

Etlas Mobile

Manual V1.0

Etlas Mobile handheld GCS adopts a six-core 64-bit high-performance processor coupled with Android 7.1 operating system as well as 1080P HD 1200 nit 7-inch industrial screen. Built in with MMC-developed GCS software, it can achieve functions like drone remote-control, payload control, route plan, as well as drone status and real-time image display.

2018.12.11



TECHNICAL SUPPORT

MMC | 2019

Key functions and advantages

- Built-in ground station control software for remote control of drones, payloads, route planning, drone status and real-time image display
- Equipped with a high-performance integrated image transmission and communication system to achieve stable transmission of 1080P@60f images within 5 km
- Integrated large-capacity lithium battery with endurance up to 5 hours
- Equipped with 7-inch 1920*1200 resolution full HD high-brightness LCD screen, brightness up to 1200nit
- Support HDMI2.0 real-time output 4K@60f image and USB3.0 high-speed interface

Parts

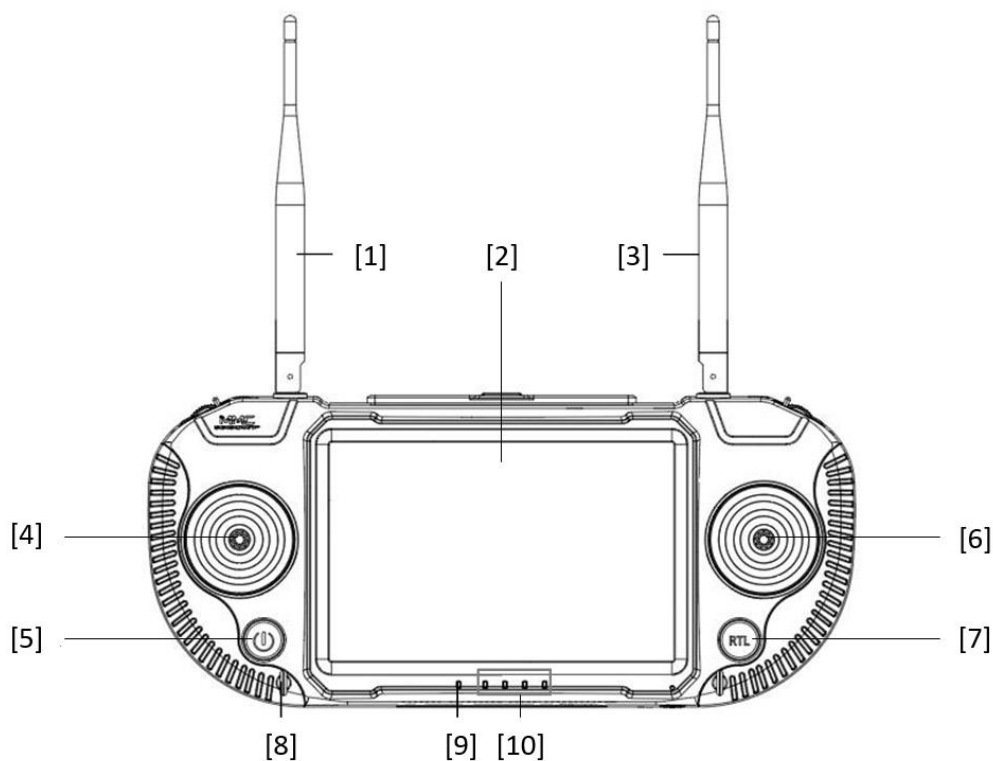


Figure 1 Front view of the Etas Mobile

[1] Antenna: transmitting data(Radio/Video);

[2] 7 inch LCD screen: operation interface display;

[3] Antenna: transmitting data(Radio/Video);

[4] [6] Flying Joystick: control the attitude and throttle of the drone;

[5] On/Off button: Turn on/off the Etas Mobile

Shortly press the power button once and then press and hold until the four battery indicator lights are all on to turn on the power; Shortly press the power button once and then press and hold the four power indicator lights to turn off;

[7] One-Key return button: long press to trigger the return mode, and the button lights up red, shortly press to cancel the return mode;

