

CRAIG®

Remote Control Drone

LH-X31

Owner's Manual

PLEASE READ BEFORE OPERATING THIS EQUIPMENT.

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 residential 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 the circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. Modifications not authorized by the manufacturer may void user's authority to operate this device.

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.

GENERAL WARNINGS:

1. Important Instructions:

- This product is suitable for 14 years old and above. Please read the instruction manual before you play with this product.

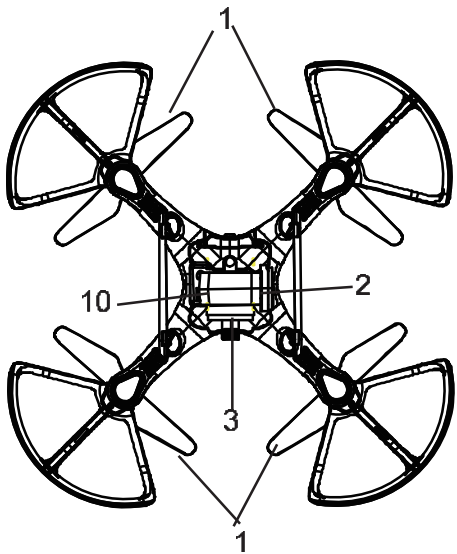
2. Make sure the unit always within the Radio Frequency control range. Otherwise, the unit will out of control and may crash.

3. Safety Instructions:

- **Keep away from the objects and crowds.**
 - The unit is flying at high speed; keep it away from crowds, buildings, high voltage wires, etc.
 - Do not operate this unit in bad weather.
- **Keep away from water and rain.**
 - The unit has electronic and mechanical parts which may be damaged by water and rain.
- **Keep away from the working unit.**
 - The blades are turning in high speed, always keep away from it.

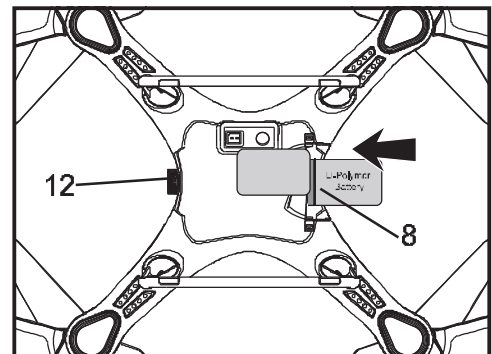
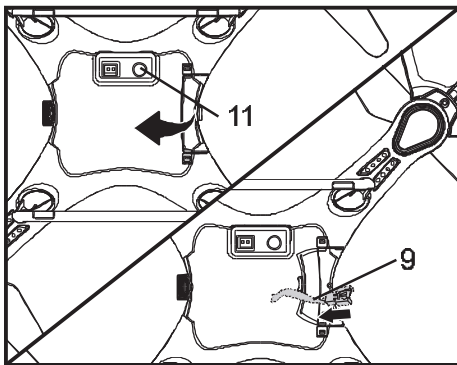
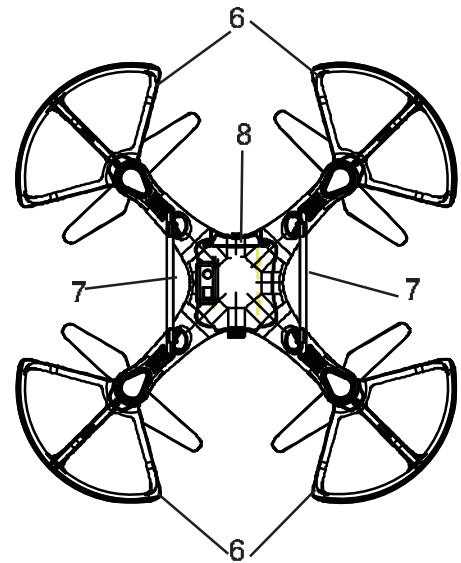
LOCATION OF CONTROLS:

Main Unit:



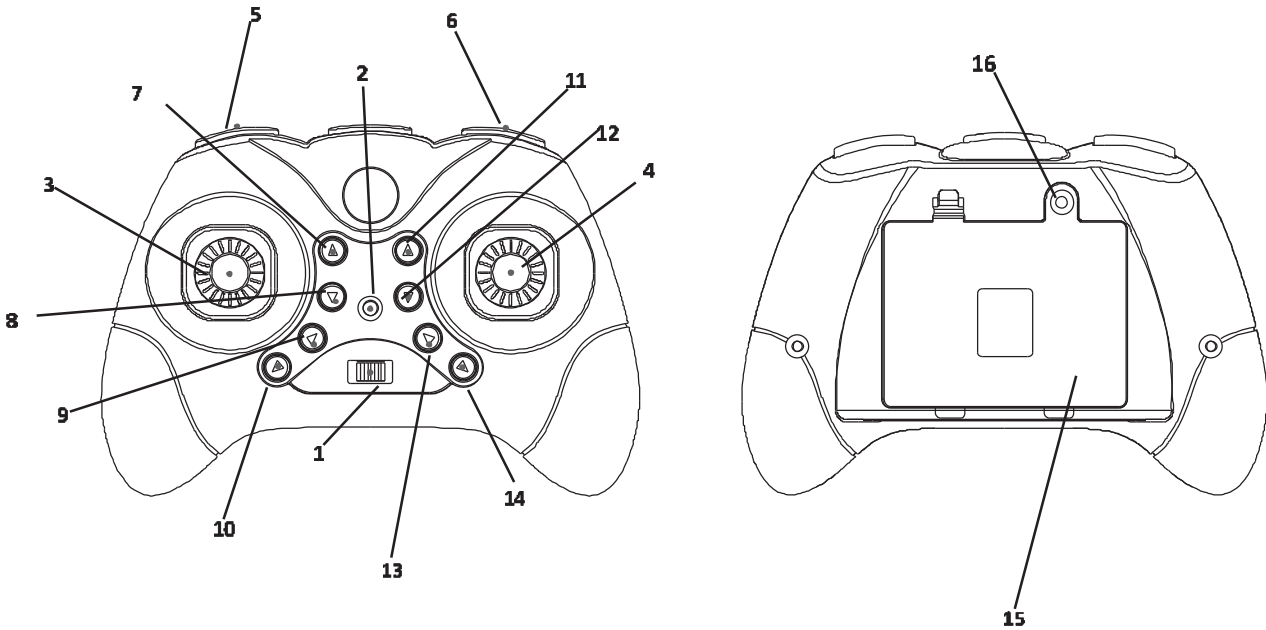
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1. Blades
2. Camera Module
3. Camera
4. Connection Cable of Camera
5. Connection Jack of Camera
6. Blade's Protectors
7. Landing Gears
8. Battery Door/Battery Compartment
9. Battery Connection Cable/Jack
10. Micro SD Card Slot
11. Turn on/Turn off button
12. LED light

REMOTE CONTROL:

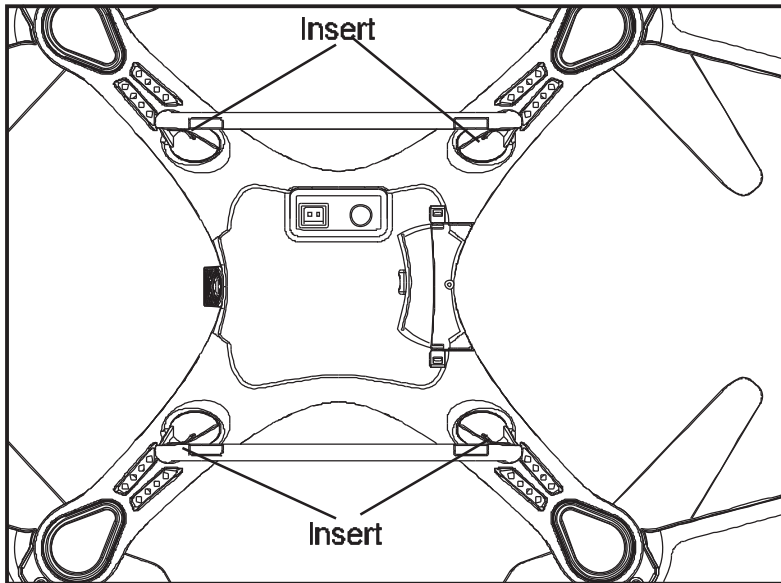


Serial Number	Function keys	Function / Effect
1	Power On/Off	Turn On/Off the remote control
2	Power On Indicator	The power on indicator will be stable when working normal, but it will flash quickly when low power of remote control.
3	Left Joystick	Up/down/turn left/turn right
4	Right Joystick	Forward/backward/left/right
5	Speed Selection button	Low/High speed
6	Flip Button	The Drone will flip over when press this flip button and then the Right Joystick per direction. (Note: without camera module).
7	Photo Capture / Video Recording button	Short press is Photo Capture/Long press is video Recording, long press 3 sec to cancell
8	Headless/One Key Return button	Short press is headless mode/long press is One Key Return mode, long press 3 sec to cancell
9	One Key start/One Key Take Off/ One Key Landing Button	Press this button first time, this drone will start . press second time, the drone will take off. press third time, the drone will landing.
10	One Key Emergency Stop	The drone will stop and fell down immediately when you press this button .
11	Forward Fly Trimmer	If the drone fly backward without any operation, press the Forward Fly trimmer button correspondingly, it can make the drone fly stable.
12	Backward Fly Trimmer	If the drone fly forward without any operation, press the Backward Fly trimmer button correspondingly, it can make the drone fly stable.
13	Left Fly Trimmer	If the drone fly right side without any operation, press the Left Fly trimmer button correspondingly, it can make the drone fly stable.
14	Right Fly Trimmer	If the drone fly left side without any operation, press the Right Fly trimmer button correspondingly, it can make the drone fly stable.
15	Battery Door(On the rear)	Close the door on the rear when use.
16	Security Screw of Battery Door	Use screw driver to tighten the security screw of battery door.

PREPARATIONS:

Assembly the Landing Gears to the Main Unit:

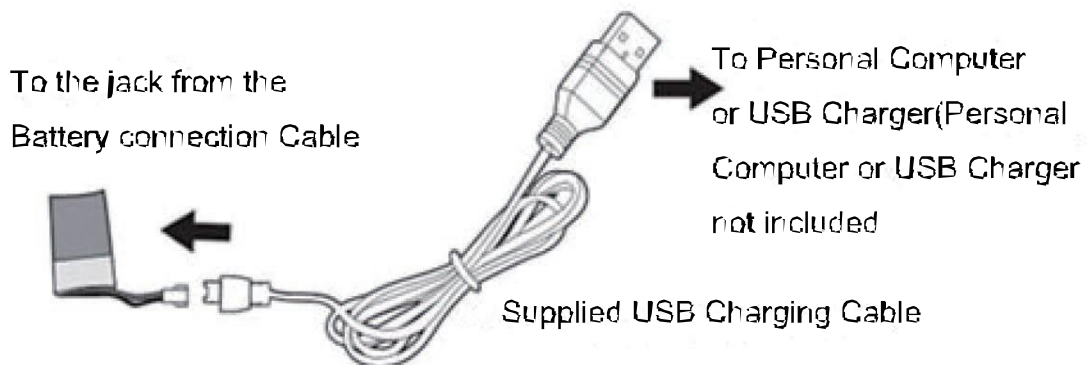
The unit has 2 Landing Gears, please ensure they are inserted to the corresponding mounting holes on the unit before use as illustrated below:



Battery Recharging:

The unit has a DC 3.7V Li-ion rechargeable battery. Recharge it before first time use or when it is low power as follows:

1. Connect the USB charging cable(factory supplied) to the battery.
2. Connect the USB charging cable to Personal Computer or AC adaptor (Computer and AC adaptor not included) ,it is suggested the AC adaptor not above 1A.
3. Charging will automatically start. The Red Indicator inside USB Plug will turn on when charging, When finished charging, the indicator will turn off.





