VERSILIAN STUDIOS LLC.

WHISTLES

PRODUCT MANUAL

INTRODUCTION

The whistle is among mankind's first musical instruments, and has a long and storied history in its many incarnations and variations. Many materials can be used to create a whistle, including bone, wood, metal, and plastic, as the only requirement is that the material is durable and can be formed and hold clean, sharp edges to create a windway and chiff.

Structurally whistles bear all the same features as the recorder. However, there are significant differences in the fingerings, the shape of the windway (usually flat rather than curved), as well as the size/bore of the instrument. Additionally, whistles are virtually always purely cylindrical while recorders regularly have tapering bores which require sophisticated reamers to bore out. Whistles are also generally used and played diatonically, while recorders are chromatic by design.

The whistles featured here are of the Irish style, often colloquially referred to as "tin whistles". Three instruments were recorded, 'high' or Soprano C and D whistles in copper with ABS heads (Kerrywhistles Optima Cobre), and a 'low' or Alto F whistle in aluminum (Kerrywhistles Optima). These are three of the most common sizes in use and form a well-matched set together.

DEVELOPMENT

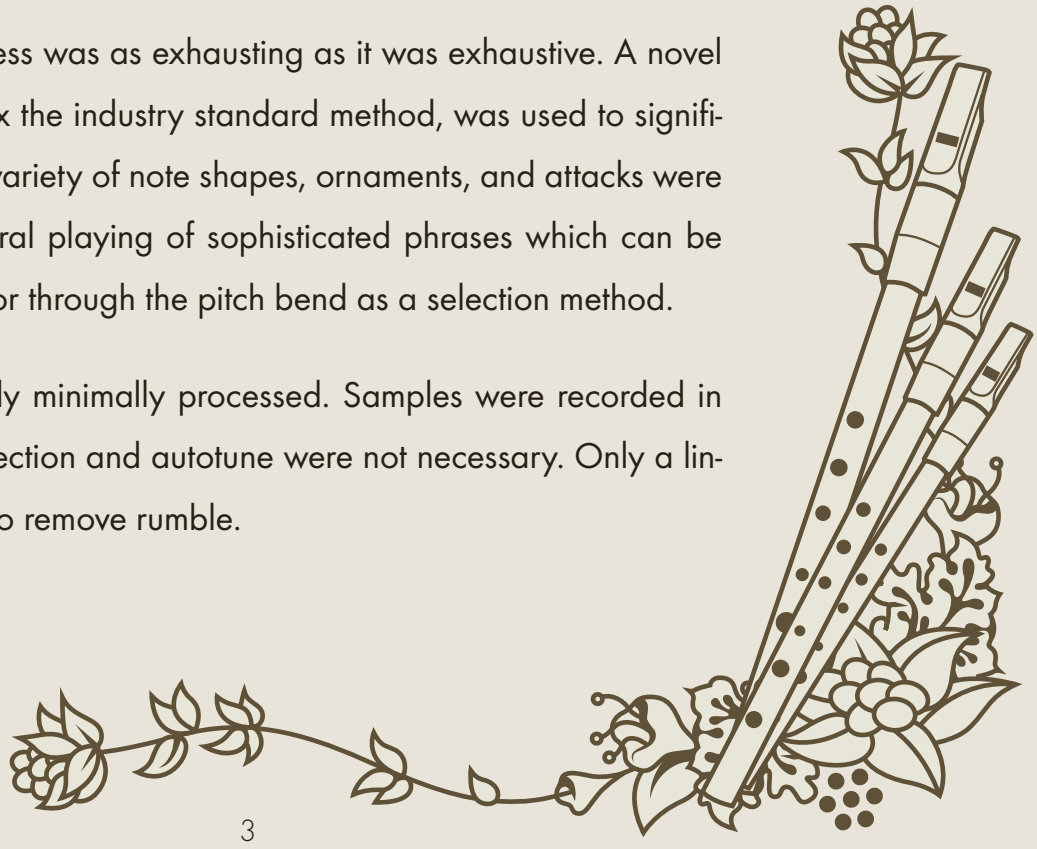
While recording our upcoming expansion pack for The Recorder, a VI-Control forum member requested we make a comparable library for whistles. In our remaining time, we set out to sample the most common instruments: high D, C, and low F at the same quality as our flagship recorder library.

Featuring the same ultra-natural "True Legato+" process, 6 mic positions, performer, and space as The Recorder, Whistles is a compact but highly adaptable library ideal for a wide range of contexts.

Performed by professional recorder player Emily O'Brien, Whistles has a clean sound with a high degree of consistency. Stylistically it blends contemporary recorder and whistle idioms, borrowing the clean tongued attack style of modern recorders while also providing traditional vibrato and ornaments.

The recording process was as exhausting as it was exhaustive. A novel legato method, taking 3-4x the industry standard method, was used to significantly improve realism. A variety of note shapes, ornaments, and attacks were recorded to facilitate natural playing of sophisticated phrases which can be accessed via keyswitches or through the pitch bend as a selection method.

Whistles is extremely minimally processed. Samples were recorded in such a way that pitch correction and autotune were not necessary. Only a linear phase filter was used to remove rumble.



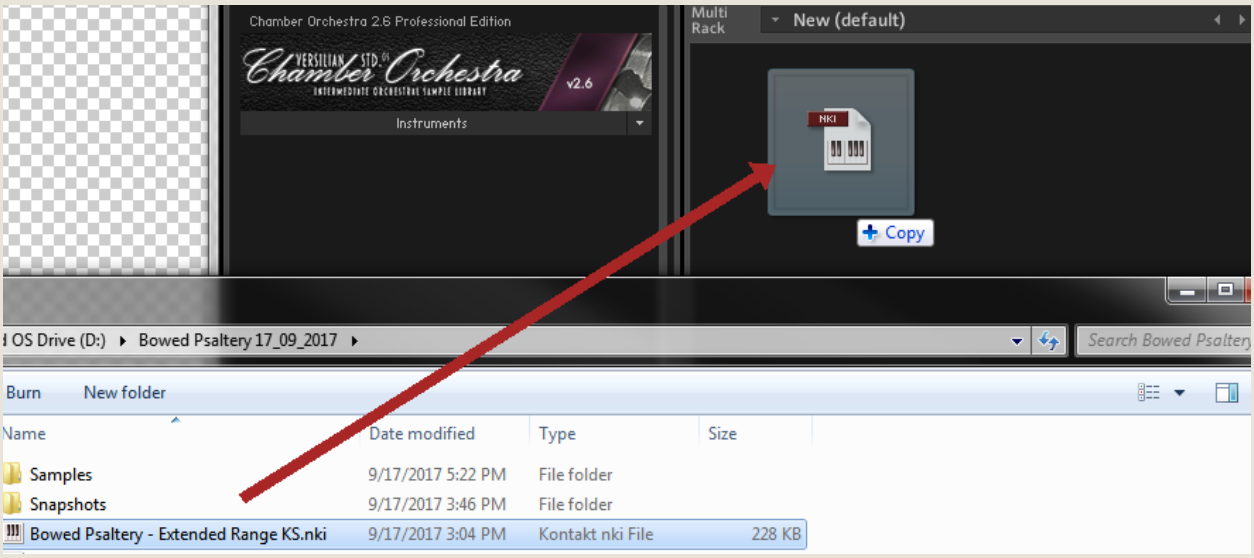
INSTALLATION

Watch on Youtube

Begin installation by downloading the library after completing checkout, using Pulse Downloader. Pulse is a special application designed specifically to distribute, verify, and update sample libraries and is used widely in the industry. Click 'Add a Product' and enter the code given at checkout.

