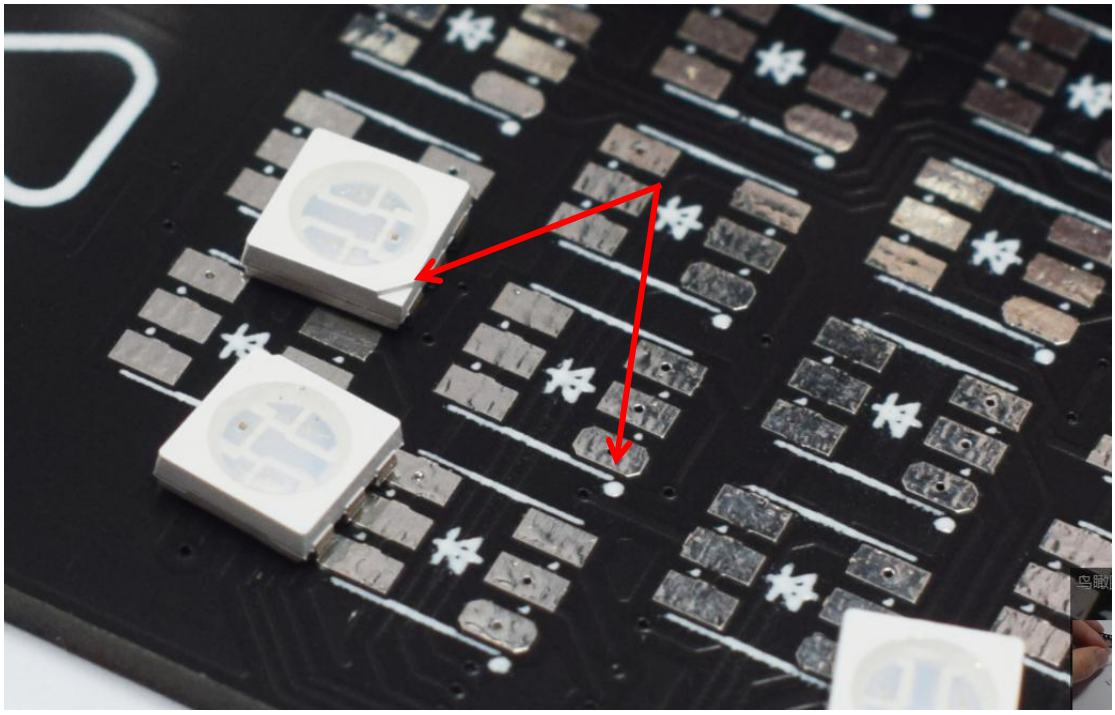
Please read the entire production process carefully and then do it better.

Let me first talk about the issues that need attention before welding.

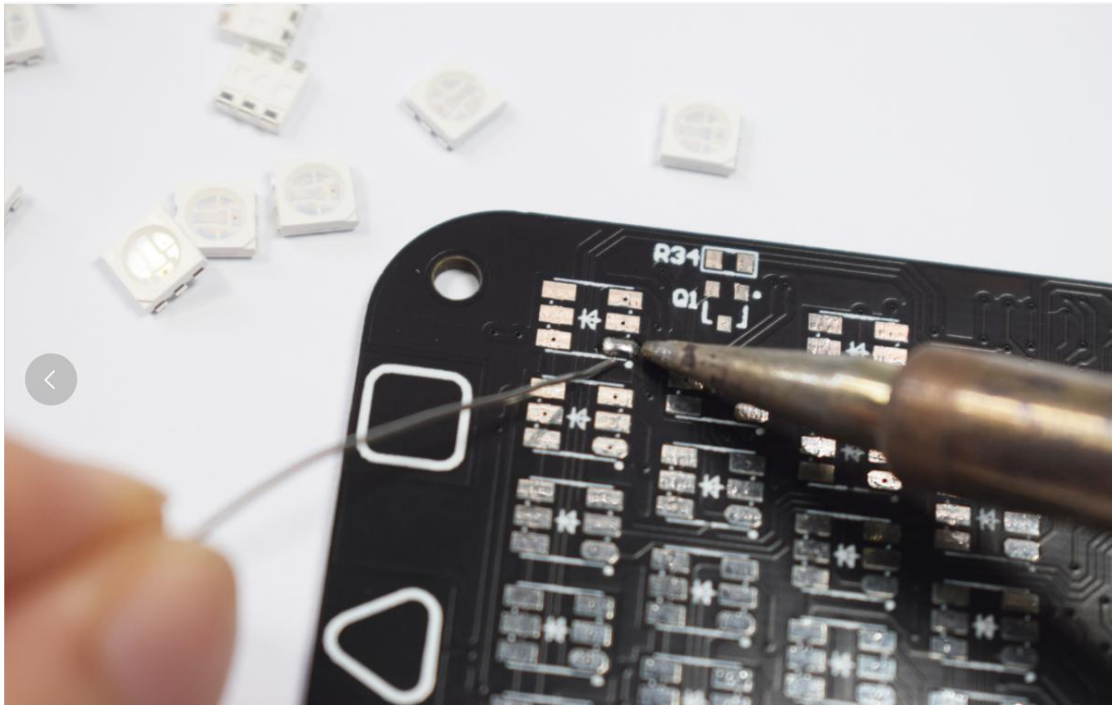
1. The soldering temperature is below 320℃, the soldering iron temperature can not be too high, otherwise it may damage the LED.

2. Soldering LED soldering iron must be grounded and it is best to wear an electrostatic bracelet for grounding welding. The welding speed needs to be fast.

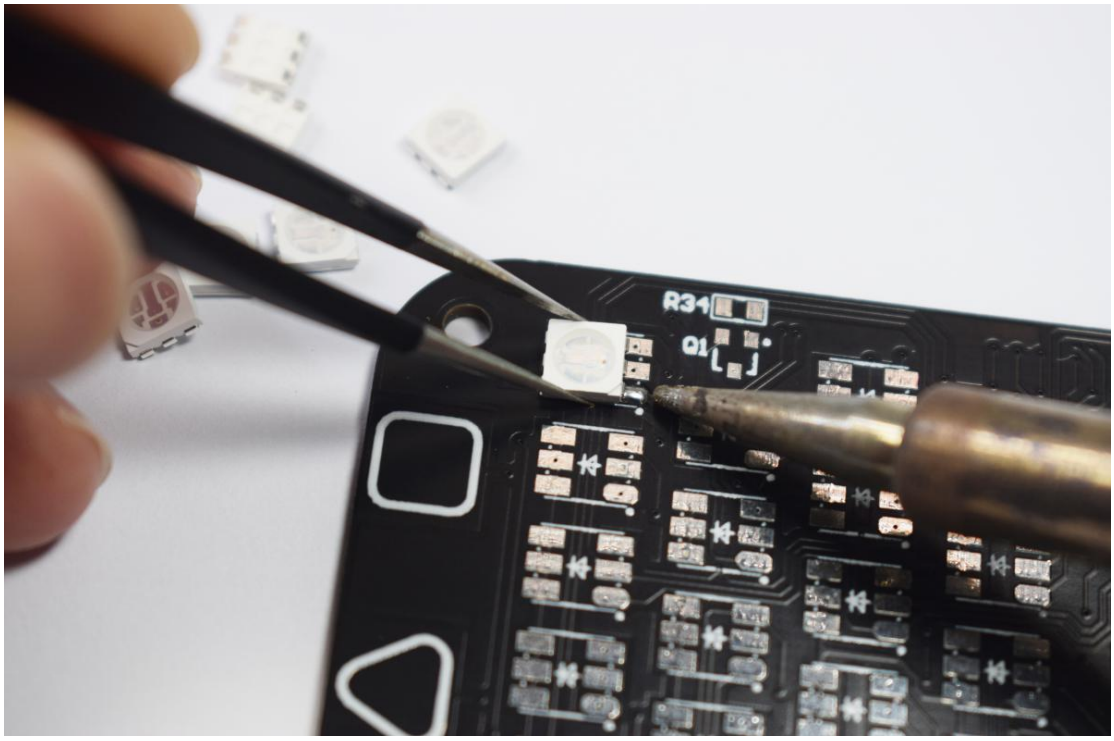
1. Weld the LED, and the missing corner on the LED corresponds to the white spot



