

**Configuring the Behringer FCB1010 MIDI Foot Controller
for use with a Hauptwerk Virtual Organ
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The Behringer FCB1010 is a MIDI device which sends MIDI messages according to various actions which a user may perform on the device. Commonly used by guitarists for controlling MIDI effects devices, it also provides affordable foot-operated combination pistons, stop controls and expression pedals for a Hauptwerk Organ.

A. FCB1010 FEATURES

A.1. Ten foot-operated button switches

These can be pressed with a foot: when that happens, an LED lights on the last button pressed, and a MIDI signal is output via the MIDI Out socket. Each button is clearly numbered 1-10.

In a Hauptwerk Virtual Organ these switches can control 10 combinations pistons, if the virtual organ has combination pistons, or it can control 10 organ stops when no combination pistons are available in the organ.

A.2. Two foot-operated expression pedals

These can be moved with a foot placed flat on the pedal, from fully down at the front to fully down at the back, in the same way as an organ swell or crescendo pedal, or an effects pedal as used by guitarists. You should note that the expression pedals of the FCB1010 have a degree of travel typical of guitar effects pedals rather than of organ swell or crescendo pedals. Therefore take care to build a test mock-up so as to work out the optimum angle of mounting for achieving the most comfortable control of these pedals. The pedal on the far right of the FCB1010 is designated Pedal B, and the one on its left is Pedal A.

A.3. Two foot-operated bank switches

These are labelled Up and Down, and can be used in a Hauptwerk Virtual Organ to switch MIDI banks. This enables several different banks of combination pistons to be used: this is a feature of some organs (e.g. the Palace of Arts, Budapest) so that an organist can set his combinations without disturbing those of another organist.

B. CONFIGURING FOR A HAUPTWERK ORGAN

Although the FCB1010 is highly configurable, I have not found it to be essential to make any changes to its basic configuration in order to make it work with the organs which I have and use. Therefore, apart from one small procedure (see B.1. below) which is advised when the FCB1010 is first used, I shall assume that the FCB1010 is being used as delivered from the factory. It can be factory-reset by holding down switches 1 and 6 for about 3 seconds while powering up the unit, allowing the display to go from 9 to 0 (*thanks are due to Misha Stefanuk for reminding us of the reset procedure*).

B.1. Calibrating the Pedal Travel

Consider calibrating the pedal travel when the FCB1010 is new, as sometimes one or both pedals are poorly calibrated in the factory, which may lead to failure to obtain a full range of swell or crescendo adjustment.

MIDI-OX can be used to check whether calibration is necessary: simply connect your FCB1010 to a MIDI port, switch it on and load the MIDI-OX software - if both pedals show a range from 0 to 127 between fully down at the front to fully down at the back, then calibration is unnecessary.

If you need to calibrate your pedals, this is how to do it:

- press footswitches 1 & 3 as you switch the unit on, then release the switches when the display blanks;
- the footswitch and display LEDs, and each numeric display segment will turn on and off in sequence;
- when all footswitch LEDs are on, press each footswitch, including UP & DOWN, until all LEDs are off;

- wait until the relay switch test is finished. There will be one or two clicks, and the display may show "F1" or similar. If you have connected a MIDI cable between the MIDI in and Out, the display will show "A1" before this, indicating that the midi ports are working correctly;
- press DOWN once;
- adjust Pedal A (left) to the lowest value, then press UP;
- adjust Pedal A (left) to the highest value, then press UP;
- adjust Pedal B (right) to the lowest value, then press UP;
- adjust Pedal B (right) to the highest value, then press UP;

You may wish to reload MIDI-OX and retest each pedal for full range return values (0 to 127) to confirm success.

To examine the settings of your FCB1010 rather more visually than simply using the numeric display, search for, download and install Ed Dixon's Behringer FCB1010 MIDI Editor Utility for Windows PCs.

B.2. Configuring Hauptwerk

As already mentioned, no reprogramming of the FCB1010 is strictly necessary for use with a Hauptwerk Virtual Organ, apart from possible calibration of the expression pedals. However, the Hauptwerk software, and each virtual organ that you use, must be set up to use the FCB1010.

