Solenoid Expander V1.0 ASSEMBLY

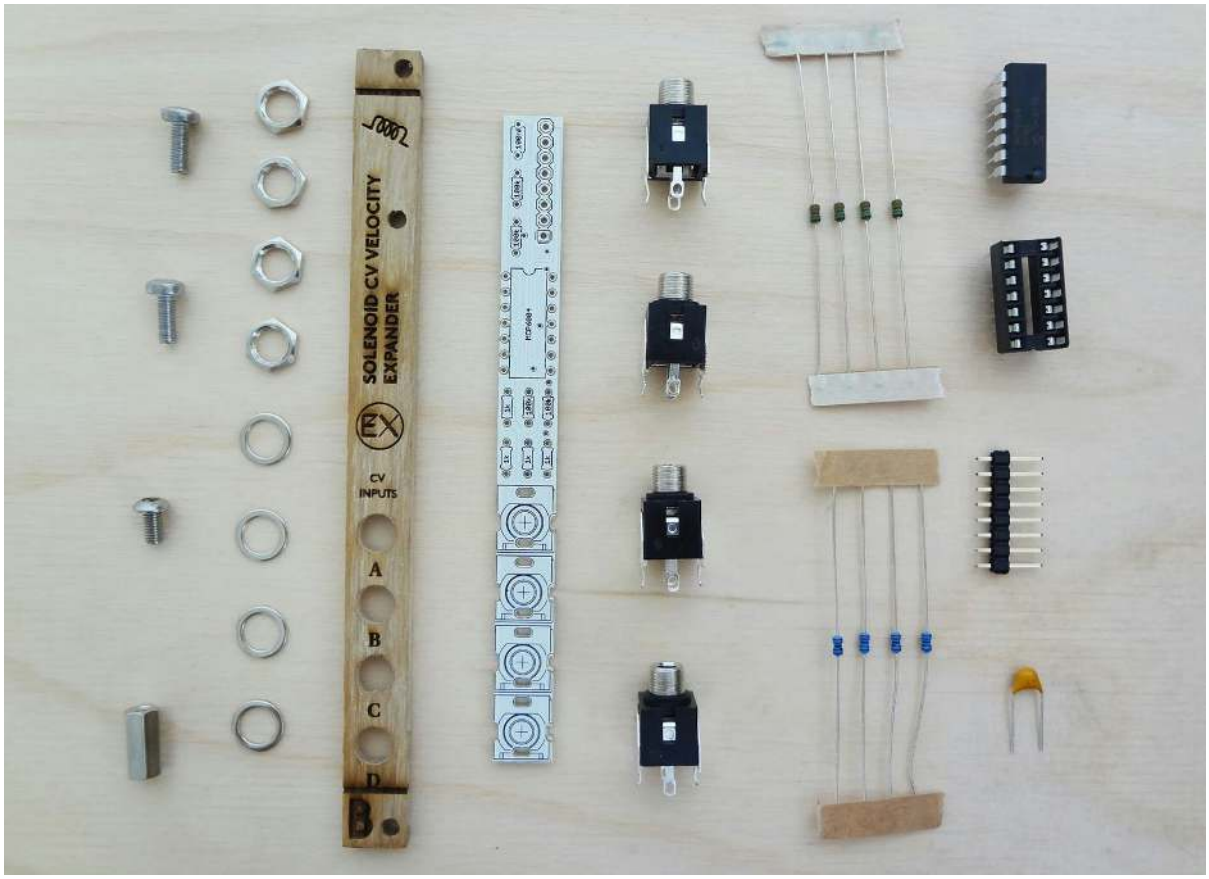
Before starting this kit, prepare the following tools: Soldering iron (15-20W will do), multi-meter, protective eyewear, flush cutters, n2. hex screwdriver or allen key, phillips screwdriver and some coffee. Also briefly go through this guide and make sure that you understand all the steps, if you are having any troubles don't hesitate to seek help at the forum.

We suggest that you work in a clean and a well lit environment to avoid accidents or losing any of the small components.

IMPORTANT!

If you have never soldered before, check out this great tutorial first.

