USER GUIDE FOR MIDIFIED PEDALBOARDS

Last updated: 06/09/2013

INTRODUCTION

This document is intended as a generic user guide for our midified organ pedalboards. These pedalboards are intended for use with virtual pipe organ software such as Hauptwerk, Miditzer or jorgan. Typically, they are free-standing units with 30 or 32 notes and a single USB cable for connection to a computer. Mostly, they are fitted with two expression pedals and six or eight toe pistons (plus one channel-setting piston) but the specifications may be varied to suit a particular customer's requirements.

POSITIONING THE PEDALBOARD

Ideally, the pedalboard should be sited on a firm, flat, level floor. If it's unavoidable to use the pedalboard on an uneven surface, suitable packing material should be employed to make the pedalboard level, and to prevent it from rocking.

 A free-standing pedalboard gives more flexibility than one which hooks onto the front of a console. The position can be adjusted to meet the player's personal preferences.

Side-to-side positioning

The convention normally adopted by organ builders is that the central D natural of the pedalboard should lie directly below the central D natural(s) of the keyboard(s). It's best to follow this rule whenever possible.

Front to back positioning

The rule, in this case, is that the fronts of the sharp keys at the centre of the pedalboard should lie 9.5 inches (240mm) behind an imaginary vertical line dropped from the fronts of the white keys on the lowest manual keyboard. While this represents a good starting point, there's no reason why you shouldn't have the pedals a little farther forward or a little farther back if it feels more comfortable for you.

Height adjustment

Playing the pedals becomes much more difficult if the height of the bench relative to the pedals isn't suitable for the player's leg length. When the height is right, the feet should feel like they're floating over the pedalboard, but at the same time, it should be possible to play a natural note with the heel without any feeling of strain. An adjustable bench is, of course, the best solution. If a non-adjustable bench is too low, it can be raised up to a couple of inches on wooden blocks, but these must be large enough to support it safely. If the bench is too high relative to the pedals, it can be sawn down, but this may increase the stretch to the highest manual keyboard. An alternative solution is to attach rubber feet and/or wooden blocks to each corner of the pedalboard to raise it.

CONNECTING THE PEDALBOARD TO THE COMPUTER

Connection is simply a matter of plugging the pedalboard's USB cable into a spare USB port of the computer. This USB link transmits MIDI data from the pedalboard to the computer, and it also supplies the pedalboard with electrical power. No separate power supply is required.

If no spare USB port is available, it will be necessary to use a powered USB hub. These are available at low cost.

Once connected, the pedalboard will automatically be ON when the computer is powered up, and OFF at other times. To confirm that the pedalboard is ON, press the channel setting piston once. The adjacent LED should light up. Press the piston again to return to normal playing mode.

The pedalboard's circuit board can process up to two expression pedals. If you have additional pedal(s), these will need to be connected separately. If you are using one of our keyboard stacks, up to two additional pedals can be plugged into the expression sockets on the rear panel of the stack (giving a total of four).

SETTING THE MIDI OUTPUT CHANNEL

The pedalboard normally outputs on MIDI channel "1", and for most users, most of the time, there will be no need to change this. If, for some reason, you do need the pedalboard to output on a different MIDI channel, proceed as follows:

1. Press the channel-setting toe piston once

2. Confirm that the adjacent green LED is lit

3. Choose the MIDI channel by pressing one of the natural keys as below (starting at the LH end of the pedalboard) :

    1   D

    2   E

    3   F

    4   G

    5   A

    6   B

    7   C (octave 2)

    8   D

    9   E

    10 F

    11 G

    12 A

    13 B

    14 C (octave 3)

    15 D

    16 E

4. After the pedal is pressed, the LED goes out, and the new channel is selected. It will remain in effect until the pedalboard is next powered off.

USING THE PEDALBOARD WITH HAUPTWERK

The following sections describe how to use the pedalboard with Hauptwerk v4. For other softwares, the procedure will be generally similar. Please consult your software instructions.

