INSTRUCTION



Thank you for your purchase of this product. Please read the Operation Instruction carefully and conduct operation and usage according to the Operation Instruction. Please keep this User Manual for your reference when conducting daily maintenance and adjustment.

Safety instructions

- 1. Please keep the parts of drone out of the reach of children.
- This drone is very powerful. When using it for the first time, you should push the left control lever slowly to prevent the drone from rising too fast and causing unnecessary collisions and injuries.
- When a flight is ended, please turn off the power switch of remote control first and turn off the power switch of the drone then.
- 4. Do not place the drone battery in high temperature condition or near flammable or explosive materials.
- 5. Please keep the drone at a distance of 4.5 meters from humans and animals to ensure safety and prevent injury.
- This drone is suitable for people aged 14 and over, and it should be within the sight of the operator's (coach) to ensure safe flight.
- Do not charge the battery of remote control if the battery is a non-rechargeable battery. The drone must be used with the original batteries.
- 8. If the drone will not be used for a long time, please take the batteries out of the remote control unit.
- 9. Do not cause a short circuit during the charging.
- If you do not use the drone for more than 10 days, please discharge the battery of drone to 40-50 % (flight for a certain time). In this way, the life of battery will be extended greatly.
- 11. Please keep a safe distance from the rotating propeller to prevent injury.
- 12. All operators should abide by the electromagnetic environment regulations of China on the aeronautical radio (station), which remote control radios are prohibited from being used within 500 meters of the airport pavement, they are also required to comply with the certificate and broadcasting regulations made by the relevant regulatory authorities, including flight time and area.
- 13. Please assemble the drone under the supervision of an adult.
- Operators are responsible for their safe flight and safe distance. Do not hover and fly over the crowd (more than 12 people).

Common matters needing attention

- When searching satellites and positioning, the more the satellites, the higher the precision, the returning error is usually within 1 meter radius.
- In the return mode, the drone can only land by "one-click landing". If you want to control the drone, please cancel the return mode.
- 3. When the image transmission signal is poor, the photographing and video recording functions will be invalid.
- 4. The image transmission signal is related to the flight environment. The area with large flow of people and many buildings will have strong interference. Communication towers, network base stations, WIFI transmitters and monitors are all sources of interference. Please avoid the environments above.
- 5. The image transmission effect is also related to your phone configuration and memory. When using this product for image transmission, please close other background software to make the image transmission effect better.

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Items list

Please check the items in package before you start.		\checkmark
Drone:	1	\checkmark
Protective ring:	4	\odot
Screws on protective ring:	8	T
Propeller blade :	2 type A propeller blades and 2 type B propeller blades	∞
Remote control:	1	
USB cable:	1	12 <u>7_</u>]
Screwdriver:	1	
Product Manual:	1	

Drone

Description of drone

This drove has good controllability and stability. Beakeds supporting orthmapy flight, it also has many other functions, such as CPS outdoor fitter Optic, real-time image transmission, information transmission, mobile phone control, photographing and video recording genute recognition, surround flight, track flight, follow flight, On-eickk return, head-fee flight mode, etc., it is also with many safety mesares such as propeller blade stuck protection, to buttry alarm, automatic low hattery return, height and flight fore territerious flight.

Battery charging steps

Lithium battery is used in this product, which has charging and discharging functions with a battery voltage of 7.4V. The battery must be charged with a factory-provided charging cable.

A Please charge fully the battery when the battery is used for the first time

Connect the hattery of this product to the USB charging cable and connect the USB charging cable to the computor or adapter of narm phone (sey, 1, 172A). When the USB charging cable is powered on, its indicating light is neighbor of narm phone (sey, 1, 172A). When the USB charging cable is powered on, its indicating light is neighbor of the structure of the



Installation and replacement of propeller blades

The propeller blades used in this product include model A and B propeller blades; please use the spare parts in the bag of spare parts for replacement if they are damaged.

