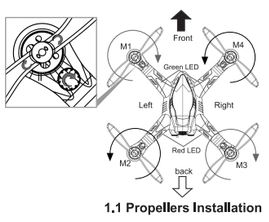
Thank you for purchasing the QR X350 from Walkera,Please strickly follow the gudieline to assemble the aircraft, finish the code binding and the Compass&Gyro calibrations thoroughly before use. Please keep it in a safe place for future reference.

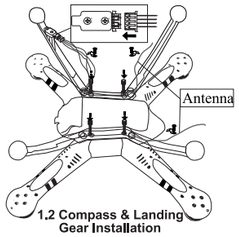
1.0 ASSEMBLY INSTRUCTION

1.1 Propellers Installation

(1) Take out the aircraft and propellers.
(2) When install propellers,the side with spin-mark must be UP and make sure the rotating direction between spin-mark and motor is the same(The arrow indicates motor rotating direction).
(3) Tighten the ornament cap(thread lock not recommended).



1.1 Propellers Installation



1.2 Compass & Landing Gear Installation

1.2 Compass & Landing Gear Installation

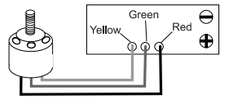
Please install landing gear properly, connect and calibratethe compass module.

(1) Prepare aircraft and landing gear.
(2) Firstly, install the landing gear with compass on the right side of the aircraft, let ribbon wire go through the landing gear hole, fix the landing gear with screw, connect the compass to ribbon wire.
(3) Install the other landing gear on the left side of the aircraft, and fix the antenna and compass ribbon wire on landing gear via white adhesive plaster separately.

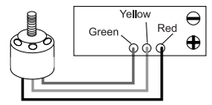
2.0 Brushless ESC/Brushless motor/Power board connection

2.1 Brushless ESC and Brushless motor Connection

M1 / M3 brushless motor is clockwise rotation, please follow the order to connect the wires with yellow, green, red from outside to inside; M2 / M4 brushless motor is counterclockwise rotation, please follow the order to connect the wires with green, yellow and red from outside to inside.



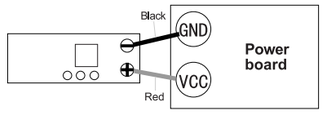
Brushless ESC and Brushless motor(M1/M3)connection



Brushless ESC and Brushless motor (M2/M4)connection

2.2 Brushless ESC and Power board Connection

Connect the "VCC" to positive pole with red wire, connect "GND" to negative pole with black wire.

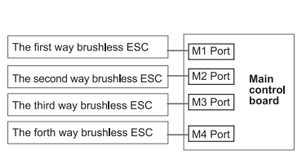


3.0 Main control board guideline

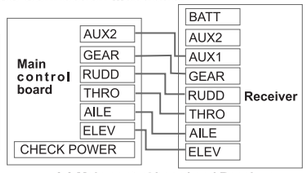
3.1 Main control board port Instruction

1	M1:	Connect with first way brushless ESC
2	M2:	Connect with second way brushless ESC
3	M3:	Connect with third way brushless ESC
4	M4:	Connect with forth way brushless ESC
5	LED:	To link LED
6	GPS:	To link GPS module
7	Compass:	To link Compass
8	AUX2:	To IOC
9	GEAR:	To control Mode Switch (Manual Mode/ Position Hold Mode / One key Go Home)
10	RUDD:	To control Rudder
11	THRO:	To control Throttle
12	AILE:	To control Aileron (leftward & rightward)
13	ELEV:	To control Elevator (forward & backward)
14	CHECK POWER:	To check voltage(Connectwith power board)
15	Upgrade channel	Upgrade channel

3.2 Main control board and Brushless ESC Connection Illustration



3.2 Main control board and Brushless ESC Connection Illustration



3.3 Main control board and Receiver Illustration

3.3 Main control board and Receiver Illustration

Please kindly refer to the manual of transmitter, and set up Elevator, Aileron, Throttle, Rudder , then choose a 3-position switch as Control Switch.

3.4 Main Control Board Installation Requirements

(1) Label side towards the top of the aircraft.
(2) Side with ESC connector towards forward of the aircraft.
(3) Keep horizontal with the body of the aircraft.
(4) Please install the main control board at the CG positon and keep all ports are free to connect.

