TOKYO SCORING STRINGS

東京スコアリング・ストリングス

Tokyo Scoring Strings

An Impact Soundworks Virtual Instrument

v1.0 , November 7, 2021

Introduction

The sound of Japanese orchestral strings is both captivating and highly unique. With decades of world-famous video games soundtracks, films, TV dramas, and anime recorded in Japan and performed by Japanese musicians, it surprised us that this had never been captured in a sample library before. That realization is what led to the creation of Tokyo Scoring Strings.

Smaller ensemble sizes, a drive for perfection and incredible accuracy, focused studio spaces: these are some of the elements that set the Japanese string sound apart. Yet that's only part of the picture. It's also the approach to recording, to mixing, and the dynamics between all members of the team.

That's why we wanted to work with the *right people*: the most in-demand musicians, producers, engineer, and studio in the country. It wasn't enough for us to simply create **a** Japanese string library. We wanted to create **the** Japanese string library.

To achieve our goal, we are honored to have partnered with an incredible "dream team" of musicians and collaborators in Japan:

Koichiro Muroya Strings, led by **Koichiro Muroya**: The most in-demand session ensemble in all of Japan. Their exquisite playing can be heard on countless soundtracks.

Mitsunori Aizawa: Japan's top engineer, responsible for mixing and recording hundreds of world-famous scores and albums.

Sound City Recording Studio: A legendary space with over 60 years of history, and among the few studios in the country capable of delivering a truly authentic orchestral ensemble sound.

Masaru Yokoyama: A renowned composer for Japanese film, anime, and dramas, who brought his experience recording scores around the world through his companies Plugnote and Miracle Bus.

Crypton Future Media and **Sonicwire**: Our Japanese distributors, who helped facilitate many aspects of the project.

With this library, we hope you will feel the passion, emotion, and expression of the incredible Koichiro Muroya Strings, and that it will inspire your music for years to come.

Please enjoy Tokyo Scoring Strings!

- Andrew Aversa & the Impact Soundworks team

Installation

1. Download Native Instruments [Kontakt 6 Player](#), which will also install **Native Access**.

2. Open Native Access, click "Add a Serial", and input your Tokyo Scoring Strings **product code**.

3. Input the same code into [Pulse Downloader](#) to download the library files, then point Native Access to the newly installed folder, titled "Tokyo Scoring Strings."

You can then load **Kontakt Player** as a plugin in your DAW, and load **Tokyo Scoring Strings** from the "Libraries" tab.

Content

The library includes recordings of five string sections: Violins I, Violins II, Violas, Cellos, and Contrabasses. The count of players recorded is 8, 6, 4, 4, and 3, respectively.

Each section was recorded *in situ*: though each was recorded individually, they were placed in the correct position in the physical space, so **no panning is needed** to reproduce the proper ensemble sound.

All recordings were captured at 24-bit, 96 kHz fidelity and downsampled to 48 kHz using the cleanest possible resampling algorithm.

Patches

There are two sets of patches which are split based on the mic positions provided.

The main patches feature the "**Board Mix**" exclusively. This Board Mix was created by engineer Mitsunori Aizawa in the studio at the time of recording, and combines *all* mics with Aizawa's signature mixing and processing chain. No external reverb is added, but there are certain processes used that color the sound in a pleasing way.

For most purposes, we **highly recommend using the Board Mix**. It provides the most authentic sound and is most efficient in terms of CPU and memory usage. We also advise adding **external reverb** unless the strings are being used in a rock or pop setting, as the default sound is more on the dry side. In most of Aizawa's work, units such as a Bricasti M7 are used.

The second set of patches is located in the "All Mics" folder. These **"Mic Mixer"** patches include four separate stereo mic positions, which can be manually toggled and mixed in the **Console** tab.

Close: A blend of spot mics capturing each position in the ensemble.
Decca: A traditional decca tree recording setup (center/left/right).
Room: A blend of rear and outrigger (side) mic positions, offering the most ambient perspective approximately from the corners of the recording space.
Surround: Two mics placed in a wide spaced pair.

When using the Mic Mixer patches, please be aware that each position will greatly increase the overall RAM load. Loading all four positions for a single section will easily use 6-7gb of RAM or more (depending on DFD settings), if you are loading all articulations.

CPU usage will also be multiplied when using multiple mic positions, as more samples are being played back at once.

For these reasons, if you plan on using the Mic Mixer patches, we **strongly** recommend turning off positions and articulations you do not need.

Default MIDI CC Usage

Though almost all controls in Tokyo Scoring Strings can be MIDI learned to any CC of your choice, our default CC mappings should be handy for most users!

CC1 (Modwheel): Dynamics for long/sustained articulations; this actually crossfades between dynamic layers recorded for most articulations
CC2: Vibrato amount (only applies to Arco/sustain articulations)
CC3: Legato speed, switches between four profiles (0 = slowest, 127 = fastest)
CC11: Expression (overall current volume, DOES NOT affect what sample is played)
CC64: Sustain pedal. Hold this down while repeating a note to trigger rebowing.

Creating Individual Articulation Patches

Many composers prefer a workflow with one articulation per MIDI track. You can do this with Tokyo Scoring Strings as well with a little bit of one-time setup.

The basic workflow is:

1. Open one of the default patches (such as Violins I)
2. Go to the Longs tab, and disable everything (using the power button) you're not using
3. Go to the Shorts tab and do the same thing
4. Click on the articulation you DO want to use to select it for playback
5. Resave the patch as something like "Violins I - Arco".
6. Repeat for all sections and articulations.

Note that if you are using the Arco articulation, you will most likely want legato and releases enabled, so don't turn those articulations off!

Articulations List

The articulations of Tokyo Scoring Strings fall into four broad categories: Longs (all looped articulations), Shorts, legato, and releases. The number of dynamics and round robins (RRs) is included for each articulation. (Note: A "round robin" is an extra recording for a given pitch and dynamic, intended to add subtle human-like variation in the sampled performance.)

Long Articulations

Arco (Sustain)
A sustained bowing of a single note. These were recorded with five dynamics levels (pp, mp, mf, f, ff) and three vibrato types (senza vibrato, con vibrato, molto vibrato). Note that the *molto vibrato* type tends to have a bit more of a natural crescendo at the start of each note, while the other vibrato types have a slightly faster natural attack.

