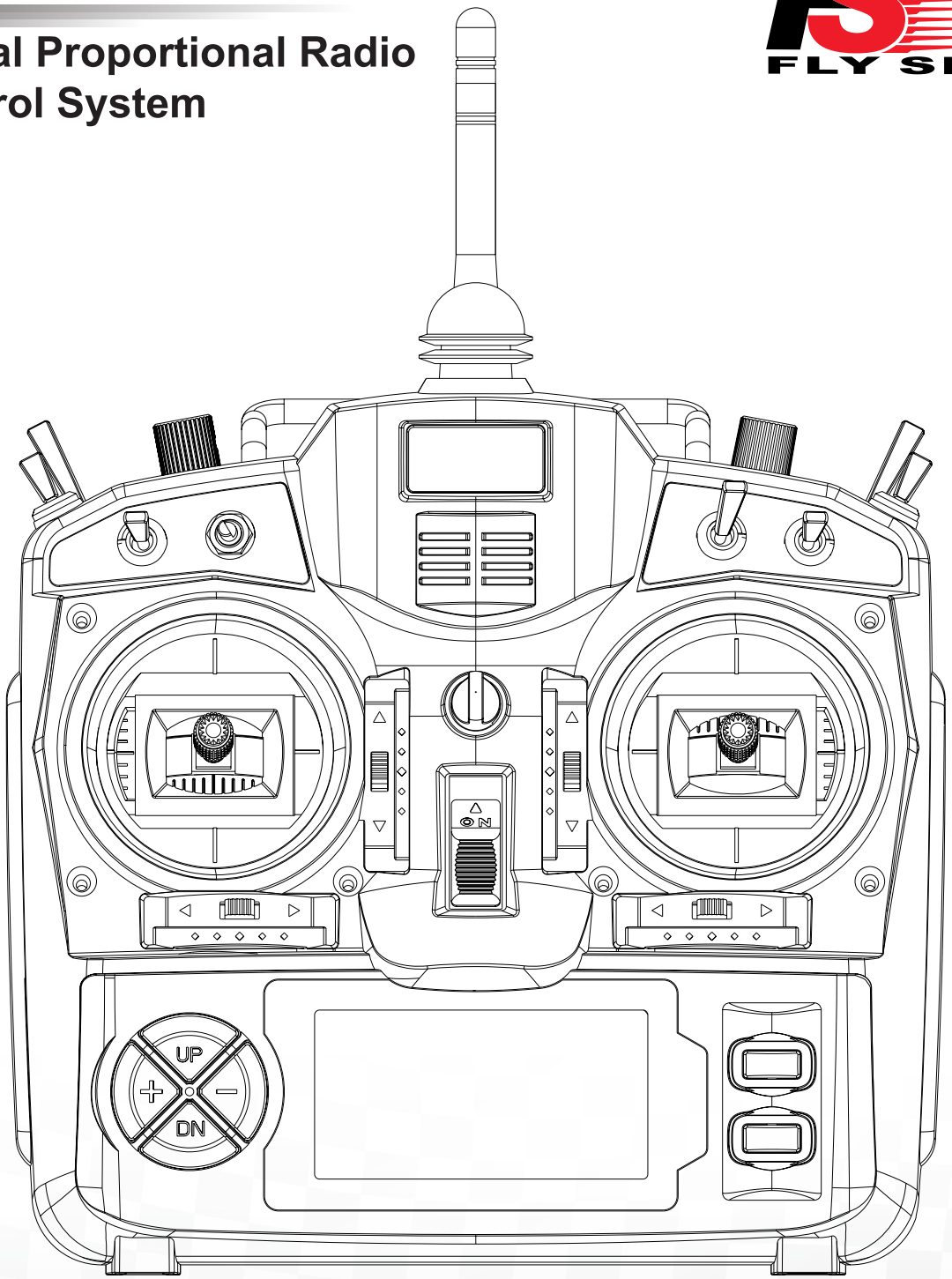
FS-TH9X

USER MANUAL

Digital Proportional Radio Control System



2.4 Hz 01010101 AFHDS AUTOMATIC FREQUENCY HOPPING DIGITAL SYSTEM

15+

WARNING:
This product is only for 15 years old or above

Thank you for purchasing our product, an ideal radio system for beginners or experienced users.

In order to ensure your safety, and the safety of others, read this manual carefully before using this product. If you encounter any problem during use, refer to this manual first. If the problems persists, contact your local dealer or visit our service and support website :

www.flysky-cn.com

Table of 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

- **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.**
- **Never grip the transmitter antenna during operation. It significantly degrades signal quality and strength and may cause 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.**

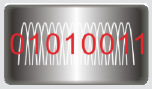
- **Misuse of this product may lead to serious injury or death. To ensure the safety of you and your equipment, read this manual and follow the instructions.**
- **Make sure the product is properly installed in your model. Failure to do so may result in serious injury.**
- **Make sure to disconnect the 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 flies within a certain distance. Otherwise, it would cause loss of control.**

2. Introduction

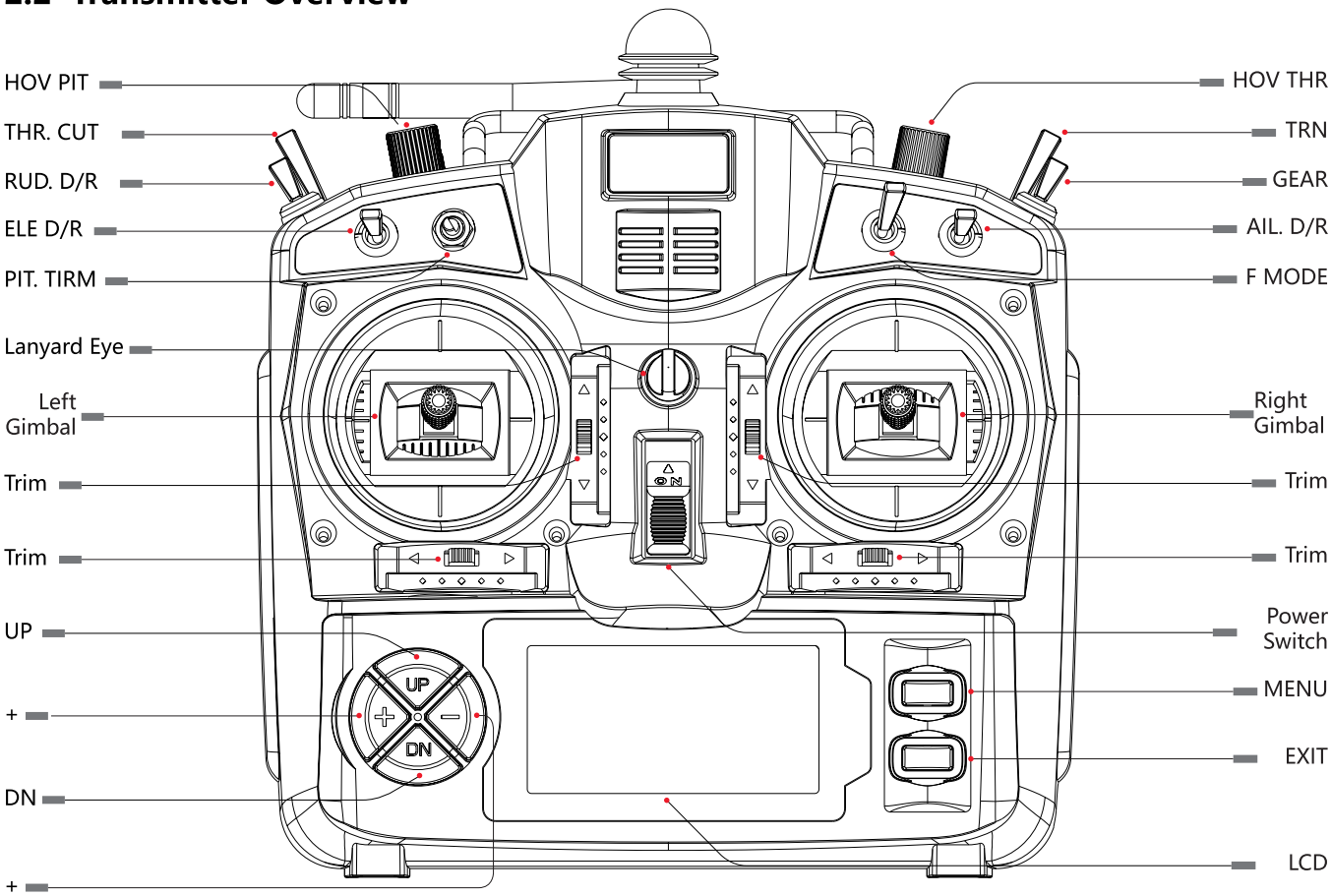
The FS-TH9X transmitter and FS-R9B receiver constitute a 8 channel 2.4GHz AFHDS.

