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Introduction

Disclaimer

Thank you for purchasing this DETRUM product. This is a 2.4GHz digital proportional R/C system with high performance. In order to make full use of the features of this product and to safely enjoy your R/C activities, please read this manual carefully before using. Please install and use this product in strict accordance with the manual. The company assumes no liability or loss incurred directly or indirectly from improper use, installation, or any modification of this product.

Products shall be subject to any changes without additional notices.

This product is suitable for users experienced in operating model aircraft and aged 14 years or older.

Please fly at a locally recognized model aircraft flying field.

Change History

No.	Version	Date	Records
1	V1.0	2016-10-20	This manual was first released.

Indications and Symbols for Safe Use

The following symbols used in this manual indicate the precautions regarding possible danger which may occur following improper operation.

⚠ **DANGER**: Procedures, which if not properly followed, may lead to a dangerous condition of death or serious injury.

⚠ **WARNING**: Procedures, which if not properly followed, may lead to a possibility of death or serious injury.

⚠ **CAUTION**: Procedures, which if not properly followed, may lead to a possibility of property damage, or a danger of injury.

⦸ Prohibited ❗ Mandatory

Installation Precautions

It is very important to properly install the R/C system on the model aircraft. Please refer to the following instructions:

- In order to protect the receiver, wrap the receiver with 10mm foam rubber, and then fasten it with a rubber band or a Velcro strap.
- The servos should be installed with rubber gaskets and brass eyelets to isolate the vibration from the fuselage. When locking the screws, follow the principle that the rubber gasket does not distort. If the locking is too tight, it will reduce the vibration-proof performance.
- When mounting a servo, make sure that the servo can rotate over its full travel and check that the push-rods and servo arms do not bind or contact each other.
- When mounting a power switch, keep away from the engine's exhaust pipe and any places with high vibration. And ensure that you can turn the switch on/off without binding.
- The two antennas of the receiver should be placed at 90 degrees to each other. Do not place the two antennas twisted together or in parallel.

Flying Precautions

⚠ **WARNING**: Personal injury and property loss may be caused by improper aircraft handling. Please operate strictly according to the following safety instructions.

Flying Field and Conditions:

⦸ In order to protect the personal safety and their property, please do not fly at the following places:

Near another radio control flying field

Near or above people

Near residential areas, schools, hospitals or other places where people congregate

Near high-voltage lines, tall buildings, or communication facilities

- Never fly on rainy day, thunder storm, when the wind is strong, and at night.
- Always keep away from humidity environment.

  The R/C system is composed of precision electronic components and mechanical parts. Please keep away from humidity environment to prevent the components damage from vapor and cause a failure which would lead to a crash.
- Always keep away from heat sources.

  The R/C system is composed of precision electronic components and mechanical parts. Please keep it away from heat sources and sunshine to avoid distortion, or even damage caused by high temperature.

Precautions before Flight:

- Always make sure that all servos in the model work properly following the transmitter stick movements prior to flight. And make sure that all switches work properly as well.
- Always check the remaining capacity of both the transmitter and receiver batteries before each flying session prior to flight. Low battery capacity will cause loss of control and a crash.
- Always perform a range test before each flying session.
- Always check the operation of each control surface before each flying session. When using the trainer function, please check both the instructor and student transmitters.
- For safety reasons, always set fail safe functions before each flying session. Especially set the throttle channel fail safe function.

Precautions during Flight:

- Never grasp the transmitter antenna during flight. Otherwise, the transmitter output power will reduce drastically.
- Do not point the antenna directly toward the aircraft during flight. When pointing the antenna directly, the transmitter output is the weakest. The strong radio wave radiate from the side of the transmitter antenna.
- Never turn on and off the power switch of transmitter during flight or while the engine or motor is running.

- ⦸ Do not touch the engine, motor, or other heating device during and immediately after use. These devices or components may become hot during use.
- ❗ For safety, always fly the aircraft in visible range. Flying behind tall buildings will not only lose sight of the aircraft, but also degrade the RF signal performance.
- ❗ Always return the transmitter setting screen to the initial main screen during flight. Erroneous input during flight is very dangerous.

Precautions in Other Conditions

- ⦸ Never fly in the range check mode (test mode). In this mode, the transmitter output power is greatly reduced, it may cause a crash.
- ⦸ When setting the transmitter during flight preparations, do not set it upright on the ground. The transmitter may fall to the ground, the sticks may move and the servos may rotate unexpectedly and cause injury.
- ⦸ Do not touch the receiver antenna directly by hands. Otherwise, the components may be damaged by static, and this may cause a reduction in transmission distance of the receiver.
- ❗ Before turning on the transmitter, always make sure the transmitter throttle stick and throttle trim are in the lowest position.
- ❗ Always turn on the R/C system in proper sequence: turn on the transmitter first, then turn on the receiver, and then turn on the engine or motor. Incorrect sequence may cause loss of control and personal injury.
- ❗ Always turn off the R/C system in proper sequence: turn off the engine or motor first, then turn off the receiver, and then turn off the transmitter. Incorrect sequence may cause loss of control and personal injury.

Product Description

Box Contents

- GAVIN-8C Transmitter
- DETRUM RXC8 Receiver
- Instruction Manual
- USB Cable (optional)
- Simulator Convertor (optional)
- 9g Servo *4pcs (optional)

📖 **NOTE**: The set contents depend on the type of set.

Transmitter

Specifications

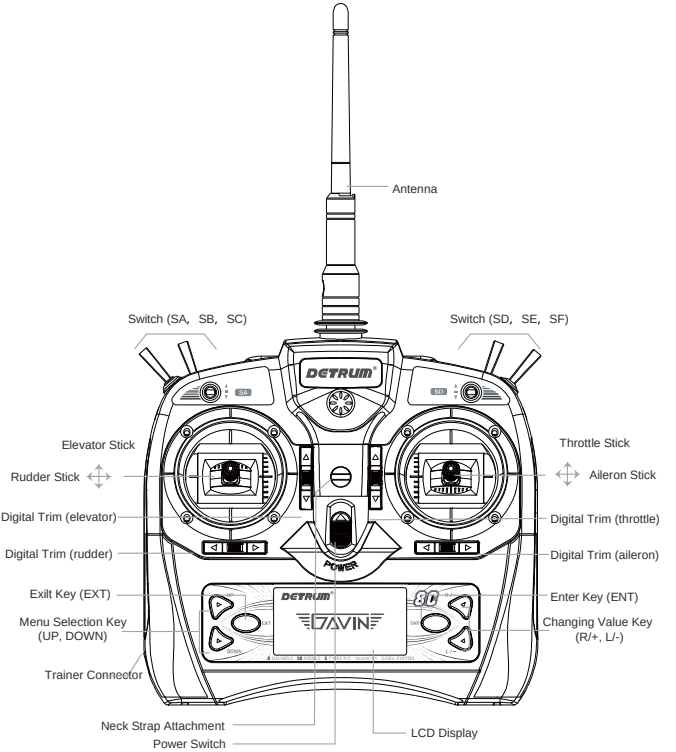
Parameters	GAVIN-8C Specifications
Channel	8-channel
Transmitting frequency	2.4GHz
Power supply	AA batteries 4*1.5V, Ni-MH batteries 4*1.2V, 2S Li-Po
Consuming current	Test mode: less than or equal to 120mA. Operating mode: less than or equal to 230mA.
Output power	Test mode: 10mW. Operating mode: 100mW.
Output pulse	1000ms~2000ms (neutral 1500ms)

Features

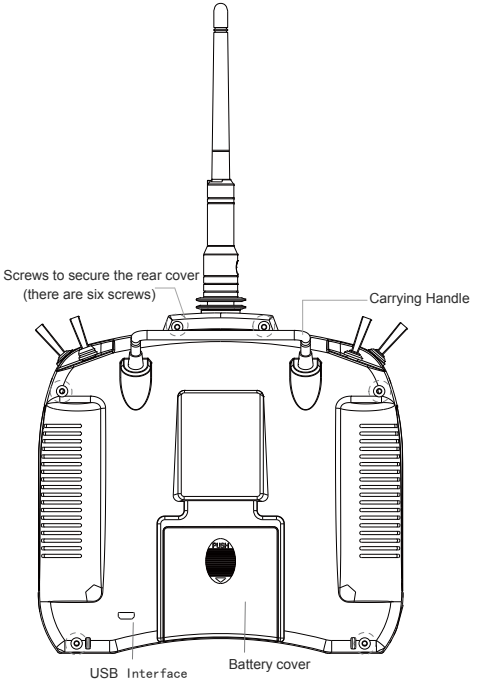
- Adopting powerful wireless chips and extended with power amplifier (PA) and low noise amplifier (LNA), can maximize the system output power while reducing the system noise factor, thereby improving the signal coverage.
- The R/C system adopts 2.4GHz direct sequence spread spectrum (DSSS) and multiple frequency-hopping spread spectrum (FHSS) technology, has strong anti-interference capability, can support a stable remote control for more than 1,000 meters on the ground and more than 1,600 meters in the air.
- It is suitable for airplane, helicopter, and multi-copter (multi-rotor).
- Fast response: The response time is only 2.6ms, even 8 channels it acts synchronously.
- High section precision: By using the 4096 section precision sticks, you can experience a smooth and exquisite flight operation.
- 192*96 high-resolution dot-matrix LCD with easy-to-understand image and menu, make it simple to use.

- Low voltage alarm: Detecting the input voltage of the transmitter in real time, it will alarm in advance when it is low battery voltage. This will bring greater security for flight operation.
- Fail safe protection: Set the fail safe function by transmitter in advance. When the aircraft flies out of range, the receiver cannot receive a valid RF signal from the transmitter and will move the servos to predefined position.
- USB upgrade: Upgrade by a USB cable helps GAVIN-8C always keeps the latest program.
- When working with a sport receiver which is integrated with 6-axis gyro, GAVIN-8C can be used to set its programmable items in real time.

Transmitter Controls



NOTE: When the **Stick Mode** is set to **MODE 1**, the positions of sticks and digital trims are shown in the figure. The positions are different depending on the stick mode. For details, please refer to *Stick Mode [Stick Mode] (Page 54)*.



