FS-GT2B

FS **FLY SKY** ®

用户手册

INSTRUCTION MANUAL

2.4 Hz AFHDS
AUTOMATIC FREQUENCY
HOPPING DIGITAL SYSTEM

Digital proportional radio control system

menu

1.INTRODUCTION

Thank you for choosing 2.4 G radio remote control digital products, if you are the first time to use this type of products, please read this statement carefully and strictly in accordance with the requirements of operation. You could refer to the manual if you meet any problems during the operation . Please well keep the manual after use because you might have to use it again next time. Once again, thanks for buying our products.

非常感谢您选择使用 FS 2.4G数码比率遥控产品，如果你是第一次使用该类型产品，请您在使用之前先仔细阅读此说明书，并严格按说明要求进行操作。在操作过程中您如果遇到问题同样可以查看说明书。说明书在使用完后请您妥善保管好，以备后用。再次感谢您使用 FS 的产品，并希望它能给您带来快乐。

2.services

If you find any problems during the operation process, please refer to the manual. If the problem still exist, you could contact our dealers to find out the way to solve. And you could also log on to our website service center:

HTTP:WWW. FLYSKY-CN. COM

如果您在使用过程中发现有问题,请您第一时间先查看数控明书.如果问题还不能解决,您可以跟我们的经销商联系解决.您也可以登陆我们的服务中心网站:

HTTP:WWW. FLYSKY-CN. COM

3.THE SPECIAL SYMBOLS

Please pay attention to the following symbols when it appears on the manual,and read carefully.
此说明书中有如下符号的地方请您特别注意，并仔细阅读。

⚠ **Danger:** If the operator does not operate by following the instructions,the operator may lead to serious injuries, even mortal danger.
如果操作者不按正常操作方法操作，可能导致操作者严重受伤，甚至致命危险！

⚠ **Warning:** If the operator does not operate by following the instructions,the operator may lead to serious injuries, even mortal danger.
如果操作者不按正常操作方法操作,可能导致操作者严重外伤,重伤或者致命情况！

⚠ **Attention:** If the operator does not operate by following the instructions,the operator may lead to minor injuries, but generally it will not cause serious injuries to the operator.
如果操作者不按正常操作方法操作,可能会导致操作者轻伤,但一般不会对操作者造成重伤！

🚫 **Prohibition** 禁止   ❗ **Mandatory** 强制

4.SAFTY GUIDES

🚫 Don't fly in night ,bad weather such as rainy or thundering days .It will interfere the transmitter signal.Thereby it will create out of control and unexpected accident .
请您不要在夜晚，刮风或下雨时使用，因为这样的天气环境会对遥控设备产生干扰,从而导致失控而产生意外！

❗ Before you fly, please make sure the movement of server correspond with the direction of joysticks. If inconsistent, please adjust before fly.
在飞行前,请您务必先检查伺服器的各项动作是否与对应操纵杆的方向一致,如果不一致,请调整后再使用.

❗ You need to turn the throttle channel(ch2) and inching switch to the lowest before You use. Then switch on the transmitter power ,finally connect the receiver.
开机使用时请您勿必先将油门通道（CH2）及微调置最低端。然后打开发射机电源并检查电源电量，再接通接收机电源。

❗ The sequence to shutdown is that turn off the receiver power first, and then the transmitter power.
If the above operations are reverse, it might lead to uncontrolled and cause Accident.
停止使用前请您先关闭接收机电源然后关闭发射机电源。
以上操作如果反向,可能导致失控,从而产生意外！

2.4 G Hz 01010101

AFHDS
AUTOMATIC FREQUENCY HOPPING DIGITAL SYSTEM

　　AFHDS（自动跳频数字系统），这个系统是富斯公司专为模型爱好者自主研发，并具有自主知识产权的一套数字无线系统。它是专门针对模型产品而研发的，它具有超强的主动和被动抗干扰能力及极低的使用功耗和极高的接收灵敏度，是目前市面上最好的系统之一。此系统经过研发人员极端严格的测试及多年市场验证，模型爱好者完全可放心使用！

AFHDS (automatic frequency hopping digital system), is developed by FLYSKY for all the Radio Control model lovers and is patented by FLYSKY at home. The system is specially developed for all the Radio control models, that offers super active and passive anti-jamming capabilities, very low power consumption and high receiver sensitivity. With extreme rigorous testing by engineers and studying the markets for years, FLYSKY AFHDS is now considered to be the one of the best systems available in the market.