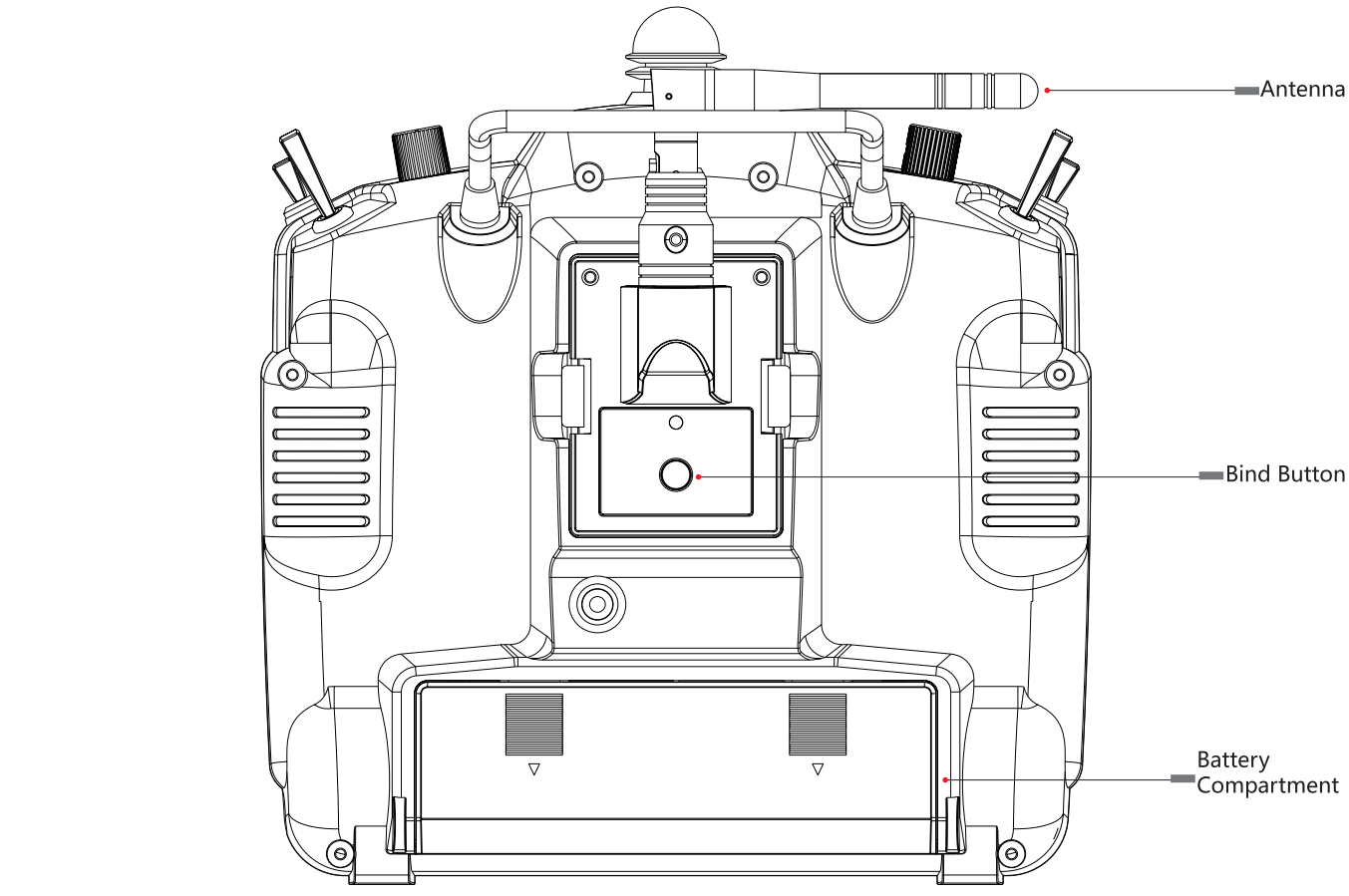
2.1 System Features

The AFHDS 2A (Automatic Frequency Hopping Digital System Second Generation) developed and patented by FLYSKY is specially developed for all radio controlled models. Offering superior protection against interference while maintaining lower power consumption and high reliable receiver sensitivity, FLYSKY's AFHDS technology is considered to be one of the leaders in the RC market today.

	**Bidirectional Communication** Capable of sending and receiving data, each transmitter is capable of receiving data from temperature, altitude and many other types of sensors, servo calibration and i-BUS Support.
	**Multi-channel Hopping Frequency** This systems bandwidth ranges from 2.408GHz to 2.475GHz. This band is divided in 140 channels. Each transmitter hops between 16 channels (32 for Japanese and Korean versions) in order to reduce interference from other transmitters.
	**Omni-directional Gain Antenna** The high efficiency Omni-directional high gain antenna cuts down on interference, while using less power and maintaining a strong reliable connection.
	**Unique ID Recognition System** Each transmitter and receiver has it's own unique ID. Once the transmitter and receiver have been paired, they will only communicate with each other, preventing other systems accidentally connecting to or interfering with the systems operation.
	**Low Power Consumption** The system is built using highly sensitive low power consumption components, maintaining high receiver sensitivity, while consuming as little as one tenth the power of a standard FM system, dramatically extending battery life.

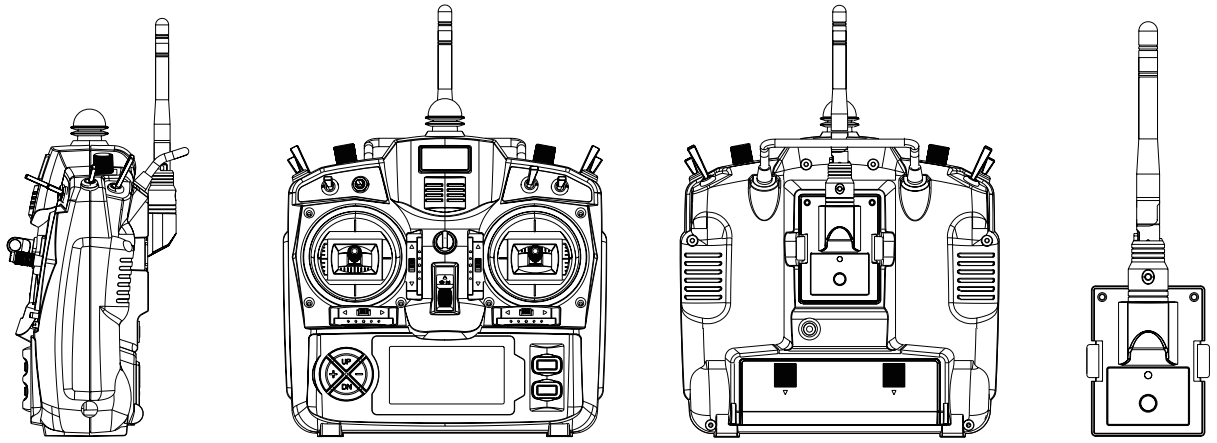
2.2 Transmitter Overview





2.2.1 Transmitter Antenna

⚠ Note	• To ensure signal quality the antenna should be kept perpendicular to the receiver antenna.
⚠ Note	• Never grip the transmitter antenna during operation. It significantly degrades the RF signal quality and strength and may cause loss of control.



2.2.2 Function Descriptions

Switch:

THR. CUT: Controll **[PIT/CV]**, **[THR HOLD]**, **[IDLE DOWN]**, **[BUTTERFLY]** function switch and Aux channel.

RUD.D/R:Controls direction of **[D/R EXP]** function.

F MODE : Controls **[THR/CV]**, **[PIT/CV]**, **[REVO/CV]** , **[AIRBRAKE]**, **[START OFS]**, **[SPEED OFS]** function.

