CUAV
雷 迅 创 新

CUAV GS

User's Guide

v2.0.1

CUAV TECH INC.,LTD

目录

1 Login, register, retrieve password

The account number must be a mobile phone number in mainland China or a mail box that can be used normally worldwide; the password must be a number, uppercase English, lowercase English, at least three combinations of symbols, and a length of 8-16 digits。

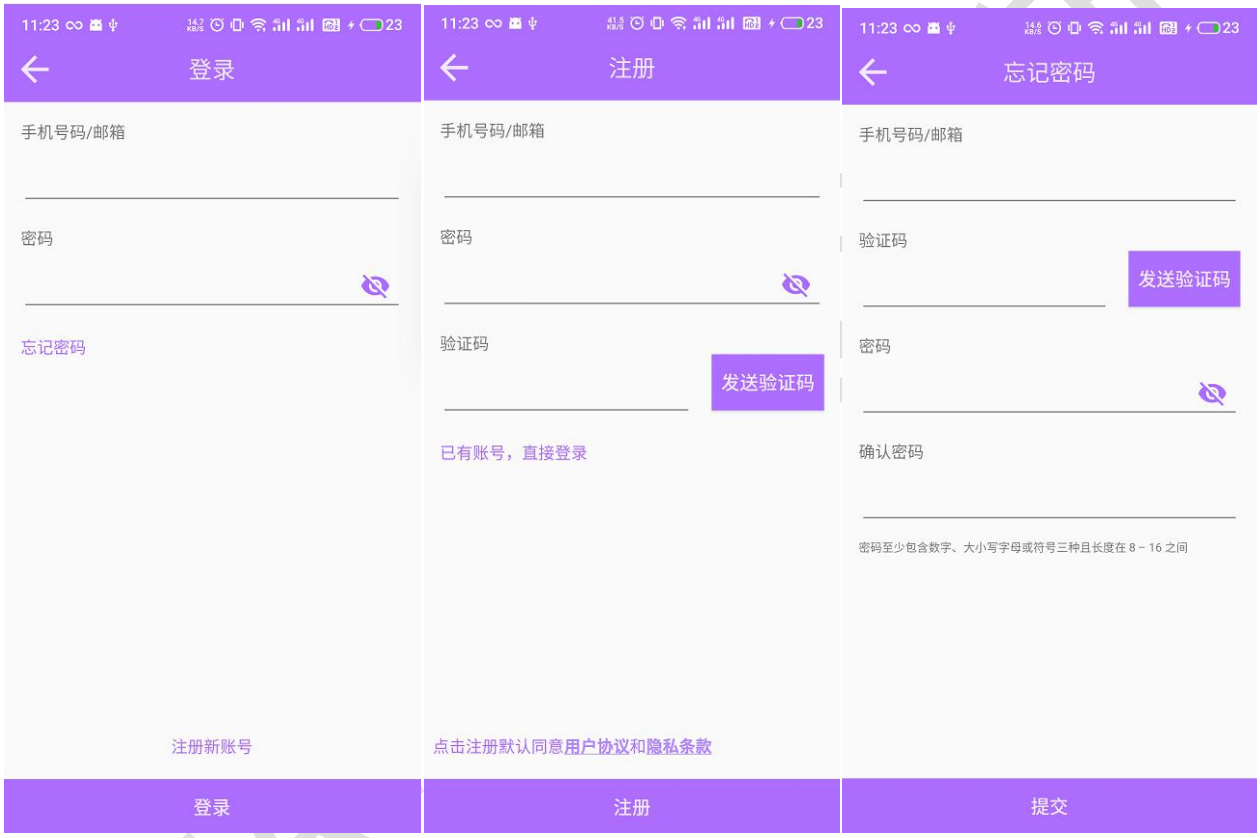


Figure 1- 1

2 Main interface

The main page is the device binding, selection and connection interface.

- Device binding process: Click the round icon in the center of the main interface (or click the "+" icon button at the bottom of the personal device page) to scan the QR code. After scanning the code, please click the "Confirm" button on the device to bind as soon as possible equipment. If the binding fails, it may be that the device has already been bound, and a device can only be bound by one account.
- Personal equipment and team equipment are displayed separately, click the "personal equipment" and "team equipment" above to switch.

