Hauptwerk Hardware

Easy Strip

for the

Universal Midi Encoder

User Manual

Release 1.0 – February 2019

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Introduction

This manual is for the Easy Strip only. It should be read in conjunction with the manual for the Universal Midi Encoder which is available from our website on the downloads page under the downloads tab.

The Universal Midi Encoder has been developed especially for the purpose of generating Midi data from the many different types and styles of input devices commonly found in an organ console. It can process inputs from keyboards, stops, pistons and pedal-boards as well as analogue devices such as expression shoes.

When connecting the various inputs to the Universal Midi encoder it is necessary to connect a diode to each input and then to group the inputs into sets of 12. This conveniently fits with the notion of octaves and makes it easy for musicians to understand the concept. Whilst it is not difficult to correctly wire up the keyboards and other inputs to the Universal Midi encoder it does become tedious, time consuming and repetitive.

The Easy Strip has been designed to make it extremely easy to connect keyboards and other inputs usually found in organs such as thumb and toe pistons, stops etc. Basically all you have to do is connect a wire from one side of each 'key' to it's corresponding input marked on the Easy Strip. The other side of each 'key' is then connected to it's 'octave common' line. The Easy Strip contains all the diodes and takes care of 'grouping' the inputs into sets of 12 for you. Connections are made using male header pins, which accept industry standard single female header connectors or you can use the solder pads and solder your wires directly to these. In case you don't want to use solder connections Pre-wired female headers are available separately, which may be connected via screw terminal blocks to your wiring.

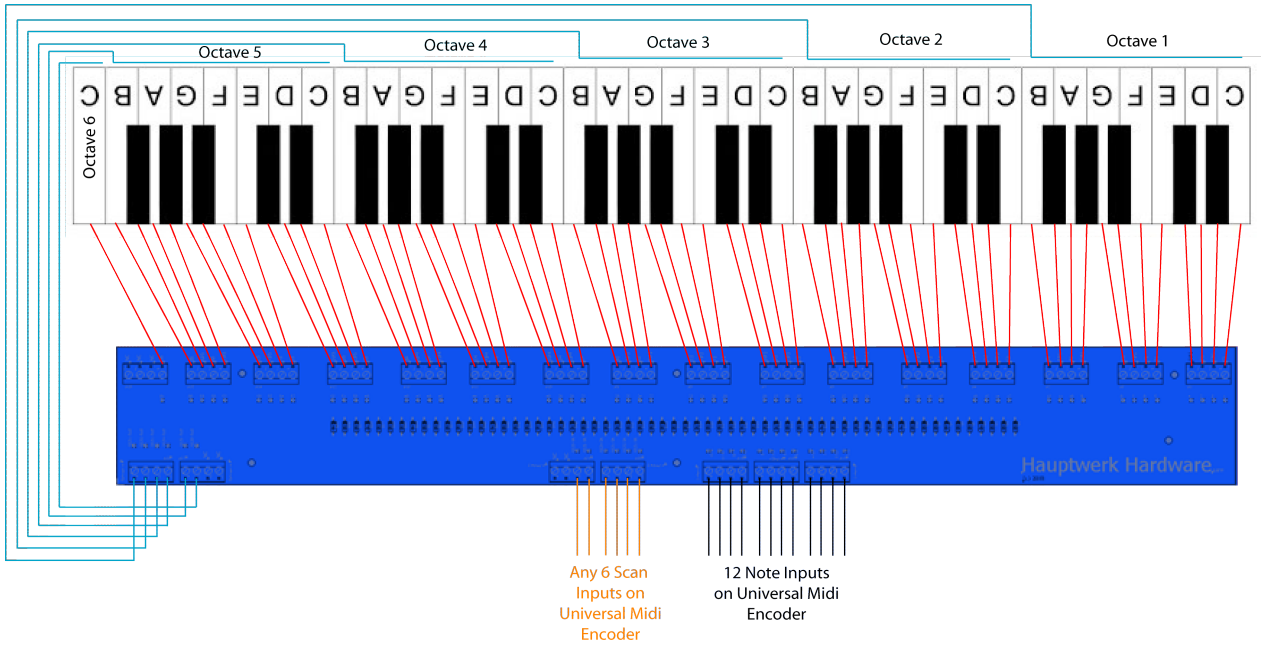
This manual explains all the necessary information about the Easy Strip and gives diagrams of its various connection points that are designed for you to connect to.