参数说明：
频率范围：2.4055-2.475GHz ；
波段宽度：500KHz ；
波段个数：140个 ；
发射功率：不高于20dBm（100mW）(for EU)
2.4G模式：自动跳频数字系统；
编码方式：GFSK ；
天线长度：26毫米 ；
接收灵敏度：-105dBm

Specifications:
RF range:2.4055-2.475GHz;
Bandwidth:500KHz;
Band sum:140;
RF power:less than 20dBm(100mW)(for EU);
2.4G system:AFHDS;
Code type:GFSK;
ANT length:26mm;
RX Sensitivity:-105dBm;

系统特征：

01010011

多频点跳频工作：
此系统工作波段为2.4055GHz到2.475GHz，分140个频点，每个系统使用其中不同的16个频点工作及140种跳频规率，从而通过开机时间不同及跳频规率不同和使用频点不同，尽最大可能使使用者的之间不会同频，从而主动避开同频的干扰。
The system works in between 2.4055GHz to 2.475GHz frequencies that have been divided into 140 frequency points. Each system uses 16 frequencies points and 140 hopping frequency. By using various switching-on time, frequency hopping and different frequency points, the system can passively avoid frequency jamming.

全角度增益天线：
此系统采用的是线性优良的全波段的增益天线，天线带宽覆盖整个波段宽度，可大大提升系统发射效率及接收的灵敏度。从而提升系统的稳定性，并加强了自身被动抗干扰能力。
The system uses a linear spread of fine paragraph by excess antenna, which covers the entire band width of the antenna bandwidth range, greatly enhances the efficiency of the system launch and receiving sensitivity. It greatly improves system stability, and strengthen the passive anti-jamming capability of the system.

独立身份识别系统：
此系统每个发射机都具有唯一的身份识别ID码，当与接收机进行对码后此ID码被存放在接收机内，当接收机工作时首先会验证此ID码是否正确，然后才工作，否则不会工作。此项可加大系统的主动抗干扰能力，从而提升系统的稳定性。
Each transmitter has its own unique ID. When the transmitter communicates with the receiver, the ID will be transmitter and saved in the receiver. The System works only when the ID is matched when the receiver powers on. This dramatically increases the ability of passive anti-jamming and enhances the total stability of the system.

低功耗工作：
此系统完全采用超低功耗器件，且接收采用高灵敏度的接收芯片，工作时采用间隔发送方式。从而降低了发射功率，并提升了使用工作时间。此系统使用功耗相当于以前FM版本的十分之一。
The system uses low power consumption components, and the receiver chip is extremely sensitive; the system uses interval signal transmission, thereby reducing the transmission power, and increasing the operating. Comparatively this system consumes only one tenth of the normal FM system.

6.BATTERY CHARGING NOTES

⚠ If your transmitter, receiver using a nickel-cadmium, nickel-metal hydride rechargeable battery, you have to well-check before you use. If lack of electricity, it could happen those phenomenon like inadequate control or out of control, resulting accident. So please charge immediately when the battery lacks of electricity.

如果您的发射机.接收机使用的是镍镉.镍氢等可充电电池,在使用前请您务必检查电池电量.如果电量不足,可能导致控制距离不够或者失控的现象,从而产生意外.所以电池电量不足时请及时充电.

⚠ If you are using a nickel-cadmium, nickel-metal hydride batteries for recharging, please use our company dedicated charger. If the electrical current is too large and it may lead to temperature over-heated and cause fire burning accident. Please cut off the power supply immediately after recharging. Please take out the battery from the transmitter when you are not using it within a period, it is because the battery may damage the aircraft batteries, thus being exposed.

