

Dear Distinguished Customers:

Good day!

Thanks very much for buying our products. In order to allow you rapidly and safely handle the operation of the aircraft, please carefully read the manual and properly keep the original manual for reviewing and reference later on.

1 Important Statement

- (1) This is not a toy but the fine equipment integrated with professional knowledge of machine, electronic, aero-mechanics, high-frequency emission and so on. It needs the correct installation and debugging to avoid accidents. The holder should control it by safe ways; it may cause severe physical injuries or property damages if with improper operation. We don't take responsibilities for this because we can't handle the process of installation, usage and operation.
- (2) This product is suitable for the persons who have the experience with the age of no less than 14 years old.
- (3) The flying yard should be the legal RC model flying yard.
- (4) We will not take any safety responsibilities from operation, using and controlling etc. when it is sold.
- (5) We delegate the dealer to provide technology support and after-sale service when you happened to some problems of using, operation and maintenance. Please contact with the local dealer.

2 Safety Precautions

RC model is high-risky product and it should keep far away from crowds when flying. It would make unexpected accidents of aircraft damages or physical injuries etc. by artificial inappropriate installation or body damages, defective electronic control equipments as well as familiar operation. The pilot must pay attention to the flying safety and know about the responsibilities of accidents by their own carelessness.

3 Precautions before Flying

- (1) Make sure the battery of the transmitter and the receiver are in full status.
- (2) Make sure the throttle stick and throttle trimming of the transmitter are in the beginning position.
- (3) Pay attention to sequence of the power turn ON/OFF. When turn on, it should turn on the power of the transmitter and then turn on the power of the aircraft; when turn off, it should turn off the power of the aircraft and then turn off the power of the transmitter. It may cause the aircraft being out of control with wrong turn ON/OFF sequence and influence the safety of oneself and others. Please develop the right turn ON/OFF hobby.
- (4) Make sure the firm and reliable joint connection of battery and motors etc. When the aircraft constantly shakes, the power joints may loosen and the aircraft may be out of control.

(5) Far away from Obstacles and Humans

The RC aircraft has the uncertain flying speed and status as well as the potential risks when flying. It should fly far away from human beings, high buildings and high-voltage line etc., and it should avoid flying in bad weather such as windy, rainy, thundering etc. to make sure the safety of the pilots, people and property around.

(6) Far away from Wet Environment

The interior of the aircraft consists of lots of fine electronic components and mechanical parts. Therefore, it should prevent the aircraft from humidity and moisture to avoid accidents from machinery and electronic components breakdown.

(7) Properly Use This Product

Please make sure the original spare parts to upgrade, refit or maintain so as to make sure the safety of the aircraft, and don't use it for other illegal purposes but the security laws.

(8) Avoid Independently Control of Beginner

There is a certain difficulty at the beginning of the RC aircraft control. You should avoid handling it independently and you need some experienced persons for guidance (It is one of the effective learning ways to practice by using computer simulative software or ask some experienced RC pilots for guidance).

(9) Safety Operation

Please control the aircraft according to your own status and flying skills. It will increase the probability of accident risks if you are fatigue and out of sorts or the operation is inappropriate.

(10) Far away from High-speed Rotated Components

When the propellers are rotating in high speed, the pilot, people around and objects should keep far away from the rotated components so as not to cause risks and damages.

(11) Far away from Heat Source

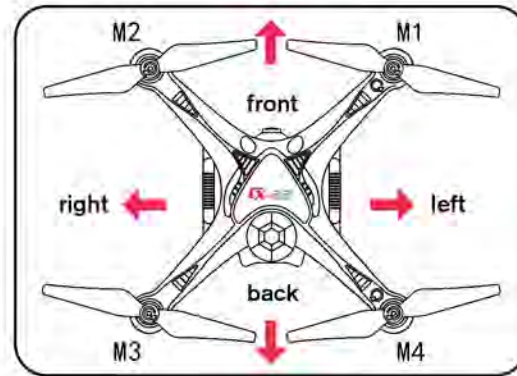
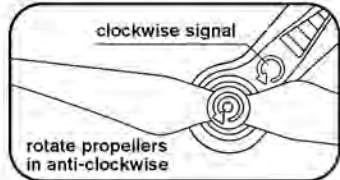
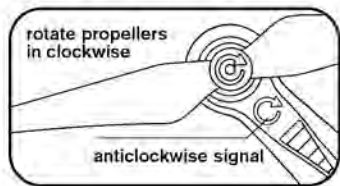
The RC aircraft consists of metal, fiber, plastic and electronic components etc. Therefore, you should keep away from heat source and prevent from exposure as soon as possible so as to avoid deformation or even damages from high temperature.



