

B4 CONTROLLER 1.2

(by MidiKarval)

USER MANUAL

The *Native Instruments B4 II*[®] (www.native-instruments.com) is an excellent virtual tonewheel organ which simulates with great accuracy the Hammond B3 sound and it's also capable of other organ simulations, the Farfisa, the Vox Continental and the Indian Harmonium.



The MidiKarval **B4 Controller** (ver. 1.2) is a midi processor VSTi that allows you to control, using a midi controller keyboard or its GUI, the B4 three drawbar sets (upper manual, lower manual and pedals) from a single set of nine physical drawbars (sliders or knobs).

Moreover B4 Controller also has the following features:

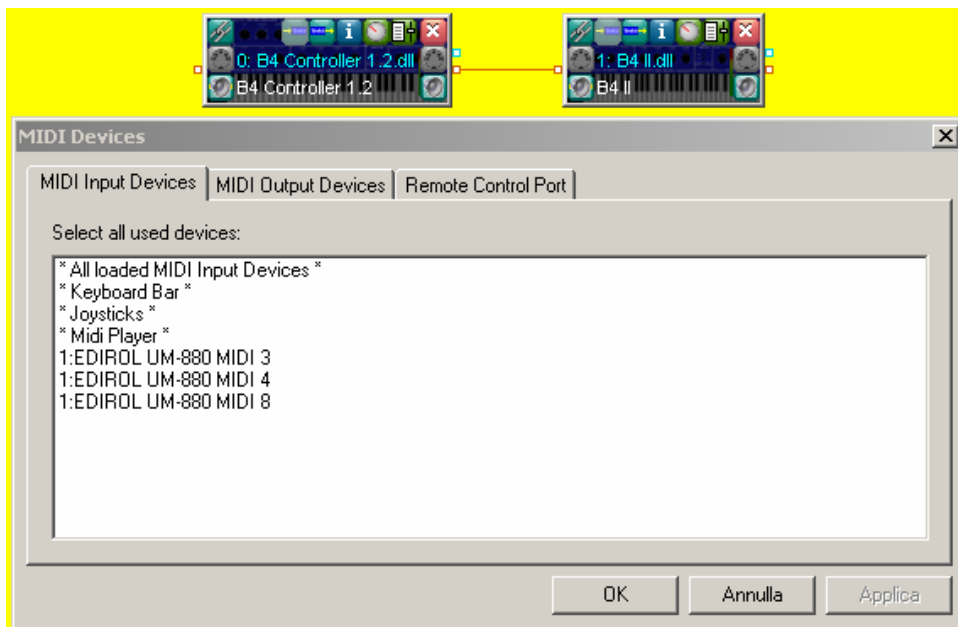
- **"Inverted Keys"** : on the original tonewheel organ that B4 emulates, the bottom octave notes have reverse color keys ("*inverted keys*") that call up preset sounds. B4 and separately B4 Controller mimics this use of note keys to provide the player with presets. If you are using a 61 note midi controller keyboard or two separate keyboards, then using the "*Inverted Keys*" function causes the upper and/or lower manual's note playing area to be limited to four octaves; the bottom octave of your keyboard(s) (upper and/or lower manual) can be designated as "*inverted octave*" and you can use this bottom octave's keys for choosing the 12 pre-set drawbar settings corresponding to those selectable through the B4 upper and/or lower inverted octaves;
- **"Split Mode"** : if you use two keyboard for playing the B4 organ, you can reserve the bottom two octaves of the lower keyboard for playing the B4 pedalboard and the other three octaves for playing the lower B4 manual. Moreover, using these pedalboard octaves, you can play in unison also the lower manual, as many great jazz organists do, and choose to make the pedalboard sound "*staccato*", like an upright bass. According to Joey DeFrancesco, this is *the secret to kicking bass* on organ (see *Keyboard Magazine*, n. 6/1999, page 50);
- **"Programs Section"** : you can store your favourite B4 Controller's settings in one of the 128 renamable programs for future use.

INSTALLATION

Extract the content of B4Controller_1_2.zip to your VSTplugins folder. As both B4 and B4 Controller are VST plugins, you have to open them in a VST host application (we recommend [EnergyXT](#) or [Hermann Seib's VSTHost](#)), connecting the host midi input to the B4 Controller input and its output to the B4 input. The following diagram shows the connection example using *EnergyXT*:



Please, be sure that the *only midi flow* reaching the B4 plugin comes from the B4 Controller, otherwise the results could be unpredictable. For example, if you use *VSTHost*, only the B4 Controller should be connected to



the midi input devices, whilst all B4 midi input devices should be disabled (left-click on the enabled ones while pressing the <ctrl> key of you PC keyboard), as shown in the picture on the left. (i.e. No blue bar showing across any midi device)

The midi symbol on the right in the small B4 II.dll GUI is the button used to switch on and off incoming midi messages.

The top left-hand button in the B4 II.dll GUI is the button used to access the link to B4 Controller.

B4 Controller requires the use of some of your midi keyboard's (or other devices able to send midi control messages) buttons and knobs or sliders (even if you can activate/deactivate the B4 Controller functions also clicking directly on its labels).

You can use B4 Controller with only one midi keyboard, even if the ideal set-up is two keyboards (the first one, transmitting on midi channel 1, for playing B4's upper manual and sending the CC messages and the second one, transmitting on midi channel 2, for playing the B4's lower manual and pedals).

