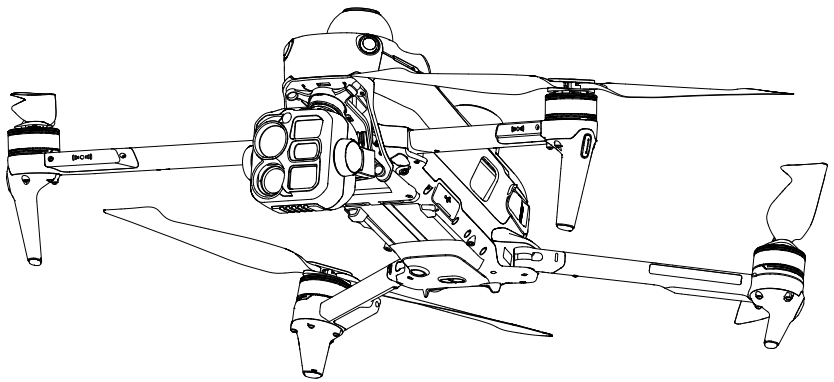
MATRICE 5T

User Manual

v1.0 2026.11



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In the event of divergence among different versions, the English version shall prevail.

Searching for Keywords

Search for keywords such as “battery” and “install” to find a topic. If you are using Adobe Acrobat Reader to read this document, press Ctrl+F on Windows or Command+F on Mac to begin a search.

Navigating to a Topic

View a complete list of topics in the table of contents. Click on a topic to navigate to that section.

Printing this Document

This document supports high resolution printing.

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Using this Manual

⚠ • This product does not meet the standard operating temperature for military grade application (-55° to 125° C/-67° to 257° F), which is required to endure greater environmental variability. Operate the product appropriately and only for applications that meet the operating temperature range requirements of that grade.

Legend

⚠ Important Hints and Tips Reference

Read Before Use

DJI™ provides you with tutorial videos and the following documents:

1. *Safety Guidelines*
2. *Quick Start Guide*
3. *User Manual*

It is recommended to watch all the tutorial videos and read the *Safety Guidelines* before using for the first time. Make sure to review the *Quick Start Guide* before using for the first time and refer to this *User Manual* for more information.

Video Tutorials

Go to the address below or scan the QR code to watch the tutorial videos, which demonstrate how to use the product safely:

https://enterprise.dji.com/matrice-5t/video

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Download DJI Assistant 2

Download and install DJI ASSISTANT™ 2 (Enterprise Series) using the link below:

https://www.dji.com/downloads/softwares/assistant-dji-2-for-matrice

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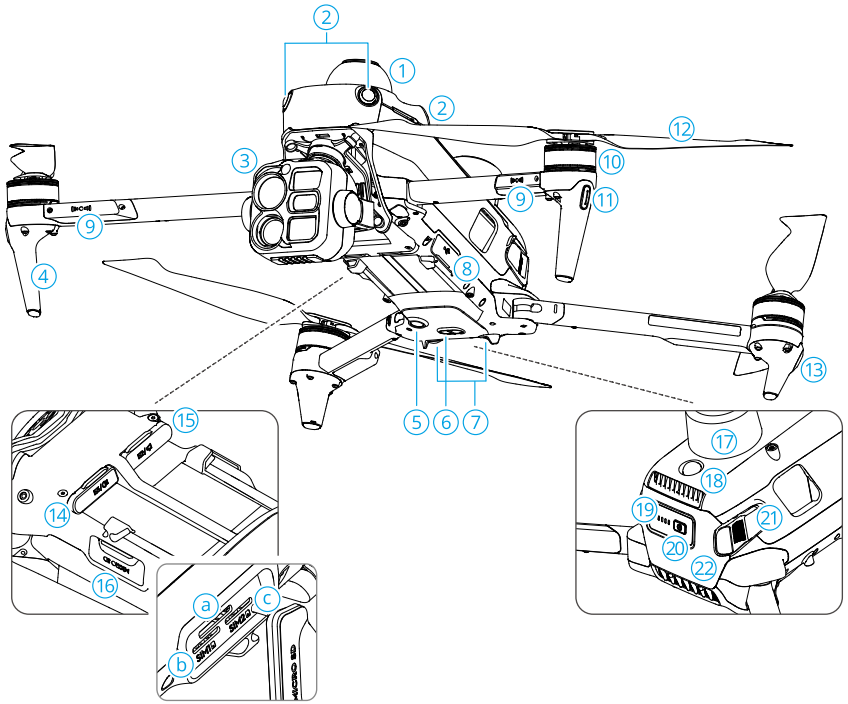
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1 Overview

1.1 Aircraft



1. LiDAR
2. Omnidirectional Vision System
3. Integrated Gimbal Camera
4. Landing Gear
5. Auxiliary Light
6. Three-Dimensional Infrared Sensing System
7. Downward Vision System
8. USB-C Assistant Port (E-Port V3 High-Speed Port)
9. Antennas
10. Motors
11. Front LEDs
12. Propellers
13. Aircraft Status Indicators
14. E-Port 3 (E-Port V3 Low-Speed Port)
    Supports connecting DJI AL2 SpotLight
15. E-Port 2 (E-Port V3 Low-Speed Port)
    Supports connecting DJI AS2 Speaker
16. Card Slots
    a. microSD Card Slot
    b. SIM 1 Card Slot