4.0 Basic Flight Instruction

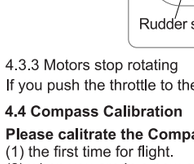
4.1 Main Control System Control Mode

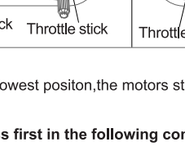
4.1.1 Control Mode Classification

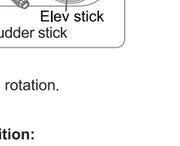
There are three control modes according to the 3-position switch:Manual Mode \Position Hold Mode\ One Key Go Home.

4.1.2 Control Mode Switch Setting(The factory setting is RTF, the default setting use "MIX" switch.).

Please choose a 3-position switch as control mode switch before flight.





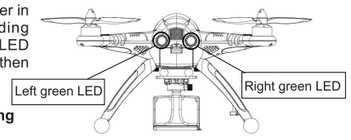


4.1.3 Notes

(1) Control mode switch position related to channel reverse setting of the transmitter (default setting is normal).
(2) Please choose manual mode to take off and then turn to position hold and one key return home mode after adjusting the Aircraft attitude by stick or trim and Aircraft at the reasonable height.

4.2 Code binding

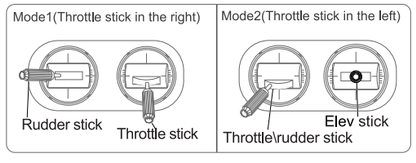
Please follow the rule “Turn on transmitter first and aircraft battery later” Turn on the radio first, please connect the aircraft power in 10 second later. The Code binding successfully when the left green LED indicator flash quickly to slowly and then light out last.



4.3 Motor unlock/lock/ Stop rotating

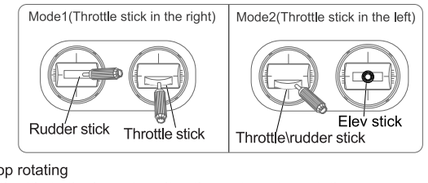
4.3.1 Motor unlock

Once binding, down the throttle stick to the lowest position ,move the rudder stick to far LEFT and the left green LED indicator turn solid Green, then motors are unlocking. If you push the throttle up, the motors will rotate（Note:The motor can unlock only when in Manual Mode）.



4.3.2 Motor lock

Down the throttle stick to the lowest position, move the rudder stick to far RIGHT, the motors are locked when the left green LED indicator light out. If you push the throttle up, the motors won’t rotate(Notes: The aircraft is in Motor lock status after Code binding successfully).



4.3.3 Motors stop rotating

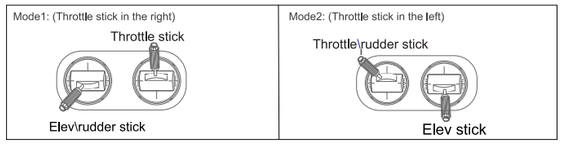
If you push the throttle to the lowest positon,the motors stop rotation.

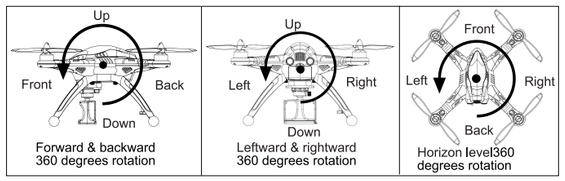
4.4 Compass Calibration

Please calitrate the Compass first in the following condition:
(1) the first time for flight.
(2) when you are in a new environment.
(3) when you change the original place to a new place.

4.4.1 Compass Calibration

(1) Put aircraft to the horizontal position to lock the motors (lock method refer to 4.3.2).
(2) MODE 1: Push the Throttle stick to the highest point, move the Elevator / Rudder joystick to the bottom left corner, enter into the Calibration Mode.
MODE 2: Push the Throttle/Rudder stick to the highest point and left side, move the Elevator stick to the bottom, enter into the Calibration Mode.
(3) Rotate the QR X350 360 degree according to forward/backward, left/right and horizontal level orientation(please follow the figures) and leave it on the horizontal place for 30 seconds, the left green LED flash quickly till light out which means calibration finished.
(4) **Please reconnect the aircraft power after calibration.**





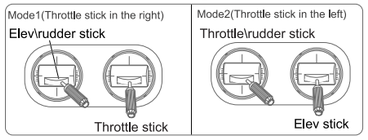
4.4.2 Notes:

(1) Please make calibration keep away from magnetic materials area.
(2) Please don not carry the magnetic materials when you make calibration.
(3) Compass does not work properly in the Antarctic Circle and the Arctic Circle.
(4) Calibrate compass is very important, otherwise, the system cannot work well.
(5) **Please reconnect the power of the aircraft and recalibrate the Compass if crash.**

4.5 Gyro Calibration

The flight control system can do the Gyro Calibration automatically when the aircraft makes the code binding.You can also use the following methods to calibrate.

