

"B4 CONTROLLER" MANUAL

ver. 1.1

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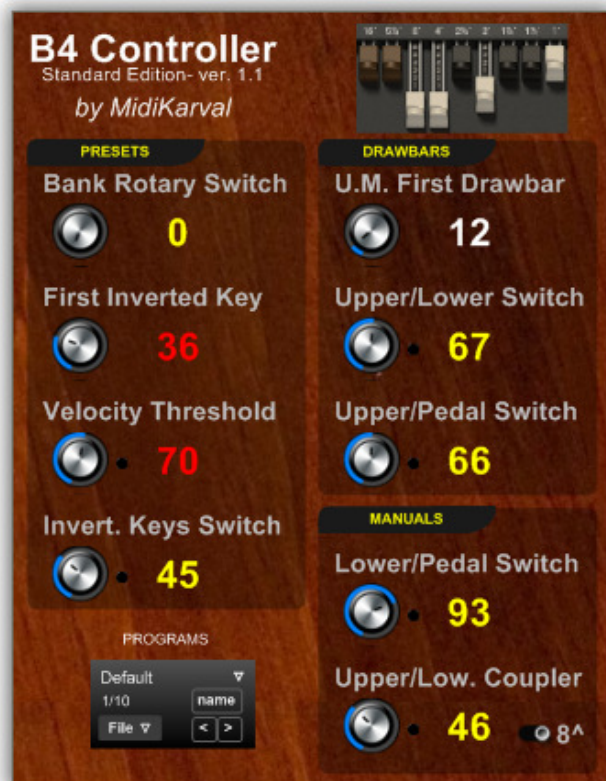
1. DESCRIPTION

"B4 Controller" is a midi processor VST plugin; it means that its jobs are:

- transforming the Control Change (CC) messages received into different CC messages (this is the case of the "Drawbars" section, where the CC messages aimed to move the B4 upper manual drawbars can be redirect to move the lower manual drawbars or the pedalboard ones);
- transforming the CC messages it receives into Program Change messages (this is the case of the "Bank Rotary Switch");
- transforming the Note-On messages received into Program Change messages (this is the case of the part of the "Presets" section that manages the "inverted keys");
- changing the Midi Channel and/or the pitch of the Note-On messages received (this is the case of the "Manuals" section, where Midi Channel 2 can be redirected to Midi Channel 3 - "Lower/Pedal Switch" - in order to play the B4 pedalboard, Midi Channel 1 can be doubled into Midi Channels 1 and 2 - "Upper/Low. Coupler" - in order to duplicate on the lower manual the notes played on the upper one and the pitch of Midi Channel 2 notes can be lowered by one octave - "8^" switch).

In the "B4 Controller" there are three kinds of knobs/switches:

1. those through which you can choose the CC number to be used for a given function: in this category are included the "Bank Rotary Switch", the "Inverted Keys Switch", the "Upper/Lower Switch", the "Upper/Pedal Switch", the "Lower/Pedal Switch" and the "Upper/Low. Coupler": the relevant numbers are yellow; ;
2. those which perform an ancillary role with regard to the above-mentioned functions and aren't directly related to CC messages: the "First Inverted Key" (which determines the midi number of the first key of the octave used for selecting the upper manual "inverted keys"), the "Velocity Threshold" (which, to avoid unwanted changes of preset, determines the level of the notes velocity, 0 to 127, above which the change has effect) and the "8^" switch (which determines if, in the "Coupler" mode, the lower manual notes' pitch is the same or one octave below respect to the notes played on the upper manual)): the relevant numbers are red;
3. the one which has only an indicative function (that's why the relevant number is white), that is the "U.M. First Drawbar", telling the "B4 Controller" which CC message has been chosen, in the "Controller Assignment" section of the N.I. B4 setup window, for moving the first drawbar of the upper manual: the relevant number is white.



In your VST host the "B4 Controller" must be placed between the Midi In and the N.I. B4 (I or II version) so that the Midi signal reaches the B4 through the "B4 Controller".

The practical way to do this depends on the host you use: it's very easy with EnergyXT, VstHost, Phrazor (the hosts I usually play with), but I think it can be achieved with any other host, but Maize

Studio (that, for reasons at the moment unknown, seems not to accept Vst plugins made with SynthMaker: I am investigating about this issue).