AIL D/R : Controls **[D/R EXP]** function.

ELE D/R : Controls **[D/R EXP]** function.

GEAR : Controls **[ElEVFLAP]** function sensitivity and Aux channel.

TRN : Controls**[SNOPROLL]** function.

Function:

Each time a button is press the system will beep.

MENU:Enter menus and save function settings.

EXIT: Exit menus and reset function settings.

UP: Navigate menus.

DN: Navigate menus.

+: Increase function parameter values.
Toggle function parameters.
Activate auto servo detection.

- : Decrease function parameter values.
Toggle function parameters.
Activate auto servo detection.

Knob:

HOV THR: Adjust **[HOV THR]**and **[STARTOFS]** Control AIL1, FLP1 and aux channels.

PIT. TIRM: Aux channel control.

HOV PIT: Adjust **[HOV PIT]**and **[SPEEDOFS]** Control AIL1, FLP1 and Aux channels.

Other:

Left/Right Gimbal: Controls flaps, ailerons, rudder and throttle. Modes: 1, 2, 3, 4.

Power Switch: Turns transmitter on and off.

Battery Cover: Transmitter battery cover.

Display: Displays menu and interface.

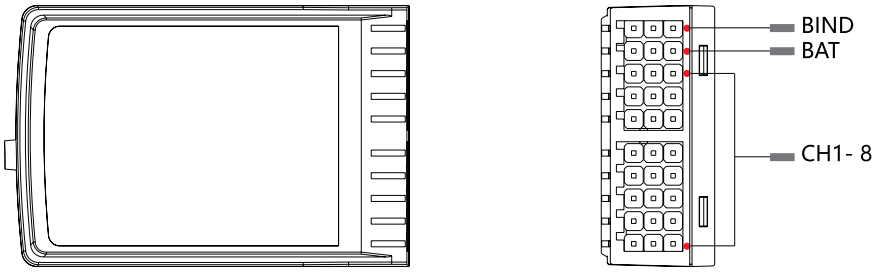
Lanyard Eye: For securing a lanyard.

Trims: On the go fine adjustment for channels.

Antenna: Refer to [2.2.1 Transmitter Antenna].

Bind Button: Activates transmitter bind mode.

2.3 Receiver Overview



2.3.1 Receiver Antenna

⚠ Caution	• **For best signal quality, ensure that the receiver is mounted away from motors or metal parts.**

2.3.2 Status Indicator

The status indicator is used to indicate the power and working status of the receiver.

- Off: The power is not connected.
- On: The receiver is on and working.
- Flashing quickly: The receiver is in bind mode.
- Flashing slowly: The bound transmitter is off or signal is lost.

2.3.3 Ports

An interface for connecting the receiver to servos and other equipment.

- BIND: When the bind cable is inserted into this port the receiver will enter bind mode.
- BAT: Power input in a range of 4.5 - 6.5V.
- CH1-8: For connecting servos and other equipment to the receiver.

3. Pre Flight Setup

Before proceeding, follow these guidelines to install the battery and setup the system.

3.1 Transmitter Battery Installation

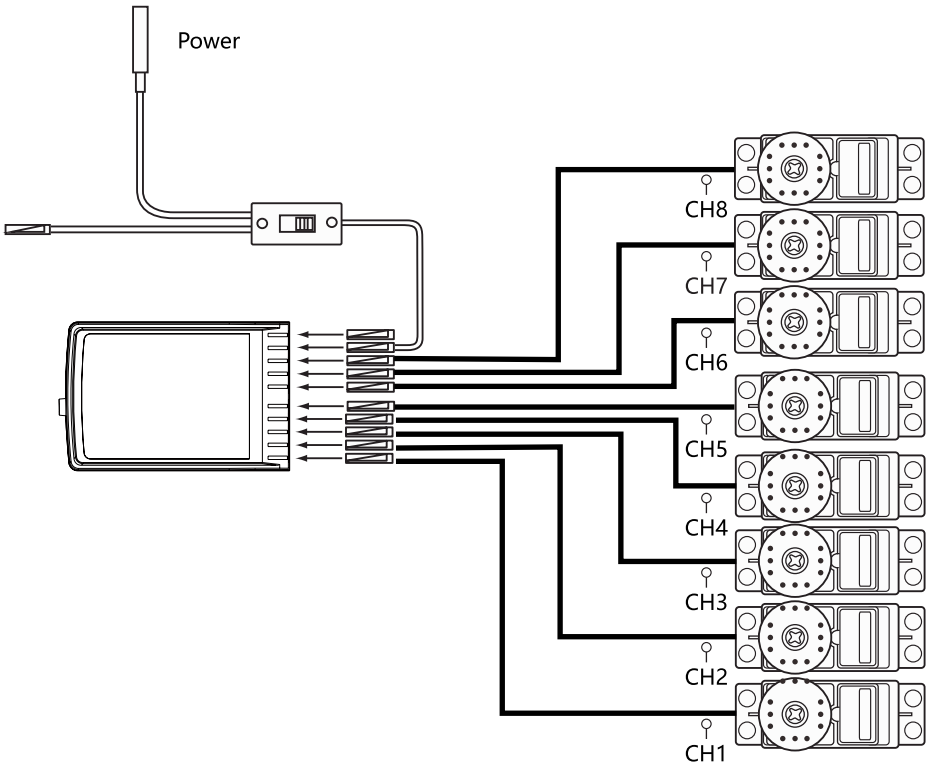
⚠ Danger	• Only use the battery specified by the manafacturer.
⚠ Danger	• Do not open, disassemble, or attempt to repair the battery.
⚠ Danger	• Do not crush/puncture the battery, or short the external contacts.
⚠ Danger	• Do not expose to excessive heat or liquids.
⚠ Danger	• Do not drop the battery 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.v

Follow the steps to install the transmitter battery:

1. Open the battery compartment.
2. Insert 8 fully-charged AA batteries into the compartment. Make sure that the battery makes good contact with the battery compartment's contacts.
3. Replace the battery compartment cover.

3.2 Connecting the Receiver and Servos

Connect the receiver and the servos as indicated below:



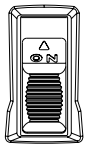
4. Operation Instructions

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

4.1 Power On

Follow the steps below to turn on the system:

1. Check the system and make sure that:
   - The batteries are charged and installed properly.
   - The receiver is off and correctly installed.
2. Hold the power buttons until screen lights up.
3. Connect the receiver power supply to the **B/VCC** port on the receiver.

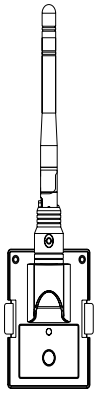


⚠ **Note**	• **Operate with caution in order to avoid damage or injury.**
⚠ **Note**	• **If switches are not set to their high position or the throttle is not at tis lowest position the system will give the following error: "switch error!"**

4.2 Binding

The transmitter and receiver have been pre-bound before delivery.
If you are using another transmitter or receiver, follow the steps below to bind the transmitter and receiver:

1. Install the 2.4GHz transmitter module into the back of the transmitter.
2. Insert the bind cable into the receivers bind port, then apply power.
- The receivers status indicator will flash quickly to indicate that it has entered bind mode.
3. Press and hold the transmitter modules bind button and turn on the transmitter.
- The receivers status indicator will stop flashing to indicate binding is complete.
4. Remove the power and bind cables from the transmitter, then connect to power.
5. Restart the transmitter.



RF Module :
FS-RM002 or
FS-RM003

⚠ **Note**	• **This process is only for the FS-TH9X and FS-R9B, other transmitters may have different binding instructions.。**

4.3 Pre-use Check

Before operation, perform the following steps to check the system:

1. Check to make sure that all servos and motors are working as expected.
2. Check operating distance: one person holds the transmitter, and another one moves the model away from the transmitter. Check the model and mark the distance from where the model starts to lose control.

