

3D MODEL ONLY

# GIANT CAPS LOCK

 matthew\_[VIEW IN BROWSER](#)

updated 23. 9. 2023 | published 23. 9. 2023

## Summary

400% SCALE CAPS LOCK. FITS ON A NOVELKEYS BIG SWITCH.

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I'M NOT YELLING. I'M JUST EXCITED.

400% SCALE CAPS LOCK SO YOU CAN SHARE IN #ALLCAPS. FITS ON A NOVELKEYS BIG SWITCH. REMEMBER TO GET THE CLICKY VERSION FOR MAXIMUM CLACK. LINEAR SWITCHES ARE NOT NEARLY CAPS ENOUGH.

## BILL OF MATERIALS

- NOVELKEYS X KAILH BIG SWITCH
  - GET THE CLICKY KIND
- RASPBERRY PI PICO
- QTY. 14 - M2 SELF-TAPPING SCREWS
- 24AWG WIRE TO SOLDER TO SWITCH
- 4 RUBBER FEET FOR THE BOTTOM
- (OPTIONAL) LED STRIP (30 LEDS PER METER)

## PRINT INSTRUCTIONS

- 0.2MM LAYER
- NO SUPPORTS REQUIRED
- NO NEED TO RE-ORIENT PARTS
- PRINT PLATE AND BOTTOM PARTS WITH CLEAR/TRANSLUCENT FILAMENT IF USING LED STRIP.

- THE ORIGINAL CAPSLOCK KEYCAP HAS A CURVED TOP SURFACE. IF YOU DON'T LIKE THIS TYPE OF FEATURE (PICTURED BELOW), PRINT THE FLATTOP VARIETY.

