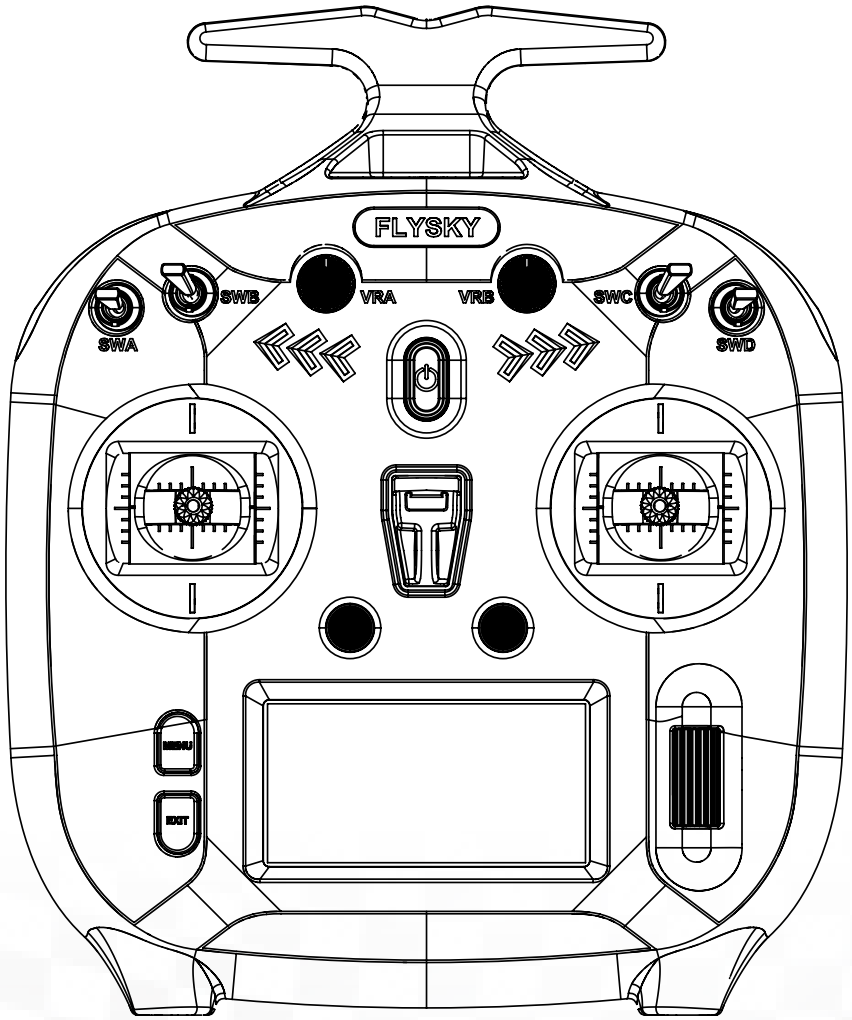
EX8

USER MANUAL

FLYSKY

Digital Proportional Radio Control System



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

Contents

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.

⚠ Danger	• Not following these instructions may lead to serious injuries or death.
⚠ Warning	• Not following these instructions may lead to major injuries.
⚠ Attention	• Not following these instructions may lead to minor injuries.

1.2 Safety Guide

Prohibited **Mandatory**

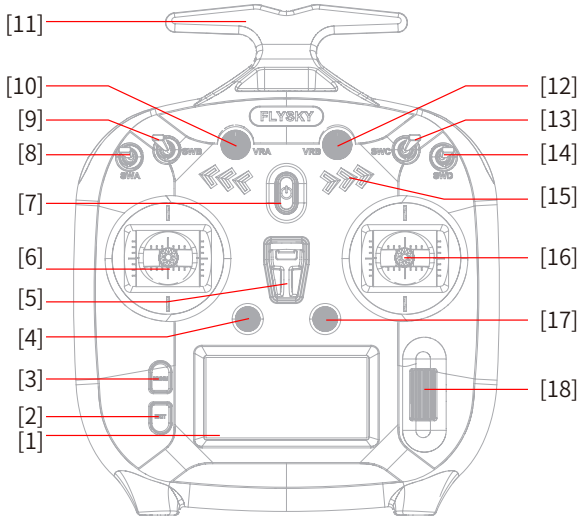
- **Do not use the product at night or in bad weather like rain or thunderstorm. It can cause erratic operation or loss of control.**
- **Do not use the product when visibility is limited.**
- **Do not use the product on rain or snow days. Any exposure to moisture (water or snow) may cause erratic operation 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.**