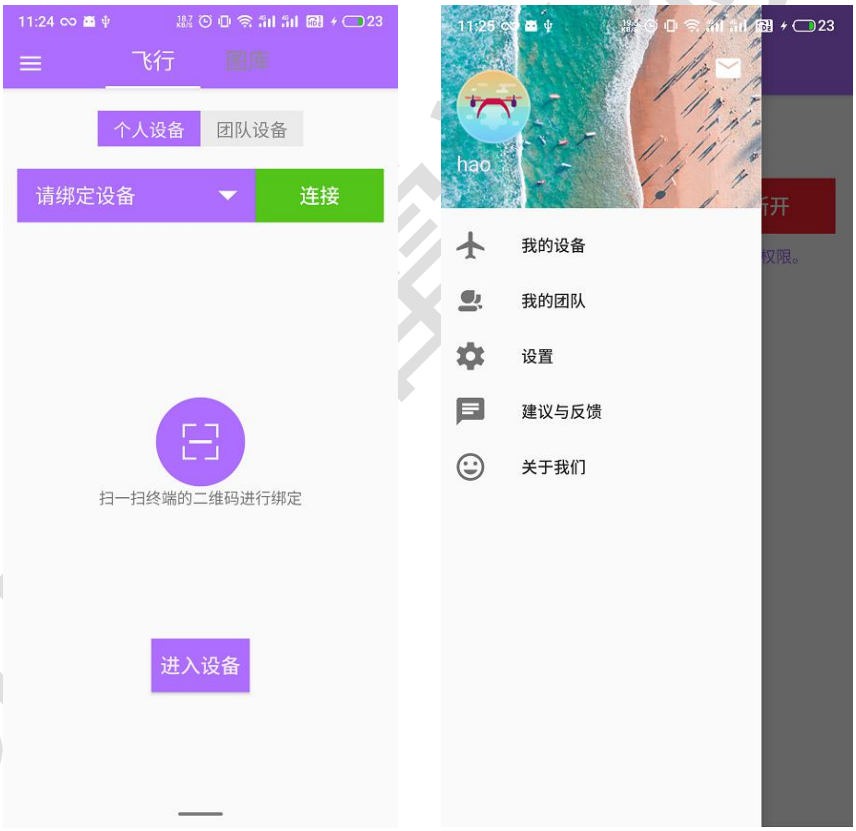


Figure 2- 1

3 Personal information management

- Modify nickname: the maximum length is 8 Chinese characters or 24 English letters.
- Unbind and change mobile phone or email address: currently only one mobile phone number or email address cannot be unbound。
- Modify password: The password must consist of numbers, uppercase English, lowercase English, at least three combinations of symbols, and the length is 8-16 digits.