- Antenna: The strong radio wave radiate from the side of the transmitter antenna. Do not point the antenna directly toward the aircraft during flight.
- Carrying Handle: The carrying handle is designed for easily carrying and placing the transmitter.
- Power Switch: Push the switch upward to turn on the transmitter, push downward to turn off.
- Neck Strap Attachment: For a long flight you can choose to use a neck strap for easy handing. The neck strap attachment is on the neutral position, in order to get the best balance for transmitter.

- Switch
  - SA: 3 positions, alternate, short lever
  - SB: 3 positions, alternate, short lever
  - SC: 2 positions, momentary, short lever
  - SD: 3 positions, alternate, short lever
  - SE: 3 positions, alternate, short lever
  - SF: 2 positions, alternate, short lever

  Users can assign the above switches to specified functions (for example, throttle hold, acrobatic flight, etc.) according to individual habits. For details, please refer to *Function Set (Page 43)*.
- Sticks: When the **Stick Mode** is set to **MODE 1**, the positions of sticks are shown in the figure.
- Digital Trims: This transmitter is equipped with four digital trims. Each time you press a trim button, the trim position moves one step. If you press and hold it, the output will scroll in that direction until the trim button is released or the output reaches its ends. You can always monitor trim positions by referencing the LCD screen.

⚠ **CAUTION**: The trim positions you have set will be stored in memory and will remain there even the transmitter powered off.

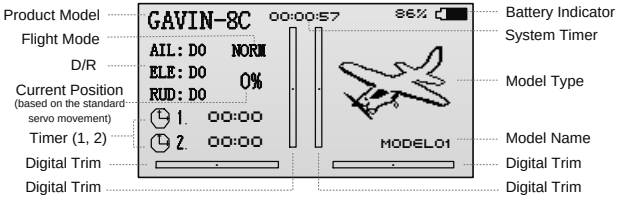
- Keys
  - **EXT**: exit key, press this key to return to the previous menu.
  - **UP**: press this key to select the menu upward.
  - **DOWN**: press this key to select the menu downward.
  - **ENT**: enter key, press this key to enter the sub-menu or to confirm the setting.
  - **R/+**: press this key to choose the value upward.
  - **L/-**: press this key to choose the value downward.
- LCD: You can get the current status from the main screen, and set the parameters from the menu.
- Simulator/Trainer Connector

- When it is used as a simulator connector, connect the transmitter and computer by simulator dongle and dongle cable, and then you can learn flying skills on computer. In order to use this function, you need to purchase a simulator dongle and the matched simulation software.
- When it is used as a trainer connector, connect the instructor and student transmitter with an optional trainer cable, and then a skilled instructor can teach a student with flying skills.

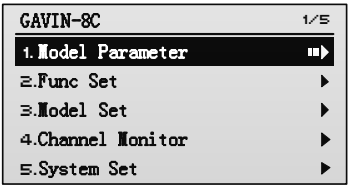
- USB interface: With a USB interface, it is easy to upgrade the transmitter firmware to the latest program.

Main Screen

Push the power switch upward to turn on the transmitter and directly enter the main screen.



In the main screen, press **ENT** key to enter the main menu.



Receiver

This section is the introductions of DETRUM RXC8 Receiver. If you choose other receivers, please refer to the instructions of the other receivers.

Specifications

Parameters	RXC8 Specifications
Type	2.4GHz, 8-channel receiver
Sensitivity	-97dBm
Frequency interval	larger than or equal to 4MHz
Power supply	3.6V~16V
Weight	12g
Size	39mm * 28.5mm * 14.5mm

Features

- Using ARM M3 processor, provides strong resolution capability.
- Adopting 2.4GHz direct sequence spread spectrum (DSSS) and multiple frequency-hopping spread spectrum (FHSS) technology, the receiver has high sensitivity and strong anti-interference capability.
- By using diversity antenna, can automatically switch the signals to ensure the stability of the received signal.
- Each transmitter has an individually assigned, unique ID code. Once the binding is made, the ID code is stored in the receiver and no further binding is necessary after restarting the receiver.
- When the aircraft flies out of range, the receiver cannot receive a valid RF signal from the transmitter and will move the servos to predefined position.
- Support PPM and PWM signals.

Changing the Mode

According to the output signal types, RXC8 has a PPM mode and a PWM mode.

You can check the current mode from the mode LED on the receiver. After powering on the receiver, the mode LED will stay red or green and will be off after 5 seconds. When the mode LED is off, you can light this LED by clicking the **Bind/Mode** button.

- Green: This indicates that the receiver works on PWM mode.
- Red: This indicates that the receiver works on PPM mode.

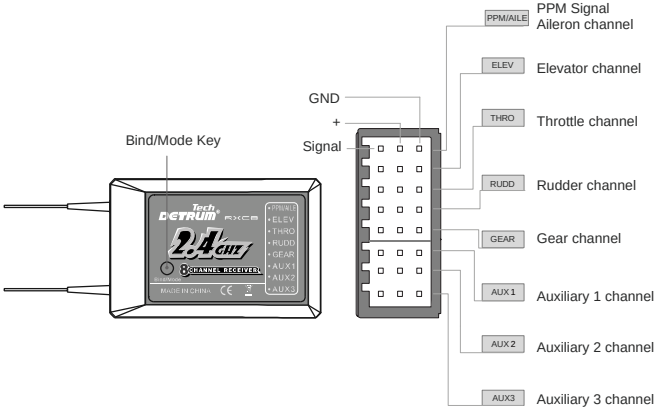
You can change the receiver's mode as needed. Changing the receiver from

PWM mode to PPM mode is taken as an example.

Press and hold **Bind/Mode** button on the receiver, and then power on the receiver. The mode LED will stay green for 2 seconds and then change into red on, indicating that the receiver switches to PPM mode, and the mode LED will be off 5 seconds later.

Connections

The channels of DETRUM RXC8 receiver are labeled with names, as shown in the following figure. For each channel, signal wire is close to the top of the receiver, middle is the positive and bottom is GND.



The RXC8 receiver has a PPM mode and a PWM mode. The connection of the receiver in two modes is described as follows:

- On PWM mode, you can connect the receiver's channels directly to the servo, or connect them to the servos via the flight control.
- On PPM mode, connect the PPM port of the flight control (supports PPM signal) to the **PPM/AILE** port of the receiver, and then connect the output port of the flight control to the servos.

Installation Precautions for the receiver:

- When connecting the receiver, please note the line sequence and securely insert all of the connectors as far as they will go.
- The two antennas of the receiver should be placed at 90 degrees to each other. Do not place the two antennas twisted together or in parallel.

Basic Operation

Adjust the Stick Lever Tension

This allows adjustment of the stick lever tension to meet different operating habits.

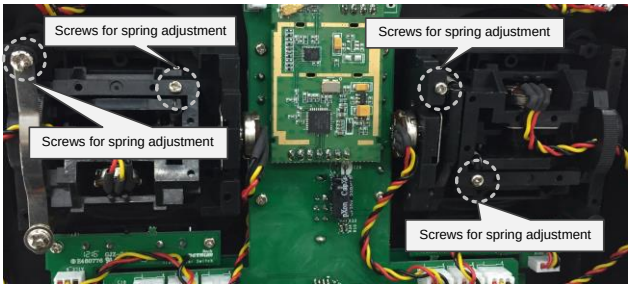
Tools: Phillips screwdriver, ESD wrist strap or ESD gloves.

Conditions: Before operating, please wear an ESD wrist strap or ESD gloves.

Steps:

1. Open the battery cover, and remove the batteries.
2. Remove the six screws on the rear cover with a Phillips screwdriver.
3. Open the rear cover.

⚠ **CAUTION**: Please gently ease off the transmitter's rear cover, to avoid breaking the wirings.



4. Use a Phillips screwdriver to adjust the spring strength as you prefer by turning the screw of the stick you want to adjust. Turning the screw clockwise increases the tension, counter clockwise to loosen.

⚠ **CAUTION**: To avoid abnormal work, do not loosen the screw too much.

5. Install the rear cover, and then tighten the six screws on the rear cover.
6. Install the batteries and the battery cover.

Change the Location of Throttle Stick

If you want to change the throttle stick from right-hand to left-hand, or change from left-hand to right-hand, it is need to change the location of the throttle stick, and then change the stick mode. The following is the method for changing the location of the throttle stick.

Tools: Phillips screwdriver, ESD wrist strap or ESD gloves.

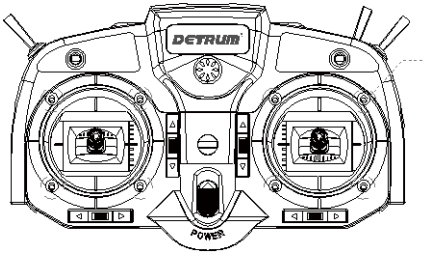
Conditions: Before operating, please wear an ESD wrist strap or ESD gloves.

Steps:

1. Open the battery cover, and remove the batteries.
2. Remove the six screws on the rear cover with a Phillips screwdriver.
3. Open the rear cover and remove the wirings between the PCB and rear cover.

⚠ **CAUTION**: Please gently ease off the transmitter's rear cover, to avoid breaking the wirings.

4. Remove the eight screws fixed the sticks on the front cover with a Phillips screwdriver.



5. Remove the wirings between the sticks and PCB.
6. Take out the two sticks and exchange the location, and tighten the eight screws on front cover.
7. Reconnect the wirings between the sticks and PCB.
8. Connect the wirings between the PCB and rear cover, close the rear cover, and then tighten the six screws on the rear cover.

9. Install the batteries and the battery cover.

📖 **NOTE**: After changing the location of throttle stick and elevator stick, please change the stick mode. For details, please refer to *Stick Mode [Stick Mode] (Page 54)*.

Binding

In order for the transmitter and receiver to communicate, it is essential to pair or bind them together. When you use the R/C system first time or change a transmitter/receiver, this procedure is necessary. Each transmitter has an individually assigned, unique ID code. Once the binding is made, the ID code is stored in the receiver and no further binding is necessary after restarting the receiver.

Preconditions:

- Move the throttle stick to the lowest position and make sure the transmitter is powered off.
- Place the transmitter and the receiver close to each other within a distance of about one meter.

Steps:

1. Power on RXC8 receiver. The status LED will start fast red flashing, indicating the transmitter is off.
2. Long press (more than 2 sec) **Bind/Mode** button, the status LED will start slow red flashing, indicating the receiver is in bind mode and ready to be bound to the transmitter.
3. While pulling and holding the **SC** switch of transmitter, turn on the transmitter. The system begins to bind.
4. Once the status LED on the receiver stays green, indicating the receiver is bound to the transmitter. Release the **SC** switch.
5. Turn off the transmitter and receiver.

