Sonica INSTRUMENTS

Sonica Instruments

SHO

Virtuoso Japanese Series

User Manual

Version 2.0 — July 2022

Thank you for purchasing **SHO**, part of Sonica Instruments' *Virtuoso Japanese Series*. We hope you fully enjoy **SHO**, 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

• Status LED added to the EQ window

• Updated Product Requirements (KONTAKT 6.6 or later)

Release notes for Update 1.5

• Added support for NKS and NATIVE ACCESS

Introduction

What is the *sho*?

The *sho* is a free reed musical instrument and one of the three primary woodwind instruments used in *gagaku* court orchestra music. It consists of 17 slender bamboo pipes with an overall length of 40 to 50 centimeters. Shape of the instrument is said to resemble a resting phoenix, and in antiquity, its fluid tonal character was associated with light shining down from the heavens. The *sho* has hardly changed in shape or tone since the Asuka Period (550-710 CE), and it is still one of the central woodwinds in *gagaku* music today.

Fifteen of the 17 pipes are fitted with a *shita*, or reed, at their base. Exhaled and inhaled air vibrates the reed, producing sound while the respective pipe's fingering hole is covered. One characteristic of playing the *sho* is that it produces the same tone whether exhaling or inhaling, allowing for long extended, unbroken tones.

The *sho* is played with single tones, called *itchiku*, when accompanying a singer and with chord-like tone clusters, called *aitake*, when playing in an ensemble. Both produce a space with beautiful, enfolding tones.

SHO

Sonica Instruments developed this library to reproduce, with as much realism as possible, the magic of the *sho*.

The renowned *sho* performer Ko Ishikawa assisted with the recording sessions. He generously provided us with exquisite performances of the ever-changing sound of bamboo, from graceful and alluring long tones to the wildest sounds imaginable.

Through uncompromising recording and KONTAKT programming, we have crafted **SHO** to be the closest software instrument ever to the real *sho* tones of light descending from the heavens. We encourage you to try **SHO** with all kinds of music.

Above all, it is our intention to respect Japanese instruments and performers. One of our hopes is that **SHO** users will become better acquainted with the charm of the real *sho*.

Product Highlights

24 bit, 96 kHz multi-microphone recordings for full-fidelity

For the recording sessions, we used an array of microphones paired with colorless microphone preamps to capture every nuance of the instrument in full 24 bit, 96 kHz fidelity. (The product itself contains 24 bit, 44.1 kHz samples.) The package comes with four microphone patterns — direct, overhead, room, and stereo mix — for mixing versatility.

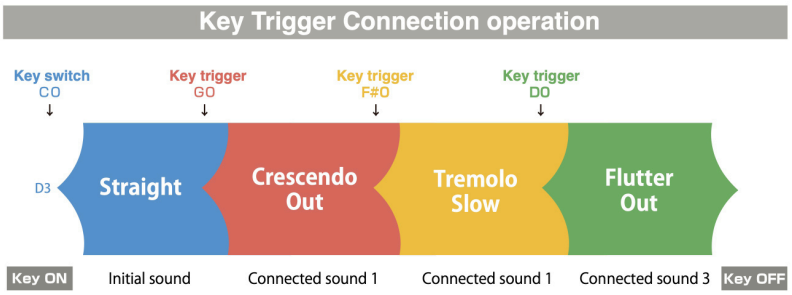
Recreating the *sho*'s singular playing techniques with realism necessitated the development of special articulation mechanisms and interfaces

Performing characteristic *aitake* (chords) and *itchiku* (single tones)

We recorded 11 chord tones (*aitake*), in which multiple pipes are played simultaneously, and all single tones (*itchiku*), in which just one pipe is played at a time. The interface has been designed to enable independent performance of both chord tones and single tones. The interface also includes independent articulation control.

Pipe Indicator

The Pipe Indicator lets the performer see the *sho* pipe arrangement and monitor the current pipes being played. The pipes are labeled with their traditional note names. When one of the eleven chords is played, the traditional chord name appears in the center. And because the Pipe Indicator works in conjunction with the Scale Tuning boxes (described below), it is very useful for monitoring the note of each pipe with notes on the keyboard.



Articulations are connected smoothly without interrupting the sound.

Key Mode faithfully recreates the instrument's traditional playing feel

The library comes with two key modes: The Chromatic mode maps the keys to chromatic scale tones, and the Trad. Fingering mode maps one white key to one pipe in a way that recreates the feel of real *sho* fingerings. In the Trad. Fingering mode, placing the fingers of both hands on the white keys is like covering the holes on the pipes. This arrangement not only lets *sho* performers feel at home with the library; it is also a great aid to learning and understanding the instrument.

Scale Tuning

Each chromatic pitch across the *sho*'s entire register can be individually fine-tuned. Controls provide easy selection of Pythagorean tuning, used in *gagaku* music, and equal temperament tuning. It is also possible to create and play custom tunings, which can be saved and recalled.

Key Trigger Connection lets you string together playing techniques on the fly without ever interrupting the sound

The *sho* is known for its seemingly endless flowing tones modified by breathing techniques that produce a wealth of articulations. Most of the time, articulations are blended from one to another while sustaining the sound. Designed specifically to recreate this playing technique, the Key Trigger Connection lets the performer change between any articulations smoothly and naturally just by hitting the assigned keys while playing.

Expression control adjusts the tonal strength in fine increments

This function gives control over the tone by adjusting the strength and velocity of the breath. The expression control makes playing a keyboard feel like a wind controller, giving you access to smooth, dynamic breath expressions despite being sample based.

Blow speed control adjusts the tonal attack

Any ordinary controller can be used to control the speed of the tone's attack by adjusting the breath speed. When combined with the Expression control, the Blow Speed control unleashes even more fluid-sounding performances.