[8] Strap hook: used with the strap;

[9]Status indicator: Indication of the system operation normality

When the status indicator flashes green, it indicates that the system is running normally and is not charging. When the status indicator flashes blue or white, the system is running normally and charging. When the status indicator is steady blue, it is indicating that the system is in charging and while the system is being turned off;

[10] Battery indicator: shows the current power of the Etlas Mobile

The four battery indicators represent approximately 100%, 75%, 50%, and 25% of the remaining battery capacity. At the same time, the ground station software interface will display the exact percentage of power. When the power percentage is less than 10%, low voltage alarm will appear on the interface of the ground station software. At this time, please close the Etlas Mobile I and charge it as soon as possible;

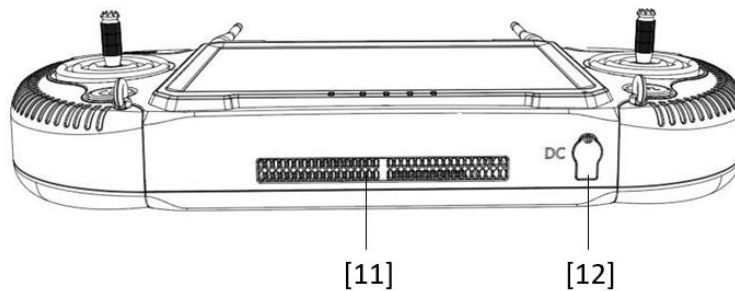


Figure 2 Bottom schematic of the Etlas Mobile

[11]Fan outlet: heat outlet, do not block;

[12]DC Charging Port: Charging Etlas Mobile through standard adapter;

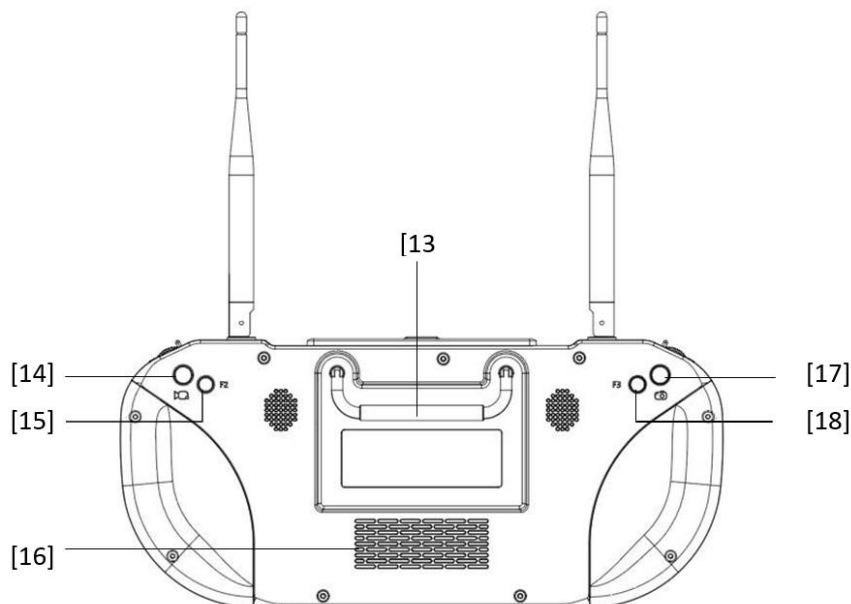


Figure 3 Back Schematic diagram of the Etlas Mobile

- [13] Handle;
- [14] Photo button: short press to trigger photo;
- [15][18] Custom Button;
- [16] Cooling fan air inlet: fan air inlet, do not block;
- [17] Recording button: short press once to start recording; short press again to end recording;