Before using the pedalboard with Hauptwerk, it is necessary to make sure it has been recognised and is enabled for MIDI input. This should only need to be done once

1. Start the Hauptwerk software.

2. Click on the *General Settings* menu command

3. Click on *MIDI Ports*

4. Confirm that there is an entry called 'Keystation 49e' (reflecting the origin of the pedalboard's circuit board)

5. Opposite 'Keystation 49e', tick the 'Console MIDI IN' column (if not already ticked).

6. Click *Done*

Hauptwerk MIDI IN port	Console MIDI IN	Sequencer MIDI IN (advanced usage)
USB MIDI keyboard	☑	☐
USB Keystation 49e	☑	☐
Hauptwerk VST Link	☐	☑

CONNECTING TO THE VIRTUAL PEDALBOARD

The next step is to associate the physical pedalboard with the virtual pedalboard of an organ sample set. The 'auto detect' feature of Hauptwerk version 4 makes this easy, and saves the user from needing to be aware of the MIDI signals being sent. This procedure will need to be done once for each sample set you use.

1. Load the virtual organ

2. Ensure pedalboard image is visible on screen (it may be necessary to select *Console* view)

3. Right-click on the image of the pedalboard.

4. Left click on the first option (*Auto detect …*)

5. Press the lowest and highest pedal notes once

6. Click on *Done*
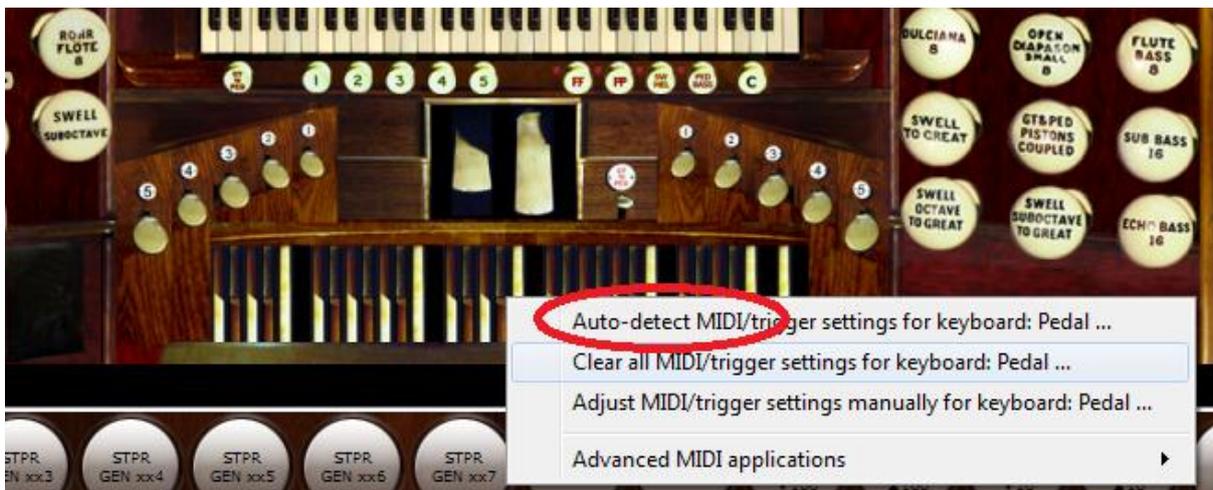

Your pedalboard is now connected to your virtual organ and ready to play.

USING THE EXPRESSION PEDALS WITH HAUTWERK

The physical expression pedals on the pedalboards can be used as swell pedals or crescendo pedals depending on what your virtual organ sample set provides. Again the 'auto detect' feature makes this very easy to set up.

