Koron: Traditional Instruments of Iran
An Impact Soundworks Library
Instrument v1.00

OVERVIEW

"Koron" is a traditional Iranian musical term that refers to notes a quarter-step lower in pitch. Using these quarter tone intervals is a distinguishing feature of Iranian and other Eastern traditional music. This sample library pays tribute to that concept, and is designed to capture the essence of Iran's rich musical forms and history, while also breaking the barriers between Eastern and Western music by giving composers new timbres and a new way to view music.

Koron began as the idea of Siavash Mozaffari, who raised funds for a 'sonic journey' to Iran. Sia's goal was to share the sounds of Iran's traditional instruments by turning them into virtual tools for any composer to use. We loved this idea and connected with Sia to expand the scope and depth of the project.

Over 2 years later, our collaboration has resulted in one of the **deepest world instrument libraries ever released**. Koron includes 10 instruments – 5 melodic, 5 percussive – with over 17,000 samples in total. We present both deep multisamples, including multiple dynamics, round robins, and legato transitions, as well as extensive percussive hits and techniques, plus over 1,200 performances and phrases.

Besides this staggering pool of samples, we've designed Kontakt patches with our **latest script techniques** such as Total Articulation Control Technology (TACT) for custom mapping, and phrase editing right within Kontakt itself. Together with Sia, we've also included **pictures and information** about every instrument recorded, so you can learn more about their construction, history, and playing style.

One of our core goals at Impact Soundworks is to sample and develop virtual instruments outside the standard Western repertoire, and **Koron** is the most extensive fulfillment of that goal yet. We hope you will enjoy playing it as much as we enjoyed creating it, and look forward to hearing what you write!

INSTALLATION

Step 1: Using your browser, download the packed library RAR files.

Step 2: Using a program like [WinRAR](#) (PC) or [Keka](#) (Mac), double-click on the Part1 file to extract the entire library folder. **You do not need to extract the other parts**!

Step 3: Move the extracted folder to the location of your choice. We recommend an internal hard drive (especially a solid state drive), or a USB3/Thunderbolt external drive.

Step 4: Open Kontakt in your DAW or in standalone mode. Using the "Files" browser on the lefthand side, find the extracted folder. From here, you can load the patch of your choice from the Instruments folder by double-clicking the NKI, or by dragging and dropping it into the main Kontakt window.

NOTE: The Phrases are also included as WAV for drag-and-drop in your DAW. The "Phrases WAV" folder is NOT used by Kontakt.

Optional: Please see our **[Kontakt workflow tutorial](#)** for information on adding these instrument files to the faster Quickload window or the Kontakt Database.

CONTENT OVERVIEW

Koron: Traditional Instruments of Iran includes 10 instruments – 5 melodic, 5 percussive – recorded in extensive detail with multiple dynamics, round robins, strings (where applicable), and playing techniques. All samples are provided in 24-bit fidelity. Both close and room mics were used and can be mixed independently of each other.

Instruments are divided into six regular playable patches and nine performance patches. The performance patches are pools of pre-recorded phrases of varying lengths, tempos, and time signatures, which can be edited within Kontakt itself.

Below is a description of each instrument included:

Melodic Instruments

Kamanche: Believed to be one of the historical ancestors of the European violin family, the kamanche is a four-string bowed instrument. Articulations included: Arco, Staccato, Pizzicato, Tremolo, Trills, and Legato (Glissando).

Santoor: A type of hammered dulcimer with a beautiful tone that rings out with each struck note. Articulations included: Normale, Dorab, and Tremolo.

Setar: A three-stringed instrument with a long neck and movable frets, played by plucking and strumming. Articulations: Sustain, Tremolo, Hammer/Pull, Legato.

Tanbour: Considered by some to be the first long-necked fretted instrument, the tanbour has three strings – two of which are tuned in unison. Articulations: Sustain, Short Riz, Drone 4 Finger Up Fast and Slow, 4 Finger Up Fast and Slow, Tremolo Fast, Tremolo Slow, Hammer/Pull, and Legato (Glissando).

Tar: Among the most significant Iranian classical instruments, similar in importance to the guitar in Western music. It has three sets of two strings which are tuned in unison, and it is played by plucking and strumming. Articulations: Sustain, Tremolo, Hammer/Pull, and Legato (Glissando).

