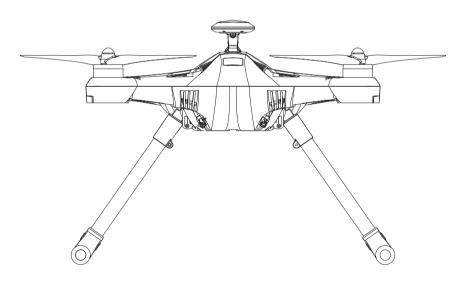


## Match with **DEVO F12E Radio**

**Quick Start Guide and Systems Flowchart** 



www.walkera.com

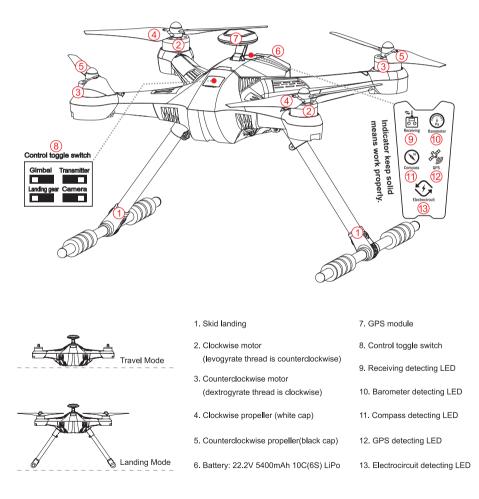
# Contents

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# 1.0 Preparation before flying

## 1.1 Get to know your aircraft

- Adopting Modular Design, easy to install and connect.
- A new generation flight control system built-in, more stable and reliable.
- Adopting indicator on detection of GPS, Compass, barometer and other parts, observation more intuitive.



\*The USB and UART ports are only purpose to upgrade software and debug by the manufacture.

## 1.2 Get to know your DEVO F12E Radio (black version)

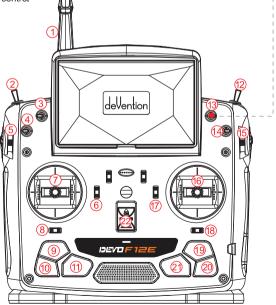
It's convenient to receive aerial images. It's very easy to control with Auto Takeoff, One key Return To Home, camera/Gimbal/Landing gear control switches.

Mode 2 (Throttle stick on the left)	Left stick	THRO/RUDD stick
	Right stick	ELEV/AILE stick
	Left trim	THRO trim
	Right trim	ELEV trim
	Left stick	ELEV/RUDD stick
Mode 1	Right stick	THRO/AILE stick
(Throttle stick on the right)	Left trim	ELEV trim
	Right trim	THRO trim

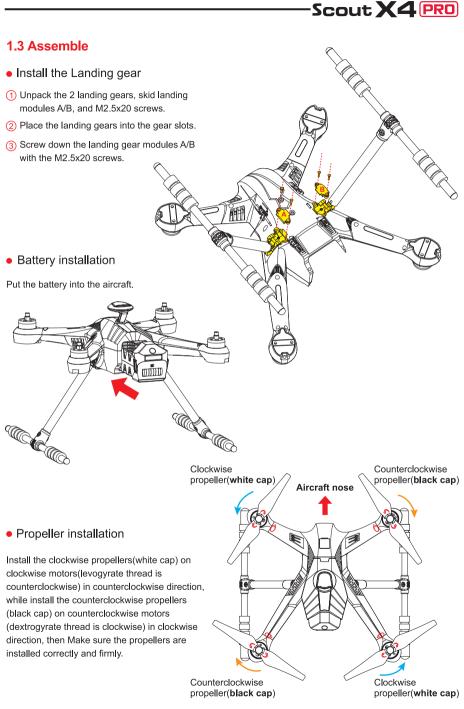
- 1. 2.4G TX antenna
- 2. RUDD D/R AUTO Takeoff switch
- 3. GEAR Landing Gear Retract Switch and Deploy landing gear
- 4. ELEV D/R IOC control switch Inteligent Orientation Control
- 5. AUX5 Gimbal ROLL control
- 6. Left trim
- 7. Left stick
- 8. RUDD trim
- 9. UP key
- 10. DN key

