STM32-I2C method

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Experimental preparation

1. STM32F103 motherboard
2. 8-channel line patrol module
3. Several Dupont cables

STM32 board needs to download the I2C communication source code provided in the document**

Experimental Purpose

The content of this experiment is mainly to use the STM32 master control to receive data from the 8-channel line patrol module through I2C.

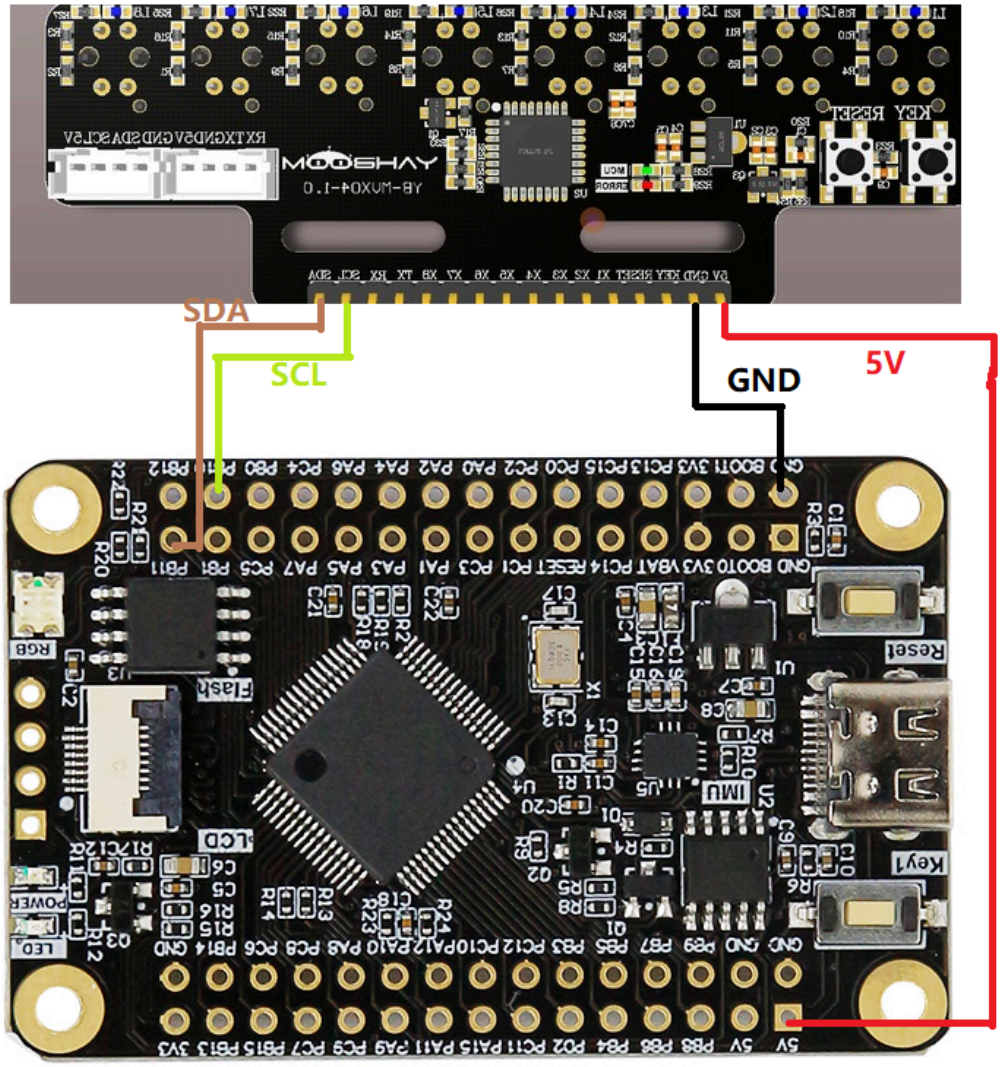
Experimental wiring

STM32 to serial port assistant
If you are not using the black version of STM32 from Yabo, you need to use a USB to TTL module to connect it to the computer. The wiring is described in the table below.

stm32	**usb to ttl**
PA10	TX
PA9	RX
vcc	vcc
GND	GND
If you are using the Yabo black stm32, you can directly use type-c to connect to the computer's serial port assistant	

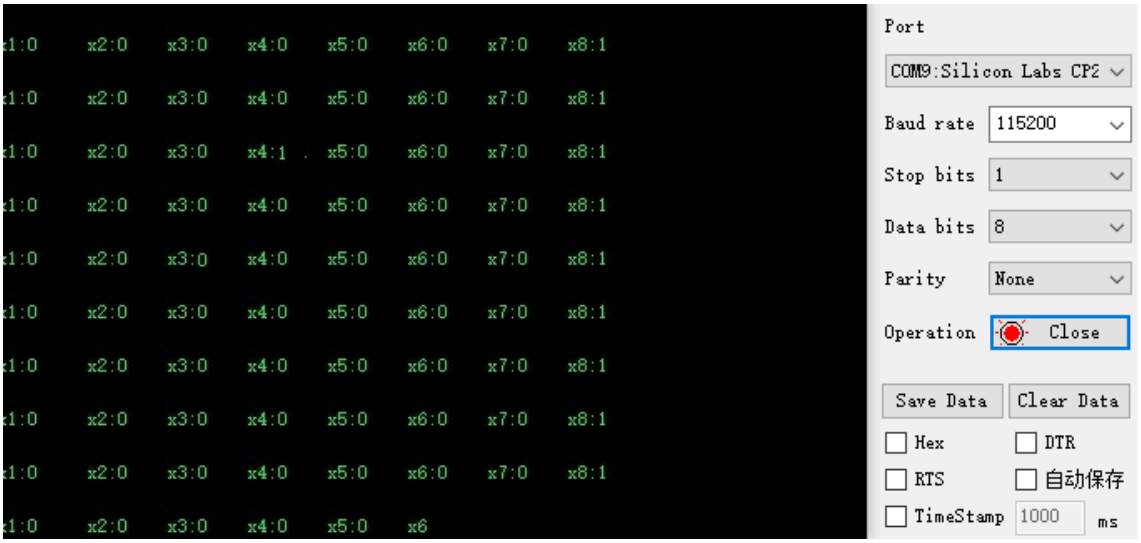
STM32	**8-channel line patrol module**
PB10	SCL
PB11	SDA

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 in the figure below



Experimental source code

```
int main(void)
{
  HAL_Init();

  SystemClock_Config();


  MX_GPIO_Init();
  MX_I2C2_Init();
  MX_USART1_UART_Init();


    printf("Pelase wait!\r\n");
  HAL_Delay(3000);//Waiting for the module to stabilize


//  set_adjust_mode(1);
//  HAL_Delay(500);
//
//  set_adjust_mode(0);
//  HAL_Delay(500);

  while (1)
  {

    deal_IRdata(&ir_x1,&ir_x2,&ir_x3,&ir_x4,&ir_x5,&ir_x6,&ir_x7,&ir_x8);

 printf("x1:%d,x2:%d,x3:%d,x4:%d,x5:%d,x6:%d,x7:%d,x8:%d\r\n",ir_x1,ir_x2,ir_x3,i
r_x4,ir_x5,ir_x6,ir_x7,ir_x8);
      HAL_Delay(300);
```

```
    }
}
```

The main function of the source code is very simple. It reads the probe pins of 8-way line patrol through I2C and prints them out.