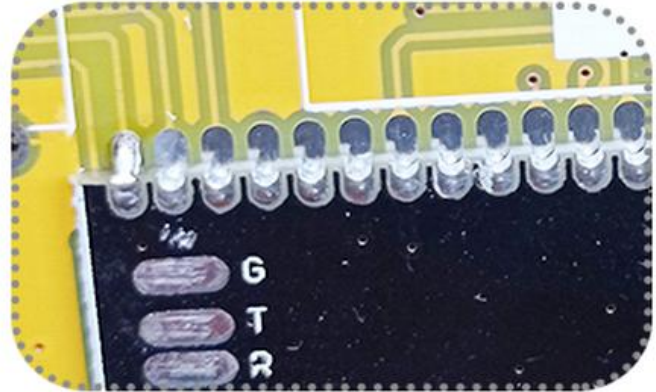
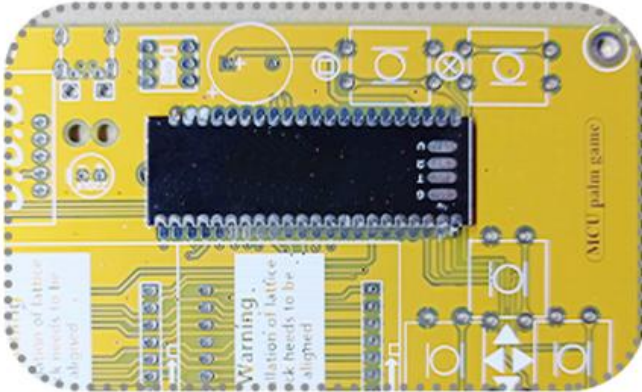
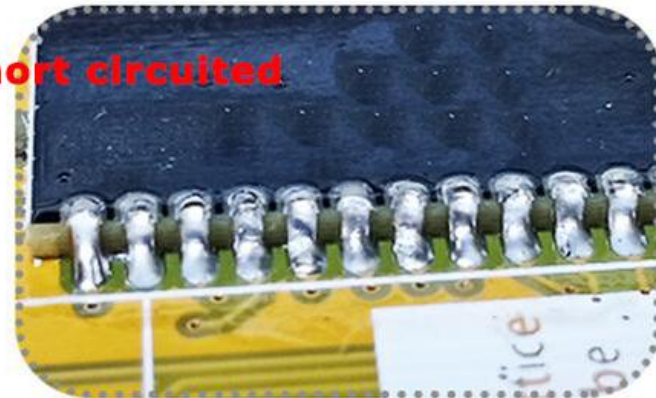


# Welding Production Guide

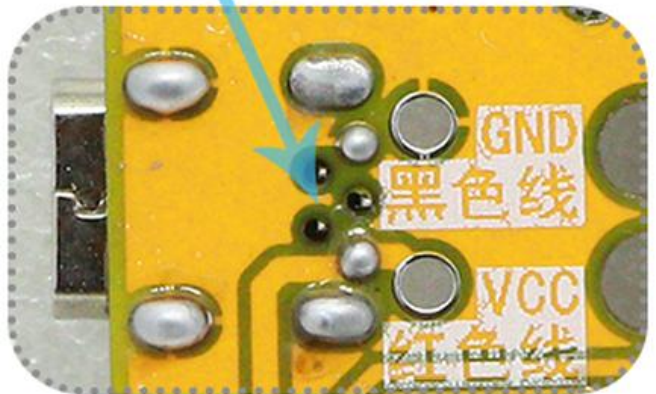
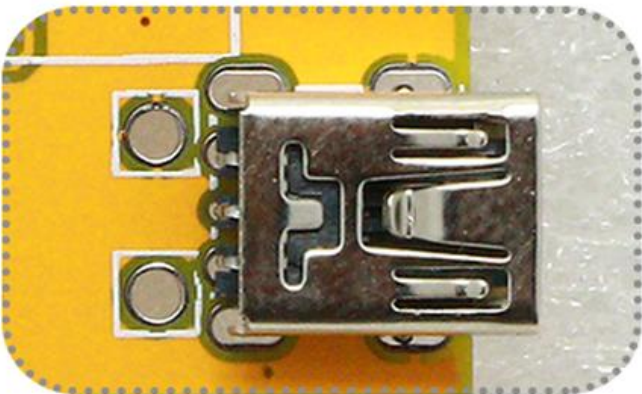
1. First weld the parts with shorter height, then weld the parts with higher height, therefore, start welding from the single chip microcomputer module. As shown in the figure, **pay attention to the direction when placing the single chip microcomputer module**. Weld two fixed positions on the diagonal of the module, and then weld other pins.



