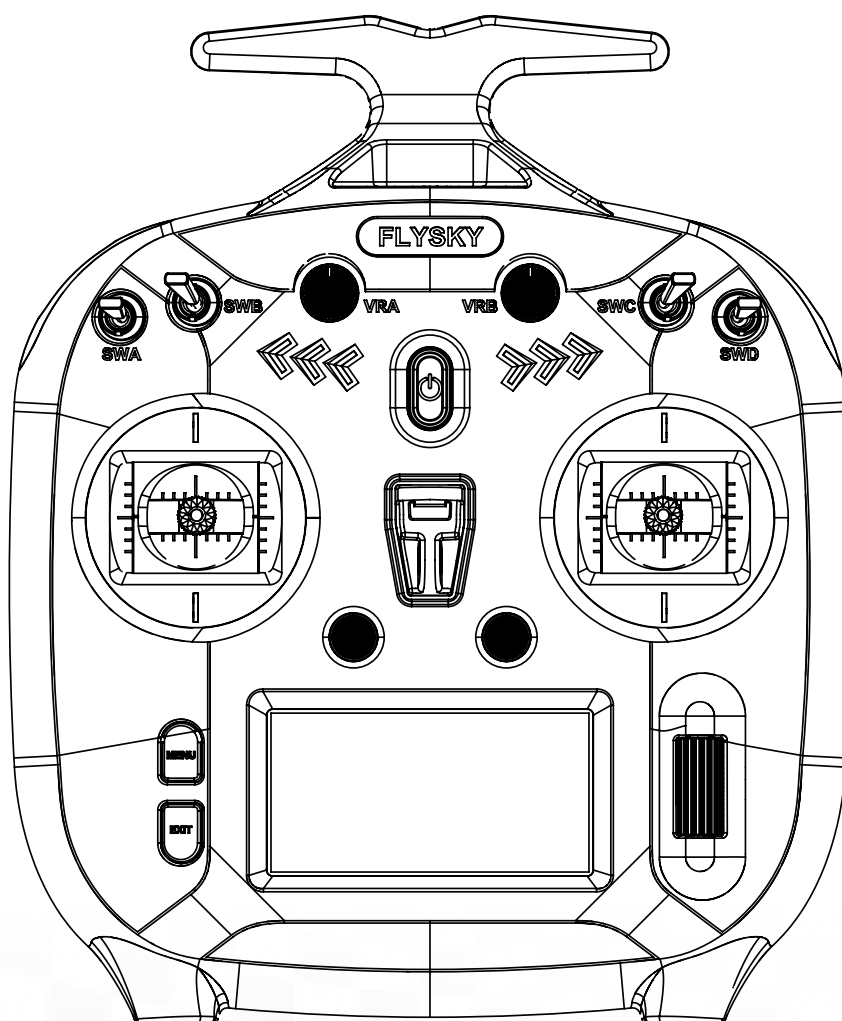


# FS-ST8

USER MANUAL

FLYSKY

Digital Proportional Radio  
Control System



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15+



**WARNING:**

This product is only for 15 years  
old or above.



Thank you for purchasing our products. Read the manual carefully to ensure your personal safety as well as the safety of your equipment.

If you encounter any problems during using, please refer to this manual first. If the problem is still not resolved, please contact the local dealer directly or contact the customer service staff via the website below:

<http://www.flysky-cn.com>

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## 1. Safety

### 1.1 Safety Symbols

Pay close attention to the following symbols and their meanings. Failure to follow these warnings could cause damage, injury or death.

|                                                                                                    |                                                                                  |
|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
|  <b>Danger</b>    | • <b>Not following these instructions may lead to serious injuries or death.</b> |
|  <b>Warning</b>   | • <b>Not following these instructions may lead to major injuries.</b>            |
|  <b>Attention</b> | • <b>Not following these instructions may lead to minor injuries.</b>            |

### 1.2 Safety Guide



#### Prohibited



#### Mandatory



- Do not use the product at night or in bad weather like rain or thunderstorm. It can cause erratic operation or loss of control.
- Do not use the product when visibility is limited.
- Do not use the product on rain or snow days. Any exposure to moisture (water or snow) may cause erratic operation or loss of control.
- Interference may cause loss of control. To ensure the safety of you and others, do not operate in the following places:
  - Near any site where other radio control activity may occur
  - Near power lines or communication broadcasting antennas
  - Near people or roads
  - On any body of water when passenger boats are present
- Do not use this product when you are tired, uncomfortable, or under the influence of alcohol or drugs. Doing so may cause serious injury to yourself or others.
- The 2.4GHz radio band is limited to line of sight. Always keep your model in sight as a large object can block the RF signal and lead to loss of control.
- Do not touch any part of the model that may generate heat during operation, or immediately after use. The engine, motor or speed control, may be very hot and can cause serious burns.



- Misuse of this product may lead to serious injury or death. To ensure the safety of you and your equipment, read this manual and follow the instructions.
- Make sure the product is properly installed in your model. Failure to do so may result in serious injury.
- Make sure to disconnect the receiver battery before turning off the transmitter. Failure to do so may lead to unintended operation and cause an accident.
- Ensure that all motors operate in the correct direction. If not, adjust the direction first.
- Make sure the model stays within the systems maximum range to prevent loss of control.



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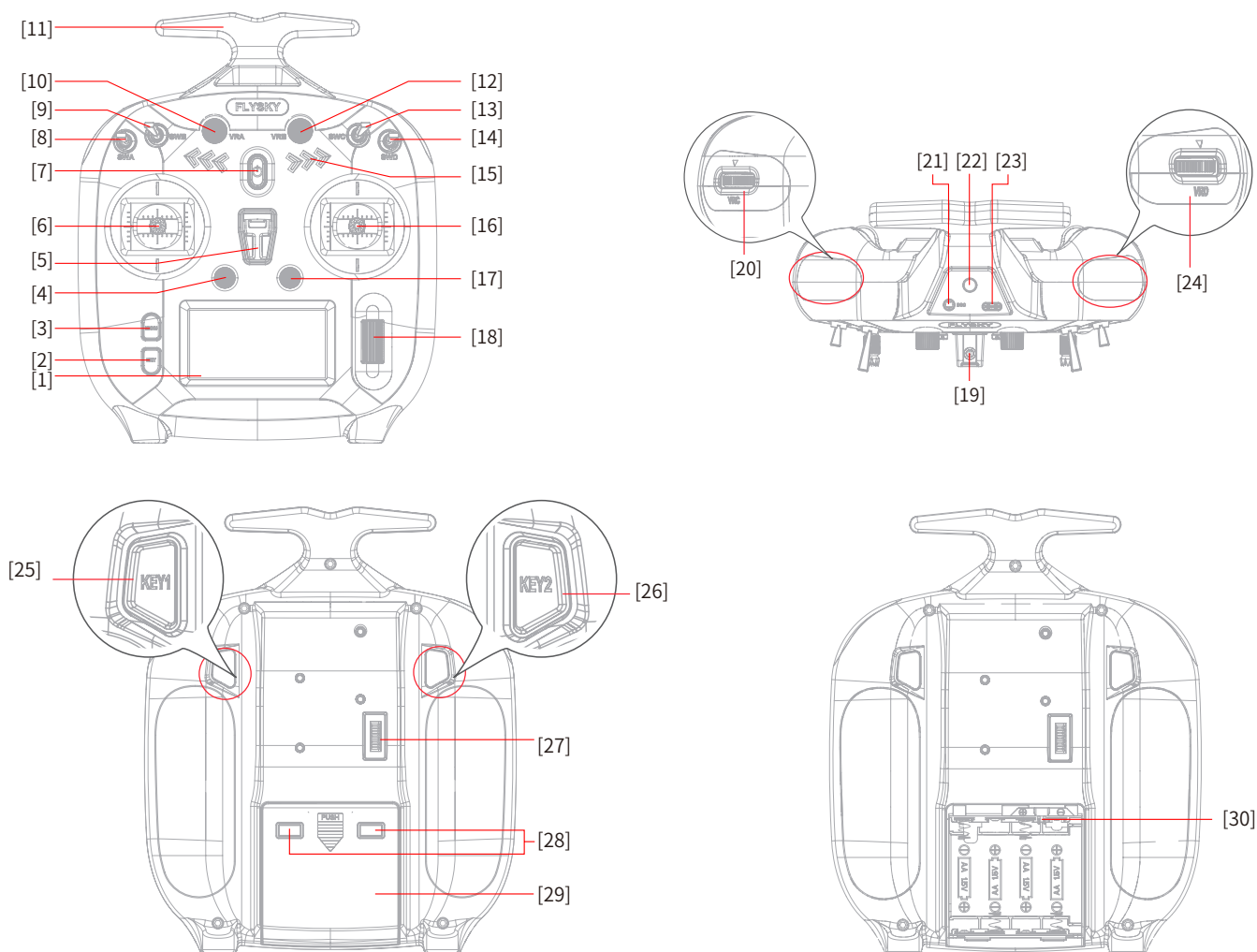


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## 2.Introduction

This product uses the 2.4 GHz ANT (Ant Protocol) automatic frequency hopping digital system, consisting of FS-ST8 transmitter and FS-SR8 receiver. It has an output of 8-12channels, compatible with model fixed-wing aircraft, delta-wing airplanes, helicopters, gliders, multicopters, engineering vehicles, robots, etc.

### 2.1 Transmitter overview



|                             |                                              |                                        |
|-----------------------------|----------------------------------------------|----------------------------------------|
| [1] Display                 | [11] Carrying Handle                         | [21] Trainer Jack (3.5mm audio head)   |
| [2] EXIT Button             | [12] VRB Knob                                | [22] A Reserved Hole for SMA Antenna   |
| [3] MENU Button             | [13] SWC Three-position Switch               | [23] Type-C Port                       |
| [4] T1/T2 Trim Button       | [14] SWD Two-position Switch                 | [24] VRD Dial(For upgraded version)    |
| [5] Neck Strap Hook         | [15] LED Indicator                           | [25] KEY1 Button(For upgraded version) |
| [6] Left Stick              | [16] Right Stick                             | [26] KEY2 Button(For upgraded version) |
| [7] ⏻ (Power Switch)        | [17] T3/T4 Trim Button                       | [27] Stealth I/O RF module interface   |
| [8] SWA Two-position Switch | [18] Scroll Wheel                            | [28] A Reserved Hole for XT30 Cable)   |
| [9] SWB Two-position Switch | [19] A Hole for Fixing the Cell Phone Holder | [29] Battery Compartment               |
| [10] VRA Knob               | [20] VRC Dial(For upgraded version)          | [30] JST Jack                          |



## 2.1.1 Button/Scroll Wheel

Operation Instructions for **MENU**, **EXIT** and **Scroll Wheel**.

### MENU button

- In main menu, press **MENU** in the main page to enter the function menu.
- In main menu, press and hold **MENU** for seconds to enter **MONITOR** menu.

### EXIT button

- Press **EXIT** to return to the previous menu. In the editing status, you can press **EXIT** to save and exit the editing status.
- Except the transmitter is in firmware updating process or in main menu status, press and hold **EXIT** for 2S to return to the main menu.
- In main menu, press and hold **EXIT** for 3S to lock the screen. In the screen lock status, there will be no response if you press any buttons. To unlock the screen, press and hold **EXIT** for 3S.

### Scroll Wheel

- In the selected state, press **Scroll wheel** to enter the next level menu.
- To set turn on/off a function, you select it by scrolling **Scroll Wheel** and press **Scroll wheel** for switching between **ON** and **OFF**.
- In the function item editing status, press **Scroll wheel** to determine the editing result, and press **EXIT** to save and exit the editing status.
- In the case of no next-level menu, press **Scroll wheel** after the selection by scrolling Scroll Wheel, to enter the editing status. In this case, you can scroll the **Scroll wheel** left and right for editing.
- In the detail menu and if no item is in the editing status, you can press **Scroll wheel** for 2S to reset all data in the current menu. All data will be reset to the default values. The system prompts a reminder to reset. To continue the reset, select **YES**. To cancel, select **NO**.
- In the menu, scroll **Scroll wheel** to select a item. In the function item editing status, scroll **Scroll wheel** to select a item/adjust a parameter.

## 2.1.2 USB Simulator Function

The system can be connected via a Type-C USB cable to a computer for use as a HID device. This function is automatically activated when connected to a computer and will be recognised as a standard HID controller.

|                                                                                     |                  |                                                                                                 |
|-------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------|
|  | <b>Attention</b> | • <b>If the computer does not recognise the transmitter unplug and reconnect the USB cable.</b> |
|-------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------|

## 2.1.3 Number of Channels

The transmitter can output up to 12 channels, and the number of channels can be set according to the actual application. For the setting steps, refer to **6.1.6 TX SET - SWITCHES SETTINGS**.

## 2.1.4 Instruction About the Newly Controls for Upgraded Version

The upgraded version has added 4 new switches: **VRC**, **VRD**, **KEY1** and **KEY2**. The switches are off in default. If you want to use these switches, you need to set to **ON** via **Main menu > Transmitter Settings > TX SET - SWITCHES SETTINGS**. For the setting steps, refer to **6.1.6 TX SET - SWITCHES SETTINGS**.



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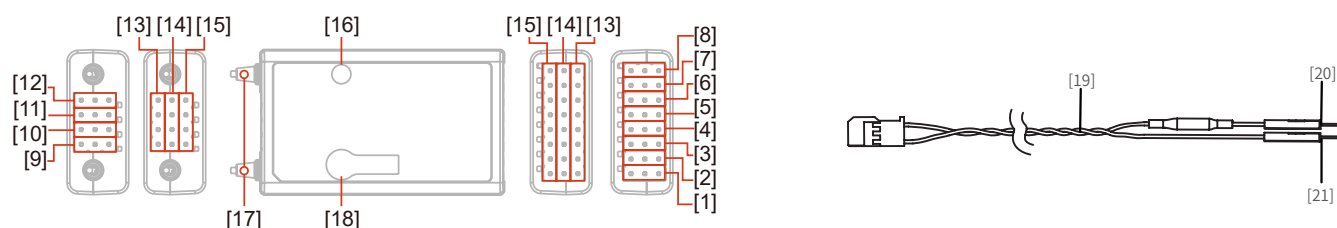


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## 2.2 Receiver overview (FS-SR8)



|     |         |      |                                                           |      |                            |
|-----|---------|------|-----------------------------------------------------------|------|----------------------------|
| [1] | CH1/PPM | [8]  | CH8                                                       | [15] | Signal pin                 |
| [2] | CH2     | [9]  | BIND interface                                            | [16] | LED                        |
| [3] | CH3     | [10] | BVD/VCC(Battery voltage detection/Power supply interface) | [17] | Antennas                   |
| [4] | CH4     | [11] | SENS interface                                            | [18] | BIND button                |
| [5] | CH5     | [12] | SERVO/S.BUS interface                                     | [19] | BVD harness                |
| [6] | CH6     | [13] | - (Power cathode)                                         | [20] | Connect to battery anode   |
| [7] | CH7     | [14] | + (Power anode)                                           | [21] | Connect to battery cathode |

### 2.2.1 LED Status

The status LED indicates the power supply state of the receiver and its working state.