1. Load the virtual organ

2. Ensure image of swell/crescendo pedal is visible on screen (it may be necessary to select *Console* view)

3. Right-click on the image of the pedal.

4. Left click on the first option (*Auto detect …*)

5. Move the physical expression pedal over its full range a couple of times

6. Click on *Done*
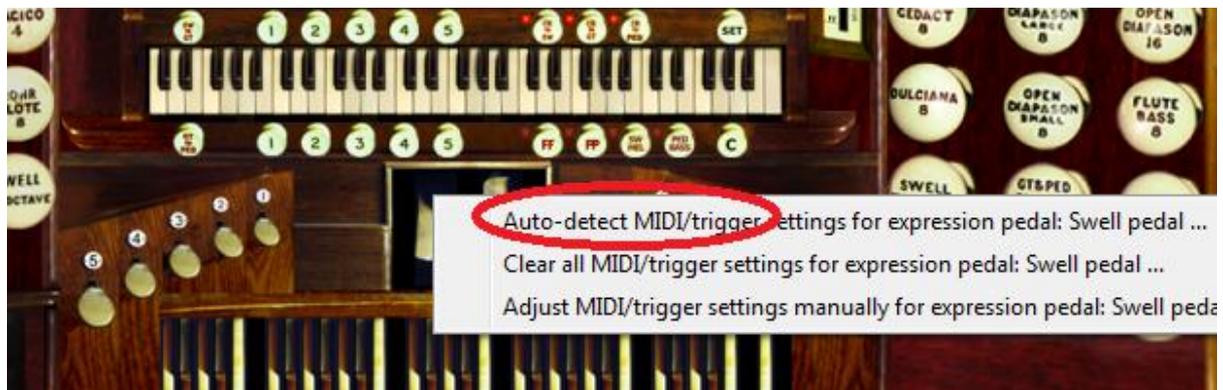
USING AN EXPRESSION PEDAL AS A MASTER VOLUME CONTROL

If you have more physical expression pedals than there are virtual ones in your sample set, you can, if you wish, use one as a master volume control,

> 1. Click on the *View* menu command
>
> 2. Click on *Mini control panels (for this organ)*
>
> 3. Select *Audio output level*
>
> 4. On the new audio control panel, right click over the slider
>
> 5. Left click on the first option (*Auto detect …*)
>
> 6. Move the physical expression pedal over its full range a couple of times
>
> 7. Click on *Done*

Now, when you move the physical pedal, the slider will move in response, controlling the total sound output from the organ. If you wish, you can hide the mini control panel now, and the pedal will continue to operate.

USING A TOE PISTON AS A COMBINATION PISTON

The most common use for the toe pistons is to call up a pre-defined combination of stops, but this is by no means their only use. They can be used to do just about anything in Hauptwerk, including executing menu commands. The simplest way to use them is to associate them with one of the pistons of the virtual organ. Typically, this will be with a virtual toe piston, but there's no reason why you can't use a physical toe piston to operate a virtual thumb piston (or vice-versa) if you so wish.

     1. Load the virtual organ

     2. Select a view in which the virtual pistons are visible on screen

     3. Right click over the chosen virtual piston

     4. Left click on the first option (*Auto-detect …*)

     5. Press the physical toe piston once

     6. Left click on *Done*

USING A TOE PISTON TO TRIGGER A MASTER GENERAL COMBINATION

As a further example of setting up a toe piston, this is how to make the piston operate Master General Combination number "3":

1. Left-click on the *View* menu command

2. Left-click on *Mini control panels (for this organ)*

3. Select *Master generals 1-10*

4. On the new mini control panel, right-click over *3*

5. Left-click on the first option (*Auto-detect …)*

6. Press the physical toe piston once

7. Left-click on *Done*

THE PROBLEM OF "BOUNCE"

The toe pistons of these pedalboards are prone to "contact bounce". This means that a single press of the piston can sometimes result in the command being transmitted not once, but two or more times in quick succession. When triggering a combination, this doesn't really matter. If the chosen combination is called up three times instead of once, you will still end up with the correct selection of stops. At other times it is more serious. For example, if you use a toe piston to advance the registration stepper, contact bounce could cause some steps in the sequence to be omitted. Fortunately, Hauptwerk v4 is able to detect bounce and prevent its effects. The next section will give an example of how to do this.

USING A TOE PISTON TO ADVANCE THE COMBINATION STEPPER

When using the registration stepper, it is advantageous to have both a thumb piston and a toe piston set up to advance the frame. This means that either a hand or a foot can be used, whichever can best be spared from playing duties at the time. To make this example a little more interesting, we will assume that a thumb piston has already been allocated for this purpose, so the toe piston will be the second input. We will also use Hauptwerk's built-in anti-bounce facility.

1. Left-click on the *View* menu command

2. Left-click on *Mini control panels (for this organ)*

3. Select *Combination stepper*

4. On the new control panel, right-click over the left-most right-pointing arrow.

5. Left-click on the third option (*Adjust MIDI/key trigger settings manually …*)

6. On the new dialog box, left-click at the top on *Input 2*

7. Left-click on *Auto-detect settings*

8. Press the toe piston once

9. Left-click on *Done*

10. In the multiple choice *Input:* box, select *Momentary piston: MIDI note-on*

11. Tick the box below which says *Prevent rapid piston re-triggering (de-bounce)?*

12. Left click on *OK*

13. The stepper mini control panel can now be hidden again, if not required.