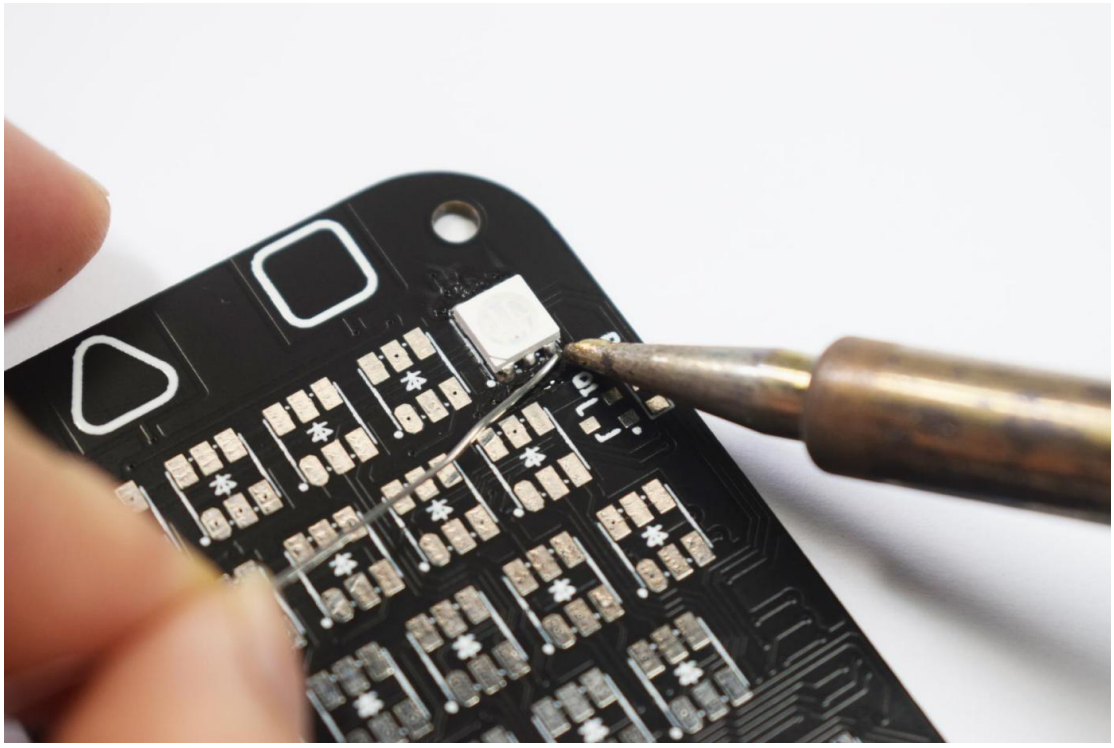
2. Solder the pad



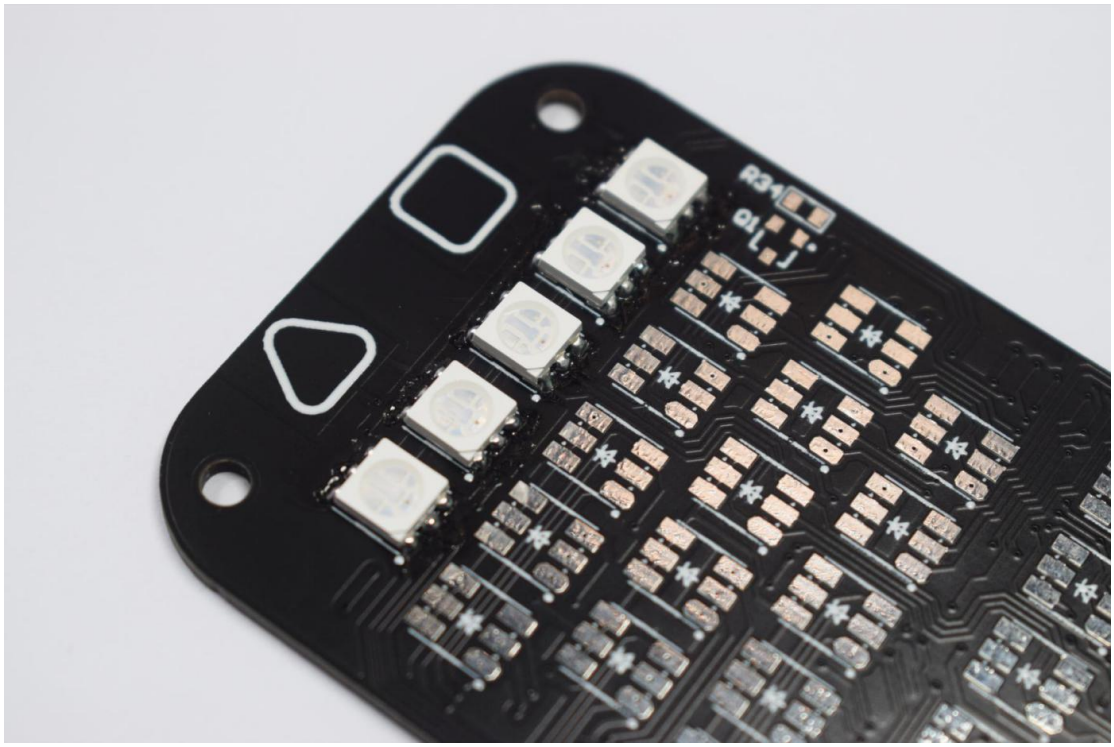
3. Put on LED, melt solder and fix led

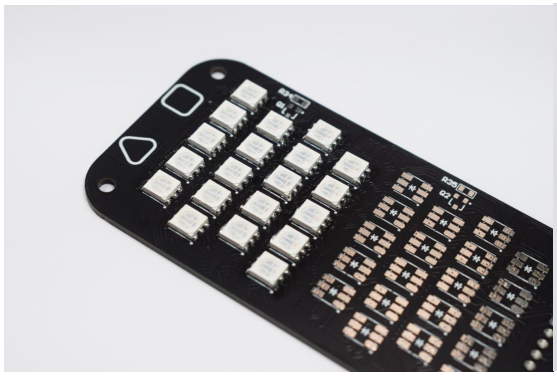


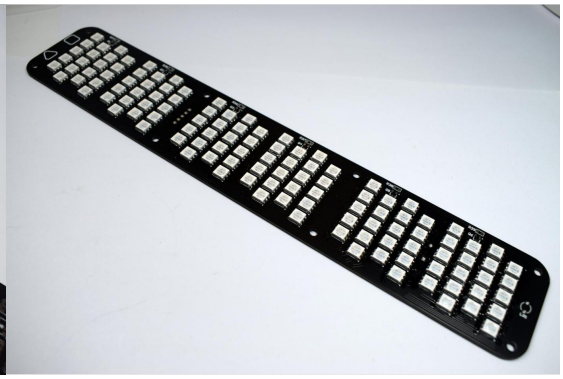
4. Welding other pins



5. Other LEDs are welded in the same way



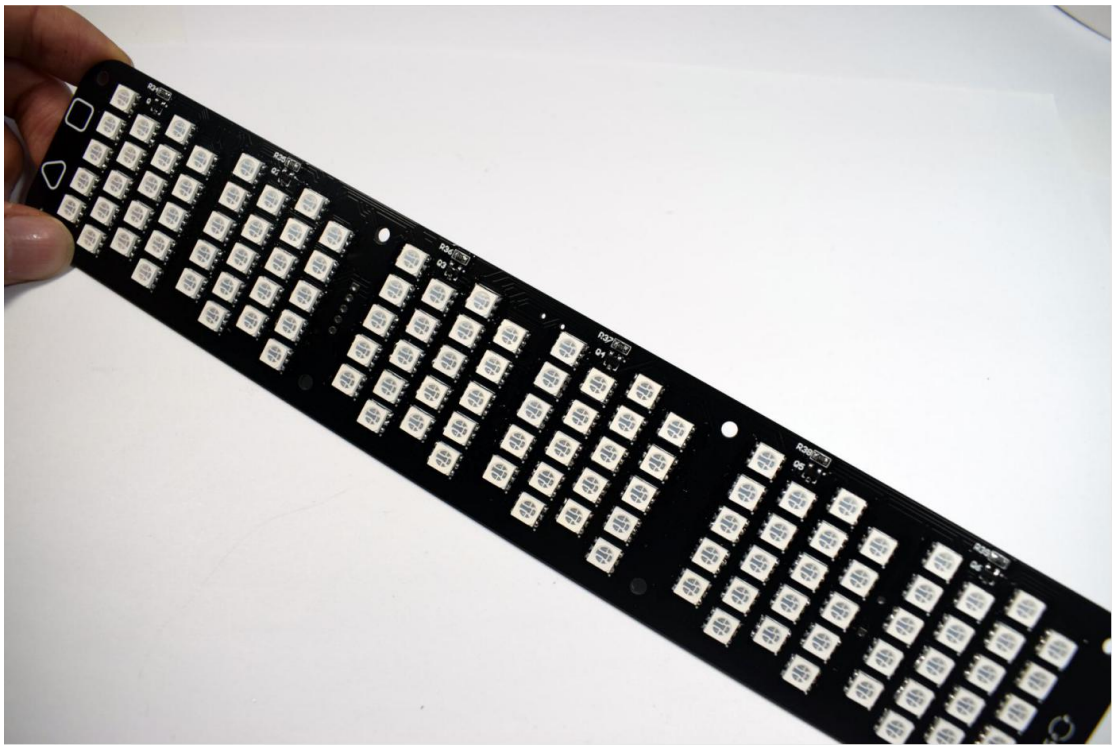




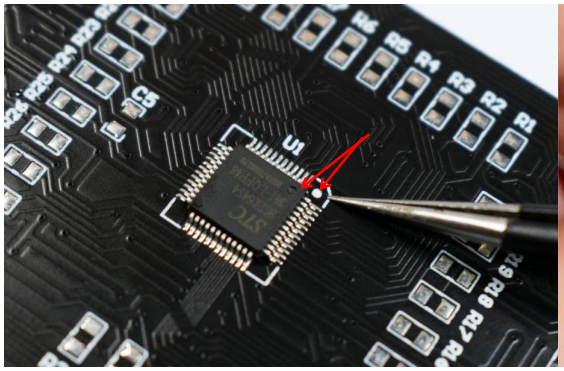
6. Welding Q1-Q6:9012 triode（2T1）

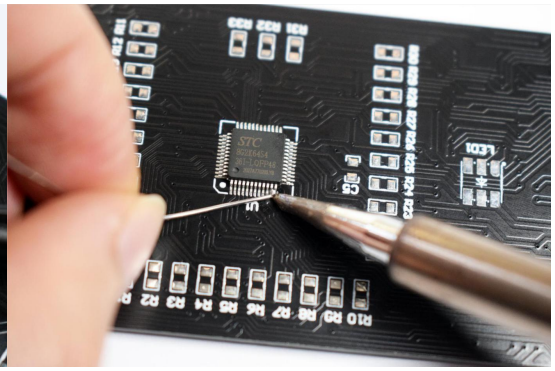
7. Welding R34-R39:4.7K(472)resistance

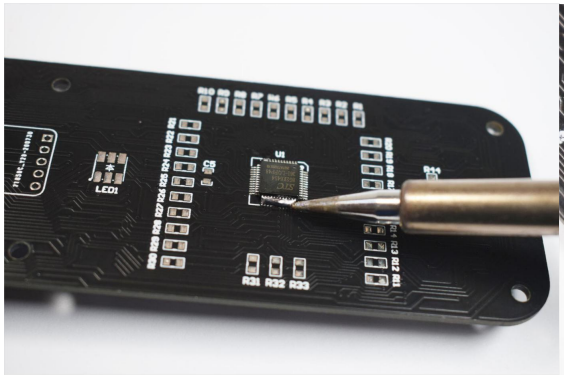
8. Led, resistor and triode are welded as shown in the figure below

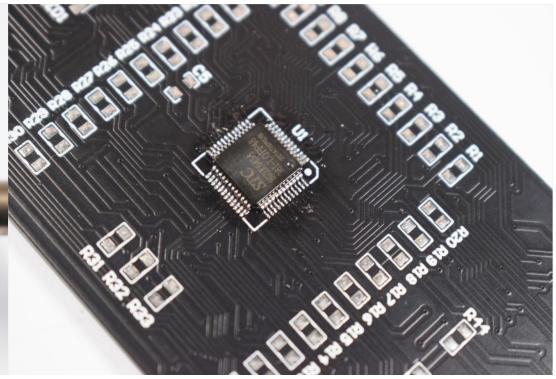


9. When welding MCU, please pay attention to the IC direction

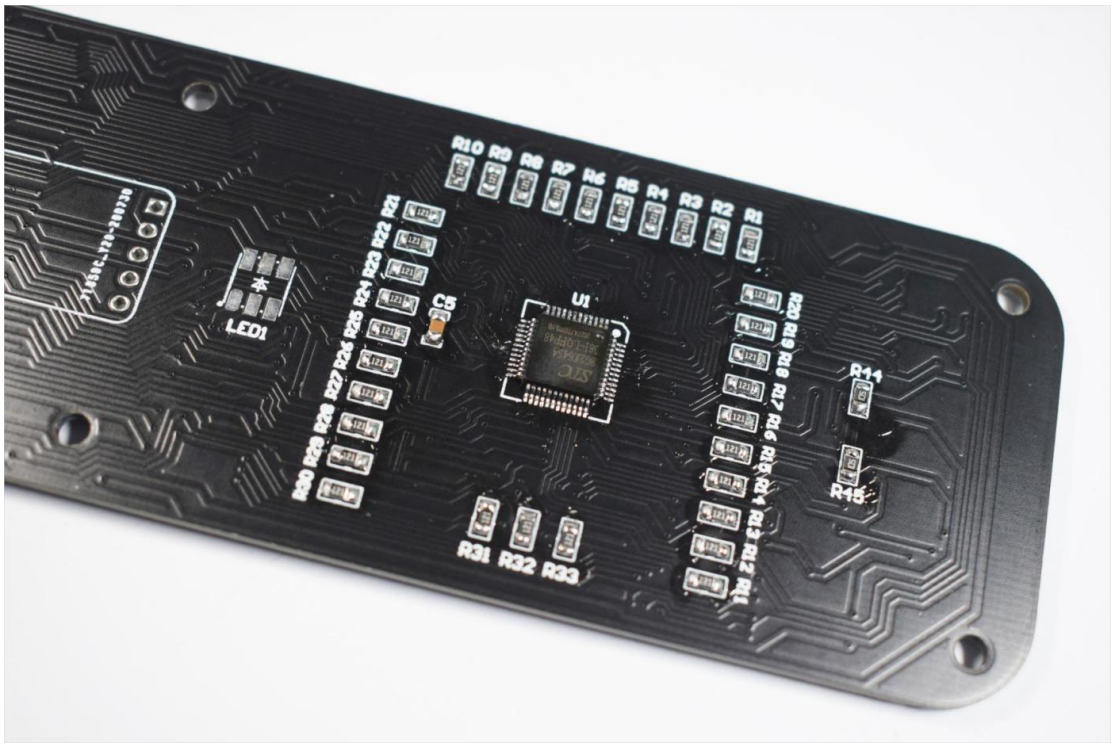




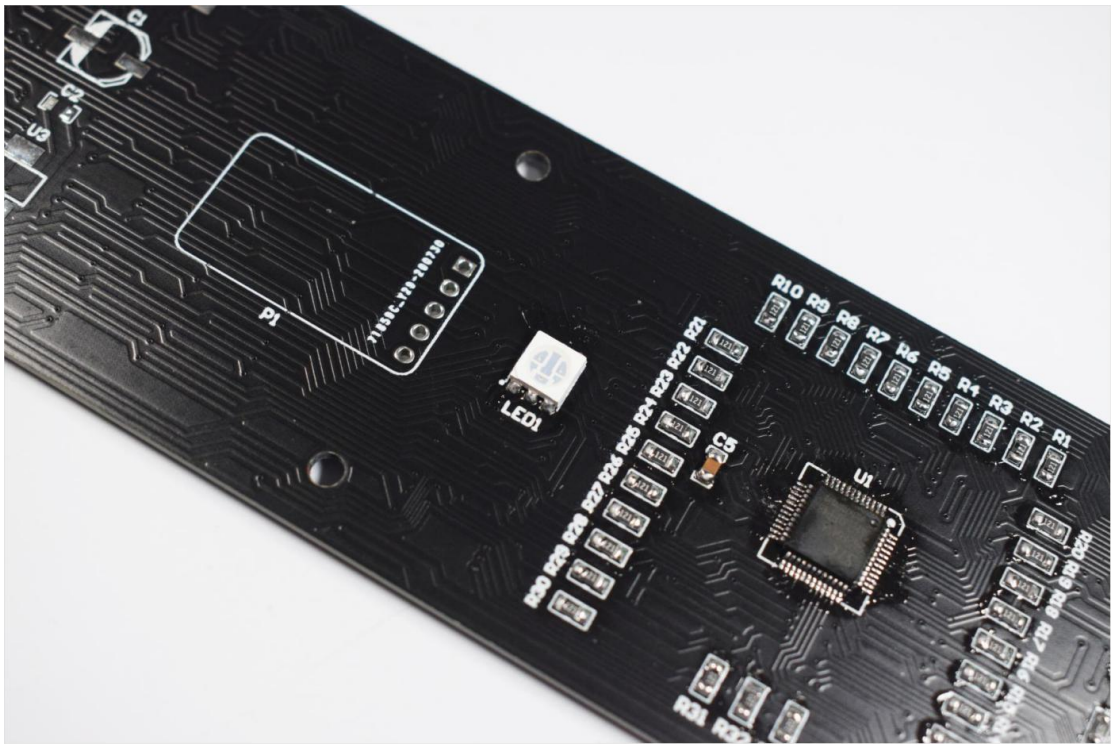




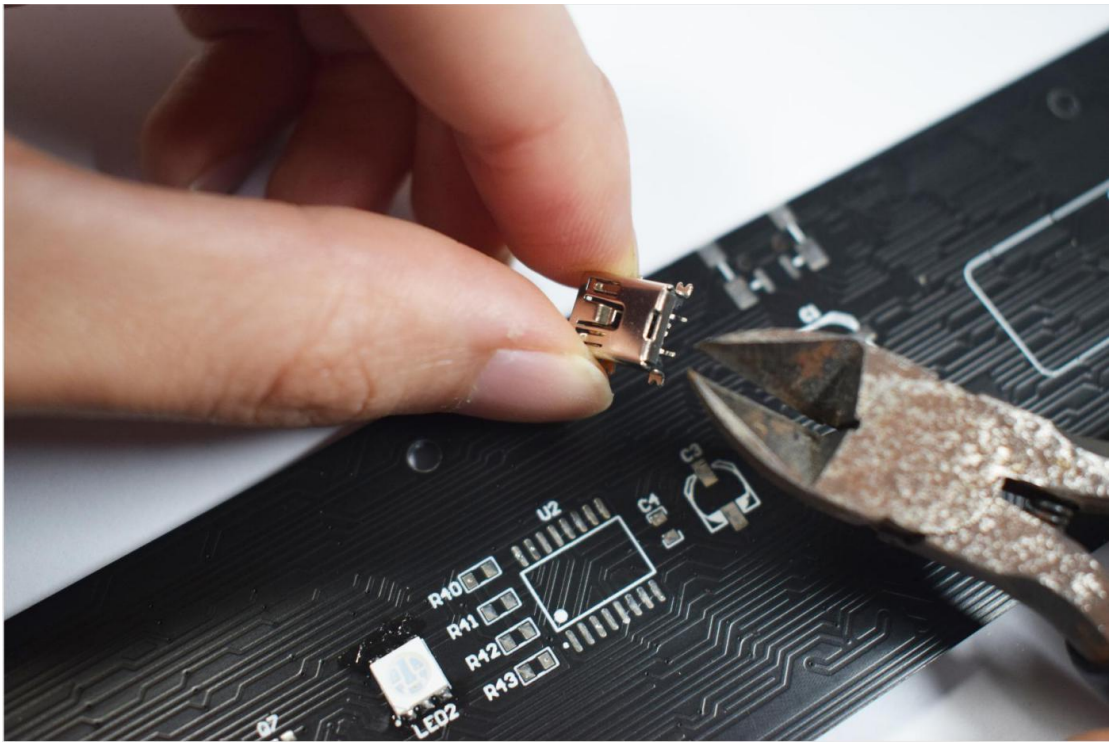
10. Welding resistance and capacitance：R1-R33: 120Ω(121)　R44-R45:1MΩ(105)
C5:100nf(104)