**Off:** The receiver is not powered on.

**Light on in red:** The receiver is connected to the power supply. It works normally.

**Fast flashing:** The receiver is in the binding mode.

**Slow flashing:** The LED flashes slowly when the receiver is powered off, unbound, or no signal.

**Three-flash-one-off:** The firmware of the receiver is upgrading.

### 2.2.2 Interface

All the interfaces are 2.54 mm standard pins for connecting the receiver to each terminal part of the model. Please follow the direction according to the direction on the the receiver.

## 2.3 Antenna

It should be noted that this is a transmitter with two built-in antennas. Please use the transmitter correctly.

|                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <b>Warning</b>   | <ul style="list-style-type: none"> <li>It is strictly prohibited to hold the antenna of the transmitter and the antenna of the receiver in operations. Otherwise, the quality and strength of the radio transmission signal will be greatly reduced, resulting in the failure and out of control of the model.</li> </ul>                                                                |
|  <b>Attention</b> | <ul style="list-style-type: none"> <li>To ensure the signal quality, the transmitter and receiver antennas should be kept vertical to the ground as much as possible. In operations, please adjust the transmitter angle. Make the antenna towards the direction of the model receiver. Keep the receiver antenna extending out of the model and perpendicular to the ground.</li> </ul> |
|  <b>Attention</b> | <ul style="list-style-type: none"> <li>Do not pull the antenna of the receiver. Do not tie the antenna and the servo cable together. Do not put the antenna close to the metal materials, because this will affect the signal strength of the receiver.</li> </ul>                                                                                                                       |



### 3.1 Installing Transmitter Battery

1. Open the battery compartment cover.
2. Put 4 AA batteries with sufficient electricity into the battery compartment. Ensure that the metal terminals on the batteries contact the metal terminals inside the battery compartment.
  - Or you should choose the proper size of 2S 7.4V lithium battery to access the JST interface. Connect them correctly.
3. Cover the battery compartment.

## 3.2 Installing Receiver and Servo

Diagram illustrating the connection of a 6-channel receiver to servos:

- CH8: AUX. servo
- CH7: AUX. servo
- CH6: AUX. servo
- CH5: AUX. servo
- CH4: Rudder servo
- CH3: Throttle servo
- CH2: Elevator servo
- CH1: Aileron servo



## 4. Operation guide

After setting up, follow the instructions below to operate the system.

### 4.1 Power On

Follow the steps below to turn on the transmitter:

1. Check to make sure that that battery is fully charged and installed correctly.
2. Press and hold  until the screen lights up.
3. Power on the receiver.

|                                                                                   |             |                                                                                                 |
|-----------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------|
|  | <b>Note</b> | • <b>Operate with caution in order to avoid damage or injury.</b>                               |
|  | <b>Note</b> | • <b>For your safety, please turn the transmitter switch and throttle to the safe position.</b> |

Note: If the SWA/SWB/SWC/SWD switch is not set to the highest position and the throttle stick is not set to the lowest position, the prompt message "PLEASE TURN SWA/SWB/SWC/SWD TO THE HIGHEST POSITION, THROTTLE TO THE LOWEST POSITION!" will appear, then set the switch or the stick to the correct position before starting the transmitter.

### 4.2 LED

This LED is a multi-color indicator. It displays in a variety of colors such as red, green, blue, yellow, cyan, purple, white, and dazzling colors. You can set a color as required. You may set it to none. In addition, you may set it to display the electricity level. The brightness of LED can also be adjusted via TX SET> SYSTEM SETTINGS > LED.

Follow the steps below to perform the settings:

1. Power on the transmitter. Press MENU to enter the function menu. Select TX SET (Transmitter Settings) and then press **Scroll Wheel** to enter.
2. Select SYSTEM SETTINGS and press Roller to enter the system settings menu. Scroll the **Scroll Wheel** to select LED COLOR and press **Scroll Wheel**, the selected item is flashing now.
3. Scroll the **Scroll Wheel** to select the appropriate item and press **Scroll Wheel**. Press EXIT to save and exit.

### 4.3 Binding

The transmitter and the receiver have been pre-bound before delivery. If you are using another receiver, follow the steps below to bind the transmitter and the receiver. The transmitter supports two-way binding and one-way binding, and two-way binding is the default setting. The transmitter will display the information returned from the receiver after the two-way binding is completed.

1. Turn on the transmitter, then press MENU to enter the main menu. Scroll the **Scroll Wheel** to navigate to the RX SET and press the **Scroll Wheel** to enter RX SETTINGS menu. After setting the appropriate RF system, then scroll the **Scroll Wheel** to navigate to the BIND SETTINGS and press the **Scroll Wheel** to enter. Scroll the **Scroll Wheel** to navigate to the START and press the **Scroll Wheel** to put the transmitter into bind mode.
2. Plug the power cable to the BVD/VCC interface of the receiver, the LED of the receiver flashes slowly this moment. Press and hold the **BIND** button of the receiver over 3S, or tap the **BIND** button and then power on the receiver. The LED of the receiver flashes fast, then release the **BIND** button.
3. After the binding process is completed, the LED of the receiver stops flashing and is solid on.
4. Check to make sure the transmitter and the receiver are working correctly, if there are any issues or unexpected operation arise, follow the steps above to bind again.



Note: If the transmitter that has its radio frequency set to 1WAY enters bind mode, the LED of the receiver will be in slow flashing state. You need to put the transmitter to exit bind mode manually and if the LED of the receiver stops flashing and is solid on, indicating that the binding is completed.

- **Applicable to the FS-ST8 transmitter and the FR-SR8 receiver. Different receivers have different bind procedures. For more information visit the FLYSKY website for manuals and other related information.**
- **Product information is updated regularly, please visit our website for more information.**

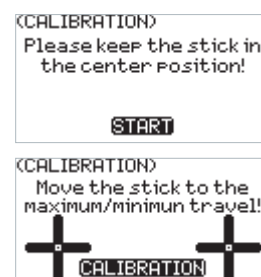
This product system is compatible with most of our ANT Protocol receiver models. The details are as follows:  
RF standard: 2.4 GHz ANT protocol

## 4.4 Stick Calibration

The calibration is required in case of data offset of the transmitter due to physical wear in long-term operations. At this time, we need to calibrate the output data and neutral angle of the stick, throttle trigger, and potentiometers. The transmitter has been calibrated at the factory. If you need to recalibrate it, please follow the steps below to perform the settings:

1. Power on the transmitter, enter the TX SET menu, and select the CALIBRATION function. Follow the prompts to press the START for calibration.
2. Swing the sticks to the maximum and minimum travel range in each direction respectively and then release them.
3. Tap CALIBRATION to exit the calibration interface. The calibration is finished.

Note: If the pop-up window indicates that the calibration has failed, it means that the control to be calibrated has not reached the maximum and minimum travel range, the recalibration is required.



## 4.5 Power Off

Follow the steps below to turn off the system:

1. Disconnect the receiver power.
2. Press and hold  to turn off the transmitter.

- |                                                                                                   |                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <b>Danger</b> | <ul style="list-style-type: none"> <li>• <b>Make sure to disconnect the receiver power before turning off the transmitter. Failure to do so may lead to damage or serious injury.</b></li> </ul> |
|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



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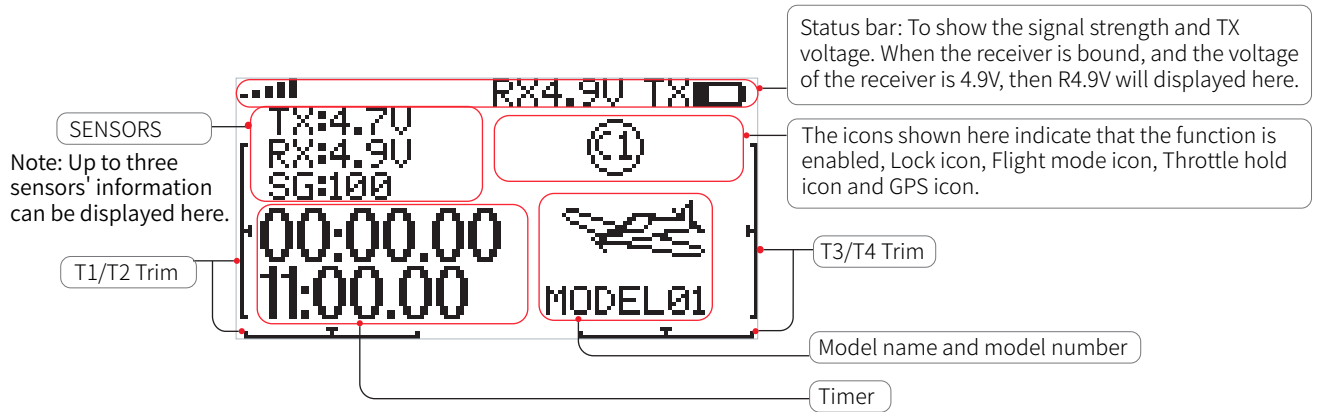
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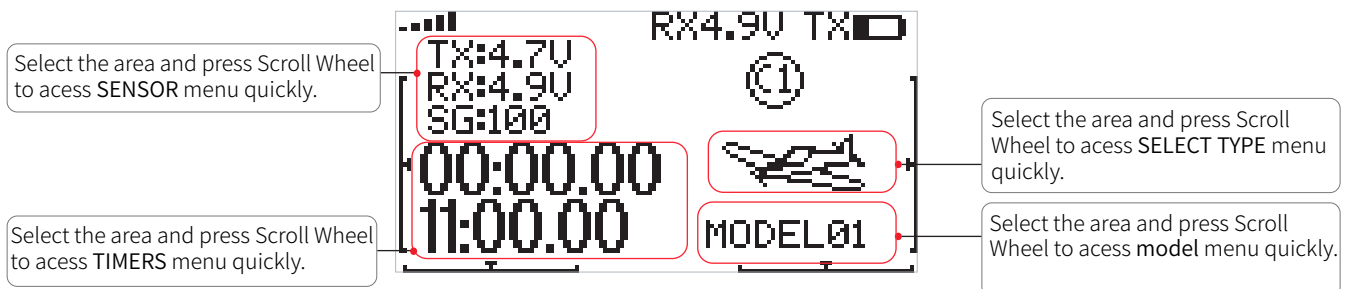
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## 5. Main menu

Instructions are about the main menu.

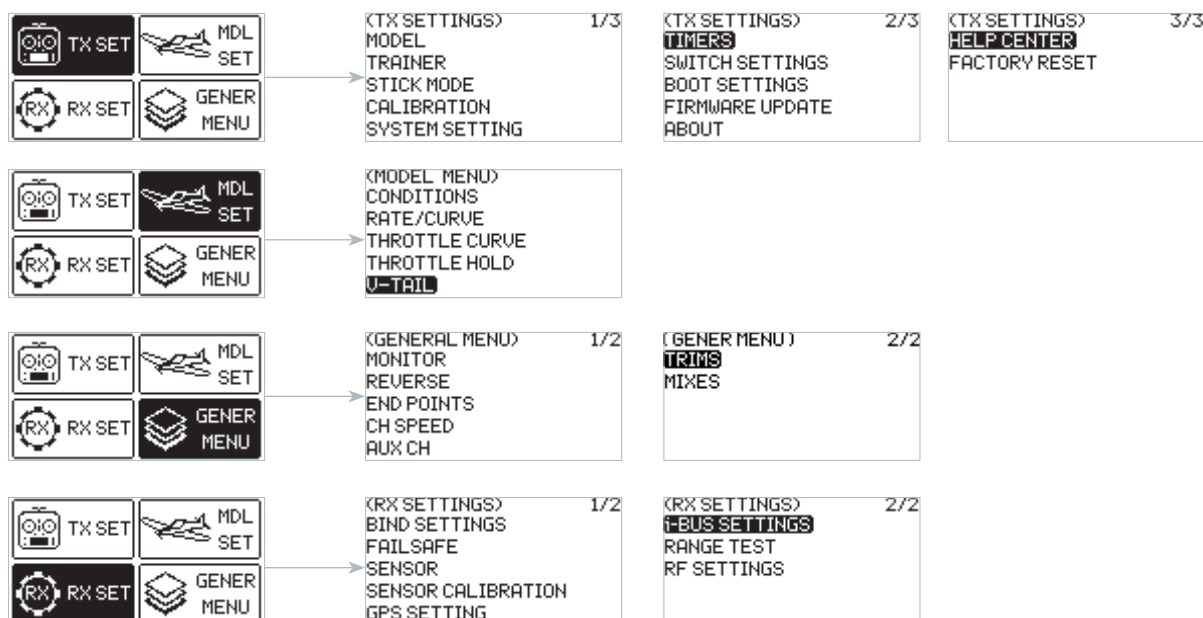


Quick access to the menu:



## 6. Function menu

In this transmitter, we have classified the functions and made a new layout. There are 4 categories in icons in total. That is: **TX SET**(Transmitter Settings), **RX SET**(Receiver Settings), **MDL SET**(Model menu), **GENER MENU**(General menu). After the classification, it will become more convenient and easy to set up the model



The next-level menu may vary with different model type, and lists below:

For DELTA-WING: CONDITIONS, RATE/CURVE, THROTTLE CURVE, THROTTLE HOLD and DELTA-WING MIX;

For FIXED-WING: CONDITIONS, RATE/CURVE, THROTTLE CURVE, THROTTLE HOLD and V-TAIL;

For MULTICOPTER: CONDITIONS, RATE/CURVE, THROTTLE CURVE and THROTTLE HOLD;

For ENGINEERING VEHICLE: CONDITIONS, RATE/CURVE, THROTTLE CURVE, THROTTLE HOLD and TRACK MIX;

For ROBOT: CONDITIONS, RATE/CURVE, THROTTLE CURVE, THROTTLE HOLD and TRACK MIX;

For GLIDERS: CONDITIONS, RATE/CURVE, THROTTLE CURVE, THROTTLE HOLD and V-TAIL;

For HELICOPTERS: CONDITIONS, RATE/CURVE, THROTTLE CURVE, THROTTLE HOLD, PITCH CURVE, GYROSCROPE1 and GYROSCROPE2;

For BOAT: CONDITIONS, RATE/CURVE, THROTTLE CURVE and THROTTLE HOLD;

For CAR: CONDITIONS, RATE/CURVE, THROTTLE CURVE and THROTTLE HOLD.

Function settings:

In the main interface, press **MENU** to enter the function menu. Select the function category by scrolling **Scroll Wheel**. Press **Scroll Wheel** to enter the corresponding next-level menu.



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## 6.1 Transmitter Settings

There are 12 function menus in TX SET menu: MODEL, TRAINER, STICK MODE, CALIBRATION, SYSTEM SETTINGS, TIMERS, SWITCH SETTINGS, BOOT SETTINGS, FIRMWARE UPDATE, ABOUT, HELP CENTER and FACTORY RESET.

In the main menu, press MENU to enter the function menu. Select TX SET by scrolling Scroll Wheel and press Scroll Wheel to enter.

### 6.1.1 TX SET - MODEL

The MODEL menu is used for model management. It includes five options: MODEL SELECT, MODEL NAME, SELECT TYPE, MODEL COPY and MODEL RESET.

**SELECT MODEL** The transmitter can save up to 20 sets of model data, and you can call out one set of model data at any time and use it as needed.

