



VHorns Extended Brass User Guide

Welcome to Acousticsamples

Thank you for using the VHorns Extended Brass library. We hope you enjoy playing the instrument and wish it supports your musical ideas or even better: inspire new ones.

In this User Guide we will provide you with an overview of how to use the VHorns Extended Brass library.

If you have any questions, feel free to email us at:

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or use the contact form on our website

www.acousticsamples.net

The VHorns Extended Brass library, produced by
Acousticsamples



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Requirements and Installation



Interface and Parameters

SAMPLING MEETS MODELING, AGAIN & AGAIN

Our final VHorns library is here! Following on from the success of VHorns Brass Section and VHorns Saxophones, VHorns Extended Brass fills the gaps from missing standard instruments, offers a true muted trumpet to lead a section and also brings a new option to the table, in our choice of brass band and marching band instruments. Thanks to our work on a revolutionary hybrid technology (which we call H.A.T.), we are able to blend the authentic recorded sound of world-class instrumentalists with state-of-the-art modeling techniques,

giving users unparalleled playability and impeccable sounds which are all but indistinguishable from the real thing. We're confident in saying that these VHorns are not only the most realistic and playable instruments of their kind, but are among the most versatile and realistic virtual instruments ever made. Have a listen below to a selection of VHorns Extended Brass instruments pitted up against their real-life counterparts - can you hear a big difference between our instruments and the live player?

This is VSeries - the next generation of sampling.

Check out the other VHorns Brass section (trumpets, trombones, flugelhorns) instruments [here](#) as well as the VHorns Saxophones [here](#).

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$("#audio").on("play", function() { var id = $(this).attr('id'); $("#audio").not(this).each(function(index, audio) {  
audio.pause(); }); });
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6-Instrument Bundle

The VHorns Brass Section contains 6 instruments: Cornet, Muted Trumpet, Euphonium, Valve Trombone, Bass Trombone and Sousaphone.

Each individual instrument has a distinct sound and was recorded by a different musician.

Each instrument can be purchased separately:

Cornet - Euphonium - Valve Trombone -
Bass Trombone - Muted Trumpet



The H.A.T.

Thanks to our proprietary H.A.T. (Harmonic Alignment Technology), VHorns is not just another heavily multi-sampled instrument - you can play articulations exactly like a live player would, with just a mod wheel to control air flow (or even just by drawing in automation).

There are no elaborate keyswitches involved to play staccatos, marcatos, legato, etc. - you simply load up the instrument in your DAW and play. Vibrato can even be automated.

Airflow is controlled by the central dial on the main page of the interface.

When this is set to 0, there will be no tone produced, just as if you didn't blow any air into a trumpet.

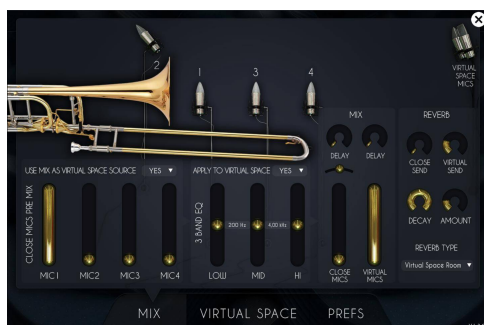
You can of course control this value with different CCs. We set it to the modulation wheel by default because it's available on almost every digital keyboard, but you can use anything you like, for example CC2, which is the default for most breath controllers - all you need to do is click on the small dot next to the CC number and move the controller you want to assign.

Vibrato can also be controlled with the airflow - to enable/disable this, go into the PREFS panel and change the "allow vibrato with air flow" value. Once this is enabled, moving the air flow controller up and down will begin to add pitch variation to the sound.

In some rare cases, and sometimes when using MIDI files imported from softwares like Sibelius, you only get velocities, so at the bottom of the CC list we added the possibility to control the air flow with the incoming velocity - just select "**VEL**".

You also have the option to use the pitch bend as the input CC, you can do so by choosing "**P. BEND**" from the list.

Multi Microphone
Recording



Recording a brass instrument can be done in various ways and at different positions. We used 4 different microphone positions to offer a variety of colors.

This can produce even better results when using the "virtual space", detailed below.

You can apply reverb and EQ to mix it completely to your taste.

MIX Tab

We recorded each of our instruments with **4 different microphones** at 4 different positions to capture their unique sounds - you can mix these however you like. At the top you can also change the routing, as explained below; we created the Virtual Space, which places the instrument in a virtual environment, which is technically a virtual room mic pair that you can move around. Here, you can choose if you want the source for the virtual space to be just the close mic or a mix of the 3.

