

KOTO 20

VIRTUOSO JAPANESE
SERIES



Sonica Instruments
KOTO 20
Virtuoso Japanese Series
User's Manual

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

Sonica Instruments Team

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.

Virtuoso Japanese Series

About 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 ([P.16](#))

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 ([P.8](#))

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 ([P.12](#))

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 (P.15)

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 (P.13)

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 20 strings along with a scale selection / customization function (P.16)

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 (P.9)

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 high resolution (P.10)

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.

NKS ready (P.19)

KOTO 20 is NKS compatible so it can be used with Kontakt Player, Kontakt Full (Ver. 5.7.3 or newer), and Complete Kontrol.

When KOTO 20 is linked with a Complete 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

Native Instruments Kontakt 5.7.3 or newer

Kontakt Player compatible

NKS ready

System Requirements

Mac OS X 10.10 or newer

Windows 7, Windows 8, or Windows 10

Intel Core 2 Duo or AMD Athlon 64 X2

A minimum of 4 GB of RAM (16 GB is recommended) is needed on both Mac and Windows systems.

Data size ~29 GB in NCW format (equivalent to ~57 GB in wav format)

- Native Instruments Kontakt or Kontakt Player 5.7.3 or newer is required to use the library.
- Installing the product requires a minimum of 14.97 GB of free disk space.
- 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

ou need to **register your serial code** and **download the library data** with the Native Access tool in order to use this product. Check the Sonica Instruments website for a step-by-step installation guide and other information updates.

1.Install Native Access

Note: You can skip this step if you already have Native Access on your computer.

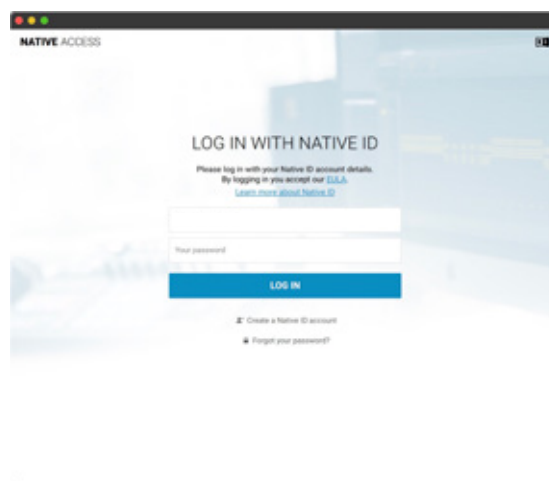
Download the Native Access Installer for your operating system from the Native Instruments website (<https://www.native-instruments.com/en/support/downloads/>) and follow the instructions on the screen to install the tool.



2.Log In with Your Native ID

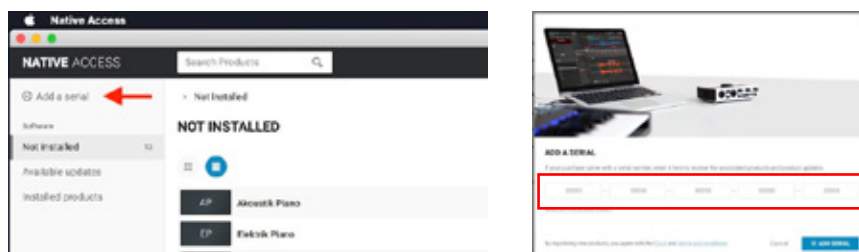
Launch the installed Native Access tool and log in.

If you do not have a Native Instruments account, click Create a Native ID account. On the Create a New Native ID window, enter the required information and create a free account.

