

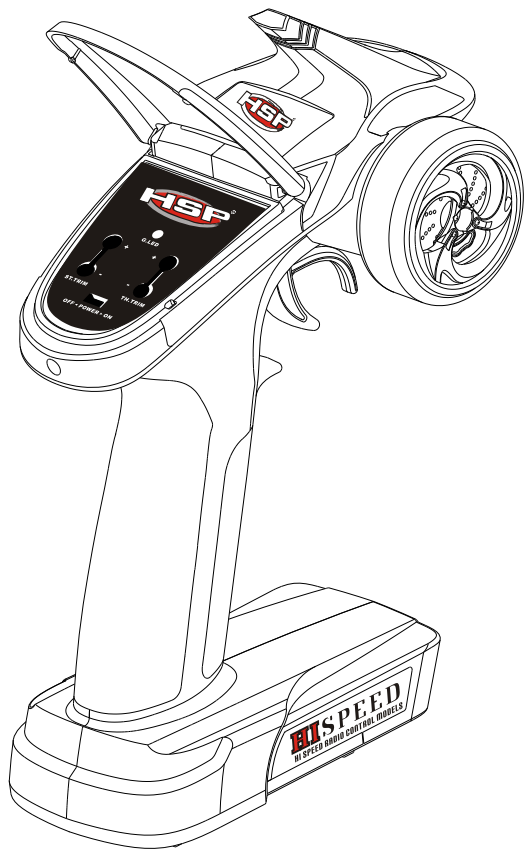


FS-GS-GT2G

Digital proportional radio control system

INSTRUCTION MANUAL

用户手册



AFHDS
AUTOMATIC FREQUENCY
HOPPING DIGITAL SYSTEM

2A

1. Introduction 简介

Thank you for choosing 2.4G ratio 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.

感谢您选择使用 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。再次感谢您使用的产品，并希望给您带来快乐。

2. Services 服务

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:

如果您使用过程中发现有问題，请您第一时间先查看说明书。如果问题还不能解决，您可以跟我们的经销商联系解决。您也可以登录我们的服务中心网站：



3. Special symbols 特殊标志

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，有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！



Prohibited
禁止



Mandatory
强制

4. Safety guide 安全指导



Do not use it in the night or a lighting storm as the bad weather will make the remote control out of control.

请不要在夜晚或者雷雨天使用此产品，因为恶劣的天气环境有可能导致遥控设备失控。



Make sure moving direction of all motors be same with the operating direction. If not, please adjust direction first.

操控时，请先确认模型所有舵机的动作方向与操控方向一致。如果不一致，请调整好正确的方向。



The shutdown sequence must be to first disconnect the receiver battery then to switch off the transmitter. If the transmitter is switched off while the receiver is still powered, it may lead to uncontrolled movement or engine start and may cause an accident.

关闭时，请务必先关闭接收机电源，然后关闭发射机，如果关闭发射机电源时接收机仍然在工作，将有可能导致遥控设备失控或者引擎继续工作而引发事故。



In particular, the 2.4G R/C system will affect the plane or the car nearby after you turn on the transmitter.

特别要注意，如果附近有汽车正在运行或飞机正在飞行，开机后2.4 GHz RC系统可能会影响到他们。

Digital proportional radio control system **FS-GS-GT2G**



Be sure to set the Fail Safe function.

一定要启用防失控功能。



Do not operate outdoors on rainy days, run through puddles of water or use when visibility is limited. Should any type of moisture (water or snow) enter any component of the system, erratic operation and loss of control may occur.

不要在户外雨天,有水的地方或当能见度有限的时候使用。可能水分(水或雪)会进入到系统内部,不稳定的运行和失控可能发生。



Do not operate in the following places.

- Near other sites where other radio control activity may occur.
- Near people or roads.
- On any pond when passenger boats are present.
- Near high tension power lines or communication broadcasting antennas.

Interference could cause loss of control. Improper installation of your Radio Control System in your model could result in serious injury.

不要操作在以下的地方。
基站附近或其他无线电活跃的地方；
人多的地方或道路附近。
有客船的水域。
高压电线或通信广播天线附近。
干扰可能导致失控。安装不正确,无线电控制系统可能导致模型发生严重的伤害。



Do not operate this R/C system when you are tired, not feeling well or under the influence of alcohol or drugs.

Your judgment is impaired and could result in a dangerous situation that may cause serious injury to yourself as well as others.