⚠ **Danger**	• **Stop operation if any abnormal activity is observed.**
⚠ **Danger**	• **Make sure the model does not go out of range.**
⚠ **Caution**	• **Sources of interference may affect signal quality.**

4.4 Power Off

Follow the steps below to turn off the system:

1. Disconnect the receiver power.
2. Toggle the transmitter's power switch to turn off the transmitter.

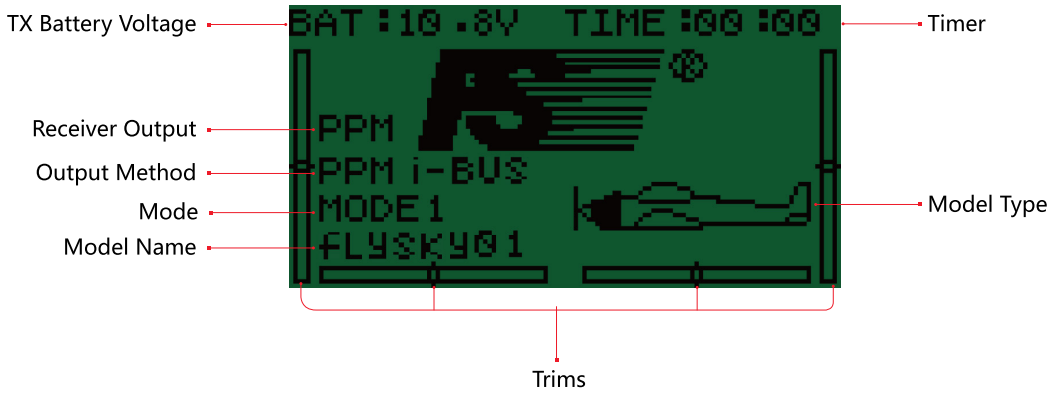
⚠ **Danger**	• **Make sure to disconnect the receiver power before turning off the transmitter. Failure to do so may lead to damage or serious injury.**

5. System Interface

The system interface displays useful information about your model, including timers, fly mode and TX/RX status.

5.1 Home Screen

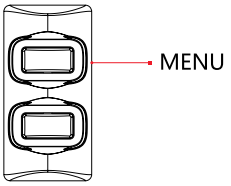
The main interface mainly displays information related to the model, such as sensor information, flight mode and so on.



TX Battery Voltage: Displays transmitter battery voltage. (If the battery voltage drops below 8.5V the system will alert the user with a buzzer every 5 seconds)
Receiver Output: Data output format including PPM and PCM)
Output Method: Shows if outputing via iBus or normal ports.
Model Name: Name of the currently selected model.
Trims: Shows the current trim positions.
Model Type: Shows the currently selected model type.
Timer: Shows the countdown timer.

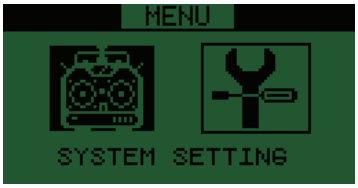
5.2 Main Menu

This menu contains the【SYSTEM SETTING】and【FUNCTION SETTING】menus.The【SYSTEM SETTING】menu is used to set the global settings for the transmitter such as model, gimbal modes and so on. The【FUNCTION SETTING】menu contains all function settings.



Use:

1. To enter the main menu hold the "MENU" button.
2. Press the "UP" and "DOWN" keys to change between【SYSTEM SETTING】and【FUNCTION SETTING】.
   - Use the "UP" and "DOWN" keys to navigate through functions.
3. Press the "MENU" key to enter a function.
   - Press the "EXIT" key to go back.



6. SYSTEM SETTINGS

The system settings control settings such as stick modes, model name, model type and so on.

6.1 MODE SELE

Select currently saved models. The system can store up to 8 different models.
When a model is selected all of its settings will be recalled ready to use.

USE:

Use the "UP" and "DOWN" keys to select a model, press and hold the "MENU" key to save and exit.

- Press the "EXIT" key to exit without saving.

6.2 MODE NAME

Name the currently selected model.

USE:

The model name can be up to 8 characters long.

1. Press the up and down keys to change between character spaces.
2. Use the "+" and "-" keys to select a character.
3. Press "MENU" key to save and exit.

- Press the "EXIT" key to exit without saving.

6.3 TYPE SELE

Select the model type, you can choose between fixed-wing, helicopter and glider types.

Function Settings(Set model type):

1. Press the "UP" and "DOWN" keys to select a model.

- If you select helicopter press enter to enter a submenu and select a helicopter type. (**[HELI1]**, **[HEL2]**, **[HELI3-1]**, **[HELI3-2]**, **[HELI4]**)

2. Press the "MENU" key to save the current settings and return to the previous menu.

- The system will display "Please wait..." while it saves or loads the model settings.

Function Settings (Helicopter Settings):

[HELI1] : Aileron and elevator servo to be connected independently from the model to the swash plate.

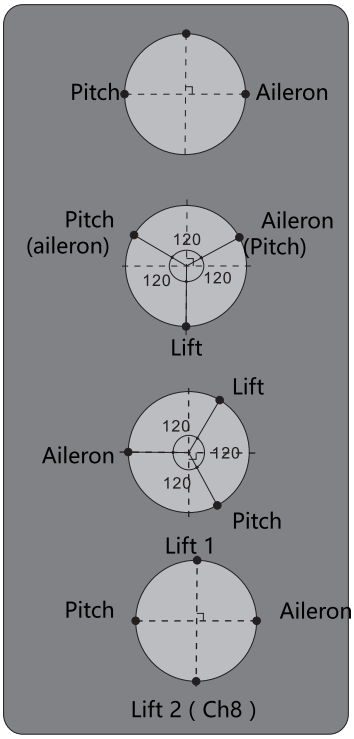
[HELI2] : Aileron, pitch 2 servos.

[HELI3-1] : Aileron, pitch and 3 servos.

[HELI3-2] : A different servo configuration to **[HELI3-1]**.

[HELI4] : Aileron, pitch and 2 elevators.

1. Press the "UP" and "DOWN" keys to select **[HELI]**.
2. Press the "UP" and "DOWN" keys to select **[HELI]** type.
3. Press the menu key to save and exit.
4. Press the "EXIT" key to return to the previous menu without saving.



6.4 MODEUAT

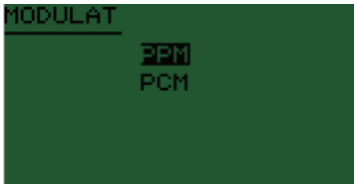
Change between PPM and PCM output modes.

USE:

[PPM] : CH1 outputs a standard PPM signal, the other ports output nothing.
[PCM] : Receiver outputs a PWM signal on channels 1-8.

1. Press the "UP" and "DOWN" keys to change between PPM and PCM.
2. Press the menu key to save and exit.

Press the "EXIT" key to return to the previous menu without saving.



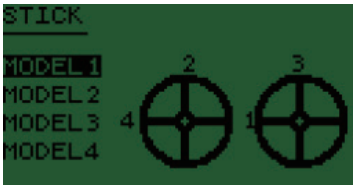
6.5 STICK SET

Set the stick mode for the transmitter.

USE: (Vert = Vertical Hor = Horizontal)

MODE 1: Left Gimbal (Vert CH2, Hor CH4) Right Gimbal (Vert CH1, Hor CH3)
MODE 2: Left Gimbal (Vert CH3, Hor CH4) Right Gimbal (Vert CH2, Hor CH1)
MODE 3: Left Gimbal (Vert CH2, Hor CH1) Right Gimbal (Vert CH3, Hor CH4)
MODE 4: Left Gimbal (Vert CH3, Hor CH1) Right Gimbal (Vert CH2, Hor CH4)

Press the "UP" and "DOWN" keys to change mode. Press the "MENU" key to save and exit.
Press the "EXIT" key to return to the previous menu without saving.



6.6 COPY

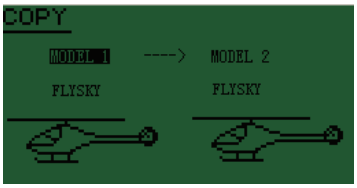
Copy model data to another model save slot.
You can use the copy model function to easily set up several similar models.

USE:

Left Side: Model to copy.
Right Side: Slot to copy to.

1. Use the "+" and "-" keys to choose a model to copy.
2. Use the "UP" or "DOWN" key to move to save slot select. Press the "+" and "-" keys to select a slot.
3. Press the "MENU" button to confirm. The system will display "PLEASE WAIT ...." while saving.

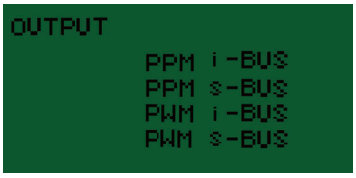
- Once completed the old model data will be overwritten, it is not possible to retrieve the old data.
- Press the "EXIT" button to return to the previous menu.



