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

22pF Ceramic Capacitors
Markings: 22

100nF Ceramic Capacitors
Markings: 104

500mA Fuse

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

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

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

1N4148 Diodes
In a roll
Gingham Keyboard

- Zener Diodes 3.6V
  2 Loose Pieces

- 16Mhz Crystal

- Green and Red LEDs
  Note: Long leg is positive

- Reset and Boot Switches

- Mini USB Connector

- ATmega328P Microcontroller and Socket

- MCP23008 Port Expander and Socket

- M2 Screws

- M2 Nuts

- M2 Spacers

- Rubber Feet
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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.
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.
Step 19:
Insert the bottom PCB and the top PCB together. Secure the 4 plexiglass 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.
Step 22:
Place the 4 rubber feet at the bottom.
Done!
Programming Instructions

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
Programing Instructions

Step 4:
Press Compile
Make sure the compilation has completed successfully

Step 5:
Press Firmware to download the “.hex”

Step 6:
In QMK toolbox, press Open and select the downloaded “.hex”
Select atmega328p from the microcontroller menu
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!