如果您使用的是镍镉.镍氢电池进行充电,请您使用我们公司的专用充电器.因为如果充电电流太大可能导致电池温度太高,从而燃烧起火带来意外.充电完成请您即时切断电源.当您长时间不使用时请您电池从发射机中取出, 因为电池可能导致发射机电池片损坏,从而接触不良.

DC(Direct Current) charging:

1.Install one side of the charger to the power connector, while the other side to the port of the USB (as picture1),charge indicator turns red at this time;

2.Cut off the power supply after the process of charging completed.(The indicator light on the transmitter turns into green).


①
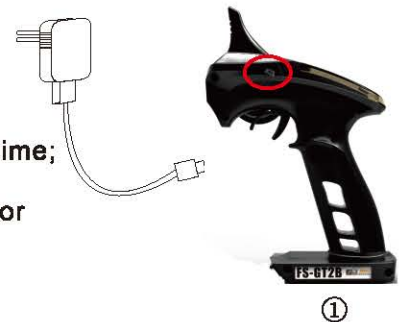
直流充电

将充电器插入电源接口, 另一端插入发射机的USB充电接口 (如图1), 此时充电指示灯变成红色;

充电完成后, 发射机上的充电指示灯为绿色, 即可切断充电电源。

Charging by computer:

1.Install the rechargeable battery to the transmitter.

2.Install one side of the software to the port of USB on the computer, while the port of the USB on the transmitter.(as picture 2),charge indicator turns red at this time;

3.Take out the software after the process of charging completed. (the indicator light on the transmitter turns into green.)

②
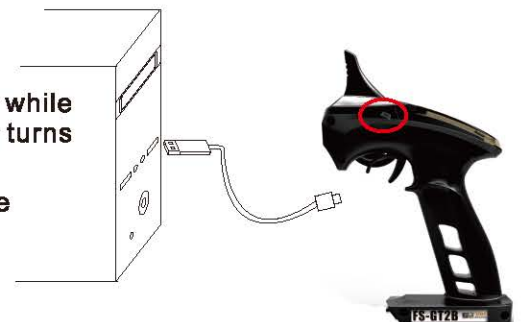
电脑充电

将可充电电池按方向装入发射机;

将数据线一段插入电脑USB插孔, 另一端插入发射机USB插孔 (如图2), 此时充电指示灯变成红色;

充电饱和后, 发射机上充电指示灯为绿色时, 将其数据线拔出。

6.01.2 Charging by charger:

1. Install the rechargeable battery to FS-BC101.

2. Install one side of the charger to the power connector, while the other side to FS-BC101, or connect with the USB port of the computer directly, then the director of charger will turn to red;

3. When the indicator light on the charger turns into green, it means that the charge completed.
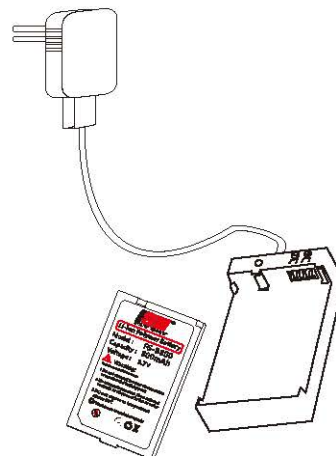
4. Cut off the power supply.

充电器充电

将电池按方向装入(FS-BC101;)

将充电器插入电源接口，另一端插入 (FS-BC101) 充电器，
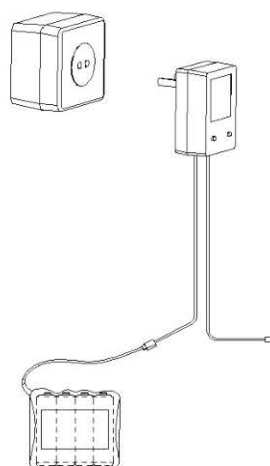或者直接连接电脑USB,此时充电指示灯变成红色；

充电器上的充电指示灯显示绿灯时,充电已完成;

充电完成后,即可切断电源.

6. 02 Receiver charger:

A. Connect the charger to the commercial power connector.
B. Connect the Rechargeable receiver with battery charger
C. Recharge completed, cut off the power supply immediately.

1.将充电器插入充电接口；
2.将可充电接收机用电池接口与充电器充电接口连接；
3.充电完成后,及时将电源切断.