6.7 OUTPUT SELE

Change between output interfaces such as i-Bus and S-Bus

- When in PCM mode changes made in this menu will have no effect.
- When set to PPM output you can choose between PPM i-bus, PPM s-bus, PWM i-bus and PWM s-bus.



6.8 ADJ CONTRAST

Adjust the screen contrast.

Use the "+" and "-" keys to change the contrast setting. Press the "MENU" key to save and exit or press the "EXIT" key to exit without saving.

7. Helicopter Functions

Contains functions such as reverse, mix and so on.

7.1 REVERSE

Reverses the direction channel travels in relation to user input.
Example: A servo moving in the wrong direction can be fixed using this function.

USE:

This function sets the direction of all 8 channels.

[REV] : Channel output has been reversed.

[NOR] : Default setting.

- Once all the servos have been connected check to make sure they travel in the correct direction.
- Test all controls before using the product.

1. Press the "UP" and "DOWN" keys to change between channels.

2. Press the "+" and "-" keys to toggle reverse.
3. Press the "MENU" key to save and exit.

- Press the "EXIT" key to exit without saving.

7.2 THR/CV

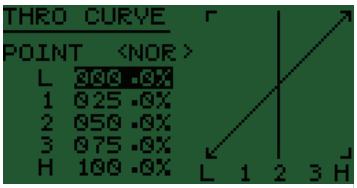
This function can change the response of the throttle across its range of motion using a 5 point curve. Throttle curve should be used in conjunction with the pitch curve function. The function represents the throttles curve using a realtime graph.

USE:

This function has 3 settings: **[Nor]** , **[ID1]**and **[ID2]**.
Horizontal axis: The input value for the throttle stick.
Vertical axis: The new output value.
The dotted line is the throttle response path.

1. Toggle the F Mode switch to activate.
2. Press the UP and DOWN keys to select a point.
3. Press the + and - keys to change its value.

- Press and hold the menu key to reset a prarameter to its default settings.



4. Press the "MENU" key to save and exit.

- Press the "EXIT" key to exit without saving.

7.3 PIT/CV

This function is used to adjust the pitch motion curve of a variable pitch helicopter's blades to achieve the best control. The higher the pitch the more lift will be generated by the blade. By using the function it is possible to create different pitches at different throttle positions.

USE:

This feature allows you to set the pitch curve for four modes ([nor], [IDL1], [IDL2], [hold]).

The x axis indicates the input value of the throttle channel.

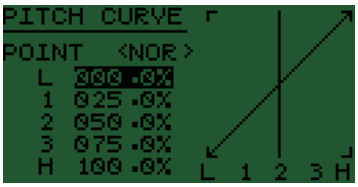
The coordinate y axis indicates the output value.

1. Toggle the F Mode switch to activate.

- The Throttle retention feature is enabled and the pitch curve is locked in [hold] mode when the THR cut switch is down.

2. Use the UP and DOWN keys to select a point.

- Thre are 5 points, [L] being the lowest and [H] being the highest.



3. Press the + and - keys to change the value.
4. Press the "MENU" key to save and exit.

- Press the "EXIT" key to exit without saving.
- Press and hold the menu key to reset a point to its default value.

7.4 SUBTRIM

Subtrim changes the center point of the channel. For example, if a car's wheels are slightly out of alignment, the subtrim could be used to fix this.

USE:

This function can be used on up to 8 channes.

1. Use the UP and DOWN keys to select a channel.
2. Press the + and - keys to change the value.
3. Press the "MENU" key to save and exit.

- Press the "EXIT" key to exit without saving.

Press and hold the MENU key to reset a point to its default value.

7.5 E.POINT

Endpoints are the limits of the channels' range of movement. There are two endpoints, one is the low endpoint and one is the high end point. This can be used in order to prevent servos traveling too far and causing damage to the air craft or for control reasons.

USE:

This function has a range of between 0 and 120 percent on both the low and high endpoints.

The left column represents the low side endpoint.

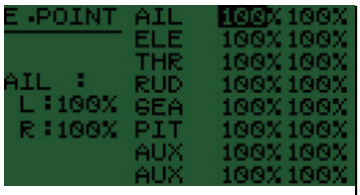
The right column represents the high side endpoint.

1. Press the UP and DOWN keys to select a channel.

- Move the desired direction to the high or low side using its stick or assigned control.
- Informataion about the currently selected channel is displayed on the left side.
- 2. Press the + and - keys to change the endpoints value.

3. Press the "MENU" key to save and exit.

- Press the "EXIT" key to exit without saving.
- Press and hold the MENU key to reset a point to its default value.



7.6 THR HOLD

The throttle hold function stops the throttle from dropping below a set level in order to stop fuel based engines from stalling. When the user wishes to cut the engine they can then toggle throttle cut switch.

USE:

[STATE] : INH: Inactive. ACT: Active.

[HOD POS] : Percentage at which throttle will be held.

1. Press the + key to activate the function.
2. Press the DOWN key to select "HOD POS" and use the + and - keys to set the hold position.
3. Press the "MENU" key to save and exit.

- Press the "EXIT" key to exit without saving.

7.7 AUX-CH

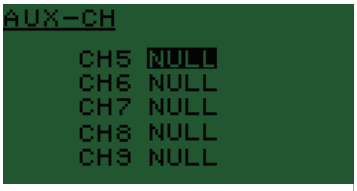
This function is used to assign the AUX channels to other functions such as THRO HOLD or landing gear. Channels that are already in use will not be available for assignment.

USE:

This function can be used with channels 5-9 depending on availabilty.

1. Press the UP and DOWN keys to select a channel.
2. Press the + and - keys to switch between asignments.

- NULL: No asignment.
- One function can only be controlled by a single switch or knob.



3. Press the "MENU" key to save and exit.

- Press the "EXIT" key to exit without saving.

7.8 SWASHAFR

This function is used to change the swash plate mix for helicopter setups. This function can not be used for the [HELI1] setup as it does not have a swashplate.

USE:

[PIT] : Pitch
[ALI] : Aileron
[ELE] : Elevator

1. Use the UP and DOWN buttons to change between PIT, ALI, ELE.
2. Press the + and - keys to change the mix value.
3. Press the "MENU" key to save and exit.

- Press the "EXIT" key to exit without saving.

- Press and hold the MENU key to reset a point to its default value.

7.9 D/R EXP

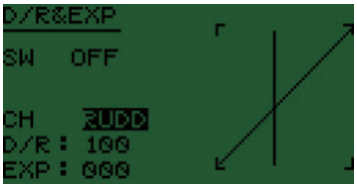
This function changes channel's response curves. There are 2 main parameters:

- Dual Rate: Dual Rate reduces or increases the difference between the highest and lowest possible value.
- Exp. (Exponential): Exponential changes the relationship between stick movement and surface movement by creating a curve, when in use the stick movement and surface movement are no longer linear so the stick has a different response in different at different positions.
- NOTE: D/R exp requires a switch be assigned in the assign switches function.

USE:

[CH] : Channel
[D/R] : Dual Rate value.
[EXP] : Exponential value.

1. Press the UP and DOWN keys to select CH.
2. Press the + and - keys to selct a channel.
3. Use the UP and DOWN keys to select D/R or EXP and use the + and - keys to change the value.



4. Press the "MENU" key to save and exit.

- Press the "EXIT" key to exit without saving.
- Press and hold the MENU key to return a selection to its default value.

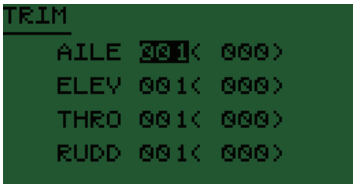
7.10 TRIM

Trims allow you to change the centre point of the of the control surfaces in relation to the sticks. For example, if a model that always turns slightly left, the steering trim can be used to correct the problem. The trims are controlled using the trim buttons. This function changes how much a trim will change for each button press.

USE:

Trims have a value between -120 and 120.

1. Press the UP and DOWN keys to select a channel.
2. Use the + and - keys to increase or decrease the step size for each button press.
3. Use the trim buttons to change the trim value.