Range Test

It is extremely important to perform a range check before each flying session. This enables you to ensure that each function is working as it should be.

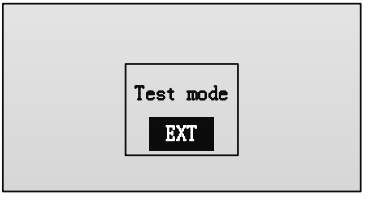
GAVIN-8C transmitter allows you to reduce its power output and access the test mode. Then you can detect interference from environment and perform a range check.

Steps:

1. Lower throttle to the lowest position and make sure the transmitter is powered off.
2. While pressing **ENT** key, turn on the transmitter, the transmitter will access the test mode.

   The LCD will display as the following figure, and the transmitter's LED indicator will flash on test mode.

   You can exit the test mode by pressing **EXT** key.



3. With the test mode on, walk away from the model while simultaneously operating the controls. Have an assistant stand by the model to confirm that all controls are completely and correctly operational. You should be able to walk approximately 30~50 paces from the model without losing control.

⚠ **WARNING**: Never fly in range check mode (test mode).

Flight Mode

The flight mode function allows switching between various aircraft flight characteristics (flight mode) using a switch. The flight modes which can be selected are various with model type.

- Airplane / multi-copter flight mode: **NORM** (normal) and **HLD** (hold).
- Helicopter flight mode: **NORM** (normal), **HLD** (hold), and **ACR** (acrobatic).

It is possible to activate these flight modes by the throttle hold switch and acrobatic flight switch:

- You can change between normal and throttle hold flight mode by toggling throttle hold switch. The switch can be customized, please refer to *Function Set (Page 43)*.
- You can change between normal and acrobatic flight mode by toggling acrobatic flight switch. The switch can be customized, please refer to *Function Set (Page 43)*.

Dual Rate (D/R) setting

This function switches aileron, elevator, and rudder control surfaces between different control surface angles and curves, using the dual rate (D/R) switches.

Setting Method:

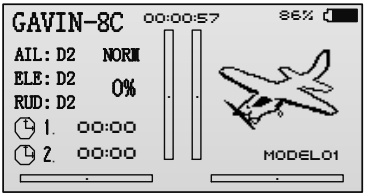
1. Choose the switches for AIL D/R, ELE D/R, and RUD D/R functions.

   The default values for AIL D/R, ELE D/R, and RUD D/R functions are **SF**. Users can choose from any of the switches on the transmitter. The steps for setting the switches are described in *Function Set (Page 43)*.

   You can select the same switch for aileron, elevator, and rudder control surfaces, and can also select different switches for each control surface.

2. Change between D0, D1 and D2 mode by toggling the switch.

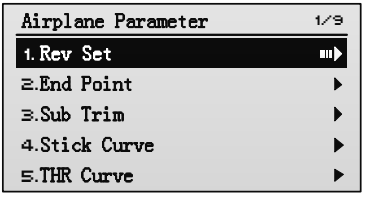
   Take the following diagram as an example, toggle the switch to make **AIL**, **ELE**, and **RUD** to **D2** status. Then **AIL Curve DR2**, **ELE Curve DR2**, and **RUD Curve DR2** defined in *Stick Curve [Stick Curve] (Page 19)* will come into effect.



Model Parameter (Airplane)

Before setting the model parameters, please select the **Model** and **Type** in the **Model Set** menu first. If the model is airplane, set **Type** to **AIRPLANE**.

After entering the main menu, press **UP** or **DOWN** key to select **Model Parameter**, and then press **ENT** key to enter the **Airplane Parameter** interface.

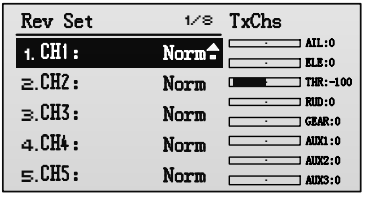


Reverse [Rev Set]

This function is used to reverse the servo operating direction for each channel. When set up a new model, you need to move the stick to check the servo direction, to determine whether the channel direction needs to be reversed.

Setting Method:

1. In the **Airplane Parameter** menu, press **UP** or **DOWN** key to select **Rev Set**, and then press **ENT** key to enter the setting interface.



2. Press **UP** or **DOWN** key to select the channel, and then press **R/+** or **L/-** key to set the value of the channel.

   Values:

   - **Norm**: It means the direction of selected channel is the normal direction.

- **Rev**: It means the direction of selected channel is the reverse direction.

The default is **Norm**.

⚠ **WARNING**:

- Please set the **Rev Set** function before setting the **Fail Safe** function. Otherwise it will affect the direction of the fail safe (opposite to the original direction).
- Generally, do not set the value of **CH3** (throttle channel) to **Rev**.

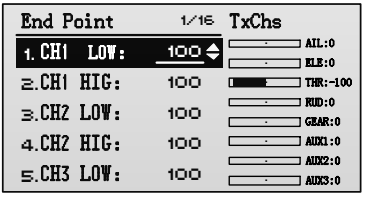
End Point [End Point]

The adjustment is carried out with reference to the neutral position. This function allows independent adjustment of the servo left/right (or up/down) movement, for each channel.

When multiple channel mixing is used, the resultant servo movement angle may become too large, and an unreasonable force be applied to the linkages. It is possible to limit the maximum movement of the servos by setting the end point.

Setting Method:

1. In the **Airplane Parameter** menu, press **UP** or **DOWN** key to select **End Point**, and then press **ENT** key to enter the setting interface.



2. Press **UP** or **DOWN** key to select **LOW**/**HIG** of one channel, and then press **R/+** or **L/-** key to set the value of **LOW**/**HIG** travel.

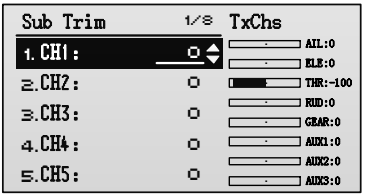
   LOW/**HIG**: It is used to adjust the left/right (or up/down) servo throws of each channel. Values: 0~120. The default is **100**.

Sub Trim [Sub Trim]

This function is used to set the servo neutral position.

Setting Method:

1. In the **Airplane Parameter** menu, press **UP** or **DOWN** key to select **Sub Trim**, and then press **ENT** key to enter the setting interface.



2. Press **UP** or **DOWN** key to select the channel, and then press **R/+** or **L/-** key to set the value of the channel.

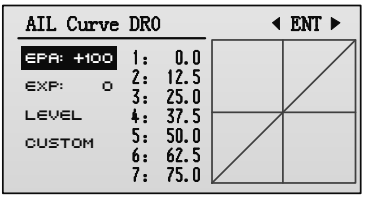
   Values: -100~100. The default is **0**.

Stick Curve [Stick Curve]

This function is used to adjust servos operation in response to aileron / elevator / rudder stick operation. The servo position can be set independently for a maximum of 9 point positions.

Setting Method:

1. In the **Airplane Parameter** menu, press **UP** or **DOWN** key to select **Stick Curve**, and then press **ENT** key to enter the **AIL Curve DR0** setting interface.



   Continue to press **ENT** key to enter **AIL Curve DR1**, **AIL Curve DR2**, **ELE Curve DR0**, **ELE Curve DR1**, **ELE Curve DR2**, **RUD Curve DR0**, **RUD Curve DR1**, and **RUD Curve DR2** setting interfaces. The setting methods of each curve are the same. The setting method of **AIL Curve DR0** is taken as an example.

2. Press **UP** or **DOWN** key to select the setting item, and then press **R/+** or **L/-** key to set the value of the item.

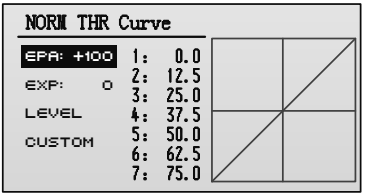
- **EPA**: EPA (end point adjustment) is used to adjust the end point. The larger the value is, the larger the servo travel is when move the stick. Values: -100~100. The default is **100**.
- **EXP**: It is used to set the exponent of the curve. Offer a servo travel that is not directly proportional to the stick travel. The control response is milder below half-stick, but becomes increasing stronger as stick travel approaches 100%. The larger the value is, the milder below half-stick. Values: 0~50. The default is **0**. When the value is set to **0**, the servo travel is proportional to the stick travel.
- **LEVEL**: It is used to move up or down the curve.
- **CUSTOM**/**DEFAULT**: When the value is **CUSTOM**, you can set the curve. When the value is **DEFAULT**, the curve is switched to the default.
- **1~9**: It is used to set the value of a specific point. The servo position can be set independently for a maximum of 9 point positions. The screen can only display 7 points at a time. You can scroll to select other setting points by pressing **UP** or **DOWN** key.

Throttle Curve [THR Curve]

This function is used to adjust throttle servo operation in response to throttle stick operation. The servo position can be set independently for a maximum of 9 point positions.

Setting Method:

1. In the **Airplane Parameter** menu, press **UP** or **DOWN** key to select **THR Curve**, and then press **ENT** key to enter the **NORM THR Curve** setting interface.



2. Press **UP** or **DOWN** key to select the setting item, and then press **R/+** or **L/-** key to set the value of the item.

   For the descriptions of each parameter, please refer to *Stick Curve [Stick Curve] (Page 19)*.

Throttle Hold [THR Hold]

This function is for auto rotation landing by holding the throttle servo at a low position. Using a selected switch, the throttle servo can be fixed at an optional position, and the throttle stick will lose effect on throttle hold mode.

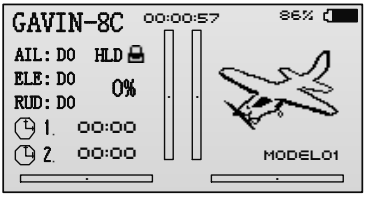
You can define the switch for throttle hold function. For details, please refer to *Function Set (Page 43)*.

Setting Method:

1. In the **Airplane Parameter** menu, press **UP** or **DOWN** key to select **THR Hold**, and then press **R/+** or **L/-** key to set the value.

   This parameter is used to adjust the throttle position (expressed as a percentage and based on the throttle travel). Values: -10~50. The default is **0**.