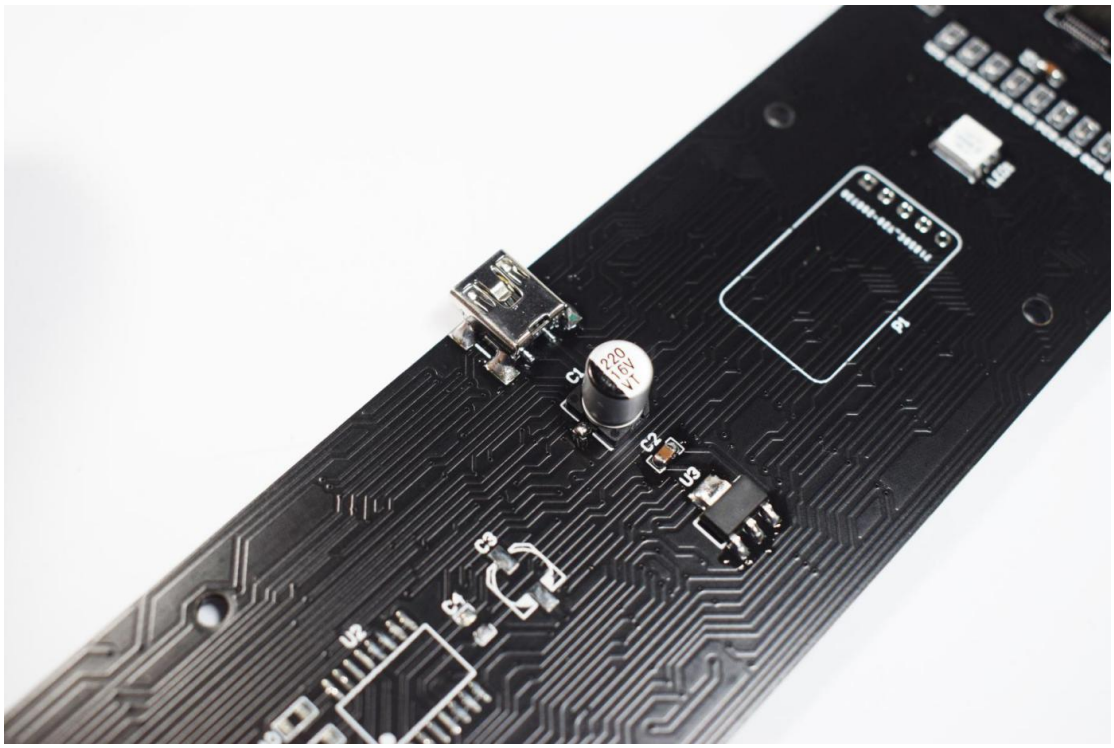
11. Welding back LED1 and LED2



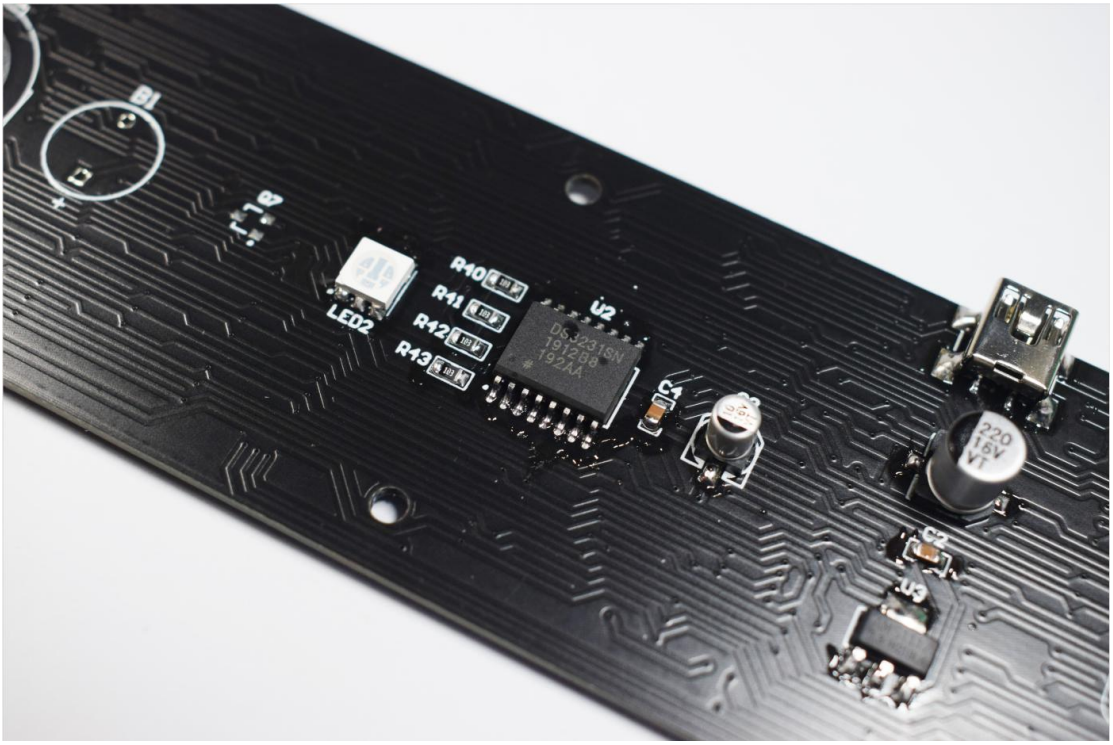
12. Welding Mini USB socket, first cut off the middle three pins, and then welding



13. Welding C1:220uf capacitance C2:100nf(104) capacitance U3：AMS1117

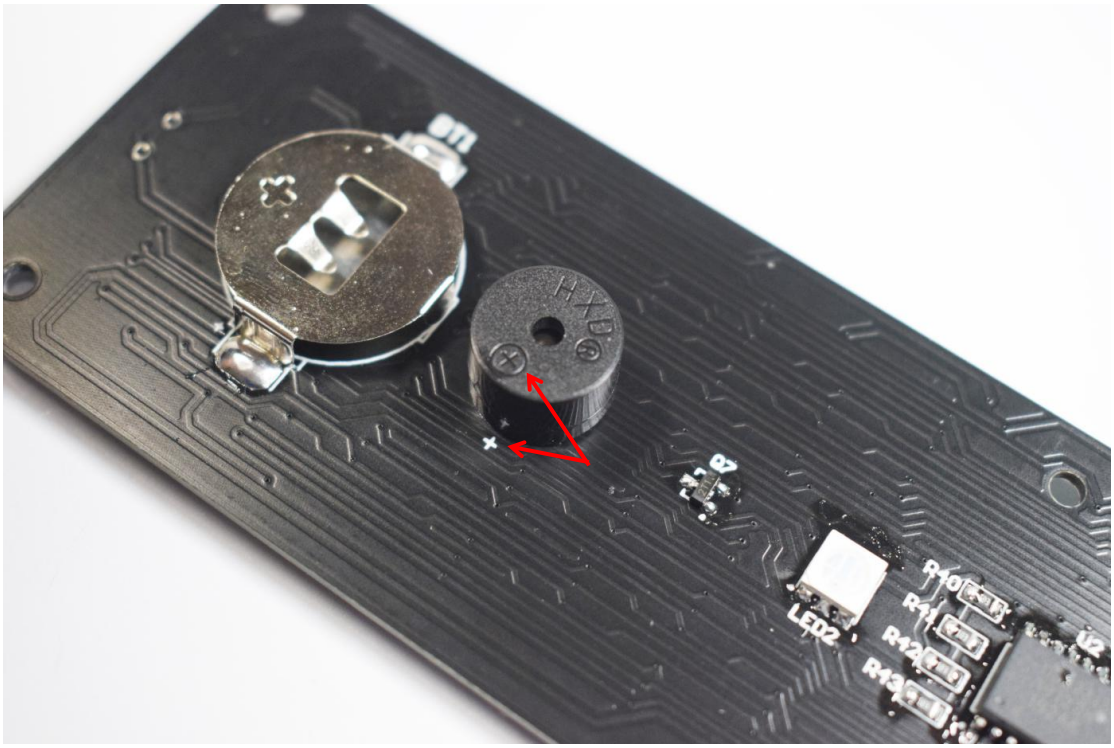


14. Welding C3:10uF C4:100nf(104) U2:DS3231 R40-R43:10K(103) Q7:9012(2T1)



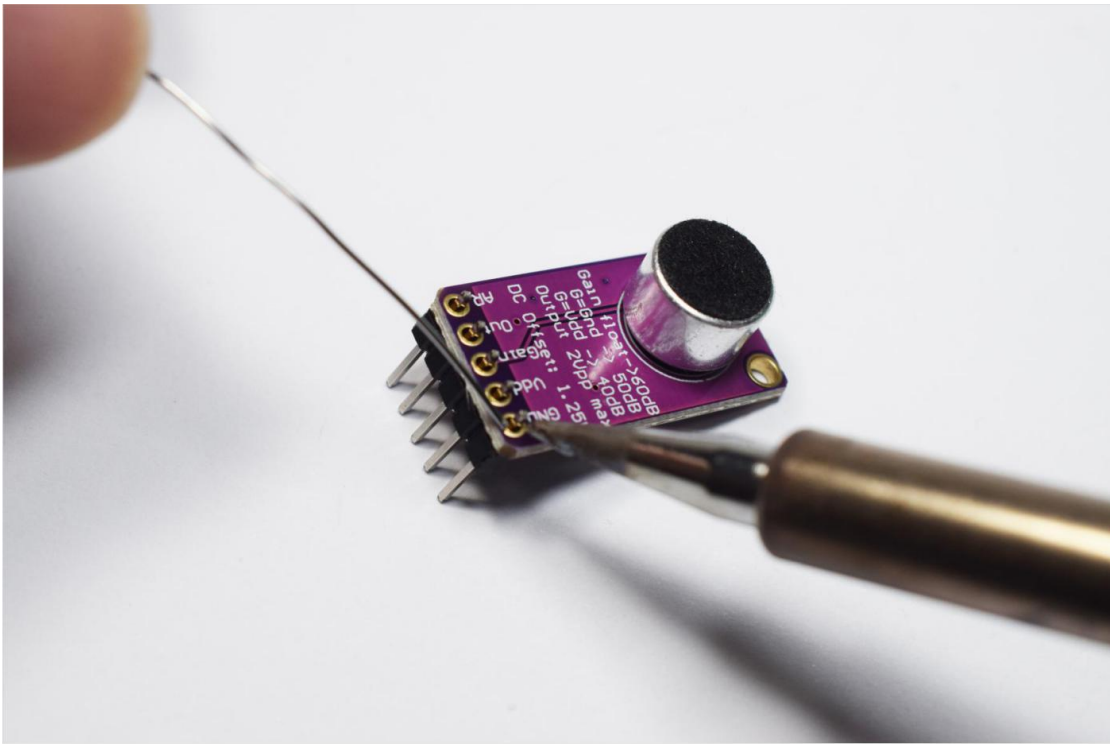
15. Pay attention to the direction when welding the battery holder

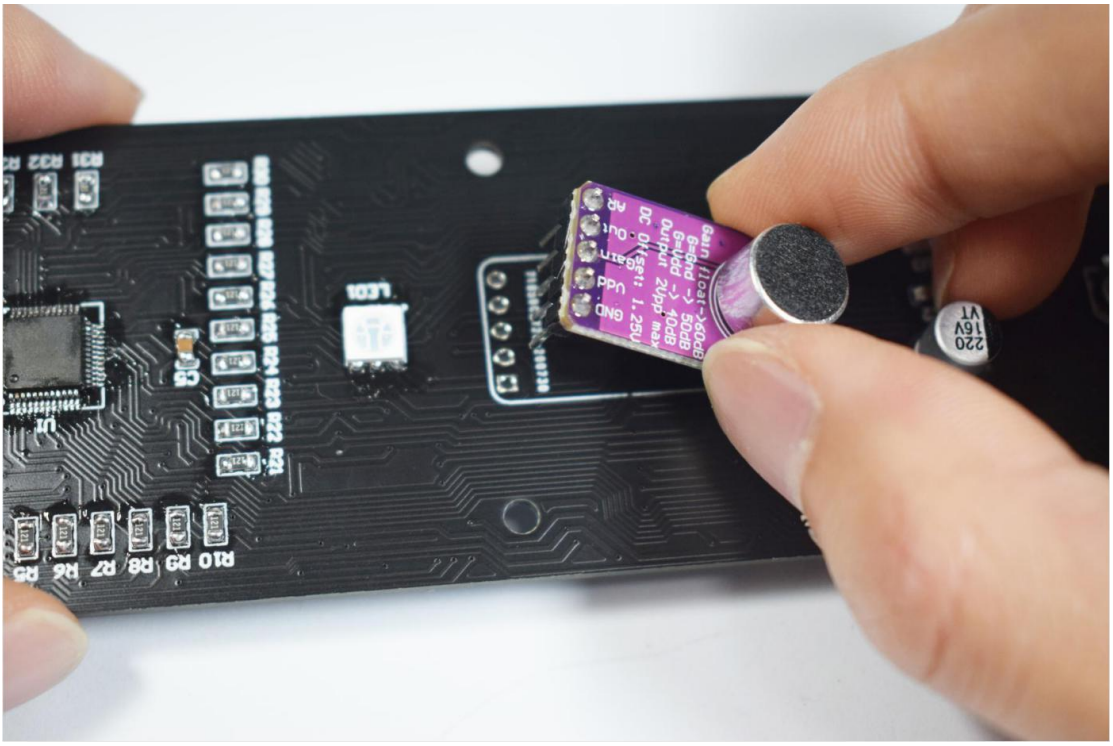
16. Pay attention to the direction when welding the buzzer



