

**AEE**

**AP10**



# Aerial Photography Equipment

■ ■ □ Professional • Advanced



*Unprecedented  
Technology*

## User's Manual

Please read this Manual carefully before use,  
and keep it handy for future reference.

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## Statement

The AEE aerial photography equipment is incorporated with multiple technologies to provide advanced functions. Improper use of this product will cause serious injuries. Therefore, we hereby make the following statements:

1. Never use this product for any and all illegal activities; or, Shenzhen AEE Aviation Technology Co., Ltd. shall assume no liability for any consequences resulting therefrom.
2. Never use this product in any and all no-fly zones; or, Shenzhen AEE Aviation Technology Co., Ltd. shall assume no liability for any consequences resulting therefrom.
3. For any direct or indirect losses or injuries caused by use of this product, Shenzhen AEE Aviation Technology Co., Ltd. shall assume no liability.
4. For any direct or indirect losses or injuries caused by any force majeure events (e.g., lightning stroke, hailstones) taking place during use of this product, Shenzhen AEE Aviation Technology Co., Ltd. shall assume no liability.

## Product Introduction

Thanks for choosing the aerial photography equipment manufactured by AEE, a miniature vertical take-off and landing photography equipment with quad rotors. With the integrated design based on the highest standards in the world and the professional airborne camera device, it can provide you with excellent flight and photography experience in low-altitude outdoor space or big indoor space. Stable and reliable, this equipment can be operated and controlled in a simple and flexible way.

## Precautions for Use of Aerial Photography Equipment

- \* In the initial stage, avoid operating it all by yourself; it is suggested that an experienced person be on site to offer guidance for flying.
- \* During flying, please keep away from any unsafe factors such as obstacle, person and high-voltage cable. Make sure there is no moving person or obstacle within the radius of 5~10m around the take-off and landing positions. Fly the aerial photography equipment in safety zones away from people, and take care to ensure the safety of your own and other people as well as the safety in the vicinity.
- \* In order to avoid dangers, please make sure it flies under a safe take-off weight.
- \* Please check to confirm that the propellers and the motors are installed properly and securely and that the clockwise and counter-clockwise propellers are installed in right positions. During inspection, do not approach or touch any rotating parts to avoid injuries caused by the propellers. In the meantime, keep away from small metal objects to prevent dangers taking place as the metal objects are attracted.
- \* Avoid mutual influence or interference between the remote control transmitter and other wireless devices.
- \* Ensure sufficient power supply to the remote control, the battery and all components.
- \* Turn on the remote control before starting the aerial photography equipment; upon landing, turn off the remote control after the aerial photography equipment is disconnected from power supply.
- \* Check to confirm all components are in good condition; in case of ageing or damage of any component, please do not start flying.
- \* Do not start up the aerial photography equipment in case of IMU abnormality (the four arm lights flash quickly and continuously) or altimeter abnormality (the four arm lights flash slowly and continuously).
- \* In case of compass abnormality (the front arm lights flash twice at intervals, and the rear arm lights are constantly on), the equipment can fly in manual control mode. Please do not fly in GPS fly control mode; otherwise, the aerial photography equipment will lose control, fly to a wrong place, etc..

- \* Do not use the aerial photography equipment in complex electromagnetic environments, because its communication will be affected in such environments, further resulting in abnormal Wi-Fi and remote control communications.
- \* If a mobile phone is connected for image preview, do not answer any incoming calls whenever possible.
- \* Keep away from humid environments; prevent water vapor from entering the aerial photography equipment which may cause damage to electronic components or result in unpredictable consequences.
- \* Do not use this product in atrocious weather conditions like thundering, raining, gale and sandstorm to ensure personal safety and equipment safety.
- \* Keep away from heat sources which may lead to aging, deformation or even melting and damage of thermoplastic materials of the aerial photography equipment.
- \* For the sake of safety of your life and property, please use the product strictly in accordance with this User's Manual; improper operation, unauthorized disassembly or modification of this aerial photography equipment are all forbidden.
- \* For beginners, it is suggested that the undercarriages should be relocated under the motors in order to fully protect the aerial photography equipment, as shown in the figure below; meanwhile, the flight speed should be controlled within 3~5m/s when it is a beginner that uses the aerial photography equipment.



Notice: Please strictly comply with the above safety precautions; any consequence resulting from incompliance shall be on your own account.

## Precautions for Use of Airborne Camera

- \* The device is not allowed to come in contact with or be immersed in water or other liquids. In case that the device surface is in contact with any liquid or damp air, please use a piece of soft and absorbent dry cloth to wipe it dry.
- \* Do not use alcohol, benzene, diluter or other combustible agents to clean or maintain the device.
- \* Do not store the device in a damp or dusty place.
- \* Do not use or store the device in direct strong sunlight or high temperatures.

- \* Please stop using the device immediately when smoke or smelly gas comes out of the device.
- \* When this device is used to shoot important scenes, please perform test shooting several times before actual shooting, to make sure the device is in normal working condition.

## Precautions for Use and Charging of Battery

- \* Do not immerse the battery into water; store the battery in a dry and cool place if it will not be used for a long time.
- \* Do not use the battery in combination with batteries of other capacity, model or brand.
- \* Keep the battery out of the reach of children; if a child accidentally swallows a cell, please call for medical help immediately.
- \* Do not use or store the battery near heat sources such as source of ignition and heating furnace.
- \* Before using the flight battery, make sure the battery has been installed properly.
- \* Do not directly connect the power battery for flight to devices other than the equipped charger for charging.
- \* Do not throw the battery in fire or heat the battery.
- \* Do not transport or store the battery together with necklaces, hairpins or other metal objects.
- \* Do not strike or hurl the battery, making the battery be subjected to impact by hard objects.
- \* Do not directly weld battery terminals.
- \* Do not pierce the battery shell with a nail or other sharp object, or hammer or tread on the battery.
- \* Do not decompose the battery in any way.
- \* Do not use or store the battery in extremely hot environments such as direct sunlight or vehicles in hot weather, or the battery may get overheated, resulting in fire (self-ignition); this will affect the battery performance and shorten its service life.
- \* Do not use the battery in places with strong static electricity, or the electronic protection device may get damaged, resulting in dangers.

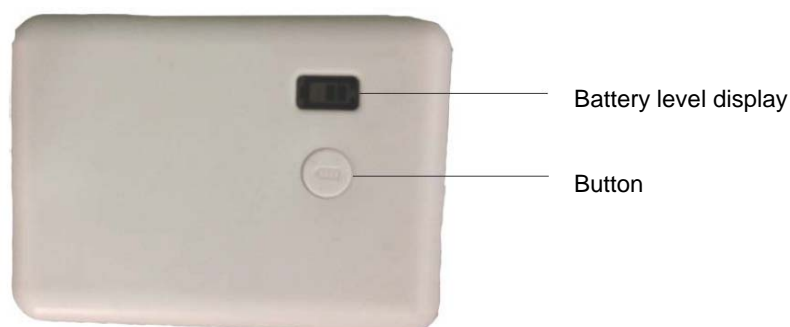
## Charging

This product is equipped with a professional battery charger; the input voltage is 12.6V and the output current 3A. When charging state indicator is constantly on in red, charging is in progress; when it changes to be constantly on in green, charging is finished.

