

milk 2% macropad: build guide

board designed by **spaceman** (spaceboards.xyz)

stickers & guide (v1.0) by **nthea** (nthea.xyz)

build video: <https://youtu.be/M90eZJ78Jg4>

a. required parts

- case (3D printed) – [files here](#)
- PCB – [files here](#)
- pro micro with headers
- 2 x switches & 1u keycaps
- (optional) 4 x mill max sockets
- (optional) cute stickers

equipment needed:

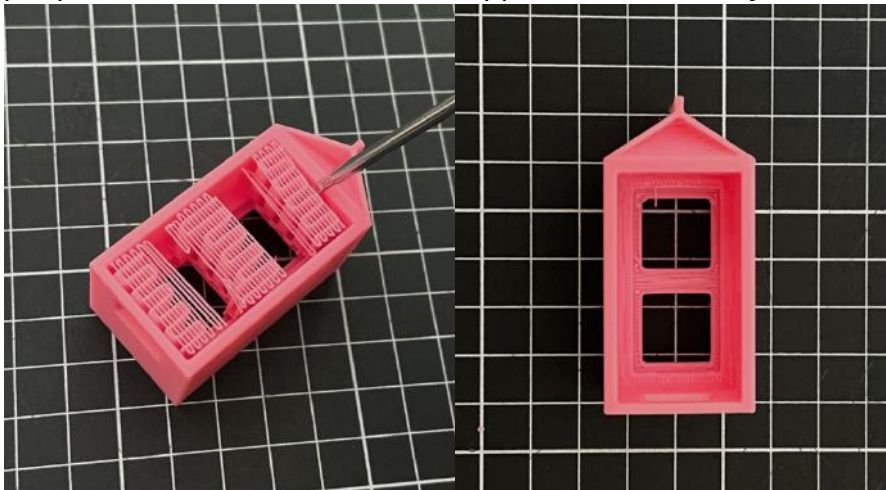
- soldering setup (iron, solder, flux, exhaust fan etc)
- tweezers
- clipper
- qmk/via
- microusb cable



b. build

step 0.

prepare the case: remove supports/sand to your liking (if applicable)



step 1.

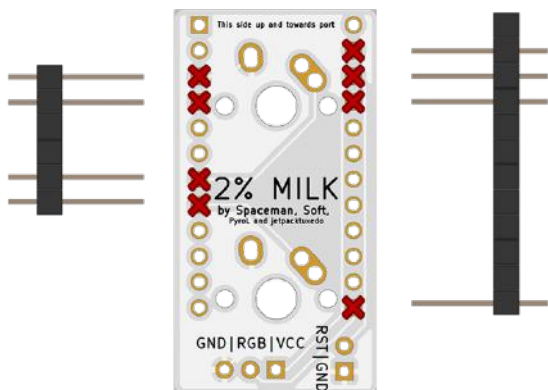
solder in the mill max sockets: insert them into the correct holes (ensure the 'lip' is facing the correct side).



tape them down on the front side of the pcb using some masking/electrical tape, flip over and solder them on the back.

step 2.

solder in the headers: separate the headers into a 6-pin length one (aka break a 12-pin one in half) and a 12-pin length. remove the middle 2 pins in the 6-pin header, and remove the 1st, 4th-11th pin in the 12-pin header.

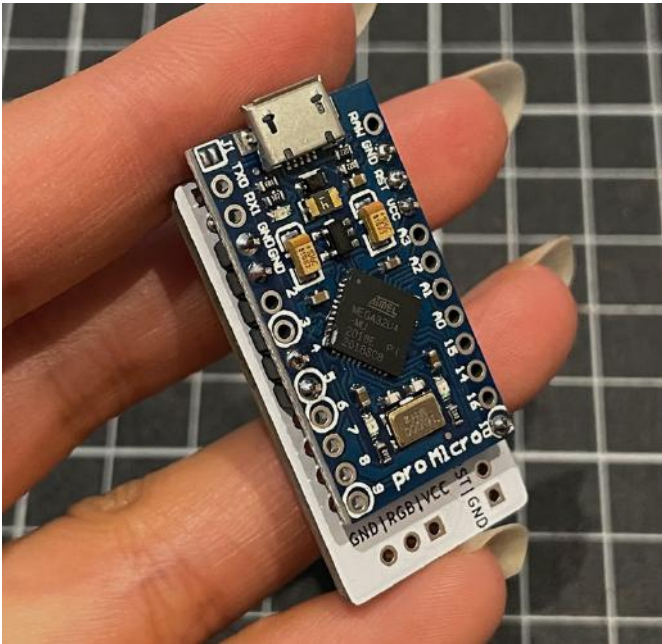


insert the headers into the pcb. ensure the plastic is on the back side of the pcb.

solder the pins on the front side.

step 3.

solder in the pro micro: align the holes correctly on the pro micro and solder on the back side of the pcb.