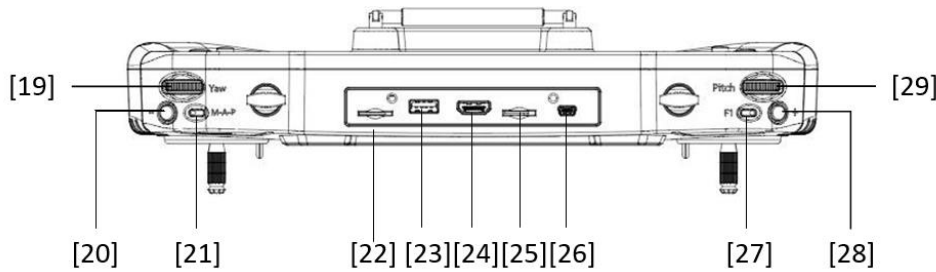


Figure 4 Top Schematic diagram of the Etlas Mobile

- [19] Gimbal heading dial: adjust the heading angle of the Gimbal;
- [20][28] Gimbal zoom dial: Adjust the gimbal&camera zoom factor.
- [21] Flight mode lever: ①H Gear is in the fixed height mode; ②G Gear is reserved; ③A Gear is GPS mode;
- [22] Micro SIM: Reserve function (optional 4 G version);
- [23] USB interface: for external U disk and other devices for data access;
- [24] HDMI: external display, copy screen;
- [25] Micro SD: for external storage and firmware upgrade;
- [26] UART serial port: reserved function;
- [27] Custom Button;
- [29] Gimbal tilting dial: adjust the pitch angle of the gimbal;

Ground Station Software

1. Ground station main interface

Open the Etas Mobile , click on the ground station icon on the menu  to start Ground station software, as shown in Figure 5,when open the software for the first time , please connect to WIFI to load the map.

