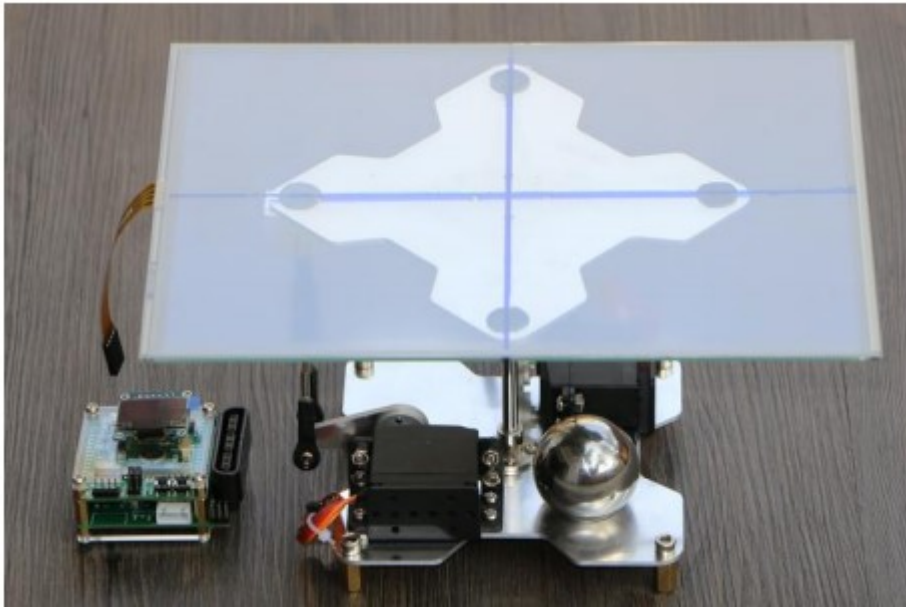


1. Power-on test (please complete it, you can watch the video tutorial directly)

According to the orientation of the body and the resistive screen as shown in the figure below, bond well, as shown in the figure below:



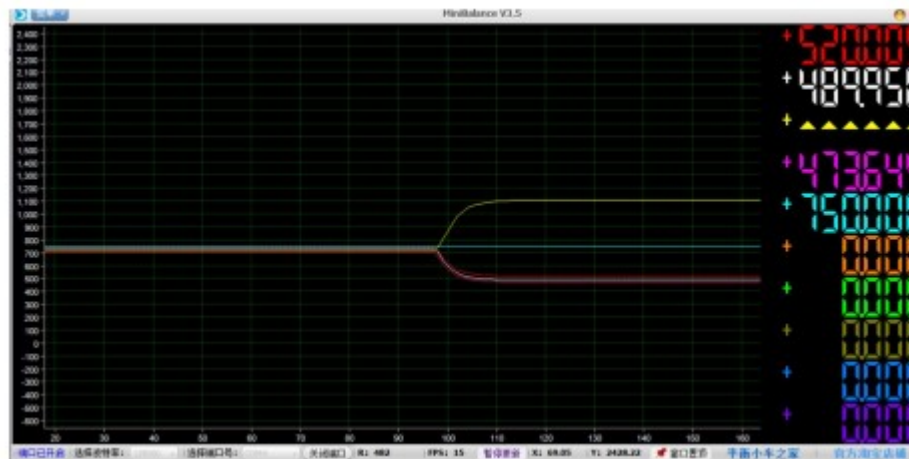
Then connect the wires and operate them according to the video tutorial. Be sure to note that the direction of the servo wires cannot be reversed.

2. Data viewing (upper computer, display screen)

The display screen can display some parameters of the system, as follows:



At the same time, the controller also sends data packets to the PC at a baud rate of 128000. Next, open the Minibalance host computer. Note that you cannot double-click to open it directly. You must right-click to run as an administrator. After opening, select the appropriate port and set the baud rate to view the data through the host computer, which is very convenient. In addition, PCs with good computing and graphics performance can also graphically form data through the extended functions in the menu!