Installation Illustration

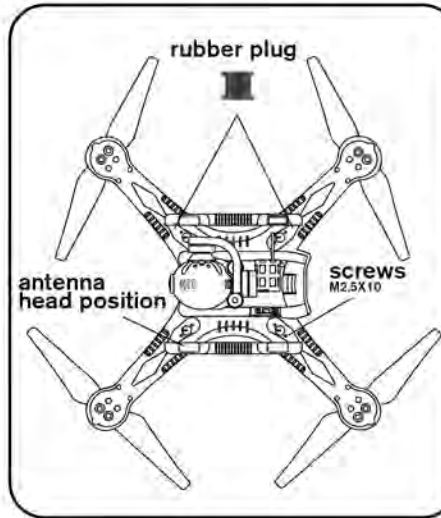
Propellers Installation

- (1) Prepare propellers and aircraft.
- (2) Take the clockwise propellers (black cap) and install them to the M2 and M4 motors by rotating in anti-clockwise direction.
- (3) Take the anti-clockwise propellers (silver cap) and install them to the M1 and M3 motors by rotating in clockwise direction.



Install Landing Skids and Fixed Antenna

- (1) Prepare the aircraft and landing skids.
- (2) Cross the two antennas through the holes of the landing skids.
- (3) Stuck the antenna rubber plug on the landing skids and put the antenna out of the hole.
- (4) Lock 8PCS M2.5*10 screws into the hole and tighten them by M2.0 hexagon screwdriver as the figure shown.
- (5) Stuck the head of the antenna to the inside relevant position of the landing skids (as the figure shown).

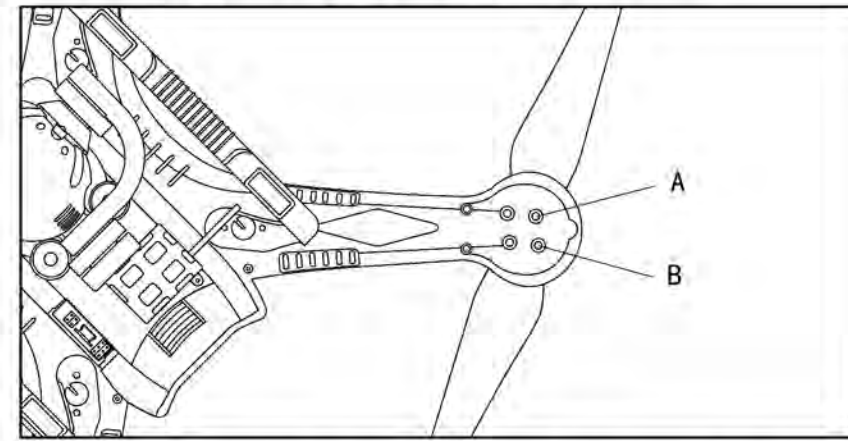


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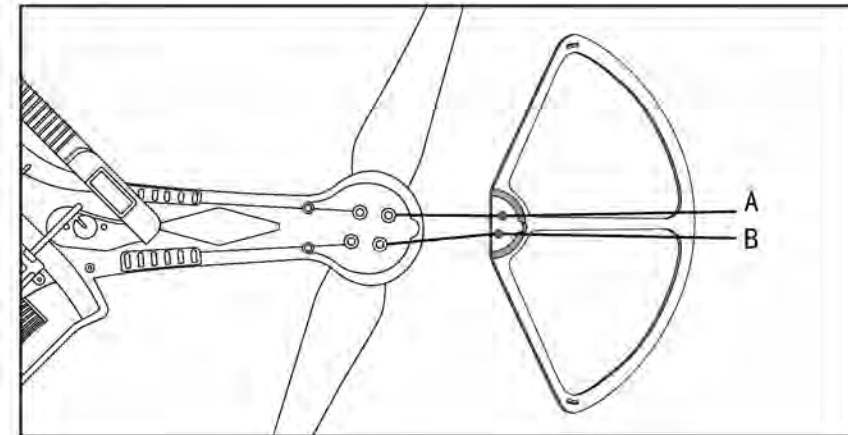
Fender Brackets Installation Illustration

Fender brackets installation (it is sold separately)

- (1) (As shown in Figure 1) Remove the A,B screws below the motor.



