

Hauptwerk Hardware

Interface Board Kit for the Universal Midi Encoder

Instruction Manual

Release 1.2 – February 2016

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Introduction

This manual is for the interface board kit only. It should be read in conjunction with the manuals for the interface board and the Universal Midi Encoder which are available from our website on the downloads page under the support tab.

This manual explains all the necessary information about the interface board kit and gives instructions on how to assemble the component parts to form a complete interface board.

Certain electronic and practical skills along with some tools are required for the successful assembly of this kit. You will need to be proficient at soldering have access to the following:-

- **Soldering Iron**
- **Solder – Resin cored (Multicore)**
- **Side Cutters**
- **De-soldering tool or 'Solder Wick'**
- **Tweezers or small pin nose pliers**
- **Abrasive paper or pad**

There is a free video on our website which gives a pictorial guide to assembling the kit.

The Interface board kit is available to buy from our website under the 'Shop' menu.

www.hauptwerkhardware.com

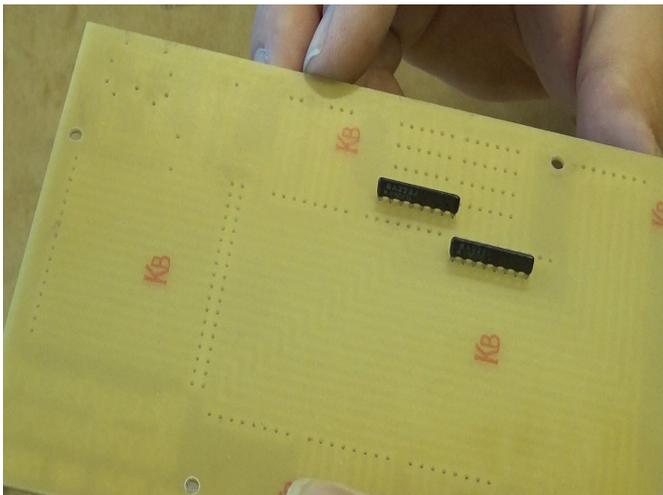
Parts Identification

The kit contains the following parts.

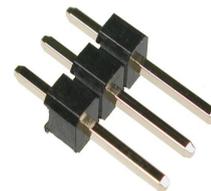
- 1 - Printed Circuit Board.
- 2 - 22K Ohm resistor packs
- 1 - 220 Ohm resistor
- 1 - 5 pin Midi Socket.
- 5 - Strips of Header pins

The resistor packs have a small dot painted or printed at one end. When installing these onto the board the end with the dot *must* be at the end closest to the Midi Socket. It is very important that they are installed the correct way round otherwise the encoder will not work!

The resistor packs need to be placed as shown in the picture with the ident dot mentioned above on the left hand side.

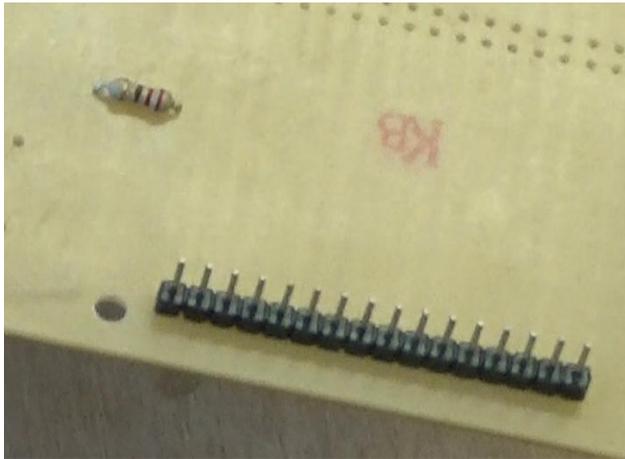


The strips of header pins have one short side and one long side. The short side goes through the board and is soldered in place leaving the long side standing up on the face side of the board.

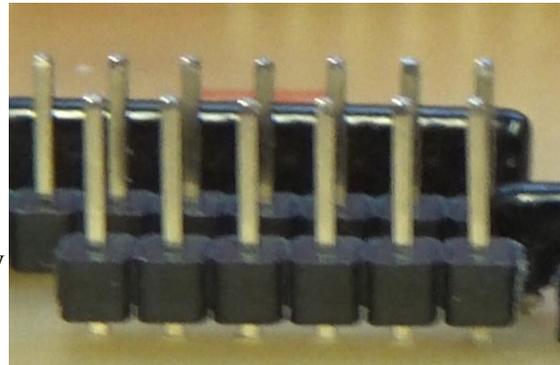


The single resistor goes in the two holes adjacent to the holes for the Midi Socket as shown here. It doesn't matter which way round it goes.