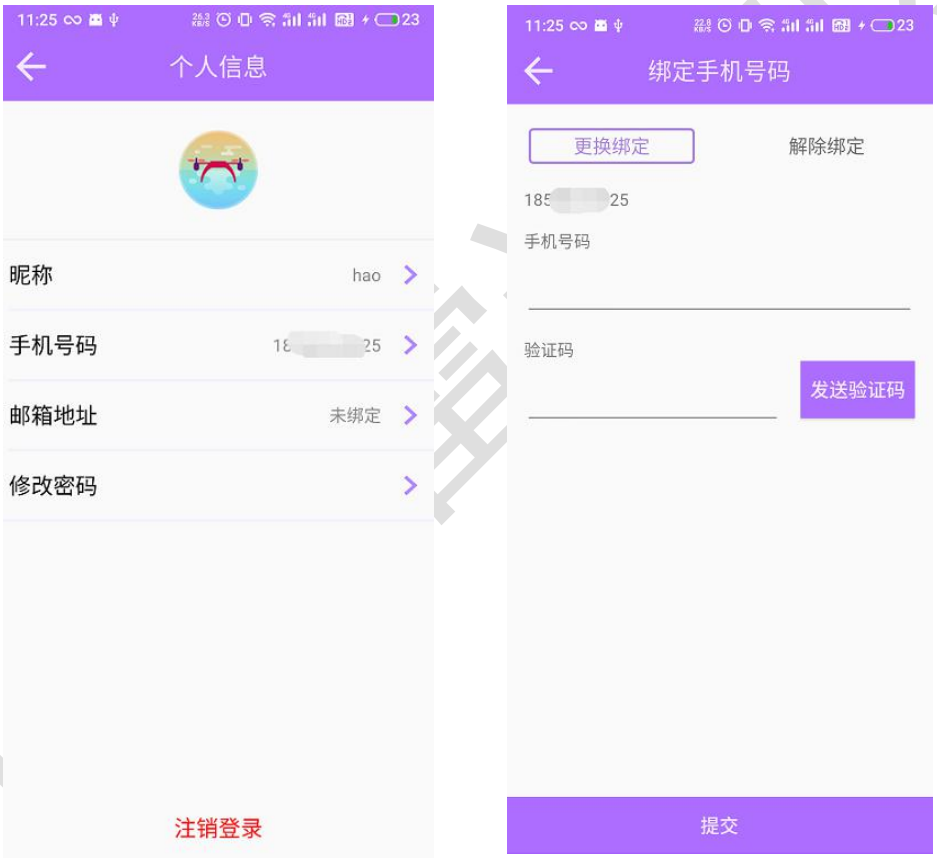


Figure 3- 1

4 My device

Click the button at the bottom right, scan the QR code, and then click the device's confirmation button to successfully add the device; for the devices in "Personal Devices", you have the authority of the operator and the administrator.

The two icons at the bottom of the device small card "unbind device" or "modify device remarks". The maximum length of equipment remarks is 8 lines or 24 English letters.

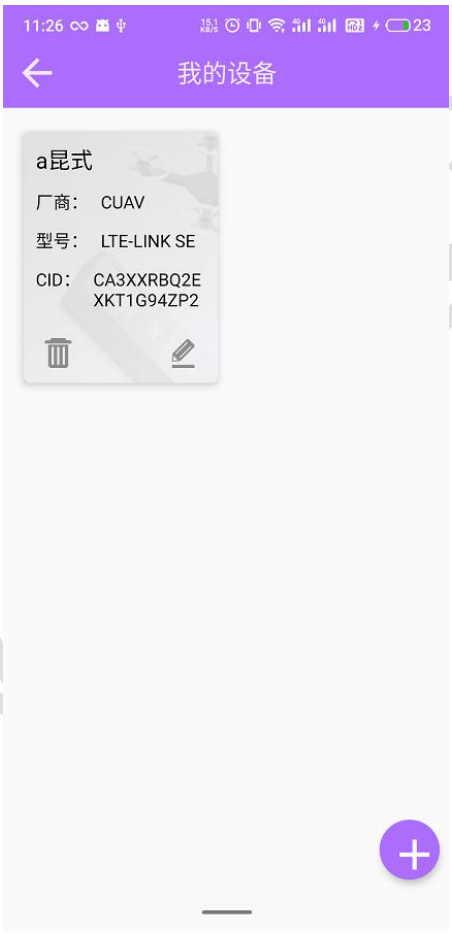


Figure 4- 1

5 My team

- To view team, members and equipment and related permissions information. If you need to create a team, invite members, add team equipment, etc., please use "FeiGong transmission".
- **Equipment authority：** The "operator" of the equipment has the right to control the aircraft and can use all the flight functions; other people in the team are observers of the equipment, and can only observe flight data and video, but cannot control the aircraft.