 When the propeller blades of the drone are installed for the first time, you should distinguish the model of propeller blades carefully.



(2)You can refer to the Figure 3 and use the equipped screwdriver to unscrew the blade that needs to be replaced, remove the original propeller blade and press the new propeller blade on the shaft vertically, and re-lock the screw.



(3)Please check if the model of blade of the drone is consistent with the figure and install the propeller blades c orrectly referring to the Figure 4, otherwise the drone will not be able to fly normally.

Installation of protective ring

- (1)You should be sure to install the protection ring before using this product. The protection ring is used to improve the anti-collision performance and reduce the damage of this product when colliding with other objects.
- (2)The protection ring should be installed in the position as shown in the figure, then, you can lock the special screws put in the accessory kit, and make sure that the screws are locked to prevent the protection ring from being hit by the blacks or falling off during flight.





Instructions on remote control function keys



1	Power switch	When the power switch is pushed to the right, the remote control light will be on. When the power switch is pushed to the left, the remote control light will be off.
2	Left control lever (upward and downward, rotation leftward and rightward)	If you pitch the control lever upward, the drone will accord vertically: If you pitch the control lever dromstart, the drone will rotate lever to a second lever leftward, the drone will rotate continendochrotice. If you push the control lever rightward, the drone will rotate clockwise:
3	Right control lever (level flight)	If you push the control lever appoint, the drone will be level flight forward, If you put the control lever downward, the drone will be level flight backward, If you push the control lever influence, the drone will be level flight fright and the right control lever rightward, the drone will be level flight if you more the right control lever to a certain angle, the drone will more to the angel accordingly.
4	Speed gear shifting	Changing speed gear



5	Photographing and video recording	Short press to take photos, long press to start or end the recording.
6	One-click return	Return to the start position
7	One-click stop	Emergency stop or emergency fall.
8	One-click flight	If the drone is in a static state, you can press this key and the drone will take off in site.
9	One-click landing	If the drone is in a flight state, you can press this button and the drone will land in site.
10	Head-free flight mode	Please refer to the head-free flight mode introduction on page 11.
11	Altitude hold mode	In the default GPS mode, press this button to writch to the normal altitude hold mode (or indoor mode, GPS will be tunned off), then press this batton again to switch back to the outdoor fixed point mode and turn on GPS System.
12	Level calibration and head-free flight direction	Level calibration and head-free flight mode direction (see page 9)
13	Calibration of compass	See page 8 for the calibration of compass

Installation of battery of remote control

Open and remove the battery cover, put into three AA batteries in correct polarity (batteries installation directions are shown in pictures below), close the battery cover and screw on it.





Preparing for flight

Please perform flight training before flight (operator should be guided by a professional person, etc.)

Flight environment requirements

- (1)You should choose a wide open space with no high buildings around as the flight site. Otherwise, the GPS function will not work properly, which may result in the drone failing to meet the take-off standard, achieve spot hover, and return properly.
- (2)Do not use this product in bad weather, such as strong wind (wind speed is Beaufort force 5 or above), heavy snow, rain or fog days.
- (3)Please stay away from obstacles, crowds, high voltage power lines, trees, water, etc. when flying
- (4)Do not fly in the place where there is complicated electromagnetic environment (for example, the place where there is communication base station, or with signal transmission tower, high-voltage power station, etc.) to prevent that the remove control signal is disturbed.
- (5)Do not fly in the area where it is not allowed to fly by relevant laws or regulations.
- (6)Do not use this product in airports, stations and their surroundings



Preflight inspection

Please inspect the following items before flying:

(1)Whether the drone and remote control are with sufficient battery power.

(2)Whether the propeller blades are installed correctly, and there is no damage.

(3)Whether propeller blades can ran normally after startup.

(4)Whether the gyroscope, barometer, and compass have been detected successfully.

