WFT09 RADIO CONTROL SYSTEM

INSTRUCTION MANUAL

Use in Airplane, Helicopter, Glider, Car, Boat

www.wflysz.com

CATALOGUE

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FLYING SAFETY WARNINGS

Special Symbol Instruction

To use the product safely, please pay attention to the instruction as follows.
Please pay special attention to the symbol as follows:

⚠ **Dangers**: If you use it without proper operation, it is possible to hurt you seriously or may even cause death.

⚠ **Warnings**: If you use it without proper operation, it may make you or others to hurt badly or may even cause death, and it may cause slight hurt or damage to things.

⚠ **Notices**: If you use it without proper operation, it may cause you to hurt slightly or damage things , but it won't hurt you seriously normally.

⚠ **Notices**: Children under 14 must be accompanied and instructed by adults!

⚠ **Notices**: Turn on the transmitter first, then the receiver. When turning off the system, turn off the receiver first, then the transmitter.

Flying Notice(warning)

⃠ **Forbiddance!** ❗ **Obligation!** ⚠ **Warning!**

Same frequencies can't fly at the same time.

Same frequencies used synchronously will cause the plane to prang or to damage even the modulation ways of AM, FM, PCM are not the same, when the frequencies are identical, it will cause the plane to prang or to damage.

Don’t play at night , in rain day ,or in strong wind, which will damage the device or plane. This device is not water-proof.

The antenna should be fully pulled out when using it or the signal will be weakened and the control range will reduce, which may cause the crash.

Checking

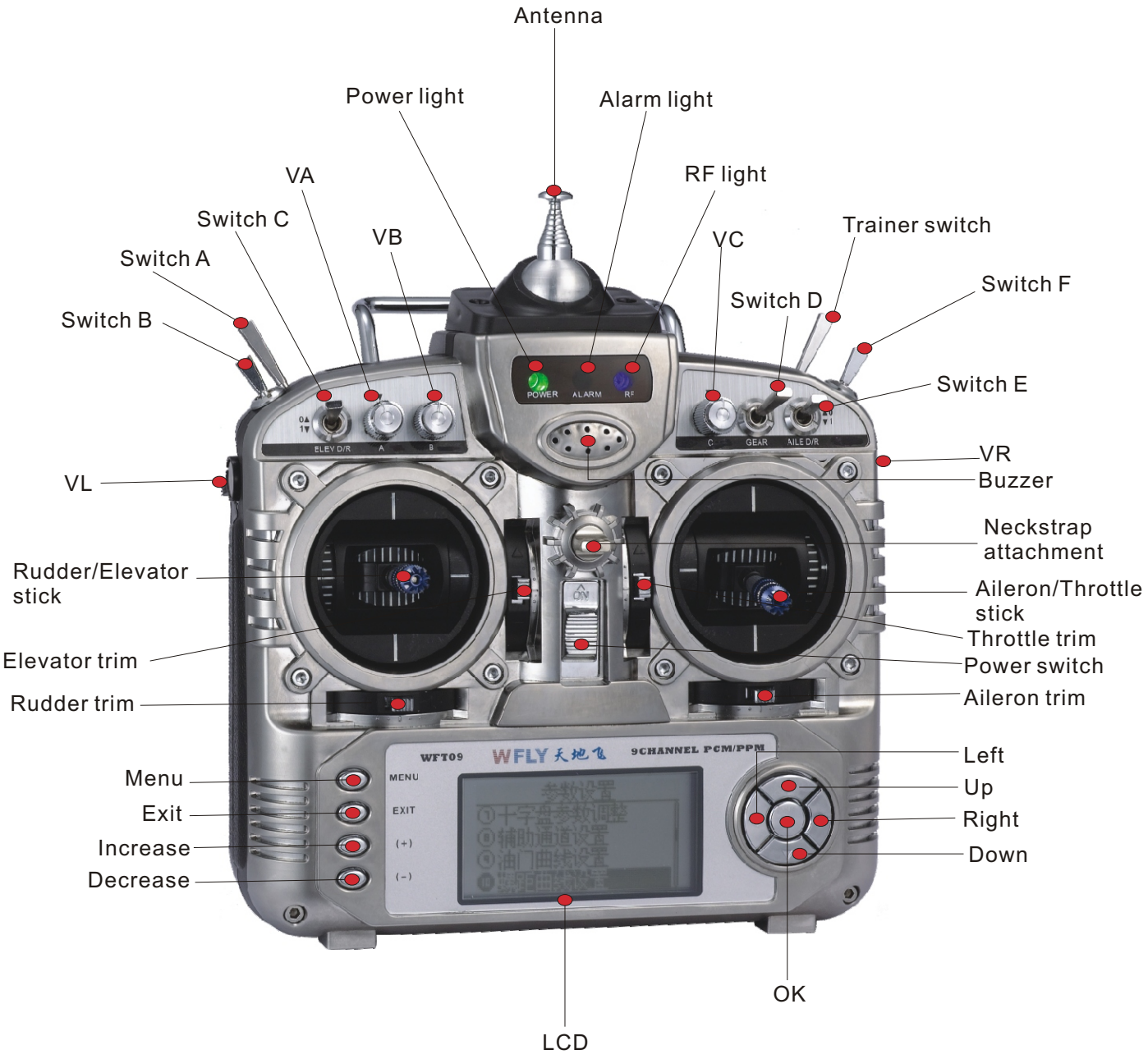
Please check every servo works properly and eliminate any disturbing signals before you play it. (If the radio bounces
after turning off the power, there may be some disturbances, in this case, please change your channel by exchange crystals)