BATTERY INSTALLATION:

Main Unit:

1. Open the battery door as Fig 1 below.
2. Connect the Battery to the Jack from the drone.
3. Install the battery into the battery compartment.
4. Close the battery door.

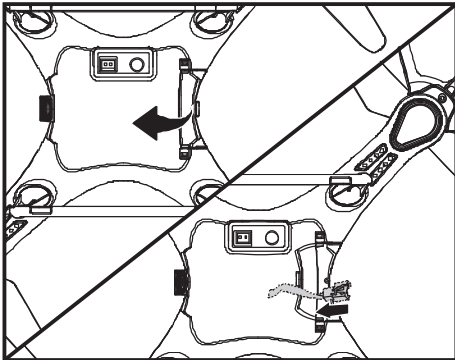


Fig 1

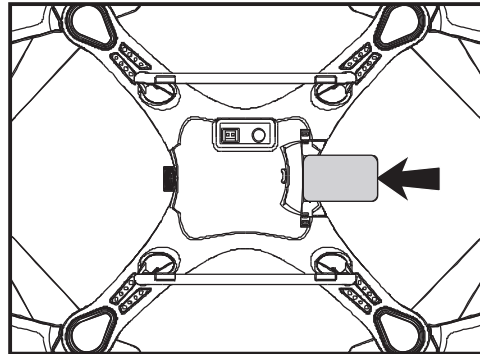


Fig 2

Notes:

The battery will last longer if you can following these simple guidelines :

- A. Before first time use, charge it approximately 60 mins until the battery is fully charged.
- B. Recharge and store the unit within the temperature range of 5°C~35°C (40°F~95°F).
- C. Do not charge longer than 12 hours. Excessive charging or running the unit until battery fully drains will damage battery. Battery life will be extended if you keep the battery fully charged.
- D. Battery life naturally shortens slowly over time.

Remote Control:

1. Loosen the screw on the Battery Door by a screwdriver.
2. Open the battery cover.
3. Install or replace the batteries by three (3) AAA size batteries (not included) into the battery compartment (Alkaline batteries are recommended for longest playing time).
4. Closed the battery door.
5. Tighten the screw on the door.

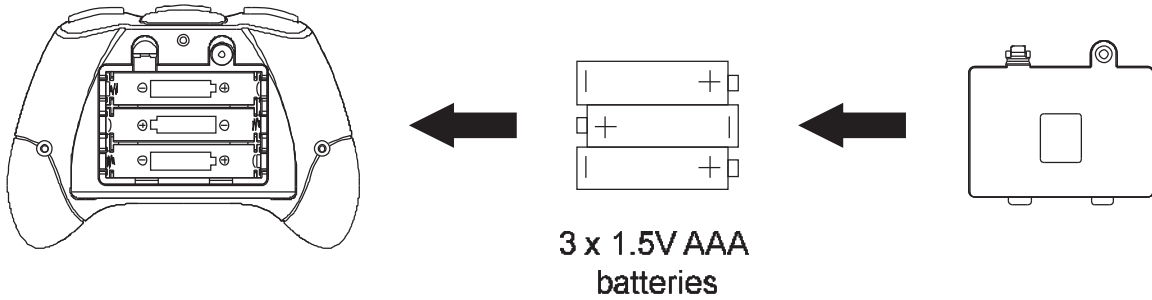


Fig 1



Fig

Battery Precautions:

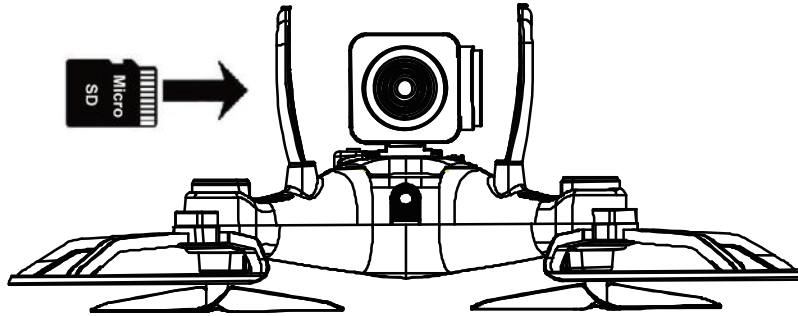
Follow these precautions when using a battery in this device:

1. Using only the size and type of battery specified.
2. Be sure to follow the correct polarity when installing the battery as indicated in the battery compartment. A reversed battery may cause damage to device.
3. Do not mix different types of batteries together (e.g. Carbon-zinc, Alkaline) or old batteries with fresh ones.
4. If the batteries in the device are consumed or the device is not to be used for a long period of time, remove the batteries to prevent damage or injury from possible battery leakage.
5. Do not try to recharge the battery after fully charged, it can overheat and rupture. (Follow battery manufacturer's instructions.)
6. Do not dispose of battery in fire. Battery may explode or leak.
7. Clean the battery contacts and also those of the device prior to battery installation.

MICRO SD CARD INSTALLATION:

The unit is support to take photos/videos then store in a Micro SD Card (not included).

Insert a Micro SD Card into the Micro SD Card Slot with contact fingers face to the side as the illustrated below:



Notes:


- A. Insert the class 4 (or up) Micro SD Card (Up to 32GB) into the Micro SD Card Slot
When inserting the storage card, make sure the direction you selected is correct.
Never insert violently to avoid damaging the card or the unit. If it doesn't work, please check if the direction is correct.
- B. To take out the card, press the card until a "Click" sound is heard then pull out the card.
- C. Before insert or replace the storage card, make sure the unit is in powered off mode (The battery had not connection).
- D. When the card is first time use, or it has been used in other device. Format it through the computer before install to the unit.
(Important: After format, all record in the memory card will be erased. Upload the record to the computer before format.)


REMINDER : Please operate the drone in spacious indoor or outdoor environment without rain or snow and wind power should be below 4 grade (gentle breeze), be away from people, animals and obstacle.

OPERATION

1. Insert the Micro SD Card into the unit as previously instructed.
2. Recharge the supplied rechargeable battery and install it into the unit as previously instructed.
Turn on the drone, The decorative LED lights on the unit will illuminate and blink.
3. Place the unit on a horizontal place.
4. Install the batteries to the Remote Control as the previous procedures. Press the Power On/Off Button to turn on the Remote Control. The Power On Indicator will turn on and blink.