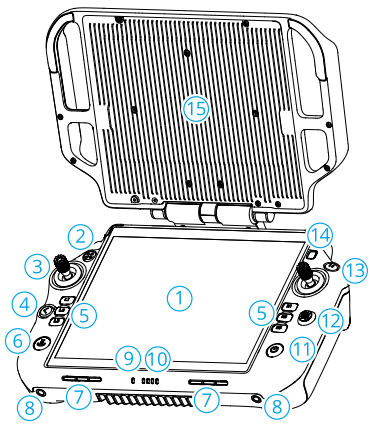
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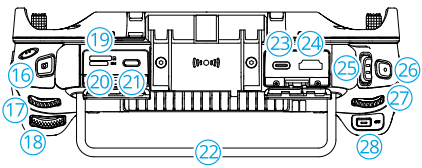
c. SIM 2 Card Slot

17. GNSS / RTK Antenna
18. Beacon
19. Battery Level LEDs
20. Power Button
21. Battery Buckles
22. Intelligent Flight Battery

* The aircraft shell is made of composite materials and may vary between different batches. It is normal that the surface of the battery compartment may show uneven texture, and this does not affect structural strength or normal use.

1.2 Remote Controller





1. Touchscreen
2. Connection Status LED
3. Control Sticks
4. Back/Function Button

   Press once to return to the previous screen. Press twice to return to the home screen.

   The Back/Function Button can be used in combination with other buttons to perform additional functions. Refer to the Button Combinations section for more information.
5. L1/L2/L3/R1/R2/R3 Buttons

   Go to camera view in DJI Pilot 2 to view the specific functions of these buttons.
6. Return to Home (RTH) Button

   Press and hold to initiate RTH. Press again to cancel RTH.
7. Microphone
8. M4 Screw Hole
9. Status Indicator
10. Battery Level LEDs
11. Power Button

    Press once to check the current battery level. Press once, and then press and hold to power the remote controller on or off. While the remote

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controller is powered on, press once to turn the touchscreen on or off.

12. 5D Button
13. Flight Pause Button

    Press once to make the aircraft brake and hover in place (only when GNSS or Vision Systems are available).
14. Ambient Light Sensor
15. Antenna Panel

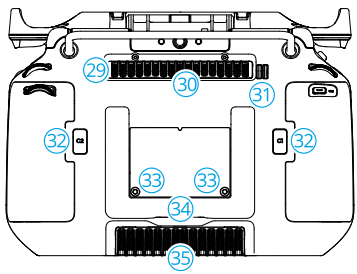
    Open the antenna panel, and the remote controller powers on automatically.
16. Focus/Shutter Button

    Press the button halfway down for autofocus and press all the way down to take a photo.
17. Camera Zoom Dial
18. Customizable C4 Scroll Wheel

    Controls camera zoom by default.
19. microSD Card Slot
20. SIM Card Slot
21. HOST Port (USB-C)

    Can be used to connect third-party peripherals, such as a USB flash drive or a USB card reader.
22. Handle
23. USB-C Port

    Connect to a charging device, or to a computer to use DJI Assistant 2.
24. HDMI Port
25. Flight Mode Switch
26. Record Button
27. Gimbal Dial
28. Customizable C3 Button
29. Buzzer
30. Air Vent
31. Speaker
32. Customizable C1/C2 Buttons
33. External Accessory Mounting Hole
34. Kickstand
35. Air Intake



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2 Flight Safety

After completing pre-flight preparations, it is recommended to train your flying skills and practice flying safely. Pick a suitable area to fly in according to the following flight requirements and restrictions. Strictly abide by local laws and regulations when flying. Read the *Safety Guidelines* before flight to ensure safe use of the product.

2.1 Operating the Aircraft Responsibly

To avoid serious injury and property damage, observe the following rules:

1. Make sure you are NOT under the influence of anesthesia, alcohol, or drugs or suffering from dizziness, fatigue, nausea, or other conditions that could impair the ability to operate the aircraft safely.
2. After landing, power off the aircraft first, then switch off the remote controller.
3. DO NOT drop, launch, fire, or otherwise project any dangerous payloads on or at any buildings, persons, or animals, which could cause personal injury or property damage.
4. DO NOT use an aircraft that has been accidentally damaged, crashed, or is not in good condition.
5. Make sure to train sufficiently and have contingency plans for emergencies or if an incident occurs.
6. Make sure to have a flight plan. DO NOT fly the aircraft recklessly.
7. Respect the privacy of others when using the camera. Make sure to comply with local privacy laws, regulations, and moral standards.
8. DO NOT use this product for any reason other than general personal use.
9. DO NOT use it for illegal or inappropriate purposes such as spying, military operations, or unauthorized investigations.
10. DO NOT use this product to defame, abuse, harass, stalk, threaten, or otherwise violate legal rights such as the right to privacy and publicity of others.
11. DO NOT trespass onto the private property of others.

2.2 Flight Restrictions

GEO (Geospatial Environment Online) System

The DJI Geospatial Environment Online (GEO) System is a global information system that provides real-time information on flight safety and restriction updates and prevents

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UAVs from flying in restricted airspace. Under exceptional circumstances, restricted areas can be unlocked to allow flights. Prior to that, you must submit an unlocking request based on the current restriction level in the intended flight area. The GEO system may not fully align with local laws and regulations. You are responsible for your own flight safety and must consult with the local authorities on the relevant legal and regulatory requirements before requesting to unlock a restricted area. For more information about the GEO system, visit https://fly-safe.dji.com.