CONTENTS AND SPECIFICATIONS

TRANSMITTER

MODEL NO.: WFT09H
MODULATION: FM(PPM) and PCM
OUTPUT POWER: ≤700mW
POWER SUPPLY: 1.2V x 8 (9.6V)
CURRENT DRAIN: 200mA
Band: 35, 36, 40, 41, 72MHz

TRANSMITTER FRONT



TRANSMITTER BACK

Handle

RF module

DSC

Charge hole

Battery cover

RECEIVER

MODEL NO.: WFR09
TYPE: 9 CH PCM/PPM, Dual conversion
POWER SUPPLY: 1.2V x 4 (4.8V)
CURRENT DRAIN: 9.5mA
WEIGHT: 19 g
DIMENSION: 44.88mm x27.90mm x16.39mm
BAND: 35, 36, 40, 41, 72MHz

WFR09-P 8 Channels Dual Conversion Receiver (PPM)

1. AIL：Aileron (Channel 1)----------
2. ELE：Elevator (Channel 2)----------
3. THR：Throttle (Channel 3)----------
4. RUD：Rudder (Channel 4)----------
5. GYR：Landing Gear/Gyro (Channel 5)-------
6. PIT：Flaperon/Pitch (Channel 6)----------
7. AUX1：Auxiliary channel 1 (Channel 7)--------
8. AUX2：Auxiliary channel 2 (Channel 8)--------
9. Power：Input +5V

(There are 9 rows needles, 3 needles in each row,
from the top needle to the bottom, the 3 needles are PCM/PPM pulse, +5V and Ground.)

72MHz, pull up the switch to A, the receiver is compatible with WFLY and FUTABA series transmitters.
Pull down the switch to B, the receiver is compatible with JR series transmiters.
35MHz and 40MHz are compatible with all kinds of transmitters.

WFR09 9 Channels Dual Conversion Receiver (PCM)

The receiver is only used for WFT09 transmitter.