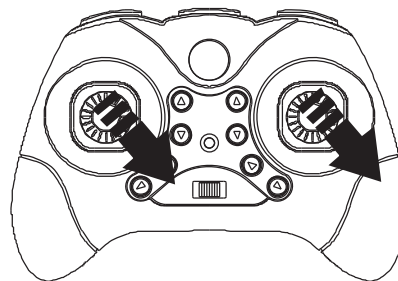
5. The drone and Remote  will automatically pairing after both items turn on . After paired successful, the Lights on the drone and remote control will stop blinking, then:
- A. Slide the Left Joystick upward twice to start flying and rising. or press the button 9 (One key start/One key take off/One key landing),first press is start, second press is one key take off.
 - B. Slide the Left Joystick upward again to rise.
 - C. Slide the Left Joystick downward to reduce the height or landing.
 - D. To landing and stop flying, slide the Left Joystick downward and hold. The unit will landing and the Blades will stop turning.
Or, press the “One Key Landing Button”, the drone will landing automatically.
To stop flying emergency, Press the button “One Key Emergency Stop”
The blades will stop immediately.
 - E. Slide the Left Joystick to left to turns the unit counterclockwise.
 - F. Slide the Left Joystick to right to turns the unit clockwise.
 - G. Slide the Right Joystick upward to fly to forward.
 - H. Slide the Right Joystick downward to fly to backward.
 - I. Slide the Right Joystick to left to fly to left.
 - J. Slide the Right Joystick to right to fly to right.
 - K. Press the Headless/One Key Return Button once to enter to the Headless mode. The unit will automatically identify where the front of is. Then slide the Right Joystick upward to fly the unit to it. Press the Button again to resume normal control.
 - L. Press and hold the Headless/One Key Return Button to enter to the One Key Return mode. The unit will fly to the start flying position automatically.
 - M. During flying, press the Flip button to flip the unit (without the camera module).
 - N. Press the Left /Right Fly Trimmer (Direction ◀ and ▶ buttons on right) repeatedly to fine tune the Joystick’s control of Left/Right flying.
 - O. Press the Forward/Backward Fly Trimmer (Direction ▲ and ▼ buttons on right) repeatedly to fine tune the Joystick’s control of Forward/Backward flying.
 - P. During flying, press the Speed Selection Button (◀ repeatedly to adjust the speed as desired.
 - Q. During flying, short press the Button (the Photo Capture/Video Recording) to take photo.
 - R. During flying, long press the Button (the Photo Capture/Video Recording) to start video recording, long press again to stop recording.
 - S. Press the Counterclockwise/Clockwise Fly Trimmer (Direction ◀ and ▶ buttons on right) repeatedly to fine tune the Joystick’s control of Counterclockwise/Clockwise flying.
 - T. During flying, slide the Left Joystick Upward/Downward to define the height of unit. Then release the Left Joystick to stop rising. Slide the Left Joystick Upward/Downward again to resume normal control.

6. To turn off the unit (or take out the battery to recharge), landing it and wait the blades completely stop turning as instructed earlier. Open the Camera Module/Battery Door then disconnect the Battery from the Battery Connecting Plug.
7. To turn off the Remote Control, press the  Power On/Off Button to turn off the Remote Control. The Power Indicator will not light.

GYROSCOPE RESET

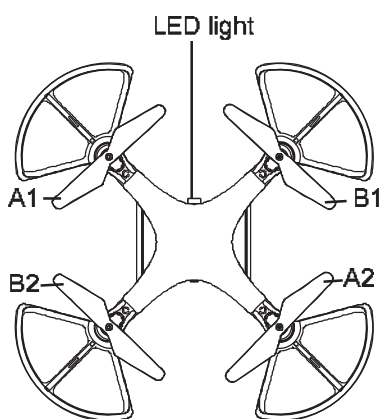
Before first flying, or crash, or fell down quickly, or other action which make the drone flying unstable, you need to reset the build-in Gyroscope as follows:

1. pull the left joystick and right joystick down to 45 degree (Bottom Right corner as picture) for 2-3 seconds, the lights blinking quickly, and you will hear two beep 'Di-Di' at the same time. and then the lights will stop blinking, then release the two joystickst. and then gyroscope reset complete.



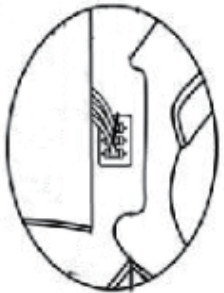
BLADE(S) REPLACEMENT:

If any blade was damaged or deformed, replace it by the supplied same number (A or B) spare blade with the supplied screwdriver as illustrated below:



Note: Always replace the damaged blade by the same letter (A1 or B1) blade, or else, the motion of the drone will become abnormal or cannot fly up at all (In fact, there are 2A and 2B on the drone, the two blades (across corner) are same (A1=A2, B1=B2). Do not mix them.