The battery is a smart battery (capacity: 5300mAh; voltage: 11.1V) with charge and discharge management function. It shall be charged with the professional charger provided by our company.

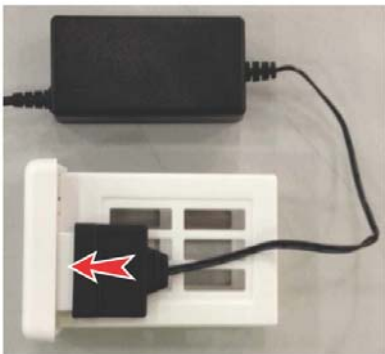
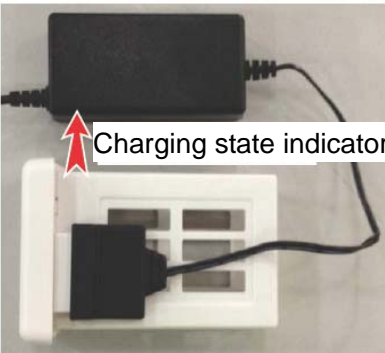
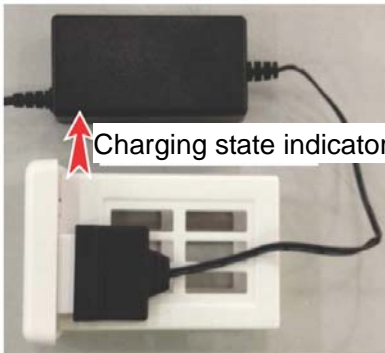
When the battery voltage of the aerial photography equipment is less than two bars, please fully charge the battery (if the battery is not fully charged, the flight time will be reduced).


As shown in the figure below, short press once the white button below the display screen on the external surface of the battery to display the battery level on the screen. The picture on the screen will last 23s from the time when the button is pressed, and then disappear; if the button is pressed once again, the picture of battery level will be displayed for another 23s.



## Connect Battery to Charger

Connect the battery to the charger according to the steps shown below:

Step	Illustration	Description
Step 1:		As shown in the figure, insert the plug at one end of the charger by aligning it with the battery.
Step 2:		Connect the plug at the other end of the charger to a 100~240V AC power outlet; at this moment, the charging state indicator turns red, indicating that charging begins.
Step 3:		If the charging state indicator is constantly on in green, the battery has been fully charged. After charging is finished, please disconnect the charger from the 100~240V AC power outlet.






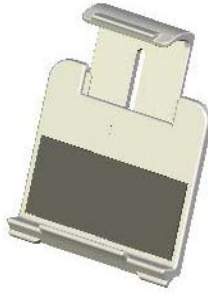









 To avoid short circuit resulting from misoperation, DO NOT pull out the charger wires during charging.

## List of Components

The following components are included in the package of this product. Please check carefully at the time of purchase. In case of any missing component or damage, please feel free to contact us.

Aerial photography equipment: 1set	Remote control: 1 set	Charger: 1 set (including power cable and charger connecting wires)	5300mAh power battery case for flight: 1pc
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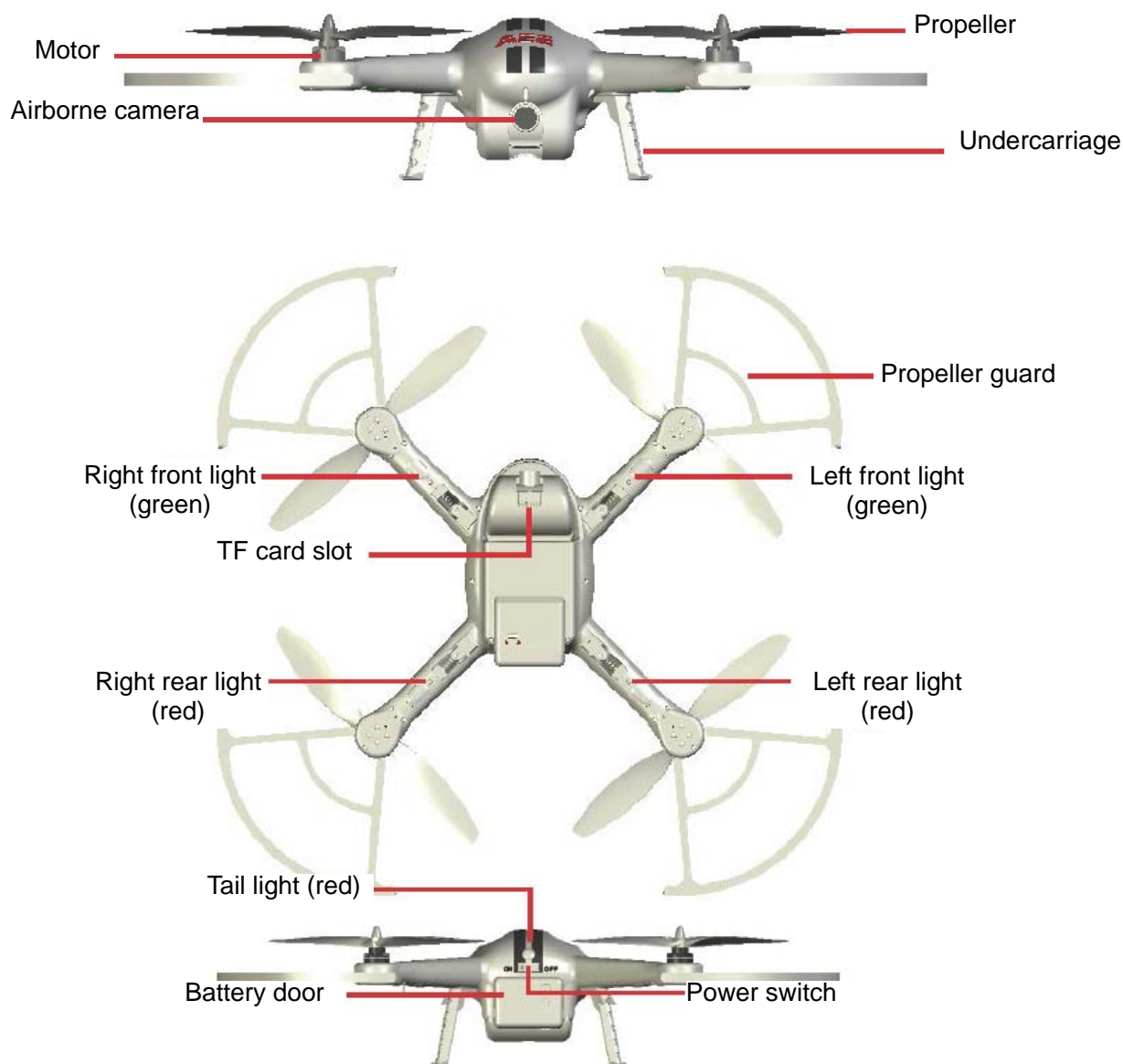


			
Repeater adapter: 1pc	Mobile phone stand: 1pc	Repeater: 1pc	Propeller guard: 4pcs
			
Cross-head screwdriver: 1pc	M3.0x10 screw: 16pcs	Wrench: 1pc	User's Manual
			
Battery of remote control: 4pcs (AA)	Propeller blade (4pcs/set): 2 sets	Long hexagonal screw: 1pc	
			

**!** Notice: The accessories of actual products may vary slightly, and the above figures are for reference only.

## Guide for Components





## Install Propellers

There are two clockwise propellers and two counter-clockwise propellers. The propeller caps have two colors: black and silver. Propellers with black caps are clockwise propellers which should be installed on support arms with “P” mark. The clockwise propellers should be installed on the left front and right rear support arms of the aerial photography equipment.