Polyphonic legato

Polyphonic legato can be applied to both single tones and chord tones. It is used to gradually add tones while playing or shifting the note value of just one tone in a tone cluster, a quintessential *sho* technique. Polyphonic legato can be turned on and off instantly with a sustain pedal.

Rich assortment of *sho* articulations

The library contains many articulations recorded with chord tones and single tones: Straight (exhaled tone / inhaled tone), Flutter (exhaled tone / inhaled tone), Sforzando, Crescendo (exhaled tone / inhaled tone), Tremolo Slow, and Tremolo Fast. All are key-switch controlled for highly expressive, real-time performances from your MIDI keyboard. Furthermore, all articulations can be joined seamlessly with the Key Trigger Connection function.

Ensemble selector adds up to three performers

Gagaku court music is performed with multiple performers on each instrument playing in a thick-sounding unison. The Ensemble selector lets you choose from a solo performer or a two-performer or three-performer ensemble. Additional controls adjust the balance between the soloist and the other performers and the spread of their positioning.

Groove Browser

The library comes with many classic *sho* 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

SHO is NKS compatible so it can be used with KONTAKT PLAYER, KONTAKT FULL, and KOMPLETE KONTROL. When **SHO** 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: ~2.38 GB in NCW format (equivalent to ~3.15 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

Required MIDI Controllers

With additional MIDI controllers, you can access the full functionality of **SHO** for more lifelike performances.

Sustain Pedal (CC #64)

The sustain pedal can be used either to turn polyphonic legato on and off or to enable and disable the Key Trigger Connection function. Polyphonic legato can be applied to both single tones and chord tones and is used to gradually add tones while playing or shifting the note value of just one tone in a tone cluster. Key Trigger Connection lets you change articulations while playing.

Modulation Wheel (CC #1)

The modulation wheel adjusts the blow expression, which controls tone volume and color with breath strength.

Make use of the convenient Quick Reference to SHO (PDF)

We recommend that you have a look at the included PDF file while you get acquainted with **SHO**. This file gives a quick overview of the distinctive playing techniques of the *sho* as well as the traditional note and chord names.

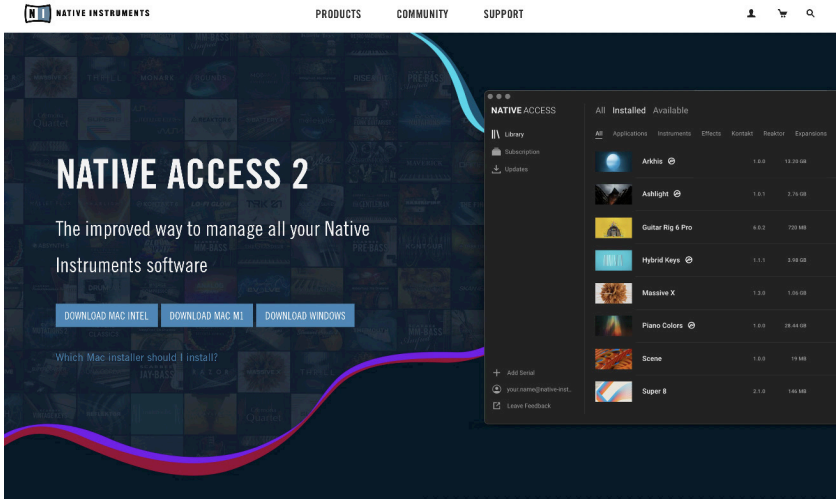
Before Using This Product

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 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.

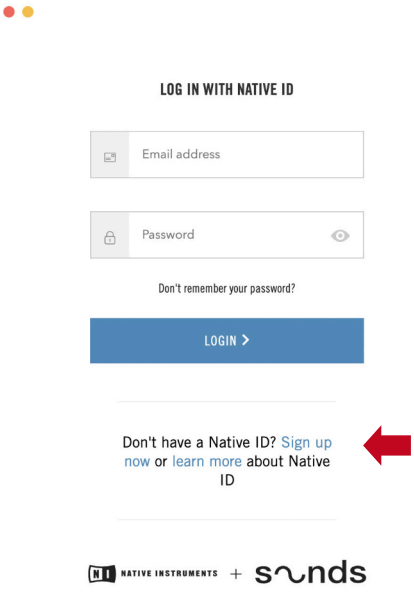
Download the NATIVE ACCESS 2 Installer for your operating system from the Native Instruments website (https://www.native-instruments.com/en/specials/native-access-2/) and follow the instructions on the screen to install the tool.



2. Log In with Your Native ID

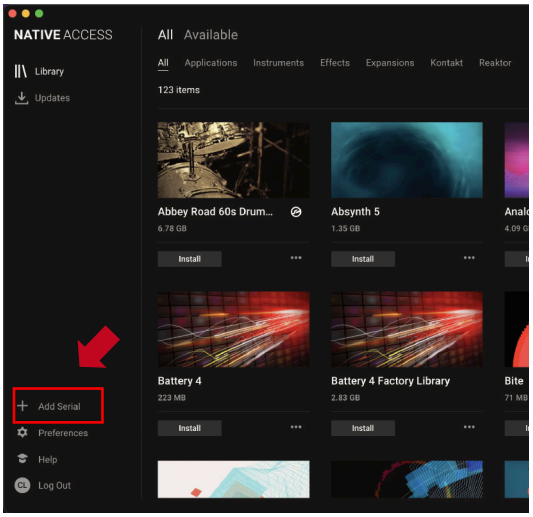
Launch the installed NATIVE ACCESS 2 tool and log in.

