X4 STAR FPV

H507D USER MANUAL

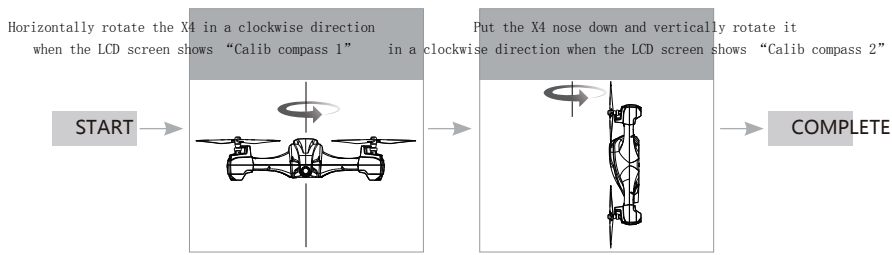
COMPASS CALIBRATION

Compass Calibration is required after the binding as instructed on the transmitter.

1) Horizontally rotate the X4 in a clockwise direction when the LCD screen shows “Calib compass 1”

2) Put the X4 nose down and vertically rotate it in a clockwise direction when the LCD screen shows “Calib compass 2”

3) Calibration is completed when the 4 LED indicators remain solid.



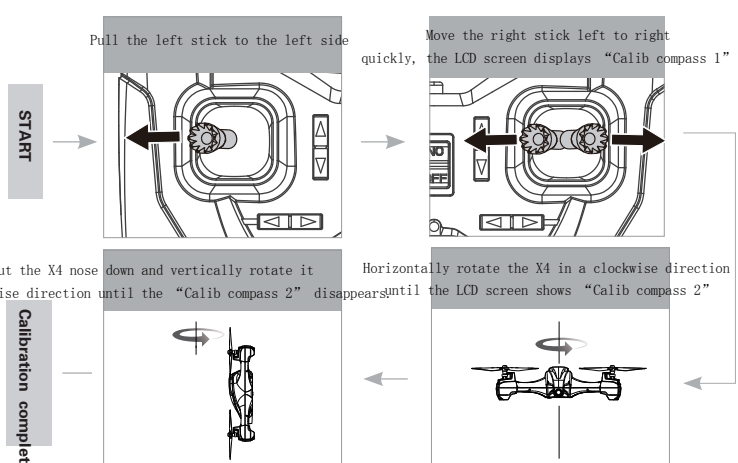
When the quadcopter yaws during flight, please calibrate the compass manually as insturcted below:

1) Pull the left stick to the left side, and move the right stick from left to right quickly and repeat until the transmitter displays “Calib compass1”, and the 4 LED indicators blink circularly.

2) Horizontally rotate the X4 in a clockwise direction until the LCD screen shows “Calib compass 2”, and the 4 LED indicators blink alternately.

3) Put the X4 nose down and vertically rotate it in a clockwise direction until the “Calib compass 2” disappears.

4) Calibration is completed when the 4 LED indicators remain solid.



- Do not calibrate the compass in a strong magnetic field
- Do not carry ferromagnetic materials with you while calibrating the compass, such as keys, cell phones, etc.

Horizontal Calibration

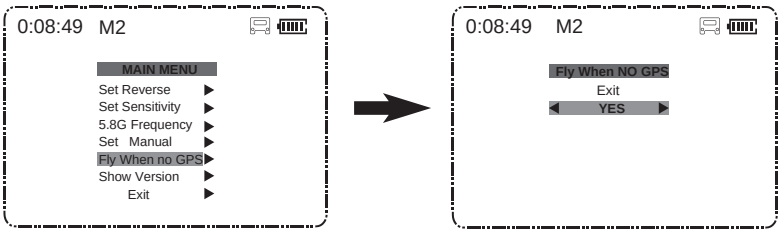
Horizontal Calibration is required when the quadcopter drifts during flight.

Calibration Procedures:
Push the left stick to the most right side, and move the right stick from left to right quickly until the 4 LED indicators blink slowly.
Calibration is completed when the 4 LED indicators remain solid.

⚠ CAUTION:

For safety, the quadcopter is default set to CAN NOT FLY WHEN NO GPS. If you prefer to fly when GPS is not available, please reset the value as instructed below before using.