Pulse will prompt you to select an install location– this could be on an external hard drive, an internal SSD, or your main hard drive.

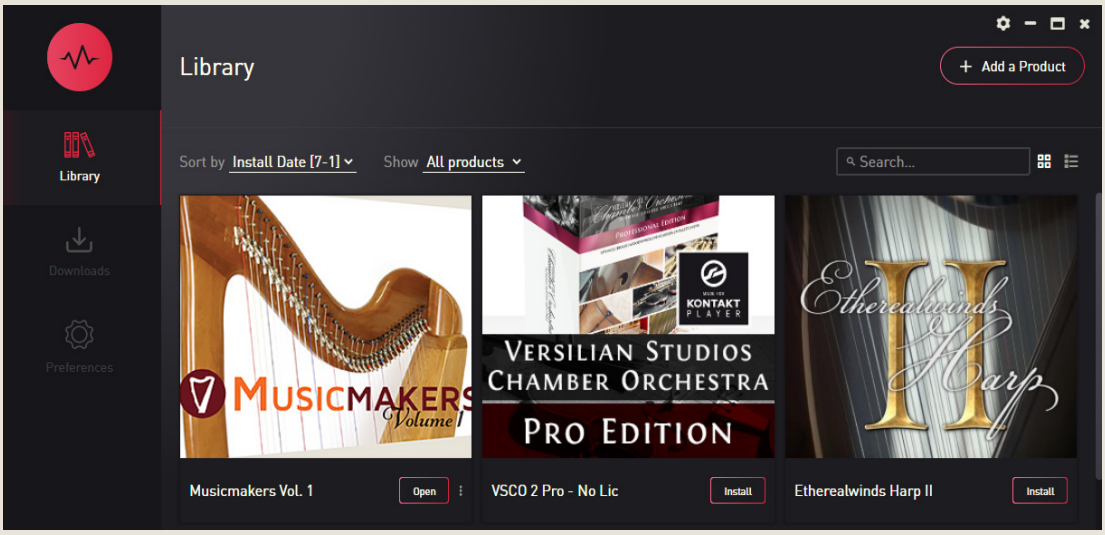
To use the library, drag and drop any of the .nki (Kontakt instruments) into an instance of Kontakt (either standalone or plug-in), as shown below.



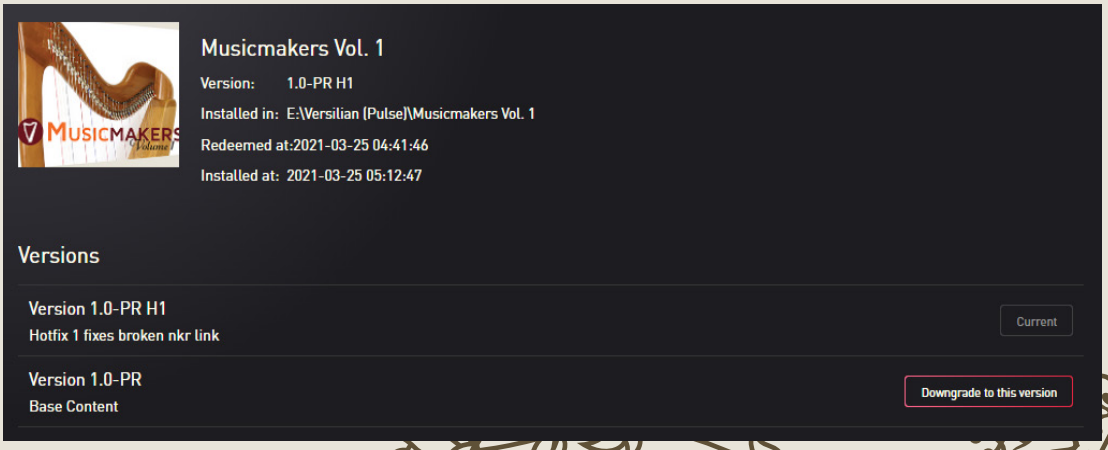
MANAGING YOUR INSTALLATION

Pulse Downloader not only manages the download process, it also allows you to maintain and update your installation in the event updates are provided for the library.

Once you have installed Whistles, it will appear in your Pulse Library. You can click 'Open' to jump to the files, or use the '...' to reinstall:



If an update is available, Pulse will prompt you to install it. Consider checking back every few months in case an update is provided. If you experience problems with an update or simply wish to learn more about what was changed, select the product and you will be able to see patch notes and select an earlier version to downgrade, as shown here on our internal test branch:



PATCHES & ARTICULATIONS

Within the instruments folder, you will find several .nki files, sorted into folders. Each file represents a real instrument, and will let you access all of the sounds recorded for that particular instrument.

- **D Soprano** in Copper (Kerrywhistles "Optima Cobre")
- **C Soprano** in Copper (Kerrywhistles "Optima Cobre")
- **F Alto** in Aluminum (Kerrywhistles "Optima")

(Some sources might also use the terms 'High' and 'Low' to refer to the first two and last instrument respectively)

A total of 15 articulations or techniques are provided. Each articulation provides a different effect or color on the instrument.

Like most other modern woodwinds, whistles use vibrato regularly when playing. The primary form of vibrato is done by repeatedly tapping or shading a hole several below the current note, as is done on pipes. This creates a more 'square' vibrato profile, different from breath vibrato which has a more sinusoidal profile.

All Legato patches allow the use of ornaments, which are selectable via both velocity and pitchbend, which functions to switch between sets. Hold the pitchbend up or down to choose between different sets of ornaments.