Hauptwerk's *General Settings* allow the software to be configured for FCB1010 use, whilst *Organ Settings* allow each organ to be configured to use the general settings configured for the FCB1010.

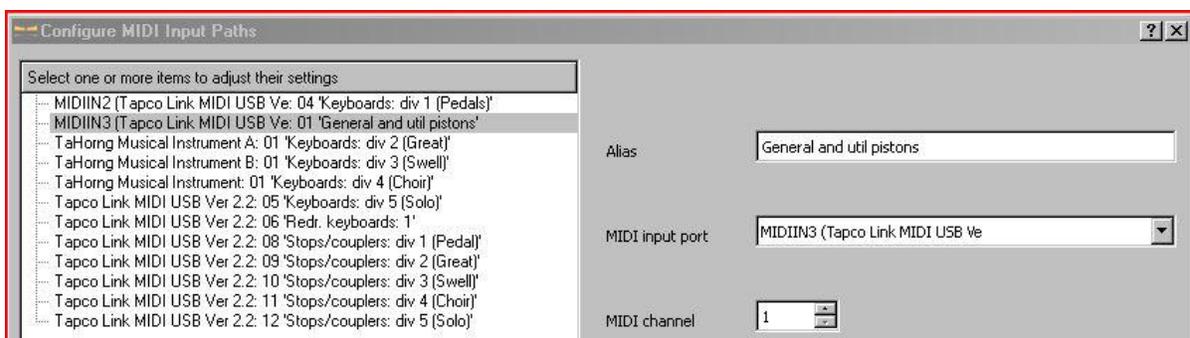
B.2.1. General Settings

When adjusting each of the general settings, ensure that you can locate the FCB1010 MIDI device in the MIDI device lists. My FCB1010 is actually connected through the third input of a Tapco 4x4 MIDI to USB device, and so my FCB1010 appears as "Tapco MIDI IN3". Yours will probably appear as FCB1010 or similar.

MIDI input paths

First, set the FCB1010 and its MIDI channel as your input device for General & Util Pistons:

General & util pistons -----> MIDI channel 1 -----> Tapco MIDIIN3



Note that the default MIDI channel for the FCB1010 is channel 1.

Please note that in all of the configuration dialogues, my FCB1010 is connected via the third MIDI input socket of a Tapco MIDI 4x4 MIDI-USB controller, hence the device name MIDIIN3.

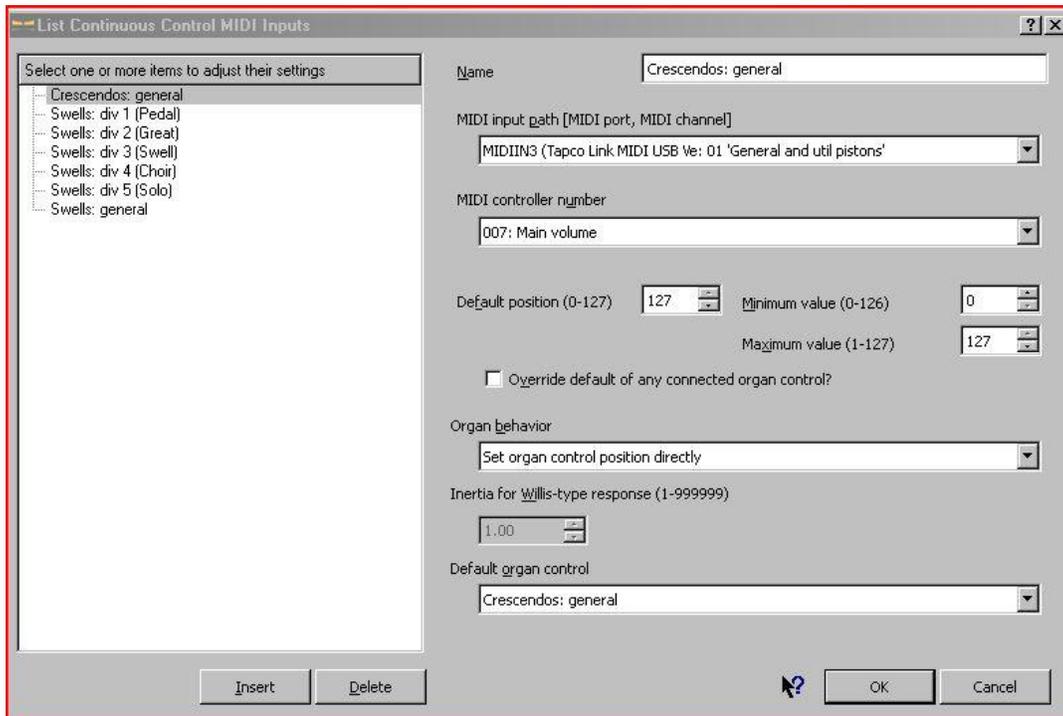
Your FCB1010 will appear as "FCB1010" or similar if connected directly to a PC MIDI port, or under whichever MIDI-USB device you have it connected through if not directly connected.

