



5 Mode Switch

- Manual Mode: Set SWA to the "0" position. After the motors are unlocked, raise the throttle stick, then it can go forward/backward, go up/down, do left-side flying/right-side flying, turn left /right, etc.
- Stable Mode: Take off the quadcopter and fly to a fixed height in Manual Mode, then set SWA to the "1" position, SWB on the "0" position, the quadcopter will start to hover, then set the throttle stick in the middle position, the quadcopter will keep in the current altitude and position.
NOTE: 1. In Stable Mode, the GPS signal indicator light should be steady lit, it means that the signal is good.
2. Stable is relatively stable, it can move in a certain range depending on the speed of the wind and the weather, therefore you need enough space to safely fly it.
3. In Stable Mode, the throttle stick needs to be in the middle position, it will emit a "beep, beep, beep..." sound when the throttle stick is in the middle position in order for you to better control it
- One Key to Return Home Mode: When you need the quadcopter to return back, set the SWB on the "0" position, the SWA on "2" position. Then the quadcopter will return back from the current position to the starting point automatically. If the current position is higher than 15 meters, the quadcopter will return back in the current altitude. If the current position is lower than 15 meters, the quadcopter will rise to the 15 meter height and then return back.
NOTE: 1. In Return Home Mode, make sure the GPS signal indicator light remains steady lit, it means that the signal is good.
2. It's suggested to switch to the Stable Mode first or until the quadcopter becomes stable before initiating Return to Home Mode.
3. After returning back, the quadcopter will lock automatically; if you need to restart the motor, please set the SWA to "0" position first and then unlock the motors.
- Flight Direction Lock Mode: While flying, set SWA on the "1" position and SWB on the "1" position first. The quadcopter will then fly as if the front of the quadcopter is always pointing in the same position as when you entered this flight mode. You can turn the quadcopter left/right, but it will always respond to bank left/right and forward/back inputs as if the front of the quad is still facing the initial position when entering this flight mode.
NOTE: 1. This mode is not appropriate for beginners, it requires more skills and experience to do so.
2. In this mode, the quadcopter can return safely in long distance or in poor light.
- Altitude Sensor Mode: After taking off in the Manual Mode, to set SWB on the "1" position and SWA on the "2" position, then push the throttle stick to the altitude you want and to set the throttle stick to the middle position, the quadcopter will remain the current altitude constantly, and in the Altitude Sensor Mode, the quadcopter will fly in constant altitude.
NOTE: 1. In Altitude Sensor Mode, the throttle stick needs to be in the middle position, making "beep, beep, beep..." sound when the throttle stick is in the middle position in order for you to better control it.
2. Constant altitude is relatively constant, it can move in a certain range depending on the speed of the wind and the weather, therefore you need enough space to safely fly it.



- Return Home when the quadcopter is out of control: When the quadcopter is out of control, it'll enter Return Home Mode and return back and land in the position when it is unlocked automatically.
- The cancellation of the Return Home Mode: In Return Home Mode and after the quadcopter returns to the area in which it can be seen, if you want to stop the Return Home Mode, you need to do the following steps:
A. If the SWA is in the "0" position in the Return Home Mode, set SWA on "1" position first and then turn it back to "0" position, then the Return Home Mode is canceled.
B. If the SWA is on the "1" or "2" position in the Return Home Mode, set SWA to "0" position first, then turn it back to "1" position and then turn it to "0" position again, then the Return Home Mode is canceled.

NOTE: 1. It is suggested to use only Manual Mode, Stable Mode and One Key to Return Home Mode for the beginners, it means to use the SWA switch only;
2. It is required to take off in the Manual Mode.

5 Low Voltage Protection for the quadcopter

- Low voltage protection is a protection system designed to avoid the quadcopter crashing in low battery voltage. When the battery voltage is between 10.4V to 10.5V, the quadcopter will activate the low voltage alarm and give out the "beep, beep, beep..." sound, and the front and rear indicator LED lights will blink at the same time.
- There is 1-2 minutes to fly safely after turning into low voltage protection, therefore the pilots need to adjust the flying distance and to prepare to return safely.

6 Low Voltage Protection for the transmitter

- Low voltage protection is a protection system designed to avoid the signal interruption for the transmitter in low battery voltage.
- When the battery voltage is low, the transmitter will give out the "beep, beep, beep..." sound, and the power indicator light will blink slowly at the same time.
- Please change the battery in low voltage protection.