Tremolo
Repeated, rapid, unmeasured bowing on a single note. Four dynamics are available.

Trills HT (Half tone), WT (Whole tone)
Repeated, rapid, unmeasured bowing between two notes either a half tone (HT) or whole tone (WT) apart. Two dynamics are available.

Harmonics
Delicate, soft overtones with an ethereal sound. One natural dynamic is available.

Legato Articulations

Legato Bow
Performed by changing the finger position to a new note **without sliding**, while simultaneously rebowing. We have captured both up and down bow versions of this articulation for two round robins. Three dynamic levels are available.

Legato Slur
Performed by changing the finger position to a new note **without sliding**, and **not** rebowing: i.e. the note change is done on the same bow stroke. Like with Legato Bow, we have both up and down bow versions and three dynamic levels.

Portamento Bow
Performed by sliding the fingers to a new note (while also potentially changing hand position or string), while simultaneously rebowing. Three dynamic levels are available.

Portamento Slur
Performed by sliding the fingers to a new note (while also potentially changing hand position or string), without rebowing. Three dynamic levels are available.

Short Articulations

Staccato
A short, energetic note with five dynamics and six round robins.

Staccatissimo
An even shorter note with extra emphasis, and with five dynamics and six round robins.

Spiccato
A short note played by quickly bouncing the bow off the strings, with four dynamics and six round robins.

Spiccato Secco
A variation on spiccato using a crisp bow technique, with two dynamics and six round robins.

Pizzicato
A quiet, delicate pluck of the string with three dynamics and four round robins.

Sforzando Long / Short
An energetic note played with sudden, strong emphasis. Three round robins, two note lengths, and one natural dynamic are available. These articulations are not looped.

Decrescendo Long / Short
A forte note that includes a quick decrescendo to piano. Three round robins, two note lengths, and one natural dynamic are available. These articulations are not looped.

Release Articulations

Release (Natural)
The release tail of a regular sustained note.

Release (Excited)
The release tail of a staccato note.

Release (Staccato)
A staccato note played from the beginning, useful for ending a note with emphasis.

Release (Decrescendo)
A gentle decrescendo taken from the Decrescendo articulation.

Important User Interface Notes

1. Almost all controls can be **MIDI Learned** by right-clicking, then selecting "MIDI Learn". You'll then need to move the controller of choice on your keyboard or in your DAW to establish the link. Once you MIDI learn something, you should **resave that NKI** so you won't have to do it again.

2. You can view **help text** by hovering over controls. The help text will appear at the bottom of the Kontakt plugin UI.

3. The virtual, colorful Kontakt keyboard seen in our videos is a Kontakt feature and not specific to TSS. Press F5 to enable it, or go to the panels window (the icon with multiple boxes at the top) and ensure "Keyboard" is checked.

4. The instrument is fully **NKS compatible** and features quite a few existing host-automatable controls. If you have a Komplete Kontrol keyboard, and/or use the Komplete Kontrol application, you'll benefit from this functionality.

User Interface - Perform Page

Dynamics

Controls the current dynamic level from minimum (pp / pianissimo) to maximum (ff / fortissimo). The arco (sustain) articulation has five distinct dynamic recordings; tremolo has four, trills have two, and harmonics have one.

Dynamics are continuously blended across the whole knob range. For example, if 127 is maximum fortissimo, 110 uses mostly fortissimo samples, with a bit of forte mixed in. If true recordings of a dynamic are not available (for example, harmonics only has one) the knob will simply control overall output volume.

Vibrato

Controls the current amount of vibrato. This only applies to arco. There are three vibrato levels: senza vibrato (no vibrato), con vibrato (with vibrato), and molto vibrato (heavy vibrato). As with dynamics, the exact amount of vibrato is blended continuously depending on knob position.

Range
Controls the **dynamic range** of all articulations. At the default position (100%), the samples are presented as they were recorded, with about 18 dB of distance between the quietest pianissimo to the loudest fortissimo.

Increasing the dynamic range basically makes the quietest dynamic even quieter, relative to the loudest dynamic, while reducing the range does the opposite.

Reducing dynamic range may be useful for rock and pop productions, so that the Dynamics knob can be used to change timbre without making the samples too quiet.

Legato Speed
Switches between four distinct legato speed profiles: Slow, Medium, Fast, and Runs. The Slow profile uses most of the actual legato transition sample, which results in a more realistic and true-to-life performance. However, when playing, this may *feel* delayed, as the actual pitch transition does not begin right away.

Faster speeds can be used to make the legato feel more responsive, and are also appropriate for faster melodies and sections.

Legato Speed by Velocity
When enabled, playing at higher velocities will automatically switch to the faster speed profile, and lower velocities the slower profile.

Con Sord.
Toggles simulated Con Sordino, which mutes the higher frequencies of the sound. The EQ curve is based on true Con Sordino recordings.

Legato Mode
Toggles between Monophonic (default) and Polyphonic modes. This *only* applies to the arco articulation, since that is the only one capable of legato playing with real legato samples.

In Monophonic mode, arco can play only one voice at a time, and legato is triggered by **overlapping notes**. In Polyphonic mode, multiple voices can be played, and legato is detected based on **non-overlapping notes played within a 'latency' window.**

The **latency window** is determined by the Latency knob.

For example: Play notes C3 and E3 simultaneously in Poly mode. Then, within 150ms of ending these notes, play D3 and G3. The poly legato system will intelligently detect that C3 should transition to D3, and E3 should transition to G3.

This system makes it less cumbersome to write polyphonic legato parts!

Engine Tab
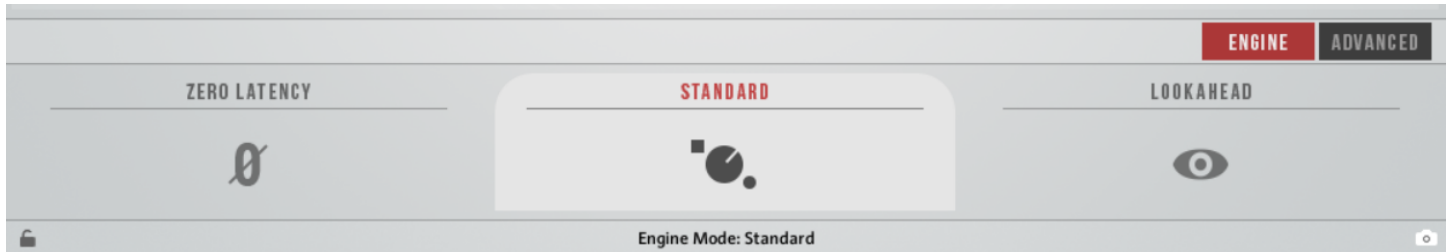
Playback Mode - Zero Latency
When selected, true legato recordings are disabled and articulations are set to be as snappy as possible. This is ultimately a *less realistic* playback mode, since the full sample set is not played back. However, it is most appropriate for live, zero-latency performance or recording.