We also added a **3 band EQ**, which you can also decide to apply to the source sound for the virtual space. Next to the high and low bands is the option to control the frequency at which the curve begins, allowing fine control over high and low frequencies.

You can mix the result of the 4 microphones and the virtual mics, and we added a **pan** and **delay** for each to deal with phase problems that always occur when multiple microphones are involved.

You can also add impulse response **reverb** to the whole mix, control its decay and how much is sent from the close microphones and from the virtual space. The amount on the mix panel is the same as on the front interface.



Virtual Space

The Virtual Space perfectly replicates a real recording of an ensemble, using convolution reverb. When you record a big band, you usually place a pair of microphones in front of the musicians and they naturally take position in the stereo field depending on where they are in the room.

The Virtual Space does exactly the same thing; you can place the musician wherever you like.

When using this with multiple tracks, you immediately have the feeling of being in front of a real Horns section.

Virtual Space tab

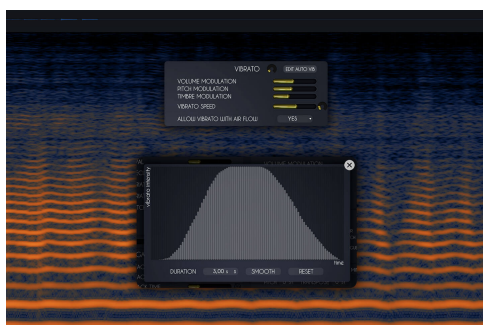
Simply using panning to place elements in the stereo field does not sound as realistic as possible, as much information is left out, so we recreated a whole room placement simulation based on impulse responses, where you can set the position of the instrument in the room itself.

Since there are so many ways to set up an ensemble recording, in terms of both musician placement and microphone pair selection, we decided to include as many customizable possibilities as we could.

With VHorns Virtual Space, you have access to 21 positions divided into 3 rows and you can select which **microphone configuration** you want to use (**ORTF**, **AB**, **XY**, **Binaural ('Head')** and **MS**), as well as control the stereo width for a narrow or wide section.

Authentic Vibrato

We carefully measured the different parameters that change when a brass player uses vibrato and we combined everything into a highly realistic and



customizable vibrato for VHorns.

There are multiple ways to control the vibrato: automatic, automatic depending on time, and manually.

Vibrato is controlled with the left dial on the front panel of the interface.

Immediately below the dial is a small menu with 3 options:

1- **Auto**: this enables automatic vibrato and the dial will simply control how much vibrato is added to the sound.

2- **Auto time**: This is similar to Auto mode, but a time envelope will control the amount of vibrato. You can edit this envelope in the preferences by clicking on "edit auto vib". This opens a small panel that displays a table to let you control the duration and intensity of the vibrato.

3- **Manual**: This is for advanced use and control over vibrato. In reality, a trumpet player changes the shape or position of their mouth on the mouthpiece to change the pitch up and down. In this mode, the neutral position (with no pitch change) is the middle value of the dial and a value of 0.5 (and CC at value 64). Values below 0.5 will result in a lower pitch and values above 0.5 will result in a higher pitch. This is very useful for creating vibrato that doesn't have a fixed speed.

As mentioned earlier, there is a fourth way to create vibrato, using only the air flow control. The "**allow vibrato with air flow**" setting has to be set to 'yes' in the preferences and you then need to perform a fast up and down variation in whichever controller you use for the air flow.

In the preferences, you have options to customize the vibrato even further to control vibrato (these options affect all 4 modes above).

1- There is a small dial that controls the overall **amount of vibrato**. This can be set to some very high values that will sound very unnatural to some, but that is necessary for using some dedicated wind controllers that have a narrow CC range.

2- You can change the amount of **volume modulation**: vibrato isn't just a change in pitch, it's also timbre and volume changes; you can control how much of this you want here.

3- You can change the amount of **timbre modulation** to add even more realism

4- You can of course change the amount of **pitch modulation** as well.

5- And you can change the vibrato **speed** - this now goes up to 115%.

In the bottom right corner of the vibrato section is a dial to adjust the humanization/randomization of the undulations. The higher this dial, the more uneven the vibrato will be.

Some controllers like the EWI use the pitch bend as the vibrato source, so we added the **P. Bend** option to the bottom of the CC list in case you want to use it for the vibrato and not bends.



