



WFT09SII

RADIO CONTROL SYSTEM PCMS 4096

PCMS Receiver, Dual MCU, Dual Antenner. Dual circuits

INSTRUCTION MANUAL_{v2}



NOTICE

Read the instruction before operation!

www.wflysz.com

Thank you for purchasing **WFLY**[®] product!

WFT09SII



SERVICE

1. Retailers to provide free maintenance for six months (apart from artificial damage)
2. WFLY retailers will always provide life-long maintenance

CATALOGUE

Contents-----	08
Transmitter front-----	09
Transmitter back-----	10
Receiver-----	11
Trainer function-----	12
Flying safety warnings-----	13
Features-----	14
Buttons-----	15
2.4G Code matching-----	16
Adjust the stick head-----	17
Change the throttle direction of mode1 or 2-----	18

HELICOPTER SYS SETTING

1. Model selecting-----	23
2. Model name-----	24
3. Model setting-----	25
4. ATL-----	26
5. Modulation setting-----	27
6. RF setting-----	27
7. Swash select-----	28
8. Stick setting-----	29
9. Adjustment-----	30
10. Reset setting-----	31
11. Send data-----	32
12. Receive data-----	33
13. Sound-----	34
14. Contrast setting-----	35
About-----	35
Language-----	36

NORMAL SETTING

1. Monitor-----	37
2. Dual rate & Exponential-----	38
3. Servo reverse-----	39
4. End point-----	40

5. Sub trim-----	41
6. Swash param setting-----	42
7. Auxiliary channels setting-----	43
8. Throttle curve setting-----	44
9. Pitch curve setting-----	46
10. Revolution mixing-----	48
11. Trim step setting-----	49
12. Throttle cut setting-----	50
13. Fly model switch-----	51
14. Throttle holding setting-----	52
15. Fail safe-----	53
16. TIMER-----	54

ADVANCED

(1). GYRO sens setting-----	56
(2). Throttle hovering setting-----	57
(3). Pitch hovering setting-----	58
(4). HI/LO PIT Setting-----	59
(5). Trim offset setting-----	60
(6). DELAY-----	61
(7). Governor mixing-----	62
(8). Swash and THR mixing-----	63
(9). Cuve setting-----	64
(10). PROG.NOR.MIX1-7-----	67
(17). PROG.CUR.MIX1-4-----	68
(21). Throttle needle mixing-----	69
(22). Code matching-----	69

AIRPLANE SYS SETTING

1. Model selecting-----	73
2. Model name-----	74
3. Model setting-----	75
4. ATL-----	76
5. AIL-2-----	77
6. Modulation setting-----	78
7. RF setting-----	79
8. Stick setting-----	80
9. Adjustment-----	81
10. Reset setting-----	82
11. Send data-----	83
12. Receive data-----	84
13. Sound-----	85
14. Contrast setting-----	85
About-----	85
Language-----	

NORMAL SETTING

1. Monitor-----	86
2. Dual Rate & Exponential Setting-----	87
3. Servo Reverse-----	88
4. End Point-----	89
5. Sub Trim-----	90
6. Auxiliary Channels Setting-----	91
7. Throttle Curve Setting-----	92
8. Trim Step Setting-----	94
9. Flaperon-----	95
10. Flap Trim-----	96
11. Ail-diff-----	97
12. Elev-flap-----	98

13.Throttle Cut Setting-----	99
14.Idle Down-----	100
15.Fail Safe-----	101
16.Timer-----	102
17.Advanced-----	103

ADVANCED

(1).curve Setting-----	105
(2)-(8).PROG.NOR.MIX1-7-----	106
(9)-(12).PROG.CUR.MIX1-4-----	107
(13).Air Brake-----	108
(14).Elevon-----	109
(15).Ailvator-----	110
(16).V-tail-----	111
(17).Snap-roll-----	112
(18).Delay-----	113
(19).Throttle Needle Mixing-----	114
(20).Gyro Sens Setting-----	115
(21).Code matching-----	115

GLIDER SYS SETTING

1.Model Selecting-----	119
2.Model Name-----	120
3.Model Setting-----	121
4.Atl-----	122
5.Ail-2-----	123
6.Modulation Setting-----	124

7.RF Setting-----	124
8.Stick Setting-----	125
9.Adjustment-----	126
10.Reset Setting-----	127
11.Send Data-----	128
12.Receive Data-----	129
13.Sound-----	130
14.Contrast Setting-----	131
About-----	131
Language-----	131

NORMAL SETTING

1.Monitor-----	132
2.Dual Rate & Exponential Setting-----	133
3.Abk. Curve Setting-----	134
4.Servo Reverse-----	135
5.End Point-----	136
6.Sub Trim-----	137
7.Auxiliary Channels Setting-----	138
8.Trim Step Setting-----	139
9.Flaperon-----	140
10.Flap Trim-----	141
11.Ail-diff-----	142
12.Elev-flap-----	143
13.Fail Safe-----	144
14.Timer-----	145
15.Advanced-----	146

ADVANCED

(1).Curve setting-----	148
(2)-(8).PROG.NOR.MIX1-7-----	149
(9)-(12).PROG.CUR.MIX1-4-----	150
(13).butterfly-----	151
(14).elevon-----	152
(15).ailvator-----	153
(16).V-TAIL-----	154
(17).Start OFS-----	155
(18).Speed OFS-----	156
(19).Code matching-----	156

Contents

Thank you for your attention and support to WFLY radio!