↑ Pitch Up: **Cuts** » **Slides Up** *(low » high vel)*

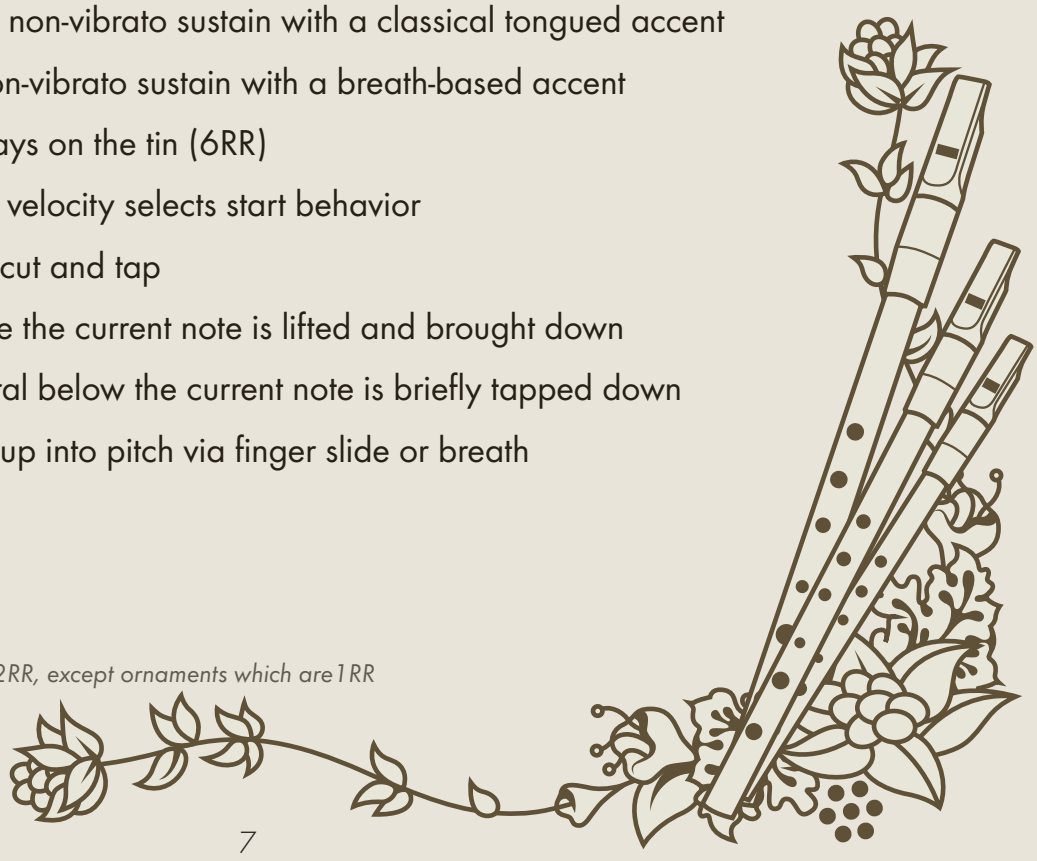
– Pitch Center: **Normal Sustains** » **Accented Sustains**

↓ Pitch Down: **Taps** » **Turns**

Articulations:

1. **Non Vibrato Legato+**: special legato method, more realistic, unlooped
2. **Non Vibrato Legato**: conventional legato method, sustains are looped
3. **Slow Vibrato Legato**: slower vibrato speed, conventional legato, " "
4. **Fast Vibrato Legato**: faster vibrato speed, conventional legato, " "
5. **Non-Vibrato Sustain**: straight, non-vibrato sustains
6. **Slow Vibrato Sustain**: slow-speed vibrato for calm pieces
7. **Fast Vibrato Sustain**: fast vibrato
8. **Accented Sustain**: non-vibrato sustain with a classical tongued accent
9. **Breath Sustain**: non-vibrato sustain with a breath-based accent
10. **Staccato**: what it says on the tin (6RR)
11. **Trills**: Diatonic trills, velocity selects start behavior
12. **Turns**: a combined cut and tap
13. **Cuts**: a finger above the current note is lifted and brought down
14. **Taps**: a finger several below the current note is briefly tapped down
15. **Slides**: Note slides up into pitch via finger slide or breath

*** All articulations not marked are 2RR, except ornaments which are1RR*



REVERB

Reverb On/Off

Space Type Selection

Reverb Pre-Delay

Reverb Amount (mix -dB)

Reverb Time (T60)

MIXER

Mix Preset:

SAVE the mixer as Preset

RECALL the Preset mix

AUTO load saved mix on open

Microphone Position Name

Microphone Model

Microphone Volume

Microphone Pan

Microphone Stereo Width

Microphone Solo/Mute

Microphone Load/Purge

Microphone Outputs

TONE control tab (active)

TUNING control tab (inactive)

Articulation Name & Info

Keyswitch Mover (drag)

Per-Articulation Settings

Articulation Attack Time

Legato Transition Attack Time

Release Sample Length

Legato Transition Start (early/late)

Relase Sample Volume

Legato Blend (prev. note release)

MIRAGE FX Page

Disable Keyswitching (Lock)

Advanced Features

Active Keyswitch

ARTICULATION CONTROLS

These controls apply only to the currently active articulation, so that you might adjust each articulation to taste and need.

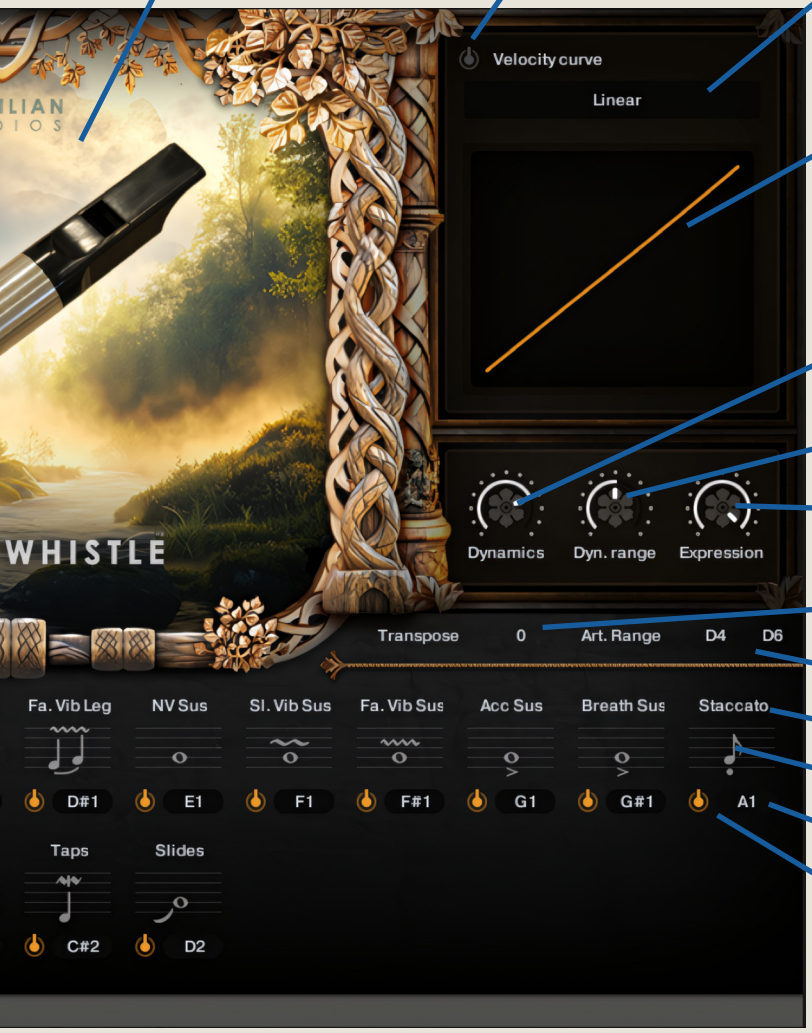
VELOCITY CURVE

Something nice to look at

Velocity Curve On/Off

Curve Selection (Linear/Shelf/Fixed)