- (5)Whether the drone has been connected to the related software on mobile phone successfully, whether images and information have been transmitted back.
- (6)Whether the drone has completed the satellite search and position, whether it meets the take-off condition.

(7)Whether the surrounding environment meets the flight requirements

Turn on powers

Turn on powers of drone and remote control power separately as shown in the figure





Drone Switch Diagram

remote control swich diagram



Frequency matching between remote control and drone

(1)Place the drone on the level ground.

(2)Turn on drone switch first, and then turn on remote control switch. (3)Push the left lever of remote control to the top and then pull it to the bottom as shown in the figure. If the remote control makes two beeps, the frequency match is success.

The frequency match is not successful if the waiting time is too long, you

should turn off the drone and remote control powers and repeat the steps abov

If this product is used for the first time, you should conduct a compass calibration after the frequency match step is completed.

Calibration of compass

Press the No.13 key on remote control, when the front indicator light on the drone is flashing quickly and the rear indicator light is gone out, the drone is in the calibration state.

① Firstly, perform a horizontal direction calibration: as shown in Figure ①, take the drone horizontally, straighten your arm, try hard to keep it parallel with the ground, and slowly rotate the drone clockwise with your body as the center and your arm ars radius/both clockwise and counterclockwise are OK, but it should be fixed);

Until the front indicator light (blue light) on the drone changes to a continuous light and the rear indicator light (red light) begins to blink at the same time.

Secondly, perform a vertical direction calibration: as shown in Figure (2), take the drone vertically, straighten your arm, try hard to keep it vertical with the ground, and slowly rotate the drone checkwise with your body and the cartler and your arm as radiu/both checkwise and countercheckwise are OK, but it should be fixed). Unlit her var indicator light (red light) on the drone changes to a continuous light, which represents the completion of the calibration of compass.



Note:

When you use this product for the first time, please be sure to do this carefully. This operation is important and related to whether the drone can fly in the correct direction and return successfully.

(2)This product has built-in an intelligent sensing device, which can calibrate the compass automatically after the first calibration. When the magnetic field changes or there is magnetic interference around, the drone give you a message -"recalibrating the compass" or "compass is disturbed" through the APP. In this case, you should be sure to

recautorate the compass of the drohe as described above and ensure the calibration is successful. (3) If the drohe is not continuous flight in the same place and is put in a place for more than 4 hours, we would advise you to perform a scalabetion argin again the drohe dogen? I termind you to colliserate the compase

(The drane needs to secondify) complete this operation before it begins to search satelline. If the drane cannot search satellines for a long time (more than 60 seconds), your should pay attention to whether the APP gives you measy—" recalibrating the compass" or "the compass is disturbed". (If you receive the message, please follow the steps above to recalibrate the compass and ensure the calibration is successful. If the APP does not remind you, you can repeat this operation to try again.





Calibration of compass and head-free flight direction 🗘

Press the No.12 key on remote control, when the four indicator lights on the drone flash quickly on the same time and then return to flash slowly or light on state, it means that the operation is completed. Note:

IPlease put the drone on the level ground or flat surface to operate, this step will be a key to the normal flight of drone, if the calibration of gyroscopes is not on level ground or flat surface, the drone may deviate toward a certain direction after took off, sometimes, and it may damage the drone motor.

2 It is recommended to repeat this step before starting the flight.

③It may cause gyroscope fail if the drone is collided or dropped seriously, which will affect the flight; please calibrate the gyroscope again in that case.

@Refer to ""headless flight mode" on page 11 of this manual for the meaning of calibrating the headless flight direction.

Search satellites and position

After completing the above steps, you still have to wait for the drone to complete the statilite positioning. When the foor indicator highs to the drone have changed from flathing to continuous light, it indicates that the drone has completed satellite positioning, the APP will remind you to "start operation", now you can conduct the next step to start up the motor and Br.