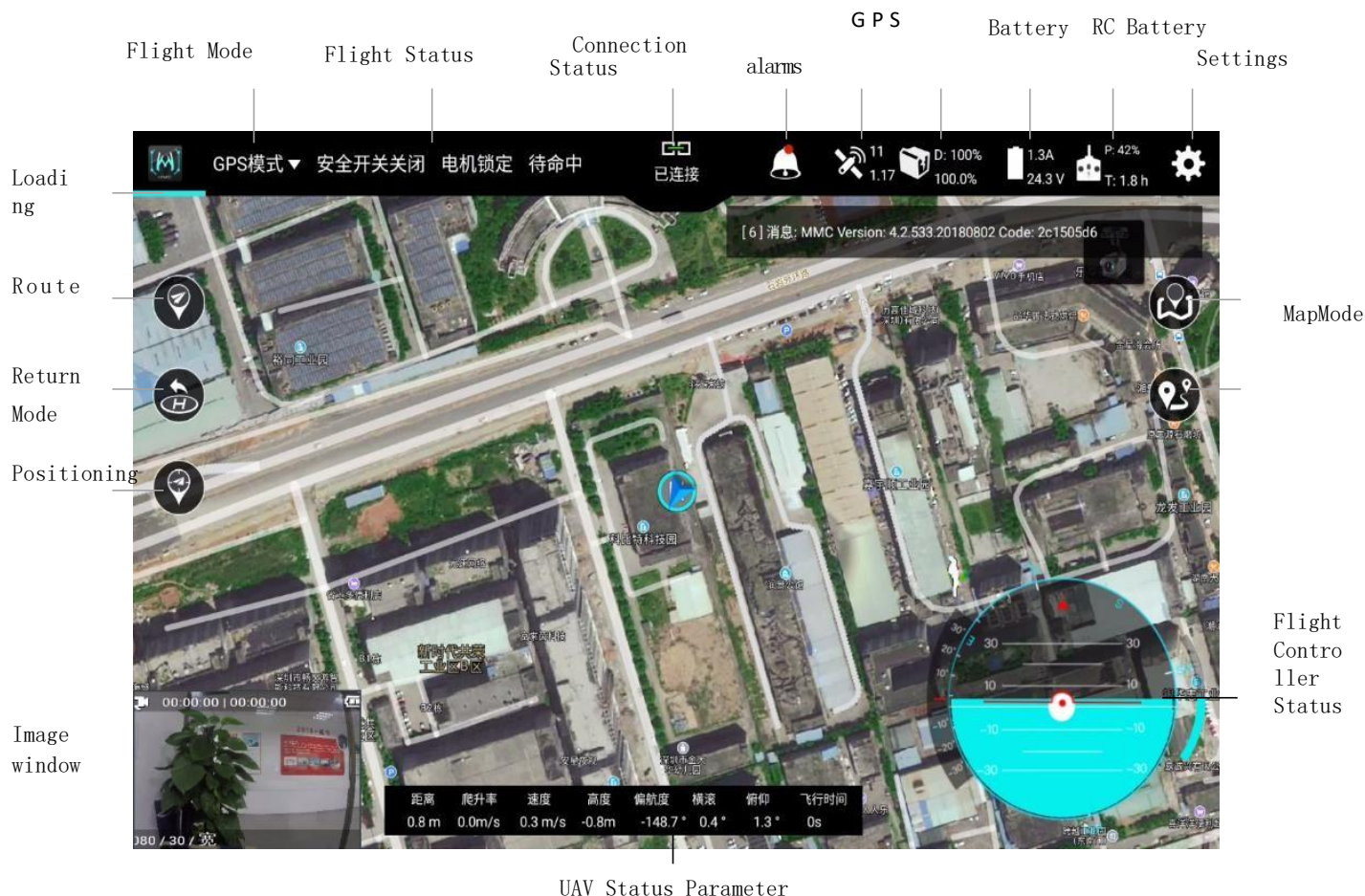


Figure 5 Software Main Interface

2.Route Planning

1)Add Routes

- ① Click  Icon, Position the aircraft and wait for the map to be loaded;
- ② Click  Icon, Enter the routes editing mode, as shown in Figure 6;;
- ③ At this point you are already in the route edit mode, you can click on the map to add the desired waypoints;
- ④ According to the order of the waypoints drawn, it will automatically links up a route information ,click on one of the waypoints  to edit;
- ⑤ Long press a waypoint to drag the waypoint to the specified location;
- ⑥ Click on the "Delete Waypoints" button, which will be deleted from the tail according to the previously drawn route;
- ⑦ Clicking the "Delete Task" button will delete the entire route.



Figure 6 Route Planning Interface

2) Edit and view the route

- ① Select a waypoint and drag the small circle icon to modify the speed, height and delay of the waypoint, as shown in Figure 7:



Figure 7 Schematic Diagram of waypoint editing

- ② Click  The button will play all the waypoint information interface, check whether the information of each waypoint (height, speed, latitude and longitude, etc.) and the order are correct, as shown in Figure 8.



Figure 8 Route Information Interface

3)Route Upload

- ① Click the "Upload Task" button in the above figure to upload the route task to the drone;
- ② The upload progress and result will appear on the interface;;
- ③ Delete the route information of the main interface;
- ④ Click the "Download Task" icon to download the existing mission route task on the drone to the Atlas Mobile I, and check whether the downloaded route task information is the required route, as shown in Figure 8.
- ⑤ After completing the above operations, you can unlock the drone, fly to the appropriate position, manually switch to the route mode, and perform the flight mission, as shown in Figure 9:



Figure 9 route mode drop-down box

3.Introduction of the gimbal mode

In the main interface of the software, click on the image window in the lower left corner to switch the map/image window and enlarge the image window. As shown in Figure 10, you can switch the gimbal mode by clicking the gimbal mode button in the upper right corner of the image serial port:①Following: In this mode, click anywhere in the image screen, and the platform will automatically follow the target window clicked by the user.②Control: In this mode, the user adjusts the angle of the gimbal by controlling the rollers on both sides of the platform.③Back to the middle: In this mode, the platform automatically returns to the default median.



Figure 10 Gimbal Mode Window

4.Software Setting

1) Flight Setting

Click the Icon on the main interface: , enter the software settings interface, the default is flying setting interface, as shown in Figure 11: Flight settings: UAV parameters can be viewed and set in the flight settings interface.