Ensure that all welding is in good condition, and there shall be no short-circuit and false welding. In the case of false welding in the figure below, the short-circuit position can be disconnected by soldering iron drag welding.



2. Welding USB power supply base: Note: **USB needs to be installed correctly**. It is installed according to the description of the silk screen symbol on the bottom plate. Several pins are empty and do not weld. At that time, because the pins are too close to **prevent short circuit by welding**, it is specially treated that **three pads are not stained with tin and do not weld**.

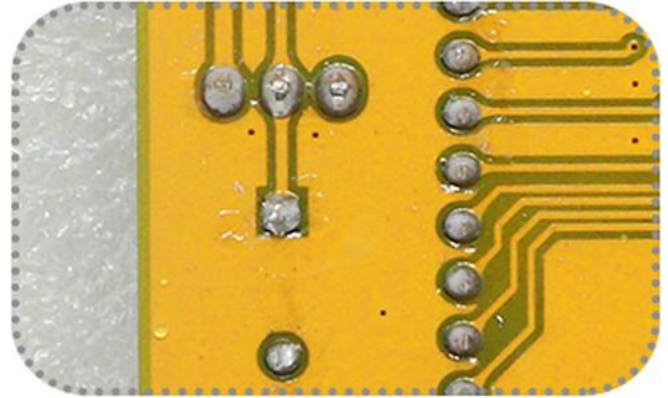
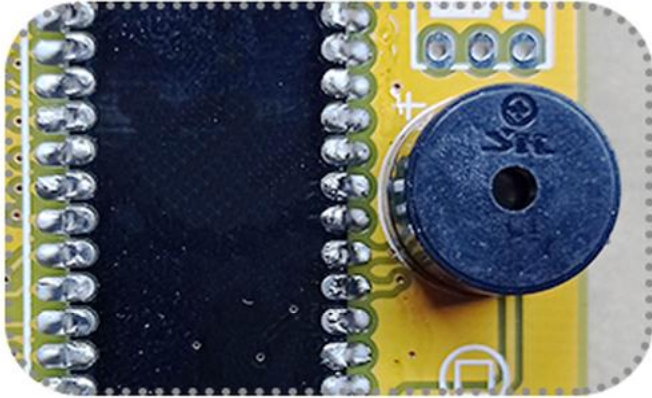


