traditional *koto* had 13 strings. Adding eight more strings* greatly extended the instrument's tonal range. At the same time, *koto* performers were shifting from the traditional five-tone scale to the Western seven-tone scale. These twin developments opened up many more possibilities for the *koto*, including the ability to write *koto* scores in conventional staff notation.

*The new larger *koto* was initially strung with 20 strings, but later on one more string was added. The instrument is now commonly used with 21 strings.

KOTO 20

Sonica Instruments developed the **KOTO 20** library with the objective of reproducing the 20-string *koto* with greatest realism possible. Through meticulous recordings of performances by top-notch musicians and painstaking KONTAKT programming, we have achieved unparalleled reproduction of the *koto*'s intrinsic voice and articulation nuances. The result is a thoroughly convincing sound, as if the instrument were being played right in front of you. Pairing **KOTO 20** with other titles from the *Virtuoso Japanese Series*, such as **KOTO 13**, **KOTO 17**, or **SHAKUHACHI**, creates a highly versatile ensemble for all kinds of music including traditional Japanese music and orchestral pieces.

Above all, it is our intention to respect Japanese instruments and performers. One of our hopes is that **KOTO 20** users will become better acquainted with the grace and beauty of the real 20-string *koto* and Japanese music.

Product Highlights

String editor enables independent tuning adjustments for all strings

KOTO 20 has a Scale Performance mode to map the tones of each string to 21 adjacent white keys. This lets the performer access the instrument in the most realistic way possible.

18 articulations to recreate every aspect of the 21-string *koto*'s playing styles

KOTO 20 is packed with 18 different articulations to recreate the *koto*'s vast range of musical expressions. These include different nuances created by playing with the thumb, index, or middle finger as well as glissandos, tremolo picking, and even *chirashizume* pick scrapes. All articulations can be controlled independently with key switches.

Newly developed Instrument Modeler reproduces sound variations from different fingerpicks and strings

The tonal characteristics of the *koto* vary a lot depending on the fingerpick and string thickness used. To faithfully reproduce these variations, we developed a new function called the Instrument Modeler. With the Instrument Modeler, you can adjust individual parameters, including the fingerpick and string thickness (*thick*, *normal*, and *thin*), the pitch and attack of note transients, and noise components. This functionality makes it possible to control the character of the sound any way you like, from a natural playing feel to very aggressive performances.



Alternate picking articulations and sustain pedal control for natural continuous-picking phrasing

The library comes with three alternate picking articulations to recreate the natural sound variations that occur while playing a succession of pick strokes. Alternate picking can be switched with key switches or the sustain pedal control. This function makes it easy to reproduce realistic tremolo picking. With the sustain pedal control on, you can switch between normal picking with *Key On* events and alternate picking with *Key Off* events.

Plucking control function for full mastery over subtle, natural sounding picked notes

In addition to volume adjustments and fine-tuning for each string, this function lets you select the pick type and string thickness to craft the perfect sound to match your musical compositions.

String editor for independent tuning adjustments for all 21 strings along with a scale selection / customization function

The library comes with 10 frequently used scales, including a chromatic scale. You can perform many musical pieces with the presets and the key transposition function. The additional User Scale mode lets you create custom scales for specific compositions. When creating a custom scale, you can set the volume and panning for each string as well as fine-tune each string.

Includes four banks of quintessential koto phrases

The three **KOTO 20** phrase banks contain special techniques that are difficult to reproduce, ranging from classic *koto* techniques such as glissandos and *surizume* to sound effects made by striking the bridges. Phrase banks are selectable with key switches and can be triggered from a MIDI keyboard.

Multi-microphone samples in full 24-bit / 96 kHz resolution

The recordings were made with the utmost care, using more than eight microphones of various types together with colorless mic preamps. All library samples were recorded in 24-bit / 96 kHz high definition to faithfully capture the entirety of the *koto*'s delicate expressions. The samples were recorded with three stereo microphone positions — direct, overhead, and room — plus a stereo mix. Full mixing control is available, with individual volume, pan, reverb send, and EQ adjustments for each channel.

Groove Browser

The library comes with many classic *koto* phrases recorded as MIDI grooves. You can drag and drop MIDI grooves directly from the Groove Browser into your DAW as MIDI data.

NKS ready

KOTO 20 is NKS compatible so it can be used with KONTAKT PLAYER, KONTAKT FULL, and KOMPLETE KONTROL. When **KOTO 20** is linked with a KOMPLETE KONTROL keyboard or other NKS-compatible hardware, you can quickly preview tones and make full use of the hardware's knobs and controllers.



Product Specifications

KONTAKT 6.6 or later required

KONTAKT PLAYER compatible

NKS ready

System Requirements

Mac: Intel Macs (i5 or better) — Mac OS 10.14, 10.15, 11 or 12 (latest update)

Apple Silicon Macs (via Rosetta 2 and natively on ARM in standalone mode or in hosts that support ARM) — Mac OS 11 or 12 (latest update)

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

Graphics hardware support for OpenGL 2.1 or higher

Minimum of 4 GB RAM (6 GB recommended)

Data size: ~11.2 GB in NCW format (equivalent to ~24.88 GB in wav format)

- Use the recommended Native Instruments KONTAKT or KONTAKT PLAYER system requirements at a minimum.
- Installing the product on a computer with a faster CPU and ample RAM is recommended for optimal library performance.

Important: Online user registration is required in order to use the library.



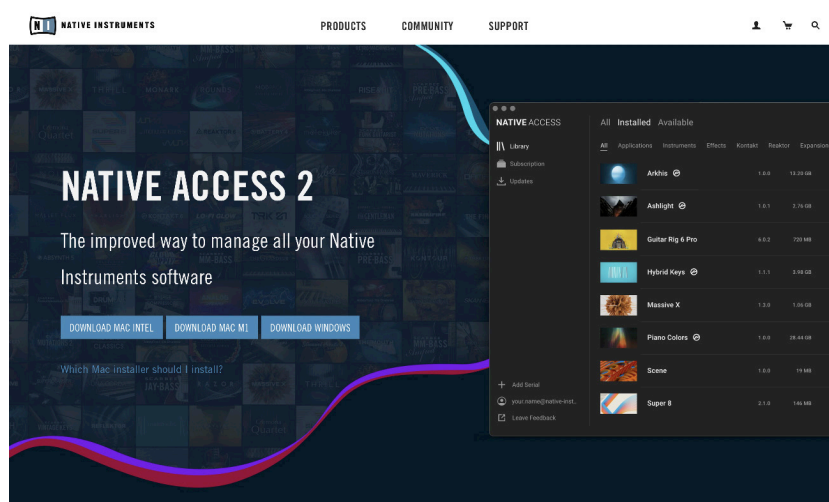
Before Using This Product

You need to **register your serial code** and **download the library data** with the NATIVE ACCESS 2 tool in order to use this product. Check the [Sonica Instruments website](https://www.native-instruments.com/en/specials/native-access-2/) for a step-by-step installation guide and other information about updates.