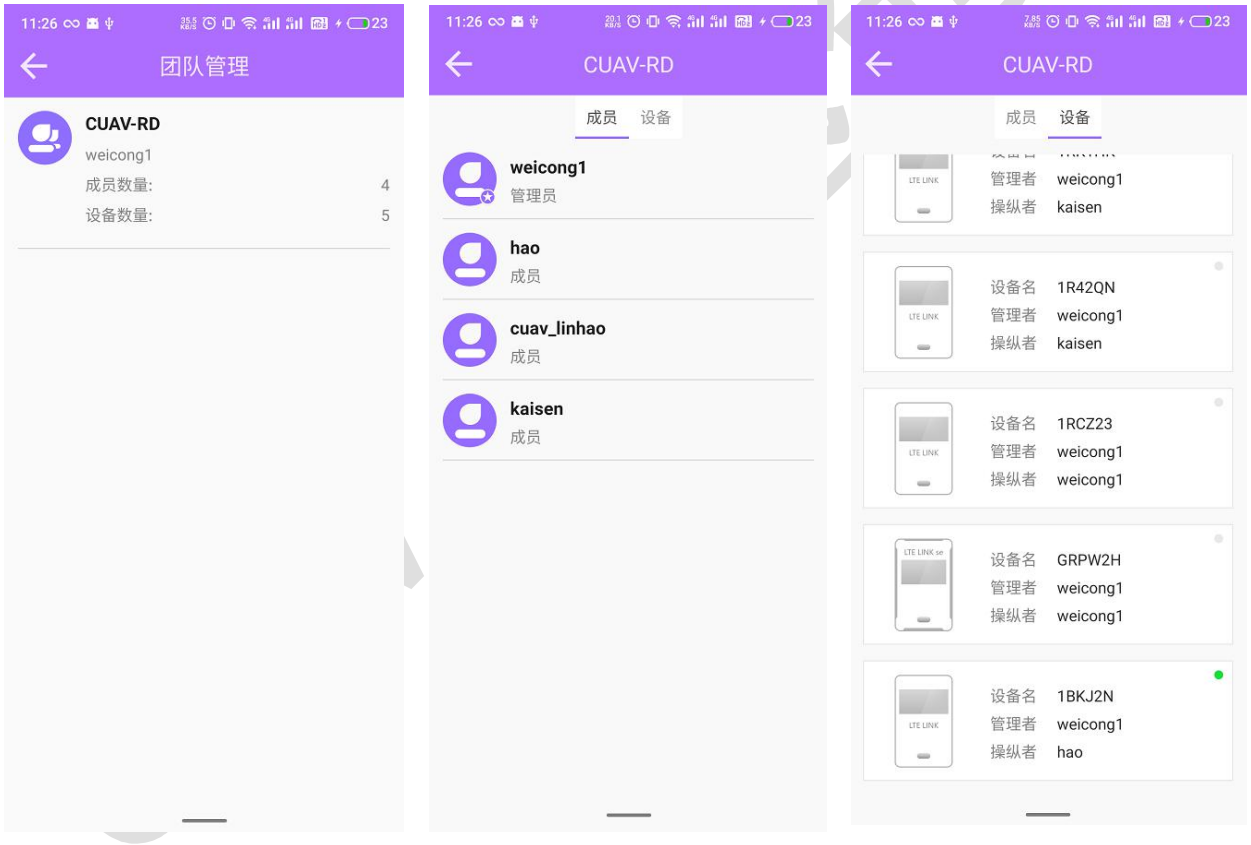


Figure 5- 1

6 Team news

If you receive the invitation message, please reply on the "FeiGong transmission".

Figure 6- 1

7 Set up

Language selection (Chinese and English), clear the cache, and set the flight interface always on.

The system language of the phone will be used for the first launch of the software, and all non-Chinese will be displayed in English.