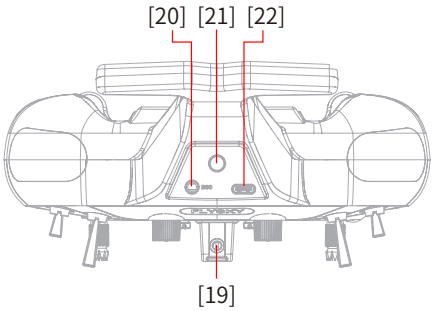
- **Misuse of this product may lead to serious injury or death. To ensure the safety of you and your equipment, read this manual and follow the instructions.**
- **Make sure the product is properly installed in your model. Failure to do so may result in serious injury.**
- **Make sure to disconnect the 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.**

2.Introduction

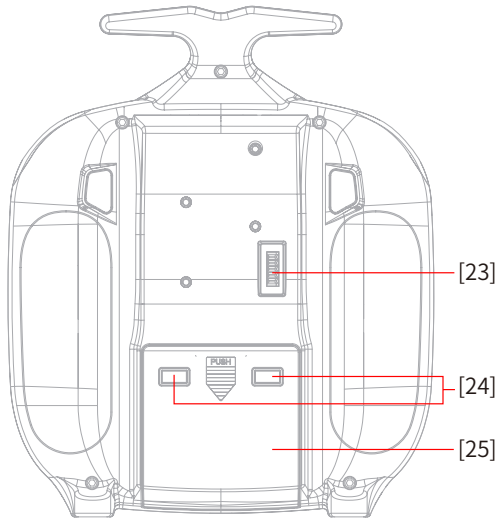
This product uses the 2.4 GHz ANT (Ant Protocol) automatic frequency hopping digital system, consisting of EX8 transmitter and EXR8 receiver. It has an output of 8-10channels, compatible with model fixed-wing aircraft, delta-wing airplanes, helicopters, gliders, multicopters, engineering vehicles, robots, etc.

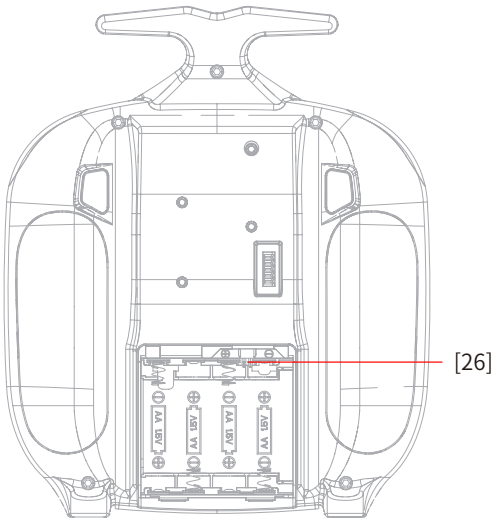
2.1 Transmitter overview





[1] Display
[2] EXIT Button
[3] MENU Button
[4] T1/T2 Trim Button
[5] Neck Strap Hook
[6] Left Stick
[7] ⏻ (Power Switch)
[8] SWA Two-position Switch
[9] SWB Two-position Switch
[10] VRA Knob
[11] Carrying Handle
[12] VRB Knob
[13] SWC Three-position Switch
[14] SWD Two-position Switch
[15] LED Indicator
[16] Right Stick
[17] T3/T4 Trim Button
[18] Scroll Wheel
[19] A Hole for Fixing the Cell Phone Holder
[20] Trainer Jack
[21] A Preserved Hole for Fixing Antenna
[22] Type-C Port





[23] Stealth I/O RF interface
[24] A Preserved Hole for XT30 Cable
[25] Battery Compartment

[26] JST Jack

2.1.1 Button/Scroll Wheel

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

- Press MENU in the main page to enter the function menu.
- Press and hold MENU for seconds to enter MONITOR menu.

