



Specification of Biomimetic Ornithopter (ROC1214001-A)

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Operating Guide

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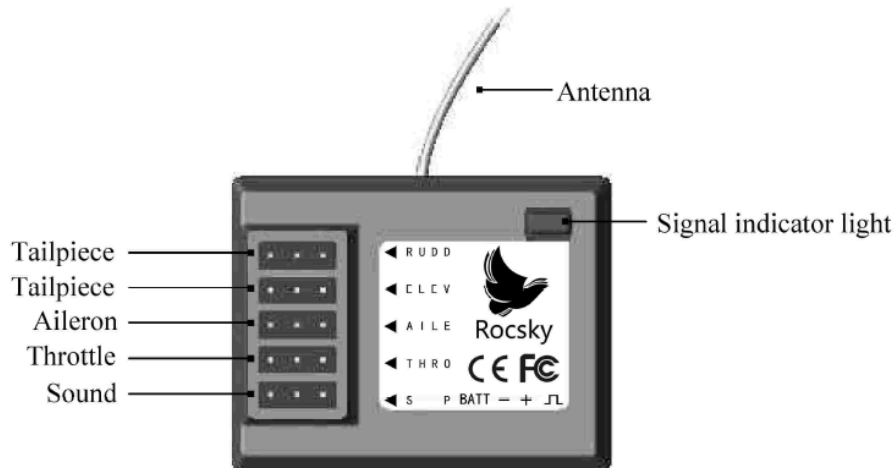
(1)

Dear users, thank you for selecting the ROC1214001-A wireless remote controlled ornithopter produced by Rocsky. Please read this specification carefully before using the ornithopter of our company in order to ensure correct operation.

Product list

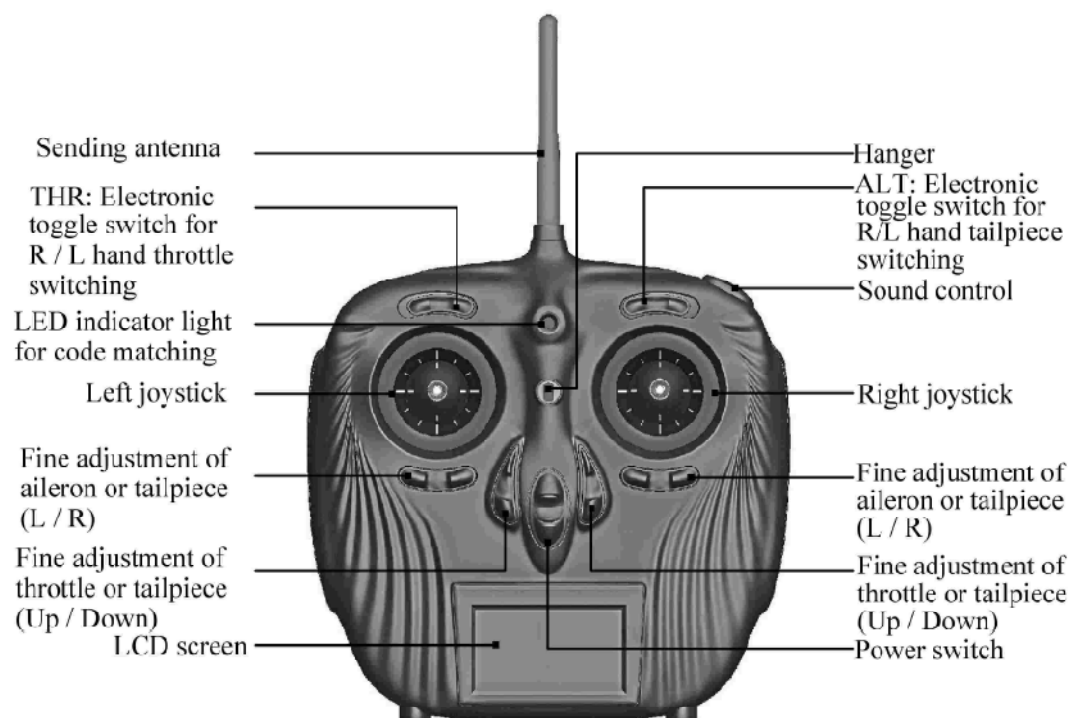
- A wireless remote controlled receiver (Fig. 1);
- A wireless remote controlled sender (Fig. 2);
- A 12.6 V charger;
- 2 chargeable batteries;
- Several set screws, a hexagonal screwdriver and a bottle of Pattex glue;
- A piece of string;
- A Specification.

