



Gingham Keyboard

Assembly Introduction

Welcome to your new Gingham keyboard,

Before we start, make sure you have the following:

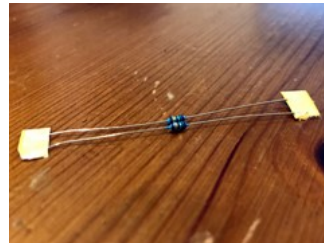
- Soldering Iron
- Solder
- Cutters
- Stabilizers
- Mechanical Switches (preferably PCB mount)
- Keycaps..
- Mini USB cable

This kit is design with only through hole components.

Components Identification:



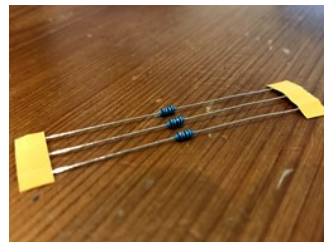
4.7uF Electrolytic Capacitor



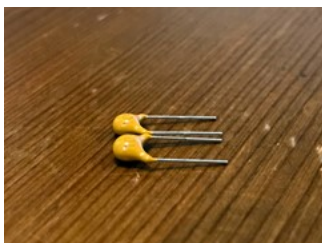
750 Ohm Resistors
Colours: Purple, Green, Black, Gold, Brown



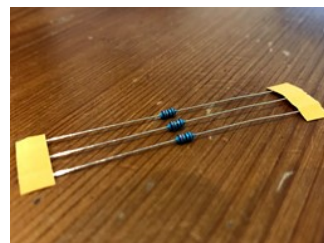
22pF Ceramic Capacitors
Markings: 22



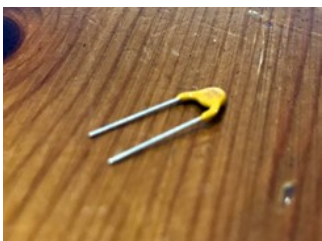
10k Ohm Resistors
Colours: Brown, Black, Red, Brown



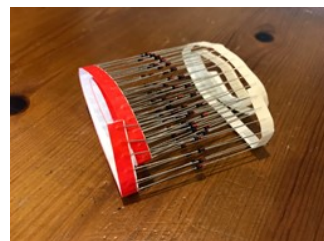
100nF Ceramic Capacitors
Markings: 104



1.5k Ohm Resistors
Colours: Brown, Green, Black, Brown, Brown



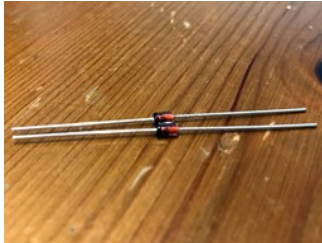
500mA Fuse



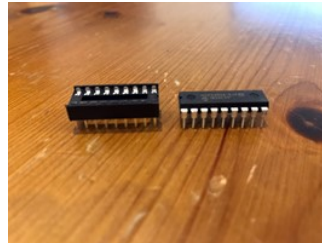
1N4148 Diodes
In a roll



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Zener Diodes 3.6V
2 Lose Pieces