WFLY promises every WFT09S radio control system include the following contents:

1. **WFT09SII** 4096 transmitter
2. Battery holder for transmitter
3. Neckstrap
4. Trainer cable/Data transfer cable
5. Simulator cable
6. WFR09S 2. 4GHz 9 channel receiver PCMS
7. Li-po Voltage Regulation
8. English instruction manual.

WFT09SII Contents

1. Transmitter



2. Transmitter battery holder



3. Neckstrap



4. Trainer cable/Data transfer cable



6. WFR09S 2.4GHz 9ch receiver



7. Li-po Voltage Regulation



8. CD manual



TRANSMITTER

MODEL NO.: **WFT09SII**

MODULATION: PPM, PCMS 1024, PCMS 4096

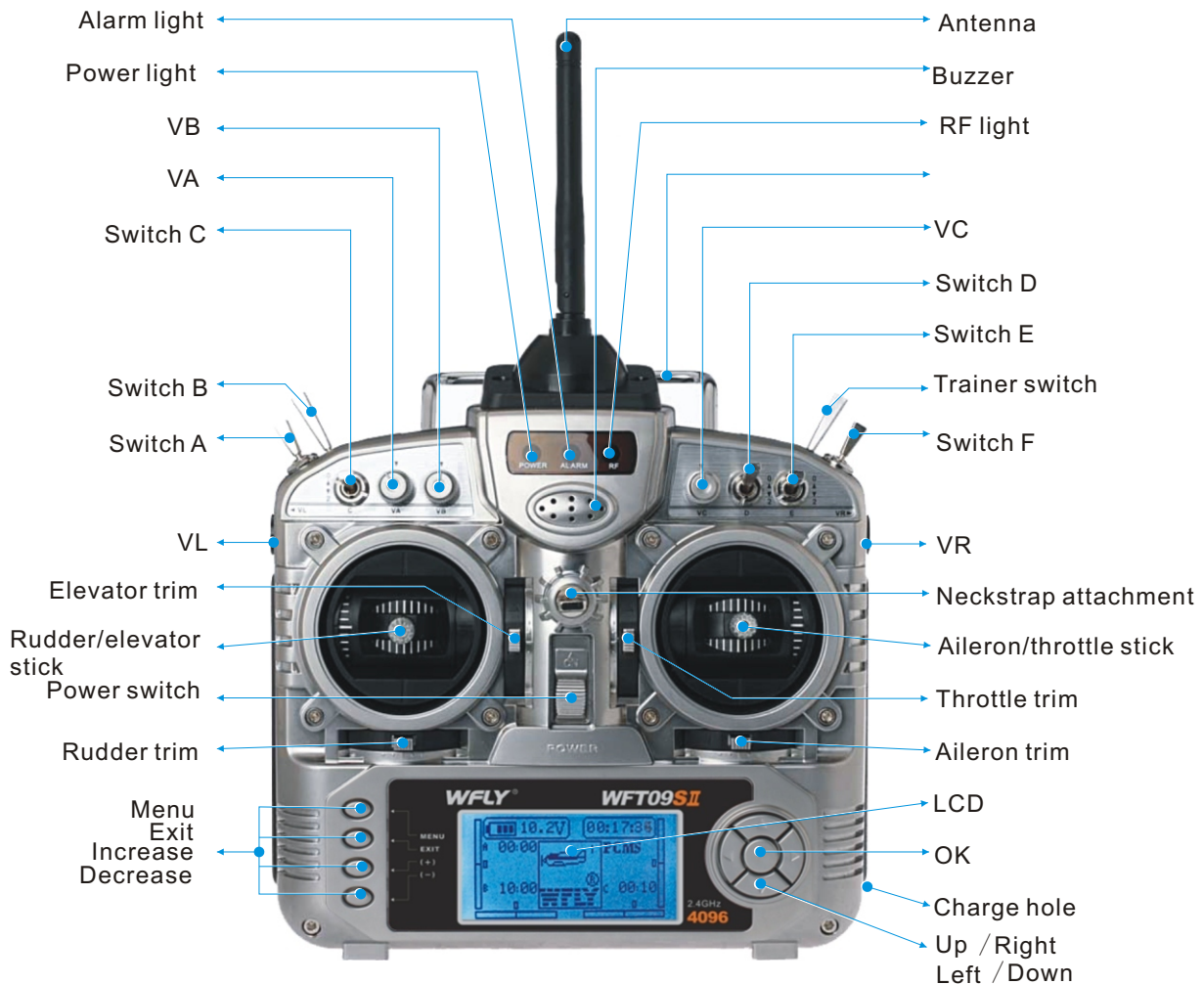
OUTPUT POWER: $\leq 100\text{mW}$

POWER SUPPLY: 9.6-12V

CURRENT DRAIN: 250mA

Band: 2.4GHz

TRANSMITTER FRONT



TRANSMITTER BACK



RECEIVER Resolution 4096(with PCMS 4096 modulation)
 2.4GHz 9 Channels receiver
 Dual MCU, Dual antenna, Dual circuits, Resolution 4096 receiver
 MODEL NO.: WFR09S
 TYPE: 9 CH PPM /PCMS 1024/PCMS 4096
 BAND: 2.400-2.483GHz
 POWER SUPPLY: 4.8-6V
 RECEIVER SENSITIVITY: -97dBm
 WEIGHT: 14.8 g
 DIMENSION: 44.8mm x27.9mm x16.39mm