1.TRANSMITTER PARAMETERS

Specifications:

FS-GT2B

机种参数：
1.通道个数：3个通道；
2.适合机种：车、船；
3.发射功率：小于等于20dBm（100mW)(for EU)；
4.调制方式：CFSK；
5.系统模式:第一代自动跳频数字系统；
6.数据分辩率:1024级；
7.低电压报警功能:有(低于3.7伏后)；
8.数据输出接口:有(3.5英寸)；
9.充电接口:有(USB)；
10.电源标准：3.7V(800毫安锂电)；
11.整机重量:270克；
12.天线长度：26毫米；
13.外型尺寸：156*223*94毫米；
14.外观颜色：黑色；
15.安规认证：CE、FCC.

SPECIFICATIONS:
A.Channels:3channels;
B.Model type:car/boat;
C.RF power:no more than 20dBm(100mW)(for EU);
D.Modulation:GFSK;
E.System type:AFHDS;
F.Sensitivity:1024;
G.Low voltage warning:yes(less than 3.7V);
H.DSC port:yes(3.5mm);
I.Charger port:yes USB;
J.Power:3.7V(800mAh)
K.Weight:270g;
L.ANT length:26mm;
M.Size:156*223*94mm;
N.Color:black;
O.Certificate:CE、FCC.

8.RECEIVER PARAMETERS

MODEL : FS-GR3C

Specifications：

机种参数：
1.通道个数：3个通道；
2.适合机种：车/船；
3.接收灵敏度：-105dBm；
4.调制方式:GFSK；
5.系统模式:AFHDS；
6.数据分辩率:1024级；
7.失控保护功能:有(第2通道)；
8.对码接口:有(第三通道)；
9.电源接口:有(VCC)；
10.电源标准:4.5-6.5VDC(1.5伏*4)；
11.整机重量:5克；
12.天线长度:26毫米；
13.外型尺寸:37.6*22.3*13毫米；
14.外观颜色:黑色；
15.安规认证:CE、FCC.

SPECIFICATIONS：
A.Channels:3channels;
B.Model type:car/boat;
C.RF receiver sensitivity:-105dBm;
D.Modulation:GFSK;
E.System type:AFHDS;
F.Sensitivity:1024;
G.Faisafe:yes(channel 2);
H.Bind port:yes(channel 3);
I.Power port:yes(VCC);
J.Power:4.5-6.5VDC(1.5V*4);
K.Weight:5g;
L.ANT length:26mm;
M.Size:37.6*22.3*13mm;
N.Color:black;
O:Certificate:CE、FCC.