7 Frequently asked questions and solutions

Frequently asked questions	Solutions
Fly in circle in Stable Mode	1. Poor GPS signal. Change to some other open places. 2. Fly 3-5 minutes in Manual Mode, and it'll get the GPS signals automatically
Motors do not work	1. SWA switch is not set on the "0" position 2. Low battery voltage, please change the battery
The quadcopter does not rise	Make sure the propellers are installed correctly, reinstall the propellers if they are installed reversely.
Does not return home accurately	Poor GPS signal. Change to some other open places.
The quadcopter cannot hover	The quadcopter need to be re-calibrated.



Dear customer :

Thank you for purchasing a Quantum radio control aircraft product. In order to quickly and safely master the operation of the "NOVA", please read the user handbook carefully and then keep it in a safe place for future consultation and reference.

1 Important Statement

- This product is not a toy. It is a piece of complicated equipment which harmoniously integrates engineering materials, mechanics, electronics, aerodynamic and high frequency radio. Correct installation and adjustment are necessary to avoid accidents taking place. The owner must always operate in a safe manner. Improper operation may result in serious property damage, bodily injury or over death.
- We accept no liability for damage and consequent damage arising from the use of these products, as we have no control over the way they are maintained, used and operated.
- This product is suitable for experienced Aircraft pilots aged 14 years or more. All minors must be accompanied by a responsible adult when flying.
- The flight field should be legally approved by the local government. We accept no liability for any safety duties or fines arising from operation, usage or mis-control after the sale of the products.
- We consign our distributors to offer technical support and service after sale. Please contact the local distributors for problem resolution caused by usage, operation, maintenance, etc.

2 Safety matters needing attention

Aircraft flight is a high risk hobby, whose flight should be kept far away from other people. Mis-assembled or broken main frame, defective electronic equipment, and/or problematic radio system will lead to unforeseen accidents such as bodily injury or property damage. The pilot MUST pay attention to the flight safety and UNDERSTAND his responsibility for accidents caused by his carelessness.

(1) Far away from obstacles and people

An Aircraft in flight has risk of uncertain flight speed and direction which is potentially dangerous. When flying, please keep your Aircraft far away from people, high buildings, high-tension lines, etc, and avoid operating in rain, storms, thunder and lightning.

(2) Keep away from humidity

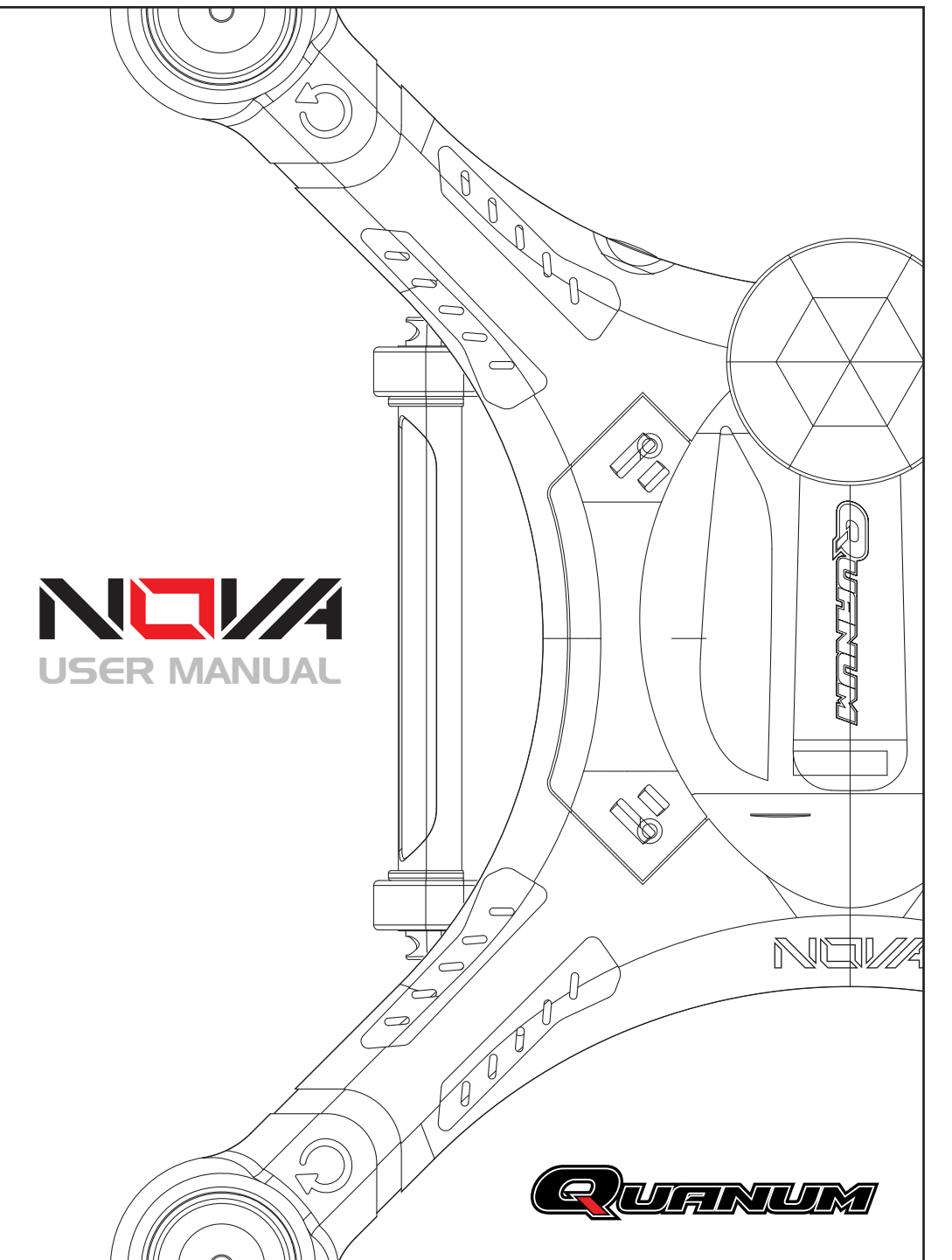
Aircraft should be kept away from humidity and vapor because its complex, precise electronic components and mechanical parts may be damaged.