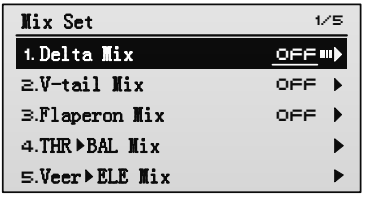
2. Open the throttle hold switch to fix the throttle servo at a preset position. Then the characters **HLD** will display on the main screen.



Mix Set [Mix Set]

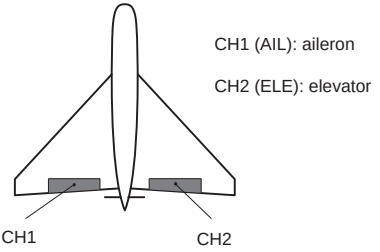
Mixing allows control input for a channel to affect more than one channel at a time. It supports mixing a channel to another channel and mixing a channel to itself.

In the **Airplane Parameter** menu, press **UP** or **DOWN** key to select **Mix Set**, and then press **ENT** key to enter the setting interface.



Delta Mixing [Delta Mix]

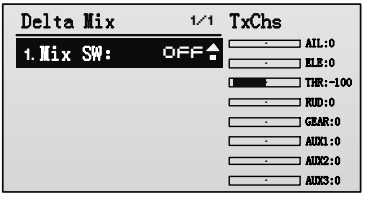
Corresponding model type: airplane, delta wing



Delta (elevon) mixing mixes channel 1 (AIL) to channel 2 (ELE) allowing the elevons to operate in unison (as elevators) or in opposition (as ailerons).

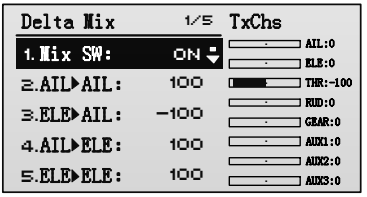
Setting Method:

1. In the **Mix Set** setting interface, press **UP** or **DOWN** key to select **Delta Mix**, and then press **ENT** key to enter the setting interface.



2. Modify the value of **Mix SW** to **ON** by pressing **R/+** key, to activate the delta mixing function.

   The setting interface is shown in the following figure.



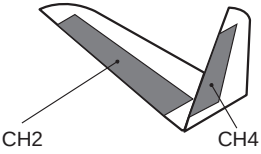
3. Press **UP** or **DOWN** key to select the setting item, and then press **R/+** or **L/-** key to set the value of the item.

- **AIL▸AIL**: This parameter is used to set the mixing rate (percentage) from aileron channel to itself. Values: -100~100. If the value is negative, it will adjust the aileron operation in the negative direction. If the value is positive, it will adjust the aileron operation in the positive direction. The default is **100**.
- **ELE▸AIL**: This parameter is used to set the mixing rate (percentage) from elevator channel to aileron channel. Values: -100~100. If the value is negative, it will adjust the aileron operation in the negative direction. If the value is positive, it will adjust the aileron operation in the positive direction. The default is **-100**.
- **AIL▸ELE**: This parameter is used to set the mixing rate (percentage) from aileron channel to elevator channel. Values: -100~100. If the value is negative, it will adjust the elevator operation in the negative direction. If the value is positive, it will adjust the elevator operation in the positive direction. The default is **100**.
- **ELE▸ELE**: This parameter is used to set the mixing rate (percentage) from elevator channel to itself. Values: -100~100. If the value is negative, it will adjust the elevator operation in the negative direction. If the value is positive, it will adjust the elevator operation in the positive direction. The default is **100**.

⚠ **CAUTION**: The delta mixing function cannot be utilized when either the V-tail or Flaperon mixing function are active.

V-tail Mixing [V-tail Mix]

Corresponding model type: airplane, V-tail



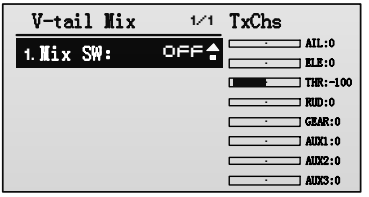
CH2 (ELE): elevator

CH4 (RUD): rudder

V-tail mixing mixes channel 2 (ELE) to channel 4 (RUD) allowing the ruddervators to operate both as rudders and elevators.

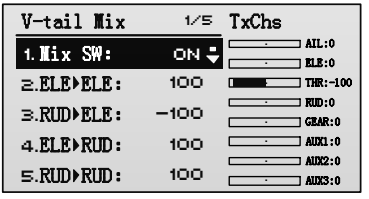
Setting Method:

1. In the **Mix Set** setting interface, press **UP** or **DOWN** key to select **V-tail Mix**, and then press **ENT** key to enter the setting interface.



2. Modify the value of **Mix SW** to **ON** by pressing **R/+** key, to activate V-tail mixing function.

   The setting interface is shown in the following figure.



3. Press **UP** or **DOWN** key to select the setting item, and then press **R/+** or **L/-** key to set the value of the item.

- **ELE▸ELE**: This parameter is used to set the mixing rate (percentage) from elevator channel to itself. Values: -100~100. If the value is negative, it will adjust the elevator operation in the negative direction. If the value is positive,

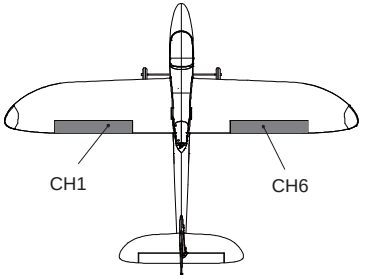
it will adjust the elevator operation in the positive direction. The default is **100**.

- **RUD▸ELE**: This parameter is used to set the mixing rate (percentage) from rudder channel to elevator channel. Values: -100~100. If the value is negative, it will adjust the elevator operation in the negative direction. If the value is positive, it will adjust the elevator operation in the positive direction. The default is **-100**.
- **ELE▸RUD**: This parameter is used to set the mixing rate (percentage) from elevator channel to rudder channel. Values: -100~100. If the value is negative, it will adjust the rudder operation in the negative direction. If the value is positive, it will adjust the rudder operation in the positive direction. The default is **100**.
- **RUD▸RUD**: This parameter is used to set the mixing rate (percentage) from rudder channel to itself. Values: -100~100. If the value is negative, it will adjust the rudder operation in the negative direction. If the value is positive, it will adjust the rudder operation in the positive direction. The default is **100**.

⚠ **CAUTION**: You cannot set V-tail mixing when Delta mixing has already been set. In order to enable V-tail mixing, you need to cancel Delta mixing function first (modify the value of **Mix SW** to **OFF**). However, it is allowed to use V-tail and Flaperon mixing simultaneously.

Flaperon Mixing [Flaperon Mix]

Corresponding model type: airplane, 2 ailerons



CH1 (AIL): left aileron

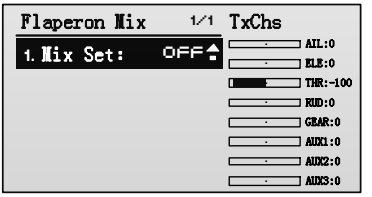
CH6 (AUX1): right aileron

The two aileron servos are connected to channel 1 (AIL) and channel 6 (AUX1).

Flaperon mixing allows the ailerons to operate in the same direction (as ailerons) and in opposing directions (as flaps).

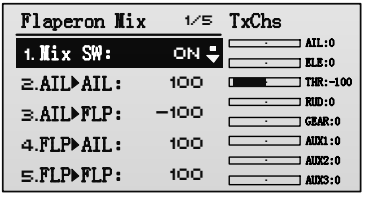
Setting Method:

1. In the **Mix Set** setting interface, press **UP** or **DOWN** key to select **Flaperon Mix**, and then press **ENT** key to enter the setting interface.



2. Modify the value of **Mix SW** to **ON** by pressing **R/+** key, to activate Flaperon mixing function.

   The setting interface is shown in the following figure.



3. Press **UP** or **DOWN** key to select the setting item, and then press **R/+** or **L/-** key to set the value of the item.

- **AIL▸AIL**: This parameter is used to set the mixing rate (percentage) from aileron channel to itself. Values: -100~100. If the value is negative, it will adjust the aileron operation in the negative direction. If the value is positive, it will adjust the aileron operation in the positive direction. The default is **100**.
- **AIL▸FLP**: This parameter is used to set the mixing rate (percentage) from aileron channel to flap channel. Values: -100~100. If the value is negative, it will adjust the flap operation in the negative direction. If the value is positive, it will adjust the flap operation in the positive direction. The default is **-100**.
- **FLP▸AIL**: This parameter is used to set the mixing rate (percentage) from flap

channel to aileron channel. Values: -100~100. If the value is negative, it will adjust the aileron operation in the negative direction. If the value is positive, it will adjust the aileron operation in the positive direction. The default is **100**.

- **FLP▸FLP**: This parameter is used to set the mixing rate (percentage) from flap channel to itself. Values: -100~100. If the value is negative, it will adjust the flap operation in the negative direction. If the value is positive, it will adjust the flap operation in the positive direction. The default is **100**.

⚠ **CAUTION:**

- When using Flaperon mixing function, do not set the flap to full travel, otherwise the aileron will be invalid.
- You cannot set V-tail mixing when Flaperon mixing has already been set. In order to enable Flaperon mixing, you need to cancel Delta mixing function first (modify the value of **Mix SW** to **OFF**). However, it is allowed to use Flaperon and V-tail mixing simultaneously.

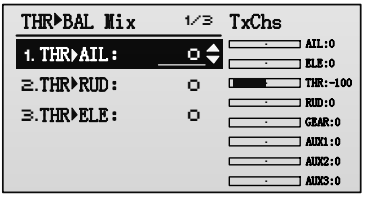
Throttle to Balance Mixing [THR▸BAL Mix]

Corresponding model type: airplane, general

This function mixes the throttle operation to the aileron, rudder, and elevator.

Setting Method:

1. In the **Mix Set** setting interface, press **UP** or **DOWN** key to select **THR▸BAL Mix**, and then press **ENT** key to enter the setting interface.



2. Press **UP** or **DOWN** key to select the setting item, and then press **R/+** or **L/-** key to set the value of the item.

- **THR▸AIL**: This parameter is used to set the mixing rate (percentage) from throttle channel to aileron channel. Values: -100~100. If the value is negative,

it will adjust the aileron operation in the negative direction. If the value is positive, it will adjust the aileron operation in the positive direction. The default is **0**.