**!** Wrong installation of clockwise and counter-clockwise propellers will inevitably result in errors in the lift system of the aerial photography equipment, further leading to unpredictable consequences.

1. Place the propellers with black caps on the support arms with “P” mark, and tighten the propellers counter-clockwise; place the propellers with silver caps on the support arms without “P” mark, and tighten the propellers clockwise.
2. To remove a propeller, use a hand or auxiliary wrench to make the motor seize up (see the figure below) and stop rotating; grasp the propeller; rotate the propeller with black cap clockwise to remove the propeller; rotate the propeller with silver cap counter-clockwise to remove the propeller.



Points for attention:

- (1) The propellers are designed with automatic tightening function; please do not over-tighten them during installation, and do not use screw adhesive.
- (2) Please make sure the propellers with black and silver caps are installed in right positions.
- (3) Since the propeller blades are thin, it is suggested that gloves should be worn during installation in order to avoid accidental injury.
- (4) Please check if the propellers and the motors are properly and firmly installed before each flight.
- (5) Please check if all propellers are in good condition before each flight; in case of ageing or damage, please replace the propeller(s) in question before flight.
- (6) Please do not get close to rotating propellers or motors to avoid cutting injury.

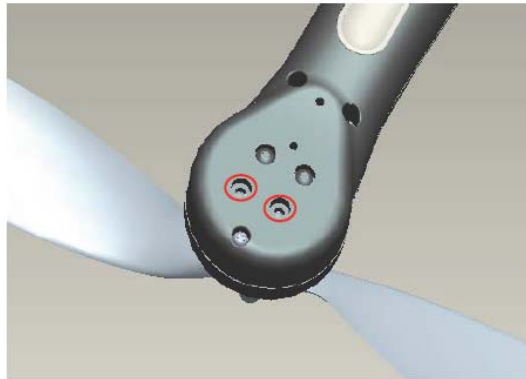


A propeller with black cap should be installed on a support arm with "P" mark.

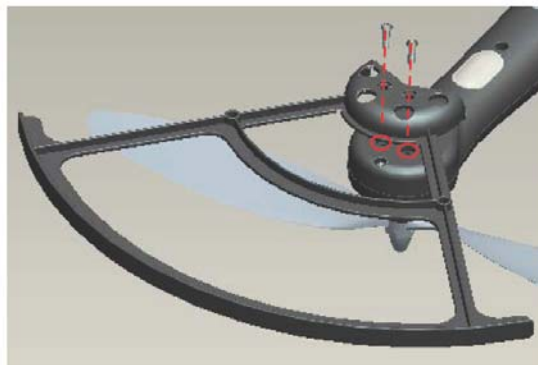
## Install Propeller Guards

Please install the propeller guards according to the steps shown below:

1. Prepare AP10 aerial photography equipment (1 set), propeller guard (4pcs), M3.0×10 screw (8pcs), and cross-head screwdriver (1pc).
2. Use the screwdriver to remove the two screws (M3.0×6) on the motor, as shown in the ovals in the figure below.



3. Tighten the two screws (M3.0×10) with proper force according to the dash lines shown in the figure below, and install the four propeller guards. Do not use screw adhesive.



Note: If propeller guards are installed, M3.0×10 screws are used; if propeller guards are not installed, only M3.0×6 screws can be used, because the motors may get damaged if the screws are too long.

## Install Battery

First move left the battery lock at the bottom of the aerial photography equipment towards the side with unlocking design; push the battery case to the bottom by aligning it with the battery compartment; then move right the battery lock towards the side with locking design.



**!** Notice: Please make sure the power switch is in the OFF state during installation of the battery; after the battery is installed, the battery lock must be moved to the locking position.

Turn on the power switch on the aerial photography equipment. At this moment, the 4 arm lights (two red lights, two green lights) are constantly on; the tail light (red) turns off 5~10s after turning on; meanwhile, the motors make “beep” sounds.

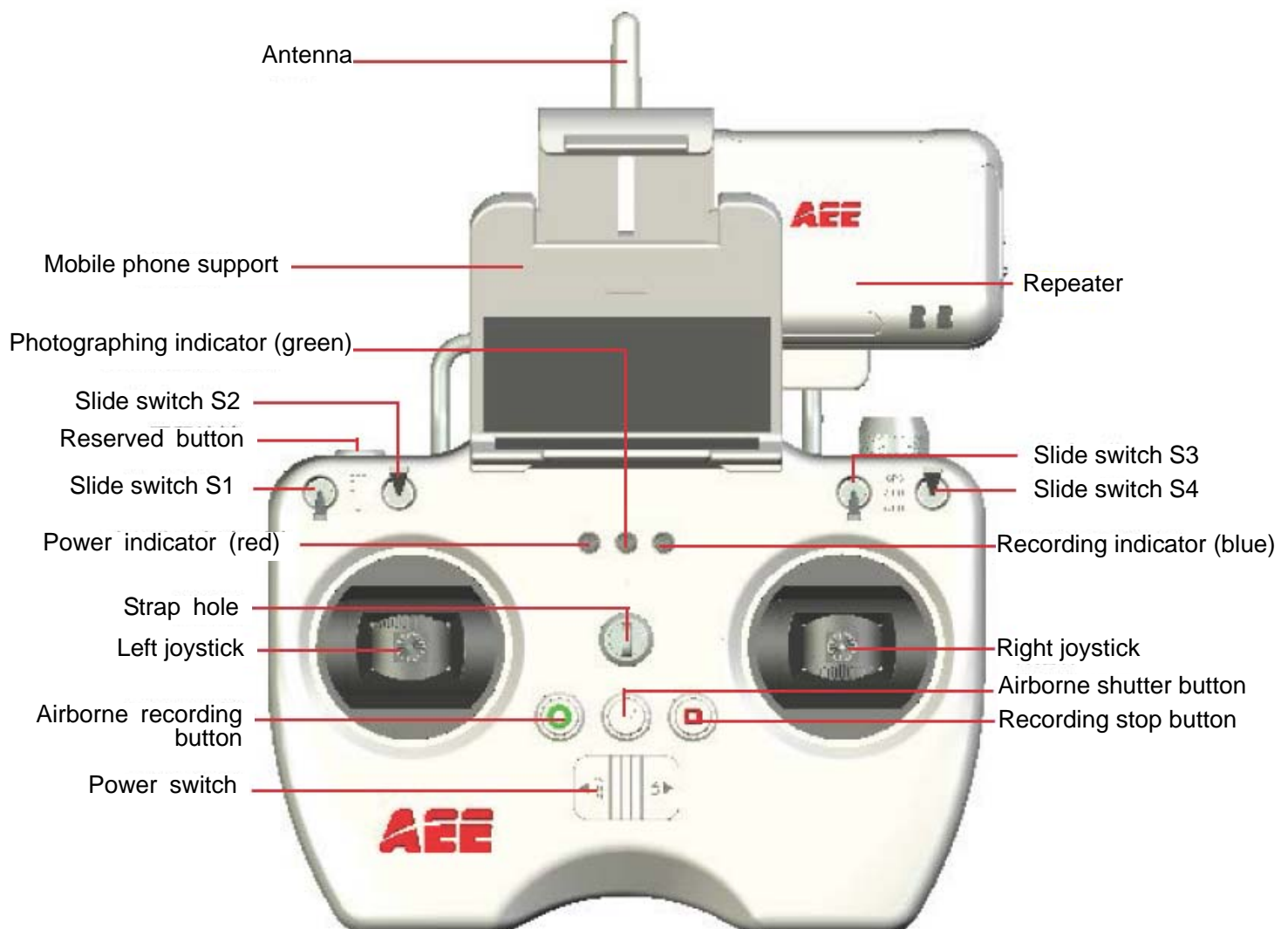
## Preparations before Take-off

Before use of AP10, please first install the propellers. Check the entire equipment to see if it is complete and secure and if any screw is loosened. Please install the clockwise and counter-clockwise propellers properly, and make sure the aerial photography equipment and the remote control have sufficient battery level.