当你感到疲倦,饮酒或吸毒后,不舒服的影响下,不要操作这个R/C系统。
判断力下降,而且可能发生危险的情况下,对自己或他人可能造成严重的伤害。



Do not touch the engine, motor, speed control or any part of the model that will generate heat while the model is operating or immediately after its use. These parts may be very hot and can cause serious burns.

当模型操作或使用后,请勿触摸发动机、电机、调速器或任何可能发热的部分,这些部分可能非常热,会造成严重的烧伤。

Always perform a operating range check prior to using.

Problems with the radio control system as well as improper installation in a model could cause loss of control. (Simple range test method) Have a friend hold the model, or clamp it down or place it where the wheels or prop cannot come in contact with any object. Walk away and check to see if the servos follow the movement of the controls on the transmitter. Should you notice any abnormal operation, and do not operate the model. Also check to be sure the model memory matches the model in use.

总是在操作模型之前进行全面的检查。

无线电控制系统出现问题以及不正确安装,都有可能导致模型失控,简单的距离测试方法:一个人把持模型,或者提起来让轮子与地面无法接触,另一个人持发射机走开,检查该伺服系统运转情况。测试时要注意到若有异常出现,请不要操作模型。也检查模型的记忆,以确保模型的匹配是适当的。

Turn on the power:

Turning on the power switches, Always check the throttle trigger on the transmitter to be sure it is at the neutral position.

When making adjustments to the model, do so with the engine not running or the motor disconnected. You may unexpectedly lose control and create a dangerous situation.

开机时,每次都要检查发射器的油门中位是不是处于中间位置。
当发射机作出调整时,可能模型的引擎没有运行或电机没有连接。可能会发生失控或意外事故的情况。

5.03. AFHDS2A 第二代增强版自动跳频数字系统



AFHDS2A (automatic frequency hopping digital system 2A) is the digital radio system with independent intellectual property, which is newly developed by . This system is developed specially for high-end model products. As the one of the best system in the market, it has built-in multiple channel coding, error-correction, longer communication distance and more powerful antijamming capability. Model airplane fan can safely use this radio system as it combines years of design experience and has passed stick field tests.

AFHDS2A (第二代增强版自动跳频数字系统) 是基于AFHDS/AFHDS2基础最新研发成功的一套数字无线系统,具备自主知识产权。AFHDS2A专门针对高端模型产品而研发,内置多重信道编码和纠错算法,采用主动和被动跳频方式,具备更强的通信距离和抗干扰能力,是目前市面上最好的无线系统之一。此系统融合了富士研发人员多年的设计经验,通过严格的现场测试,航模爱好者可放心使用!

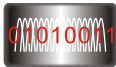
RF specifications:

RF range: 2.4055-2.475GHz
Bandwidth: 500KHz
Band sum: 140
RF power: less than 10dBm
2.4G system: AFHDS 2A
Code type: GFSK
RX sensitivity: -98dBm

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10dBm
2.4G模式: 第二代增强版自动跳频数字系统
编码方式: GFSK
接收机灵敏度: -98dBm

5.04. System Characteristic 系统特征



The frequency range of AFHDS2A is from 2.4055GHz to 2.475GHz. The whole band is divided into 140 frequency points. Each system with unique frequency hopping rules uses 16 different frequency points, which can avoid interruptions effectively.

AFHDS2A系统工作频率范围为: 2.4055-2.475GHz。整个波段被划分为140个独立频点。每套遥控系统使用16个不同频点,具备独立的调频规律,能有效的避免信道间的干扰。



This radio system uses a high gain and high quality multi directional antenna. It covers the whole frequency band. Associated with a high sensitivity receiver, this radio system guarantees a jamming free long range radio transmission.

此系统采用高质量的增益天线,覆盖整个波段带宽。配合高灵敏度接收机,系统能有效的避免远距离传播信号的干扰。



Each transmitter has a unique ID. When binding with a receiver, the receiver saves that unique ID and can accept only data from that unique transmitter. This avoids picking another transmitter signal and dramatically increases interference immunity and safety.

每台发射机有一个唯一的ID码,当和接收机对码之后,接收机保存这个唯一的ID码并且只接受从这个ID码发射机发出的信号。这样可以避免接收到别的发射机信号,大大增强抗干扰能力和安全性。



This radio system uses low power electronic components and a very sensitive receiver chip. The RF modulation uses intermittent signal transmission thus reducing even more power consumption. Comparatively, this radio system uses only a tenth of the power of a standard FM system.