- **THR▸RUD**: This parameter is used to set the mixing rate (percentage) from throttle channel to rudder channel. Values: -100~100. If the value is negative, it will adjust the rudder operation in the negative direction. If the value is positive, it will adjust the rudder operation in the positive direction. The default is **0**.
- **THR▸ELE:** This parameter is used to set the mixing rate (percentage) from throttle channel to elevator channel. Values: -100~100. If the value is negative, it will adjust the elevator operation in the negative direction. If the value is positive, it will adjust the elevator operation in the positive direction. The default is **0**.

Veer to Elevator Mixing [Veer▸ELE Mix]

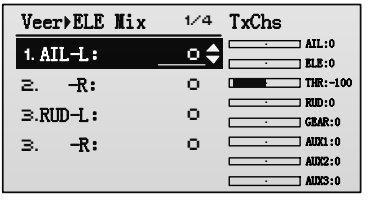
Corresponding model type: airplane, general

This function mixes aileron and rudder to elevator.

The mixing amounts from aileron and rudder to elevator can be set separately for left and right as two independent settings.

Setting Method:

1. In the **Mix Set** setting interface, press **UP** or **DOWN** key to select **Veer▸ELE Mix**, and then press **ENT** key to enter the setting interface.



2. Press **UP** or **DOWN** key to select the setting item, and then press **R/+** or **L/-** key to set the value of the item.

- **AIL-L**: This parameter is used to set the mixing rate (percentage) from aileron channel to elevator channel when operating the aileron stick to left. Values:

-100~100. If the value is negative, it will adjust the elevator operation in the negative direction. If the value is positive, it will adjust the elevator operation in the positive direction. The default is **0**.

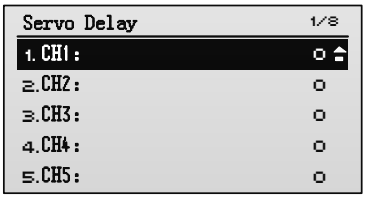
- **AIL-R**: This parameter is used to set the mixing rate (percentage) from aileron channel to elevator channel when operating the aileron stick to right. Values: -100~100. If the value is negative, it will adjust the elevator operation in the negative direction. If the value is positive, it will adjust the elevator operation in the positive direction. The default is **0**.
- **RUD-L**: This parameter is used to set the mixing rate (percentage) from rudder channel to elevator channel when operating the rudder stick to left. Values: -100~100. If the value is negative, it will adjust the elevator operation in the negative direction. If the value is positive, it will adjust the elevator operation in the positive direction. The default is **0**.
- **RUD-R**: This parameter is used to set the mixing rate (percentage) from rudder channel to elevator channel when operating the rudder stick to right. Values: -100~100. If the value is negative, it will adjust the elevator operation in the negative direction. If the value is positive, it will adjust the elevator operation in the positive direction. The default is **0**.

Servo Delay [Servo Delay]

This function allows the user to delay input from the servos, then the servos will change at a slower rate when changing between different flying modes.

Setting Method:

1. In the **Airplane Parameter** menu, press **UP** or **DOWN** key to select **Servo Delay**, and then press **ENT** key to enter the setting interface.



2. Press **UP** or **DOWN** key to select the channel, and then press **R/+** or **L/-** key

to set the delay value.

Values: 0~20. The default is **0**. The larger the value is, more slowly the servo speed changes.

Airplane Gyro

This menu is specifically designed to set the programmable items of the airplane gyro. When working with the sport receiver which is integrated with 6-axis gyro, this menu can be used to set its programmable items. For example, mode switch, roll/pitch/yaw gain, roll/pitch offset, mounting direction, and wing type, etc.

Preconditions:

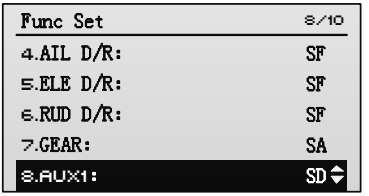
- The transmitter and the sport receiver are well bound.
- The transmitter and the sport receiver are powered on and connected.

Setting Method:

1. Assign a 3-position switch to **AUX1** channel. This switch is used as the mode switch for the sport receiver and used to change its flight modes.

(1) In the main menu, press **UP** or **DOWN** key to select **Func Set**, and then press **ENT** key to enter the setting interface.

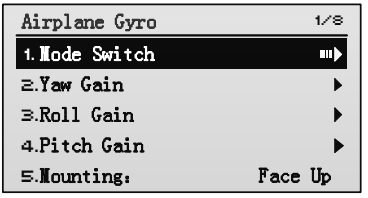
(2) Assign a 3-position switch to **AUX1** channel and make sure this switch does not have other functions.



NOTE: It is suggested to assign a 3-position switch to **AUX1** channel. If you assign a 2-position switch to **AUX1** channel, you can only switch between two flight modes during flying.

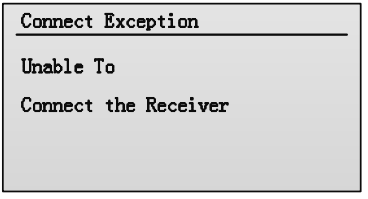
2. Enter the **Airplane Gyro** menu.

   In the **Airplane Parameter** menu, press **UP** or **DOWN** key to select **Airplane Gyro**, and then press **ENT** key to enter the setting interface.



Programmable items include: Mode Switch, Roll Gain, Pitch Gain, Yaw Gain, Offset on Roll Axis, Offset on Pitch Axis, Mounting, and Wing.

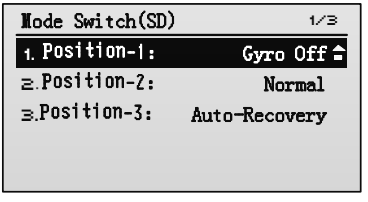
If the receiver is disconnected or powered off, the transmitter cannot enter the **Airplane Gyro** setting interface and will enter the following interface.



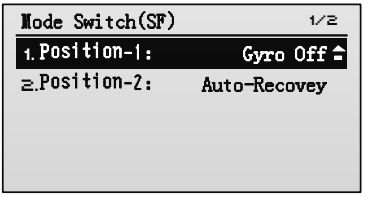
3. Assign the desired flight mode to the mode switch.

(1) In the **Airplane Gyro** menu, press **UP** or **DOWN** key to select **Mode Switch**, and then press **ENT** key to enter the setting interface.

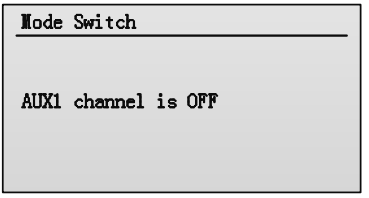
- If a 3-position switch is assigned to **AUX1** channel, the interface is shown as below.



- If a 2-position switch is assigned to **AUX1** channel, take **SF** switch as an example, the interface is shown as below.



- If **AUX1** channel is set to **OFF**, the interface is shown as below. Please return to Step 1 and reset the value of **AUX1** channel.



📖 **NOTE**: If **AUX1** channel is set to **OFF**, the sport receiver works on **Normal** mode.

(2) (The operation for 3-position switch) Change the position of the switch to select **Position-1**, **Position-2**, and **Position-3**, and then press **R/+** or **L/-** key to set the value.

Position-1, **Position-2**, and **Position-3** are respectively used to assign the desired flight mode to position-1, position-2, and position-3. Values:

- **Gyro Off**: Choose this mode to disable the gyros for all channels. The airplane will be completely under the control of the transmitter. Generally, it is only used to test.
- **Normal**: In this mode, the gyro will sense angular velocity on each axis and make a momentary reaction. The normal mode is suitable for all types of airplane. It can effectively improve the stability of your airplane, especially on a windy day.
- **Auto-Recovery**: It is also called Auto Balance Mode. Choose this mode to lock the tilt angle on pitch and roll axis. When operating in this mode, the airplane will maintain level flight automatically. When switch it to this mode

from any other modes in an emergency, the airplane will recover to the level flight automatically, which it is known as one-click rescue. This mode is suitable for the new beginners or the FPV (First Person View) applications.

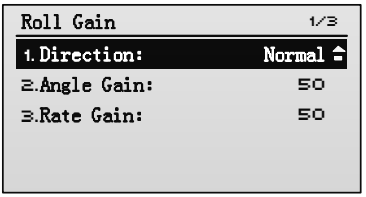
- **Aerobatic**: By adding the attitude hold function to the gyros, it will lock the airplane to its previous attitude if there is no command sent from the transmitter in a flight. This mode can effectively help you to accomplish an aerobatic flight. Operate the sticks in this mode, the controller won't affect the operation and can improve the stability of the airplane. Once release the sticks, the controller will save the previous flight attitude and lock the airplane to this attitude.

⚠ **CAUTION**: Flying in this mode, do not drastically adjust the trims, excessive trims will affect the judgment of neutral position for the transmitter. Set the trims during test, and then restart the RC system.

The default values for **Position-1**, **Position-2**, and **Position-3** are **Gyro Off**, **Normal** and **Auto-Recovery**.

4. Adjust the roll, pitch, and yaw gain. Adjusting the roll gain is taken as an example.

(1) In the **Airplane Gyro** menu, press **UP** or **DOWN** key to select **Roll Gain**, and then press **ENT** key to enter the setting interface.



(2) Press **UP** or **DOWN** key to select the setting item, and then press **R/+** or **L/-** key to set the value of the item.

- **Direction**: This parameter is used to specify the adjusting direction of the gain. Values:
  - **Normal**: Adjust the gain in positive direction. When the servo moves in normal direction, Set the value to **Normal**.

- **Reverse**: Adjust the gain in negative direction. When the servo moves in reverse direction, Set the value to **Reverse**.

The default is **Normal**.

- **Angle Gain**: This parameter is used to set the value (percentage) of the angle gain. When the value is **0**, the gain is the lowest. The larger the value is, the larger the gain is. Values: 0~100. The default is **50**.
- **Rate Gain**: This parameter is used to set the value (percentage) of the angular velocity gain. When the value is 0, the gain is the lowest. The larger the value is, the larger the gain is. Values: 0~100. The default is **50**.

📖 **NOTE**: There are different requirements for the gain in different application. You need to adjust the gain to get the best result. If the gain is set too high, there is a result of over amplification of the gyros, this rapid back and forth movement can make the airplane hard to control. But if the gain is too low, will cause the airplane become blunt. We suggest you start your first flight with a lower gain setting and then increase them gradually.