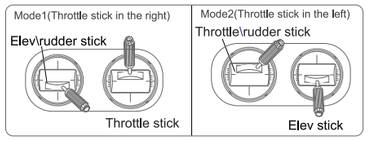
(1) Put aircraft to the horizontal position and keep static, lock the motor(lock method refer to 4.3.2).
(2) MODE 1: Push the throttle stick to the lowest point, and move Elevator/Rudderstick to the bottom right corner,enter into calibration mode. MODE 2: Push the Throttle/Rudder stick to the lowest point and right side, move the Elevator stick to the bottom, enter into the Calibration Mode.
(3) Left green LED indicator blinks once and lights off, means finished calibration.



4.6 Accelerometer Calibration

The flight control system can do the Accelerometer Calibration automatically when the aircraft makes the code binding. You can also use the following methods to calibrate.

(1) Put the aircraft to the horizontal position and keep static, lock the motor (lock method refer to 4.3.2)..
(2) MODE 1: Push the throttle stick to the highest point, and move the elevator / rudder stick to the bottom right corner, enter into calibration mode.
MODE 2: Push the Throttle/Rudder stick to the highest point and right side, move the Elevator stick to the bottom, enter into the Calibration Mode.
(3) Left green LED indicator blinks once and lights off, means finished calibration Please recaliibrate Gyro and Accelerometer if the aircraft no gyro response orstatus is not stable.



5.0 Advanced function specification

5.1 The flowchart of GPS Satellites Signal(Need to connect with GPS module)

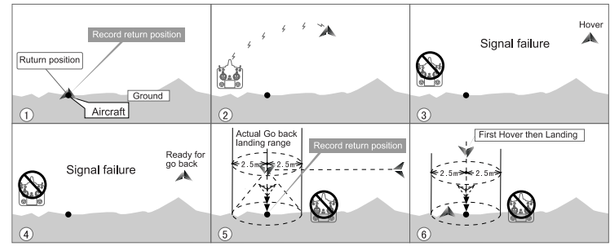
Notes:The starting position means a point before the departure of the flight control system initialization and automatically check the complete aircraft location.

GPS Satellites	<5	5	6	7	8	9	10	11	12
The right Green LED status	No blinking	Blinking once	Blinking twice	Blinking 3 times	Blinking 4 times	Blinking 5 times	Blinking 6 times	Blinking 7 times	Blinking 8 times

5.2 Failsafe to Return & Landing

Here pre-conditions for Failsafe to Return and Landing:
(1) The Aircraft is in normal flight status and battery voltage is normal.
(2) GPS function and signal is in good condition (≥5 satellites, the right Green LED blinking).

5.2 .1 The flowchart of Failsafe to Return & Landing



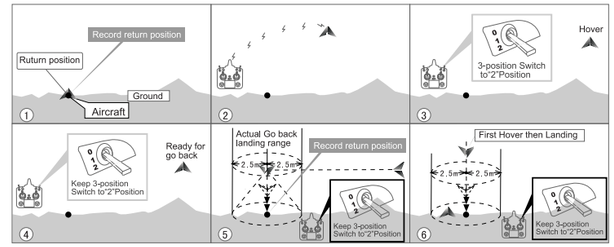
5.2.2 Notes:

(1) To make sure the safe useage,please make sure to record the starting position before departure and know exactly where the starting position is.
(2) When the aircraft go home, the head is directed at start position, straight flight along the line on the horizon which between the start position and the failsafe point.
(3) If there are big obstacles around, the aircraft is likely to be blocked on the return trip.
(4) When GPS signal is bad or GPS is unable to work, the failsafe will not work and the aircraft will not return.

5.3 One Key Go Home

Here pre-conditions for One Key Go-Home:
(1) The Aircraft is in normal flight status and battery voltage is normal.
(2) GPS function and signal is in good condition (≥5 satellites, the right Green LED blinking).