Playback Mode - Standard
The default mode which works as virtually all other sample libraries do. Most articulations have a small amount of inherent delay to them which is *not* truncated automatically, and legato samples are played back depending on the legato mode & speed.

Playback Mode - Lookahead
A novel innovation created for Tokyo Scoring Strings, Lookahead mode simplifies the process of writing string parts by **automatically** selecting articulations, adjusting legato timing, and articulation offsets, without keyswitches or 'nudging' MIDI data in the DAW.

This mode is ideal for writing MIDI in a piano roll, playing back quantized performances, and score notation programs.

See the "Lookahead Mode" section below for more info!

Advanced Tab
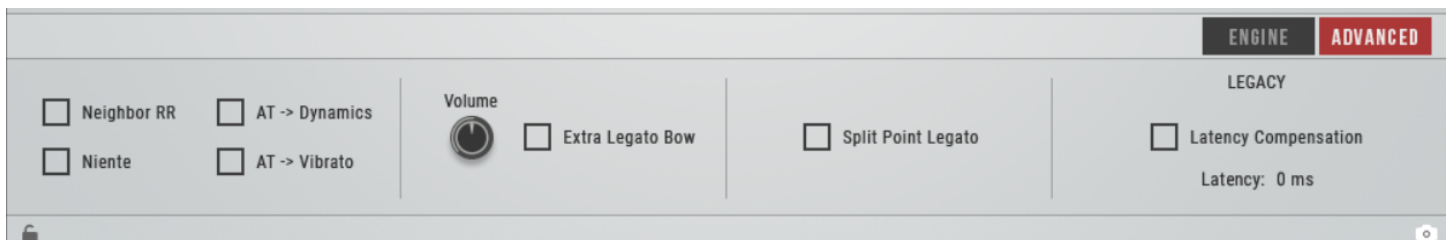
Neighbor RR
Adds an additional sample repetition variation (round robin) to 'arco' and 'legato' articulations. These simulated round robins are extracted from neighboring zones and repitched in real time.

Niente
Allows the dynamics to reach full silence (niente) using the dynamics knob (unchecked means the lowest dynamic is 'pp').

AT -> Dynamics
When enabled and when using a compatible MIDI controller with aftertouch, this will link dynamics to aftertouch.

AT -> Vibrato
When enabled and when using a compatible MIDI controller with aftertouch, this will link vibrato amount to aftertouch.

Extra Legato Bow
When enabled, this option adds a short spiccato overlay to the destination note of a legato transition. For example, if legato from C3 to E3 is played, a spiccato will be played at the time the E3 is heard. The playback timing automatically adjusts based on the length of the legato transition.

Extra Legato Bow Volume
Adjusts the volume of the spiccato overlay.

Split Point Legato
When enabled, legato transitions will be recognized when notes are quantized to the grid instead of overlapping, even in Standard mode. Intended for easy DAW sequencing.

(Legacy) Latency Compensation
When enabled, this adds latency to the overall playback, but in exchange will play back legato transitions to sync with the project tempo/grid. **This is a legacy feature; we recommend Lookahead mode instead.**
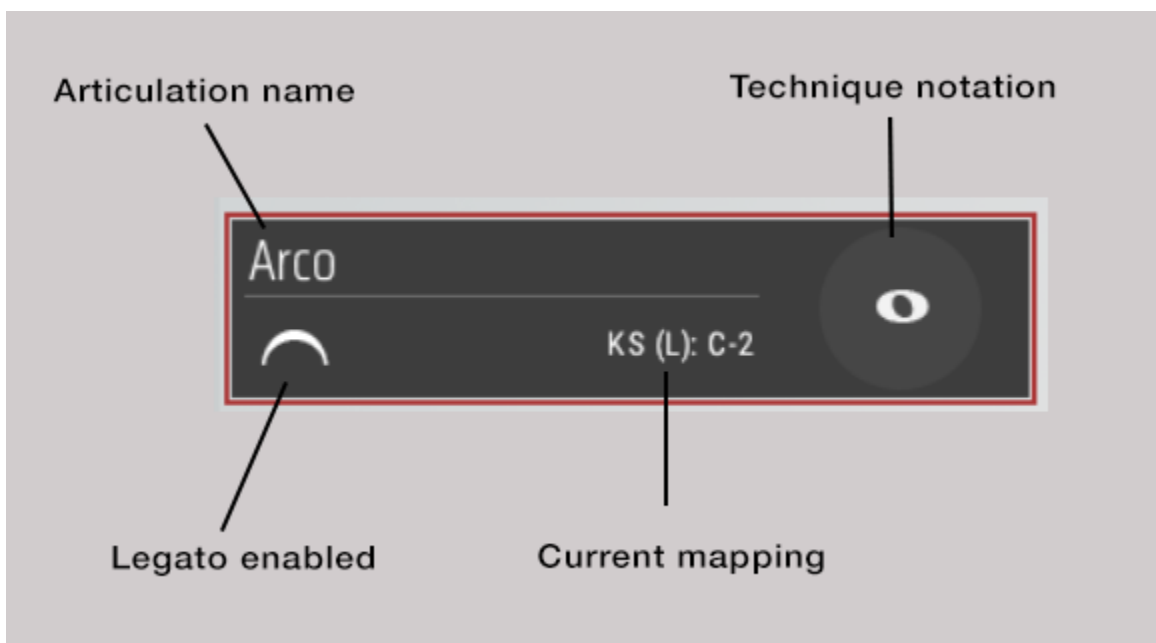
(Legacy) Latency Display
When Latency Compensation is enabled, this reports the amount of latency added based on the length of the longest legato transition.

Articulation Tabs

Though there are two articulation tabs (Longs and Shorts), both have the same shared functionality.

