

WarpIV PRO Woodwinds Users Guide



Overview

First, thank you for purchasing virtual instruments from the WarpIV PRO Woodwind sample library collection. These ultra-high-end jazz/pop-oriented sample libraries (flute, clarinet, soprano sax, alto sax, tenor sax, and baritone sax) work with Kontakt 5 (or a later version), but do not work with the free Kontakt player. You must own a fully licensed version of Kontakt to use these instruments.

All recordings were performed by jazz-great Eric Marienthal, one of the most well-known and respected saxophone players in the world. Eric plays with Gordon Goodwin, Chic Corea, Wayne Bergeron, and many other renowned artists. Eric is also well-known for his chart-topping smooth jazz albums, amazing ability to combine artistic musicianship with mind-blowing technical skill, and a variety of instructional materials for aspiring saxophone players at all skill levels. Eric Marienthal is simply an amazing artist with an impeccable work ethic. We were extremely privileged to have recorded him for these unique libraries. For more information on Eric Marienthal, please visit his website.

<http://www.ericmarienthal.com>

As in all sample libraries developed by WarpIV, our goal was to produce virtual instruments with great sound quality, an overwhelming assortment of highly expressive articulations that you will find yourself using in your music compositions, efficient utilization of memory, low CPU processing overheads, robust operation, and ease of use for both live playing (keyboards, electronic wind instruments, wind controllers, etc.) and detailed fine editing. The libraries in this collection replace the previously released Hollywood Studio Woodwind Collection (HSWC), which was part of the larger Hollywood Studio Brass and Woodwind Collection (HSBWC). These new woodwind libraries feature many new articulations, a variety of very expressive true-legato transitions, realistic and customizable simulated legato, all new scripting with extremely low overheads, and advanced wav file audio processing for vastly improved tuning, accurate legato transitions, and perfectly edited releases. These newly constructed virtual instruments are not backward compatible with the previously released HSWC.

What makes these libraries unique is their myriad of articulations, multiple dynamics, round-robin staccatos, a wide variety of expressive releases, stereo instrument configurations, and both true/simulated legato transitions between notes. Normal (single-keyed) key switching to select articulations and/or releases is not possible with these libraries because there are far too many articulations to fit even on an 88-note keyboard. Instead, key switching is provided via two keys by specifying a primary articulation group and then an optional articulation within its bank of variations. Virtually every possible articulation that could be played by a live performer has been captured in these woodwind libraries. Each note was individually sampled to provide realistic sound quality across each instrument's entire range. These libraries were designed to support both:

1. *Live playing* with pitch bend, mod-wheel (as a vibrato controller), aftertouch (as a vibrato controller), expression controller for live dynamics and for use with electronic wind instruments, optional automated releases, extremely realistic note transitions (both true and simulated legato), and special expression keys that are very easy to use in live settings and during fine editing.
2. *Composing with manual note entry and/or detailed editing* of individual parts using the full set of key switched articulations and releases, simulated and true legato, and a myriad of other expressive features.

While providing an overwhelming number of articulations (more than 6,000 individual samples captured in 150 Kontakt groups for each virtual instrument) and effects, these libraries were designed to be extremely easy to use, fast in terms of computational performance, extremely reliable, and remarkably light on memory consumption. Unused or unneeded articulations can be unloaded to dramatically reduce the memory footprint when necessary. Each library provides carefully recorded samples that were originally captured in mono with high quality studio microphones at 96 KHz and 24 bits, and then after high fidelity audio processing, reduced to 48 KHz. Each instrument requires approximately 3-4 GB of disk space for installation. When fully loaded with all articulations, each library consumes approximately 340 MB of RAM in Kontakt.

The instruments in the WarpIV PRO Woodwind collection each contain the same set of articulations, key switches, and programming, which makes it very easy to copy tracks from one instrument to another and have them play correctly. All instruments begin with their lowest playable note in the C2 – C3 range. As shown in Table 1, a staggering 90 articulations are provided in each library, represented by approximately 150 articulation groups. These virtual instrument libraries are highly capable of accurately reproducing realistic professional quality woodwind tracks (see Table 3 for more detailed information on the actual articulations).

Table 1: Articulation groups (primary key switch) and their variations (secondary key switch).

<u>Articulation Group</u>	<u>Number of Variations</u>
Sustain	7
Legato	6
Staccato	3
Turn	2
Grace	6
Rise	3
Fall	5
Bend	2
Rip	3
Growl	4
Octave	6
Swell	10
Crescendo	10
Trill	7
Up/Down	7
Release	9
Totals	90

License Agreement

Please read the license agreement that is contained in the Documents directory of each virtual instrument before installing this library. WarpIV PRO Woodwind instruments are unprotected but individually coded to identify each licensed user, which allows WarpIV to maintain reasonable prices for its customers. It also makes it easy for you to install this library on multiple machines. We ask you to honor the agreement and not redistribute or resell this library to anyone else. You are not permitted to resell these libraries on eBay or any other marketplace. You are also not permitted to reuse and/or distribute our raw samples in other sample-related commercial products. Other than that, you have unrestricted use of this library to produce your own musical compositions.

Installation from FTP Download

Installing any of the WarpIV PRO Woodwind virtual instruments from an FTP download link is straightforward on both Mac and Windows platforms. After purchasing the library, you will be sent an email containing (a) your user key and (b) the ftp link for each instrument, which you will copy into your browser to download all of the necessary files. Make sure you download all of the files and then follow the instructions in this user's guide to install everything. Once installed, each instrument will be provided in its own directory that can be located anywhere on your hard drive. You implicitly agree to the terms of the license when you install each instrument. License keys are assigned to each instrument to track each user, so please do not share this information with anyone. After installation, your library is ready to be used.