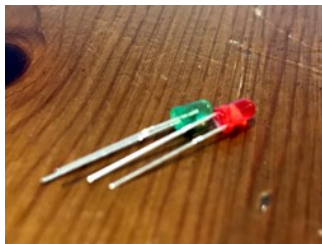
MCP23008 Port
Expander and
Socket



16Mhz Crystal



M2 Screws



Green and Red
LEDs
Note: Long leg is
positive



M2 Nuts



Reset and Boot
Switches



M2 Spacers



Mini USB
Connector



Rubber Feet



ATmega328P
Microcontroller
and Socket



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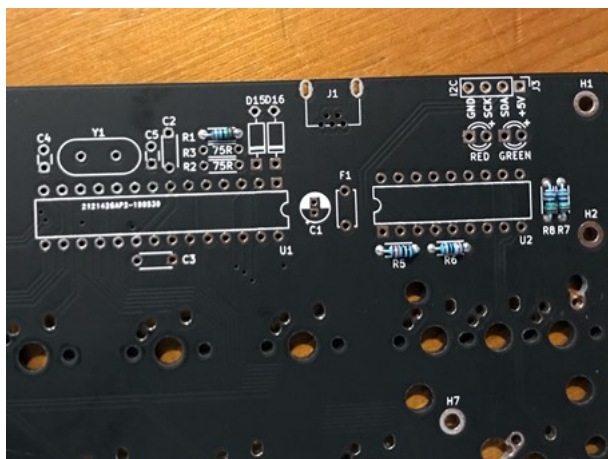
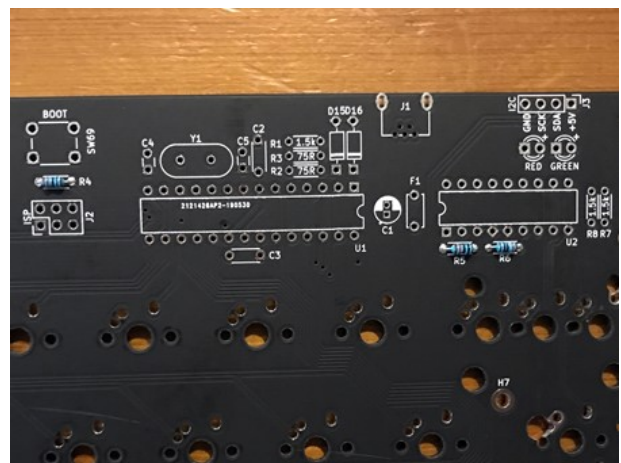


Step 1:

Solder 1N4148 Diodes under the graphic as shown in the picture. Black line from the diodes goes to the top.

Step 2:

Solder the 3 10k Ohm resistors, R4, R5, and R6. Those components have no specific orientation.



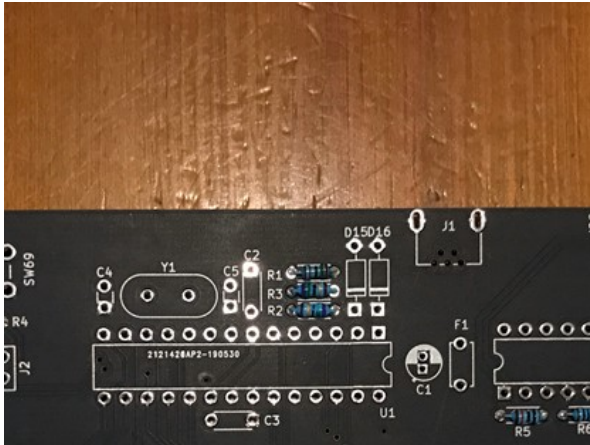
Step 3:

Solder the 3 1.5k Ohm resistors, R1, R7, and R8. Those components have no specific orientation.



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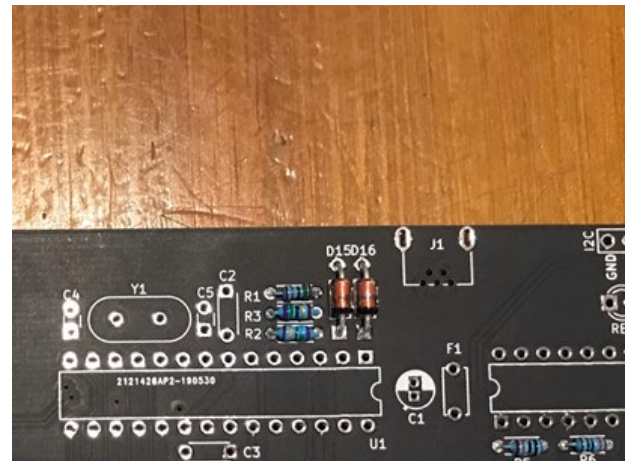


Step 4:

Solder the 2 75 Ohm resistors, R2 and R3. Those components have no specific orientation.

Step 5:

Solder the 2 Zener diodes, D15 and D16. The black line is at the bottom.