GEO Zones

The DJI GEO system designates safe flight locations, provides risk levels and safety notices for individual flights, and offers information on restricted airspace. All restricted flight areas are referred to as GEO Zones, which are further divided into Restricted Zones, Authorization Zones, Warning Zones, Enhanced Warning Zones, and Altitude Zones. You can view such information in real-time in DJI Pilot 2. GEO Zones are specific flight areas, including but not limited to airports, large event venues, locations where public emergencies have occurred (such as forest fires), nuclear power plants, prisons, government properties, and military facilities. By default, the GEO system limits takeoffs and flights in zones that may cause safety or security concerns. A GEO Zone map that contains comprehensive information on GEO Zones around the globe is available on the official DJI website: https://fly-safe.dji.com/nfz/nfz-query.

The information in the DJI Pilot 2 app or on the website is for reference only. Refer to local laws and regulations for the latest details.

Flight Restrictions

The following section describes in detail the flight restrictions for the above mentioned GEO Zones.

Restricted Zones (Red)

UAVs are prohibited from flying in Restricted Zones. If you have obtained permission to fly in a Restricted Zone, visit https://fly-safe.dji.com or contact flysafe@dji.com to unlock the zone.

Scenario

Takeoff: the aircraft motors cannot be started in Restricted Zones.

In Flight: when the aircraft flies inside a Restricted Zone, a 100-second countdown will commence in DJI Pilot 2. When the countdown is finished, the aircraft will land immediately in semi-automatic descent mode and turn off its motors after landing.

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In Flight: when the aircraft approaches the boundary of a Restricted Zone, the aircraft will automatically decelerate and hover.

Authorization Zones (Blue)

The aircraft will not be able to take off in an Authorization Zone unless it obtains a permission to fly in the area.

Scenario

Takeoff: the aircraft motors cannot be started in Authorization Zones. To fly in an Authorization Zone, the user is required to submit an unlocking request registered with a DJI-verified phone number.

In Flight: when the aircraft flies inside an Authorization Zone, a 100-second countdown will commence in DJI Pilot 2. When the countdown is finished, the aircraft will land immediately in semi-automatic descent mode and turn off its motors after landing.

Warning Zones (Yellow)

A warning will be displayed when the aircraft flies inside a Warning Zone.

Scenario

The aircraft can fly in the zone but the user is required to understand the warning.

Enhanced Warning Zones (Orange)

When the aircraft flies in an Enhanced Warning Zone, a warning will be displayed prompting the user to confirm the flight path.

Scenario

The aircraft can continue to fly once the warning is confirmed.

Altitude Zones (Gray)

The aircraft altitude is limited when flying inside an Altitude Zone.

Scenario

When the GNSS signal is strong, the aircraft cannot fly above the altitude limit.

In Flight: when the GNSS signal changes from weak to strong, a 100-second countdown will commence in DJI Pilot 2 if the aircraft exceeds the altitude limit. When the countdown is finished, the aircraft will descend below the altitude limit and hover.

When the aircraft approaches the boundary of an Altitude Zone and the GNSS signal is strong, the aircraft will decelerate automatically and hover if the aircraft is above the altitude limit.

- Semi-Automatic Descent: all stick commands except the throttle stick command and the RTH button are available during descent and landing. The aircraft

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motors will turn off automatically after landing. It is recommended to fly the aircraft to a safe location before the semi-automatic descent.

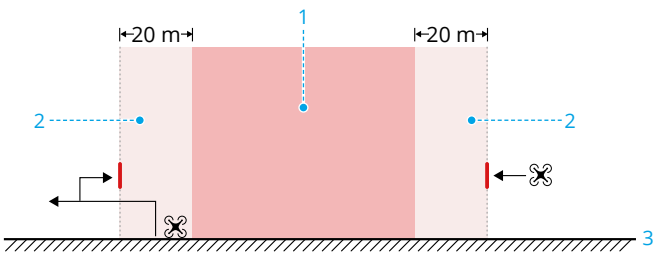
Buffer Zone

Buffer Zones for Restricted Zones/Authorization Zones

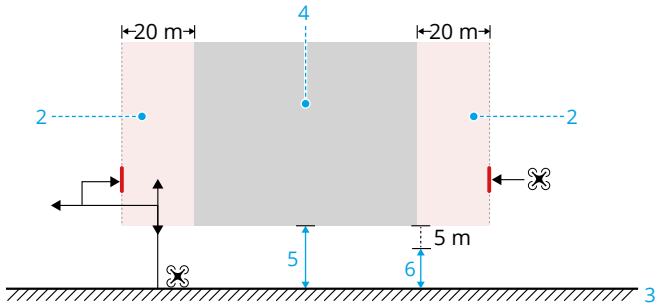
To prevent the aircraft from accidentally flying into a Restricted or Authorization Zone, the GEO system creates a buffer zone of about 20 meters wide outside each Restricted and Authorization Zone. As shown in the illustration below, the aircraft can only take off and land in place or fly toward an opposite direction of the Restricted or Authorization Zone when inside the buffer zone, and cannot fly toward the Restricted or Authorization Zone unless an unlocking request has been approved. The aircraft cannot fly back into the buffer zone after leaving the buffer zone.

Buffer Zones for Altitude Zones

A buffer zone of about 20 meters wide is established outside each Altitude Zone. As shown in the illustration below, when approaching the buffer zone of an Altitude Zone in a horizontal direction, the aircraft will gradually reduce its flight speed and hover outside the buffer zone. When approaching the buffer zone from underneath in a vertical direction, the aircraft can ascend and descend in altitude or fly in an opposite direction of the Altitude Zone, but cannot fly toward the Altitude Zone. The aircraft cannot fly back into the buffer zone in a horizontal direction after leaving the buffer zone.