(0) Manual Mode	(0) Manual Mode (1) GPS-hold Mode	
MIX Switch to "0"	MIX Switch to "1"	MIX Switch to "2"

11. EXT key	17. Right trim
12. FMOD - Round flight mode	18. AILE trim
13. MIX(Control Mode Switch)	19. R key
14. AILE D/R - Camera Start/Stop	20. L key
15. AUX6 - Gimbal pitch control	21. ENT key
16. Right stick	22. Power switch



\*Please refer to DEVO F12E manual



## 1.4 Learn how to fly safely

- (1) This product is suitable for people who has flight experience of hobby model and ages 14 +.
- (2) Do not fly in bad weather, such as windy, snowy, foggy etc..
- (3) Select the open, no-tall-buildings area. Extensive use of steel buildings will affect the compass work, blocking the GPS signal, causing worse on the aircraft positioning or even not able to locate.
- (4) Please keep away from highly spining parts(such as propellers and motors).
- (5) Please keep away from obstacles, people, water and so on.
- (6) Do not fly it in where there is high-voltage lines, communication base stations or radio towers, in order to avoid signal interference.
- (7) Don't fly in no-fly zone according to the local laws and regulations.
- (8) Flight performance will be effected with environment when you fly it with altitude of 4500 meters, as the battery and gravity system will be influenced.

## **1.5 Specifications**

Main Rotor Dia.: 233mm Overall (L x W x H): 335 x 335 x 275mm Weight: 1770g (Battery included) Takeoff Weight: <2270g Transmitter: DEVO F12E (black Version) Receiver/Main Controller: FCS-RX703(FCC)/FCS-RX704(CE) Brushless Motor: WK-WS-34-002 Brushless ESC: Scout X4 Pro(R/G) Battery: 22.2V 5400mAh 10C(6S) LiPo 2.4G Datalink: BT-2405A(FCC) & BT-2401B(FCC) / BT-2406A(CE) & BT-2402B(CE) - Android system BT-2405A(FCC) & BT-2403B(FCC) / BT-2406A(CE) & BT-2404B(CE) - Apple IOS system Flight Time: 25mins without load and 20mins with camera and gimbal

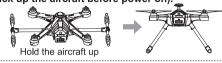
Working temperature: -10 C ~ +40 C

# 2.0 Ready for flight

The Landing gear is shipped in the retracted position, DO NOT try to extend the landing gear by pulling on it. We will deploy the landing-gear the first time the system is powered, please follow these instructions carefully. (ps:please pick up the aircraft before power on).

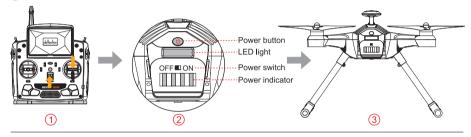
Refer to "2.1 Binding of the Scout X4 PRO"

### 2.1 Binding of the Scout X4 PRO



Scout X4 PRO

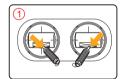
- 1 Move all switches to the 0 position, and all trims/knobs to the Middle position, move the throttle to the lowest position, then turn on the radio.
- ② Turn the power switch to "ON", then press the power button for 3-5 seconds until the green power indicator lights up.
- (3) Within approx. 40 sec. the red LED light will stop flashing indicating that the code binding has finished.



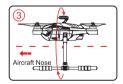
## 2.2 Compass Calibration

**IMPORTANT:** Make sure all TRIMs are in the center position, the trim value should be "0", and the motors are locked. The aircraft should NOT be flashing RED. By default, the motors will automatically be locked after the ID binding process. For more details about locking and unlocking motors, see points (2.4).