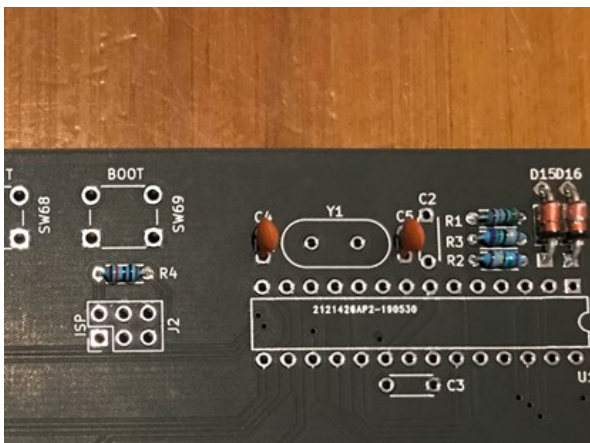


Step 6:

Solder the 2 22pF capacitors, C4 and C5.

NOTE: Don't over pull the legs through the PCB. This Capacitors are very fragile and can crack

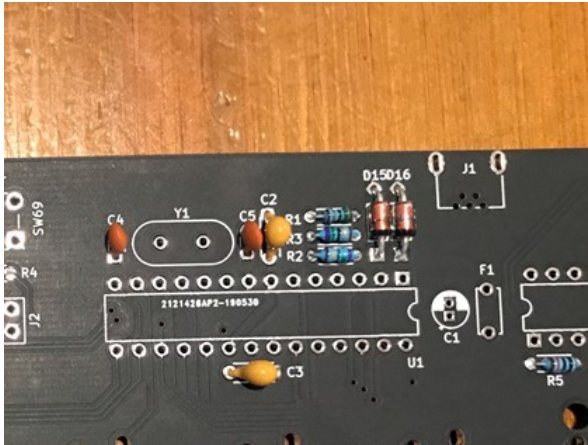
Those components have no specific orientation.





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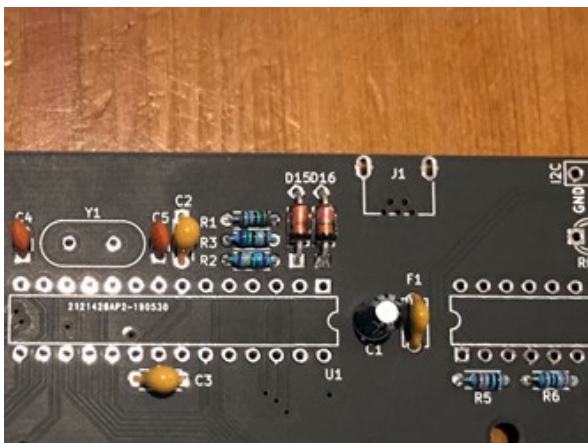
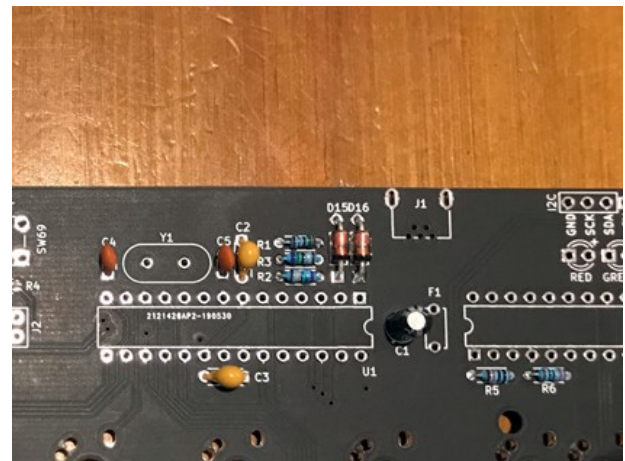


Step 7:

Solder the 2 100nF capacitors, C2 and C3. Those components have no specific orientation.

Step 8:

Solder the electrolytic capacitor, C1. Negative (-) goes to the top.