5.3.1 The flowchart of One Key Go-Home



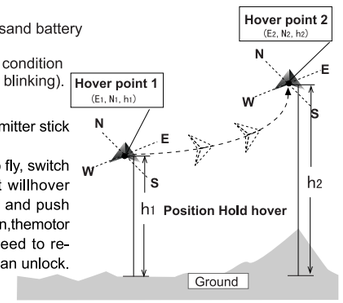
5.3.2 Notes:

(1) Please use manual mode to start to fly, switch to one key go home mode the aircraft begin to return home, after landing to the ground please push the throttle stick to the lowest position,and later need to re-switch to manual mode the motor can unlock.
(2) To make sure the safe useage,please make sure to record the starting position before departure and know exactly where the starting position is.
(3) When the aircraft go home, the head is directed at start position, straight flight along the line on the horizon which between the start position and the failsafe point.
(4) If there are big obstacles around, the aircraft is likely to be blocked on the return trip.
(5) When GPS signal is bad or GPS is unable to work, the failsafe will not work and the aircraft will not return.

5.4 Position Hold

Here pre-conditions for Hold Position:
(1) The Aircraft is in normal flight statusand battery voltage is normal.
(2) GPS function and signal is in good condition (≥5 satellites, the right Green LED blinking).

Note:
(1) In Hold Postion mode,can usetransmitter stick to control flight.
(2) Please use manual mode to start to fly, switch to hold position mode the aircraft willhover stable, after landing to the ground and push the throttle stick to the lowest position,themotor can lock automatically,and later need to re-switch to manual mode the motor can unlock.



5.5 Low Voltage Protection

Low Voltage Protection is a design to avoid the aircraft to crash by the low voltage of the battery. When the battery voltage is too low, the left green LED will slow blink warning, the aircraft will descent slowly.
Note: When a low voltage alert occurs, please land the aircraft as soon as possible in order to avoid crash.

5.6 Intelligent Orientation Control (IOC) Flight

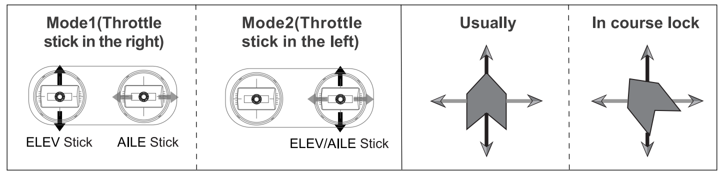
Make sure before use IOC function:
(1) Aircraft is in normal condition and battery is full charged.
(2) Please make sure you know the basic flight and then use this function. You can make it fly back smoothly by ELEV Stick after activate the function.

5.6.1 IOC instruction

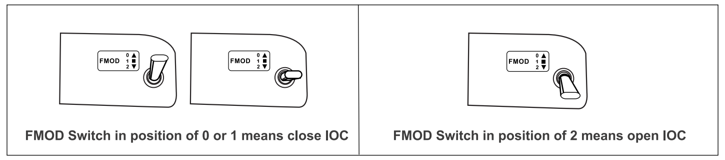
Forward direction is the the quad copter will fly along with this direction when you push the elevator stick

Graphic description: → forward direction ➤ nose direction

Usually, the forward direction of a flying aircraft is the same as the nose direction. By using IOC, wherever the nose points, the forward direction has nothing to do with nose direction. In course lock flying, the forward direction is the same as a recorded nose direction. See the following figures (the arrows on the transmitter is corresponding to pitch and roll operations)

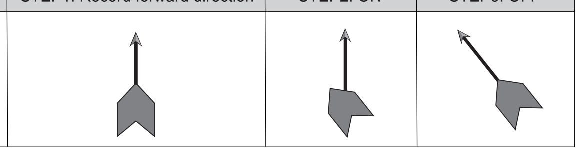


5.6.2 IOC switch setting (if RTF, the default switch is FMOD and it is close. For setting, please ref to radio setting)



5.6.3 Graphic description

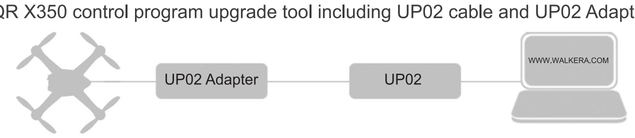
	STEP1: Record forward direction	STEP2: ON	STEP3: OFF
During the same flight			



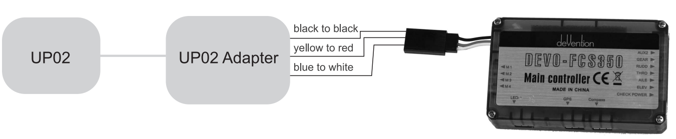
5.6.4 Attention
(1) Please don't make flight after you activate IOC.
(2) Please close IOC when you do normal flight.