1. AIL：Aileron (Channel 1)----------
2. ELE：Elevator (Channel 2)----------
3. THR：Throttle (Channel 3)----------
4. RUD：Rudder (Channel 4)----------
5. GYR：Landing Gear/Gyro (Channel 5)-------
6. PIT：Flaperon/Pitch (Channel 6)----------
7. AUX1：Auxiliary channel 1 (Channel 7)--------
8. AUX2：Auxiliary channel 2 (Channel 8)--------
9. Power：Input +5V

(There are 9 rows needles, 3 needles in each row,
from the top needle to the bottom, the 3 needles are PCM/PPM pulse, +5V and Ground.)

Accessories

1. RF MODULE

2. Charger

3. Battery holder

4. Battery holder

5. Neckstrap

6. Simulator cable

7. Switch harness

8. Trainer cable/Data transfer cable

FEATURES

Computeriged transmitter.

192 x 64 dot matrix LCD, easy operating buttons.

Metal slab shell.

Adjustable antenna basement.

Tightness and length of the control stick can be adjusted freely.

Excellent touch of the stick movement.

Full digital trim.

Independent RF module for easy band exchange.

Trainer function.

3 independence timer, all can be set to count down or increment.

PCM and PPM modulation supported.

Multi mixing function.

All curves have eleven fully position adjustable point.

User defined switch and knob.

Model parameter can be exchange between transmitter..

10-model memory.

WFT09 transmitter is compatible with FUTABA and JR (PPM) receiver.

Dual conversion receiver(PPM) is compatible with FUTABA and JR transmitter.

Buttons

MENU
Menu button brings you to the function list of the transmitter.

EXIT
Exit button is to back the previous menu or exit edit.

+
This button is to increase the value. If you press it for a while, the increasing speed will be faster.

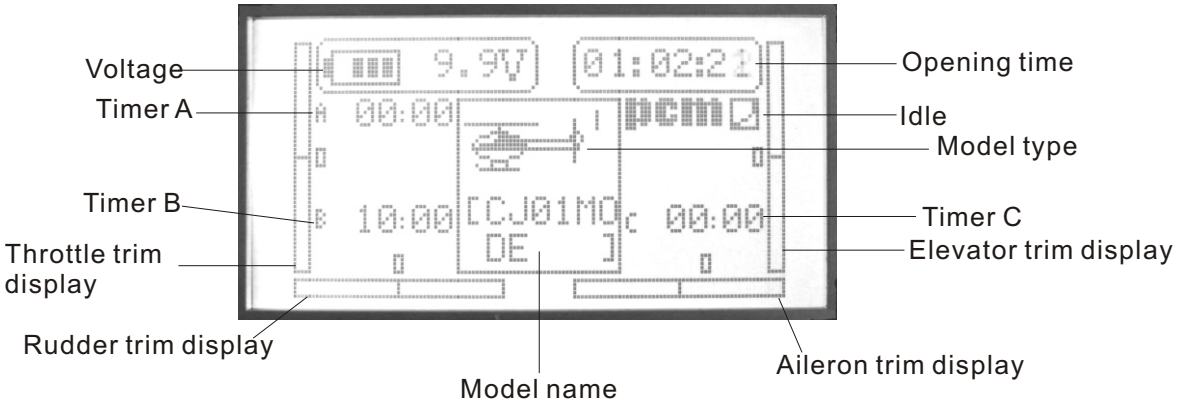
-
This button is to decrease the value. If you press it for a while, the decreasing speed will be faster.

Cursor **buttons**
Move the cursor.

OK
The button in the middle of the direction buttons is the OK button.
The function is as follows:
To enter the function list.
To enter the edit function.
To back the default for long time press.

Opening Screenl

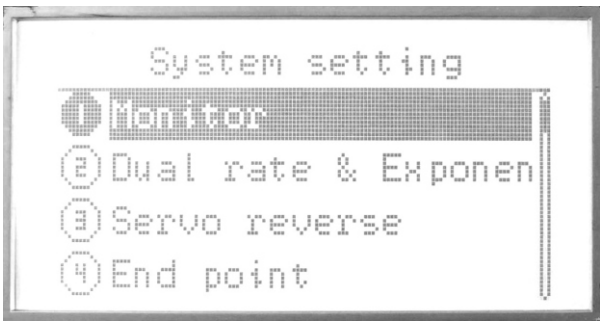
Turn on the power switch, the LCD displays as follows.



