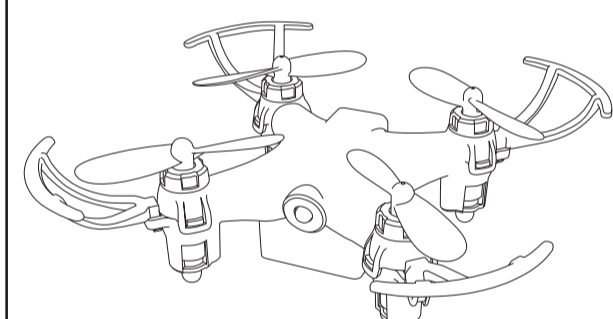


Suitable for ages 14+

MINI DRONE INSTRUCTIONS

Denver DRO-110



WWW.DENVER-ELECTRONICS.COM
Please read this instruction manual carefully before start using the product.

English

Notice:

1. Instructions
Please read the user handbook carefully and then keep it in a safe place for future consultation and maintenance.

1.1 Important Notice:

(1) This product is not a toy, it is a piece of complicated equipment which integrated with professional knowledge by mechanic, electric, air mechanics, high-frequency transmitter and so on, so it should be installed correctly and adjusted to avoid any accidents. The owner must always operate in a safe manner, if improper operation that caused human injury or property damage, then we DENVER ELECTRONICS AD accept no liability for any safety issues from operation. As we have no control over the way they maintained, used and operated.

(2) This product is not suitable for users under 14 years of age.

(3) The use of the drone may be prohibited in some areas like train stations, airports, aircrafts, inhabited areas etc. You should check with the authorities whether the use of the drone is permitted in some public or private areas. Always use the drone bearing in mind not to breach people's privacy. We exclude liability for any wrong use of the drone.

(4) We DENVER accept no liability for any safety duties or fines arising from operation, usage or mis-control after the sale of products. Warranty does not cover if drone crashes and get damaged.

1.2 Safety Precautions
Keep away from crowd when flying, since drone flight is a high risk hobby. Mis-assembly or broken main frame or defective electronic equipment or unskilled operation may cause accidents of machine damaged or injured. Please pay special attention to safety operation.

(1) Keep away from people and obstacles.
"The flying speed and status of the drone is uncertain, so it may cause potential danger." When choosing a flying site should stay clear of buildings, trees and power lines. AVOID flying in or near crowded areas. Avoidable avoid flying in rain, storms, thunder and lightning to protect machinery and parts out of damage.

(2) Keep away from humid environments.
Inside of drone is made up of precise electronic components. Stay away from humidity or water vapor to protect machinery and parts.

(3) Safety operation.
Please fly your drone according to your physical status and flight skill. Fatigue, helplessness and mis-operation will increase possibilities of accidental hazard.

(4) Keep away from rotating blades.
Keep your face and body as well as all spectators away from the rotating blades. The spinning blades of a motor of this type can cause serious injury.

(5) We recommend flying the drone below 10 meters of height.

(6) Keep away from heat.
A drone is made up of metal, fiber, plastic, electronic components, etc. So keep it away from heat and sunlight to avoid distortion and damage.

1.3. Check List Before First Flight

(1) Flying field should be in an open space and we suggest at least 5M length *5M wide *5M height.

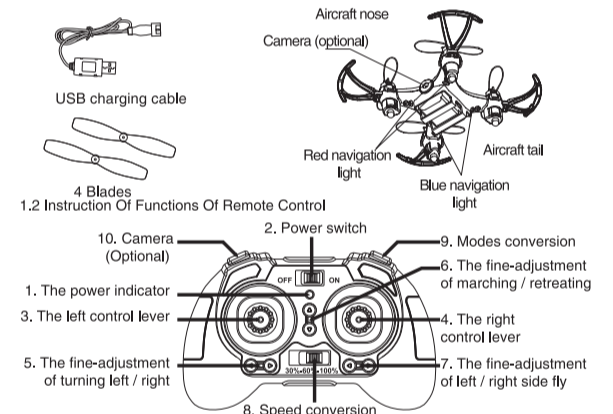
2) Make sure the receiver and transmitter is fully charged.

3) Please strictly obey the order of turn-on, turn-off before operation. When starting your flight, first turn on the transmitter, and connect power cable of drone last. When finishing your flight, please disconnect the power cable of your drone first, turn off transmitter last. An upset in the order of connection may cause your drone loose control to threaten yourself and others safety. Please follow a correct habit of turn-on and turn-off.

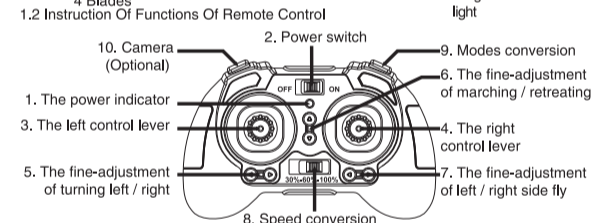
4) Make sure the connection is solid between battery or motor. The ongoing vibration may cause bad connection of power terminal and make the drone uncontrollable.