**MODEL NAME** The name of the model you select can be edited and changed.

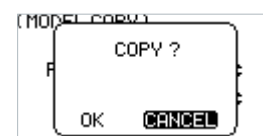
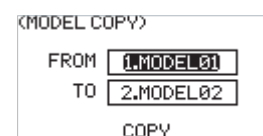
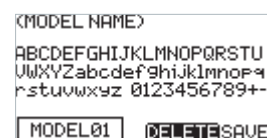
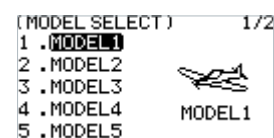
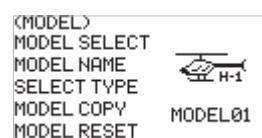
**SELECT TYPE** To provide a total of 9 different types of models, and it covers most of kinds of the models.

**MODEL COPY** If you have a new model that is the same or similar to the model you used before, you can use this function to make a copy for quick setting.

**MODEL RESET** It means that this function will reset all the set values of the model parameters and restore the factory settings.

Function settings:

1. In the MODEL menu, select the function by scrolling **Scroll Wheel** and press **Scroll Wheel** to enter the corresponding next-level menu.
2. In the MODEL SELECT menu, scroll **Scroll Wheel** to select an appropriate model and press **Scroll Wheel** to confirm, then press **EXIT** to save.
3. In MODEL NAME menu, scroll **Scroll Wheel** to select an appropriate alphabet or number. Use **DELETE** to delete the related characters. To save the settings by pressing **Scroll Wheel** while **SAVE** is in selecting state. It supports up to 8 characters
4. In SELECT TYPE menu, scroll **Scroll Wheel** to select an appropriate type and press **Scroll Wheel** to finish.
5. In MODEL COPY menu, scroll **Scroll Wheel** to select the model for FROM and TO respectively, then select **COPY** and press **Scroll Wheel**, a pop-up menu come along with it. Select **OK** and press **Scroll Wheel** to confirm. Press **EXIT** to save and exit.
6. For MODEL RESET, select **OK** and press **Scroll Wheel** to confirm in the pop-up menu appeared.



## 6.1.2 TX SET - TRAINER

This function is designed for beginners. The trainer can make instruction and training for the students under supervision, to avoid the risks caused by beginners in the learning process.

It features TRAINER mode and STUDENT mode, and a switch can be set to enable or disable the trainer function. When the switch is set to ON, the trainer controls the aircraft, and the student controls the aircraft when the switch is set to OFF.

For example, if the trainer and the student use two FS-ST8 transmitters for teaching and training. After connecting the two transmitters via the FlySky's trainer cable, set the MODE of the trainer transmitter to TRAINER, as well as setting a control switch. Then set the MODE of the student transmitter to STUDENT.

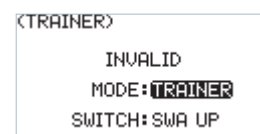
The FS-ST8 can also realize the trainer function with the FS-WTM01 wireless trainer unit and other FlySky transmitters, such as PL18 transmitter. Set the transmitter which has physically connected to the FS-WTM01 as the trainer transmitter.

Function settings:

1. Select TRAINER and press Scroll Wheel to enter.
2. Set ON or OFF to turn on or turn off using Scroll Wheel.
3. Set a switch. In the menu, select a switch and its corresponding position to finish, or you can toggle the corresponding physical switch on the transmitter to finish.

Notes:

1. Use a trainer cable to connect the two transmitters which are for the trainer and the student. Make sure the trainer cable connected well before using this function.
2. VALID will be displayed on the top of this menu, when the switch assigned is set to on and the signal of the student transmitter is input. Namely, the trainer function is valid, otherwise, the function is valid.



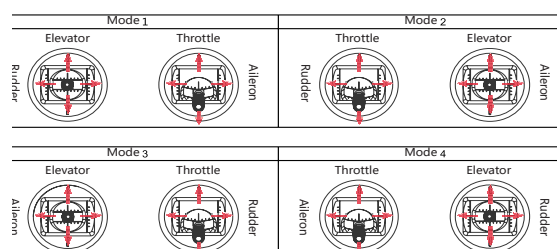
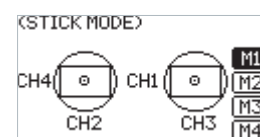
## 6.1.3 TX SET - STICK MODE

The transmitter provides four stick mode, you can set it according to your habit. CH1 represents Aileron, CH2 represents Elevator, CH3 represents Throttle, CH4 represents Rudder.

Function settings:

1. Select STICK MODE and press Scroll Wheel to enter.
2. Select an appropriate item by scrolling Scroll Wheel and press Scroll Wheel to finish.
3. Test the function to confirm all the channel direction is the same as the actually expected direction.
4. The mechanical structure may adjust as needed after the mode is selected. Namely the throttle needs to be adjusted from self-centering to non self-centering and vice versa. In addition, in the mode of throttle non self-centering, the throttle position should be adjusted when it is from left to right and vice versa. For other changes, the adjustment is not required.

Mode2(M2) is the de fault mode. Changing between modes 2/4 (M2/M4)and modes 1/3 (M1/M3)will necessitate changing the throttle gimbals position. You need have to open up the product, see [8.3 Swapping Gimbals] for details.



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### 6.1.4 TX SET - SYSTEM SETTING

The system setting function is used to set the transmitter system, including setting the language, sound, volume, alarm time, vibration, vibration grade, battery type, LED color, LED, brightness, time of backlight and autoshtutdown.

**LANGUAGE** To set the system language, including Chinese and English.

**SOUND** To set the sound for system and alarm. SYS+ALA means the same sound for system and alarm.

**VOLUME** To set the volume of the sound.

**ALARM TIME** To set the time of the idle alarm or whether to enable the idle alarm function.

**VIBRATION** To set the vibration of the system and alarm. SYS+ALA means the same vibration for system and alarm.

**VIBRATION GRADE** To set the vibration grade of the system and alarm.

**BATTERY TYPE** To set the battery type.

**BAT ALARM** To set the voltage according to the battery type.

**LED COLOR** To set the color of the LED.

**LED** To set the brightness of the LED.

**BRIGHTNESS** To set the brightness of the LCD.

**CONTRAST** To set the contrast of the LCD.

**TIME** To set the time of the backlight, namely how long the screen takes to turn off when not in use.

Note: Leaving the screen on for longer will use more power and as such may lead to reduced battery time.

**AUTO SHUTDOWN** To set the time of auto shutdown or turn off it.

Function settings:

1. Select SYSTEM SETTING and press Scroll Wheel to enter.
2. Select a function you want to set and press Scroll Wheel, the selected box is flashing now.
3. Select an appropriate item and press Scroll Wheel to finish. Press EXIT to save and exit.

```
(SYSTEM SETTING) 1/3
LANGUAGE :ENGLISH
SOUND :SYSTEM
VOLUME :OFF
ALARM TIME :3MIN
VIBRATION :SYS+ALA
```

```
(SYSTEM SETTING) 2/3
GRADE :OFF
BATTERY TYPE :AA BAT
LED COLOR :BLUE
LED :40%
BRIGHTNESS :40%
```

```
(SYSTEM SETTING) 3/3
CONTRAST :5
TIME :15S
AUTO SHUTDOWN : OFF
```

### 6.1.5 TX SET - TIMERS

The Timer function is used for timing in races, including count up and countdown. You can also use it to test a tank of fuel or a full battery and confirm the usage time. The transmitter provides two timers, which can be set independently to achieve different timing functions. Start, stop and reset switches can be set to enable, disable or reset the timer by the switch. The timer alarm time can also be set. After setting the time, the system will send an alarm for reminder 10 seconds prior to the expiration. The main interface will display it after the timer is set.

Function settings:

1. Select TIMERS and press Scroll Wheel to enter.
2. For TYPE, the selected box is flashing now when select it. Select UP or DOWN. If DOWN is selected, you need to set the time using Scroll Wheel, then press EXIT to save it.
3. Set switches to START, STOP and RESET using Scroll Wheel. You can also set a throttle trigger value to start the timer to calculate the working time



of the throttle after the timer is on.

- For ALARM, set ON or OFF using Scroll Wheel. If a alarm is set, you need to set the alarm time using Scroll Wheel. Press EXIT to save it.

```
TIMERS2      00:00.00
TYPE :UP
START:NONE
STOP :NONE  RESET:NONE
ALARM:OFF
```

## 6.1.6 TX SET - SWITCH SETTINGS

Used to set which controls can be assigned including SW class switches, Dials(Upgraded version), buttons on the back(Upgraded version) or Knobs.

Through this function, you can set the throttle mode for self-centering or non-self-centering by setting **THRO**. If you set to self-centering, the stick position is not prompted upon power-on. You can also set the number of channels of transmitter by setting **CH NUM**, and the range is 8 to 12.

Function settings:

- Select SWITCH SETTINGS and press Scroll Wheel to enter.
- Select a control you want to set using Scroll Wheel.
- Select an appropriate item and press Scroll Wheel to confirm. Press EXIT to save and exit.

Notes:

- You can set three-position switch to two-position switch via this function.
- In addition, you can set the position-level when the physical switch needs to be changed here.

```
<SWITCH SETTINGS> 1/2
SWA :2POS URB :ON
SWB :2POS URC :OFF
SWC :3POS URD :OFF
SWD :2POS KEY1 :OFF
URA :ON KEY2 :OFF
```

```
<SWITCH SETTINGS> 2/2
THRO :NON SELF-CENTER
CH NUM:12
```

## 6.1.7 TX SET - BOOT SETTINGS

To enable or disable the switch self-check prompt function and failsafe setting prompt function in case of power-on.

Function settings:

- Select BOOT SETTINGS and press Scroll Wheel to enter.
- Select SWITCH SELF CHECK and press Scroll Wheel, then set to ON or OFF using Scroll Wheel.
- Select FAILSAFE PROMPT and press Scroll Wheel, then set to ON or OFF using Scroll Wheel. Press EXIT to save and exit.

```
<BOOT SETTINGS>
SWITCH SELF CHECK :ON
FAILSAFE PROMPT :ON
```

## 6.1.8 TX SET - FIRMWARE UPDATE

Used to update the firmware of the transmitter. When the firmware needs to be upgraded, it is need to put the transmitter into upgraded mode using this function first.

Function settings:

- Download the latest firmware.
- Connect the transmitter and the PC via a Type-C USB cable. Open the firmware on a computer.
- At the transmitter side, select FIRMWARE UPDATE. The system will show a prompt menu, select OK and press Scroll Wheel to put the transmitter into updating mode. Click Update on the firmware screen on the computer.

Notes:

- Always ensure sufficient power supply for the transmitter when using this function. To avoid the receiver losing control, make sure to power off the receiver before starting this function.
- Don't disconnect the Type-C USB cable during the firmware updating, otherwise the transmitter may occur a fault.
- You can also upgrade the firmware through FLYSKYAssistant with Version 3.0 or later.

```
<TX SETTINGS> 2/3
Are you sure?
[OK] [CANCEL]
```



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### 6.1.9 TX SET - ABOUT

Used to display the system information, such as hardware version, etc.

Function settings:

Select ABOUT and press Scroll Wheel to enter, then you can view the related information.

### 6.1.10 TX SET - HELP CENTER

To obtain the user manual via this function.

Function settings:

Select HELP CENTER and press Scroll Wheel to enter, then you can view the related information.

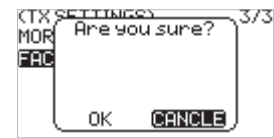


### 6.1.11 TX SET - FACTORY RESET

Used to restore the entire transmitter system to the factory settings in case a number of parameters are adjusted incorrectly during operation. Reset all data of the model current in use. All other models are reset except MDL SET, MODEL TYPE and MODEL NAME.

Function settings:

1. Select FACTORY RESET and press Scroll Wheel to enter, then a pop-up menu appears.
2. Select OK and press Scroll Wheel to finish.



## 6.2 Model Settings

Used to set the functions related to the model. The functions vary with different models. All functions are CONDITIONS, RATE/CURVE, THROTTLE CURVE, THROTTLE HOLD, PITCH CURVE, HELI PITCH SETUP, GYROSCROPE, DELTA-WING MIX,V-TAIL and TRACK MIX.

In the main interface, press MENU to enter the function menu. Select MDL SET by scrolling **Scroll Wheel** and press **Scroll Wheel** to enter.

### 6.2.1 MDL SET - CONDITIONS

For some advanced users, there may be several different requirements in the play of the same model. For example, some players set the model airplane to a condition for taking off and increase the channel action to facilitate the handling of various uncertainties in the take-off process, and set to another condition in the normal flight process. For F3A, you need to adjust each action to be smaller and smoother in order to make more accurate movements. A switch can be assigned to switch conditions. Three conditions are included, the priority level is as following: The condition 3 is the highest priority among them, and the condition 1 is the lowest priority among them.

Function settings:

1. Select CONDITIONS and press **Scroll Wheel** to enter.
2. Select an item you want to set and press **Scroll Wheel** to enter the next level menu. Assign a switch/knob to switch condition.

(CONDITIONS)

CONDITIONS1  
CONDITIONS2 :SWB  
CONDITIONS3 :SWB

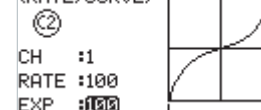
### 6.2.2 MDL SET - RATE/CURVE

This function can be divided into two parameters for understanding. Firstly, the rate can be quickly adjusted in different states to set the output value of certain channels, with symmetrical treatment at both ends. In different states, you can set different output values in order to achieve the best control effect. The rate function can be used to set CH1, CH2 and CH4. The output data can be adjusted in the range of 0 to 100%. Secondly, the curve is set according to different flight effect requirements. For example, in case of F3C, we need to perform delicate and smooth operations for flight action, and we can adjust the curve data from 0 to 100%. The larger the data, the more delicate the control is by reducing the median sensitivity, and vice versa (0 to -100%). The lower the data, the more coarse the control action is by increasing the median sensitivity. The settings can be used for some special 3D plays.

Function settings:

1. Select RATE/CURVE and press **Scroll Wheel** to enter.
2. Select CH and press **Scroll Wheel**, then select a channel you want to set and press **Scroll Wheel** to confirm.
3. Select RATE and press **Scroll Wheel**, then select a value you want to set and press **Scroll Wheel** to confirm.
4. Select EXP and press **Scroll Wheel**, then select a value you want to set and press **Scroll Wheel** to confirm.
5. Press EXIT to save and exit.

(RATE/CURVE)



### 6.2.3 MDL SET - THROTTLE CURVE

It is a function specifically for throttle channel to achieve the perfect match between throttle output and motor or engine. It can be set individually in different flight conditions, with 7 dynamic adjustment points throughout the travel. You can set freely to achieve the best control effect on the throttle.



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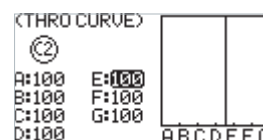
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Function settings:

1. Select THROTTLE CURVE and press Scroll Wheel to enter.
2. Select a point you want to set and press Scroll Wheel, then select a value you want to set and press Scroll Wheel to confirm. Press EXIT to save and exit.