EXIT button

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

Scroll Wheel

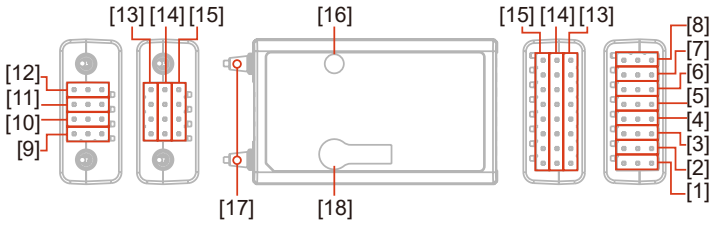
- In the selected state, press Scroll wheel to enter the next level menu.
- To set turn on/off a function, you select it by scrolling Scroll Wheel and press Scroll wheel for switching between ON and OFF.
- In the function item editing status, press Scroll wheel to determine the editing result, and press 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 state. 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 state, 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.

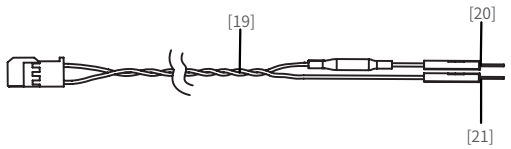
2.1.2 USB Simulatior Function

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.

⚠	**Caution**	• **If the computer does not recognise the transmitter unplug and reconnect the USB cable.**

2.2 Receiver overview (EXR8)





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

Note: The range of BVD voltage detection is from 0 to 70V.

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 bind 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.

⚠ **Caution**	• **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.**
⚠ **Note**	• **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.**
⚠ **Note**	• **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.**

3. Getting Started

Prior to operations, please install the battery and connect devices according to the sequence and guide as described in this chapter.

3.1 Installing Transmitter Battery

⚠ Danger	• Only use specified battery (X4 AA batteries).
⚠ Danger	• Do not open, disassemble, or attempt to repair the battery.
⚠ Danger	• Do not crush/puncture the battery, or short the external contacts.
⚠ Danger	• Do not expose to excessive heat or liquids
⚠ Danger	• Do not drop the battery or expose to strong shocks or vibrations.
⚠ Danger	• Always store the battery in a cool, dry place.
⚠ Danger	• Do not use the battery if damaged

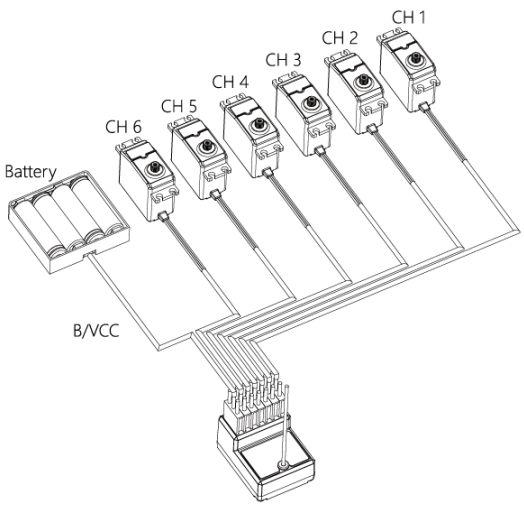
Battery type: AA batteries or 2S lithium batteries JST interface inside the battery compartment.

Please follow the steps below to install the transmitter batteries:

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

Install the receiver and servo in the following methods:



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.

⚠ **Note**	• **Operate with caution in order to avoid damage or injury.**
⚠ **Note**	• **For your safety, please turn the transmitter switch and throttle to the safe position.**

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. 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 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 EX8 transmitter and the EXR8 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