Pull the throttle stick to the lowest position and press the Elevator stick for 1.5 seconds to enter into the MAIN MENU interface. Push the Elevator stick up/down to select “Fly When no GPS”, push the stick right to enter into the “ Fly When no GPS” interface, select “YES”. **The Default Setting is “NO”.**
Select “Exit” to exit.



Hubsan X4 User Manual

V1.0 2016.05

IMPORTANT SAFETY NOTES

OPERATION: Be extremely careful and responsible when using the Quad. Small electronic components can be damaged by crashes or by dropping into water. To avoid any injuries, do not use the quad with broken or damaged components.

Maintenance: Do not try to fix the quad by yourself, please contact Hubsan distributors authorized by Hubsan for customer services.

For more information, please visit official website at www.hubsan.com

Battery: Do not put the battery in high temperature area above 60 degrees.
Using a Hubsan dedicated charger for recharging.
Keep the batteries away from children.
Keep the batteries dry.

- Do not fly the quad in crowded places, always be aware of the safety of yourself and others.
- Do not fly in bad weather.
- Never try to catch the quad while it is in flight.
- This quad is intended for experienced pilots age 14+.
- Take off the battery if it is not in use, to avoid accidentally injuries.
- Keep your body away from propellers after power on, High speed propellers are very dangerous

Read the Disclaimer first before use.

※SYMBOL EXPLANATION

 No operating  Important Notice  Instruction  Explanation, reference

USAGE ADVICE

Hubsan provides you with two files for your quad:
1.《Disclaimer》
2.《Quick Start Guide》

Watch the tutorial video and read the Disclaimer first,.
For detail information, please download User Manual at www.hubsan.com.

Safety Advisory Notice for Lithium-Polymer (LIPO) Batteries

LiPo batteries are different from conventional batteries in that their chemical contents are encased in a relatively lightweight foil packaging. This has the advantage of significantly reducing their weight but it does make them more susceptible to damage if roughly or inappropriately handled. As with all batteries, there is a risk of fire or explosion if safety practices are ignored:

or

- If you do not plan to fly the quad for a long time, store the battery approximately 50% charged to maintain battery performance and battery life.
- Please use Hubsan chargers for battery charging.
- Discharging the battery within 5C current , do not over-discharging.
- Do not charge on carpet to avoid fire.
- Batteried need to be recharged if not in use for over 3 months.

1.Charge and store LiPo batteries in a location where a battery fire or explosion (including smoke hazard) will not endanger life or property.

2.Keep LiPo batteries away from children and animals.

3.Never charge the LiPo battery that has ballooned or swelled.

4.Never charge the LiPo battery that has been punctured or damaged.

5.After a crash, inspect the battery pack for signs of damage. Discard in accordance with your country' s recycling laws.

6.Never charge the LiPo battery in a moving vehicle.

7.Never overcharge the LiPo battery.

8.Never leave the LiPo battery unattended during recharging

9.Do not charge LiPo batteries near flammable materials or liquids.

10.Ensure that charging leads are connected correctly. Reverse polarity charging can lead to battery damage or a fire or explosion.

11.Have a suitable fire extinguisher (electrical type) OR a large bucket of dry sand near the charging area . Do not try to extinguish electrical (LiPo) battery fires with water.

12.Reduce risks from fire/explosion by storing and charging LiPo batteries inside a suitable container.

13.Protect your LiPo battery from accidental damage during storage and transportation. (Do not put battery packs in pockets or bags where they can short circuit or can come into contact with sharp or metallic objects.).

14.If your LiPo battery is subjected to a shock (such as a crash), place it in a metal container and observe for signs of swelling or heating for at least 30 minutes.

15.Do not attempt to disassemble or modify or repair the LiPo battery.

Contents

INTRODUCTION

Thank you for buying the HUBSAN product. It is designed as an easy-to-use, multi-functional RC model, capable of hovering and acrobatic flight maneuvers. Please read the manual carefully and follow all the instructions. Be sure to keep the manual for future reference.

Flight Weight: 164.5g (including prop protections & Battery)

FPV: First Person View, this feature enables you to experience every live moment of the flight from the drone's point of view.

1. ITEMS INCLUDED IN THE BOX

Check all the items in the box before using.