Continuous Control

Next, set the FCB1010 as your continuous control device, for Crescendo and Swell, each in turn.

First, select “Crescendos General”, then select:

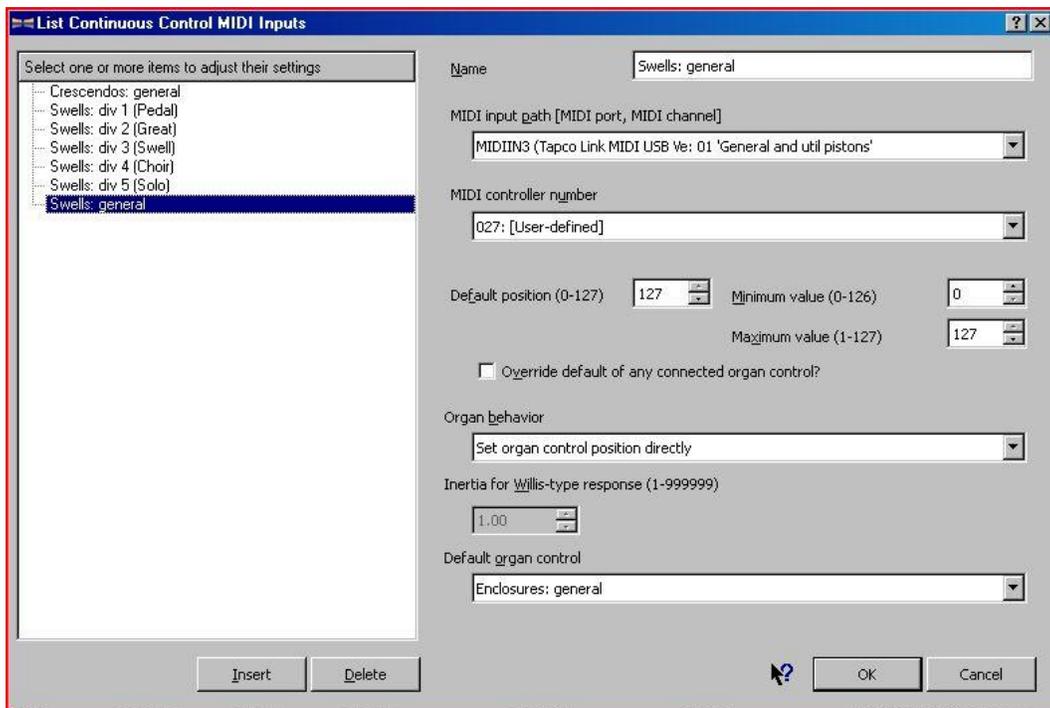
Tapco MIDIIN3 'General & util pistons' --> 007: Main volume --> Crescendos General



Controller “007: Main Volume” is Pedal A of the FCB1010.

Then select “Swells General”, and select:

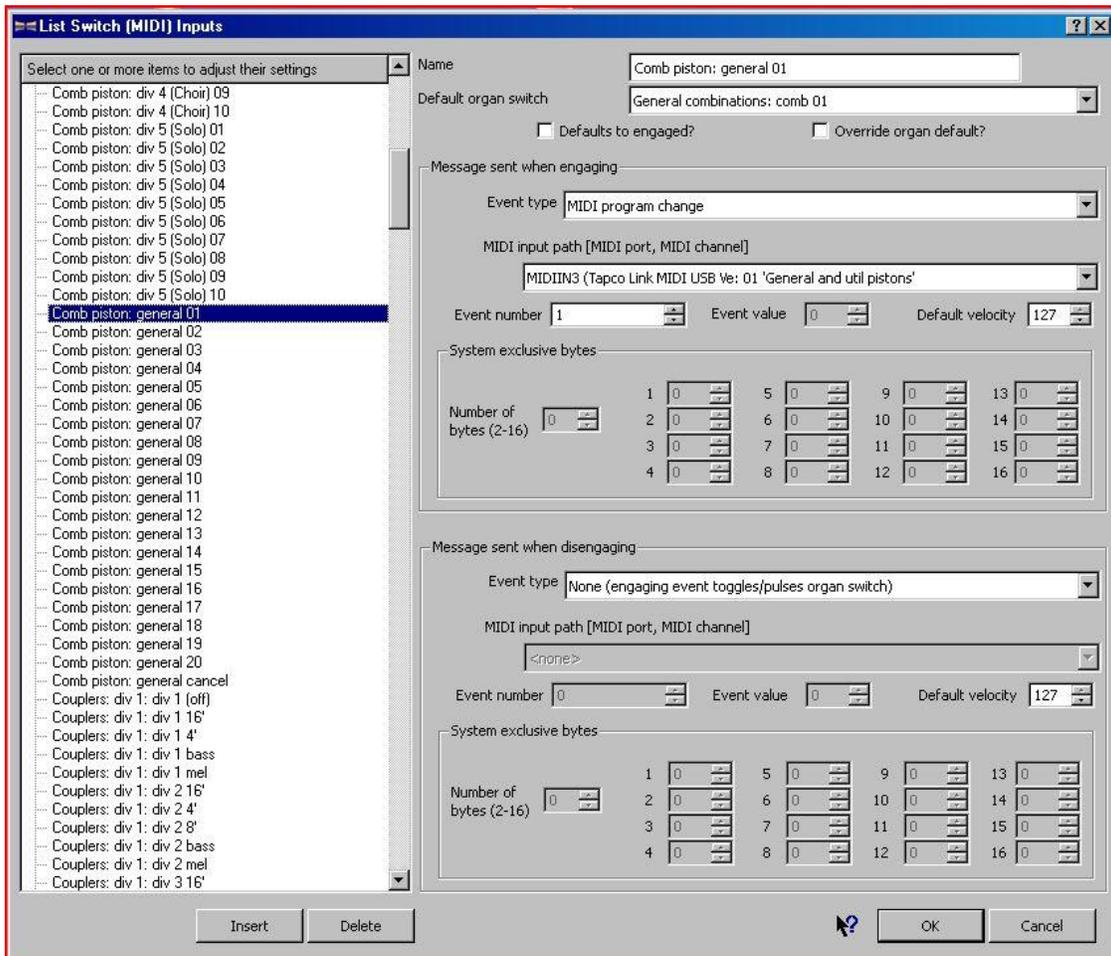
Tapco MIDIIN3 'Gen. & util pistons' --> 027: User defined --> Enclosures General



Controller “027: (User-defined)” is Pedal B of the FCB1010

Switch MIDI inputs

Next, set the FCB1010 as your switch input device for the General Combination Pistons, from 1 to 10:
Comb piston general 01 --> MIDIIN3 (Gen. & util pistons) --> Event 1
--> None (... toggles/pulses organ switch)



thus, repeat this down to

Comb piston general 10 --> MIDIIN3 (Gen. & util pistons) --> Event 10
--> None (... toggles/pulses organ switch)

