Shorty (Re-Programable Macro Board)

**Components Hardware Required:**

1. Raspberry pi Pico ([here](https://datasheets.raspberrypi.com/pico/pico-datasheet.pdf))
2. Cherry MX Style Switch’s ([here](https://cdn.sparkfun.com/datasheets/Components/Switches/MX%20Series.pdf))
3. General Purpose led ([here](https://learn.adafruit.com/all-about-leds/what-is-an-led))
4. Our PCB (here)

**Specifications For Shorty:**

Contain 9 re-programmable key for your macro, keys are laid out in 3x3 matrix.

1. **Switch:** Key switch with fixation pins (1 pole), hot swappable (should contain same mount point as mentioned).
2. **Keycap’s:** can be 3d printed using given model or can pe purchased online.

**Note:**

Match keycap size before purchasing, supported keycap are alphabetic caps.

1. **Size:** x = 93.47mm, y = 62.99 mm
2. **Mounting:** can be mounted using 5 2.1mm mounting bits.
3. **Connection:** micro-B USB.

**Programing Specification:**

1. micro-python, supported firmware and installation guide is [here](https://projects.raspberrypi.org/en/projects/getting-started-with-the-pico/3).
2. C/C++, can be uploaded using Arduino ide.
3. QMK firmware.

**Circuit Symantec (fig 1)**

Diagram, schematic

Description automatically generated

Fig 1

Each switch is connectedto a 3.3-volt power pin and outing that to a GPIO pin.

Also contains a led which you can use to show a status or anything you desire.

**PCB Symantec (fig 2)**

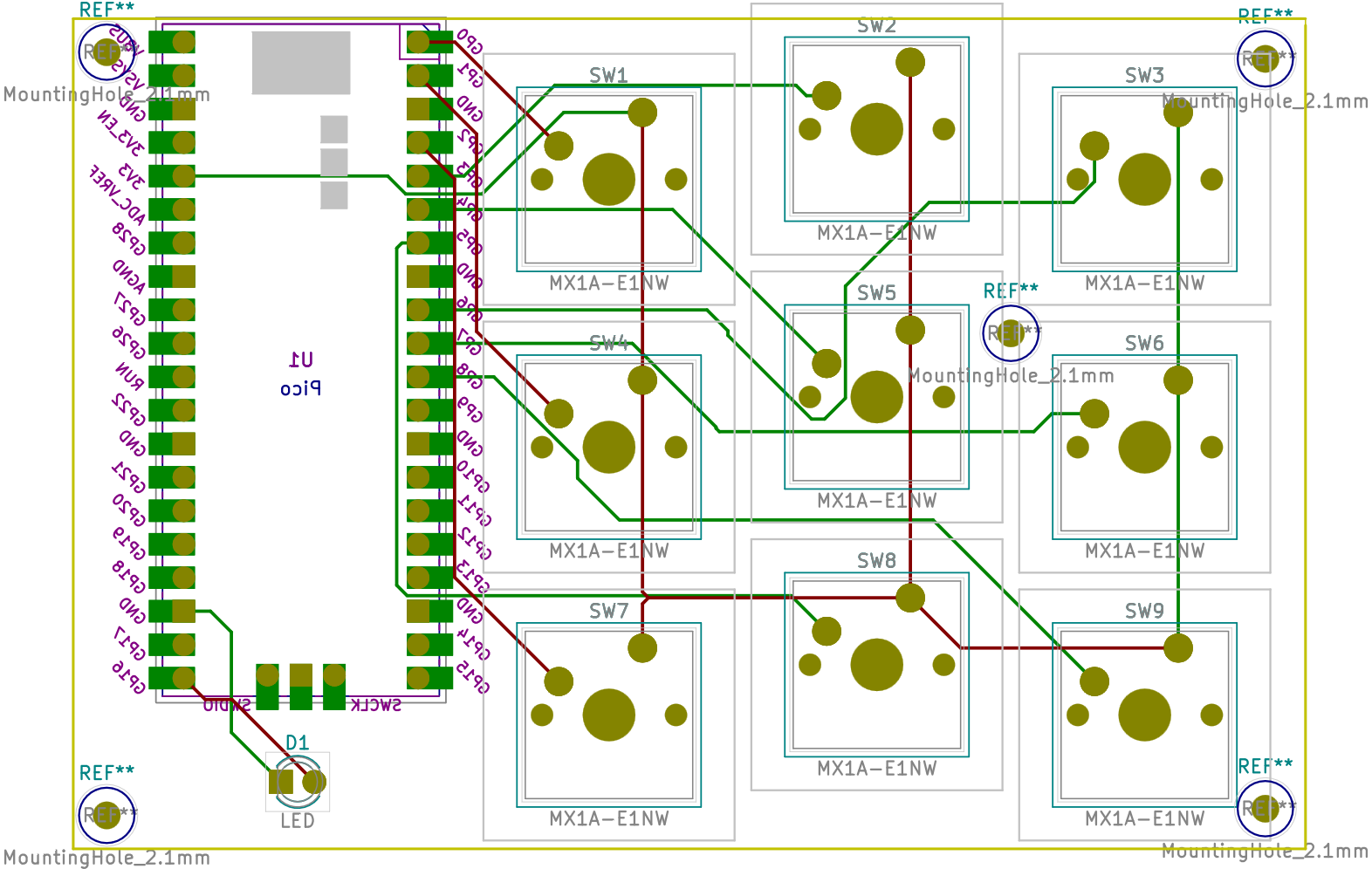


Fig 2

All the details about PCB can be found on the GitHub, just open the PCB folder in KiCad.

**3d Renders for PCB and components**

Can be found here

**Additional Info:**

1. **USB connector can be swapped out by type-c USB connector.**
2. **Screw bit to** [**use**](https://robu.in/product/easymech-set-m3-x-8mm-socket-head-cap-allen-bolt-nut-12-pcs/?gclid=Cj0KCQiAqbyNBhC2ARIsALDwAsADhPifSg5hWDmQ7v2qYoyMzTp5OGg2JqAIyofhR5QfNFUVPAGa83kaAofiEALw_wcB)**.**
3. **Board can also be replaced by ATmega32U4 or any other USB re-programmable Microchips.**

**Additional use case:**

Can be use with the script included in “shorty.py” which help you to set keyboard shortcut in your device and then you can program your macro pad to send those specific commands to your device, this way you can swiftly change your macros.

**Source:**