The opening screen displays the voltage, timer, model, aileron, throttle, elevator and rudder state.

Menu Screen

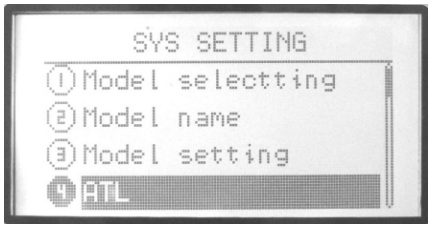
Turn on the transmitter, press the menu button, the LCD displays as follows.



1. Monitor
2. Dual rate & Exponential setting
3. Servo reverse
4. End point
5. Sub trim
6. Swash param setting
7. Auxiliary channels
8. Throttle curve setting
9. Pitch curve setting
10. Revolution mixing
11. Trim step setting
12. Throttle cut setting
13. Fly model switch
14. Throttle holding setting
15. Fail safe
16. Timer
17. More setting
18. Language

System setting menu II

Press Menu and turn on the power switch, the LCD displays as follows.



1. Model selecting
2. Model name
3. Model setting
4. ATL
5. Modulation setting
6. Swash select
7. Stick setting
8. Rest setting
9. Send data
10. Receive data
11. Contrast setting
12. Engineer model
13. About
14. Language

Skill

If the transmitter alarms because of the user setting, press “-” button to exit.

If the transmitter alarms because the idle switch is turned on before opening the transmitter.
To back normal, turn off the switch, then turn off the transmitter and reopen it.

OK button is back to default.

Trainer function

Two WFT09 transmitters can transfer data and realize trainer function.

Setting Method:

1).Data transfer function: use Trainer cable/Data transfer cable to connect two WFT09 transmitter.

Select “Send data/receive data” in SYS setting to transfer the data.

2).Trainer function: use Trainer cable/Data transfer cable to connect two WFT09 transmitters.

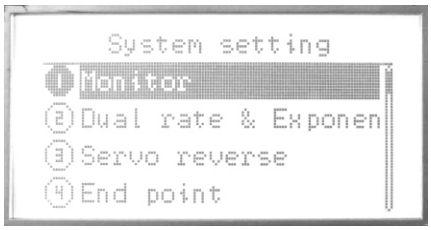
Insert RF module to the trainer transmitter, student transmitter doesn’t insert the RF module.

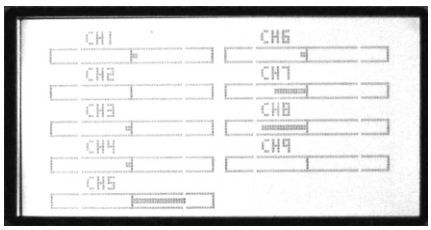
Pull Trainer switch for student transmitter operating. If any wrong operation occurs, trainer pushes trainer switch and student transmitter stops sending signal, trainer transmitter controls the aircraft.

SYSTEM SETTING

1. Monitor

Monitor shows the servos' movement situation.
In PCM, this function is to describe the 9 channels output.
In PPM, this function is to describe the first 7 channels output.

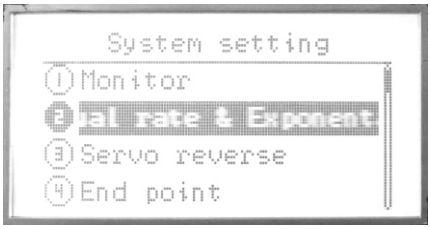




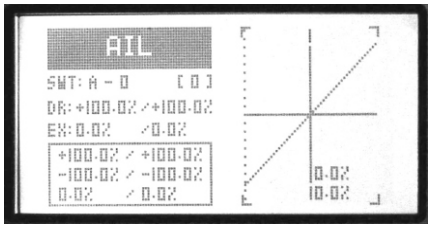
Setting Method
Press menu button, enter system setting, the first function is the monitor.