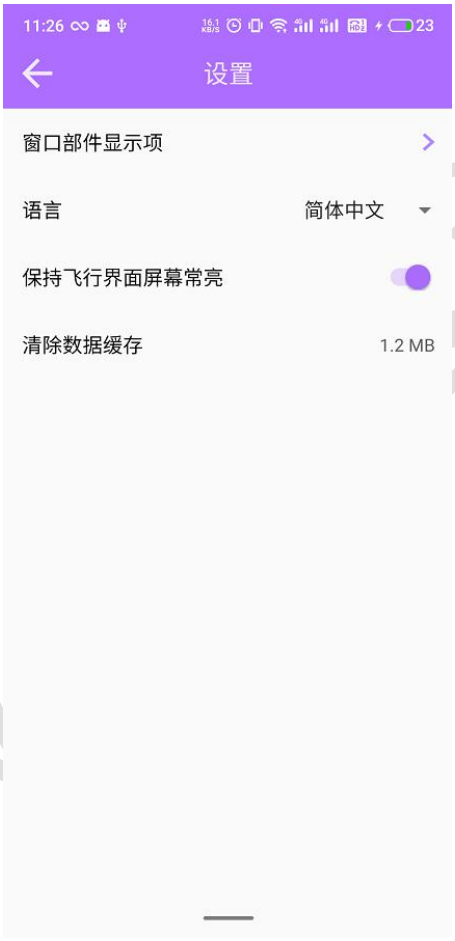


Figure 7- 1

8 About us

- "The v2.0.0 bate under "CUAV GS" indicates the version number of the software. The official release version does not have the word "bate".
- Click the QR code to enter WeChat, search and follow our official account, you can get more information and the latest product information.
- Check for updates: Click if there is a new version or prompt to update the content, otherwise the current version is the latest.

Figure 8- 1

9 Gallery

Connection method: first connect the mobile device to the hot spot on the drone, pull down to refresh the list and synchronize the video or photos on the drone. Photos and videos are stored under sdcard/CUAV/photo and sdcard/CUAV/video respectively.

Note： Due to the change of the recording format of LTE devices, the current version cannot play video files, please use a third-party video player that can decode H265 raw streams.

Figure 9- 1

10 Device connection

Connection steps：

1) Click the device drop-down box and select the device (black means the current device is online, gray means the device is offline and cannot be selected)；
2) Click the green "Connect" button；
3) Click the "Enter Device" button below; successfully enter the flight interface. You can enter the flight interface without connecting the device.

Figure 10- 1

11 Flight interface

11.1 Unlock/lock

Before the drone is unlocked, there will be a series of safety checks. Only when it meets the unlocking conditions can it be unlocked. Click the icon in the control area on the left side of the flight interface. A dialog box pops up, swipe right to confirm the command. The execution result can be judged according to the status change of the icon. The reason for unlocking failure can be viewed in the flight log.

-  Locked state
-  Unlocked state

图 11-1

11.2 Takeoff / landing

(1)Click the "Takeoff Icon" and a dialog box pops up. Click the input box to set the takeoff height (the default is 15 meters, or you can set it in [Settings-Flight Control-Takeoff Height]), slide to the right to confirm the command. After the takeoff is successful, the drone

rises to the specified altitude and maintains its current position. After taking off, the drone automatically switches to Guided mode, and users can switch to the corresponding mode according to their needs. For example, switch to Auto mode or click the "Start Mission" button to start the route mission.

When takeoff successfully the icon changes to , That is, it has been lifted off, and then click to execute the "landing" command.

(2)Landing： The aircraft will slowly descend vertically to the ground at its current position, and at the same time, pay attention to the surrounding environment to avoid accidents.

Note: Fixed-wing aircraft cannot use take-off/landing functions; multi-rotor and hybrid wing (vertical take-off and landing aircraft) can.

Figure 11- 2

11.3 Return back

11.3.1 Return location

is the default launch point of the drone, which is automatically updated after unlocking. If the user drags the icon to change the position, it will not be updated. The changed position will become the new "home point". Modifying the "home point" position in

"RTL" mode will not take effect immediately.

11.3.2 Return mode

- RTL：The aircraft flies to and from the waypoint from its current position. This operation can be performed by pressing the Return to Home button in the control area on the left side of the flight interface or by switching the "RTL" mode. (General)
- Smart RTL：The aircraft returns to the launch point of the drone along the trajectory it just flew at its current location. Changing the position of the "return point" does not affect the launch point. (Multi-rotor).
- QRTL：Let the hybrid-wing aircraft return to the "home point" with multiple rotors. (Mixed Wing).