S/N	Part Name	Photos	Q'ty	Remarks
1	Quad copter FCC ID:2AEXY507DRX		1PC	Equipped with smart flight controller,GPS and compass
2	Propellers		8PCS	Propeller A 4pcs, Propeller B 4pcs
3	Transmitter FCC ID:2AEXY901ATX		1PC	FPV Transmitter (powered by 4 X AA battery -Not included)
4	7.6V Li-Po battery		1PC	For quad copter
5	USB Charger		1PC	For Li-Po battery charging

2. QUAD COPTER MOTOR LED INDICATOR

Indicator Status:

Front LED is blue; Back LED is red.

1. Power on: 4 LED indicators blink simultaneously every 1.5 seconds.
2. Compass Calibration:
   1). Horizontal calibration: 4 LED indicators blink circularly.
   2). Vertical calibration: 4 LED indicators blink alternately.
3. Quadcopter Calibration: 4 LED indicators blink slowly.
4. GPS Flight: 4 LED indicators remain solid.
5. GPS Return : 2 front LED indicators remain solid, and 2 back LED indicators blink slowly.
6. Low Voltage: 2 front LED indicators remain solid, and 2 back LED indicators blink quickly.
7. Signal Lost: 2 front LED indicators blink slowly, 2 back LED indicators remain solid.
8. Photo: 2 front LED indicators remain lighted, 2 back LED indicators blink once.
9. Video: 2 front LED indicators remain lighted, 2 back LED indicators blink alternately.
10. LED indicators can be turned off by long pressing the LED SW on transmitter.

3. QUAD COPTER BATTERY

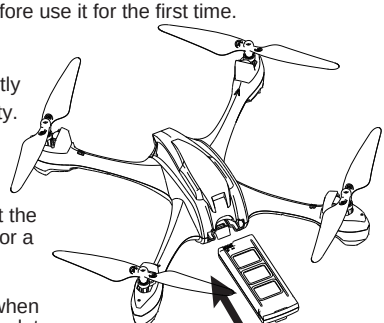
3.1 INTRODUCTION

The quad copter battery is a rechargeable Li-Po battery with 450mAh capacity and 7.6V voltage. The battery should only be charged with the HUBSAN charger to avoid overcharge.

⚠ Please make sure the battery is fully charged before use it for the first time.

3.2 INSTALL THE BATTERY

Push the battery into the battery compartment correctly and connect the battery plugs with the correct polarity. Close the battery compartment cover.



3.3 CHARGING

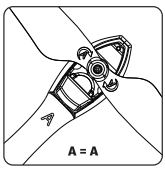
Connect the battery to the USB charger, then connect the USB charger to the USB device, such as a computer or a mobile power charger.

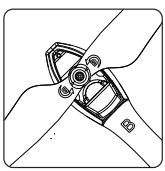
It takes around 110 minutes to have the battery fully charged. The USB LED indicator blink slowly in red when charging and will remain solid when the battery is complete charged. Please unplug the charger and battery when the charging is completed.

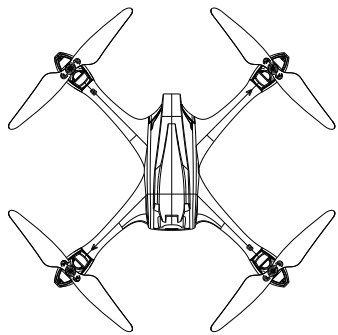
⚠ Please fully charge the batteries to avoid loss of control due to low voltage.
Risk of explosion if battery is replaced by an incorrect type.
Dispose of used batteries according to the local regulations.

4. PROPELLERS

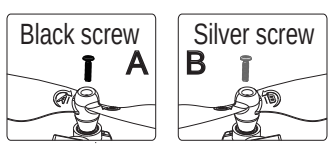
The quad copter uses the 5.3-inch propellers which are marked by A and B.
Propellers are consumables, please replace with new ones if there is any damage.



