

Ocean Beach Digital

DB-1 Configurator – Version 1.1.0

The DB-1 was designed primarily to complement Nord organ keyboards, and comes pre-configured with settings to send the correct MIDI CC values for the various keyboards in the Nord product line. But the DB-1 can be configured to send any CC on any MIDI channel, for use with many virtual tonewheel organ, or for use as a control surface or general purpose MIDI controller, and it also supports some manufacturer-specific System Exclusive (Sysex) modes.

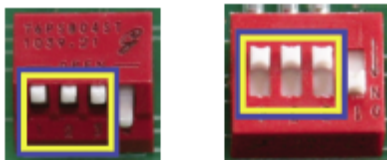
In order to use the DB-1 Configurator, you will need the following things:

- A PC running Microsoft Windows XP (SP2 or later), Vista, Windows 7, Windows 8, or a Mac running OSX 10.4 or newer.
- A generic USB MIDI Cable to connect your computer to your DB-1. These are available from a variety of manufacturers, and most of them don't require any special drivers. If you're in the market for a cable, we've had great success with the M-Audio MIDI Sport Uno cables – they're inexpensive and reliable.
- The DB-1 Configurator software
- A DB-1 running firmware version 2.10 or later.

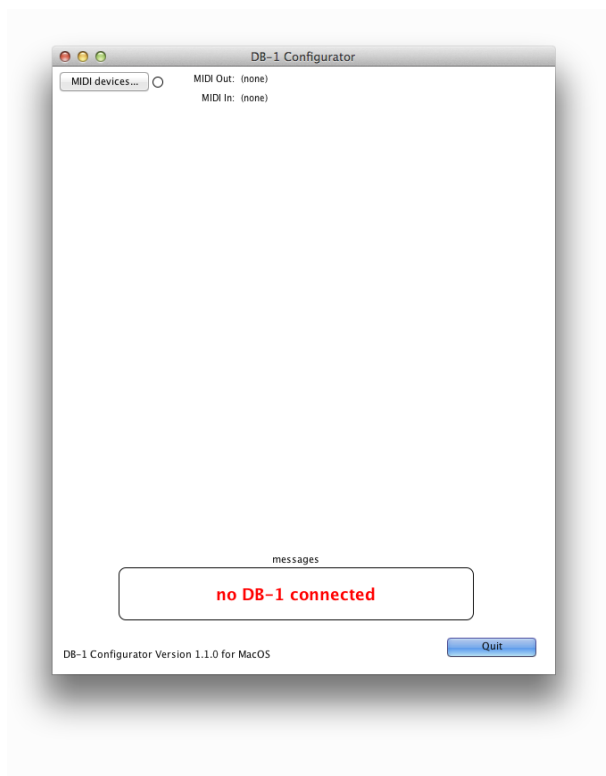


The illustrations shown here are from the Mac version, but the Windows and Mac versions of the DB-1 Configurator operate identically.

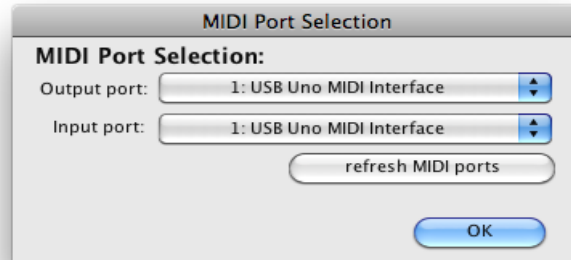
- 1) If you are not running the latest DB-1 firmware, you should install that first. You can find the latest firmware, the Firmware Upgrade Utility, and instructions on the Ocean Beach Digital website: <http://www.oceanbeachdigital.com>
- 2) Download and install the DB-1 Configurator. For Windows machines, run the installer found inside the Windows subfolder of the Configurator Bundle. MacOSX machines do not require an installer, just drag the application onto your desktop or into your Applications folder.
- 3) Disconnect your USB-MIDI interface from the DB-1's MAIN IN and OUT and connect it to the AUX IN and OUT.
- 4) Connect your keyboard or VSTi's MIDI OUT to the DB-1's MAIN IN.
- 5) Connect your keyboard or VSTi's MIDI IN to the DB-1's MAIN OUT.
- 6) Put the DB-1's DIP switches into the “user defined” mode. On a Series II DB-1, this is what the switches should look like as viewed from the **rear** of the Drawbar Controller, looking down into the battery compartment. So the MIDI jacks should be facing towards you, with the front of the unit away from you.