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1. Restricted Zone/Authorized Zone
2. Buffer Zone
3. Ground
4. Altitude Zone
5. Altitude Limit
6. Flight Altitude

Unlocking GEO Zones

Self-Unlocking is intended for unlocking Authorization Zones. To complete Self-Unlocking, you must submit an unlocking request via the DJI FlySafe website at https://fly-safe.dji.com. Once the unlocking request is approved, you can synchronize the unlocking license through the DJI Pilot 2 app. To unlock the zone, alternatively, you can launch or fly the aircraft directly into the approved Authorization Zone and follow the prompts in DJI Pilot 2 to unlock the zone.

Custom Unlocking is tailored for users with special requirements. It designates user-defined custom flight areas and provides flight permission documents specific to the needs of different users. This unlocking option is available in all countries and regions and can be requested via the DJI FlySafe website at https://fly-safe.dji.com.

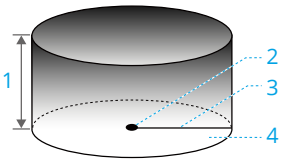
Unlocking on Mobile Device: Run the DJI Pilot 2 app and tap GEO Zone Map on the home screen. View the list of the unlocking licenses and tap ⓘ to view details of the unlocking license. A link to the unlocking license and a QR code will be displayed. Use your mobile device to scan the QR code and apply to unlock directly from the mobile device.

⚠
- To ensure flight safety, the aircraft will not be able to fly out of the unlocked zone after entering it. If the Home Point is outside the unlocked zone, the aircraft will not be able to return home.

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Flight Altitude and Distance Limits

Max altitude restricts the flight altitude of the aircraft, while max distance restricts the flight radius around the Home Point of the aircraft. These limits can be changed in the DJI Pilot 2 app for improved flight safety.



1. Max Altitude
2. Home Point (Horizontal Position)
3. Max Distance
4. Height of aircraft when taking off

Strong GNSS Signal

	Flight Restrictions	Prompt in DJI Pilot 2 App
Max Altitude	Altitude of the aircraft cannot exceed the value set in DJI Pilot 2.	Max flight altitude reached.
Max Distance	The straight-line distance from the aircraft to the Home Point cannot exceed the max flight distance set in DJI Pilot 2.	Max flight distance reached.

Weak GNSS Signal

	Flight Restrictions	Prompt in DJI Pilot 2 App
Max Altitude	• Altitude is restricted to 60 m from the takeoff point if lighting is sufficient. • Altitude is restricted to 3 m above the ground if lighting is not sufficient and the 3D infrared sensing system is functioning. • Altitude is restricted to 60 m from the takeoff point if lighting is not sufficient and the 3D infrared sensing system is not functioning.	Max flight altitude reached.
Max Distance	No limit	

⚠ • Each time the aircraft is powered on, the altitude limit will be automatically removed as long as the GNSS signal becomes strong (GNSS signal strength ≥

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2), and the limit will not take effect even if the GNSS signal becomes weak afterwards.

- If the aircraft flies out of the set flight range due to inertia, you can still control the aircraft but cannot fly it any further away.

2.3 Flight Environment Requirements

1. DO NOT use the aircraft in severe weather conditions including strong winds, snow, fog, and lightning. Make sure to follow the IP rating requirements when flying in the rain.
2. Only fly in open areas. Tall buildings and large metal structures may affect the accuracy of the onboard compass and GNSS system. After takeoff, make sure you are notified with the voice prompt Home Point is updated before continuing flight. If the aircraft has taken off near buildings, the accuracy of the Home Point cannot be guaranteed. In this case, pay close attention to the current position of the aircraft during auto RTH. When the aircraft is close to the Home Point, it is recommended to cancel auto RTH and manually control the aircraft to land at an appropriate location.
3. Fly the aircraft within visual line of sight (VLOS). Avoid mountains and trees blocking GNSS signals. Any flight beyond visual line of sight (BVLOS) can be conducted only when the aircraft performance, the knowledge and skills of the pilot, and the operational safety management are compliant with local regulations for BVLOS. Avoid obstacles, crowds, trees, and bodies of water. For safety reasons, DO NOT fly the aircraft near airports, highways, railway stations, railway lines, city centers, or other sensitive areas, unless any permit or approval is obtained under local regulations.
4. Make sure the beacon and the auxiliary bottom light are enabled at night for flight safety.
5. The performance of the aircraft and its battery is limited when flying at high altitudes. Fly with caution. DO NOT fly above the specified altitude.
6. The braking distance of the aircraft is affected by the flight altitude. The higher the altitude, the greater the braking distance. When flying at high altitudes, you should reserve adequate braking distance to ensure flight safety.
7. GNSS cannot be used on the aircraft in polar regions. Use the vision system instead.
8. DO NOT take off from the surface of a moving car.
9. DO NOT take off from solid-colored surfaces or surfaces with strong reflection such as a car roof.
10. Be careful when taking off in the desert or from a beach to avoid sand entering the aircraft.

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11. DO NOT operate the aircraft near bird flocks.

