

## FS-ill

Digital propotional radio control sustem

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WARNING:
This product is suitable for
15 years old and above
$C \in F E$

## Digitial fropotional adidio control susitem FS-IIO

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## Digitial propotional Iadio controol system FS-IID

## 1. Introduction

Thank you for choosing the Fly Sky FS-i10 ten channels 2.4 GHz AFHDS2 intelligent system, which is compatible with helicopter, fixed wing, glider and powered glide systems. System parameters can be set up based on the model owned by the user. If this is your first time to use an intelligent system, this user manual will provide you with the instructions you need to obtain full enjoyment from your new system. Before using your new system, please read all instructions carefully, to ensure your safety.
http://www.flysky-cn.com


If you encounter any problems, while using this system, please refer to the appropriate section of this manual. After consulting this manual, you are unable to solve your problem, please contact your local dealer or connect to consult our service and support website (http://www.flysky-cn.com /Service. asp) for further assistance.
http://www.flysky-cn.com
3. Special symbols

Please pay attention to the following symbols when they appear in the manual and read carefully.
$\triangle$ Danger: Not tolowing these instructions may expose the usert oserious iniuries ordeath.
$\triangle$ Warning: Not folowing these instuctions may expose the usert to serious inuries.

】. Attention: Not following these instructions may expose the user to minor injuries and even to serious injuries.

Prohibited
! Mandatory
4. Safety guide

Do not use at night or during a lightening storm, as bad weather will adversely affect the control of your system.

Make sure that the motors are all moving the same direction as the operating direction.

The shutdown sequence is as follows: 1. Disconnect the receiver battery 2 . Switch off the transmitter Failure to follow this procedure may result in uncontrolled movement and damage to the system.

Please be aware, that the 2.4 G R/C system may affect nearby planes or cars after you turn on the transmitter

## Digitial propotional Iadio control system

Be sure to set the Fail Safe function.

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.

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 voltage 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.

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.


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.

Please have an overall check about the model before any operation.
Any problem in radio control system or improper installation may cause out of control.

## Simple distance test methods:

One hold the model, and the other one carry the transmitter to a proper place to check the servo system condition.
Please stop operation if any exceptional case occurs.
Please check the model memory to make sure the matching is right.
! Turn on the power, please check if the throttle neutral position is in its lowest position while turning on the transmitter every time.
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.

```
1 Fail safe function:
Before running (cruising), check the fail safe function:
Check Method; Before starting the engine, check the fail safe function as follows
(1) Turn on the transmitter and receiver power switches
(2) Wait at least }30\mathrm{ seconds, then turn off the transmitter. (The transmitter
automatically transfers the fail safe data to the receiver every 5 seconds.)
(3) Check if the fail safe function moves the servos to the preset position when
reception fails. The fail safe function is a safety feature that minimizes set
damage by moving the servos to a preset position when reception fails. However,
if set to a dangerous position, it has the opposite effect. When the reverse function
was used to change the operating direction of a servo, the fail safe function must
be reset.(for more information about this function please reference page 37)
```


## Battery :

(1) Do not make the battery short circuit.
(2) Do not drop the battery or expose it to strong shocks or vibrations. The battery may short circuit and overheat, electrolyte may leak out and cause burns or chemical damage.

## Storage:

1 Do not leave the radio system or models within the reach of small children.
A small child may accidentally operate the system. This could cause a dangerous situation and injuries.
2 Do not store your R/C system in the following places.
Where it is extremely hot or cold,
Where the system will be exposed to direct sunlight,
Where the humidity is high,
Where vibration is prevalent,
Where dust is prevalent,
Where the system would be exposed to steam and condensation,
Storing your R/C system under adverse conditions could cause deformation and numerous problems with operation.

## Notice:

Do not expose plastic parts to fuel, motor spray, waste oil or exhaust. The fuel, motor spray, waste oil and exhaust will penetrate and damage the plastic.

## 

5. 2.4GHz 5ystem Specifications


AFHDS2 is developed by FLYSKY for all the radio control model users and is patented by FLYSKY company of China.

## RF specifications:

RF range: $2.4000-2.4835 \mathrm{GHz}$
Channel bandwidth: 500 KHz
Number of channels: 160
RF power: less than 20 dBm ( 100 mW )
RF mode: AFHDS 2(Automatic Frequency Hopping
Digital System2)
Modulation type: GFSK
Antenna length: 26 mmx 2
RX sensitivity: -105dBm
$\qquad$
$\triangle$ Danger:
Misuse of this radio system can lead to serious injuries or death. Please read completely this manual and only operate your radio system according to it.

The 2.4 GHz radio band has a completely different behavior than previously used lower frequency bands. Always keep your model in sight as a large object can block the RF signal and lead to loss of control and create a dangerous situation. The 2.4 GHz RF signal propagates in a straight line and cannot circumvent objects in its path. Never grip the antenna during operation as it sig -nificantly degrades the signal and may cause loss of control and damage to the system.

## $\triangle$ Danger:

Always turn on the transmitter first then the receiver. When turning off the system, always turn off there ceiver first then the transmitter. This is to avoid having the receiver on itself as it may pick a wrong signal and lead to erratic servo movements. This is particularly important for electric powered models as it may unexpectedly turn on the motor and lead to injuries or death.

## 6. System characteristics

This radio system works in the frequency range of 2.4000 to 2.4835 GHz . This band has been divided into 160 independent channels. Each radio system uses 16 different channels and 160 different types of hopping algorithm. By using various switch-on times, hopping scheme and channel frequencies, the system can guarantee a jamming free radio transmission.

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.

Each transmitter has a unique ID. When binding with a receiver, the receiver saves that unique ID and only accept data from that unique transmitter. This prevents obtaining the wrong signal from another transmitter and insures safety for your system..

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.

This system uses the two-way communication, which could control the working state of current model better and make the operation more enjoyable and safer than before.

## 7. Battery charging instructions



If your transmitter or receiver uses any type of rechargeable batteries, please check them before each flight and make sure they are in good shape and fully charged other wise it may lead to loss of control, injuries and death.

4If you are using rechargeable batteries, make sure to use a suitable charger with the right charging current set otherwise it may lead to battery overheating, fire or explosion. Disconnect the battery from the charger as soon as it is fully charged. If you don't plan to use your radio system for a long period of time, remove the batteries from the transmitter and the model as it may damage them.
7.01 Transmitter rechargeable

1. Install the battery into the transmitter or charger (close the transmitter battery box cover).
2. Connect the USB cable to the adapter.
3.Insert USB cable to the charge port of transmitter or charger.
3. Insert the adapter into plug seat.


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## B. System Dverview

## The transmitter $\mathbf{i 1 0}$ :

- Adopts the latest two-way communication systems to ensure that all of the FS-brand receivers are compatible with this transmitter
- Home page menu can monitor 110 voltage, speed, temperature, voltage parameters, function conditions (on/off), model structure and timers in real time.
- The flashing LED and 3D audio effect will alert the user when a system exception occurs.
- This parameter is easily set due to the 3.55 inch, 240 by 400 pixels (WQVGA) color TFT-LCD touch screen.
- The power switch design prevents accidental power off or power on conditions. The transmitter can only be turned on/off by pushing both the left and right power buttons at the same time.
- Eight switches and five knobs can be assigned to different functions in most applications. The three knobs can be hidden by pressing them.
- The high-precision double-bearing gimbal and fashionable ultra-thin transmitter ensure a great experience for the user.
- The double antenna structure ensures the 2.4G frequency module transmits in all directions for a safer and better signal.
- The transmitter can store 20 models, including every model binding conditions. It can also store model settings on a SD card.
- Free software and upgrades to the system are available online.
-It is compatible with helicopter fixed-wing, glider, and powered glider. Airplane has two type, fixed-wing and helicopter. Different airplane structure is matching with different procedure. Users can set according to airplane structure.