WFR09S 9 Channels Receiver (PCMS)

- 1. ALL: 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: Pitch (Channel 6)-----
- 7. AUX1: Auxiliary channel 1 (Channel 7)-----
- 8. AUX2: Auxiliary channel 2 (Channel 8)-----
- 9. Power: Input +4.8-6V-----



(There are 9 rows needles, 3 needles in each row, from the top needle to the bottom, the 3 needles are PCMS/PPM pulse, +5V and Ground.)
 This receiver has Fail safe function.

Characteristic

- Can effectively select the best signal
- Enhance the reliability
- Improve the response speed
- Enhance the anti-interference
- Increased use of range



Trainer function

Two WFT09SII transmitters can transfer data and realize trainer function.

Setting Method :

- 1).Data transfer function: use Trainer cable/Data transfer cable to connect two WFT09SII 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 WFT09SII 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.

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.
- ⚠ **Notices:** changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Flying Notice(warning) ⊘ Forbiddance! ● Obligation! ⚠ Warning!



Do not fly at night , in rain day ,or in strong wind, which will damage the device or plane. This device is not water-proof.



Please check every servo works properly and eliminate any disturbing signals before you play it.

FEATURES

Computerized transmitter

High Speed, High Resolution, optimized 2.4GHz PCMS 4096

Convenient stick adjustment, make you free usage

Tree-like Multilayer Menu, human oriented design

Excellent white LED backlight, less visual tiredness

132 X 64 FSTN LCD, easy operating buttons

85 model memory

10 point curve(in any X and Y direction edition)

Easy complex curve adjustment

Different Sub trim adjustment sound, easy identify the center

Data transfer function, easy teaching and learning

Multi-function, intuitive data setting, easy checking

Tightness and length of the control stick can be adjusted freely

Excellent touch of the stick movement

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

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.

WFLY 2.4GHz Operation instructions

2.4G system can automatically recognize WFLY PCMs and PPM.

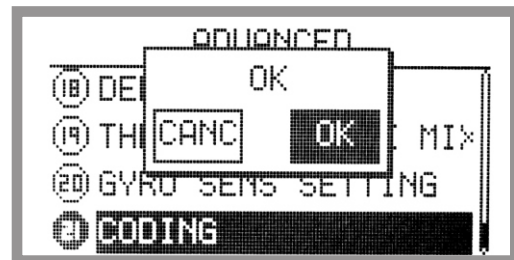
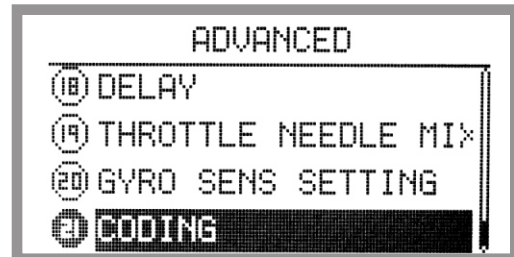
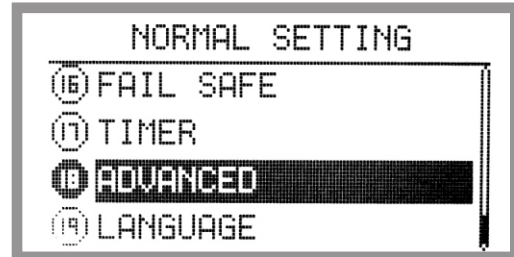
1. Code matching

Description

This function is useful under the situation when the transmitter need to be match and bind with receiver.

setting

Enter "normal settings" and choose "advanced", use up and down key to choose coding, press ok to select. The screen will display "OK: Cancel". Set your receiver to coding mode, and use up or down button to choose Ok and then press OK button. The screen will display "Coding wait.." Code matching will be succeeding after the receiver back to normal mode.