The **legato enabled** button can be clicked for certain articulations. When disabled (a **. . .** symbol will appear, as in the first screenshot), that articulation will not trigger legato or portamento transitions.

The **technique notation** and **articulation name** are purely for information purposes. They cannot be interacted with.

The **current mapping** section shows how the articulation is currently triggered. Here are the relevant abbreviations:

KS = **Keyswitch**. Press the listed key (in this example, C-2) to trigger the articulation.
(L) = **Latching**. A latching keyswitch does not need to be **held down** for it to work.
C-2 = The MIDI note that will trigger the articulation. C-2 is the lowest MIDI note.

Here are **examples** of other mapping abbreviations you may see.

Vel 1 - 19: Articulation must be played at MIDI velocities 1-19 to trigger.

CC1 12-127: MIDI controller 1 (CC1) must be between values 12 - 127 for the articulation to trigger.

PW 1024 - 8192: The pitch wheel controller must be between values 1024 - 8192 to trigger. (Note: The minimum pitch wheel value is negative 8192.)

Key C4 - C5: The articulation will only trigger on MIDI notes between C4 and C5. This is NOT a keyswitch. This refers to actual playable notes that make sound.

Ped Down / Up: The sustain pedal (CC64) must be down or up for the articulation to trigger.

Selecting an Articulation
To select an articulation, click on it. The selected articulation is highlighted in red. If you are using keyswitches for articulation selection (this is the default setting), clicking on an articulation will **also** switch your active keyswitch. This is handy for auditioning things quickly.

Multi Selection
To select more than one articulation, hold **Control** OR **Shift** and click the articulations you want to select. When multiple articulations are selected, adjustments made to the **Sound** tab at the bottom will be applied to all of them. Mappings cannot be applied to multiple articulations simultaneously.

Enable / Disable Articulations
An articulation can be disabled or enabled by **alt+clicking**, or pressing the **Power** button in the **Sound** tab. Disabled articulations will not trigger, and will be purged from memory (freeing up RAM).

Sound Tab Options

The **Sound** tab has multiple configurations (views) depending on the articulation selected. Some controls (like Volume, Offset, and the ADSR envelope) are common to all articulations, others are specific to certain articulation types.

Volume
Controls the overall volume of the articulation.

Offset
Controls the sample start offset. When at 0, the sample is played back from its natural beginning. For values above 0, the early part of the recording will be cut off.

Overlay - Volume
Sets the maximum volume of the **short note** overlay on the selected articulation. The actual volume will vary on each note press, depending on velocity. Low velocities will have a very quiet overlay.

Overlay - Dropdown Menu ("Spiccato" in above example)
Selects the short note overlay articulation. "None" is also an option, if you want to disable it.

Overlay - Slider
This *also* selects the short note overlay articulation, and is synchronized with the dropdown menu. The advantage of the slider is that it can be MIDI learned!

Swell - Sustain Attack Time
This is another way of setting the attack time of the selected articulation.

Velocity -> Swell
When enabled, MIDI velocity will control the attack of the articulation; low velocities will introduce a gentle attack/swell (max value determined by the above knob), while high velocities will use the regular note attack.

ADSR (Volume) Envelope
Controls the volume envelope triggered each time the articulation is played.
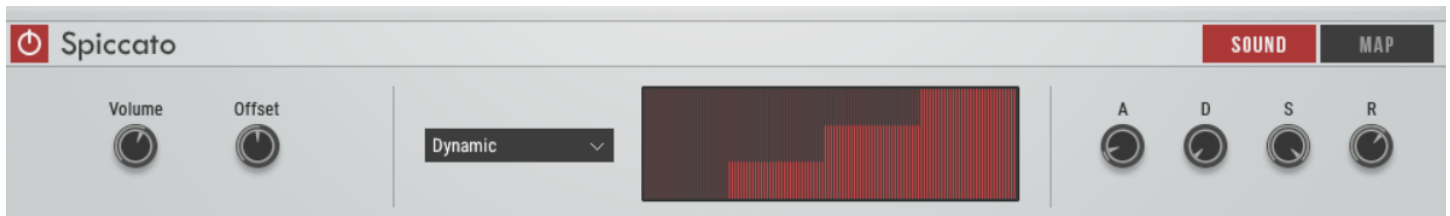
Dynamic Table

For short articulations with multiple dynamics (such as spiccato, above) this table can be used to assign the dynamic levels to MIDI velocities. The X axis of the table is the MIDI velocity, so the leftmost side is velocity 1, and the rightmost side is 127. The Y axis is the dynamic level, which will automatically 'snap' into place.

For example, if you're writing a very quiet piece and don't want to use recordings of the top spiccato dynamic, you can use the mouse to draw the table so that the 3rd 'step' extends all the way to the right.
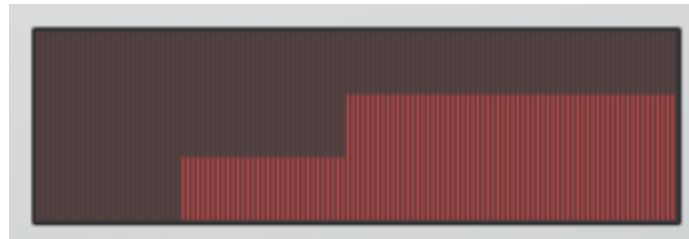
Or, if you want the highest dynamic to require a very hard key press, you can draw the table like this:
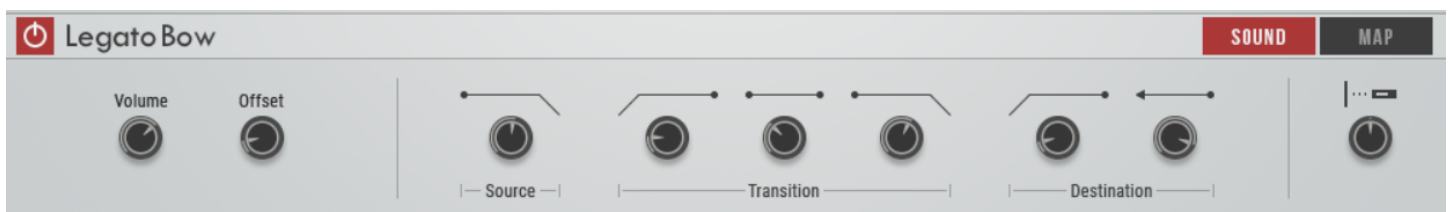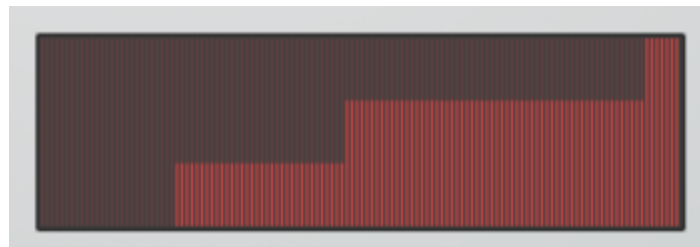
Legato articulations have special controls which allow you to shape the exact sound and timing of legato playback. Note that we have carefully selected settings for each of the four legato speed profiles (as a reminder, speed can be changed on the Perform page, and it is MIDI learned to CC3 by default). Adjusting settings here will adjust them for the **currently selected speed profile.**