If you have any problems downloading the large zip files, try using an ftp client such as FileZilla. It is free and can be easily installed on your computer. The download link for installing FileZilla is: <https://filezilla-project.org>.

WarpIV PRO Woodwind directories contain the following subdirectories:

- Demos
- Documentation
- Kontakt Articulations
- Kontakt Instruments
- Samples

The *Demos* directory provides various mp3 demos. The *Documentation* directory contains this user's guide and other documents such as the license agreement. Make sure you understand and agree to the basic terms of the license agreement before using the library. The *Kontakt Articulations* directory contains many single-articulation patches that can be useful when you only want to load one articulation. The *Kontakt Instruments* directory contains the actual woodwind instrument with all articulations preloaded and resource directories that provide the graphics files used by Kontakt. You will probably always load the virtual instrument patch that is in the Kontakt Instruments directory for your work. Finally, the *Samples* directory contains all the actual wav file samples used by the instrument.

License Keys and Trial Versions

A unique seven-character license key (characters are numbered left to right from 0 to 6 in the interface) will be sent to you in an email message to fully activate your instrument. When you load the instrument for the first time, it functions in a trial mode capacity that lasts for 30 minutes before all of the sounds are turned off. If you need more than 30 minutes to try out the virtual instrument, simply reload and you will have another 30 minutes. To enable full functionality, you must enter the 7-character key in the License tab of the instrument (see Figure 1). Note, the first letter is Key 0, the second letter is Key 1, etc. Once you have entered the 7-characters correctly (the text in the display will indicate that your license is now valid), you should resave your instrument (using the Kontakt file saving

interface near the top center of the interface) so that the license will always be valid for use in future compositions. The license information is maintained with the saved instrument, which provides a way for us to track down illegal copies. Each user has a unique license key that can be traced.



Figure 1: Setting your license key is accomplished by setting Key 0, Key 1, etc. to the values sent to you by email. Remember to resave your instrument so that you will not have to reenter it again.

Loading Instruments

There are two ways to load a WarpIV PRO Woodwind instrument into Kontakt. The first way is to navigate using the File Browser in Kontakt to select the instrument (see Figure 2). The second way is to simply drag and drop the instrument into Kontakt directly from a finder (Mac) or explorer (Windows) window on your desktop. If Kontakt cannot find samples when loading an instrument or patch, simply direct it to the instrument's Samples directory. Resaving the instrument in Kontakt will prevent this issue from happening again.



Figure 2: Loading an instrument (alto saxophone) into Kontakt from the Browser panel. Notice that the Browser is activated in Kontakt by clicking on the Browse icon (upper left) in Kontakt. Select the Files tab and then navigate to view directory structures and various files that are stored on your machine.

Controls

Once you are familiar with its functionality, the WarpIV PRO Woodwind *Instrument* interface is extremely easy to use. Most of the time, you will just use the default settings. However, each control described in this section of the user's guide is very easy to understand and modify whenever necessary. First, two tabs are provided at the bottom left corner of the instrument interface: (1) Instrument and (2) Help. The Instrument tab (shown on the left in Figure 3) provides the primary interface to the instrument, while the Help tab (shown on the right in Figure 3) provides quick reference help to all features in the library. In addition, a one-line help message is provided at the bottom of the Kontakt instrument window (when you open it up) by hovering your mouse over any control

provided by the interface. Notice that the pulldown combo box in the Help interface (located above the WarpIV logo) allows you to select individual help topics, which are: Key Switch, Release Trigger, Legato, Voice Shifting, Controllers, Expression, Loading, and General Info. Once you become familiar with using these woodwind libraries, you will probably never need to read this user's guide again since everything you need to know is described in the provided Help tab, one-line help messages, and/or articulation group and bank pulldown menus in the main instrument that remind you how the key switches are mapped.



Figure 3: Example of the alto sax Instrument and Help interfaces.

The two most important Instrument controls are the *Art. Group* (i.e., articulation group) and *Bank* combo boxes. Clicking the *Art. Group* box shows all the articulation groups that are provided by the library along with their key switch mappings. Specific articulations within each group can be selected from the *Bank* combo box that is right below it (see Figure 4). The set of bank articulations is context sensitive in that it changes when you choose a different articulation group. The Bank pulldown combo box shows you the secondary key switch for each articulation within the chosen articulation group. To maximize performance, the KeySwitch and Bank combo boxes do not reflect key switches that are dynamically set during live performances or playback. So, you will not see these values change during normal operation of the instrument.

For auditioning the sound of an articulation, you can select the primary articulation group from the *Art. Group* list and then select the actual articulation within its *Bank* using the combo box that is right below it. This articulation selection is temporary because when you play key switches in your musical composition, they override the graphical interface settings. Banks are always represented as a second note in half step increments above the primary key switch. So, for example the Sustain articulation group (shown in Figure 4) has seven articulations in its bank. Pressing the C-2 key (lowest note on a full 88-note keyboards) enables the standard *Sus* articulation. Simultaneously pressing C-2 and C#-2 enables the *Vib* articulation. In the same manner, simultaneously pressing C-2 and D-2 enables *Heavy Vib*, C-2 and D#-2 enables *Heavy Vib Del*, C-2 and E-2 enables *Marcato*, C-2 and F-2 enables *Breathy*, and C-2 and F#-2 enables *Breathy Chop*.