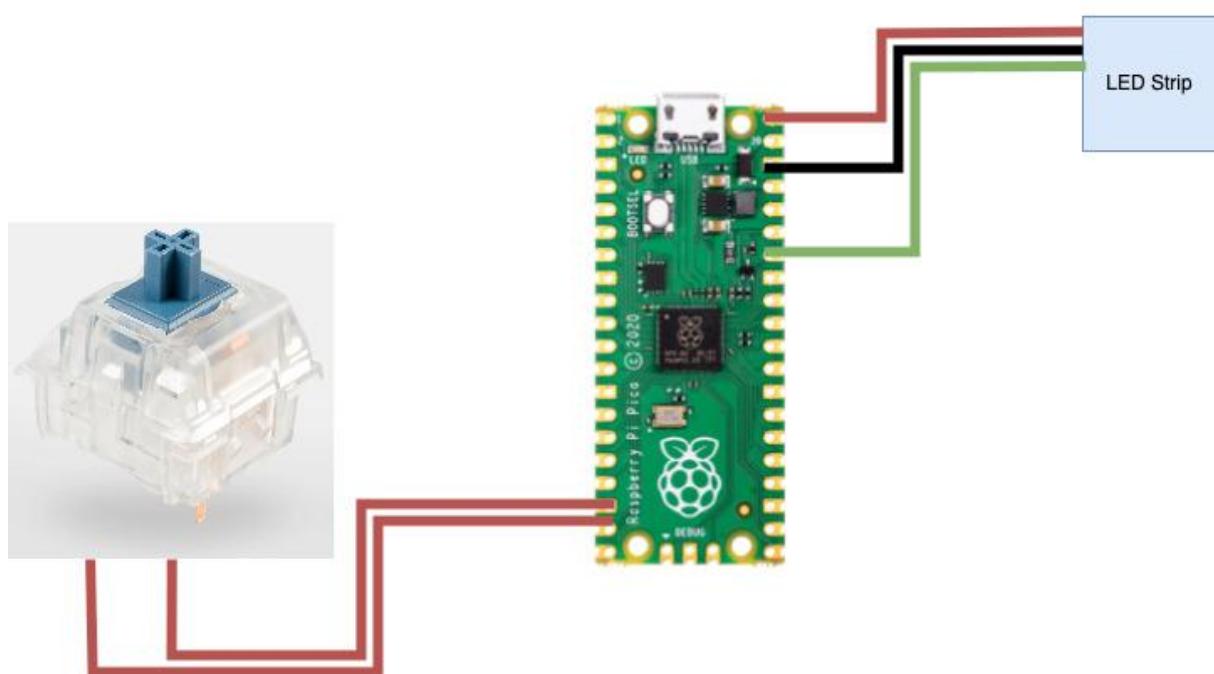


## BUILD INSTRUCTIONS

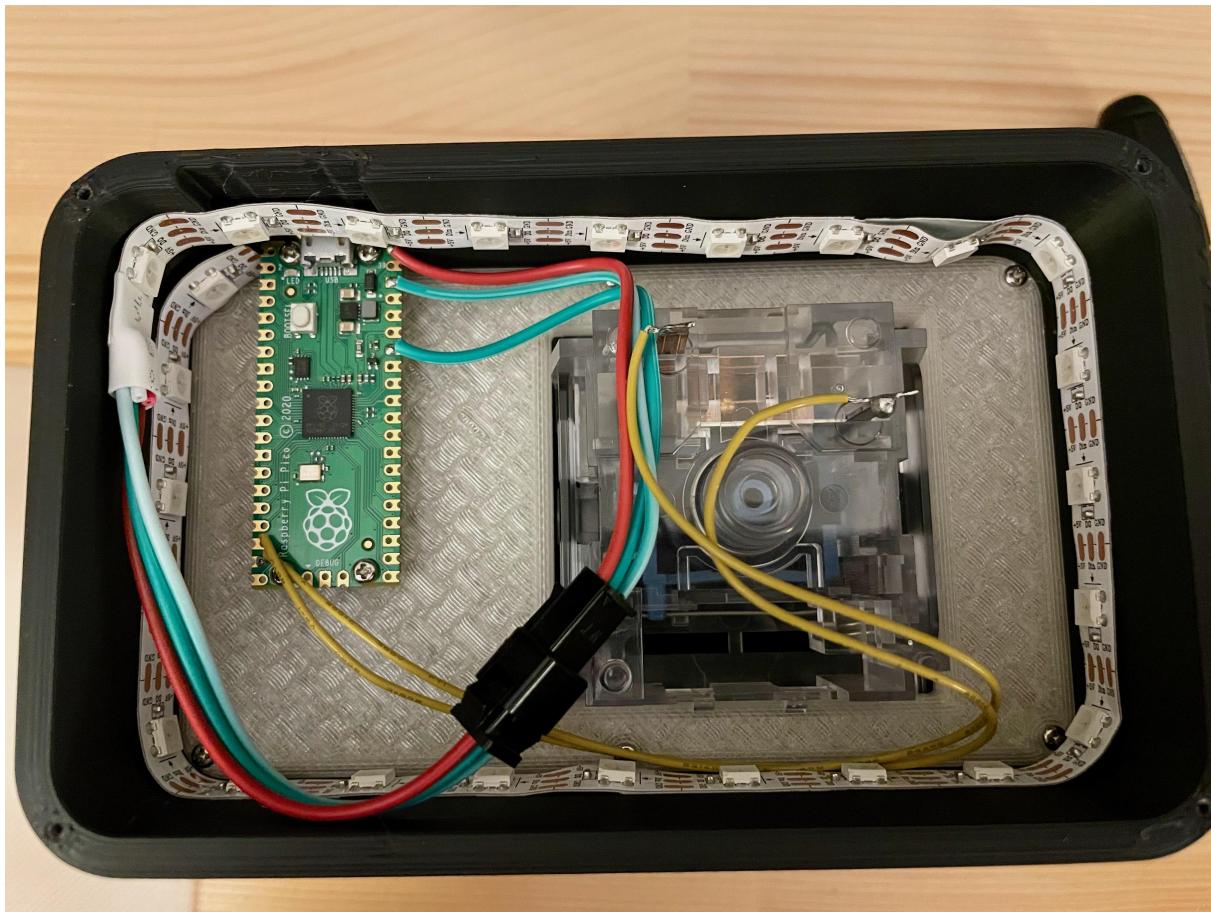
1. PRINT BODY AND KEYCAP IN ANY COLOR OF YOUR CHOOSING.
2. PRINT PLATE AND BOTTOM IN A CLEAR OR TRANSLUCENT FILAMENT IF PUTTING IN LEDS.
3. INSERT PLATE INTO BODY AND SCREW DOWN 6 X M2 SELF-TAPPING SCREWS.
4. INSERT BIG SWITCH INTO PLATE AND SOLDER TWO ~10 CM WIRES TO EACH OF THE SWITCH LEADS. 10CM IS QUITE LONG BUT YOU CAN ALWAYS STUFF THE EXTRA IN THE HOUSING LATER.
5. SOLDER THE OTHER END OF THE LEADS TO THE RASPBERRY PI PICO PINS GPIO 14 AND GPIO15. POLARITY DOES NOT MATTER, EACH LEAD CAN GO TO EITHER PIN. (DIAGRAM PICTURED BELOW [1])
6. CUT A STRIP 25 LEDS OFF OF THE LED STRIP. SOLDER THE LED STRIP TO THE PICO PINS. **5V TO VBUS. GND TO GND. DATA TO GPIO28.** MY LED STRIP CAME WITH A MALE CONNECTOR ALREADY SOLDERED AND AN EXTRA FEMALE CONNECTOR THAT I USED TO SOLDER TO THE PICO.
7. SCREW THE RASPBERRY PI PICO INTO THE PLATE WITH 4 X M2 SELF-TAPPING SCREWS.
8. ARRANGE THE LED STRIP AROUND THE OUTSIDE OF THE BODY. (PICTURE BELOW [2]) MY LED STRIP CAME WITH AN ADHESIVE BACKING THAT I USED TO STICK TO THE INSIDE WALLS OF THE BODY.

