

S.Bus Settings & Serial port Settings

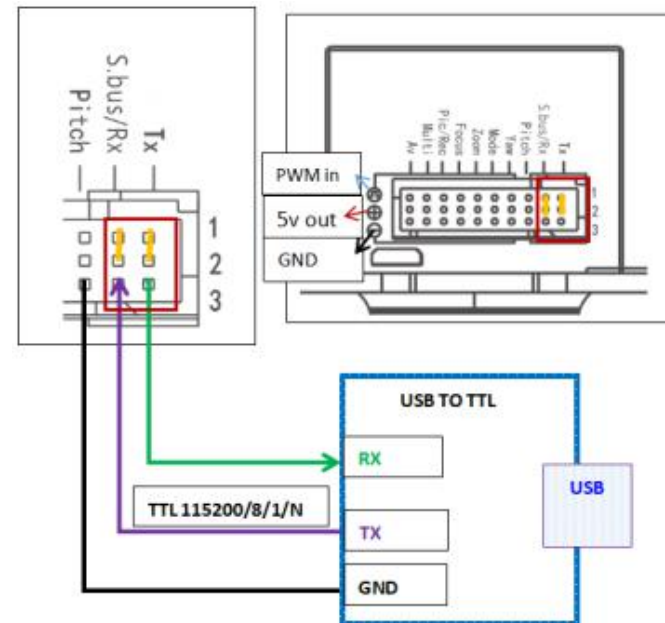
1. How to use USB to TTL cable to connect gimbal series port? (All tests should be performed when gimbal power on)

- 1) Find a cable of USB to TTL, connect USB port to computer and a com port number will be recognized on computer device manager.
- 2) For the TTL end (Red 5V, Black GND, White RXD, Green TXD), RX, TX and GND are required when connecting the gimbal
- 3) Connection method: black Wire GND-----Gimbal GND
 Green Wire TX--- RX silk printed on the gimbal controller Z-3D
 White Wire RX--- TX silk printed on the gimbal controller Z-3D

As picture:



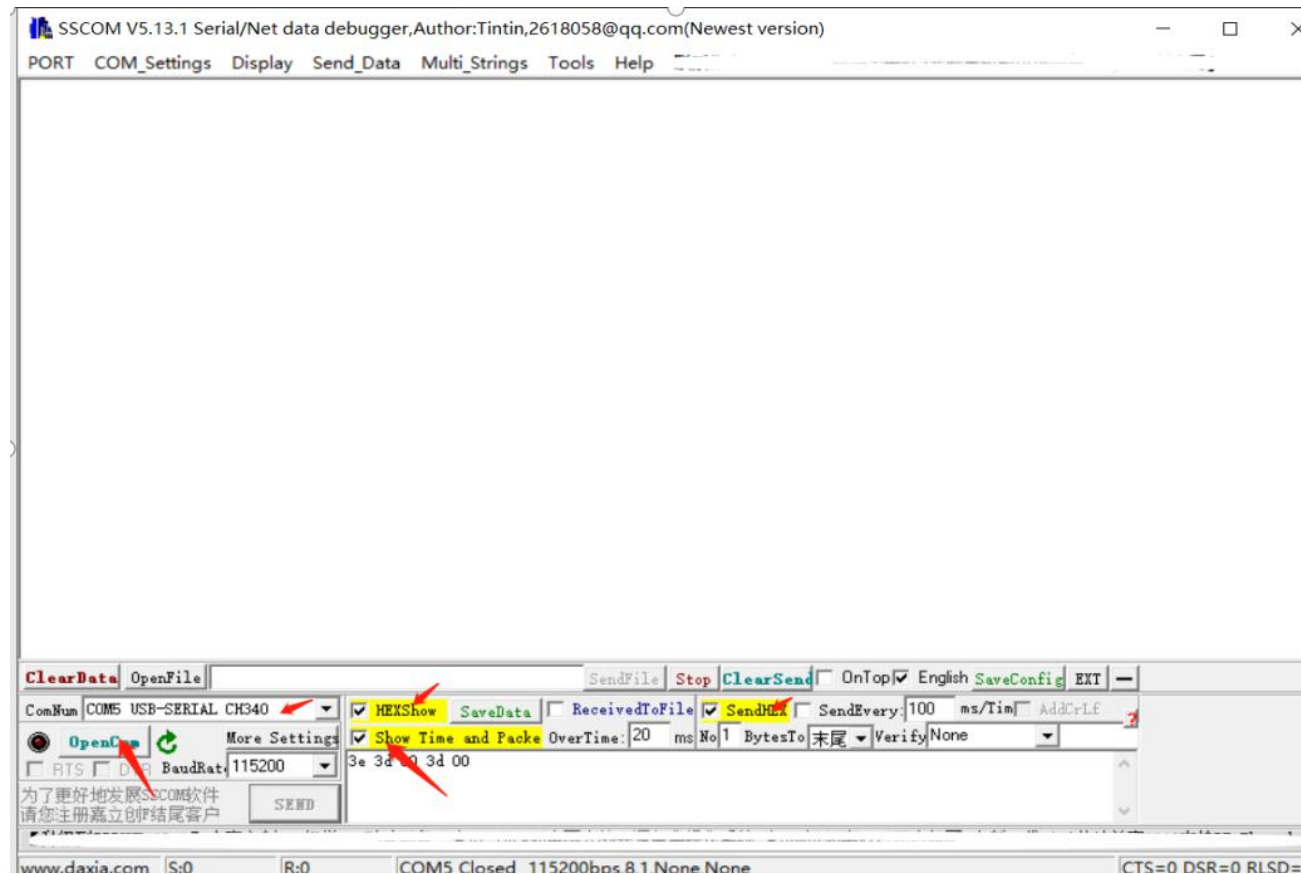
USB to TTL cable:



2. Software setting and test:

1) Software setting:

Choose Correct COM port, Baud rate: 115200, Data bit: 8. Stop bit: 1. Checksum: None. Click: HEX sent and HEX display.



3) Change to SBUS Control and Channels map

Step 1: Command Instructions:

AA 55 11 YA PI MO ZO FO PR MU FF sbus and mavlink chan# as setting command, set no use function chan#to 0.

One byte, such as YA can define one channel Y=A, or it also can be split into two channels such as Y≠A.

(The letter is only the channel number code, when “0”, no channel control)

YA-----yaw yaw control channel setting , range: 0x01---0x0F

YA (Y: bit4-7 1900us<-->1500us initial value; A: 1100us<-->1500us initial value) (default 1)

1900 yaw left,1100 yaw right,1500 yaw stop

PI-----pitch pitch control channel setting, range: 0x01---0x0F

PI (P: bit4-7 1900us<-->1500us initial value; I:1100us<-->1500us initial value) (default 2)

1900 pitch down,1100 pitch up,1500 pitch stop

MO-----mode mode control channel setting, range: 0x01---0x0F

MO (M: bit4-7 1900us<-->1500us initial value; O: 1100us<-->1500us initial value) (default 3)

from 1500 to 1900 recenter,1500 normal speed ,1100 slow speed

ZO-----ZOOM zoom control channel setting, range: 0x01---0x10F

ZO (P: bit4-7 1900us<-->1500us initial value; O: 1100us<-->1500us initial value) (default 4)

1900 zoom in, 1100 zoom out,1500 zoom stop

FO-----FOCUS manual focus/dual-sensor picture-in-picture/thermal image color palette switch/ IR illumination control channel setting, range: 0x01---0x0F

FO(F:bit4-7 1900us<-->1500us initial value ; O:1100us<-->1500us initial value) (default 5)

Q10F focusing example: 1900 focus in, 1100 focus out, 1500 focus stop

PR-----PIC&REC video record and take picture control channel setting, range: 0x01---0x0F

PR (P: bit4-7 1900us<-->1500us initial value; R:1100us<-->1500us initial value) (Default 6)