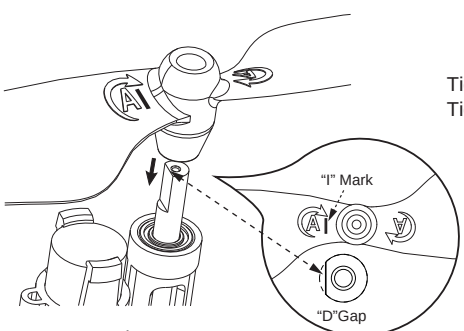




Attach the propellers to the corresponding motors that are marked A and B,tighten the propellers and keep the motors deadlocked with the screw-driver.

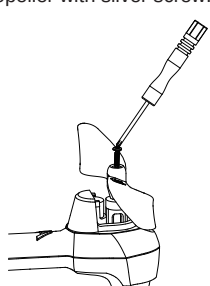


Tighten the A propeller with black screw;
Tighten the B propeller with sliver screw.



<Figure 1>

Match the "I" mark on propellers to the "D" gap on motor shafts when assembling, as figure 1 shown.



⚠ ● Make sure that the A and B propellers are installed correctly. The X4 will not fly if propellers are improperly installed.

● Keep the moving propellers away from your body as well as other people and any obstacles.

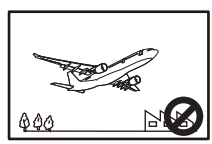
5. START TO FLY

In case of any injuries caused by improper operations, it is advised that beginners learn to operare the quad under the guidance of professional. It is very improtant to choose the right flight environment.

5.1 FLIGHT ENVIRONMENT

(1) The flying area should be open and is without tall buildings, otherwise the GPS may not work.
(2) Do not fly in bad weather like windy, snowy, rainy or foggy days.
(3)Stay away from obstacles, crowds, power cables, trees and water etc.
(4) Do not fly near the radio towers or airports.
(5) The quad will not work in the Antarctic Circle or the Arctic Circle.
(6) Obey the local laws and regulations, do not fly in restricted areas.
(7) Only fly in good weather conditions and air temperatures between 0-40℃
(not including rain, wind or other extreme weather.)


High Tension Line


Airport

Interference


Rain

5.2 SAFETY CHECK BEFORE FLIGHT

(1) Make sure the batteries are fully charged. (Quad,transmitter or smart device)
(2) Make sure propellers are installed properly.
(3) Insert Micro-SD card for pictures and videos.
(4) Check if motors work well after binding.

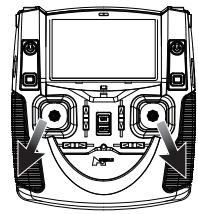
5.3 BINDING

The binding is completed in the factory.
For re-binding, press Photo button and power on the transmitter simultaneously until “Bind to Plane” is displayed, then power on the drone and place it very close to the transmitter, the binding process will be completed after one “ beep” sound.

If the binding failed, please power off the drone and repeat the above steps.

5.4 ARM/ DISARM THE MOTORS

Arm the motors



Method : Pull both sticks to the lower outer corner as shown on the picture to arm the motors. Release both sticks after the motors are armed.

If the motors can not be armed after binding, please make sure:

1. Compass calibration is completed
2. The value of Fly When No GPS is “YES”
3. GPS switch and RTH switch is OFF.

Disarm the motors

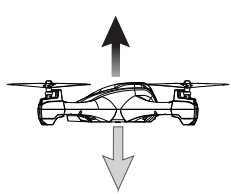
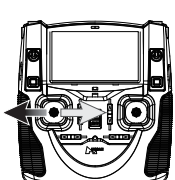
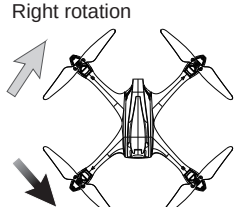
Method : Pull both sticks to the lower outer corner again to arm the motors, and release both sticks after the motors are disarmed.

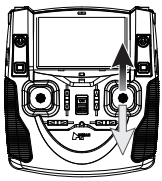
⊘ Do not stop the motors during the flight to avoid crashing.

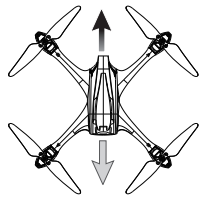
Push the sticks lightly. Release the sticks after the motors are armed or disarmed.

5.5 Basic Flight

The operations of the controller are based on Mode 2.
The left stick controls the altitude and rudder of quadcopter, and the right stick controls its forward, backward, left and right flight.