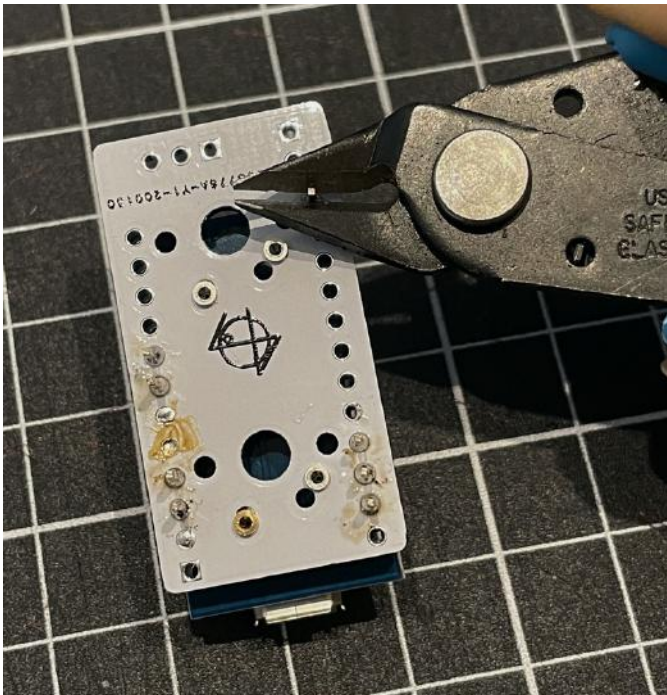
this should be:

(on the left)
GND, GND, 4, 5

(on the right)
GND, RST, VCC, 10

step 4.

clip the pins shorter off the front.

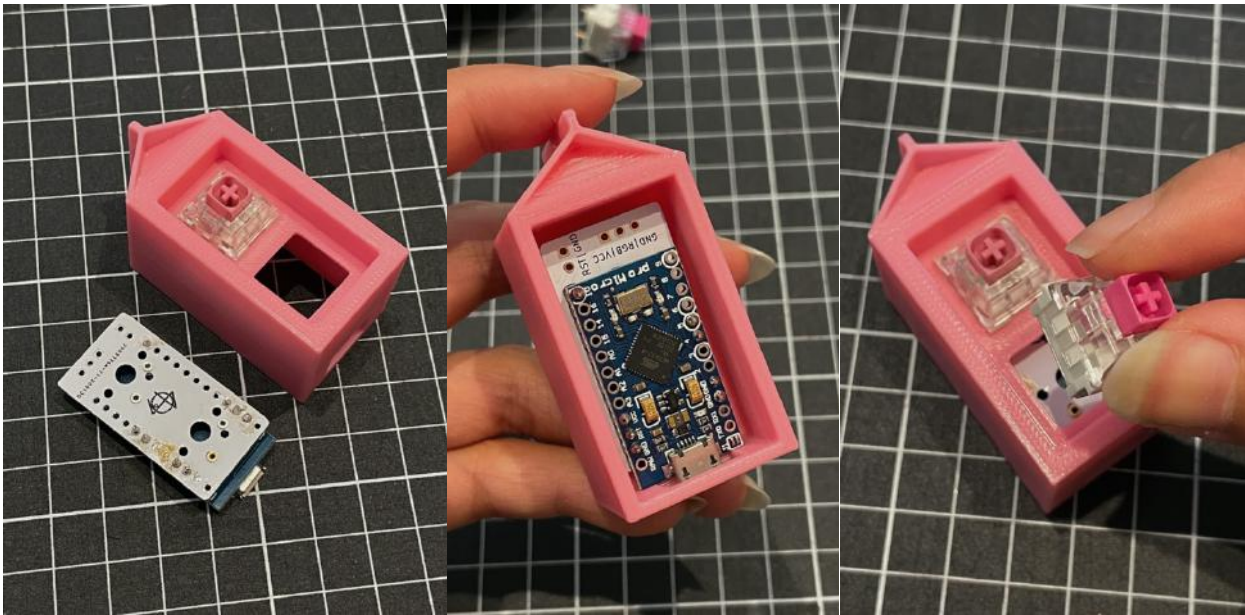


flash the pro micro (see section c of build guide).