The Easy Strip is available to buy from our website under the 'Products' menu.

www.hauptwerkhardware.com

How to connect your Easy Strip(s)

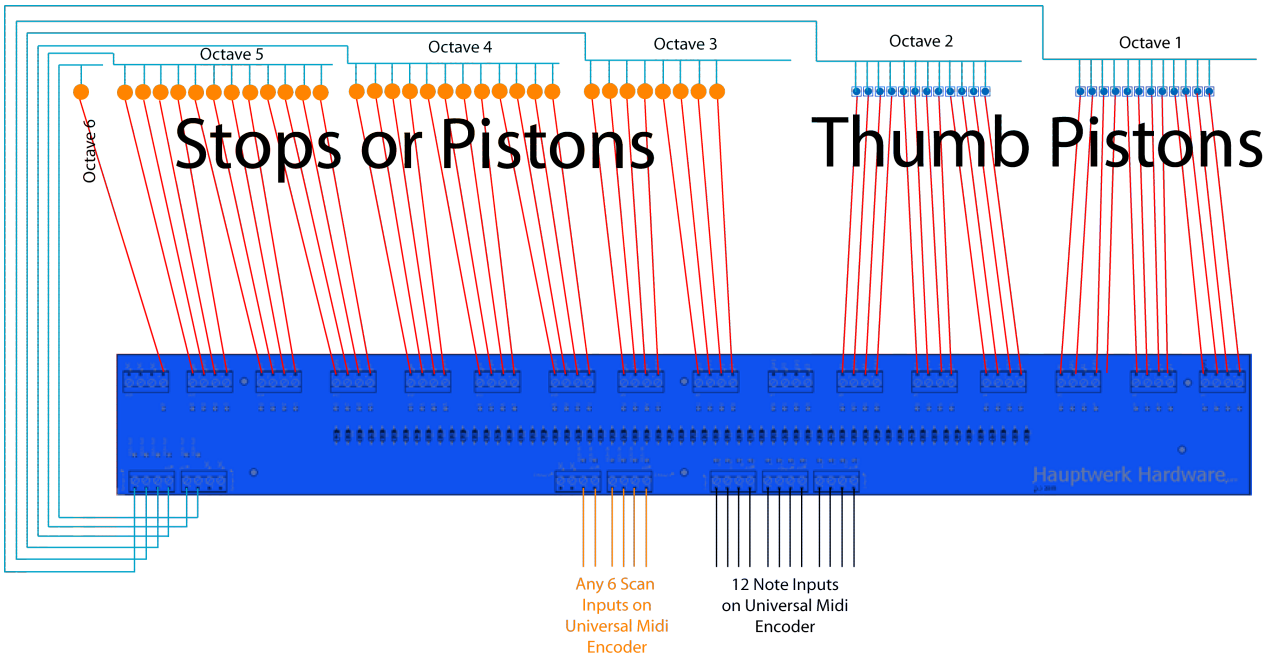
Simply connect a wire from each key contact to it's corresponding terminal on the Easy Strip, then connect a wire from the other side of the key contact to it's relevant octave input. The goal is to end up with a setup that looks like the diagram below.



Keyboards come set up in different ways. Basically each key has one or more contacts which work like switches. One side of each switch is usually connected to a 'common' line or bus. This common line may span 8 keys or 12 keys or sometimes the entire 61 keys! You will need to cut and modify the common lines on your keyboards so that they are split into octaves. Then simply connect a wire from each octave common line to it's corresponding 'octave input' on the Easy Strip.

Octaves are numbered from 1 to 6 where octave 1 is the lowest octave on the leftmost side of your keyboard when viewed from the front in the playing position, and octave 6 is the highest octave on the far right of the keyboard when viewed in the playing position. It is worth pointing out that octave 6 only contains one key, the top C.

How to connect Stops, Pistons etc.



Stops and pistons are connected in exactly the same way as keyboards. Referring to the above diagram you can see that the stops (shown in orange) are connected just like keys. They are grouped into sets of 12 and have one side of each stop connected to an 'octave' common line. The thumb pistons (shown in blue) are connected in the same way again.

It doesn't matter how many or how few stops, switches or pistons you have or how they are connected, so long as they are in sets of 12 or part of a set of 12. Keyboards obviously have to be connected in order so that each key sounds the correct note, but no such rule applies to stops, switches and pistons. As you can see from the diagram above there are only 8 stops connected in octave 3. This is perfectly fine and will not cause any problems with the configuration of the Hauptwerk software thanks to it's 'Midi Autodetect' feature which automatically assigns the correct event to each Midi signal received in the setup process and remembers them thereafter. Don't worry if that sounds confusing; it will all become clear once you connect your console to a Computer running Hauptwerk and start setting things up...!

Mounting

The Easy Strip has 6 mounting holes of 3mm diameter each. These are for mounting the board in a convenient place within your console. It is important to consider that the reverse of the board is made from copper and that parts of this copper surface carry the electrical signals to and from the encoder. It is therefore necessary to ensure that whatever mounting method you use does not allow the reverse of the board to come into contact with any conductive surface as doing so may present a fire risk and or cause irreparable damage to both the board and the encoder itself. It is suggested that suitable insulating spacers be used in mounting the board leaving a gap of at least 5mm between the board and the mounting surface.

The board is suitable for mounting at any angle in any plane. The board must be installed in a position where it will not suffer condensing moisture, water, physical shock or any contact with moving parts. It must be protected from any conductive items, parts or waste that may fall on it.