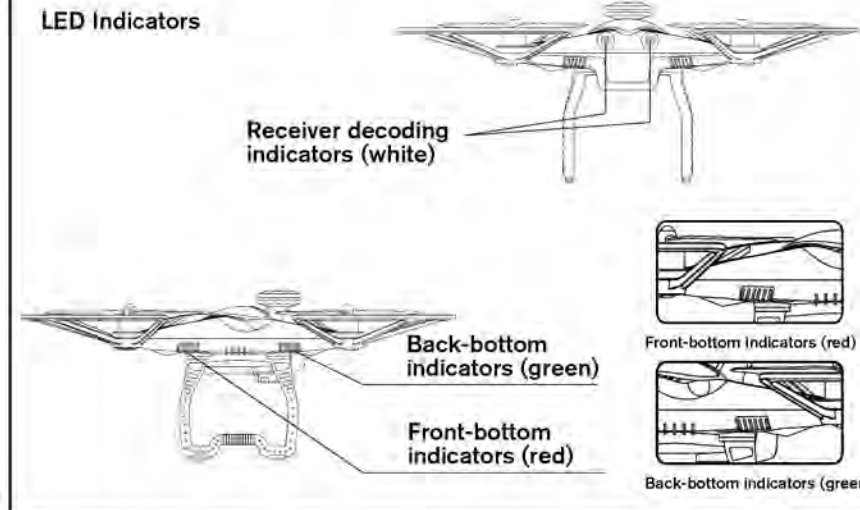
- (2) (As Figure 2 shown) Insert the two positioning pillars of the fender brackets into the screws bit A,B below the motor and fixed with the screws of fender bracket (size M3*12)



04

Indicators Illustration and Status Illustration of Aircraft

LED Indicators



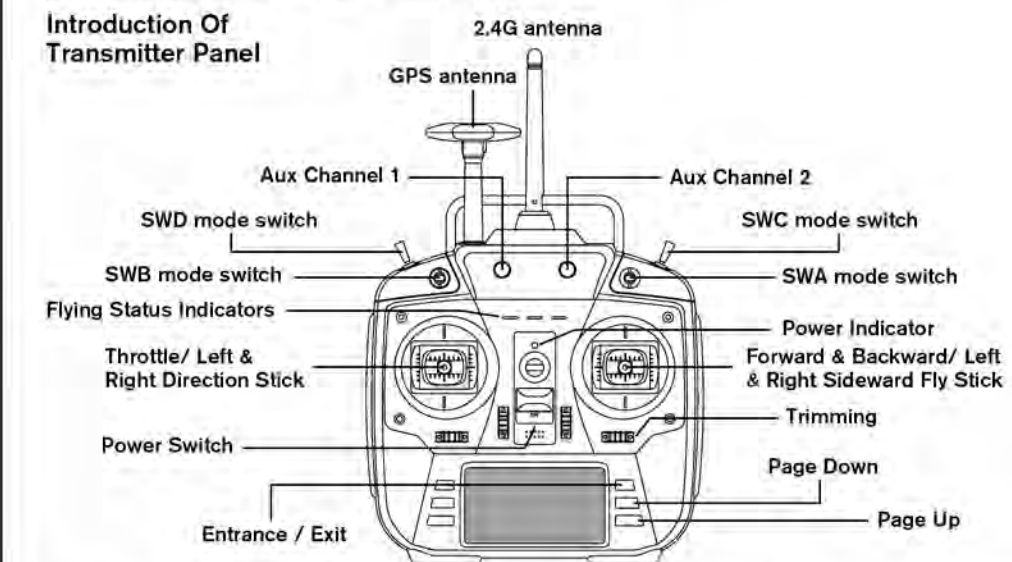
LED Indicators Status Illustration

- (1) Receiver decoding indicators will flash rapidly or slowly when the receiver can't get the signals and they will be lighting constantly when it gets the signals.
- (2) Front-bottom indicators:
 - A. The red ones will be lighting constantly after unlocking the motors and they will be flashing after locking the motors.
 - B. When the battery voltage is less than about 10.4V, the red lights will be flashing slowly, and the beeper will send out sounds of alarm at the same time.
- (3) Back-bottom indicators:
 - A. GPS quantity indicators. When the GPS quantity is less than 5, the green indicators will be flashing and when the GPS quantity is more than 5, the green indicators will be lighting constantly.
 - B. When the battery voltage is less than about 10.4V, the green lights will be flashing slowly and the beeper will send out sounds of alarm at the same time.

05

Transmitter Functions and General Setting (Take Mode 2 As Example)

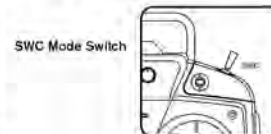
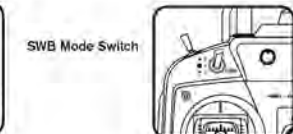
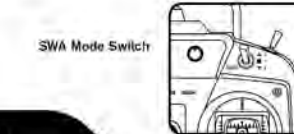
Introduction Of Transmitter Panel



Transmitter Flying Modes Setting (Take CX-22 AS Example)

Mode Types	SWA Position Setting	SWB Position Setting	SWC Position Setting
Fixed Height Mode	0	0	0
GPS Point Hold and High Hold	1	0	0
Flying Around	1	1	0
Following Mode	1	0	1
A Key Return	2	0	0

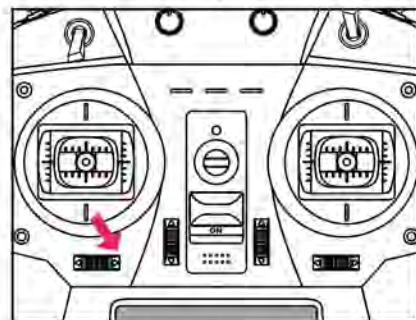
Note:
No matter flying indoor or outdoor, please set the mode switch to high hold mode before taking off.