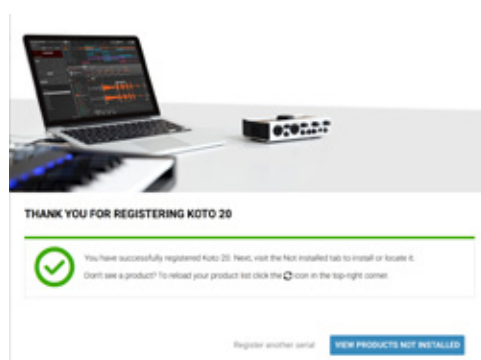


3. Register Your Serial Code

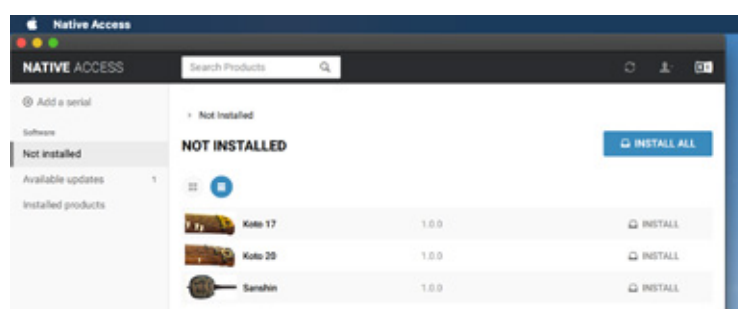
After Native Access launches, click Add a serial at the top left. Enter the serial code you received when you purchased the product in the red box shown below. (The serial code is sent you by email after your purchase.)



Click the ADD SERIAL button to register your product serial code. Next, click the VIEW PRODUCTS NOT INSTALLED button to open the installation window.



The product you registered will appear in the Not Installed list. Click the INSTALL button to the right of the product you wish to install. The download and installation process will now start.



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 Complete Kontrol in the same way.

Overview of KOTO 20

Koto 20 works with Kontakt, Kontakt Player, and Complete Kontrol.

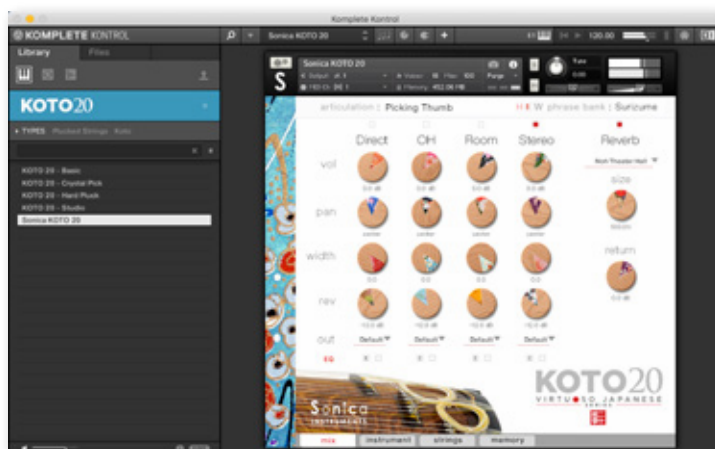
The library works with Kontakt and Kontakt Player

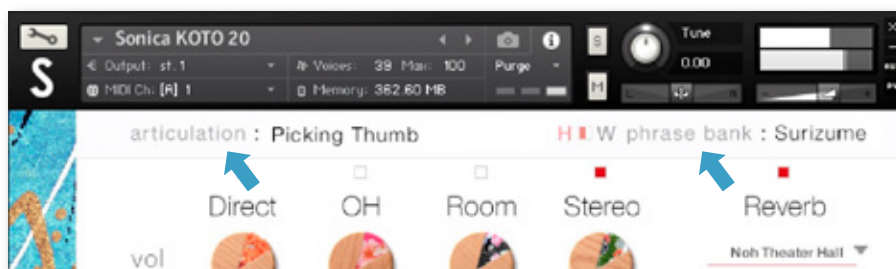
Once the library is activated, the **KOTO 20** library panel will be added to **Kontakt's Library Browser**. Please load and use the tone model you want from the Library Browser.



The library works with Complete Kontrol

KOTO 20 is NKS ready, the library can be linked with **Complete Kontrol** or a **Complete Kontrol keyboard** to preview tones and save settings as presets. You can also make full use of the Complete Kontrol keyboard's knobs, controllers, and browser. See [Complete Series Controller Parameters on Page 19](#) for details.





Two monitor fields are displayed at the top of all four panes — mix, instrument, strings, 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
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
A1	Half / Whole

*This articulation is disabled while other keys are being played (note on events).

phrase bank

This monitor field displays the currently selected phrase bank.