11.4 Route mission

11.4.1 Task start

Click ,a dialog box pops up, slide to the right to confirm the command. After the start mission command is executed successfully, the aircraft will automatically switch to "Auto" mode, and the drone will start to perform the route mission after taking off from the ground to the take-off height

Note：

- The aircraft cannot start the mission by switching the Auto mode when the aircraft is not in the air；
- There must be a route on the drone to execute the start mission command；

11.4.2 Task pause

Click ,a dialog box pops up, slide to the right to confirm the command. After the pause

is successful, the drone will automatically switch to Guided mode, hover at the current position, and maintain the altitude and position. You can slide the progress bar as shown in the figure below to change the altitude of the aircraft after it is paused. The default is the current altitude.

Figure 11- 3

11.4.3 Task continue

Click ,A dialog box pops up, swipe right to confirm the command. After the command is executed successfully, the drone will continue to fly to the next waypoint from its current position.

11.4.4 Set current waypoint

In the non-editing state, that is, when the switch state of the route toolbar at the bottom right is .You can click any waypoint and set the current waypoint as the point you clicked. The aircraft will fly to that point immediately and continue to execute the route behind that point.

Figure 11- 4

Notes： In fixed-wing and hybrid-wing aircraft, sometimes it is encountered that the mission has already started and the aircraft will not take off. At this time, you need to set the first or second waypoint as the current waypoint.

11.5 Pointing flight

Figure 11- 5

Long press a location on the map will pop up a dialog box, in the input box you can enter "pointing height" default 50 meters, slide to the right to confirm the command, after the

command is successfully executed, a "pointing position" will be generated at the point  The aircraft will fly to this point automatically, and hover after reaching this point, maintaining the altitude and position. If you continue to press and hold another location on the map, the "pointing location" will be updated on the map, and the drone will fly to the new location.

11.6 Flying attitude and small window

In the large circular icon on the left, blue represents the sky, green represents the ground, and the white in the middle is the drone. The arrow represents the current yaw angle of the drone, and it points straight up to indicate "true north".

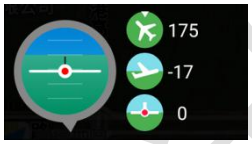


Figure 11-6

Click on the upper left corner of the small window  the flight attitude can be displayed. Click the flight attitude window to switch to the "video" or "map" small window. Click the small window to switch the "map" and "video" windows.

Figure 11-7

11.6.1 Yaw angle

True North is 0°, True East is 90°, True West -90°, True South is 180°

- 0-180° indicates that the drone's nose is facing east by north or south by east, for example, 23° indicates 23° east by north, 105° indicates 15° south by east;

- 0-(-180)° means west by north or south by west, for example -23° means 23° west by north, -105° means 15° south by west.

11.6.2 Pitch angle

A positive number indicates that the aircraft is facing the sky, a negative number indicates that it is facing the ground, the greater the degree, the greater the angle. Note: The nose facing the ground does not mean that the drone is flying downwards, this is the normal attitude of the drone flying forward.

11.6.3 Roll angle

Positive number rolls right, negative number rolls left, the greater the degree, the greater the angle.

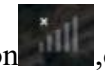
11.7 Flight parameters

11.7.1 GPS information

Click on the satellite icon 

,Display complete GPS information, including positioning accuracy, number of search stars, positioning type, and current latitude and longitude of the aircraft.

11.7.2 Device network information

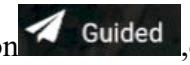
Click on the signal icon 
,display device network information, including network type, signal strength pop-up window.

11.7.3 Voltage

Click on the battery icon 

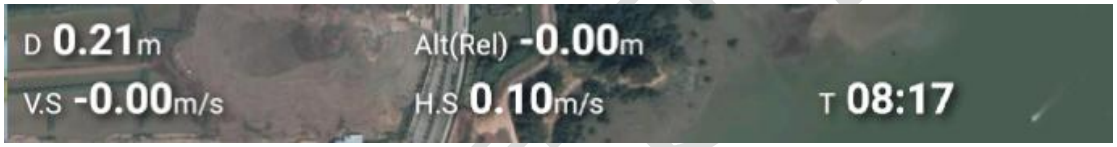
, display the current voltage and current value pop-up window.

11.7.4 Flight mode

Click on the airplane icon 

,display all flight mode pop-ups of the current model.

