

## Virtual Acoustic 2<sup>nd</sup> Generation Bass Accordions

We have the honor to present you new 2<sup>nd</sup> generation of accordion bass samples for Native Instruments Kontakt, more realistic than ever before. The resulting tones now depend on many more factors: expression, velocity, and other combinations of adjustments of parameters that affect the sound, which makes the 2<sup>nd</sup> generation of accordions practically realistic with incomparably more sound variations than previous models from the 1<sup>st</sup> generation. The type of sound synthesis is such that it is most similar to synth romplers, which is why the samples of the 2nd generation of accordions are so small sized.

The intensity and tone timbre depend exclusively on the expression (the intensity of the stretching of the bellows), the amount of which can also be defined manually. The higher the expression, the louder the sound and the sharper the tone and vice versa. It can be said that the expression makes a morphing both in dynamics and in the tone timbre. Tone opening speed (attack) directly depends on both expression and velocity amount, like on the real accordion. There are a lot of calculations so you can only guess how much of a combination or variation of tone there is. There are also included all possible noises made like by the real accordion, such as: buttons pressing noise, buttons release noise, key register pressing noise, and bellows stretching noise, each of them adjustable by taste or need. The biggest novelty, and what we especially emphasized, on the 2<sup>nd</sup> generation models is the calculation of the total amount of air flow through the bellows. This means that during higher polyphony, all sounds are slightly muted and add up in another way, just like on a real

accordion, and unlike all previous samples where all tones are classically mathematically added together, which sometimes creates a slightly more unpleasant and unnatural feeling. Each tone is perfectly looped, which means that its duration is as long as the note is kept pressed.

All the sounds of the accordion are cleaned and processed so that it is almost unnecessary to refine anything and samples, in the most cases, will be very mix friendly. Send effects: “reverb” and “delay”, are also included and their intensities are adjustable. From now on, each current setting can also be saved as a preset to one of 20 menu items. It is also possible to recall the default setting at any time. The user interface is also completely new, with many added options, but, as can be noticed, we have not deviated much from our recognizable style.

Using of VA2G accordions is easy and intuitive and requires no special knowledge. The samples work just like a real accordion and in principle “load and play”. However, we have prepared a guide for you to make it easier to understand certain details.

A prerequisite for using these accordion samples is:

- Any newer computer that runs smoothly Kontakt 6.2.2 or newer versions
- Full version of Kontakt 6.2.2 or higher (free Kontakt Player is **NOT** supported)
- Low latency sound card
- MIDI control instrument
- Expression pedal or breath controller (recommended)

Immediately after the purchase, on the email address you entered during the purchase process, you will receive a link to download the purchased

product. When you download the .zip file, you need to unzip it and then get a folder, which you can put in any location on your computer, and that folder must contain the following items:

- <Product name> (nki file)
- <Product name> Samples (folder)
- <Product name> Resource file (nkc)
- <Product name> Resource file (nkr)
- <Product name> User manual (this file) (pdf).

Only under this structure the instrument will be properly loaded into the Kontakt and works as should. You only need to load a "nki" file to Kontakt by dragging it in the empty space on the right side of the Kontakt, or by File - Load ... option. Immediately after loading, in most cases, you need to select the "omni" MIDI channel at the top left part of the Kontakt under "MIDI Ch:".

By loading the accordion into the Kontakt, all parameters are set to the optimal level and the sound of the accordion is like a real one. These parameters can be changed as desired by changing the values of the corresponding user interface controls.

The user interface contains the following elements:

- Display (including text and four peak tables)
- Vertical flat knobs (four pairs for each of peak tables)
- Rounded knobs (noises and send effects)
- Tasters "Init", "Save" and Presets menu
- Two pairs of switches (buttons and background color and bass and chord MIDI channel)
- Register switches

- Bass buttons

We will start with the choice of sound, as a starting point in the use of the accordion. The bass accordion has 5 basic voices, the mixture of which results in 11 different combinations converted into preset registers. Each of the registers contains a unique combination of voices in 4 possible octaves, which is also shown in the table above each register individually. In the first division is the lowest octave (deepest voice) C1-B1. In the second division, the voice is half octave higher F#1-F2. The third division contains two voices, a voice in the third octave, classic soprano (marked as left point) C3-B3 and intermediate octaves 2 and 3 F#2-F3, (marked as right point) C3-B3. Finally, in the fourth division, the voice of the fourth octave, better known in accordion terminology as piccolo C4-B4. Bass tones (first two button rows) and bass chords (next four button rows) work separately when it comes to mixing registers. The only difference is that in accordion chords, the register system never opens the two lowest voices, because that would sound too deep and very uncomfortable. The registers are selected by pressing one of the 11 register keys on the user interface or by pressing one of the 11 keys in the key switch group in the last octave of the MIDI controller C5-A#5. When changing the register, an adequate sound is heard when pressing the register key, which can be leveled with the “**register**” knob in the “noises” knobs group. Only one register can be pressed at the time. Bass individual tones and bass chords are played separately. If your chosen MIDI controller is a keyboard, then it is assumed that the MIDI channel is 1 and one the same at the whole keys range. The first two octaves (C1-B2) are reserved for bass tones while the other two octaves (C3-B4) are reserved for chords.

If the MIDI channel is not that one you need, or you want to control the sampled instrument with different MIDI channels for tones and chords or with one of the MIDI accordion systems, then it is necessary to select **OMNI** MIDI channel. In this case, you need to manually adjust the MIDI channels for both bass tones and chords. You have a choice of channels from 1 to 4, which is enough for any MIDI system standard. Then all four octaves are available for both tones and chords but divided into two channels for each of them respectively. A control instrument with a MIDI channel defined for tones controls only bass tones and an instrument with a MIDI channel defined for chords controls only bass chords in all four octaves (C1-B4). Chords work on the principle of chord detection, so that the visual details of the interface follow the changes in both the bass tone and the bass chord parts.