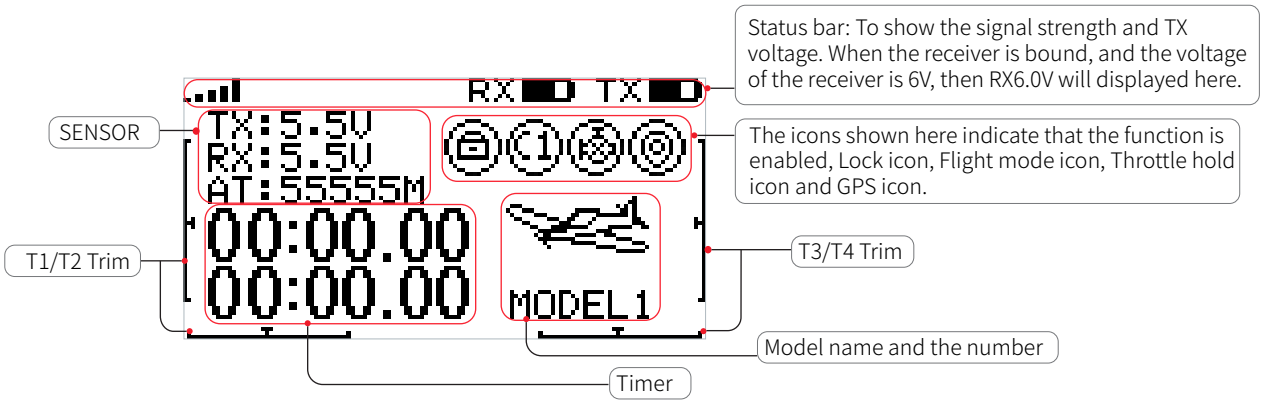
Follow the steps below to turn off the system:

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

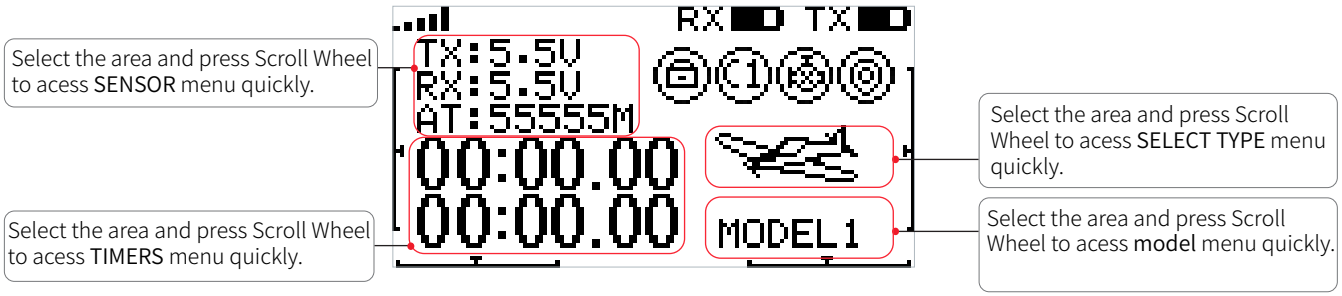
⚠ **Danger**	• **Make sure to disconnect the receiver power before turning off the transmitter. Failure to do so may lead to damage or serious injury.**

5. Main menu

Instructions are about the main menu.