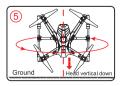
- ① Enter the calibration mode Do this by moving both sticks DOWN and to the middle position at the same time. The aircraft will start a blinking fast RED.
- (2) FORWARD rotation. Smoothly rotate the aircraft forward in 90 degree increments, pausing for 1 second every 90 deg. (0 / 90 / 180 / 270 / 360)
- 3 CLOCKWISE rotation. Rotate the aircraft around the roll axis smoothly in 90 deg increments. Pausing 1 second for each 90 deg. (0 / 90 / 180 / 270 / 360)
- (4) HORIZONTAL rotation. Rotate the aircraft around the YAW axis smoothly in 90 deg increments. Pausing 1 second for each 90 deg. (0 / 90 / 180 / 270 / 360)
- (5) NOSE DOWN rotation. Rotate the aircraft facing the nose down. rotate smoothly in 90 deg increments. Pausing 1 second for each 90 deg. (0 / 90 / 180 / 270 / 360)
- (6) Place the aircraft in normal position. The rapid RED blinking will stop. This indicates that the calibration is finished. Disconnect the battery to save the settings.













## 2.3 GPS indicator lights

GPS Satellites	<6	6	7	8	9	10	11	12	13
The blue	No	Blinking							
LED status	blinking	once	2 times	3 times	4 times	5 times	6 times	7 times	8 times

#### IMPORTANT: For SAFE flight in GPS flight mode:

The BLUE indicator light should at least "double" blink, (two blinks at a time).

It is highly recommended that you wait for "triple blink" 8 statelites before starting the flight.

NEVER attempt to AUTO-START with less than "triple blinks"

## 2.4 Motor Unlock / Lock

#### Motor Unlock

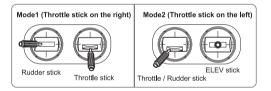
After binding the DEVO F12E to the Scout X4 PRO, Check that all trims are neutral, the throttle stick is ALL the way Down with the display indicating 0% throttle. Check that ALL switches are in the UP position. Note: that you can start the motors in the Manual Mode or the GPS-HOLD MODE.

Gently push the throttle stick down and move the rudder (YAW) stick to the left side.

(on mode 2 radios throttle and rudder is the same stick)

You will see the RED indicator LED turn on, indicating that motors are unlocked.

Be very careful at this point, as pushing the thottle up will start the motors. You can test by pushing the stick up a little, the motors should start. For your safety, the motors will dis-arm again after 10seconds.



### Motor Lock

Lock the motors by moving the throttle stick all the way down and the rudder (YAW) stick all the way to the right. The RED LED light will go out when the motors are disarmed.

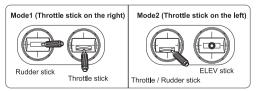
TEST: push the throttle stick up a little, the motors will not start when locked. **NOTICE:** 

\* The motors are LOCKED by default after successful binding.

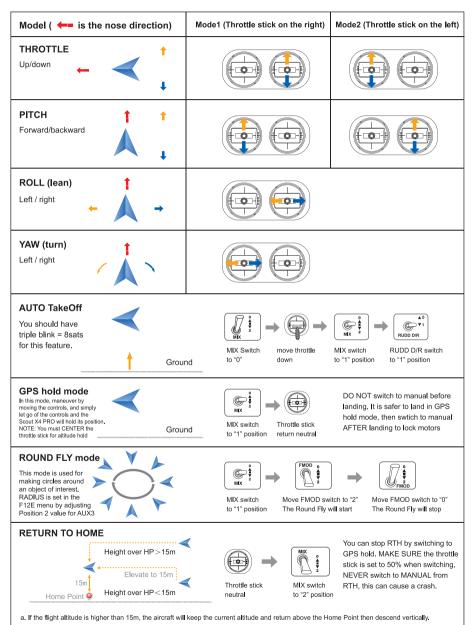
\* Motors can be unlocked or locked in GPS-hold mode.

if you land in GPS mode, move the "MIX" switch to position "0" or position "1" before locking the motors, make sure you wait until the Scout X4 PRO is safely on the ground before changing the switch to "0" (manual) while changing, make sure to keep the

throttle DOWN to prevent motors from starting.



## **2.5 Operation Instruction**



b. When the flight altitude is lower than 15m, the aircraft will elevate automatically to 15m then fly back above the Home Point and land vertically.