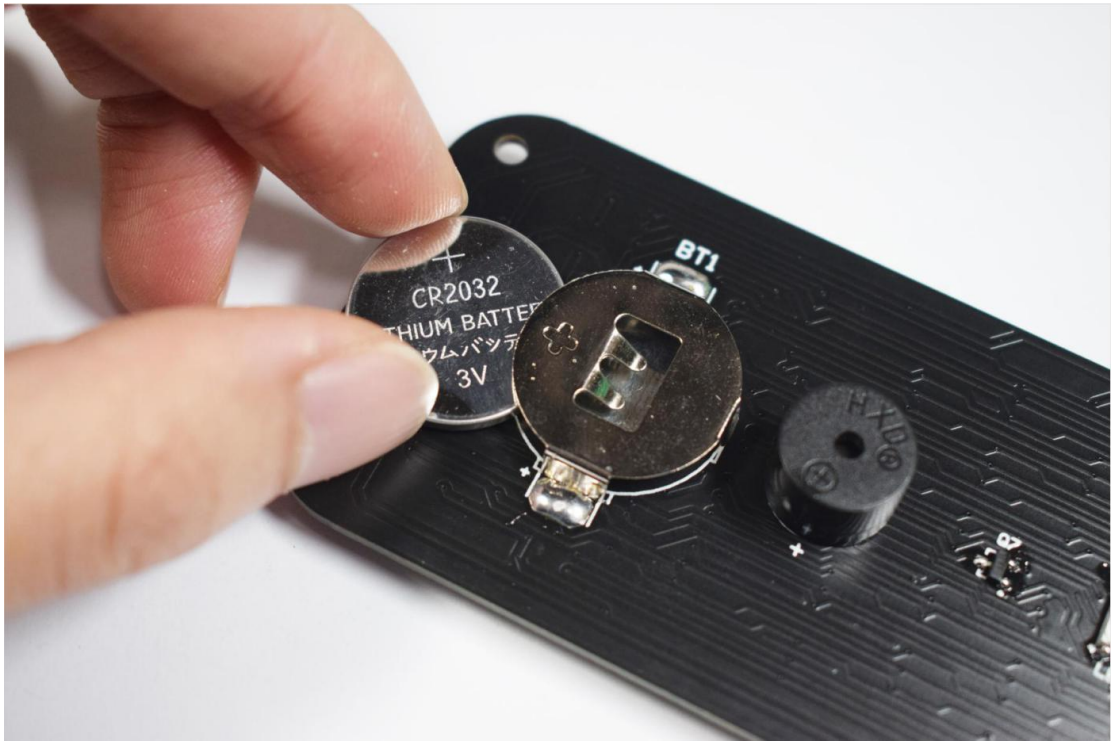
17. Welding photosensitive resistance, it should be noted here that the photosensitive resistance needs to leave a certain height to prevent the acrylic plate from blocking the light induction, as shown in the figure below

18. Welding audio module

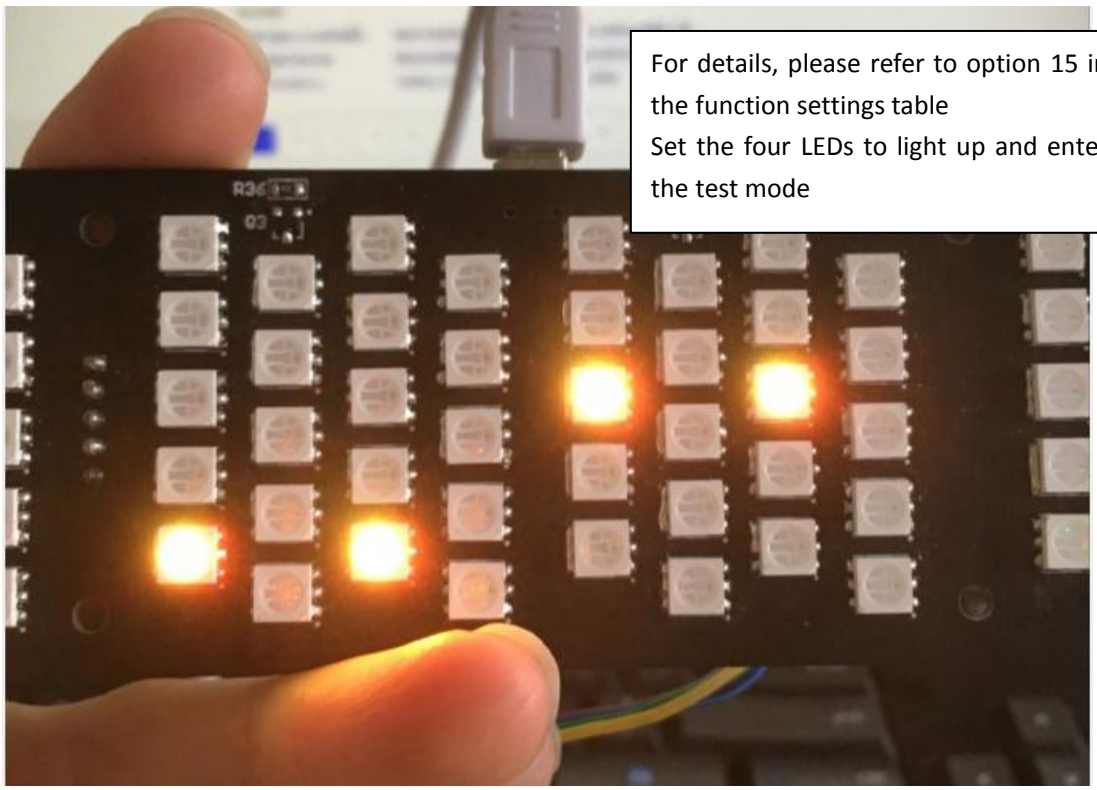




19. Install CR2032 button battery (please buy it yourself)

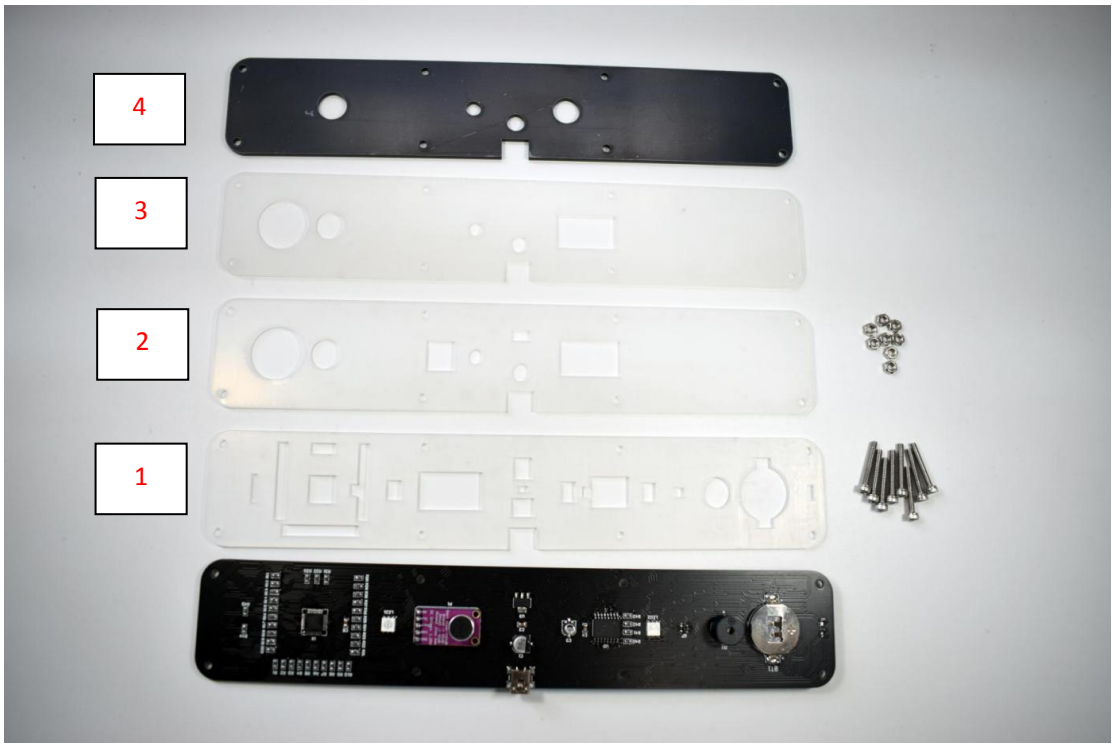


After all devices are welded, please power on and set it to the test mode to check whether the LED light is normal. If the LED can all display red, green and blue, it means that the LED is normal. Otherwise, it is necessary to check whether there is a short circuit in the LED.

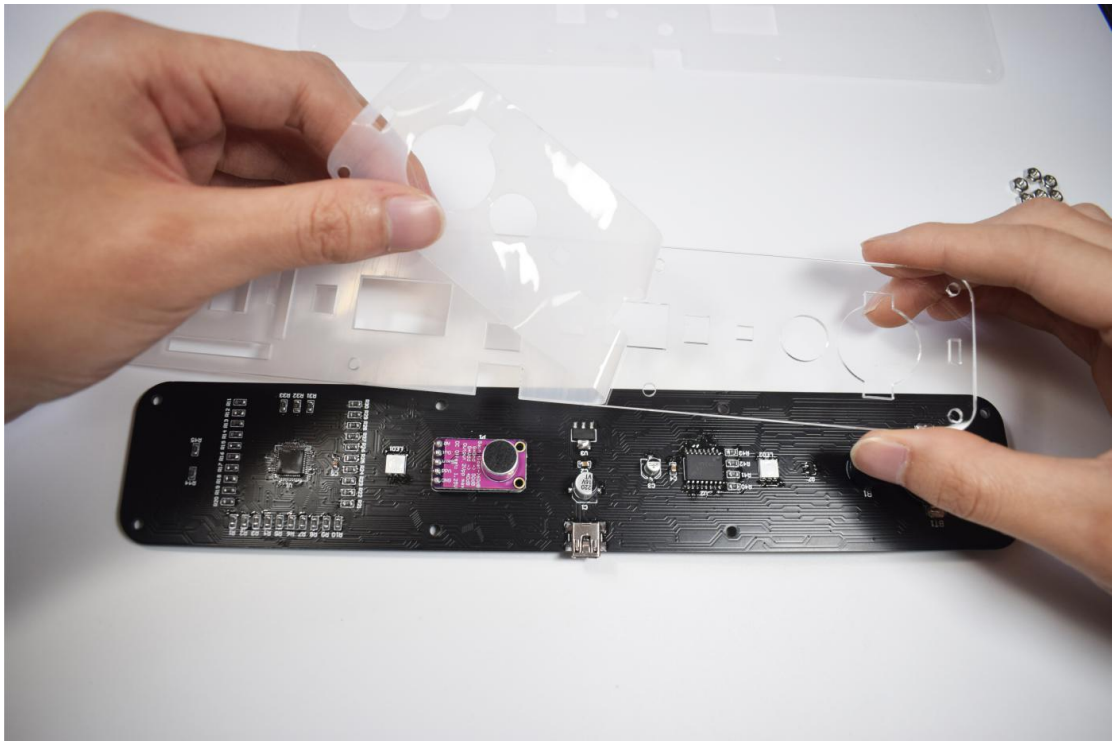


For details, please refer to option 15 in the function settings table
Set the four LEDs to light up and enter the test mode

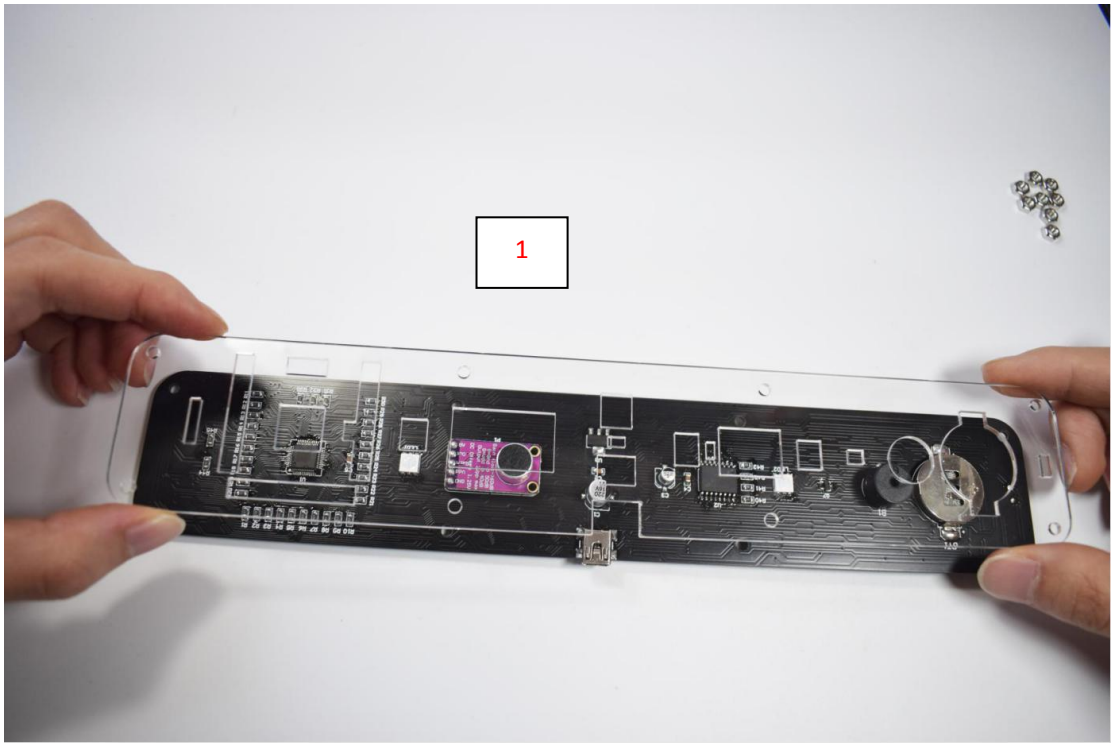
20. Start to install the acrylic plate. First, take out these acrylic plates and screws and nuts