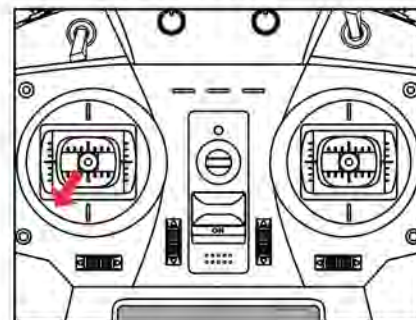
06

Aircraft Motor Unlocking and Locking

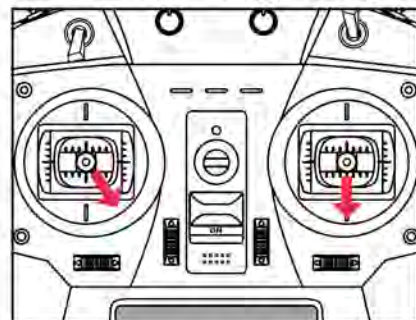
- (1) Unlocking: After successful decoding of the aircraft and transmitter, push the throttle to the bottom and push the direction stick to right-bottom at the same time (as Figure shown). After successful unlocking, the front-bottom red indicators of the aircraft will be lighting constantly and the motor will be in the idling status at the same time.
- (2) Locking: After successful decoding of the aircraft and transmitter, push the throttle stick to the bottom and push the direction stick to left-bottom at the same time (as Figure shown). When the front-bottom red indicators of the aircraft are flashing, it means the motor locking is successful.



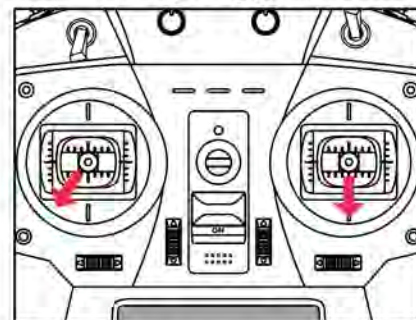
Motor Unlocking (Mode 2)



Motor Locking (Mode 2)



Motor Unlocking (Mode 1)



Motor Locking (Mode 1)

Note: After unlocking, please take off in 10 seconds, otherwise, the aircraft will be in the abnormal working status.

Switching of Flying Modes

- (1) High Hold Mode: switch position of mode

position of mode	SWA	SWB	SWC
switch	0	0	0

After unlocking of aircraft, push the throttle stick. When the aircraft is flying to the height required, let the throttle stick to the middle automatically and the aircraft will keep the current height.

- (2) GPS Point Hold Mode: switch position of mode

position of mode	SWA	SWB	SWC
switch	1	0	0

When the aircraft is in the high hold mode, push the SWA switch to "1", the aircraft will be in the GPS point hold mode and in this status, the aircraft will keep the current height and position.

Note: We suggest you to make GPS point hold mode in outside and the GPS satellite status is good.

- (3) Flying Around Mode: switch position of mode

position of mode	SWA	SWB	SWC
switch	1	1	0

In the GPS point hold mode, set the SWB mode switch to "1". After holding the aircraft hovering for 3-5 seconds (this position is circling around a point), push the forward/ backward stick to control the flying radius of the aircraft and push the left/right sideward fly stick to control the flying direction of the aircraft, which are circling in clockwise direction or anti-clockwise direction.

- (4) Auto Following Mode: switch position of mode

position of mode	SWA	SWB	SWC
switch	1	0	1

When the aircraft is in GPS point hold status, push the SWC switch to "1". After the aircraft is rotating in place, put the nose of the aircraft aiming at the location of the transmitter and keep the relative distance at the same time. When moving the transmitter, the aircraft will move in the relative distance.

Note: The auto following mode requires the satellite receiving status of both aircraft and transmitter is good.

- (5) A Key Return Mode: switch position of mode

position of mode	SWA	SWB	SWC
switch	2	0	0

When the SWA mode switch is in "2", the aircraft will do a key return along the place of taking off and returning.

- (6) Return Out-of-control Mode

When the aircraft is losing the RC signal, it will enter the return out-of-control mode and it will automatically return and land in the unlocking position.

- Note:**
1. We suggest the new player and beginner to use the height hold and GPS point hold and A key return mode as well as all the modes used SWA.
 2. It should in the height hold mode during each taking off.