## - General functions

Reverse , End points, Subtrim , Trims , Exponentials , Aileron to rudder , Rudder to aileron , Throttle curve , Throttle delay , Throttle down , Auxiliary channels , Channels offset, Function delay , Channels delay , Linear mixes , Curve mixes , Conditions , Logic switches , Airplane structure , Timers , Trainer mode , Display servos , Models , RX setup , System

- Airplane/Glider

Default structure (Engine+Aileron+Elevator+Rudder)
Exclusive function menu :
Aileron function, Flap function, Spoiler function , Elevator to flap , Throttle needle , Butterfly , Elevator function , Rudder function, V tail

- Helicopter

Default structure (fixed pitch)
Exclusive function menu :
Throttle hold, Throttle mix , Pitch curve , Swashplate mix , Swashplate type , Swashplate ring , Governor , Gyroscope

9. Transmitter specifications

## Transmitter specifications:

- Channels: 10
- Model type: helicopter/ airplane/ glider
- RF range: $2.4000-2.48 \mathrm{GHz}$
- Bandwidth: 500 KHz
- Band: 160
- RF power: less than 20 dBm
- 2.4G system: AFHDS2
- Code type: GFSK
- Sensitivity: 1024
- Low voltage warning: yes (less than 3.75 V )
- DSC port: yes(USB, HID)
- SD port: yes
- ANT length: 26mmx2
- Weight: 653.5 g (Include Battary)
- Power: 3.7V (1700mAh)
- Size: 102 mm * $96 \mathrm{~mm} * 53 \mathrm{~mm}$
- Color: Silver
- Certificate: CE0678, FCC


10. Receiver specifications

Specifications:

- Channels: 10
- Model type: helicopter/ airplane/ glider
- RF range: $2.4000-2.48 \mathrm{GHz}$
- Band: 160
- RF power: less than 20 dBm
- Sensitivity: -105DBm
- 2.4G system: AFHDS2
- Code type: GFSK
- ANT length: 26 mmx 2
- Power: 4.0-6.5V/DC
- Weight: 19g
- Size: $47 \mathrm{~mm} * 33.5 \mathrm{~mm} * 15 \mathrm{~mm}$
- Color: Black
- Certificate: CE0678, FCC
- i-BUS Port: yes
- Date Acquisition port: yes


## 


11. Receiver and serva connections

In order to make sure maximum distance between the transmitter and receive can be obtained please follow the directions below:

1. The two antennas must be kept as straight as possible. Otherwise, control range will be reduced.
2. The two antennas should be placed at a 90 degree angle to each other, as illustrated in the three pictures below.
3. The antennas must be kept away from conductive materials, such as metal and carbon. A distance of at least 15 cm is required for safe operation. Conductive materials will not affect the coaxial part of the antenna, but it is important that the coaxials are not bent to a severe radius.
4. Keep antennas away from the motor, speed controller and other noise souces as much as possible.


## 

11. 01 Airplane model installation

11.02 Helicopter model installation


12. Receiver operation instruction
13. 01 Port Setup

(Pic 12.1)
CH1-CH10: represent relevant channel of transmitter.
Bind,VCC: represent the channel used for matching and input power respectively.
OUT: Represent i-BUS port of outputting PPMS data and be used for connecting the serial bus receiver to expand channels.
IN: Represent input ports of all kinds of sensor data, and data acquisition modules can be connected in serial optionally.

### 12.02 Binding Setup

All receivers are bound to their respective transmitter at production time. If you want to bind it with another transmitter, please follow the steps below:

1. Install the battery in the transmitter, and turn on the power.
2. Open the main menu, and select "RX setup" function in the second page, then touch "Bind with a receiver" to enter bind mode.
3. Insert the standard bind cable into the power supply channel.
4. Connect the 6VDC power connector to any channel from CH 1 to CH 10 with correct polarity to enter bind mode, The receiver LED will flash at this time.
5. The transmitter will exit the bind mode automatically after having successfully bound with the transmitter.
6. Pull off the bind cable and restart the receiver. Please connect the servos and other telemetry modules to the receiver to check if everything operates normally.
7. If anything is wrong, please repeat the above steps to bind again.


Notice: The bound transmitter and receiver will work abnormally if the transmitter or the receiver enters the binding state by mistake. In other words, the receiver cannot be controlled by the transmitter. If so, you need to restart the transmitter and the receiver.
Attention


## Digital fropotional adaicianontrol sysiem FS-IID

## 12. 03 FS-SEV01 i-bus Receiver Connection instruction Setup

## Function Details :

The system is able to support many channels. This allows the user of the system to change to a different output channel should signal strength be insufficient
i-BUS receiver, can connect 4 modules with 18 channels in serial at most.


Button K1 and K4 correspond to C1 and C4 respectively.
Operation instruction:

1. FS-SEV01 i-BUS The "IN" port of FS-SEV01 receiver corresponds to "OUT" port of receiver.
2. FS-SEV01 i-BUS The "OUT" port of FS-SEVO1 receiver is used to connect post level FS-SEV01 receiver.
3. Insert the bus receiver to receiver, and then switch on the matched transmitter and receiver. The LED will be on.
4. Select main menu of receiver setup to enter the interface of servo setup.
5. Select channel which need to be expanded, meanwhile LED of bus receiver is off.
6. Push relevant channel button by plastic needle of matching line. The setup is successful if LED flashes automatically.
7. Insert servo to check.
8. Set up 4 channels of bus receiver as above steps.
9. Just connect a new bus receiver with "OUT" port of first stage bus receiver if more channel needed. Set up the new one as above steps.

## A Notice: When the load of serial bus receiver is excessive and electric current is higher than usual, please supply power directly to the serial bus receiver or it will break cables. <br> Danger

12.04 FS-SPDO1 RPM telemetry [magnetic] module setup
$\qquad$

(Pic 12.4)

## Operation:

1. Insert one end of standard 3 PIN plug into "OUT" port of RPM telemetry (magnetic) module, and insert the other end into "IN" port of receiver or other sensor, as shown in the picture 12.4.
2. As shown in the picture 12.5: Inside hub of the model, the distance between sensor and magnet is less than 2 mm . The North Pole or the south pole of the magnet has to be paralleled with sensor.
3. Switch on transmitter and receiver. "Motor speed 2:0RPM" will be shown in receiver window in display screen. Speed value changes as turning wheel, which means installation is successful.


12.05 F5-5PDO2 RPM Telemetry [optical] module setup

- 

Function Details:
This function allows the user to monitor turning speed via the transmitter. This is a very useful function when determination of turning speed is required

## Operation instruction :

1. Connect one end of the standard 3 PIN plug to the "out" port of the speed telemetry module and the other end to the "in" port of the receiver or the previous sensors "in" port as shown in the picture 12.6.
2. As shown in the picture 12.7: Affix the sensor and the reflection decals on the flat surface of the side of any rotating part. Keep decals flat and perpendicular to the sensor. Maintain sufficient safety distance between the sensor and the decals to avoid any damage.
3. Switch on the transmitter and the receiver. "Motor speed 2: ORPM" will be displayed in the main screen. The speed displayed will follow the speed of the rotating part monitored by the rotation speed sensor, indicating a successful installation.

12.06 STMD1 Temperature telemetry module connection setup

## Function Details :

This function allows the user to monitor the temperature of important operating parts of the system. This will ensure that the user can be aware of any severe temperature changes which would adversely affect system operation. The system will automatically set an alarm if the temperature is outside of safe operating norms
Operation instruction :

1. Insert one end of standard 3 PIN plug into "OUT" port of temperature module, and insert the other end into "IN" port of receiver or other sensor, as shown in the picture 12.8.
2. Adhere temperature sensor to proper place (such as motor and battery) tightly by sponge double stick.
3. Switch on transmitter and receiver. "Temperature $1: 25.0^{\circ} \mathrm{C}$ " will be shown in receiver window in display screen, which means installation is successful, and $25.0^{\circ} \mathrm{C}$ is the temperature collected.


### 12.07 FS-SVT01 External voltage telemetry module connection setup

## Function Details :

This function allows the user to monitor the battery voltage of the system. This will ensure that the user can beaware of any severe voltage changes which would adversely affect battery operation. The system will automat-ically set an alarm if the voltage is outside of safe operating norms

## Operation instruction :

1. Insert one end of standard 3 PIN plug into "OUT" port of external voltage module, and insert the other end into "IN" port of receiver or other sensor, as shown in the picture 12.9.
2. Switch on transmitter and receiver. "Ext.voltage4:12.40V" will be shown in receiver window in display screen, which means the installation is successful.
3. Insert red and black contact pin into battery port respectively. The red one is positive pole and the black one is negative pole. as shown in the picture 12.9 "Ext.voltage $4: 12.40 \mathrm{~V}$ " is shown in the receive widow in display screen, which means the tested voltage is 12.40 V

Notice: The polarity of red and black line can not be reversed, or the receiver will be damaged.
Notice: Be sure the IN and OUT ports are connected correctly. Improper connections will cause the transmitter to be unable to distinguish between telemetry modules.


