HUBSAN®

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H501S X4 AIR

《H501S Quick Start Guide 》

Version 2.0

Disclaimer & Warning

All users must read product operating instructions as well as this liability disclaimer before using any Hubsan product. By using a Hubsan product(s), users are accepting the terms and conditions of Hubsan liability and operational guidelines. This product is not suitable for minors under 14 years of age. While operating a Hubsan product(s), users also accept all liability and responsibility for their own behavior, actions as well as any consequences resulting thereof while using a Hubsan product(s). These products may only be used for purposes that are proper and in accordance with local regulations, terms and any applicable policies/guidelines Hubsan may make available. Users agree to comply with these terms and conditions, along with any and all relevant policies/guidelines set forth by Hubsan.

Instructions

Some product flight functions are restricted in certain areas. Once you use this product, you are deemed to have read carefully the relevant ICAO regulations, local airspace control provisions and the regulations governing UAVs. You assume all liability for any non-compliance with the foregoing, are responsible for the consequences for your actions as well as any indirect and/or direct liability that arises as a result of these limitations.

Flight environment requirements

(1) Select an open environment devoid of high rise buildings and tall obstructions (such as trees and poles). Near buildings and obstacles, flight control signals and GPS signals can be severely weakened; GPS functions such as GPS mode and Return to Home may not function properly.
(2) Do not fly in bad weather conditions (such as in wind, rain or fog).
(3) Fly the drone in ambient temperatures of 0-40 ℃.
(4) When flying, please stay away from obstructions, crowds, high voltage lines, trees, water, etc.
(5) To avoid remote control signal interference, do not fly in complex electromagnetic environments (such as venues with radio stations, power plants and towers).
(6) The aircraft cannot be used in or near the Arctic circle or Antarctica.
(7) Do not fly in no fly zones.
(8) Do not operate the aircraft near high pressure lines, airports or areas with severe magnetic interference.

2 Different Ways to Fly, 2 Configurations

The first flight configuration: Aircraft + H906A Transmitter

+

The second flight configuration: Aircraft + H901A Transmitter

+
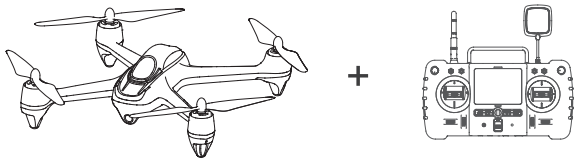
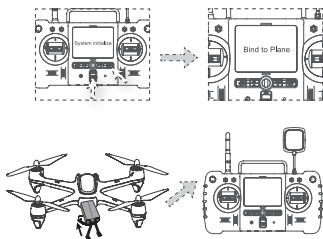# The first flight configuration: Aircraft + H906A Transmitter
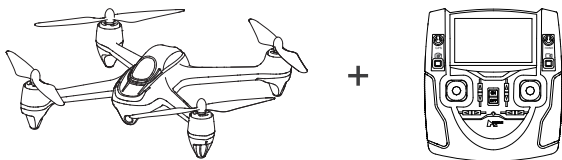
Step 1

Binding the transmitter and aircraft

Use this process if the aircraft and transmitter are not pairing automatically when powered on, or to reset the 2.4GHz flight control and 5.8GHz video transmission connections. The binding process is usually completed in the factory. If you replace either the remote or the aircraft, the two will need to be re-bound to each other.

Binding procedure:

(1) Hold the "Enter" key and power on the transmitter until "System Initialize" appears on the LCD screen.

(2) Release the Enter key when the screen changes to display "Bind to Plane".

(3) Power on the quad and place it very close to the transmitter. After a few seconds, the transmitter should then beep, indicating that binding has been successful.