1. Install NATIVE ACCESS 2

Note: You can skip this step if you already have NATIVE ACCESS 2 on your computer.

Download the NATIVE ACCESS 2 Installer for your operating system from the Native Instruments website (<https://www.native-instruments.com/en/specials/native-access-2/>) and follow the instructions on the screen to install the tool.



2. Log In with Your Native ID

Launch the installed NATIVE ACCESS 2 tool and log in.

If you do not have a Native Instruments account, click **Sign up now** on the Log In with Native ID window. On the Create a New Native ID window, enter the required information and create a free account.



LOG IN WITH NATIVE ID

Email address

Password

Don't remember your password?

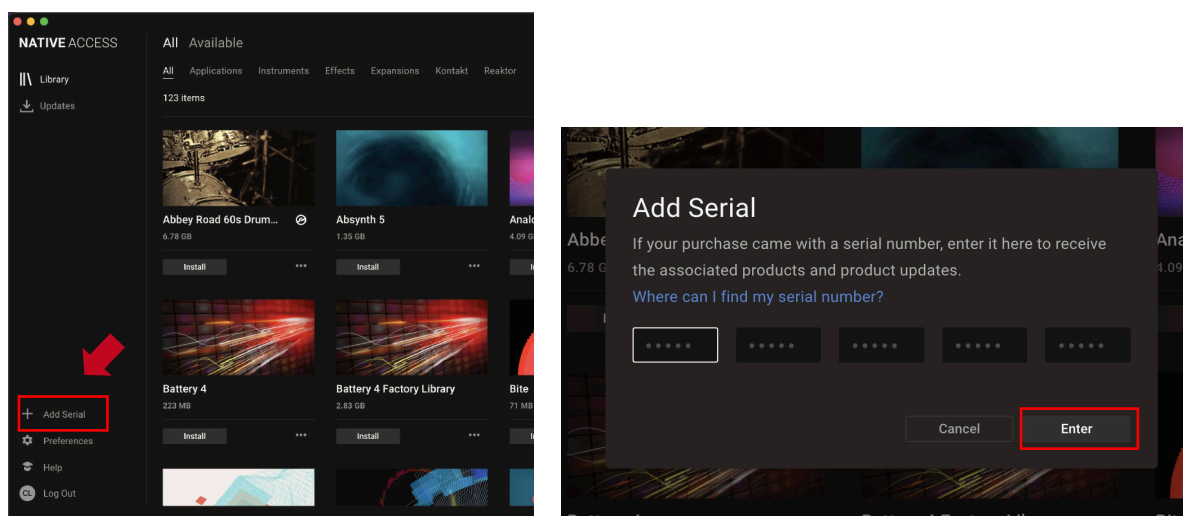
LOGIN >

Don't have a Native ID? [Sign up now](#) or [learn more](#) about Native ID

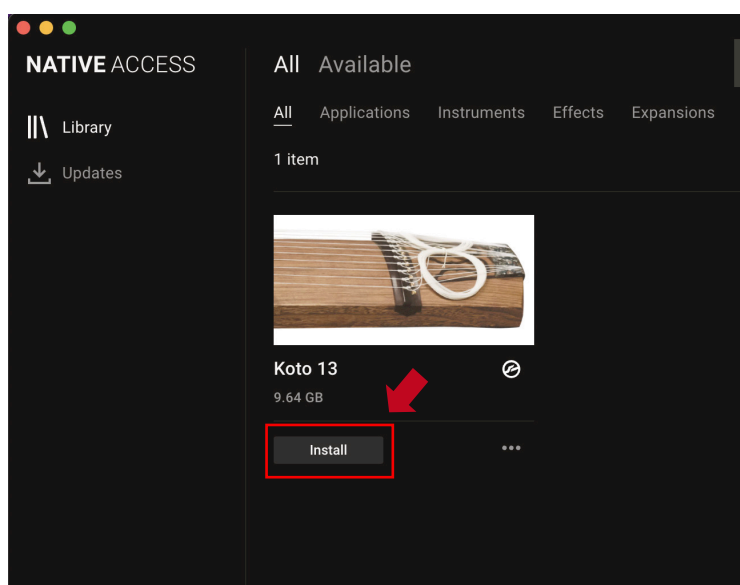


3. Register Your Serial Code

After NATIVE ACCESS 2 launches, click **Add Serial**. Enter the 25-digit serial code you received when you purchased the product and click **Enter**. (The serial code is sent you by email after purchase.)



Product registration is complete when **Success** is displayed. The product you registered will appear under the **New** tab. Click the product's **Install** button to start the download and installation process.



This completes the installation of the library.

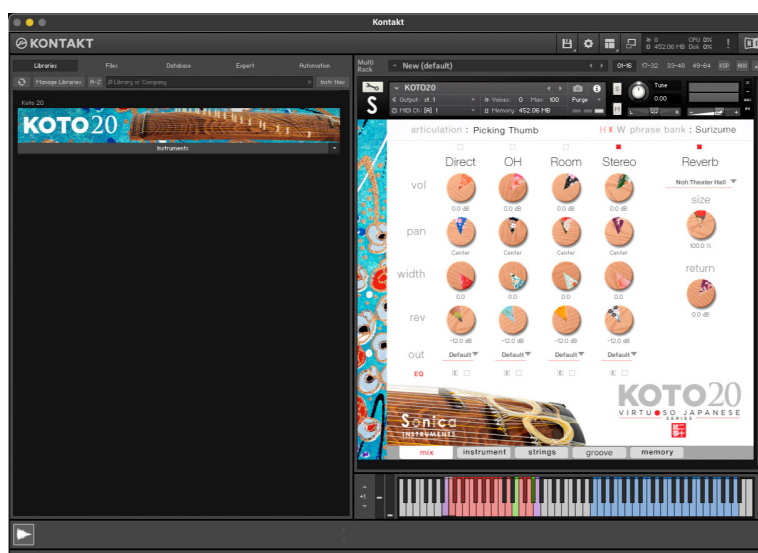
After the download finishes, launch KONTAKT or KONTAKT PLAYER. The product will be added automatically under the **Libraries** tab on the left side of the screen. You can access the library in KOMPLETE KONTROL in the same way.