Transmitter (Mode 2)	X4	Remarks
	UP  Down	The throttle stick controls the ascent and descent . Push up the stick and the X4 will ascend. Pull down the stick and the X4 will descend. When the stick is in the center, the X4 will hover and hold its alititude automatically . Move the throttle stick above the center position to take off. (Move the stick gradually to prevent the X4 from ascending too quickly.)
	Right rotation  Left rotation	The Rudder stick controls the rotate direction Push the stick to the left and the X4 will rotate counter-clockwise Push the stick to the right and the X4 will rotate clockwise. When the stick is in the center,the X4 will keep the current direction and not rotate. Pushing harder will cause the X4 to rotate faster in the corresponding directions.





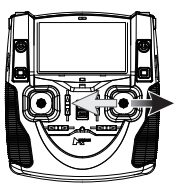
The Elevator stick moves the X4 forward and backward.

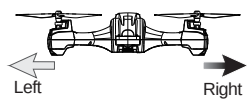
Push the stick up the and the X4 will fly forward.

Pull the stick down and the X4 will fly backward.

When the stick is in the center, the X4 will hold its position.

The angle of stick movement corresponds to the angle of tilt and flight speed.





The Aileron stick controls left and right flight.

Push the stick to the left and the X4 will fly to the left.

Push the stick to the right and the X4 will fly to the right.

The X4 will keep the current status when the stick is in the center.

The angle of stick movement corresponds to the angle of tilt and flight speed.

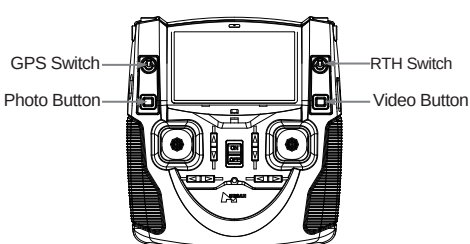
position 1 (upward)

position 2 (downward)

The GPS Switch controls the position-hold function.

In position 1 (up), the GPS function works.

In position 2 (down), the GPS function is inactive.



Important Note: The GPS and RTH functions are only available outdoors.Please make sure the two switches keep downward when indoors.

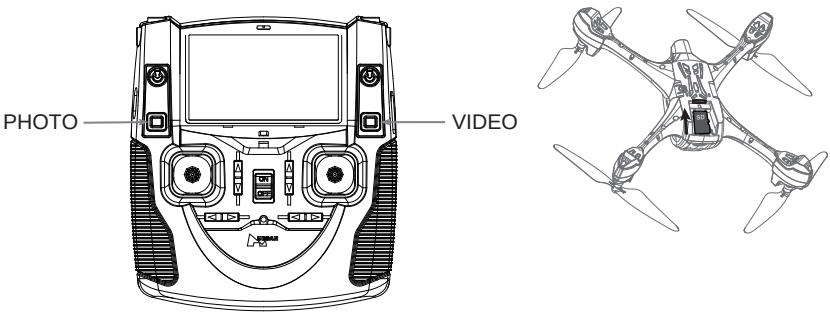
The RTH Switch controls the automatic return home function.

In position 1 (up), the RTH function works.

In position 2 (down), the RTH function is inactive.

For the Photo/Video function, always power off the quadcopter and the transmitter when inserting or removing the SD card

5.6 PHOTO/VIDEO



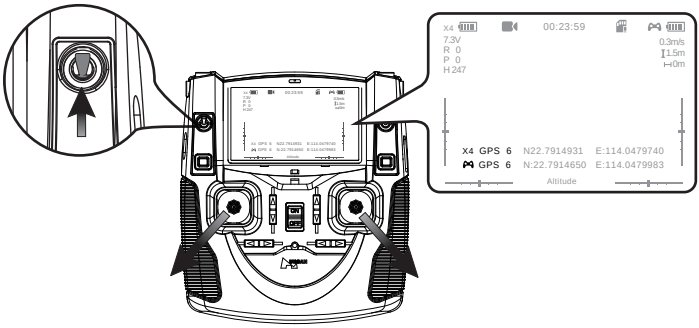
Insert the SD card into quadcopter before using Photo/Video function.
Press the Photo button once to take photo.
Press the Video button once to take video and press again to save the video.

⚠ Stop recording before the SD card is removed.