2. Fail Safe Setting

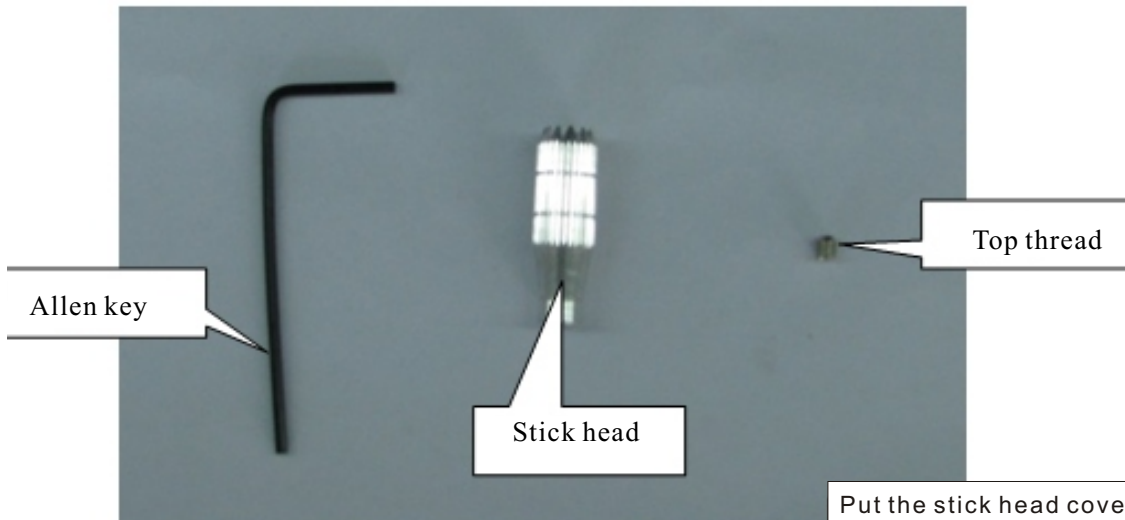
A. Power on receiver.

B. Press Set of the module then start transmitter and hold SET for 2 seconds. The green LED flashes, indicating the transmitter enters the code matching status.

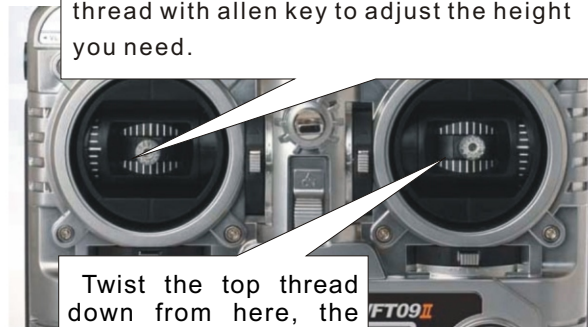
C. The Green LED of receiver flashes, the output data of transmitter is the data of Fail Safe Setting of the receiver.

D. Due to the heavy interference or out of normal range, the receiver enters FailSafe. The Red LED of the receiver lights when it is in Fail Safe status.

Adjust the stick head:

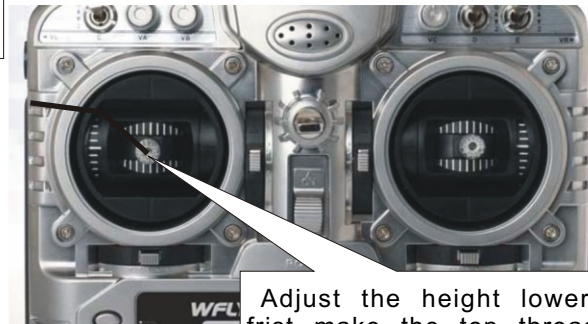


Put the stick head cover the control rod on the left and right sides, don't twist down the stick head to the bottom, and then put top thread with allen key to adjust the height you need.



Twist the top thread down from here, the height of the stick head depends on the depth of the top thread.

Adjust the height higher: first make the top thread loose with the allen key, then twist the stick head up, then, make the top thread tighten with allen key, Ok, the stick head was turned up.

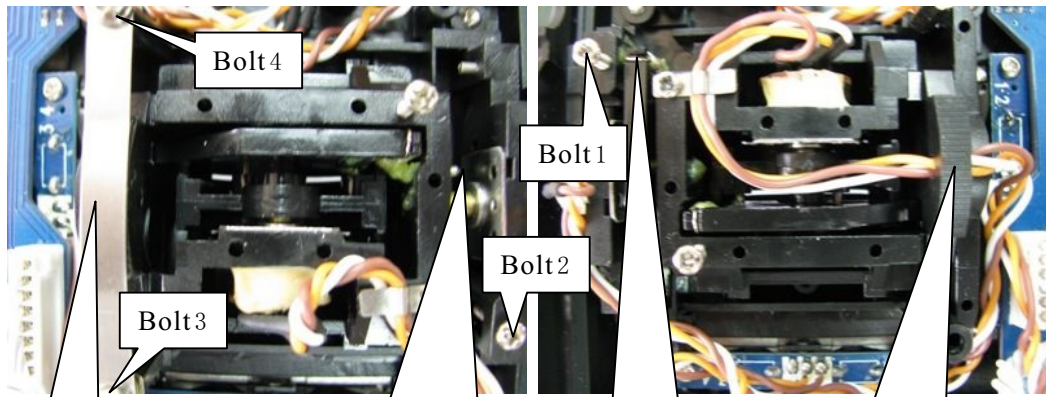


Adjust the height lower: first make the top thread loose with the allen key, then twist the stick head down, then, make the top thread tighten with allen key, Ok, the stick head was turned down.

Steps:

- 1 Put the stick head on the stick.
- 2 Put the top thread in the stick head with allen key.
3. Adjust top thread in the stick head with allen key to fix the height of the stick head.

change the throttle direction of mode1 or 2:



Take the metal chip and the screw down, and put it on the similar position of the right side .