Note:

(The speed of searching statilies and positioning depends on environmental disturbances and weather conditions. If there are obstructions (including people) in the surrounding area, or the weather is cloudy or foggy, the speed of statilies searching will be far longer than the normal line, and the effects of positioning and returning of the drose will be poor. It is highly recommended that you do not take off in such an environment. Please refer to page 7 of this manual for the correct throng environment.

(2)The normal time for surching satellites: In the case of cold start (more than 1 hour from the last flight), the time for surching satellites and positioning is from 40 to 90 scendon, usually it is white 60 scendos farte the drone is started in the case of varm start (within 1 hour from the last flight), the time for searching satellites and positioning is from 10 to 40 scendos, usually it is within 30 scendos farte the drone is started.







1m(the distance between the man and the aircraft)



2.5m(the distance between the man and the aircraft)



Basic operation

Remote control	Drone	Control mode
	Startup R	Startup of drone motor Operate the remote control lever as shown in the figure, and keep if for 1-2 seconds to start the motor. After the motor starts, release levers and push the left and right levers to start flight.
	Sector Sector	Shutdown of drone motor After drone lands to ground or other expected position, repeat the operation above for 1-2 seconds, the motor will be shut down, the drone will have no reaction if you push the drone throttle lever at this time. The motor should be re-started if you want to operate it.
	Ascent	The drone will raise vertically if the left lever is pushed up, and the drone will descend vertically if the left lever is pulled down.
	Clockwise rotation	If you push the control lever rightward, the drone will rotate clockwise; If you push the control lever leftward, the drone will rotate counterclockwise.
	Go forward	If you push the right control lever upward, the Mini Drone will be level flight forward; if you push the right control lever downward, the Mini Drone will be level flight backward;
	Leftward Rightward	The drone will be level flight rightwards if the control lever moves rightwards, the drone will be level flight leftwards if the control lever moves leftwards.



Advanced flight function

Speed gear adjustment

12

Press the No.4 key on the remote control unit to change the speed of drone. When the drone is switched into low speed gear, the remote control unit will make a beep sound, when the drone is switched into high speed gear, the remote control unit will make two beeps.

The speed gear will be kept in low speed gear automatically after the drone or battery power of remote control unit is shut down and restarts again.

Photographing and video recording (

Short press the No.5 key on remote control unit, the remote control unit will make a short beep and then begin to take pictures: long press the No.5 key on remote control unit, the remote control unit will make a long beep and then begin to record a vdeo, long press again to terminate the recording. The camera and vdeo documents that are recorded will be saved in the mobile that is connected with drone, you can read them directly in the control software.

Note:

This feature is only available when the phone is connected. Whether files can be automatically saved in the phone album depends on your phone brand and system version.

One-click return

Each time, when the drone takes off, the Global Position System of the drone will automatically remember the takeoff point. When you press the No. 6 key on the remote control unit in the flight, the remote control unit will make continuously beeps, and the drone will automatically return to the takeoff point. If you press this key again when the drone is on the way back, the drone will automatically freturn to the takeoff point. If you press this key again when the

Note:

()The logic of the drone returning is to rise vertically to the set height first and then return straight to the takeoff point. @Based on the actual flight environment, you should set a reasonable return height in the APP, the return height should be higher than the obstacle height on the return flight.

@Because that the drone does not have the function of obtacke avoidance, you should pay attention to the trajectory of the drone during the terum flight and a pools: whether there are obtacke to bindure the drone from teruming. If yes, please cancel the return flight main advance and manually adjust drone to the return flight main so obtacks. Of Phre terum point usually within 2 meters of the take-of point. You should not put the take-of point on the wall of the building roof or its nearby area, or place it close to the watter surface; otherwise, the drone may fail into the watter or floor.

One-click stop (please use it cautiously)

In case of emergency, you can press and held the No. 7 key on remote control unit; the drone will turn off its motor and drop after receiving the instruction. Please use this function cautiously; it may cause the drome to crists, to be lost, and to injury the humans, animals and objects below. The bad consequences should be borne by the operator.