step 5.

install switches: click them into the case and then the pro micro/pcb.

this can be difficult to do especially if your switch legs are thick. the easiest way to do it is to install ONE switch, click it into the mill maxed pcb, and then install the second switch after.



a video guide can be found here: <https://youtu.be/EFbUExbKJsM>

step 6.

apply stickers to sides, and you are finished!



c. program

qmk instructions only

ensure your computer has qmk toolbox installed and the correct drivers. 99/100 times if your computer cannot flash or detect the pro micro it is NOT a dud chip; you do not have the correct drivers.

please refer to multiple qmk driver troubleshooting guides on google if there are issues.

step 1.

go to config.qmk.fm. under 'keyboard', select spaceman/2_milk.



step 2.

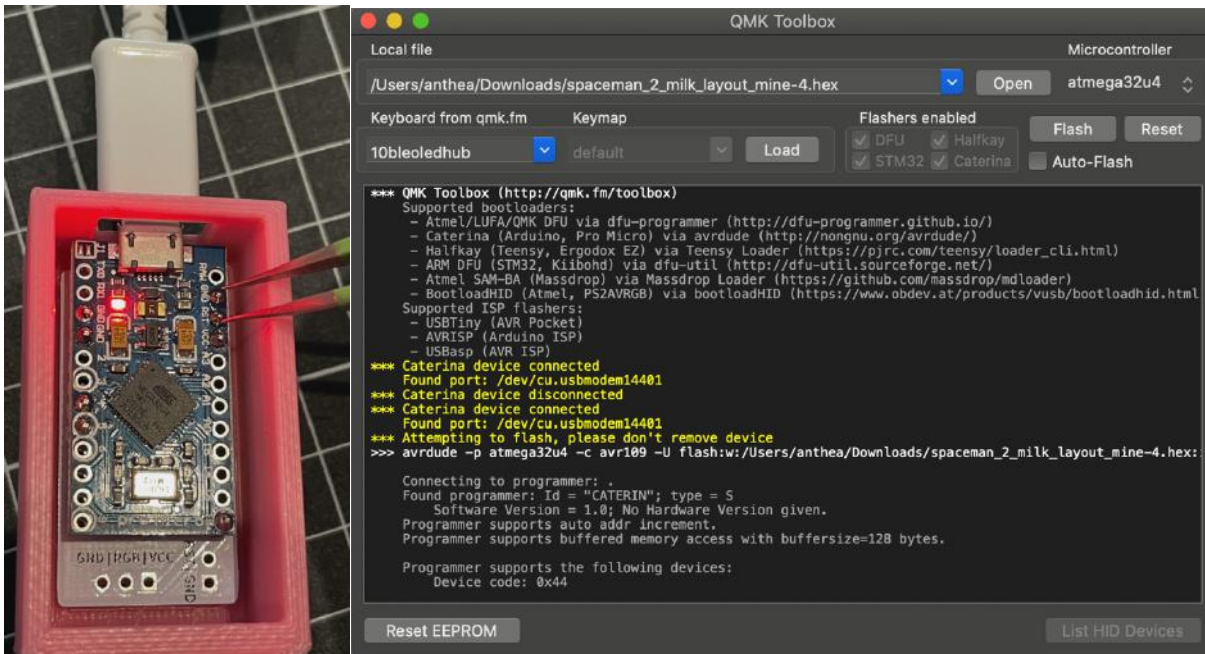
edit the keymap to your liking. click compile, wait, and then download the .hex file (under 'firmware').

step 3.

open qmk toolbox, and load your hex file.

step 4.

plug in the pro micro via usb. using tweezers, short the reset and ground pin for 1 second, then release. it should now have been detected by qmk toolbox. press flash.



step 5.

once done flashing, unplug. it is now ready to use!