Figure 4: KeySwitch (left) and Bank (right) combo boxes can be used to manually select articulations from the interface, as a reference that is used to look up articulation key switch and bank settings, or for loading/unloading articulations from the instrument.

As you can see, there are so many articulations in each WarpIV PRO Woodwind virtual instrument that without having a two-key articulation group and bank mechanism, we would quickly run out of key switches on the keyboard. With this two-key articulation-group/bank selection system, any articulation or release can be selected within about an octave and a half set of key switches. Notice that the red keys on the Kontakt keyboard indicate the primary articulation groups, while the green keys indicate the extended key switch range, which includes banks. A set of alternating red and yellow *Expression* keys then follow, which will be described later in this user's guide. The Turquoise keys towards the right side of the keyboard represent the range of playable notes in the instrument. Note that due to physical limitations related to each instrument, not all articulations have samples that cover the full range (for example, it is impossible to play a Doit articulation starting on the highest note of the instrument). Nevertheless, each articulation was recorded with the goal of capturing the full range of the instrument.

Because some keyboards do not cover the full 88-key range, WarpIV PRO Woodwind instruments allow you to move the key switches up an octave using the *Art. Group Range* combo box, which is to the right of the *Art. Group* combo box. If you do this, you will notice that the red, green, and yellow keys move up an octave, just below the first playable note in the library. This allows you to tighten up the range of key switch and playable keys. Most users will choose to use key switching that starts at C-2 because it is easy to remember (and find during live playing) that key switching begins with the lowest note on the keyboard.

A *SnapBack* button is provided to make live playing easier. It allows you to enable (i.e., when the button is bright) which articulations can snap back after playing other articulations where *SnapBack* is disabled (i.e., when button is dark). The snap back functionality remembers the last played *SnapBack* articulation to allow it to snap back from a non-*SnapBack* articulation. So, for example suppose you enabled *SnapBack* for Sustain and Short Staccatos. If you played a sustain articulation and then later selected a Vibrato articulation, the instrument's articulation would snap back to Sustain after the Vibrato note

ends. If after that, you selected Short Staccato, all other articulations (except Sustain) would snap back to Short Staccato after their notes are played. The default setting is that SnapBack is disabled for all articulations. It is up to you to define which articulations (if any) you want to enable for SnapBack.

The *Default Release* control allows you to select how sustained notes automatically end when no other notes immediately follow. Options are: None, Key Clicks, Umph, Fall Rough Long, Fall Rough Short, Fall Smooth Long, Fall Smooth Short, Rip1, Rip2, and Doit. To avoid producing doubly released endings, default releases do not apply to short notes such as staccatos, articulations already containing expressive releases, and manually selected releases. You will probably want to select None or perhaps KeyClicks most of the time when you play live. If you select KeyClicks as the default release, simulated legato (described later in this user's guide) automatically plays key clicks during legato transitions between notes to provide a realistic effect. The loudness level for automatic releases can be controlled by the Release knob, described later in this user's guide.

The *Voice Shifting* control combines pitch shifting with sample selection in half step increments above or below the actual note being played. So, for example, voice shifting up a half step plays samples a half step higher than the actual note being played. The logic within the instrument then compensates by retuning the note down half a step. This technique can be used to create realistic stereo unison parts where two instruments play the same keyboard notes, yet with different samples. One caution, however, is that the timbre of the instrument changes slightly when you voice shift, which when overdone can sometimes sound artificial. You probably will never want to voice shift more than up or down by a half step.

The *Vibrato* control allows you to select the modulation rate that is used to simulate vibrato using the Mod wheel or an expression key (described later). It ranges from 3.0 Hz (very slow) to 6.0 Hz (very fast) at 0.25 Hz increments. It can also be synced to the tempo of your composition. A realistic vibrato is achieved within the instrument via a combination of pitch modulation and tremolo. If you want to fine-tune your vibrato further, those controls can be edited manually in Kontakt by opening the player (i.e., click on the wrench icon in the upper left portion of the interface), but you will probably never need to do this, especially since there are many naturally played vibrato articulations in the library to compliment the very realistic sounding controlled modulated vibrato.

The *Humanize* control allows the instrument to slightly randomize the start times of notes when they are played, which can help alleviate artificial-sounding hand-edited parts that are too perfect. It loosens up a track by randomly delaying note start times between 0 and whatever setting is selected. So, for example, if you select 20 ms, each note is randomly delayed anywhere from 0 to 20 milliseconds. These delays are automatically disabled for true legato articulations, where precise start times are required to produce realistic sounding transitions as one note connects to the next.

The *Tone* control provides four equalization settings to set the overall tone of the instrument.

1. *Natural* plays the samples without applying any equalization of filters. You will want to use this or the Filtered settings if you plan to apply your own equalization.
2. *Filtered* provides a high-pass filter to remove potential rumble and a high frequency cutoff to remove potential hiss.
3. *Warm* provides a slight boost in the 300 Hz range to provide a warmer tone to the instrument. It can be very helpful for big band usage where woodwind instruments need to blend together. It can also be useful for ballads that require a smoother tone.
4. *Bright* applies a boost in the 1500 Hz range to provide a brighter tone to the instrument. It can be effective for jazz and pop usage where brass and woodwind instruments need to cut through the mix.

Selecting Filtered, Warm, or Bright tone settings also activates a low-pass frequency filter with a variable frequency cutoff that brightens tones that are played loud and darkens tones that are played soft. The variable-cutoff filter is activated by the velocity for played notes, volume, and expression controllers.