Curve Editor (drag to alter curve)



Dynamics (Modwheel/CC1)

Dynamic Range (vol. gamut)

Expression (CC11)

DYN

Transpose (drag)

Range Limits (drag)

Articulation Name

Articulation Icon

Articulation Keyswitch (KS)

Articulation Load/Purge

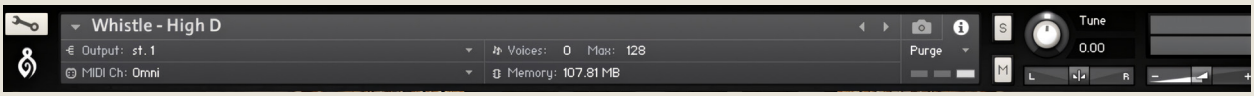
ART

WHISTLES

OPERATION

Watch on Youtube

Whistles makes use of our brand new Kontakt engine, VISAGE, complete with its own effects system, MIRAGE. VISAGE features numerous advanced systems and functions to simplify and speed up usage regardless of your use case or technical level. In this section, I'll go over all functions of the VISAGE engine and share tips on how to get the most out of this library.



Starting with the top of the instrument, we have the default Kontakt header. This area provides basic instrument settings and allows you to shrink or expand the GUI as needed. Note that VISAGE uses a special 'extra wide' mode, allowing for a larger, easier to read interface.

On the left is the wrench icon, which allows access “under the hood” of the instrument. This is best for veteran Kontakt users only, but is worth exploring if you’re new to Kontakt as well.

The central gray box displays general information and settings for the instrument. You can swap this display over to show the snapshots menu simply by pressing the camera icon to the right, and vice versa by pressing the ‘i’.

Output will control where the audio data goes to. Typically this should be left untouched unless working with a surround mix or bussing specific instruments to different reverb sends or the like.

MIDI Ch. controls what input MIDI channel will send signals to this particular instrument, allowing you to set up multi-timbral sets of several different instruments in a single instance.

Voices displays how many voices are active and the maximum available. You may experience some memory/CPU savings by reducing the max number. When Kontakt runs out of voices, it will stop the oldest voices.

Memory displays how much memory is in use by this instance. You can reduce this by unloading mic positions, articulations, or purging unused files to the right-hand side.

The central part of the GUI is where you can shape the **Tone** of the instrument.

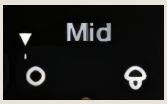
On the left are the controls for Kontakt's new algorithmic **Reverb**, which lets you switch between Room and Hall style reverberances. Time controls the length of the reverb tail. Imagine this as an extra "ambient" pair of mics out in the space, with the 'Amount' as your mixer level. The pre-delay is similar to placing the virtual "mics" farther or closer to the sound source (1 ms = approx. 1'/0.3m).

Below the Reverb you will find the **Mic Mixer**. When we recorded this library, we used 9 different *microphones*, arranged in 5 stereo pairs/arrays, to capture every single note. Here you can load and mix together each of these microphones, blending them together to get a *brighter* or *darker* sound, or a *closer* or *further* sound.

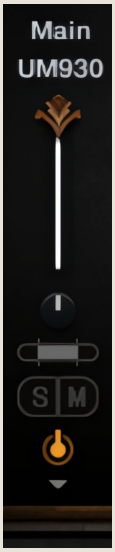
The 5 arrays are organized here in 4 positions: **Close**, **Mid**, **Main**, and **Room**, each progressively further away. The close mic will provide the driest, cleanest sound, while the room mic will provide the most spacious sound. The mics in between provide various colors and widths of sound for various tastes.

The Mid mic has a special feature, where you can *blend between* a more focused, central pair of mics and a less focused, wide pair of mics (omnis), as part of what is called

a "wide Faulkner array". A small slider below 'Mid' can be moved side to side to accomplish this, with any blend between being possible, functioning much like a *zoom lens* on a camera.



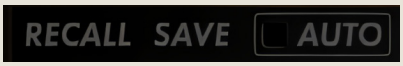
Beneath the positions, small gold *sliders* can be moved up or down to change the **Volume** of mics, followed by a small **Pan** knob, a stereo **Width** control (to reduce width of a mic if needed), and **Solo**/**Mute** buttons.



At the bottom, most critically, is a **Load/Purge** button in the shape of an off/on toggle. When loaded, this will show *orange*. When not loaded, it will be *greyed out*, showing that mic position is not loaded.

Note that each microphone position will consume around **100 MB** of RAM. It also may take Kontakt a while to load all the samples, especially if loading from a slow mechanical hard drive. *By default* the patch only loads up with the *Main* mic active for this reason, but this can be changed with our next feature, the **Mix Preset** system:

Rather than manually trying to match your mix settings between each instrument, set your *optimal mix* on one instrument, then double-click **'SAVE'** in the top of the mixer window.



Now in each instrument you wish to apply the mix within, simply click **'RECALL'**. The mix settings (excluding *Pan*) will be loaded up. This lets you retain any panning to individual instruments necessary to make an ensemble mix.

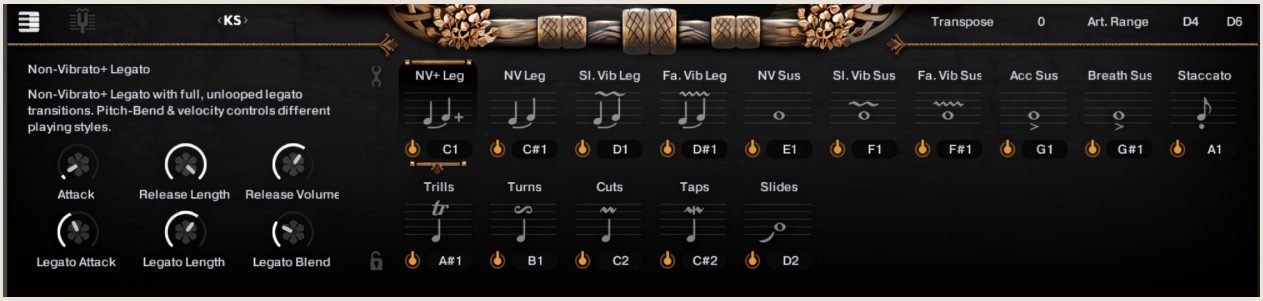
If you toggle **'AUTO'** *before* saving, then every patch you open up will *AUTOMATICALLY* load your Mix Preset on loading, saving you tons of setup time. Note that this only applies to your local computer. You may need to reinitialize (press '!' button in top right) Kontakt to load the preset.

The **Velocity Curve** panel in the top right side allows you to adjust how the instrument responds to the velocity input of your keyboard. Select a curve type, then drag the curve around in the box below to change the behavior.

This is mostly useful in the combined staccato/accented staccato and staccatissimo/sputato articulations, where you may want more control over where you transition between the two layers. Sustains also use velocity to accent note starts.