And please check that your boards are the same version as this guide and that your kit contains the following items:



BOM – BILL OF MATERIALS

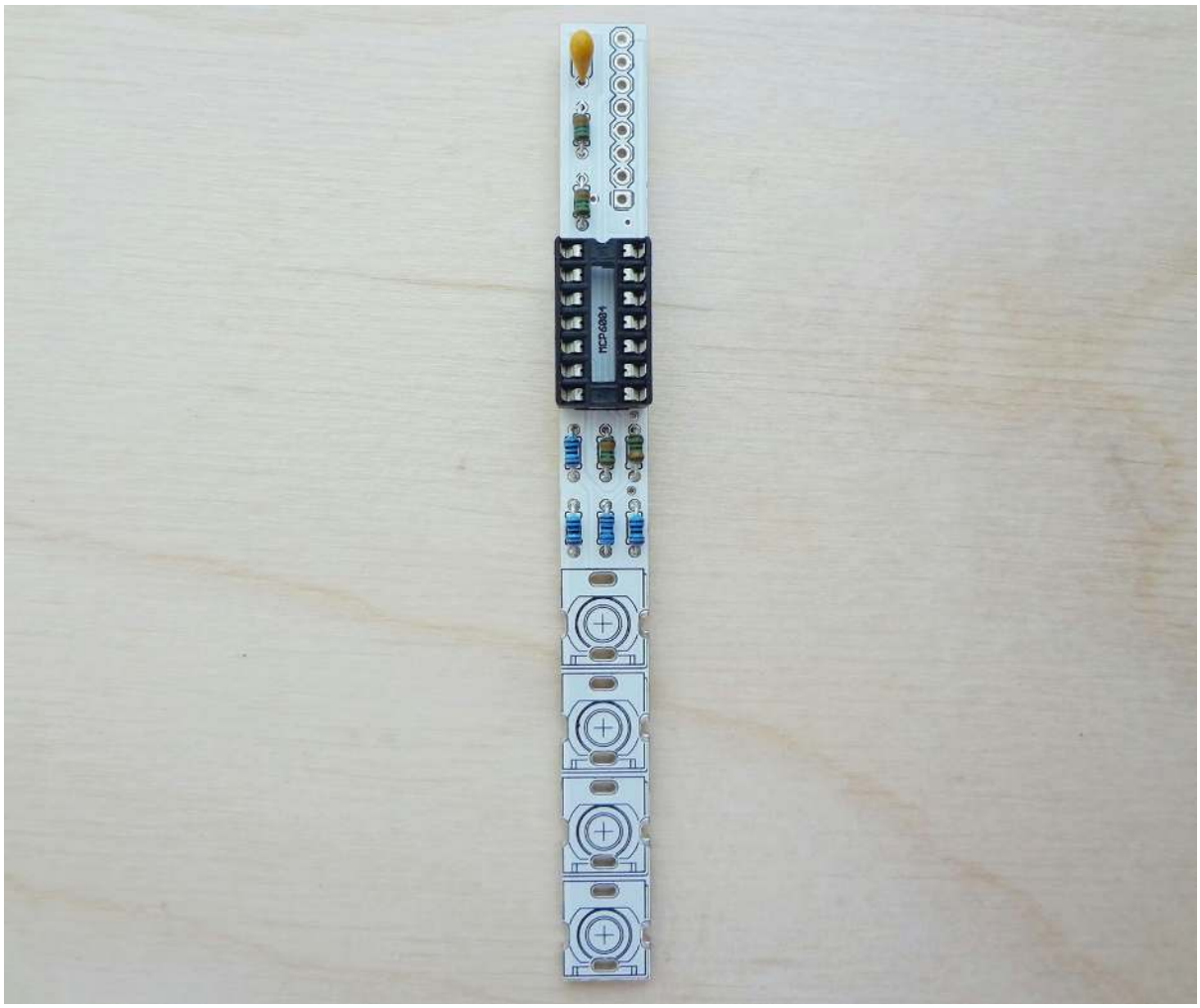
4 x 1kΩ 0,4W 1% resistor	1 x 8 pin male pinheader	1 x 8mm panel screw
4 x 100kΩ 0,4W 1% resistor	1 x 11mm spacer	1 x imbus key
1 x 100nF ceramic capacitor	1 x top PCB	1 x cable 8 pin
1 x 14 pin DIL socket	4 x jack washer	1 x laser engraved panel
1 x MCP6004 IC	4 x jack nut	1 x 6mm screw
4 x jack connector		

We even included some of the best quality solder we found to help you solder everything faster.
Before starting soldering, take your time and find all the resistors value, either using a multimeter or looking up their color codes.