## 2.6 DEVO F12E Radio(black Version) function setup and operation instructions

Function	Switch	Transmitter setting	Instructions
AUTO TakeOff	RUDD D/R	Model Menu ↓ Device Output ↓ Flap ↓ RUDD D/R ↓ Active	Place aircraft on level ground Unlock Motors Move throttle stick to lowest position Set RUDD D/R switch to "1" Position IMPORTANT: ONLY use this function with BLUE TRIPLE blink = 8 or more satelites, AUTO takeoff with less satelites may result in a crash. AFTER completing auto-take-off, you can take control by moving the throttle stick to 50%, then flip the RUDD D/R switch to "0" position.
GPS hold mode	MIX SW	Model Menu ↓ Device Output ↓ Gear ↓ MIX SW ↓ Active	<ul> <li>"0" position: Manual mode</li> <li>"1" position: GPS hold mode</li> <li>"2" position: Return To Home</li> <li>MIX switch to "1" position — Throttle stick return neutral</li> <li>NEVER use this mode with less than 8 satelites locked, you should see BLUE TRIPLE BLINK.</li> <li>Before switching mode, always put the throttle stick to middle position (50%).</li> <li>IF the GPS signal degrades, the Scout X4 PRO will automatically enter</li> <li>"After flying 50% of the battery, do NOT switch from GPS mode to Manual, this may cause a sudden drop / crash.</li> <li>You can land in GPS mode, after landing, keep the throttle stick DOWN and switch to manual, then lock the motors.</li> </ul>
Round Fly Mode	FMOD	Model Menu ↓ Device Output ↓ AUX3 ↓ FMOD SW ↓ Active	"0" Position: OFF "1" Position: Not in use "2" Position: activate Round Fly This mode require 8 satelites locked, you should see BLUE TRIPLE BLINK. Before activating the round-fly mode, you should be in "GPS hold mode" always put the throttle stick to middle position (50%) The default roundfly radius is 5 meters (15 feet), You can change the Round Fly radius by editing the AUX3 EPA (End Point Adjustment) on the F12E transmitter, for details on editing EPA settings, see the F12E instruction manual. After having changed the setting, you should turn FMOD switch to "0" position to save the data, then return to "2" position to read the new Roundly radius.
Return TO Home	MIX SW	Model Menu ↓ Device Output ↓ Gear ↓ MIX SW ↓ Active	"0" position: Manual mode "1" position: GPS hold mode "2" position: Return To Home MIX switch to "2" position The Return To Home mode, will only work when you have a solid GPS lock, it is recommend that you avoid flying if GPS lock is missing. After engaging Return to Home mode, leave the throttle stick at 50% (centered) DO NOT touch any switches on the F12E radio. To REGAIN control of the Scout X4 PRO, make sure the throttle is centered, then flip the MIX switch to position "1". In an emergency such as losing the control link between the F12E and the Scout X4 PRO, the Failsafe system will automatically start RTH. You may not be able to interupt an emergency RTH, simply let the aircraft continue until it lands.

Function	Switch	Transmitter setting	Instructions	
Hyper IOC Mode	ELEV D/R	Model Menu ↓ Device Output ↓ AUX2 ↓ ELEV D/R ↓ Active	IOC or Intelligent Orientation Control mode means that the aircraft's flight direction is only relative to the orignal take-off point (where you armed the motors). REGARDLESS of the actual aircraft headding, in this mode you crit y past something and pan the aircraft to frame your shot, without having to worry what direction the aircraft is facing. ELEV D/R switch "0" position: IOC OFF "1" position: IOC ON The IOC mode requires a strong GPS lock, you should have trible blinks on the blue GPS indicator light. IOC is inactive if the Scout X4 PRO is less than 10 meter (30 feet) from the original take-off position. (joint where you armed the motors) Fly the Scout X4 PRO will now thy IOC until you change the mode, you can pan freely for video shots, when you push the stick right or left, the Scout X4 PRO will move sideways relative to the original take-off position. Pushing the pitch stick up will push the starting point. When flying in IOC mode, you can make the Scout X4 PRO avay from you, pulling the stick koward you. WARNING: The IOC turns off when the aircraft gets closer than 10meters to the take off point. Be prepared for this, as the system will switch back to GPS hold mode at that point. This switch can cause confusion if the pildt are not prepared.	
Extend/ Retract of Landing Gear	GEAR	Model Menu ↓ Device Output ↓ AUX4 ↓ GEAR SW ↓ Active	"0" Position: Extend landing Gear "1" Position: Retract landing Gear NOTE: REMEMBER your landing gear, it is easy to forget the landing-gear when flying FPV. It's not a good idea to land on your camera. When activating the RTH (Return To Home) system, either by the pilot of by the failsafe system, the Scout X4 PRO will automatically extend the landing gear to protect your camera and make sure the Scout X4 PRO lands safely. You can not change the landing gear after the Scout X4 PRO has been automatically extended for landing. You must land and then lock / unlock motors.	