4. Press the "MENU" key to save and exit.

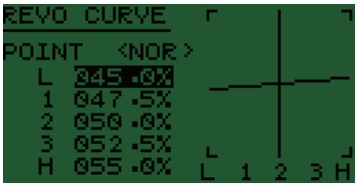
- Press the "EXIT" key to exit without saving.
- Press and hold the MENU key to return a selection to its default value.

7.11 REVO/CV

- Can set normal, stunt 1 and stunt 2 modes. Uses the tail rotor to counteract the torque caused by the main rotor which can cause the Helicopter to spin. To achieve this the function uses a curve as at different points the main rotor will produce more and less torque.

USE:

1. Toggle the F MODE switch.
2. Press the UP and DOWN keys to select a point.
3. Press the + and - keys to change the points value.
4. Press the MENU key to save and exit.



- Press and hold the MENU key to return a point to its default value.
- Press the EXIT key to exit without saving.

7.12 FAIL SAF

The failsafe function sets the models channel positions in the event of signal loss.

USE:

[NOR] : Channel keeps its last known position.

[F/S] : Channel moves to preset position as defined by this function.

1. Press the UP and DOWN keys to select a channel.
2. Press the + and - keys to change between NOR and F/S.
3. When in F/S mode, use the channels stick or knob to move the channel to the desired setting then press and hold the menu key to set that position.

4. Press the "MENU" key to save and exit.

- Press the "EXIT" key to exit without saving.

7.13 HOV-THR

Changes the over settings which may need to be fine tuned due to conditions such as temperature and humidity. Adjust the function so that the helicopter can hover without too much variation in altitude. This function is only for helicopters without a swash plate.

USE:

[STATE] : INH Inactive , ACT Active

[RATE] : Hover correcetion value.

1. Press the + key to activate the function.
2. Press the DOWN key to select rate and press the + and - keys to change its value.
3. Press the "MENU" key to save and exit.

- Press the "EXIT" key to exit without saving.
- Press and hold the MENU key to return a selection to its default value.

7.14 HOV-PIT

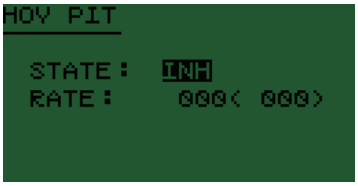
See HOV-THR: This function is for helicopters with a swash plate.

USE:

[STATE] : INH Inactive , ACT Active

[RATE] : Hover correcetion value.

1. Press the + key to activate the function.
2. Press the DOWN key to select rate and press the + and - keys to change its value.
4. Press the "MENU" key to save and exit.



- Press the "EXIT" key to exit without saving.
- Press and hold the MENU key to return a selection to its default value.

7.15 TRAINER

For training novice pilots with optional trainer cable for connecting two transmitters together, one as a master and one has a slave.

- This function supports any transmitter with PPM output.

Setup:

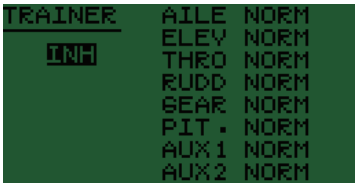
This function can be set for channels 1-8.

[OFF] : Student has no control while function is active.

[NOR] : Student can control when the trainer switch is active.

1. Use the UP and DOWN keys to select state and the + and - keys to turn the function on and off.
2. Use the up and down keys to select a control surface then use the + and - keys to change between NOR and OFF

Press the "MENU" key to save and exit.



- Press the "MENU" key to save and exit.
- Press the "EXIT" key to exit without saving.

7.16 DISPLAY

This function displays the channels current position in real time.

功能设置：

This function displays channels 1-8

[AIL] : Aileron

[ELE] : Elevator

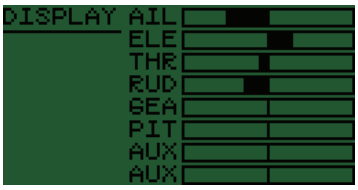
[THR] : Throttle

[RUD] : Rudder

[GEA] : Gear

[PIT] : Pitch

[AUX] : AUX



Press the + and - keys to activate channel sweep mode.

- Make sure that the engine is powered off during this test.

7.17 TIMER

The timer function is used to keep track of flight time and counts down from a set time. The max time is 99 min and 59 seconds.

USE:

[STATE] : INH Inactive , ACT Active

[MIN] : Max 99 min

[SEC] : Max 59 seconds.

1. Press the + key to activate the function.
2. Press the UP and DOWN keys to select MIN or SEC then use the + and - buttons to set the value.
3. Press the "MENU" key to save and exit.

- Press the "MENU" key to save and exit.
- Press the "EXIT" key to exit without saving.

4. Toggle the TRN switch to start countdown.

7.18 GYROSENS

This function adjusts the gyro stabilisation sensitivity for helicopters that have a gyroscope.

USE:

[State]: Inh Disables this feature, and the Act enables this feature.

[Model]: Select the form of gyroscope.

[Uprate]: Gyro sensitivity upper value.

[Downrate]: Gyro sensitivity lower limit value.

1. Press the "+" or "-" button to enable this feature.
2. Press the "Down" button to switch to the [model] option and use the "+" or "-" button to select the desired form.
3. After selecting the mode, press the "Up" or "Down" button to select [Uprate] or [Dnrate], and adjust the value by the "+" or "-" key.
4. Press the "MENU" key to save and exit.

- Press and hold the "MENU" key reset a selection to its default value.
- Press the "EXIT" key to exit without saving.

7.19 STNTTRIM

This function is used to fine-tune the aileron, the elevator, and the rudder during aerobatic flight.
This feature can only be used in ID1 and ID2 mode.

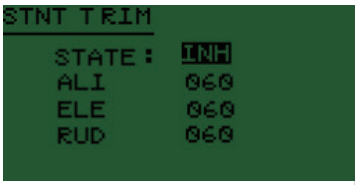
USE:

This feature is adjustable across -100-100.

[State]: Inh Disables this feature, and the Act enables this feature.

1. Press the "+" or "-" button to enable this feature.
2. Press the "Up" or "down" button to switch to another option.
3. and use "+" or "-" button to change the fine value.
4. Press the "menu" button to save the current settings and return to the parent menu.

- Long press the menu key to restore the currently selected option to the factory settings.



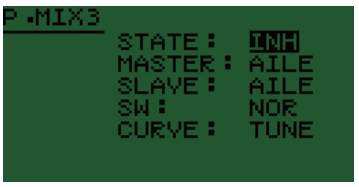
- Press and hold the "MENU" key reset a selection to its default value.
- Press the "EXIT" key to exit without saving

7.20 Prog>MIX

This function is used to create a mix between channels and control methods.

USE:

- This feature can be set to 3 kinds of blending modes.
- [Mixer 1 and mixer 2]



[State]: Inh Disables this mode, and the Act enables this mode

[Master]: Mixed input source channel selection

[Slave]: Mixed control output source channel selection

[offset]: Mixed control offset

[Uprate]: Proportion of action in forward motion

[Dnrete]: The proportion of action in reverse motion

[SW]: Type of mixer switch (NOR, ID1, ID2, on, off)

1. Press the "+" or "-" button to activate or close this mode.
2. Press the "Up" or "Down" button to select Master and slave, and press the "+" or "-" button to assign a channel (recommended that master and slave need to allocate a different channel).
3. Press the "Up" or "Down" buttons to select [offset], [Uprate] and [Dnrate], and short Press the "+" or "-" button to adjust the value.
4. Select the [SW] option and assign a type of mixer switch.
5. Press the "menu" button to save the current settings and return to the parent menu.

- Short press the "Exit" button to return to the parent menu, but do not save the settings.

[Mixer 3]

[Curve]: Adjustment of the mixed control curve.

1. Press the "+" or "-" button to activate or close this mode.
2. Press the "Up" or "Down" button to select Master and slave, and press the "+" or "-" button to allocate a channel.
3. Select the SW option and assign a type of mixer switch.
4. Select curve, and pass "+" or "-" button to enter the interface of the mixed control curve.

- After entering the mixing control curve to set the interface, you can adjust the desired mixed control curve by 5 points. (Reference throttle curve to set)
- Under the mixed-control curve setting interface, long press the menu key to restore the currently selected option to the factory settings.

8. Fixed Wing

This section focuses on the function menu of fixed wing aircraft.

8.1 REVERSE

Please refer to "7.1 Reverse" for setup.

8.2 TRAINER

Please refer to "7. Trainer" for setup.