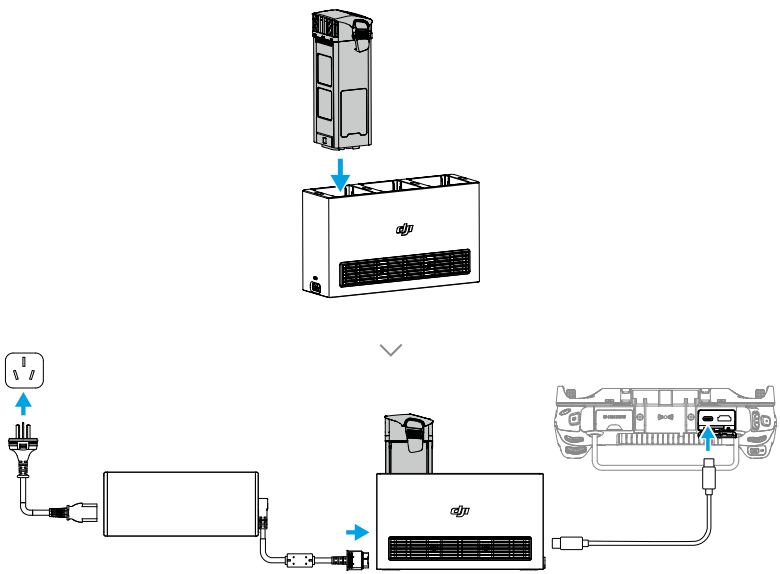
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3 Using for the First Time

Click the link or scan the QR code to watch the tutorial videos.

https://enterprise.dji.com/matrice-5t/video

3.1 Charging the Battery

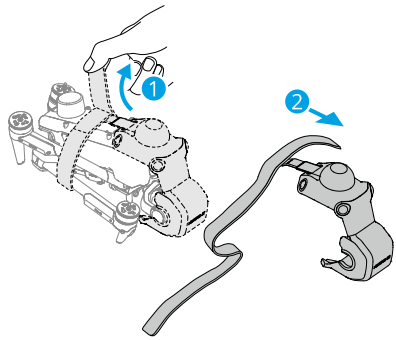


⚠ • Charge the remote controller before first use to activate the internal battery.

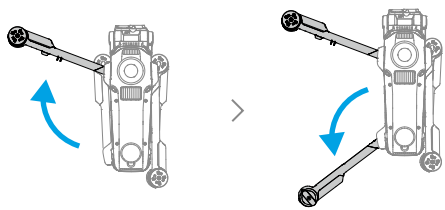
3.2 Preparing the Aircraft

1. Remove the gimbal protector from the camera.

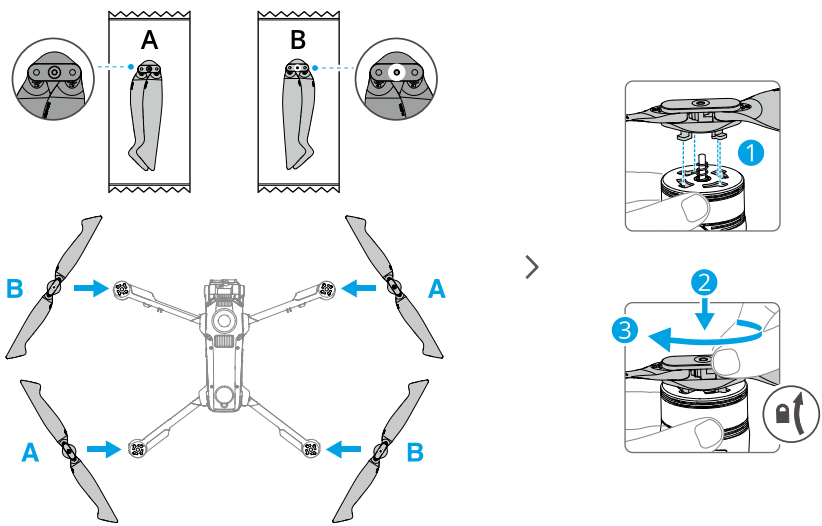
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2. Unfold the front and rear frame arms in sequence.

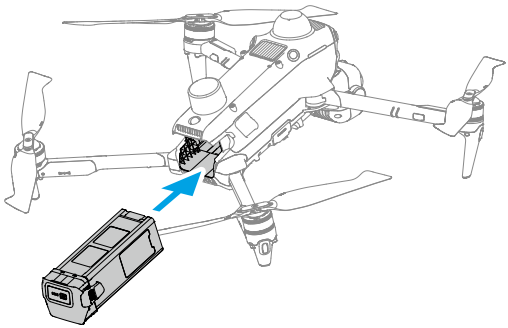


3. Match the propellers to motors. Press the propellers down and rotate until they click in place.

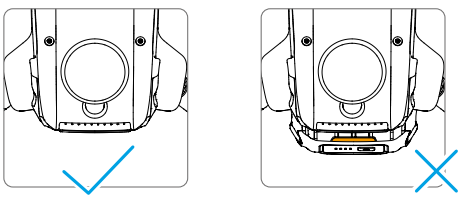


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4. Install the Intelligent Flight Battery.



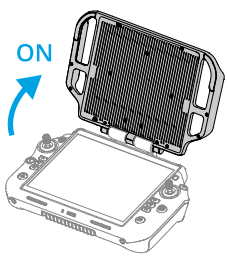
⚠ • Make sure the orange mark on the battery is not visible after the battery is installed in the aircraft.



3.3 Powering On

Auto Power-On

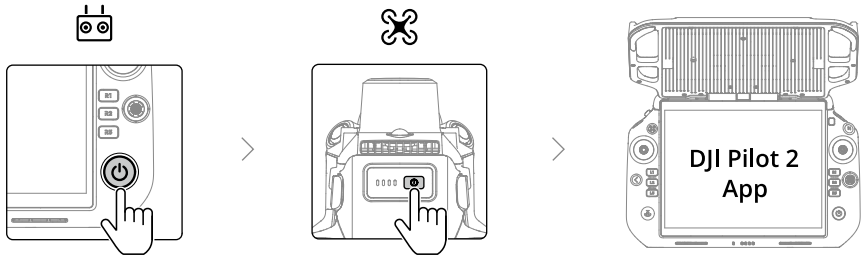
Open the antenna panel, and the remote controller powers on automatically.