## Digitial pronotional adilic cancolol system FS-IID

13. Control Parts Descriptions



## 14. Stick mode adjustment

Stick Mode Adjustment
The mode can be changed based on user preferences
The instructions for changing default mode 2 are detailed below:

1. Touch system option to select the stick mode as shown in picture 14.1.
2. Change mode to 4 .
3. Adjustment of mode 1 and mode 3 as shown in pictures 14.3 and 14.4
1). Change mode 1 and mode 3 to mode 1 or mode 3.
2). Open the battery box and remove the battery.
3). Remove the transmitters left and right grips.
4). Use the inner hexagonal screwdriver to remove the six screws on the back of the transmitter and put them in a safe place as shown in picture 14.5 .
5). Disconnect the transmitter back cover plug carefully and you will see the layout as shown in picture 14.6.
6). Remove the eight screws with a small cross screwdriver and put them in a safe place.
7). Switch the left and right gimbal, rotate 180 degrees, adjust the wire and then lock the screw.
8). Insert the transmitter back cover wire to main board. Then close the back cover and lock the screw.
9). Install the left and right grip, and then install the battery. After that, close the battery cover.
10). Turn on the transmitter to ensure the channel and direction are working correctly by touching the servo display. Check the trim direction by sliding the trim.

(Pic 14.1)


right gimbal eight screws left gimbal

## 

## 15. Power On

1. Connnect all parts,
2. Press the two power buttons to power on the unit. Switch on the transmitter,
3. Connect the receiver battery,
4. The receiver red LED indicator is solid indicating the presence of a correct signal,
5. When the error rate of transmitter is less than $5 \%$, the signal of receiver is stable,
6. Use the radio system.


### 15.01 Boot Abnormal Protection

If the screen looks like picture 15.1.1, there is a system problem. You must resolve the problem before restarting the system

1. The switch is not reset. (You need to push switch down.)
2. HRO trim (Push to lowest setting)

## Power on


(pic 15.1.1)
16. Power off

1. Cut off power source of receiver,
2. Press the two power buttons to power off the unit. Switch off the transmitter. Attention: transmitter cannot be turned off if the power source of receiver is not cut off.


Power off

16.01 Shutdown Abnormal Protection

If the screen looks like picture 16.1.1 you need to turn off the receiver first and then turn off the transmitter
17.Logo/Information Screen

The FlySky logo will be shown on the screen when first switching on the transmitter. After two seconds the main menu will be displayed


## 

## 18. Main menu


(Pic 18.1)

(Pic 18.2)

(Pic 18.3)

(Pic 18.4)

The main menu can be accessed by touching the settings icon at the bottom of the main screen.
The main menu is organized in horizontal pages. Each page contains up to 12 icons representing 12 different functions.

The main menu has 26 icons by default, but may have as few as 21 or as many as 33 , depending on the model of the aircraft
-The white balls in the bottom tray indicate which menu page is displayed.
-The big white ball represents the currently displayed page.
-To display the next page, touch the current page anywhere on its right part and slide it to the left.
-To display the previous page, touch the current page anywhere on its left part and slide it to the right.
-To enter a function, simply touch its corresponding $\square$ icon.
To return to the main screen, touch the back button in the bottom tray.

## 19. 5ystem Status



20. General Functions Description
20. 01 Introduction
All functions use a set of standard user interface objects.
The bottom tray can contain the following buttons:

| The default button sets back the current page parameters to their |
| :--- |
| default values. |

The functions require usage of $1-4$ as stated in 20.02 below to enable proper
Some functions require usage of 1 and 4 as stated in 20.02 below to turn on or off.
Some functions require useage of 2 and 3 as stated in 20.02 below to adjust
parameters.
When you touch respectively enable and disable the current function.
(A) 2ロ.ロ2 5witch Function Details:


|  | Pressing this icon will display screen as shown in picture 20.3 Yes: reset to default the current displayed function No: no operation |
| :---: | :---: |
| End points (3) |  |
| CH1 All : $100 \% .100 \%$ |  |
| CH2 Ele : 100\%, 100\% |  |
| Reset to default. Are you sure? | Please touch the" "in the top right corner to get help information |
|  | Please use this function with care, as this will reset all parameters to factory settings and you will lose any changes you have made |
| CH6 Aux2 : 100\%, 100\% |  |
| CH7 Aux3 : 100\%, 100\% |  |
| () |  |
| (Pic 20.3) |  |
| $\square$ |  |
| 22 | http://www.flysky-cn.com |

## 

(3) 20.04 Online Help Function Details:
t:fly sky 01 TM $\square$ RXGE Models
20 model configurations can be saved and managed 20 different vehicles to control. A menu selects the action to execute on the model configurations.

Name: modifies the name of the current model.
Select modet select the model configuration to load $\square$
(Pic 20.4)

A title bar displays the name of the current function or menu.

A white question mark on the right of a title bar indicates that contextual help is available.
Touch the question mark to see the help details.
To scroll down a help page, touch the bottom of the page and slide up. To scroll up a help page, touch the top of the page and slide down. Touch the back button in the bottom tray to return to the function page.
20.05 Scrolling Menu Details:


To select an option use the vertical menu.

This example selects the System option. The gray vertical bar on the right is used for scrolling.

To scroll down the vertical menu, touch it at the bottom and slide up. To scroll up the vertical menu, touch it at the top and slide down. To select a menu item, simply touch it.
(Pic 20.5)

| Example one :How to turn on or off sound |  | Example two : How to enter the next submenu |  |  |
| :---: | :---: | :---: | :---: | :---: |
| t:fly sky of trebrxas |  | t:fly Sky or txCDrx[G] | t:fly Sky 01 Tx | RXES |
| System (3) | System (3) | System (3) | Backlight timeout | (3) |
| Backlight timeout 30s | Backlight timeout 30s | Backlight timeout: 30s | 5 seconds | (O) |
| Backlight: 100\% | Backlight: 100\% | Backlight: 100\% | 10 seconds | (O) |
| Sound | Sound $\square$ | Sound $\square$ | 30 seconds | (O) |
| Auto power off $\quad \square$ | Auto power off $\square$ | Auto power off $\square$ | 1 minute | (O) |
| Screen callbration | Screen callibration | Screen callibration | 2 minutes | (O) |
| Units | Units | Units | 5 minutes | (O) |
| USB function | USB function | USB function | 10 minutes | (0) |
| (Pic 20.6) | (Pic 20.7) | (Pic 20.8) | (Pic 20.9) |  |
| No sound | Sound enabled | Set back | timeout |  |



|  | This is the default menu for selecting system parameters <br> This example selects the sytem parameter to set. <br> The right gray vertical bar indicates the lengths of the menu and the current position in it. <br> To scroll down a vertical menu, touch it anywhere on its bottom and slide it up. <br> To scroll up a vertical menu, touch it anywhere on its top and slide it down. To select one of the menu items, simply touch it. <br> The blue ball indicates the currently selected value. To select another value, simply touch it. <br> For example : picture 20.6 has selected the Fly Sky 01 option |  |
| :---: | :---: | :---: |
| Select model |  |  |
| 1: Fly Sky 01 |  |  |
| () |  |  |
| 3: Fly Sky 03 |  |  |
| fly Sky 04 |  |  |
| ly Sky 05 |  |  |
| 6. FFly Sky 06 |  |  |
| Fly Sky 07 |  |  |
| (Pic 20.10) |  |  |

### 20.7 Multi-function dialog settings:


objects:


## Digitial propotional Iadio controol system FS-IID

## 21. General function menu

21.01. Reverse

## Function Details

This function enables the user to modify the direction of operation of each ot the ten servos. For each channel the user can toggle a reverse state based on demand
The reverse function individually reverses the direction of operation of the servos on the 10 channels.

This menu contains 10 check boxes, one for each channel. To toggle the reverse state of a channel, just touch it.

As shown in the picture 21.1, only the third channel is reversed, the other channels operate normally.
! Always complete your servo reversing prior to any other programming. If mix functions control multiple servos, it may be confusing to tell whether the servo needs to be reversed or a setting in the function needs to be reversed.
! Always check servo directions prior to make sure they are in the same way with
 operation direction. If not, please adjust to right direction.

## 21. ロ2. End points

## Function Details:

This function enables the user to control the low and high travel limits for each servo. For each channel the user can set the low and high limits. This ensures that the channel data for the servo is consistent with structural design and performance requirements to ensure the best results. Adjustments can be made for any channel

The end points function individually adjusts the low and high travel limit of each servo on the 10 channels. Set the end points according to your airplane structure.

To choose the side of one channel end point to set, move the stick to the desired low or high side or just touch the corresponding button. The selected side will be highlighted in yellow. The red needle represents the selected side. Use the wheel to move it and modify the end point value. The position of the corresponding channel is displayed in real time.


Ch2 stick to the far right (Pic 21.2)

### 21.03. Subtrim

## Function Details:

This function enables the user to control the structure and angle difference for each channel on the servo. This allows the user to make adjustments to get the best results for their system

The subtrims function individually adjusts the center position of each servo of the 10 channels. This is particularly useful when the servo mechanics doesn't allow an adjustment fine enough.