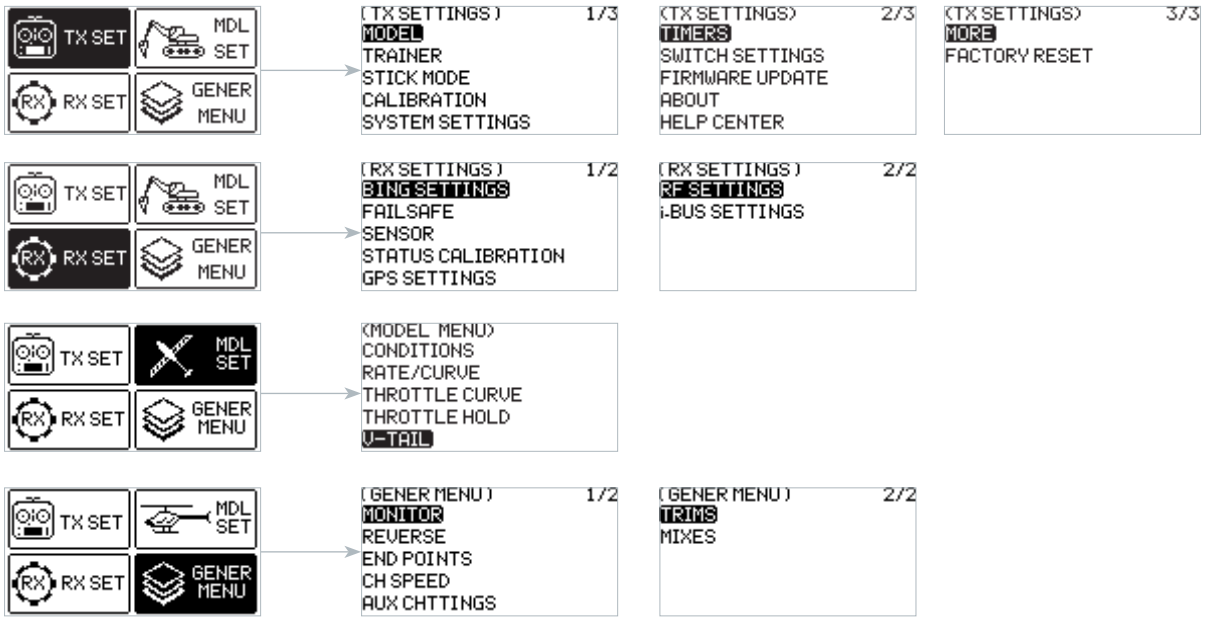


Quick access to the menu:



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, HELI PITCH SETUP and GYROSCROPE;

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.

6.1 Transmitter settings

There are 11 function menus in TX SET menu: MODEL, TRAINER, STICK MODE, CALIBRATION, SYSTEM SETTINGS, TIMERS, SWITCH SETTINGS, FIRMWARE UPDATE, ABOUT, HELP CENTER, MORE and FACTORY RESET.

In the main menu, press MENU to enter the function menu. Selec 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.

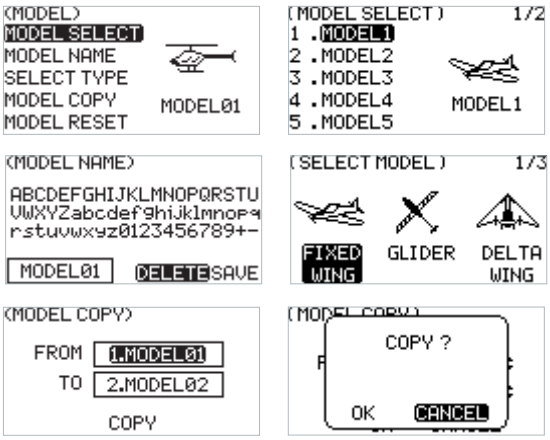
SELECT TYPE To provide a total of 9 different types of models, and it covers most of kinds of the models.

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.
   - If the Helicopter is selected, a swash setting menu comes along with it, select an appropriate swash, then 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.

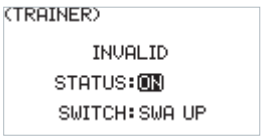


6.1.2 TX SET - TRAINER

This function is suitable 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.The trainer function can be enabled by selecting Status: ON. Then, users can set a switch to control the trainer function. When the switch is on, the trainer controls the aircraft. When the switch is off, the student controls the aircraft. For example, if the trainer and the student use two EX8 transmitters for teaching and training. The trainer's EX8 transmitter needs to be set to ON for this function with a control switch, and the student's transmitter does not need to be set.

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:

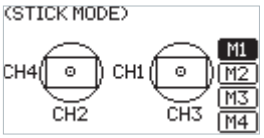
1. Use a trainer cable to connect the two transmitters which are for the trainer and the student. Make sure the trainer cable connected well before using this function.
2. VALID will be displayed on the top of this menu, when trainer transmitter and student transmitter are connected successful.

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-return to non-self-return and vice versa. In addition, in the mode of throttle non-self-return, the throttle position should be adjusted when it is from left to right and vice versa. For other changes, the adjustment is not required.



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 autoshutdown.

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.

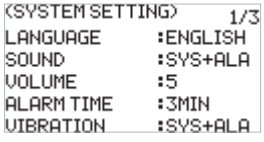
TIME To set the time of the backlight, namely how long the screen takes to turn off when not in use.