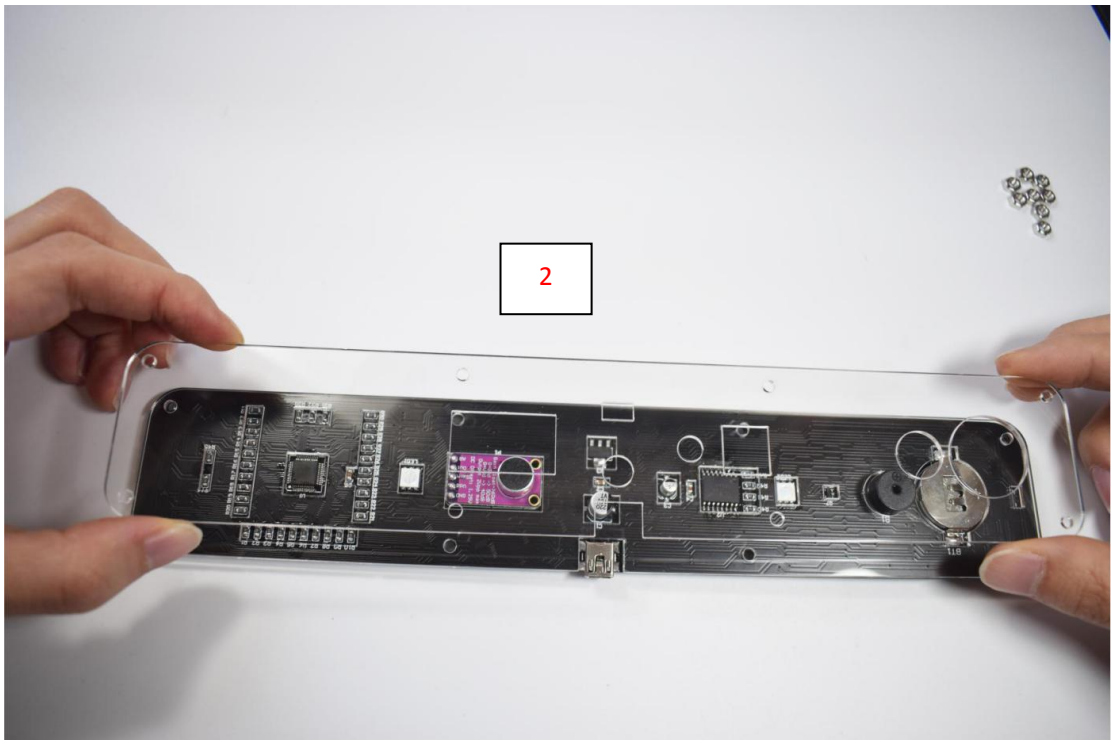


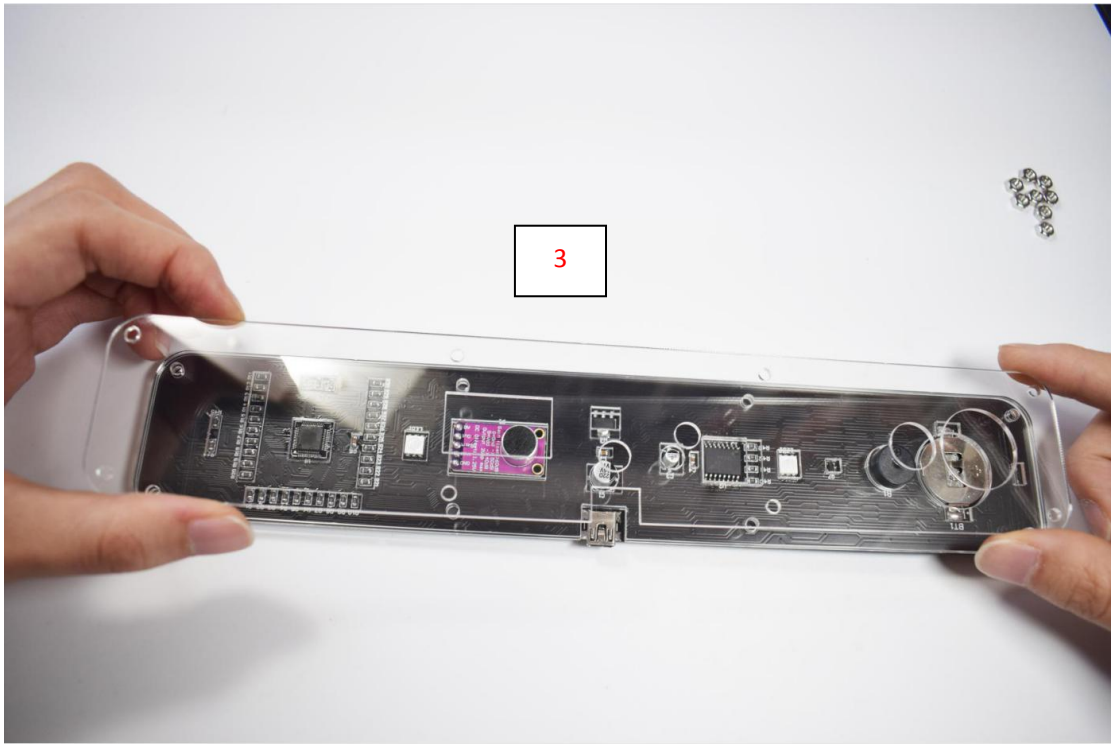
21. take out acrylic plate and tear off protective film

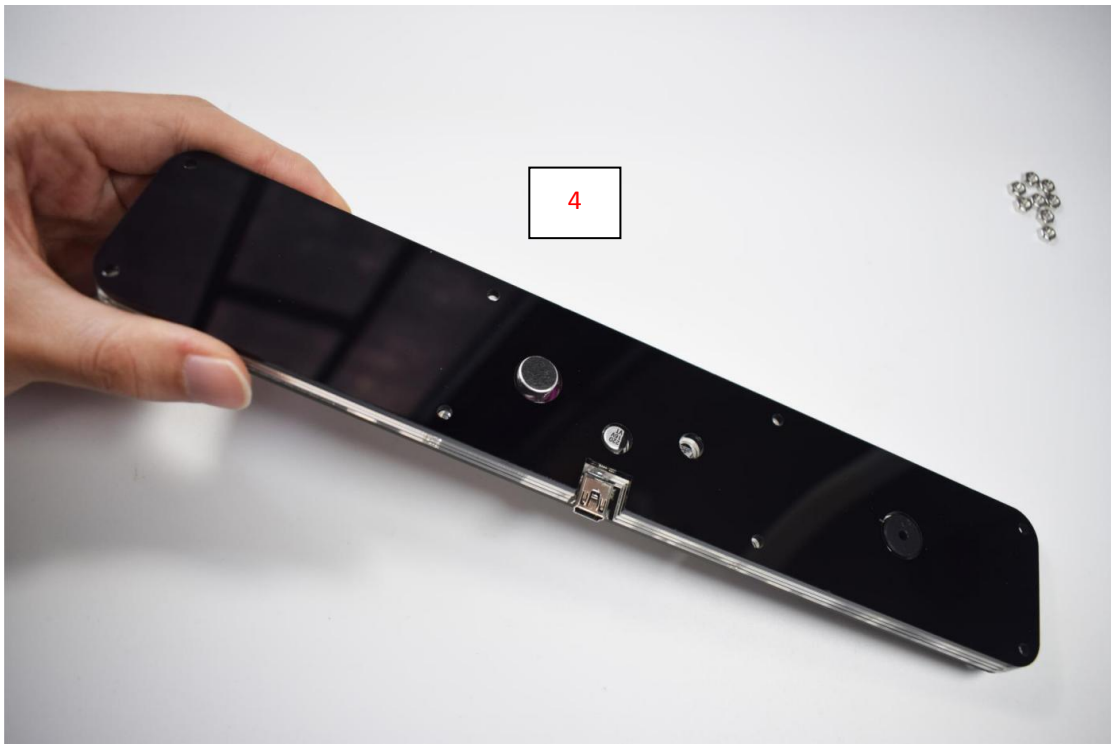


22. Install acrylic plate in order of 1, 2, 3 and 4





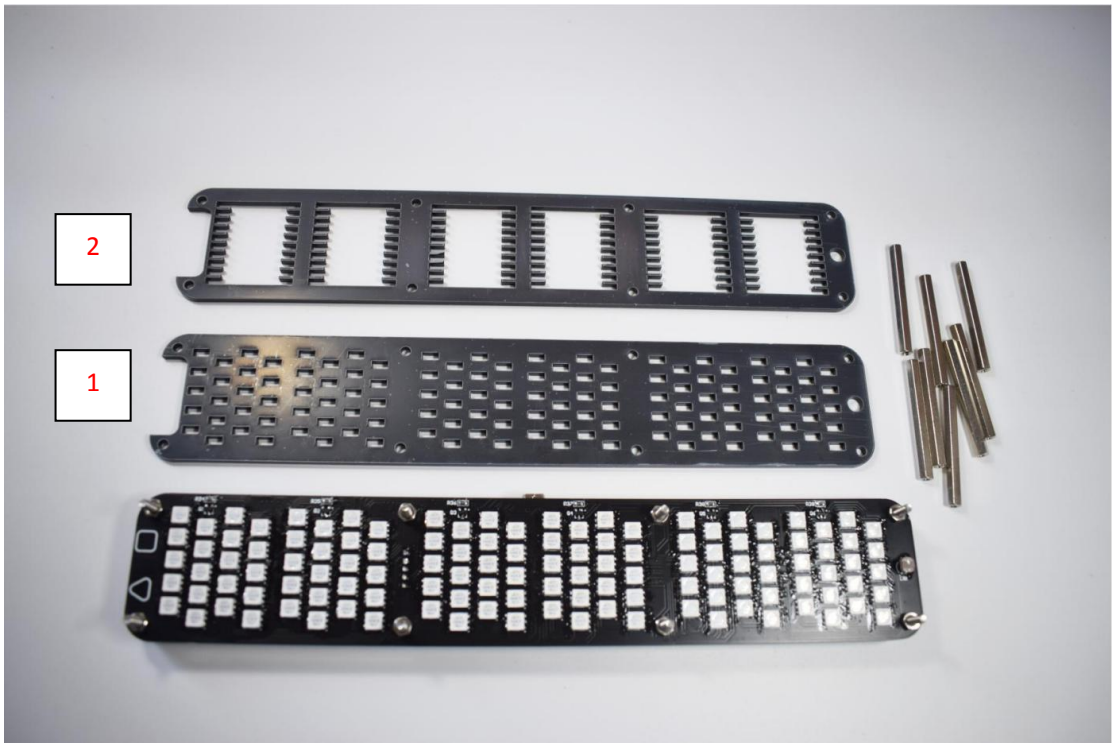

3


4

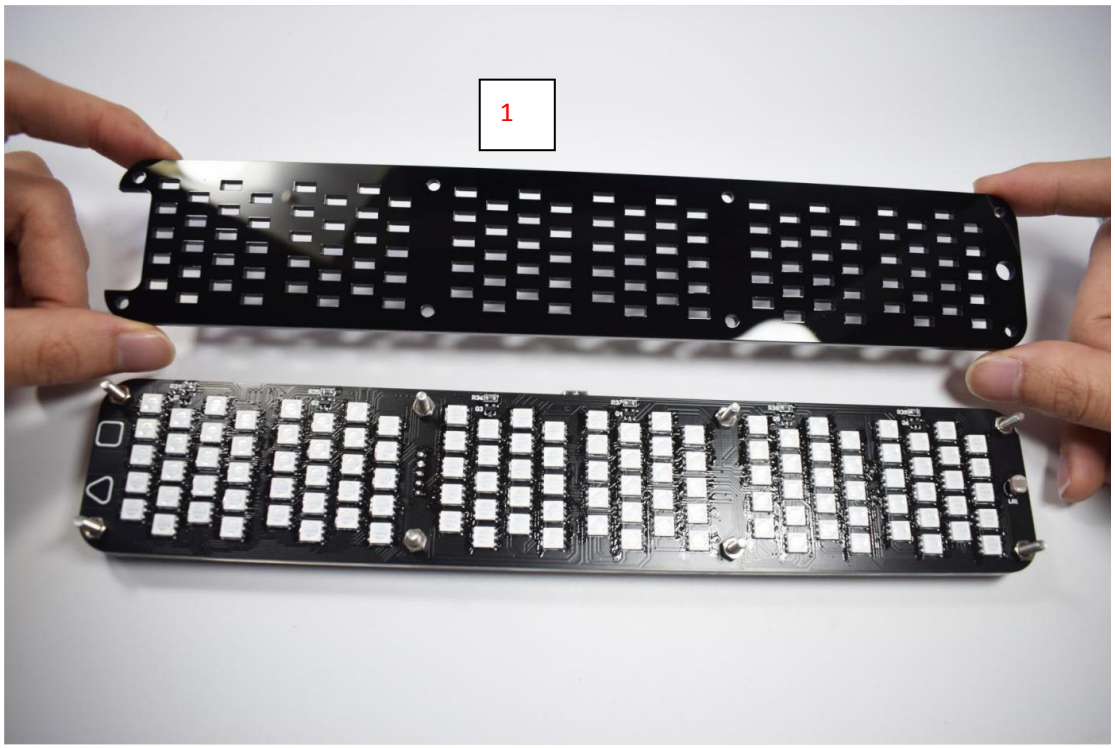
23. Install the hexagon socket screw as shown in the figure

24. Install the nut

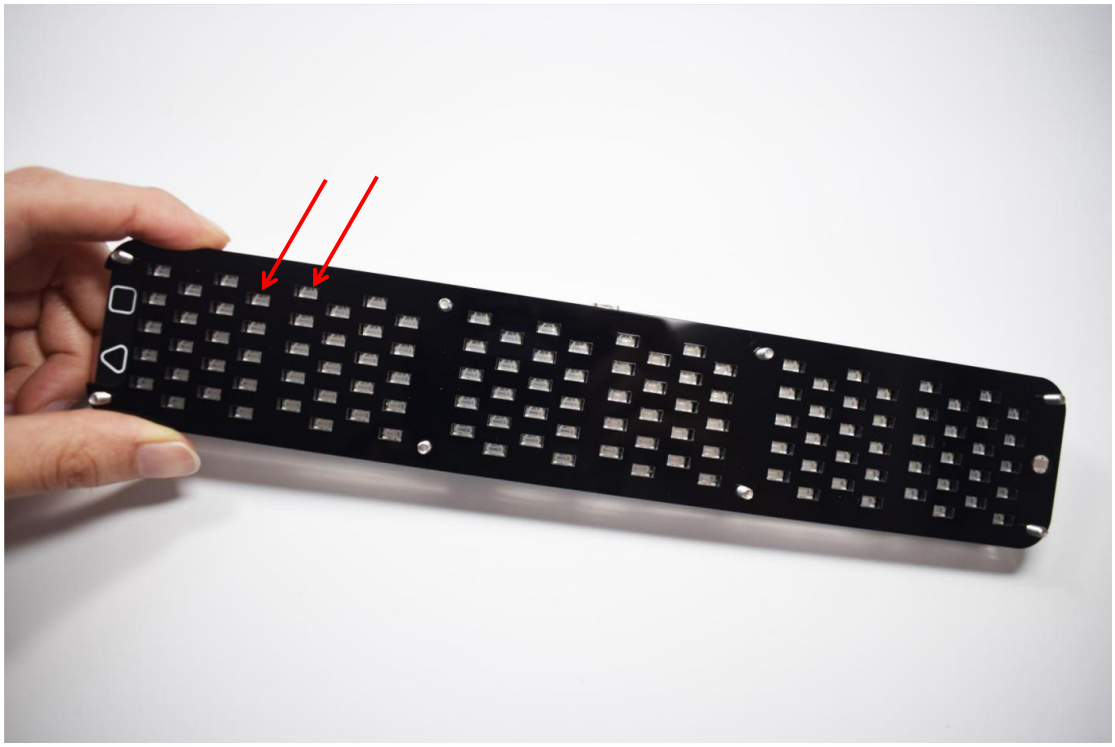
25. Next, take out these acrylic plates and copper pillars