2. Dual rate & Exponential setting

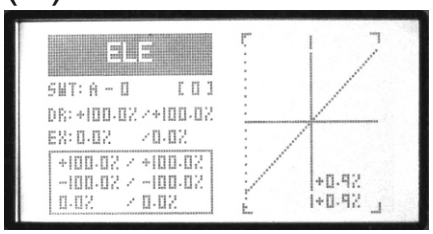
Dual rate is to adjust aileron, elevator and rudder travel range. The range is between 0%-120%.
Exponential setting is to adjust aileron, elevator and rudder sensitivity when the sticks are around the middle. The range is between -100% to +100%.



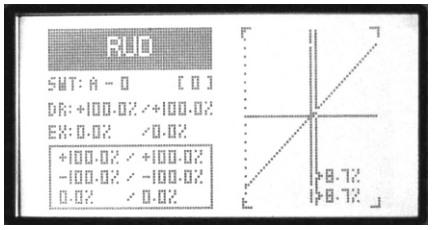
(1). AIL



(2). ELE



(3). RUD



Setting Method
1. Select channel
   Aileron, elevator and rudder are selectable. Press +/- buttons to select channel, OK button to finish setting.
2. Set the switch and its position(0,1,2)
   Press direction button to select "SWT", edit it. +/- buttons can select function switch(A-F).
   After selecting the function switch, press right direction button to enter the switch position setting, use +/- buttons to set.

3. Set dual rate
   Press direction button to select “D/R”, edit it. Edit one or two parameter.
   +/- buttons can increase or decrease the value.
   Press the OK button is to back default.

4. Set exponential
   Press direction button to select “EX”. Exponential can adjust aileron, throttle and rudder sensitivity as the stick at the middle.

5. Set curve point (normal/advanced)
   The box under “EX” shows the curve points.
   Select “Curve setting” in More setting function list.

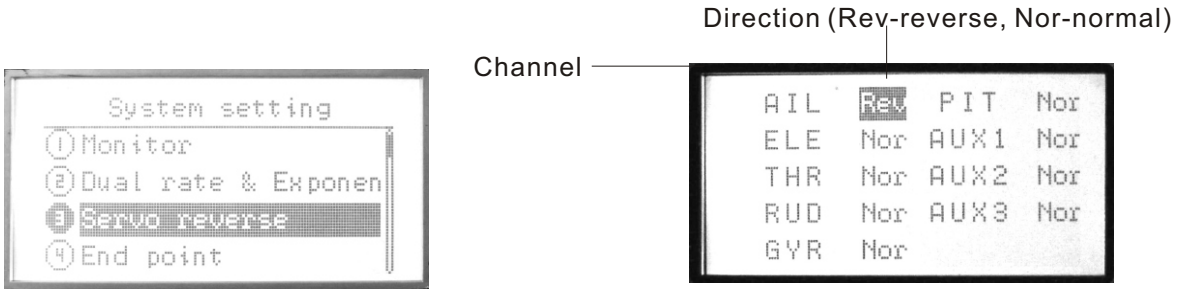
Normal curve setting--7 curve points setting.
   Select the curve point by left and right direction button, the point is appeared as dashed in curve picture.
   Use +/- button to set the value. Press OK button backs default.

Advanced curve setting--Increasing or decreasing curve point.
   Use +/- button to select the curve point, press OK to edit. Use up or down button to set the point value, use up or down button to set the point position. Press OK to finish.
   The editing point is appeared dashed in the right picture.
   There are 11 points in D/R curve, you can edit every point. At editing state, press + button can insert a curve point. Press - button can delete a curve point.
   2-11 points are supported.