Percussive Instruments

Bendir: A wooden frame drum with a skin membrane, typically held between the players knees or held up while playing. Includes **14 playing techniques** such as hits with brushes and fingers, strikes on different parts of the drum, mutes, and flicks.

Daf: A larger Persian frame drum made of hard wood with metal rings attached. Thought to be a precursor to the tambourine due to the small cymbals attached on the sides. Includes **26 playing techniques**, extensively covering different areas of the drum and types of hits.

Kuzeh: A unique instrument to Iran, a hollow clay object with holes that can be opened or closed by hand to create unique sound effects. Similar in sound to an Indian tabla or African Udo. Includes **9 playing techniques**.

Tombak: Goblet-shaped hand drum that is a foundational instrument to Persian music. Made of hand-carved wood with sheep or goat skin for the head. A wide top opening allows for deep bass sounds, while the rim produces treble tones. Includes **24 playing techniques**.

Zarbe Zoorkhaneh: A drum originally used in BC-era fitness workouts for knights, this is a clay and sheep or goat skin hand drum that is similar in shape to the tombak but much larger, resulting in a bassier tone. Includes **10 playing techniques**.

MAPPING NOTES

All **melodic** instruments are equipped with **TACT – Total Articulation Control Technology**, for totally customizable mapping. Different articulations can be triggered in any number of ways using keyswitches, velocity ranges, MIDI CCs, pedal position, etc.

For **melodic instruments**, there are just a few pre-configured keys.

Force String Selection (C4 to F4) – *Kamanche, setar, tar*
Instruments with multiple strings may have this key range (C4 up to F4) pre-allocated for forced string selection. By holding one of these keys, the script will forcibly use a specific string if possible.

Force Stroke (C#4, D#4) – *Setar, tar, tanbour*
Plucked instruments with separate down and up strokes may be forced to use one stroke or the other by holding either of these keys.

Retrigger (C5) – *Santoor, setar, tar*, *tanbour*
Playing this key will retrigger the last played note. Useful for playing strummed patterns, as one hand can play in the normal playable range, and the other can press the retrigger key rhythmically.

The master **Percussion Patch** is mapped a little differently, with each key triggering a specific playing technique of a single drum. The drums are separated visually into colored key ranges.

INTERFACE – MELODIC INSTRUMENTS
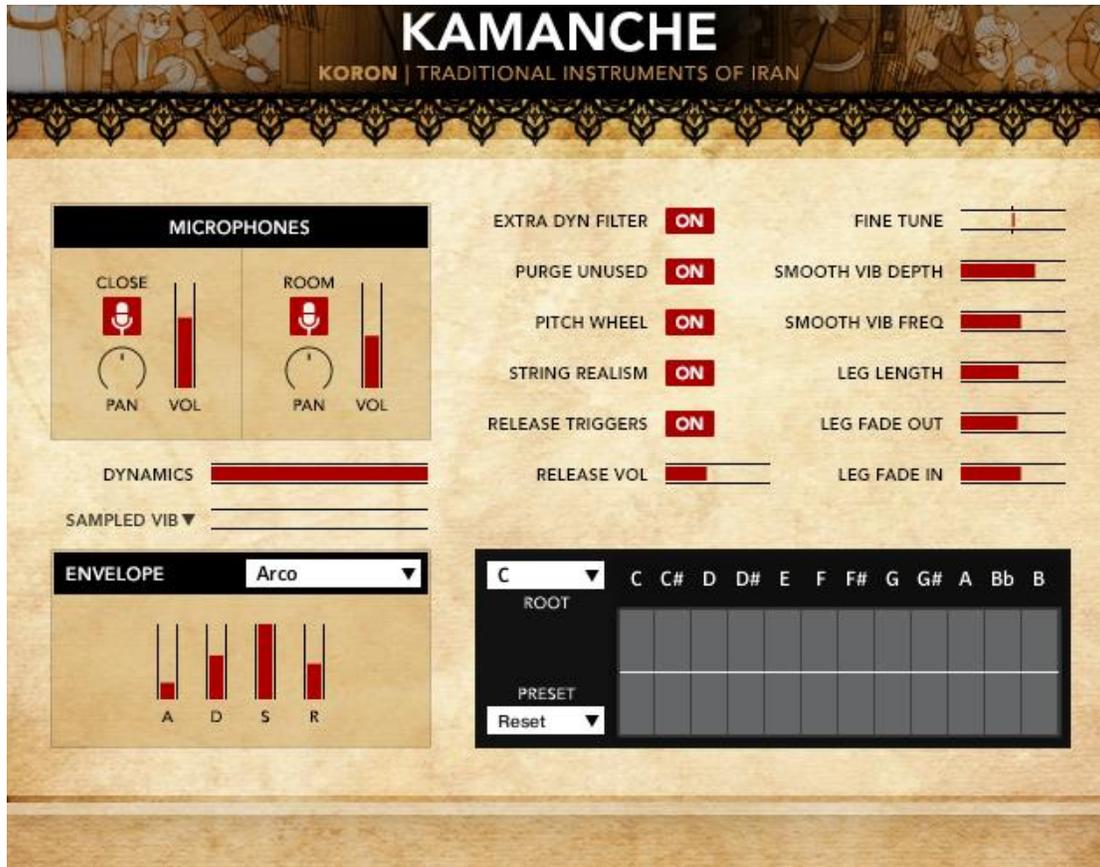
Pictured: The "Main" Tab