9.receiver connectivity

9.01 Installation when a motor controller is used

带马达模型的安装连接

SPC调速器

SWITCH 开关

Servo伺服器

CH2

CH1

Receiver接收机

BATTERY电池

MOTOR马达
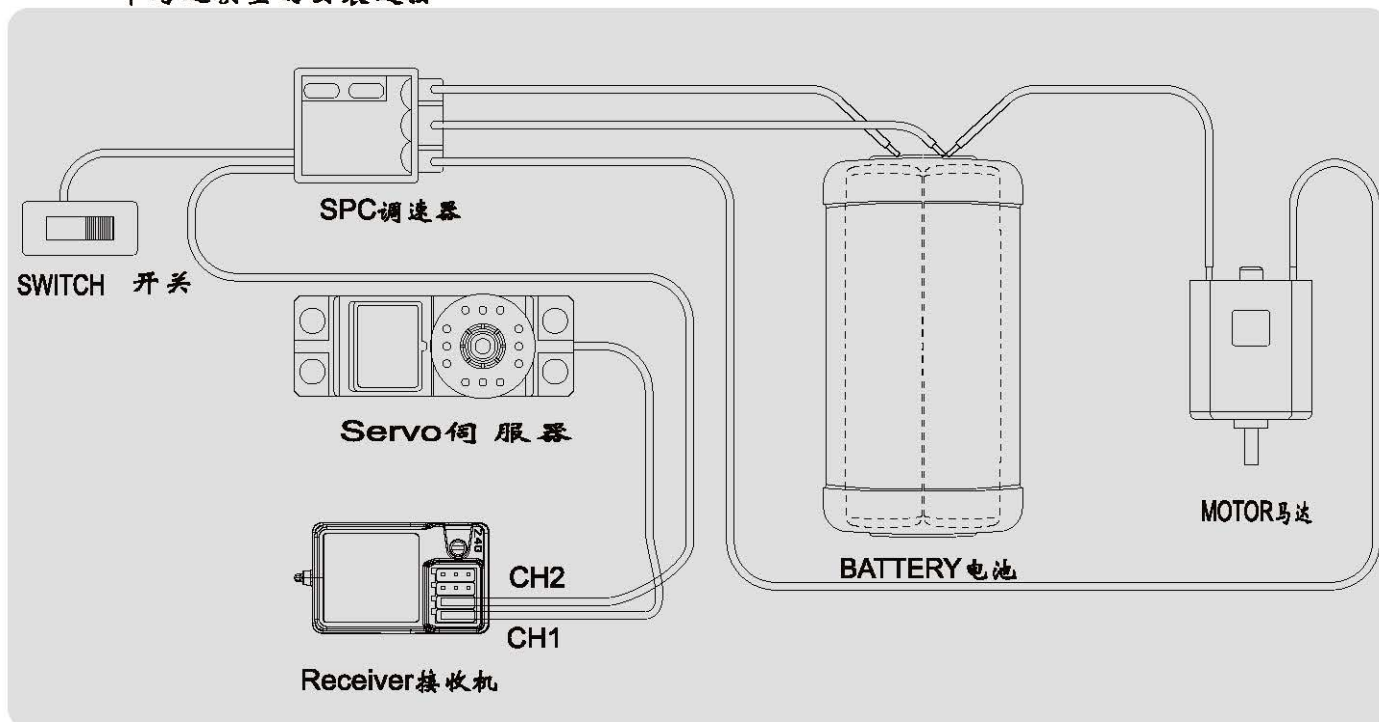
! Remark：Place the antenna of the receiver vertically with the plane!
And don't let it close to the metal thing for assuring its sensitivity.（See pic1）
注：在安装接收机时请将接收机天线与水平面垂直放置！且天线尽可能不要靠近金
属物！因为这样接收灵敏度最高。(如图1)
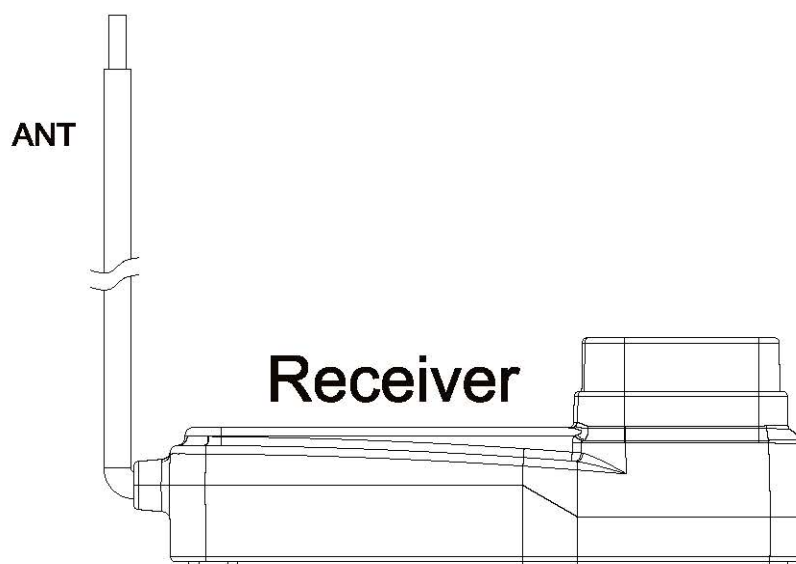

ANT

Receiver

Figure 1 （图1）

9.02 installation for gas powered models
发动机模型的安装

SWITCH

开关

Battery（1.5AA*4）
电池

2.4G

THROTTLE
油门

Receiver
接收机

STEERING SYSTEM
方向系统

Servo
伺服器