When the tones are pressed or released, it also creates a certain noise, and here it is called "**key on**" and "**key off**". As long as any sound of the accordion is heard, even slightly longer, the sound of air flowing through the bellows is also present. This is called "**bellows**" here. Their leveling is under the same names at knobs group "noises".

Each sound played has its own intensity, timbre as well as start speed (attack). The intensity of the sound is influenced exclusively by the volume of the stretching of the bellows (in this case the expression), which can be additionally limited or forced by two vertical potentiometers in "**expression**" group, the first of which forms the lower and the second the upper limit. Starting expression value is set to 100 of MIDI range 0-127, so if you don't use expression information the accordion will play constant at 100. The speed of the sound start also depends on the tensile strength of the bellows (expression) but also on the

speed of the key pressure (velocity). The speed of the key press can also be set within the desired values as well as the expression. Both “**velocity**” and expression affect the start speed of the tone and these two limitations doesn’t affect it but a real values of the expression and velocity. There is also an additional option that in some way prevails over the existing state regarding the tone start speed. This is called a “**punch**” and works in the same way as in the previous two cases, increasing the irrelevance of the relationship between the previous two parameters. It is possible to influence the timbre of the tone more directly by overcoming the previous parameters. The last pair of vertical knobs are in charge of that and are in the “**timbre**” group. Above each pair of knobs, on the display, is a graphical representation of the current amount of the corresponding parameter. By equalizing the values of the left and right knobs in the pair, a fixed value of the parameter is obtained. The left knob cannot have a higher value than the right nor the right a lower value than the left. Therefore, when one knob reaches the value of another, if the movement continues in the same direction, that knob “carries” the other to own value. Attack (punch) effect doesn’t depend on “dynamic” or “velocity” limits but depends on real expression (CC11) and velocity values. The same situation is for the tone timbre which depends only on real expression and “timbre” limitations/forcing.

This accordion also has a natural **tone-bending effect** when the button is insufficiently pressed. That sound is achieved by a monophonic aftertouch from the MIDI controller. Sound vibration (left hand shaking effect) is also feasible by raising the “**modulation**” value and the change in the vibration speed is changed at that moment by the value of the “**pitch**” bender. **Note** that pitch

bender does not change the pitch nor does the velocity change the intensity of the accordion sound.

This instrument also has send effects that are not exactly typical of bass but are there just in case. The effects are “**reverb**” and “**echo**” (delay), and their amount can be dosed using the knobs of the same name.

Bass buttons are a visual detail that is not interactive. Bass buttons have a pressing animation when the corresponding note or chord is detected. If the chord is not detected, the pressed notes of the chord part will mark graphically the corresponding bass notes with the red X sign.

The switches “**butons**” and “**back**” can be used to change the color of the buttons as well as the color of their background.

The display shows the most up-to-date information that may be relevant. As soon as the instrument is loaded into the Kontakt, the display shows the selected register in the form of the order number of voices used. Every activity on the user interface is also shown on the display. When played, the display splits into two parts. The left part shows the latest played bass note while the right part shows the corresponding accordion chord if the chord is played, or the latest up to 4 notes if one of the accordion-typical chords is not played.

If you want to restore the basic settings to the factory default, you have the “**init**” button. The values of these parameters are invariant (ROM). You can save the setting of all parameters in one of 20 menu items. The setting is saved by pressing the “**save**” button, then select the location in the menu (1-20), give the name in the field that has appeared in the meantime, and press “**save**” again. The set is saved! If you already pressed “**save**” and change your mind, you can cancel saving by selecting menu item 0 (PRESETS) and pressing “**save**” again.

The "shift" option also appears here. It is located on note 96 (**C7**) and that key is marked in **violet**. If you need to reset all menu items or save them to be all the same then you need to do the following: Press "init" key and/or set all parameters as you would like to be default, hold "shift" (C7) and press "save" and then "init" and then release "shift" key. "Shift" + "save" saves the current setting to default RAM and "shift" + "init" saves that set to each of the 20 menu items and names it "Default". If you want the saved menu items to remain after you close the sample and Kontakt, then you **must** resave the entire instrument by pressing File – Save As and choose "Patch Only" and that instrument. You can replace or save as new one. It's up to you. Note that next time you load the sampled instrument you choose the right one. The menu items can also be accessed using the **key switches**. The first 20 keys (light blue) correspond to each menu item.

There is also one option that, at first glance, is not on the interface. This is a low pass filter option for each voice separately. When you hold the "shift" and press the image of the accordion name, instead of 4 noise knobs, 5 low pass filter knobs will appear for each of the accordion voices. The upper left represents, as already described, voice 1, the upper right voice 2, the lower left voice 3, the lower right voice 4 and the central voice 5 (piccolo). Each of them affect to the frequency filter of corresponding voice. Holding the "shift" and pressing the instrument image name again returns you to the noise knobs. These values are also saved in presets.

Note:

The Kontakt was primarily made to be a sample player and the option of user interface and graphic animations was added later. Due to the shortcomings in the "Kontakt" script engine, it can sometimes happen that certain buttons will not be "pressed" graphically and the display text will not be shown correctly or with delay (slower). However, everything will sound as it should.

The function of each user interface item can be seen by dragging the cursor over it. The caption is displayed at the bottom of the Kontakt window.

Each knob can be controlled by any MIDI command. Defining MIDI commands for a knob is done by selecting the "Automation" – "MIDI automation" tab in the upper left part of the Kontakt, and dragging the desired CC number to the appropriate knob. In order to keep this setting for future use, you need to save or replace whole .nki file (instrument).

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