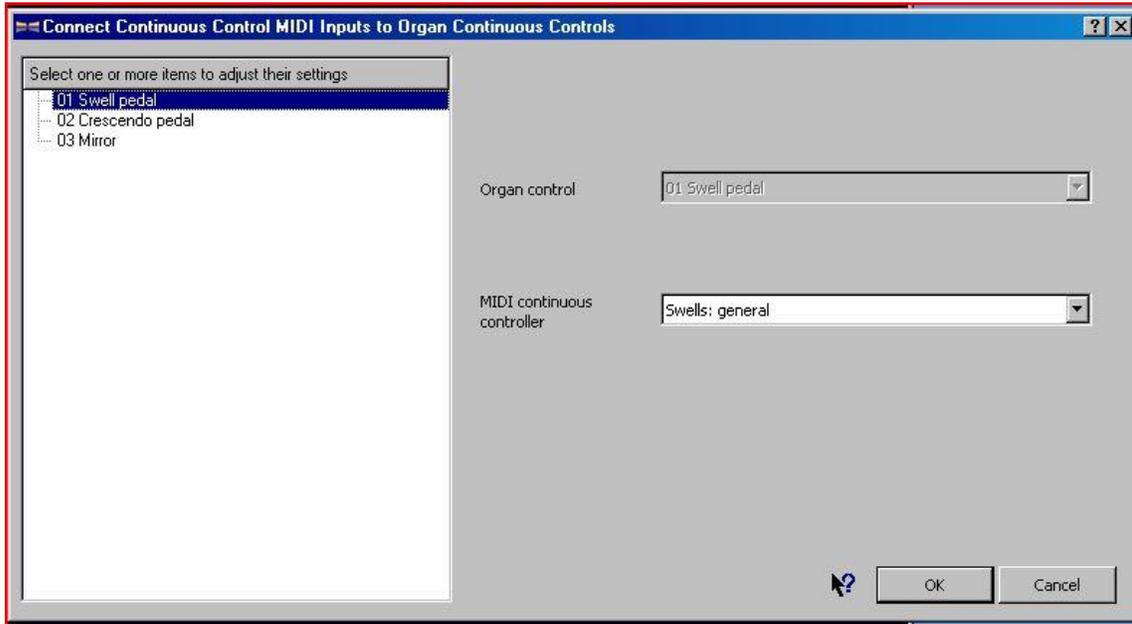
B.2.2. Organ Settings

Each organ sample set that you install will have to be configured to use your general settings. I will illustrate this, using St Anne's Moseley as an example:

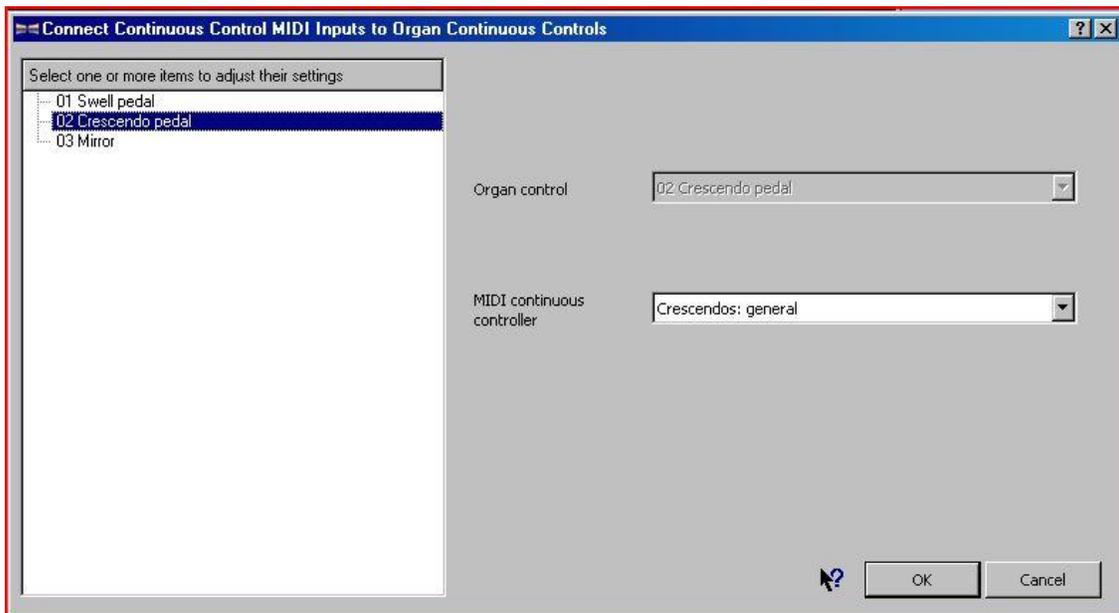
Continuous Control

Simply connect the St Anne's Swell and Crescendo pedals (and the mirror if you wish) to the Continuous Control devices which you have configured in General Settings:

01 Swell Pedal -----> Swells general



02 Crescendo Pedal -----> Crescendos general



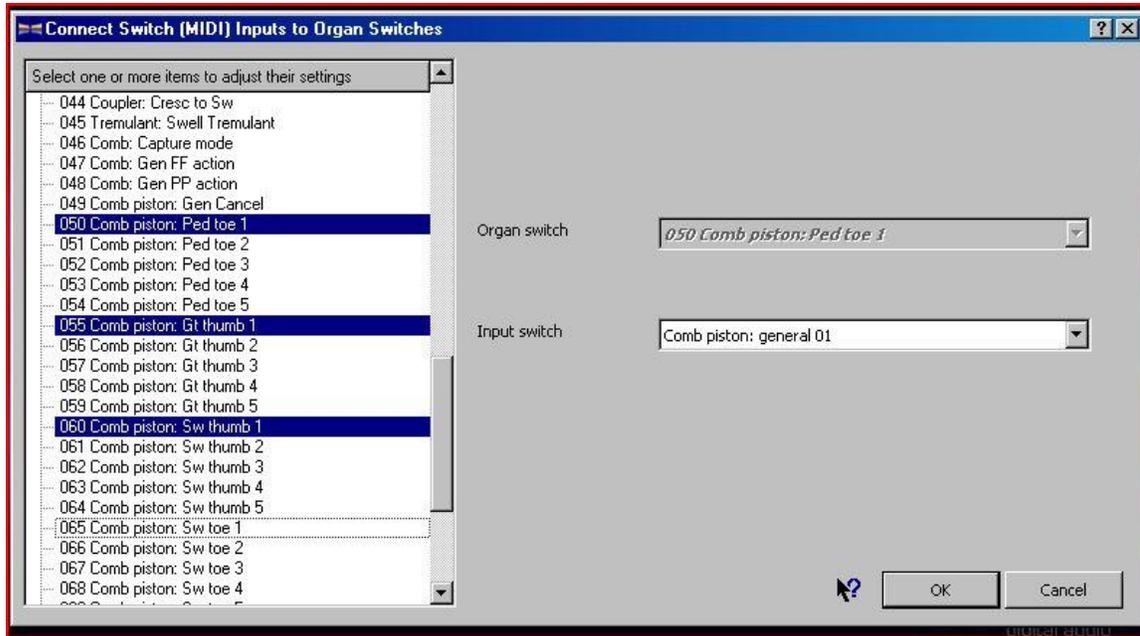
Similarly, if you assign the "03 Mirror" device to the "Crescendos General" controller, the St Anne's mirror will move with crescendo pedal.

Switch MIDI inputs

Then, connect the St Anne's Combination Pistons to the MIDI input switches that you have configured in General Settings:

As examples, I am connecting thumb and toe pistons to the configured switches:

050 Combination pistons, Pedal toe 1 -----> Combination piston, General 01



and repeat down to

054 Combination pistons, Pedal toe 5 ---> Combination piston, General 05

and then

055 Combination pistons, Gt thumb 1 ---> Combination piston, General 01

to

059 Combination pistons, Gt thumb 5 ---> Combination piston, General 05

and then

060 Combination pistons, Sw thumb 1 ---> Combination piston, General 01

to

064 Combination pistons, Sw thumb 5 ---> Combination piston, General 05

Note that we are actually allocating three pistons to the same input switch: do this by holding down the [Ctrl] key when selecting the pistons.

C. OTHER POINTS TO NOTE

I'm not sure why, but the Behringer FCB1010 doesn't seem to send any messages until you hit one of the foot switches. Therefore I always hit foot switch "1" after I have loaded the first organ of a playing session.

Under "Organ Settings ---> Switch MIDI Inputs", I have set matching Great, Swell and Pedal combination pistons to the same foot switch, General 01-05. You could use all 10 (or even another bank) to set them to separate foot switches if you prefer.

Some organs have no combination pistons. On such organs, you can set individual stops, or even combinations of stops to the footswitches, but as the footswitch LED goes out as soon as a different switch is pressed, you may not remember which stops are pulled!

Kenneth Spencer, Wiltshire, UK. October 2009. (revision v1.01, January 2010)