Simulated Legato combines cross-fading with pitch-bending to smoothly play transitions from one note to another in a slurred legato manner. It is activated by overlapping successive notes so that the end of the first note occurs after the start of the next note. The legato transition begins at the start of the second note. You will probably find yourself using simulated legato quite often for note transitions that occur between expressive articulations other than true-legato articulations. For solo instruments, you will always want simulated legato enabled. If you choose to play chords (i.e., multiple tones played simultaneously within the same instrument), then you must disable simulated legato in the SimLegato Speed control (i.e., set it to Off). For maximum functionality, we recommend setting up each instrument as a solo instrument in its own track. So, if you need to have two alto saxes in your composition, you would create two tracks (perhaps with different voice shifting to allow them to play in unison), each potentially panned differently, and with their own effects. Simulated legato has three user-settable controls:

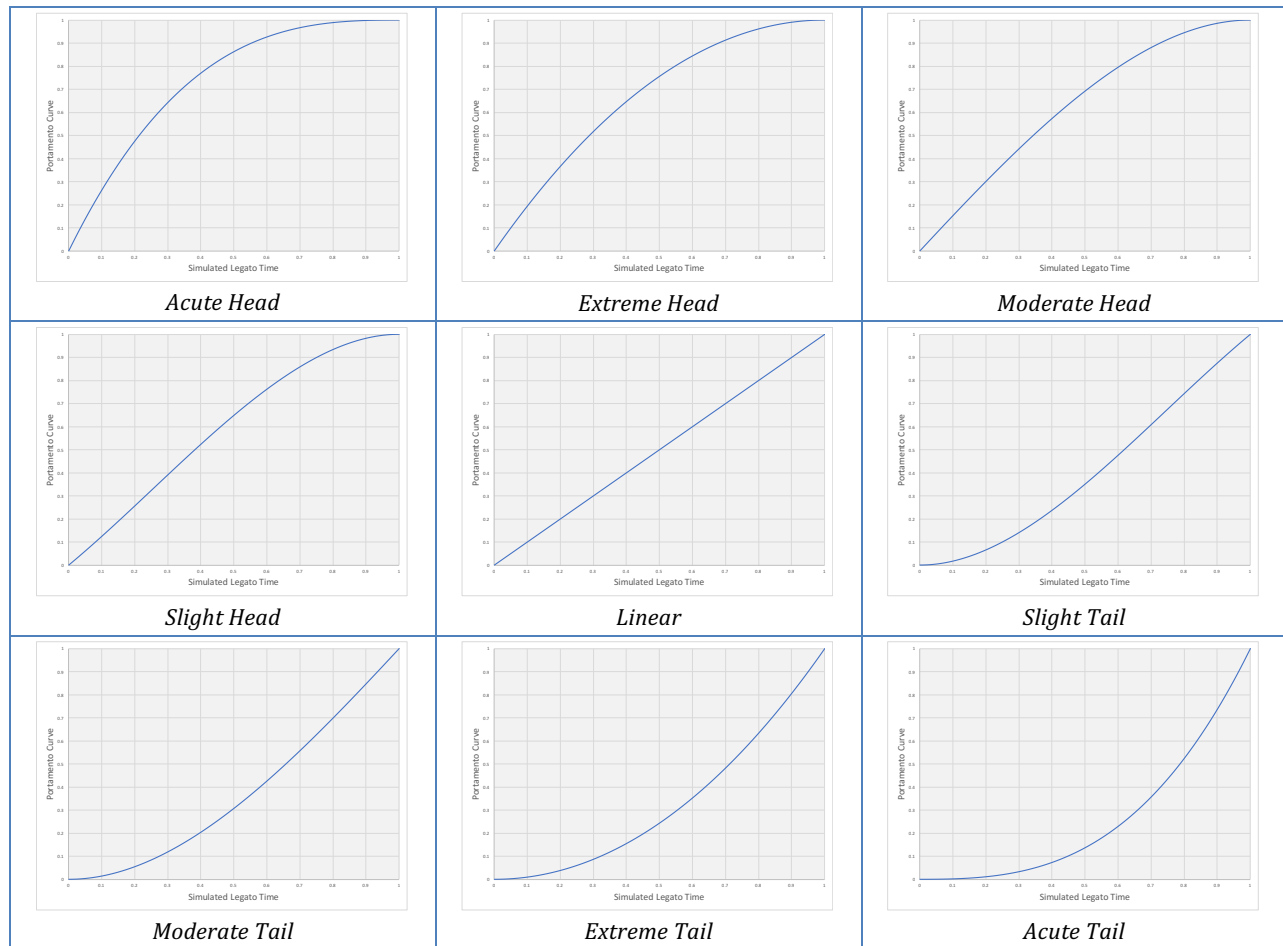
1. SimLegato Speed
2. Portamento Type
3. Max. Port Step.

SimLegato Speed controls the duration of the time window where the cross-fading and portamento pitch bending occur. The SimLegato Speed control provides an Off option to completely disable simulated legato, which as previously mentioned, must be used when playing chords within the same instrument. Each SimLegato Speed setting provides two values (in milliseconds) that define the smallest time interval and the largest time interval for the legato transition to occur. To provide a realistic legato effect, time intervals are automatically selected based on how fast successive notes are played. This means that faster note transitions can have a smaller time interval than slower (and smoother) note transitions. Transition times are computed as the duration of the first note to the start of the second note divided by 4. To put this into context, a quarter note in a composition at 120 beats per second has a duration of 500 milliseconds. Sixteenth notes therefore have a

duration of 125 milliseconds. So, the computed legato window for sixteenth notes would be 31.25 milliseconds. Minimum and maximum time window values can be specified to range from 20 to 100 milliseconds. Window settings such as 30-50 milliseconds typically work very well for most compositions.