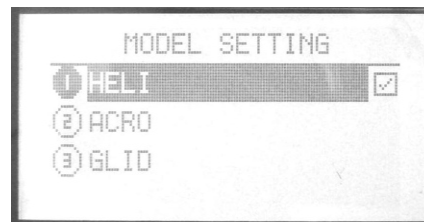
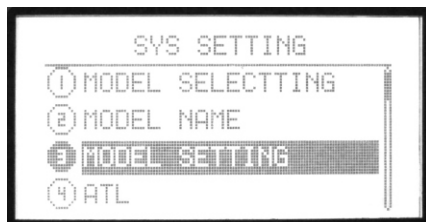
Set up release link and spring, according your habit to adjust the the tightness of screw 2 to adjust the control feeling.

Take repositor and spring down, and put it on the left side of the location of corresponding.then twist bolt 1 down until withstand the adjust nail in case adjust nail will move away.

Put on the metal chip, according your habit to adjust the elasticity of screw 3 and screw 4 to adjust the damp of throttle control feeling.

HELICOPTER

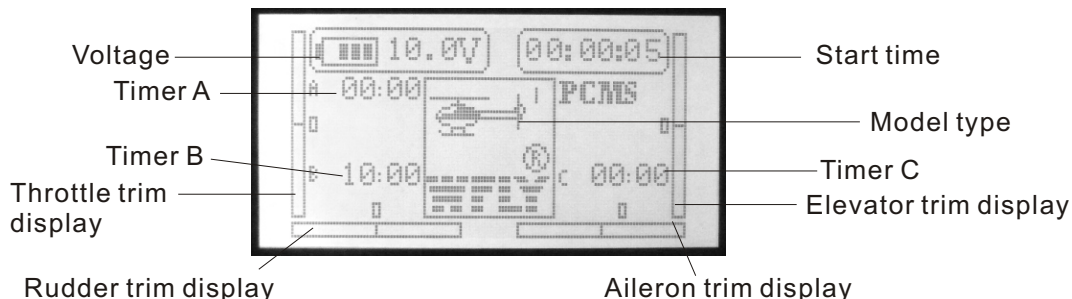
Press Menu and turn on the transmitter to enter SYS SETTING.
Select MODEL SETTING, press OK button to select the model type.
Restart the transmitter after setting.



Editing mode and function introduction

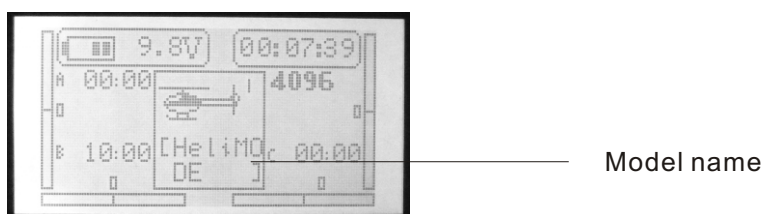
1. Opening Screen

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



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

Note: Press EXIT you can see the model name.

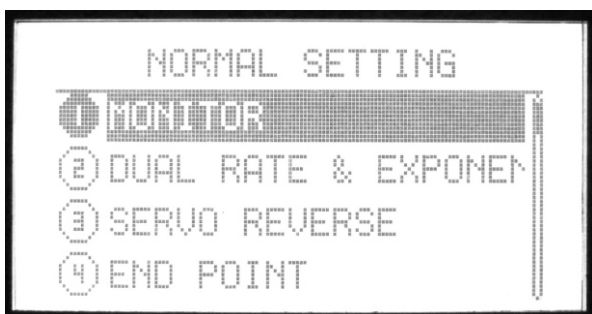


2. Menu Screen

There are “Normal setting”, “SYS setting”, “Advanced”.

A. Normal setting

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. ADVANCED
18. LANGUAGE

Setting method:

1. Use direction button to select the editing part, use up/down buttons to select function item. Left/right direction button to turn page.
2. Press OK button to enter submenu. The submenu function is in the next chapter.
3. Press EXIT button to back previous menu and the data is set automatically.

B. SYS SETTING

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



1. MODEL SELECTTING
2. MODEL NAME
3. MODEL SETTING
4. ATL
5. MODULATION SETTING
6. SWASH SELECT
7. STICK SETTING
8. ADJUSTMENT
9. REST SETTING
10. SEND DATA
11. RECEIVE DATA
12. SOUND
13. CONTRAST SETTING
14. ENGINEER MODEL
15. ABOUT
16. LANGUAGE

Setting method:

1. Use direction button to select the editing part, use up/down buttons to select function item. Left/right direction button to turn page.

2. Press OK button to enter submenu. The submenu function is in the next chapter.

3. Press EXIT button to back previous menu and the data is set automatically.

C. ADVANCED

1. Enter "NORMAL SETTING", use right direction button to turn page, select "ADVANCED".

Press OK button to enter.

Setting method:



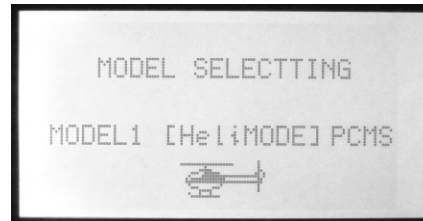
1. Use direction button to select the editing part, use up/down buttons to select function item. Left/right direction button to turn page.

2. Press OK button to enter submenu. The submenu function is in the next chapter.

3. Press EXIT button to back previous menu and the data is set automatically.

SYS SETTING

1. Model selectting



There are 85 helicopter models. You can select any one to set.

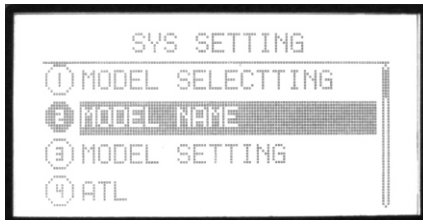
Setting Method:

Press Menu and turn on the transmitter to enter "SYS SETTING"
Use up/down button to select "**Model selectting**", OK button is to enter editing.

Steps:

1. Use up/down direction button to select the model.
2. Press OK button to select.
3. Press EXIT after setting.

2. Model name



This function is to make new names by users.

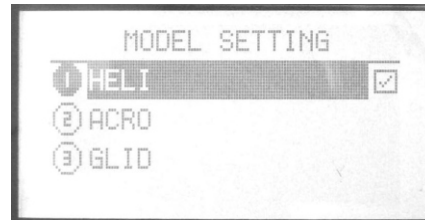
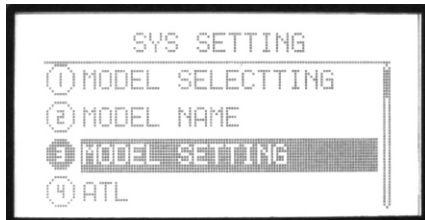
Setting Method:

Press Menu and turn on the transmitter to enter "SYS SETTING"
Use up/down button to select "**Model name**", OK button is to enter editing.

Steps:

1. You can edit the underlined letter.
2. Press OK button to choose the word you like.
3. Press EXIT after setting.

3. Model setting



You can select the model type. There are three type: HELI, ACRO, GLID.

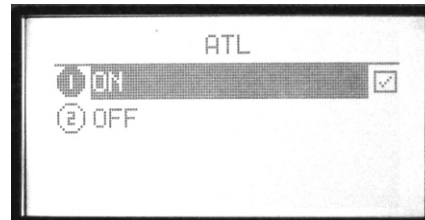
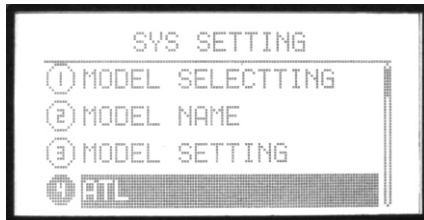
Setting Method:

Press Menu and turn on the transmitter to enter "SYS SETTING"
Use up/down button to select "**Model setting**", OK button is to enter editing.

Steps:

1. Use up/down direction button to select the model type.
2. Press OK button to confirm.
3. Press EXIT after setting.

4. ATL



Adjustable travel limit (ATL) makes throttle trim effective only at low throttle, disabling the trim at high throttle. This prevents pushrod jamming due to idling trim changes. This function defaults to ON. If you are not using channel 3 for throttle, you may want trim operation the same as on all other channels. To do so, set ATL to OFF.

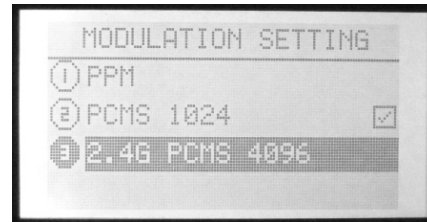
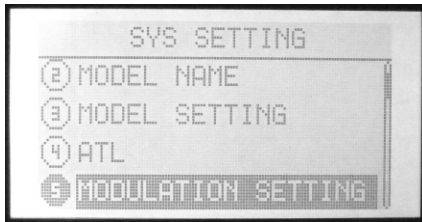
Setting Method:

Press Menu and turn on the transmitter to enter "SYS SETTING"
Use up/down button to select "**ATL**", OK button is to enter editing.

Steps:

1. Use direction buttons to select the editing part.
2. Press +/- button to set ATL function.
3. Press EXIT after setting.

5.Modulation setting



Because of the different receiver modulation PPM/PCMS1024 /2.4G PCMS4096, the transmitter should be accordance with the receiver modulation.

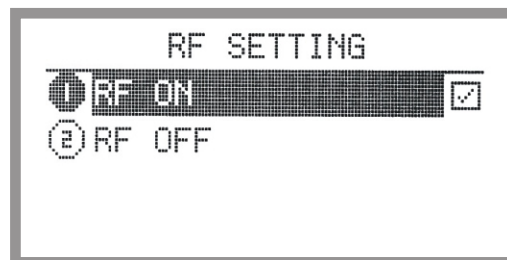
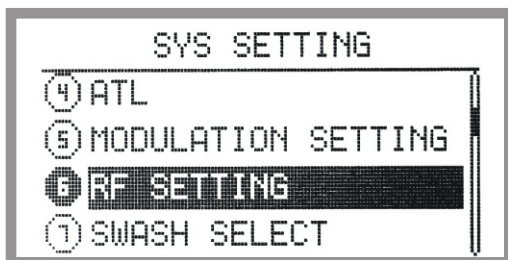
Setting Method:

Press Menu and turn on the transmitter to enter “SYS SETTING” Use up/down button to select “**Modulation setting**”, OK button is to enter editing.

Steps:

1. Use direction buttons to select the editing part.
2. Press OK button to confirm. Restart the transmitter and it works.