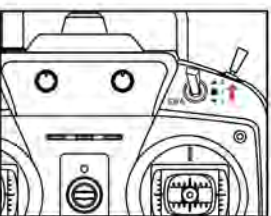
Releasing of Return out-of-control Mode

When the aircraft begins to carry on return out-of-control mode and return to the visual scope, please use the SWA mode switching key to do it if it requires stopping the mode:

- SWA key is in "0" when the aircraft enters the return out-of-control mode and the releasing way is as the followings:

After put the SWA switch to "1", switch it to "0" again so that it can release the mode.

- When the SWA key is in "1" or "2" when the aircraft enters the return out-of-control mode, the releasing way is as the following: Put the SWA switch to "0", switch it to "1" and then switch to "0" so that it can release the mode. (as Figure shown)



Aircraft Low-voltage Alarming Protection

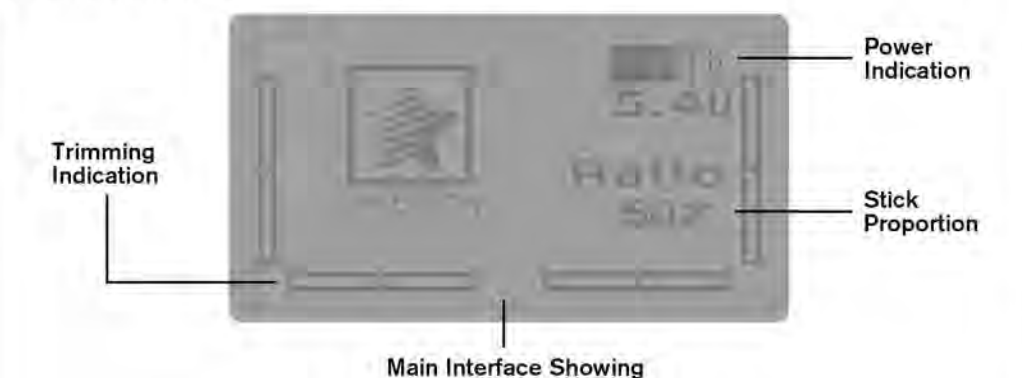
- (1) Low-voltage protection is the protection setting for avoiding severe outcomes of crashing when voltage is too low. The system sets the aircraft to alarm when the battery voltage is in 10.2 - 10.4V and the beeper will sound of "DI DI". At the same time, the front-bottom and back-bottom indicators will flash.

- (2) There will be 1-2 minutes safety flying time when entering low voltage status generally. Therefore, the operator should adjust the flying distance in time and prepare for safety return.

Transmitter Low-voltage Alarming Protection

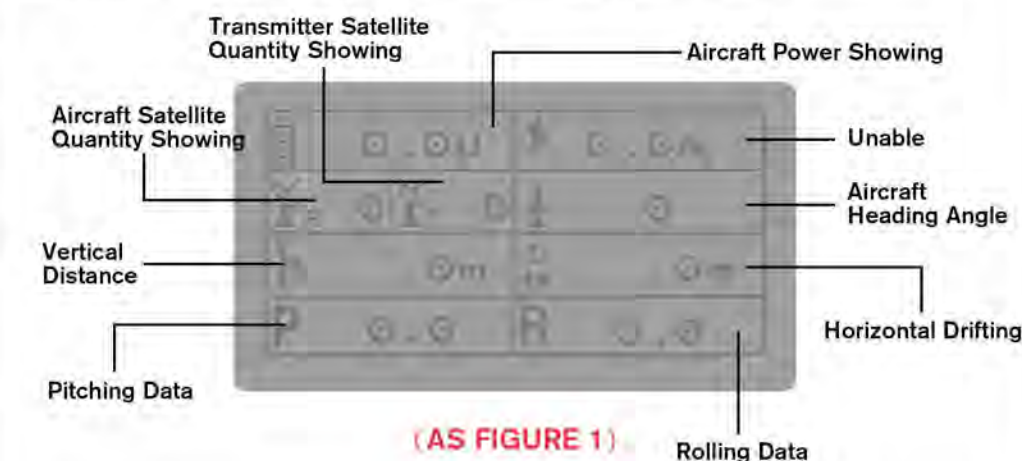
- (1) Low-voltage protection is setting for avoiding signal interruption when the voltage of the transmitter is too low.
- (2) The beeper will sound of "DI DI" when the transmitter enters the low voltage status and the power indicator will flash slowly at the same time.
- (3) Please replace the battery in time when alarming.