BOTTOM BOARD

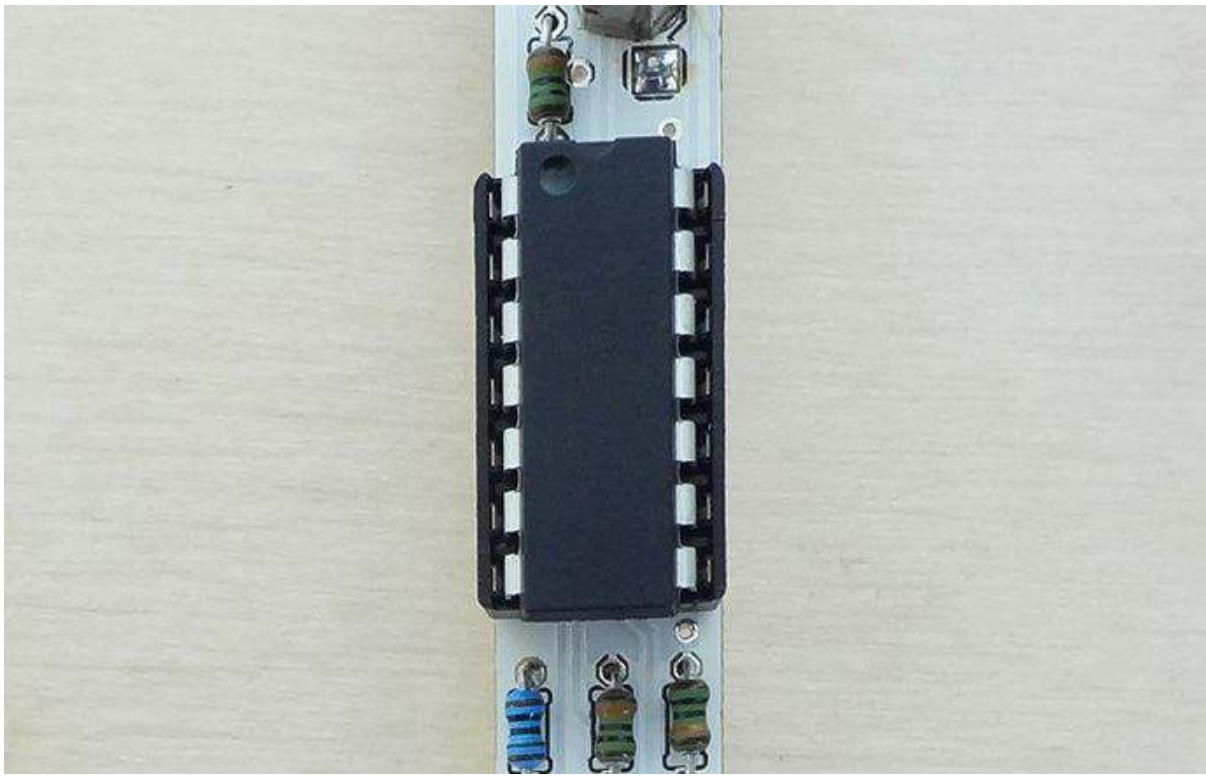
Lets start with the bottom board, with the shortest and smallest parts.
Take a strip of resistors and look up the values printed on the circuit boards. Start with the 100KΩ and 1KΩ (The color of the resistor body may defer from the pictures, but its the color code of the values that matters). Place them through the board, solder them and clip off the excess leads.
Your board should look like this (click on the images to enlarge):

Next place and solder the socket. Make sure that the notch is in the **same direction** as printed on the circuit board.
Then add the capacitor, there is one 100nF capacitor (marked 104, follow the link for more details on capacitor codes). It might be in ceramic or polyester film package, don't worry it is not polarized.