(4) If this does not happen and the aircraft's LEDs begin to rotate clockwise, the binding is unsuccessful. Please power off the quad and repeat the above steps.
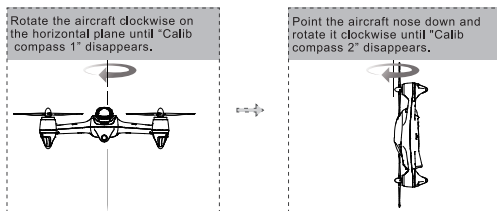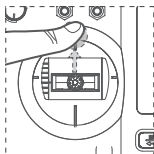

Step 2

Compass Calibration

After the aircraft is powered on (and after a successful rebinding), the remote control/transmitter will ask you to calibrate the aircraft compass. The compass is susceptible to interference by other electronic equipment, magnetic interference and metal, which can lead to erratic behavior and loss of control.   Regular calibration helps keep the compass and its readings accurate.

Calibration steps:

(1) When the remote control screen reads "Calib compass 1", slowly rotate the aircraft on the horizontal plane. The LEDs should be red, flashing clockwise.
(2) When the remote control screen reads "Calib compass 2", point the head of the aircraft downwards and rotate the aircraft in place (it should be vertical, pointing perpendicular to the ground). The LEDs should be flashing in vertical pairs, alternately.
(3) When the "Calib compass 2" disappears from the screen and the LEDs begin to flash simultaneously, calibration is complete.
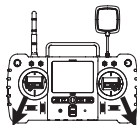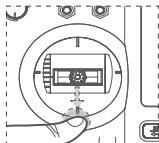

Rotate the aircraft clockwise on the horizontal plane until "Calib compass 1" disappears.

Point the aircraft nose down and rotate it clockwise until "Calib compass 2" disappears.

Step 3

Takeoff

Simultaneously pull the transmitter joysticks diagonally down-out to arm the motors (as shown in the left figure). Smoothly and slowly pull the left joystick (throttle) upwards to take off.

Landing

Slowly and gently pull the throttle joystick down until the copter has completed its descent on the ground. Simultaneously pull the transmitter joysticks diagonally down-out to disarm the motors (as shown in the left figure). After all motors have come to a complete stop, release the joysticks.

> ⚠ ● High speed propellers are very dangerous. Please keep the aircraft away from people, animate and inanimate objects.
> ● Keep the aircraft under control at all times while the motors are still running.
> ● Do not disarm during flight. The motors will stop in midair, causing the aircraft to fall and other such hazards. Only disarm during flight in the case of emergencies.

The second flight configuration: Aircraft + H901A Transmitter

The remote control is by default set to Mode 2 in factory; this manual will introduce flight operations in Mode 2.
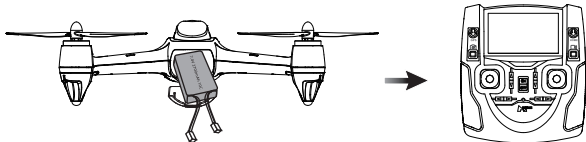
Step 1

Binding procedure:

Use this process if the aircraft and transmitter are not pairing automatically when powered on, or to reset the 2.4GHz flight control and 5.8GHz video transmission connections. The binding process is usually completed in the factory. If you replace either the remote or the aircraft, the two will need to be re-bound to each other.

Binding procedure:

(1) Hold the Photo key and power on the transmitter until "System Initialize" appears on the LCD screen.
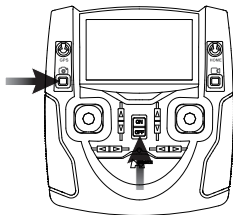
(2) Release the Photo key when the screen changes to display "Bind to plane". Power on the quad and place it very close to the transmitter. After a few seconds, the transmitter should then beep, indicating that binding has been successful.

(3) If this does not happen and the aircraft's LEDs begin to rotate clockwise, the binding is unsuccessful. Please power off the quad and repeat the above steps.

Step 2
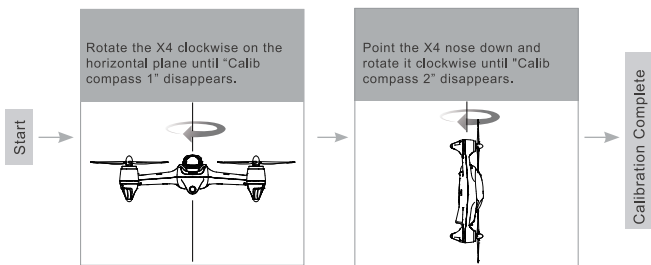
Compass Calibration

After the aircraft is powered on (and after a successful rebinding), the remote control/transmitter will ask you to calibrate the aircraft compass. The compass is susceptible to interference by other electronic equipment, magnetic interference and metal, which can lead to erratic behavior and loss of control. Regular calibration helps keep the compass and its readings accurate.