TROUBLE SHOOTING:

SYMPTOM:	POSSIBLE CAUSE	POSSIBLE SOLUTION
Remote Control not work	The batteries are drained.	Replace by new batteries.
	Batteries wrong installed.	Reinstall the batteries as the polarity marking inside the battery compartment.
The drone not work	The battery had not connected to the unit	Connect the battery to the unit per page 5 and 6.
	The battery drained.	Recharge the built-in battery per page 4.
	The unit had not paired to the Remote Control.	Pair the unit to the Remote Control per page 7-9.
The blade still running after landing	The unit had not completely landing and stop running.	Landing and wait the blades stop running as page 8 point D
Control abnormal or motion unstable	One (or more than one) blade(s) deformed or damaged.	Check and replace the deformed/damaged blade(s) by new one as page 9.
The unit can not moving straightly or auto turning		Reset the built-in Gyro as page 9 Or, fine turn the trimmers as page 8 point N - O
Camera not functioning	Micro SD Card had not installed	Install a Micro SD Card (not included) as page 7
	Camera had not connected to the unit	Connected the connection cable from camera to the unit as the illustrated below: 

General Specification:

Power Source:

Unit:..... Supplied DC=3.7V, 300mAh (1.11WH) LI-Ion rechargeable battery. Recharge by DC=5V

Remote Control:.....DC=4.5V, 3xAAA Size Batteries (Not Included).

Effective range of Radio Control:.....Up to 100 feet in open area

Radio Frequency:..... 2.4GHz

Sensor of Camera:.....300k Pixels

Capture Modes:

Photo: 640 x 480 pixels in JPG

Video: 640 x 480 pixels, 30fps in AVI

Package Includes:

1 x Owner's Manual

1 x Remote Control

1 x DC=3.7V, 300mAh (1.11WH) LI-Ion rechargeable battery(Already placed into the battery compartment on the unit)

1 x USB Charging Cable (For charging only)

4 x Spare Blades

1 x Screwdriver

2 x Plastic Landing Gears((mounted already)

The specifications and accessories are subject to change without notice.

LIMITED WARRANTY

Craig warrants this product to be free from manufacturing defects in material and workmanship under normal use for a period of 90 days from date of purchase. If service is required, please return the product to the store where it was purchased for exchange; or, pack the unit in the original packing material with all accessories if applicable, a copy of your sales receipt and a Cashier's check or Money Order for \$10.00 (to cover shipping and handling costs) payable to Craig Electronics Inc. For consumers in Canada, please make sure that the cashier check or money order is redeemable through a U.S. bank. Ship your product freight pre-paid. Your unit will be repaired, replaced or if the unit can not be repaired or replaced, a refund will be forwarded to you within four weeks of receipt of your unit. Please ship your unit to:

Craig Electronics Inc.
1160 NW 163 Drive
Miami, FL 33169

This warranty is void if the product has been: a) Used in a commercial application or rental. b) Damaged through misuse, negligence, or abuse. c) Modified or repaired by anyone other than an authorized Craig service center. d) Damaged because it is improperly connected to any other equipment.

Note: This warranty does not cover: a) Ordinary adjustments as outlined in the Owner's Manual which can be performed by the customer. b) Damage to equipment not properly connected to the product. c) Any cost incurred in shipping the product for repair. d) Damage to the product not used in the USA.

This warranty is not transferable and only applies to the original purchase. Any implied warranties, including the warranty of merchantability, are limited in duration to the period of this expressed warranty and no warranty whether expressed or implied shall apply to the product thereafter.

Under no circumstance shall Craig be liable for any loss or consequential damage arising out of the use of this product. This warranty gives specific legal rights. However, you may have other rights which may vary from state to state. Some states do not allow limitations on implied warranties or exclusion of consequential damage. Therefore, these restrictions may not apply to you.

To Obtain Service on your Product
email: service@craigelectronics.com