6.0 Main Control Board Upgrade

(1) QR X350 control program upgrade can be downloaded online at Walkera Offical Website:www.walkera.com.
(2) QR X350 control program upgrade tool including UP02 cable and UP02 Adapter.

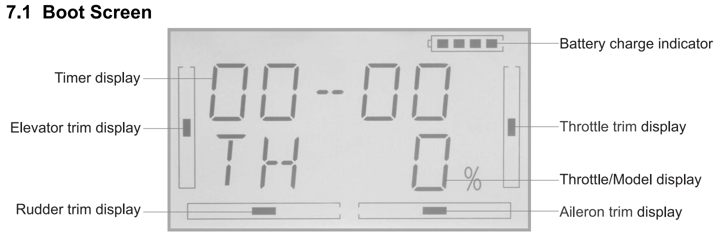


(3) Connect the blue single wire to signal wire of update access of flyer (blue to white), and connect yellow single wire to power wire of update access of flyer (yellow to red). Connect black single wire to ground of update access of flyer



7.0 DEVO-7 radio setting

7.1 Boot Screen

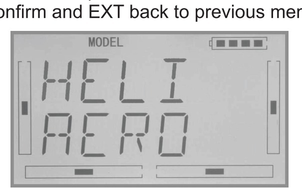


7.2 Model Type(TYPE)

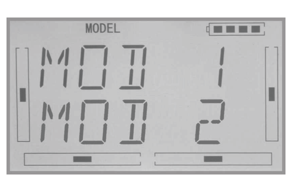
Press the ENT button to enter the Main Menu, press UP or DN until MODEL starts to flash, then press ENT button to enter the Model Menu. Press the UP or DN button until TYPE starts to flash. Press the ENT button to choose between Helicopter and Aeroplane types. Press the R or L button to select "**AERO**", press ENT to confirm and EXT to go back to the previous menu.

7.3 Model Select(SELEC)

Press UP or DN key under the MODEL menu until SELEC starts to flash. Press ENT, the model options will be shown. Press UP or DN to choose MOD 1, press ENT to confirm and EXT back to previous menu.



7.2 Model Type(TYPE)



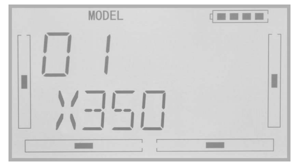
7.3 Model Select(SELEC)

7.4 Model Name(NAME)

In the MODEL menu, press UP or DN until the NAME starts to flash. Press ENT to access the model serial No. and default name options. Press UP or DN to select the characters or numbers that you wish to change, use the R or L key to change the characters or numbers to "X350". Press ENT to confirm and EXT to go back to the previous menu.

7.5 Wing Type(WING)

Press the ENT button to enter the MODEL Menu and press UP or DN until WING starts to flash and then press ENT key. The Wing type will be shown. Press UP or DN to choose "NORM" and after setting, press ENT to confirm and EXT to go back to the previous menu.



7.4 Model Name(NAME)

7.5 Wing Type(WING)

7.6 Device Output(OUTPU)

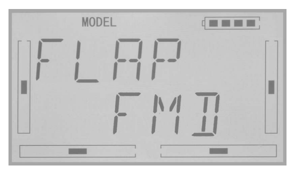
Press UP or DN under the MODEL menu, it comes out the flashing "OUTPU" menu. Press "ENT" to the submenu of "Output".

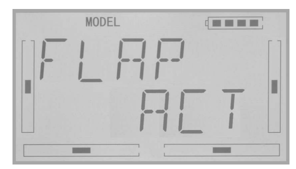
(1) GEAR Setting

Press DN or UP to choose "GEAR MIX", and press ENT to confirm. Press DN to choose "GEAR ACT", and press ENT to confirm.

(2) FLAP Setting

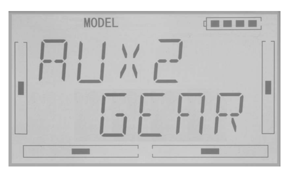
Press DN or UP to choose "FLAP FMD",and press ENT to confirm. Press DN to choose "FLAP ACT", and press ENT to confirm.