## Control Flight with Remote Control

The remote control is specially developed for AEE aerial photography equipment to make it convenient for controlling the flight of the equipment. The remote control can independently control the flight of the aerial photography equipment and allows you to view real-time videos recorded by the aerial photography equipment on your mobile phone via Wi-Fi network.

## Guide for Components of Remote Control and Description of Their Functions



## Description of Buttons

Name of button	Description of function
Slide switch S1	1. Up (OFF): non-lock normal flight; 2. Middle (CL): course lock; 3. Down (HL): home lock
Slide switch S2	1. Up (OK): normal flight; 2. Middle (NULL): reserved; 3. Down (ADJ): enable joystick adjustment
Slide switch S3	1. Up (UP): the airborne camera lens moves up when your hand stays at this position, and the switch rebounds to the middle position when you move away your hand; 2. Middle (STOP): stop the airborne camera lens; 3. Down (DOWN): the airborne camera lens moves down when your hand stays at this position, and the switch rebounds to the middle position when you move away your hand
Slide switch S4	1. Up (AC): auto fly (GPS) mode; 2. Middle (MC): manual fly mode; 3. Down (NULL): reserved
Left joystick	It is used to control course and throttle: left/right for course, up/down for throttle
Right joystick	It is used to control pitch and roll: up/down for pitch, left/right for roll
Airborne recording button	The airborne camera begins video recording when it is pressed once.
Airborne shutter button	A photo is taken when it is pressed once.
Recording stop button	The airborne camera stops recording when it is pressed once.
Power switch	ON/OFF indication of the remote control power switch: slide leftwards to turn it OFF; slide rightwards to turn it ON.

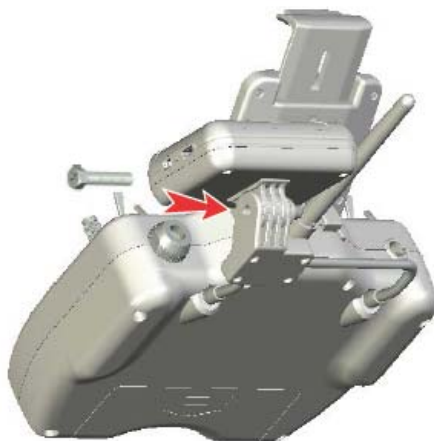
Joystick calibration mode:

Turn the slide switch S2 to “ADJ” position, and turn the left and right joysticks clockwise in full scale for two circles; then turn S2 to “OK” position to complete joystick calibration.

## Preparations for Remote Control

### Installation of repeater

The installation method is shown in the following figure: insert the repeater by aligning its bottom jack with the adapter; insert the screw into the round hole, and then use the cross-head screwdriver to tighten it.



### Installation of mobile phone stand

The installation method is shown in the following figure: snap in the mobile phone stand by aligning with the slot.





Install the batteries in the remote control; slide the power switch rightwards to turn it ON; at this moment, the left power indicator (red) turns on, and the right recording indicator (blue) turns off 3s after turning on.

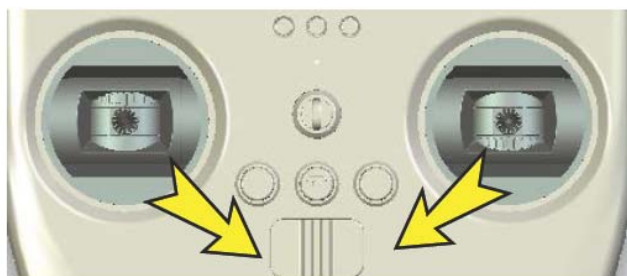
## Pairing of Aerial Photography Equipment

The aerial photography equipment has undergone pairing before delivery, so it is unnecessary to carry out pairing again. If pairing is indeed necessary, the steps below can be followed:

1. Turn on the power switch of the aerial photography equipment; at this moment, the aerial photography equipment is started with two “beep” sounds from the motors.
2. When the aerial photography equipment makes “beep” sounds, quickly turn on the remote control; the power switch indicator (red) turns on; pairing begins about 3s after the recording indicator (blue) turns on.
3. After successful pairing, the tail light (red) of the aerial photography equipment flashes quickly, and the airborne recording indicator (blue) on the remote control turns off.
4. Turn off the aerial photography equipment and the remote control. For restart, first power on the remote control and then the aerial photography equipment.
5. In case of pairing failure, please repeat Step 1~4.

## Calibration of Aerial Photography Equipment

1. Calibration of accelerometer: Place the aerial photography equipment on a horizontal plane for about 1s; turn the joysticks to a lower toe-in shape until all LED lights on the four arms turn off, and then loosen the joysticks; when the LED lights turn on again, the calibration of the first plane is finished; the other five planes of the aerial photography equipment can be calibrated in the same way.



Turn the left joystick to the lower right corner

Turn the right joystick to the lower left corner

The following figure shows the six planes that need to be calibrated:



2. Calibration of gyroscope: Place the aerial photography equipment on a horizontal plane, and keep it away from vibration sources; at this moment, the front lights (green) turn constantly on. About 1s later, turn the remote control joysticks to an upper toe-out shape (as shown in the figure) until the rear lights (red) begin to flash, and then loosen the joysticks; when the rear lights (red) turn on, the calibration is finished.



Turn the left joystick to the upper left corner

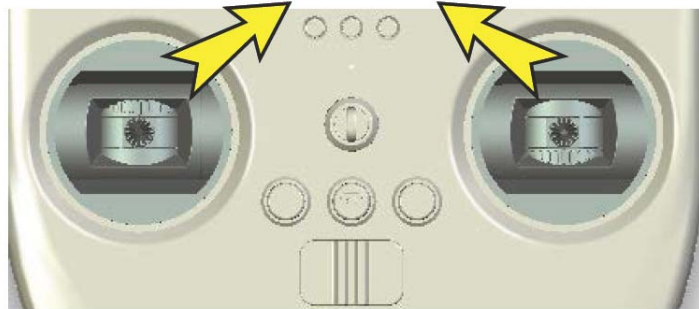
Turn the right joystick to the upper right corner



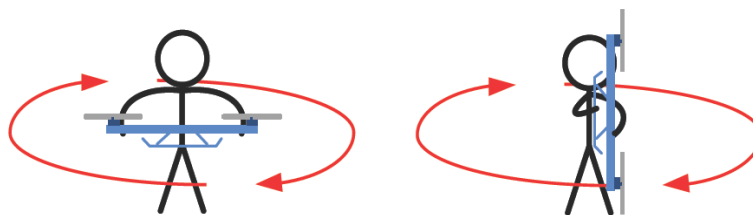
3. Calibration of compass: Place the aerial photography equipment on a horizontal plane; at this moment, the rear lights (red) turn constantly on. Turn the joysticks to an upper toe-in shape (as shown in the figure) until the front lights (green) begin to flash, and then loosen the joysticks; the aerial photography equipment begins compass calibration.