The *Portamento Type* used during simulated legato can be used to control how the pitch bending occurs. As shown in Table 2, pitch bending can take on a variety of shapes that very subtly emphasize how the tuning occurs during the legato transition. It can (a) occur more quickly at the start (or head) of the transition, (b) in a linear manner, or (c) be somewhat delayed with the majority of the tuning between notes performed at the tail end of the transition. They all have slightly different characteristics so you will have to select which option sounds best in your composition. Note that as you move further away from linear transitions, the transition itself appears to be quicker because the tuning emphasis is placed on either the head (where the first note dominates the cross fade) or tail (where the second note dominates the cross fade). For example, the Acute Tail setting often works very well for fast legato passages.

Table 2: Portamento pitch curves describe the continual tuning that occurs on both notes during the legato transition. Assuming full portamento tuning, the starting pitch for both notes begins as the pitch of the first note. As the Portamento Curve reaches a value of 1, the pitch for both notes transitions to the pitch of the second note.



The *Max Port. Step* allows you to control the maximum amount of pitch bending that can occur during a transition. If too much pitch bending is used during large note intervals, transitions can sound somewhat synthetic. For example, using a full 12-step portamento effect for an octave transition might sound very unnatural. A 2-step portamento effect might sound much better than the full 12-step portamento effect. You can bypass the setting in the Kontakt interface for individual note transitions that require special consideration using an expression key, which will be discussed later in this user's guide.

Articulations with the word *Chop* in their name (e.g., growls, trills, breathy, etc.) were designed to be used with simulated legato, as their normal attacks have been chopped off to smooth out the legato transition. Chopped articulations are automatically selected (vs. their counterpart articulations that have natural attacks) when simulated legato is used. True legato can be used without overlapping notes. However, true legato combines a specially tuned simulated legato mechanism with actual recorded legato transitions to achieve an extremely realistic slur effect. Feel free in your compositions to try both overlapping notes and not overlapping notes when using true legato.

The *Legato* dial specifies the maximum time gap in microseconds between successive notes required for automatically triggering true legato articulations when selected by their key switches. If a time gap longer than the specified amount occurs between successive notes, a normal sustain articulation is used for the second note instead. This feature allows live playing or even Electronic Wind Instruments (EWIs) to use true legato articulations. Unlike some libraries, there is no requirement to overlap notes when triggering true legato. This makes the WarpIV PRO Woodwind libraries much easier to use, especially when playing live and overlapping notes may not be easy to do. However, if you do overlap notes to activate simulated legato, true legato can actually work even better to smooth the transition. The minimum time gap is 1 millisecond, which translates to a very-quick 0.001 seconds, but it can be increased all the way to 1000 milliseconds (i.e., 1 second) to accommodate less precise live playing. To minimize delay artifacts that are required in determining if notes are connected, you should keep the Legato dial at its default (5 ms) setting if you are hand-editing tracks.

The *Release* dial allows you to specify the relative velocity of (a) default or (b) key-switched releases. A value of 100% means that default release samples are played at the same velocity as the currently played note. Automatic note releases created by key switches use the velocity of the release trigger key switch itself multiplied by the dial value to set its velocity. Values less than 100% often provide a more subtle and smoother sounding release. You will want to experiment with what works best for your tracks. Automatic releases reset the articulation and bank settings to its previous value after the release is played, which means that you do not need to reselect the previous articulation after using an automatic release trigger. This makes the use of automatic release triggers much simpler to use during live playing. The Release dial does not affect manually selected release velocities to provide full control over how the release is played.

Loading and Unloading Articulations

To reduce memory consumption, WarpIV PRO Woodwind instruments allow you to load and/or unload specific articulations (i.e., a specific bank articulation within an articulation group), groups of articulations (i.e., all bank articulations within an articulation group), or all articulations for the instrument. The default instrument comes with all articulations loaded. You can tell which articulations are loaded by selecting articulation group and bank combinations. The Loaded button is bright when the specific articulation is loaded and dark when the articulation is not loaded.

To unload all articulations, select the value *Unload All* from the *Art. Load Type* menu and click the *Loaded* button. It should become dark and remain dark no matter what articulation group and bank is selected. You should also see the memory used by Kontakt go to zero. To load back all articulations, select the value *Load All* from the *Art. Load Type* menu and click the *Loaded* button. It should now become white for all articulation and bank selections chosen. The memory used by Kontakt will also increase to the instrument's full value. To load or unload a specific articulation, select *Bank* from the *Art. Load Type* menu and click the *Loaded* button. It toggles loading and unloading the specific articulation denoted by the articulation group and bank. To load or unload all articulations within a selected articulation group, select *Art. Group* from the *Art. Load Type* menu and click *Loaded*. It toggles loading and unloading all bank articulations within the selected group.

The articulations consuming the largest amount of memory are the Chrom, Chrom Pretty, and Smooth true legatos. They consume nearly 40% of the instrument's memory. Each note in these expressive articulations have up to 24 samples, which can quickly eat up memory. If you are not using these very expressive articulations, you might consider unloading them to free up memory for other instruments. On the other hand, the Fast and Fast Vib true legatos do not consume very much memory at all because they are based on half-step legato transitions. You will probably use the Fast and Fast Vib legatos frequently in your tracks, as they generally sound more realistic than simulated legato. So, you will almost never want to unload those articulations.