6.RF setting



Description

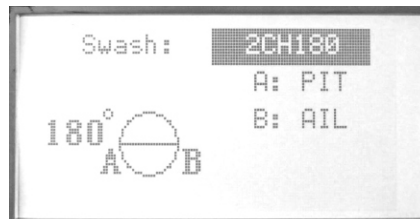
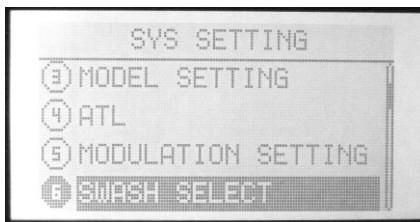
The user can turn off the RF module during emulation to minimize power consumption.

Setting method

Press menu button during power on to enter system setting menu, use up/down button to select "RF setting". press OK button to enter setting interface.

as shown on the picture, choose ON or OFF and press OK. Reboot the transmitter to active.

7.Swash select



There are 6 kinds of swash. You can select the swash you preferred. If you use 120 degree CCPM helicopter, the servos will realize mix function automatically. Please select the swash according to your helicopter swash type.

- 1 servo (not CCPM, normal helicopter)
- 2 servos (180 degree)
- 3 servos (90, 120, 140 degree)
- 4 servos (90 degree)

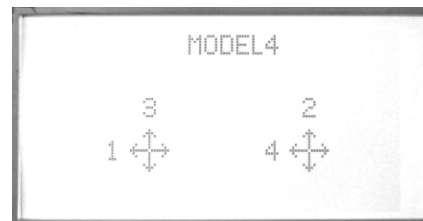
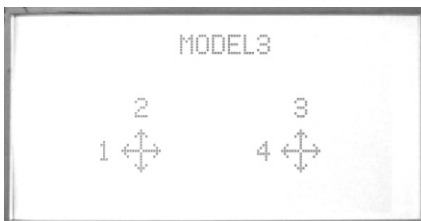
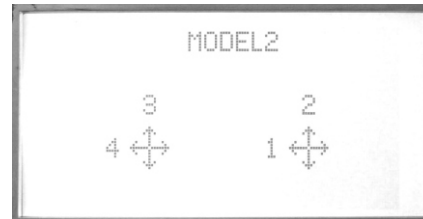
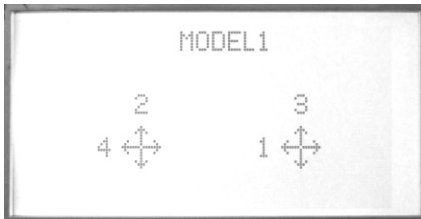
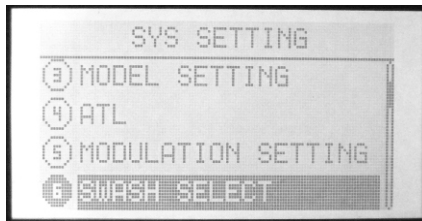
Setting Method:

Press Menu and turn on the transmitter to enter "SYS SETTING"
Use up/down button to select "**Swash select**", OK button is to enter editing.

Steps:

1. Use direction button to select the editing part.
2. Press +/- button to choose the swash type.
3. Press EXIT after setting.

8. Stick setting



There are 4 kinds of model, you can use up/down direction button to select the model you preferred.

- 1-aileron
- 2-elevator
- 3-throttle
- 4-rudder

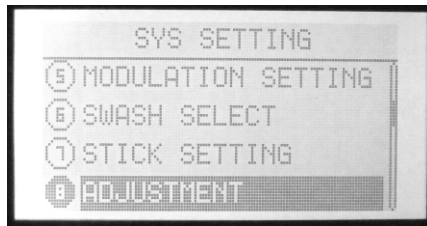
Setting Method:

Press Menu and turn on the transmitter to enter "SYS SETTING"
Use up/down button to select "**Stick setting**", OK button is to enter editing.

Steps:

1. Use direction button to select the editing part.
2. Press up/down button to choose Stick mode.
3. Press EXIT after setting.

9.Adjustment



This function is to set the central, high and low point of four sticks when users changed the mode I or II by themselves.

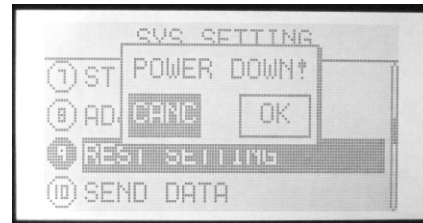
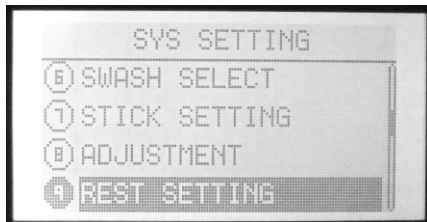
Setting Method:

Press Menu and turn on the transmitter to enter "SYS SETTING"
Use up/down button to select "**ADJUSTMENT**", OK button is to enter editing.