Manual Power-On

Press, and then press and hold the power button.

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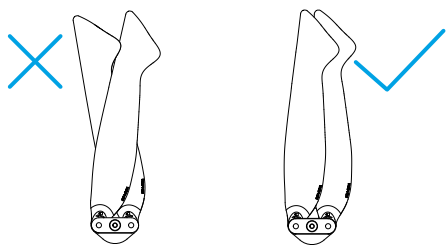
3.4 Activation

The aircraft and remote controller require activation before using for the first time. Follow the on-screen prompts to activate. Ensure that the remote controller can access the internet during activation.

3.5 Basic Flight

Pre-Flight Checklist

1. Make sure all the devices are fully charged. Make sure the aircraft firmware and DJI Pilot 2 have been updated to the latest version.
2. Make sure there are no foreign objects inside the aircraft. Make sure the air vents and cooling holes of the aircraft are not blocked. Make sure the covers of all the ports have been closed properly if not used.
3. Ensure that all parts of the aircraft are intact, securely installed, and functioning properly. Make sure the gimbal is unobstructed, the propellers and frame arms are fully unfolded, and the propeller tips do not cross.



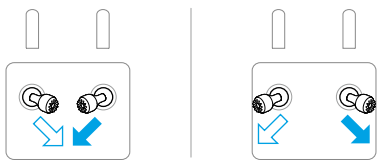
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4. Make sure the vision systems, the cameras, the infrared sensors, the auxiliary lights, and the LiDAR are clean and not blocked in any way.
5. Make sure to remove the gimbal protector before powering on the aircraft.
6. Power on the aircraft and the remote controller, and toggle the flight mode switch to N-mode. Make sure the remote controller antenna panel is adjusted to the proper position. Make sure the aircraft and the remote controller are linked, and the remote controller is in control of the aircraft.
7. Make sure your flight area is inside approved zones for UAVs. Place the aircraft on open and flat ground. Make sure there are no obstacles, buildings, or trees nearby and that the aircraft is 5 m away from the pilot. The pilot should be facing the rear of the aircraft.
8. To ensure flight safety, enter the flight view of DJI Pilot 2 and check the parameters on the preflight checklist.
9. Divide the airspace for flight when multiple aircraft are operating simultaneously in order to avoid collision mid-air.

Starting/Stopping the Motors

Starting the Motors

Perform one of the Combination Stick Commands (CSC) as shown below to start the motors. Once the motors have started spinning, release both sticks simultaneously.

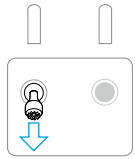


Stopping the Motors

The motors can be stopped in two ways:

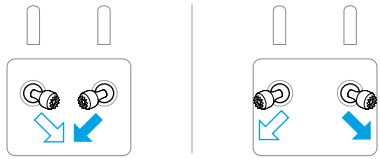
Method 1: When the aircraft has landed, push the throttle stick down and hold until the motors stop.

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Control Stick Mode: Mode 2

Method 2: When the aircraft has landed, perform one of the CSC as shown below until the motors stop.

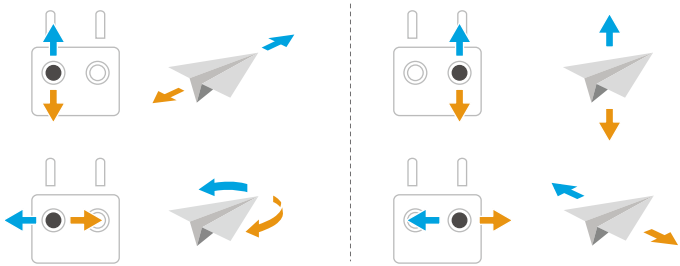


Controlling the Aircraft

The control sticks of the remote controller can be used to control the aircraft movements. The control sticks can be operated in Mode 1, Mode 2, or Mode 3, as shown below.

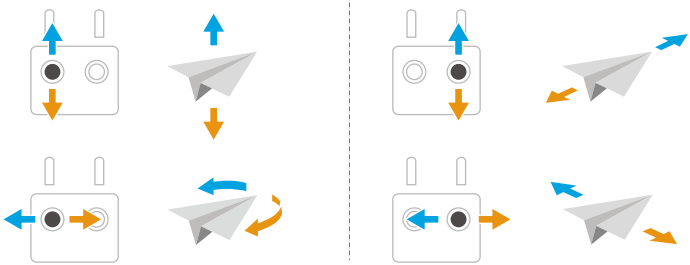
The default control mode of the remote controller is Mode 2. In this manual, Mode 2 is used as an example to illustrate how to use the control sticks. The more the stick is pushed away from the center, the faster the aircraft moves.

Mode 1

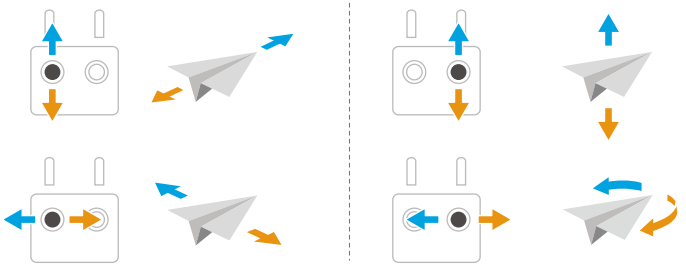


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Mode 2



Mode 3

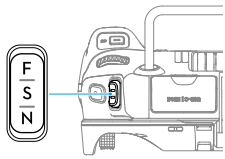


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4 Aircraft

4.1 Flight Modes

The aircraft supports the following flight modes, which can be switched via the Flight Mode switch on the remote controller.