Calibration steps:

(1) When the remote control screen reads "Calib compass 1", slowly rotate the aircraft on the horizontal plane. The LEDs should be red, flashing clockwise.

(2) When the remote control screen reads "Calib compass 2", point the head of the aircraft downwards and rotate the aircraft in place (it should be vertical, pointing perpendicular to the ground). The LEDs should be flashing in vertical pairs, alternately.
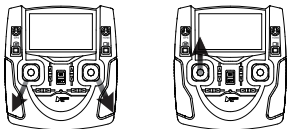
(3) When the "Calib compass 2" disappears from the screen and the LEDs begin to flash simultaneously, calibration is complete.

Start →

Rotate the X4 clockwise on the horizontal plane until "Calib compass 1" disappears.

→

Point the X4 nose down and rotate it clockwise until "Calib compass 2" disappears.

→

Calibration Complete

⚠ ● Do not calibrate the compass in areas with strong magnetic interference.
● Do not carry ferromagnetic materials while calibrating the compass, such as keys, cell phones, etc.
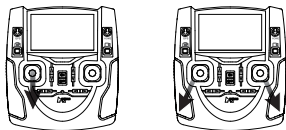
Step 3

Taking off and Landing

Takeoff

Simultaneously pull the transmitter joysticks diagonally down-out to arm the motors (as shown in the left figure). Smoothly and slowly pull the left joystick (throttle) upwards to take off.
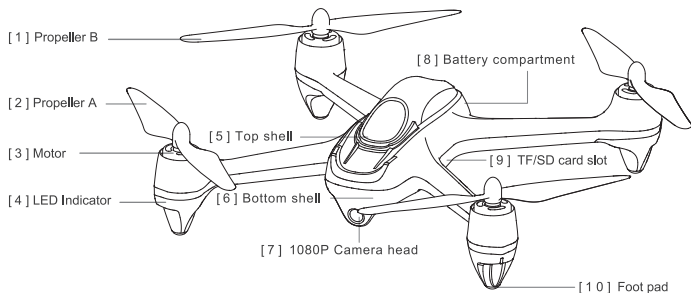
Landing

Slowly and gently pull the throttle joystick down until the copter has completed its descent on the ground. Simultaneously pull the transmitter joysticks diagonally down-out to disarm the motors (as shown in the left figure). After all motors have come to a complete stop, release the joysticks.

⚠

● High speed propellers are very dangerous. Please keep the aircraft away from people, animate and inanimate objects.
● Keep the aircraft under control at all times while the motors are still running.
● Do not disarm during flight. The motors will stop in midair, causing the aircraft to fall and other such hazards. Only disarm during flight in the case of emergencies.

Thank you for purchasing a HUBSAN product. The H501S is an easy to fly aircraft equipped with a variety of flight functions and a full-function remote control.

[1] Propeller B

[2] Propeller A

[3] Motor

[4] LED Indicator

[5] Top shell

[6] Bottom shell

[7] 1080P Camera head

[8] Battery compartment

[9] TF/SD card slot

[10] Foot pad

Hubsan Drones with GPS funstions support GPS ,GALILEO, GLONASS total 3 types of GNSS work simultaneously.
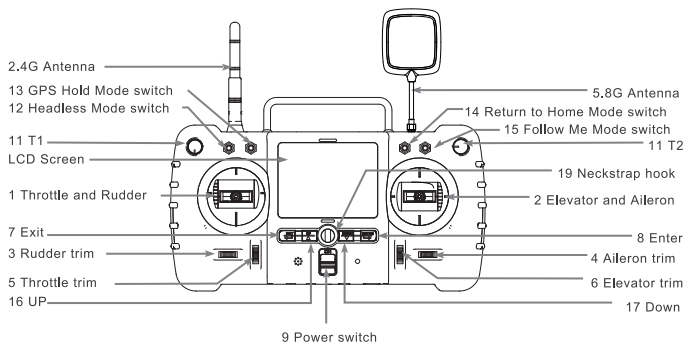
2.4G Antenna