Overview of KOTO 20

KOTO 20 works with KONTAKT, KONTAKT PLAYER, and KOMPUTE KONTROL.

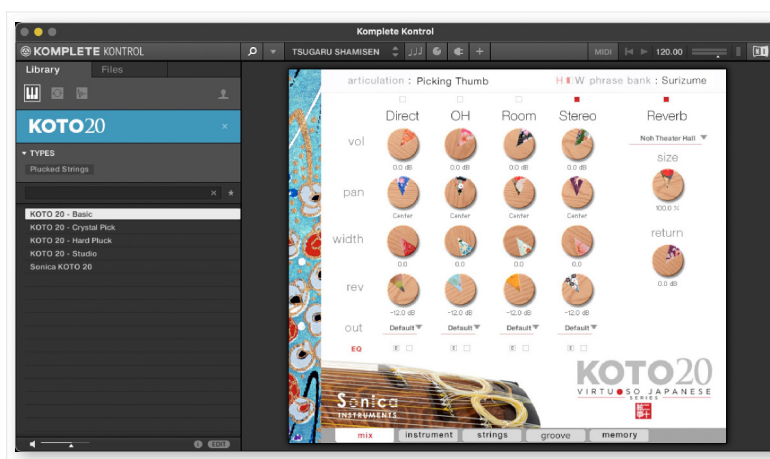
Using the library with KONTAKT and KONTAKT PLAYER

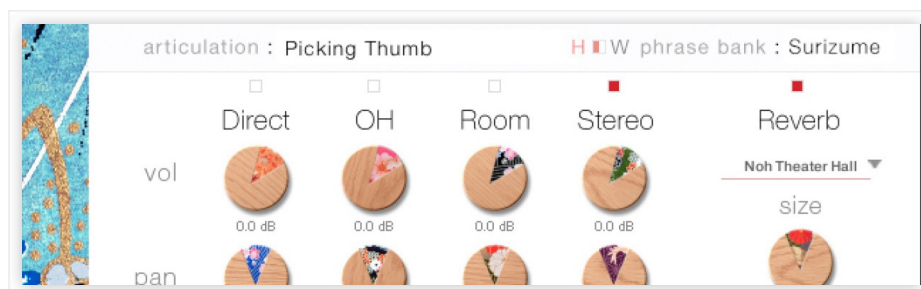
Once the library is activated, the **KOTO 20** library panel will be added to your KONTAKT Library Browser. Please load and use the tone model you want from the Library Browser.



Using the library with KOMPUTE KONTROL

KOTO 20 is NKS ready, so the library can be linked with KOMPUTE KONTROL or a KOMPUTE KONTROL keyboard to preview tones and save settings as presets. You can also make full use of the KOMPUTE KONTROL keyboard's knobs, controllers, and browser. See [KONTROL Series Controller Parameters on Page 22](#) for details.





The articulation and phrase bank monitor fields are displayed at the top of all five panes — **mix**, **instrument**, **strings**, **groove**, and **memory**. The monitor fields let you see your key-switch selections at any time.

articulation

This monitor field displays the currently selected articulation. The table below lists the library's articulations and their respective key switch.

Key Switch	Articulation Name	Remarks
B0	Sus.Pedal On / Off	
C0	Picking Thumb	
C#0	Picking Index	
D0	Picking Middle	
D#0	Pizzicato (L.Hand)	
E0	Pizzicato (R.Hand)	
F0	Sukuizume	
F#0	Chirashizume 1 (Fast)	
G0	Chirashizume 2 (Medium)	
G#0	Chirashizume 3 (Slow)	
A0	Bend Up half/whole	
A#0	Bend Down half/whole	
B0	Bend Up Down half/whole	
C1	Tsuki-Iro half/whole	
D1	Tremolo	
E1	Keshizume (Mute)	
F1	Alternate Picking 1	
F#1	Alternate Picking 2	
G1	Alternate Picking 3	
G#1	Mute String	Note info is ignored when on
A1	Half / Whole	Key Off = Half; Key On = Whole

phrase bank

This monitor field displays the currently selected phrase bank.

Key Switch	Phrase Bank Name	Number of Phrases
F5	Surizume Effects	8
F#5	Glissando Performance	11
G5	Effects 1	2
G#5	Effects 2	2

MIDI keyboard layout

B1: Sustain pedal mode switch

C0 – D1: Articulation key switch zone

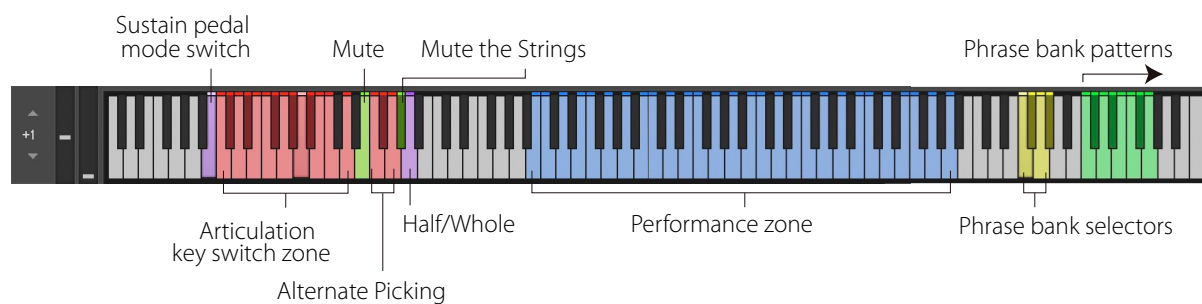
E1, G#1: Keshizume (mute)