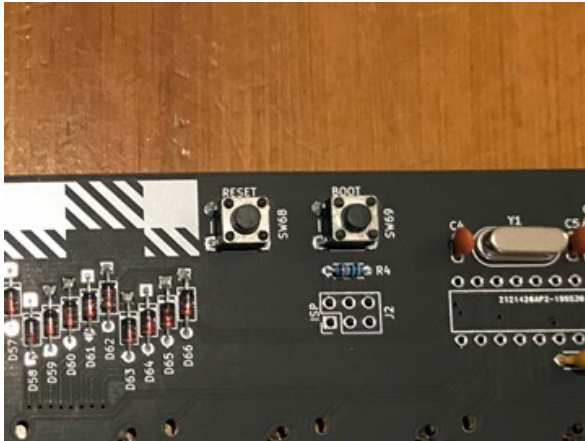
Step 9:

Solder the fuse, F1. This component has no specific orientation.



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Step 10:

Solder the 2 switches SW68 and SW69. Solder the Crystal Y1. Those components have no specific orientation.

Step 11:

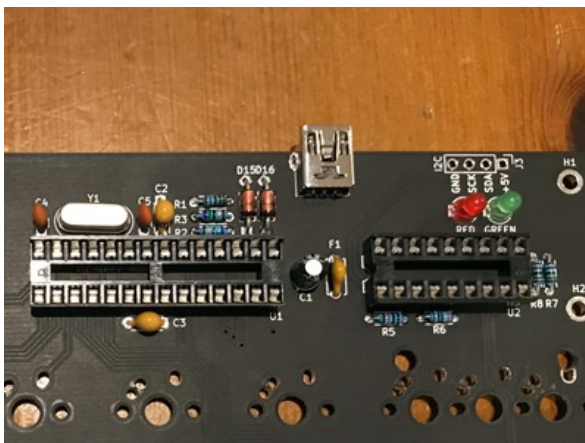
Solder the USB socket. Solder all 5 pins and the 2 shield pins.



Step 12:

Solder the two chip sockets. The small one goes to the U2 and the big one goes to U1. As in the picture.

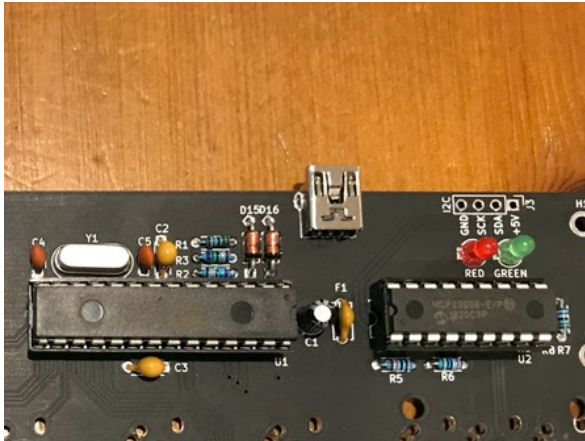
Solder the LEDs as in the picture. The long leg is the positive





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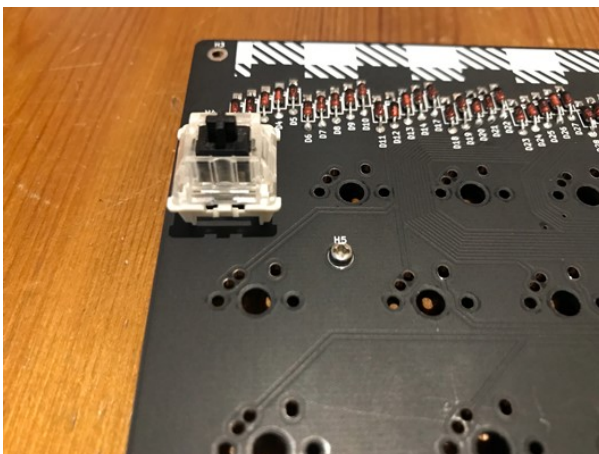
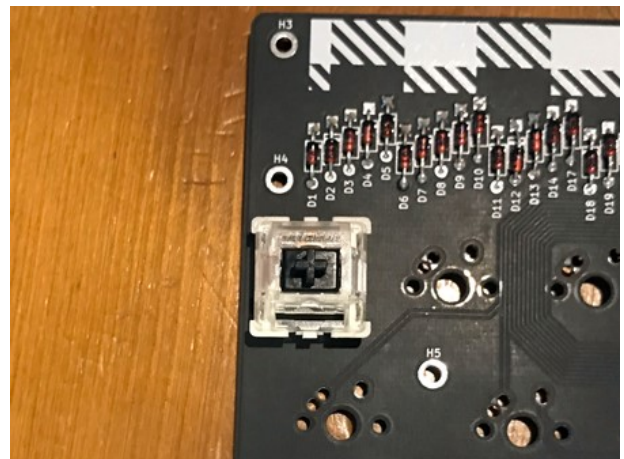


Step 13:

Put the two chips on their sockets. The MCU is pre-programmed with the default ANSI keymap. Re-programming instructions at the end. The U1 chip's semi-circle mark goes to the right. The U2 semi-circle mark goes to the left. As in the picture. Bend the legs of the chips inwards to fit in the sockets!

Step 14:

Solder all the switches according to your desired layout. Add the stabilizers.



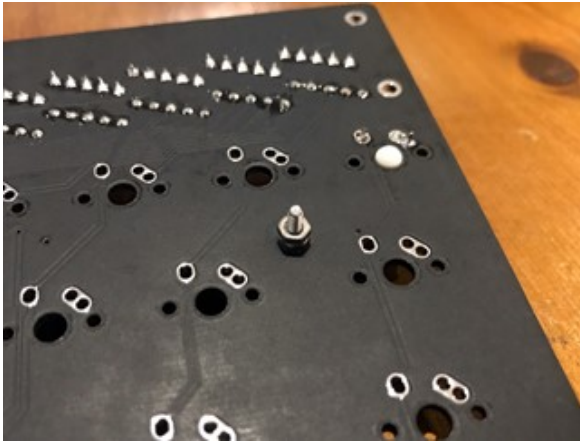
Step 15:

Put the 6 M2 screws, H5, H6, H7, H8, H9, and H10. The screws are inserted from the top of the top PCB.



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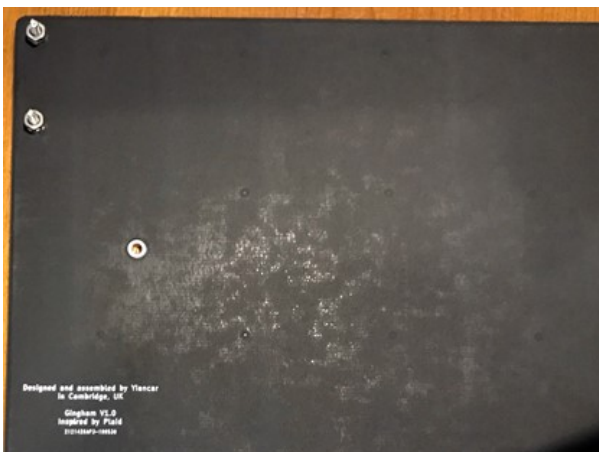


Step 16:

Screw 2 M2 nuts on each of the 6 screws from the bottom.

Step 17:

Put the 4 M2 screws from the bottom of the bottom PCB. These screws are for the plexiglass.



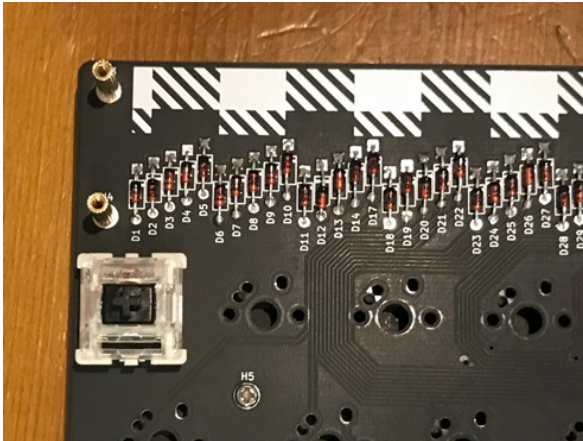
Step 18:

Screw 2 M2 nuts on each of the 4 M2 screws on the top of the bottom PCB.



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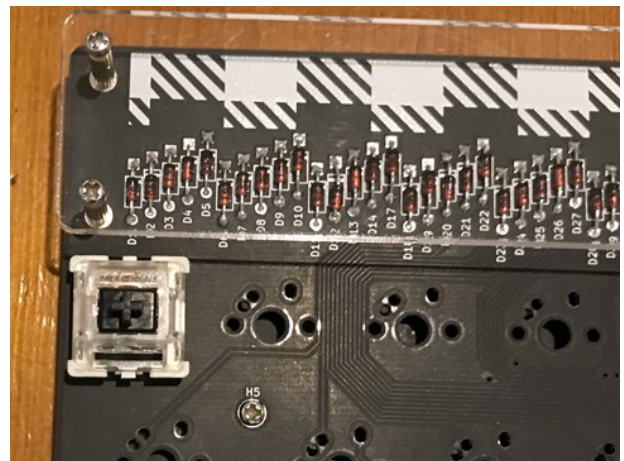


Step 19:

Insert the bottom PCB and the top PCB together. Secure the 4 plexi-glass screws with the 4 spacers.

Step 20:

Place the plexiglass on top of the spacers and secure it with 4 M2 screws.



Step 21:

Turn the keyboard upside down and secure the bottom PCB with the last 6 M2 nuts.



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Step 22:

Place the 4 rubber feet at the bottom.

Done!



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Programing Instructions

 [QMK.Toolbox.app.zip](#)

 [QMK.Toolbox.pkg](#)

 [qmk_toolbox.exe](#)

 [qmk_toolbox_install.exe](#)

Step 1:

Download the latest QMK Toolbox from:

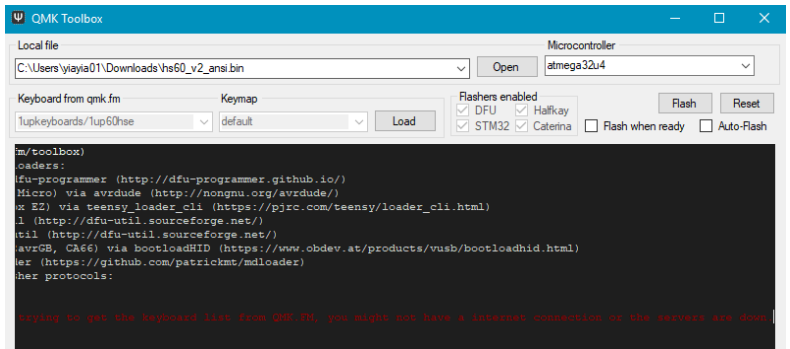
https://github.com/qmk/qmk_toolbox/releases

If you are using Windows download the “.exe”

If you are using MacOS download the “.pkg”

Step 2:

Install the downloaded package



KEYMAP:



Step 3:

Create your desired keymap from:

https://config.qmk.fm/#/gingham/LAYOUT_60_ansi_split_bs_rshift

Select the desired layout first



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Programing Instructions

Step 4:

Press Compile

LOAD DEFAULT

COMPILE

Make sure the compilation has completed successfully

Step 5:

Press Firmware to download the ".hex"

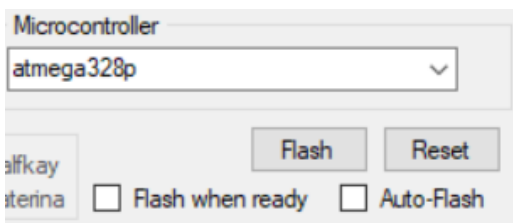


FIRMWARE

Step 6:

In QMK toolbox, press Open and select the downloaded ".hex"

Select atmega328p from the microcontroller menu





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Programing Instructions

Step 7:

Press and hold the BOOT button. Press and release the RESET button. Release the BOOT button

QMK toolbox should detect USBasp

Step 8:

Press the Flash button in QMK toolbox

Once you see the Success message, press the RESET button.

Done!!! Enjoy your new keymap!