For the purposes of describing these controls, we'll use an example interval of C3 transitioning to G3. The controls are described from left to right, starting with the [Source] knob.

Source Fade Out Time
When a legato transition is detected, the source note (C3) will be faded out over this much time.

Transition Fade In Time
The transition recording (C3 to G3) will be faded in over this much time.

Transition Length
The amount of time the transition recording will be played for before fading out.

Transition Fade Out Time
After the transition length, the amount of time before the transition fades out completely.

Destination Fade In Time
The destination note (G3) will be faded in over this much time.

Destination Negative Offset
When the destination note should start playing relative to when the transition plays. When this knob is all the way to the RIGHT, the destination sample will only play AFTER the transition length has finished. When it is all the way to the LEFT, the destination sample will play **simultaneously** when the transition sample begins playing.

Adjusting this value can greatly affect the sound of the legato playback.

**Legato Synchronization Offset**
This time value will be used to adjust the overall timing of legato transitions when in Lookahead mode. The default value should sound good for all speeds. However, if for example you want transitions to come in a little earlier, you would move the knob slightly to the left.

Lookahead Mode

This is a powerful new feature designed to make it easier to write consistent and accurate multi-part passages from **quantized, sequenced** MIDI data (for example, MIDI entered using the mouse, in a score notation program, inputted with step-recording,or simply snapped to beats/bars after live recording). Lookahead natively supports **polyphonic legato**.
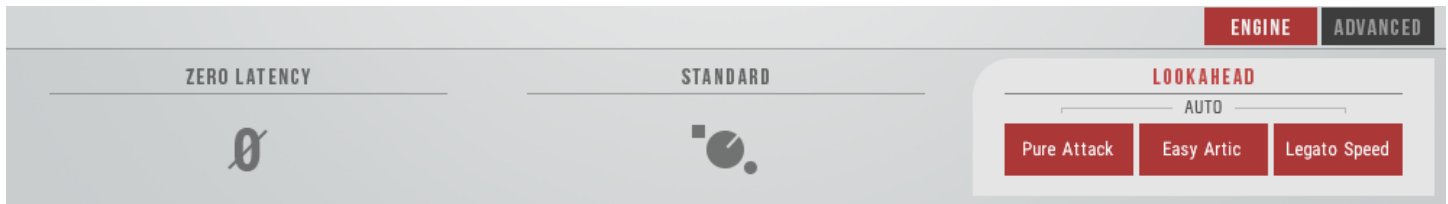
There are a few key things to understand with Lookahead Mode:

1. It only triggers when hitting play in your DAW. It is **not engaged** otherwise.
2. It works best on **quantized or sequenced** MIDI data.
3. It adds **one second (1000ms)** of latency to all playback.
4. The latency needs to be compensated using our included **compensator plugin**, or using manual methods. We'll explain how to do this in the **Lookahead Latency Compensation** sections.

So, what does Lookahead Mode *do*, exactly?

Polyphonic Legato
Lookahead can support fully polyphonic legato, **without requiring any note overlaps**. The system works best if note starts and ends occur at the exact same quantized timing, but **overlaps of up to 64th notes are tolerated**. Because of this, the system **can not support passages faster than 64th notes**, as they would trigger the polyphonic overlap window. This may change in future updates.


General Articulation Alignment
All articulations will now be aligned and synchronized to the click in your DAW. This allows for **Tokyo Scoring** products to respond perfectly to articulation switches in a passage of music, without requiring specific nudges or track offsets to get various shorts and longs to sound rhythmically in time.


Legato Transition Alignment
As in all modern sample libraries, **true legato** articulations have an inherent latency in order to achieve an organic and natural sounding note change. Because of this, typically composers have to move notes **backward in time**, sometimes up to 200 or even 300ms to get the notes sounding correctly in time.

The following image demonstrates the latency of a normal legato transition. The **green** line is where the MIDI note is engaged by overlapping with the previous note, but the **red line** is where the note change is actually heard. In this particular case, the note ends up being **an entire beat off!**
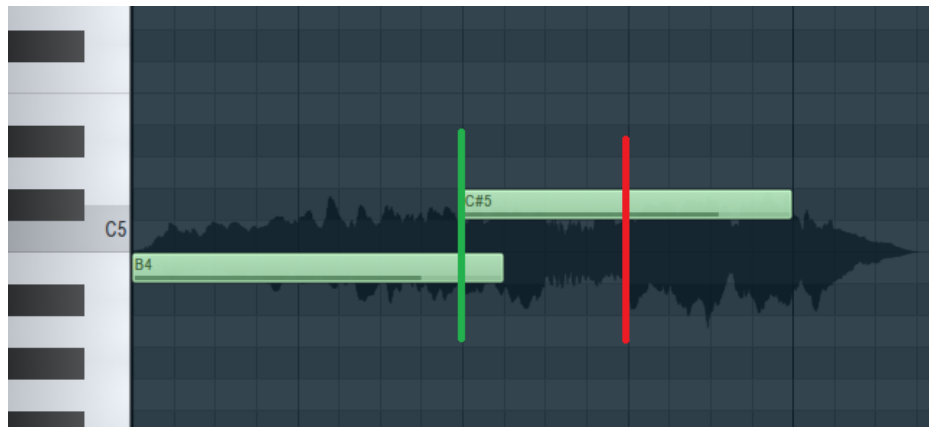
When Lookahead Mode is enabled, the first advantage is that the **note overlap is not necessary**. The second advantage can be seen in the screenshot below. The engine intelligently parses the MIDI data *and* the legato transition length, triggering it **ahead of time** and ensuring that the new note lands exactly as the composer writes it.
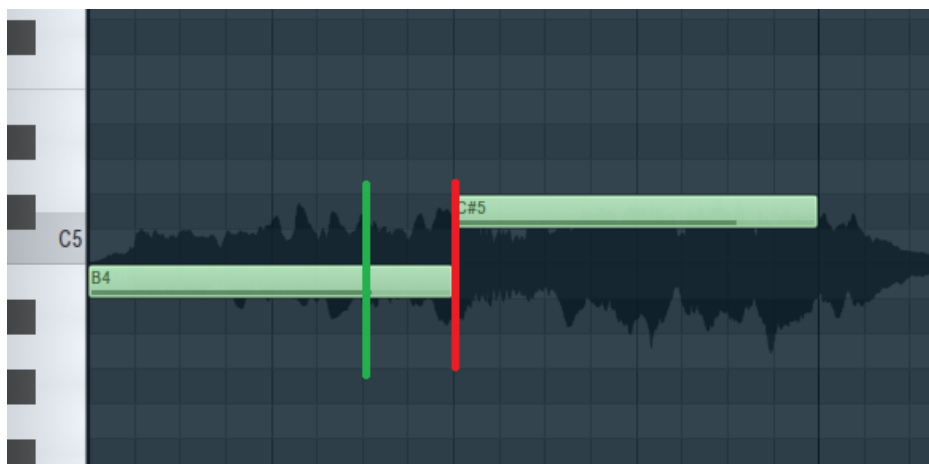
Lookahead Options

