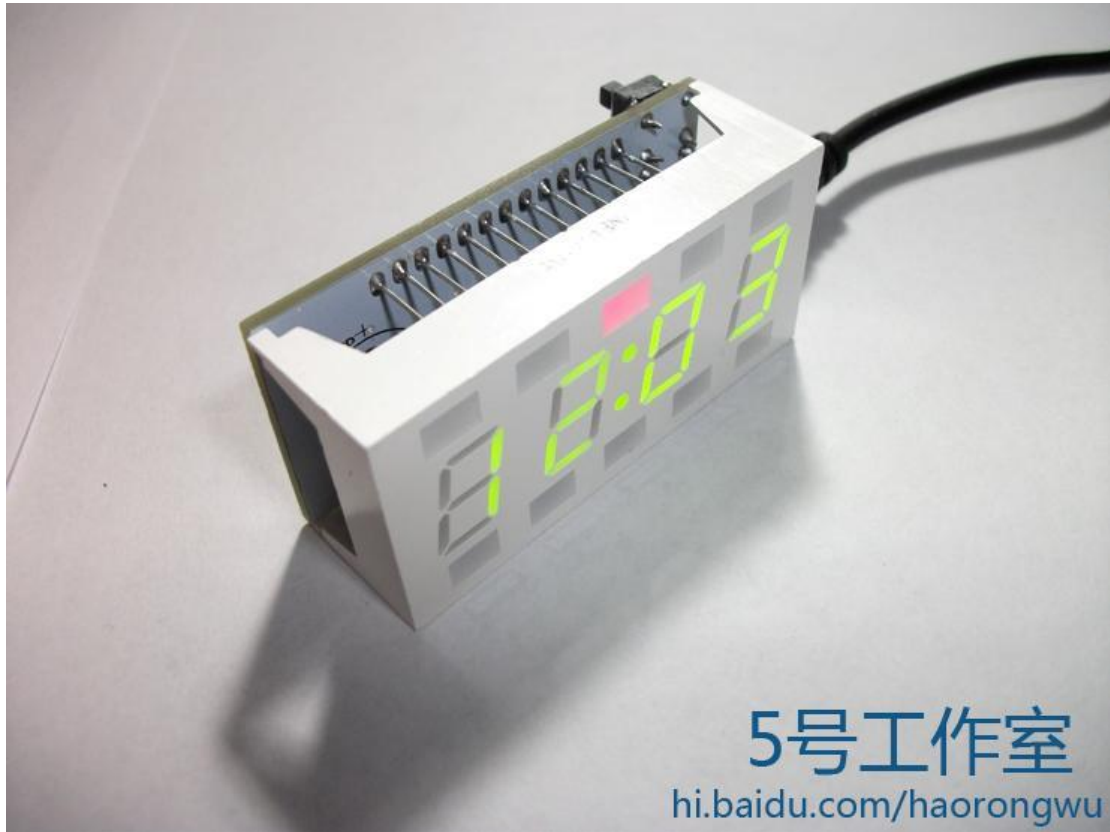


MiniClock production process



Or with the past, the first look at the final product sample. Specific features are described below:

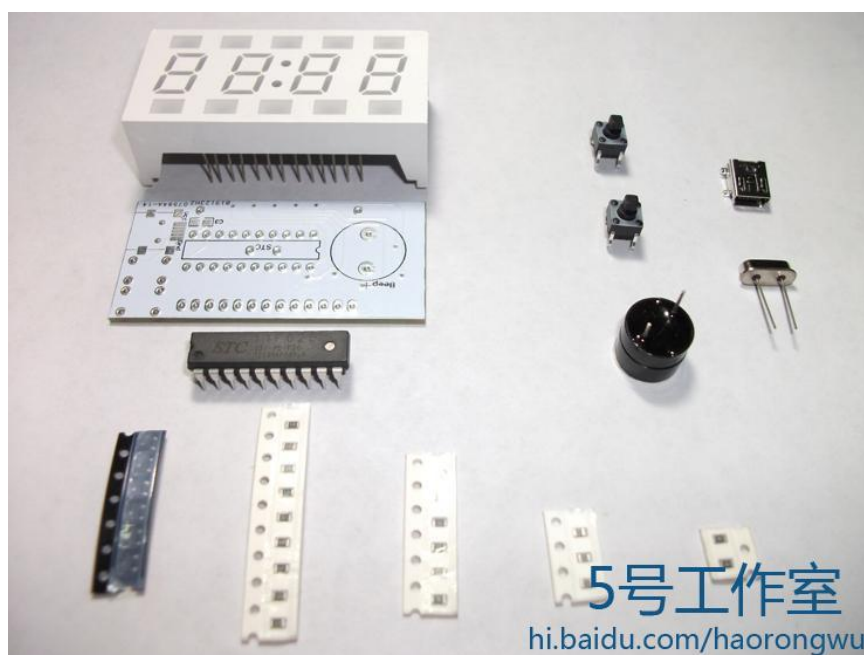
This is my latest ultra-minimalist design creative desktop clock, with white PCB board, called: Mini-Clock. The front is a digital control, PCB board and digital control the same size. A unique digital production, digital tube down each 5 square LED color, up and down LED color I designed to represent the number of seconds of walking, every 10 seconds a different walking patterns.

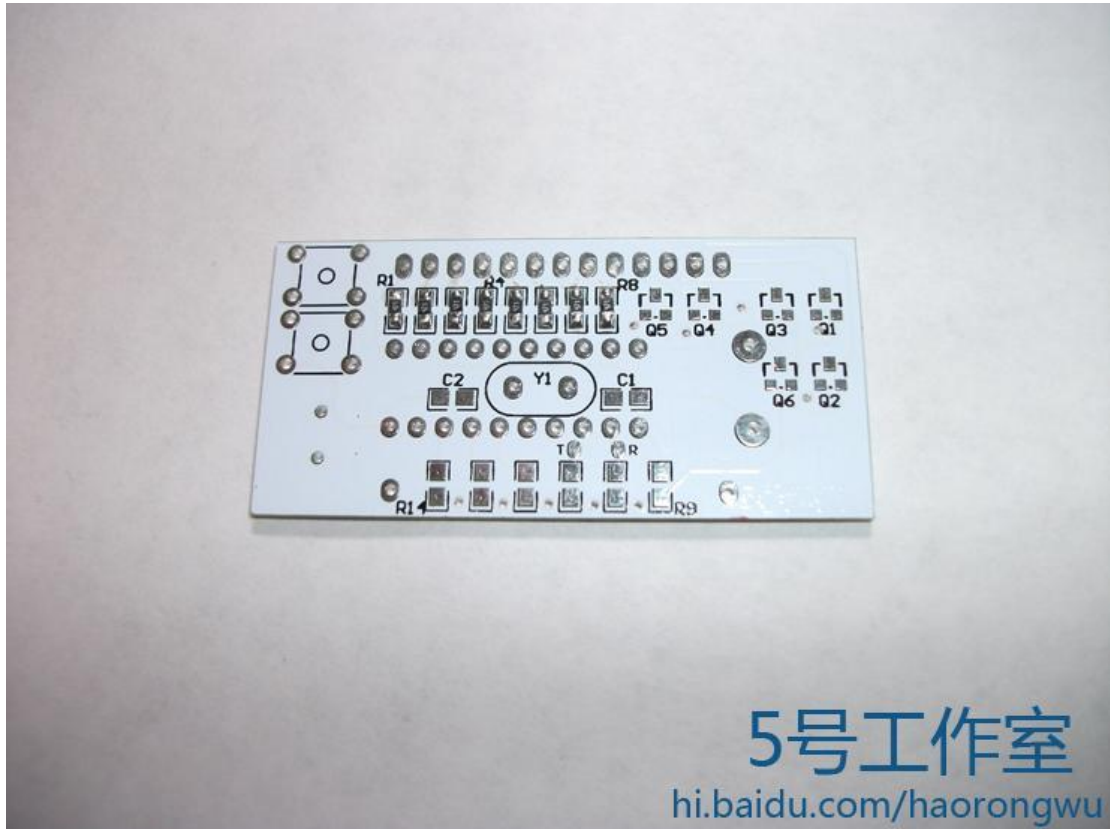
Middle green LED digital segment code, look for white, checkered top

and bottom LED is red, very unique. PCB design with white, whole, very beautiful.