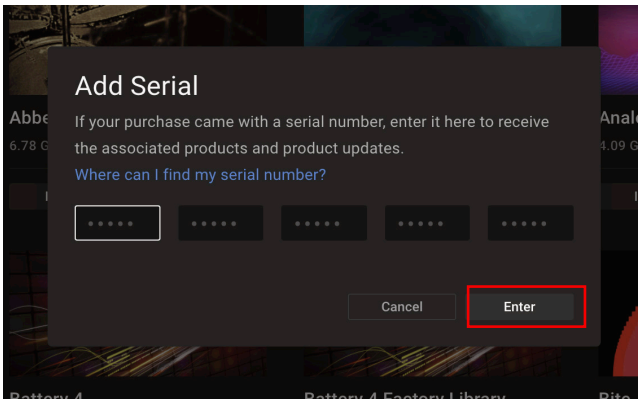
If you do not have a Native Instruments account, click **Sign up now** on the Log In with Native ID window. On the Create a New Native ID window, enter the required information and create a free account.



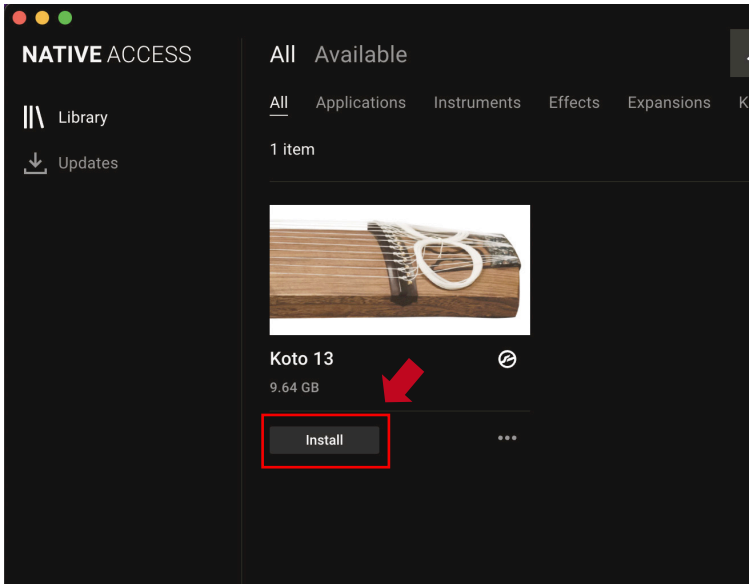
3. Register Your Serial Code

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.

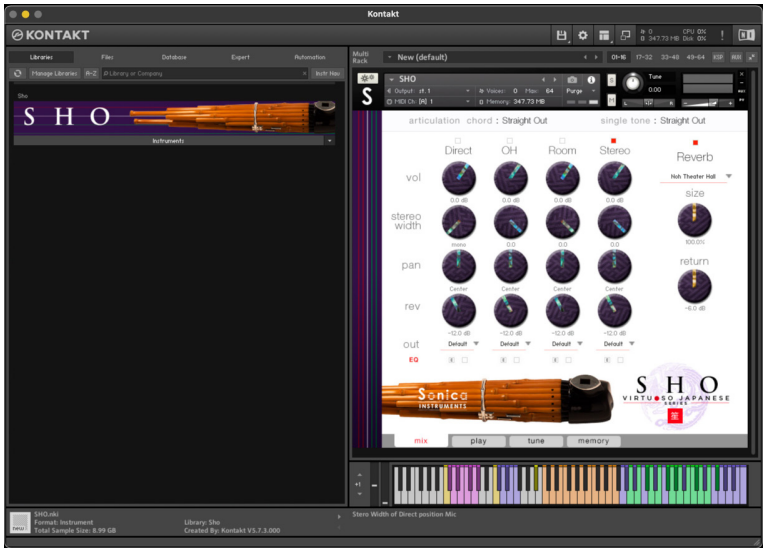
After the download finishes, launch KONTAKT or KONTAKT PLAYER. The product will be added automatically under the **Libraries** tab on the left side of the screen. You can access the library in KOMPLETE KONTROL in the same way.

Overview of SHO

SHO works with KONTAKT, KONTAKT PLAYER, and KOMPLETE KONTROL.

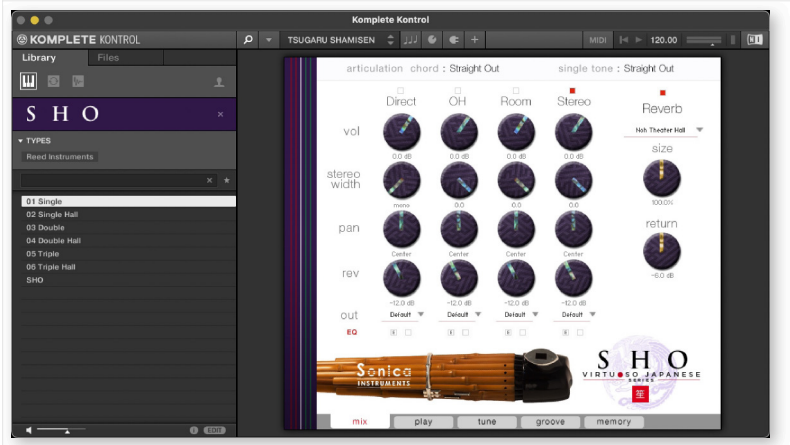
Using the library with KONTAKT and KONTAKT PLAYER