2. REQUESTED GEAR

The minimum gear you need to use "B4 controller" is a midi keyboard equipped with buttons, knobs and/or sliders capable of sending CC messages (better if they are assignable to different CC messages): set 1 as the transmitting midi channel of such keyboard.

If you have another midi keyboard, you can set it on transmitting midi channel 2 and use it to play the B4 lower manual and the pedalboard. If this keyboard has 88 keys, typically an electronic piano, you can also permanently designate the two lowest octaves as "inverted keys" for upper and lower manuals presets.

3. SETUP

First of all we need to agree about some definitions: a "knob" is a knob and a "slider" is a slider; easy, isn't it?

Knobs and sliders are "continuous" controls, meaning that they can send a series of midi values from 0 to 127; an expression pedal is a continuous control as well.

On the other hand, we have to divide the "buttons" into two categories:

- the "push buttons" send an "on" value (127) when pushed and an "off" value (0) when released;
- the "toggle buttons" send an "on" value (127) when pushed the first time, don't do anything when you release them and send an "off" value (0) when pushed again.

The same distinction applies to switch pedals. Many masterkeyboards let you set each button as "push" or "toggle".

Now, let us choose **which controls to use** with each "B4 Controller" function:

"B4 Controller" function	Type of control
Bank Rotary Switch	This CC message moves the N.I. B4's Presets Bank Rotary Switch to one of its ten positions (1-10), each corresponding to a bank of 12 presets. It should be obviously assigned to a knob of your keyboard, even if you can use a slider as well
Inverted Keys Switch	This CC message should be sent when you want/need to use the same keys to play music and to select the presets "inverted keys"; in other words when you don't have keys enough to dedicate 12/24 of them to the "inverted keys". You should use a button: if the position of the button on your keyboard is close enough to the keys you want to use so that you can push both with one hand, a "push" button is advisable; otherwise consider the possibility to use a "push" switch pedal (e.g. a piano pedal) or, as last choice, a "toggle" button
Upper/Lower Switch	This CC message is sent when you want to move the B4 lower manual drawbars instead of the upper manual ones; the choice between a "toggle" or a "push" button depends on your need of extensive modification of the drawbars set or just moving one drawbar. Consider the use of a piano pedal, as I do
Upper/Pedal Switch	The same words spent for "Upper/Lower Switch" are valid here as well
Lower/Pedal Switch	This CC message is sent when you want to play, with your second keyboard, the pedalboard instead of the lower manual. A "toggle" button seems the best choice in order to leave both your hands free for playing

Upper/Low. Coupler	The "Coupler" allows you to play both B4 manuals with only one hand; it dramatically modifies the sound of the B4, particularly if used with "8^" on, and leaves your left hand free of playing the pedalboard via the "Lower/Pedal Switch". Nice effects can be obtained alternating "Coupler" on and off. Use a "toggle" button.
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I was almost forgetting the **drawbars!!!** Use the sliders, of course, if you have enough or, otherwise, knobs and sliders or only knobs (sigh!).

Now we have to choose **which CC messages to assign** to the above-mentioned functions.

Here you have various possibilities:

1. if your masterkeyboard has assignable knobs/sliders/buttons you can adopt the "default" setting of "B4 controller", if you like it, assigning to each control the CC number shown on "B4 Controller";
2. if you don't like the default setting or your keyboard has fixed CC assignation, modify the "B4 Controller" setting and save the new one or buy a Personal Edition of "B4 Controller";
3. don't forget that you can save different settings (up to ten), each tailored for a different music style and/or playing style.

If you change the default setting, try not to use the same CC messages already assigned by N.I. B4 setup.

Adjust the "Velocity Threshold" so that you can't change preset accidentally nor have to push too hard the keys in order to change preset (it depends on your touch and on the velocity level of notes sent out by your keyboard).

When the controls assigned to the "Lower/Pedal Switch" and the "Upper/Low. Coupler" are pushed an "All Notes Off" midi message is sent to N.I. B4 to avoid the risk of hanging notes.

All knobs and switches of the "B4 Controller" can be assigned, using your host features, to a CC control. This is not very useful because it's unlikely that you need to change the "B4 Controller" setting during a performance; however you may want to assigning a CC message to the "8^" switch in order to set it on or off while playing

When moving knobs don't forget to hold SHIFT for fine adjustment.

And now one extra-tip: try "B4 Controller" linked to 3 different Vst instruments, setting them respectively on midi channels 1, 2 and 3 and let me know your comments.

Enjoy the "B4 Controller"!