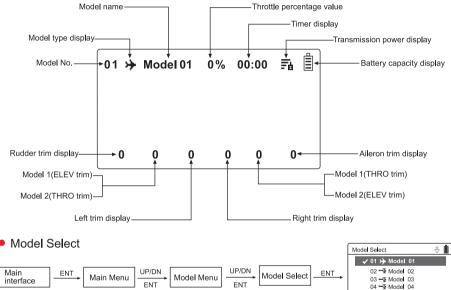
# 3.0 End flight

- ① Manual landing or back home function landing.
- ② First, power off aircraft battery, then power off radio battery.
- ③ Take the battery out of aircraft.

# 4.0 Additional remark

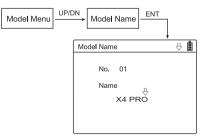
# 4.1 DEVO F12E Radio (black version) settings – defaut settings for single radio control mode

Boot Screen(Main interface)



Press the UP or DN button to select the stored model number. For example "Model 01", press EXT to return to the "Model Menu" after finished. ✓ 01 ⇒ Model 01
 02 = Model 02
 03 = Model 03
 04 = Model 04
 05 = Model 04
 06 = Model 06
 07 = Model 07
 08 = Model 08

#### Model Name



Press UP or DN button to select the characters which need to be changed, Named model "X4 PRO". Press EXT to return to the "Model Menu".

### Type Select

Model Menu UP/D	Type Select		
	Type Select	₽	ů
	Helicopter		
	✓ Airplane		
	Glider		

Select the model type with the R or L button, and ENT to confirm and return to the "Model Menu".

Device Output

AUX4

AUX5

ALIX6

ΔΠΧ7

슈 📋

GEAR SW

Active

AUX5 KB

Active

ALIX6 KB

Active

Active

む 🖞 Normal

む 🖞

Inhibit

Inhibit

Inhibit

Inhibit

Inhihit Inhihit

MIX SW

Active

RUDD D/R

Active

ELEV D/R

Active

EMOD SW

Active

Active

Inhibit

Voltage

Temperature GPS Setting

#### Wing Type



Press R or L to select "Normal", then press EXT to return to the "Model Menu"

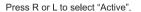
#### Device Output



Press EXT to return to the "Model Menu" after finished

#### Sensor Setting





#### (1) Voltage Setting

Press UP or DN to select Voltage on the Sensor Setting interface. Press ENT to enter the Voltage interface.

Wing Type

Wing Type

Dual Channels

Twin Engine

Device Output

Sensor Setting

V-Tail

Mate

Trim

Trim

Gear

Flap

ALIX2

ΔΠΧ3

Status

No Signal

Voltage	Ê
Internal: V0	Inhibit
External: V1	Active
	21.4V
External: V2	Inhibit

Internal shows the Radio battery voltage.

External shows the aircraft battery voltage.

The Scout X4 PRO default voltage settings is 21.4 volts. When the radio give you the low-voltage warning. it is URGENT to land as quickly as possible. \* Optional you can adjust the voltage to 21.6 this will give you a earlier warning.

#### (2) GPS Receive Setting

Press UP or DN to select the GPS setting on the Sensor Setting interface, then press ENT to enter the GPS Setting interface.