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

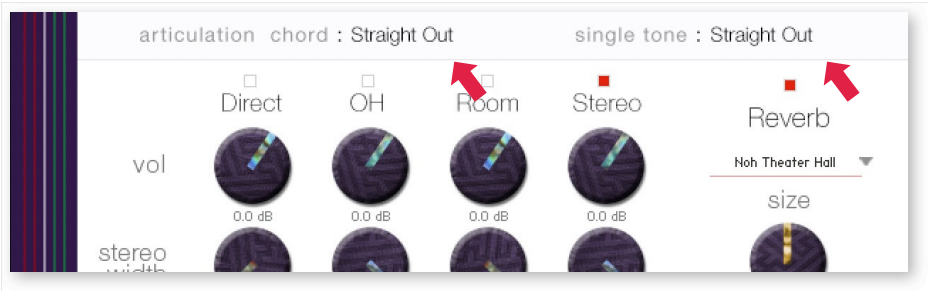


Using the library with KOMPLETE KONTROL

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



Articulation Monitor Fields



The two articulation monitor fields, chord and single tone, are displayed on all five panes — **mix**, **play**, **tune**, **groove**, and **memory**. This lets you see immediately which articulations you have selected with the key switches.

chord

This field shows the current articulation selected with the key switches for chord tones. You can also check the current key switch on your KONTAKT keyboard.

single tone

This field shows the current articulation selected with the key switches for single tones. You can also check the current key switch on your KONTAKT keyboard.

articulation

Articulation List and Key Switch Parameters

Chord Tone articulations

Key Switch	Articulation Name	Key Trigger Connection
C0	Straight Out	Assignable to sustain pedal (CC# 64) on / off control
C#0	Straight In	Assignable to sustain pedal (CC# 64) on / off control
D0	Flutter Out	Assignable to sustain pedal (CC# 64) on / off control
D#0	Flutter In	Assignable to sustain pedal (CC# 64) on / off control
E0	Sforzando	Assignable to sustain pedal (CC# 64) on / off control
F0	Tremolo Slow	Assignable to sustain pedal (CC# 64) on / off control
F#0	Tremolo Fast	Assignable to sustain pedal (CC# 64) on / off control
G0	Crescendo Out	Assignable to sustain pedal (CC# 64) on / off control
G#0	Crescendo In	Assignable to sustain pedal (CC# 64) on / off control

Single Tone articulations

Key Switch	Articulation Name	Key Trigger Connection
C1	Straight Out	Assignable to sustain pedal (CC# 64) on / off control
C#1	Straight In	Assignable to sustain pedal (CC# 64) on / off control
D1	Flutter Out	Assignable to sustain pedal (CC# 64) on / off control
D#1	Flutter In	Assignable to sustain pedal (CC# 64) on / off control
E1	Sforzando	Assignable to sustain pedal (CC# 64) on / off control
F1	Slide-Up	Assignable to sustain pedal (CC# 64) on / off control
A#1	Legato on / off	-

† Chord tones and single tones can be played simultaneously, and their articulations can be selected with independent key switches.

† All articulations can be joined seamlessly with the Key Trigger Connection function.

MIDI keyboard layout

C0 – **F1**: Articulation key switch zone

C0 – **G#0**: Articulation key switch zone for chord tones

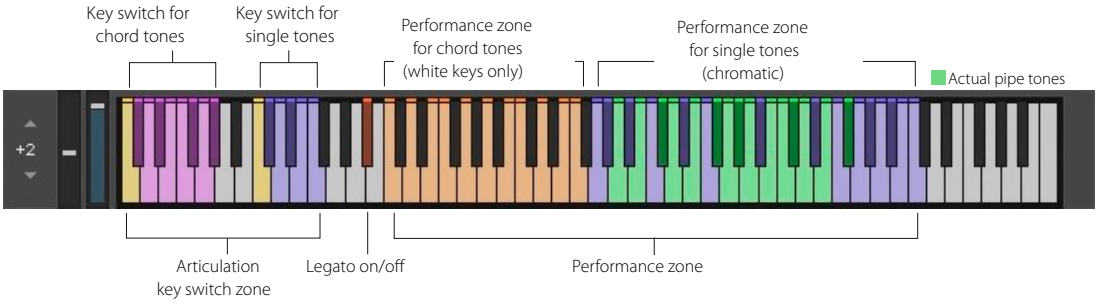
C1 – **F1**: Articulation key switch zone for single tones

A#1: Legato on/off

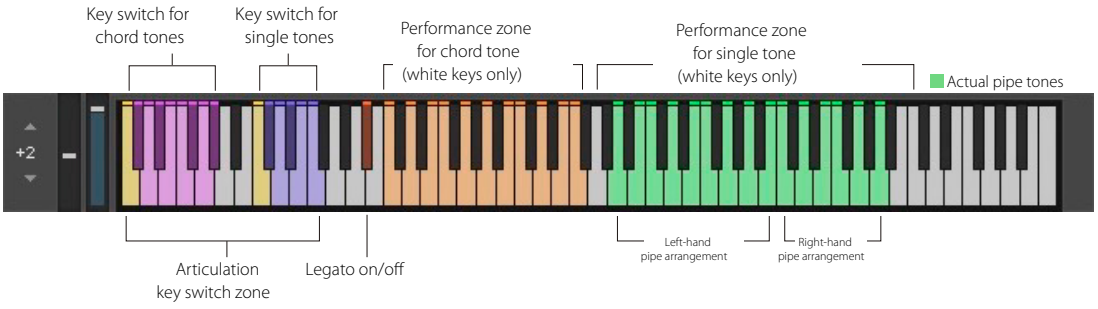
C2 – **F3**: Performance zone for chord tones