Touch the channel which subtrim must be adjusted. Use the wheel to move the red needle and modify the subtrim value of the selected channel. The position of the corresponding channel is displayed in real time

As shown in the picture 21.3, the channel 1 has been selected and the red needle is at the position of $50 \%$

(Pic 21.3)


### 21.04 Trims

## Function Details:

Function description: This function is to amend channels' output and value of channels' output. So far there are a lot of players use it to amend center gravity of model and Revomix caused by aerodynamic, etc. So it makes model more stable in the air. This function is only available for $\mathrm{CH} 1-\mathrm{CH} 4$

The trims function individually adjusts the center position of each servo of the 10 channels. It also can reset and display in real time the conditions of 4 sticks and trim button.

The current condition of the trim will be displayed after touching the Trims icon. Touch the reset button and all the trim value will be back to 0 . The trims condition will be displayed when moving the trim stick in any condition and it will be back to the original interface after 2 seconds.

As shown in the picture 21.4, the throttle is selected and move the trim sticks
 to the position of +20 .

### 21.05. Scaling Exponentials

## Function Details:

This function is a special function which has two sub-functions: one is dual rate setup and the other is exponent setup. Dual rate function is used to set different rate according to different type of aircraft. For example: Aircraft needs larger movement when you choose 3D and it needs smaller movement when choose 3A. In addition, smaller movement is appropriate for beginners and larger movement is appropriate for practiced ones. All above needs to be completed by setting rate. Exponential function is used to get a better effect for professionals. When Exp is positive, the sensitivity of neutral point data's output will be decreased and the sensitivity of two terminal points will be increased It is opposite when Exp is negative

Exponentials function is used to adjust the rate and exponential of the airplane. Once activated, 2 buttons select which parameter value to modify. The function can be set in 5 conditions. (Condition instruction can be acquired on manual from page1 to page 7).

Rate: adjust the slope of the curve. The smaller is the slope, the shorter is the throw of the corresponding servo.

(Pic 21.5)

Exp: adjust the linearity curve of all sticks or knobs (Ail, Ele, Thro, Rud, VrA~VrE). A value of 0 corresponds to a perfectly linear curve. A positive value decreases the sensitivity near the neutral position and increases it on the extreme sides. A negative value increase the sensitivity near the neutral position and decreases it on the extreme sides.

The vertical dotted line displays in real time the position of the corve. The horizontal dotted line displays in real time the corve position after the exponential function.

Select the stick or the Knob which need to set. After that, touch the enable button to enable this function and then select the Rate button or the Exp. button. Use the wheel to modify the corresponding value.

As shown in the picture $21.5, \mathrm{VrA}$ is selected. The exponential function is activated. The selected parameter is rate and is set to its maximum value. The horizontal dotted line shows the VrA 60 on the left side. But the horizontal dotted line indicates that the resulting channel output is at the position between 20 and 40 under the middle position showing the efficiency of the exponential function

21.06. Aileran tarudder

Function Details :
The aileron to rudder automatically creates a coordinated turn for the aircraft with aileron and rudder. It is the pre-programmed mix which controls the rudders with the aileron operation and can modify the master channels rate, which is $10 \%$ by default. If the aircraft does not have the aileron or the rudder, these two function icons will not be displayed. This function can be set in five conditions.

Select the desired low side or high side to set the rate and move the wheel to modify the corresponding values after activating this function. This function can be assigned to a switch (SwA~SwH, LSw).

For this example: The low side rate is set to $20 \%$ and the high side rate to $20 \%$. Move the rudder stick to the far left, and the corresponding channels are displayed as shown in picture 21.6. Move the aileron stick to the far right, and the corresponding channels are displayed as shown in picture 21.7.

### 21.07. Rudder to aileron

## Function Details:

This function can be used to counteract undesirable roll of aircraft with rudders and ailerons. This happens with the rudder input, when it is crabbing .It is the pre-programmed mix which mixes the aileron with the rudder operation. This setup can modify the master channels rate, and the default value is $10 \%$. If the aircraft does not have the aileron or the rudder, these two function icons will not be displayed. This function can be set up in each of five conditions.

Select the desired low side or high side to set the rate and move the wheel to modify the corresponding value after activating this function. This function can be

(Pic 21.8)
Rudder stick to the far left Rudder stick to the far right assigned to a switch (SwA~SwH, LSw).

As shown in pictures21.8 and 21.9: The low side rate is set to $20 \%$ and the high side rate to $20 \%$. Move the rudder stick to the far left, and the corresponding channels are displayed as shown in picture 21.8. Move the rudder stick to the far right, and the corresponding channels are displayed as shown in picture 21.9.

21.08. Throttle Curve

## Function Details:

This function enable the user to adjusts the operation curve of the aircraft throttle and make it coordinate the stick movement and throttle output to compensate the non-linear problems of the throttle.

The 11 points ( $\mathrm{L}, 2 \sim 10, \mathrm{H}$ ) of throttle curve can be adjusted from $0 \%$ to $100 \%$ The horizontal dotted line displays in real time the throttle stick position. The vertical dotted line displays in real time the position of the throttle output after the throttle curve function has been applied. If the airplane and helicopter does not have an engine, this icon will not be displayed. This function can be set in five conditions.

Select the desired point to set and move the wheel to modify the corresponding value after activating this function.

(Pic 21.10)

For this example 21.10: The throttle curve function is activated. Point 2 is set $20 \%$, point $330 \%$, point $440 \%$ and point $550 \%$,point 674.1 ,point $780 \%$,point $885.5 \%$, point $990.0 \%$ and point $1095.0 \%$. In this situation, when the position of the throttle below the neutral, that is $(L, 2 \sim 5)$, the acceleration of the throttle needle outputis faster than its position above the neutral ( that is $6-10, \mathrm{H}$ point).
21.09. Throttle Delay

Function Details :
Throttle delay is used to reduce the response speed of throttle output and imitate turbine engine in airbrake, which can be set from 0s to 10s. If the airplane does not have an engine, such as a glider,this icon will not be displayed.

Move the wheel to set the throttle delay time. The red bar represents throttle stick position and the green bar represents channel position.

As shown in the picture21.11: The delay time is 5 seconds. There will be 5 seconds delay when moving throttle stick from bottom side to top side. Due to 5 seconds delay, the throttle is in the position when it is one second and it displays 20\%


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### 21.10. Throttle Down

## Function Details:

Function Details: This function contains two options: option one is idle setup and option two is throttle hold Two options would be set when you adjust models. The idle is useful for the models with engines and make models keep low rpm without shutting down. And the throttle hold is to completely lock model's throttle without shutting down.

Throttle down function is to enable idle down rate adjustment and throttle cut function turned on or off. Modify the rate from $0 \%$ to $50 \%$ after idle function is applied. This function can be set in five conditions.

Idle down: the throttle output minus the rate set in advance after this function is applied.
Throttle cut: the throttle output will be in its lowest point after this function is applied.


Throttle cut function is prior to idle down function. There is no output while moving throttle stick if throttle cut function is applied. Idle down function and throttle cut function are turned off by default. The default value of idle down is $10 \%$.

These two functions can be assigned to 2 switches (SwA~SwH, LSw). If the airplane does not have an engine, this icon will not be displayed.

Select two switches to enable or disable idle down and throttle cut function and move the wheel to modify the corresponding value after activating this function

As shown in the picture21.12: The idle down function and throttle cut are applied, and adjust the idle down to $20 \%$. There is no output of throttle channel.
21.11. Auxiliary Channels

Function Details :
The model function allows users to set additional auxilary channels if the model has more than the default 4 channels Some aircraft have more than four auxilary channels, so these additional channels can be modified using this function.

Assign the auxiliary channel a switch, a knob, a logic switch or a stick after finishing the airplane structure setting. The default structure is 4 -channel fix wing, so auxiliary channels are from Ch5 to Ch10.

Touch the auxiliary channel needed and select a switch, a knob, a logic switch or a stick to control this function.

| Hey sky 01 tx[aras |  |
| :---: | :---: |
| Auxillary channels | Display servos |
| CH5 Aux1 : SwD up | Cond t Normal |
| CH6 Aux2 : None | Chamel 2 (clevaten) |
| CH7 Aux 3 : None | Chamnel 3 (inrotte) |
| CH8 Aux4 : None | Chamels (avx. |
| CH9 Aux5 : None |  |
|  | Channel E (aux. 4) |
| CH10 Aux6 : None | Chamen P (aux. 5) |
|  | Chamel til (aux, 6 ) |
|  | 3. |
| (Pic 21.13) | Push swd downward <br> (Pic 21.14) |

For this example: Select CH 5 as auxiliary channel and push SwD upward to enable this function. At this time, the channel in Servo display is displayed as shown in picture 21.14

21.12. Channels offset

Funtion Details :
This function is to revise model when there are some deviations in structures.