To save time, if you find yourself rarely using certain articulations, you might consider unloading those articulations and then save your own custom instruments. But if you have enough memory on your computer, it is probably best to keep your instruments fully loaded so that all articulations are available at any time during the music-making creative process.

Controllers: Pitch Bend, Mod Wheel, Aftertouch, Expression, and Volume

The pitch bend controller can be used to bend pitches up or down by as much as a whole tone. The mod wheel enables a slightly delayed vibrato that has been configured to combine a moderate tremolo (loudness) with pitch-based modulation at a realistic (but selectable) rate to produce a convincing sound. For advanced Kontakt users, pitch bend and mod wheel parameters can be directly changed in the Kontakt player. To keep things as

simple as possible, the mod wheel only controls the amount of vibrato used. Aftertouch provides an alternative way to control the amount of vibrato used while sustaining notes. The expression and volume controllers can be used to dynamically control the volume (i.e., loudness) and brightness of sounds, which could be very useful when an instrument is played with foot pedals, breath controllers, or Electronic Wind Instruments (EWIs). A low-pass filter is applied to expression and volume controllers to brighten loud tones and darken soft tones when the Tone setting is either Filtered, Warm, or Bright.

Electronic Wind Instruments (EWIs) and Wind Controllers (WC)

Electronic wind instruments and wind controllers are specially supported by selecting the C#-2 Legato Art. Group and then the EWI/WC (F#) Bank from the Kontakt instrument interface. This locks in the EWI/WC articulation so that key switches accidentally played by an EWI or keyboard are disabled. This mode also locks the velocity of played notes to a fixed value of 100. Sustains are played when there is a measurable time gap (see the Legato dial) between notes. Otherwise, the fast-legato articulation is used to smoothly connect slurred passages in a realistic manner. The loudness of each tone is determined by either the volume or expression controllers. A low-pass filter is automatically applied to brighten up loud tones and/or darken soft tones during playing if the selected Tone setting on the Kontakt interface is either Filtered, Warm, or Bright.

Special Expression Keys

WarpIV PRO Woodwind instruments have a group of special expression keys (located between standard key switches and playable notes) that can often come in handy during live playing and/or fine editing. Their purpose is to control a variety of expressive functions without requiring the use of controllers. In the default key switch setting (which starts at C-2), these special keys start at D0. Like all key switches, they shift up an octave when the *Art. Group Range* C-1 to E0 is selected.

D0 and D#0 disable and enable global voice shifting. This can be extremely useful when multiple tracks play both different and unison parts. The idea is that one instrument sets its *Voice Shifting* to Normal while the other sets it to something else (e.g., Half Step Down or Up). By selecting D0 when the two tracks play different notes, which disables Voice Shifting, each track would use the natural (and best sounding) sampled sound. But when the two tracks play the same note, D#0 would be selected at the start of the passage so that each track plays a different sample. These two keys are latched in the sense that they retain their values until changed. So, a four-bar unison phrase only needs to play D#0 at the start of the phrase. Afterwards, D0 would be played to disable voice shifting and switch back to normal best-sounding voices for playing phrases with different notes in each instrument.

E0 and F0 provide manual (up and down) voice shifting to occur on a note-by-note basis, which can be very helpful in providing multiple articulation choices while editing a phrase. Sometimes, the naturally played articulation doesn't quite work right in a phrase, but a neighboring sample (say, a half step up or down) does. E0 and F0 allow you to use different recorded versions of the same articulation (played on neighboring notes) in such

cases. Each time an E0 is played, it lowers the voice of the next note by half a step. Similarly, each time an F0 is played, it raises the voice of the next note by half a step. The manual voice shifting is reset after each note is played, so you do not need to worry about it affecting other notes in a passage.

F#0 and G0 decrease or increase the volume (i.e., loudness) on a per-note basis. So, while a note is being played, you can decrease or increase its loudness by playing F#0 or G0 as many times as you want. The amount of loudness changed is proportional to the velocity of the F#0 or G0 played. You can directly see the effect of these two keys on the volume slider that is in the upper right part of the Kontakt interface. These keys allow you to create dynamically expressive parts without having to use controllers. The instrument volume is reset to its default value when the next note starts, so you do not have to worry about these expression keys affecting other notes in a passage.

G#0 and A0 decrease or increase the amount of vibrato (i.e., modulation based on pitch and loudness) on a per-note basis. So, as a note is being played, you can decrease or increase its simulated vibrato. The amount of modulation is proportional to the velocity of the G#0 or A0 played. You can have multiple G#0 or A0 notes occurring within a sustained note to dynamically affect the amount of vibrato used as the note is played. The modulation is reset when the next note is played, so you do not have to worry about these expression keys affecting other notes in a passage.

A#0 temporarily sets the maximum number of steps used for portamento tuning during simulated legato transitions. The maximum number of steps is computed as the A#0 velocity (which ranges from 1 to 127) divided by 10. For example, a velocity ranging from 1-9 produces a maximum number of steps equal to 0 (i.e., it is turned off); 10-19 produces a maximum number of steps equal to 1 (half step), 20-29 produces a value of 2 (whole step), etc. This can be helpful for handling note intervals in legato passages that are large and would otherwise sound synthetic. Regardless of how many portamento tuning half-steps are used during the transition, cross fading still occurs to smooth the legato transition. This expression key automatically resets to the Max Port. Step setting after each simulated legato transition, so you do not have to worry about this affecting other legato notes in a passage.