Microphones: In this area you can change the volume and pan for each mic position, or disable them entirely by clicking the red mic icon. Note that if the **Purge Unused** option is ENABLED, then disabled mics will be unloaded from RAM completely.

Dynamics / Vel-Sensitivity: The Kamanche is a bowed instrument and thus has continuous dynamics. This slider can be MIDI learned by right-clicking to smoothly crossfade between dynamics. For all other instruments, **Vel Sensitivity** controls the degree to which velocity affects instrument volume.

Vibrato Amount: Controls the current amount of vibrato for the instrument, which can be MIDI learned by right-clicking. If an instrument has more than one vibrato type, a dropdown arrow is shown next to this slider. Click it to select a different vibrato type.

Envelope: This sets the volume envelope on a per-articulation basis – attack, decay, sustain, release. Note that if **Release Triggers** are ENABLED, the release slider will apply to the **release samples** and not the source note.

Extra Dyn Filter: Enables a gentle lowpass filter corresponding to dynamics, to further remove high frequencies for low-dynamic notes.

Purge Unused: As mentioned above, when enabled, turning off a microphone will also unload it from RAM.

Pitch Wheel: Enables or disables pitch bend function from the pitch wheel.

String Realism: Available for instruments with per-string sampling. When enabled, only one note can be played per string at any time.

Release Triggers: Enables or disables release samples when releasing a note.

Release Vol: Sets the volume of release trigger samples.

Fine Tune: Sets tuning for the instrument, +/- 100 cents (a half-step / semitone).

Smooth Vib Depth: When Smooth vibrato is selected, this controls the maximum intensity of generated vibrato when the vibrato slider is turned up all the way.

Smooth Vib Freq: When Smooth vibrato is selected, this sets the speed (frequency) of generated vibrato.

Leg Length (Kamanche Only): Sets the length of the portamento transition.

Leg Fade Out (Kamanche Only): Sets the fade-out time of the legato transition.

Leg Fade In (Kamanche Only): Sets the fade-in time of the destination note after legato is played.

Microtuning Table:

> This table can be used to create custom scales. Each bar on the table represents a single note. The dropdown menu labeled "Root" will select the root note of the scale. For example, if you set the root to "D", the first bar will be set to "D", the second to "D#", etc.
>
> Each step of the scale can be tuned +/- 100 cents. Several presets are available in the **Preset** menu, and you can also save or load custom presets here.
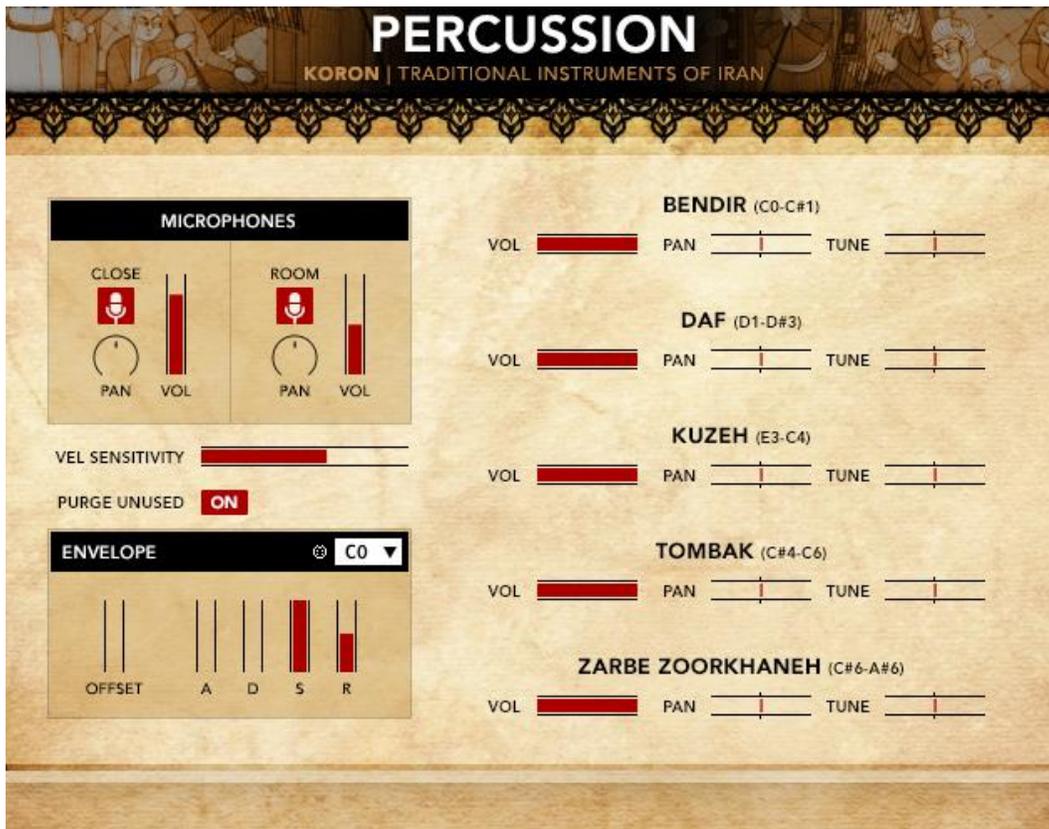
The **Percussion** patch uses a different layout than the Melodic instruments, sharing some of the core features like microphone mixing and vel sensitivity.

Each **drum** has its own **volume, pan and tuning** which can be MIDI learned by right-clicking.

The **volume envelope** offers tweaks on a **per-note** (articulation) basis, and there is also an **offset** slider which can be used to change the sample playback offset – useful to remove (or add) more of the "pre-roll" before each sample.
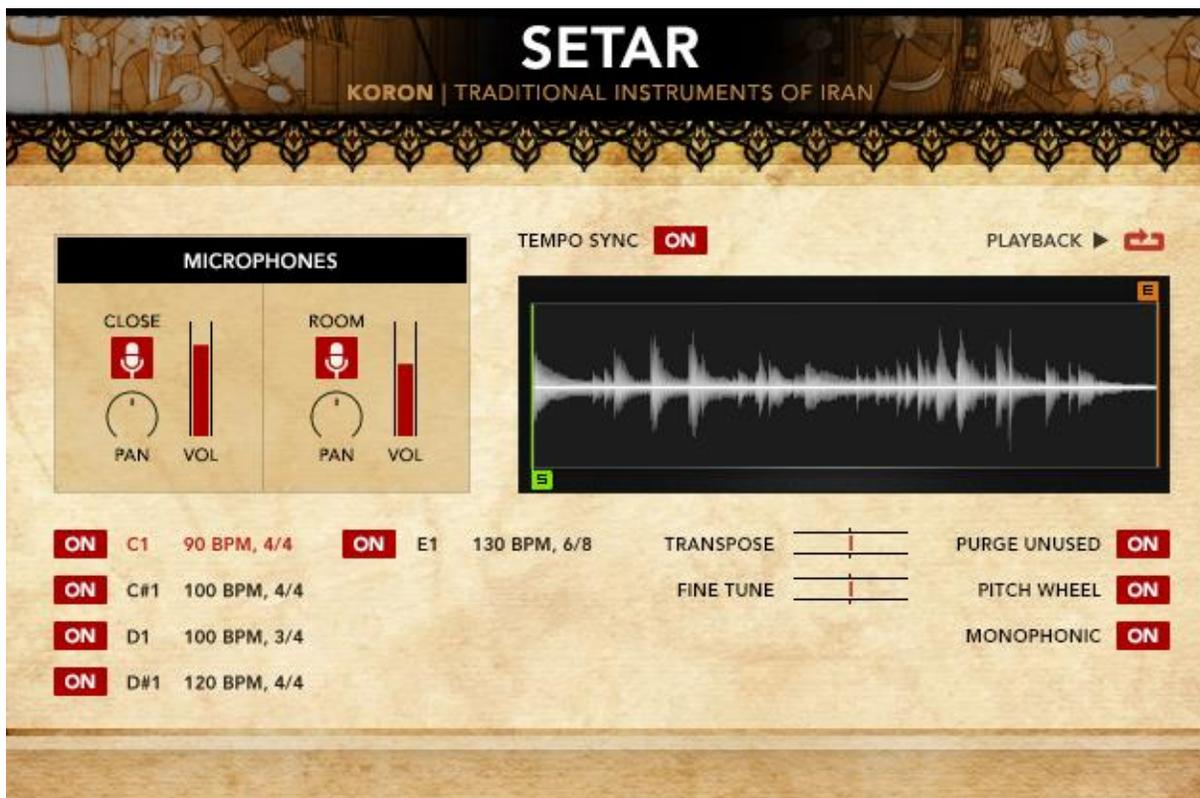
The **Performance** patches have a unique interface from the others. Ignoring the parameters like microphones and fine tune, which have already been described above, we have:

Phrase Pool Selection: Sets of phrases can be toggled on and off by clicking the "ON" buttons in the lower left. Clicking the text to the right of the buttons (C1 90 BPM, C#1 100 BPM) will switch the current playable set of phrases.

Waveform Display: This shows the phrase currently being played. You can set the **Start** and **End** markers to edit the phrase. These settings are saved on a per-phrase basis.

Tempo Sync: Enables or disables Time Machine Pro functionality, which syncs the phrase speed to the host BPM.

Playback Mode: Clicking the arrow to the right of "Playback" will set the playback direction from forward to reverse.

Loop Toggle: When the loop symbol is enabled, the phrase will be looped.

Transpose: Transposes the entire phrase +/- 12 semitones.

Monophonic: When enabled, only one key can be played at a time.

Our easy-to-use **FX rack** features an analog-modeled parametric EQ & compressor, delay line, and convolution reverb.

Clicking the ***** button next to each effect will randomize the FX settings; holding shift and clicking will reset all knobs to normal.

The **convolution reverb** can be CPU-intensive and may have performance issues on older systems. If you are having trouble with clicks & pops, check buffer settings in your DAW, or considering disabling and using an external reverb.

TACT – TOTAL ARTICULATION CONTROL TECHNOLOGY

The Concept

TACT is a modular, scalable system designed to create a consistent plug-and-play performance experience in Impact Soundworks virtual instrument products. It manages articulations with up to 3 triggering types, volume and offset control, and independently controlled legato toggles when applicable. Current supported trigger sources are note range, velocity range, CC range (on any CC# from 1 to 127), keyswitches (latching or non-latching, independently chosen per articulation), and sustain pedal up/down.

TACT is designed to manage user mapping schemes and facilitate experimentation to create the best performance setups for users very quickly and easily. Extra features include:

- A **conflict detection algorithm**, which cross references articulations through their 3 rules and detects if the articulations will trigger under the same input. It will then highlight the articulations in red to so the user can observe and resolve the conflict.

- A crown-jewel convenience feature called "**Automap**", which allows users to quickly lay out, build, and audition structured mapping schemes.

- A utility to **save and load mapping presets** within a sample library. This allows them to create schemes that suit them for different purposes, such as live performance or efficient DAW sequencing. These presets can also be shared with other users, as they are stored as .nka files.

Impact Soundworks looks forward to providing customers a very consistent and reliable experience in the future using TACT in our new virtual instruments!