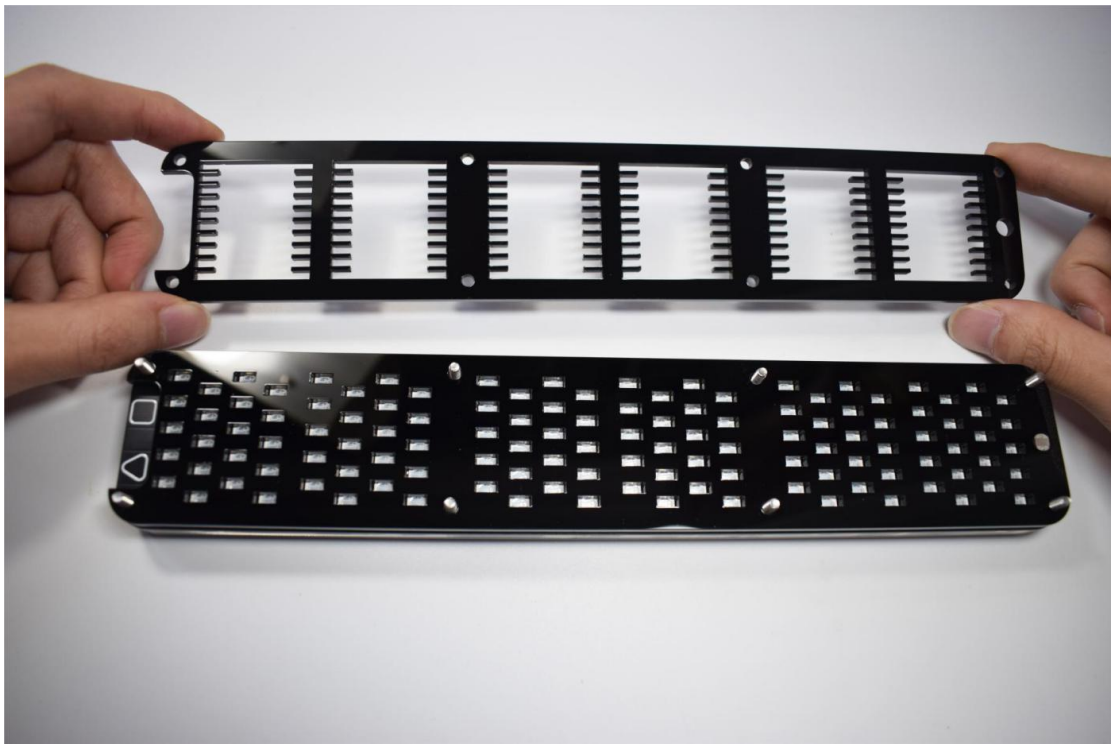
26. tear off the protective film and install this acrylic board on the circuit board. Please note that the hole positions here should be one by one, and do not install the reverse one by one. If the LED is installed, the light will not be visible



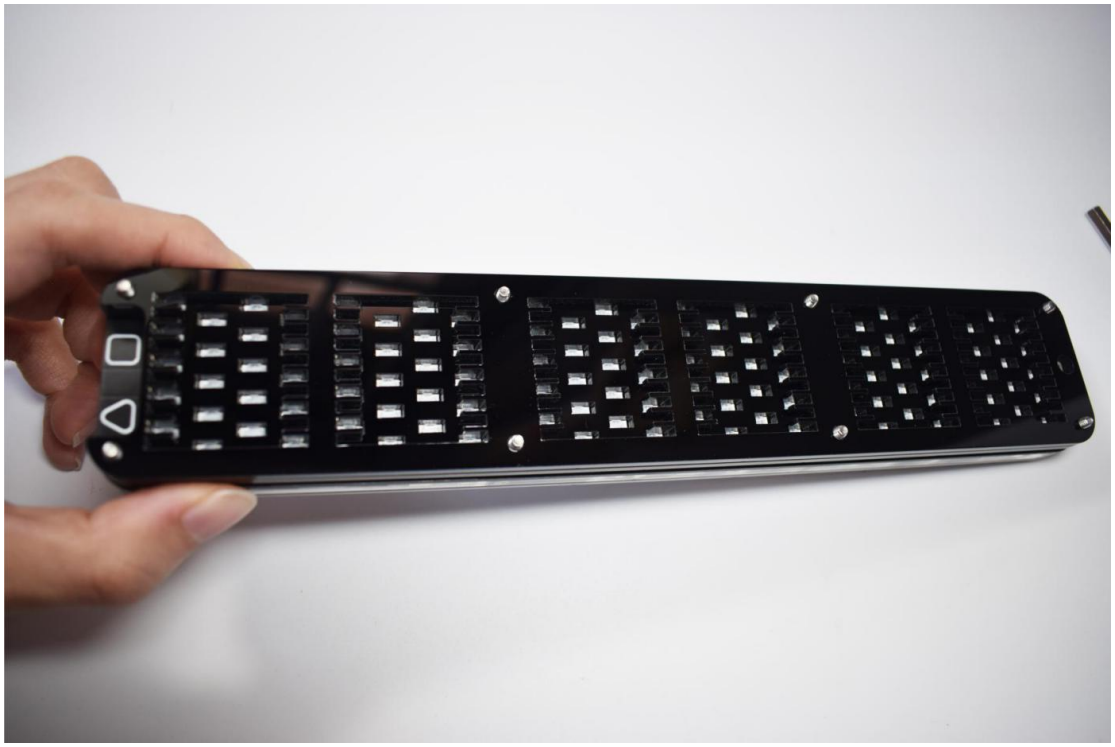
27. The installation is shown in the figure below



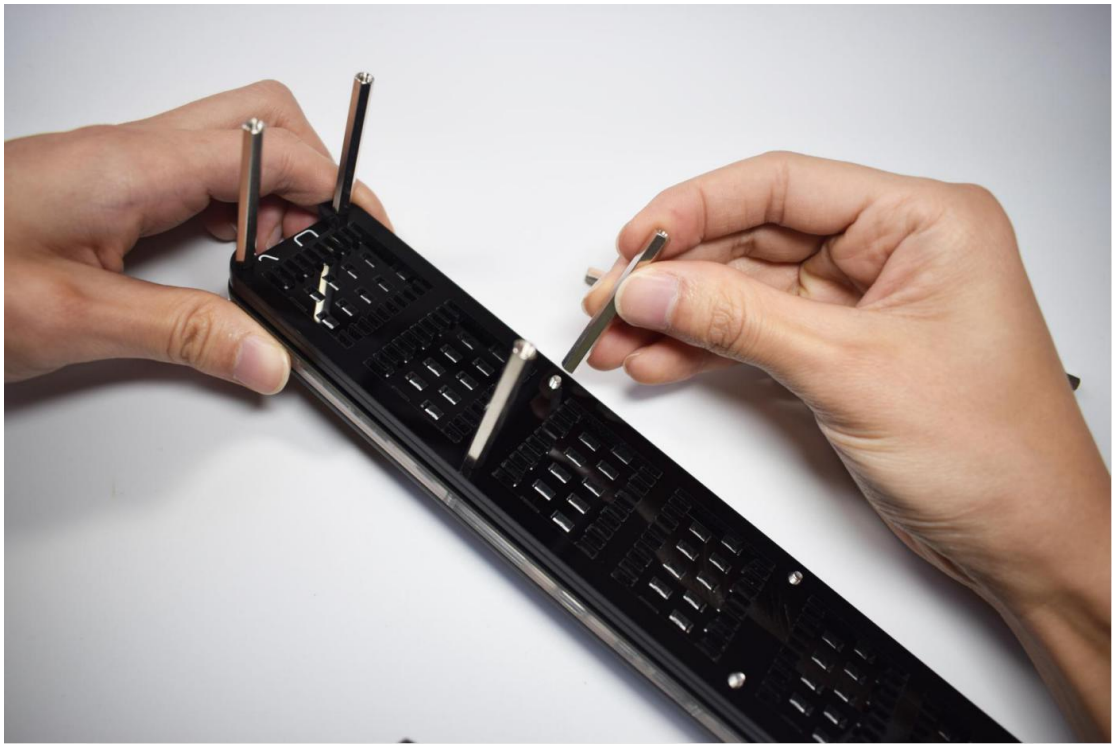
28. Install the second plate



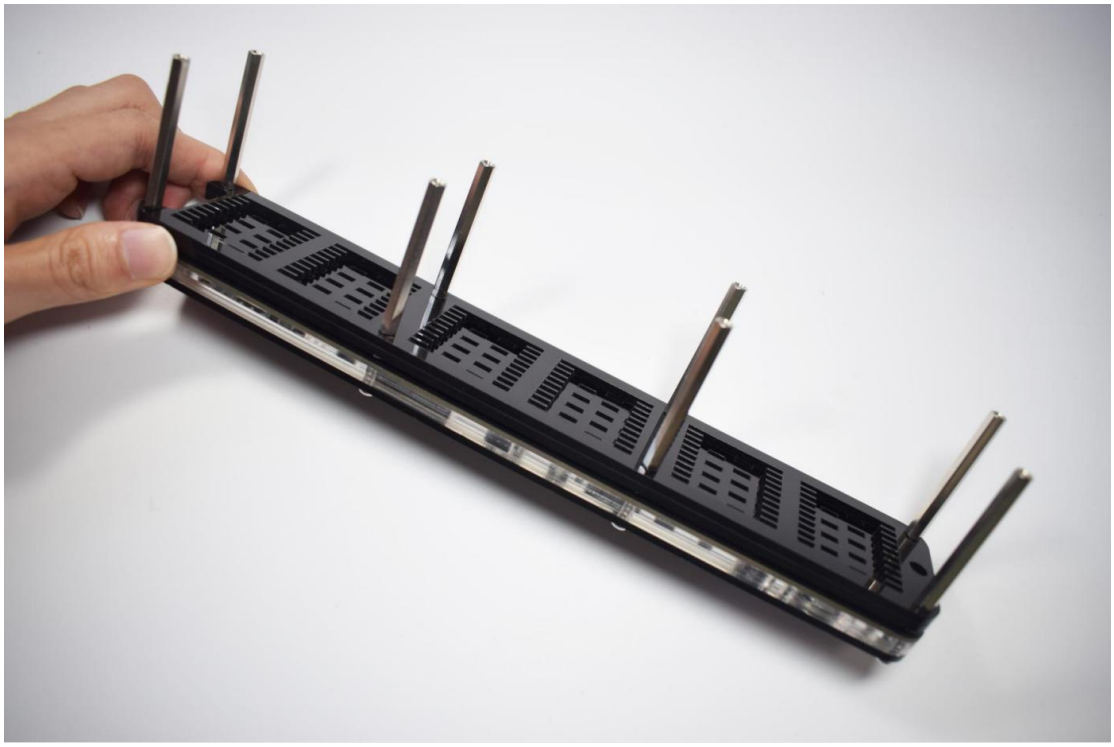
29. after installation, as shown in the following figure