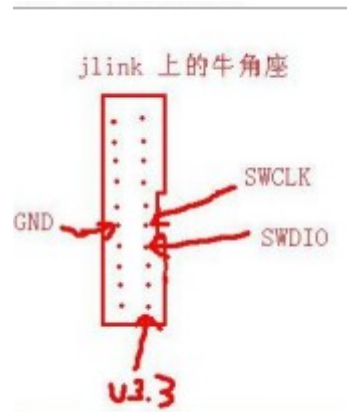


The cricket system only uses the first 2 channels, displaying the coordinates of the X and Y axes respectively. In addition, click the menu to save the data for further analysis.

### 3. Matters needing attention

3.1. The controller can be debugged using STLINK and JLINK. If you have purchased the STLINK download debugger, you can connect the reserved SWD interface yourself. Only need to connect GND IO and SCK, after installing STLINK driver, you can download the debugging program.

3.2. If you have JLINK, it can also be used for debugging. The wiring diagram is as follows:



**Note:** When using JLINK to debug, you must connect the 3.3V on JLINK to the trolley. Otherwise, the car cannot be recognized.

3.3. The user buttons have the following functions in the default program:

Click: start the servo or close the servo

3.4. Don't just use other balls to replace the original ones, because the resistive screen can't recognize it if it is too light, and it may crush the screen if it is too heavy.

4. Use the data cable to download the program to the controller.

The motherboard adopts a one-key download circuit, which is very convenient to download the program, and only a MicroUSB mobile phone data cable is required.

### 1. Hardware preparation

Controller. Microusb data cable

## 2. Software preparation.

Software: MCUISP burning software (information attached). The corresponding USB to TTL module CH340G driver. It is also included in the attached information.

After the installation is successful, you can open the device manager to view.

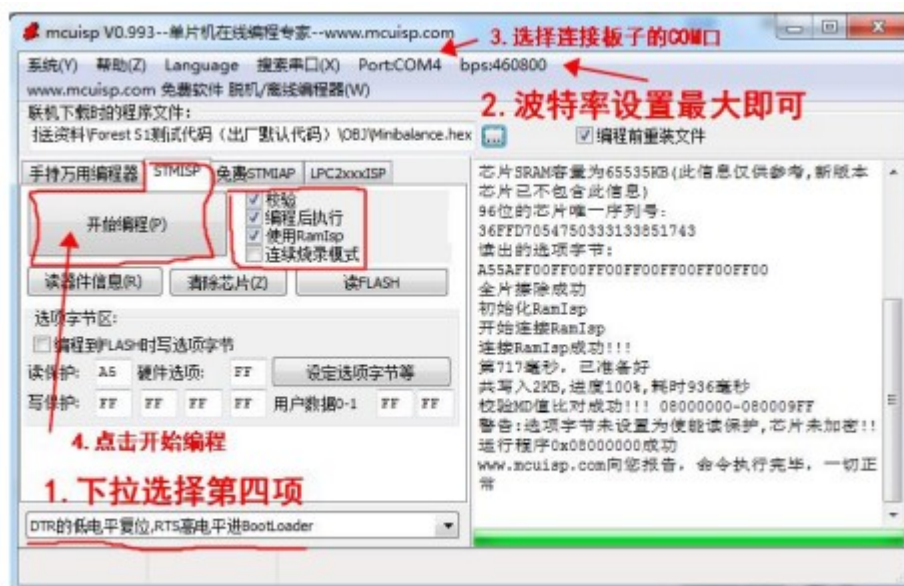


You can see that the driver has been installed successfully, otherwise there will be a red exclamation mark

## 3. Wiring

Very simple, the data cable connects the computer and the board

4. ISP software settings, open the MCUISP software in the attached documentation, and make the following settings.



ok, everything is ready, then click to start programming, the program can be downloaded! Because Execute after programming is checked, the program will run automatically after downloading.