13 GPS Hold Mode switch
12 Headless Mode switch

11 T1
LCD Screen

1 Throttle and Rudder

7 Exit
3 Rudder trim

5 Throttle trim
16 UP

5.8G Antenna

14 Return to Home Mode switch
15 Follow Me Mode switch
11 T2

19 Neckstrap hook

2 Elevator and Aileron

8 Enter
4 Aileron trim

6 Elevator trim
17 Down

9 Power switch

Mode 2 (American hand)

Video port   USB port

10 AV output
No function

No function
13 Mini-USB port

LCD screen
GPS Hold switch
8 Photo
6 Throttle trim
5 Rudder trim
14 LED toggle

12 Return to Home switch
9 Video
4 Elevator trim
7 Power switch
3 Aileron trim

Mode 2 (American hand)
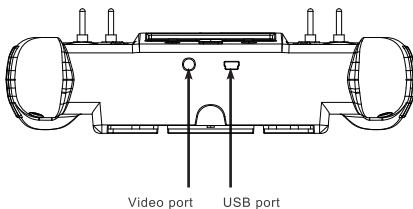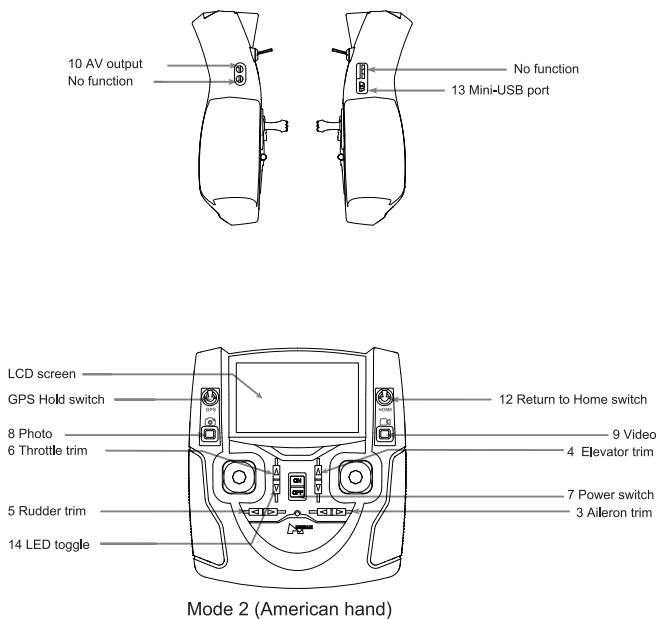
| Function	LED status indication
Binding and Pairing mode	Rear LEDs stay solid, fore LEDs flash alternately (left and right alternating)
Power on and start up	All 4 LEDs flash yellow simultaneously
Compass Calibration	Calib. Compass 1, all 4 LEDs flash red clockwise
	Calib. Compass 2 LEDs should be flashing green in vertical pairs, alternately
Horizontal Calibration	All 4 LEDs flash yellow simultaneously

In flight: All 4 LEDs are flashing simultaneously. The fore LEDs are white and depending on the aircraft's status, the rear LEDs will be any of the specified colors below.