Q30TIR example: 1900<--1500 record start, and ends again 1500-->1100 take a picture

MU-----MULTI tracking, night vision, electronic zoom control channel setting, range: 0x01---0x0F

MU (M: bit4-7 1900us<-->1500us initial value; U:1100us<--> 1500us initial value) (default 7)

Q30TIR example: 1900<--1500 tracking function, 1500-->1100 electronic zoom

Eg: send: default AA 55 11 **11 22 33 44 55 66 77** FF, get feedback AA 55 11 **11 22 33 44 55 66 77** FF, means send successfully, the gimbal SBUS channel is set to Yaw Channel1, Pitch Channel2, Mode Channel3, Zoom Channel4, Focus Channel5, PIC&REC Channel6, Multi Channel7; (as shown below picture)

Eg: send: AA 55 11 **11 22 33 44 55 76 98** FF, get feedback AA 55 11 **11 22 33 44 55 76 98** FF, means send successfully, the gimbal SBUS channel is set to 1-9 channel, Yaw Channel1, Pitch Channel2, Mode Channel3, Zoom Channel4, Focus Channel5, PIC&REC Channel7 1500-->2000 video record, Channel6 1500-->1000 take picture, Multi Channel9 1500-->2000 tracking, Channel8 1500-->1000 digital zoom;

Eg: set 9~15 channels to control the above channels, send below command: (Note: in hex, channel 10 set as AA)

AA 55 11 **99 AA BB CC DD EE FF** FF

Eg: send: AA 55 11 **11 00 00 00 00 00 00** FF, use Channel 1 to control Yaw, other channels are not used and there is no feedback.

SSCOM V5.13.1 Serial/Net data debugger, Author: Tintin, 2618058@qq.com (Newest version)

PORT COM_Settings Display Send_Data Multi_Strings Tools Help

```
.16:23:14.683]OUT->◇ AA 55 11 11 22 33 44 55 66 77 FF □  
.16:23:14.686]IN<-◆ AA 55 11 11 22 33 44 55 66 77 FF
```

ClearData OpenFile SendFile Stop ClearSend OnTop English SaveConfig EXT

ComNum COM5 USB-SERIAL CH340 HEXShow SaveData ReceivedToFile SendHEX SendEvery: 100 ms/Tim AddCrLf

