Gingham Keyboard

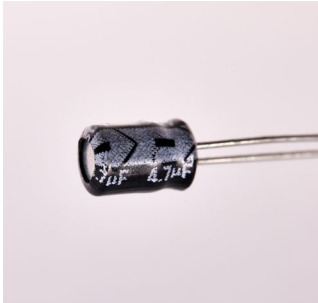## Assembly Instructions

YIANCAR DESIGNS

Welcome to your new Gingham Keyboard.

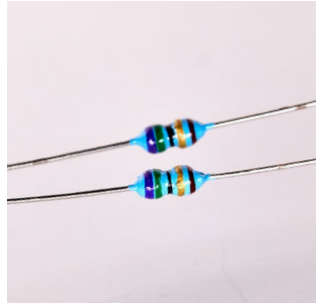Before we start, make sure you have the following:

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

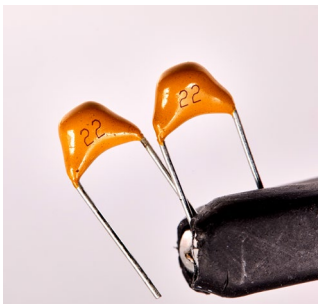This kit is designed with only through-hole components.
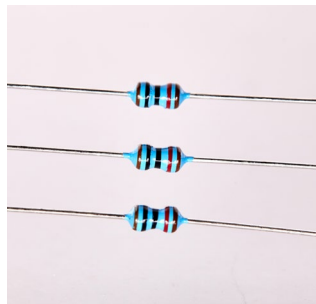
Component Identification

4.7uF Electrolytic Capacitor

75Ohm Resistors
Colours: Purple, Green, Black Gold, Brown
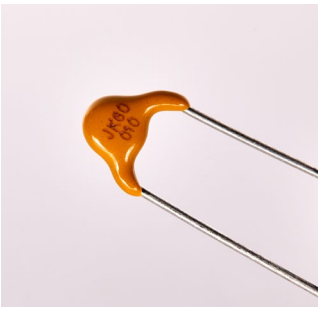

22pF Ceramic Capacitors
Markings: 22

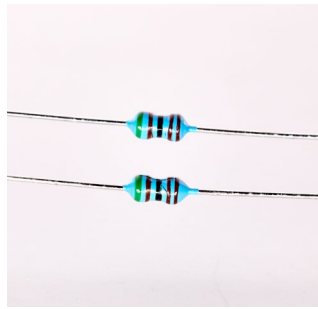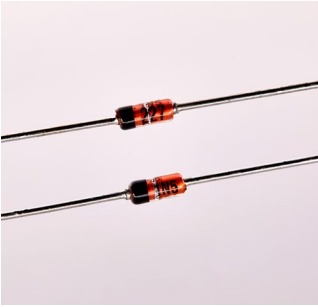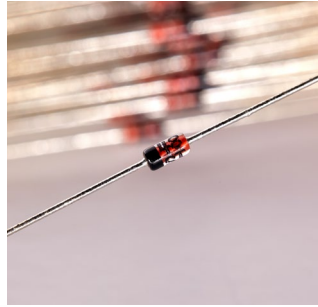10k Ohm Resistor
Colours: Brown, Black, Black, Red, Brown