Each black label in B4 Controller shows the CC number that has to be sent (with the value of 0 or 127) in order to activate/deactivate a specific function: you can change the CC number sent by your buttons to match the one already indicated in the label (*recommended system*) or choose another value (clicking with your mouse's right button on the label and choosing one of the values that appear in the relevant drop list), matching the CC number sent by your buttons/knobs. In the latter case you can save your new setting in one of the programs provided by the Programs Manager. In the "USING B4 CONTROLLER" paragraph we assume that you use the default CC numbers.

It's advisable to use "on/off" buttons for all functions other than:

- the "Inverted Keys" function (upper and/or lower manual), for which a toggle button may be used if you want to "sacrifice" your keyboard's bottom octave only if and when you want to use it as "inverted octave";
- the "Banks Rotator" for which (I guess...) a knob is the better choice.

Of course, your keyboard should have also nine sliders (or knobs), to send CC# 12 to 20, for moving the B4 drawbars.

Please remember that the black labels act not only as drop-lists (using your mouse's right button) for choosing the relevant CC number, but also as buttons (using your mouse's left button) for activating/deactivating the relevant function. So you can use B4 Controller even if your midi keyboard doesn't have enough buttons or knobs.

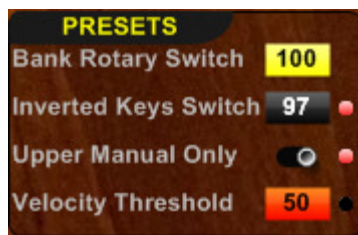
USING B4 CONTROLLER

THE "DRAWBARS" SECTION



"Upper/Lower Switch": if you send, using a button from your master keyboard, the CC# 95 message with a value of 127 (or left-click on the relevant label) you can use your midi keyboard drawbars to move the B4 lower drawbars (led on), whilst sending a CC# 95 with 0 value (or left-clicking on the same label again) allows you to move the B4 upper drawbars instead (led off).

"Upper/Pedals Switch": if you send, using a button from your master keyboard, the CC# 96 message with a value of 127 (or left-click on the relevant label) you can use your midi keyboard drawbars to move the B4 pedals drawbars (led on), whilst sending a CC# 96 with 0 value (or left-clicking on the same label again) allows you to move the B4 upper drawbars instead (led off).



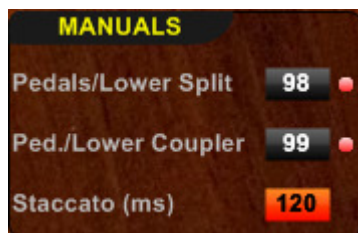
THE "PRESETS" SECTION

"Banks Rotary Switch": sending, through a knob or a slider from your master keyboard, the CC# 100 message, you can move the B4's Presets Bank Rotary Switch to one of its ten positions (1-10), each corresponding to a bank of 12 presets.

"Inverted Keys": by default, if you have one or two keyboards with more than 60 keys, the octave immediately below the lowest playable octave switches the (upper or lower manual) B4's inverted keys. Otherwise you can send a CC# 97 message with a 127 value to trigger the "Inverted keys function for both the upper and lower manuals (led on), so that the lowest octave of your five octaves keyboard can now be used for choosing one of the B4 preset drawbar settings provided by the B4's "inverted keys" (please note that in the B4 the upper manual "inverted keys" change the whole preset whilst the lower manual ones change only the drawbar setting of the lower manual and the pedals). This function is deactivate by sending a CC # 97 message with a 0 value (led off). You can get the same result by left-clicking on the black label in this section.

"Upper Manual Only": if you turn the switch on (right position, led on) the "Inverted Keys" doesn't work in the lower keyboard, but in the upper only, so that you can use the whole range of your lower keyboard, eventually in the Pedals/Lower Manual mode.

"Velocity Threshold": in order to avoid the unintentional change of preset, a threshold of the "inverted keys" velocity is set, below which no change of preset occurs; by default this threshold is set to "50", but you can change such value from "0" (no threshold) to "127" ("inverted keys" inactive).



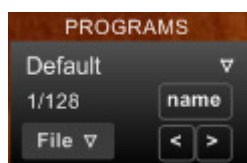
THE "MANUALS" SECTION

To use this section's functions you need a second keyboard, transmitting on midi channel 2 and playing the B4's lower manual.

Sending the CC# 98 message with a value of 127 (led on) splits your keyboard into two sections: the lower two octaves play the pedals whilst the upper three octaves play the lower manual (an 0 value deactivates the Split Mode).

Sending the CC# 99 message with a value of 127 (led on) the **"Ped./Lower Coupler"** function is activated and, using such pedals' octaves, you can play in unison the pedals and the lower manual, as many great jazz organists do and choose to make the pedals' sound "staccato" (like an upright bass, whilst *"the meat of the bass comes from the lower manual sound"*). According to Joey DeFrancesco, this is *the secret to kicking bass* on organ (see *Keyboard Magazine*, n. 6/1999, page 50). Changing the value in the **"Staccato"** label you can activate/deactivate the "Staccato" mode and select the relevant length (expressed in milliseconds, from 20 to 400 ms).

As already said, you can activate/deactivate such functions by clicking on the relevant labels with your mouse's left button, whilst you can change the value shown in the labels with your mouse's right button.



THE PROGRAMS MANAGER

You can save your personal settings in one of the 32 programs provided by the Programs Manager, giving a name to each one, and save the relevant file (*.txt) for future loading.

The demo version of B4 Controller is fully functional for a 15 minutes period of time. It then expires and you have to remove B4 Controller from your host and re-load it to use it again.