Articulations
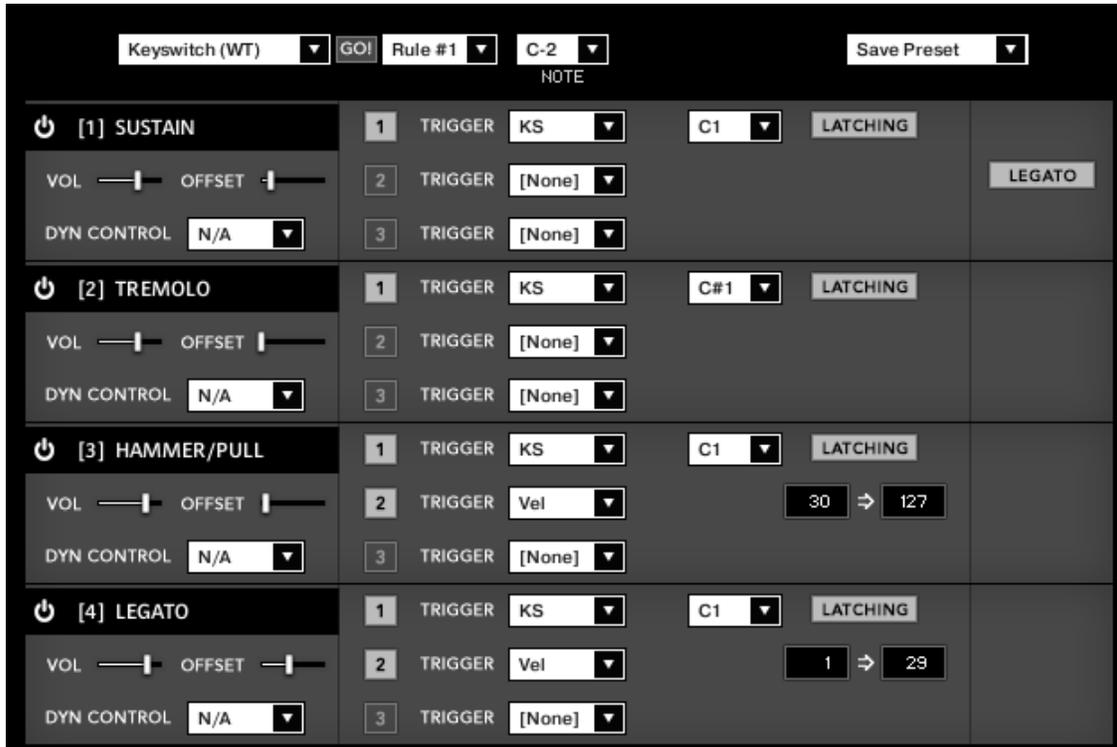
The main screen of the interface shows a list of articulations. Each articulation shows its name, a **power button** to purge it from memory, its first triggering rule, and an **ADV button**.

Pressing **ADV** will expand the articulation to show its 3 rules, as well as other controls like volume, offset, and dynamic control. For legato-applicable articulations, they may allow disabling legato. If expanded articulations make the list exceed the window height, **scroll buttons** will appear on the top right. Holding shift while clicking these scroll buttons will scroll **3 rows at a time**.

The **numbered squares** to the left of each rule are **toggle states** for the rules. If turned off, a rule is not factored into the system's evaluation logic. If all 3 are turned off, the articulation will never play. Note that setting an articulation rule's trigger type to [None] is equivalent to turning the rule off.

Each trigger type can **only be used once per articulation**. If a trigger type is used in a rule, it can't be used for other rules. This is not true of the [None] type, however. Each articulation will preserve its parameters for each rule type, and even if that rule is set to [None]. For example, if you set a keyswitch to B1, then set it to [None], then enable a keyswitch in another rule, it will remember B1 automatically. This is convenient for re-ordering rules for visual organizational purposes.

Each articulation can be selected/highlighted by clicking on its name. This is important for the Automap feature.

Keyboard Shortcuts:

- Holding control, alt, or shift on the ADV will **expand all articulations** at once.
- Holding control, alt, or shift on the keyswitch rule "LATCHING" button will **set all keyswitch rules** to the same latching designation (latching or non-latching).
- Holding alt while moving the volume or offset sliders will **move them simultaneously** across all articulations to the same value.
- Holding shift or alt while scrolling will scroll by 3 rows (a full expanded articulation) instead of 1.

Automap

Automap works by selecting a list of articulations by clicking their names (activating the blue highlighting to the left), selecting a scheme, such as "CC Split Range", configuring any parameters associated with that scheme (such as for CC Split, which CC# for it to work on), setting the rule # to apply the new mapping on, and the "GO" which executes the automap.

Holding control, shift, or alt while selecting an articulation will select or deselect all articulations.

When automap is executed by pressing GO, the previous mappings will be preserved in memory. If the user wishes to undo the change, they can access the preset menu and hit "Undo Automap". Note that this will only work 1 time, as there is only 1 level of history.

When a new mapping is applied to an articulation via Automap, the associated rule is automatically turned on in every selected articulation. If an articulation already contained a rule with the relevant trigger type, that pre-existing rule will be cleared out first.