5. Adjust the level offset on Roll and Pitch.

   This function is used to offset the absolute angle error caused by installation, and try to establish the appropriate level flight attitude of the plane when flying in auto-balance mode. If your plane drops down or up when switch to auto-balance mode, you will need to perform a level offset. Usually you just need to do it once after installation.

   In the **Airplane Gyro** menu, press **UP** or **DOWN** key to select **Offset on Roll Axis**/ **Offset on Pitch Axis**, and then press **R/+** or **L/-** key to set the value.

   Offset on Roll Axis and **Offset on Pitch Axis** are respectively used to offset the absolute angle on roll and pitch axis. Values: -20~20. The default is **0**.

📖 **NOTE**: For ease of observation, you can turn the roll and pitch gain larger temporarily when adjusting the parameters, and restore it after you finish the adjustment.

6. Set the mounting direction of the sport receiver.

   In the **Airplane Gyro** menu, press **UP** or **DOWN** key to select **Mounting**, and then press **R/+** or **L/-** key to set the value.

   This parameter is used to specify the mounting direction of the sport receiver.

The value must be consistent with the actual mounting direction. Otherwise the airplane cannot work properly. Values:

- **Face Up**: The mounting direction is face up.
- **Face Down**: The mounting direction is face down.
- **Face Right**: The mounting direction is face right.
- **Face Left**: The mounting direction is face left.

The default is **Face Up**.

7. Set the wing type.

   In the **Airplane Gyro** menu, press **UP** or **DOWN** key to select **Wing**, and then press **R/+** or **L/-** key to set the value.

   This parameter is used to specify the wing type of the airplane mounted with the sport receiver. The value must be consistent with the actual wing type. Otherwise the airplane cannot work properly. Values:

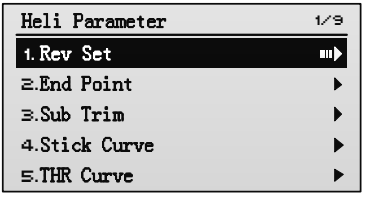
   - **Normal**: Normal airplane.
   - **Delta Wing**: Delta wing airplane.
   - **V-tail**: V-tail airplane.

   The default is **Normal**.

Model Parameter (Helicopter)

Before setting the model parameters, please select the **Model** and **Type** in the **Model Set** menu first. If the model is airplane, set **Type** to **HELI**.

After entering the main menu, press **UP** or **DOWN** key to select **Model Parameter**, and then press **ENT** key to enter the **Heli Parameter** interface.



Reverse [Rev Set]

Please refer to *Reverse [Rev Set] (Page 17)*.

End Point [End Point]

Please refer to *End Point [End Point] (Page 18)*.

Sub Trim [Sub Trim]

Please refer to *Sub Trim [Sub Trim] (Page 18)*.

Stick Curve [Stick Curve]

Please refer to *Stick Curve [Stick Curve] (Page 19)*.

Throttle Curve [THR Curve]

This function is used to adjust throttle servo operation in response to throttle stick operation. The servo position can be set independently for a maximum of 9 point positions.

You can set throttle curve for the helicopter's **NORM** (normal) and **ACR** (acrobatic) flight mode respectively.

- **NORM THR Curve** (Normal Throttle Curve): It is used to adjust throttle servo

operation in response to throttle stick operation when the helicopter is in **NORM** flight mode.

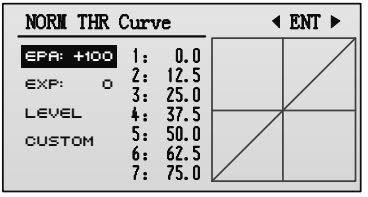
- **ACR THR Curve** (Acrobatic Throttle Curve): It is used to adjust throttle servo operation in response to throttle stick operation when the helicopter is in **ACR** flight mode.

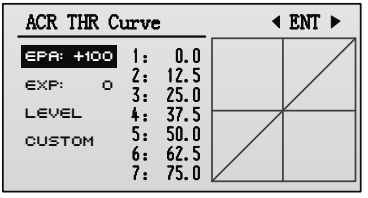
📖 **NOTE**: The introductions for **NORM** and **ACR**, please refer to *Flight Mode (Page 15)*.

Setting Method:

1. In the **Heli Parameter** menu, press **UP** or **DOWN** key to select **THR Curve**, and then press **ENT** key to enter the **NORM THR Curve** setting interface.

   Continue to press **ENT** key to enter **ACR THR Curve** setting interface.





2. Press **UP** or **DOWN** key to select the setting item, and then press **R/+** or **L/-** key to set the value of the item.

   For the descriptions of each parameter, please refer to *Stick Curve [Stick Curve] (Page 19)*.

After setting the helicopter's throttle curve, you can select the normal or acrobatic throttle curve by using acrobatic flight switch.

Pitch Curve [PIT Curve]

It is used to adjust pitch operation in response to throttle stick operation. The servo position can be set independently for a maximum of 9 point positions.

You can set pitch curve for the **HLD** (hold), **NORM** (normal) and **ACR** (acrobatic) flight mode of helicopter respectively.

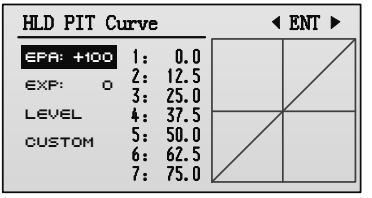
- **HLD PIT Curve** (Hold Pitch Curve): It is used to adjust pitch operation in response to throttle stick operation when the helicopter is in **HLD** flight mode.
- **NORM PIT Curve** (Normal Pitch Curve): It is used to adjust pitch operation in response to throttle stick operation when the helicopter is in **NORM** flight mode.
- **ACR PIT Curve** (Acrobatic Pitch Curve): It is used to adjust pitch operation in response to throttle stick operation when the helicopter is in **ACR** flight mode.

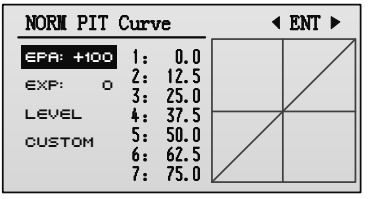
📖 **Note**: The introductions for **HLD**, **NORM**, and **ACR**, please refer to *Flight Mode* (*Page 15*).

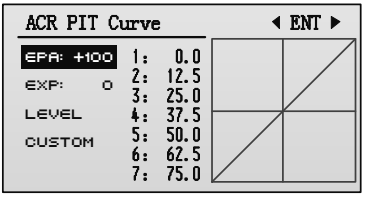
Setting Method:

1. In the **Heli Parameter** menu, press **UP** or **DOWN** key to select **PIT Curve**, and then press **ENT** key to enter the **HLD PIT Curve** setting interface.

   Continue to press **ENT** key to enter **NORM PIT Curve** and **ACR PIT Curve** setting interface.







2. Press **UP** or **DOWN** key to select the setting item, and then press **R/+** or **L/-** key to set the value of the item.

   For the descriptions of each parameter, please refer to *Stick Curve [Stick Curve] (Page 19)*.

After setting the helicopter's pitch curve, you can select the hold, normal, or acrobatic pitch curve by using throttle hold switch and acrobatic flight switch.

Throttle Hold [THR Hold]

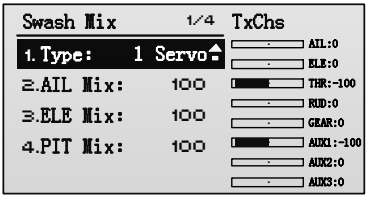
Please refer to *Throttle Curve [THR Curve] (Page 21).*

Swash Mixing [Swash Mix]

📖 **NOTE**: This function is available for helicopter only.

Using three servos to control the swash plate, the swash mixing function allows coordinated control of the aileron, elevator, and pitch. This swash mixing is essential for helicopters that incorporate CCPM (collective-cyclic pitch mixing) system, and can make the swash plate setting easier.

1. In the **Heli Parameter** menu, press **UP** or **DOWN** key to select **Swash Mix**, and then press **ENT** key to enter the setting interface.



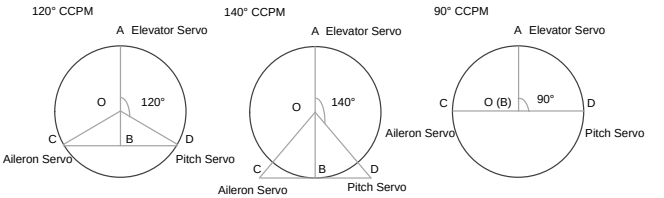
2. Press **UP** or **DOWN** key to select **Type** item, and then press **R/+** or **L/-** key to

set the swash type.

Values:

- **1 Servo**: Each channel controls one servo, each servo controls one kind of operation, without mixing. If the **Type** is set to **1 Servo**, do not need to set the mixing rate in step 3.
- **120°** : This swash type is shown in the following figure. After selecting this swash type, you can adjust the swash mixing by setting the mixing rate in step 3.
- **140°** : This swash type is shown in the following figure. After selecting this swash type, you can adjust the swash mixing by setting the mixing rate in step 3.
- **90°** : This swash type is shown in the following figure. After selecting this swash type, you can adjust the swash mixing by setting the mixing rate in step 3.

The default is **1 Servo**.



3. Press **UP** or **DOWN** key to select the mixing rate item, and then press **R/+** or **L/-** key to set the value of the item.

- **AIL Mix**: This parameter is used to set the mixing rate (percentage) from aileron to pitch when operating the aileron stick. Values:-100~100. If the value is negative, it will adjust the pitch operation in the negative direction. If the value is positive, it will adjust the pitch operation in the positive direction. The default is **100**.
- **ELE Mix**: This parameter is used to set the mixing rate (percentage) from elevator to aileron and pitch when operating the elevator stick. Values: -100~100. If the value is negative, it will adjust the aileron and pitch operation in the negative direction. If the value is positive, it will adjust the aileron and

pitch operation in the positive direction. The default is **100**.

- **PIT Mix**: This parameter is used to set the mixing rate (percentage) from aileron to aileron and elevator when operating the aileron stick. Values: -100~100. If the value is negative, it will adjust the aileron and elevator operation in the negative direction. If the value is positive, it will adjust the aileron and elevator operation in the positive direction. The default is **100**.