1) General status: yellow   4) Low power: red

2) GPS Hold mode: green   5) Loss of flight control connection: pink

3) GPS Hold mode deactivated: yellow   6) Return to Home mode: blue
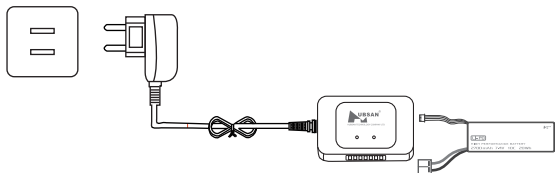
Installing and Charging the Aircraft Battery

The H501S battery is a rechargeable 7.4V Li-Po with a 2700mAh
capacity. Be sure to use a Hubsan dedicated charger for charging. Fully charge the battery before flight.
Installing the battery: Push the battery into its compartment with its lines facing away from the unit (below figure). Connect the blue adapters, nothing the positive and negative polarities. Coil the power line into the compartment and then shut the battery hatch.
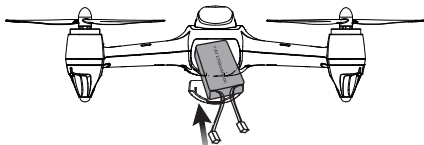
To charge the battery, connect the battery to the balance charger and connect the charger to the AC adapter (if necessary, please use a power conversion adapter). The balance charger LEDs are red while charging and turn green when the battery is fully charged. Please disconnect the battery from the charger immediately afterwards. Full charging time is around 180 minutes.

*Make sure the battery is sufficiently charged before each flight.

*Please do not leave unattended while charging.

Installing and removing the propellers

The aircraft uses 7.3-inch propellers. Each is marked with either an A or a B. Please replace damaged propellers. Before installing the propellers for the first time, please check whether the propeller and motor arm read "A" or "B". The two letters should match.

Installation: Mount all 4 propellers on their motors (be sure all letters on the propellers match the letters on the motor arms). Propeller A's go with A motors and propeller B's go with B motors. Turn each propeller in the indicated "lock" direction.

Removal: When a propeller is damaged or needs to be replaced, hold the propeller with a hand or the provided auxiliary wrench, and remove by turning it in the indicated "unlock" direction.
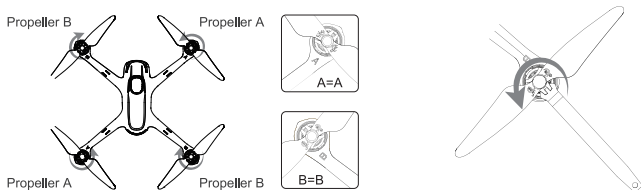
- The propellers are self-tightening units. Please do not use other screws or screw glue to attach them to the motor shafts.
- Make sure that the propellers are installed in the correct positions, otherwise the aircraft will not be able to fly normally.
- Since the propeller blades are thin and somewhat sharp, it is recommended that users wear gloves during installation to prevent accidental scratches.

H501S Frequently Asked Questions

1. Aircraft and remote control are not pairing

(1) Confirm that both aircraft and remote control are both powered on.

(2) Rebind the aircraft to its remote control.

2. Cannot arm motors

(1) Make sure that you have completed compass calibration.

(2) Check that the Return to Home switch is pointing down/off.

(3) Be sure that you are pulling both sticks down-out. Check the channels on screen and verify that they are moving properly (If they are not, please perform a transmitter stick calibration).

(4) If you are flying indoors, please set the "Fly With No GPS" option on the Main Menu from the default "No" to "Yes".

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3. Weak or nonexistent GPS signal/few or no GPS satellites

Make sure that the aircraft is not indoors or between buildings. Please take the aircraft outdoors to receive GPS satellites/signal.

4. No video on the screen or user is experiencing strong video feed interference

(1) Check whether there are strong sources of wireless interference (i.e. WIFI, electricity, radio tower frequencies, etc). If there are any, please change your flight location.
(2) Rebind the copter to the transmitter, as the 5.8 and 2.4 frequencies might be interfering with each other.

5. The aircraft flies erratically in Altitude Hold mode

(1) Check to see if the air pressure sensor reading (Altitude telemetry value) is abnormal when the aircraft is motionless on flat ground. It should read 0 and fluctuate very little.
(2) Check to see if the throttle joystick channel is moving appropriately and properly centered. If not, please calibrate the transmitter sticks and adjust the channel with the corresponding trim button (located on the transmitter).

6. GPS Hold Mode does not work

(1) Check that the aircraft has 6 or more satellites.
(2) Check that the GPS switch is pointing upwards (on) and the Return to Home switch is pointing down (off).
(3) Check that all joystick channels onscreen are properly centered.

