BuildGuide For EnvKB80 “Delirium”

Parts needed:

- 90x 1n4148 Through Hole Diodes
- 1x Keyboard PCB
- Raspberry Pi Pico
- 90x MX style switches of your choice
- TKL set of MX compatible keycaps
- 2x pogo pins approximately 12mm or 2 pieces of thin wire
- M3 screws, 3.5mm m3 spacers, m3 nuts
- Rubber bumper feet

If you purchase a kit from me most of the above will be included with the exception of switches, keycaps and stabilizers, that's up to you to pick what you want and buy.

In my kits a switch plate and back plate are usually included.
The switch plate is what you slot your keyboard switches into if you have “3 pin” switches. (it's pretty distinct in that it has lots of square holes)

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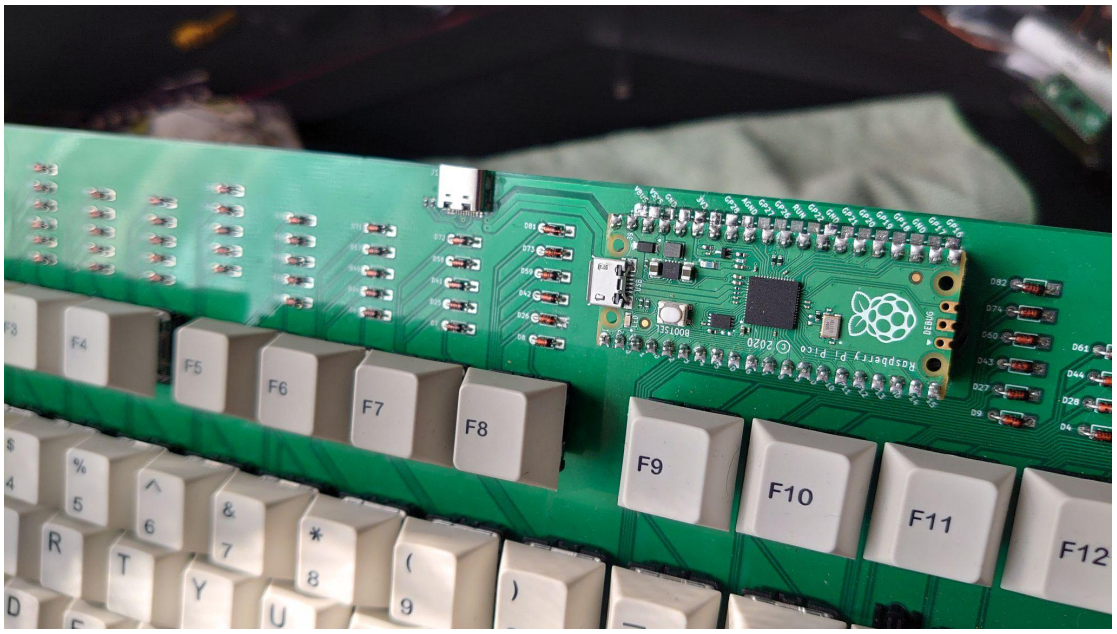
Building:

There is no particular order but obviously installing keycaps before switches is just not possible so try to use your brain a little bit heh.

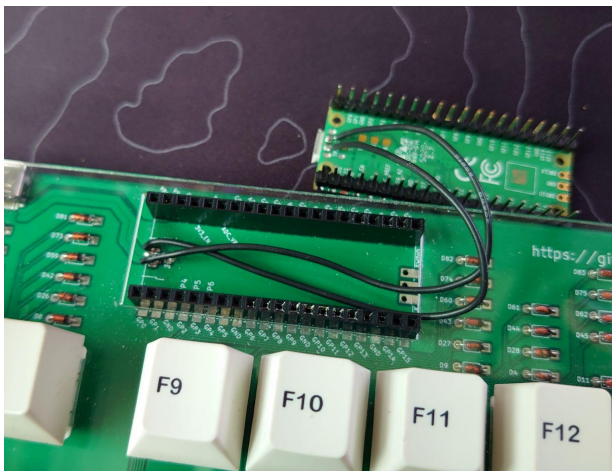
Diodes:

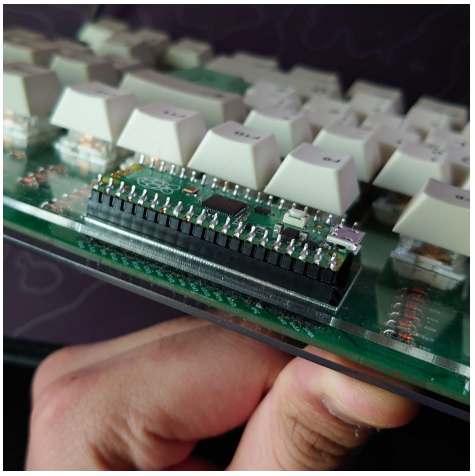
Ensure all diodes are installed in the right place with the band to the right side as indicated in the picture below, you can optionally install the diodes on the backside of the PCB but that would be a little weird. (the diode orientation is marked on the PCB)



RPI PICO:

As you can see in the picture below I've used two 1x20 female headers to connect my pico to my board, and I've used a couple small wires connecting TP2 and TP3 to the respective pads on the PCB. <u>This is important if you want the type-C port to work.</u>

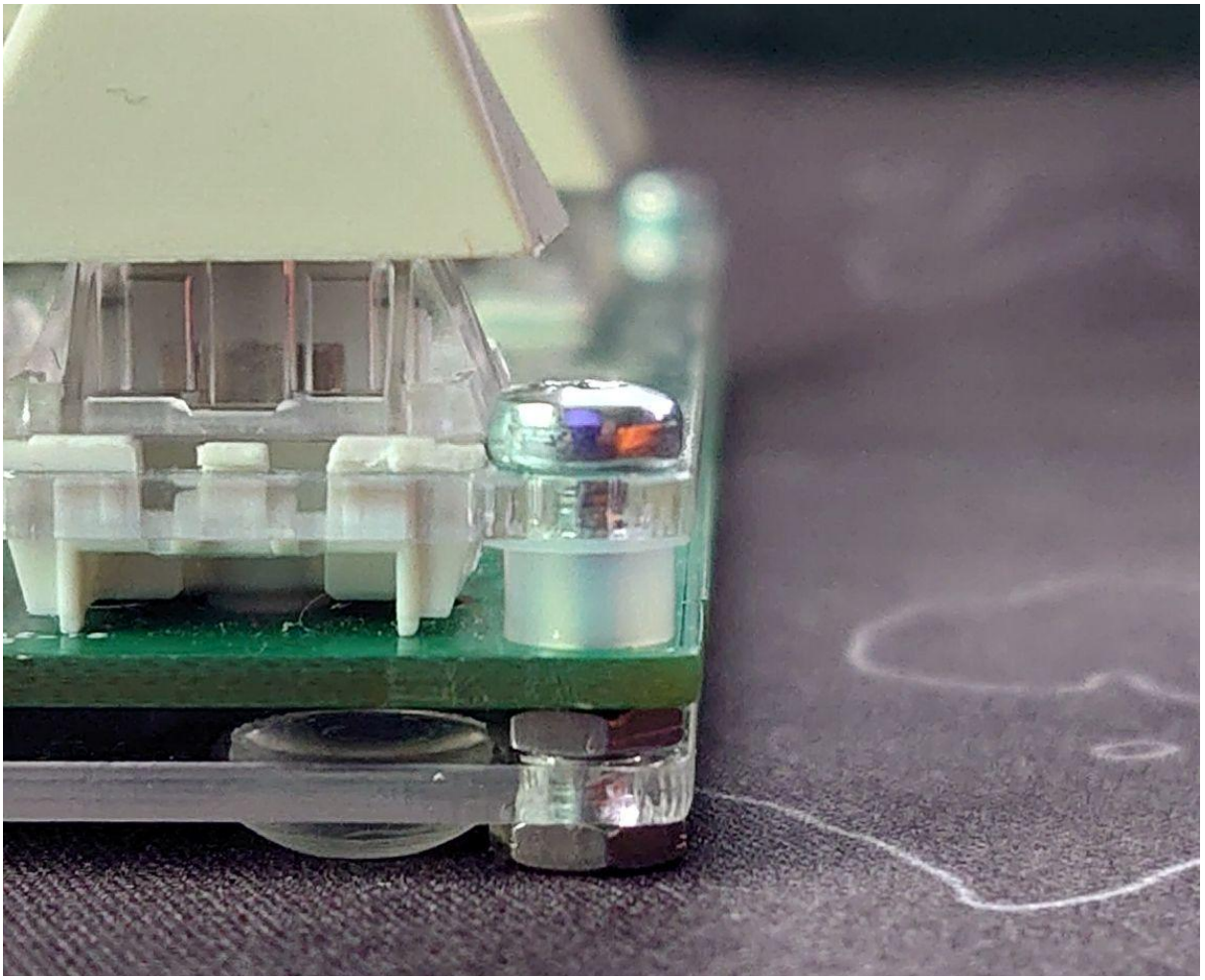




Mentioned in the part list you can optionally use pogo pins, the max length depends on if you are using headers or not but in case you are using headers you are looking for pogo pins with a max length above 12mm.