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

MIDI Keyboard layout

B-1 : Sustain pedal mode switch

C0 ~ D1 : Articulation key switch zone

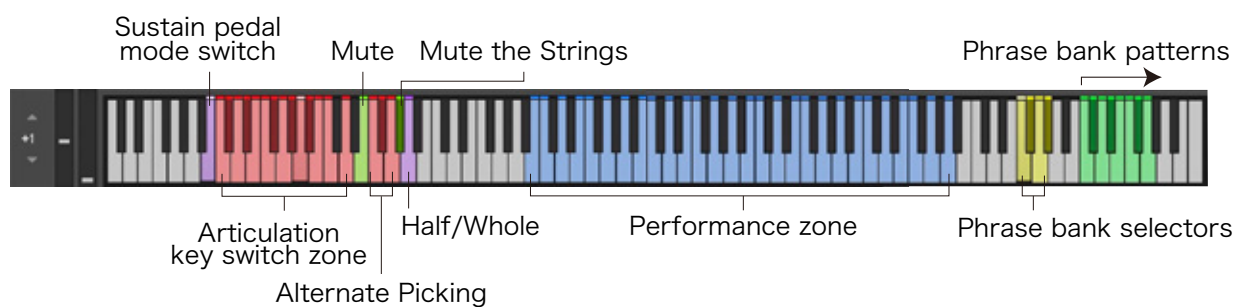
E1,G#1 : Keshizume (mute)

F1 ~ G1 : Alternate picking

A1 : Half / Whole Selectors

F5 ~ G#5 : Phrase bank selectors

C6 ~ : 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 Mix channel, which is a balanced mix of the three microphone sources. Note that 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.

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

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

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



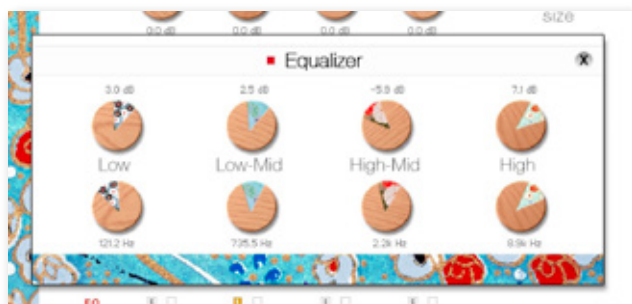
out : Selects the audio output of each channel. This is useful when sending multiple channels to your DAW.

Multiple channel outputs from each microphone sound

After creating 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 out control.

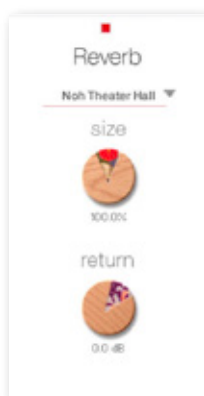
*Please see the Kontakt manual for instructions on how to create outputs.

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 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.