F1 – G1: Alternate picking

A1: Half / Whole selector

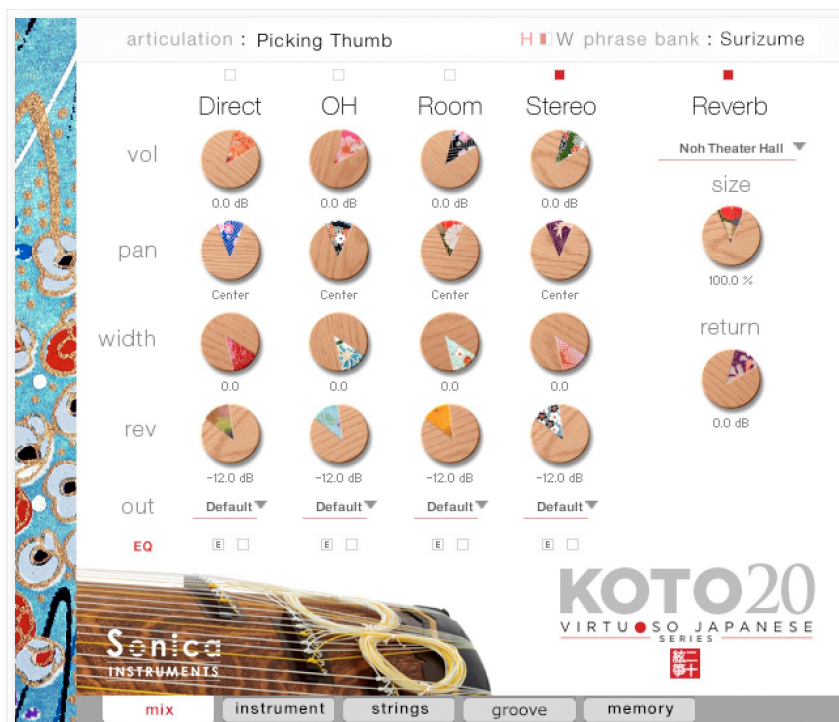
F5 – G#5: Phrase bank selectors

C6 and above: Phrase bank patterns



mix

This pane is used for basic sound production.



Audio mixer

The audio mixer lets you mix the three stereo microphone positions — **Direct**, **OH** (overhead), and **Room** — and the **Stereo** (stereo mix) channel, which is a pre-balanced mix of the three microphone sources. Turning on any of the microphone channels disables the **Stereo** channel, and turning on the **Stereo** channel disables all the microphone channels.

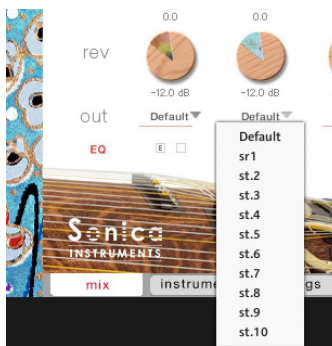
vol: Adjusts the volume of each channel.

pan: Adjusts the left-right panning of each channel.

width: Adjusts the stereo microphone width of each channel: 100% gives the original stereo width; 0% reduces the width to monaural.

rev: Adjusts the send volume of each channel to the built-in convolution reverb.

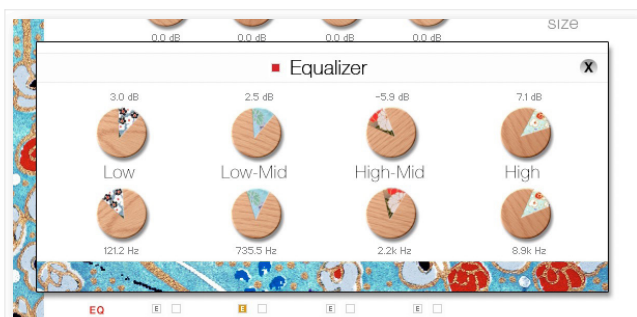
out: Selects the audio output of each channel. This is useful when sending multiple channels to your DAW.



Setting multiple channels for a single microphone output

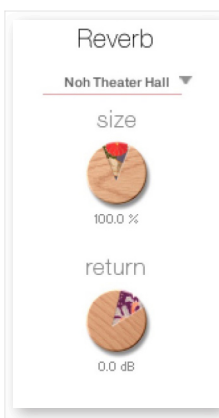
Please see the KONTAKT manual for how to create multiple outputs. After creating the outputs, clicking the Restart Engine button (marked with an exclamation mark) at the top right of the KONTAKT interface will update the output list under **KOTO 20's** output control.

EQ



Provides a four-band equalizer for each channel. Clicking the left [E] button opens the Equalizer window. Clicking the right button enables or disables the equalizer settings for the corresponding channel.

Reverb



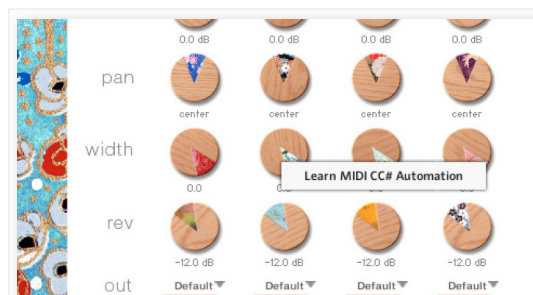
The library contains 30 convolution reverbs, including two impulse responses from a Noh theater, available from the pull-down list.

size: Adjusts the reverb dwell time.

return: Adjusts the volume of the reverb component.

MIDI CC# learn function

All control knobs can be controlled individually with MIDI Control Change (CC) messages.



To assign a control knob in **KOTO 20** to a certain MIDI controller:

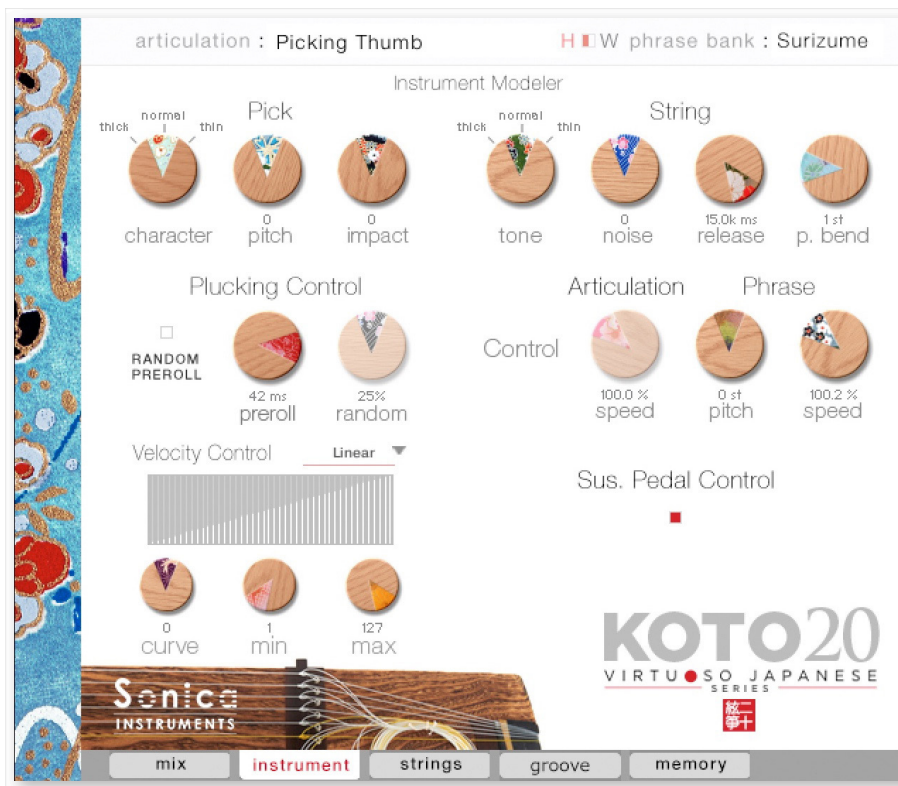
1. Right-click on the knob and select *Learn MIDI CC# Automation*.
2. Turn the knob or move the slider on your MIDI hardware controller.
3. The assignment is complete.