8.3 SUBTRIM

Please refer to "7.4 Subtrim" for setup.

8.4 E.POINT

Please refer to "7.5 E. Point" for setup.

8.5 THR HOLD

Please refer to "7.6 THR HOLD" for setup.

8.6 FLAPERON

This function creates a mix between flaps and ailerons in order to add some aileron function to the flaps. This function and the air brakes can be used to reduce the speed at the time of landing.

USE:

[STATE] : INH: Inactive, ACT: Active

[AIL1] : Aileron 1

[AIL2] : Aileron 2

[FLP1] : Flap 1

[FLP2] : Flap 2

1. Press the "+" or "-" button to enable this feature.
2. Press the "Up" or "Down" button to select the options you want to set.

Toggle aileron gimbal Toggles [AIL1] and [AIL2] left and right options.

3. Press the "+" or "-" button to change the value.

4. Press the "menu" button to save the current settings and return to the main menu.

- Press and hold the MENU button to return a selection to its default value.
- Press the EXIT key to exit without saving.

8.7 D/R EXP

Please refer to "7.9 D/R EXP" for setup.

8.8 TRIM

Please refer to "7.10 TRIM" for setup.

8.9 IDLE DOWN

A switch can be used to lower the low speed of the engine.

This feature is available only when the throttle is low. Use the THR. Cut switch to turn on or off the Low speed link function.

USE:

- This feature is adjustable across -100-100.
- [State]: Inh Disables this feature, and the Act enables this feature
- [Rate]: Adjustment of low-speed operation descent ratio
- 1. Press the "+" or "-" button to enable this feature.
- 2. Press the "Up" or "Down" button to select [Rate] and change the value by the "+" or "-" button.
- 3. Press the "menu" button to save the current settings and return to the main menu.
- Press and hold the MENU button to return a selection to its default value.
- Press the EXIT key to exit without saving.

8.10 FAIL SAF

Please refer to "7.12 FAIl SAF" for setup.

8.11 TIMER

Please refer to "7.17 TIMER" for setup.

8.12 DISPLY

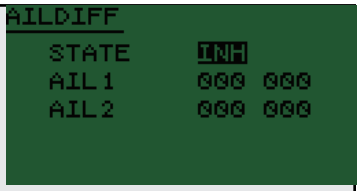
Please refer to"7.16 DISPLAY" for setup.

8.13 FLAPTRIM

USE:

- **[State]:** Inh Disables this feature, and the Act enables this feature.
- **[Rate]:** Adjusting the amplitude of flap trimmer
- 1. Press the "+" or "-" button to enable this feature.
- 2. Press the "Up" or "Down" button to select [Rate] and change the value by the "+" or "-" button.
- 3. Press the "menu" button to save the current settings and return to the main menu.
- Long press the menu key to restore the currently selected option to the factory settings.

8.14 AIL DIFF



USE:

- This feature is adjustable across a range of 100-100.
- [State]: Inh Disables this feature, and the Act enables this feature.
- [AIL1]: aileron 1 adjustment
- [AIL2]: aileron 2 adjustment
- 1. Press the "+" or "-" button to enable this feature and change the value through the "+" or "-" key.
- 2. Press the "Up" or "Down" button to choose [AIL1] or [AIL2].
- Toggle aileron Joystick to replace options for [AIL1] and [AIL2] left and right sides.

- 3. Press the "menu" button to save the current settings and return to the main menu.
- Long press the menu key to restore the currently selected option to the factory settings.
- Short press the "Exit" button to return to the parent menu, but do not save the settings.
- "Aildiff", "Flapron" and "Elevon", at the same time can only use 1 of functions, not three simultaneous open. When other functions are effective, "other wing mixes on" will be displayed on the interface, please set the function to "inh" and then the aileron differential to "act".

8.15 AIRBRAKE

Air brakes are used to make landings or to dive in flight, using flight mode switches to operate. When choosing the throttle lever, set the throttle position, which can be operated in a low position, and the lifting action can set the delay, which can restrain the action of the air brake when it is too drastic.

USE:

This feature is adjustable across -100-100.

[State]: Inh Disables this feature, and the Act enables this feature.

[Rateup]: Adjustment of elevator rising ratio

[Retedn]: Adjustment of elevator descending ratio

1. Press the "+" or "-" button to activate or turn off the function.
2. Press the "Up" or "Down" button to select the options you want to set.
3. Press the "+" or "-" button to change the value.
4. Press the "menu" button to save the current settings and return to the main menu.

- Press and hold the MENU button to return a selection to its default value.
- Press the EXIT key to exit without saving.

8.16 ELEVFLAP

This function creates a mix between the Elevators and flaps to add some flap functionality to the elevators to increase the lift of the aircraft. Use the gear switch to turn this feature on or off.

USE:

This feature is adjustable between -100-100.

[State]: Inh Disables this feature, and the Act enables this feature.

[Rateup]: Adjustment of elevator rising ratio

[Retedn]: Adjustment of elevator descending ratio

1. Press the "+" or "-" button to activate or deactivate.
2. Press the "Up" or "Down" button to change setting.
3. Press the "+" or "-" button to change the value.
4. Press the "menu" button to save the current settings and return to the main menu.

- Press and hold the MENU button to return a selection to its default value.
- Press the EXIT key to exit without saving.

8.17 V-TAIL

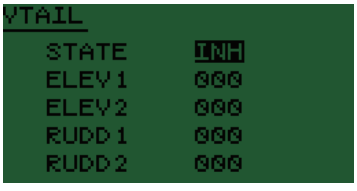
The V-Tail function is used only for V-Tail aircraft which mix elevator and rudder. This function can adjust the elevator-aileron mix required for V-Tail aircraft.

USE:

[State]: Inh Disables this feature, and the Act enables this feature.

[ELEV1]: Elevator 1; [ELEV2]: Elevator 2

[RUDD1]: tail fin 1; [RUDD2]: tail fin 2



1. Press the "+" or "-" button to activate or turn off the function.
2. Press the "Up" or "Down" button to select the options you want to set.
3. Press the "+" or "-" button to change the value.
4. Press the "menu" button to save the current settings and return to the main menu.

- Press and hold the MENU button to return a selection to its default value.
- Press the EXIT key to exit without saving.
- It is recomended that you test before flight in order to make sure that everything is working as expected.

8.18 ELEVON

This function uses a mix between the aileronas and elevators to add some aileron function to the elevators.

USE:

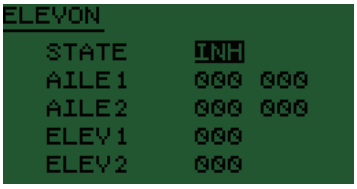
[State]: Inh Disables this feature, and the Act enables this feature.

[Ailet]: aileron 1; [AILE2]: aileron 2; [ELEV1]: Elevator 1, [ELEV2]: Elevator 2 parameter quantity adjustment.

1. Press the "+" or "-" button to activate or turn off the function.
2. Press the "Up" or "Down" button to select the options you want to set.

Toggle the lifting lever to switch the left setting option.

3. Press the "+" or "-" button to change the value.
4. Press the "menu" button to save the current settings and return to the main menu.



We recommend that you move the joystick to confirm the amount of action while setting. When a large amount of action is set, the movements of the rudder and rudder will compound, exceeding the range of the servo's action, sometimes without action.

8.19 SNOP-ROLL

The operation by the coach (TRN) switch makes the plane do the serpentine roll function in the air.

USE:

[State]: Inh Disables this feature, and the Act enables this feature.

[Ailet]: aileron 1; [AILE2]: aileron 2; [ELEV1]: Elevator 1; [ELEV2]: Elevator 2 parameter quantity adjustment.

1. Press the "+" or "-" button to activate or turn off the function.
2. Press the "Up" or "Down" button to select the options you want to set.
3. Press the "+" or "-" button to change the value.
4. Choose Dire,
5. Press the "menu" button to save the current settings and return to the main menu.

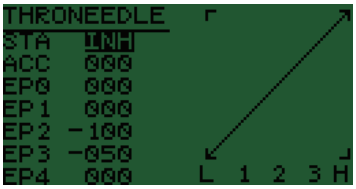
- Press and hold the MENU button to return a selection to its default value.
- Press the EXIT key to exit without saving.