100nF Ceramic Capacitors
Markings: 104

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

500mA Fuse

5.1k Ohm Resistors
Colours: Green, Brown,
Black, Brown, Brown

Zener Diodes
3.6V,
x2 loose pieces

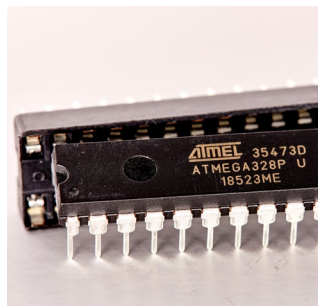1N4148 Diodes
in a roll

16Mhz Crystal

MCP23008 Port
Expander and
Socket

Green and red
LEDs
Note: long leg is
positive

M2 Screws /
M2 Nuts

M2 Spacers

Reset and Boot
Switches

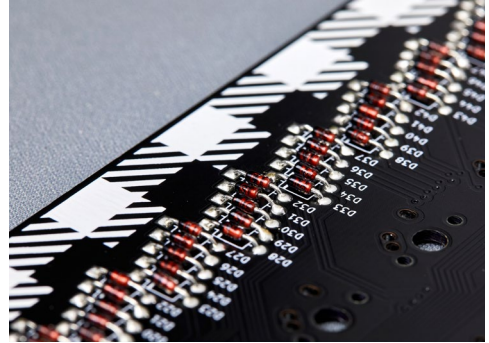USB-C Connector

Rubber Feet

ATmega328P
Microcontroller and
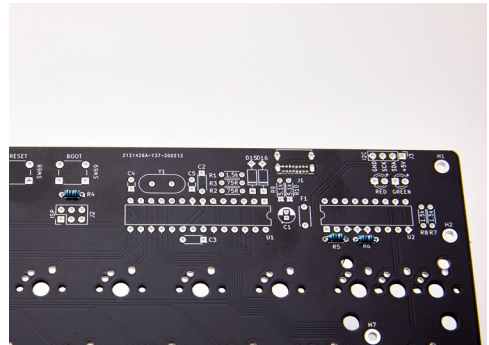Socket

Assembly Instructions

Step 1

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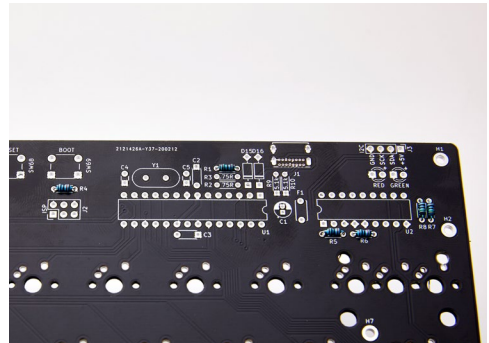

Step 2

Solder the x3 10k Ohm resistors; R4, R5, and R6. Those components have no specific orientation.
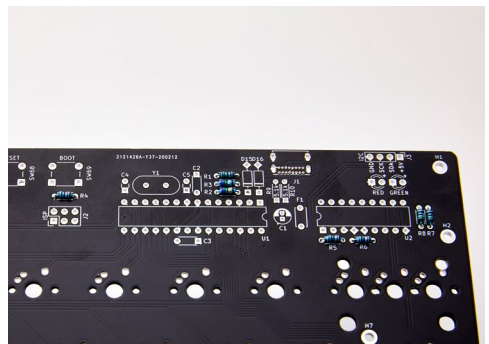

Step 3

Solder the x3 1.5k Ohm resistors; R1, R7, and R8. Those components have no specific orientation.

Step 4

Solder the x2 75 Ohm resistors; R2 and R3. Those components have no specific orientation.
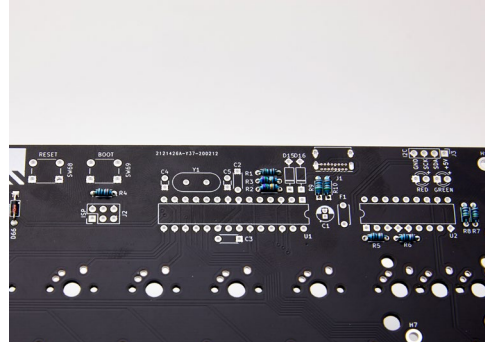
Assembly Instructions

Step 5

Solder the x2 5.1k Ohm resistors; R9 and R10. These components have no specific orientation.

Step 6

Solder the x2 Zener diodes; D15 and D16. The black line is at the bottom.

Step 7

Solder the x2 22pF capacitors; C4 and C5.

Note: Do not over-pull the legs through the PCB. These capacitors are very fragile and can crack. These components have no specific orientation.