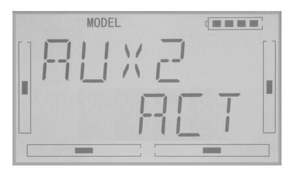




(3) AUX2 Setting

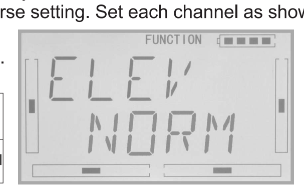
Press DN or UP to choose "AUX2 GEAR", and press ENT to confirm. Press DN to choose "AUX2 ACT", and press ENT to confirm. Press EXT to exit to the main interface.





7.7 Reverse Switch(REVSW)

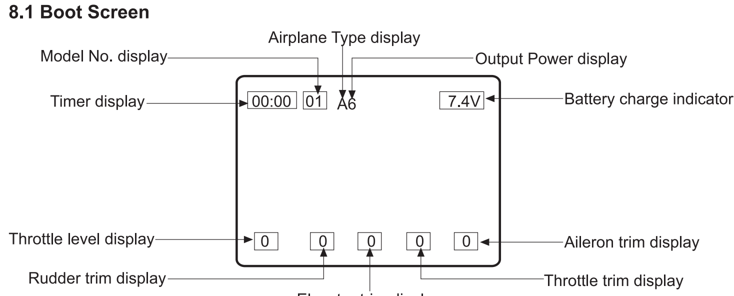
Press ENT to enter the Main Menu, press UP or DN until FUNCTION starts to flash, then press ENT to access the function menu. Press UP or DN until REVSW starts to flash. Press ENT to display the channel name and the reverse status. Press R or L to change between NOR and REV settings. Press DN to display each channel AILE, THRO, RUDD, GEAR, FLAP, AUX2 and their corresponding reverse setting. Set each channel as shown in the table below. Once complete, press ENT to confirm and EXT to go back to the previous menu.



ELEV	AILE	THRO	RUDD	GEAR	FLAP	AUX2
NORM	NORM	NORM	NORM	NORM	NORM	NORM

8.0 DEVO-F7 radio setting

8.1 Boot Screen



8.2 Type Select

Press ENT to the Main Menu. Press UP or DN to move the cursor → to point to Model Menu, press ENT to Model Menu; Press UP or DN to move the cursor → to point to Type Select, press ENT to Type Select setting interface; Press UP or DN to move the cursor → to point to Airplane option. Press ENT to confirm and then press EXT to return to Model Menu.

8.3 Model Select

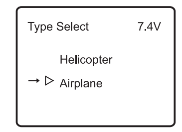
Under Model Menu interface, press UP or DN to move the cursor → to point to Model Select, press ENT to Model Select; Press UP or DN to move the cursor → to point to desired option. Press ENT to confirm and then press EXT to return to Model Menu.

8.4 Model Name

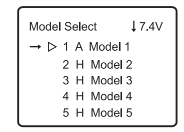
Under the Model Menu interface, press UP or DN to move the cursor → to point to Model Name, press ENT to Model Name setting interface; press UP or DN to move the cursor → to point to select the character and figure which need to be changed, press R or L button to change the character and figure, name model as QR X350. Press ENT to confirm and then press EXT to return to Model Menu.

8.5 Wing Type

Under the Model Menu interface, press UP or DN to move the cursor → to point to Wing Type, press ENT to Wing Type setting interface. Press UP or DN to move the cursor → to point to Wing Type option, press R or L to choose Normal. Press ENT to confirm and then press EXT to return to Model Menu.

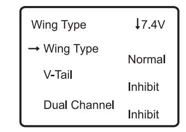


8.2 Type Select



8.3 Model Select

8.4 Model Name



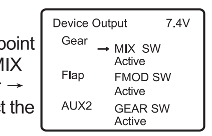
8.5 Wing Type

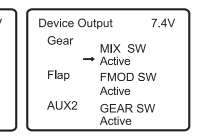
8.6 Device Output

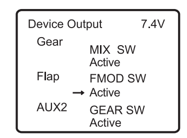
Under the Model Menu interface, press UP or DN to move the cursor → to point to Device Output, press ENT to Device Output setting interface.

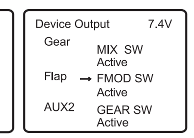
(1) Gear setting:

Press UP or DN to move the cursor → to point to Gear option, press R or L to choose MIX SW; Press UP or DN to move the cursor → to point to Function setting after you select the switch, press R or L to choose Active.