Normal Mode (N Mode)

Normal Mode is suitable for most flight scenarios. The aircraft can hover precisely, fly stably, and use Intelligent Flight Modes.

Sport Mode (S Mode)

The aircraft has a higher maximum horizontal flight speed and greater attitude control responsiveness than in Normal Mode. A small control stick movement on the remote controller will result in large aircraft movements. Maintain adequate maneuvering space during flight.

Function Mode (F Mode)

Function mode can be set to T-mode (Tripod mode) or A-mode (Attitude mode) in DJI Pilot 2. T-mode is based on N-mode. The flight speed is limited to allow easier control of the aircraft. Attitude mode must be used with caution.

The aircraft automatically changes to Attitude (ATTI) mode when the sensing systems are unavailable or disabled and the GNSS signal is weak or the compass experiences interference. In ATTI mode, the aircraft may be more easily affected by its surroundings. Environmental factors such as wind can result in horizontal drift of the aircraft, which may present hazards, especially when flying in confined spaces. In ATTI mode, the aircraft cannot hover or brake automatically, therefore the pilot should keep the aircraft within visual line of sight (VLOS) and land as soon as possible.

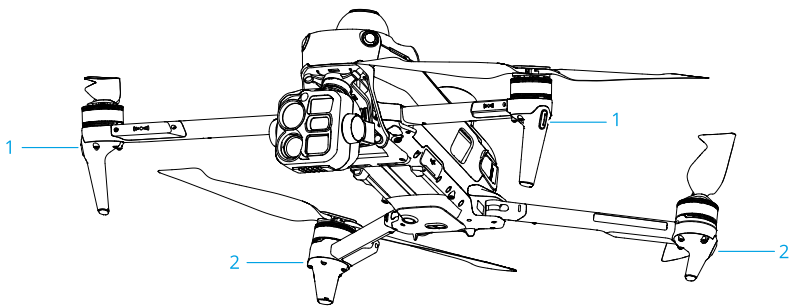
If the aircraft is flying in the EU, the aircraft will switch to Low Speed mode when the flight mode is switched to F (T-mode) on the remote controller. Low Speed mode limits the maximum horizontal flight speed to 2.8 m/s based on Normal mode, and there is no limit for the ascent or descent speed.

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- DO NOT switch from Normal mode to other modes unless you are sufficiently familiar with the aircraft behavior under each flight mode. You must turn on Multiple Flight Modes in the DJI Pilot 2 app before switching from Normal mode to other modes.

- Obstacle Avoidance is enabled by default in all flight modes and can also be manually disabled based on flight needs. When Obstacle Avoidance is disabled, the aircraft cannot automatically brake or avoid obstacles. In this case, pay close attention to the surrounding environment and manually control the aircraft to avoid obstacles on the flight path.
- When the aircraft is ascending or descending in Sport mode or Normal mode in windless conditions, make sure to maintain enough vertical braking distance to ensure flight safety.
- The maximum flight speed and braking distance of the aircraft significantly increases in Sport mode. When flying in windless conditions, make sure to maintain enough braking distance to ensure flight safety.
- Fly with caution when the aircraft GNSS is set to use only a single positioning system in DJI Pilot 2.

4.2 Aircraft Status Indicator



1. **Front LEDs**

   Used to indicate the orientation of the aircraft. When the aircraft is powered on but the motors are not running, the front LEDs glow solid red.

2. **Aircraft Status Indicator**

   Indicate the current aircraft status when the motors are not running.

Normal States

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	Blinks red, yellow, and green alternately	Powering on and performing self-diagnostic tests
	Blinks yellow four times	Warming up
	Blinks green slowly	GNSS enabled
	Blinks green twice repeatedly	Vision systems enabled
	Blinks yellow slowly	GNSS and vision system disabled (ATTI mode enabled)
Warning States		
	Blinks yellow quickly	Remote controller signal lost
	Blinks red slowly	Takeoff is disabled (e.g., low battery) [1]
	Blinks red quickly	Critically low battery
	Solid red	Critical error
	Blinks red and yellow alternately	Compass calibration required

After the motors start, the front LEDs blink red and green alternately, and the aircraft status indicators blink green.

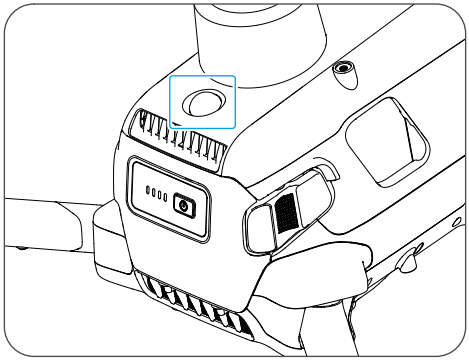
[1] If the aircraft cannot take off while the status indicators are blinking red slowly, view the warning prompt in DJI Pilot 2.

⚠
- Lighting requirements vary depending on the region. Observe local laws and regulations.
- To obtain better footage, the front LEDs turn off automatically when taking photos and videos if the front LEDs are set to Auto in DJI Pilot 2.