Set channel offset rate from -50\% to 50\% based on the channel neutral position. The default is $0 \%$. This function can be set in five conditions

Select the desired point to set and move the wheel to modify the corresponding value after activating this function. The position of the corresponding channel is displayed in real time.

The offset value of CH 2 is adjusted to $10 \%$, Move the stick to the far left, and the channel is displayed as shown in picture 21.15, Move the stick to the far right and the channel is displayed as shown in picture 21.16.
21.13. Function Delay

Function Details:
This function is used to imitate some movements of real aircraft, like flap movement and some other special movements. For example, when the user is flying 3D, he could do some smoothing to change from NOR to 3D

Functions delay is used to slow down the response speed of basic function (basic function can be acquired in the manual from page 31 ). It can be adjusted from 0 seconds to 10 seconds and the default is 0 seconds.

Select the desired basic channel and move the wheel to modify the delay time. The position of the corresponding basic channel is displayed in real time. The red bar represents stick position and the green bar represents channel position after setting.

As shown in picture 21.18: The delay time is set to 5 seconds. At this time, there will be a 5 s delay when moving aileron stick from bottom side to top side.


Ch2 stick to the far left Ch2 stick to the far right (Pic 21.16)
21.14. Channels delay

(Pic 21.17)

(Pic 21.18)

## Function Details:

This function is to imitate some movements of real aircraft like the flap

Channels delay is used to slow down the response speed of channel output. It can be adjusted from 0 seconds to 10 seconds and the default is 0 seconds.

Select desired basic channel and move the wheel to modify the delay time. The position of the corresponding channel output is displayed in realtime. The red bar represents the stick position and the green bar represents channel output position.

As shown in picture 21.20: The delay time of $\mathbf{C H} 2$ is set to 5 seconds. At this time, there will be a 5 s delay when moving the rudder stick from bottom side to top side.

|  |  |
| :---: | :---: |
| Channels delay | CH2 Ele delay |
| CH1 All : 0.0s | Value 5.0 s |
| CH2 Ele : 0.0s |  |
| CH3 Thr : 0.0s |  |
| CH4 Rud : 0.0s |  |
| CH5 Aux1 : 0.0s |  |
| CH6 Aux2 : 0.0s |  |
| CH7 Aux 3 : 0.0 s | $\square$ |
| $0$ | $6$ |
| (Pic 21.19) | (Pic 21.20) |

Function Details:
This function could be helpful when you are flying some special movements and need mix control function

Linear Mixes can set 4 groups of mix controls among any two sticks, basic functions and output channels. This function can be set in five conditions.

The slave channel will be affected by corresponding rate of master channel, which will be changed in a linear fashion after linear mix function is applied. Master channel contains stick/knob option and basic function option or output channel option. Slave channel contains basic function option or output channel option. But when output channel option is selected in master channel function, there is only one output channel option in slave channel options. Otherwise, no matter what option you select in the master channel function, any option channel could be selected in the slave channel. The master channel and the slave channel can be assigned to sticks or knobs, basic channels or output channels. The 4 mix functions can be assigned to a switch.

Stick/knob: stick and knob from VrA to VrE.
Basic function: It is the basic function for the aircraft movement.
For example: aileron function, rudder function, throttles function, and rudder function and the throttle needle function for the aircraft structure with the throttle needle, etc.
Output channel: $\mathrm{CH} 1 \sim \mathrm{Ch} 10$;
Low side: Set how much the channel is affected by low side of master channel. High side: set how much the channel is affected by high side of master channel. Offset: set the deviation rate of the channel, based on the channel neutral position. The position of the corresponding channel output is displayed in real time while adjusting the low end mix, high end mix or offset.

As shown in picture 21.22: The first set of mix is activated, and the master channel is aileron function and the slave channel is elevator CH 2 , The low side mix is set to $+50 \%$ and the high side mix is set to $+100 \%$. Move the stick to the far left, the channel position is displayed

tifly sky or Tx[DRXGI
Mix 1 high side
Cond t Normal
Value +100\%
Channel 1 (Aileron)

(Pic 21.22)
21.16. Curve Mixes

## Function Details:

This function can be helpful when you fly with some special movements and need some mix control function

The curve mixes like linear mixes can be set to 4 set of mixes. This function can be set in 5 conditions.

The slave channel will be affected by master channel after linear mixes are applied, which will be presented with curve distribution. Set 11 points (L,2~10,H) from -100\% to 100\% to adjust the curve. The horizontal dotted line displays in real time the stick position and the vertical dotted line displays in real time the position of slave channel output after this function. The master channel and channel can be from stick or knob, basic and output channel. These 4 sets of mixes can be assigned to a switch(SwA~SwH, LSw) respectively.

The position of the corresponding channel output is displayed in real

(Pic 21.23)

(Pic 21.24) time while adjusting the curve.

As shown in picture 21.24 The first mix is activated. The master channel is aileron function and the slave channel is $\mathbf{C H} 2$ Ele. Adjust the value of point L to $-90 \%$, and point H to 90 . Do not adjust other points. At this time, the output will be shown as curve in picture

21.17. Conditions

Function Details:
This function enables the user to select five different conditions for the model.

This function can set the flight condition and there are 5 conditions at most. The default name is Normal, Take off, High speed, 3D fight, Landing, which can be amended. C2-C5 can be assigned to one switch to be turned on or off and can be copied (excluding the switches you set). After setting parameter of one condition, you can copy it to create a new one and then sub trim it, which can help you save setting time. No assigned switches are set by default. So C1 is the default and C2-C5 is off.

When any other conditions are assigned to a switch, it will be Normal Down condition after turning off this switch.

The high level condition is available if assigning two or more conditions at the same time. C5 is the highest level and C1 is the lowest level.

Select one condition, and you can amend the condition name, copy the condition and assign it to a switch.
As shown in picture 21.25: C2: Take off is selected. Push the SwA downward to enable this function

### 21.18. Logic switches

## Function Details:

The logic switch is a virtual switch which consists of two switches plus a mathematical logicl relationship. The logic switch is used to control turning on or turning off of some functions

The logic switch is a virtual switch which consists of two switches plus a mathematical logicl relationship. The logic switch is used to control turning on or turning off of some functions two switches control one function. There are 3 sets of logic switches (Lsw1,Lsw2, Lsw3). Select switches from SwA to SwH to combine the logic switch. The logic relationship includes And, Or and Xor. The combination is as follows

| switch |  | Iogic relationship |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Swith1 | Swith2 | And | Or | Xor |
| off | off | off | off | off |
| off | off | off | on | on |
| on | on | off | on | on |
| on | on | on | on | off |


(Pic 21.27)

(Pic 21.28)

As shown in the picture 21.27: Select SwA up and SwB up and the logic relationship is set to or. Sw1, Sw2 and logic switch are displayed in real time. SwA is used to lower the wheels and logic Sw1 is to cut the engine. To accomplish this you need to access the auxilary channels screen. So, if SwA and SwB pushed down at the same time, the engines will be cut

## 

### 21.19. Timers

Function Details:
This function is used to control time and reduce the risk of aircraft crashing

There are three choices for timing. Select Timers to set the timers function. Model/Engine: Model timer is the total time of turning on the model. Engine timer counts the time when throttle value exceeds the set value. Both timers can be reset by touching 'Reset' button, and engine timer can modify throttle value by moving wheel on the screen.

As shown in pictures 21.29 and 21.30: When throttle exceeds $-80 \%$, the engine timer starts to time.

(Pic 21.29)

(Pic 21.30)

Multi-purpose timer 1 and 2: Multi-purpose timer 1 and 2 can select Up timer, Down timer, and Down then up for timing. It can individually start, stop, and reset and you can also set a switch or logic switch to start or stop it.
Up timer: Timing starts from Os. It can be started, stopped and reset.
Down timer: Default count down from 1 minute, it can be modified by moving wheel.
Down then up: Default count down from 1 minute, and it start to up timing after 1 minute. It can be modified by moving wheel.

As shown in picture 21.29: Make countdown time back to beginning time you set.
As shown in picture 21.30: Down timer set to 5 minutes and it stops now. The race timer start, stop function can be assigned to a push button
21.2ロ Trainer Mode

## Function Details:

This function allows you to connect 2 transmitters together using a dedicated cable (see page 53, No. 14 optional) connected to the back interface. Once enabled, switching on the selected trainer switch will set up the remote as the instructor and use the trainer transmitter to control the model.