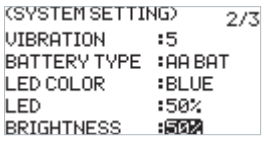
Note: Leaving the screen on for longer will use more power and as such may lead to reduced battery time.

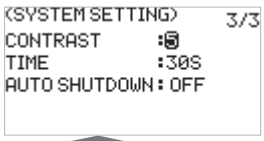
AUTO SHUTDOWN To set the time of auto shutdown or turn off it .

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 itemand press Scroll Wheel to finish. Press EXIT to save and exit.





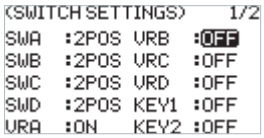


6.1.5 TX SET - TIMERS

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.
4. 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.

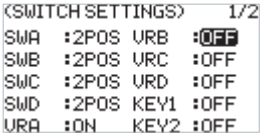


6.1.6 TX SET - SWITCHES SETTINGS

Used to set which controls can be assigned iincluding Trim, Knob and Switch, then the controls can be assigned to some functions in controlling the output. The channel numbers can be set via **CH NUM**.

Function settings:

1. Select SWITCHES SETTINGS and press Scroll Wheel to enter.
2. Select a control 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: For the position-level switch, you can set the position-level switch. You can set the position-level when the switch needs to be changed here.

6.1.7 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:

1. Download the latest firmware.
2. Connect the transmitter and the PC via a Type-C USB cable. Open the firmware on a computer.
3. 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:

1. 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.
2. Don't disconnect the Type-C USB cable during the firmware updating, otherwise the transmitter may occur a fault.
3. You can also upgrade the firmware through FLYSKYAssistant.

6.1.8 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.

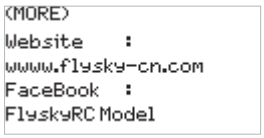
6.1.9 TX SET - HELP CENTER

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.

6.1.10 TX SET - MORE



To obtain the website and FaceBook via this function.

Function settings:

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

6.1.10 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.

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 Receiver settings

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, RF SETTING, i-BUS SETTINGS, SENSOR CALIBRATION.

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

6.2.1 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.

FREQUENCY To set an apppropriate frequency according to your servos.

Note: The frequency of analog servo is 60HZ, 380HZ is for digital servo

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.

Refer to 4.3 Bind setting for function settings.

6.2.2 RX SET - FAILSAFE

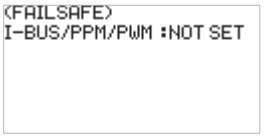
Failsafe is an important safety setting. It can be used to protect the model from loss or reduce the degree of loss when the receiver loses signal without control. In addition, it plays a role in protecting personnel safety.

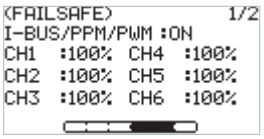
You can set the data in case of loss of control for all output channels.

Function settings:

1. Select FAIL SAFE 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.

   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. For bus signal types such as PPM/i-BUS/S.BUS, a single or several of these channels are not allowed to be in OFF mode. The actual signal is held at the last output value when the channel is set to OFF
2. Because the S.BUS signal information contains failsafe flag bits, the failsafe settings of each channel are communicated to subsequent devices by the failsafe flag bits. If the connected devices support the failsafe flag bit analysis, the failsafe values set for each channel are output after out of control.
3. For the signal PPM/i-BUS without failsafe flag bits, it supports the setting of the signal to OFF mode in case of out of control. After setting to OFF mode, regardless of the setting of the failsafe of each channel, each channel will be in OFF mode after out of control. The failsafe function has no default set at the factory and as such must be set manually.
4. If no failsafe setting has been set, then the receiver will not output anything when signal is lost.

6.2.3 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.

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.

Function settings:

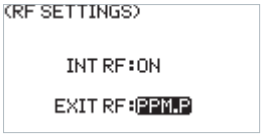
1. Connect a sensor to the receiver via the SENS interface. At the transmitter side, select SENSOR and press Scroll Wheel to enter.
2. Select a item you want to set using Scroll Wheel, such as TX VOL, using Scroll Wheel, you can set it to dispaly on the main menu, as well as set a alarm function and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

6.2.4 RX SET - RF SETTINGS

This is an extended function option. The setting is used when the external RF module is needed.

