DynaSample - XPression

Tutorial - Pitchbend

This tutorial is explaining **XPression's** special handling of pitchbend:

MIDI data

Pitchbend can be used both with regular pitchbend and CC3 for pitchbend up and CC4 for pitchbend down. You can redirect bend up and down (internal CC 135 and CC136) individually to different functions per preset. E.g. you could use "pitchbend up" as "sustain" (CC64) while still being able to use "pitchbend down" normally.

Auto Portamento

XPression uses automatic portamento when the pitchbend value is not centered. This allows you to quickly do smooth note transitions or brass falls (*and so on…*) with only one controller (pitchbend) to be moved. However this can cause problems with a Yamaha WX5/7/11 or a Synthophone when using "tight lip" mode since pitchbend cannot be centered 100% accurately with these instruments.

In this case you need to edit the "pitchbend center width" in the [**Global**] settings and set it to a value of approximately 16-32 for your MIDI input. A setting of 64 turns this function off completely. You will have to test which value is best for your playing style.

This also needs to be turned off (value 64) for the EWI4000s since it will interfere with its bite vibrato.

The "pitchbend center width" setting in [**Global**] will be set automatically when selecting your controller in [**Utility**].

Pitchbend vibrato with EWI

It is not recommended to set the EWI-USB bite controller to "pitchbend vibrato". This will interfere with the automatic portamento since the pitchbend of the EWI will slowly return to the center position even after having stopped applying vibrato. Therefore it will trigger an unwanted portamento for the next note(s).

Setting it up to CC1 will cure this problem. **XPression** has its own vibrato generator (similar to the one used by the EWI) and will generate vibrato from CC1 when assigned to internal CC134 "direct vibrato 2". This means you can still play the same way. Only the data transmission is different.

(On a keyboard aftertouch can also be assigned to this vibrato method to enable the player to play vibrato exactly as played with aftertouch instead of the automatic LFO style vibrato.)

See tutorial "Vibrato"

*Please also read "**xpression_wind_controller_setup.pdf**" to see how to set up your wind controller for optimal playability with **XPression**.*

Portamento note transitions

Note that Auto Portamento will currently not work with the EWI4000s when using bite vibrato (with a pitchbend center with of 64) – use the glide plate instead or in addition to these techniques with the EWI4000s.

XPression automatically uses legato note transitions when the notes are played legato.
To play even more "legato" you can activate the (automatic) portamento function. This will blend the notes into each other and add a glissando in between them.

Here's how to do it on a single note to note transition from A to Bb:

Start out by playing the note A. While holding the A you move the pitchbend down just a little so you can barely here a pitch change. Now you change the fingering to Bb and at the same time or actually just a tiny little bit later you set the pitchbend back to the center position.

Start very slowly to get the order of the motion correct and gradually speed up. Do the same exercise on every semitone and whole tone interval. Especially around the octave change you will need quite some practice time. Do it in both directions up and down until the motion becomes automatic. It might take several weeks for it to become natural. Don't get impatient!

After doing single notes try the same thing with 3-4 chromatic notes:

Start out by playing the note G. While holding the G you move the pitchbend down again just a little so you can barely here a pitch change. Now you go chromatically up to Bb and right after the last note you set the pitchbend back to the center position.

Same procedure as before: all different notes in any direction - up and down. When comfortable with this you can expand to larger intervals by playing diatonic scales or arpeggios in between the first and the last note. When emulating brass instruments you might want to play arpeggios similar to the overtone series to sound more like a real brass instrument.

You will probably automatically lower your volume while doing the transition and bring the volume back up to normal when arriving at the target note.
If not: go back to play the transitions very slowly and think "aaah – oooh – aaah". You might want to sing the phrase with these vowels before playing.

Brass falls

Note that Auto Portamento will currently not work with the EWI4000s when using bite vibrato (with a pitchbend center with of 64) – use the glide plate instead or in addition to these techniques with the EWI4000s.

To emulate a trumpet fall you should start with playing a high C. While holding the note bring the pitchbend down to the lowest position and play a "C7" arpeggio down over one octave. This corresponds to the overtone series of the trumpet (assuming that you're already transposing to Bb or playing a C-trumpet).