3. Weld the keys. The keys are placed as shown in the figure below, and the pins are welded.

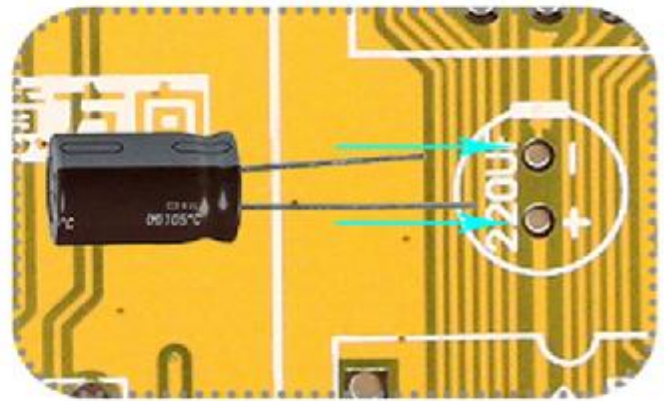
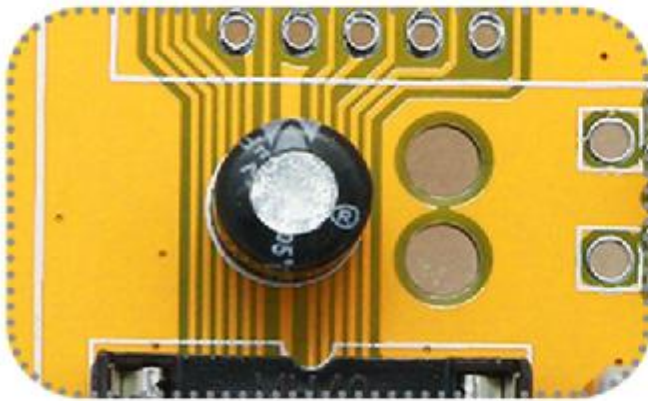




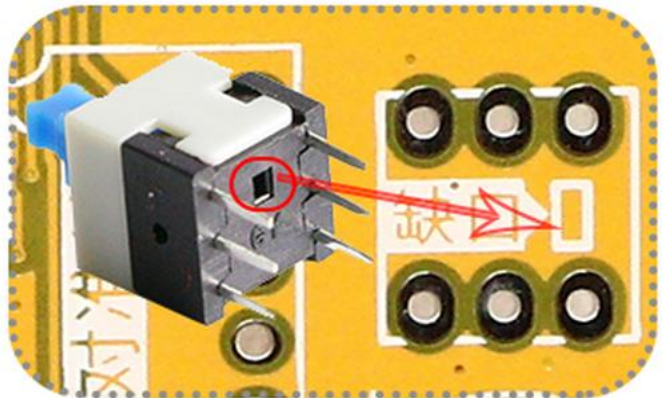
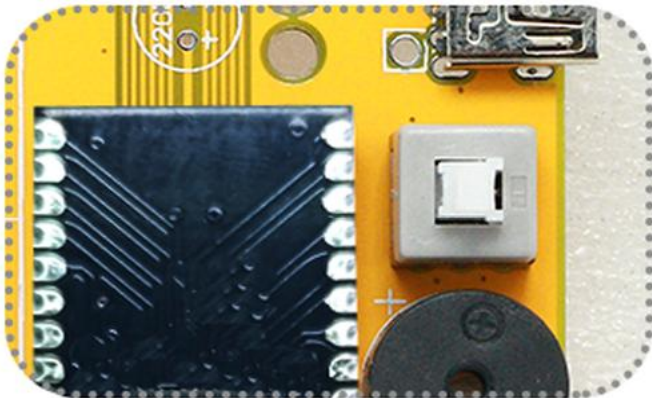
4. Welding buzzer, the welding of buzzer can be regardless of positive and negative poles, because it is a passive buzzer, which is driven by single chip microcomputer to play music and installed according to the floor silk screen symbol