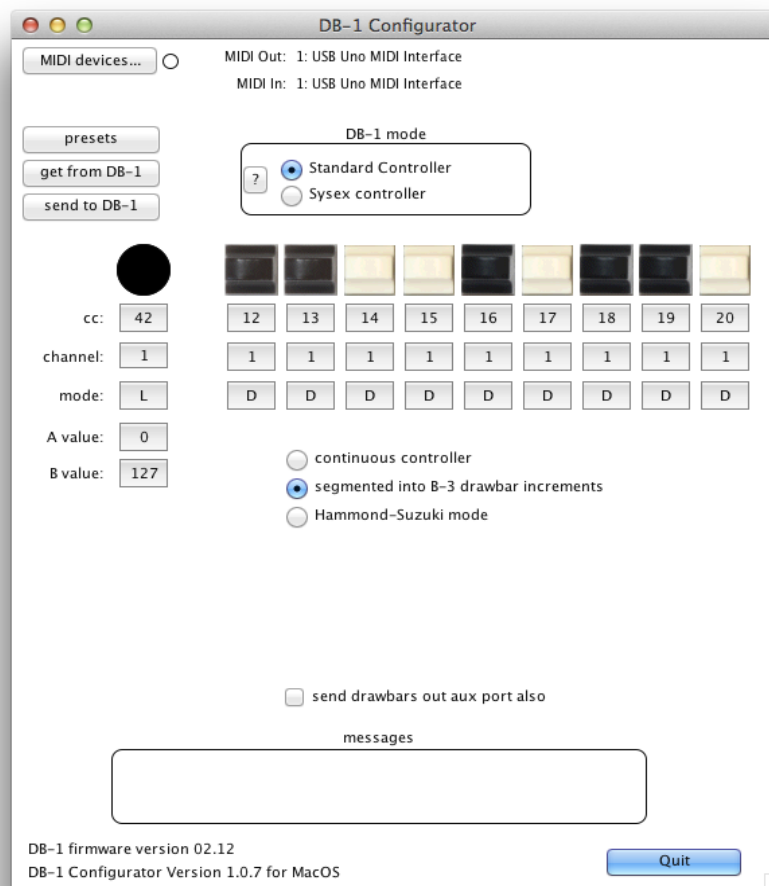
- 7) Launch the DB-1 Configurator. At first you will see a really boring mostly-blank screen.



- 8) Click on “**MIDI Devices...**” This will bring up the MIDI Port Selection window. Click on the **Input** and **Output** port dropdown menus to select your MIDI Device. Depending on your computer's hardware, you may see more than one device available. (On Windows machines your MIDI interface may show up generically as “USB Audio Device” – this is a limitation of early Windows MIDI drivers).



- 9) When you have the MIDI ports selected, click **OK**. The previously-boring main window will now show a graphic representation of your DB-1's controls. If you do not see this screen, double check your MIDI hardware selection, your cabling, and make sure your DB-1 has power (when you move the drawbars, you should see the DB-1's LED flicker). You cannot proceed until you see this screen.



OK, now we're ready to rock.

First thing to keep in mind: the information shown on this screen does not necessarily reflect the current state of your DB-1 programming. Think of it as a scratchpad. You can click on any of the buttons below the drawbars and Top Button to change the values before sending them on to the DB-1.

Second thing to keep in mind: the Configurator operates in two modes, Standard Controller Mode and Sysex Controller mode. These two modes display two different sets of controls, so we'll cover them separately.

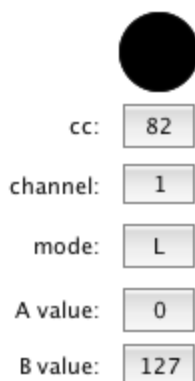
Standard Controller Mode

Most drawbar organ instruments are controlled by using MIDI Continuous Controller (CC) commands, and the Configurator makes it easy to reprogram the MIDI CCs sent by the DB-1.

MIDI allows for 128 different Continuous Controller data values (0 through 127), but the original Hammond B-3 only had nine drawbar positions (0 through 8). Most tonewheel organ instruments emulate this behavior by splitting up the 128 possible data values into zones representing each of the nine possible drawbar positions. The DB-1 can be configured to only send a new MIDI CC when the drawbar has been moved from one zone to another by selecting “segmented into B-3 drawbar increments”. This will greatly reduce the amount of unnecessary MIDI data flying through your system. But you can also program the DB-1 to send all 128 data values by selecting “continuous controller.” This allows you to use the DB-1 as a generic continuous controller for things like reverb or volume, or as a generic control surface for your DAW.



You can program each of the DB-1's drawbars to send any MIDI CC on any MIDI channel. By clicking on the selectors under each drawbar icon, you can change the midi CC and channel associated with that drawbar. Each drawbar can also act independently as a **Drawbar** (maximum value when drawbar pulled towards you) or as a **Fader** (maximum value when drawbar pushed away from you).



