STM32-IO method

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Experimental preparation

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Experimental steps and phenomena

Experimental source code

Experimental preparation

- 1. STM32F103 motherboard, preferably RCT6 or above, this source code uses the pins of the RCT6 version
- 2. 8-way patrol module
- 3. Several Dupont lines

The STM32 board needs to download the IO communication source code provided by the document**

Experimental purpose

The content of this experiment is mainly to use the STM32 master to receive the data of the 8-way patrol module through IO.

Experimental wiring

STM32 to serial port assistant

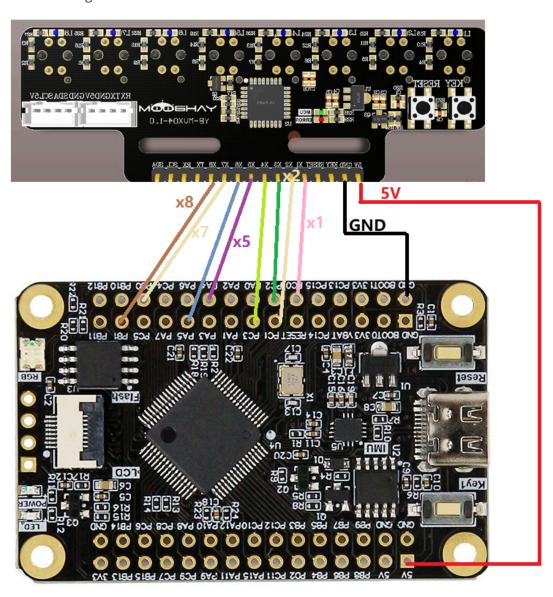
If you are not using the black stm32 of Yabo, you need to use a usb to ttl module to connect to the computer. The wiring is described in the following table

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
PC0	x1
PC1	x2
PC2	x3

STM32	8-channel line patrol module
PC3	x4
PA4	x5
PA5	x6
PB0	x7
PB1	x8

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

```
Port
1:0
       x2:0
              x3:0
                    x4:0
                           x5:0
                                  x6:0
                                          x7:0
                                                 x8:1
                                                                             COM9:Silicon Labs CP2 ~
1:0
       x2:0
              x3:0
                    x4:0
                           x5:0
                                  x6:0
                                          x7:0
                                                 x8:1
                                                                             Baud rate 115200
1:0
       x2:0
                                                                             Stop bits 1
                     x4:0
                                                                             Data bits 8
              x3:0
                                                                             Parity
                                                                                      None
1:0
       x2:0
                                                                             Operation 🍎 Close
       x2:0
                     x4:0
                            x5:0
                                  x6:0
                                                                              Save Data | Clear Data
1:0
                                                                             Hex
                                                                                        DTR
1:0
       x2:0
                     x4:0
                                  x6:0
                                                                             RTS
                                                                                        □ 自动保存
                                                                             ☐ TimeStamp 1000 ms
       x2:0
              x3:0
                     x4:0
                            x5:0
```

Experimental source code

```
int main()
{
    SystemInit();
    delay_init();
    delay_ms(1000);//wait for infrared to stabilize

    uart_init(115200);
    irtracking_init();

    while(1)
    {
        printf_IR_IO_Data();
        delay_ms(300);
    }
}
```

The main function of the source code is very simple, reading the probe pins of the 8-way patrol line and printing them out.