Turn the left joystick to the upper right corner

Turn the right joystick to the upper left corner



As shown in the figure below, first hold the aerial photography equipment to make it slowly rotate by 360° along the horizontal plane; then inversely rotate the aerial photography equipment by 360° along the vertical plane of the equipment; rotate several circles when the green lights are flashing to obtain adequate compass data until the front lights (green) turn off. Place the aerial photography equipment on a horizontal ground; when the front lights (green) turn on, the calibration is finished. During calibration, do not shake or move the aerial photography equipment.



## Start the Aerial Photography Equipment

### Fly control modes

The aerial photography equipment has two fly control modes: manual fly control mode ("MC") and GPS fly control mode ("AC").

1. S4 on the remote control is the mode control switch which can realize the switch between "MC" (manual fly control mode) and "AC" (GPS fly control mode).
2. It is suggested that S4 should be turned to "MC" position before each flight so that the equipment will take off at

“MC” position (manual fly control mode).

3. To switch the fly mode of the aerial photography equipment to GPS mode (if GPS satellite search is normal) when the flight in manual mode is normal, please first keep the equipment hovering, and then turn S4 to “AC” position for flight in GPS mode.

## Trial Flight

1. First power on the remote control and then the aerial photography equipment; turn the slide switch S1 up to “OFF”, S2 to “OK”, S3 to “STOP”, and S4 to “MC”; the aerial photography equipment begins to search for satellites; at this moment, the two front arm lights (green), the two rear arm lights (red), and the tail light (red) turn on; after successful self-checking, the tail light flashes quickly, and the arm lights are constantly on. When 5 satellites are found, the tail light flashes once every 3s; when 6 satellites are found, the tail light flashes twice every 3s, and so on and so forth; when 10 or more satellites are found, the tail light flashes six times every 3s.

Satellite search instruction

Number of satellite	5	6	7	8	9	10 or more
Flash frequency of tail light	1	2	3	4	5	6

For outdoor operation of the aerial photography equipment, please do not start the equipment until 6 or more satellites are found, so as to make sure the aerial photography equipment records the position of HOME point and prevent the equipment from losing control.

If the aerial photography equipment is forced to take off before 6 satellites are found, the following consequences will be caused:

- 1) When it is beyond the operating range, the aerial photography equipment may fail to go back to the take-off position.
- 2) When the remote control signals are jammed, the aerial photography equipment may fail to go back to the take-off position.
- 3) When switched to the auto fly mode, the aerial photography equipment may not hover at the current position; what's worse, equipment crash can be caused.
2. For protection, when the aerial photography equipment is powered up, the electronic speed controller will not start the motors before receiving the control signal. At this moment, unlocking should be carried out first; turn the joysticks to a lower toe-out shape (as shown in the figure) and loosen them after 3s. The motors must be locked after the aerial photography equipment lands; turn the joysticks to a lower toe-out shape and loosen them after 3s; then the motors stop running. At this moment, there is no response from the aerial photography equipment when the joysticks are operated. For restart, also turn the joysticks to a lower toe-out shape to unlock the aerial photography equipment.



Turn the left joystick to the lower left corner

Turn the right joystick to the lower right corner

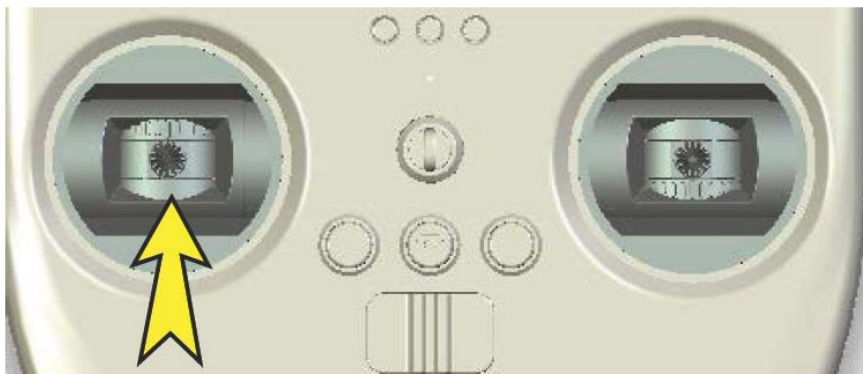
## Motor startup and shutdown

Motor startup: For protection, the motors will not be started up by directly pushing the throttle before take-off. At this

moment, unlocking should be first carried out; turn the joysticks to a lower toe-out shape and loosen them after 3s. Motor shutdown: The aerial photography equipment has three modes for motor shutdown: motors will be shut down (immediately) when the joysticks are turned to a lower toe-out shape; motors can be shut down in 3s when the throttle lever is lower than 5%; motors will automatically stop running 3s after the equipment lands in protected fly mode (out-of-control return and landing mode, low-battery-level landing mode).

	Description	Applicable condition	Operation method	Response speed
Mode 1	Motors will be shut down (immediately) when the joysticks are turned to a lower toe-out shape	The aerial photography equipment lands; the joysticks are turned to a lower toe-out shape.	Push the joysticks manually	Immediate motor shutdown
Mode 2	Motors can be shut down in 3s when the throttle lever is lower than 5%	The aerial photography equipment lands; 3s after the throttle lever is lower than 5%	Push the joysticks manually	Motor shutdown in 3s
Mode 3	Motors will automatically stop running 3s after the equipment lands in protected mode (out-of-control return and landing mode, low-battery-level landing mode). Also, the slide switch S4 can be used to switch once to exit the protected mode, and then push the lever to stop the motors.	3s after the aerial photography equipment lands in protected mode (out-of-control return and landing mode, low-battery-level landing mode).	Complete automatically	Motor shutdown in 3s

3. Press the left joystick to the lowest position and then turn the right joystick to the middle position; at this moment, the propellers start to rotate at a low speed, and the aerial photography equipment enters the starting state; slowly push up the left joystick, and the aerial photography equipment begins to climb up.



