7.2 PS2 Handle control test

Note: The handle is not included in the kit, you need to purchase additional.

1. Learning goal:

Learn about the PS2 controller, learn the PS2 controller communication protocol, serial port print communication handle button information.

Note:

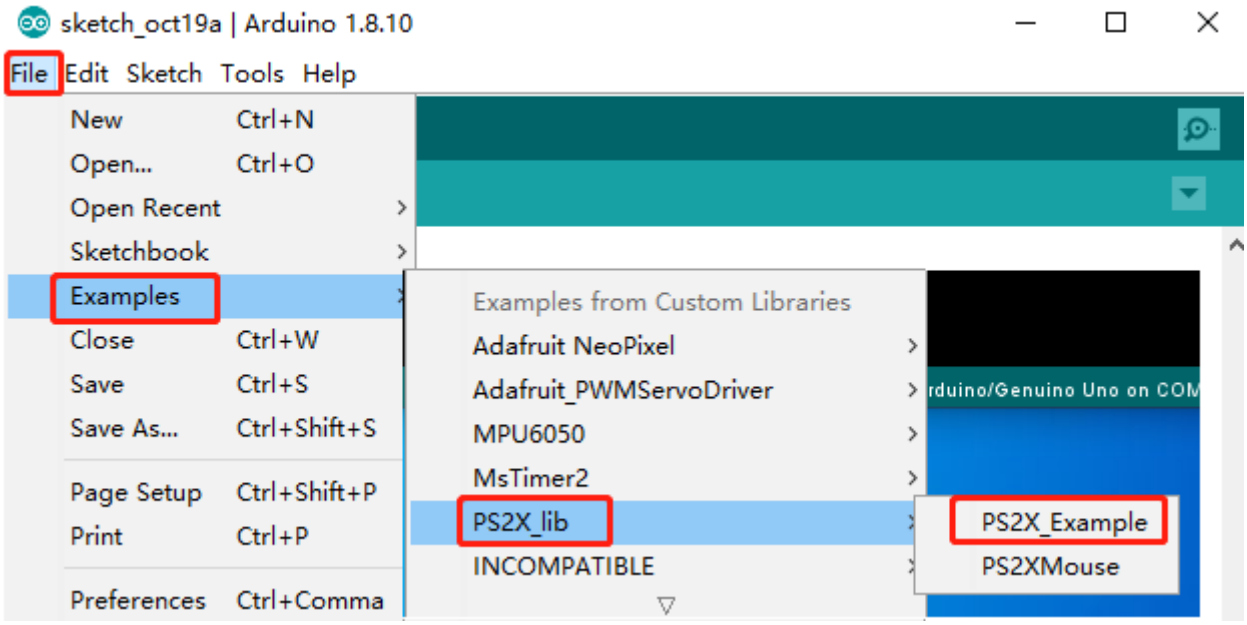
1) This PS2 controller uses the PS2X_lib library protocol. Please purchase the handle and receiver of our store. It does not match other handles.

2) Omniduino car board come with a PS2 handle receiver base, the receiver and the base have a certain anti-reverse insertion function, please insert the interface recently.

2. About code

2.1 We can open the application instance of the PS2X_lib library.

[File]-->[Examples]-->[PS2X_lib]-->[PS2X_Example], the example in the library file are read-only, click “Save As” to save to other locations.



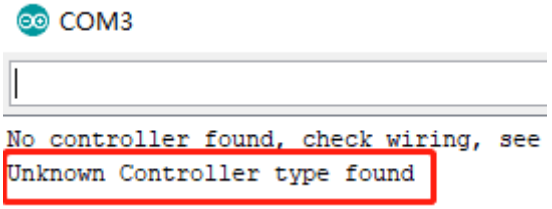
2.2 Modify PS2 handle pins in the program.

```
#define PS2_DAT        12  //14
#define PS2_CMD        11  //15
#define PS2_SEL        7   //16
#define PS2_CLK        13  //17
```