Removing MIDI CC# automation

To remove an assignment, right-click on the knob and select *Remove MIDI Automation: CC# nn*.

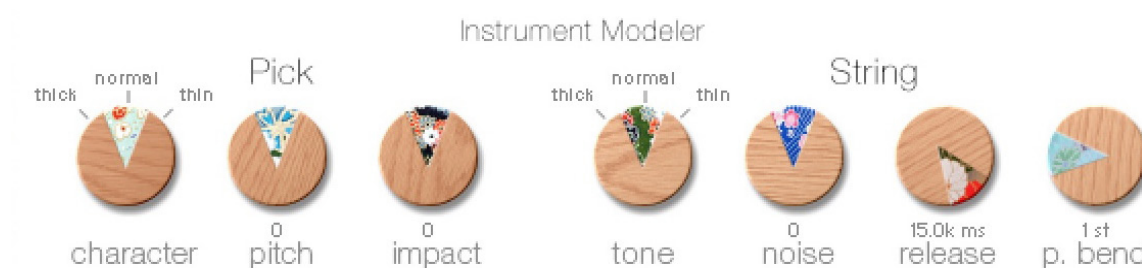
instrument

This pane is used to set the tonal nuances of the 20-string *koto*.



Instrument Modeler

This set of controls models the tonal variations caused by the pick and string, which are a major part of the *koto* sound. By adjusting the parameters, you can vary the character of the sound any way you like, from a lively and natural 20-string *koto* tone to more aggressive and inventive sounds that exceed the limits of the *koto*.



Pick

Three parameters control the attack component of the sound.



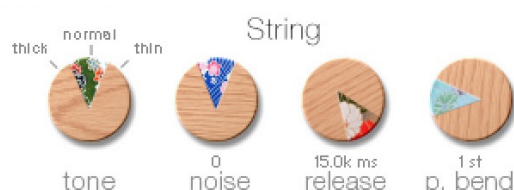
character: Selects the pick thickness from *thick*, *normal*, and *thin*.

pitch: Adjusts the pitch of the attack component. Raising the pitch makes the sound brighter and clearer. Lowering the pitch brings out a distinctive deep character.

impact: Adjusts the volume of the attack component of the played string.

String

Controls sound variations due to the strings.



tone: Selects the string thickness from *thick*, *normal*, and *thin*.

noise: Adjusts the volume of various noise components.

release: Adjusts the release time of the played string.

p. bend: Adjusts the range of pitch bends.

The pitch bend control is designed to bend the pitch of just the string (note) being played without affecting the trailing notes of other strings previously played. This allows the performance of essential *koto* techniques such as up and down bends, *hiki-iro*, and *tsuki-iro*.

Plucking Control

Controls the behavior from the moment the pick strikes the string until the string sounds. Note that the **Plucking Control** does not work with the Sukuizume articulation or the three Chirashizume articulations.



RANDOM PREROLL: When enabled, this randomizes the preroll setting for each *Key On* event.

preroll: Adjusts the maximum time from the instant the plectrum makes contact with the string until the plectrum clears the string.

random: Adjusts the random preroll's variation range.

Velocity Control

Controls sound variations relative to velocity.



curve type: Sets the velocity curve to *Linear*, *S-Curve*, *Compound*, or *Fixed*.

curve: Modifies the selected curve.

min: Adjusts the minimum velocity of played notes.

max: Adjusts the maximum velocity of played notes.

Articulation

Controls the modulation speed of specific articulations: Bend Up, Bend Down, Bend Up Down, Tsuki-iro, Tremolo 1, and Tremolo 2.



speed: Adjusts the modulation speed of the selected articulation between 50% and 200%.

Phrase Control

Provides speed and pitch adjustments for phrases contained in the phrase banks.



pitch: Adjusts the playback pitch by ± 7 semitones.

speed: Adjusts the playback speed between 50% and 200%.

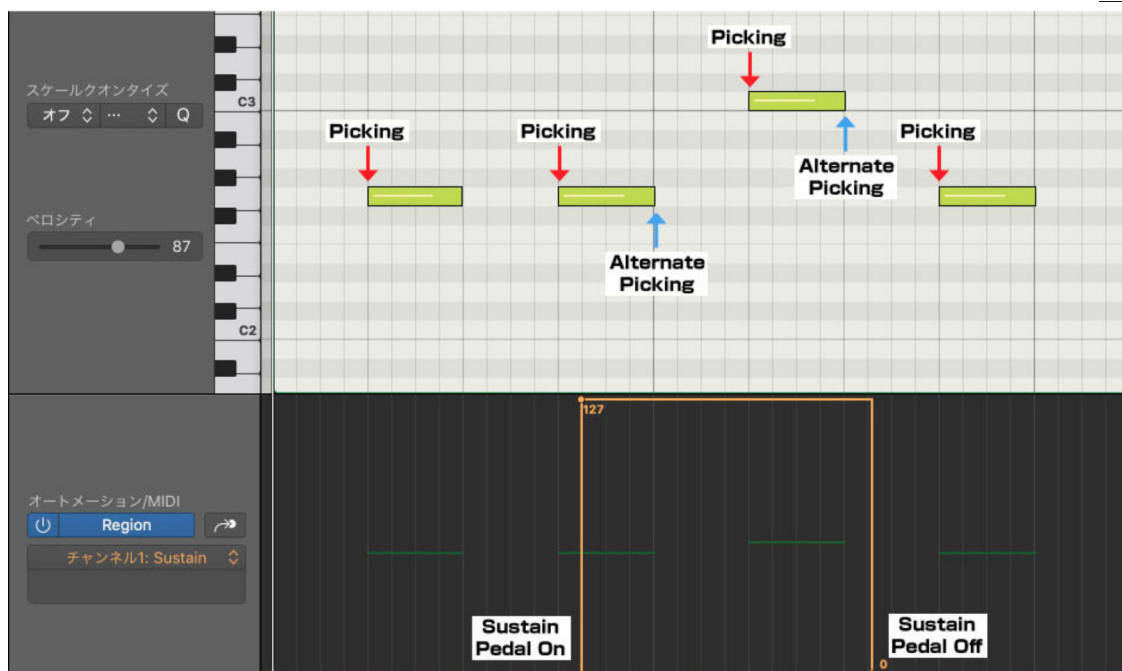
Sus. Pedal Control

When this control is enabled, the sustain pedal can be held down to have *Key Off* events trigger alternate picking. Alternate picking lets you reproduce natural continuous-picking phrasing and realistic tremolo picking. Note that the type of alternate picking changes according to the selected (played) articulation. (See the table below.)