(11)

Head-free flight mode

Head-free flight calibration moder run "head-free flight calibration mode" with remote control after the frequency match between doors and remote control is completed, the front of drone (camera direction) is the direction of forward motion by default, the kelor of drone is the direction of schoored motion by default, the left of drone is the direction of orkaloward motion by default, and the right of drone is the direction of rightward level flight by default.



Start head free flight mode; press the key 7 on remote control as shown in Figure 1, the four indicator lights on drone will turn in to fash start from normally-on starts, it means that the drone is in head-fee flight mode; press the key again, the four indicator lights will return to normally-on state, it means that the drone has earled head-free flight mode. Alter the start of head-fee flight mode, the drone will fly touch four dfort dfore flight and not start in which direction the drone is facing, and the drone will fly backward if operators pull the right control lever backward, it is the same in other direction.

For example: after the frequency match between drone and remote control is completed, the drone is oriented as shown in the figure, if it is in head-free flight calibration mode,



When the drone are in the following states, the head free flight mode can be used,

As shown in Figure 1, push the right lever on the remote control up, the done will move in the direction of arrow. As shown in Figure 2, push the right lever on the remote control down, the drone will move in the direction of arrow. As shown in Figure 4, push the right lever on the remote control lebrards, the drone will move in the direction of arrow. As shown in Figure 4, push the right lever on the remote control lebrards, the drone will move in the direction of arrow. Note: this function, can help movie users to control the drone returning to the original place if they cannot distinguish directions of drones.





Altitude hold mode (indoor mode, please use it cautiously)

You can press and hold No.11 key on the remote control until the remote control makes a long beep to turn off the GPS, the drone lights will begin to flash slowly,

after the drone takes off, the front indicator light (white light) on the drone will be always on, and the rear indicator light (red light) will flash. The drone can take of without completing the statilities searching and positioning (or indoor environment). Press the key again, the remote control will make a short beep and turn on the GPS again. Note:

Off you turn off the GPS in indoor environment, the drone can take off, but it is easy to be disturbed by indoor radio signals, which may cause the drone to lose control and hit indoor persons or articles. Please use this function cautiously.

When the outdoor wind is strong, it is not recommended to open the altitude hold mode, which will cause the wind resistance ability of the drone dropping, the drone can be blown away by the wind.

③Do not use altitude hold model in the air to conduct statellite positioning, the return point will be on the ground below the position vertically, which may cause the drone to migudge the return point. If you want to switch back GPS model from the altitude hold mode, please take back the drone and place it on the ground, then return the GPS (pres No. 11 key again and the remote control will make a prompt tone). Start motor after the satellites searching is successful.

Safety Measures

1.Signal loss protection

Signal loss protection means that the drone will automatically return to the takeoff point if it has successfully searched satellites and positioned before taking off, and kept the GPS turning on after losing the remote control signal.

Drone will run Off Signal Sale Mode in following cases:

Disconnect mobile's wifi, exit related software, power off, etc. if the drone is controlled by a phon

(3) emote control signal or mobile phone signal is interfered by other electromagnetic wave.

Drone is beyond the effective distance of remote control signal or mobile phone wifi signal due to wind or inertia reason.

③There is an obstruction between the drone and the remote control unit or mobile phone to affect the signal transmission.

2.Low power protection

Low battery protection means that the donce has a smart power calculation system, which can calculate the flight interbased on the flight seed and remaining power, when the remaining power is nearly protection value, the dronewill automatically return to be safe range, when the remaining power is nearly exhausted, the drone will automatically return to the takeforg origin and force to land. When the drone was proved in some the flight will flash simultaneously. It is recommended that you purchase more space batteries and charge the batteries boffer using the orasine sufficient power.

The remote control lunit also has the low battery protection function. When the remote control unit is with the low battery protection mode, it will continuously make beeps to remind. At this time, you should take back the drone and replace the remote control batteries.