11.7.5 Flight status



- D：The distance from the drone to the return point；
- Alt：The relative height of the drone (relative height is 0 after unlocking)；
- V.S：Drone climb speed. (Negative value is the descending speed)；
- H.S：Drone's ground speed (horizontal speed)；
- T：Flight time (calculate after the aircraft is unlocked, and re-time when unlocked again).

11.8 Flight log

The flight log is divided into three levels, from high to low, error (error), warm (warning), and Information (normal). The error information will be displayed at the top of the flight interface in red font. Click to enter the log list to view all flight logs. Swipe left and right to switch to the message interface of the corresponding level, the following picture is the "error" message interface.

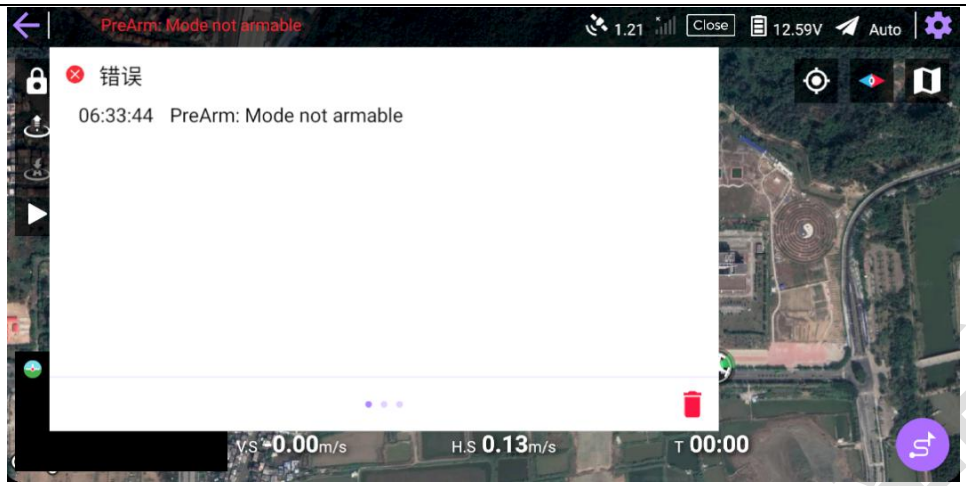


Figure 11- 8

11.9 Map toolbar

11.9.1 Tool selection

The circular icon in the lower right corner of the map interface  ,open the route toolbar. Click  then close.

11.9.2 Add waypoint

Select  , click on the map to generate a waypoint.

11.9.3 Draw the route

Select  ,draw a line on the map, which will generate several waypoints according to the algorithm.

11.9.4 Edit waypoint

Select  ,click waypoint  enter waypoint editing interface.

11.9.5 Delete waypoint

Select  , click the corresponding waypoint to delete the waypoint from the route.

11.9.6 Undo the last operation

11.9.7 More route operations

Click  ,the menu shown in Figure 11-9 pops up.

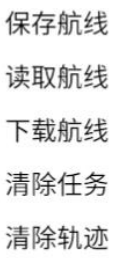


Figure 11- 9

- "Save Route" and "Read Route" are the local operations of the route;
- "Download Route" means to download the route from the aircraft;
- "Clear mission" is to delete the route mission of the aircraft;
- "Clear Track" deletes the red flight track in the current map;

11.9.8 Send route

Click 

button,upload the currently planned route to the drone.

11.10 Route editing

Figure 11- 10

"General" sets the general attributes of this route, and "Single" sets the attributes of the currently selected waypoint. For speed and altitude, the default values are 5m/s and 50m respectively. The hover time is 0 seconds by default.

- **Speed:** After modifying the [Single-Speed] of a waypoint, the flight speed of this waypoint will be the speed of the previous waypoint that has been modified. The essence of modifying [General-Speed] is to modify the speed of the first waypoint.
- **Altitude：** Altitude: Modifying [Single-Altitude] will not affect the altitude of other waypoints. When changing the height, observe the current terrain and avoid hitting buildings and mountains.
- **Task completion action：** Optional "return back", "floating", "landing"; the default is "return back".
- **Hovering time:** The hovering time after the drone reaches this waypoint, and then it will continue to fly to the next waypoint.**(For fixed wing and mixed wing, please ignore this option).**
- **Loiter Time(hovering) :** Click the following parameters will be displayed, including hovering holding time, height, and radius. Click to hide these parameters.