Turn up the left joystick slowly

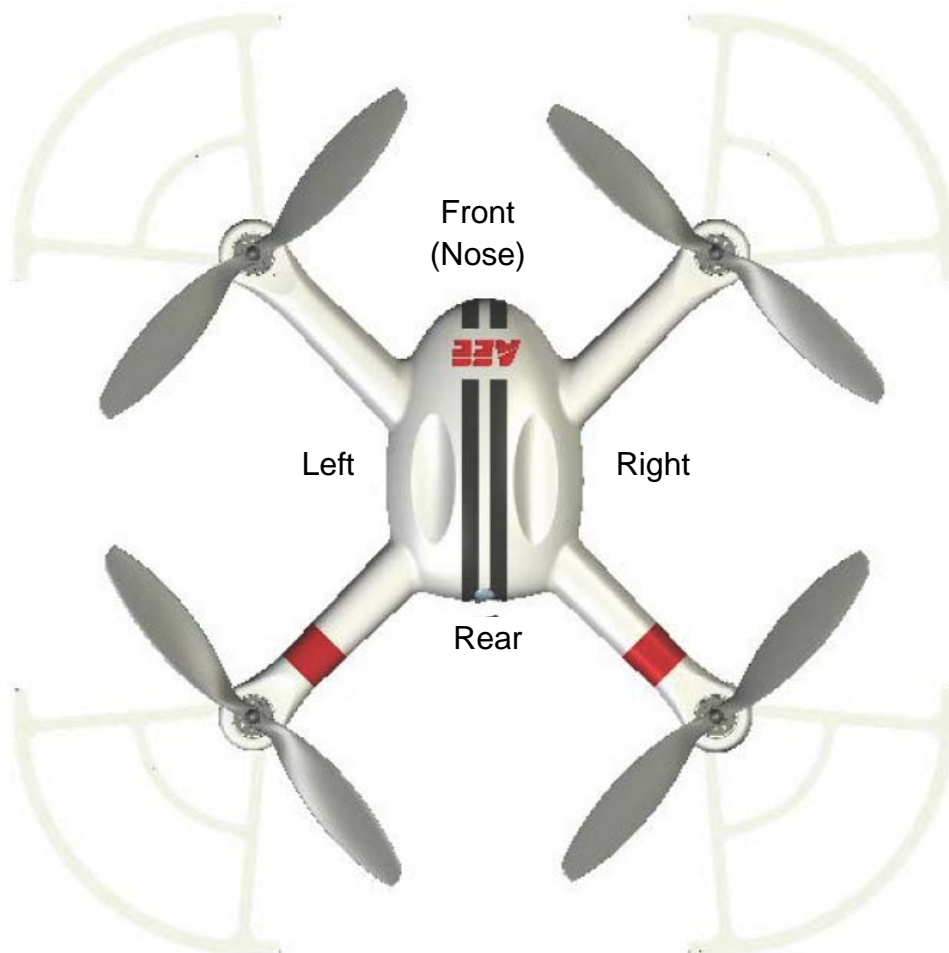
Return the right joystick to the middle position

4. Gently push the joysticks in pitch, roll and course directions to check if the moving trend of the aerial photography equipment is correct (if not correct, please immediately land the aerial photography equipment to find out the cause of the problem).
5. After the aerial photography equipment lifts off, please always pay attention to the movement of the equipment, and use the joysticks to properly adjust the movement state of the aerial photography equipment. After reaching the desired height, loosen the throttle joystick to return it to the middle position. At this moment, the aerial photography equipment can stay in hover state.

6. In the manual fly mode (MC), when the nose and tail of the aerial photography equipment cannot be discriminated because the equipment is beyond your sight, the slide switch S4 can be turned up to “AC”; then, the aerial photography equipment will stay in the auto hover state; if the remote control is turned off, the aerial photography equipment will automatically go back to the take-off position.
7. The endurance time of the aerial photography equipment is about 25min. For safety’s sake, when the remaining battery level is 50%, the aerial photography equipment will send a Level 1 alarm, and the arm lights will flash slowly. When the remaining battery level is 10%, the aerial photography equipment will send a Level 2 alarm, and the arm lights will flash quickly. After the Level 2 alarm keeps stable for 2s, the aerial photography equipment will enable low-battery auto landing; at this moment, you can switch to manually control the aerial photography equipment. For auto landing, the auto fly mode is adopted; if the aerial photography equipment enters auto landing in the manual mode, first switch to the auto mode and then to the manual mode; if the aerial photography equipment enters auto landing in the auto mode, you can directly switch to the manual mode to control the aerial photography equipment.
8. Slowly land the aerial photography equipment; after landing, turn the joysticks to a lower toe-out shape, and the motors will stop running 3s later. After the flight, please first power off the aerial photography equipment, and then the remote control.


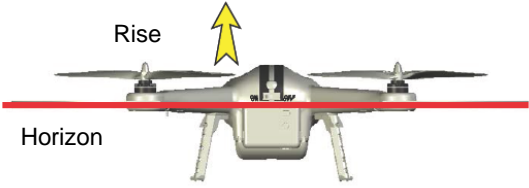

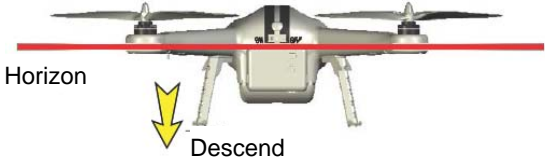
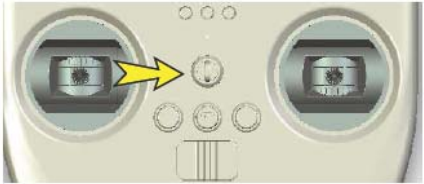
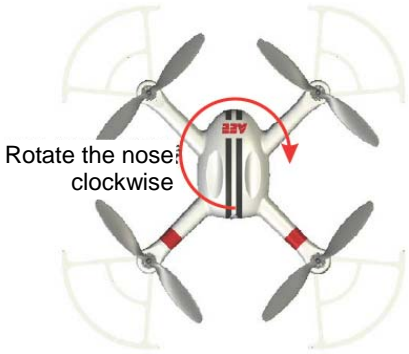
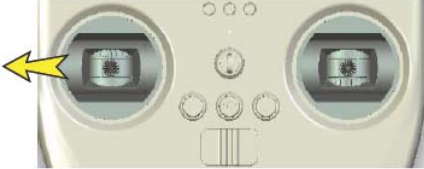
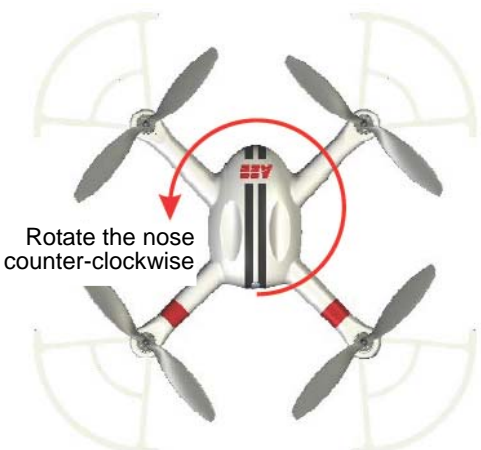

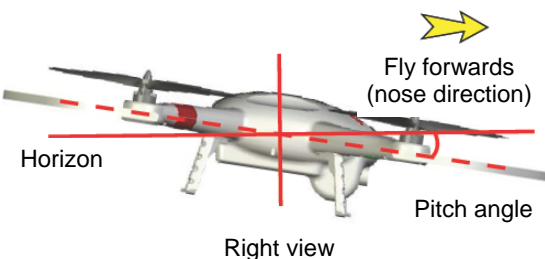
## Direction Control

Directions of the aerial photography equipment are defined in the following figure:


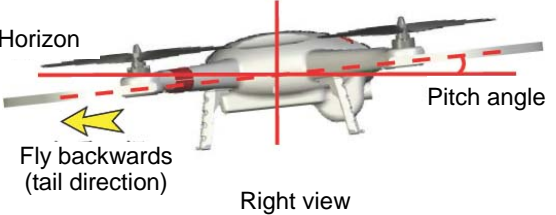

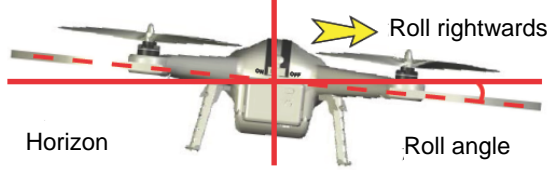

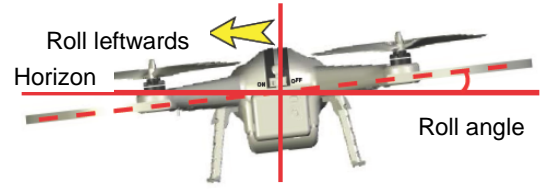


See the following table for details:

Joystick	Attitude of aerial photography equipment	Illustration
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 <p>Turn the left joystick forwards, and keep the right joystick in the original position.</p>	<p><b>Climb Upwards</b> The motor speed and the propeller speed increase. The climbing speed increases with as the joystick turning angle increases.</p>	
 <p>Turn the left joystick backwards, and keep the right joystick in the original position.</p>	<p><b>Go downwards</b> The motor speed and the propeller speed decrease. The descending speed increases as the joystick turning angle increases.</p>	
 <p>Turn the left joystick rightwards, and keep the right joystick in the original position.</p>	<p><b>Rotate the nose rightwards</b> (rotate clockwise)</p>	
 <p>Turn the left joystick leftwards, and keep the right joystick in the original position.</p>	<p><b>Rotate the nose leftwards</b> (rotate counter-clockwise)</p>	
 <p>Turn the right joystick forwards, and keep the left joystick in the original position.</p>	<p><b>Fly forwards</b> The nose tilts downwards; the aerial photography equipment inclines forwards and flies along the nose direction. At this moment, it is needed to slightly push forward the throttle to adjust the flight altitude so as</p>	




position.	to realize horizontal flight of the aerial photography equipment.	
 <p>Turn the right joystick backwards, and keep the left joystick in the original position.</p>	<p><b>Fly backwards</b></p> <p>The tail tilts downwards; the aerial photography equipment inclines backwards and flies along the tail direction. At this moment, it is needed to slightly push forward the throttle to adjust the flight altitude so as to realize horizontal flight of the aerial photography equipment.</p>	 <p>Right view</p>
 <p>Turn the right joystick rightwards, and keep the left joystick in the original position.</p>	<p><b>Fly rightwards</b></p> <p>The aerial photography equipment inclines rightwards. At this moment, it is needed to slightly push forward the throttle to adjust the flight altitude so as to realize horizontal flight of the aerial photography equipment.</p>	
 <p>Turn the right joystick leftwards, and keep the left joystick in the original position.</p>	<p><b>Fly leftwards</b></p> <p>The aerial photography equipment inclines leftwards. At this moment, it is needed to slightly push forward the throttle to adjust the flight altitude so as to realize horizontal flight of the aerial photography equipment.</p>	

## How to Use Wi-Fi

AP10 camera device is designed with built-in Wi-Fi. You can connect a smartphone to AP10 airborne camera to realize remote control over the airborne camera. First of all, please install the app provided by AEE on your mobile phone.

### Install App on Mobile Phone

How to install the app on iPhone:

Enter "APP Store"; type in "AEE" in the Find Bar; find the app icon " " among the search results; click on this icon to enter the installation interface, and finish the installation according to prompts.

Select repeater

1. Power on the aerial photography equipment and the remote control to successfully connect the remote control with the aerial photography equipment.
2. Turn the power switch of the repeater to "ON" position; the airborne DV and the repeater enter the pairing mode.
3. Wait for about 30s; then the WiFi signal indicator (blue) of the repeater flashes, indicating that the repeater is in

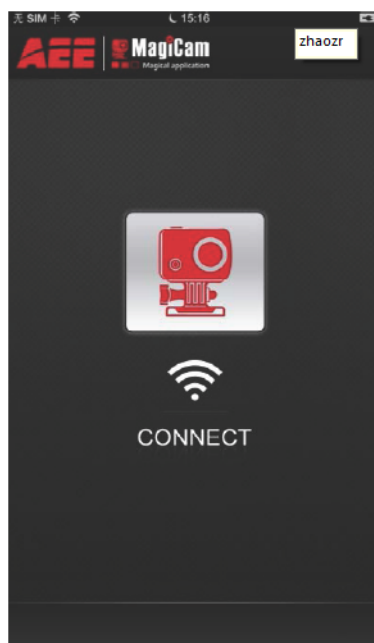
normal working status.

4. Use a needle-like object to press the “RESET” button of the repeater until the WiFi signal indicator turns off; then loosen the “RESET” button.
5. Wait for about 30s; then the WiFi signal indicator (blue) flashes (indicating the repeater has acquired the SSID and MAC address of the airborne DV), and the repeater enters the binding state; in case of unsuccessful pairing, repeat Step 3-5 until pairing is successful.
6. Find the repeater in the WiFi list on the mobile device and connect it; the name of the repeater is DW12, and the default password is 00000000.

## Connect App

Click on the app icon “” to enter the app connection interface; click to enter the app control interface.

Note: In case of unsuccessful connection, an error icon will appear; you can click again for reconnection.



(App connection interface)







(App control interface)

Remote operation of the camera can be realized by clicking on the corresponding icon in the app control interface.

## Instructions on How to Operate Wi-Fi Control Interface






### 1. Video Recording

Click on the video recording icon “”, and the current state icon displayed is “”. Click on “” to turn on video recording, and the icon displayed is “”. Click on “” once again to stop video recording, and the icon displayed is “”. Enter the full screen by clicking on the screen, and exit the full screen by clicking on the screen again.

### 2. Photographing


Click on the photographing icon “”, and the current state icon displayed is “”. Click on “” to take photos; during photographing, the icon displayed is “”; after photographing is finished, the icon displayed is “”.

### 3. Snapshot

Click on the snapshot icon “”, and the current state icon displayed is “”. Click on “” to take photos; during photographing, the icon displayed is “”; after photographing is finished, the icon displayed is “”.



#### 4. Setting

Click on the setting icon “” to change the parameters of recording setting, photographing setting and parameter setting.

##### (1) Recording setting

Click the “Resolution” option to set the desired video resolution: (PAL system) 1920×1080P 025f, 1280×0960P 048f/025f, 1280×0720P 050f/025f, 0848×0480P 100f/050f; (NTSC system) 1920×1080P 030f, 1280×0960P 048f/030f, 1280×0720P 060f/030f, 0848×0480P 120f/060f.

Click the “Viewing Angle” option to set the desired viewing angle (Wide, Medium, Narrow, Small).

Click the “Bit Rate” option to set the desired bit rate (Normal, High Bit Rate)

##### (2) Photographing setting

Click the “Resolution” option to set the desired picture resolution (8.0M, 12.0M, 16.0M).

Click the “Snapshot” option to set the desired number of pictures to be taken by snapshot (3PCS, 6PCS, 10PCS).

##### (3) Parameter setting

Click the “Tone” option to set the desired tone (OFF, Standard).

Click the “Front State Indicator” option to set the desired front state indicator (Full ON, Full OFF).

Click the “Video Content Cyclic Overlay” option to set the corresponding cyclic overlay state (OFF, ON).

Click the “TV Output Format” option to set the desired output format (PAL, NTSC).

Click the “Language” option to set the desired language (10 languages such as Traditional Chinese, Simplified Chinese and English).

Click the “Date/Time” option to set to the current date/time of the mobile phone.

Click the “Format Memory Card” option to select formatting or not formatting the memory card.

## Instructions on Use of the Repeater

### 1. Product structure and appearance



#### 1.2 Interface definitions:

[1] WiFi signal indicator: It is blue when the connection is normal.

[2] Working indicator: It is green when the device is working after power-on. When the battery is being charged after power-off, it flashes quickly in red; when the battery is fully charged, it is constantly on in red.

[3] Power switch: It is used to power ON or OFF the device.

[4] Binding button: Binding between the repeater and the camera will be triggered when this button is pressed.

[5] USB port: Charging port.

#### 1.3 Specifications

Battery: 1600mAh

Usable duration: 3.4h

Charging duration: <2h

#### 1.4 Binding between the repeater and the airborne camera

The repeater is a wireless communication device working at 2.4GHz frequency band, which is used to increase the effective communication distance between the mobile device and the aerial photography equipment. In an open field without interference, the effective communication distance can reach 300m or more. The effective communication distance can be affected by the ambient environment, such as tree sheltering, building reflection and other sources at the same frequency band. Before flight, please make sure the repeater works normally, or the mobile device will fail to be connected with the airborne camera. Each repeater has its sole MAC address and service set identifier (SSID) which are printed on the User Manual of the product; the form of SSID is DW12.

##### I. Turn on the repeater DW12:

1. Fix the repeater to the corresponding position on the remote control according to the User Manual; make sure the repeater is firmly fixed.
2. Turn the power switch of the repeater to "ON" position to turn on the repeater.
3. Wait for about 30s; then the WiFi signal indicator (blue) flashes, indicating that the repeater is in normal working status.

##### II. Steps for binding the repeater DW12 with the airborne camera:

1. Power on the aerial photography equipment and the remote control to successfully connect the remote control with the equipment.
2. Turn the slide switch S2 of the remote control to the middle position, and the camera enters the pairing mode.
3. Power up the repeater DW12.
4. Wait for about 60s; use a needle-like object to press the binding button of the repeater until the WiFi signal indicator turns off; then loosen the binding button.
5. Wait for about 30s; then the WiFi signal indicator (blue) flashes (indicating the repeater DW12 has acquired the SSID and MAC address of the camera), and the repeater enters the binding state; in case of unsuccessful pairing, please repeat the above steps from Step 3.
6. Find the repeater DW12 in the WiFi list on the mobile device and connect it;

##### Points for attention:

- (1) Please fully charge the repeater before its first use.
- (2) When the repeater is in the state of low-voltage alarm (the power indicator quickly flashes in red), it may stop running at any time; please charge it timely. When the repeater is charged after power-off, the power indicator slowly flashes in red: 1s on, 2s off; the red light is constantly on when the repeater is fully charged.
- (3) Before each outdoor use, please fully charge the repeater to ensure its normal use.
- (4) After each use, please remember to power off the repeater.
- (5) During flight, please try to align the repeater with the aerial photography equipment to obtain the maximum communication distance.
- (6) The SSID of the repeater can be found in the WiFi list on the mobile phone only when both the camera and the repeater are powered up and work normally.
- (7) Please do not press the binding button at random to avoid binding loss.

Remark: Please re-pair before power up the repeater DW12 or the aerial photography equipment, which will be resolved per updating software in future.

## Alarm Sounds

The aerial photography equipment can make the following alarm sounds:

Working status	Sound definition (different in interval and length)
Level 2 alarm for low battery of the aerial	The arm lights flash quickly with beep sounds: beep beep ---

photography equipment	beep beep --- beep beep... continuous
Level 1 alarm for low battery of the aerial photography equipment	The arm lights flash slowly with beep sounds: beep --- beep --- beep... continuous
Alarm for low battery of the remote control	Beep --- beep beep... continuous

Remark: Upon Level 2 alarm for low battery of the aerial photography equipment, it will automatically land at the current position rather than go home.

In case of Level 1 alarm for low battery of the aerial photography equipment, please cautiously decide whether flight can be executed (it is suggested that it shall return for replacement of the battery before flying), to prevent flight accident that may be caused by low battery of the aerial photography equipment or the remote control! Upon Level 1 alarm for low battery of the aerial photography equipment, it is suggested that the throttle joystick should not be pushed to the top in order to prolong the flight time. If full-throttle flight is kept long after Level 1 alarm for low battery, the equipment will enter Level 2 low battery state ahead of time.

## Specification

Description	Specification
Flight mode	Manual control flight, auto hover, nose orientation lock function
Endurance time	About 25min
Maximum cruising speed	25m/s
Maximum remote control range	500m
Flight altitude (relative altitude)	150m
Normal take-off/landing wind speed	Below Level 3
Working temperature	-20°C ~ +60°C (when it is below 0°C, pay attention to thermal insulation of the battery; the battery performance is better when it is above 0°C.)
Working humidity	5% ~ 95%RH
Storage temperature	-40°C ~ +85°C
Airborne camera	HD 1080P
Net weight of aerial photography equipment	1.2KG

## Troubleshooting

Before test flight, please read the "Operation Instruction" first. If normal take-off fails, please perform troubleshooting according to the table below. If the problem still exists, please contact us immediately. To avoid unnecessary loss, please do not operate blindly!

Fault	Solution
Speeds of the four motors are obviously inconsistent with each other after startup (some run fast, while some run slowly)	(1) Make sure the aerial photography equipment is placed on a flat ground before self-checking (2) Use the pitch and roll joystick of the remote control to optimize take-off process.
The aerial photography equipment cannot be started after successful self-checking	Check the manual/auto switch of the remote control to make sure it is in the manual state
Normal take-off fails when the throttle lever is pushed forward after the aerial photography equipment is	(1) Check the four propellers of the aerial photography equipment to see if they are installed onto the motors

started	properly as required (2) Check the power battery of the aerial photography equipment to make sure the battery level is high enough.
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## Protection Mechanism

1. During flying in the manual mode, when it is beyond the operating range, the aerial photography equipment will enter the protection mode, and automatically fly back to the take-off position and land.
2. During flying in the manual/auto mode, when the remote control is powered off, the aerial photography equipment will enter the protection mode, and automatically fly back to the take-off position and land.
3. In case of Level 2 alarm for low battery, the aerial photography equipment will enter the protection mode; at this moment, the aerial photography equipment will vertically descend to the ground (in case of an emergency, in the auto fly mode, you can switch to the manual mode to control landing manually; in the manual fly mode, switch to the auto mode and then to the manual mode to realize manual control of landing).
4. To fly back the aerial photography equipment, the auto and manual modes should be switched back and forth until the aerial photography equipment can be controlled manually.





Please read this Manual carefully before use, and keep it handy for future reference.

Created in China  
Made in Shenzhen

**AEE AERIAL PHOTOGRAPHY EQUIPMENT**

**AEE** | **深圳一电航空技术有限公司**  
**SHENZHEN AEE AVIATION TECHNOLOGY CO.,LTD**

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Tel.: 0755-29518998 Fax: 0755-27358999



## FCC Information and Copyright

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.

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.

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

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.