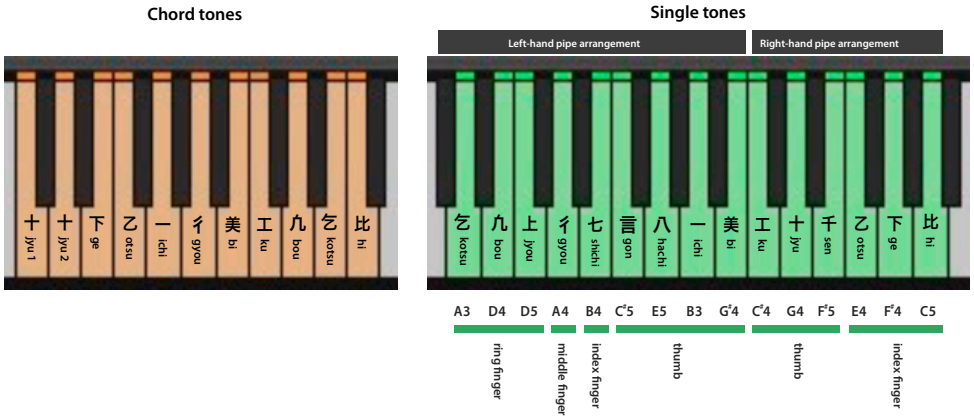
G3 – **C6**: Performance zone for single tones (layout varies depending on the key mode and articulation)

Key mode: chromatic



Key mode: trad. fingering





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 microphone channels.

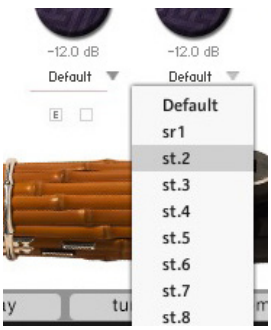
vol: Adjusts the volume of each channel.

stereo 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.

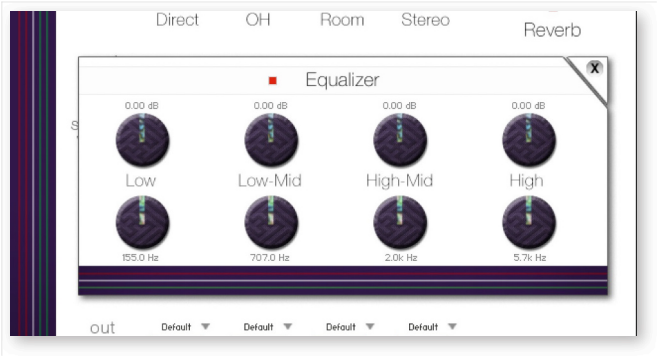
out: Selects the audio output of each channel. This is useful when sending multiple channels to your DAW.



Setting multiple channels for a single microphone output

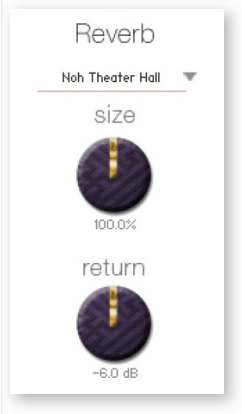
Please see the KONTAKT manual for how to create multiple outputs. After creating the outputs, clicking the Restart Engine button (marked with an exclamation mark) at the top right of the KONTAKT interface will update the output list under **SHO**'s output control.

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. The EQ can be turned on or off on the pop-up dialog as well.

Reverb



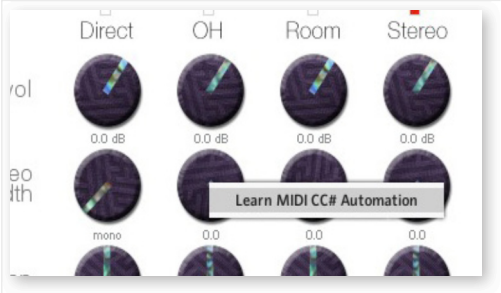
The library contains 30 convolution reverbs, including two impulse responses from a Noh theater, available from the pull-down list.

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 **SHO** 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.

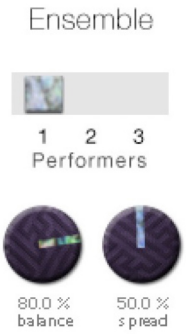
Removing MIDI CC# automation

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

play

This pane is used to set performance and tonal nuances in **SHO**.

Ensemble



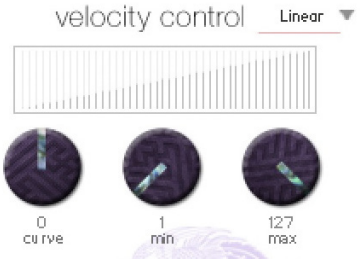
The Ensemble selector lets you choose from a solo performer or a two-performer or three-performer ensemble as well as adjust the balance between the soloist and the other performers and the spread of their positioning.

Person: Selected from soloist, two-performer ensemble, or three-performer ensemble.

balance: Adjusts the balance in the mix of the second and third performer.

spread: Adjusts the positioning spread for two-performer or three-performer ensembles.

Velocity Control



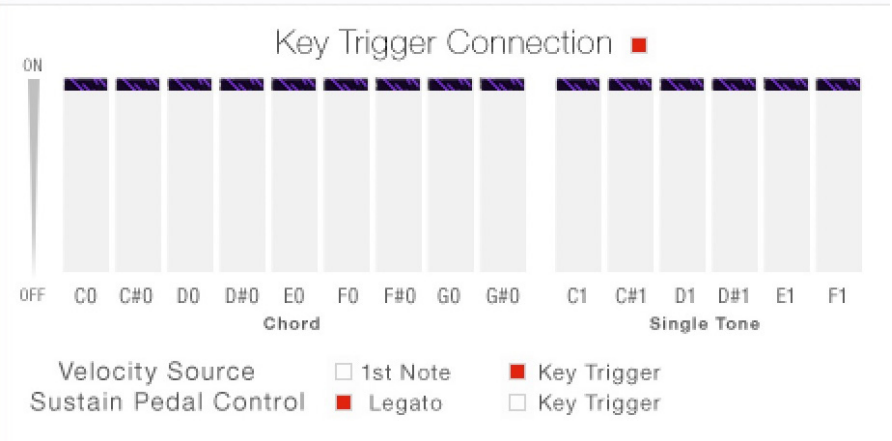
curve type: Sets the velocity curve to *Linear*, *S-Curve*, *Compound*, *Fixed*, or *User*.

curve: Modifies the selected curve.

min: Adjusts the minimum velocity of played notes.

max: Adjusts the maximum velocity of played notes.