(3) Proper operation and maintenance

Please use Cheerson original spare parts to upgrade, modify or maintain your Aircraft in order to ensure its safety. Please operate your Aircraft within the range of functions permitted. It is forbidden to use it outside of the safety laws or regulations.

3 Attention before flight

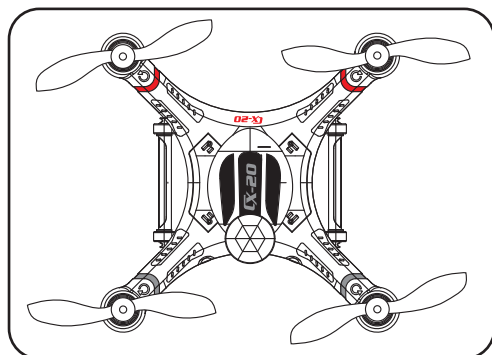
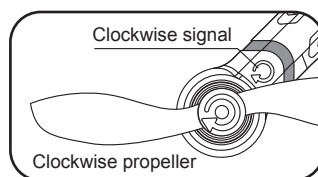
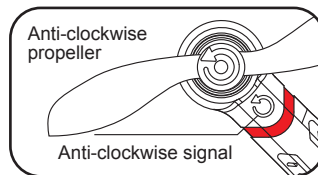
- Ensure the battery packs of both transmitter and receiver are fully charged (saturated).
- Ensure both the throttle stick and the throttle trim of your transmitter stay at the lowest positions before operation.
- Please strictly obey the order of turn-on and turn-off before operation. When starting your flight, please turn on your transmitter first, and connect the power cable of your Aircraft last. When finishing your flight, please disconnect the power cable of your Aircraft first, and turn off your transmitter last.
- An upset in the order of connection may cause your Aircraft to loose control. Please cultivate a correct habit of turn-on and turn-off.



1 Installation instructions

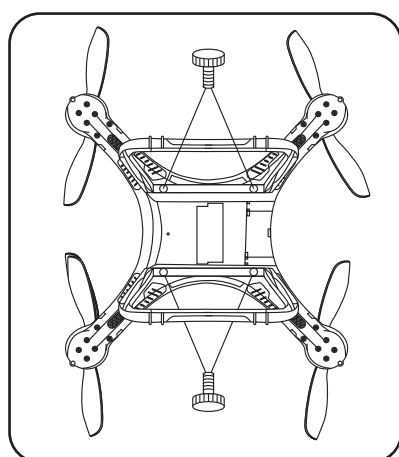
1 The Propeller Installation

- To prepare the quadcopter and the propellers
- The propellers with spin-mark should be installed upward, make sure the spin-mark of the propellers is matched accordingly to the spin-mark on the quadcopter arm.
- Use the included hex wrench in the kit to tighten the prop nut of the motor (Note: The blade prop nuts feature reversed threads, they will be tightened by spinning counter clockwise. The silver prop nuts feature standard threads, they will be tightened by spinning clockwise.