Wireless remote controlled receiver



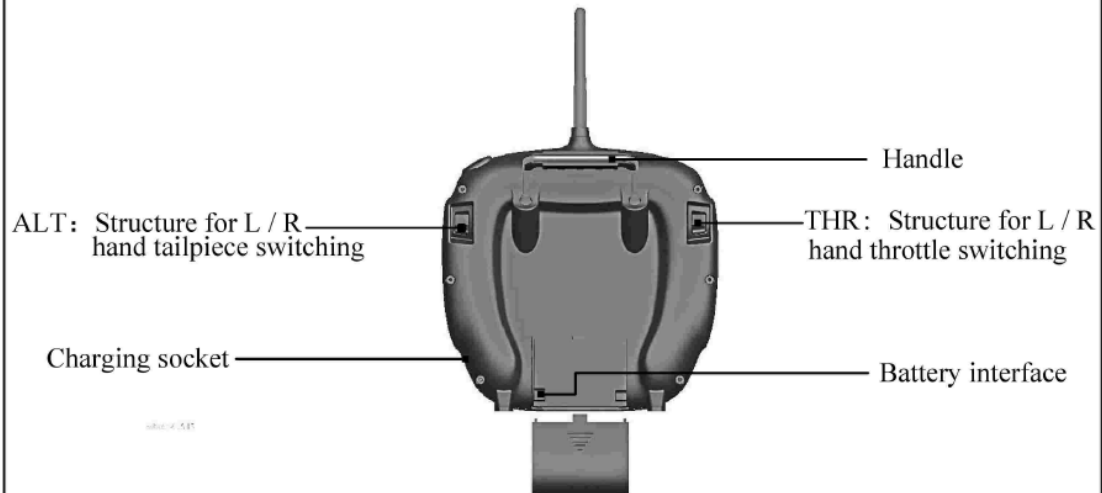
(Fig. 1)

Wireless remote controlled transmitter (front)



(Fig. 2)

Wireless remote controlled transmitter (rear)



(Fig. 3)

Main function parameters of remote controlled transmitter:

Power supply: 3S 11.1V 600MAH
Freq.: 2.4G

Remote controlling distance: 500m
Working duration: 3-4 h

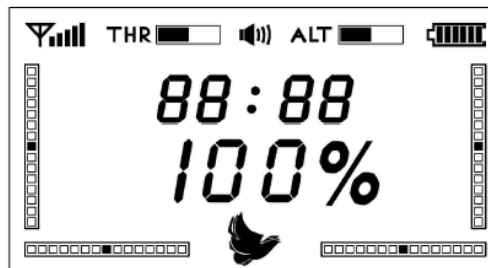
Main function parameters of remote controlled receiver:

Power supply: 3S 15C 11.1V 1300MAH
Freq.: 2.4G
Power: 45W
Wingspan: 130cm

Length: 100cm
Weight: 650g
Remote controlling distance: 500m
Flying duration: 10-15 min
(for reference only)

(4)

LCD screen



Travel setting

Push the two electronic toggle switch to the right at the same time before starting the product to enable the joystick travel setting. Alarming is always heard at this time; Press down the Sound Control to cancel the last travel settings and then flick the left / right joysticks (Left / Right / Up / Down) to reset the travels of the throttle and control actuator.

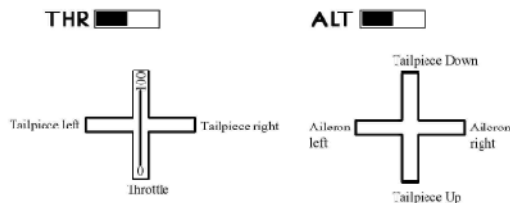
Mode switching

- (1) Select the expected remote control mode;
- (2) Flick the “THR” and “ALT” electronic toggle switch and structural toggle switch to make them match with the selected mode. If the control mode 4 is selected as the player’s operation mode, push the “ALT” electronic toggle switch to the left and then to the right after the code matching.
- (3) Install the batteries for the remote controller and ornithopter respectively, turn on them at the same time for code matching. The indicator light for remote control twinkles at this time. When the code matching finishes, the indicator light will be On constantly and the a “Beep” will be heard from the remote controller.
- (4) When the “THR” electronic toggle switch is pushed to the left, the left joystick will be used as the throttle and the right joystick will be used for upward / downward control of the tailpiece (the structural toggle switch shall be pushed up at this time); When the “THR” electronic toggle switch is pushed to the right, the left joystick will be used for upward / downward control of the tailpiece and the right joystick will be used as the throttle (the structural toggle switch shall be pushed down at this time);
- (5) When the “ALT” electronic toggle switch is pushed to the left, the left joystick will be used for left / right control and the right joystick will be left idle; When the “ALT” electronic toggle switch is pushed to the right, the left joystick will be left idle and the right joystick will be used for left / right control of the tailpiece.
- (6) The fine adjustment changes with the joystick function positions, whether the position of “THR” or “ALT” is set to the left or the right.