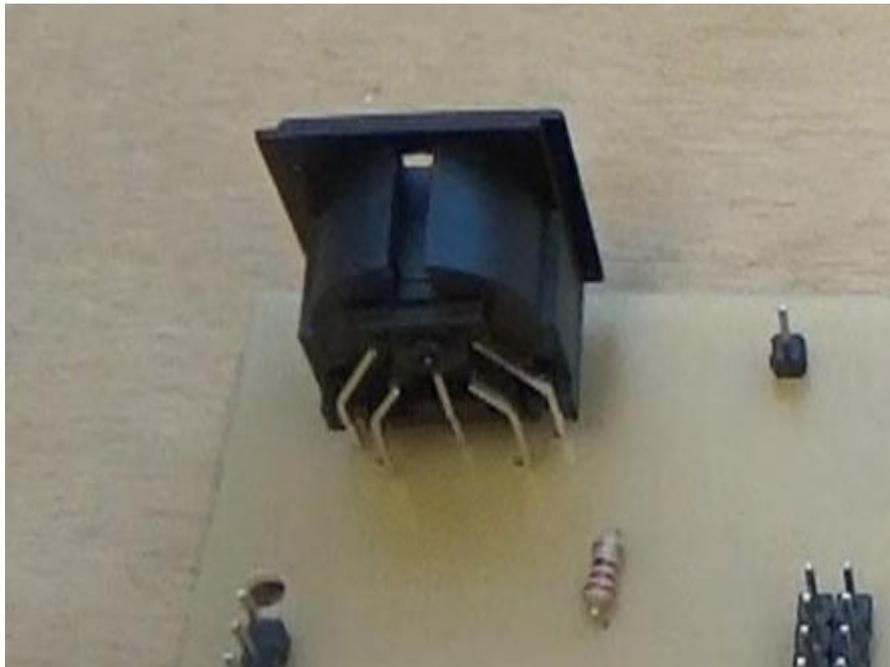
The header pins come in strips which you can easily snap off to the required length.



The short side goes through the board to be soldered onto the copper tracks. Make sure that the pins are inserted fully into the board as if there is any gap they can easily bend and misalign when the encoder module is pushed down onto them. A gap like this is bad.



The last part to fit is the Midi Socket. This simply pushes through the board and is soldered on. It will only fit one way and is quite a tight fit so it will hold itself in place while you solder it.



Once you have identified all the parts and where they fit on the board it is time to prepare the board for soldering. Because the copper parts of the board that you are going to solder onto are in contact with the air they quickly oxidise and this makes it difficult to solder to.

It is important to clean the board thoroughly using an abrasive pad or emery paper so that it is clean and shiny. This will

make it much easier to solder to. If you do not clean the board properly it will be harder to solder and you will most likely find that you will have to apply the iron for much longer than is usually necessary. This will cause the copper tracks to detach from the board ruining the job and the board. ***Heat damage like this is not covered by the warranty!***

Putting it Together

Once the board has been cleaned as described above it is time to start putting it together. Begin by fitting the resistor packs, making absolutely sure they are the correct way round (see above).

Solder only one pin of each component so that you can ensure you are happy with the way they are sitting on the board before committing and soldering all the pins. I suggest only soldering one pin of each component until all the components are fitted. Then inspect the whole assembly thoroughly before soldering the rest of the pins.

Once you have got the resistor packs mounted fit the single resistor. It doesn't matter which way round this goes.

The next job is to fit all the header pins. Snap off the required lengths from the stock and solder to the board only soldering one pin of each set as discussed above. Ensure that all the pins are fully down on the board before soldering, also that they are standing upright, plumb, looking at them from all sides. It is most important that they are straight and true otherwise the encoder module will not fit properly and you risk damage to the board because of the extra force which is required to force the encoder down onto ill fitted pins.

Finally install the Midi Socket. This will only fit one way round and is a tight fit. As before solder only one of it's pins onto the board at this stage.

Now that all the components are mounted inspect the board from every angle carefully. Check that all the pins are straight and true, that the resistor packs are the right way round and that everything looks good. Only once you are satisfied that all is OK should you go ahead and solder the rest of the pins.

Once you have completed all the soldering inspect your work carefully as it is very easy for solder to bridge some of the tracks or pins. Any bridged tracks must be cleared before putting the board into operation otherwise at best it won't work and at worst you risk damage to the encoder module.

NOTICE

By the very nature of kit building there are many variables that are beyond our sight or control. The supplier of this kit will not accept any liability for any loss, damage, injury or consequential loss suffered by any person building or using this kit however caused. The instructions are provided in good faith and assume a reasonable level of competence on the part of any person or persons building or using this kit. If there is any part of the instructions that you do not understand then we strongly recommend that you seek help before attempting to assemble or use the kit. We will not accept liability for any loss caused by lack of understanding of any of the instructions or skills or operations required by them. The kit contains small parts that could present a choking hazard to small children also building the kit requires the use of tools and heat. We therefore advise that the kit be kept and assembled safely away from children.