Here are the notes: C – Bb – G – E – C

A full range fall would be: C – Bb – G – E – C – G - C

You shouldn't worry too much about hitting the exact notes of the correct overtone series for each particular note. Believe me – nobody will hear it! Just make sure you play legato – especially when passing the octave break. The higher register uses smaller intervals in comparison to the lower register.

Practice short falls with only three notes and longer ones with up to seven or eight notes. Play slow and fast falls in all different registers.

While arpeggiating down you need to make sure that you're gradually fading out towards the last note.

Now reverse everything: start on middle C. Move pitchbend all the way up and immediately start plying a C7 chord up (C – E – G – Bb – C) while doing a diminuendo.

To use this technique with a saxophone / woodwind sound it is best to play chromatic or diatonic scales down or up instead of arpeggios.

Brass shakes

Note that Auto Portamento will currently not work with the EWI4000s when using bite vibrato (with a pitchbend center with of 64) – use the glide plate instead or in addition to these techniques with the EWI4000s.

To emulate a trumpet shake you should start out to play a slow trill e.g. high A – B. While playing the trill move the pitchbend up just a little and you will have a glissando in between the two notes.

Since "pitchbend up" is by default programmed to have a smaller range than "pitchbend down" your shake shouldn't really go out of tune.

Try playing fast notes (scales, patterns) in the upper trumpet range with pitchbend up just a little and move it back to the center position when going back down into the normal range. This will emulate the typical glissando behaviour of fast trumpet playing in the upper register.

Alternative fingerings emulation

For emulation of alternative fingerings you play a note then move pitchbend all the way down very (!) quickly and play the note one semitone above the last note (legato or not). Keep alternating as many times as you like (or until the audience gets bored).

There is another method for this by assigning "sustain" (CC64) to "Mono Retrigger" in which case you can change the fingering while holding sustain and the same note will play until sustain is released.

Combining different techniques

After being able to do these different techniques separately start combining them. For example you could start out with a portamento run from middle C to high C then go into a shake for one bar and end the phrase with a long fall. Make up your own combinations in different keys and registers.

Random pitchbend

When playing fast runs you can add some very small random pitchbend (up or down) from time to time. This will give you variations in pitch and note transitions to keep your performance from sounding too mechanical.

String pitchbend mode

When "string pitchbend mode" is activated the current note will be bent until the next note is played. After that pitchbend is deactivated until you return to the center position. This makes it possible to emulate position changes on solo string instruments.

Work it out like this:

Select a cello preset. Then play any note. While playing slowly move pitchbend up and just before getting to the highest position change the note (legato) to the octave above. Pitchbend is now turned off until you return to the center position. Now start moving pitchbend slowly towards to lowest position and change back to the note of the lower octave. Pitchbend is turned off again until you return to the center position.

Once you get the order of the pitchbend motion coordinated with the note change you should speed up this exercise with different notes and intervals.

Variation: play a C-Major arpeggio up: C – E – G – C
Between the last two notes (G – C) you play the note transition that you just did with the octaves. Reverse the arpeggio and play the note transition down between the last two notes (or between the first two notes, or even between both intervals).

Next step: pick a melody line and find out the important notes and notes with large intervals. Mark them and try to play a "position change" up to these notes.

It is not really required to know where a real cello player changes positions and adds these transitions (unless you are playing together with a real cello). As long as you are getting the musical result everything is allowed. There are lots of alternative fingerings on a real cello as well.

Pitchbend use for timbre and dynamic changes on flute, etc.

> When using pitchbend not only pitch but also the timbre and volume will be affected.
> You can use this to expand the sonic range in order to be more dynamic or "aggressive" on certain attacks or note transitions.
> To do this it is recommended to change the pitchbend up range in patch [Edit] to a very small range of 1-2 (= 10-20 cents). Now you can do Shakuhachi like effects with the pitchbend up while still using pitchbend down normally.

The big advantage of these techniques while using Auto Portamento with pitchbend is:

a)   You only need one single controller for doing multiple manipulations. Not all wind controllers have a dedicated portamento switch. And even if they do you need to execute and coordinate two movements instead of one which can become difficult – especially when going at a fast speed.

b)   You are in total control of the timing of your note transitions. Note transitions that are set by instrument programming or sampled transitions are unpredictable considering their timing.

Once you have mastered these techniques you will love them as much as I do!

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DynaSample