The three controls below the velocity curve shape the volume of the instrument:

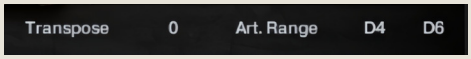
- **Dynamics** controls the volume of sound within the gamut of *Dynamic Range*.
- **Dynamic Range** is the total gamut between the highest and lowest velocity.
- **Expression** is an additional volume control for balancing/mixing use.



The bottom third of the user interface controls the articulation, pitch, and performance parameters of the instrument. Here you will find a range of different sampled articulations to choose from, controls for those articulations and their keyswitch triggers, as well as options for transposing and limiting the range of the instrument.

In the upper left of this area, you can toggle the middle of the interface between the Tone controls and Tuning controls. The adjacent **<KS>** slider will allow you to move the keyswitches to a more optimal spot. See pg 18 for more details on Tuning.

Before we sink into the depths of the Articulations section, a quick mention regarding the **Transpose** function. Sometimes it is helpful to transpose instruments up or down an octave or two in order to double parts or fit out-of-range MIDI sequences (e.g. you want to see what it sounds like if the whistle plays a horn part). To do so, double-click on this box, type the 12 or -12, and you'll notice the range of the instrument shift down/up the keyboard.



The **Articulation Range** control is also useful if you are building a unison ensemble effect by layering multiple instruments of different voices together. You can limit the high range of lower instruments to avoid the strained, chiffy sound of the extreme high register from entering the mix, or create "one whistle to rule them all" by stitching parts of each whistle's range together.

If one whistle is too low/high for your part, consider changing whistles.

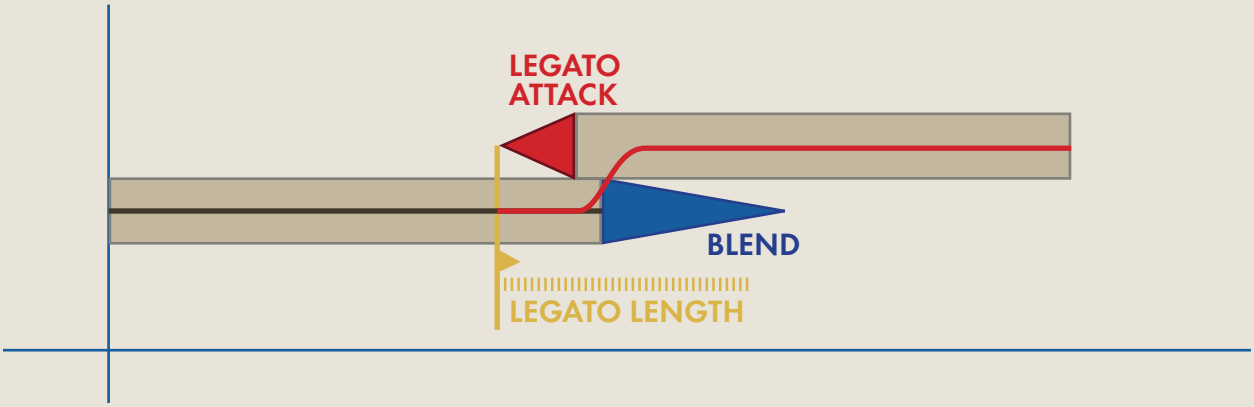
Lastly, note that you can use a combination of Transpose and Kontakt's Tune knob to approximate other whistles nearby, such as low D, Eb E, G, A, Bb, high Eb, and high E. Usually shifts within +/- m3rd are reasonably realistic.

Fun can be had by taking this to the extreme and shifting an instrument several octaves down in pitch. Don't tell anyone I told you!

The **Articulation Control** panel in the bottom right corner shows which articulation is loaded and allows you to make adjustments specific to the loaded articulation, and only that articulation.

Generally Attack, Release Length, and Release Volume are present, as well as Articulation Volume on the shorter articulations.

Legato articulations get three extra knobs which allow you complete control over the legato behavior of the instrument. **Legato Attack** controls the attack time at the start of the legato sample. **Legato Length** controls at what point in the transition the legato sample starts (left = earlier start, more transition but slugglish feeling; right = later start, barely any transition left but extremely responsive). Finally, **Legato Blend** controls how much *Release* sample from the preceeding note sounds alongside the new note, helping with the fade out of the previous note.



Whistles uses an uncommon legato technique in which the entire destination note is recorded following the transition, which takes considerably longer to record.

The benefit of the technique is that a second crossfade between the legato transition and the destination sustain is avoided, significantly reducing phasey artifacts or dynamic jumps after the transition.

If all this sounds too complex, no worries! We have carefully pre-calibrated the legato settings to sound great out of the box.

The **Articulation Palette** shows all available articulations in the instrument, as well as what *Keyswitch* each articulation is tied to. As noted earlier, the keyswitch range can be adjusted by dragging the **<KS>** control.

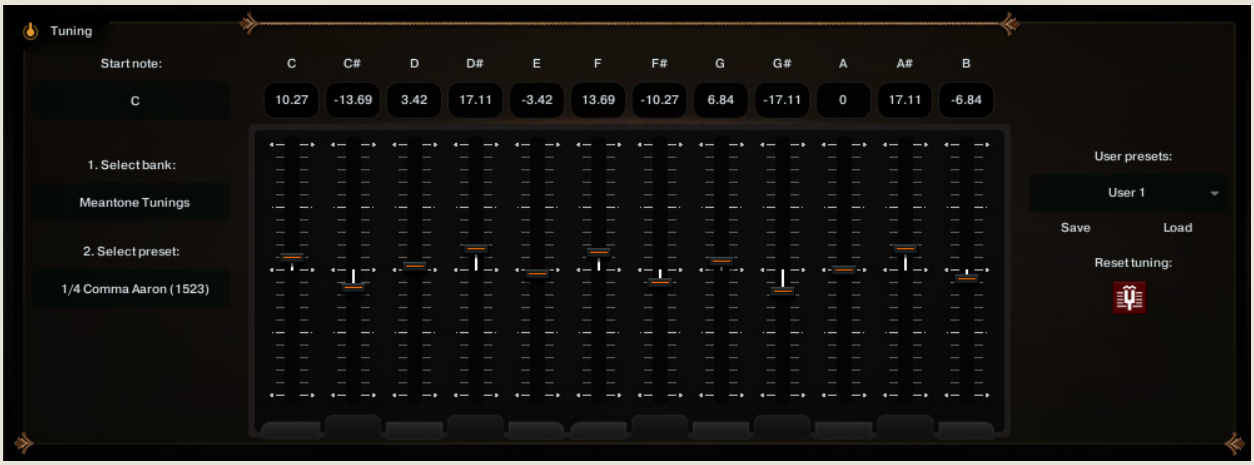
Articulations can be *selected* either by clicking, or, for changes during a piece, by entering keyswitch notes in the piano roll or recorded during your performance. A gold frame will appear around the active articulation.