6. Press EXIT after all the values are finished setting.

3. Servo direction reverse

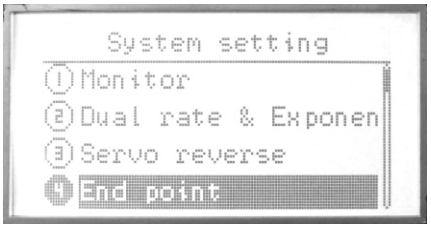
This function is to change the direction of the servos movement.

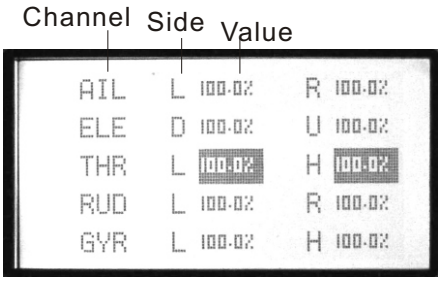


Setting Method
Use up or down button to select Servo reverse, OK button is to enter editing.
Steps:
1. Use direction buttons to select editing part.
2. Use +/- button or OK button to switch the servo movement direction.
3. Press EXIT after setting.

4. End point

It is to adjust the end of individual servo's travel. The range is from 0% to 120%.





Setting Method

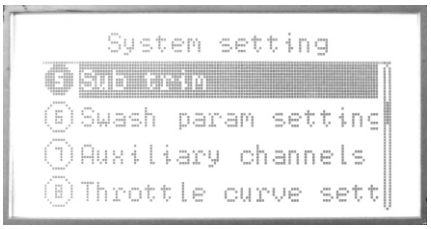
Use up or down button to select End point, OK button is to enter editing.

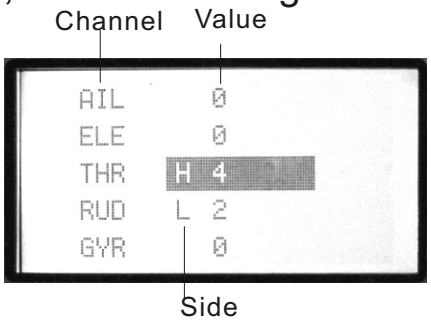
Steps:

1. Use direction buttons to select editing part.
2. Use +/- button or OK button to set the travel value. Press OK for a while backs to default.
3. Press EXIT after setting.

5. Sub trim

Sub trim makes small changes or corrections to the neutral position of each servo. Range is -120 to +120, default setting is 0.





We recommend that you center the digital trims before making Sub trim changes, and that you tryto keep all of the Sub trim values as small as possible. Otherwise, when the Sub trims are large values, the servo's range of travel is restricted on one side.

Setting Method

Use up or down button to select Sub trim, OK button is to enter editing.

Steps:

1. Use direction buttons to select editing part.
2. Use +/- button or OK button to set the trim value. Press OK for a while backs to default.
3. Press EXIT after setting.

6. Swash param setting

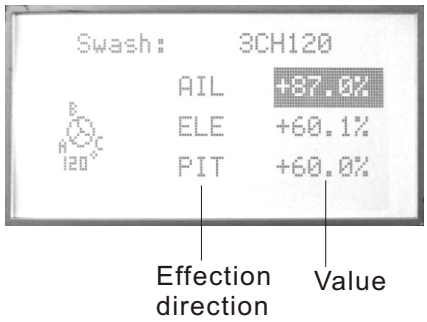
This function is to adjust the aileron, elevator and pitch travel range of swash mixing mode.

Setting Method

Use up or down button to select Swash param setting, OK button is to enter editing.

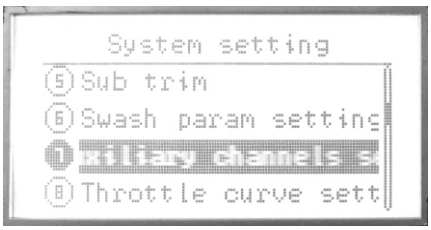
Steps:

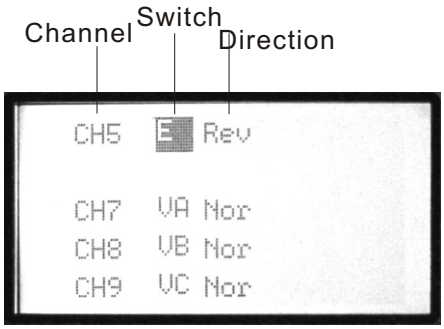
1. Use direction buttons to select editing part.
2. Use +/- button to set the travel. Press OK button for a while is to back default(60%).
3. Press EXIT after setting.