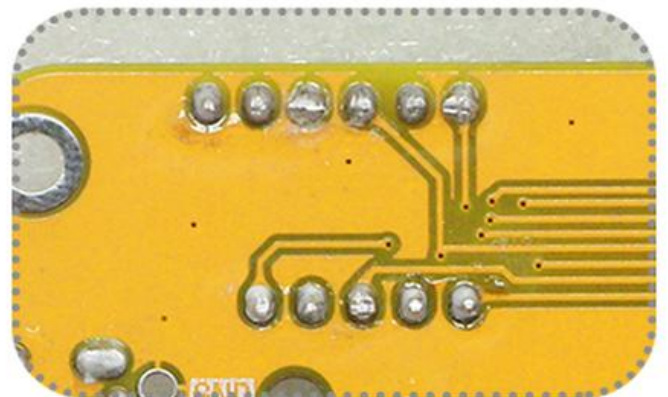
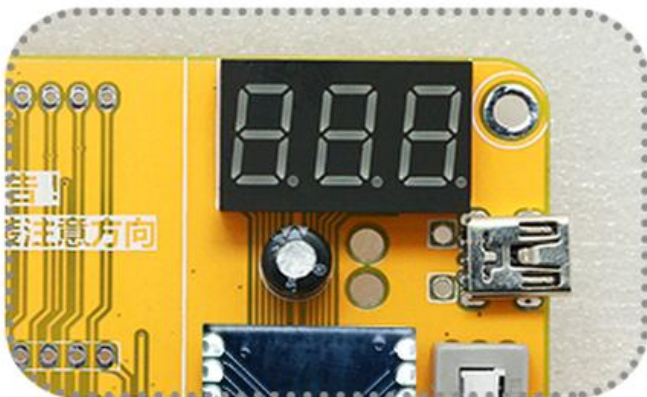
5. Welding capacitor electrolysis. Note: **the electrolytic capacitor is with positive and negative electrodes**, long pin positive "+" and short pin negative "-". The corresponding silk screen symbols on the bottom plate shall be installed. Do not reverse install.



6. Welding power switch. Note: **pay attention to the direction of the power switch**. There is a small window at the bottom of the power switch, and the silk screen symbols on the bottom plate also have corresponding small frames, which are aligned with each other for installation

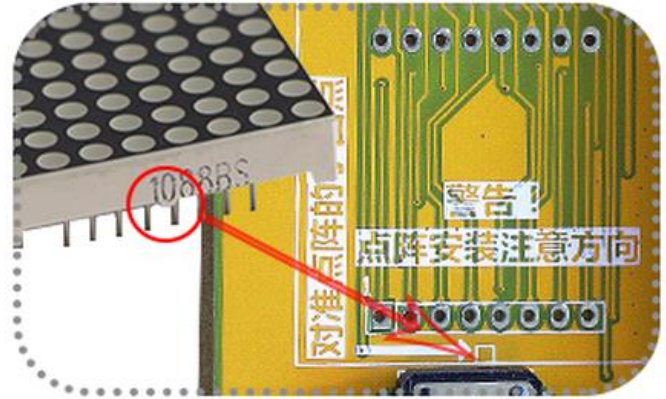
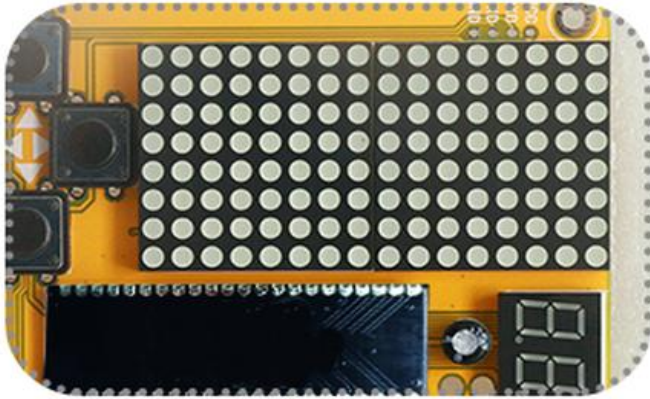


7. When welding the nixie tube, **the installation of the nixie tube needs to be aligned with the direction**. Relevant matters have been considered when designing the circuit board. As long as the nixie tube is inserted, it will not be reversed