此系统使用低功率电子元件和高灵敏度接收机芯片。无线电频率模块采用间歇性信号传播,因此大大降低了发射功率。比较而言,此系统功耗仅为FM版本的十分之一。



AFHDS2A has built-in multiple channel coding and error-correction, which improve the stability of the communication, reduce the error ratio and extend the reliable transmission distance.

AFHDS2A系统内置多重信道编码和纠错算法，有效的提高了通信稳定度，减小通信误码率，增加可靠传输距离。

6. Switching system between system AFHDS and system AFHDS 2A AFHDS和AFHDS2A系统切换

手轮任意方向拧到底同时按住“BIND”键开机，进行AFHDS和AFHDS2A系统切换。

开机后，如果发射机绿色LED灯常闪，表示当前系统为AFHDS，按“BIND”键存储当前系统。

如果发射机绿色LED灯闪两下停一下(闪烁周期为1.3 S)，表示当前系统为AFHDS2A。按“BIND”键存储当前系统。

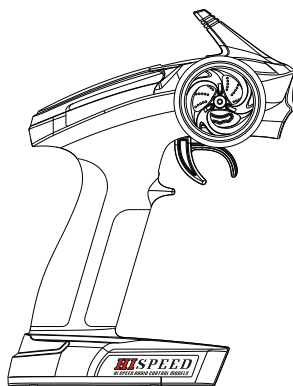
系统切换完成后，重启发射机，即可使用当前系统。

System switching: turn the steering wheel and press the “BIND” button when turn the transmitter on.

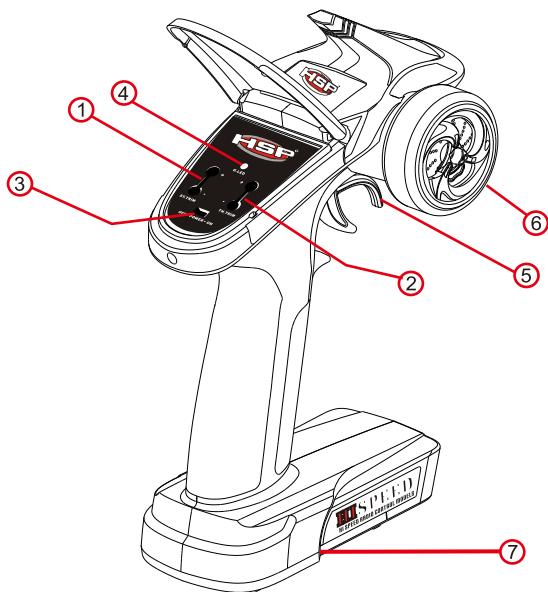
The current system is AFHDS if the green LED keeps flashing. Press the “BIND” button to save the current system.

The current system is AFHDS 2A if the green LED flashes twice every time. Press the “BIND” button to save the current system.

Restart the transmitter, and the current system is what you saved before.