6. ADVANCED PERFORMANCE SETUP

6.1 GPS POSITIONING/ HOME POINT SETTING

1.) GPS Positioning works ONLY when the GPS signal has no less than 6 satellites.



Push up the GPS switch to activate the GPS positioning.
Pull down the GPS switch to exit the GPS positioning (only altitude hold will be active).

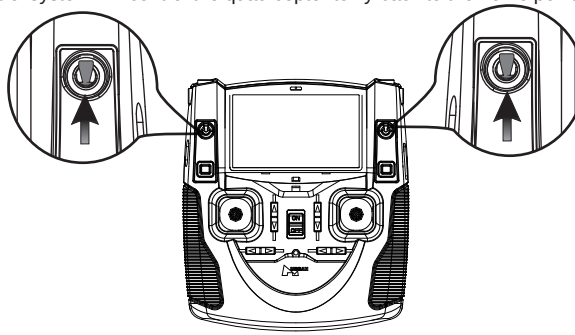
2.) Home Point is recorded when armed the motors with no less than 6 GPS satellites.

3.) You should be in an open place to search for the GPS satellites, it'll take 3 mins to finish the searching, and the GPS signal strength depends on the flying environment.

6.2 RTH MODE (RETURN TO HOME)

ENTER INTO RTH MODE

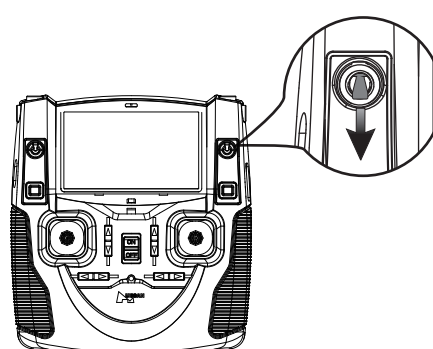
Push the GPS Switch and the RTH Switch up, and the quad copter will enter into RTH mode. The flight control system will control the quad copter to fly back to the home point and land automatically.



⚠ The RTH MODE only works when the GPS mode is activated with no less than 6 satellites. The Home Point is recorded when armed the motors with no less than 6 GPS satellites.

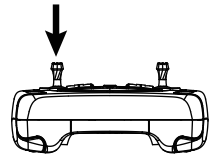
EXIT RTH MODE

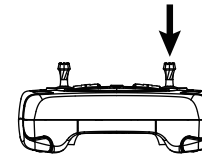
Pull down the RTH Switch, the X4 will exit the RTH Mode.



6.3 HEADLESS MODE

Headless mode means the X4 will default any directions (corresponding to the directions of transmitter sticks) as the up ahead when the mode is activated.





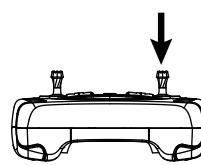
Short press down the throttle stick to switch on/ off headless mode.

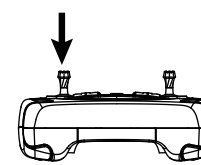
Short press down the throttle stick to enter into Headless Mode, indicated by two "beep" sounds and the “HEADLESS ON” displays on the LCD screen.

Short press down the throttle stick again to exit Headless Mode, indicated by one "beep" sound and the ”HEADLESS OFF” displays on the LCD screen.

6.4 FOLLOW ME MODE

Follow Me Mode means the drone follows the transmitter automatically as it has built-in GPS system.





Short press down the elevator stick to switch on/ off follow me mode.

Short press down the elevator stick to enter into the follow me Mode, indicated by two "beep" sounds, the “ FOLLOW ON” displays on the LCD screen, the drone will turn and face to the transmitter.

Important Notice: When the quadcopter is in follow me mode, press any sticks or trims may exit the mode except the throttle stick.

Short press down the elevator stick again to exit follow me Mode, indicated by one "beep" sound a nd the “ FOLLOW OFF” displays on the LCD .

⚠ The follow me mode only works when the GPS (both on transmitter and on drone) has no less than 6 satellites.

6.5 FAILSAFE MODE

The quad copter will enter into failsafe mode when the connection is lost from the transmitter, or when the power is low. The flight control system will control the quad copter to return to the HOME POINT and land automatically. The failsafe mode helps to avoid injuries or damages.