The Top Button is also fully programmable. In addition to CC and channel, you can specify the two data values sent by the button, and you can specify whether the button is **Latched** (the A and B data values sent on successive pushes of the button) or **Momentary** (A sent on press, B sent on release).

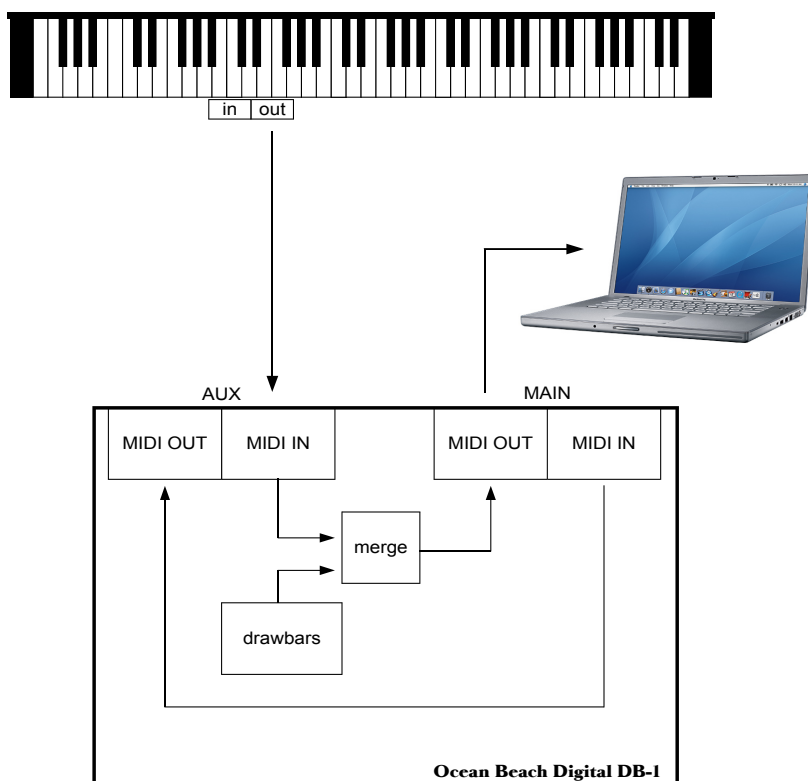
presets

The **presets** button will preload the scratchpad with the default values for a variety of popular drawbar organs. After loading the preset, you can then adjust the values as desired before pressing the **send** button to program the DB-1.

get from DB-1

You can also load the Configurator scratchpad with the values currently stored in the DB-1.

If you are connecting your DB-1 to a sound module or a computer, it will be useful to understand how the DB-1 routes MIDI data internally. This is depicted below. The DB-1 has an internal MIDI merger which merges MIDI data coming in the AUX IN jack with the data stream being generated as you move the DB-1's drawbars. To take advantage of the MIDI merger, you will want to connect your master controller to the AUX IN jack.



Note that the DB-1 can only run off MIDI bus power from the MAIN IN jack, not AUX IN. So in the setup pictured above, you will need to run the DB-1 off the internal 9 volt battery.

Ordinarily you would not want the DB-1 to send drawbar data out the AUX OUT port, but the DB-1 Configurator makes that option available to you.

☐ send drawbars out aux port also

Hammond-Suzuki Mode

Early Hammond-Suzuki instruments (XB-2, XK-1, etc) used a non-standard MIDI scheme for drawbar control. Instead of sending a separate CC number and 7-bit data byte for each drawbar, they use

CC 80 (decimal) / 50 (hex) for upper manual

CC 81 (decimal) / 51 (hex) for lower manual

CC 82 (decimal) / 52 (hex) for pedals – only 16' and 8' drawbars are used.

and then the data values 0-8 correspond to the first nine positions of the first drawbar, then 9-17 (decimal) for the nine positions of the second drawbar, and so on. Because the same MIDI CC and channel are used for all nine drawbars, in the Configurator these fields are hidden for drawbars 2 through 9 when in Hammond-Suzuki mode.

The SK-1 and SK-2, in addition to this scheme, have added support for the conventional use of MIDI CCs for drawbar control. Please consult the MIDI section of your owner's manual for further information.

Sysex Controller Mode

As workstation-type instruments become more complex, some manufacturers are resorting to embedding drawbar commands within manufacturer-specific System Exclusive (Sysex) messages instead of using industry-standard MIDI CC messages.

When Sysex Controller Mode is selected, a list of supported instruments appears. For some instruments you are given the choice of controlling upper, lower, or both organ manuals with your DB-1. When controlling both manuals, the DB-1 Top Button is no longer programmable, and instead toggles control between upper and lower manual. Be sure to click the “help and hints” button for manufacturer-specific setup information.