Functional Setting of Transmitter

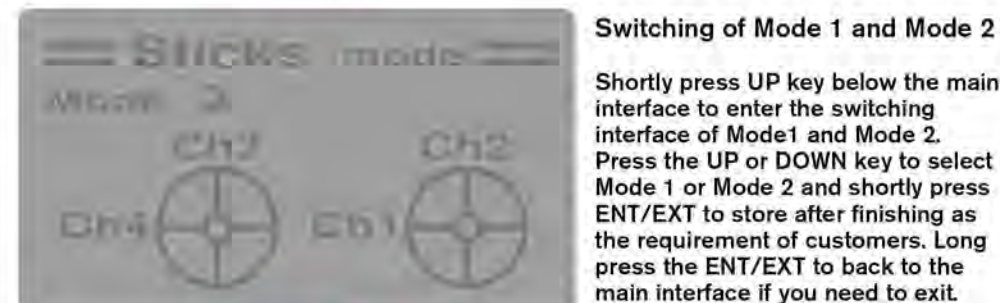


Data Transmission Review

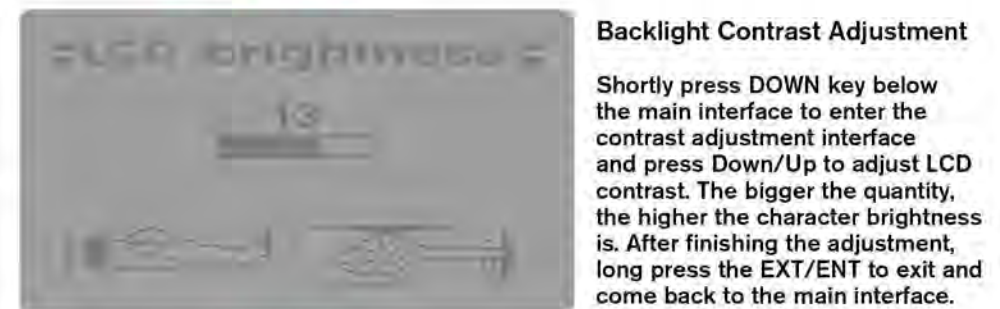
Shortly press ENT/EXT key to enter the data transmission interface. Showing Content (as Figure 1), press down key again to show the content (as Figure 2). Long press ENT/EXT to return to the main interface if you need to exit.



(AS FIGURE 2)



(AS FIGURE 3)



(AS FIGURE 4)

Basic Flying Operation

Decoding

- Turn ON/OFF of battery: Shortly press the switch of battery, and the battery indicator will show the current power. When long press it for 4-5 seconds, the power will be in the turn-on status. When long press it for 4-5 seconds again in the turn-on status, battery output will close. If you didn't start up the motors when in the turn-on status, the battery will be stand-by for about 10 minutes and then enter the dormancy status.
- Insert the battery into the bin of the aircraft and long press the power indicator for 4 seconds, the battery indicator will be lighting constantly and then showing the current power. After turning on, the LED lights in front-bottom and back-bottom of the aircraft will be flashing rapidly.
- Turn on the power switch on the transmitter and after the finishing of the sounds of "DI DI" from the transmitter, it means the decoding is successful. At the same time, the front receiver decoding indicators of the aircraft will be lighting constantly.

Note: When making decoding, all SWA, SWB and SWC should be set in "0".

GPS Signal Indicators Illustration

- When the aircraft finishes using GPS in the first time, the time for searching satellites is much longer of about 2-5 minutes. Please wait for it patiently. When the back-bottom green indicators of the aircraft are lighting constantly, it means the aircraft can do the GPS point hold and return operations. At the same time, you can open the data transmission showing page of the transmission to review the satellite quantity. It can do the flying when the showing quantity is 5 or more than 5.
- When the transmitter is following the GPS to receive satellites, it can only review the satellite quantity from the data transmission showing page of the transmitter. The following function of the transmitter can be normally used when the satellite quantity received is 5 or more than 5.

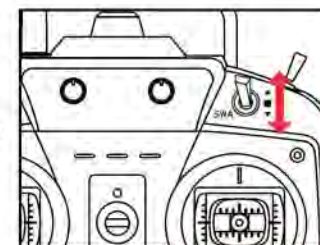
Note: When the transmitter is searching for satellites, please set the SWC switch on "1". After searching, set the SWC switch on "0" again.

Compass Calibration

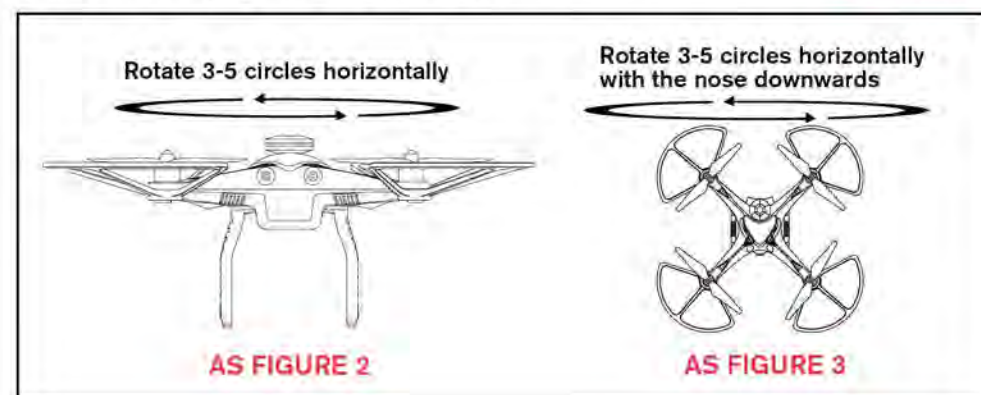
It needs to calibrate the compass when first flying in new place. It also needs to keep far away from interference source of magnetic field and metal etc. Correct calibration can guarantee the stability for all kinds of status of the aircraft.

The calibration steps are as the followings:

- Push the throttle stick to the bottom: place all the switches of SWA, SWB, and SWC on "0".
- Open the power switch of aircraft and transmitter to make sure the success of decoding.
- Stir SWA "mode switch 0-2-0" (as Figure 1) rapidly and circularly. When the back green indicators of the aircraft are flashing rapidly, it means the aircraft enters the compass calibration status.
- Rotate the aircraft for 3-5 circles in any direction horizontally (as Figure 2). When the frequency of the green indicators are flashing for 1 second, rotate the nose and tail of the aircraft for 90° in axis direction to make the nose of the aircraft pointing the ground.
- Rotate 3-5 circles in any direction taking the nose and tail as the axis (as Figure 3). When the front-bottom and back-bottom indicators of the aircraft are flashing, it means the decoding is successful.
- We suggest you to reconnect the power of the aircraft for flying after the calibration.



AS FIGURE 1



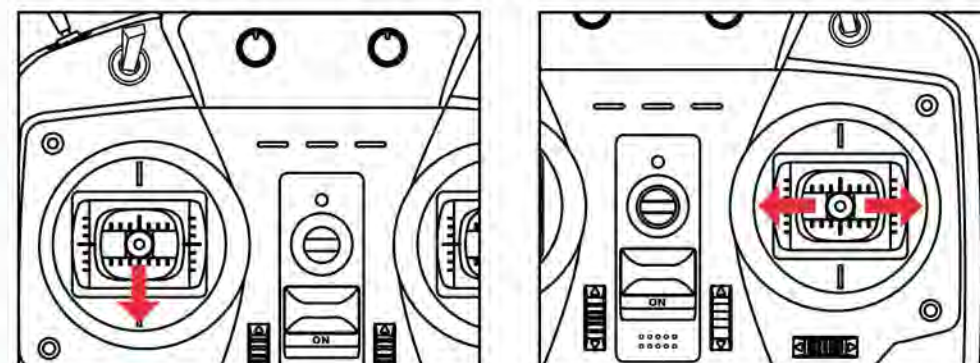
AS FIGURE 2

AS FIGURE 3

Calibration of Aircraft Gyro

- After the successful decoding of the aircraft and the transmitter, push the throttle to the bottom and put the SWA/SWB/SWC switches on "0".
- Stir the left/right sideward fly stick rapidly and horizontally. After the front-bottom and back-bottom LED indicators of the aircraft are flashing rapidly, the decoding is successful.
- After calibration, we suggest you to reconnect the power for flying.

Note: Please place the aircraft on the level ground when calibrating the gyro and decoding.



Place the aircraft on the level ground.

Note: When the front-bottom red indicators of the aircraft don't light and the back-bottom green indicators are lighting constantly, it must calibrate the gyro, otherwise, the aircraft can't be unlocking.

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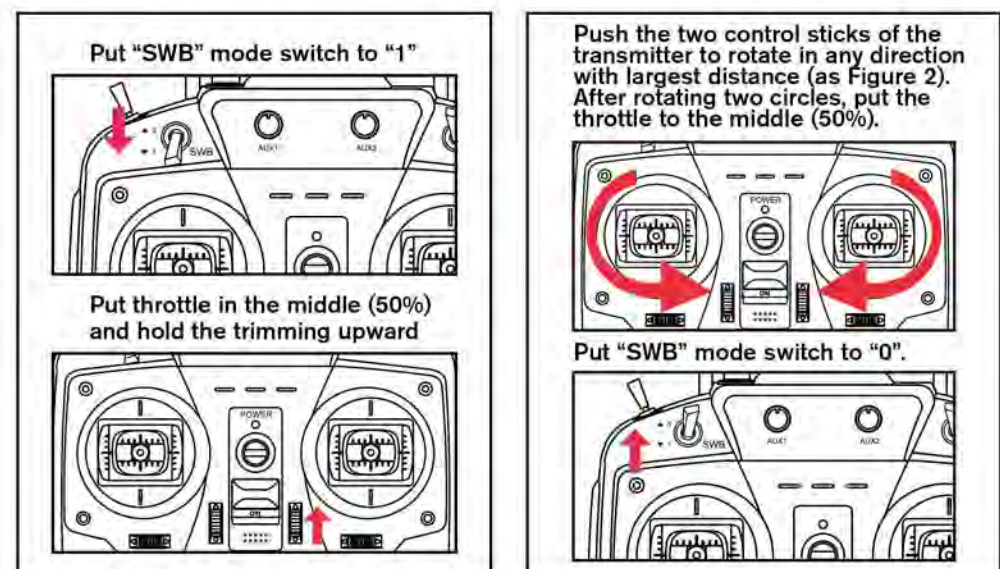
11