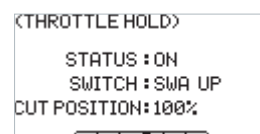


### 6.2.4 MDL SET - THROTTLE HOLD

This is a common function used for adjustment and trimming. This is also a function used before take-off and during landing, for keeping the normal output of other channels while the throttle channel output is completely locked, so as to obtain a safe working state. You can set whether to enable the function, whether to set the status switch, or whether to set the lock position.

Function settings:

1. Select THROTTLE HOLD and press Scroll Wheel to enter.
2. Set ON or OFF to turn on or turn off using Scroll Wheel.
3. Set a switch. In the menu, select a switch and its corresponding position to finish, or you can toggle the corresponding physical switch on the transmitter to finish.
4. Set CUT POSITION, select an appropriate value then press Scroll Wheel. Press EXIT to save and exit.

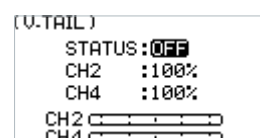


### 6.2.5 MDL SET - V-TAIL

This function is set for some specific aircraft models, for example, fixed-wing aircraft with V-tail. You can perform mixing control for both channels in the same direction and reverse direction.

Function settings:

1. Select V-TAIL and press Scroll Wheel to enter.
2. Set ON or OFF to turn on or turn off using Scroll Wheel.
3. Select the channel and select an appropriate value then press Scroll Wheel. Press EXIT to save and exit.
4. Carry out a test to confirm that the transmitter functions normally after it is set.

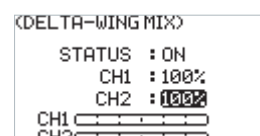


### 6.2.6 MDL SET - DELTA-WING MIX

This function is set for some specific aircraft models, for example, delta-wing aircraft with two ailerons. Use this function to make the aileron to perform the function as an elevator.

Function settings:

1. Select DELTA-WING MIX and press Scroll Wheel to enter.
2. Set ON or OFF to turn on or turn off using Scroll Wheel.
3. Select the channel and select an appropriate value then press Scroll Wheel. Press EXIT to save and exit.
4. Carry out a test to confirm that the transmitter functions normally after it is set.



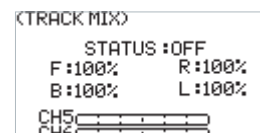
## 6.2.7 MDL SET - TRACK MIX

This function is set for some specific models, for example, tank models, excavator models. Two tracks can be driven in the same direction or in the opposite direction. At this time, the track mixed control function can be used.

By default, CH1 and CH2 are assigned. CH1 and CH2 can be assigned with controls such as knobs VRA and VRB, or dials VRC and VRD (Upgraded version) by setting GENER MENU > AUX CH. You can operate CH1 control for reverse motion and differential steering, that is, left or right turn. In addition, you can operate CH2 control in the same direction motion, that is, forward or backward movement.

Function settings:

1. Select TRACK MIX and press Scroll Wheel to enter.
2. Select STATUS and press Scroll Wheel.
3. Select an item and select an appropriate value then press Scroll Wheel.  
Press EXIT to save and exit.
4. Carry out a test to confirm that the transmitter functions normally after it is set.

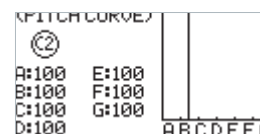


## 6.2.8 MDL SET - PITCH CURVE

This function is set for some specific models, for example, helicopter models. Adjust the helicopter's pitch motion curve to match the throttle output to achieve the best flight status of the helicopter.

Function settings:

1. Select PITCH CURVE and press Scroll Wheel to enter.
2. Select a point you want to set and press Scroll Wheel, then select an appropriate value and press Scroll Wheel to confirm.  
Press EXIT to save and exit.



## 6.2.9 MDL SET - GYROSCOPE1

To set the value of the gyroscope and whether to enable the function.

**STATUS** To turn the gyroscope to on or off.

**CH** Assign the channel to output gyroscope signal. CH5 or CH7 ~ CH12 can be assigned. CH5 is the default channel, after setting, the channel will display in the lower part of the screen.

**CONTROL** To set a control to control gyroscope channel.

**MID(neutral)** The neutral value of the control. And the range is from -100% to +100%, 0% is the default value.

**RANGE** This item appears and can be set after a control is assigned. To set the range of the control. The range is from 0% to 100%, 20% is the default value.

**STEP** This item appears and can be set after the control is set to KEY1+KEY2. Then you can set the step value, the range is from 1 to 100, 2 is the default value.

Note:

1. By default, KEY1 is used to decrease the value and KEY2 is used to increase the value. you can change it via REVERSE function, namely, after the reverse, KEY1 is to increase the value and KEY2 is to decrease the value.
2. The assigned channels for Gyroscope 1 and Gyroscope 2 channels must be different.
3. When the gyroscope function is enabled, if the channel assigned by this function is reassigned in AU X CH function, the settings assigned in AUX CH function will be invalid.



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Function settings:

1. Select GYROSCROPE and press Scroll Wheel to enter.
2. Select STATUS and press Scroll Wheel, then set to ON or OFF using Scroll Wheel.
3. Select CH and press Scroll Wheel, then set an appropriate channel.
4. Then set the CONTROL, MID(neutral), RANGE and STEP. Press EXIT to save and exit.

(GYROSCROPE1) 1/2  
③  
STATUS :ON  
CH :11  
CONTROL:URA  
CH11

(GYROSCROPE1) 2/2  
③  
MID :00  
RANGE :20%  
CH11

### 6.2.10 MDL SET - GYROSCROPE2

Function setting is the same as gyroscope 1, only the output channels of gyroscope 1 and gyroscope 2 must be different channels.

(GYROSCROPE2) 1/2  
③  
STATUS :ON  
CH :7  
CONTROL:NONE  
CH7

(GYROSCROPE2) 2/2  
③  
MID :00  
CH7



## 6.3 General Settings

Used to set or adjust the general functions which are commonly use including MONITOR, REVERSE, END POINTS, CH SPEED, AUX CH, TRIMS and MIXES.

In the main interface, press MENU to enter the function menu. Select GENER MENU by scrolling **Scroll Wheel** and press **Scroll Wheel** to enter.

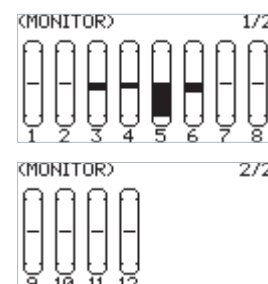
### 6.3.1 GENER MENU - MONITOR

To display the realtime output status of all channels, you can monitor the current output status of all channels.

Function settings:

Select MONITOR and press **Scroll Wheel** to enter the monitoring menu. Then view the channel information.

Note: There is another hidden function on menu: Channel test. Press and hold the **Scroll Wheel** in this menu. The system will prompt "Confirm access channel test?". Select OK and press **Scroll Wheel** to enter. All channels will be output in one direction. It is convenient to detect whether the corresponding channel is normal. This function can also be used in the distance test.



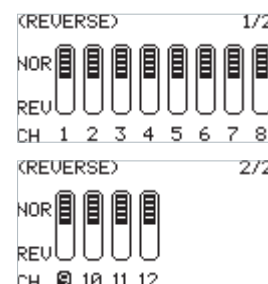
### 6.3.2 GENER MENU - REVERSE

You can perform the reverse processing of the output data of one channel or more channels. This function is used in the debugging of a model.

Models may follow different standards in the design. In the assembly and debugging of a model, if you find that the operation model is opposite to the required direction, for example, the model goes to the left when you want the right direction, the output signal direction of the transmitter needs to be adjusted at this time. The function is used to adjust the action direction of output signals of each channel.

Function settings:

1. Select REVERSE and press **Scroll Wheel** to enter.
2. Select a channel you want to set and press **Scroll Wheel** to set NOR(normal) or REV(reverse). Press EXIT to save and exit.
3. Carry out a test to confirm that the directions of servos are same as your required direction.



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### 6.3.3 GENER MENU - END POINTS(Including SUBTRIM)

Adjust the travel amount of the servo output. This function is used in debug. This function can be used to set the travel of the HIGH, LOW and SUBTRIM at both ends of the channel respectively.

When the model is designed, there are changes in the size of the structure and the specification may not be unified. In addition, there may be different sizes of operator's habitual actions. The servo travel function can be used to set the travel amount required for each channel to adjust the corresponding structure for the best match, to obtain the required operation effect. For example, you want to operate that the turning action is not so large, you can adjust the value of the direction channel at both ends to be smaller. In this way, the turning action should be smaller, with less likely to be tailspin.

Function settings:

1. Select END POINTS and press Scroll Wheel to enter.
2. Select an item you want to set select an appropriate value then press Scroll Wheel. Press EXIT to save and exit.

| END POINTS> 1/3 |       |      |         |
|-----------------|-------|------|---------|
|                 | HIGH  | LOW  | SUBTRIM |
| CH1             | :100% | 100% | 0       |
| CH2             | :100% | 100% | 0       |
| CH3             | :100% | 100% | 0       |
| CH4             | :100% | 100% | 0       |

| END POINTS> 2/3 |       |      |         |
|-----------------|-------|------|---------|
|                 | HIGH  | LOW  | SUBTRIM |
| CH5             | :100% | 100% | 0       |
| CH6             | :100% | 100% | 0       |
| CH7             | :100% | 100% | 0       |
| CH8             | :100% | 100% | 0       |

| END POINTS> 3/3 |       |      |         |
|-----------------|-------|------|---------|
|                 | HIGH  | LOW  | SUBTRIM |
| CH9             | :100% | 100% | 0       |
| CH10            | :100% | 100% | 0       |
| CH11            | :100% | 100% | 0       |
| CH12            | :100% | 100% | 0       |

### 6.3.4 GENER MENU - CH SPEED

This function can be used to adjust the output speed of some channels for a specific model. For example, in the landing gear retraction, users may want it to be opened slowly, therefore, you can slow down the output speed of the corresponding channel.

Function settings:

1. Select CH SPEED and press Scroll Wheel to enter.
2. Set ON or OFF to turn on or turn off using Scroll Wheel.
3. Set a switch. In the menu, select a switch and its corresponding position to finish, or you can toggle the corresponding physical switch on the transmitter to finish.
4. Set a speed value. Press EXIT to save and exit.

| CH SPEED> 1/2 |               |
|---------------|---------------|
| STATUS        | : OFF         |
| SWITCH        | : NONE        |
| CH1           | : 0s CH4 : 0s |
| CH2           | : 0s CH5 : 0s |
| CH3           | : 0s CH6 : 0s |

| CH SPEED> 2/2 |                |
|---------------|----------------|
| CH7           | : 0s CH12 : 0s |
| CH8           | : 0s           |
| CH9           | : 0s           |
| CH10          | : 0s           |
| CH11          | : 0s           |

### 6.3.5 GENER MENU - AUX CH

For some models with complex functions, we provide up to 12 channels of output, 8 of which are auxiliary channels for the most effective control of multiple functions in different ways. The AUX CH(auxiliary channel) function is used to set the control settings for CH5 to CH12, assigning the controls to the channels for operation.

Function settings:

1. Select AUX CH and press Scroll Wheel to enter.
2. Select a auxiliary channel and press Scroll Wheel to enter the switch assigned menu.
3. Set a swicth. Press EXIT to save and exit.

| AUX CH> |                    |
|---------|--------------------|
| CH5     | : NONE CH10 : SWB  |
| CH6     | : NONE CH11 : NONE |
| CH7     | : SWA CH12 : NONE  |
| CH8     | : NONE             |
| CH9     | : SWB              |



## 6.3.6 GENER MENU - TRIMS

To set the step value of the trims.

Function settings:

1. Select TRIMS and press **Scroll Wheel** to enter.
2. Select a trim you want to set and press **Scroll Wheel**.
3. Select an appropriate value then press **Scroll Wheel**. Press **EXIT** to save and exit.

| 《TRIMS》 |   |   |
|---------|---|---|
| STEP    |   |   |
| T1:02   | ▼ | 0 |
| T2:01   | ▼ | 0 |
| T3:01   | ▼ | 0 |
| T4:01   | ▼ | 0 |

## 6.3.7 GENER MENU - MIXES

MIXES is enabled for some models that require two channels to act in linkage. For example, you can perform rudder compensation so that the aircraft will not lift its nose when throttling up. This transmitter provides up to 8 groups of mixes.

**STATUS** To set whether to enable the function.

**SWITCH** To set a switch which is to control the MIX.

**M(Master)** To set a master channel, this channel will control the slave channel.

**S(Slave)** To set a slave channel, this channel will be control the master channel.

**NOR(Normal)** To set how much the slave channel will move when the master channel moves in HIGH end. The adjustment range is from -100% to 100%. If the value is set to 50%, when the output of the master channel is 100%, the output of the slave channel is 50% at the time.

**REV(Reverse)** To set how much the slave channel will move when the master channel moves in LOW end. The adjustment range is from -100% to 100%. If the value is set to 50%, when the output of the master channel is -100%, the output of the slave channel is -50% at the time.

**OFFSET** To set the offset value of the slave channel.

Function settings:

1. Select MIXES and press **Scroll Wheel** to enter.
2. Set ON or OFF to turn on or turn off using **Scroll Wheel**.
3. Set a switch. In the menu, select a switch and its corresponding position to finish, or you can toggle the corresponding physical switch on the transmitter to finish.
4. Set a channel for M or S using **Scroll Wheel**.
5. Set appropriate values for NOR, REV and OFFSET using **Scroll Wheel**.
6. Press **EXIT** to save and exit.

| 《MIXES》   |           |  |
|-----------|-----------|--|
| MIX1 :OFF | MIX6 :OFF |  |
| MIX2 :OFF | MIX7 :OFF |  |
| MIX3 :OFF | MIX8 :OFF |  |
| MIX4 :OFF |           |  |
| MIX5 :OFF |           |  |

| 《MIX1》       |                |  |
|--------------|----------------|--|
| STATUS: ON   | NOR : -100%    |  |
| SWITCH : SWA | REV : -100%    |  |
| M : CH3      | OFFSET : -100% |  |
| S : CH4      |                |  |
| M            | 0              |  |
| S            | 0              |  |



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## 6.4 Receiver Settings With INT RF

The RX SET(receiver setting) menu provides a number of function setting menus to allow you to set up the receiver system in all aspects. That is, BIND SETTINGS, FAILSAFE, SENSOR, SENSOR CALIBRATION, GPS SETTINGS, i-BUS SETTINGS, RANGE TEST and RF SETTINGS.

In the main menu, press MENU to enter the function menu. Select RX SET by scrolling **Scroll Wheel** and press **Scroll Wheel** to enter.

### 6.4.1 RX SET - BIND SETTINGS

The ex-factory bind settings of the transmitter and receiver are completed successfully. If you want to use a new receiver, please bind the transmitter and the receiver before use.

**BIND** To put the transmitter into bind mode.

**OUTPUT** It provides two combined output modes, you can chose one of the PWM/S.BUS, PPM/i-BUS, PWM/i-BUS and PPM/S.BUS.

**Note:** The receiver can output PPM signal via CH1 and i-BUS signal via SERVO/S.BUS interface. It also can input i-BUS signal via SENS interface.