Steps:

1. Use direction button to select the editing part. Take the aileron adjustment for example.
2. Make the stick in the mid-point location. Press OK button to select any stick you want to adjust.
3. Select into the Figure 2, when the "center" highlights, press the "ok" button directly (the mid-point has been adjusted), then enter the high adjust.
4. The "high" highlights, take the stick gently in the right side (throttle /elevator in the top, aileron / rudder in the right),press "ok" button (the max adjust is OK), enter the low adjustment.
- 5.The "low" highlights, take the stick gently in the left side (throttle /elevator in the bottom, aileron / rudder in the left),press "ok" button (the min adjust is OK).
6. Press OK or RESET to confirm the record or reset.
7. If the record is wrong, press OK will back to step 3.

10.Reset setting



This function is to back default.

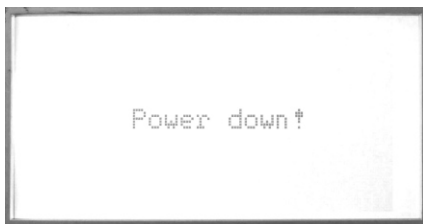
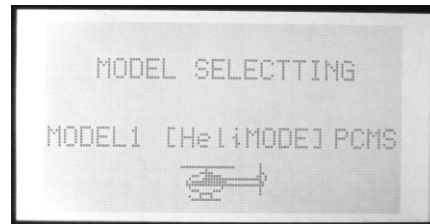
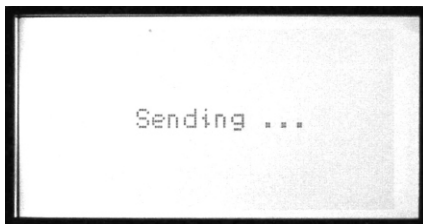
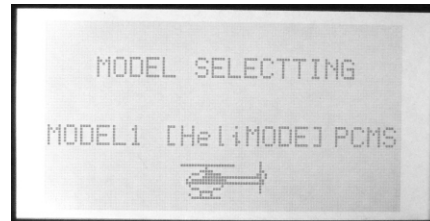
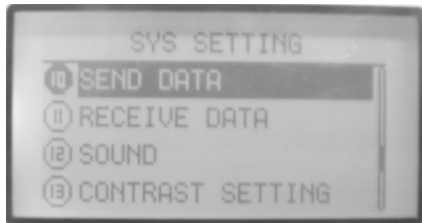
Setting Method:

Press Menu and turn on the transmitter to enter "SYS SETTING"
Use up/down button to select "**Reset setting**", OK button is to enter editing.

Steps:

1. Use direction button to select the editing part.
2. Press +/- button to back default.
3. Press EXIT after setting.

11. Send data



Two transmitters (WFT09S) can copy data by a trainer cable/data transfer cable. This function together with the next function “Receive data” can realize the data copy.

Setting Method:

Press Menu and turn on the transmitter to enter “SYS SETTING” Use up/down button to select “**Send data**”, OK button is to enter editing.

Steps:

1. Select the model data you want to send out.
2. Press OK to send.

12.Receive data



Two transmitters (WFT09S) can copy data by a trainer cable/data transfer cable. This function together with the previous function “Send data” can realize the data copy.

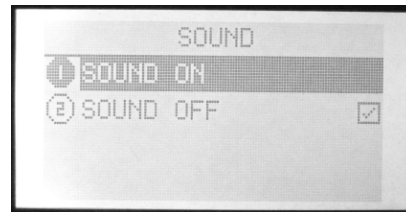
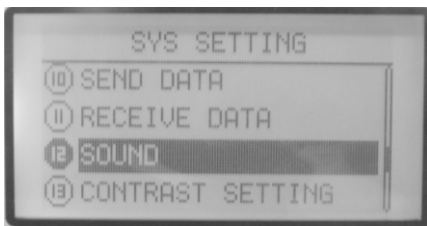
Setting Method:

Press Menu and turn on the transmitter to enter “SYS SETTING”
Use up/down button to select “**Receive data**”, OK button is to enter editing.

Steps:

1. Press OK to receive data.
2. Restart the transmitter after receiving the data and it works.

13.Sound



This function is to select the sound ON and OFF.

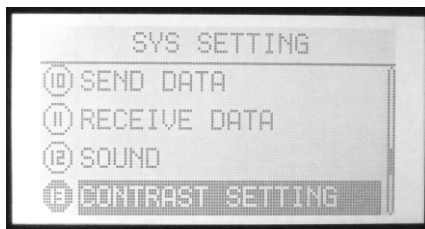
Setting Method:

Press Menu and turn on the transmitter to enter "SYS SETTING"
Use up/down button to select "SOUND", OK button is to enter editing.

Steps:

1. Use +/- button to select ON and OFF.
2. Press OK button to confirm.
3. Press EXIT after setting.

14. Contrast setting



This function is to adjust the LCD brightness by increasing or decreasing the contrast value.

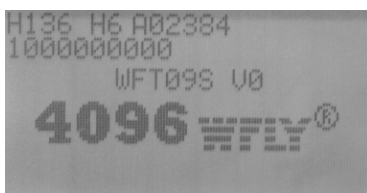
Setting Method:

Press Menu and turn on the transmitter to enter "SYS SETTING"
Use up/down button to select "**Contrast setting**", OK button is to enter editing.

Steps:

1. Use +/- button to increase or decrease the value.
2. Press OK button for a while is to back default.
3. Press EXIT after setting.

15.About



This item shows the Version of WFLY radio.