Transmitter Calibration

(It has been calibrated before delivery and the non-professional persons don't use it)

Preparation before Calibration

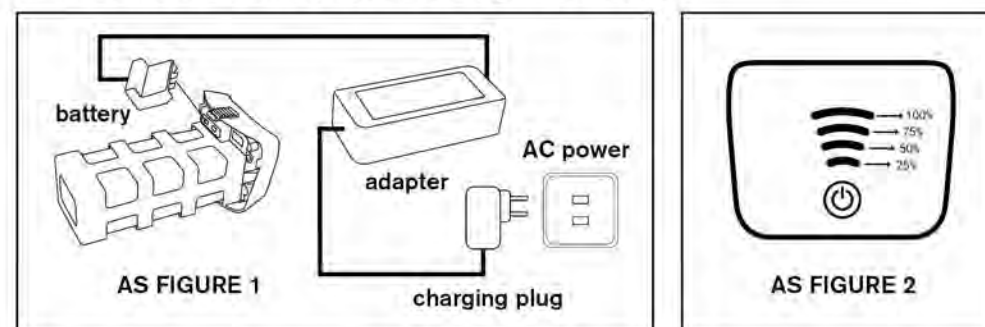
- Put the transmitter mode "SWA, SWB, SWC" to "0" and the trimming in middle.
- Put the SWB to "1", SWA and SWC to "0", push up the forward/backward trimming and turn on the power switch at the same time. When three indicators on the transmitter are all lighting, it enters the calibration mode.
- Rotate the throttle stick and forward/backward stick 2-3 circles in largest distance and then place in the middle.
- Rotate "AUX 1 and AUX2" in left and right largest distance and aim the marking on the knob at "0".
- Put "SWB" to "0" when finishing the above operations and the calibration is finished.



Battery Charging Way and Attentions

Battery Charging Way

- Insert one port of the adapter to the battery (as Figure shown) and then insert the other port of adapter to AC power.
- The indicator on the battery will flash when charging and it shows the current battery power (as Figure shown).



Attentions for Battery Usage

- This product can only use 11.1V 3S battery.
- It is forbidden to charge the battery for a long time.
- We suggest you to discharge 40%-50% of the battery and store it in the battery box when you don't use it for a long time. It is better to recharge and discharge once to keep the activity about every 3 months.
- We suggest you to change the battery after charging it more than 300 times. Please discharge the battery to end and abandon for the ones out of service.
- Do not use the battery if it is swelling, damaged etc., otherwise, it will cause fire, explosion etc. We suggest you to change battery.
- Do not use any ways to charge the battery if it is swelling or damaged.
- Please pay attention to the charging process to avoid accidents. Please place the battery and charger on the cement ground without inflammable and burnable goods around when charging.

Goods List in Box

Aircraft	Transmitter	Landing Skid
Charger	Propellers (4PCS)	One Screwdriver
Battery of Monitor		(M1.5 M2.0 screw-head of one and across)
(Optional)		
Battery	Charger	Screws
		M3X9(3PCS) M2.5X10(10PCS) PM6X10(1PCS)
Propeller Fender Bracket	Wrench	CD of Manual
(Optional)		
Antenna Rubber Plug	Pad (2PCS)	belt
(4PCS)	Φ6. 5X12X0. 5	

Common Problems and Solutions

Common Problems	Solutions
Circling in Point Hold	Bad GPS signal. Change to more spacious flying place or calibrate the compass.
Motor can't work	SWA mode switch didn't place in "0". The voltage is too low and it needs to change the battery.
Aircraft can't rise	Make sure the propellers are installed correctly, and if they are installed reversely, reinstall them in correct direction.
Inaccurate return	Bad GPS signal. Change to more spacious flying place or calibrate the compass.
Aircraft can't hover	Turn on and do unlocking again, wait for several seconds after turning on and move the aircraft when the red/green indicators are flashing.
Can't do unlocking	Decoding interval is too long and SWA mode switch didn't place in "0". Decode again or calibrate the gyro.
Can't follow	Bad GPS signal. Mode switch didn't place correctly and please do according to the manual.

Guangdong Cheerson Hobby Technology Co., Ltd.

Product Name:UF0

Model No: CX-22

CE0890

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

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.