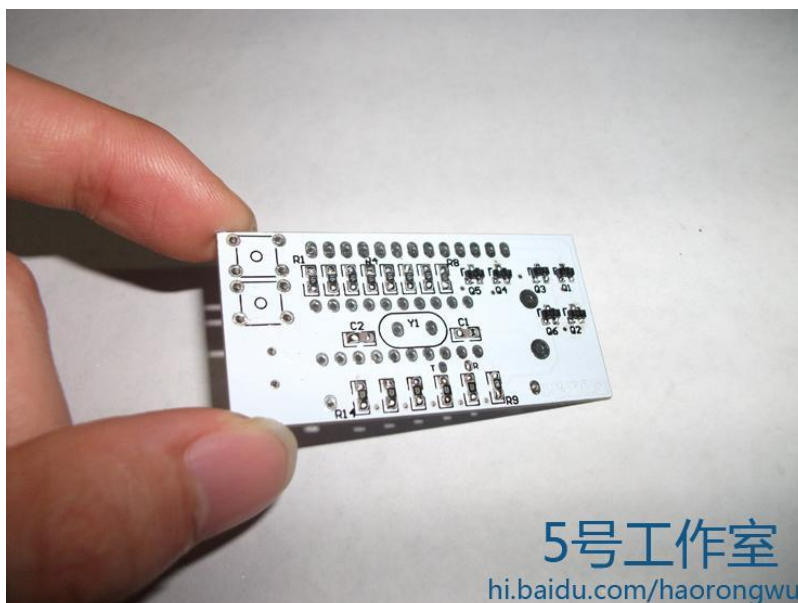
Function, "when" and "second" will automatically switch the display, is no longer a monotonous display mode. There is the whole point and the slightest timekeeping function, the whole point of time up and down the grid full light flashes to remind the buzzer sounding cry. When the slightest square lights up as the buzzer short beeps once. The time period to show distinction. You can also set off the beeper beeps, so as not to affect sleep. You can set up automatic daily calibration time, a positive number represents the number of seconds faster, negative number the number of seconds slower, maximize reduce the error of time. Press the top button you can set the time value, setting the time corresponding to the flashing state, press the following key figures can be even plus.

Well, no nonsense, began making!