Finally, B0 is a stop key that turns all notes off. It can be helpful when using automatic key-switched release triggers to stop playing a release that takes too long to complete. It can also be used to just stop anything that is currently playing. Release triggers, such as a Fall Rough Long, normally play the entire release sample. You might run into situations where you need to stop a long fall just before the next note is played. Otherwise, the phrase would not sound natural (i.e., a fall continuing to be played while the next note begins). The A#0 expression key stops all current notes that are being played, but does not affect future notes.

Constructing Stereo Instruments

As shown in Figure 5, stereo instruments are easily constructed by (a) loading two identical instruments into Kontakt and then (b) applying the following settings.



Figure 5: Creating a stereo instrument.

1. Pan the top instrument hard left and then pan the bottom instrument hard right. The pan control is located right under the Tune knob near the top of the instrument.
2. Modify the bottom instrument Voice Shifting to anything other than Natural. Probably the best choices are either Half Step Up or Half Step Down.
3. Select a non-zero value for Humanize on one of the instruments so that the notes played by each instrument are not perfectly synchronized.
4. Make sure that the second instrument Midi Ch: setting is the same as the first instrument (i.e., set it to [A] 1) so that both instruments use the same MIDI input channel. That way, both instruments will play together on the same track.

You should now hear two different samples activated for every note played, thereby creating a convincing stereo instrument effect.

Example of a Track

Figure 6 illustrates how the WarpIV PRO Woodwind instruments might be used in a musical composition.

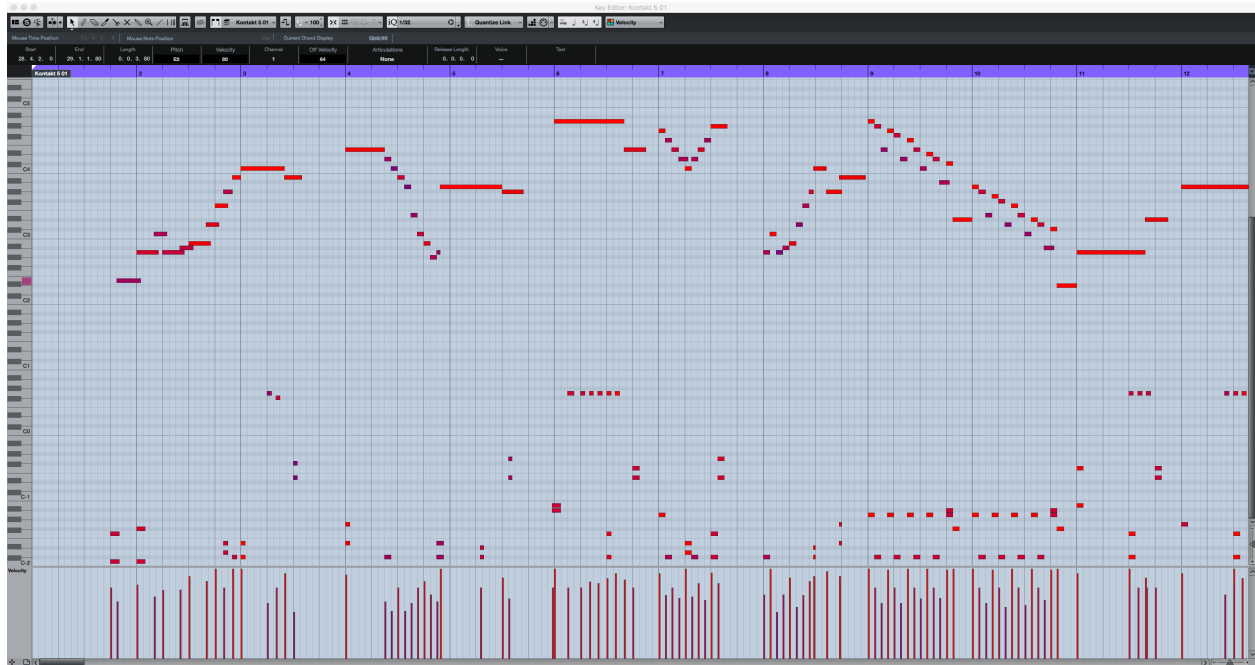


Figure 6: An example of an alto sax track in Cubase.

The first important thing to notice is the key switch and bank settings (i.e., when one or two non-musical notes on the lower part of the keyboard are played simultaneously), which are used to specify the articulation for the musical notes played in the upper part of the keyboard. Second, notice the release triggers (articulation group activated by key switch E-1 and its bank of options) that are used to apply an expressive ending (such as a Fall or Umph) to a note. The third thing to notice is how some of the notes overlap, which

activates the simulated legato capabilities. Key switches where the low note is C#-2 activate true legato articulations. The velocities are shown in the lower controller lane. Also, notice the expression keys being used in a few places to control volume during the phrase.

Articulations

The extensive list of articulations provided by the WarpIV PRO Woodwind libraries are summarized in Table 3. Remember, the articulations are selected by simultaneously playing the articulation group and bank key switches together. The first articulation in a group (i.e., bank 0) requires only playing the single articulation group key switch.

Table 3: Articulation List.