1. INSTRUCTION

1.1 INSTRUCTION OF AIRCRAFT COMPONENTS AND ACCESSORIES



1.2 Instruction Of Functions Of Remote Control



1	Power indicator light	Indicate the battery capacity of the remote control and prompt various functions.
2	Power switch	Control the power of the remote control. pull the switch up to connect the power and pull the switch down to disconnect the power.
3	Left lever	Pull the lever forward or backward to control the aircraft to fly upward or downward. Pull the lever leftward or rightward to control the aircraft to turn left or turn right.
4	Right lever	Pull the lever forward or backward to control the aircraft to fly forward or backward. Pull the lever leftward or rightward to control the aircraft to fly leftward or rightward.
5	Turning left/turning right fine-tuning	Assist and regulate the aircraft to turn left or right.
6	Forward/backward fine-tuning	Assist and regulate the aircraft to fly forward or backward.
7	Leftward/rightward fine-tuning	Assist and regulate the aircraft to fly leftward or rightward.
8	Speed conversion	Adjust the speed of turning left, turning right/moving forward, moving backward/ flying leftward and flying rightward. There are a total of three gears, namely 30%, 60% and 100%.
9	Mode (Optional)	Press and hold the "roll" mode for 2 seconds to enter the "compass" (headless) mode.
10	Camera (Optional)	Press the button to enter the "camera" mode and press and hold the button for 2 seconds to enter the "video" mode.

1.3 Install The Remote Controller Battery

1.3.1 Remove the battery cover.
1.3.2 Install 2 "AAA" batteries, according to the correct polarity.
1.3.3 Close the battery cover.

1.4 Lithium Battery Charging

1.4.1 Insert USB charging wire in USB port of computer, and the indicator is off, indicating charging is off, indicating full.
1.4.2 Connect the battery plug with the socket in USB charging line. If the light is on, it indicates the charging status, if it is off, it indicates the electricity in battery is full.

1.5 Battery Installation Of Aircraft

1.5.1 Put the lithium battery into the battery box.
1.5.2 Put the lithium battery plug into the aircraft socket.

2. AIRCRAFT CALIBRATION

After the aircraft takes code matching with the remote control, the aircraft will be put on a horizontal surface, and it will also push the remote control's "left control rod" and "right control rod" (as shown in figure), until the LED light of aircraft is flashing, after calibration, the LED lamp will be back to normal light. When the aircraft drifts in any direction, and fine-tuning adjustment cannot play role to it, this calibration can repair it.

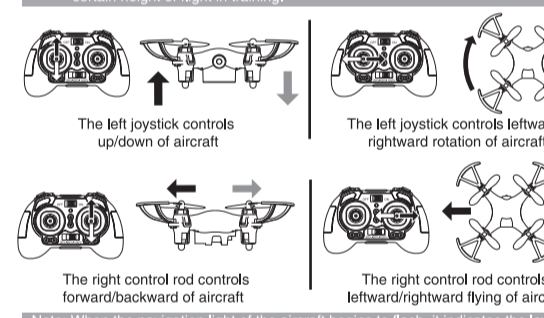
3.TAKEOFF

3.1 Start-up: match the code between the aircraft and the remote control!
3.1.1 Install the fully charged battery into the aircraft, then connect the power cable of the aircraft and the battery in accordance with the correct polarity, and then place it on the ground with nose toward the front. (The aircraft light will flash)

3.1.2 Adjust the power switch of the remote control, (the red power indicator light will flash), push the left lever to the highest position and then to the lowest position, begin code matching between the aircraft and remote control. After code matching is completed, the power indicator light on the remote control and the aircraft will return to normal.

3.2 Operation Anti Control

Note: avoid out of control, in the control of moving of aircraft, always pay attention to slowly manipulate the joystick to control, the aircraft will lose a lot of power in the process of remote control, so you can add a little extra throttle to keep a certain degree of flight in reserve.



3.3 Fine Tuning

If the aircraft encounters (rotation/forward and backward/leftward and rightward) offset in the flying, click the corresponding fine tuning key in reverse direction for adjustment. For example the aircraft has 10 forward deviation, click "forward/backward fine-tuning" key to adjust as shown in figure.

4. SETTING OF SENSITIVITY

This aircraft can achieve three modes of operation: low-speed (30%), medium-speed (60%) and high-speed (100%).
Click the "speed conversion" button for setting:

4.1 After adjusting the button, the buzzer on the remote control will beep once (the power indicator light will flash once), indicating that the aircraft enters the low-speed mode (sensitivity up to 30%)

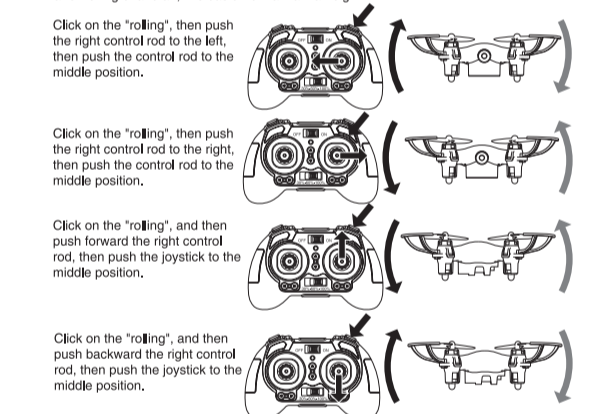
4.2 After adjusting the button, the buzzer on the remote control will beep twice (the power indicator light will flash twice), indicating that the aircraft enters the medium-speed mode (sensitivity up to 60%)

4.3 After adjusting the button, the buzzer on the remote control will beep three times (the power indicator light will flash three times), indicating that the aircraft enters the high-speed mode (sensitivity up to 100%)

Note: The button can be used to adjust the sensitivity of the aircraft. The greater the sensitivity value is, the faster the aircraft reaction would be.

5. AERIAL ROLLING SKILL

The aircraft, through the following control, can take 360-degree roll flight. In order to better perform rolling function, ensure that the aircraft maintains 3 meters above the ground to fly, the best is to operate the model for rolling in the process of rising, then after rolling of aircraft, it is easier to maintain a height.



6. COMPASS (HEADLESS) MODE

6.1 The nose of the aircraft must head toward the front while matching code, or the direction will be disordered after the "compass mode" is opened.
6.2 When you need to use the "compass mode", press and hold the "mode" button for 2 seconds, and then the aircraft will automatically lock direction.
6.3 When you do not need to use the "compass mode", re-press the "mode" button to exit the "compass mode".

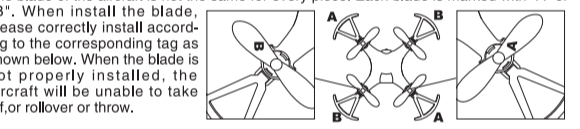
7. THE USE OF THE CAMERA (OPTIONAL)

7.1 After the aircraft is powered on, start code matching with the remote control.
7.2 Press the "camera" button to take a picture (the red light of the camera will flash once).
7.3 Press and hold the "camera" button for 2 seconds to enter the video mode (the red light of the camera will always flash). Then re-press and hold the "camera" button for 2 seconds to exit the video mode.
7.4 Exit the video mode, turn off the power, and finally remove the SD card

Note: 1. Please operate according to the above steps, or it will cause some functional abnormalities.
2. While taking pictures, due to the need of data storage, the interval for taking two pictures shall be no less than 2 seconds.
3. The SD card should be formatted before use.

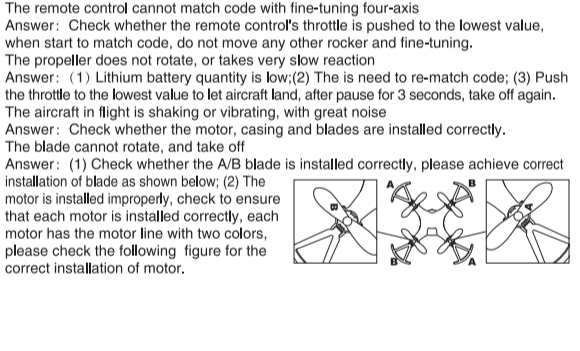
8. INSTALLATION AND DISASSEMBLY OF BLADE

The blade of the aircraft is not the same for every piece. Each blade is marked with "A" or "B". When install the blade, please correctly install according to the corresponding tag as shown below. When the blade is not properly installed, the aircraft will be unable to take off or rollover or throw.



9. TROUBLESHOOTING

1. The remote control cannot match codes with fine-tuning four-axis.
Answer: Check whether the remote control's throttle is pushed to the lowest value, when start to match code, do not move any other rocker and fine-tuning.
2. The propeller does not rotate, or takes very slow reaction.
Answer: (1) Lithium battery quantity is low.(2) The is need to re-match code.(3) Push the throttle to the lowest value to let aircraft land, after pause for 3 seconds, take off again.
3. The aircraft in flight is shaking or vibrating, with great noise.
Answer: Check whether the motor, casing and blades are installed correctly.
4. The blade cannot rotate, and take off.
Answer: (1) Check whether the A/B blade is installed correctly, please achieve correct installation of blade as shown below. (2) The motor is installed improperly, check to ensure that each motor is installed correctly, each motor has the motor line with two colors, please check the following figure for the correct installation of motor.



5. One or more of the motor does not rotate

Answer:
(1) The motor is out of order, add a new motor; (2) The motor line falls off, welding line is needed; (3) A transistor on the emission board in the remote controller is burnt out, and use a new remote controller.
6. After recalibration, aircraft still drifts in suspension.
Answer:
Put the aircraft in a horizontal plane, pad several layers of paper in the azimuth of drift (the thickness of the paper depends on the degree of drift), then the accelerometer can be calibrated on the horizontal plane, so as to solve the drift problem.
7. Cannot roll.
Answer: Lithium battery with too low quantity needs charging.

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As the end user it is important that you submit your used batteries to the appropriate and designated facility. In this manner you make sure that the batteries are recycled in accordance with legislature and will not harm the environment.

All cities have established collection points, where electric and electronic equipment and batteries can either be submitted free of charge at recycling stations and other collection sites, or be collected from the households. Additional information is available at the technical department of your city.

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