- 1 Drag the progress bar of the parameter you need to set directly in the flight setting interface to set it, and restart the software to take effect;
- 2 Set the ground station loss, remote control fault, etc. in the flight setting interface (you can choose to return, return to the takeoff point, continue to execute the route, etc.);
- 3 The above parameters have been set at the factory. If you want to modify, please consult our company;

2) Control settings

Control settings: In the control settings interface, you can perform throttle mode selection, remote control calibration, etc., as shown in Figure 12:

- 1 In the control settings, you can set the left and right hand throttle, restart the APP after the change to view the modification result;
- 2 Click "Calibrate Accelerometer" and follow the prompts to calibrate the accelerometer;
- 3 Click "Calibrate Remote Control" , then move the left and right joysticks and gimbal tilt, gimbal heading, gimbal zoom wheel to get the maximum and minimum values of each channel, and then complete the remote channel calibration according to the prompts;
- 4 After the "Calibration Remote Control" is completed, enter the status display interface to confirm whether all the remote control channel values are normal. It is recommended to calibrate the remote control at least once every 1 month to prevent the channel value changing due to mechanical wear and deformation.



Figure 11 Flight Setup Interface



Figure 12 Controls Setting Interface

- 3) Status display: The status display interface mainly displays the information of remote-control channel and flight control channel, as shown in Figure 13 below:



Figure 13 Status Display Interface

- 4) Image transmission setting: The image transmission setting interface can query and set the image transmission information, configure the image transmission parameters, if the current parameters are not read, restart the APP, as shown in Figure 14 below:



Figure 14 Graphic Setup Interface

General settings: mainly include system settings, map settings, remote control version, flight control board version, software version and other information, as shown in Figure 15:  系统设置 You can jump to the Android system settings interface;



Figure 15 General Setup Interface

Use precautions

- Before turning on the UAV power supply, be sure to turn on the power supply of Etlas Mobile first.
- During the mission, Keep the antenna facing the UAV sideways to ensure signal stability.
- It should be handled gently during use to avoid damage.
- Do not disassemble this product without permission, otherwise the warranty service will not be provided.
- Please use soft fabric for dust cleaning after operation.
- When not in use, please store it in EVA foam box and keep it in a cool and dry environment.

Appendix

1.Product Parameters

Items		Parameter
Basic Information	Model	Etlas Mobile
	Dimensions	319x143x52mm
	Weight	1.5kg
Environment	Working Temperature	-20°C~60°C
	Charging ambient temperature	-10°C~50°C
Electrical Characteristics	Operating System	Android7.1 (Deep Customization)
	CPU	Dual-core Cortex-A72+quad-core Cortex-A53 architecture with a main frequency up to 2.0GHz
	Screen size	7 inches
	Screen Resolution	1920*1200
	Maximum Brightness of the Screen	1200nit
	Touch Screen	Maximum support for 10-point touch
	Built-in battery	11.1V, 8000mAh
	Duration	5 hours
	Video transmission distance (no interference, no obstruction)	5km
	Data transmission distance (no interference, no obstruction)	5km
	External interface	USB、HDMI、MICRO SD、MICRO SIM、UART
	Adapter	15V/5A

1.Troubleshooting

Malfunctions	Solutions
Indicating" compass uncalibrated"	This means drone compass sensor is uncalibrated which can cause inaccurate flying direction. Just calibrate the compass.
Indicating" accelerometer uncalibrated "	This means accelerometer is uncalibrated. Just calibrate it before flight.
Indicating "rtk module init failure,not find RTK_CMD.txt file"	This warning means RTK module initialization failure due to lack of RTK configuration files. If the drone contains no RTK module and this warning can be ignored.
Indicating "remote in bootloader mode, please open update file to update it "	If the warning keeps shining, it means the firmware is in recovery mode and the remote can now be updated.
Indicating" Severe: Etlas Mobile is in low battery, less than 10%"	This means low batter and needs to stop working for charging.
Indicating" busy operation"	1)Image transmission link communication abnormality 2)Too frequent operations Restart to solve this problem.

MICROMULTICOPTER AVIATION

Add.: MMC Tech Park, No.1 Yihe Road, Shilong Community, Shiyan Street,
Bao' an District, Shenzhen City, Guangdong Province, PR China, 518108

Tel : +86 75526916770

Email : info@mmcuav.com

Web : www.mmcuav.com



TECHNICAL SUPPORT

MMC | 2019

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference (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.

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.

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum distance between 30mm the radiator your body: Use only the supplied antenna.