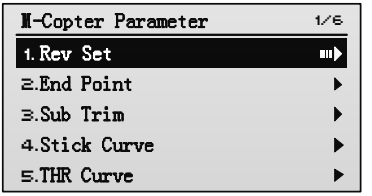
Servo Delay [Servo Delay]

Please refer to *Servo Delay [Servo Delay] (Page 29)*.

Model Parameter (Multi-rotor)

Before setting the model parameters, please select the **Model** and **Type** in the **Model Set** menu first. If the model is airplane, set **Type** to **MCOPTER**.

After entering the main menu, press **UP** or **DOWN** key to select **Model Parameter**, and then press **ENT** key to enter the **M-Copter Parameter** interface.



Reverse [Rev Set]

Please refer to *Reverse [Rev Set] (Page 17)*.

End Point [End Point]

Please refer to *End Point [End Point] (Page 18)*.

Sub Trim [Sub Trim]

Please refer to *Sub Trim [Sub Trim] (Page 18)*.

Stick Curve [Stick Curve]

Please refer to *Stick Curve [Stick Curve] (Page 19)*.

Throttle Curve [THR Curve]

Please refer to *Throttle Curve [THR Curve] (Page 20)*.

Throttle Hold [THR Hold]

Please refer to *Throttle Curve [THR Curve] (Page 21).*

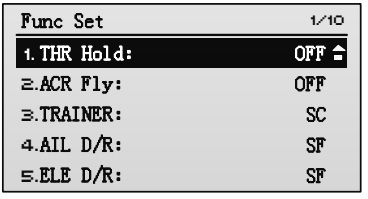
Function Set

The switches (SA~SF) on the transmitter can be used to customize as the control switch for throttle hold, acrobatic flight, aileron D/R, elevator D/R, rudder D/R, or other auxiliary functions.

Setting Method:

1. Enter the function set interface by one of the following ways.

- On the main screen, press **L/-** key to enter the setting interface directly.
- After entering the main menu, press **UP** or **DOWN** key to select **Func Set**, and then press **ENT** key to enter the setting interface.



2. Press UP or DOWN key to select the function item, and then press R/+ or L/- key to select the switch.

- THR Hold: This parameter is used to set the control switch for throttle hold function. Values: OFF, SA, SB, SC, SD, SE, and SF. The default is OFF.
- ACR Fly: This parameter is used to set the control switch for acrobatic flight function. Values: OFF, SA, SB, SC, SD, SE, and SF. The default is OFF.
- TRAINER: This parameter is used to set the control switch for trainer function. Values: OFF, SA, SB, SC, SD, SE, and SF. The default is SC.
- AIL D/R: This parameter is used to set the control switch for aileron D/R function. Values: OFF, SA, SB, SC, SD, SE, and SF. The default is SF. When the value is set to **OFF**, the D/R status “AIL: D1” will display on the main screen and **AIL Curve DR1** (defined in *Stick Curve [Stick Curve]*) will come into effect.
- ELE D/R: This parameter is used to set the control switch for elevator D/R function. Values: OFF, SA, SB, SC, SD, SE, and SF. The default is SF. When

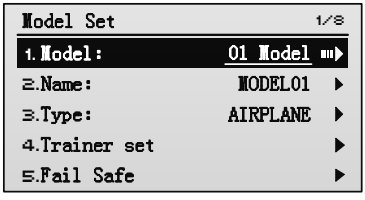
the value is set to **OFF**, the D/R status “ELE: D1” will display on the main screen and **ELE Curve DR1** (defined in *Stick Curve [Stick Curve]*) will come into effect.

- RUD D/R: This parameter is used to set the control switch for rudder D/R function. Values: OFF, SA, SB, SC, SD, SE, and SF. The default is SF. When the value is set to **OFF**, the D/R status “RUD: D1” will display on the main screen and **RUD Curve DR1** (defined in *Stick Curve [Stick Curve]*) will come into effect.
- GEAR: This parameter is used to set the control switch for GEAR channel (CH5). Values: OFF, SA, SB, SC, SD, SE, and SF. The default is SA.
- AUX1: This parameter is used to set the control switch for AUX1 channel (CH6). Values: OFF, SA, SB, SC, SD, SE, and SF. The default is SD. For helicopter, this parameter is invalid.
- AUX2: This parameter is used to set the control switch for AUX2 channel (CH7). Values: OFF, SA, SB, SC, SD, SE, and SF. The default is SB.
- AUX3: This parameter is used to set the control switch for AUX3 channel (CH8). Values: OFF, SA, SB, SC, SD, SE, and SF. The default is SE.

Model Set

In the **Model Set** menu, you can edit a model, switch to another model, set the model type, set the trainer function and fail safe function. GAVIN-8C can store a maximum of 30 aircraft models.

After entering the main menu, press **UP** or **DOWN** key to select **Model Set**, and then press **ENT** key to enter the **Model Set** interface.

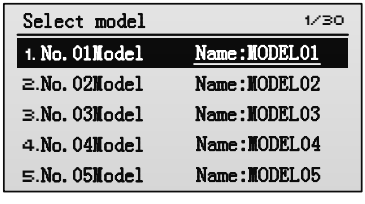


Select Model [Model]

This is used to select a model, enables you to access any of the 30 aircraft models in the model list.

Setting Method:

1. In the **Model Set** menu, press **UP** or **DOWN** key to select **Model**, and then press **ENT** key to enter the setting interface.



2. Press **UP** or **DOWN** key to select the model, and then press **ENT** key to confirm the selection.

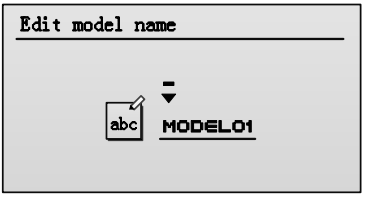
Edit Model Name [Name]

The model name is used to display in the main screen. Users can edit the model

name. The model name is composed of a maximum of 9 characters which contains upper- and lower-case letters, numbers (0~9), or special characters.

Setting Method:

1. In the **Model Set** menu, press **UP** or **DOWN** key to select **Name**, and then press **ENT** key to enter the **Edit model name** interface.



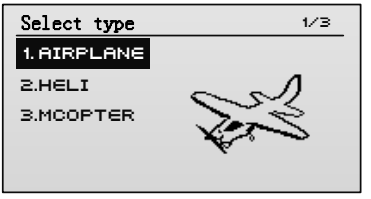
2. Press **UP** or **DOWN** key to move the cursor and select each character, and then press **R/+** or **L/-** key to set the value of each character.
3. After completing to edit the model name, press **ENT** key to save the setting. The LCD display will back to **Model Set** interface automatically.

Select Model Type [Type]

This function allows selection of mode type. The type can be select from airplane (AIRPLANE), helicopter (HELI), or multi-copter (MCOPTER).

Setting Method:

1. In the **Model Set** menu, press **UP** or **DOWN** key to select **Type**, and then press **ENT** key to enter the setting interface.



2. Press **UP** or **DOWN** key to select the model type, and then press **ENT** key to confirm the selection. The LCD display will back to **Model Set** interface automatically.

Trainer Set [Trainer Set]

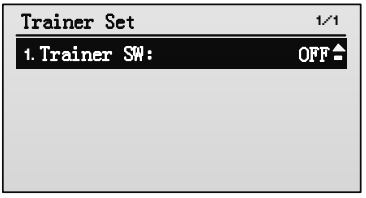
This function allows two transmitters to be connected by a trainer cord to allow dual control flight instruction. Then a skilled instructor can teach a student with fly skills using this trainer system. The instructor transmitter should be set for trainer operation. The trainer function makes it possible for the instructor to choose which functions and channels are to be used for instruction.

Always check operation of each control surface before each flying session. When using the trainer function, please check the operation of both the instructor and student transmitters.

Setting Method:

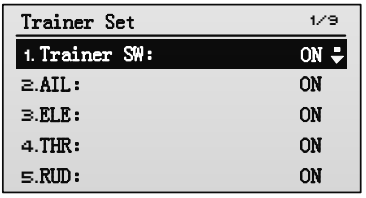
1. Use a trainer cord (optional) to connect two transmitters, and power on the two transmitters.
2. Set the instructor transmitter for trainer operation, and choose the channels used for instruction.

(1) In the **Model Set** menu, press **UP** or **DOWN** key to select **Trainer Set**, and then press **ENT** key to enter the setting interface.



(2) Modify the value of **Trainer SW** to **ON** by pressing **R/+** key, to set this transmitter work as trainer operation.

The setting interface is shown in the following figure.



(3) Press **UP** or **DOWN** key to select the channel, and then press **R/+** or **L/-** key to set the value of the channel.

Channels can be set include **AIL**, **ELE**, **THR**, **RUD**, **GEAR**, **AUX1**, **AUX2**, and **AUX3**.

Values:

- **ON**: If one of the above channels is set to **ON**, it means this channel is to be used for trainer instruction.
- **OFF**: If one of the above channels is set to **OFF**, it means this channel is not to be used for trainer instruction, only the instructor side operates.

The default values for each channel are **ON**, **ON**, **ON**, **ON**, **OFF**, **OFF**, **OFF**, and **OFF**.

3. Enter the **Func Set** menu to check and set the trainer switch. For details, please refer to *Function Set (Page 43)*.
4. Start a dual control flight between instructor and student.

   During flight, push and hold the trainer switch on the instructor transmitter, the model will be controlled by signals from the student transmitter. When the student operates erroneously, the instructor can release the trainer switch and the instructor transmitter regains control of the model. Then the instructor can operate the sticks to correct the flight.

⚠ **CAUTION**: After finishing the trainer operation, please set the value of **Trainer SW** to **OFF** on both the instructor and student transmitters.

Fail Safe [Fail Safe]

If there is signal interference to the transmitter, or the receiver does not receive a valid RF signal from the transmitter, this function moves the servos to predefined positions, to avoid a crash.

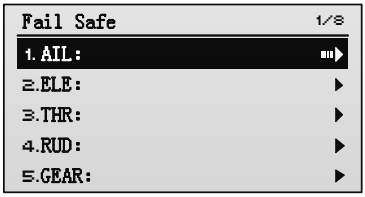
⚠ **WARNING:**

- For safety, always set the fail safe function before each flying session. Especially set the throttle channel fail safe function, set an appropriate value for the throttle channel according to the model type.
- Remember to implement the fail safe setting after completing the aircraft

settings.

Setting Method:

1. In the **Model Set** menu, press **UP** or **DOWN** key to select **Fail Safe**, and then press **ENT** key to enter the setting interface.

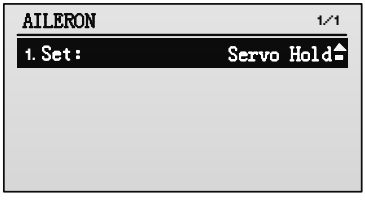


2. Press **UP** or **DOWN** key to select the channel, and then press **ENT** key to enter the setting interface.

   Channels can be set include **AIL**, **ELE**, **THR**, **RUD**, **GERA**, **AUX1**, **AUX2**, and **AUX3**. You can select either mode for each channel in case of loss of RF signal:

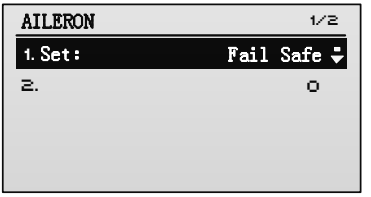
   - **Servo Hold**: Maintain the servo positions as they were immediately before the radio signal was lost.
   - **Fail Safe**: The servos move to predefined positions in case of loss of RF signal.

   The default setting for each channel is **Servo Hold**. Take the aileron fail safe setting method as an example.



3. Change the value to **Fail Safe** by pressing **R/+** key, to activate fail safe function.

   When the fail safe function is activated, the setting interface is shown in the following figure.



4. Set the value to desired position.

   Values for each channel: -120~120. The default values for each channel are **0**, **0**, **-100**, **0**, **0**, **0**, **0**, and **0**.

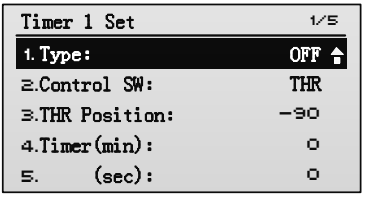
Timer Set [Timer 1/2 Set]

This transmitter incorporates two timer systems which are displayed on the main screen. Take the timer 1 setting method as an example.

Setting Method:

1. Enter the timer set interface by one of the following ways.

- On the main screen, press **UP** key to enter **Timer 1 Set** interface directly, or press **DOWN** key to enter **Timer 2 Set** setting interface directly.
- In the **Model Set** menu, press **UP** or **DOWN** key to select **Timer 1 Set/ Timer 2 Set**, and then press **ENT** key to enter the setting interface.



2. Press **UP** or **DOWN** key to select **Type**, and then press **R/+** or **L/-** key to set the timer type.

   Values:

   - **OFF**: This timer is disabled. You do not need to set the following items when **OFF** is selected.

- **Hidden**: This timer is enabled, but does not display on the main screen.
- **UP Timer**: This timer is enabled, and displays on the main screen as up timer.
- **DOWN Timer**: This timer is enabled, and displays on the main screen as down timer.

The default is **OFF**.

3. Press **UP** or **DOWN** key to select **Control SW**, and then press **R/+** or **L/-** key to set the value (timer event).

   Values:

   - **THR**: The timer will be programmed to start when the throttle is raised above a predefined position, and pause when falling below this position. If the **Control SW** is set to **THR**, you need to set the **THR Position**. Values: -100~100. The default is **-90**.
   - **SA**: The timer will be programmed to start when you put the **SA** switch on top or middle position, and pause when you put the **SA** switch on bottom position.
   - **SD**: The timer will be programmed to start when you put the **SD** switch on top or middle position, and pause when you put the **SD** switch on bottom position.

4. Press **UP** or **DOWN** key to select **Timer (min)** and **(sec)**, and then press **R/+** or **L/-** key to set the value.

Reset Model [Reset]

This function allows you to reset all the setting of current model or all models to default values.

Setting Method:

1. In the **Model Set** menu, press **UP** or **DOWN** key to select **Reset**.
2. Press **R/+** or **L/-** key to select to command, and then press **ENT** to execute the command.

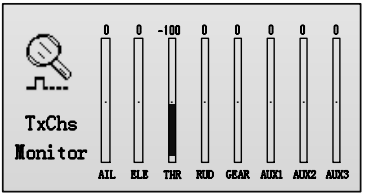
- **Not Act**: Keep the current setting, do not reset the model.
- **Act**: Reset the settings of current model to default values.
- **All**: Reset the settings of all models to default values.

Channel Monitor

You can check the status of each channel through the channel monitor.

Enter the channel monitor interface by one of the following ways.

- On the main screen, press **R/+** key to enter channel monitor interface directly.
- After entering the main menu, press UP or DOWN key to select Channel Monitor, and then press ENT key to enter the channel monitor interface.



- **AIL**: Aileron channel
- **ELE**: Elevator channel
- **THR**: Throttle channel
- **RUD**: Rudder channel
- **GEAR**: Gear channel
- **AUX1**: Auxiliary channel 1
- **AUX2**: Auxiliary channel 2
- **AUX3**: Auxiliary channel 3

System Set

The **System Set** menu sets up functions of the transmitter, does not set up any model data.

After entering the main menu, press **UP** or **DOWN** key to select **System Set**, and then press **ENT** key to enter the **System Set** interface.

Language [Language]

It is used to set the language displayed on LCD, including Chinese and English.

Setting Method:

In the **System Set** menu, press **UP** or **DOWN** key to select **Language**, and then press **R/+** or **L/-** key to set the language.

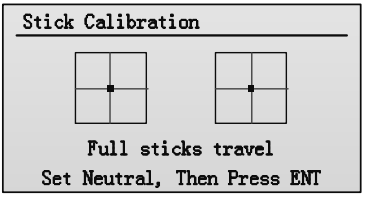
Calibration [Calibration]

This function calibrates the neutral position of the stick and stick travel. Stick calibration is required in the following conditions:

- Using the transmitter first time
- After changing the stick mode
- After upgrading the transmitter firmware
- When the positions of the sticks are inconsistent with the expected results

Setting Method:

1. In the **System Set** menu, press **UP** or **DOWN** key to select **Calibration**, and then press **ENT** key to enter the setting interface.



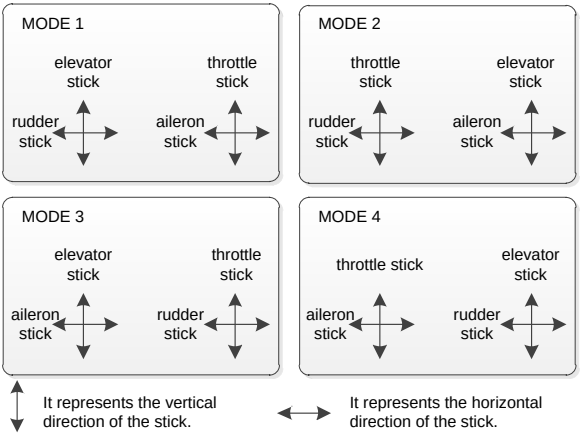
2. Move both right and left sticks up and down and right to left, next set both right and left sticks to their center position, and then press **ENT** key to calibrate the sticks.

If the calibration is successful, it will prompt "Completed!", as shown in the following figure. If failed, it will prompt "Please Retry!".

Stick Mode [Stick Mode]

This function is used to change the stick mode to meet different operating habits.

Values: **MODE 1**, **MODE 2**, **MODE 3** and **MODE 4**. The default is **MODE 1**. The right and left sticks for each mode are shown in the following figure.



Setting Method:

In the **System Set** menu, press **UP** or **DOWN** key to select **Stick Mode**, and then press **R/+** or **L/-** key to set the value.

Note:

- If the throttle stick position to be changed when changing the stick mode, the throttle stick and elevator stick location requires changing. For details, please refer to *Change the Location of Throttle Stick (Page 13)*.
- Be sure to calibrate both stick gimbals after changing the stick mode. For details, please refer to *Calibration [Calibration] (Page 53)*.

Volume [Volume]

It is used to adjust the system volume, including key volume, switching on volume, and the volume while entering the submenu.

Values: 0~10. You may disable the key sound by changing the volume to **0**. The larger the value is, the greater the sound volume is.

Setting Method:

In the **System Set** menu, press **UP** or **DOWN** key to select **Volume**, and then press **R/+** or **L/-** key to set the volume.

Key Tone [Key Tone]

It is possible to change to tone for the keys.

Values: 0~30.

Setting Method:

In the **System Set** menu, press **UP** or **DOWN** key to select **Key Tone**, and then press **R/+** or **L/-** key to set the tone.

Back-light Brightness [Brightness]

It is used to adjust the back-light brightness.

Values: 0~10. You may shut off the back-light by changing the brightness to **0**. The larger the value is, the brighter the LCD screen displays.

Setting Method:

In the **System Set** menu, press **UP** or **DOWN** key to select **Brightness**, and then press **R/+** or **L/-** key to set the value.

Back-light Time [Bright Off]

It is used to adjust the back-light appearance time.

Values: **NORM ON**、**10sec**, **20sec**, **30sec**, **40sec**, **50sec**, and **60sec**. When **NORM ON** is selected, the back-light will be always on. When **10sec**, **20sec**, **30sec**, **40sec**, **50sec**, or **60sec** is selected, if there is no operation, the back-light will be on for 10, 20, 30, 40, 50, or 60 seconds before automatically shutting off.

Setting Method:

In the **System Set** menu, press **UP** or **DOWN** key to select **Bright Off**, and then press **R/+** or **L/-** key to set the value.

Battery Type [Bat Type]

It is used to set the battery type used in the transmitter. This parameter must be consistent with the actual battery type. Otherwise the transmitter cannot work normally.

Setting Method:

1. In the **System Set** menu, press **UP** or **DOWN** key to select **Bat Type**.
2. Press **R/+** or **L/-** key to set the battery type.

   Values:

   - **4S Alk**: When 4 heavy-duty or alkaline AA batteries are connected, please choose this value.
   - **4S Ni-MH**: When 4 Ni-Cd or Ni-MH AA batteries are connected, please choose this value.
   - **2S Li-Po**: When 2S Li-Po battery is connected, please choose this value.

   The default is **4S Alk**.

About Information [About]

This indicates the current version of the transmitter's software and hardware.

In the **System Set** menu, press **UP** or **DOWN** key to select **About**, and then press **ENT** key to check the version information.