If you know you won't be using an articulation, you can disable it by pressing the *on/off toggle*. If the samples are not used elsewhere, they will be purged, saving memory.

If you plan on using only one articulation in your project and do not want to accidentally press a keyswitch, click the **Lock** in the bottom left corner to prevent the chance of changing articulations via any method.

The **Wrench** icon in the top left corner allows access to some extra features, namely neighbor-borrowing round robin and using aftertouch to stop notes. Neither of these is all that applicable to this library.

TUNING & TEMPERAMENTS



The **Tuning** page is accessible via the tuning fork icon above the bottom left corner of the UI. A default bank of 29 historical and modern temperaments and intonations are available. It is also possible to manually temper the instrument by dragging the sliders for each note up or down to achieve the desired cent offset from Equal Temperament (ET) (as shown above each slider).

On the left hand, it is also possible to offset/cycle the temperament to start from a different key, e.g. to shift the wolf around in meantone.

On the right, you can save presets. Type a name, then hit save. If things ever go haywire, click the Reset Tuning button below.

Meantone Temperaments
- 1/4 Comma Aaron (1523)
- 2/7 Comma Zarlino (1558)
- 1/5 Comma Holden (1694)
- 1/6 Comma Silbermann (1714)
- 1/7 Comma Romieu (1755)
- D'Alembert Modified (1752)
- Britannica Modified (1797)
- Fisher Modified (1818)
- George Secor #3 (1975)

Other
- Grammateus Pythagorean (1518)
- Merrick Melodic Quasi (1811)
- De Morgan Unequal (1843)
- De Morgan Alt Equal (1858)
- Wendell Synchonous (2002)
- Jorgensen Ideal Well (2002)

Equal & Quasi-Equal
- Modern Equal (Default)
- Neidhardt Pythag (1732)*
- Graupner Quasi (1819)
- Viennese/Hummel (1829)
- Broadwood Quasi (1885)
- Pyle Equal Beating (1906)

This temperament, although not ET, has a comparable effect and can be used as a creative alternative.

"Well" Temperaments
- Werckmeister III (1691)
- Rousseau Equal Beating (1768)
- Kirnberger (1771)
- "Handel" (1780)
- Vallotti (1781)
- Young (1799)
- Broadwood (1885)
- Kellner Bach (1978)

Temperaments are alterations made to a tuning system in order to make certain intervals or keys more or less harmonious. There are 29 factory temperaments provided, grouped in logical banks of five based on the underlying principles of the temperament/intonation. The graph indicates the alterations made to each of the 12 tones relative to Equal Temperament.

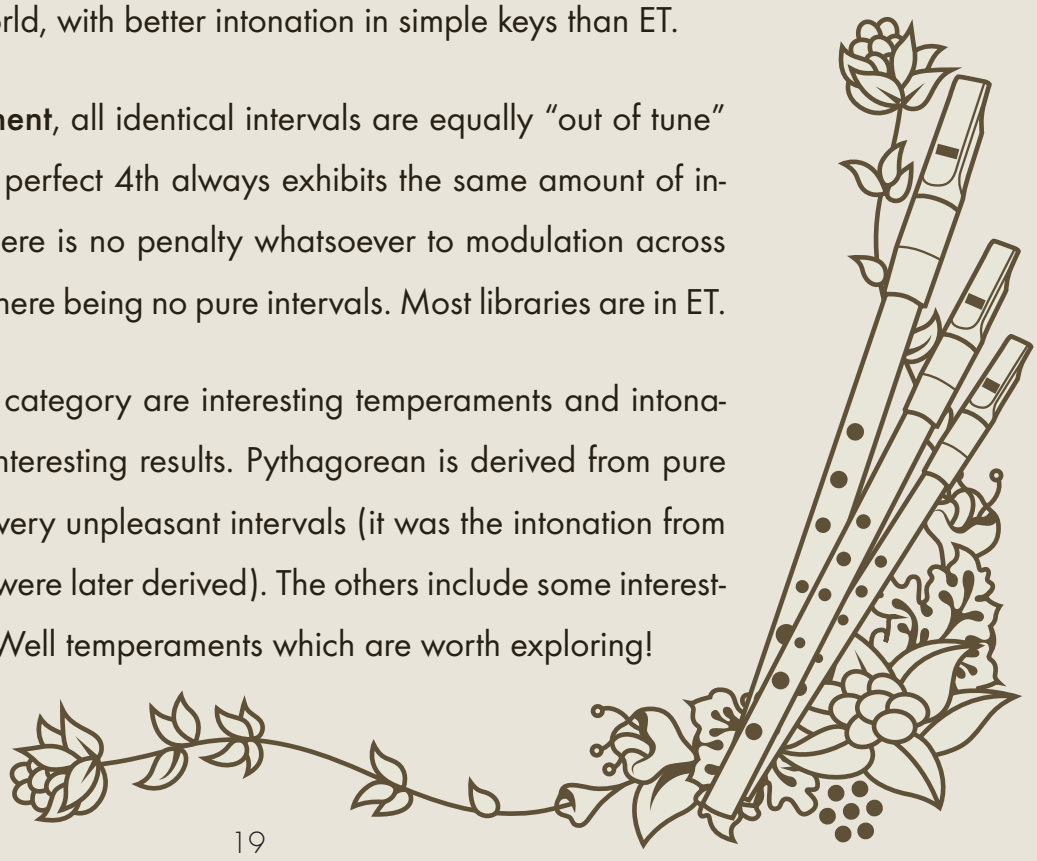
Meantone seeks to maximize pure intervals (in particular 3rds) in the 7-9 "easiest" keys, putting all of the nasty inharmonicities in less used keys (e.g. Ab, Db, Gb/F#). Meantone is most synonymous with the Renaissance period, but is useful here as it will make common keys significantly more in tune and thus more lifelike to a real whistler, but ***beware the wolf!!***

The wolf tones lurk among the shadowy distant keys, intervals of indescribable horror and disgustingness, they feed on the mistakes of the unwitting keyboardist.

Well temperaments interpolate this behavior, gradually transitioning from being very pure in C Major to very impure in F# Major. This allows for tone color, where each chord and key provides a different feeling due to the gradual increase of inharmonicity as one works towards the more obscure keys at the bottom of the circle. From Bach and beyond, this provides a unique flavor now lost in our modern world, with better intonation in simple keys than ET.

In **Equal Temperament**, all identical intervals are equally "out of tune" (or in tune, if you wish); a perfect 4th always exhibits the same amount of inharmonicity. This means there is no penalty whatsoever to modulation across distant keys, at the cost of there being no pure intervals. Most libraries are in ET.

In the final **'Other'** category are interesting temperaments and intonations which may provide interesting results. Pythagorean is derived from pure 5ths, but results in several very unpleasant intervals (it was the intonation from which most temperaments were later derived). The others include some interesting alternatives to ET and Well temperaments which are worth exploring!



The **MIRAGE FX** system provides easy access to Kontakt's internal suite of FX. VISAGE lets you shape the vision of the sound as it exists, MIRAGE lets you twist and shift those sounds into something mix ready or even surreal.

