B4D

Operation Manual

User's Guide written by: Egbert Jürgens

B4D controller manufactured by Böhm music international

Germany

Native Instruments GmbH
Schlesische Str. 28
D-10997 Berlin
Germany
info@native-instruments.de
www.native-instruments.de

USA

Native Instruments USA, Inc.
5631 A Hollywood Boulevard
Los Angeles, CA 90028
USA
info@native-instruments.com
www.native-instruments.com

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1 Important Notes

Disposal Notice

Should this product become damaged beyond repair, or for some reason its useful life is considered to be at an end, please observe all regulations of your area and country that relate to the disposal of products that contain lead, batteries, plastic, etc.

Specifications subject to change

The information contained in this manual is believed to be correct at the time of printing. However, Native Instruments reserves the right to make changes to the specifications at any time without notice or obligation to update existing units.

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Name Plate Location

The name plate is located on the bottom of the product. It lists the product's model name, power requirements, and other information. The serial number is also located on the bottom.

Disclaimer

Native Instruments GmbH cannot be held responsible for damage caused by improper use or modification to the B4D, or data that is lost or destroyed.

2. This is how the B4-Drawbar-Controller works

The B4D Drawbar-Controller serves for controlling the B4 software and other compatible soft- and hardware. The MIDI output of the B4D is simply routed to the MIDI input of the computer. If you want the current parameter of the B4 software to be displayed by the B4D LEDs, additionally the MIDI output of the computer must be connected with the MIDI input of the B4D Controller.

3. Startup

3.1. Wall Power Supply and On-/Off-Switch

B4D has a wall wart type supply for power. The plug socket for the wall power supply (**9V AC**) is located in the rear of the unit.

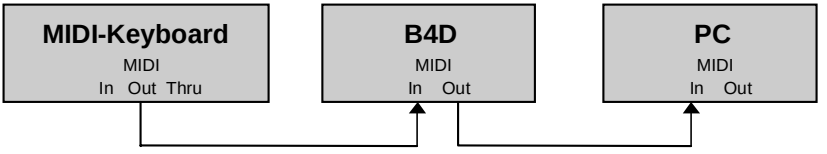
Connect the wall power supply only while the B4D is switched off and use solely the provided power supply in order to avoid malfunctions or damages. Remove the power plug from the electricity outlet if you are not using the B4D for a longer time.

3.2. Connecting the MIDI cables

The B4D has a socket for receiving MIDI data (**MIDI-IN**) as well as a socket for sending MIDI data (**MIDI-OUT**). The sockets are located in the rear of the unit.

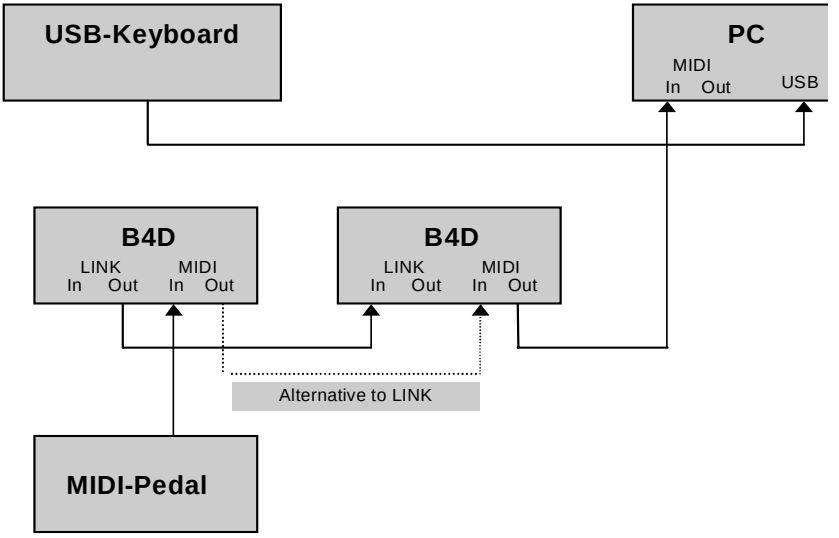
Furthermore, there are the **LINK IN** and **LINK OUT** sockets, which serve among other things, to integrate multiple B4Ds into your system. The possibilities are manifold. Some examples:

Example 1: System with MIDI Keyboard and one B4D.