Use dedicated cable to connect two transmitters and touching trainer mode to activate function. The trainer transmitter can control 8 channels of learner model, and you can select stick or knob, basic function, output channel or none. Select display servos function, push down SwE and hold it, learner model's channels will display in real time.

Activated trainer mode function, setting Channel 1 to aileron function, channel $5-8$ is None. Learner model's channels will display. As shown in picture 21.32.

### 21.21. Display servos

## Function Details:

This function is to display model channel output and automatically test all output channels.

This function displays in real time the position of the 10 servos.
The test button lets the 4 servos move slowly between their respective end points.

This allows testing of the consistency of the mechanics of the model.

21.2R. Madels
$\because$
Function Details:
This function is used to set the model type, airplane/glider/helicopter. It an save twenty different model type parameters. It is changeable, copiable and renameable. You can move model parameters so a SD card and delete them from the SD card.



## Digitial fropotional latio conotiol sysitem FS-IIO

| Copy model: <br> Copies a model configuration to another. The target configuration is lost and replaced by the source configuration. | t:ly sky or txarax |
| :---: | :---: |
|  | Select copy source |
|  | 1: Fly Sky 01 |
|  | 2: Fly Sky 02 |
| The first menu selects the source model configuration to copy from. | 3: Fly Sky 03 |
|  | 4: Fly Sky 04 |
|  | 5: Fly Sky 05 |
| How to operate: <br> 1. Enter model function and press copy model to select which one you need to copy <br> 2. The screen will change to the model you copied. | 6: Fly Sky 06 |
|  | 7: Fly Sky 07 |
|  | (Pic 21.37) |

3. After selecting one copied model, the window will automatically open with a message asking if you are sure to copy, YES or NO.

Shown in picture 21.39
The second menu selects the target model configuration to copy

|  |  |
| :---: | :---: |
| Salect target | (2) |
| t Fly Sky 01 |  |
| 2. Fly sky 02 |  |
| 3 Fly Sky 03 |  |
| 4: Ply Sty 04 |  |
| 5. Fly Sky 05 |  |
| 6. Fly Sky 06 |  |
| T: Fly Sky 07 |  |

(Pic 21.38)
Since the target model configuration is overwritten by the source model configuration, a confirmation is equested.
As shown in the picture 21.39: After touching the "Yes" button, the model configuration 4 will be lost and replaced by the model configuration 2.


## Export models:

Export the current model parameters and save them in the SD card. The default file name which can be modified is model name.

## How to operate

1. Enter model function and press export model
2. Select one replacement
3. Press OK to complete replacing and save the new one
4. If you want to create a new file, jut press Create a new file and save it.

(Pic 21.40)

(Pic 21.41)

(Pic 21.42)

Delete files:
Delete the model file in the SD card.

## How to operate:

1. Enter model function and press file deleted
2. Select one file you need to delete
3. Press OK to complete deleting

(Pic 21.43)


Setting model type:
All the model settings must be reset to default state of airplane or glider, then enter 'structure setting'. The default structure of airplane or glider is 4 channels (throttle, aileron, elevator and rudder), the structure can be changed by touching the check box. The default structure of helicopter is fixed pitch; it can be changed to variable pitch by touching check box. At the same time, the swash plate type can be set

As shown in picture 21.44, modifies the structure of Flysky01, touch setting model type, after selecting the airplane or glider type, the Flysky01 will reset to default state. Select throttle needle, two ailerons, two flaps, and then touch back key. The modified structure will be as shown in picture 21.45


### 21.23 RX setup

## Function Details:

Set up the receiver. This function is used to set the corresponding parameter of the receiver and the sensors connected. RX setup menu. (As shown in picture 21.46)

Bind with a receiver: The transmitter enters in bind mode. Once the receiver is correctly bound, press the back button to return to normal operation. (As shown in picture 21.48)

AFHDS2: the default is a two-way communication system. Touch the check box to toggle the two-way communication telemetry

RX battery monitor: Monitors the receiver battery voltage.

External sensor: Do not monitor the receiver power supply voltage but use an external sensor instead. This is useful when the receiver is powered by an ESC. Connect the external sensor directly to the main battery. (As shown in the picture 21.47)

Low voltage: set the minimum voltage when the battery is almost empty. default low voltage value is 4.00 V .


Alarm voltage: set the voltage under which an audible alarm rings and the receiver battery icon in the top tray blinks. (As shown in the picture 21.49)

High voltage: set the maximum voltage when the battery is full. default high voltage value is 5.00 V .

## 

## Failsafe function:

## Function Details:

This function is used to protect aircraft with parameters set in advance when the receivers don $t$ receive the signals.

Press failsafe function and it will display the current setting of 10 channels. Off means that in case of a loss of signal, the corresponding servo will keep its last received position.. The servo will move the position you preset. All the channel is able to be set failsafe.

As shown in picture 21.50: Only CH2 Ele is set to -50\% in case of a loss of signal. The others will keep their previous position.


## Setup:

Touch a channel to set its failsafe behavior. If activated, set the channel to the desired position using the corresponding channel switch, knob, logic switch or stick then while maintaining that position, touch the back button. The position of the servo is then memorized.

If multiple channel failsafe are activated, set the channels to the desired position using the corresponding channel switch, knob, logic switch or stick then while maintaining that position, touch the back button. The position of the servo is then memorized.

The failsafe on the channel 2 (elevator) and channel 4(rudder) are activated and set to $-100 \%$.

(Pic 21.52)

(Pic 21.53)

(Pic 21.54)

## . For your safety, please use this function

Display sensors:
Display the type, ID and value of all connected sensors. Receiver can connect 15 sensors at most.

(Pic 21.55)

Choose sensors:
The main screen can display the value of up to 4 sensors. This function selects which sensors to display. Select the main screen slot to attribute (1 to 4). The currently attributed sensor is displayed. This function enable users to select sensors they want to display.

| tifly Sky 01 | TM(6)RXES |
| :---: | :---: |
| Choose sensors | (3) |
| 1: None |  |
| 2: None |  |
| 3: None |  |
| 4: None |  |
|  |  |
|  |  |
|  |  |

(Pic 21.56)

(Pic 21.57)

## Speed and distance:

As shown in picture 21.58, if a rotation speed sensor is connected to the receiver, this function set up the virtual speed and odometers sensors.

Parameter Details:
Speed sensor : Number shows over
one mean that there are sensors connecting
Set rotation length means length of each rotation Reset odometer 1 means odometer when single use
Reset odometer 2 means the odometer of total use

(Pic 21.58)

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Speed sensor:
Select the rotation speed sensor to use. If none is selected, this function is disabled.

(Pic 21.59)

Set rotation length:
Set the model travel distance corresponding to one rotation speed sensor. This distance is used to control the virtual speed and odometers sensors.

Touch "Set rotation length" to set distance traveled by the model in one revolution of wheel (Unit: mm), As shown in Picture 21.60, touch back button to return.

(Pic 21.60)

## Reset odometer:

Touch "Reset odometer 1" or "Reset odometer 2" to reset the corresponding odometer.


(Pic 21.61)

21.24. 5ystem

This function is used to set some parameters of the system

| t:Aly Sky 01 TX[\%)RX[E] |
| :---: |
| System (3) |
| Backlight timeout 30s |
| Backlight: 50\% |
| Sound $\square$ |
| Auto power off $\square$ |
| Screen callbration |
| Units |
| USB function |

(Pic 21.64)

(Pic 21.66)


Sound:
Turn on or turn off the sound. It defaults turn on the sound.

Auto power off:
After five minutes of no operation, the transmitter will sound an alarm and flash its LED. After five more minutes of no operation, the transmitter with automatically shut down. Touch "Auto power off" to cancel automatic power off function.

## Backiight timeout:

 30s is the default time of backlight timeout when there is no operation.$\triangle$ The longer the LCD backlight stays on, the shorter the battery of the transmitter lasts.

| Backlight timeout | 3) |
| :---: | :---: |
| 5 seconds | (-) |
| 10 seconds | (0) |
| 30 seconds | (O) |
| 1 minute | (0) |
| 2 minutes | (0) |
| 5 minutes | (0) |
| 10 minutes | (O) |

(Pic 21.65)

(Pic 21.67)

## Digital |ropotional adalio conctiol sysitem FS-IID

| Screen Calibration: <br> You can use a pen to touch the cross center point to calibrate. After calibrating, it will exit or press return button to exit. | E:Hy sky 01 <br> -1 | Units: <br> Select length and the temperature unit. <br> Length: <br> Metric uses millimeter, kilometer and kilometer per hour. Imperial uses inch, mile and mile per hour. <br> Temperature: Celsius and Fahrenheit degree for your option. |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Units | (3) |
|  |  |  | Length |  |
|  |  |  | Metric | Imperial |
|  |  |  | Temperature |  |
|  |  |  | Celsius | Fahrenheit |
|  |  |  |  | $1.69)$ |


(Pic 21.70)

## USB Function Details:

None: the USB interface can be used only to charge the battery of the transmitter.
FS-i10: when connected to a computer, the transmitter acts as a standard HID with 4 axes (one for each channel) and 10 buttons (1-10) and can be used as the main controller in any compatible simulation software.