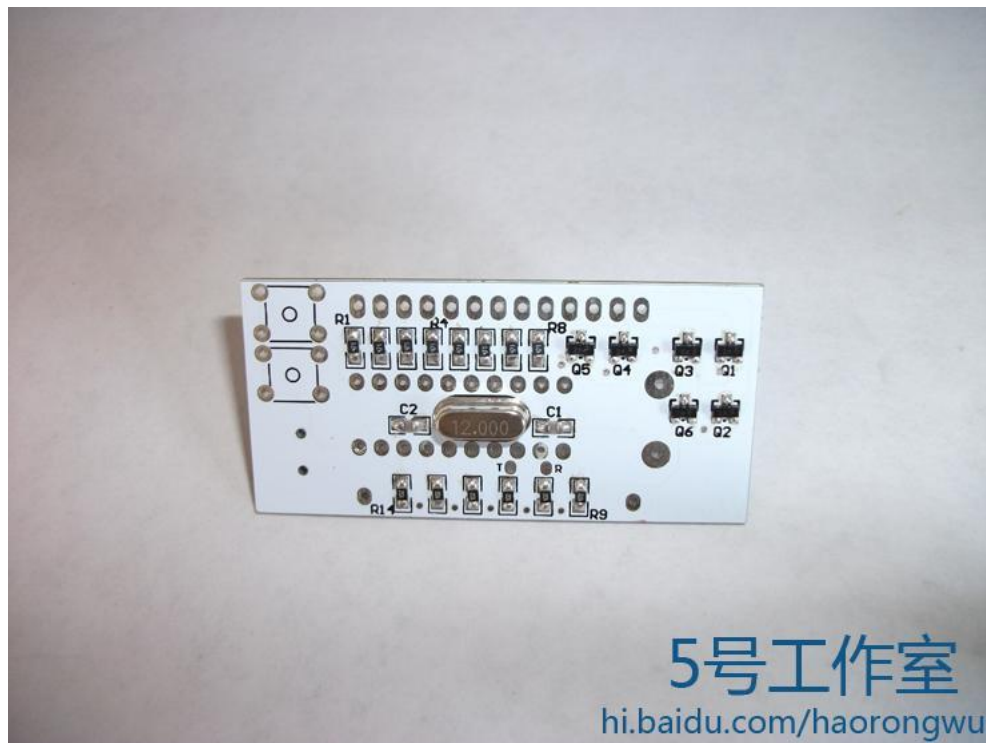




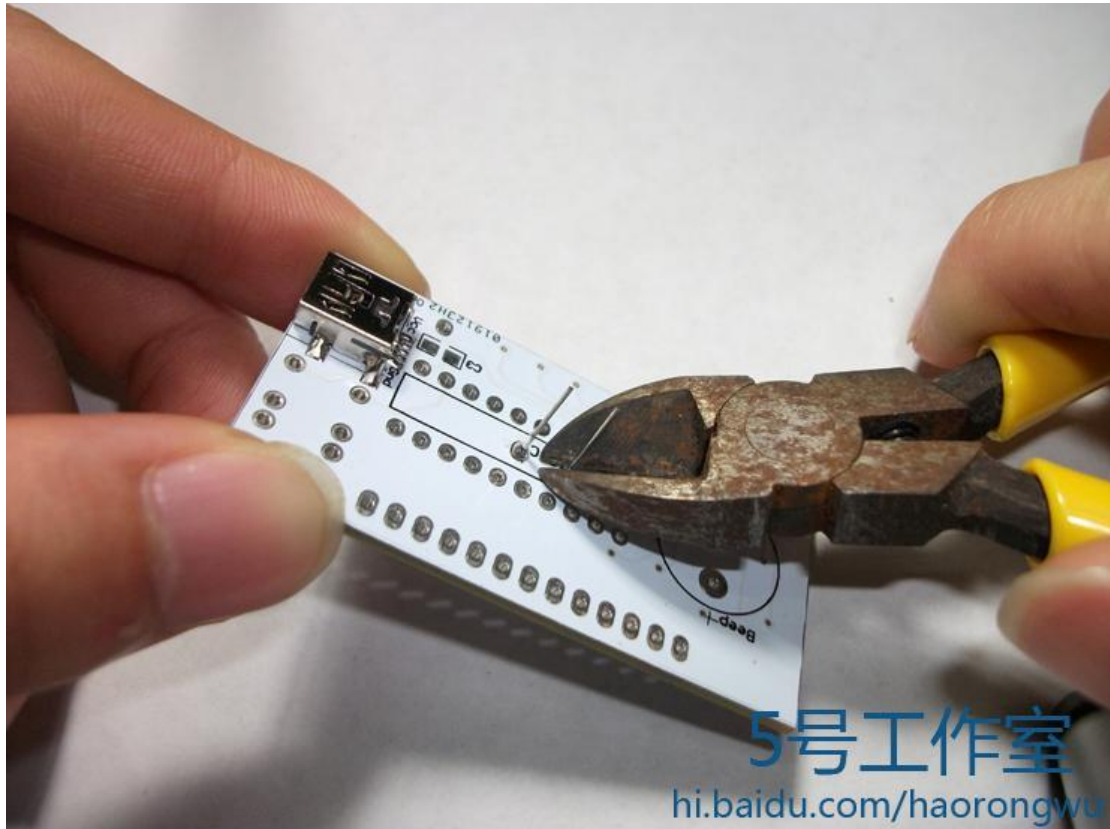
First patch on the back of PCB soldering components to 120 ohms (121 reads) chip resistors to individually welded R1 ~ R8, SMD resistor welding, right? In the end of the first glue solder pads, then with forceps fixed side, then the other side of the solder can be fixed after the completion of welding as shown.