How to set Learn MIDI CC#



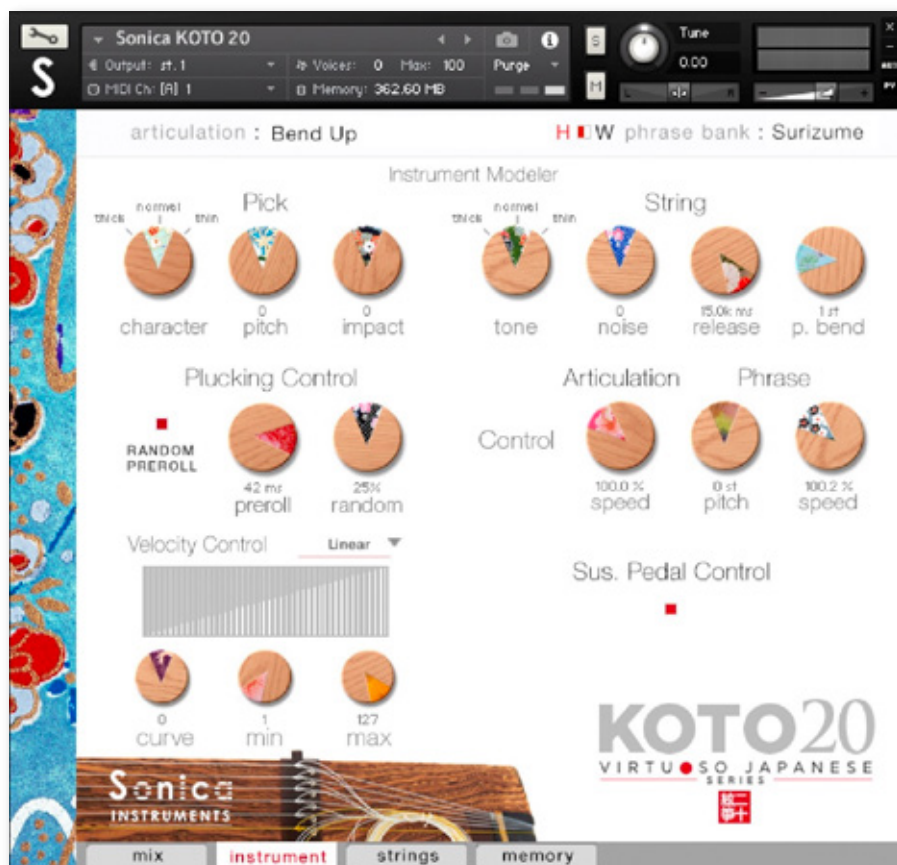
1. Right-click on the control knob and select Learn MIDI CC# Automation.
2. Turn the corresponding knob or move the slider on your MIDI controller.
3. The assignment is complete.

Removing MIDI CC# Automation

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

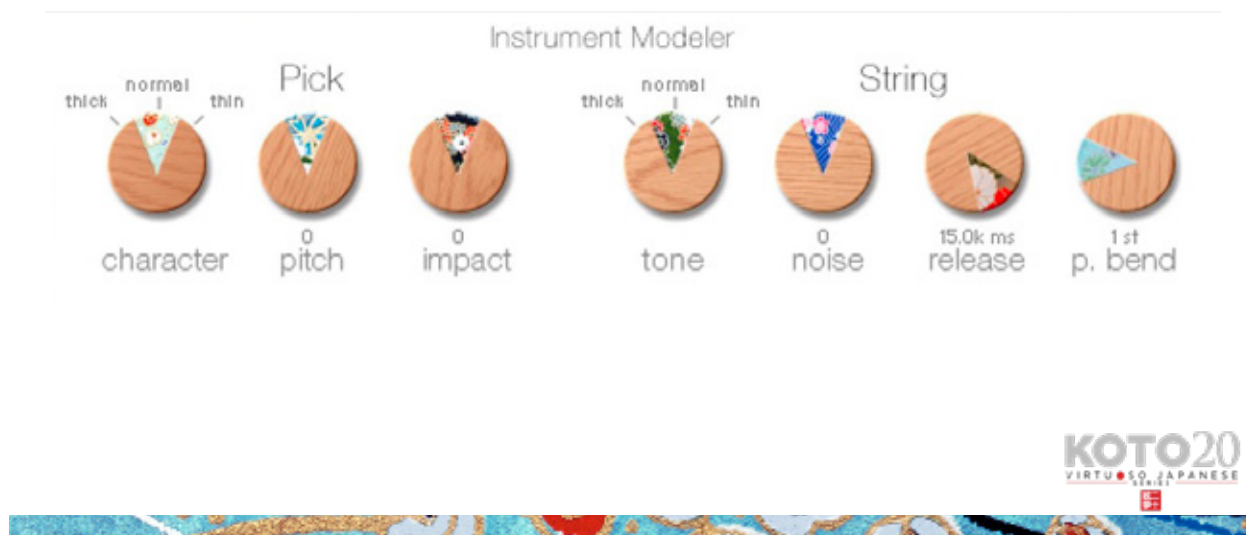
instrument

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. Plucking control does not work with the Sukuizume articulation or the three Chirashizume articulations.