**FREQUENCY** To set an appropriate frequency according to your servos.

**Note:** When the frequency value is set to 50HZ, it presents the analog servo, and set to 333HZ, it is for digital servo. For other servo, set the value in the range between 50 and 400HZ.

**RF SYSTEM** To set between Fast and Routine. As for Routine mode, if the transmitter RF system is set to Routine, it has strong anti-interference capacity for other models which are located in the same enviroment and the closer distance. And for Fast mode, if the transmitter RF system is set to Fast, then it has strong coexistence capacity among the same model transmitters which are located in the same enviroment and the closer distance, and it has lower latency, in addition, the power consumption is reduced by about 30%.

**RF STANDARD** There are two options available, ANT1WAY one-way and ANT2WAY two-way. If you are using a two-way receiver, it is recommended to select ANT2WAY two-way, which may bring you a better experience with more information feedback.

For function settings, refer to 4.3 Binding for details.

### 6.4.2 RX SET - FAILSAFE

Failsafe is an important safety setting. It can be used to protect the model from loss or reduce the degree of loss when the receiver loses signal without control. In addition, it plays a role in protecting personnel safety.

You can set the data in case of out-of-control for all output channels.

Function settings:

1. Select FAIL SAFE and press **Scroll Wheel** to enter.
2. i-BUS/PPM/PWM can be set to ON, OFF, or NOT SET.
3. Select an appropriate item and press **Scroll Wheel** to confirm. Press EXIT to save and exit.

If it is set to ON, the system will show a prompt menu, select OK and press **Scroll Wheel** to confirm. Then you can set a failsafe for each channel.

Notes:

1. When failsafe is set to ON or OFF, or set FAILSAFE PROMPT to OFF, the system will not prompt you to set failsafe when the transmitter is powered on again. If it is set to NOT SET or set FAILSAFE PROMPT to on, the system will prompt you to set failsafe during the self-test upon power-on. By default, it is NOT SET. There is no valid signal output from the receiver after failsafe.
2. Because the S.BUS signal contains the failsafe flag bit, the receiver can transmit the

```
(FAILSAFE)
I-BUS/PPM/PWM :NOT SET
```

```
(FAILSAFE) 1/2
I-BUS/PPM/PWM :ON
CH1 :100% CH4 :100%
CH2 :100% CH5 :100%
CH3 :100% CH6 :100%
```



"Failsafe State" information to the subsequent device through the failsafe flag bit, instead of using OFF. The subsequent device can make response accordingly by parsing the failsafe flag bit information.

- For the signal PWM/PPM/i-BUS without the failsafe flag bit, it supports the settings of OFF in case of failsafe. The "Failsafe State" information is transmitted to the subsequent device through OFF state.
- Caution:** Remove the propeller prior to the failsafe test.

## 6.4.3 RX SET - SENSOR

As an interesting feature for two-way communication systems, sensors can be used to send back some information you need through the receiver.

The transmitter can support up to 15 different types of returned data to provide you with the feedback of seven basic parameters, i.e., TX VOL(TX voltage), RX VOL(RX voltage), BVD VOL(BVD voltage), SIGNAL(signal intensity), NOISE, SNR(noise rate) and RSSI.

Notes:

- For BVD function, it is used to detect an external power supply. It is recommended to use this function to monitor the battery voltage and give an alarm in case of a failure. To perform an alarm by setting alarm values for LOW and HIGH.
- The range for the BVD voltage detection is from 0 to 70.
- The ID number 0 represents the transmitter or the receiver's voltage, signal strength, RSSI, Noise, or SNR. And the ID number 2 represents the first external sensor connected to the receiver, and so on. There are up to 15 sensors can be connected. It supports i-BUS series sensors, such as FS-CAT01(altitude), FS-CPD01(speed / Magtic), FS-CPD02(speed / Optical), FSCVT01(voltage), FS-CTM01(temperature) and FS-CGPS01(GPS).

Function settings:

- Connect a sensor to the receiver via the SENS interface. At the transmitter side, select SENSOR and press **Scroll Wheel** to enter.
- Select a item you want to set using **Scroll Wheel**, such as TX VOL, using **Scroll Wheel**, you can set it to display on the main menu, as well as set a alarm function and its alarm value corresponding to LOW and HIGH voltage. Press EXIT to save and exit.

The display of each sensor on the interface and main page is shown in the following table:

| Sensor   | Abbrev. on Main Menu | RF System |        |       |                |
|----------|----------------------|-----------|--------|-------|----------------|
|          |                      | INT RF    | FRM303 | CRSF2 | PPM/S.BUS/CRSF |
| TX VOLT  | TX                   | ✓         | ✓      | ✓     | ✓              |
| RX VOLT  | RX                   | ✓         | ✓      |       |                |
| SIGNAL   | ST                   | ✓         | ✓      |       |                |
| BVD VOLT | BV                   | ✓         | ✓      |       |                |
| RSSI     | RS                   | ✓         | ✓      | ✓     |                |
| SNR      | SN                   | ✓         | ✓      |       |                |
| NOISE    | NO                   | ✓         | ✓      |       |                |
| EXT VOLT | EV                   | ✓         | ✓      |       |                |
| TEMP     | TM                   | ✓         | ✓      |       |                |
| Altitude | AT                   | ✓         | ✓      |       |                |
| REV      | RV                   | ✓         | ✓      |       |                |
| GPS AT   | GA                   | ✓         | ✓      |       |                |
| Distance | DS                   | ✓         | ✓      |       |                |
| Velocity | VG                   | ✓         | ✓      |       |                |
| RF VOLT  | RV                   |           | ✓      |       |                |
| RF TEMP  | RT                   |           | ✓      |       |                |
| FC VOLT  | FV                   |           |        | ✓     |                |
| FC CUR   | FC                   |           |        | ✓     |                |
| BAT CAP  | BC                   |           |        | ✓     |                |

| [SENSOR] |         |       | 1/2 |
|----------|---------|-------|-----|
| NO.      | TYPE    | VALUE |     |
| 0        | TX VOL  | 4.7V  | ●   |
| 0        | RX VOL  | 4.9V  | ●   |
| 0        | BVD VOL | 0.0V  | ●   |
| 0        | SIGNAL  | 100   | ●   |

Displays the sensor number, type, the data returned by this sensor.

The solid icon indicates that the corresponding sensor has been set to displayed on the main menu, and the hollow icon indicates that the corresponding sensor is not set.

[ALARM SET]  
HOME PAGE : YES  
ALARM : ON  
ALARM TYPE : LOW  
ALARM VALUE : 4.2V



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#### 6.4.4 RX SET - SENSOR CALIBRATION

This function is a special feature provided by FLYSKY. The setting allows you to make corrections to the parameters of some external sensors that need to be calibrated, so as to display the sensing data accurately. For example, for the external voltage sensor (BVD), after calibration, the displayed data will be closer to the real value.

Function settings:

1. Select SENSOR CALIBRATION and press Scroll Wheel to enter.
1. Select a item you want to set using Scroll Wheel.
2. Select an appropriate value and press Scroll Wheel to confirm. Press EXIT to save and exit.

```
(SENSOR CALIBRATION)
BVD VOL : NONE
ALTITUDE : NONE ZERO
```

#### 6.4.5 RX SET - GPS SETTING

This function needs to be used with the FS-CGPS01 GPS sensor of FLYSKY. You can view the information returned by GPS sensor after calibrating the GPS and setting an appropriate time. You can reset the start point when the displayed distance is inaccurate.

**GPS DISPLAY** When the GPS positioning is successful, you can check the information. such as whether the positioning is conducted, the number of satellites, DISTANCE, ALTITUDE, LONGITUDE, LATITUDE, etc.

**GPS CALIBRATION** To calibrate the height value.

**TIME ZONE** To set an appropriate time zone. After setting, you can view the date and time via GPS DISPLAY.

**RESET START POINT** To reset the start point when the displayed distance is inaccurate.

Function settings:

1. Select GPS SETTING and press Scroll Wheel to enter.
2. Select GPS DISPLAY and press Scroll Wheel to display the related information.
3. Select GPS CALIBRATION and press Scroll Wheel to enter. Select CALIBRATION and press Scroll Wheel to start.
4. Select RESET START POINT and press Scroll Wheel, the system will pop-up a menu, select OK press Scroll Wheel to finish.

```
(GPS SETTING)
GPS DISPLAY
GPS CALIBRATION
TIME ZONE
RESET START POINT
```

```
(GPS DISPLAY) 1/2
2022/5/17 16:43:40
SATELLITE : 7 3D FIX
DISTANCE : 1M
SPEED : 0Km/h
```

```
(GPS DISPLAY) 2/2
ALTITUDE : 182M
DIRECTION : 0
LATITUDE : 22.543725
LONGITUDE : 114.042433
```

```
(GPS CALIBRATION)
ALTITUDE : 216M
```

```
(GPS SETTING)
GPS Are you sure?
GPS
GPS
TIM
RES
OK CANCEL
```



## 6.4.6 RX SET - i-BUS SETTINGS

This function is a unique and powerful serial communication protocol system provided by FLYSKY. It can be output to any channel by setting. For receivers with i-BUS interface and corresponding accessories, such as Serial Bus Receiver FS-CEV04. This function will be displayed when you set the OUTPUT to i-BUS mode via BIND SETTINGS function.

Function settings:

1. The transmitter FS-ST8 and the receiver FS-SR8 are bound successfully. Connect the input cable of the Serial Bus Receiver FS-CEV04 to the SERVO interface of the receiver.
2. At the transmitter side, select i-BUS SETTINGS and press Scroll Wheel to enter.
3. Select a channel to be assigned, the system will show a prompt menu, if the channel is incorrect, select CANCEL to cancel.
4. If the selected channel is about to assign to C1 channel of the Serial Bus Receiver FS-CEV04, then press the button K1 corresponding to C1 channel of FS-CEV04 receiver by a long thin tool, such as a thin tool which is tied with the Bind cable. After the setting is successful, the system will pop up a menu showing successful.

| (i-BUS SETTINGS) |     |      |
|------------------|-----|------|
| CH1              | CH5 | CH9  |
| CH2              | CH6 | CH10 |
| CH3              | CH7 | CH11 |
| CH4              | CH8 | CH12 |



Note: If the receiver is overloaded, please supply power separately to prevent the wire from being burnt out due to excessive current.

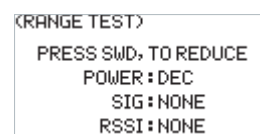
## 6.4.7 RX SET - RANGE TEST

Used to test whether wireless communication between the transmitter and the receiver is normal and the ambient radio interference.

As the actual remote control distance between transmitter and receiver is far away, it is difficult to make the transmitter and the receiver apart to several hundred meters to verify whether the RF module works normally. By using this function, the theoretical remote control distance can be reduced to 30-40 meters. When this function is enabled, it can test whether the transmitter and receiver are normal in a close distance, so as to save the test time.

Function settings:

1. Make sure the transmitter and the receiver are bound normally.
2. Access the RANGE TEST interface and pull down the SWD button.
3. One person stands in place with the model in hand, and the other person holds the transmitter and gradually moves away to 30-40 meters and walks around with this distance as a radius centered on this model.
4. Make sure that the transmitter antenna is not blocked. The receiver antenna is placed at 90 degrees if there are two antennas,, and there is no interference between the transmitter and the receiver in the open area.
5. Observe the signal strength of the transmitter. If the signal strength is high and stable, it means that the radio frequency of this system works normally.



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## 6.4.8 RX SET - RF SETTINGS

This is an extended function option. The setting is used when the external RF module is needed. The EXT RF can be set to one of the following items: OFF, PPM.P, PPM.N, S.BUS, FRM303, CRSF and CRSF2, so as to be compatible with the external RF module with different protocol. When the external RF is set to CRSF2 or FRM303, the INT RF(local RF) is disabled.

When EXT RF is set to FRM303 to comply with FRM303 RF module, these functions can be set at the transmitter side: refer to 6.5 RX SET-EXT RF(RFM303) for details.

If it sets to CRSF, it supports the CRSF RF module.

If it sets to CRSF2, it supports the CRSF RF module, and the receiver bound with the transmitter can return RSSI as well. it can return flight control voltage, flight control current and battery capacity information.

Function settings:

1. Select RF SETTINGS and press Scroll Wheel to enter.
2. Select a item you want to set using Scroll Wheel.
3. Select an appropriate item and press Scroll Wheel to confirm. Press EXIT to save and exit.

Note: When the external RF is set to FRM303, the input signal of the FRM303 RF module should be set to open source protocol. To set it via the following steps: Push upwards the Up key of the five-way key for  $\geq 3S$  and  $< 9S$  while powering on the RF module, it enters the input signal setting state. And at the time, the LED in blue is on. Then push upwards the Up key or push downwards the Down key to switch the input signal. When the LED is flashing in four-flash-one-off mode, it is indicating that it is the input protocol copied, then press the Center key for 3S to save the settings. Push the Left key to let the FRM303 RF module to exit the signal setting state.

```
(RF SETTINGS)
INT RF      :ON
EXT RF      :OFF
```

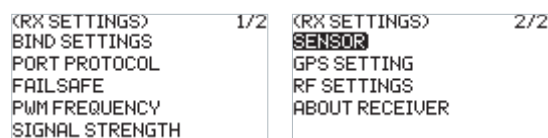
```
(RF SETTINGS)
INT RF      :ON
EXT RF      :PPM.P
```



## 6.5 Receiver Settings With EXT RF(FRM303 RF MODULE)

When EXT RF is set to FRM303 module, the settings for the receiving system includes BIND SETTINGS, PORT PROTOCOL, FAILSAFE, PWM FREQUENCY, SIGNAL STRENGTH, GPS SETTINGS, SENSOR, GPS SETTING, RF SETTINGS and ABOUT RECEIVER.

Note that when using the FRM303 RF MODULE, the FGPZ03 RF adapter is required to connect the FRM303 to the FS-ST8 transmitter.



In the main menu, press MENU to enter the function menu. Select RX SET by scrolling Scroll Wheel and press Scroll Wheel to enter.

### 6.5.1 RX SET - BIND SETTINGS

After the FRM303 RF module is connected to the FS-ST8 transmitter, it can be bound with the FlySky 3rd generation receiver (classic version and enhanced version).

If binding with the classic version receiver, RF system can choose CLASSIC 18CH or C-FAST 10CH. And for the enhanced version receiver, ROUTINE 18CH, FAST 8CH or LORA 12CH can be selected.

**CLASSIC 18CH** To bind with classic version receiver with supporting 18-channel.

**C-FAST 10CH** To bind with classic version receiver with supporting 10-channel. And its latency is better than CLASSIC 18CH.

**ROUTINE 18CH** To bind with enhanced version receiver with moderate communication distance, and support 18-channel.

**LORA 12CH** To bind with enhanced version receiver with super anti-interference and moderate communication distance, and support 12-channel.

**FAST 8CH** Provides 8 channels, fast communication within short distance.

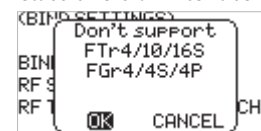
The RF standard can be set to 1WAY or 2WAY based on the actual application scenario.