Legato Transitions

Fast legato transitions are often the main give away that an instrument is virtual rather than real, so we spent a considerable amount of time and effort carefully extracting every tiny detail of several recorded live transitions to make ours indistinguishable from a real

performance.

These transitions range from lightning fast note changes to extremely slow bends, with and without extra attack. We covered everything - and you have complete control.

The legatos behaviour can be adjusted and even randomized for more life-like performances.

When you play a legato on the keyboard (when you overlap two notes), our engine will automatically stop the first note and play a legato instead of a normal sustain.

This is exactly what happens on a real brass instrument when the air flow is continuous while the player changes the note. There are a number of ways to play these legatos and we gave you access to everything so that they can be controlled in real time.

By default, the legatos are set to **Real**, which is transitions built from real recordings of transitions, but if you prefer a more artificial sound, we also created fully-**Modeled** transitions. A third option, **Smart** transitions, prevents any joins between notes that would be near-impossible to play smoothly in real life.

1- **Velocity to attack / sustains** : This controls the way new sustained notes are played, for example if the air flow is at a CC value of 75 and you play a note at velocity 20, our engine will ramp the air flow from 20 to 75 and thus create a quick volume raise. And vice versa - if the velocity is above the air flow value, it will create a quick attack. The duration of this ramp is controlled by the **velocity to attack time** value.

2- **Velocity to attack / legatos** : This controls how legato notes are played, and the procedure is identical to that for sustains, but for legatos it covers the joins between

different notes rather than sustained notes on their own. This feature is very useful on woodwind instruments as many players play legato notes with a slight crescendo between notes, so to replicate this, all you need to do is play every new legato note at a low velocity.

3- **Velocity to attack time** : The speed at which a note changes from the velocity value to the airflow value

4- **Velocity to attack sharpness** : The sharpness of the attacks, or, in more detail, control over the shape of the curve joining the velocity value to the value of the airflow.

Glides are often associated with brass instruments, and so we wanted to include them as an option, triggered by a number of different methods listed below.

1- **Mode: velocity**. In this mode, any velocity below the threshold value will trigger a glide and its duration will depend on how low the velocity is. For example if the velocity is at 20, it will be a fast glide (comparable to a legato time), but a velocity of 1 will trigger a slow glide at the duration of the max length value you set.

2- **Mode: CC**. In this mode, you can control the glide duration with a MIDI CC, again it will go from the Max length value when the CC is at value 1 to standard short legatos when the CC is set to value 120 and above.

3- **Mode: Manual**. In this mode, the glide value is fixed and the **glide speed** can go from 50ms to 500ms. We added a **randomize** time value to give it a natural feel, but bear in mind that when increasing the randomize value, the engine can technically receive a value below 50ms in which case it will play a slow legato.

4- In addition to these, you can glide using the pitch bend, and the **max pitch bend value** will determine the bend range. The quality of that bend will depend on the "**use advanced pitch bend value**". Keep in mind that that using this option will take up more CPU, even when you're not actually playing pitch bends.

When a brass player plays any note, if they are very precise, they will directly land almost exactly on the correct pitch and create a very precise attack, but it is often also "missed" on purpose and a quick flutter attack then happens. You can use the **Transition flutter value** to control how much of this you want. Right click on this slider (just like for any other slider) to choose to control it with a MIDI CC or a host automation.

Another very important aspect of legatos is what happens during the transition itself. On a trombone, there are no valves, so the transition is just air change. On valve instruments, however, there is something called **half-valve** which happens while the valve is being pressed. This effect can be noticed on two occasions: while playing gliding legatos or when using the pitch bend. You can control how much of that effect you want for each situation.



Mutes

No Big Band horn section or Brass Band would be complete without mutes - they are an integral part of the sound. VHorns offers a variety of mutes on all relevant instruments: Harmon, Plunger, Straight, Cup and Bucket.

Simply select the mute you want in the top right corner of the instrument's interface and start playing.

Rather than vastly increasing the size of the libraries by recording all samples with all 5 mutes, we instead simulated each mute with hyper-precision, which also allows for changes in real time.

However, due to subtleties which are impossible to replicate, we knew that we wanted to one day record a true muted trumpet - and so we made **VHorns Muted Trumpet**, a trumpet recorded with a Harmon mute (so the mutes can't be applied to it).

Like every other control, each mute can be assigned its own control, allowing for changes between mutes without having to go into the interface every time.