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

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.

Articulation



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.

Phrase



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 note 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.)

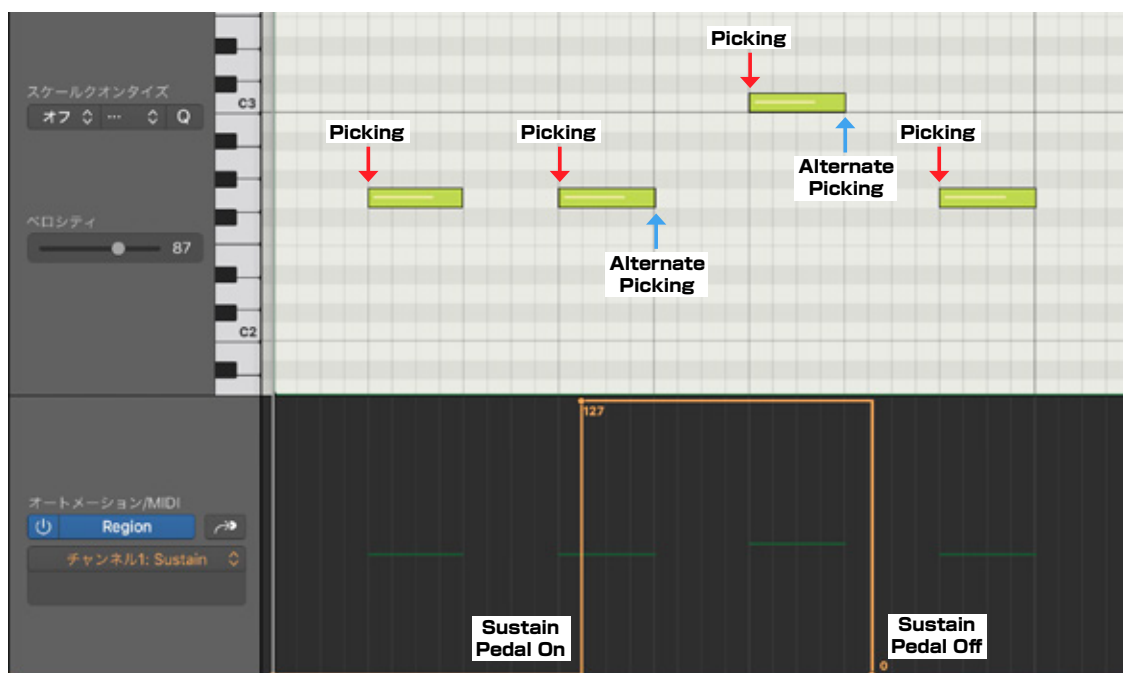
Sus. Pedal Control



Sus. Pedal Control : Selects whether or not alternate picking is triggered when the sustain pedal is held down. A key switch (B-1) also toggles this control on or off.

When the control is disabled, the sustain pedal functions as a normal sustain pedal.