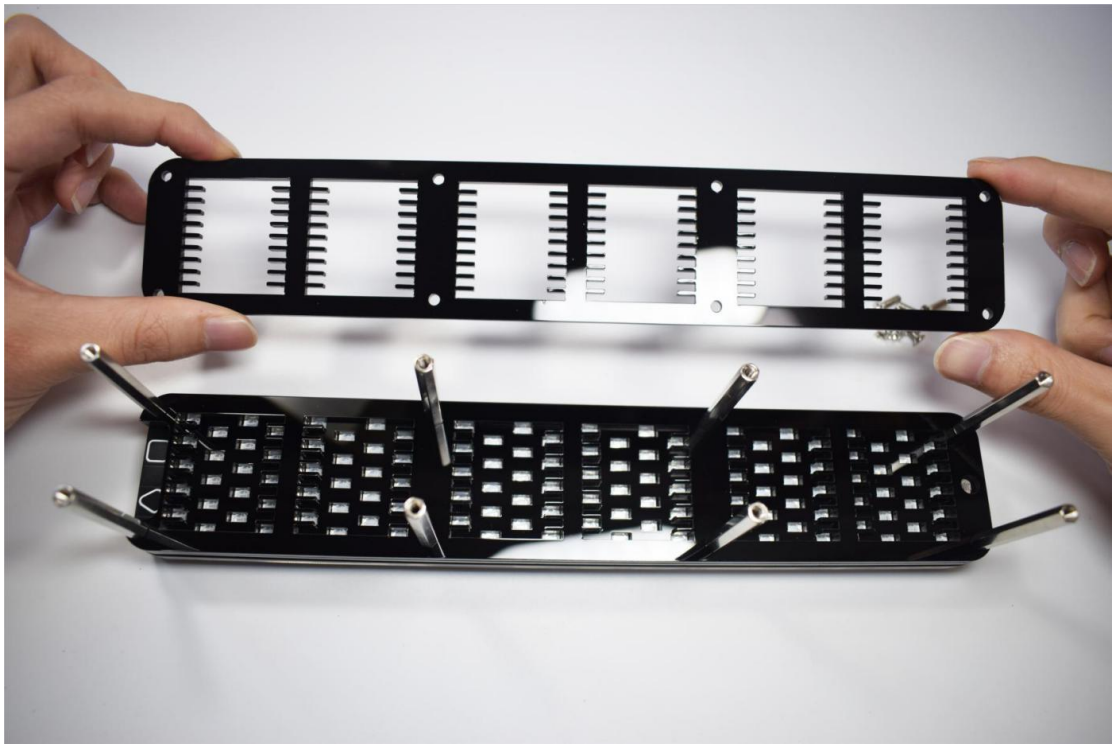
30. Installation of copper pillars



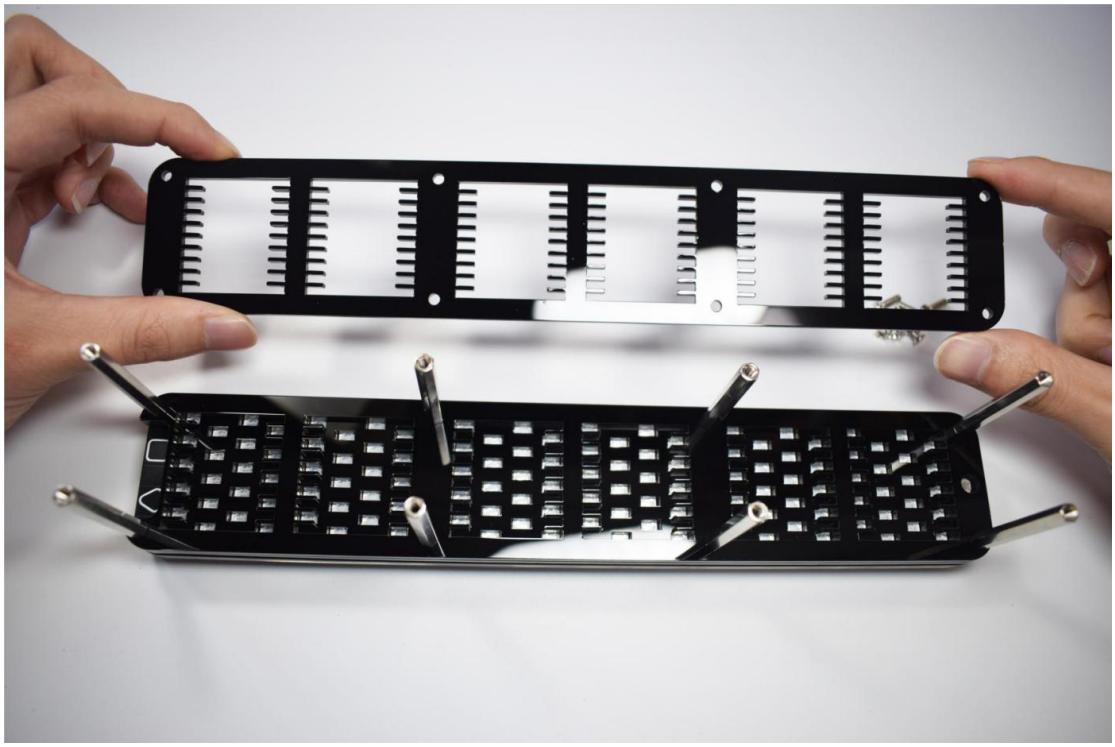
31. after installation, as shown in the following figure

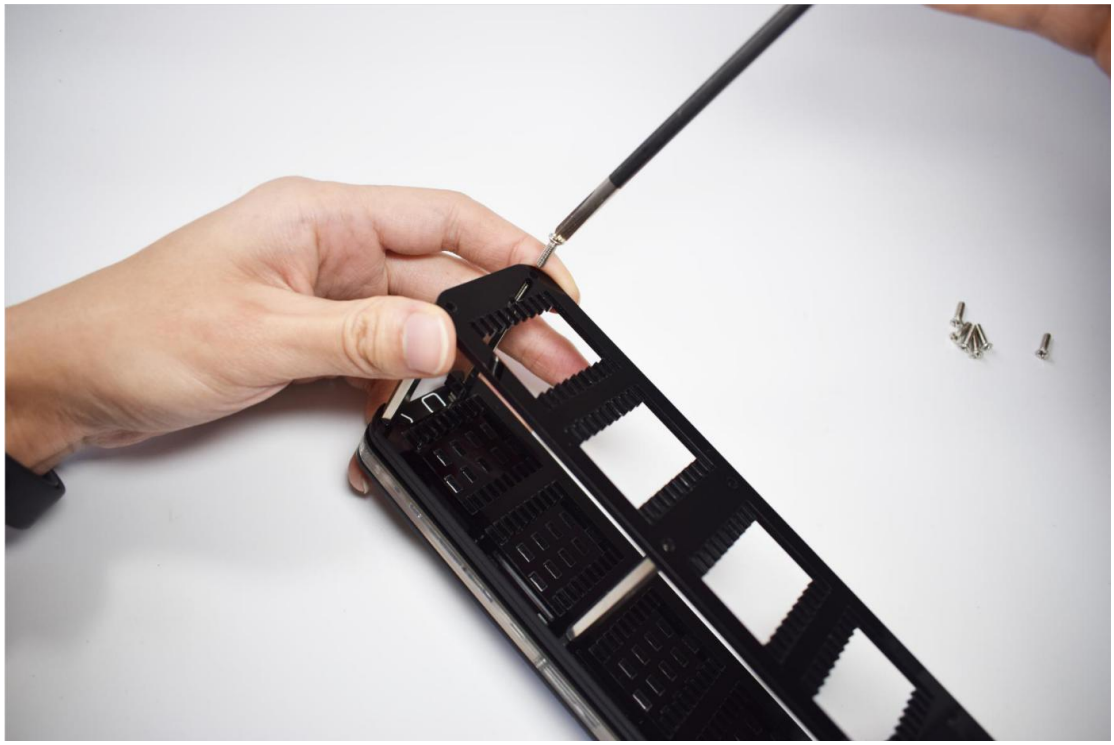


32. Take out the acrylic board and tear off the protective film

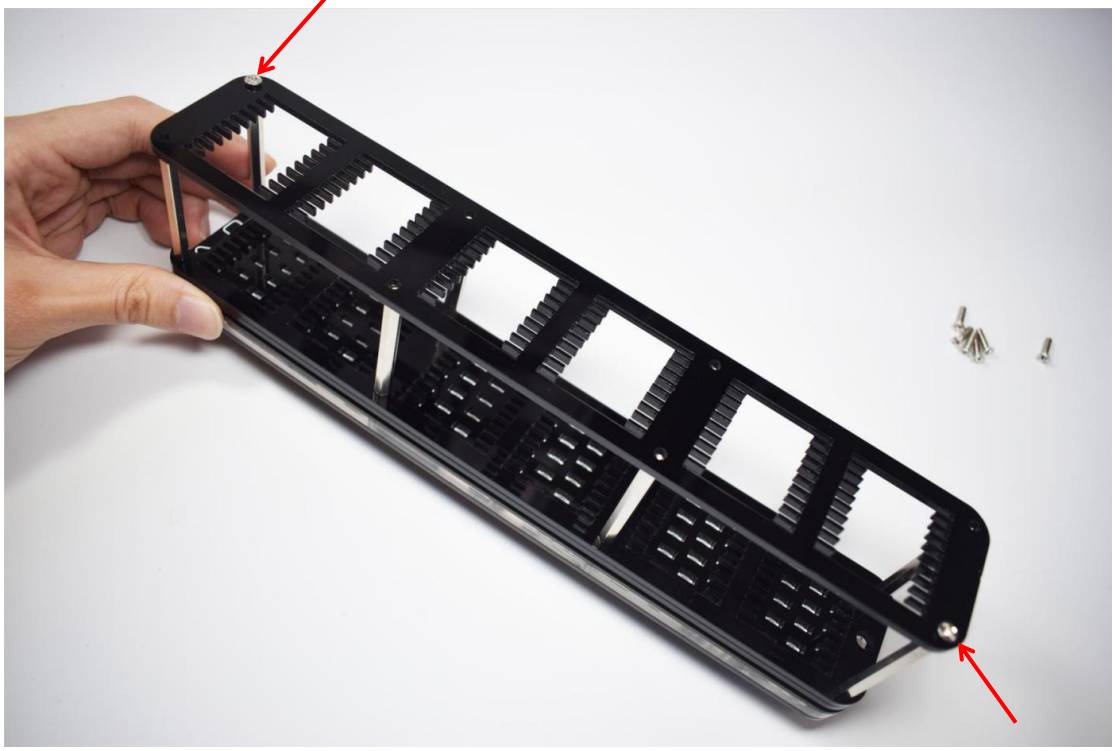


33. Install the acrylic plate on the copper pillar

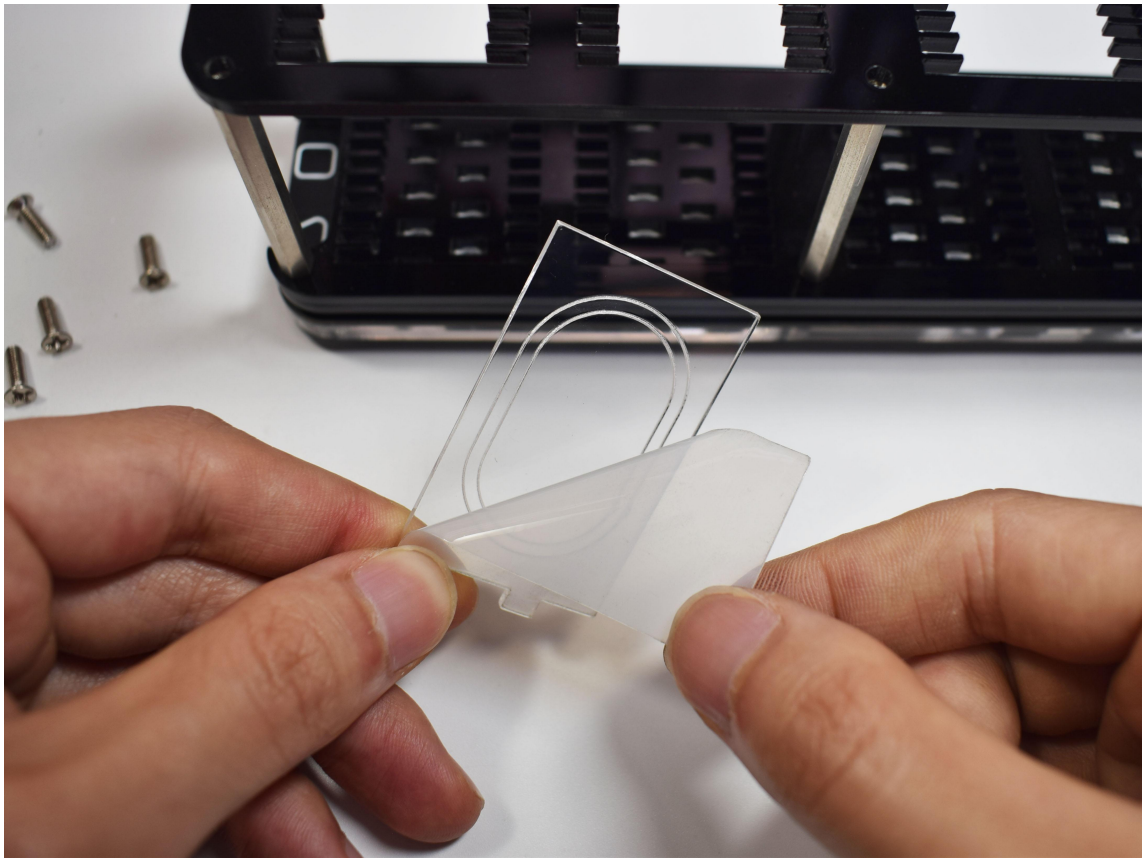




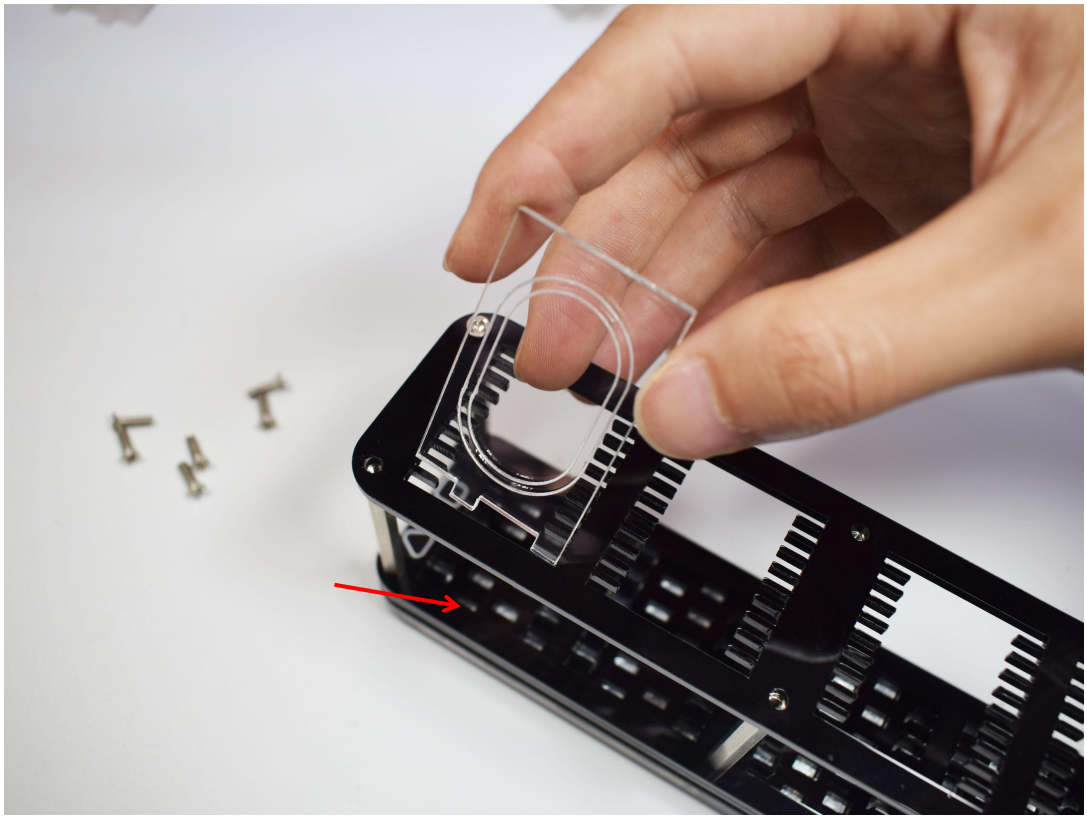
34. Install the screws at the two opposite corners