The plunger mute offers continuous control over its application - this is set to CC93 by default but this can be changed in the usual way.

Continuous control over the plunger mute offers users the option to recreate the 'wah-wah' effect, and we suggest trying it in combination with the growl/flutter dial for even more color.



Pitch

VHorns offers a wealth of control over pitch, controls that can be essential to achieving a colorful sound. It's very rare for jazz musicians to play everything as in-tune and precise as you would expect to hear from their classical counterparts, so we created a number of features to help adjust the accuracy of the pitch in order to achieve an even more lifelike performance.

Pitch bend is also a key part of the performance of some instruments, and our Advanced Pitch Bend engine helps with the realism of these bends, from subtleties in trumpet solos, to small trombone slides, all the way to the opening Clarinet wail from Rhapsody in Blue.

At the top, you will see a tuning button which opens a panel allowing you to tune each note to your liking. This is very useful for performing music not written for standard tuning systems, or for music that doesn't use traditional Western classical scales.

1- The **max glide interval** controls the maximum interval that you are able to create a continuous glide between. On a trombone for example, the maximum possible glide is from position 7 to position 1, so 6 semitones. We allow for more than 6, but to play something natural, it's better to lower that value as in reality most players will glide a maximum of 3 or 4 semitones and "cheat" the rest. Above that value, our engine will "cheat" as well and skip some notes while still ending up on the target note.

2- The **note pitch imprecision** is exactly what it says - it will make the notes sound very slightly out of tune, completely at random, between 0 and the value you set. A value of 100% will randomize +/-1 semitone.

3- The **attack pitch variation** is a bit different, it is technically a fast bend ramp that is almost always present in live performances. It is more or less super-human to play every single note perfectly in tune from the first attack, so in order to create a more realistic sound, this is set slightly above 0 by default. Increasing the value will control how much bend you want (in other words; how far away the sound will be from the note you're playing) and the attack pitch variation time will decide how quick that ramp is.

The direction of the variation can be controlled by selecting the option from the menu next to the dial (**Natural, Up, Down**), and the small button immediately next to this enables a velocity-controlled attack, meaning that the higher the velocity, the more the effect will be heard.

Use Advanced Pitch Bend activates our APB engine, allowing for more realism in the pitch bends. This can be disabled to save on CPU.

Max Pitch Bend controls the possible range of the pitch bends.

And if you need pitch bends for the full range of the instrument, we included the option

to **Use MPE** as well, but this comes at the expense of realism.



General / MIDI

Our general controls allow for different playing techniques such as flutter, control over the harmonic series and volume of every note, as well as extraneous noises, natural variation and round robins.

MIDI controls offer the possibility to finetune live ensemble playing, as well as the usual transposition, pitch control, MIDI controller selection and a grid to tweak the shape of the airflow curve.

Please note all of the features in the preferences tab that have a small die next to them, which turns on randomization for an even more unpredictable and life-like performance. Randomize means that the value for that setting will be randomized for each new note, between the minimum value and the value you set.

1- The **growl/flutter** value controls how much growl/flutter effect is added to the sound.

2- The **natural variation air** and **pitch** values control that very quick and almost undetectable variation that even the best brass players can't avoid when they play. Since the air flow should never be always perfectly constant, the timbre and pitch vary all the time and you can control how much of each you want. By default, it is set to 100% which is representative of a very good player with the least variation possible and you can go above that to make the playing more natural.

3- The **valve noises** lets you control how much noise you hear from the individual valves being pressed on the instrument.

4- The **tongue noises** lets you control the volume of the small noise produced by the tongue as it blocks the air flow when a note is stopped.

5- The **round robin** menu lets you control if you want no round robin, a 3x round robin alternating on adjacent notes all the time or a smart round robin which only alternates in fast passages.

MIDI section

1- **Pitch**: You can pitch the whole instrument up or down up to ± 12 semitones. This affects the tone of the instruments and can be useful to cover other instruments that have a different range. Pitching the flugelhorn down can make it sound similar to a trombone, for example.

2- **TRANPOSE**: This is just a MIDI transposing tool, so for example, a value of 2 semitones will play a D instead of a C. If you use the pitch and transpose at the same time, but opposite values, you will hear the correct note and will only change the timbre and range.

3- The Ensemble will be detailed in the ensemble section below.

4- The type of **controller** you use can induce a few internal changes. The EWI for example requires some tweaks to play legatos as it does not overlap MIDI notes by default. You can select the type of controller you use from the list here.