9. SORT OUT THE WIRING SO IT DOESN'T PROTRUDE FROM THE BOTTOM. SCREW ON THE BOTTOM WITH 4 X M2 SELF-TAPPING SCREWS
10. PASTE THE RUBBER FEET ONTO THE BOTTOM OF THE CASE
11. DONE WITH THE HARDWARE!

**PICTURE 1**



## PICTURE 2



## SOFTWARE INSTALL (AKA HOW TO MAKE IT A KEYBOARD)

1. FOLLOW THE **KMK GETTING STARTED INSTRUCTIONS** TO INSTALL ON THE RASPBERRY PI PICO.
  1. **CLIFF NOTES:**
    1. PLUG IN THE RASPBERRY PI PICO WHILE HOLDING DOWN THE BOOT BUTTON.
    2. THIS WILL CREATE A USB DRIVE.
    3. COPY THE CIRCUIT PYTHON FILE TO THE DRIVE. THE FILE HAS A .UF2 EXTENSION.
    4. THIS WILL REBOOT THE PICO AND OPEN A NEW DRIVE WITH A PYTHON FILE THAT WE WILL NOW EDIT.
    5. CONTINUE THE KMK GETTING STARTED INSTRUCTIONS TO COPY THE KMK FOLDER AND CODE.PY FILES. DON'T FORGET THE NEOPixel.PY FILE. THIS IS REQUIRED FOR THE LEDS.
  2. NEXT, OPEN THE CODE.PY FILE AND PASTE THE FOLLOWING EXAMPLE: **WARNING!!!! NOT SAFE FOR #ALLCAPS !!!**  
**WARNING!!!**
  3. SAVE THE FILE AFTER. THE PICO SHOULD REBOOT AND NOW YOU HAVE A WORKING CAPSLOCK KEYBOARD.

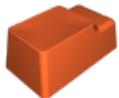
```
print("Starting") import board from kmk.kmk_keyboard import  
KMKKeyboard from kmk.keys import KC from kmk.scanners import  
DiodeOrientation from kmk.extensions.RGB import RGB keyboard =  
KMKKeyboard() keyboard.col_pins = (board.GP14,) keyboard.row_pins =  
(board.GP15,) keyboard.diode_orientation = DiodeOrientation.COL2ROW  
from kmk.extensions.rgb import AnimationModes rgb =  
RGB(pixel_pin=board.GP28, num_pixels=25, val_limit=100,  
hue_default=0, sat_default=250, val_default=100, hue_step=15,  
sat_step=15, val_step=15, animation_speed=1, breathe_center=1.5, #  
1.0-2.7 knight_effect_length=3,  
animation_mode=AnimationModes.RAINBOW, reverse_animation=False,  
refresh_rate=90, ) keyboard.extensions.append(rgb) keyboard.keymap = [  
[KC.CAPSLOCK,] ] if __name__ == '__main__': keyboard.go()
```

## NOTES

- USE A POWERED USB-HUB AS THE 25 LEDS CAN DRAW UP TO 1.25A AT 100% BRIGHTNESS. IT WILL PROBABLY NEVER GET THIS HIGH BUT DON'T TAKE THE RISK.
- IN THE PICTURE YOU CAN SEE THAT I CUT SOME WIRES FROM THE LED STRIP. I WOULDN'T RECOMMEND DOING THIS. IF YOU CAN, CRIMP A NEW CONNECTOR ON THE ENDS OR COVER THEM WITH A NON-CONDUCTIVE ELECTRICAL TAPE.
- ON MAC OS, EACH KEYBOARD HAS ITS OWN MODIFIER. THIS MEANS WHEN THE CAPSLOCK ON THE SINGLE CAPSLOCK KEYBOARD IS PRESSED, IT WON'T AFFECT THE OTHER KEYBOARDS PLUGGED IN. INSTALL SOMETHING LIKE [KARABINER](#). REMEMBER TO OPEN UP KARABINER-ELEMENTS AND SELECT THE RASPBERRY PI PICO KEYBOARD. THEN CLICK 'MODIFY EVENTS'.
  - WINDOWS DOES NOT HAVE THIS ISSUE.

## Model files

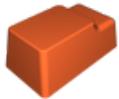
The screenshot shows a file browser interface. At the top, there is a grey header bar with a folder icon on the left, the text "STEP" in the center, and "1 file" on the right. Below this is a list item. The list item consists of a small thumbnail image on the left, the file name "capslock-set.step" in bold black text in the center, and a checkbox labeled "STEP FILE INCLUDES ALL BODIES IN A SINGLE FILE" at the bottom. The background of the browser is white.



**capslock\_keycap.stl**

NICE SMOOTH CURVE ON TOP

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**capslock\_keycap\_flattop.stl**

FLAT TOP

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**plate.stl**



**base.stl**



**body.stl**

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