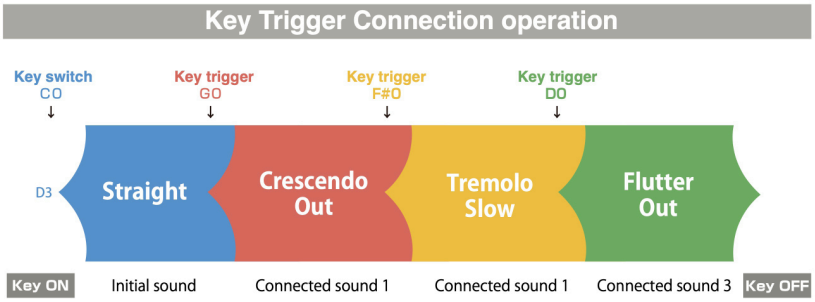
Key Trigger Connection



The *sho* is known for its seemingly endless flowing tones modified by breathing techniques that produce a wealth of articulations. Most of the time, articulations are blended from one to another while sustaining the sound.

The Key Trigger Connection mechanism was designed specifically to recreate this playing technique. The mechanism outperforms musical expressions created with ordinary key switches by providing much smoother control over articulation changes.

Using Key Trigger Connection, you can string together as many articulations as you like while holding down the base note. The sustain pedal (CC #64) can be assigned to toggle Key Trigger Connection on and off. This is helpful in attaining emotional nuances from the instrument because you can instantly activate the function as needed.



Articulations are connected smoothly without interrupting the sound.

Velocity Source

This control selects the velocity source for articulations connected using Key Trigger Connection.

1st Note: Applies the velocity at the initial *Key On* event to all following articulations.

Key Trigger: Applies the Key Trigger event velocity to the corresponding connected articulation. Use this setting to add nuance at each articulation connection.

Sustain Pedal Control

This control selects the behavior assigned to the sustain pedal (CC #64).

Legato: Assigns the sustain pedal to control legato sustain when transitioning from pipe to pipe while playing single tones or when playing additional pipes to add more tones.

Key Trigger: Assigns the sustain pedal to toggle Key Trigger Connection on and off.

Pitch Bend

Provides individual adjustment of the up and down pitch bend ranges.

Blow Speed

Provides control over the tonal attack by adjusting the breath speed.

Expression

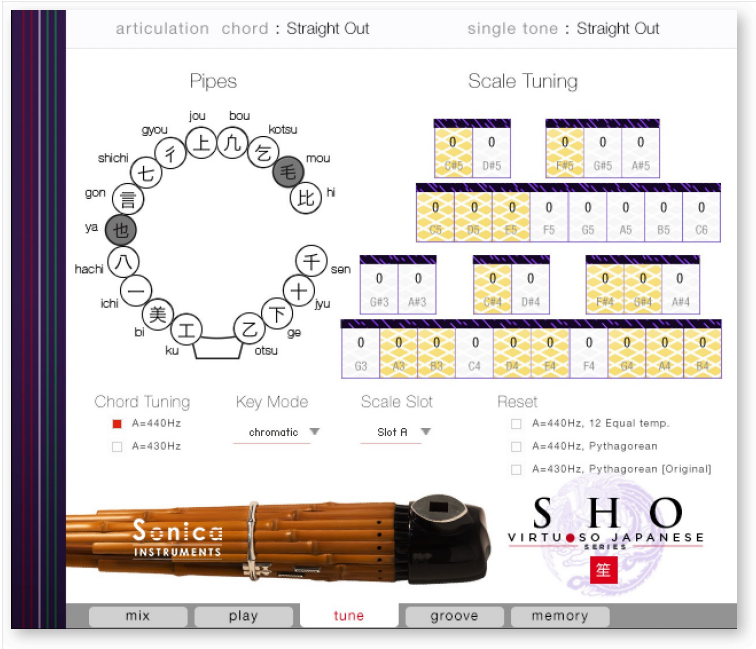
Provides control over the tonal character by adjusting the breath strength.

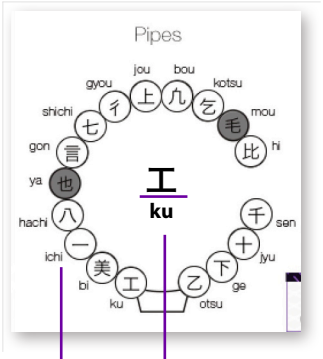
blow: Adjusts the breath strength for control over volume and harmonic overtones. Initially assigned to the modulation wheel (CC #1).

sense: Adjusts how much of the expression set with the blow parameter is applied.

tune

This pane displays the Pipe Indicator and allows for individual fine-tuning of each chromatic pitch across the entire *sho* register. The key mode can also be selected on this pane.





Pipe Indicator

The Pipe Indicator lets the performer see the *sho* pipe arrangement and monitor the current pipes being played. The pipes are labeled with their traditional note names. When one of the eleven chords is played, the traditional chord name appears in the center. And because the Pipe Indicator works in conjunction with the Scale Tuning boxes, it is very useful for monitoring the note of each pipe with notes on the keyboard. Clicking on a pipe in the Pipe Indicator will display an indicator above the corresponding Scale Tuning box.