7. Auxiliary channels setting

This function is for channel 5 to channel 9 function setting.





Setting Method

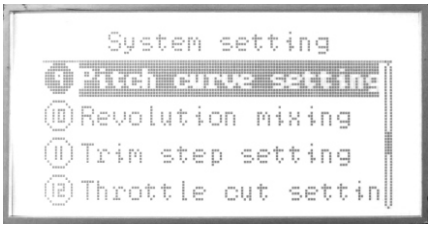
Use up or down button to select Swash param setting, OK button is to enter editing.

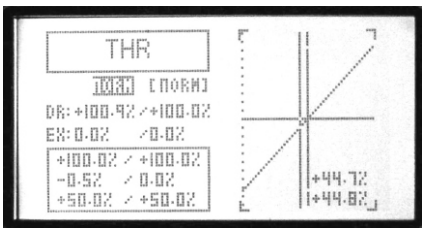
Steps:

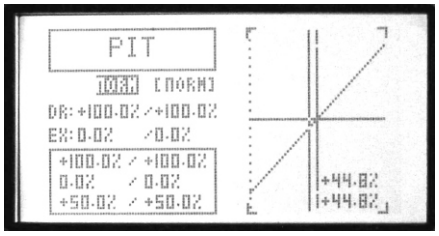
1. Use direction buttons to select editing part.
2. Use +/- button to set the switches or knobs. The switches can be set from A to F, the knobs can be set as VA, VB, VC, VL, VR or none(-).
3. Use left or right direction button to set normal or reverse direction of every channel.
3. Press EXIT after setting.

8. Throttle curve setting
9. Pitch curve setting

Throttle curve, together with the throttle stick, can be adjusted properly to maximize engine performance at a particular pitch setting. There are 2 to 11 points could be set, the range is between 0% to 120%.
The transmitter can set the following curves:
NORM, IDLE1, IDLE2, IDLE3.



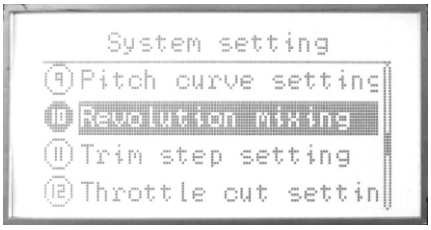


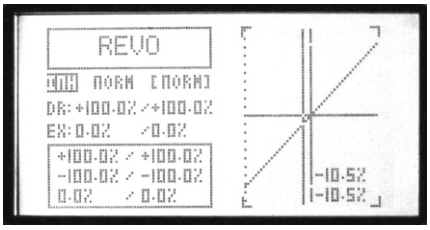


Normal curve is based on hovering, to maximize engine performance at a particular pitch setting.
Idle curve is for engine proper work in a 3D flight, with a good match between throttle and pitch.

10. Revolution mixing

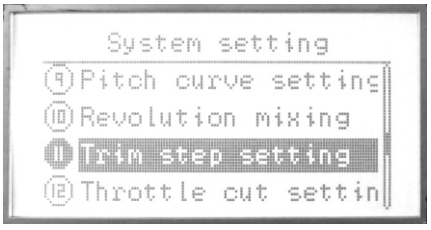
This curve mix adds opposite rudder input to counteract the changes in torque when the speed and collective pitch of the blades is changed.