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.



6.2.5 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 EX8 and the receiver EXR8 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. After the setting is successful, the system will pop up a menu showing successful.

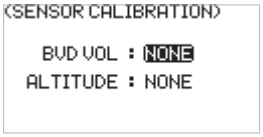
Note: If the receiver is overloaded, please supply power separately to prevent the wire from being burnt out due to excessive current.

6.2.6 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.
2. Select a item you want to set using Scroll Wheel.
3. Select an appropriate value and press Scroll Wheel to confirm. Press EXIT to save and exit.



6.2.7 RX SET - GPS SETTING

This function needs to be used with the 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 To display the information returned by GPS sensor.

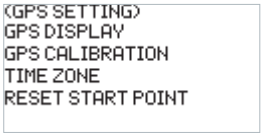
GPS CALIBRATION To calibrate the height value.

TIME ZONE To set an approriate 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.



6.3 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.

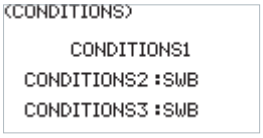
In the main interface, press MENU to enter the function menu. Select MDL SET by scrolling **Scroll Wheel** and press **Scroll Wheel** to enter.

6.3.1 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.

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.

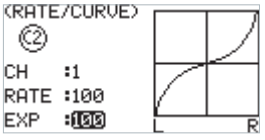


6.3.2 MDL SET - RATE/CURVE

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.

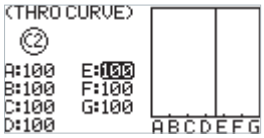


6.3.3 MDL SET - THROTTLE CURVE

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.

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.

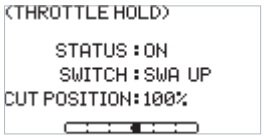


6.3.4 MDL SET - THROTTLE HOLD

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.

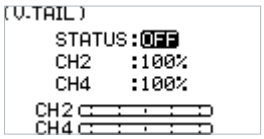


6.3.5 MDL SET - V-TAIL

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.

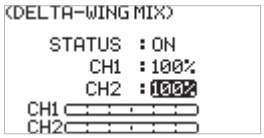


6.3.6 MDL SET - DELTA-WING MIX

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.



6.3.7 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.

Function settings:

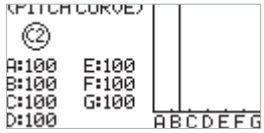
1. Select DELTA-WING MIX and press Scroll Wheel to enter.
2. Set ON or OFF to turn on or turn off using Scroll Wheel.
3. Select an item and select an appropriate value then press Scroll Wheel. Press EXIT to save and exit.
4. Carry out a test to confirm that the transmitter functions normally after it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

6.3.8 MDL SET - PITCH CURVE

This function is set for some specific models, for example, helicopter models.This function is available when SWASH set to VARIABLE, 90^0, 120^0, or 140^0. Adjust the helicopter's screw 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.



6.3.9 MDL SET - HELI PITCH SETUP

This function is set for some specific models, for example, helicopter models.This function is available when SWASH set to 90^0, 120^0, or 140^0.

Function settings:

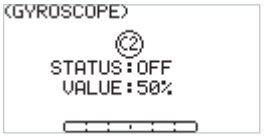
1. Select HELI PITCH SETUP and press Scroll Wheel to enter.
2. Select an item you want to set and press Scroll Wheel, then select an appropriate value and press Scroll Wheel to confirm. Press EXIT to save and exit.

6.3.10 MDL SET - GYROSCROPE

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

Function settings:

1. Select GYROSCROPE and press Scroll Wheel to enter.
2. Set ON or OFF to turn on or turn off using Scroll Wheel.
3. Select an item and select an appropriate value then press Scroll Wheel. Press EXIT to save and exit.



6.4 General settings

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

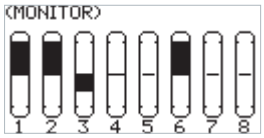
In the main interface, press MENU to enter the function menu. Select GENER MENU by scrolling **Scroll Wheel** and press **Scroll Wheel** to enter.