Chord Tuning

Sets the fundamental pitch of chord tones.

A = 430 Hz

A = 440 Hz

Key Mode

Provides selection of either a chromatic key mapping or a mapping recreating the *sho*'s traditional fingering.

chromatic: Maps tones in the ordinary chromatic order, allowing performance of all notes in the chromatic scale — not just the 15 single tones of the pipes.

trad. fingering: Maps the 15 single tones to 15 white keys. Tones are mapped in the order of how the pipes are played by the left and right hands.

Scale Tuning

Provides individual fine-tuning of each chromatic pitch across the entire *sho* register. Boxes shown in yellow are the pipe's original notes. Controls provide easy selection of Pythagorean tuning — which is used in *gagaku* music, and equal temperament tuning. It is also possible to create and play custom tunings, which can be saved and recalled.

Scale Slot

You can save and load created scales in three slots: Slot A, B, and C.

Reset

Sets the scale tuning boxes to either 430 Hz Pythagorean tuning — the *sho* tuning used in *gagaku* music, 440 Hz Pythagorean tuning, or 440 Hz equal temperament tuning. You can fine-tune each key starting from these tunings. Resetting will overwrite the currently selected Scale Slot with the reset data.

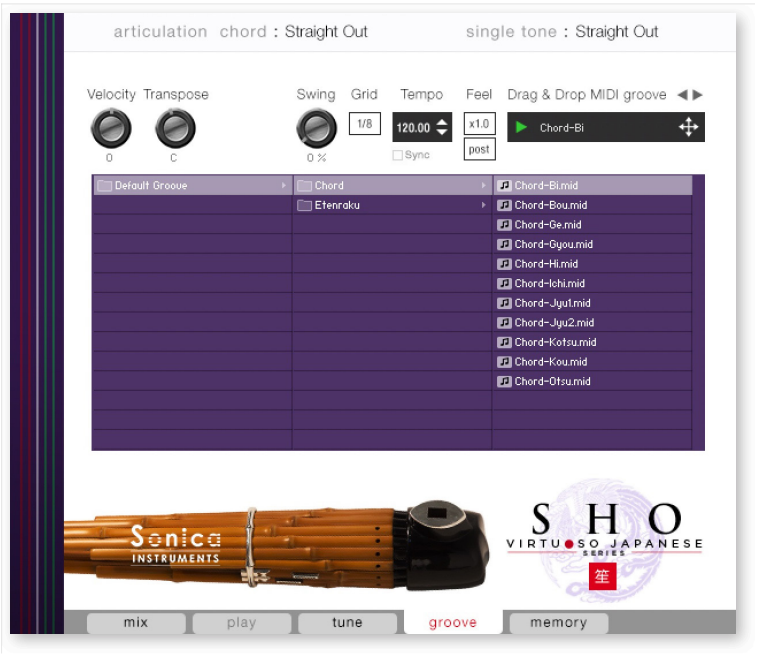
A=440Hz, 12 Equal temp.: 440 Hz equal temperament tuning

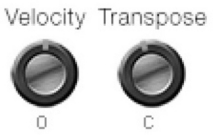
A=440Hz, Pythagorean: 440 Hz Pythagorean tuning

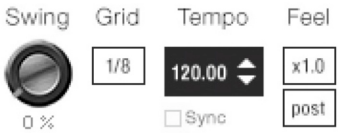
A=430Hz, Pythagorean: 430 Hz Pythagorean tuning

groove

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







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).

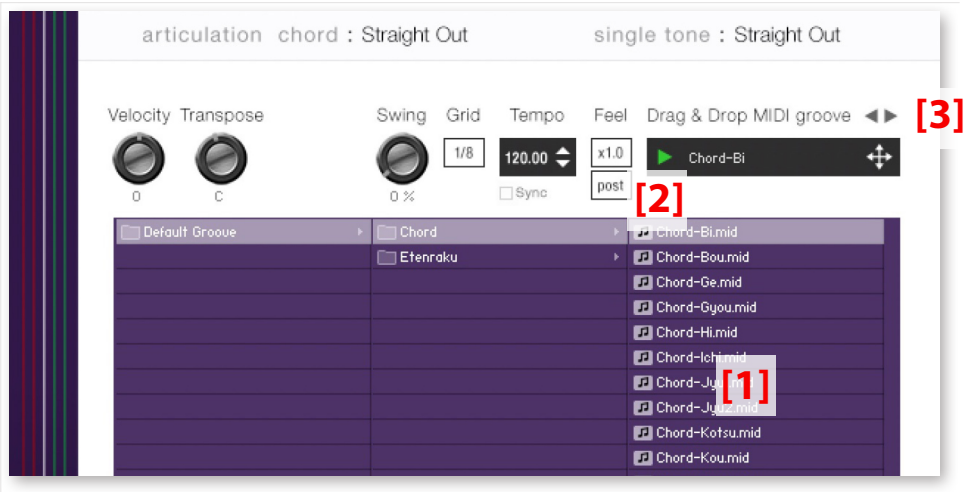
Process: Toggles at which point the **Swing** feel is applied, either before (*pre*) **Grid** is applied or after (*post*) **Grid** is applied. This control lets you access a variety of playing feels even with the same phrase and settings.