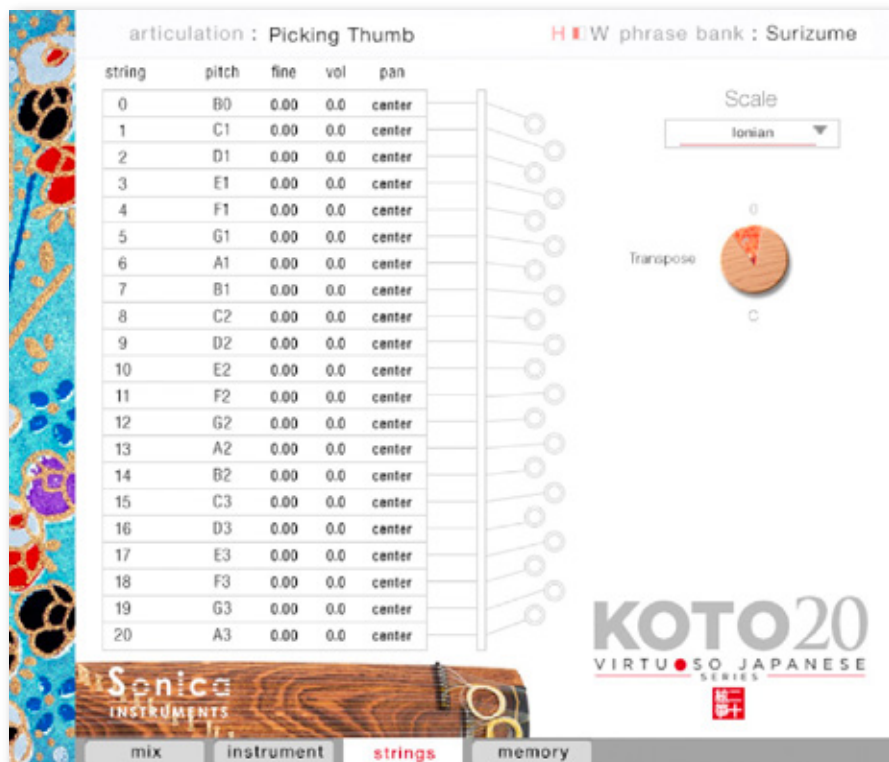
Selected articulation	Alternate Picking Played
Picking Thumb	Picking Middle
Picking Index	Sukuizume
Picking Middle	Chirashizume 1 (Fast)



When Sus. Pedal Control is enabled, alternate picking matching the played articulation will continue after note 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 twentieth 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.

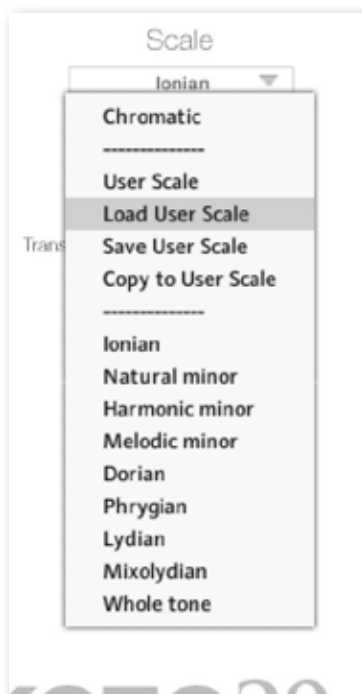
fine : Permits fine tuning of the corresponding string by ± 50 cents.

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 17-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.

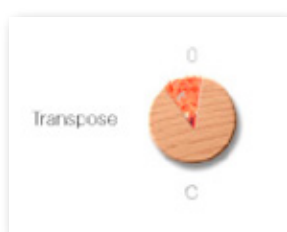
■ Preset scales

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.



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 amount of memory taken by the library.

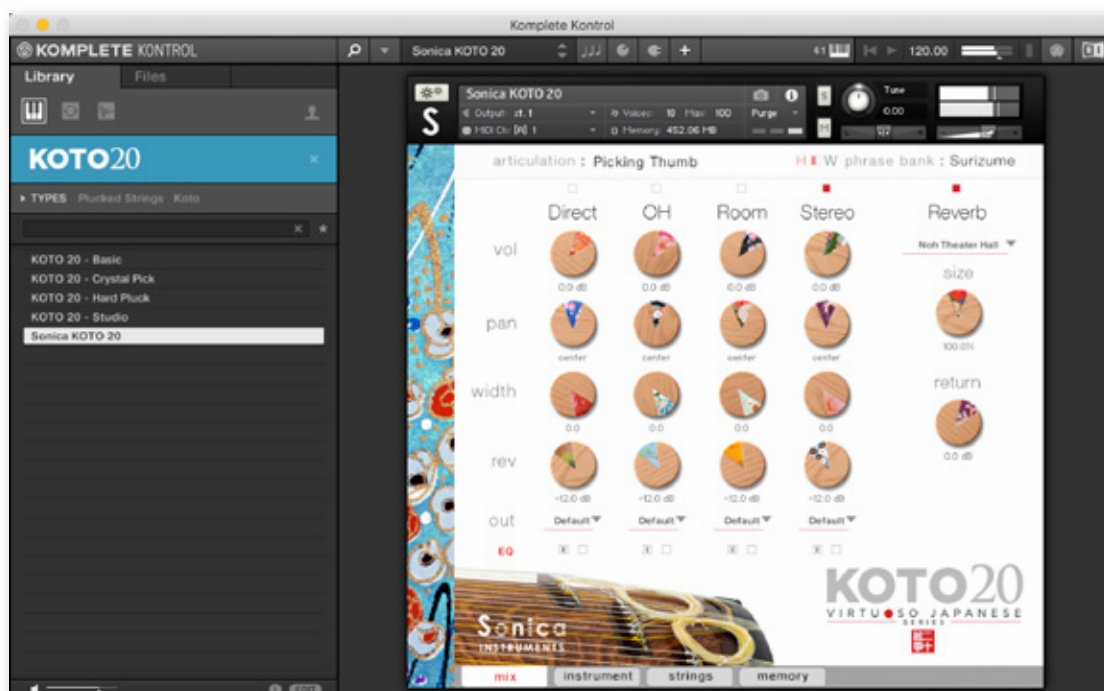
Key switches and articulations without a Load button are always loaded.