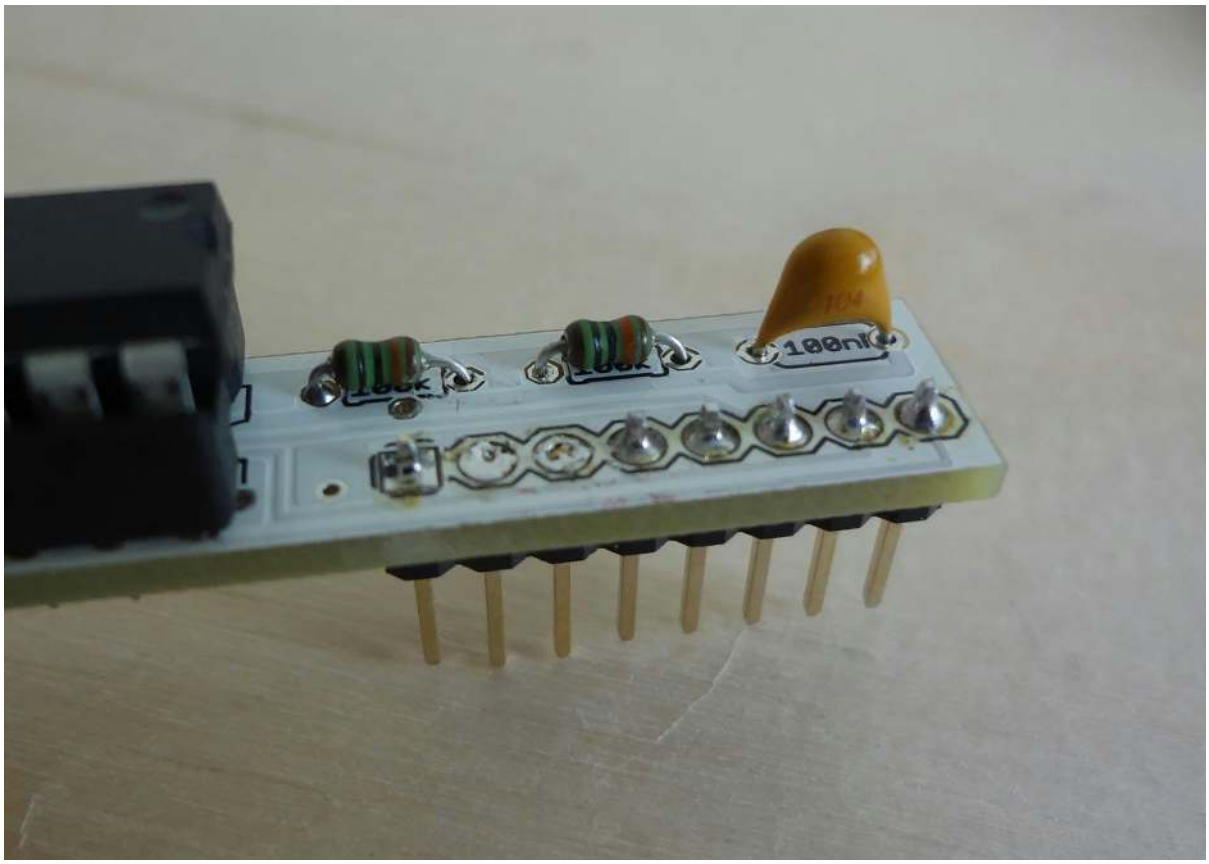


SUPER MEGA IMPORTANT!!! RESPECT CHIP POLARITY.

Next insert the IC chip into its socket. Make sure that the **notch** on the chip is **facing the same direction** as the notch on the socket.



Now prepare your pin headers by cutting them in the correct size.
Take connector and place it also on the back side of the board. It might be tricky to solder it straight, but you can place something like your cutter under the board to hold it level. Also first solder in just one of the pins, then take the board in your hand and re heat that pin while pressing down on the header to align it (be careful though, you don't want to touch the pin you are heating up) wait for it to cool and solder the rest of the pins.
Then using the hot soldering iron press and push the second and the third pins from the bottom until they are level with the board, just like in the image below.