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

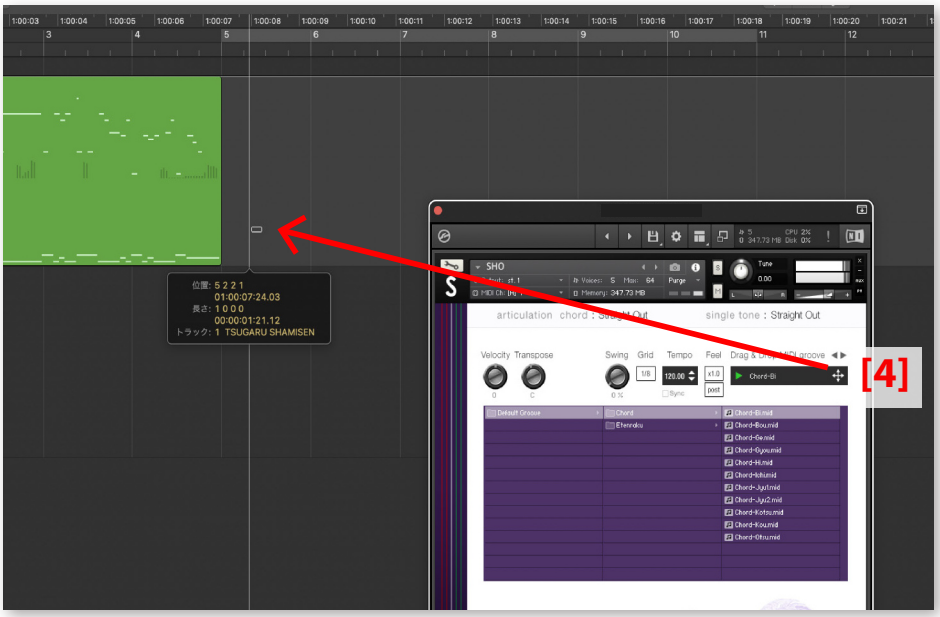
To load a MIDI groove into the Player, double-click on the MIDI groove you want to use from the Groove Browser [1]. Click the play button [2] to start a preview playback. Double-clicking on a pattern while the MIDI groove is playing will switch patterns without pausing the playback. You can move to the 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 key [4] and drop the groove into your DAW.



memory

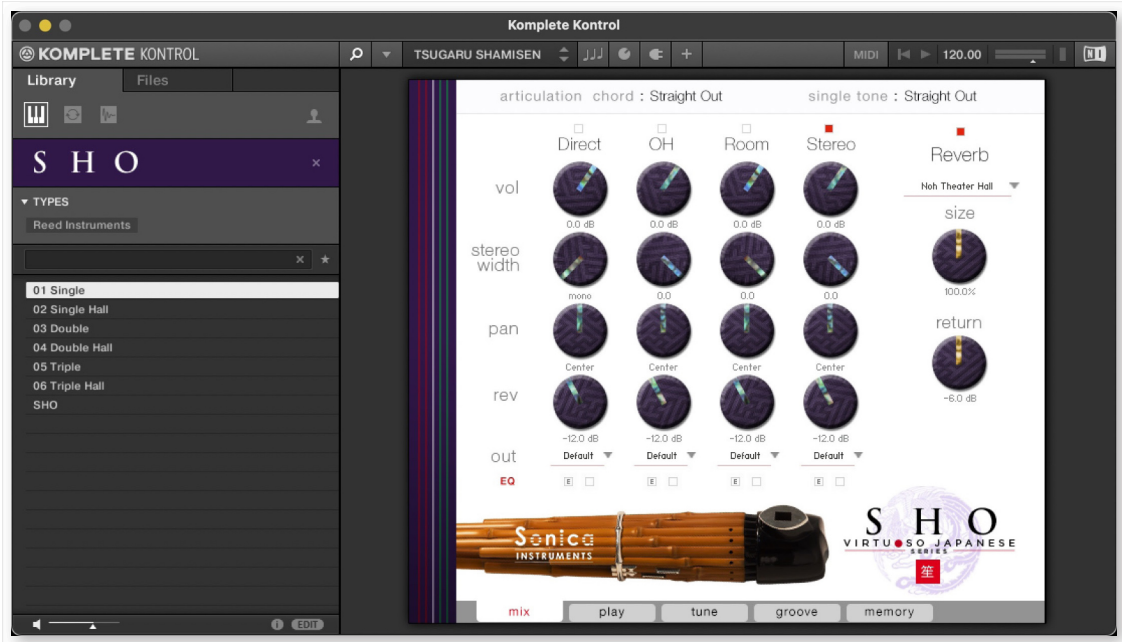
This pane is used to selectively load samples for all articulations, allowing you to adjust the amount of memory used by KONTAKT. Turning off a **Load** button in the list will disable the corresponding articulation and reduce the size of **SHO**'s memory footprint.

The bottom section displays MIDI Control Change number assignments and the sustain pedal's assignment.

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 Editor

Inst Editor provides control over Instrument Modeler parameters.

Mixer Mic / Vol

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

Mixer Width / Pan

Mixer Width / Pan 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.

Direct EQ

Direct EQ provides adjustments for the gain and center frequency for the Direct channel.

OH EQ

OH EQ provides adjustments for the gain and center frequency for the Overhead channel.

Room EQ

Room EQ provides adjustments for the gain and center frequency for the Room channel.

Stereo EQ

Stereo EQ provides adjustments for the gain and center frequency for the Stereo channel.

Groove

Groove provides control over Groove Browser parameters.

Credits

Executive Producer: Tomohiro Harada

Production, Recording, Editing and KONTAKT Development: Sonica Instruments

Sho performed by Ko Ishikawa

KONTAKT Programming: Rataro. M (Think Master Inc.)

GUI Designer: Yujin Ono

Photography: Takashi Matsuda

Music Video: Yoshitaka Koyama

Marketing, Translation & Production Consulting: Craig Leonard

User Manual: Yoshifumi Yamaguchi (Stylus Inc.)

Sonica Instruments
https://sonica.jp/instruments/

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