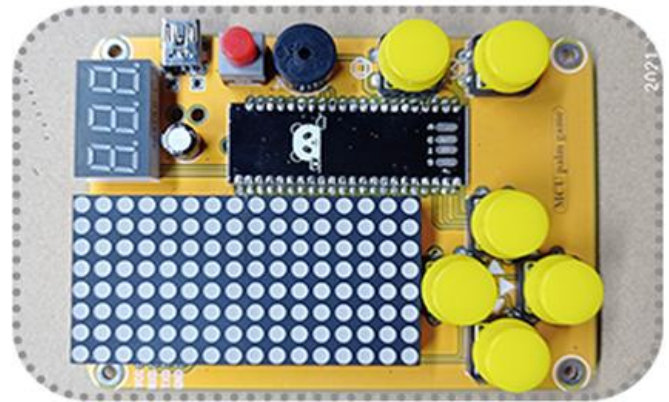
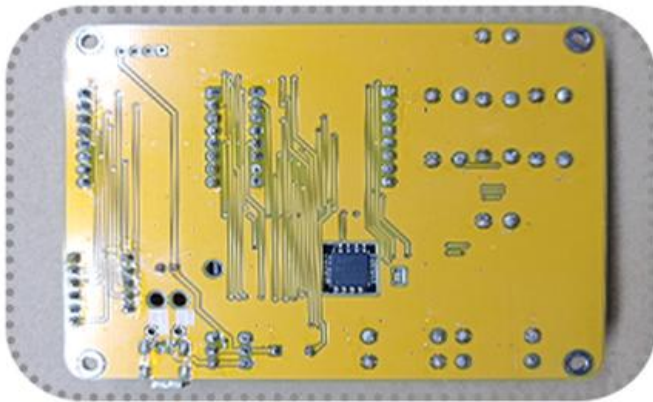




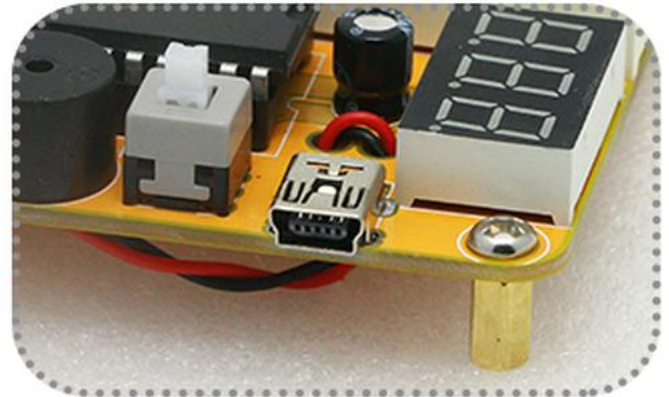
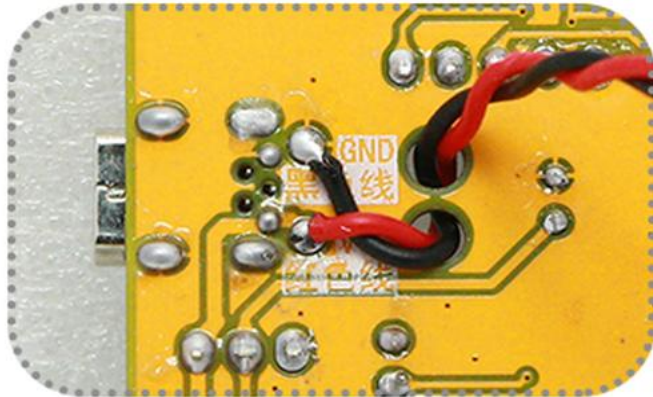
8. Welding dot matrix module. Note: **the dot matrix module needs to be aligned in the direction**, and there is an obvious Chinese prompt at the corresponding position on the circuit board. Align the prominent small point on the edge of the dot matrix module with the small window marked by the silk screen symbol on the PCB. When welding, two dot matrix modules can be welded to two welding points before fixing the dot matrix, then adjusting the alignment position and welding other solder joints.



9. Check the welding and install the key cap. Comprehensively check the whole board, check whether there are installation errors, welding errors and other problems, and install the key cap after confirmation



10. Power on test. Note: **USB power supply and battery box power supply cannot be used at the same time**, because USB power supply will cause the battery in the battery box to be charged, which may cause problems. In addition, **the positive and negative poles of the battery box wiring shall be distinguished**.



11. Install the housing. Note: the keys with shell are different. **First put a key cap on each key**, and then **tear off the protective film** on the surface of the shell. Sometimes the protective film is transparent and not easy to be found.