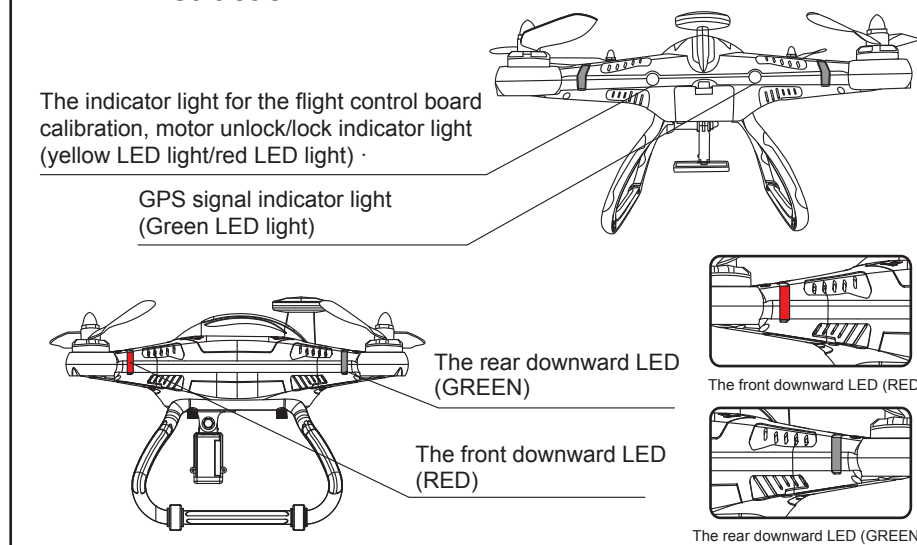
2 The Landing Gear & Antenna Installation

- Preparing the quadcopter and the landing gear.
- Install the landing gear with the antenna hole aligned to match where the antenna exits the body and fix the landing gear with the screws.
- Install the other landing gear on the opposite side and fix the landing gear with the screws.
- Place the antenna in the groove of the landing gear.
- Fix the antenna in the groove of the landing gear with clear tape.



2 Indicator and status LED lights description.

1 LED instruction



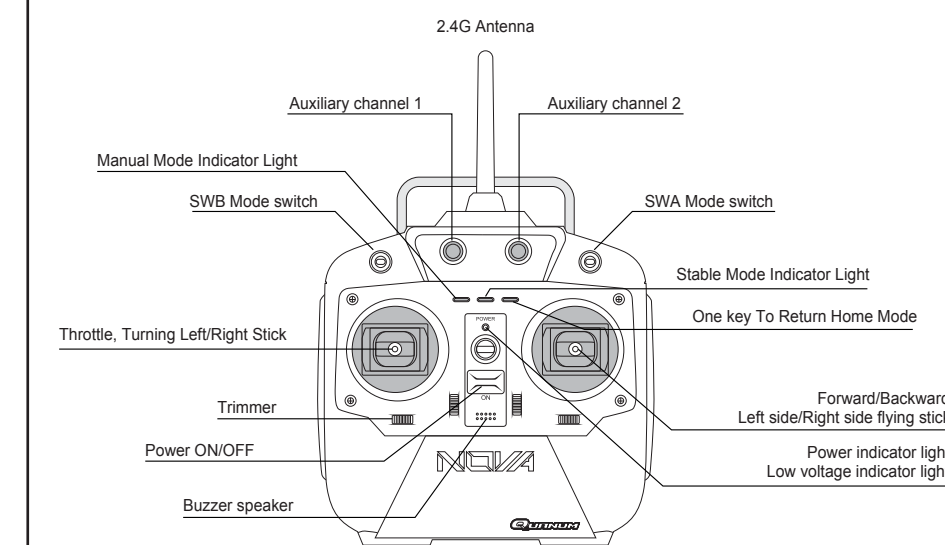
2 The description of the LED indicator light status