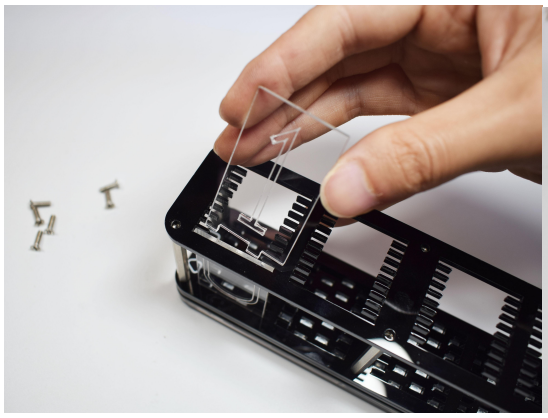


35. Install acrylic number plate in turn

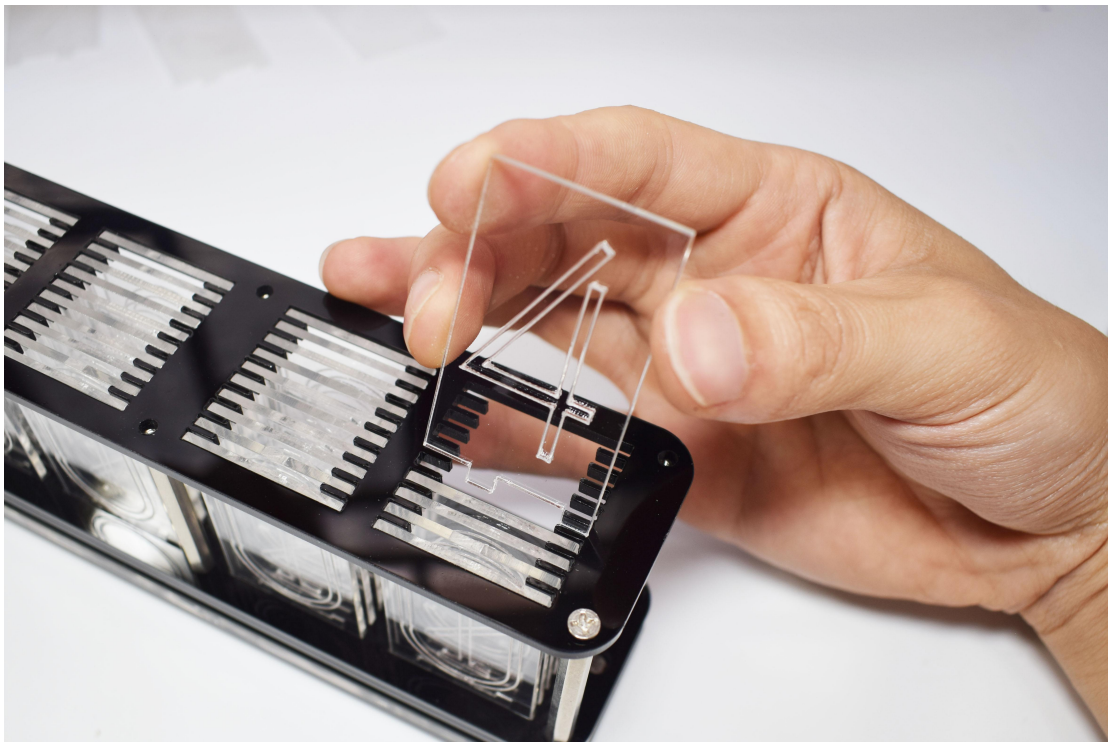


36. Please pay attention to the installation direction. Install 0-9 boards in turn from the direction of the touch button



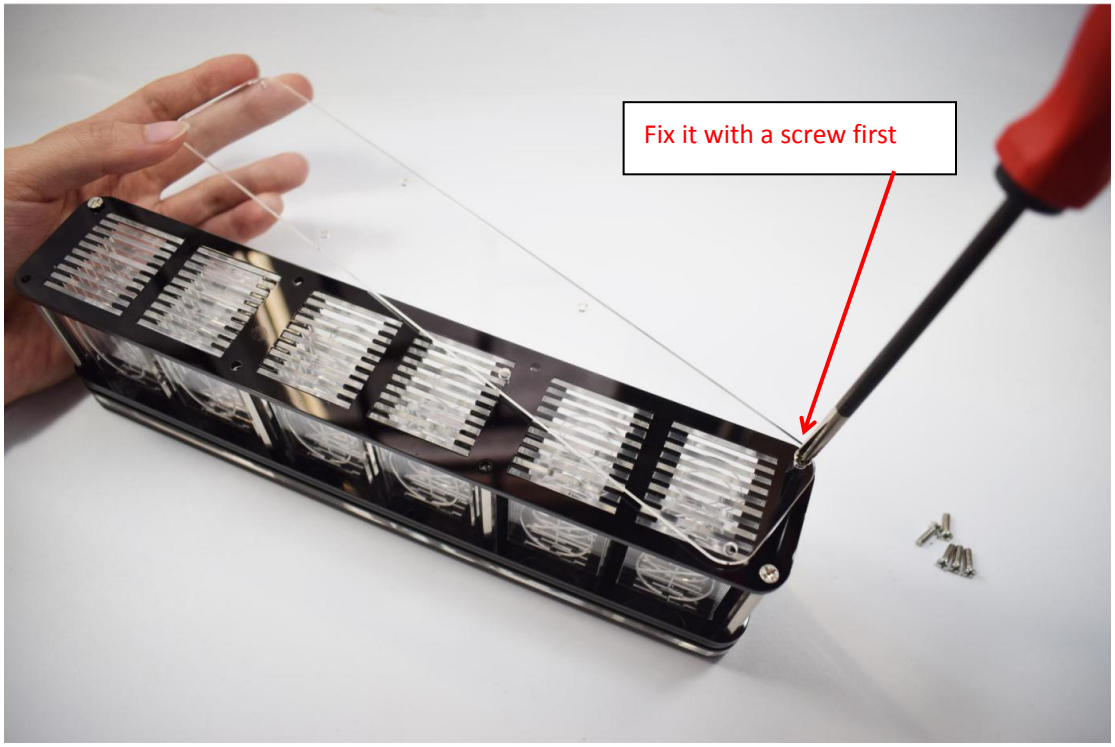


37. The same treatment is used for acrylic plates in other positions

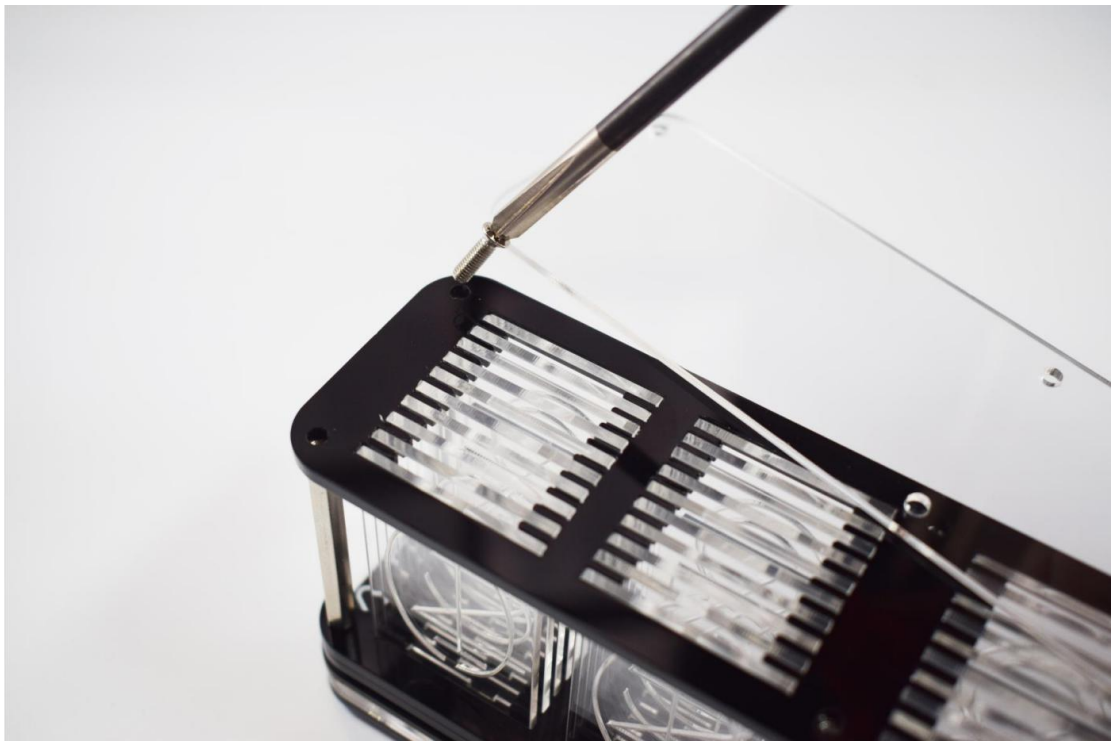


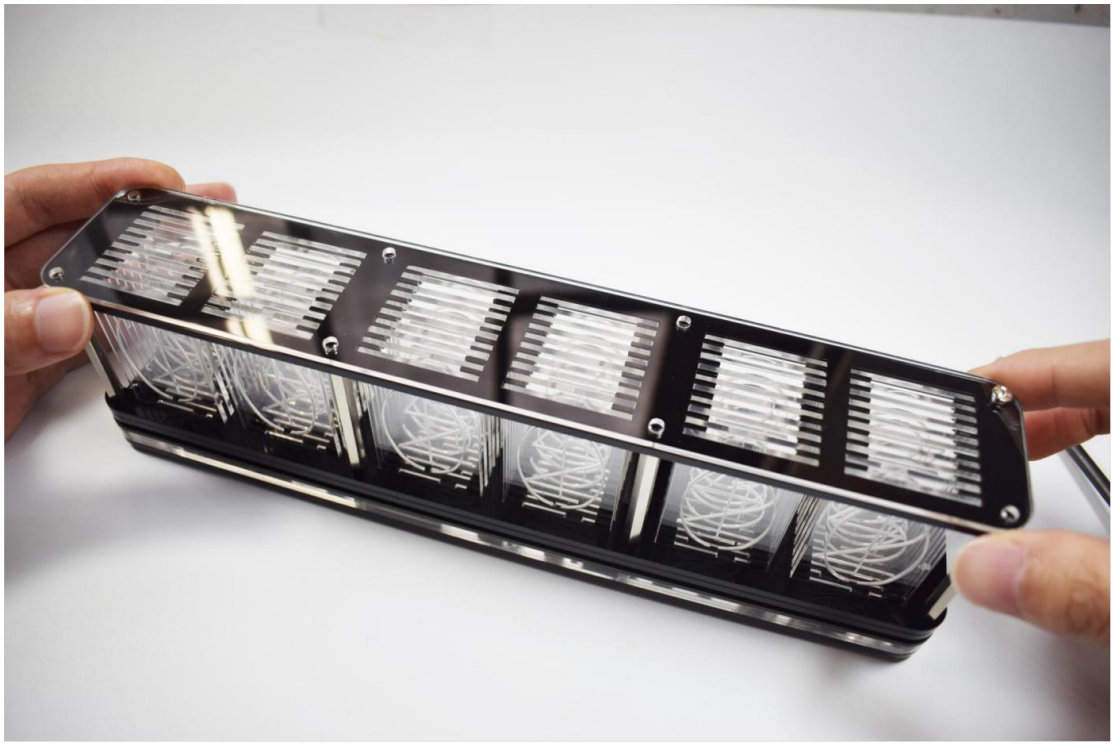
38. Take out the last acrylic and screw

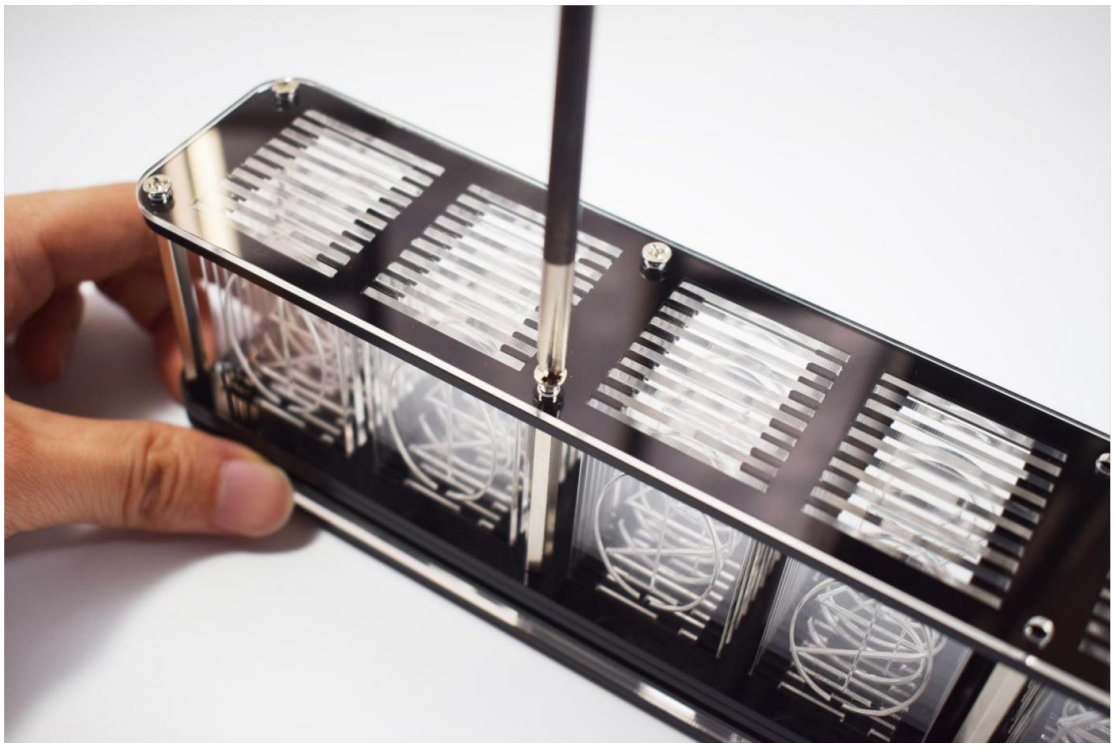
39. When installing this acrylic board, special attention should be paid to that when installing the transparent acrylic board, first install a screw to press it, and then remove the screws that pressed the black acrylic board before fixing it again



40. then remove the diagonal screw. Move the transparent acrylic to the black acrylic and install the screw. If the black acrylic shakes, it may cause the previous acrylic number board to fall off







41. It's done!

42. Plug in 5V USB power supply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