Limitation of Liability

Hubsan accepts no liability for damages, injuries or any legal responsibilities incurred directly or indirectly from the use of Hubsan products under the following conditions:

1. Damages, injuries or any legal responsibilities incurred when users are drunk, under the influence of drugs or anesthesia, dizzy, fatigued, nauseous and/or affected by other conditions both physical and mental that could impair sound judgment and/or personal ability.

2. Subjective misjudgment and/or intentional mis-operation of products.

3. Any and all mental damage, trauma, impairment, illness, compensation caused/solicited by accidents involving Hubsan products.

4. Product operation in no-fly zones (i.e. natural reserves).

5. Malfunctions or problems caused by modification, refit, replacement or use with non-Hubsan accessories/parts, failure to follow the guidance of the manual in assembly or operation.

6. Damages, injuries or any legal responsibilities caused by mechanical failures due to natural wear and tear (aircraft flight time clocking in 100 hours or above), corrosion, aging hardware, etc.

7. Continued flight after low voltage protection alarms are triggered.

8. Knowingly flying aircraft under abnormal conditions (such as when water, oil, soil, sand or other unknown material are inside the X4, the aircraft and/or transmitter are incompletely assembled, the main components have obvious faults, obvious defect or missing accessories, etc).

9. Flying in the following situations and/or environments: areas with magnetic interference (such as high voltage lines, power stations, broadcasting towers and mobile base stations), radio interference, government regulated no-fly zones, if the pilot loses sight of the X4, suffers from poor eyesight or is otherwise unsuited for operating Hubsan products.

10. Aircraft use in or exposure to bad weather, such as a rain, wind, snow, hail, lighting, tornadoes and hurricanes.

11. Products are involved in/exposed to collisions, fire, explosions, floods, tsunamis, manmade and/or natural structure collapses, ice, avalanches, debris, landslides, earthquakes, etc.

12. The acquisition, through use of Hubsan products (specifically but not limited to aircraft), of any data, audio, video that results in infringement of law and/or rights.

13. Misuse and/or alteration of batteries, product/aircraft circuits, hardware protections (including protection circuits), RC model and battery chargers.

14. Any malfunction of equipment or accessory, including memory cards, that results in the failure of an image or video to be recorded or to be recorded in a way that is machine readable.

15. Users who engage in reckless, unsafe flying (with or without sufficient training).

16. Noncompliance with precautions, instructions, information and operation guidelines/methods given through official Hubsan website announcements, product quick start guides, user manuals, etc.

17. Other losses, damages, or injuries that are not within the boundaries of Hubsan responsibility.

Declaration of Conformity

Hereby, SHENZHEN HUBSAN TECHNOLOGY CO., LTD.,

declares this product is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. A copy of the original Declaration of Conformity can be obtained at the following address: SHENZHEN NANSHAN SOFTWARE INDUSTRY BASE 1C, 13/F

This product bears the selective sorting symbol for waste electrical and electronic equipment (WEEE). This means that this product must be handled pursuant to European Directive 2012/19/EU in order to be recycled or dismantled to minimize its impact on the environment.

For further information, please contact your local or regional authorities. Electronic products not included in the selective sorting process are potentially dangerous for the environment and human health due to the presence of hazardous substances.

FCC INFORMATION

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 totry 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 local dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

Electrical and electronic equipment that are supplide with batteries (including internal batteries)

WEEE Directive & Product Disposal

At the end of its serviceable life, this product should not be treated as household or general waste. It should handed over to the applicable collection point for the recycling of electrical and electronic equipment, or returned to the supplier for disposal.

Internal / Supplied Batteries.

This symbol on the battery indicates that the battery is to be collected separately.
This battery is designed for separate collection at an appropriate collection point.

Please read the operating instructions carefully before use!

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- Never leave units unattended when charging
- Unplug the charging cable immediately after charging
- Propellers may cause injury
- This product is not a toy
- Not suitable for children under 14 years of age

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