For all mapping schemes, especially splits, they are done *in order of selection*, not visually ascending or descending order. For instance, if velocity split mapping was engaged on articulations ABCD that are selected in order CDBA, then articulation C will have the lowest velocity range, D will have the next lowest, and so on. Here is the list of currently implemented schemes:

Keyswitch (WT) - Will map selected articulations starting at the specified keyswitch, ascending by whole tones (2 half-steps).

Keyswitch (ST) - Will map selected articulations starting at the specified keyswitch, ascending by semi tones (1 half-step).

CC Split Range - Will map selected articulations on the specified CC# to ascending ranges that are even divisions of 1 to 127. For example, on articulations AB will map A to 1-64 and B to 65-127.

Velocity Split Range - Will map selected articulations to ascending velocitry trigger ranges that are even divisions of 1 to 127. For example, on articulations AB will map A to 1-64 and B to 65-127.

In addition to the spanning schemes listed above, TACT also features "shared" schemes that apply the same rule to selected articulations:

Shared Keyswitch - Will map selected articulations to the specified keyswitch.

Shared CC Range - Will map selected articulations to the specified value range on the specified CC#.

Shared Vel. Range - Will map selected articulations to the specified velocity range.

Shared Key Range - Will map selected articulations to the specified key range.

Pedal Position - Will map selected articulations to the specified pedal position.

Clear Rule - Will "delete" whatever mapping exists in the selected articulations on the chosen rule (set them to [None]).

A combination of spanning schemes and shared schemes is the key to getting the most out of TACT. For example, in a string library, a user could set all short articulations to a "shared keyswitch" rule, and then have their second rule be a "CC Split Range". This way, they can switch to a general "shorts" keyswitch, and use their mod wheel to select the specific one. Another example is when the user has a satisfactory mapping scheme but would like to trigger legato using the sustain pedal; they can quickly use automap on the non-legato articulations to have them only trigger when the pedal is released.

Presets

TACT can save presets as .nka files. These files can even be shared with other users, provided they are using it with the same sample library.

To save a preset, simply open the preset dropdown menu and click "Save Preset". A dialog box will appear prompting you to name your scheme.

To load a preset, click "Load Preset". A dialog box will appear, and you can browse your computer to select your saved schemes.

A preset will completely load all articulation purge states, triggering rule data, legato toggles, offset values, and dynamic control mappings. A preset will not, however, save or load articulation volume values. This is done so that the sound and general tone is not affected if the user wishes to heavily experiment with performance mappings.

CREDITS

Instrument Concept & Recording: Siavash Mozaffari
Design: Andrew Aversa and Siavash Mozaffari
Kontakt Scripting: Mario Kruselj and Andrew Aversa
Sample Editing: Christian Yoder
Artwork: Constructive Stumblings

PERFORMER BIO

Siavash Mozaffari is an Oakland based multi-instrumentalist, recording artist, engineer and sound enthusiast. He was born and raised in Tehran, Iran and moved to California at the age of 13. Siavash holds a Bachelor's Degree in Electrical Engineering from UC Irvine. Enrolling in several music technology courses during his college years, he was introduced to sample libraries. Taking a trip to Iran after a decade of living in the United reintroduced him to Iranian music, and he was gifted a tanbour by his cousin to bring back to the United States. Later, the Tanbour was sampled for an assignment in the class. Fascinated by seeing the traditional instrument's possibilities in a digital format, he successfully used crowdfunding to raise funds for the creation of this sample library. After his first recording trip to Iran he was connected to ISW who helped him expand the scope and deliver the project at its full potential. He can be contacted at sia.mozaffari@gmail.com. He would also like to thank the musicians and engineers listed below for contributing to this project:

Moein Mozaffari (Tar, Setar)
Ahmad Pourabughadareh (Kamanche)
Zakariya Yousefi (Percussion)
Parham Mohaghegh (Santoor)
Javad Safari (Recording Assistant)
Ali Pourmoghadam (Recording Assistant)
All of the kickstarter supporters. This project would not be possible without your support.

TROUBLESHOOTING & FEEDBACK

Have you used **Koron** in a project recently? Got an awesome track you'd like to share? Drop us a line (admin@impactsoundworks.com) and we might post it on our website! Or, tell the world at our Facebook page here: http://www.facebook.com/ImpactSoundworks

We encourage all our users to share and promote their work. Word of mouth is the #1 way people find our samples, so it also helps us to produce more great libraries for you!

For any technical support issues regarding the library, don't hesitate to email support@impactsoundworks.com.

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