Step 8

Solder the x2 100nF capacitors; C2 and C3. These components have no specific orientation.
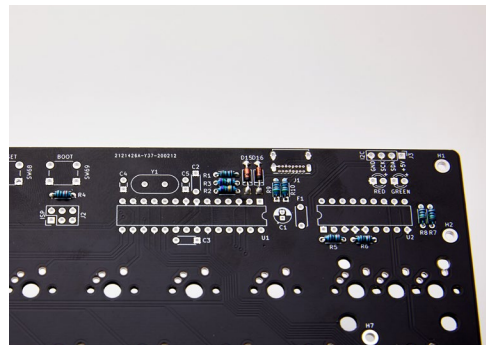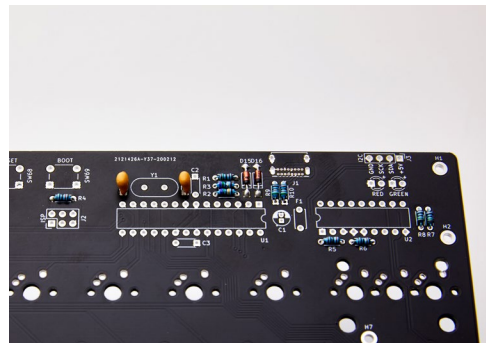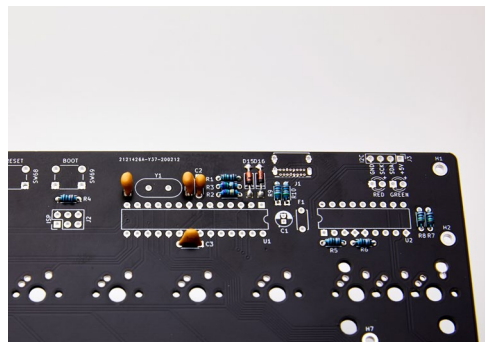
Assembly Instructions

Step 9

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

Step 10

Solder the x2 switches; SW68 and SW69. These components have no specific orientation.

Step 11

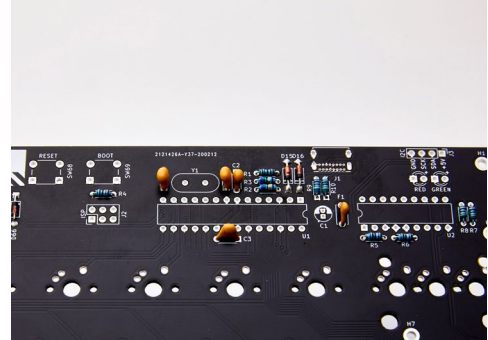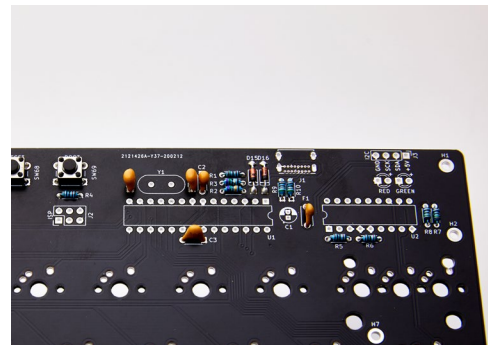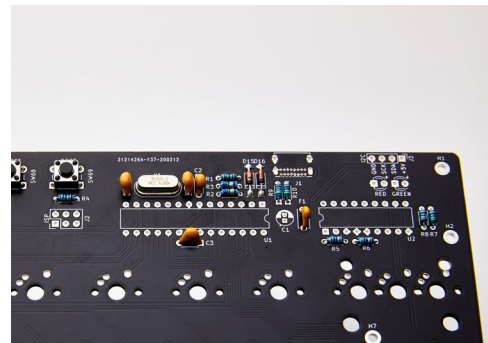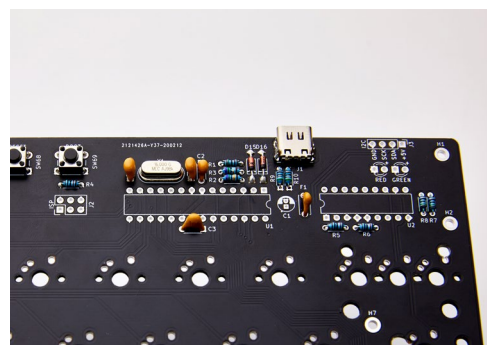Solder the Crystal Y1. These components have no specific orientation.