1. Connect the transmitter to the computer by the Micro USB cable.
2. Switch on the transmitter, then touch system-----USB function-----FS-I10 simulator. After that, the computer will automatic identify the HID.
3. In the computer control panel, double click Game controller-----FS-I10 emulator to test whether the simulating function is ok.

Sticks mode


This function is used to switch the Mode 1,Mode 2, Mode 3 , and Mode 4. After mode switching, the relevant stick will switch automatically. Press reset button to Mode 2 by the default.



(Pic 21.75)

Firmware update:
The internal software of the transmitter can be updated using the USB interface connected to a PC computer. Once this function is activated, all functions of the transmitter stop. To avoid any loss of control of the vehicle, turn its receiver off before entering this mode. A confirmation is requested.

When the firmware is updating, never disconnect the USB cable or remove the battery or the transmitter will become unusable.

This function can be helpful only when connected with computer. Follow the steps as shown below:

1. Download the newest official software
2. Connect a transmitter with a computer by USB cable
3. Enter transmitter firmware upgrade menu and press OK to complete

(Pic 21.76)

## About FS-i10

Touch 'About FS-i10', and the version of the current firmware is as shown on the left . Touch the "OK" button to go back.

## Digital |ropational adalia canctiol sysitem FS-IID

22. Airplane/glider exclusive function menu
23. 01 Aileron function

Function Details :
This function is used to adjust aileron function of models and give it best control.
Aileron function can be used to adjust the proportion of the 2 ailerons end points. If the structure does not have the aileron, 2 aileron linkage, flap or elevator, then there is no this function, and no icon will be displayed. It also can be used as aileron function if the airplane structure has 2 flaps or elevators, meanwhile the corresponding value be adjusted exceed $0 \%$. This function can be set in 5 conditions respectively.

Select desired upside or downside and move the wheel to modify the corresponding value.

For this example: The airplane structure has 2 ailerons, 2 flap and 2 elevator. Setting the value as the picture 22.1, in this situation, the end points of the two ailerons are $80 \%$, and the 2 flaps and 2 elevators are regarded as aileron function, which the end points both are $10 \%$.

## 己己. $\square$ ㄹ. Flap function

## Function Details :

This function is not available when aircraft structure has aileron, flap or only one elevator or less than one elevator, so there is no icon in the main menu. If aircraft has more than 2 ailerons, flaps and elevators, this function exist

The up/down travel of each flap can be adjusted independently at each servo according to the wing type. If the structure does not have an aileron, 2 ailerons linkage, flap or elevator, then this function is not available, and no icon will be displayed. It can be used as flap function. if the airplane structure has 2 ailerons, the corresponding value must be adjusted to more than $0 \%$, The flap function can be assigned to a switch (SwA-SwH) to enable and disable it; it also can be assigned to a stick or a knob (Ail, Ele, Thro, Rud, VRA-VRE) to adjust the value. This function can be set in 5 conditions respectively.

Select desired upside or downside and move the wheel to modify the corresponding value.

For this example: The airplane structure has 2 flaps and 2 ailerons. Setting the value as the picture, in this situation 22.2, the end points of the two flaps are $80 \%$ and the 2 ailerons are regarded as flap function, which the end points are all $10 \%$.

### 22.03 Spoiler function

## Function Details:

Spoiler will be used when aircraft is landing. It is used to increase pressure between aircraft and land so as to brake quickly

Spoiler function can be used to adjust the proportion of the 2 spoilers' end points. If the structure does not have spoiler or 2 spoiler linkage, then there is no this function, and no icon will be displayed. The spoiler function can be assigned to a switch (SwA-SwH) to enable and disable it, or be assigned to a stick or a knob ( Ail, Ele, Thro, Rud, VRA-VRE) to adjust the value. This function can be set in 5 conditions respectively.

Select desired upside or downside and move the wheel to modify the corresponding value.

For this example: The airplane structure has 2 spoilers. Setting the value as the picture 22.3 , in this situation, the end points of the 2 spoilers are $80 \%$ and $75 \%$.


### 22.04 Elevator to flap

Function Details:
When aircraft has elevator and flap ,elevator to flap function is used to adjust the proportion of the corresponding mix end point, which default value is $10 \%$. The airplane can fly up or down, which makes the flap move up or down accordingly. It is commonly used for turning somersaults during the flight. In most circumstances, the flap goes down when the elevator goes up. It is the pre-programmed mix of elevator and flap. The position of the corresponding channel is displayed in real time. If the structure does not have Elevator or flap, then this function is not available, and no icon will be displayed. This function can be set in 5 conditions respectively.

Touch the open button in the lower-left corner to activate the elevator to flap function, Select desired upside or downside and move the wheel to modify the corresponding value. The function can be assigned to a switch(SwA-SwH, LSw) to enable and disable it. Touch the open button in the lower-left corner to activate the elevator to flap function. Touch the low side rate or high side rate to set. Adjust the corresponding value by moving the wheel. The function can be assigned to a switch (SwA-SwH, Lsw).

For this example: Activate the elevator function and the flap by touching the open button and set the value as shown in pictures 22.4 and 22.5. Push the elevator to the topside, the elevator and the flap function are displayed as shown in picture 22.4. Push the elevator to the bottom, the elevator and the flap function are displayed as shown in picture 22.5.

### 22.05 Throttle needle

## Function Details:

If the airplane structure has both an engine and a needle, set the throttle needle according to the features of engine power output. After that, the needle position effected by throttle stick will be presented with curve distribution, which can achieve a best flight effect. The 11 points (L, 2~10, H) of throttle curve can be adjusted from $0 \%$ to $100 \%$. The horizontal dotted line displays in real time the throttle stick position, and the vertical dotted line displays in real time the position. If the structure does not have an engine or engine does not have a needle, then this function is not available, and no icon will be displayed. This function can be set in 5 conditions respectively.

Select the desired point and move the wheel to modify the corresponding value.
As shown in picture 22.6: Activate the throttle needle function by touching the open button. Setting the value as shown in picture 22.6. Point 2 is set to $20.0 \%$, point 3 to $36.5 \%$, point 4 to $51.5 \%$, point 5 to $64.0 \%$, point 6 to $74.1 \%$, point 7 to $80.0 \%$, point 8 to $85.5 \%$, point 9 to $90.0 \%$ and point 10 to $95.0 \%$. In this situation, when the position of the throttle is below the neutral, that is $(L, 2 \sim 5)$, the acceleration of the throttle needle output is faster than its position above the

(Pic 22.6)

(Pic 22.7) neutral (that is $6-10, \mathrm{H}$ point).

### 22.06 Butterfly

## Function Details:

If the airplane structure has 1 aileron, 1 flap, 1 spoiler and 1 elevator, it can be used to adjust the rate of the corresponding motion (the default rate is $+30 \%$ ). This function allows powerful brake operation by simultaneously raising the left and right ailerons and lowering the flaps (camber flap, brake flap). It can be controlled by a switch or stick to achieve the best flight effect. If the airplane structure does not have any one of the aileron, flap, spoiler or elevator, then there is no this function, and no icon will be displayed. This function can be set in 5 conditions respectively.


Select the function and then adjust the relative parameter
by touching the corresponding icon. Adjust the corresponding value by moving the wheel. Select a switch (SWA~SWH, LSW) by touching it to enable or disable this function or select a stick or knob (Ail, Ele , Thro, Rud, VRA~VRE) to control the value.

For this example, adjust the aileron, aileron2, flap, spoiler and elevator to $20 \%$ and select the knob to control the value. To the servo display function and then CH 1 (aileron) and CH 6 (aileron2) are displayed as picture 22.8 to limit the speed.

## 22. 07 Elevator function

## Function Details:

Elevator function can adjust the proportion of the 2 elevators end points and the default is $100 \%$. There is no this functions if the airplane doses not have the elevator or 2 elevator linkage. The function icon will not be shown on the screen. This function can be set in 5 conditions respectively.

Select the desired "Down" or "Up" and move the wheel to adjust the corresponding value.

For this example: The airplane has 2 elevators. Adjust the Down and Up value to $75 \%$. In this situation, the elevators end points as shown in picture 22.10.