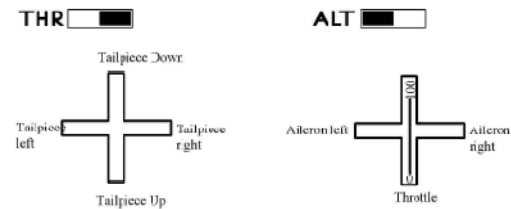
(5)

Four control modes

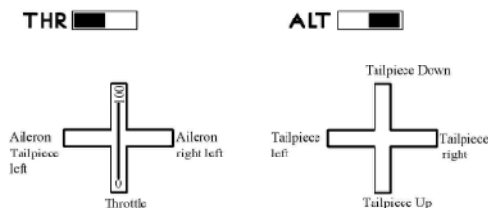
Mode I:



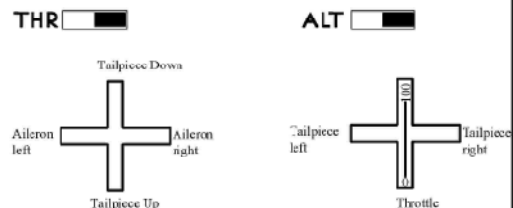
Mode II:



Mode III:



Mode IV:



***Note: (1) The electronic toggle switch for left / right hand switching will be left idle after code matching. (2) Arbitrary pushing of the structural toggle switch for left / right hand throttle switching is not allowed after code matching since which might cause personal injury or damage to the ornithopter. Our company bears no any responsibility due to incorrect operation.

Wing assembly steps (Fig. 4)

(1) Insert both wings into the rockers; (2) Connect the rear ends of the wings with the body with M2 screws; (3) Adjust the airfoil surfaces of both wings to make them be symmetrical to each other; (4) Place washers at the positions for four screws on the rockers and then lock the carbon bars with M3 set screws.

*** Note: (1) Both wings must be install in position, otherwise unbalance, abnormal flying and damage to them will be caused during fluttering;
 (2) Both airfoil surfaces must be symmetrical to each other for fear of wobbling and unstable flying; Lasted wobbling and unstable flying will cause damage to the product;
 (3) Washers must be placed before locking the carbon bars, otherwise damage to the carbon bars of the wings will be caused.

(6)

Operation steps

- (1) Install the wings
- (2) Pull the throttle joystick to the lowest position and turn on the remote controller; Please note that the throttle joystick must be kept at the lowest position for fear of failing to turn on the controller;
- (3) Flick the power toggle switch of the ornithopter, see (Fig. 6);
- (4) Now the joystick and ornithopter are under code matching. Adjust the tailpiece finely after the code matching to make both sides be in parallel with each other and at the same upper plane with the tailpiece holder or upwarp slightly (see Fig. 5).
- (5) Push the throttle to the 60% point slowly and throw the ornithopter freely.

Product maintenance

Slight or serious damage to this product, as a wireless remote controlled biomimetic ornithopter, might be caused considering the limited space, wind power and wind direction for flying as well the skill of operators; If this product is damaged, please read the following to take correct measures in order to prevent further damage.

- (1) Broken case is caused by direct impact between the product and hard surfaces (such as wall and ground etc.), just bond it with the Pattex glue provided by our company. After applying the glue to broken part, just wait until the glue feels dry and install the case. The product with bonded case can be operated as usual generally;
- (2) Deformed case support skeleton is caused by high impact to the body. However the product can be operated as usual generally;
- (3) Damaged wings are caused by direct impact between it and hard surfaces (such as wall and ground etc.) or over-tight fixing screws. Please do not hesitate to contact us if the wings are damaged;
- (4) Please do not hesitate to contact us if any structural part of the product is damaged.
- (5) Please contact us via the service number or QQ chat group (see Page 1 for the contact information).

Note

- (1) The wireless remote controller provided by our company might cause injury to operators due to incorrect operation;
- (2) Age range: This product is unsuitable for children of (or of less than) 12 years old;
- (3) Flying of this product near vehicles, overhead cables, water places, buildings and trees is not allowed for fear of losing it or causing damage to it;
- (4) Flying of this ornithopter is only allowed at places with few (or without) people and when a safe distance is always kept away from other people for fear of causing injury.
- (5) This ornithopter is controlled by wireless remote controlling signals that might be interfered by other sign sources causing operation failure;
- (6) The ornithopter must be called back in time if the fluttering frequency slows down gradually when the throttle is pushed to the 100% point during the fly, otherwise explosion might be caused due to low battery.
- (7) Please replace (Fig. 5) or recharge the battery (Fig. 6) if the power is too low. The charger provided by our company shall be used during recharging (the charger can be used for the remote controller and ornithopter).
- (8) Please turn off the product and remove the battery if the product will not be used for a long time.

FCC STATEMENT :

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.

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

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.