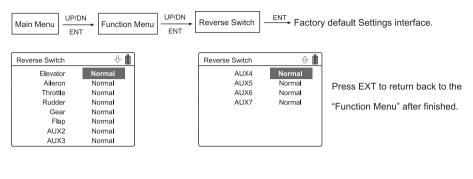
GPS Setting	Ê
Altitude Type	Relative
Speed Unit	Km/h
Date Type	DD-MM-YY
Time Zone	UTC+08:00

(2.1) Altitude Type setting: Press R or L to select Absolute or Relative. (2.2) Speed Unit setting: Press R or L to select Km/h or Knote. (2.3) Date Type setting: Press R or L to select DD-MM-YY\ MM-DD-YY\ YY-MM-DD.

#### (2.4) Time Zone:

Press R or L to select Time Zone, then press EXT to return to the "Main Menu".

## Reverse Switch



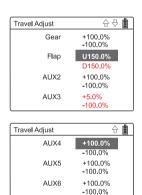
⊕ 📋

 Servo Travel Adjust Travel Adjust U100.0% Elevator D100.0% UP/DN ENT Aileron L100.0% Travel Adjust Function Menu R100.0% Throttle H100.0% L100.0% Rudder L100.0% R100.0% Press UP or DN to select Flap channel,

Press R or L to set as U150.0% and D150.0%.

Press UP or DN to select AUX3 channel,

press R or L to set +5.0%(5 means Roundfly radius is 5 meters) and -100.0%, then press EXT to return Function Menu.



AUX7

+100.0%

-100.0%

Video Setting			
Video Setting	Video Setting		Ì
Main Menu UP/DN System Menu UP/DN Video Setting	Status	Active	
	Channel	1/32	
	Background	Active	
Status: Press R or L to select "Active".			

Channel: Press R or L to select the suitable receiving video channel for the iLook+.

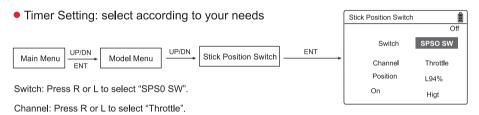
Background: Press R or L to select Active, Real-time image will be set as background in Main Menu.

#### Press EXT to switch full screen or half screen to display image when in the main interface



Senser View Battery volume Ê Sensor View ±00:53 Timer 22.2V 100m**-**\_\_\_ Horizontal distance UP/DN ENT Senser View 1 Function Menu + Horizontal 5.0Km/h-Flight height 10m flight speed = 104° 15.5123E 22° 06.0902N Latitude Lonaitude-

Press R or L to select viewport display. When the image is set as the background, Information will be displayed on the image.



Position: Press L to set percentage(Suggested setting is L94%).

On setting: Press R or L to select "High" as rocker direction for on.

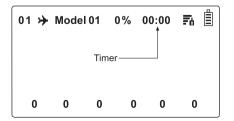
Move up and down of the throttle to check if the direction of the switch is set correctly.

Then press EXT to return to the "Main Menu".



Press EXT to return back to the main interface when finished.

Usage: Toggle the throttle up to L94% to start the time, toggle the throttle down to L94% to stop the time, press DN to reset.



## 4.2 DEVO F12E Dual Remote Controllers mode – DIY as needed

Scout X4 PRO radio can support Dual Remote Controller mode. Two pilots can control at the same time the same aircraft. under this mode, the master can control the drone while the slave remote controller/Goggle can ONLY control the gimba.

The master and slave remote controller can control the same aircraft through control the same wireless module, and another one is controlled by the repeater which communicate with phone via Bluetooth and aircraft via 2.4 GHz wireless to extend the control distance. The remote controller can't work together with the repeater simultaneously.

Setting up Dual Remote Controllers mode



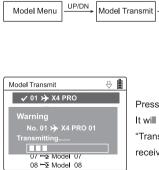
- () When the remote controller's setting shows dual -connecting, following functions can't be available, Auto takeoff, Hyper IOC mode, Round Fly mode.
- (2) The setting method for goggle glasses are same as below(only "e. copy radio document wirelessly " no in need) Connection method: Connect one end of the data cable to Goggle glasses data port(Training fuction interface), connect another end to DEVO F12E radio DSC port. (refer to goggle glasses manual)

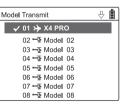
Dual Remote Controllers mode is turned off in factory defaults. Setting instructions are as follows before activating Dual Remote Controllers mode.