Figure 11- 11

- **VTOL Transition(Flight)：** This parameter will only be displayed on hybrid-wing aircraft. You can use different aircraft types for hybrid-wing aircraft on certain waypoints. Click VTOL_Transition pop-up window shows,select the type of aircraft you need to convert to, and you can choose "multi-rotor" and "fixed-wing" VTOL_Transition 多旋翼 ,then the aircraft will switch to multi-rotor flight mode when it reaches the waypoint. The first waypoint and the last waypoint cannot be modified.

11.11 Map related

From left to right are：

- **Target type: Click** pop-up window shows . The first type: Locate the current location of the drone, click again on your perspective to lock the drone (the drone will always be in the center of your screen), click again to unlock and return to normal; The second type: locate the UAV take-off point (or home point); The third type: locate to the GS ground station location (user location).
- **Compass：**
- **Map type:Click** Optional "standard map", "satellite map" (default).

11.12 Photo and video

11.12.1 Operating

Click  switch between photo and video mode; Click  to take photo;Click  for video， 

video recording; Click  open recording settings.

Figure 11- 12

11.12.2 Automatic recording settings

- **Video format:** The default is H265 bare stream.
- **Automatic recording type:** automatic recording after booting, automatic recording after taking off.
- **Video type:** general definition (320P), standard definition (480P), high definition (720P), ultra definition (1080P).

11.13 Flight control settings

11.13.1 Basic setting , protection settings

After opening a certain protection setting, you must select the corresponding protection action, otherwise it will be invalid.

Figure 11- 13

11.13.2 All parameters

Click the input box above to enter the parameter name for parameter search, ignoring letter uppercase or lowercase. The left side of the list item is the parameter name, and the right side is the value of the corresponding parameter. Click the value to input the new parameter value. After the input is completed, a dialog box will pop up below, click "Upload" to upload the modified parameter value to the drone.

Figure 11- 14

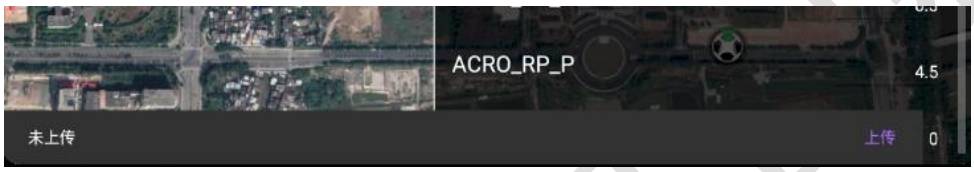


Figure 11- 15

11.14 Image Transmission

Click at the top of the flight interface HD the icon enters the image transmission setting interface, the icon changes with the change of video quality.

Figure 11- 16

11.15 General settings

图 11-17

11.15.1 Map selection、map correction

The default is GaoDe Maps. Google Maps cannot be used if the phone does not have Google services. Map correction is off by default. Some mobile phones need to turn on map correction when using "Google Maps". If the current positioning is correct, it does not need to be turned on.GaoDe map does not need to open map correction.

11.15.2 Camera

After turning on the camera switch, swipe up in the middle of the video interface, the video interface is displayed in full screen and the camera controller can be seen in the upper right, swipe down to exit the full screen.

The camera can be control up and down, left and right directions, and the control channel needs to be set up at the PC terminal ground station.

Figure 11-18

11.15.3 Draw the flight path

After being turned on, the drone will make a red line to show the flight trajectory when flying. If you want to delete the current flight trajectory instead of turning off the drawing flight trajectory, you can select [Route Edit Bar-More-Delete Track].

11.16 Team

The manipulator (pilot) can control the current flight, video camera and video quality switching.

After sending the route, the route data is automatically synchronized to other observers. Note: If you use QGC to draw the route, you need to manually click the download route after sending the route to synchronize to the ground station of other observers.

Observers can only observe flight data and status, and watch (or close) the video. Cannot modify any data or operate the aircraft.