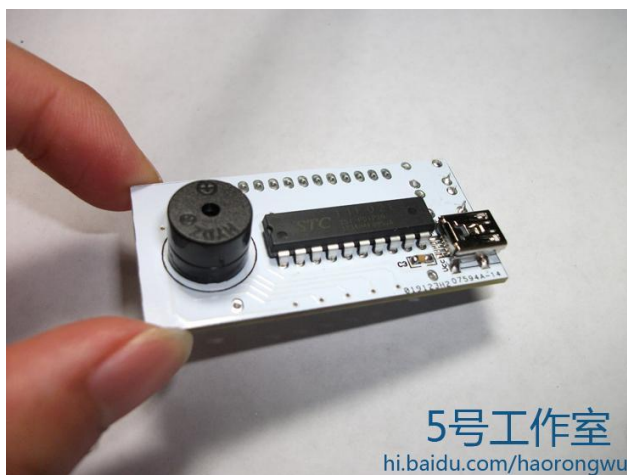
Using the same method to 6 SMD transistor welded to the top, R9: 20K (marked 203), R10-R14 (marked 102); and the base resistance and capacitance oscillator circuit 30PF welded on top, complete after as shown in Fig.



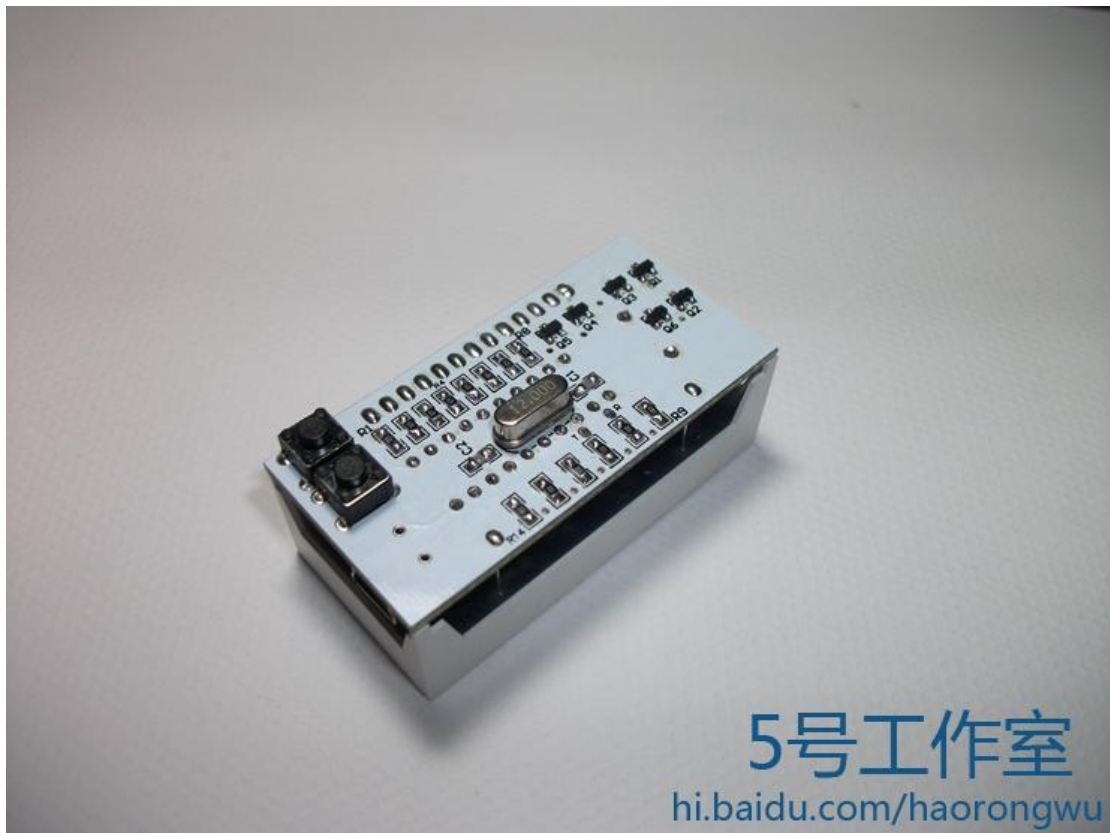
After soldering SMD components on the back, this step is necessary to pay attention! **We are the first welding crystal, otherwise it will affect the following welding, pay attention!** Welding oscillator and the board time to isolate a little distance (about isolation about 2mm, so that the crystal stand up!), Which would reduce the external interference of the crystal oscillation circuit.