Show Time and Packe OverTime: 20 ms No 1 BytesTo 末尾 Verify None

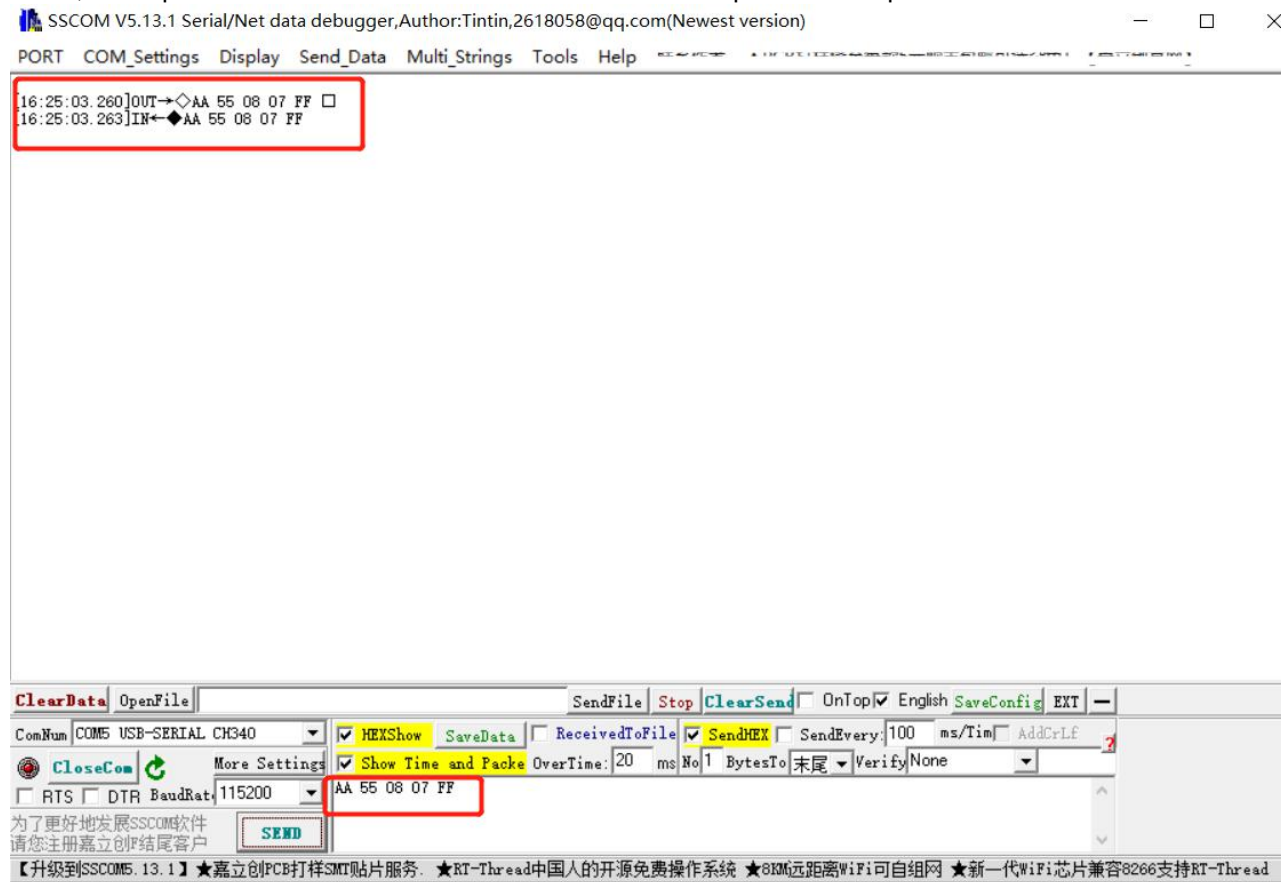
RTS DTR BaudRat: 115200 AA 55 11 11 22 33 44 55 66 77 FF

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请您注册嘉立创结尾客户

SEND

【升级到SSCOM 5.13.1】★嘉立创PCB打样SMT贴片服务 ★RT-Thread中国人的开源免费操作系统 ★8KM远距离WiFi可自组网 ★新一代WiFi芯片兼容8266支持RT-Thread

Step 2: Send: AA 55 08 07 FF, serial port feedback with AA 55 08 07 FF, Sbus set operation completed.



4) Restart the gimbal, then send: 3e 3d 00 3d 00 for couple times, no feedback, means SBus set is finished. Serial port can not be used.

3. SBus wiring diagram

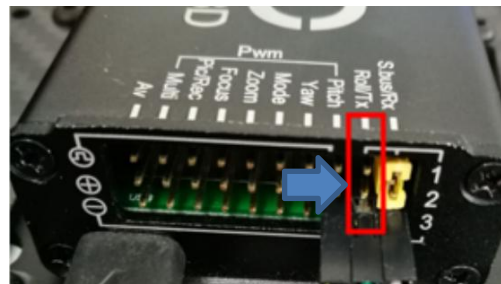
Use a 3-PIN DUPONT cable to connect the gimbal control box with remote control receiver SBus port (sample with Futaba), connect as below

Notice: The GND of Sbus signal should connect to the GND of PWM control box



4. Cancel the SBus control, restore the Serial port control

- 1) When gimbal is controlled by SBus, If send gimbal query command: 3e 3d 00 3d 00, no feedback command display.
- 2) Remove jump cap as shown (The yellow part in the red box is one jumper cap)



- 3) Power on the gimbal, wait about 20 seconds, plug back the jumper cap.

4) Input 115200 as baud rate on the serial port software (software settings are same as above). Then click send: AA 55 08 06 ff. As shown:

