X251

WHIRL WIND

2.4G 3D6G BRUSHLESS QUADCOPTER

INSTRUCTION MANUAL

COMPATIBLE WITH FUTABA S-FHSS SYSTEM

www.xk-innovations.com

CATALOGUE

PACKING DETAILS

No.	Spare Parts Name	No.	Spare Parts Name
1	Gift box	7	Charger
2	Inner box	8	Power Adaptor
3	Manual	9	Spare parts parcel
4	Body	10	1.5mm wrench
5	TX	11	screwdriver
6	Lipo battery		

NOTICE

XK company has the rights to change related files of this product. Updating info, please visit our website,http://www.xk-innovations.com

WARNING

Pls read this manual firstly before operation. Wrong operation might cause problems for products or your safety. This is a very complex aero model, not a toy. Not only needs careful operation, but also needs very good flying experience. Children is forbidden to operate this product. This manual includes safety, operation, and maintenance. Pls read this manual carefully before operation. To avoid any damage, pls follow this manual strictly.

SAFETY PRECAUTIONS

1.Age: it is not suitable for younger than 14, it is not a toy.
2.Space: always operate it in a very open space, and far away from vehicle and person.
3.Pls strictly follow the operation manual and select the supported device.
4.All the chemicals, small parts and electric device should be away from children.
5.Be away from water and water steam.
6.Pls don't put any parts into mouth, which might cause severe injury and even death.
7.Pls don't operate it under low voltage battery status.

SUMMARY

With patent appearance, compatible with FUTABA S-FHSS, brushless motor and ESC, this is a very classic racing quadcopter. Perfect combile with 3D and 6G mode, makes it has normal quadcopter stabilization and 3D flexibility. 6G gesture mode, is very suitable for beginner. 3D mode, is very flexible for pilots.

PRODUCT PARAMETERS

Wheel base: 250mm	Blade Diameter: 130mm
Product Height: 83mm	Flying time: 10-12 minutes
Brushless motor: 1307 3000KV	Flying weight:199g
Battery: 7.4V 950mah 25C	

BATTERY USAGE

There is a charger inside the box, which can charge the lipo battery safely.

Cautions:

Pls comply with all the notice and warning. Wrong operation will cause,

1.Resulting in a fire.

2.All the risk of battery is at your side.

3.Pls stop to use expansion battery.

4.Store the battery in dry and normal temperature conditions.

5.Pls store the battery during temperature 10F-120 F. Don't put it into the quadcopter and under direct solar radiation.

6.Don't use other charger, especially for Ni-Cb or Ni-mh charger, to charge our lipo battery, otherwise it will result in a fire.

7.Do operate when low voltage.

8.When lower than 6.6V, lipo battery might be damaged and can't be charged; Pls change battery immediately when it is lower than 7V.

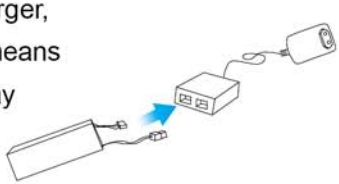
Warning:

Pls charge the lipo battery using our original charger, otherwise it would cause fire.

LIPO BATTERY CHARING

1.Connect power adaptor with charger; connect the power adaptor with the power supply. Then LED is light on the power adaptor , means power on.

2.Insert the lipo battery into 2S slot on the charger, Red LED turns from flashing to always on, means charging successfully. The voltage will display continually on the charger LCD.



CAUTIONS BEFORE FLYING

1.Make sure full power of TX and Lipo battery.

2.Make sure Throttle stick at the bottom, TH.Hold button and 3D button on the back, before power on the TX.

3.Make sure binding successfully for TX and quadcopter. Pls re binding if have problems.

4. Open TX firstly, then connect the battery with RX to bind. Power off, pls remove lipo battery firstly, then turn off the TX.

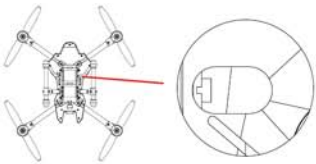
5.Find a open space, away from person, car, tower, pool etc., to start flying.

TX AND RX BINDING

Original from factory is already successfully binding. If you need recoding, pls do as following.

1.First open the remote control and make sure that the direction of the throttle rocker in the lowermost position.

Throttle



Bind button

3.Power on the quadcopter firstly, then the red and yellow LED on the quadcopter will flash fast. Press RX binding button for 1s, then the indicators will be off to enter binding status.

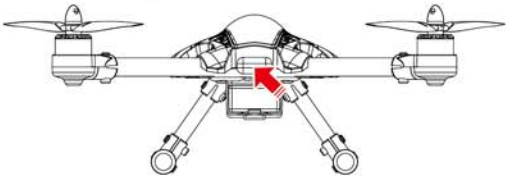
4.LED indicators on the RX are always on, then binding finish. Specail notice: Green LED always on is 6G mode; Red Led always on is 3D mode.

Cautions:

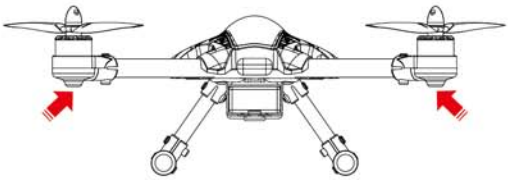
When throttle button is not at the bottom, T.H HOLD button and 3D button is on, TX will send “didi” sound, TX and RX can not bind.

LED INDICATORS

1. Normal state for 6G mode	Tail green LED always on	
2. Normal state for 3D mode	Tail red LED always on	
3. Low voltage of lipo battery	Red LED slow flash	
4. RX lose signal/no signal	Tail yellow LED flash/always on	
5. Binding	Tail indicators is off firstly, then Green LED always on is 6G mode, Red LED always on is 3D mode	



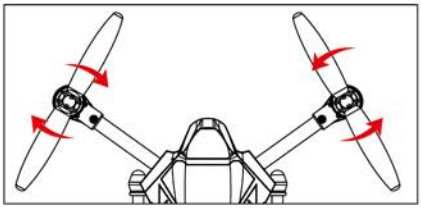
1.Gyro calibration	Foursquare navigation LED change from fast flash to always on, means calibration finish	
2.6G hovering setting	Foursquare navigation LED change from slow flash to always on, means calibration finish	



PROPELLER INSTALLATION

1.Take off the hoop, put on the propeller, fix the propeller by hoop.

2.Use hand or wrench to fix motor, then insert the 1.5mm round rod into the hole of hoop, rotate the rod tighten or loosen the hoop.



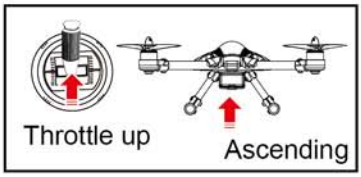
Notice:

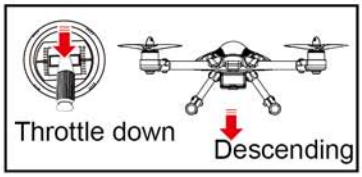
The arrows on the propeller should be the same as the motor arrows, otherwise, it can not fly.

ESC DIAGRAM

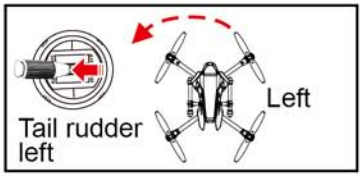
If you are not familiar this product, pls take a little time to study before flying.

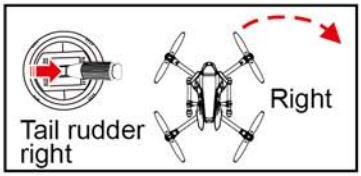
Throttle



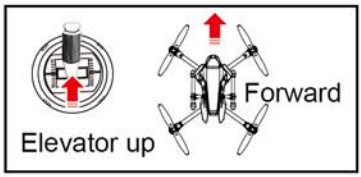


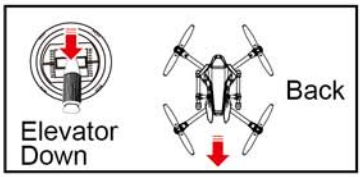
Direction



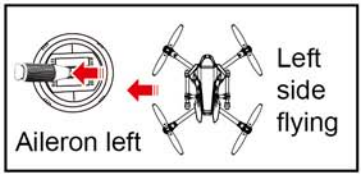


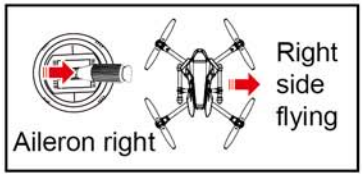
Elevator



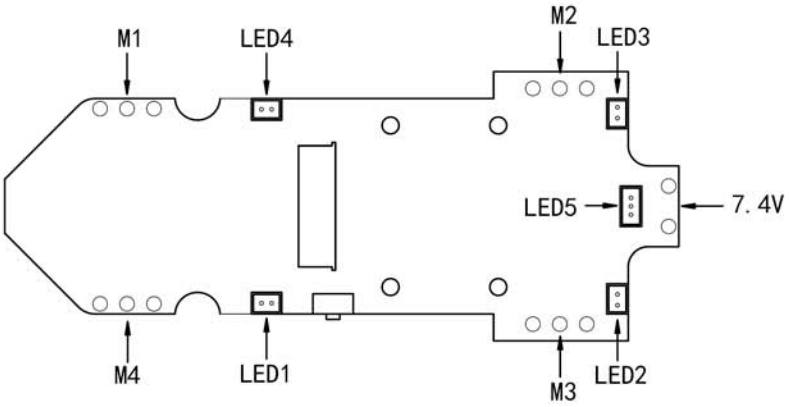


Aileron



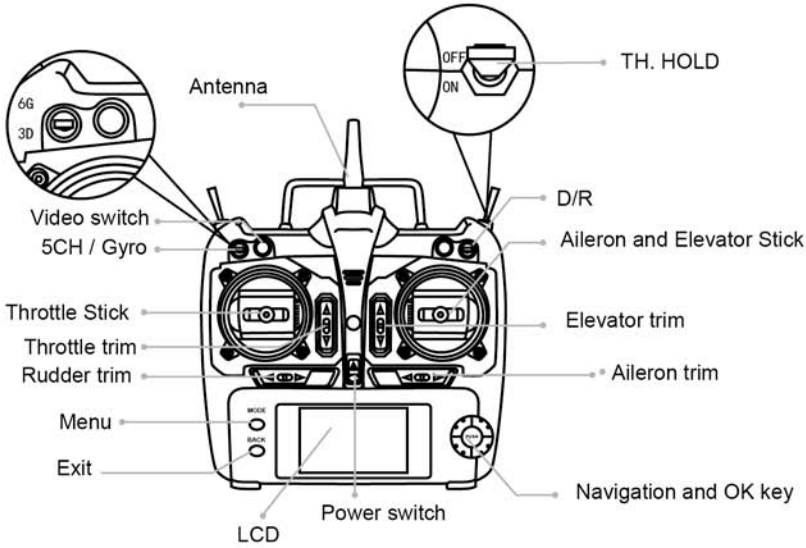


RX INTERFACE DIAGRAM

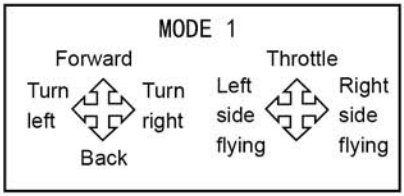


TX FUNCTIONS INSTRUCTION

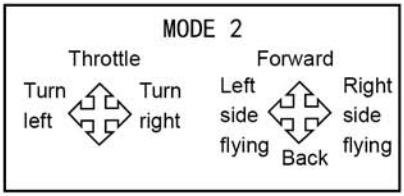
1.TX functions instruction



MODE 1



MODE 2



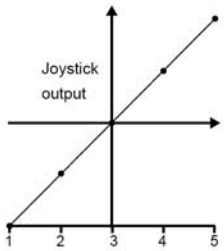
Note:

When throttle button is not at the bottom, T.H HOLD button and 3D button is on, TX will send “didi” sound, TX and RX can not bind. Pls make sure 1 2 3 button at the arrow position, before open TX.

THROTTLE CURVE AND PITCH CURVE SETTING REFERENCE TABLE

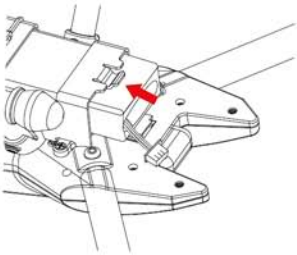
	Position	Normal mode
Throttle curve	1	0
	2	25
	3	35
	4	55
	5	75

Normal mode:

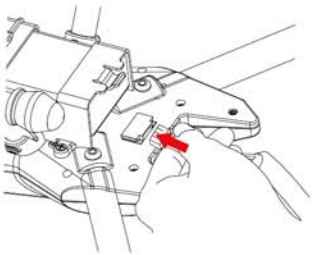


It is only for your reference. You can set it as your requirement.

BATTERY INSTALLATION



1.Enclose battery into the fuselage.



2.Connect battery connector with receiver.

6G HOVERING SETTING

6G hovering is perfect before leaving the factory. If something wrong, please reset it as following,

1.Open TX, to make sure 6G button “ON”.

2.Power on quadcopter to wait till gyro self-inspection finish, then pull throttle stick and elevator stick at the bottom position at the same time for 3 seconds. You will find foursquare navigation LED flash.

3.Then push throttle stick to fly, to make it hover by two joysticks. When hovering, land the quadcopter slowly.

4.Pull throttle stick and elevator stick at the bottom position at the same time for 3 seconds, to save hovering data. You can enjoy hovering fly after foursquare navigation LED always on.

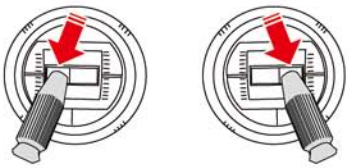
GYRO CALIBRATION

Temperature change and accumulated error of Gyro can result in yawing of quadcopter. Calibrating gyro is good for stable flying.

1)Make sure 6G button “ON”, throttle stick at the bottom. Then open TX and install Lipo battery, Gyro self detection finished when RX indicator long light.

2)Pull the two sticks as the diagram for 3-4 seconds, then foursquare navigation LED will fast flash.

3)Loose two sticks, wait till foursquare navigation LED always on. Then gyro calibration finish.



3D ROLLING MODE

During stable flying, turn on big rudder and 3D switch, the tail LED will turns red to get into 3D rolling mode. Under this mode, operating different directions can let the aircraft roll to corresponding orientation.

Warning:

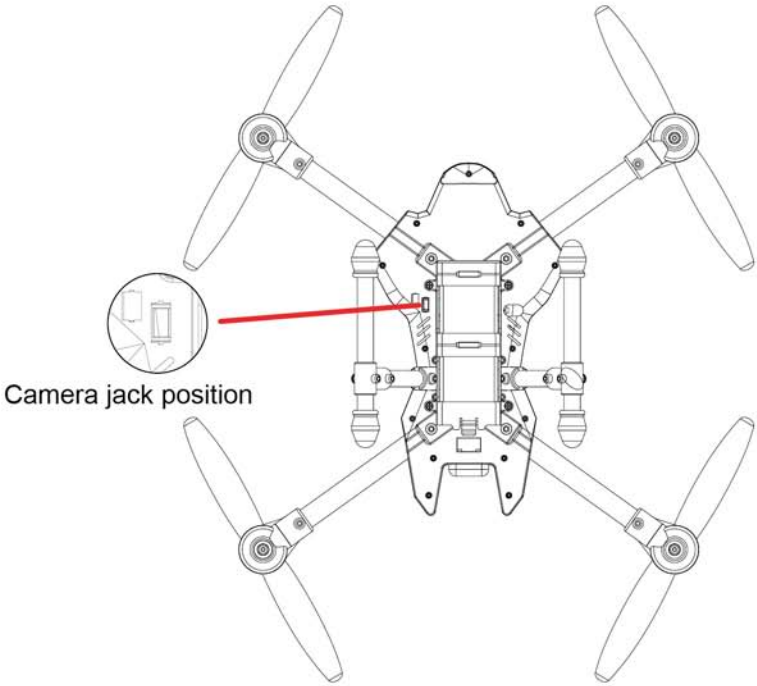
Perfect rolling action need the throttle to cooperate.

The aircraft need highly increased 2-3 meters before roll , the rolling rocker play to the maximum limits, throttle down to 40% - 50% in the same time. After aircraft roll 360° and back close to the level, loose the rocker and repair throttle in time.

CAMERA AND FPV

Instruction:

You can hang your camera and FPV to take photo or race across.



Notice for beginners:

1.If it is your first time to fly, please follow an experienced pilots.

2.Please be familiar with all the functions of TX and the related sticks before fly.

4.6CH quadcopter is not a toy. To avoid unnecessary loss, please simulate to fly on the computer firstly.

Email:sales@xk-innovations.com

FCC

Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

If the device is small than 8cm x 10cm size (in user manual instead of label)

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.

For Class B digital device or peripheral

NOTE: 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.

When test standard is FCC section 15.247 or 15.407 (such Bluetooth, Wifi)

Mobile Device (a device designed to generally be used at a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user)

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be

installed and operated with a minimum distance of 20cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Portable Device (a device designed to generally be used at a separation distance of within 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user)

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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.