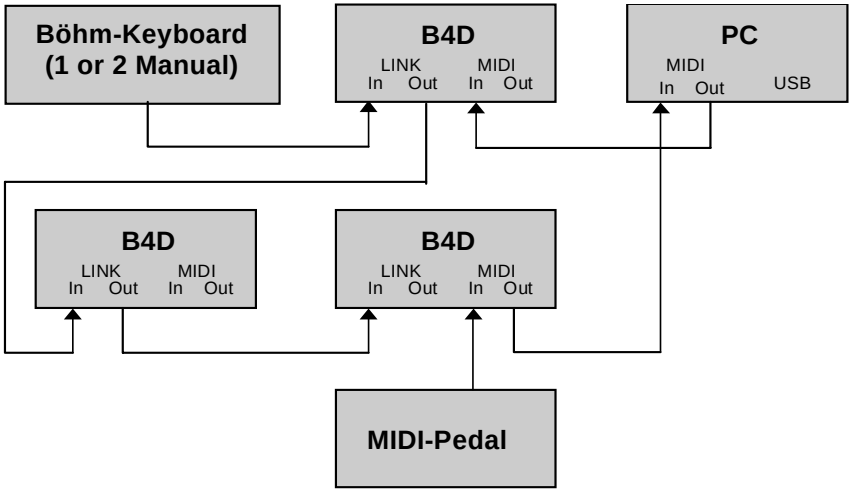
Here the B4D is inserted into the MIDI chain between the MIDI keyboard and the PC. The data coming from the keyboard is merged with the data of the B4D (MIDI Merge).

Example 2: System with USB Keyboard, a MIDI Pedal and two B4Ds.



In this example a keyboard is connected to the USB port of the PC. Another B4D is added to the systen, so that you are able to control the drawbars for the upper and lower manual directly without switching. Therefore, you can either use the provided MIDI cable or a Link cable. Using a Link cable just one power supply unit is neccessary since the power supply takes place across the Link cable.

Example 3: System with Böhm Keyboard, MIDI Pedal and three B4Ds.



This example provides a full playable 2-manual organ! A keyboard (1- or 2-manual waterfal keyboard!) from Böhm music international is connected via the LINK IN on the first of the three B4Ds. The B4D is responsible for receiving the drawbar positions and transmits the data of the upper manual on MIDI channel 1 and the lower manual on channel 2. The chain is continued with two more B4Ds (one for controlling the lower manual, the other one controlling the pedals). There is a MIDI pedal connected to the last B4D of the chain. The order within the chain does not matter. The MIDI cable for controlling the LED display of the B4D at preset change of the B4 from the PC must be connected to the first B4D, so that the following B4Ds gets this information as well. For this system two B4D power supplies are neccessary. These charge all three B4Ds and the manuals.

If you setup your own configuration, note the following:

- All data which is sent to the B4D across MIDI IN or LINK IN are output unmodified via MIDI OUT and LINK OUT.
- Controlling the LED of the B4D by preset changes or operating the B4 requires a connection from the PC to the B4D. If multiple B4Ds are connected, the connection must return to the first controller in the chain. Without feedback the display on the B4D is not updated or off.

- You can use up to 2 devices per power supply when using the LINK cable, since otherwise the power supply can become damaged.

3.3. More Ports

At the rear panel there are two ports for two foot pedals and one foot sweller. Please use exclusively original accessories as foot sweller, otherwiese the device could be damaged. The accessories like LINK cable, foot switch and sweller; as well as the waterfal keyboards are available from Böhm international AG (www.boehm-ag.de).

4. Operation elements

4.1. Drawbars

After switching B4D on, the drawbars of B4D control the upper manual. With the buttons **LOWER**/**PEDAL** you can switch to the according area.

4.2. Rotary knob

The two rotary knobs control the overdrive (**OVERDRIVE**) respectively the overall volume (**VOLUME**) of the B4. If **PEDAL** is selected, the button **VIBRATO** switches the overdrive on/off.

4.3. Percussion and Rotator

The labeling of the buttons and their effect corresponds to the original and is self explanatory. The choice of the area (Pedal, Upper, Lower) has no influence on the function of these buttons.

4.4. Vibrato and Chorus

The button **VIBRATO** switches the effect for **UPPER** and **LOWER** on and off, dependent on the chosen area. The choice of the Vibrato/Chorus type (**V1** to **C3**) is always true for both areas. In case the area **PEDAL** is selected, the button **VIBRATO** has the function on/off (see 4.2).