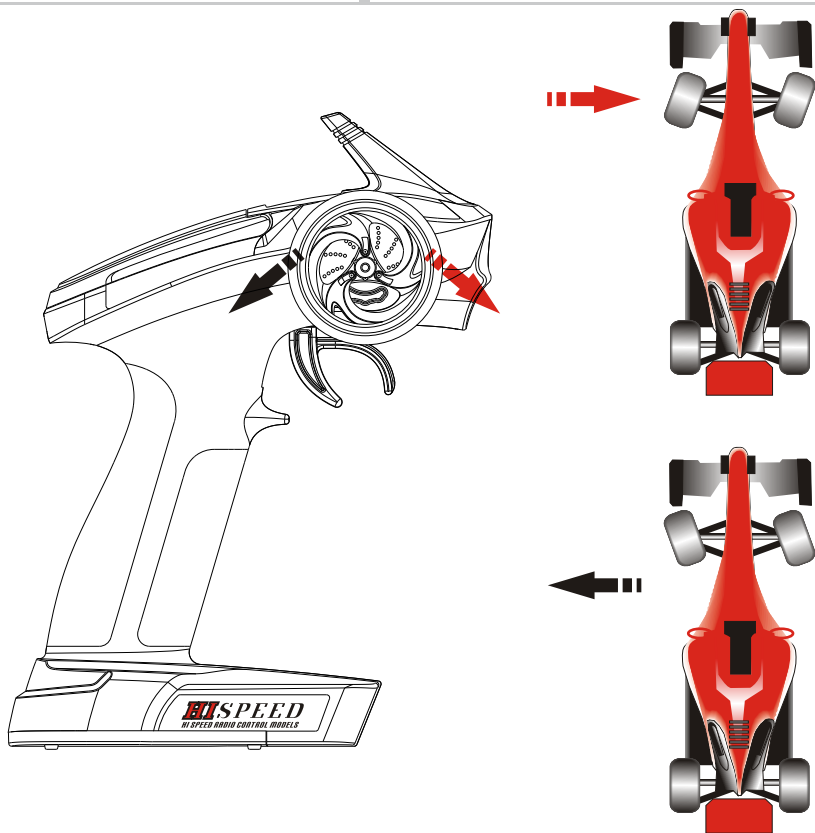
11. each part of the transmitter 发射机部件



- ① ST 中位微调 ST TRIM
- ② ST 通道比例微调 ST D/R
- ③ 开关power
- ④ 对码键 BIND Key
- ⑤ 油门扳机 THROTTLE TRIGGER
- ⑥ 方向调轮 STEERING WHEEL
- ⑦ 电池盒 BAT BOX

12. Transmitter function notes 发射机功能说明

12. 01. Steering control 方向控制



Function Introduction:

This function is to control the direction, when the steering turn to right then the front wheel will turn to right (as picture), when the steering turn to left then the front wheel will turn to left (as picture).

Operation Method:

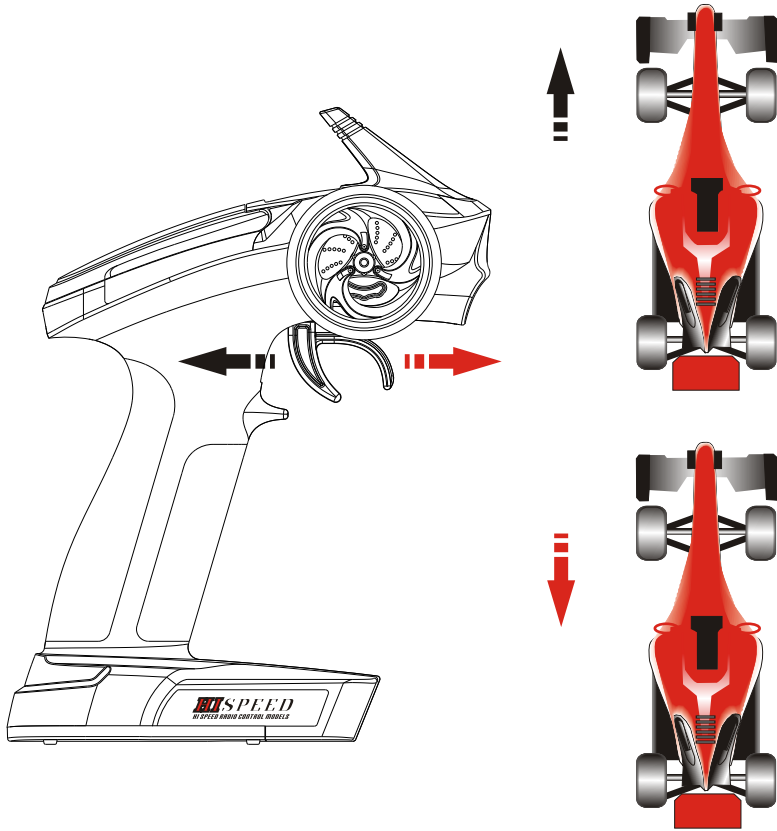
Adjust the dual rate of the steering by adjusting the D/R knob.

功能说明：

此功能是用来进行方向控制，当方向舵往右旋转时车子前轮会跟着往右（如图），当方向舵往左旋转时车子前轮会跟着往左（如图）。

操作方法：

开机后，通过方向舵进行方向控制，方向舵动作大小依据实际情况进行比率调整，方向舵大小动作量可通过D/R进行大小舵量的调整。



Function Introduction:

This function is to control the throttle speed, when pull the rhotte trigger back, car will accelerate forward (see the picture), when push the throttle trigger, the car will put on the brakes or double ring asterm (according to the different ESC) (see the picture).

Operation Method:

To control it by pushing and pulling back the throttle trigger after power on.

功能说明：

此功能是用来进行油门（速度）控制，当油门扣机往后打时车子会向前加速（如图），当油门扣机往前推时车子会进行刹车或加速后退（依据不同的调速器）（如图）。

操作方法：

开机后，通过油门扣机进行前后运行的控制。

28. FCC 声明 FCC Statement



FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.
- To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

(Example use only shielded interface cables when connecting to computer or peripheral devices).

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Caution!

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user authority to operate the equipment.