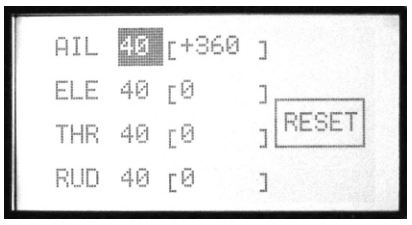




11. Trim step setting

This function is to changes the rate at which the trim moves when the TRIM LEVER is activated. The range is from 0 to 250. Generally larger trim steps are for models with large control throws or for first flights to ensure sufficient trim to properly correct the model. Smaller trim steps are later used to allow very fine adjustments in flight.





Setting Method

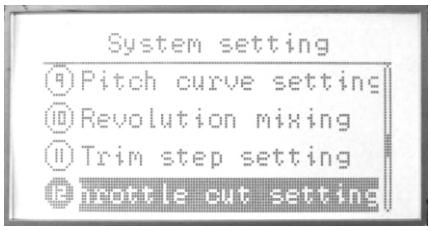
Use up or down button to select **Trim step setting**, OK button is to enter editing.

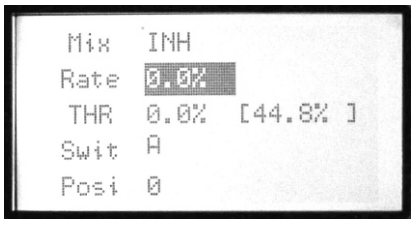
Steps:

1. Use direction buttons to select editing part.
2. Use +/- button to **a**djust the size of the step,
3. Repeat as desired for other channels.
3. Press EXIT after setting.

12. Throttle cut setting

This function is to shut off the engine at the end of a flight. The engine can be stopped with one touch of any switch, eliminating the neeto move the trim to kill the engine and then readjust prior to each flight. The helicopter THR_CUT includes an ON/OFF throttle position (normally a little above idle). You must move the THROTTLE STICK back below the set point before the THR-CUT function can be reset, to avoid sudden engine acceleration.





Setting Method

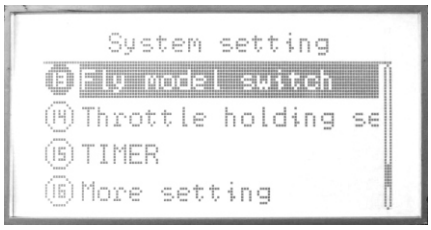
Use up or down button to select **Throttle cut setting**, OK button is to enter editing.

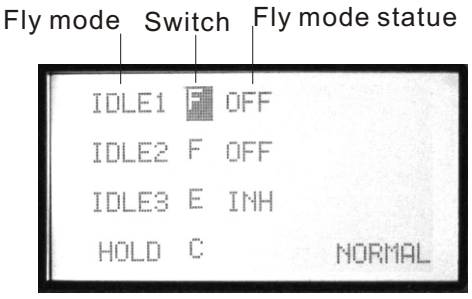
Steps:

1. Use direction buttons to select editing part.
2. **C**hoose desired switch, and position which activates the function.
3.With THROTTLE STICK at idle, adjust the rate until the engine consistently shuts off but throttle linkage is not bingding..
3. Press EXIT after setting.

13. Fly model switch

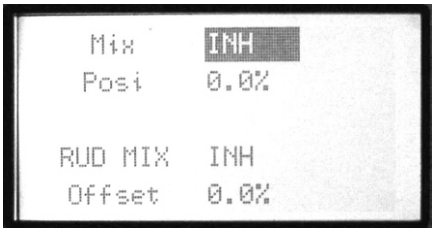
This function is to select the flight mode.





14. Throttle holding setting

This function holds the engine in th idling position and disengages it from the THROTTLE STICK when SWITCH E(9 CH) or G (9CA) is moved. It is eommonly used to practice auto-rotation.



Setting Method

Use up or down button to select **Throttle holding setting**, OK button is to enter editing.

Steps:

1. Use direction buttons to select editing part.
2. Use +/- button for proper adjustment,
3. Press EXIT after setting.