arduino - I2C method

Experimental preparation

1. Arduino mainboard
2. 8-channel line patrol module
3. Several Dupont cables

Adruino board needs to download the I2C communication source code provided in the document

Purpose

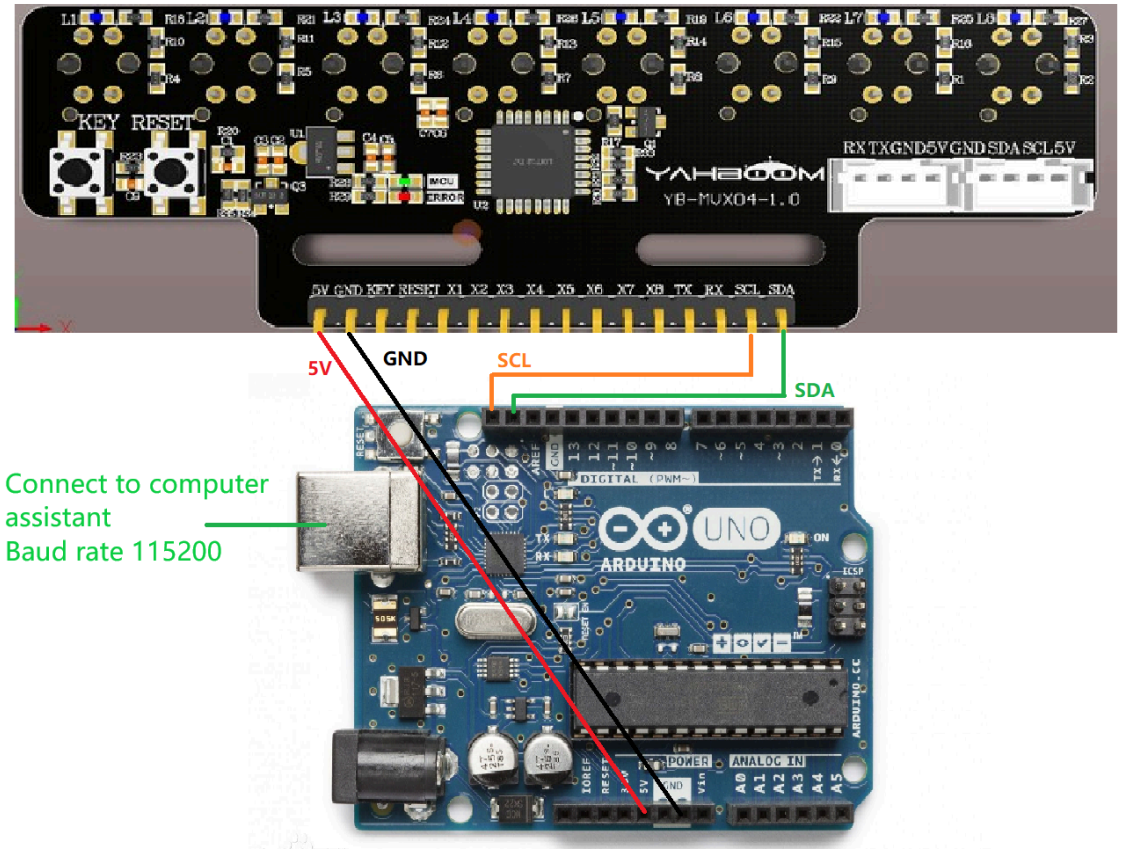
The content of this experiment is mainly to use the Arduino master to receive the data of the 8-channel line patrol module through I2C.

Experimental wiring

Adruino connected to the serial port assistant, directly use the program download port to connect

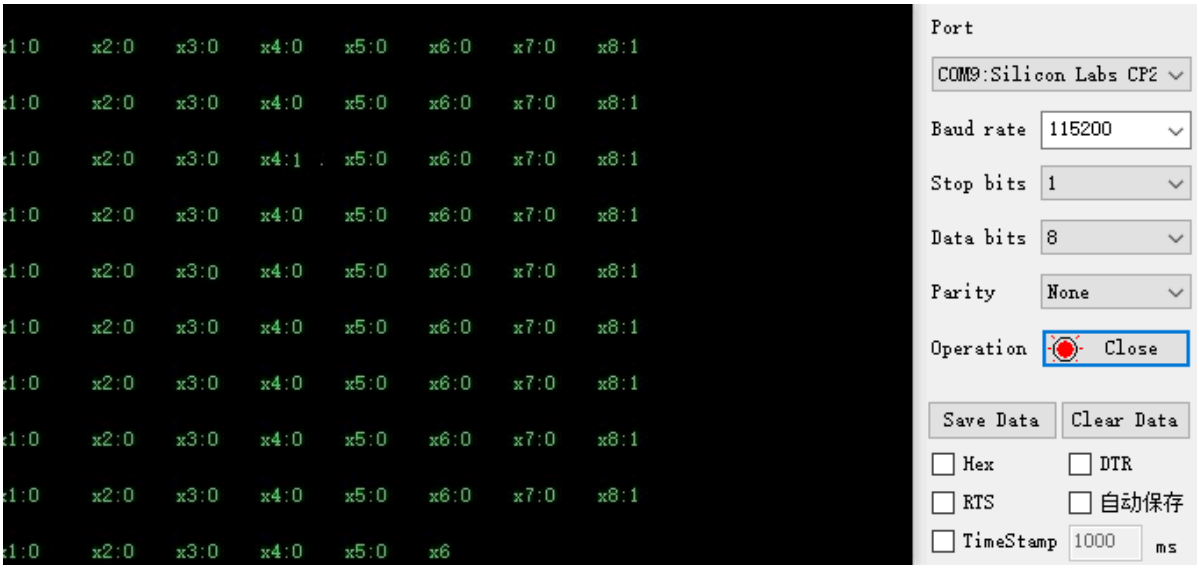
adruino	8-channel line patrol module
SDA	SDA
SCL	SCL
5V	5V
GND	GND

As shown in the figure:



Experimental steps and phenomena

1. After connecting the wires, open the serial port assistant and you can see the numerical data of the infrared module. Set the baud rate to 115200.
   As shown below:



Experimental source code

```
void loop() {

 byte data = 0; // Used to store read data

  Wire.beginTransmission(0x12); // The address of the I2C device
```

```
  Wire.write(0x30); // Register Address
  Wire.endTransmission();

  delay(10); // Give the device enough time to process the request

  Wire.requestFrom(0x12, 1); // Request 1 byte of data
  while (Wire.available()) {
    data = Wire.read(); // Reading Data
  }

  x1 = (data>>7)&0x01;
  x2 = (data>>6)&0x01;
  x3 = (data>>5)&0x01;
  x4 = (data>>4)&0x01;
  x5 = (data>>3)&0x01;
  x6 = (data>>2)&0x01;
  x7 = (data>>1)&0x01;
  x8 = (data>>0)&0x01;

 sprintf(bufbuf,"x1:%d,x2:%d,x3:%d,x4:%d,x5:%d,x6:%d,x7:%d,x8:%d\r\n",x1,x2,x3,x4
,x5,x6,x7,x8);
  Serial.println(bufbuf);
  delay(500);
}
```

The source code obtains the data of the infrared probe by reading the register address 0x30 of the infrared module and prints it out through the serial port.