Spacer, Nut, Screw, ETC Ordering

It's important that you the switch plate has a 3.5mm spacer on top of the PCB, on the backside it doesn't quite matter but im just using a M3 nut as you can see, you can optionally invert the screw and have the head on the bottom of the keyboard, this would be useful if you have rubber feet which aren't tall enough.



Extra note: if you happen to have a prototype kit you'll have to snip the corner of the switch for the right arrow.

Building the rest of the keyboard:

If you have a switch plate make sure you install your switches into the plate and then press them into the board, once the switches are soldered the switch plate can't be removed.

Other than that you can put the rest of the keyboard together, if you have 5 pin switches make sure they are properly pressed into the PCB so they sit flat.

FIRMWARE:

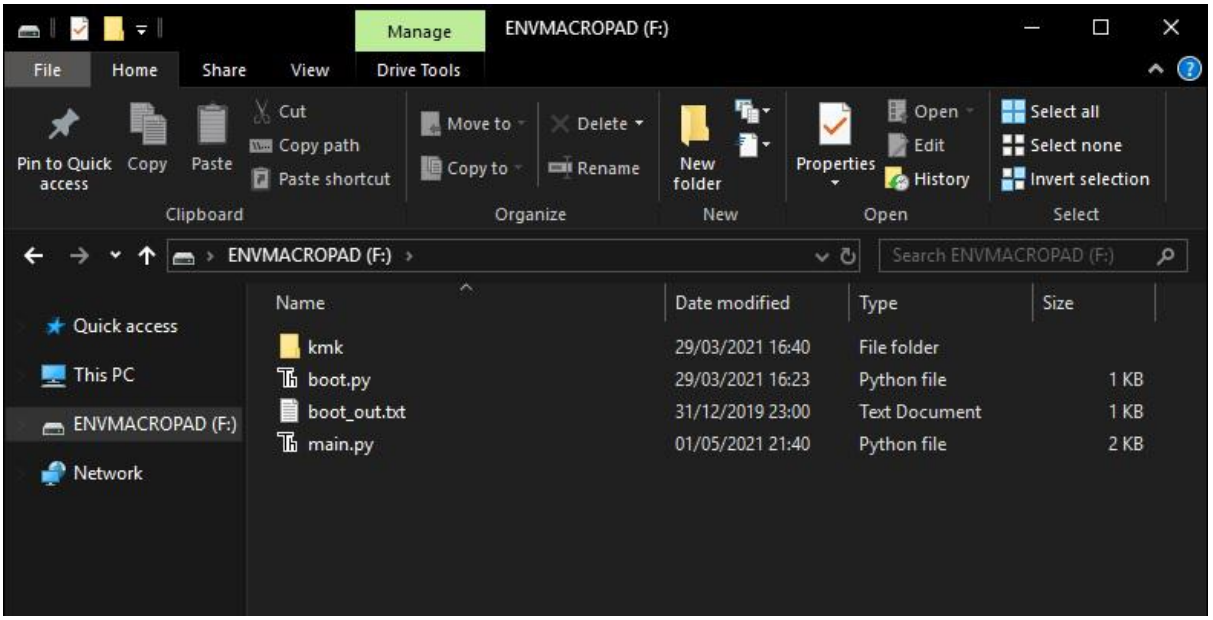
To setup your Raspberry Pi Pico you will need to flash Circuitpython 6.3.0

You can follow this guide to do so.
https://learn.adafruit.com/getting-started-with-raspberry-pi-pico-circuitpython/circuitpython

- Once you have your raspberry pi running Circuitpython it should show up as a usb drive called “Circuitpy” open that up and remove any extra files.

- Download a firmware zip from the link below
  https://github.com/Envious-Data/Env-KB/tree/main/_Firmware

- Extract its contents to your raspberry pi pico like in the screenshot below.



You can also re-name your Raspberry Pi Pico to something other than “Circuitpy”