E-1	Auto Release	Bank 8 (C-1) – Doit Bank 7 (B-1) – Rip 2 Bank 6 (A#-1) – Rip 1 Bank 5 (A-1) – Fall Smooth Short Bank 4 (G#-1) – Fall Smooth Long Bank 3 (G-1) – Fall Rough Short Bank 2 (F#-1) – Fall Rough Long Bank 1 (F-1) – Umph Bank 0 (N/A) – Key clicks
D#-1	Manual Release	Bank 8 (B-1) – Doit Bank 7 (A#-1) – Rip 2 Bank 6 (A-1) – Rip 1 Bank 5 (G#-1) – Fall Smooth Short Bank 4 (G-1) – Fall Smooth Long Bank 3 (F#-1) – Fall Rough Short Bank 2 (F-1) – Fall Rough Long Bank 1 (E-1) – Umph Bank 0 (N/A) – Key clicks
D-1	Up Down	Bank 6 (G#-1) – Scale down Bank 5 (G-1) – Up down transition Bank 4 (F#-1) – Up down chromatic Bank 3 (F-1) – Up down smooth long Bank 2 (E-1) – Up down smooth short Bank 1 (D#-1) – Up down rough long Bank 0 (N/A) – Up down rough short
C#-1	Trill	Bank 6 (G-1) – Minor third with dynamic crescendo Bank 5 (F#-1) – Whole step with dynamic crescendo Bank 4 (F-1) – Half step with dynamic crescendo Bank 3 (E-1) – Whole step with chopped attack (for use with simulated legato) Bank 2 (D#-1) – Whole step long Bank 1 (D-1) – Half step with chopped attack (for use with simulated legato) Bank 0 (N/A) – Half step long
C-1	Crescendo	Bank 9 (A-1) – Crescendo very long with vibrato Bank 8 (G#-1) – Crescendo long with vibrato Bank 7 (G-1) – Crescendo Medium with vibrato Bank 6 (F#-1) – Crescendo short with vibrato Bank 5 (F-1) – Crescendo very short with vibrato Bank 4 (E-1) – Crescendo very long Bank 3 (D#-1) – Crescendo long Bank 2 (D-1) – Crescendo Medium Bank 1 (C#-1) – Crescendo short Bank 0 (N/A) – Crescendo very short
B-2	Swell	Bank 9 (G#-1) – Swell very long with vibrato

		Bank 8 (G-1) – Swell long with vibrato Bank 7 (F#-1) – Swell Medium with vibrato Bank 6 (F-1) – Swell short with vibrato Bank 5 (E-1) – Swell very short with vibrato Bank 4 (D#-1) – Swell very long Bank 3 (D-1) – Swell long Bank 2 (C#-1) – Swell Medium Bank 1 (C-1) – Swell short Bank 0 (N/A) – Swell very short
A#-2	Octave	Bank 5 (D#-1) – Smooth slide down Bank 4 (D-1) – Chromatic down pretty with vibrato Bank 3 (C#-1) – Chromatic down Bank 2 (C-1) – Smooth slide up Bank 1 (B-2) – Chromatic up pretty with vibrato Bank 0 (N/A) – Chromatic up
A-2	Growl	Bank 3 (D-1) – BendUpMultiphonics (flute only) Bank 3 (C#-1) – MultiPhonicsChop (flute only) Bank 3 (C-1) – MultiPhonics Bank 2 (B-2) – Growl with bend up on attack Bank 1 (A#-2) – Growl with chopped attack (for use with simulated legato) Bank 0 (N/A) – Normal growl
G#-2	Rip	Bank 2 (A#-2) – Doit (up) Bank 1 (A-2) – Rip 2 (up down) Bank 0 (N/A) – Rip 1 (up down)
G-2	Bend	Bank 1 (G#-2) – Bend down with two dynamic levels Bank 0 (N/A) – Bend down and up with two dynamic levels
F#-2	Fall	Bank 4 (A#-2) – Smooth short Bank 3 (A-2) – Smooth Long Bank 2 (G#-2) – Rough short Bank 1 (G-2) – Rough long Bank 0 (N/A) – Umph
F-2	Rise	Bank 2 (G-2) – Long Bank 1 (F#-2) – Medium Bank 0 (N/A) – Short
E-2	Grace	Bank 5 (A-2) – Whole step mordent Bank 4 (G#-2) – Half step mordent Bank 3 (G-2) – Slur up Bank 2 (F#-2) – Whole step with short sustain and two dynamic levels Bank 1 (F-2) – Half step with short sustain and two dynamic levels Bank 0 (N/A) – Half step with long sustain
D#-2	Turn	Bank 1 (E-2) – Short with big vibrato Bank 0 (N/A) – Short with small vibrato
D-2	Staccato	Bank 2 (E-2) – Legato (soft attack) Bank 1 (D#-2) – Long with two dynamic levels Bank 0 (N/A) – Short with 4-way round-robin and three dynamic levels
C#-2	Legato	Bank 5 (F#-2) – EWI/WC (electronic wind instruments and wind controllers) Bank 4 (F-2) – Smooth Bank 3 (E-2) – Chromatic pretty (with vibrato) Bank 2 (D#-2) – Chromatic Bank 1 (D-2) – Fast legato with vibrato Bank 0 (N/A) – Fast legato
C-2	Sustains	Bank 6 (F#-2) – Breathy with chopped attack (for use with simulated legato) Bank 5 (F-2) – Breathy Bank 4 (E-2) – Marcato with two dynamics Bank 3 (D#-2) – Heavy vibrato delayed Bank 2 (D-2) – Heavy vibrato Bank 1 (C#-2) – vibrato with three dynamic levels Bank 0 (N/A) – Sustains with four dynamic levels

WarpIV Contact Information

Please feel free to contact Jeff Steinman at WarpIV Music Production if you have any questions or issues working with the WarpIV PRO Woodwind libraries. We will do our best to provide personal, prompt, and helpful service.

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