Sus. Pedal Control: Selects whether or not alternate picking is triggered when the sustain pedal is held down. A key switch (**B1**) also toggles this control on or off. When the control is disabled, the sustain pedal functions as a normal sustain pedal.

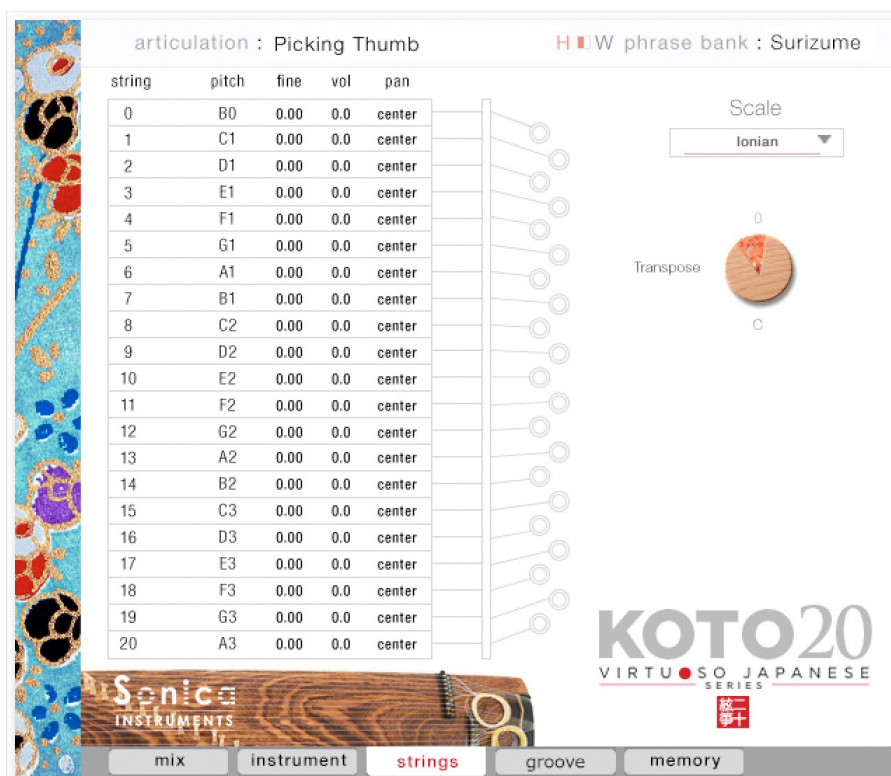
Selected articulation	Alternate picking played
Picking Thumb	Picking Middle
Picking Index	Sukuizume
Picking Middle	Chirashizume 1 (Fast)



When **Sus. Pedal Control** is enabled, alternate picking matching the played articulation will continue after *Key Off* events as long as CC#64 is active.

strings

This pane is used for the instrument's scale settings. The pitch, volume, and panning can be set individually for each string.



String Indicator

Displays the pitch, volume, and panning of each string from the first string through to the 21st string. Each parameter can be edited by dragging the value up or down. When a string is played, the corresponding slot is highlighted in green.

string	pitch	fine	vol	pan
0	B0	0.00	0.0	center
1	C1	0.00	0.0	center
2	D1	0.00	0.0	center
3	E1	0.00	0.0	center
4	F1	0.00	0.0	center
5	G1	0.00	0.0	center
6	A1	0.00	0.0	center
7	B1	0.00	0.0	center
8	C2	0.00	0.0	center
9	D2	0.00	0.0	center
10	E2	0.00	0.0	center
11	F2	0.00	0.0	center
12	G2	0.00	0.0	center
13	A2	0.00	0.0	center
14	B2	0.00	0.0	center
15	C3	0.00	0.0	center
16	D3	0.00	0.0	center
17	E3	0.00	0.0	center
18	F3	0.00	0.0	center
19	G3	0.00	0.0	center
20	A3	0.00	0.0	center

pitch: Displays the pitch of the corresponding string. The pitch can be changed when User Scale is selected.

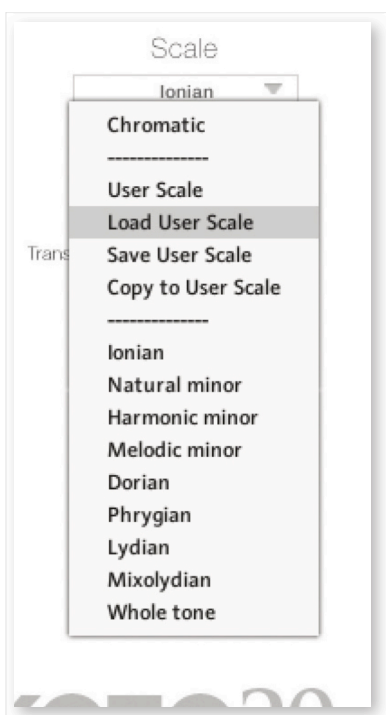
fine: Permits fine tuning of the corresponding string by ± 50 cents.

vol: Adjusts the volume of the corresponding string by ± 6 dB.

pan: Adjusts the panning of the corresponding string by $\pm 100\%$.

Scale

You can instantly call up frequently used 20-string *koto* scales with this control. You can also create custom user scales to suit any composition.



Chromatic: Selects the chromatic scale.

User Scale: Selects the user-created custom scale.

Load User Scale: Loads a saved user scale.

Save User Scale: Saves a customized user scale.

Copy to User Scale: Copies the selected scale to the current user scale.

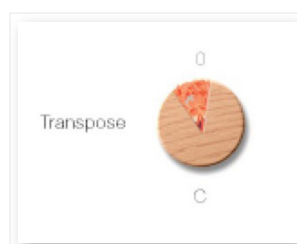
Preset Scale: Selects one of the nine preset scales.

Preset Scales

Ionian, Natural minor, Harmonic minor, Melodic minor, Dorian, Phrygian, Lydian, Mixolydian, Whole tone

Transpose

Transposes the key of preset scales.