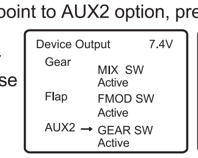


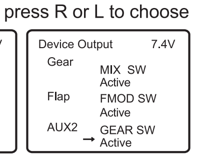
(2) Flap setting:

Press UP or DN to move the cursor →to point to Flap item and enter the function setting interface. Press R or L to choose Active. After Active successfully, press UP or DN to move the cursor→to point to Flap switch option, press R or L to choose FMOD SW.

(3) AUX2 Setting:

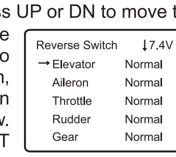
Press UP or DN to move the cursor → to point to AUX2 option, press R or L to choose GEAR SW; Press UP or DN to move the cursor → to point to Function setting after you select the switch, press R or L to choose Active. After finish settings, press ENT to confirm and then press EXT to exit.

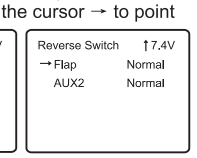




8.7 Reverse Switch

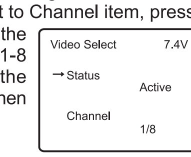
Press ENT to the Main Menu. Press UP or DN to move the cursor → to point to Function Menu, press ENT to Function Menu; Press UP or DN to move the cursor → to point to Reverse Switch, press ENT to Reverse Switch setting interface; Press UP or DN to move the cursor → to point to desired option, press R or L to change the status between Normal and Reverse. Please see as below. Press ENT to confirm and then press EXT to exit.

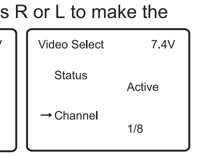




8.8 Video Select

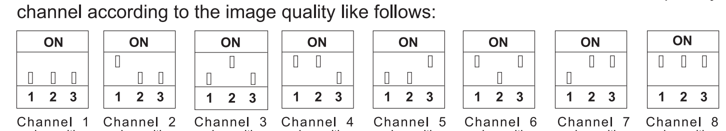
Press ENT to the Main Menu. Press UP or DN to move the cursor → to point to System Menu, press ENT to System Menu; Press UP or DN to move the cursor → to point to Video Select, press ENT to Video Select setting interface. Press R or L to select Active. Press DN to move the cursor → to point to Channel item, press R or L to make the Number change between 1 and 8. With the TX5803/TX5804 transmitting channel,1-8 channels could be chosen to receive the image signal. Press ENT to confirm and then press EXT to exit.





8.9 5.8G(TX5803/TX5804) Transmitting channel selection

There are 8 different channels can be selected. You can choose the best frequency channel according to the image quality like follows:



Remark: (1) 5.8G(TX5803/TX5804) Transmitting channel is corresponding to the video receive channel.
(2) Only transmitting channel 2, 4, 6, 8 are available for the TX5803.

8.10 DV04 Camera instruction

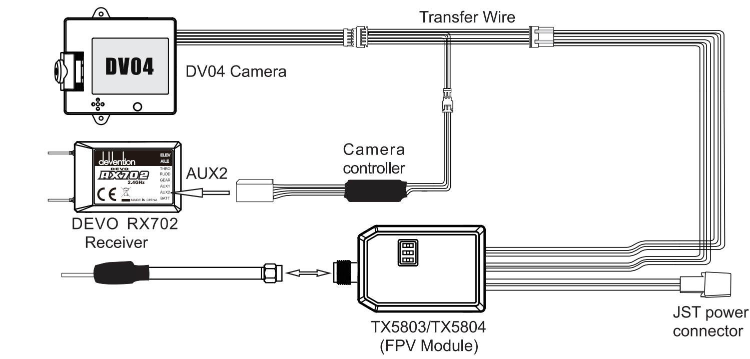
DV04 Camera has the following two ways to control the video:

(1) Press the red button once on the rear of the DV04 Camera, which means the DV04 Camera starts to video. Press the red button again to stop the video.

(2) Pull the Gear Switch to postion "1" and keep about 1-2 seconds, then pull back to position "0". After finish the press, the DV04 Camera starts to video. Pull Gear Switch again to stop video.

Notice: The Memory card must be inserted before the DV04 connects the battery, and remove the Memory card after power off.

8.11 FPV connect Illustration



9.0 Wiring Diagram