Step 12

Solder the USB socket. The small pins might not come through the PCB but still add a small amount of solder. Solder the shield pins last.

Assembly Instructions

Step 13

Solder the electrolytic capacitor, C1.
Negative (-) goes at the top.
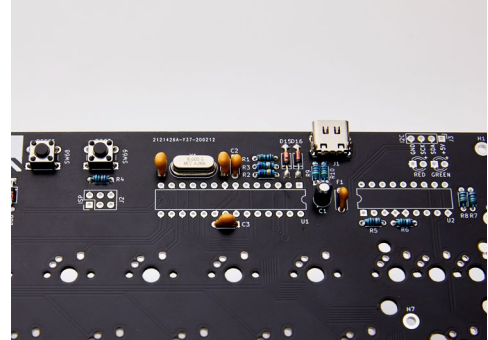
Step 14

Solder the x2 chip sockets. The small one
goes to the U2 and the big one goes to U1,
as in the picture.
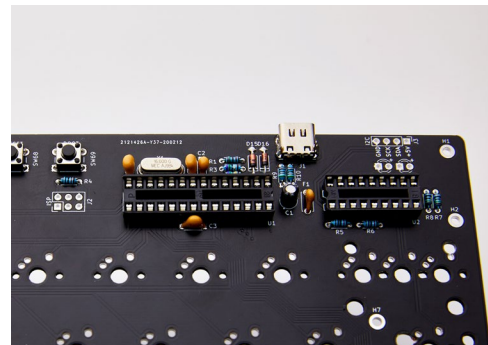
Step 15

Solder the LEDs as shown in the picture.
The long leg is the positive.
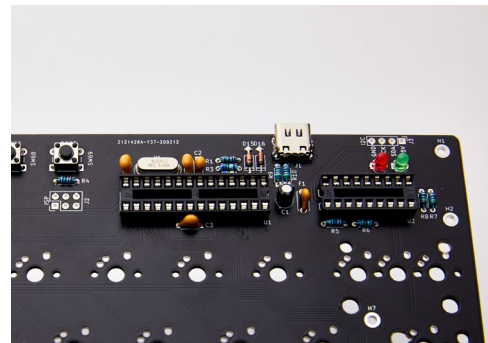
Step 16

Put the x2 chips in their sockets. The MCU
is pre-programmed with the default ANSI
keymap. Re-programming instructions are
on page 9. The U1 chip's semi-circle mark
goes to the right. The U2 semi-circle mark
goes to the left. Bend the legs of the chips
inwards to fit in the sockets!

Assembly Instructions

Step 17

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

Step 18

Screw the x6 M2 screws; H5, H6, H7, H8, H9, and H10. The screws are inserted from the top of the top PCB.

Step 19

Screw x2 M2 nuts on each of the 6 screws from the bottom.

Step 20

Put the x4 M2 screws from the bottom of the bottom PCB. These screws are for the plexiglass.

Assembly Instructions

Step 21

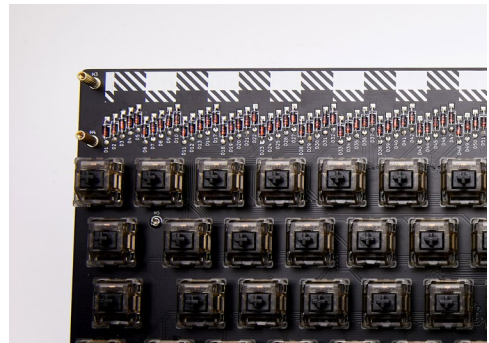Put the x4 M2 screws from the bottom of the bottom PCB. These screws are for the plexiglass.