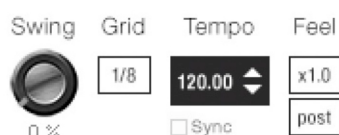
Transpose: Adjusts the key over the range of -5 to +6. Note that user scales cannot be transposed.

groove

This pane is used to browse and preview the MIDI grooves included in the library and export the grooves to a DAW.



Velocity Transpose



Velocity: Adjusts the playback velocity of the MIDI groove.

Transpose: Changes the key in semitone increments.

Swing: Adds a swing feel to the MIDI groove.

Grid: Toggles the **Swing** quantization between eighth notes and sixteenth notes.

Tempo: Specifies the playback tempo. The tempo cannot be changed when **Sync** is enabled.

Sync: When enabled, syncs the MIDI groove's tempo with the DAW tempo.

Feel: Toggles the playback tempo of the phrase between x1.0 (original), x2.0 (double-time), and x0.5 (half-time).

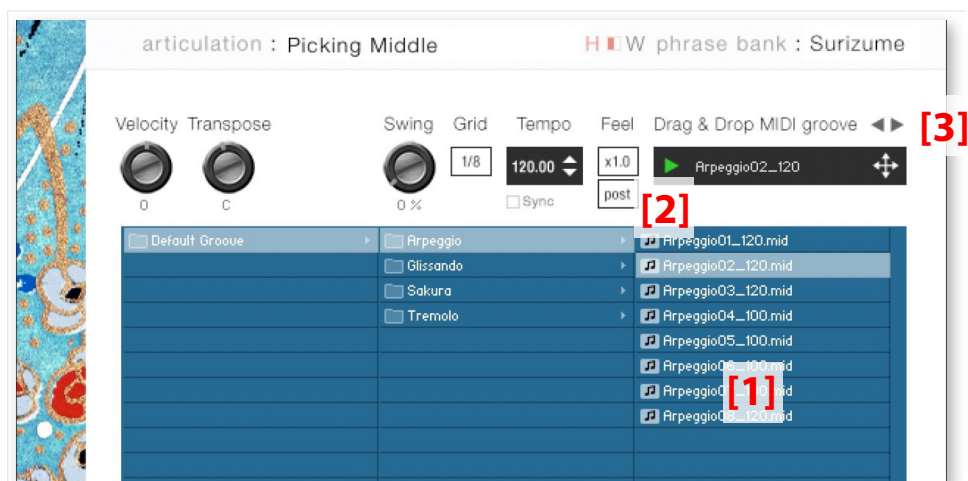
Process: Toggles at which point the **Swing** feel is applied, either before (*pre*) **Grid** is applied or after (*post*) **Grid** is applied. This control lets you access a variety of playing feels even with the same phrase and settings.

Note about the scale when playing back grooves

The scale is automatically set to the Chromatic scale when playing MIDI phrases in the Groove Browser. If you have customized the scale, be sure to save it as a User Scale before using the Groove Browser. Otherwise, your customizations will be lost when the scale is reset.

Using a MIDI groove

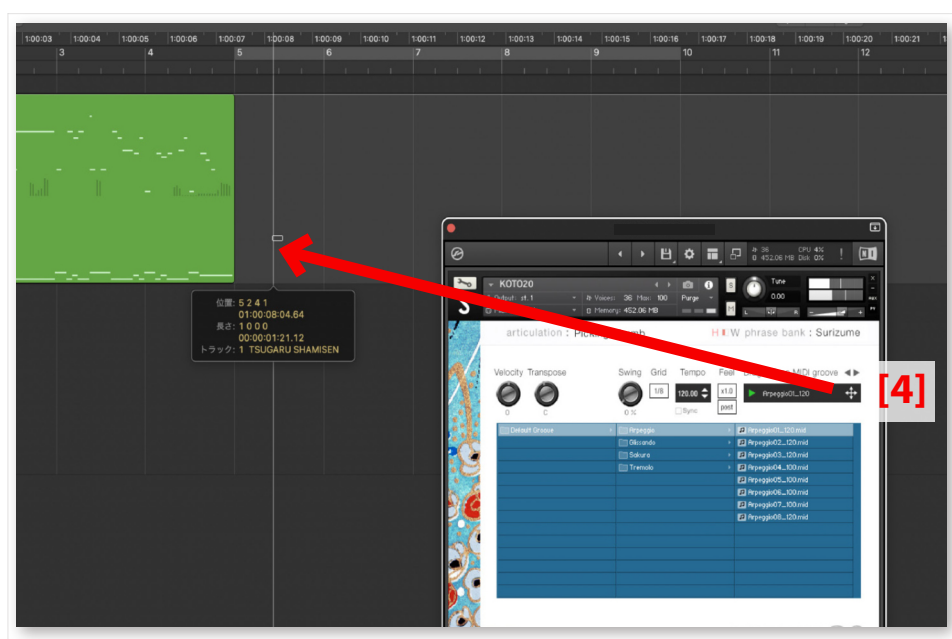
To load a MIDI groove into the Player, double-click on the MIDI groove you want to use from the Groove Browser [1]. Click the play button [2] to start a preview playback. Double-clicking on a pattern while the MIDI groove is playing will switch patterns without pausing the playback. You can move to the previous pattern or next pattern with the arrow keys [3] in the Player.



The number appended to the end of the MIDI groove file name indicates the tempo at which the phrase was recorded at.