Function settings:

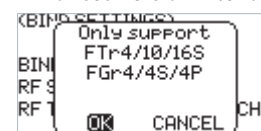
1. Select BIND SETTINGS and press Scroll Wheel to enter.
2. Select RF STD and press Scroll Wheel, then set it to 1WAY or 2WAY using Scroll Wheel.
3. Select RF TYPE and press Scroll Wheel, then to set an appropriate item. Press EXIT to save and exit.



Classic version interface



Enhanced version interface



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### 6.5.2 RX SET - PORT PROTOCOL

Sets the type of output signal of the receiver interface. The interface shown on the left side can be set, and on the right side, the protocols that can be set.

For enhanced version receiver: When no receiver is connected, 4 Newport interfaces are displayed by default for setting; When a receiver is connected, the Newport interfaces that can be set on this receiver are displayed, you can set the protocol to PWM, PPM, S.BUS, i-BUS-IN or i-BUS-OUT.

For classic version receiver: When no receiver is connected, i-BUS and CH1 are displayed by default; When a receiver is connected, the interface that can be set are displayed.

Function settings:

1. Select PORT PROTOCOL and press Scroll Wheel to enter.
2. Select the interface you want to set and press Scroll Wheel, then set an appropriate protocol using Scroll Wheel.
3. Press EXIT to save and exit.

Notes:

1. Neither classic version receiver nor enhanced version receiver supports i-BUS-IN setting in one-way communication.
2. The signal types that can be selected once only in multiple for any Newport: PPM, S.BUS, i-BUS-IN and i-BUS-OUT. If it is selected for NPA, i-BUS-OUT cannot be selected again for NPD/NPC/NPB.
3. If the interface protocol is set to i-BUS-IN, it can be used to connect the i-BUS sensors.
4. If the interface protocol is set to i-BUS-OUT, it supports i-BUS/S.BUS signal output, the FS-CEV04 serial BUS receiver can be connected as well.
5. The Newport interface of the enhanced receiver is abbreviated NPA, NPB, NPC, and NPD. And the enhanced receiver supports up to 4 Newport interfaces.

Enhanced version interface

```
(PORT PROTOCOL)
FGTr8B
NPA      :PWM
NPB      :PWM
NPC      :i-BUS OUT
NPD      :SBUS
```

Classic version interface

```
(PORT PROTOCOL)
FTr10
i-BUS    :i-BUS OUT
CH1      :PWM
```

```
(PORT PROTOCOL)
FTr4/FGTr4S/FGTr4P
i-BUS    :i-BUS OUT
CH1      :PWM
```

### 6.5.3 RX SET - FAILSAFE

For failsafe, the transmitter provides the following three settings:

- To disable the signal output of i-BUS-out and PPM protocol interfaces in case of out-of-control, i.e., no output for i-BUS-out & PPM interfaces in case of out-of-control.
- Set all channels. That is, all channels are set to the same value. It can be set one of NONE, HOLD, or FIXED VALUE.
- Set failsafe values channel by channel to one of NONE, FIXED VALUE or HOLD.

#### I-BUS out/PPM

This function is for i-BUS and PPM signals. After the i-BUS-out/PPM function is enabled, regardless of the setting of the failsafe, these two types of failsafe signals are always no output. If the function is disabled, after out-of-control, you can set by channel to a fixed value or keep the last output value. By default, this function is enabled.

```
(FAILSAFE) 1/2
i-BUS out/PPM : ON
SET ALL CHANNELS
CH1 : HOLD CH2 : HOLD
CH3 : HOLD CH4 : HOLD
CH5 : HOLD CH6 : HOLD
CH7 : HOLD CH8 : HOLD
```

```
(FAILSAFE) 2/2
CH9 : HOLD CH10 : HOLD
CH11 : HOLD CH12 : HOLD
CH13 : HOLD CH14 : HOLD
CH15 : HOLD CH16 : HOLD
CH17 : HOLD CH18 : HOLD
```



## SET ALL CHANNELS

All channels are set to the same value. it can be set one of NONE, HOLD, or FIXED VALUE.

NONE Means that there is no output in case of out-of-control.

HOLD Means the last channel value is kept in case of out-of-control.

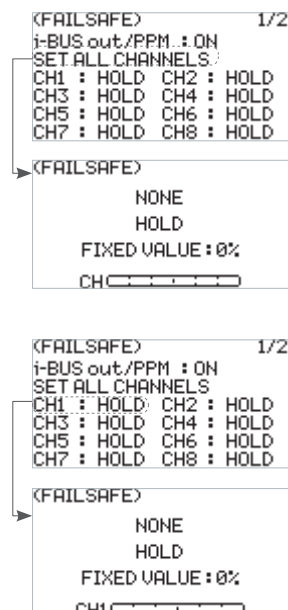
FIXED VALUE Means that you can set the failsafe output value by moving the control, then the value set will output in case of out-of-control.

## CH1~CH18

To set the output signal of CH1 to CH18, it can be set to None, Hold, or Fixed value.

Function settings:

1. Select FAILSAFE and press Scroll Wheel to enter.
2. Select the item you want to set and press Scroll Wheel.
3. Then set an appropriate value using Scroll Wheel. Press EXIT to save and exit.



## 6.5.4 RX SET - PWM FREQUENCY

The receiver's output frequency of PWM signals can be regulated. Theoretically, the higher the frequency, the faster the signal is refreshed, and the faster the servo responds to the signal change. However, some servos may not support PWM signals with excessively high frequency. You may need to take into account the servo's performance when doing such settings.

The interface of this function may vary with bind modes. For enhanced version receivers, the PWM frequency of each channel can be set separately, and the options include ANALOG (50Hz), DIGITAL (333 Hz), SR (833 Hz), SFR (1000 Hz) and CUSTOM.

If a classic receiver is bound, all channels are set together, and the options include ANALOG (50Hz), DIGITAL (333 Hz) and CUSTOM. It cannot be set to SR (833 Hz) and SFR (1000 Hz) as well.

## SET ALL CHANNELS

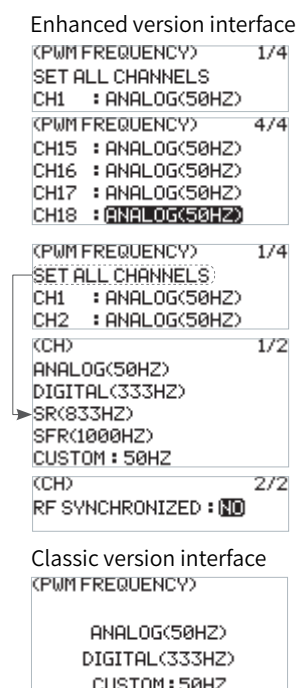
All channels are set to the same frequency value.

## CH1~CH18

To set the PWM frequency of CH1 to CH18 separately.

Function settings:

1. Select PWM FREQUENCY and press Scroll Wheel to enter.
2. Select the item you want to set and press Scroll Wheel.
3. Then select/set an appropriate value using Scroll Wheel. Press EXIT to save and exit.



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### 6.5.5 RX SET - SIGNAL STRENGTH

Through this function, you can select a channel to output the signal strength value of the receiver. After the function is enabled, the selected channel does not perform the output of transmitter's corresponding channel function, but outputs the receiver's signal strength value. When the function enables, the CH14 is the default channel. This function is necessary for users who use FPV glasses in the operations of traversers. We recommend you to select the CH14 or any auxiliary channel. You can make corresponding adaptations in the flight control settings to view the signal strength information on FPV glasses.

Function settings:

1. Select SIGNAL STRENGTH and press Scroll Wheel to enter.
2. Select STATUS and press Scroll Wheel.
3. Select OUTPUT CH using Scroll Wheel and set an appropriate channel as you desired. Press EXIT to save and exit.

```
(SIGNAL STRENGTH)
STATUS      :OFF
```

```
(SIGNAL STRENGTH)
STATUS      :ON
OUTPUT CH   :CH14
```

### 6.5.6 RX SET - SENSOR

Except the functions described in 6.4.3 RX SET-SENSOR section, it can also check the temperature and voltage information of external external RF module FRM303, and set whether to display it on the home page and alarm function as well.

#### RF TEMP(temperature)

To display the temperature of the FRM303 RF module.

#### RF VOL(voltage)

To display the voltage of the FRM303 RF module.

See 6.4.3 RX SET-SENSOR section for function Settings.

Note: If the i-BUS sensor is connected to an enhanced version receiver, then set the interface protocol of the Newport to i-BUS IN.

```
(SENSOR)
NO.  TYPE  VALUE  1/3
0    TX VOL  5.2V  🔦
0    RX VOL  4.3V  🔦
0    SIGNAL  100   🔦
0    RF TEMP 25°C  🔦
```

```
(SENSOR)
NO.  TYPE  VALUE  2/3
0    RF VOL  0.0V  🔦
0    NOISE  -110dBm 🔦
0    SNR    67dB   🔦
0    RSSI   -43dBm 🔦
```

```
(SENSOR)
NO.  TYPE  VALUE  3/3
1    BUD VOL 0.0V  🔦
```

```
(SENSOR)
NO.  TYPE  VALUE  2/3
0    RF VOL  0.0V  🔦
0    NOISE  -110dBm 🔦
0    SNR    67dB   🔦
0    RSSI   -43dBm 🔦
```

```
(ALARM SET)
HOME PAGE :NO
```

```
(ALARM SET)
HOME PAGE :YES
ALARM      :ON
ALARM TYPE :LOW
ALARM VALUE:4.2V
```



## 6.5.7 RX SET - GPS SETTING

Please refer to 6.4.3 RX SET- GPS SETTING for this function.

## 6.5.8 RX SET - RF SETTINGS

Except the functions described in 6.4.8 RX SET-RF SETTING section, it can also enable or disable the buzzer alarm function, and you can set an appropriate power if the FRM303 RF module support power regulation by POWER SETTING function. In addition, you can view the related information about the RF module as well.

### POWER SETTING (power regulation)

Set the power of FRM303 RF module, the options include 25mW, 100mW, 500mW, 1W, or 2W.

Note that the power supply mode affects the power output. When the RF module is supplied externally, the maximum power output is 2W, the maximum output power is 25mW for USB power supply; and the maximum output power is 500mW for internal power supply.

Function settings:

1. Select POWER SETTING, a prompt screen comes along with it to show the output power information. Then press OK.
2. Set an appropriate power as you desired. Press EXIT to save and exit.

```
(RF SETTINGS)
INT RF      :OFF
EXT RF      :FRM303
BUZZER ALARM :ON
POWER SETTING :25mW
RF VERSION
```

```
(RF SETTINGS)
INT RF Power
EXT RF      non-adjustable
BUZZER ALARM :ON
POWER SETTING :25mW
RF VERSION
```

```
(RF SETTINGS)
INT RF Power<=25mW
EXT RF      Int Power<=
BUZZER ALARM :ON
POWER SETTING :25mW
RF VERSION
```

### RF VERSION

To view information about the RF module, such as version, model, ID, and whether the RF power can be regulate or not.

Function settings:

Select RF VERSION and press Scroll Wheel to view the related information. Press EXIT to exit.

```
(RF VERSION)
TYPE      :FRM303
RF LIB     :3.0
FIRMWARE   :2.3
ID         :1004
RF Power adjustable
```

## 6.5.9 RX SET - ABOUT RECEIVER

Displays information about the receiver bound, such as receiver model, version, and ID.

Function settings:

Select ABOUT RECEIVER and press Scroll Wheel to view the related information. Press EXIT to exit.

```
(ABOUT RECEIVER)
FG-8B
VERSION    :1.17
RX ID      :3800010212
```



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## 7. FS-SR8 Function instructions

FS-SR8 based on ANT protocol is a 8-channels receiver with two external antennas and bidirectional transmission. It has a compact design. The design of the receiver is easily to install, and it adapts a variety of models.

Note: See 2.2 Receiver Overview for interface Introduction details.

### 7.1 Attentions

- Make sure the product is installed and calibrated correctly, failure to do so may result in serious injury.
- Make sure the receiver's battery is disconnected before turning off the transmitter, failure to do so can result out of control.
- Unreasonable setting of the Failsafe may cause accidents.
- Make sure the receiver is mounted away from motors, electronic speed controllers or any device that emits excessive electrical noise.
- Keep the receiver's antenna at least 1cm away from conductive materials such as carbon or metal.
- Do not power on the receiver during the setup process to prevent loss of control.

### 7.2 Binding

If you need to re-bind the receiver, please refer to 4.3 Bind for the steps.

Note: Put the transmitter in bind mode first, and then put the receiver in bind mode.

### 7.3 RSSI

The RSSI data output via channel 14 to flight control in the manner of SERVO/S.BUS signal. The signal strength is 0 and the corresponding channel output value is 1000, and The signal strength is 100, then corresponding channel output value is 2000.

### 7.4 Updating the Firmware of the Receiver

The firmware of this receiver is updated through the FlyskyAssistant (Only version 3.0 or above is supported. The firmware of FlyskyAssistant is available on the Flysky official website).

This receiver can be updated via the following two ways:

1. After the binding between the transmitter and the receiver (the LED of the receiver is solid on), connect the transmitter to the computer, then open the FlyskyAssistant on the computer to update the firmware.
2. Connect the transmitter to the computer. Then put the receiver to enter the forced update mode by referring to the following three ways(The LED of the receiver works in three-flash-one-off mode repeatedly). Afterwards, open the FlyskyAssistant on the computer to update the firmware.
  - Power on the receiver while pressing and holding the BIND button for more than ten seconds, until the LED of the receiver operates in three-flash-one-off manner repeatedly, then release the BIND button.
  - Power on the receiver first, then press and hold the BIND button for more than ten seconds, when the LED of the receiver operates in three-flash-one-off manner repeatedly, then release the BIND button.
  - Connect the signal pin of the BIND interface to the signal pin of the SENS interface, then power on the receiver.

### 7.5 Failsafe of the Receiver

This receiver supports two failsafe modes: ON and OFF. You can set it at transmitter side. Please refer to Failsafe in the previous description.



## 8. DIY Customization

The system can be reconfigured to change stick placement, mount mobile stand, RF adapter or SMA antenna.

### 8.1 Throttle Plate Installation

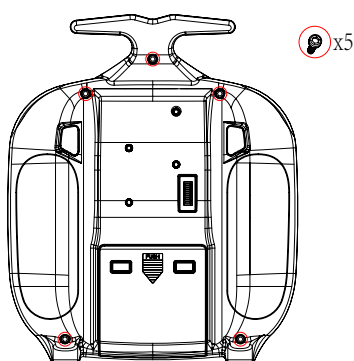
FS-ST8 transmitter has two sticks in the factory settings, and one is the self-centering stick. To use the non self-centering stick, please follow the steps below to replace the self-centering stick to the non self-centering stick. The throttle plate includes two types: setback sense throttle plate and non setback sense throttle plate (the installation steps are the same).