Option: Pure Attack
When enabled, all samples will be played back without any sample offsets, even if you have defined offsets in the articulations tabs. Sample offsets "cut" away the intro portions of sample recordings to make them feel more 'snappy' and responsive. If offsets are not used for articulations like **Staccato**, the notes can sound several tens of milliseconds late compared to the DAW's click and other audio tracks, because the recordings have a bit of "pre-transient" noise prior to the note.

Thanks to Lookahead Mode, this problem can be sidestepped completely: the full samples can be played back for maximum realism and accuracy, while also maintaining perfect grid sync. We highly recommend using this option as it is an instant sound quality improvement.

Option: Easy Artic
When enabled, this changes the way articulations are triggered during playback to simplify your MIDI writing. You can have a lot of fun writing various shorts and polyphonic legato passages all within one MIDI track and no keyswitches!

- Notes at velocities 1 to 63 are considered in the **Legato Region**
- Notes at velocities 64 to 127 are considered in the **Basic Region**

Basic Region notes will intelligently select an articulation based on **note duration**:

- Notes under 10ms are **Pizzicato**
- Notes 11-200ms are **Spiccato Secco**
- Notes 201-300ms are **Spiccato**
- Notes 301-400ms are **Staccatissimo**
- Notes 401-500ms are **Staccato**
- Notes 401-700ms are **Decrescendo Short** (if at velocity 127, **Sforzando Short**)
- Notes 701-900ms are **Decrescendo Long** (if at velocity 127, **Sforzando Long**)
- Notes above these durations are **Arco** by default, unless any other Long articulations (like **Tremolo, Trills,** or **Harmonics**) are keyswitched.

Legato Region notes select legato type based on **velocity** and **sustain pedal** (CC64) position.

- **Legato Slur** triggers at velocities 1 to 31
- **Legato Bow** triggers at velocities 32 to 63

If the sustain pedal is **pressed** (CC64 value at 127), the **Portamento** variants of these transitions are used.

Option: Legato Speed
When enabled, the engine will adjust the legato speed profile on a note-by-note basis depending on the surrounding notes. For example, if short notes are written close together, a faster legato profile will be used; if the passage is slower, a slower and more graceful profile will be used.

This option will also disable the **Legato Speed** knob on the front, and ignore all previous automations.

Final Note

As Kontakt does not support MIDI notes overlapping themselves, the system will not handle or detect unison MIDI notes (e.g. two notes overlapping on the same pitch), even if they are different articulations or regions.

Lookahead Latency Compensation: Automatic Method (Plugin)

The easiest way of dealing with the latency added by Lookahead Mode is to use the included **Delay Compensation plugin** which comes with Tokyo Scoring Strings. The plugin is included in **VST3 and AU** versions.

There is only 1 step!

1. Place the plugin **as an insert FX** on the mixer track of your Tokyo Scoring patch.

This will report to your DAW that the track is generating 1000ms of latency. Your DAW will then delay **all other tracks** in your project automatically, thus synchronizing playback between all existing parts. It's that simple!

Be sure to **bypass** the Delay Compensator plugin if you switch back to "**Standard**" or "**Zero Latency**" engine modes, otherwise your track will now play back 1 second **earlier** than your other tracks.

Lookahead Latency Compensation: Manual Methods

Unfortunately, some DAWs do not have properly-implemented, automatic plugin delay compensation (PDC). If the above method does not work, you will have to manually correct for the latency using one of the following methods:

1. First, check if your DAW supports time offsets or time delay in the settings for a track. If there is a value field, and it supports negative delay values, enter -1000ms.
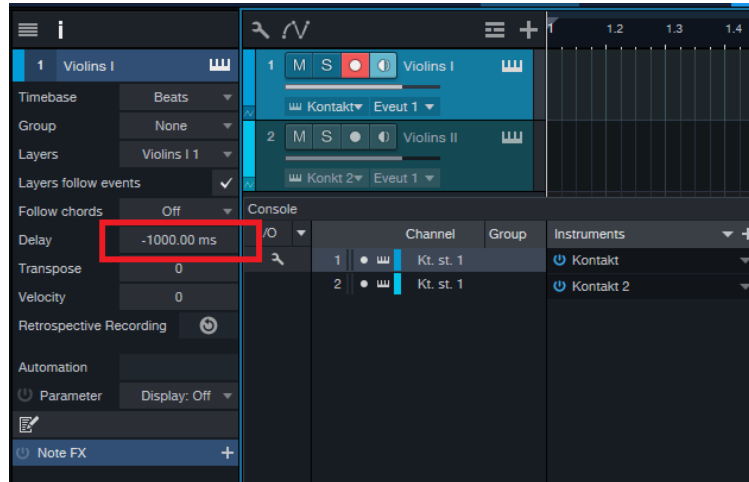
2. Check if your DAW's mixer track supports manual latency reporting. In the below screenshot, the mixer track that Tokyo Scoring Strings is outputting to has a plugin delay **manually entered** in milliseconds. When the project plays back, everything is correctly synchronized.
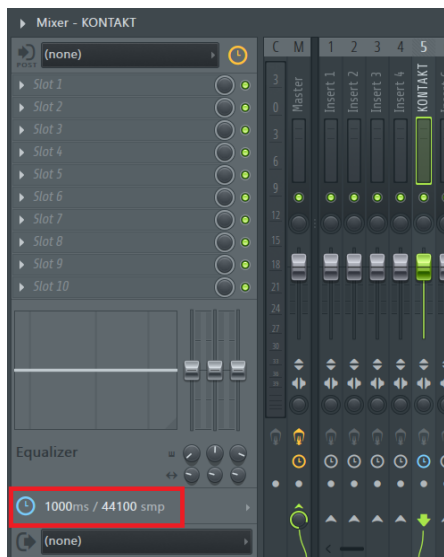
FL Studio Note: For this to work, you **must** have the Kontakt instance with Tokyo Scoring Strings (in Lookahead Mode) outputting to **its own mixer track**. Other instruments **cannot** be on that same mixer track.