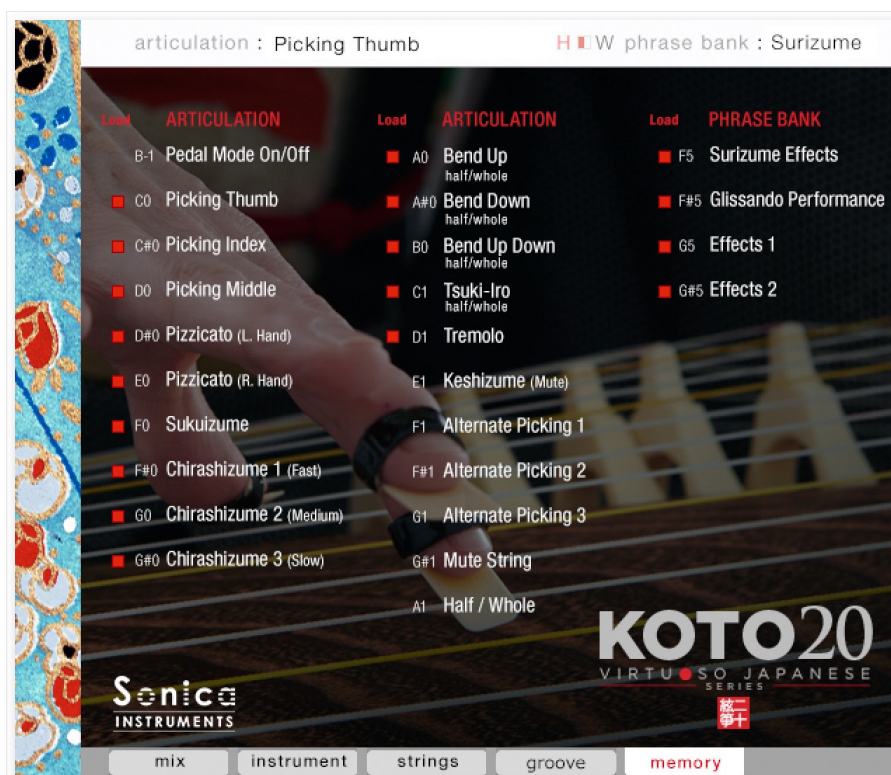
Loading a MIDI groove into your DAW

You can load a MIDI groove into your DAW as MIDI data. Simply drag the groove with the [4] key and drop the groove into your DAW.



memory

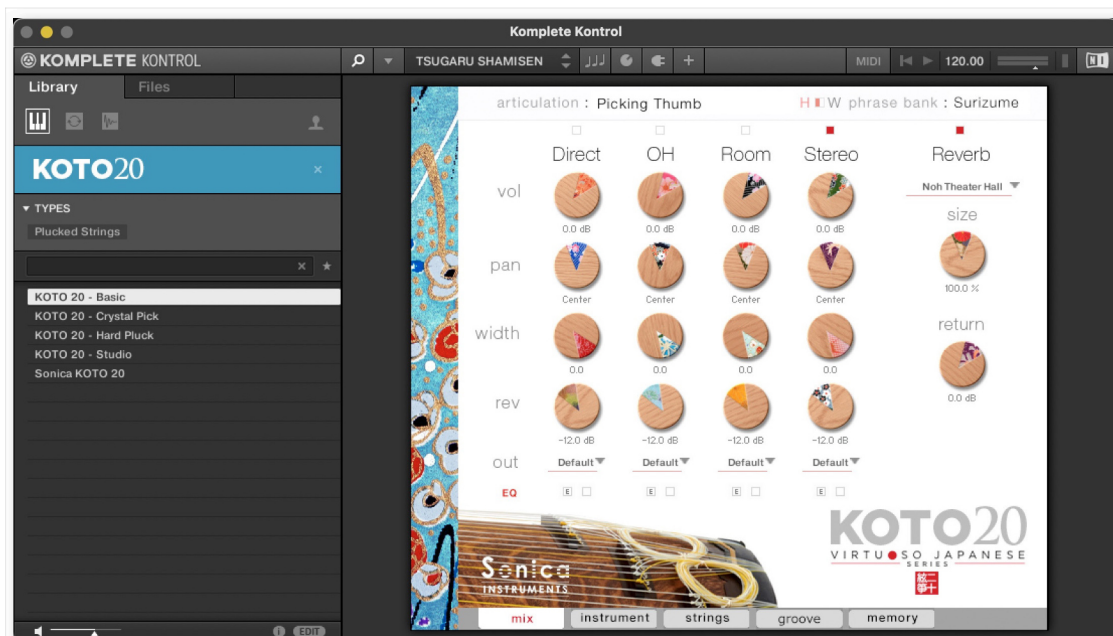
This pane is used to selectively load samples for all articulations and all phrase banks. Turning off a **Load** button in the list will disable the corresponding articulation or phrase bank and reduce the size of **KOTO 20**'s memory footprint. Key switches and articulations without a **Load** button are always loaded.



KONTROL Series Controller Parameters

You can adjust controller parameters more intuitively on KOMPLETE KONTROL or KONTROL Series (MIDI keyboards). (See the previous pages for details about each parameter.)

In KOMPLETE KONTROL, click the **Control** button to display parameters.



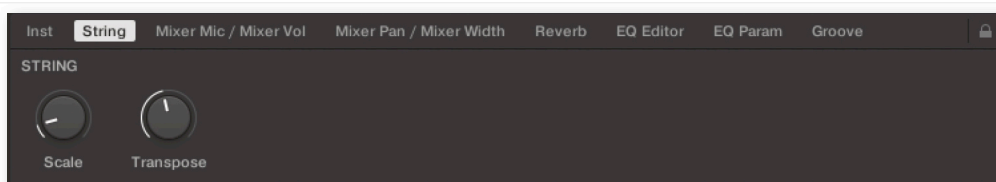
Inst

Inst provides control over Instrument Modeler parameters.



String

String provides scale and key adjustments.



Mixer Mic / Mixer Vol

Mixer Mic / Mixer Vol provides mic channel selection and volume adjustment for each channel.



Mixer Pan / Mixer Width

Mixer Pan / Mixer Width provides width and panning adjustments for each channel.



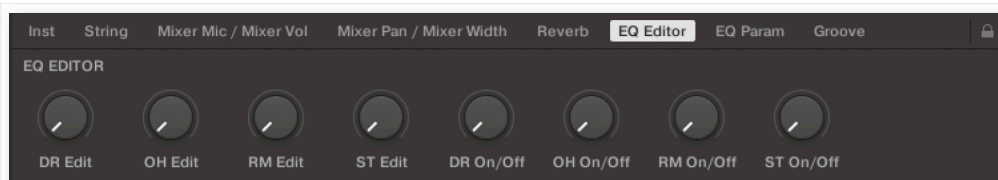
Reverb

Reverb provides adjustments for the reverb send volume from each channel as well as control over Reverb parameters.



EQ Editor

EQ Editor provides control over EQ parameters. The XX Edit controls open the EQ popup window for the corresponding channel, and the XX On/Off controls turn the corresponding channel's EQ on or off.



EQ Param

EQ Param provides adjustments for the gain and center frequency of each EQ band.



Groove

Groove provides control over Groove Browser parameters.



KOTO20

VIRTUOSO JAPANESE
SERIES



Credits

Executive Producer: Tomohiro Harada

Production, Recording, Editing and KONTAKT Development: Sonica Instruments

Koto performed by Miki Maruta

GUI Designer: Yujin Ono

KONTAKT Programming: Ichigoichie AB

Photography: Kenji Kagawa

Music Video: Yoshitaka Koyama

Audio Editing & KONTAKT Mapping: Hiromi Toriyama

Marketing & Translation: Craig Leonard

User Manual: Yuhei Suzuki

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Sonica Instruments

<https://sonica.jp/instruments/>

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