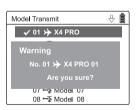
a. Slave remote controller data wireless copy

ENT

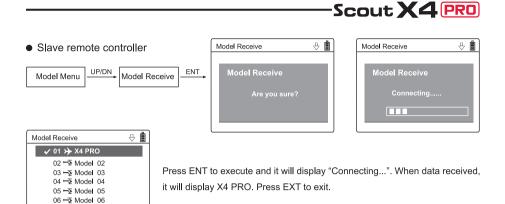
Master remote controller





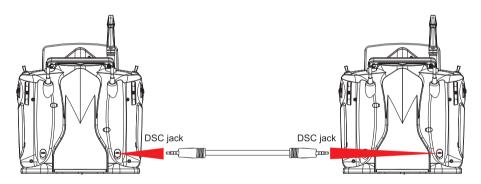


Press UP or DN to choose model "X4 PRO" and press ENT to confirm. It will display an Ask interface "Are you sure?", then press ENT to confirm. "Transmitting......" interface will display, press EXT to exit after data receiving finished.

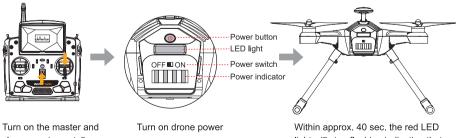


#### f. Connection between master and slave remote controllers

1 Turn off the radio power and insert the training cable to both remote controller's DSC jack.



② Turn on the power of the master and slave remote contollers at the same time, then turn on the drone power to bind the code.



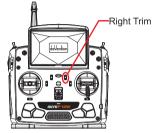
slave remote contollers simultaneously

07 ⊷ Model 07 08 ⊷ Model 08

Within approx. 40 sec. the red LED light will stop flashing indicating that the code binding has finished.

③ When press the train switch (Right Trim) to activate the training function and the status is "∨", the pilot can operate the slave remote controller to control gimbal pitch and roll rotation and camera capture. When press the train switch (Right Trim) to inhibit the training function and the status is "×", the pilot can operate the master remote controller to control gimbal pitch and roll rotation and camera capture.

01 ≯	X4 PRC	D 01	0%	00:00	, İ
		ote coi necting		•r	
0	0	0	0	0	0

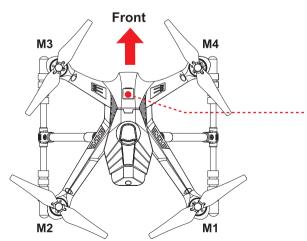


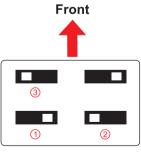
01 ≯	X4 PRC	D 01	0%	00:00	∕ ₫
		note co mean:		er — it trim ac	tive
0	0	0	0	0	0

01 <del>)&gt;</del>	¢						
Master remote controller —— show: "×" means Right trim inhibit							
0	0	0	0	C	0		

g. Aircraft switch position setting

S/N	Switch name	Switch position	Position instruction	
(1)	Remote cotroller toggle switch		Dual-remote cotrollers	
2	Gimbal toggle switch		Dual-remote cotrollers control	
3	Camera toggle switch		Dual-remote cotrollers control	





Control toggle switch

Tel.: (8620) 8491 5115 8491 5116

Fax.: (8620) 8491 5117

Email: heli@walkera.com info@walkera.com

Add.: Taishi Industrial Park, Dongchong Town nansha District, 511475 Guangzhou



Specifications, contents of parts and avsilability are subject to change, Walkera is not responsible for inadvert errors in this publication. Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

**Reorient or relocate the receiving antenna.** 

□ Increase the separation between the equipment and receiver.

□ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

**Consult the dealer or an experienced radio/TV technician for help.** 

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

"FCC RF Radiation Exposure Statement Caution: To maintain compliance with the FCC's RF exposure guidelines, place the product at least 20cm from nearby persons."