Kontrol Series Controller Parameters

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

In Complete Kontrol, click the Control button to display parameters.



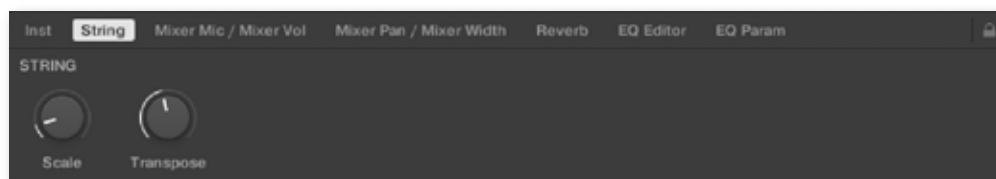
Inst

Inst Editor provides control over Instrument Modeler parameters (see [page 13](#)). See the previous pages for details about each parameter.



String

String provides scale (see [page 13](#)) and key adjustments.



Mixer Mic / Mixer Vol

Mixer Mic/Vol provides mic channel selection and volume adjustment for each channel from the Audio Mixer parameters (see [page 10](#)).



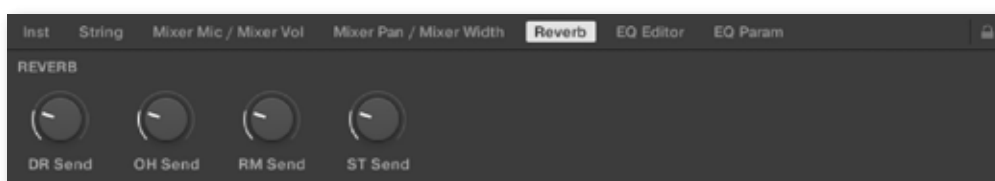
Mixer Pan / Mixer Width

Mixer Width/Pan provides width and panning adjustments for each channel from the Audio Mixer parameters (see [page 10](#)).



Reverb

Reverb provides adjustments for the reverb send volume from each channel as well as control over Reverb parameters (see [page 11](#)).



EQ Editor

EQ Editor provides control over EQ parameters (see [page 11](#)). The XX Edit controls open the EQ popup window for the corresponding channel, and the XX EQ controls turn the corresponding channel's EQ settings on or off.



EQ Param

EQ Param provides adjustments for the gain and center frequency of each EQ band (see [page 11](#)).



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VIRTUOSO JAPANESE
SERIES



Credits

Executive Producer: Tomohiro Harada
Production, Kontakt Development and Recording :Sonica Instruments
Instrument Played by Miki Maruta
GUI Designer: Yujin Ono
Kontakt Programming: Ichigoichie AB
Marketing & Translation: Craig Leonard
Photography : Kenji Kagawa
Music Video : Yoshitaka Koayama
Audio Editing & Kontakt Mapping : Hiromi Toriyama
User's Manual : Yuhei Suzuki

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Sonica Instruments

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Sonica
INSTRUMENTS

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