5- Next to the controller selection, there is a small dial that controls the reactivity of the controller. On some keyboards, for example, the mod wheel can be non-continuous and have small gaps that lead to unnatural-sounding variations. To fix this, just increase the value on the dial. If you use a breath or wind controller though, make sure this value is set to 0 - otherwise it will be hard to get very sharp attacks. Selecting the right controller will

take care of this value change for you.

6- You can change the position on the keyboard of the few keyswitches we use. Here is what the keyswitches do:

- C#1 will trigger a fall from any note you are playing.
- D1 will trigger a pitch fall 'drop' from any note you are playing.
- D#1 will trigger a pitch rise 'doit' from any note you are playing.
- E1 will repeat the note you are currently playing, this is known as "static tonguing"
- F1 will produce a half-valve bend half a semitone downwards.
- F#1 will produce a half-valve bend half a semitone upwards.
- G1 will create a half-valve effect with no pitch change and its velocity will control how much half-valve effect is added to the note currently sounding.
- F1 will create a half valve bent half a semitone down. We already detailed many features above, but here are the few ones that are left. Note that all of the features in the preference tab that have a small dice next to them can be randomized for an even more natural performance. Randomize mean that the value for that setting will be randomized for each new note between the minimum value and the value you set.

7- You can control the response of the instrument to your MIDI controller using the air curve. If for example you don't want the instrument to reach the highest volumes, you can just cut the top end of the curve. Since the curve is not big or precise, you can make sharp changes and hit the smooth button a few times until the curve is perfectly smooth. Changing the MIN value will reset the curve and set what the volume for the minimum of air flow is.



Keyboard, Breath
Controller or Wind



Controller

VHorns can be played using a keyboard by selecting the notes on the keyboard and controlling the air flow with a MIDI controller like the modulation wheel or a breath controller.

You can also use a wind controller like an EWI, an Aerophone a Sylphyo or any other brand, in which case you need to use the appropriate controller menu in the MIDI section.



Ensemble

If you load multiple instruments at the same time, it will play unisons exactly at the same time.

We added some smart features that first can change the timbre of the instruments, transpose everything by a fixed interval and also act on the MIDI performance.

For example, you can have all 6 instruments with a different transposition value play the same C minor scale, so no

matter what you play on the keyboard, it will sound in key.

Playing **ensembles** with VHorns is easy, as you can see in the overview video. You can adjust a few things in the MIDI tab.

1- The **Transpose** values can be changed to get the desired interval change.

2- You can then select a **scale** and **root** on which the instrument will be forced to play, no matter what you play on your keyboard. If you select C Major, then whatever you play on your keyboard will stay in C Major even when using the transpose value.

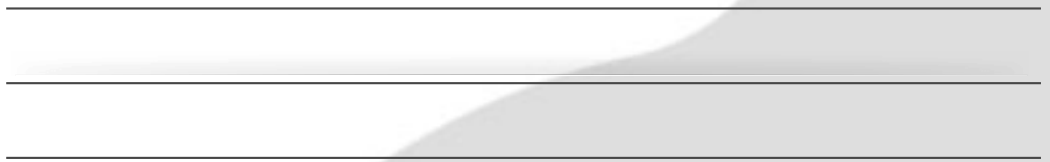
3- The **timing** value will create a randomized time delay each time a new note is played, this way when you play a note on the keyboard, not all instruments will start at the same exact time just like a section of musicians would do in real life, no matter how good they are.

There are a few things to add if you really want to make the performance convincing. Here are a few tips:

- Make the natural variation value quite high (air and pitch) and randomize them.
- Use the round robin feature if you are using the same instrument twice.
- To add some variation to the velocities, select the dice next to the velocity to attack for sustain, legatos and time.
- Set a value for the flutter transition and randomize it as well.
- The most important part will be the pitch aspects, so increase the note pitch imprecision, as well as the pitch variation and pitch variation time and randomize them.

Once all this is set, it should have plenty of variation, but a good solution to make it even more convincing is to go a step further and just have two different MIDI files with

randomized note positions as well as slightly different air flow controls. The best solution would even be to just play the performance twice as it wil introduce all of the necessary variation.



Features

UVI Workstation v3.1.15 is required for the library to function properly, the VHorns will not work on windows XP, or OSX 10.13, it will not work on a receptor either.

430Mb compressed in lossless flac format (54 for sousaphone, 76 for valve trombone, 89 for cornet, 63 for euphonium, 73 for bass trombone and 76 for muted trumpet).

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