#### Attention

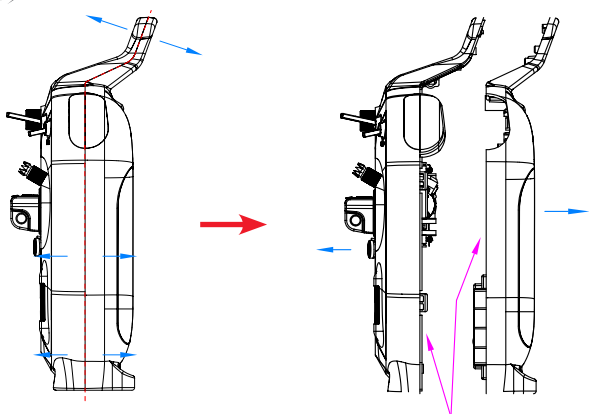
- This operation is only for the self-centering stick. It is forbidden to disassemble the non self-centering stick.

1



- Use a screwdriver to remove the 5 screws marked in red.

2



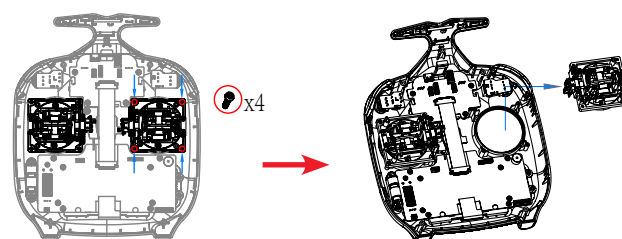
#### Caution

- Be careful to ensure no damage to cables or destroy the terminal block.

- Carefully pull the front and back covers apart. Be careful to ensure no damage to cables.

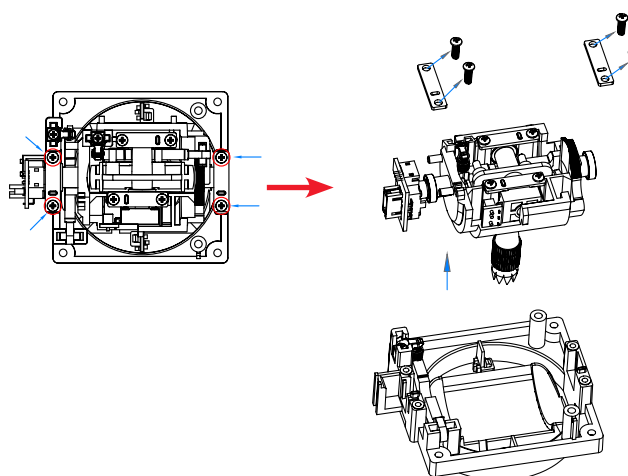
Note: The throttle plate installation, swapping gimbals requires that the transmitter be disassembled and reassembled. The instructions will only be provided here, the rest refer to the descriptions here.

3



- Loosen the assembly screws shown above first, then remove the gimbal.

4



- Loosen the assembly screws shown above first, then remove the plate assembly. Be careful to ensure no damage to cables.



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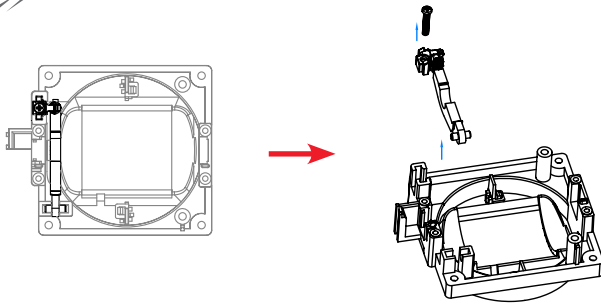


Website



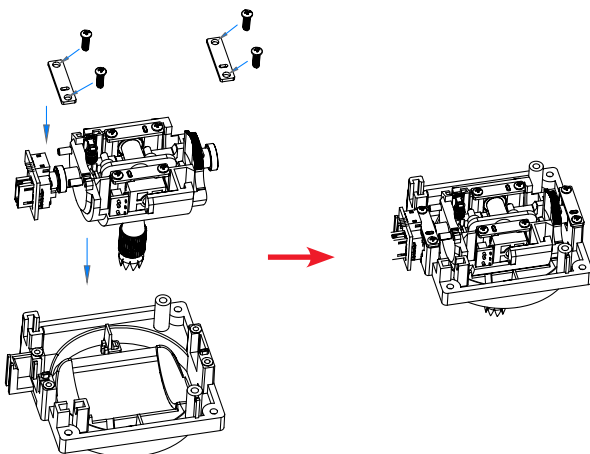
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5



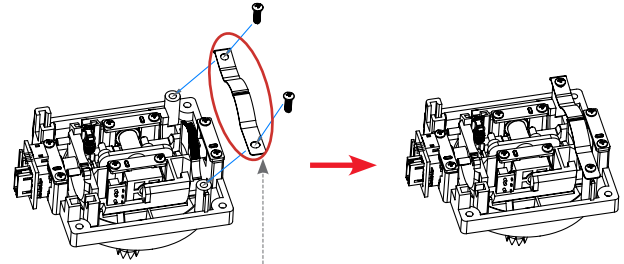
5. Remove the spring hook assembly carefully.

6



6. Place the plate assembly back in its original position, then secure it with the original 4 screws.

7



Pay attention to the bending direction of the throttle plate.

7. Put the throttle plate to the position which is shown above, then screw it using the screws. You can install the setback sense throttle plate or non setback sense throttle plate here. If the screws are too tight or too loose, this may bring different hand handle.

8

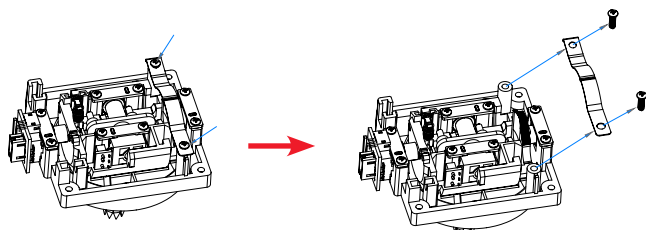
8. Carefully insert the back cover wiring plug into the motherboard, re-close the transmitter back cover, and tighten the screws.



## 8.2 Throttle Spring Installation

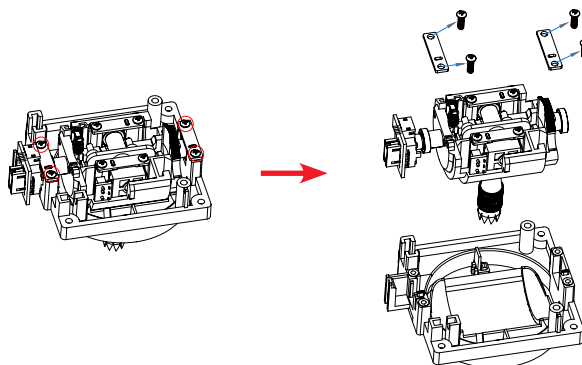
The following instructions explain how to change the non self-centering to self-centering.

1



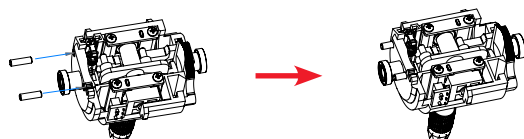
1. Take the transmitter apart and remove the gimbal, then remove the two screws which are shown above and remove the throttle plate.

2



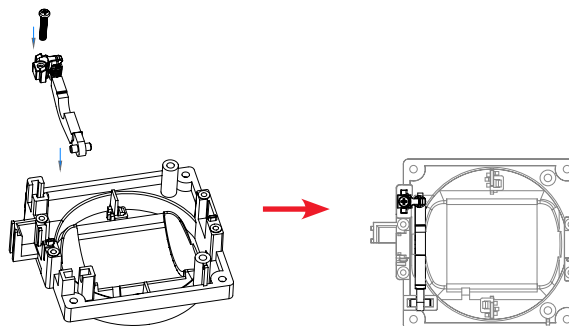
2. Loosen the assembly screws shown above first, then remove the plate assembly. Be careful to ensure no damage to cables.

3



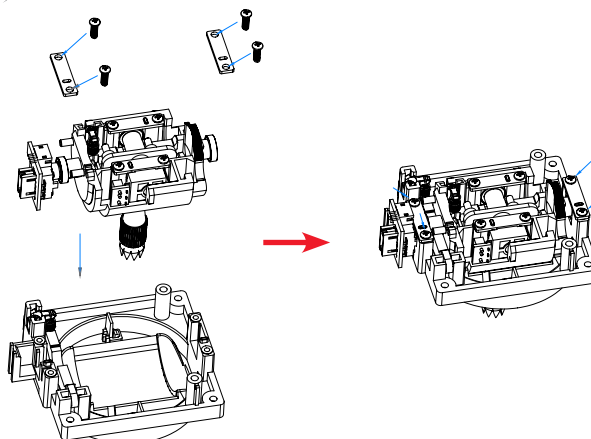
3. Insert the 2 dowels as shown above.

4



4. Place the spring hook assembly into position and hook the spring onto the hook located inside the transmitter.

5



5. Place the plate assembly back in its original position, then secure it with the original 4 screws.



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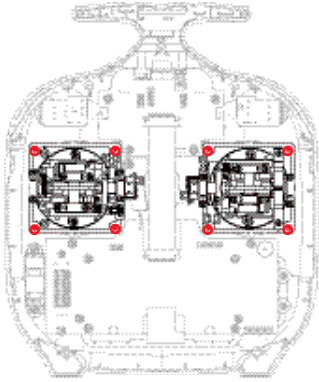


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## 8.3 Swapping Gimbals

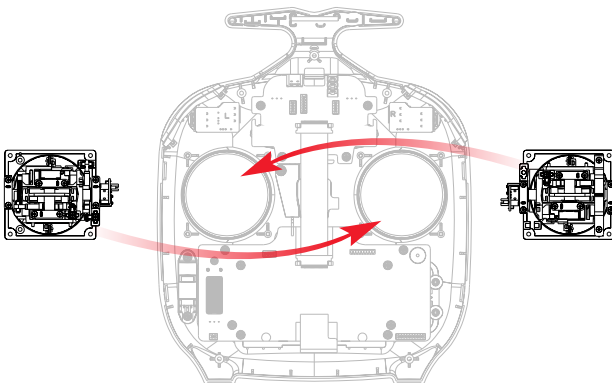
When changing between modes 2/4 (M2/M4) and modes 1/3 (M1/M3), you will need to switch the gimbals around so that the throttle gimbal is on the correct side.

**1**



1. Take the transmitter apart using a screwdriver, remove the 8 screws marked in red.

**2**

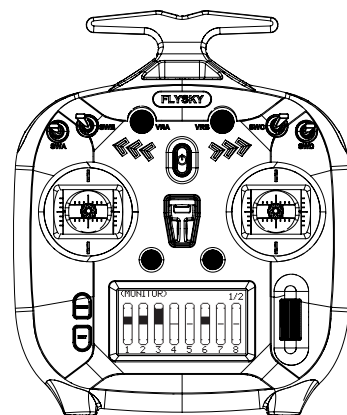


2. Swap the gimbals and rotate them 180 degrees, then line them up with the screw holes and secure the screws. (There is no need to disconnect the cables.).

**3**

3. Reassembly the transmitter.

**4**



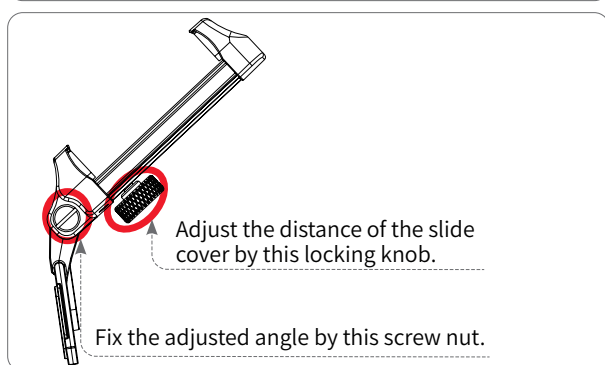
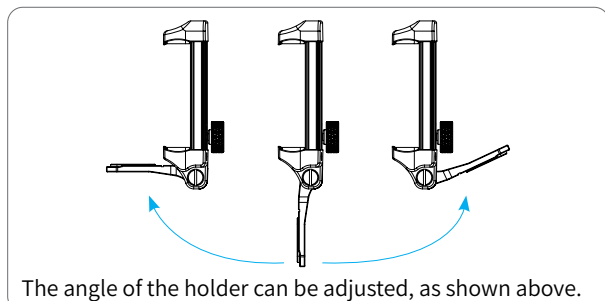
4. Turn on the transmitter and make sure everything is working as expected via Main menu > GENER MENU > MONITOR.



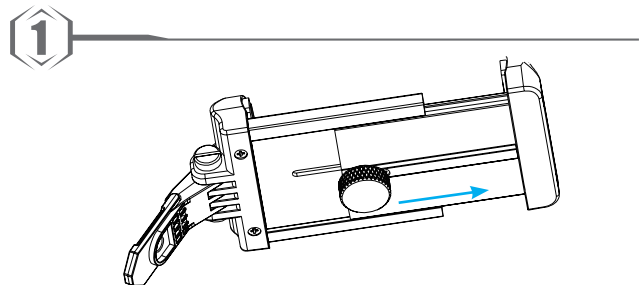
## 8.4 Device Holder Installation

Mobile devices, such as mobile phone, can be used in real time to receive information from an aircraft, it may be fitted into the mobile device bracket for your convenience.