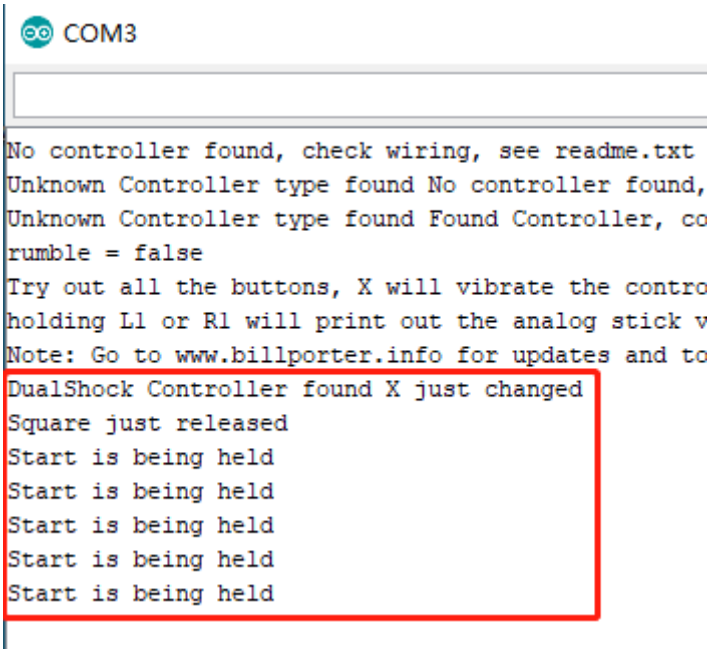
2.3 Set baud rate to9600 ,and open the serial monitor at the upper right of arduino IDE interface.

```
Serial.begin(9600);
```

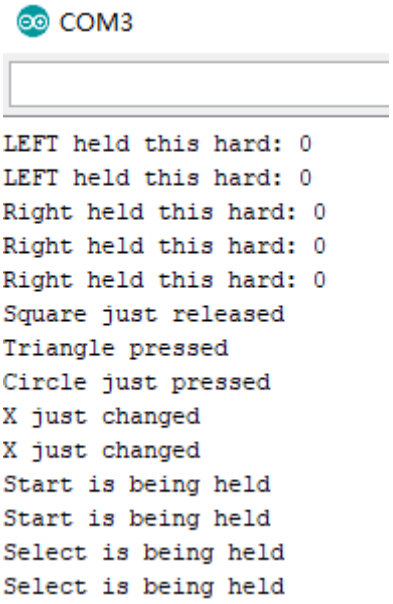
2.4 The first time this is not possible to connect successfully, it will be prompt “Unknown controller type found “. At this time, the remote control cannot output data normally.



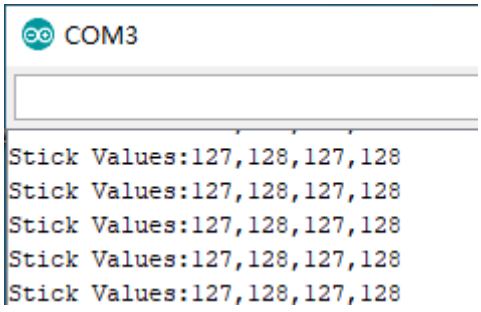
2.5 Solution: Press the reset button of the car, and then press the START button of the PS2 handle continuously until the correct message pops up.



2.6 Now, you can press the button to play the debugging information of each button on the serial port. As shown below.



2.7 If you want to output data of rocker, when you use left rocker, you need to press L1. when you use right rocker, you need to press R1.



3. Code analysis

3.1 PS2 initialization() function, the four parameters are input to the corresponding pins. When pressures is set to true, the direction key has an output analog value. When rumble is set to true, the handle will vibrate when the X button is pressed.

```
//setup pins and settings: GamePad(clock, command, attention, data, Pressures?, Rumb
error = ps2x.config_gamepad(PS2_CLK, PS2_CMD, PS2_SEL, PS2_DAT, pressures, rumble);
```

```
//#define pressures   true
#define pressures   false
//#define rumble      true
#define rumble      false
```

3.2 The ps2x.readType function mainly reads the connected controller type. The handle we use requires type=1 to be able to remotely control.

```
type = ps2x.readType();
switch(type) {
  case 0:
    Serial.print("Unknown Controller type found ");
    break;
  case 1:
    Serial.print("DualShock Controller found ");
    break;
  case 2:
    Serial.print("GuitarHero Controller found ");
    break;
case 3:
    Serial.print("Wireless Sony DualShock Controller found ");
    break;
 }
```

3.3 In the loop function, it is detected whether the button is pressed, and when pressed, the data is printed.

```
  if(ps2x.ButtonPressed(GREEN_FRET))
    Serial.println("Green Fret Pressed");
  if(ps2x.ButtonPressed(RED_FRET))
    Serial.println("Red Fret Pressed");
  if(ps2x.ButtonPressed(YELLOW_FRET))
    Serial.println("Yellow Fret Pressed");
  if(ps2x.ButtonPressed(BLUE_FRET))
    Serial.println("Blue Fret Pressed");
  if(ps2x.ButtonPressed(ORANGE_FRET))
    Serial.println("Orange Fret Pressed");
```