(Pic 22.10)

22. 08 Rudder function

## Function Details:

Rudder function is used to adjust the proportion of the 2 rudders end points and the defaults are $100 \%$. There is no function if the airplane does not have the rudder or 2 rudder linkage. The function icon will not be shown on the screen. This function can be set in 5 conditions respectively.

Select the desired "Down" or "Up" and move the wheel to adjust the corresponding value.

For this example: The airplane has 2 rudders. Adjust two rudders' value as picture 22.11. In this situation, the rudder end points will be $80 \%$ and $75 \%$.

(Pic 22.11)
2R.09 V-tail

## Function Details:

This function is used to control elevator and rudder of models with V-tails. CH 2 is a left V-tail by default and CH 4 is right V-tail When both V-tails move in the same direction ,they act as elevators and when both V-tails move in the opposite direction. This function lets users adjust for left and right rudder angle changes at elevator and rudder operation of a V-tail airplane. V-tail is when 2 servos are used together to control rudder movement as Elevators. In addition to each rudder side moving up and down together, each side moves in opposite directions when moving as Elevators. It is better that the sum of the rudder proportion and elevator proportion is no more than $100 \%$. The defaults are $50 \%$. The position of the corresponding channel displays in real time while moving the stick.

Select the elevator rate or rudder rate to set and move the wheel toadjust the corresponding value.


For this example: The airplane structure with the V-tail, will adjust
the value as shown in pictures 22.12 and 22.13. Move the rudder stick to the far left, then CH 2 channel displays at the position of 40 on the right. On the contrary, move the rudder stick to the far right, then CH 4 displays at the position of 40 on the left. Moving the elevator stick to the topside or the bottom, both of the Ch2 and CH 4 display at the position of 60 on the right or on the left at the same time, then the elevator function.

### 22.10. Airplane structure

## Function Details:

This function can be set according to the airplane structure.
There are engine, throttle needle, aileron, two aileron, flap, two flap, sopliler, two spoliler, rudder, two rudder, $\mathbf{V}$ tail to choose if the mode type is fix wing or glider. There will be a reminder Maximum number of channels reached. if the airplane parts selected is more than 10. Because the two rudders and V-tail can not exist at the same time, the V-tail will be hidden automatically when two rudders is selected. The default type is Fix wing/glider with engine, aileron, elevator and rudder.

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(Pic 22.14)

(Pic 22.15)

A:Aly sky 01 TxDPRME Airplane structure


Default airplane/glider type (Pic 22.16)

## 23. Helicopter exclusive function menu <br> 23.01. Throttle hold <br> Function Details : <br> Throttle hold is used to maintain the throttle channel position as preset position. The default rate is $10.0 \%$. Throttle will be in preset position after this function is applied. It is commonly used to practice auto-rotation landing. <br> Touch the throttle hold and move the wheel to modify the corresponding value. This function can be assigned to a switch (from SwA to SwH, Lsw). <br> For this example: Throttle hold value is set to $30 \%$ and push the SwA upward to enable this function. The channel position is displayed at 30 in real time. Throttle value will not be changed while moving the throttle stick. <br> Throttle stick to any position (Pic 23.1) <br> 

23.ロ2. Throttle mix

## Function Details :

Throttle mix is the pre-programmed mix for some special functions and it can mix aileron channel, elevator channel and rudder channel. The default is as shown in picture 23.2. This function can be set up in 5 conditions. For example, in order to not reduce the height and maintain speed, control the elevator and increase the throttle output automatically.

Select the desired Down or Up and move the wheel to modify the corresponding value.

As shown in the picture23.2: The value of the aileron downside is set as -15\% and the valueof the upside is $15 \%$.

### 23.03. Pitch curve

## Function Details:

Pitch curve is used to adjust the pitch of the helicopter with the variable pitch to achieve the best flight effect. It will be presented with curve distribution. This function can be set up in 5 conditions respectively, and the 11 points (L, 2~10, H) of throttle curve can be adjusted from $0 \%$ to $100 \%$. The horizontal dotted line displays in real time the throttle stick position and the vertical dotted line displays in real time the position of pitch curve output after this function. This function icon will not be shown if the structure is fix pitch.

Select the desired point and move the wheel to modify the corresponding value.
For this example: The pitch curve function is activated. Point 2 is set to $-72 \%$, point 3 to $-43 \%$,point 4 to $-15 \%$ and point 5 to $10 \%$,point 6 to $38 \%$,point 7 to $63 \%$, point 8 to $85 \%$,and point 9 to $97 \%$. Other points are not adjusted. In this situation, when the position of the throttle is below the neutral, that is (L, 2~5),

(Pic 23.2) the acceleration of the pitch curve output is faster than its position above the neutral ( that is $6-10, \mathrm{H}$ point).
23.04. Swashplate mix

Function Details:
This function is the pre-programmed mix control of the helicopter aileron, elevator and pitch. Adjust the motion range of these three functions to achieve the best flight effect. This function can be set in 5 conditions respectively.

23.05. structure -

## Function Details:

There are fixed pitch, variable pitch, throttle needle, gyros copeand governor for your option if the airplane structure is set as helicopter. The variable pitch has 6 swash plate types. The default type is the 4 -channel fixed pitch helicopter

23.06. Swashplate type

Function Details:
This function is used to set your model structure And it offers 7 types of swash plate structure Touch the Swash plate type to select desired type. It defaults to fixed pitch.

(Pic 23.6)
23.07. Swashplate ring

This function is to set limitation for the swash plate travel to achieve the best flight effect. Move the wheel to modify the corresponding value.

(Pic 23.7)
23. 88. Gavernor

This new function is mainly used for maintaining the propeller speed. The default channel is CH 7 . It can be set in 5 conditions respectively

Move the wheel to modify the corresponding value.

(Pic 23.8)
23.09. Gyroscope

This function is used for adjusting the gyro sensitivity in current conditions. The higher the sensitivity is, the more correction the gyro provides and the "softer" or less responsive the helicopter feels. The default channel is CH5 and this function can be set in 5 conditions respectively.

Move the wheel to modify the corresponding value.

24. Warning function introduction

## Audible alarm

1. When the transmitter battery is low and the voltage is lower than 3.75 V , the system will make alarm which sounds slowly.
2. If the voltage is lower than setting data due to low battery of receiver, the system will make a sound " $\mathrm{Ba}, \mathrm{Ba}$ ".
3. When the error rate is more than $60 \%$, the system will make a sound "Du,Du".
4. When the timer goes off, the system will make a sound "Bi, Bi, Bi, Bi"' three times.
5. Before the transmitter is turned off automatically, the system will make a sound "Du Du Du".
6. When the transmitter's battery voltage is lower than 3.7 V , the system will make alarm which sounds quickly.
When the voltage is lower than 3.65 V , the transmitter will be turned off automatically.

## LED indicator alarm:

LED indicator alarm function synchronizes with audible alarm function. It has no effect on LED indicator after turning off the audible alarm. Please check as follows:
1.The LED remains on: all functions are normal.
2.The LED flashes slowly: the transmitter battery is low.
3.The LED flashes quickly:

The battery of the transmitter is very low,
Error rate is more than 60\%,
The battery of receive is low,
The transmitter will turn itself off soon.
4.LED indicator is off: power off.

## Digitial pronotional atailic canctiol sysiem FS-IID

## 25. Troubleshooting guide

## Problem solving

1.The transmitter can not be turned on

The battery is not properly installed,
Battery is empty,
The screen flashes when the transmitter is powered on, and then the transmitter turn itself off immediately, It indicates the
electric quantity can't support system for a long time and the transmitter will be turned off once it is powered on,
The battery shrapnel is oxidized and loose contact.
2.Remote control distance is not enough

The wrong position of transmitter antenna or receive antenna,
Nearby radio interference,
Battery is empty,
Obstacle blocks off part of the signal.
3.The transmitter can't control the receiver

The transmitter or receiver enters into the bound status by accident. The problem can be solved by powering on again or binding again if necessary
4.The transmitter may not accept the data sent by the receiver sometimes when many people race at the same time
The distance between two transmitters is too close, Please keep more than 5 meters as far as possible.
5. The item number of acquisition module does not appear in the transmitter screen

The data cable of acquisition module is connected to the wrong place,
The plug of data cable is damaged.
6.Unstable data speed acquisition

The position of speed sensor is not proper, which drifts too far.
7.The simulator can not be checked on the computer

The USB simulator function of transmitter is not activated.

26. Function tree

Input processing


Airplane processing

http://www.flysky-cn.com

## Digitial propotional atailic control sysiem FS-IID



27. Packaging content

http://www.flysky-cn.com

## 

## 28. 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 televison 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 $p$ arty 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.

## 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.


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