3. If your DAW doesn't have any options for track delay or manual latency reporting, the only alternatives are to:

   - Shift all **Tokyo Scoring Strings** Lookahead tracks **EARLIER** by one second (1000ms). - or -
   - Shift **all other tracks** in your project **LATER** by one second (1000ms).

Lookahead Latency Compensation: Parameter Automation

Due to the nature of latency compensation, some DAW's **may or may not** compensate the parameter automations (either through MIDI CC or host automation) while your track is playing. This means while your note data is playing correctly in time, automation of **Dynamics** or **Vibrato** would be still 1 second off.

Because of this, the Lookahead system **natively synchronizes** parameter automations to ensure the system can work in any DAW. However, as a consequence, if your DAW already compensates parameter automations, **you must turn off automation compensation** if your DAW allows it. Currently, our native parameter synchronization can not be turned off, but this may change in an update.

If you are unable to disable automation compensation in your DAW and you can not get the parameter automations in sync with your written passages, reach out to our support for assistance.

Tips for More Realistic Mockups

As a preface: creating orchestral mockups using sample libraries is an art that can be practiced and refined. It's also closely related to skills like composition, orchestration, and music theory. We believe all composers and producers can benefit from studying at least the basic principles of these subjects to help improve their mockups, regardless of the library used.

That being said, there are some techniques specific to using orchestral sample libraries which may help improve the realism and quality of your mockups. As with many aspects of music creation, think of these as guidelines, not hard-and-fast rules that can never be broken!

Consider the Samples While Writing Music

It is generally much easier to 'write to the samples' when creating mockups. In other words, rather than completing a composition and trying to paste the MIDI data across Tokyo Scoring Strings tracks, you should write *with* TSS in mind: its available dynamics, playing styles, and overall sound.

For example:

- You may have an ostinato pattern in mind that you intend to be played staccato, but it actually sounds better with spiccato secco
- You may be inspired by the slow legato of the Violas to rework your orchestration and feature them more
- You may have a complex series of fast legato runs that sounds better using a short note articulation instead of legato
- You may find the tone of the Violins sections more suited for one melody than another, etc.

Automate Dynamics with CC1 (Mod Wheel)
Even the most epic trailer cues rarely stay at one dynamic the entire time. Some composers like to use one hand to play a phrase on their keyboard, while the other hand controls dynamics; others like to record or write the notes first, then write in dynamics automation later.

Whatever method you prefer, most pieces can benefit from a bit of dynamic range!

Don't Be Afraid to Tweak Articulation Settings
We've carefully tuned and adjusted the default settings of all articulations in Tokyo Scoring Strings based on our preferences, and what we think will work for most users.

However, *your* music might call for further customization. For example, maybe you need legato transitions to be louder (or even automate their volume throughout the piece). Or, maybe the short notes aren't short enough, and need to have their envelope shortened by reducing the sustain level and decay time.

We've included all of these controls for a reason, and the best mockup artists usually take a little extra time to tweak patches for their own music. Give it a try!

Recording Live vs. Sequencing
If you have decent keyboard skills, it's a good idea to try *performing* your string parts one at a time and recording the MIDI data. The natural variations in timing, note length, and expression will often lead to a better result. If this is what you like to do, and you **do not** like quantizing notes, you could try **Standard** playback mode.

At the same time, we've included many features to make sequencing (i.e. writing notes in a piano roll or sheet music) sound much better. When sequencing, you can use **Lookahead** mode to improve the expression and even articulation choice of your music.

You can blend the two approaches by recording in **Zero Latency** mode, then quantizing notes and switching to **Lookahead** mode for rendering & playback.

ADVANCED TECHNIQUE: Dive Into the Group Editor
For those who really want to fine-tune the expression and sound of Tokyo Scoring Strings, we've allowed the patches to be editable (as long as you own the full version of Kontakt). If you do this, **we strongly recommend saving backups first** in case you mess something up.

Some examples of things you can adjust within the instrument Group Editor:

- The "LegDest" groups are used for the *destination* notes after a legato or portamento transition. You can experiment with changing their amplitude envelope or sample start offsets (in the mapping editor, on a zone level)
- The Legato group FX can be adjusted by adding your own EQ or filters; depending on what dynamics and vibrato types you're using, you could darken or brighten the transitions specifically
- In fact, *all* groups can have their own FX! You could try adding compression to legato groups to even out transitions, light saturation for short notes, or filters to sculpt release samples

ADVANCED TECHNIQUE: MIDI Learning Legato Settings
All controls on the articulations tabs (Longs & Shorts) can be CC learned and automated. This means you can do things like adjust the *offset* of a legato or portamento articulation during a piece, or the destination fade-in time, transition volumes, etc.

Doing this kind of automation is absolutely not necessary to create great-sounding mockups. But we know composers who use it (specifically for articulations like portamento) to create extra expression and dynamism throughout their works.

Tips for CPU & Memory Optimization

If you experience high CPU and memory usage with Tokyo Scoring Strings, there are a number of things you can do to mitigate the issue.