6.4.1 GENER MENU - MONITOR

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

Function settings:

Select MONITOR and press Scroll Wheel to enter the mnitoring menu.



Note: There is another hidden function on menu: Channel test.Press and hold the Scroll Wheel in this menu. The system will prompt "Comfirm access channel test?". Select OK and press Scroll Wheel to ente. 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.

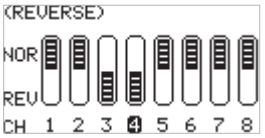
6.4.2 GENER MENU - REVERSE

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.



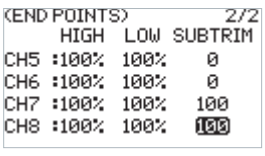
6.4.3 GENER MENU - END POINTS

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 POINT 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.

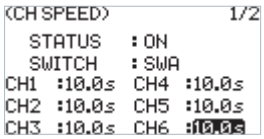


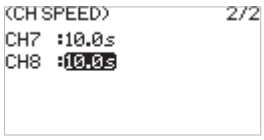
6.4.4 GENER MENU - CH SPEED

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.



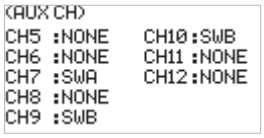


6.4.5 GENER MENU - AUX CH

For some models with complex functions, we provide up to 10 channels of output, 6 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 CH10, assigning targeted 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.

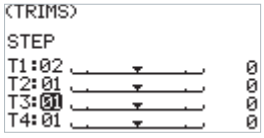


6.4.6 GENER MENU - TRIMS

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.



6.4.7 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.

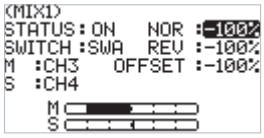
M(Master) To set a master channel, this channel will control the slave channel.

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% to100%. 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% to100%. 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 chanel.



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.

7. EXR8 Function instructions

EXR8 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 thecomputer, 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 operates in three-flash-one-off manner 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 receiveroperates in three-flash-one-off manner repeatedly, then release the BIND button.
   - Connect the bind cable to the signal pins of the BIND and SENS, 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. Product Specifications

This section contains EX8 transmitter and EXR8 receiver specifications.

8.1 Transmitter specification（EX8）

Product Model	EX8
Channels	8-10
Adaptive receiver	EXR8 (Adapts receiver with ANT protocol)
Model Type	Fixed-wing aircraft, Helicopters, Gliders, Delta-wing airplanes, Multicopters, 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	Semi-transparent fluorescent pigment orange, semi-transparent fluorescent pigment green or semi-transparent dark blue
Size	176*210.9*82.5mm
Weight	420g
Certification	CE，FCC ID: : N4ZST800

8.2 Receiver specification（EXR8）

Product Model	EXR8
Adaptive transmitter	EX8 (Adapts transmitter with ANT protocol)
Adaptive Models	Fixed-wing aircraft, Helicopters, Gliders, Delta-wing airplanes, Multicopters, Engineering vehicles, Robots, Cars or Boats, etc.
Numbers of channel	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

9. Package Contents

The chapter contains the information related to package. Please contact the local dealer for detailed configuration due to different version of the transmitter.

Transmitter*1（EX8)
Receiver*1(EXR8)
Quick start guide *1
Lanyard *1
Switch cap *1(one bag)
USB-A to Type-C interface cable*1

10. Certifications

10.1 DoC Declaration

Hereby, [Flysky Technology co., ltd] declares that the Radio Equipment [EX8] is in compliance with RED 2014/53/EU.

The full text of the EU DoC is available at the following internet address: www.flysky-cn.com.

10.2 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.

10.3 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 televison reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To assure continued compliance, any changes or modifications not expressly approved by the 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.

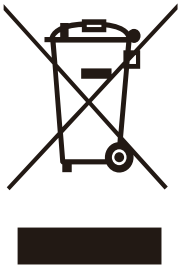
1. The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-lacated or operating in conjunction with any other transmitter.End-users and installers must be provided with antenna installation instructions and transmitter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

11. 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 specificatiions may be changed without notice.

FLYSKY

www.flysky-cn.com

Release date: 2022-03-15

CE，FCC ID：N4ZST800

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