### Device holder introduction



### How to fix the mobile phone with the holder



1. To adjust the holder, loosen locking knob by turning it anti-clockwise.

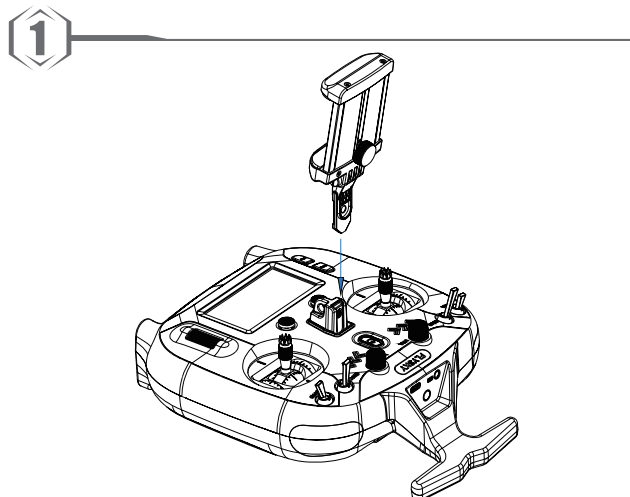


2. Place the mobile phone in the middle of the holder, be careful not to let the device fall.

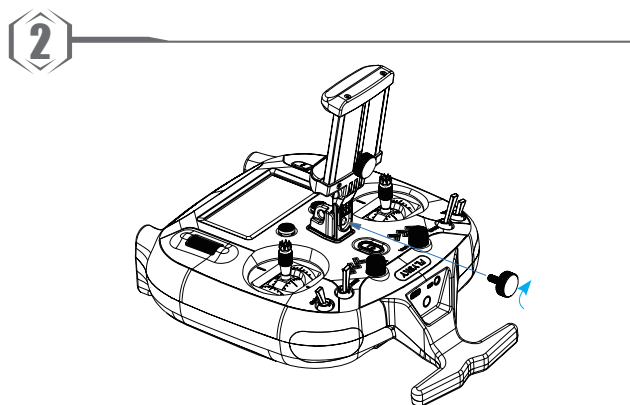


3. Slide the holder back down and tighten the locking screw. Make sure that the holder has a firm grip with the phone.

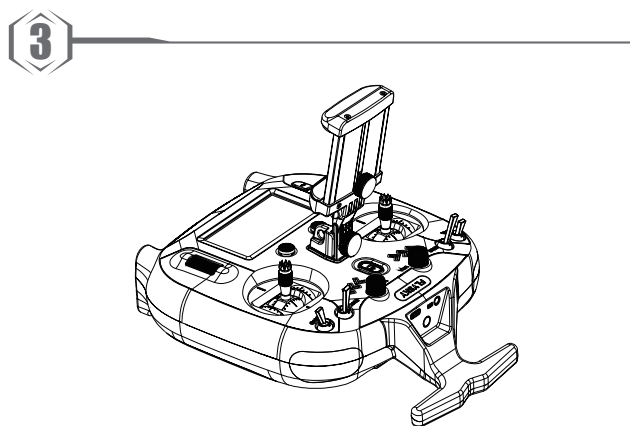
### How to install the holder



1. Insert the holder into the transmitter's reserved hole as shown.



2. Tighten the locking knob on the back of the holder.



3. The holder installation has finished.



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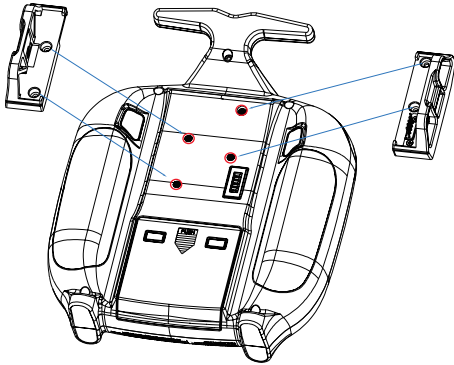


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## 8.5 Stealth I/O RF Module Adapter Installation

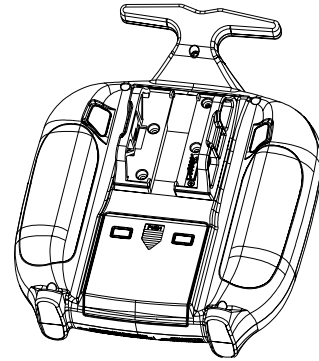
If you have purchased the RF module adapter, fix it on the transmitter by following the steps below:

**1**



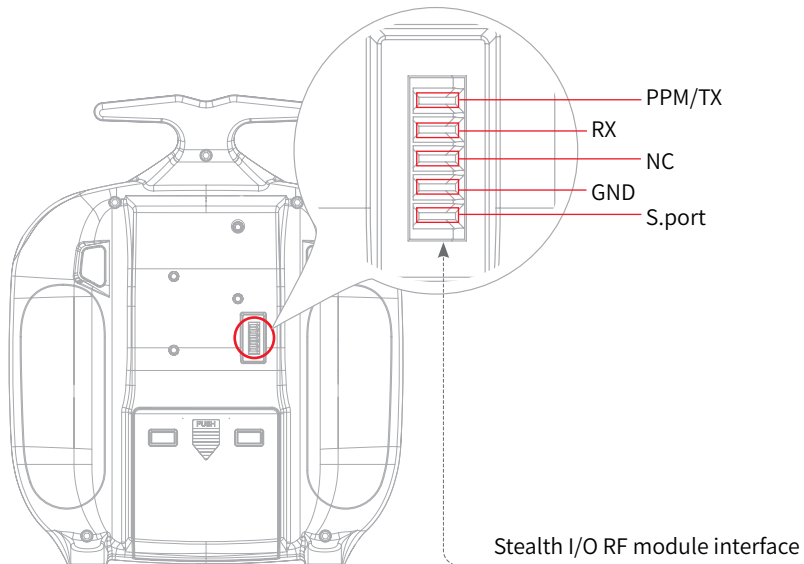
1. Place the left and right RF module adapters as shown in the figure. Remember to align the screw holes.

**2**



2. Tighten the four screws to secure the RF module adapters.

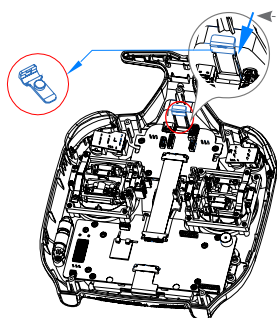
Note: The transmitter Stealth I/O RF module interface is designed without power supply, Stealth I/O RF module interface pins are defined as shown in the figure below. If you connect the RF module externally through the RF module adapter, you need to supply power to the RF module separately.



## 8.6 Antenna Assembly Installation

If you have purchased 2.4G antenna assembly inner-screw-inner-hole, the installation procedure is described below.

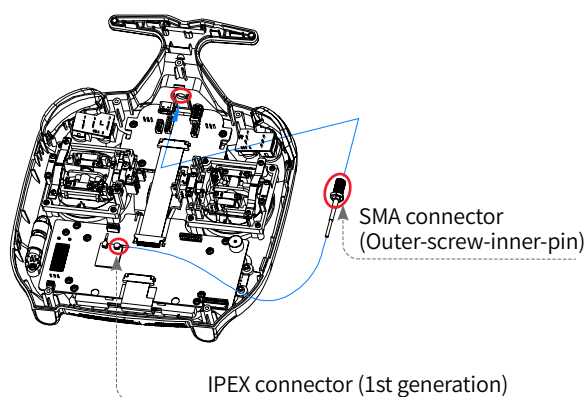
1



Remove the antenna hole plug small adhesive piece with the help of tweezers and other tools along the direction as shown.

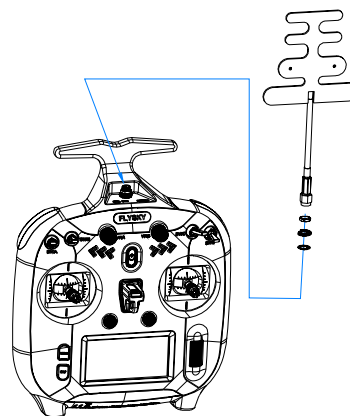
1. Remove the back cover of the transmitter by referring to the previous steps, and then remove the antenna hole plug small adhesive piece with the help of tweezers and other tools.

2



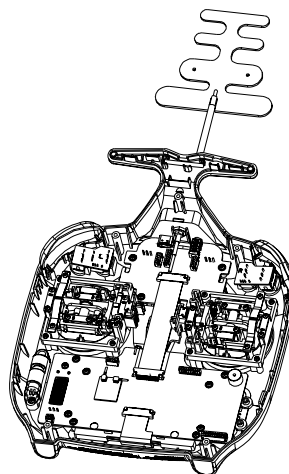
2. Insert the outer-screw-inner-pin end of the IPEX to SMA adapter cable into the corresponding position shown in the figure, and snap the hexagonal nut on the end. Snap the IPEX connector end of the adapter cable on the motherboard antenna holder and press firmly.

3



3. See the figure. Insert the plum washers and spring spacers in order. Then, screw in the hexagonal nut, and then tighten the antenna post.

4



4. Finally, close the back cover. Please make sure the wire terminals are in good contact. Note: You need to adjust the wire placement when closing the cover to avoid being pressed by the housing or other parts.



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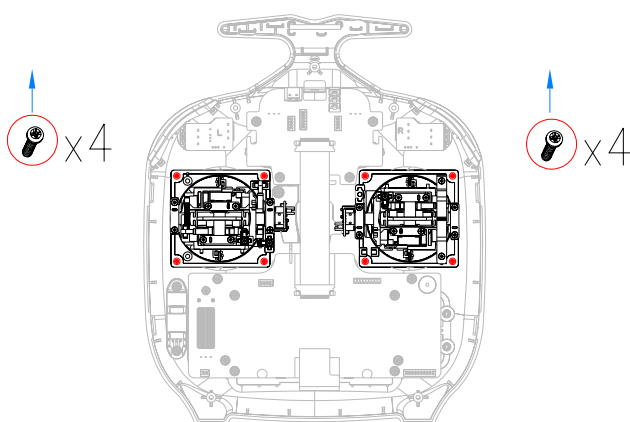
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## 8.7 Gimbal Repalce Instruction

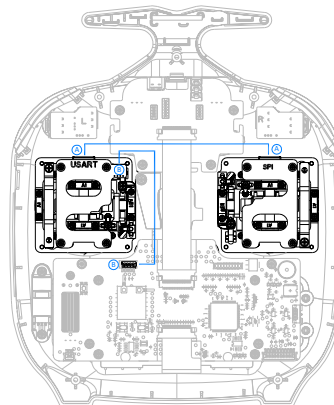
The factory-adapted gimbal assembly of the transmitter is the potentiometer version, if you want to change it to FlySky's hall gimbal, then follow the steps below to replace the gimbal.

**1**

1. Follow the previous steps to disassemble the transmitter.

**2**

2. As shown above, use a screwdriver to remove 4 screws each which are fixing the left and right gimbals, unplug the cables between the gimbals and the transmitter, and then remove the gimbals.

**3**

Note:

A-A: Connect the USART backplane to the SPI backplane;

B-B: Connect the USART backplane to the transmitter main board.

3. As shown in the digram, place the Hall gimbal on the transmitter, tighten the screws to fix the gimbals, then plug the connection cables (marked blue in the digram).

**4**

4. Replace the back cover.



## 9. Product Specifications

This section contains FS-ST8 transmitter and FS-SR8 receiver specifications.

### 9.1 Transmitter specification (FS-ST8)

|                     |                                                                                                                                                 |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Model       | FS-ST8                                                                                                                                          |
| Channels            | 8-12                                                                                                                                            |
| Adaptive receiver   | FS-SR8 ( Adapts receiver with ANT protocol )                                                                                                    |
| Model Type          | Fixed-wing aircraft, helicopters, gliders, delta-wing airplanes, multicopters, racing drones, engineering vehicles, robots, cars or boats, etc. |
| RF                  | 2.4GHz ISM                                                                                                                                      |
| Maximum Power       | < 20dBm (e.i.r.p.) (EU)                                                                                                                         |
| 2.4GHz Protocol     | ANT                                                                                                                                             |
| Distance            | >1000m (Air distance without interference)                                                                                                      |
| Channel Resolution  | 4096                                                                                                                                            |
| Battery             | 1.5AA*4 / 2S Lipo (JST)                                                                                                                         |
| Charging Interface  | NO                                                                                                                                              |
| Data Output         | PWM/PPM/i-BUS/S.BUS                                                                                                                             |
| Low Voltage Warning | AA battery: <4.2V/ Lipo battery: <7.2V                                                                                                          |
| Antenna Type        | Built-in double antennas                                                                                                                        |
| Display             | 128*64 LCD (Black and white dot matrix screen)                                                                                                  |
| Temperature Range   | -10°C ~ +60°C                                                                                                                                   |
| Humidity Range      | 20% ~ 95%                                                                                                                                       |
| Languages           | Chinese, English                                                                                                                                |
| Online Update       | Yes                                                                                                                                             |
| Color               | Black                                                                                                                                           |
| Size                | 176*210.9*82.5mm                                                                                                                                |
| Weight              | 420g                                                                                                                                            |
| Certifications      | CE, FCC ID: : N4ZST800                                                                                                                          |



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## 9.2 Receiver specification (FS-SR8)

|                       |                                                                                                                                                 |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Model         | FS-SR8                                                                                                                                          |
| Adaptive transmitters | FS-ST8 (Adapts transmitter with ANT protocol )                                                                                                  |
| Adaptive Models       | Fixed-wing aircraft, helicopters, gliders, delta-wing airplanes, multicopters, racing drones, engineering vehicles, robots, cars or boats, etc. |
| PWM Channels          | 8                                                                                                                                               |
| Maximum Power         | < 20dBm (e.i.r.p.) (EU)                                                                                                                         |
| RF                    | 2.4GHz ISM                                                                                                                                      |
| 2.4GHz Protocol       | ANT                                                                                                                                             |
| Resolution            | 4096                                                                                                                                            |
| Distance              | >1000m (Air distance without interference)                                                                                                      |
| Antenna Type          | Two antennas                                                                                                                                    |
| Input Power           | 3.5~9V/DC                                                                                                                                       |
| Data Output           | PWM/PPM/i-BUS/S.BUS                                                                                                                             |
| Online Update         | Yes                                                                                                                                             |
| Temperature Range     | -10°C ~ +60°C                                                                                                                                   |
| Humidity Range        | 20% ~ 95%                                                                                                                                       |
| Weight                | 10g                                                                                                                                             |
| Dimensions            | 44.8*26.6*11.3mm                                                                                                                                |
| Certifications        | CE, FCC ID: 2A2UNSR800                                                                                                                          |



## 10. Package Contents

This section contains packing list information. Different versions have different configurations, please consult your dealer for details.

For Standard Edition

| Number | Name               | Quantity | Remark |
|--------|--------------------|----------|--------|
| 1      | FS-ST8 Transmitter | 1        |        |
| 2      | FS-SR8 Receiver    | 1        |        |
| 3      | Quick Start Guide  | 1        |        |

For Upgraded Version

| Number | Name                                              | Quantity | Remark   |
|--------|---------------------------------------------------|----------|----------|
| 1      | FS-ST8 Transmitter                                | 1        |          |
| 2      | FS-SR8 Receiver                                   | 1        |          |
| 3      | Quick Start Guide                                 | 1        |          |
| 4      | Throttle Self-centering Modification Parts        | 1        |          |
| 5      | FGPZ05 RF Module Adapter                          | 1        |          |
| 6      | Setback Sense Throttle Modification Parts         | 1        |          |
| 7      | Device Holder                                     | 1        | Optional |
| 8      | External FS-FRA01 2.4G Antenna Modification Parts | 1        | Optional |
| 9      | FGPZ03 RF Module Adapter                          | 1        | Optional |
| 10     | FGPZ05 RF Module Adapter                          | 1        | Optional |



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## 11. Certifications

### 11.1 DoC Declaration

Hereby, [Flysky Technology co., ltd] declares that the Radio Equipment [FS-ST8] is in compliance with RED 2014/53/EU.

The full text of the EU DoC is available at the following internet address: [www.flyskytech.com/info\\_detail/10.html](http://www.flyskytech.com/info_detail/10.html).

### 11.2 CE Warning

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 transmitter. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

### 11.3 Appendix 1 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.

This equipment 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.

1. 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 transmitter. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.
2. Move all your channels to the desired position.
3. Select [All channels] and then [Yes] in the confirmation box.

#### SAR

The maximum SAR value is 2.57W/kg when the equipment used 5mm close to user.



## 12. Environmentally friendly disposal

Old electrical appliances must not be disposed of together with the residual waste, but have to be disposed of separately. The disposal at the communal collecting point via private persons is for free. The owner of old appliances is responsible to bring the appliances to these collecting points or to similar collection points. With this little personal effort, you contribute to recycle valuable raw materials and the treatment of toxic substances.



### CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.  
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS

Figures and illustrations in this manual are provided for reference only and may differ from actual product appearance. Product design and specifications may be changed without notice.



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Release date: 2022-12-27



CE, FCC ID: N4ZST800

Manufacturer: ShenZhen FLYSKY Technology Co., Ltd.  
Address: 16F, Huafeng Building, No. 6006 Shennan Road, Futian District, Shenzhen, Guangdong, China