The next to be welded mini USB port, we only need to supply parts can pin mini-USB socket middle cut, leaving only the far left with the rightmost pins. Welded so much more convenient. First with the solder in the solder coated PCB above the corresponding package, then fixed mini USB jack, and then the tip of the solder to melt on top of fixed package. After using wire cutters to cut the crystal pins. As shown on FIG.



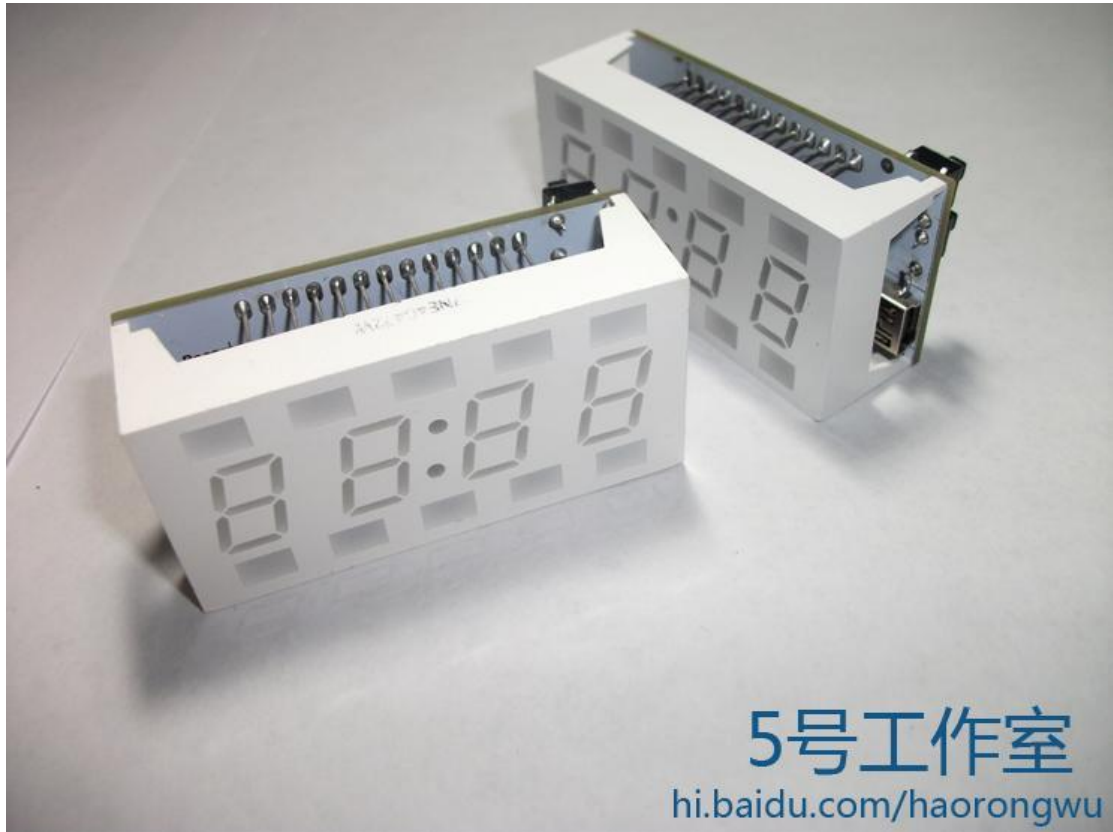
Then you can cut crystal pin microcontroller soldered, pay attention not to engage in anti-MCU position, the semi-circle above the corresponding PCB footprint microcontroller semicircle above, after the buzzer with 1uf active filter chip capacitors are soldered above (clear plastic strip packaging, welded to the C3 position).



Then the two micro-switches are welded to the top, as shown above.

Check all the devices have no gaps, then the digital pipe welding after we go up, or if the welding of the digital control, found that the device slightly less trouble, they must be checked before the next step.

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Finally, the digital tube welded on top to complete correspondence made!
The following two digital pins are fixed with no connection circuit,
attention should be soldered, like this whole look came out, I suddenly
welding the two to play.



Access mini-USB cable to use as a power supply voltage output is 5V.

Initialization time is 12 o'clock, you will hear the buzzer sounding cry with digital flicker up and down the grid, to remind the whole point of arrival.