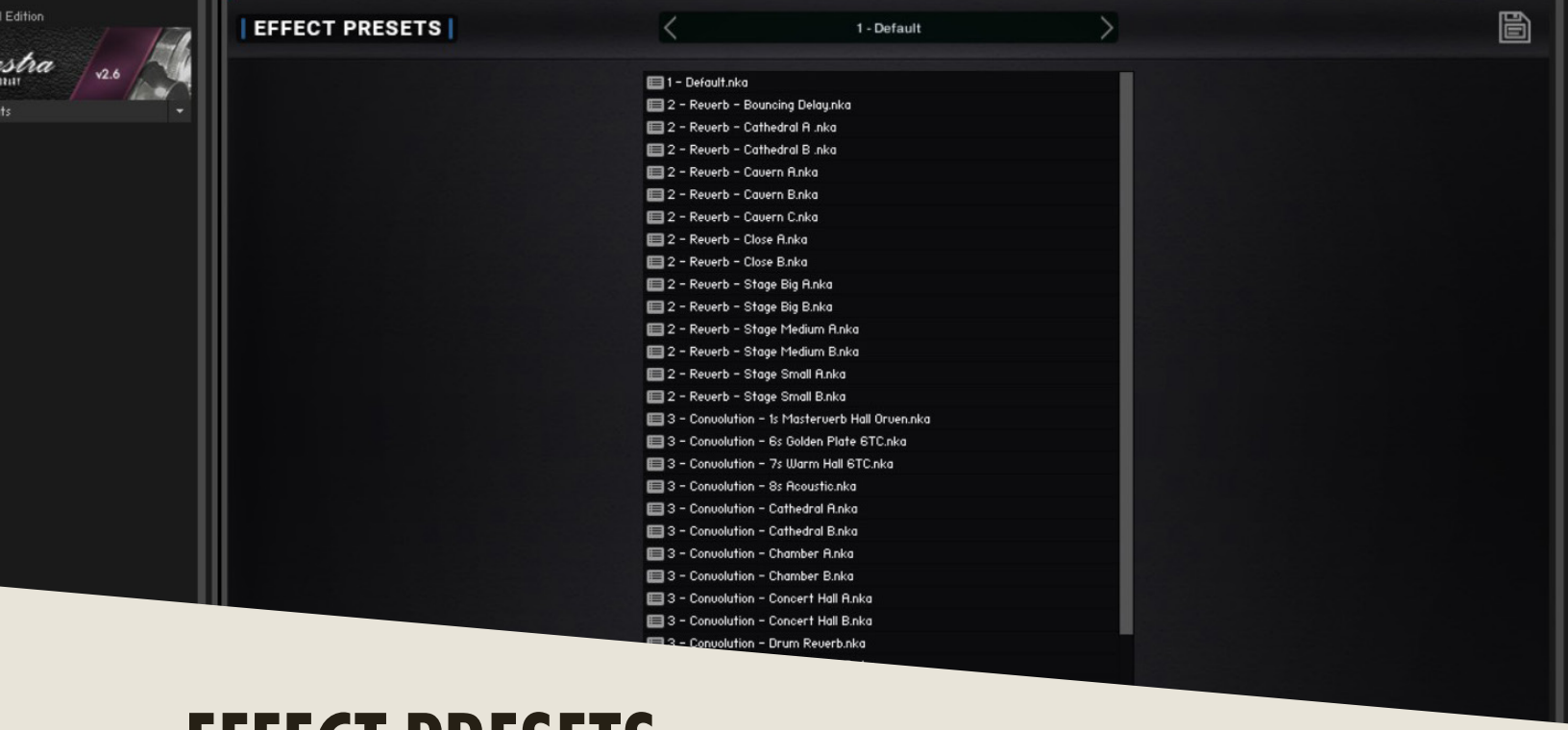
MIRAGE is divided into four sections: Tone, Dynamics, Space, and Crunch. Each row moves from calmest effect to most severe from left to right.

Tone controls the timbre and frequency response, with some tape warmth available on the right for additional coloration.

Dynamics shape the dynamic behavior of the instrument, with the extremely handy transient master.

Space lets you put the instrument anywhere you want- studios, halls, even surreal landscapes.

Crunch saturates, distorts, and bitcrushes the sound for some scintillating resonances and overdriven effects.



EFFECT PRESETS

Effect Presets let you immediately get into action with a variety of reverb and other effects, augmenting Kontakt's default Snapshots feature. Create and deploy your own presets across multiple VISAGE 3 products with portable .nka.

Reverb

- Bouncing Delay
- Cathedral A, B
- Cavern A, B, C (adds delay)
- Close A, B
- Stage Big A, B
- Stage Medium A, B
- Stage Small A, B

Convolution Reverb

- 1s Masterverb Hall
- 6s Golden Plate 6TC
- 7s Warm Hall 6TC
- 8s Acoustic
- Cathedral A, B
- Chamber A, B
- Concert Hall A, B
- Drum Reverb
- Music Studio A, B
- Tavern Close, Far

Effect

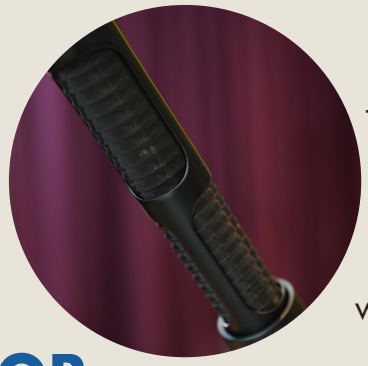
- Buzzing
- Crunchy Echoes
- Focussed
- Hard Tape
- Lofi Distortion A, B
- Old Radio
- Saturated Plate
- Transistor Distortion

Reverb and Effect presets designed by Simon Autenrieth.

MICROPHONES

Contrary to popular belief, there is no such thing as a "perfect" or "best" microphone. Each microphone presents us with a specific sound concept, sense of space/focus, and character, be it neutral, bright, dark, open, focused, or any number of endless adjectives people who probably have better things to do like to throw around late at night on internet forums.

Six different pairs or arrays of microphones from around the world were used:



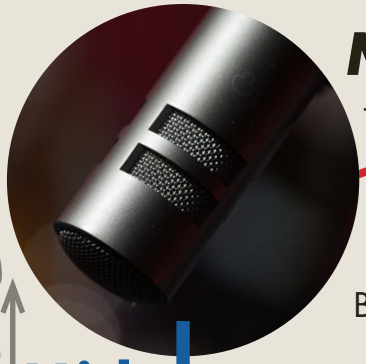
N28 // AEA RIBBON MICS, INC.

The AEA N28 is a state-of-the-art stereo active ribbon microphone featuring among the narrowest ribbons on the market. Ribbon mics are a popular choice for close spot miking woodwinds in the studio for their warm tone, and the stereo mic is 100% mono collapseable.