Save memory by purging unused articulations
Go to the articulations tabs (Longs & Shorts) and use the power button to disable any articulations you aren't using. In particular, disabling unused legato and portamento types will save quite a bit of memory.

Save memory and CPU by using Board Mix or single mics only
The Mic Mixer patches are very powerful, but multiply both RAM and CPU usage. For most purposes, we recommend using the Board Mix patches as a result. If you do use the Mic Mixer patch, consider using just one mic at a time to keep the voice count under control.

Balance memory and CPU with DFD preload settings

Kontakt does not load all samples fully into memory; it only loads (or buffers) a small chunk of each one. By clicking on the wrench icon next to a loaded patch, clicking Instrument Options, and going to the DFD tab, you can adjust this preload buffer amount.

A **higher buffer** means **less CPU usage** but **more RAM usage**.
A **lower buffer** means **higher CPU usage** but **less RAM usage**.

It's up to you to determine which setting is best for you.

Save CPU by disabling releases until render time
Depending on how you write, you may be triggering many release noises during playback. These will use CPU, as they take up voices at the end of every sustain note. You can simply disable release noises while working on your project, then enable them at render time to make real-time playback smoother.

Save CPU and memory by quitting unnecessary applications
For experienced users, this may seem obvious, but it's easy to lose track of how much computing power is being used by seemingly-innocuous applications. For example, it's not uncommon to have a Chrome browser, Discord, Slack, Skype, Zoom, and Dropbox all running at the same time. All of these not only take up RAM, but can also interfere with real-time audio playback by causing pops & crackles.

So, anytime you work on a very intensive DAW project, it's a good idea to close *all* applications and services you don't need - even if they just run in the background.

Avoid pops and crackles with a higher buffer size
This applies to your DAW settings in general. Typically, every DAW's audio settings allow you to change the 'buffer size' of the playback drivers. Sometimes, this may only be changeable in a separate application, such as with some RME products.

The buffer size (measured in ms or samples, like 8 ms / 512 samples) determines the amount of latency in DAW output and input, inversely correlated to CPU usage. In other words, lower buffer sizes are much more demanding on your CPU than higher ones.

Though it feels great to perform and record MIDI at very low buffer sizes, this is also most taxing on your CPU. Consider increasing your buffer size once you're out of the MIDI recording phase, and on to editing, mixing, and mastering.

Credits & Acknowledgements

Executive Producer: Andrew Aversa
Performance: Koichiro Muroya Strings
Recording Engineer: Mitsunori Aizawa
Remote Recording Production & Score Preparation (Japan): Plugnote, Miracle Bus
Project Lead (Japan): Masaru Yokoyama, Kana Hashiguchi
Production Management (Japan): Mitsuo Iwasaki
Recording Director & Musical Translator (Japan): Rio Sato
Recording Studio: Sound City
Lead Programmer & Software Architect: Nabeel Ansari
User Interface & Graphic Design: Paulo Nunes
Legato Editing & QA: Sarah Mancuso
Additional Programming: Mario Kruselj
Sample Editing: Kent Kercher, Kiril Georgiev, Anthony Mena, Jeff Ball
Composition & Score Preparation (America): Eleanor Aversa, Jeff Ball
Project Consulting: Jeff Ball
Additional Project Coordination & Japan Distribution: Takamichi Koizumi, Ryoma Iwaide, Ryoko Maehana (Crypton Future Media, Inc./Sonicwire)
Violin Logo Design: Natalie Seki
Marketing: Lauren Liebowitz
Video & Photo Production (Japan): Masanori Morishita

Special Thanks: Masahiro Aoki, Wilbert Roget II, Mason Lieberman, Sam Bobinski, and Jillian Aversa

Troubleshooting

Having trouble with **Tokyo Scoring Strings**? Use it in a project you want to tell us about? Drop us a line via our **Contact page** (but be sure to **read the FAQ** first!)

Copyright & License Agreement

The following license is granted non-exclusively to all purchasers of our products. This version (updated December 4, 2017) supersedes any prior printed or digital versions of our license.

Overview

All sound recordings, performances, scripting and/or code contained in this product is the intellectual property of Impact Soundworks unless otherwise noted, and remain the property of Impact Soundworks after the product is purchased. When purchasing an Impact Soundworks product, you are purchasing a non-exclusive license to use, edit, perform, or otherwise utilize these recordings, performances, scripting and/or code for commercial and non-commercial purposes as defined below.

Authorized Users
Depending on the type of customer and usage scenario, authorized users of this license will vary. ALL purchases fall into category A or B.

A. Individual Purchase
This license is extended to customers who are purchasing as the primary user of the product, OR are purchasing on the behalf of another primary user (i.e. as a gift).

The licensee (primary user) MAY install the product on as many computer systems as he or she has access to. However, ONLY the licensee may use the product. No other users are authorized.

B. Corporate, Academic, Institutional Purchase
This license is extended to customers who are purchasing for a multi-user setting, such as a shared studio, networked workstation, computer lab, etc. In this case, the licensee is the institution and not any one user.

In contrast with individual purchases, an institutional license applies to ONE computer / workstation. All users of that workstation who belong to the purchasing institution (licensee) shall be considered authorized users.

However, at no point may multiple authorized users access one license simultaneously. Multiple licenses must be purchased if the product is to be used by multiple users simultaneously.

Scope of License
The licensee is entitled to the use and unlimited editing of the product within the scope of music production, performance, recording, and composition. This includes both non-commercial and commercial usage of all types, including, but not limited to, film scores, television scores, music libraries, video game soundtracks, digital and physical music releases, albums, compilations, etc. Exceptions to this scope are listed below.

The licensee **MAY NOT** use the product in the production of any other sample library or virtual instrument products.

The licensee **MAY NOT** sell individual sounds from a product in any context.

For clarity: The licensee **MAY** use sounds from the product to create individual sound effects (SFX) for use in film, TV, advertising, and video games. However, the licensee cannot sell these sounds individually via marketplace, stock music/stock audio site, etc.

Ownership, Resale, and Transfer
Redistributing, reselling, electronically transmitting, uploading, sharing, or renting the product in any way, shape, or form is prohibited by law. The licensee may create a physical backup copy of any digitally purchased and downloaded product. This backup copy is subject to the same limitations as the original copy of the product, and may not be transferred to any other individual for any reason.
Copyright © 2021 Impact Soundworks, LLC. All Rights Reserved.