- The front indicator light: a. The red light keeps steady when the motor starts. b. The red light blinks in low voltage condition and there's an alarm sound if the battery voltage drops below 10.6V.
- The rear indicator light: a. The green light keeps steady when the motor starts. b. The green light blinks in low voltage condition and there's an alarm sound if the battery voltage drops below 10.6V.
- The indicator light of the main control board calibration, motor unlock/lock indicator light: The yellow indicator light and red indicator light blink alternately when the main control board calibrates. The red indicator light blinks slowly when the motor is locked, and the red indicator light stays lit when motor is unlocked.
- GPS signal indicator LED light: The green indicator light blinks when less than 6 satellites from the GPS system are received; the green indicator light stays solid lit when more than 6 satellites from the GPS system are received. NOTE: The satellites received from the GPS system must be more than 6 satellites in Stable Mode and Return Home Modes. (The green indicator light stays solid lit)



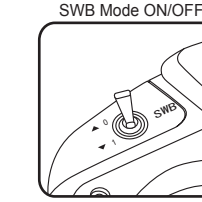
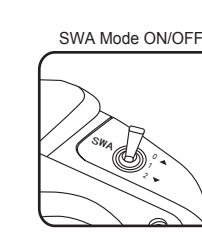
3 The transmitter functions and general settings (Mode 2)

1 The transmitter introduction



2 Transmitter Mode setting. (the NOVA is used as the example)

Mode type	SWA Setting	SWB Setting
Manual Mode	0	0
Stable Mode	1	0
Flight Direction Locked Mode	1	1
Altitude Sensor Mode	2	1
One Key To Return Home Mode	2	0



NOTE: Whether flying indoors or out, set the transmitter in Manual Mode before take-off.



4 Basic operation

1. Binding

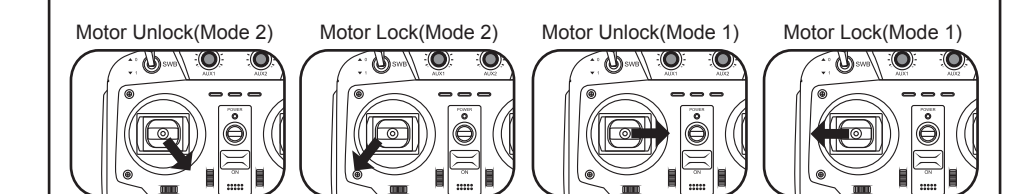
- Insert the battery into the quadcopter battery bay and connect the power plugs. The Red indicator light and the Green indicator light will blink rapidly alternately, please do not move or shake the quadcopter at this moment, close the battery cover when the Red indicator light and the Green indicator light blink slowly alternately.
- Turn on the transmitter, the binding with the quadcopter will succeed after the beeping sound of the transmitter stops.
(NOTE: Put the throttle stick to the lowest position before the binding. 2.SWA,SWB switches need to be in the "0" position.)

2. Receiving the GPS signal

- For the first time outdoors, it takes longer to get the GPS signal, please wait about 2 minutes until the LED indicator light becomes steady lit.
- Please do not use the GPS Modes (Stable Mode and Return Home Mode) indoor in order to avoid accidents.

3. Motor Unlock & Motor Lock

- Motor Unlock: Once binding, put down the throttle stick to the bottom right position. When the Red light becomes steady, the motors are unlocked.
- Motor Lock: Once binding, put down the throttle stick to the bottom left position. When the Red light blinks, the motors are locked.



4. Compass Calibration

The purpose of calibrating is to assure the quadcopter's compass can pinpoint itself in the GPS so that the return to home function can work properly. Calibrating your quadcopter is especially important when flying in a new air field for the first time.

- Mode 2: Lower the throttle to the cut off position, the aileron/elevator stick to the lower right corner, connect the power of the model then turn on the power on the transmitter while holding the right stick to lower right corner position. (The flight controller has 5 seconds delay before arming, if within 5 seconds the syncing wasn't successful, the flight controller would not turn on to calibrating mode.)
Mode 1: Position the elevator stick to the lowest position, then position the throttle stick to the lower right corner and hold, connect the power on the model and then turn the power on the transmitter on (The flight controller has 5 seconds delay before arming, if within 5 seconds the syncing wasn't successful, the flight controller would not turn on to calibrating mode.)
When the flight controller is in calibrating mode the indicator to the left will flash red and yellow while the GPS indicator stays unchanged.
When calibrating, turn the quadcopter in one direction for 3 to 5 circles, then point the nose of the quadcopter to the ground, then turn the quadcopter in one direction for 3 to 5 circles while the nose is still pointing to the ground. Unplug the power source, the flight controller will automatically save the calibration input.