8.20 THRNEEDL

This function is used when the engine is mixed gas control system (oil needle control, such as mixed gas adjustment) using CH8 channel as a high-speed mixing gas adjustment. For the accelerator rocker action, you can use the 5-point curve to set the gas mixture.

USE:

1. Press the "+" or "-" button to activate or close this mode.
2. Press the "Up" or "Down" button to select the option you want to set, and add or decrease the value by using the "+" or "-" button.
3. Press the "menu" button to save the current settings and return to the main menu.



8.21 PROG.MIX

This function creates mixes between various channels.

USE:

[State]: Inh Disables this feature, and the Act enables this feature.

[Master]: Mixed input source channel selection

[Slave]: Mixed control output source channel selection

[offset]: Mixed control offset

[Uprate]: Proportion of action in forward motion

[Dnrete]: The proportion of action in reverse motion

[SW]: Type of mixer switch (NOR, ID1, ID2, on, off)

1. Press the "+" or "-" button to activate or close this mode.
2. Press the "Up" or "Down" button to select [Master] and [slave], and press the "+" or "-" button to assign a channel (recommended [Master] and [slave] to allocate a different channel).
3. Press the "Up" or "Down" buttons to select offset respectively, [Uprate] and [Dnrate], and short Press the "+" or "-" button to adjust the value.
4. Select [SW] and assign a type of mixer switch.
5. Press the "menu" button to save the current settings and return to the parent menu.

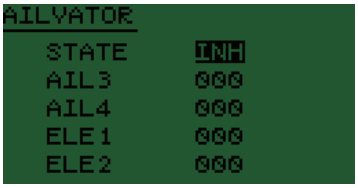
- Press and hold the MENU button to return a selection to its default value.
- Press the EXIT key to exit without saving.

8.22 AILVATOR

This function creates a mix between the ailerons and elevators.

USE:

- 1. Press the "+" or "-" button to activate or close this mode.
- 2. Press the "Up" or "Down" button to select the options you want to set and increase or decrease the value by pressing up or down.



- Press and hold the MENU button to return a selection to its default value.
- Press the EXIT key to exit without saving.

8.23 THR DELAY

Creates a delay between user input and throttle action for the throttle.

USE:

[State]: Inh Disables this feature, and the Act enables this feature.
[Rate]: adjustment of throttle delay
1. Press the "+" or "-" button to activate or turn off the function.
2. Press the "Up" or "Down" button to select rate and short Press "+" or "-" button to change the value.
3. Press the "menu" button to save the current settings and return to the main menu.

- Press and hold the MENU button to return a selection to its default value.
- Press the EXIT key to exit without saving.

8.24 AUX-CH

Please refer to【7.7 AUX-CH】for setup.

9. Glider function Menu

This chapter mainly introduces the function menu of glider.

9.1 REVERSE

Please refer to【7.1 REVERSE】for setup.

9.2 SUBTRIM

Please refer to【7.4 SUBTRIM】for setup.

9.3 E.POINT

Please refer to【7.5 E.POINT】for setup.

9.4 D/R EXP

Please refer to【7.9 D/R EXP 】for setup.

9.5 TRIM

Please refer to【7.10 TRIM】for setup.

9.6 FAIL SAF

Please refer to【7.12 FAIL SAF】for setup.

9.7 TIMER

Please refer to【7.17 TIMER 】for setup.

9.8 FLAPTRIM

Please refer to【8.13 FLAPTRIM 】for setup.

9.9 AIL DIFF

Please refer to【8.14 AIL DIFF 】for setup.

9.10 ELEVFLAP

Please refer to【8.16 ELEVFLAP】for setup.

9.11 V-TAIL

Please refer to【8.17 V-TAIL】for setup.

9.12 PROG.MIX

Please refer to【8.21 PROG.MIX】for setup.

9.13 BUTTERFLY

This function is the combination of the air brakes when a landing is entered and a sharp descent is required to limit the speed at which the aircraft is falling rapidly or in a vertical dive.

USE:

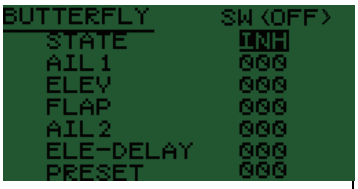
[State]: Inh Disables this feature, and the Act enables this feature.

[Ele delay]: The adjustment of elevator delay

[Preset]: Throttle Position setting

[AIL1]: aileron 1; [AIL2]: aileron 2; [Elev]: elevator; [flap]: Adjustment of the number of flaps.

1. Press the "+" or "-" button to activate or turn off the function.
2. Press the "Up" or "Down" button to select the options you want to set.
3. Press the "+" or "-" button to change the value.
4. Press the "menu" button to save the current settings and return to the main menu.



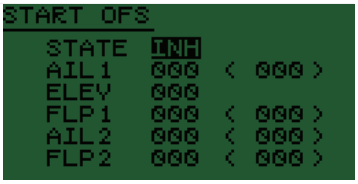
- Press and hold the MENU button to return a selection to its default value.
- Press the EXIT key to exit without saving.

9.14 STARTOFS

This function adjusts the offset of the aileron, elevator, and flap steering gear to maintain the maximum lift position during take-off.

USE:

- 1. Press the "+" or "-" button to activate or turn off the function.
- 2. Press the "Up" or "Down" button to select the options you want to set.
- 3. Press the "+" or "-" button to change the value.
- 4. Press the "menu" button to save the current settings and return to the main menu.

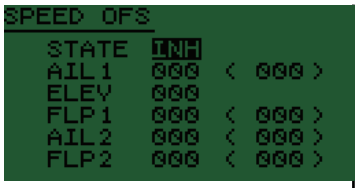


9.15 SPEEDOFS

This function adjusts the offset between the aileron, the elevator and the flap rudder to maintain minimum resistance during cruise and high speed flight.

USE:

1. Press the "+" or "-" button to activate or turn off the function.
2. Press the "Up" or "Down" button to select the options you want to set.
3. Press the "+" or "-" button to change the value.
4. Press the "menu" button to save the current settings and return to the main menu.



9.16 DISPLAY

Please refere to【7.16 DISPLAY】for setup.

9.17 TRAINER

Please refer to【7.15 TRAINER】for setup.

9.18 FLAPERON

Please refer to【8.6 FLAPRON】for setup.

9.19 ELEVON

Please refer to【8.18 ELEVON】for setup.

9.20 AUX-CH

Please refer to【7.7 AUX-CH】for setup.

10. Product Specifications

This section contains the specifications of the FS-TH9X transmitter and the FS-R9B receiver.

10.1 Transmitter (FS-TH9X)

Number of channels	8
Model Types	Helicopter, fixed wing and glider
Frequency Range	2.408-2.475 GHz
Transmitter Power	Not more than 20dBm
Number of bands	135
Band width	500 KHz
2.4GHz protocol	AFHDS
Encoding	GFSK
Channel Resolution	4096
Low voltage alarm	Below 9V
Charging interface.	None
Antenna length	26mm
Weight	690g
Input Power	12V DC 1.5AA*8
Display	STN semi-permeable positive lattice VA 73 39mm LCD
Size	190 x 112 x 257mm
Color	Black
Online Update	N/A
Certification	CE, FCC ID：N4ZFLYSKYTH9X

10.2 Receiver(FS-R9B)

Number of channels	8
Model Types	Helicopter, fixed wing and glider
Frequency Range	2.408-2.475 GHz
Band width	500 KHz
Number of bands	135
Receiver Sensitivity	-105 dBm
2.4GHz Protocol	AFHDS
Modulation Type	GFSK
Stick Resolution	1024
Input Voltage	4.5 - 6.5V DC
Antenna Length	26mm
Weight	18 克
Size	52 x 35 x 15mm
Color	Transparent Grey
Certification	CE, FCC ID：N4ZFLYSKYTH9X

11. Certification

11.1 DoC Declaration

Hereby, [Flysky Technology co., ltd] declares that the Radio Equipment [FS-TH9X] 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

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

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.

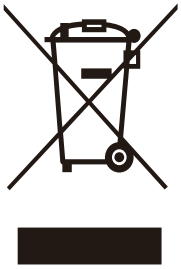
Caution!

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. Move all your channels to the desired position.
2. Select [**All channels**] and then [**Yes**] in the confirmation box.

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.



www.flysky-cn.com

Date: 2017-07-21

FCC ID: N4ZFLYSKYTH9X