3.Emergency stop

When the drone is out of control or in an emergency: winding with branches, where, hair, etc., or when the blacks this not black, the drone well automatished] ereft the emergency stop mode. In the event of other emergency situations, the higher than level 5 or strong gust, the drone well also enter this mode. In the event of other emergency situations, the drone motor than both be shull chown, you should refer the none-click its principation from the notior.

Note:

In this mode, the drone will fall from the air, it may be destroyed and hurt people and animals below, so please ensure that the flight environment and operation methods meet the safety conditions. You can use the "one-click landing" function as appropriate.



Control with a mobile phone

Note: Before you open the APP, you need to know that when the remote control is first matched with the drone, the remote control has priority over the mobile phone. When the remote control is turned off or powered off during the flight, you can activate your mobile phone to take over the drone through the unlock key as long as your mobile phone is connected with

You can also use the mobile phone to control the drone without using the remote control. After completed the operations such as "calibration of compass" and "searching satellites and positioning" based on the prompts of APP and the drone indicators, you can start the drone through the unlock key and operate the drone with control lever in App, in this mode, you cannot use the APP to achieve some of the remote control's functions (such as speed switching, headless flight mode, etc.), and cannot use the remote control to take over the drone during the operation. We strongly recommend that novices do not use this mode to fly to avoid the miss, impact or damage of drone due to unskilled use.

Downloading APP





Connected drone with mobile phone







Entering the software

past, accumulated flight time and distance; you also can take

Click on "Folder" to check the photos and images you have

<	Flight	59	







Basic keys and information description



Functions of Kevs:

(1)Parameter setting: Set and limit the parameters for the horizontal distance, height distance and return height of the drone;

OF DRONE TRANSMISSION

(5)One-click take-off: When the drone is in idle mode, click this key to perform the "vertical take-off" function; (6)One-click landing: During the hovering or flight of the drone, click this key to perform the "vertical landing" function:

Message meanings:

(19)WIFI signal: the signal for transmission images. When the signal is weak, the image transmission effect will be affected:



Parameter setting

Refore takeoff each time, set the flight parameters in this menu, including the farthest flight distance, the farthest flight height, the lowest return height, and click save key. The drone will fly and return in the limited three-dimensional area. If the parameters are not set, the system will use the last saved data.

Novice mode

Novices are recommended to operate the drone under the Novice mode and in an open environment outdoor (with a horizontal radius of 40 meters, height radius of 30 meters and there is no any obstacles). Novices can practice the drone repeatedly under the novice mode to know well the basic operations of remote control functions.

Reversal of lens

Press this key to reverse the screen shots

Viewing angle of VR

When you purchase a package that includes VR glasses, or, you have gotten VR glasses, you can watch 3D aerial photography in the VR mode with this key.

Advanced Function

Mobile following up

X

If the distance is close, you can click this key to open the mobile following up mode, the drone will take the current distance from your mobile phone to you as a face distance, and move following your mobile phone. When using this function, you are suggested to keep the horizontal distance within a range of no more than 20 meters and the vertical distance within a range of no more than 10 meters between the drone and your mobile phone.



Fixed-point following up

*

If the outdoor light is adequate, the drone can be moved to a range of 3-10 meters from human body, click this key to spon the fixed-point following up mode and frame human body to be followed. The drone will by taking current soint as the center, using visual sensing function to perform a fixed point following up based on the movement of uman body.



Flight among waypoints



In the open air, clicking this key will switch into a map interface. The red dot is the location of the phone, the blue dot is the location of the drone, and the red arrow is the front of the drone, within a radius of 300 meters (coverage of circle), click on the location on the map to set waypoints (max.16) and click the key "Send", the drone will fly along the set waypoints and paths.



Note:

O In emap scale can be cancel through mix key in the interface, and the map
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Full screen display



scale can be edited through the key in the interface, and the



MV recording





Gesture recognition