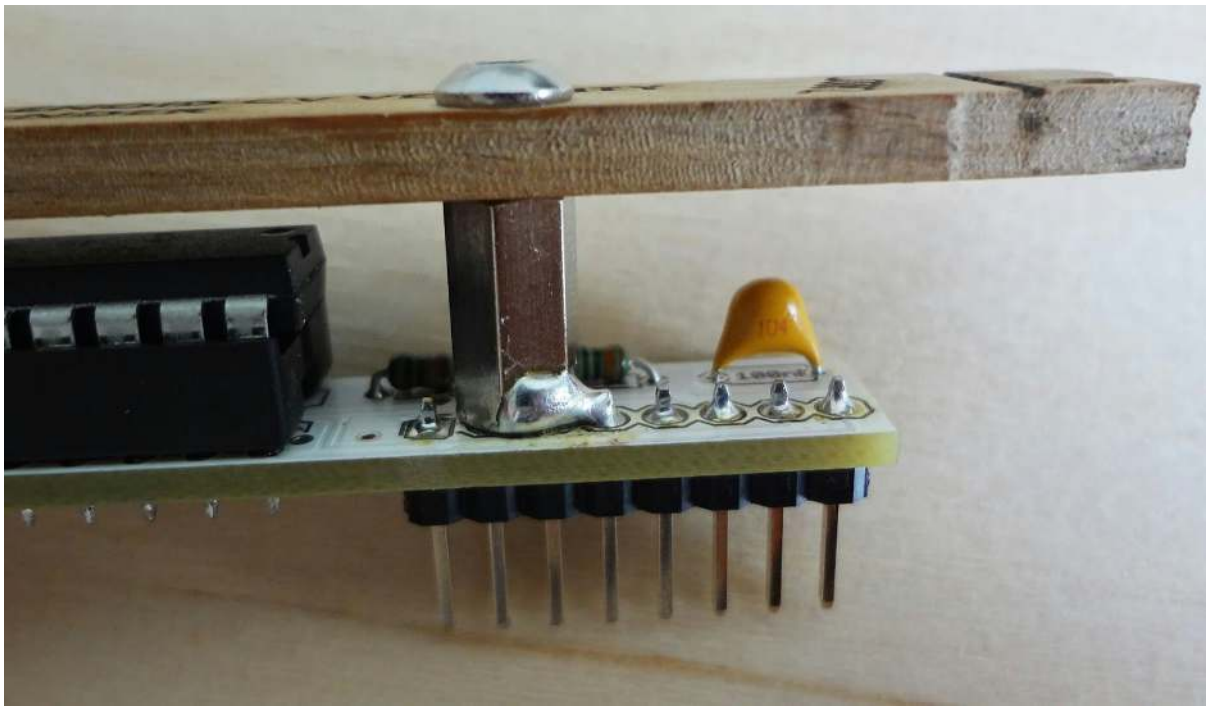
Place the four mono jacks to their respected places on the board. Push them well until they **sit absolutely flat on the board**, but don't solder them yet.

ENCLOSURE ASSEMBLY

Again we want to make sure that all the **components are properly aligned** with the front panel, secure the jacks to the panel with the washers and the nuts, also screw the stand off to the front panel. Turn over the board and carefully solder them, make sure that the front panel is aligned as much as possible with the circuit board.

IMPORTANT

Don’t tighten the screws and jack washers too much as you may damage them!
Now the most tricky part is to solder the standoff to one of the header pins. Apply a lot of solder and heat up the standoff as much as possible (it will not stick to the circuit board as solder only flows over metallic materials, so try one of the two nearby pins). It should sit well flat on top of the two pins you pushed out of the way.



Congratulations! You have made it through, now just connect the expansion to the main module with the provided cable and you are ready to enjoy your new module.

Before you connect anything, make sure that your system is disconnected from power. Also make sure that cable connections on both modules are in the same side.

TROUBLESHOOTING

Check that all of the solder joins are solid.
Did you plug it correctly?

RELEASES

- 1.0 – Original release.