4.5. Presets

By selecting a preset the stored presets in the B4 software are chosen via Program Change - the B4D itself does not have its own presets. Therefore, after selecting a preset of the B4 the display of the button states are neutral.

If the MIDI output of the B4 is connected with the B4D, the button states are refreshed after calling up a preset. The option “Presets/B4D Controller Dump on Program Change“ must be selected and the according MIDI out-port in the menu “File/Preferences/Audio Setup/MIDI“ must be active in the B4 software.

Calling up presets directly

The presets of the B4 are organized in 10 banks at 12 presets. The 12 presets of the current bank can be called up directly using the buttons **PRESET 1** to **6** and **7** to **12** respectively. The presets 7-12 are indicated by the LEDs in the lower left corner at the buttons 1-6 and can be reached with a second push on the button.

For selecting a preset bank the button **BANK** is pressed. The display of the six **PRESET** buttons then changes: The currently selected bank is indicated by a continuously flashing LED. After the first push on the button **BANK** the upper LEDs within the **PRESET** buttons will blink. This indicates, that you can now select from the first six banks by pushing the according button. If you wish to select a bank between 7 and 10, push the button **BANK** a second time. Now the lower LEDs within the **PRESET** buttons 7 to 10 are blinking. A third push on the button **BANK** finishes the bank select mode.

After you have chosen a bank, the display changes again. Now the upper LED on the button **PRESET 1** blinks to indicate that you still have to choose a preset within the bank you just have chosen. The bank and preset change is not excuted before then.

Calling up presets numerically

It is possible to choose presets according to numbers independently from your bank structure by pushing and holding the button **PRESET 0-9** (second function of the button **UPPER** labeled in blue) and additionally enter the number of the desired preset via the numerical buttons **0-9** (second function labeled in blue). The preset change is executed after releasing the **PRESET 0-9** button and a valid number has been entered.

Next/Previous preset

You can switch directly to the next/previous preset number using the buttons **-1** and **+1**. If the last preset (120) has been reached, **+1** switches to preset number 1. During the bank selection the buttons **-1** and **+1** control the banks accordingly.

4.6. Tonewheel Set

There are several organ types, so called Tonewheel Sets, available for the B4. These Sets can also be switched with the B4D! Push and hold the button **TW** (second function of the button **LOWER**) and enter the number of the desired Tonewheel Set using the number buttons **0-9** (second function labeled in blue). The switch to the new Tonewheel Set is executed after releasing the **TW** button and a valid number has been entered.

5. Troubleshooting

If something is not functioning the way you have expected, you can run the following tests to exclude a defect of the B4D:

5.1. Test of the operation elements

For this test switch off the device first and remove all cables from it except for the power supply. Push and **hold** the button **V1/C1** while switching the device on. The device then starts the operational elements test mode. Now you can test each button of the device. With each push you toggle the LED state of the according button.

The drawbars and rotary knobs can be tested as well. Each movement of a drawbar or knob makes the LEDs of the upper button row indicating the position of the according element. If you have a foot controller, you can connect this now to test it as well. In this case the LED display does not go higher than the **PRESET 8** button.

You finish the test mode by switching off the device.

5.2. Test of the interfaces

For this test switch off the device first and remove all cables from it except for the power supply. Now connect the **MIDI OUT** and **MIDI IN** with each other using a MIDI cable. Push and **hold** the button **V2/C2** while switching the device on. The device then starts the interface test mode. The upper LEDs of the mode buttons (**BANK - UPPER**) are blinking. If you now move a drawbar, for example, its information is output via MIDI and immediately received again due to the set up MIDI loop. If sent and received data correspond, the lower LED on the button **UPPER** is switched on for a short moment. If this is the case, the MIDI interface is OK.

The same test can also be executed for the LINK cable. Therefore remove the MIDI cable and connect **LINK IN** and **LINK OUT** wiatch each other using the LINK cable. The test procedure then is identical.

You finish the test mode by switching off the device.

5.3. Additional system tests

It is important for correct functionality that the MIDI routing is correct as well. According to the examples described in this manual the *Hardware Routing* (the external MIDI and Link connections) should be checked. To confirm that the routing is working, the MIDI activity display of the B4D can be a lead. The lower LED on the **UPPER** button flashes for a short time when the MIDI or LINK signals are received.

The *Software-Routing* (the settings for the sound and MIDI interfaces of your computer as well as the settings in the B4 software) should be checked with help of the according handbooks.

Enjoy your B4-Drawbar-Controller!

Your Native Instruments team