Step 22

Insert the bottom PCB and the top PCB together. Secure the x4 plexiglass screws with the x4 spacers.

Step 23

Place the plexiglass on top of the spacers and secure it with x4 M2 screws.

Step 24

Turn the keyboard upside down and secure the bottom PCB with the last x6 M2 nuts.

Assembly Instructions

Step 25

Place the x6 rubber feet at the bottom.
Done!

Please see below for Programming Instructions.

Programming Instructions Using VIA

Currently, media and mouse keycodes cannot be used using VIA.

The keyboard is shipped with VIA enabled. If you have programmed using QMK configurator and want to go back to VIA please flash the VIA keymap from our website.

Step 1

Download VIA from:

https://github.com/the-via/releases/releases/latest

Step 2

With the keyboard connected, open VIA.

Step 3

To change the keymap, press on the desired key and then select the new keycode from below. The change is instantaneous.

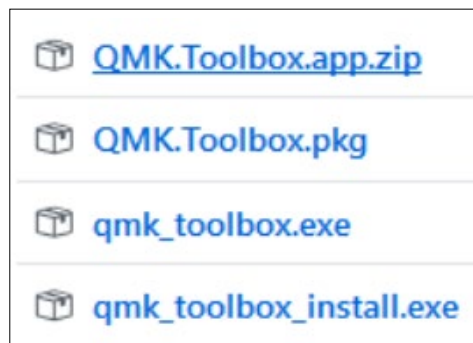To change layouts, use the layout tab.

Programming Instructions Using QMK

Step 1

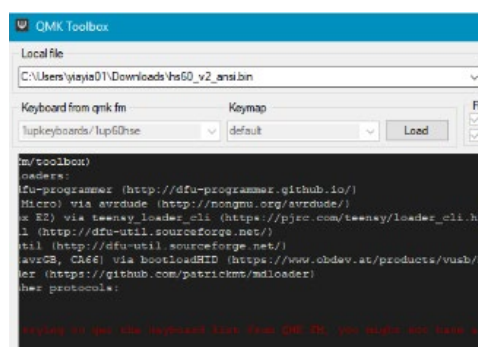Download the latest QMK Toolbox from:

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

If you are using Windows download the ".exe". If you are using MacOS download the ".pkg".

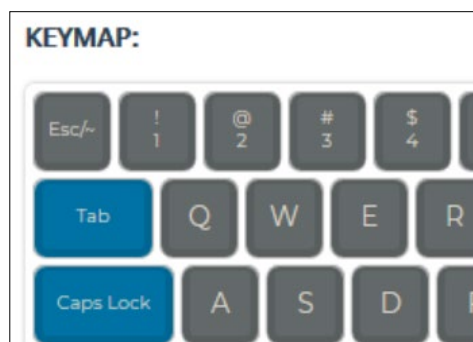**Step 2**

Install the downloaded package.

Step 3

Create your desired keymap from:

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

Select the desired layout first.

Step 4

Press Compile button. Make sure the compilation has completed successfully.
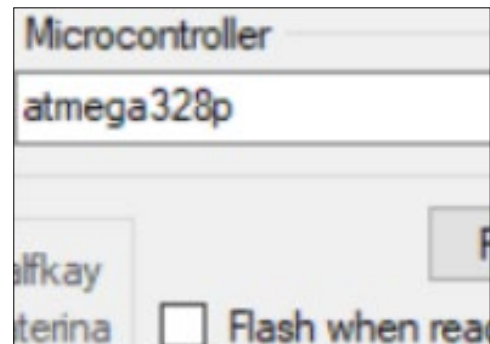
Programming Instructions Using QMK

Step 5

Press FIRMWARE button to download the ".hex".

Step 6

In QMK toolbox press Open and select the downloaded ".hex". Select atmega328p from the microcontroller menu.

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!

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