OR

TLM170R // NEUMANN GmbH

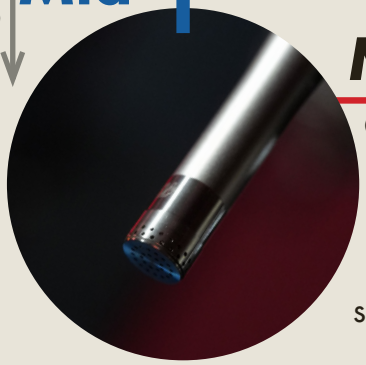
The gold-standard orchestral spot LDC since its introduction in the 1980's, the TLM170 balances detail and body perfectly. This placement is very popular on film score solo overdub sessions; the narrow near-coincident stereo array provides more space without losing focus.



M310 // MICROTECH GEFELL GmbH

The supercardioid pattern focuses directly in front of the mic more than cardioid, allowing this mic to isolate a source with incredible clarity. This placement is very popular for orchestral woodwind section mics. By blending with the M221, you can modify the Mid position's pattern.

Mid



M221 // MICROTECH GEFELL GmbH

One of the flattest, purest microphones in existence, the omni directional M221 is quite literally the microphone by which all other microphones are measured. Its ultra-thin nickel diaphragm captures transients with incredible accuracy but no 'hype'.

UM930 // MICROTECH GEFELL GmbH

Voiced after the legendary M7 M 49, this high-tech FET mic delivers an expensive sounding main position—with a price tag to match. This placement is often used in chamber music recordings both live and in studio as a main or room array.

M950 // MICROTECH GEFELL GmbH

Designed as one of the world's quietest room mics, the M950 combines a tidy wide-cardioid pattern with 7 dBA of self noise. Its broad HF lift helps compensate for diffuse field losses, similar to the M 50, ideal for blending with typical orchestral libraries.

TROUBLESHOOTING

If you are experiencing issues with the library, there are a few steps you can try to resolve the issues before contacting us. Below is a list of common possible problems and 'home remedies' that will work to fix them.

1. Samples missing dialogue.

If you see this window, it means that the samples were moved or are missing from their original location. The best procedure is to redownload via Pulse if feasible. Make sure you have Pulse handle the installation to the desired location for you, to ensure nothing gets left behind.

2. I can't get the download to work in Pulse.

If you continually are unable to complete the download, please reach out to us and we can arrange to send you a physical copy. If you know your internet connection is iffy, please consider purchasing a physical copy from our website in advance.

3. Instrument uses up too much memory or CPU.

Use the circles beneath the articulations to purge any you doubt you will typically

need, and turn off any effects you don't use (filter/reverb). Save this patch (under the floppy disk/save icon at the top of the Kontakt window itself) so that way it will load this way by default. Note that snapshots include which articulations and mic positions are selected and enabled/disabled.

4. Instrument is only available in "DEMO" mode.

Please check this NI Support article, and contact us if the issue does not resolve afterwards.

5. Instrument takes a long time to load.

On Windows 10 devices or devices with 'realtime protection' anti-malware systems, such systems will attempt to scan the literally thousands of samples that Kontakt needs to load before letting Kontakt load them. It is strongly advised that you at least temporarily disable such 'realtime protection' systems while loading libraries, or preferably exempt your samples drive from the scan.

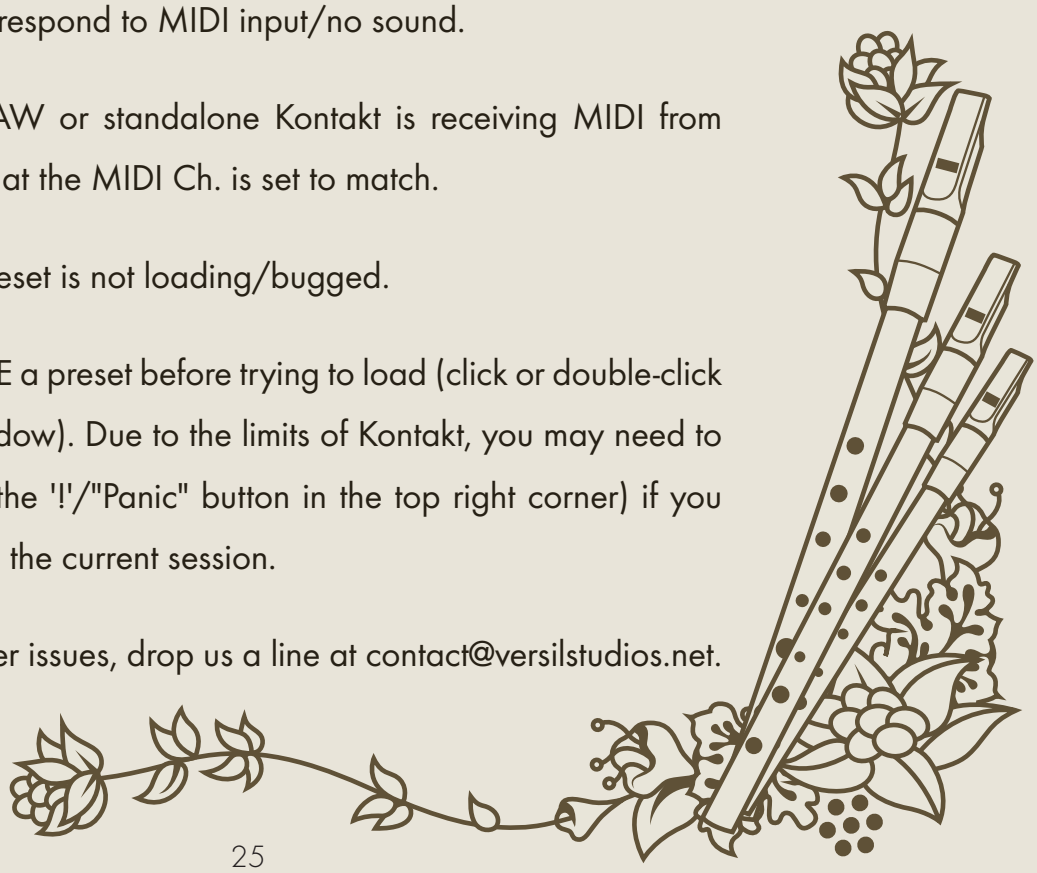
6. Instrument won't respond to MIDI input/no sound.

Make sure your DAW or standalone Kontakt is receiving MIDI from your device, then ensure that the MIDI Ch. is set to match.

7. Mix Preset/FX Preset is not loading/bugged.

Make sure you SAVE a preset before trying to load (click or double-click SAVE text in the mixer window). Due to the limits of Kontakt, you may need to reinitialize Kontakt (press the '!'/"Panic" button in the top right corner) if you have saved a preset within the current session.

If you have any other issues, drop us a line at contact@versilstudios.net.



CREDITS

Samuel A. Gossner
Recording, Production, Documentation

Simon Autenrieth
UI Design, Mapping, Tweaking, Video Playthroughs

Emily O'Brien
Performances

Cassandra Incognito
Sample Editor

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