4.3 Beacon

The beacon on the aircraft enables you to find the aircraft when flying at night. The beacon can be manually turned on or off in DJI Pilot 2.

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⚠
- DO NOT look directly at the beacons when they are in use to avoid damaging your eyes.

4.4 Propellers

The aircraft comes with standard propellers. For flight operations in low-temperature, humid, and icing-prone environments, it is recommended to use the anti-ice propellers.

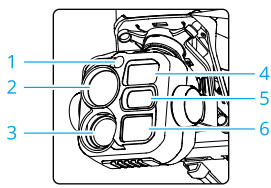
Notices

⚠
- Propeller blades are sharp. Handle with care to avoid personal injury or propeller deformation.
- Make sure that the propellers and motors are installed securely before each flight. Make sure to unfold the propellers.
- Only use official propellers compatible with this aircraft. DO NOT mix propeller types.
- Propellers are consumable components. Purchase additional propellers if necessary.
- Make sure that all propellers are in good condition and clean (without any foreign matter in or on them) before each flight. DO NOT use aged, chipped, or broken propellers. Clean the propellers with a soft, dry cloth if there is any foreign matter attached.
- To avoid injury, stay away from rotating propellers or motors.

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- To avoid damaging the propellers, place the aircraft correctly during transportation or storage. DO NOT squeeze or bend the propellers. If propellers are damaged, the flight performance may be affected.
- Make sure the motors are mounted securely and rotating smoothly. Land the aircraft immediately if a motor is stuck and unable to rotate freely.
- DO NOT attempt to modify the structure of the motors.
- DO NOT touch or let hands or body parts come in contact with the motors after flight, as they may be hot.
- DO NOT block any of the ventilation holes on the motors or the body of the aircraft.
- Make sure the ESCs sound normal when powered on.
- It is recommended to wear gloves when installing the anti-ice propellers and avoid scratching the propeller surface. DO NOT use solvents containing oil or alcohol when cleaning the propeller blades. Otherwise, the anti-icing coating may be damaged. Replace the propellers after 450 flights for optimal anti-icing performance.

4.5 Camera



1. NIR Auxiliary Light
2. Tele Camera
3. Thermal Camera
4. Laser Range Finder
5. Medium Tele Camera
6. Wide-Angle Camera

- Due to the characteristics of the infrared sensor, the infrared sensor may become burnt before sunburn protection is triggered. DO NOT expose the infrared camera lenses to strong sources of energy such as the sun, lava, or a laser beam. Otherwise, the camera sensor may become burnt leading to permanent damage.
- Make sure the temperature and humidity are suitable for the camera during use and storage.
- Use a lens cleaner to clean the lens to avoid damage or poor image quality.

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- DO NOT block any ventilation holes on the camera as the heat generated may damage the device or cause injury.

Storing and Exporting Photos and Videos

The aircraft supports the use of a microSD card to store photos and videos. Refer to the Specifications for more information about recommended microSD cards.

Remove the microSD card from the aircraft and insert it into a card reader, and export the footage in the microSD card through the card reader.

- Ensure that the SD card slot and the microSD card are clean and free of foreign objects during use.
- DO NOT remove the microSD card from the aircraft when taking photos or videos. Otherwise, the microSD card may be damaged.
- Check camera settings before use to ensure they are configured correctly.
- Before shooting important photos or videos, shoot a few images to test whether the camera is operating correctly.
- Make sure to power off the device correctly. Otherwise, the camera parameters will not be saved, and any recorded videos may be affected. DJI is not responsible for any loss caused by an image or video recorded in a way that is not machine-readable.
- Photos and videos cannot be transmitted or copied from the camera if the aircraft is powered off.

4.6 Gimbal

Gimbal Angle

Use the gimbal dial on the remote controller to control the tilt of the camera. Alternatively, enter the camera view in DJI Pilot 2. Press the screen until a circle appears and drag the circle up and down to control the tilt of the camera.

Gimbal Notice

- Make sure the frame arms are completely unfolded before powering on. Otherwise, the gimbal rotation may be obstructed and malfunction may occur.

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- Make sure there are no stickers or objects on the gimbal before taking off. DO NOT tap or knock the gimbal after the aircraft is powered on. Take off the aircraft from open and flat ground to protect the gimbal.
- Avoid getting dust or sand on the gimbal, especially in the gimbal motors.
- DO NOT add any extra payload other than an official accessory to the gimbal, as this may cause the gimbal to function abnormally or even lead to permanent motor damage.
- Precision elements in the gimbal may be damaged by a collision or impact, which may cause the gimbal to function abnormally. Make sure to protect the gimbal from damage.
- A gimbal motor may enter protection mode if the gimbal is obstructed by other objects or if the gimbal experiences an excessive external force, such as during a collision.
- Remove the gimbal protector before powering on the device. Attach the gimbal protector when the device is not in use.
- Flying in heavy fog or clouds may make the gimbal wet, leading to temporary failure. The gimbal will recover full functionality once it is dry.
- When flying in heavy rain, it is normal that the gimbal and video transmission may shake slightly due to raindrops.

4.7 Intelligent Flight Battery

Notices

⚠ • Refer to the Safety Guidelines and the stickers on the battery before use. Users shall take full responsibility for all operation and usage.

1. DO NOT charge an Intelligent Flight Battery immediately after flight as it may be too hot. Wait for the battery to cool down to the allowable charging temperature before charging again.
2. To prevent damage, the battery only charges when the battery temperature is within the allowable charging temperature. The ideal charging temperature is from 22° to 28° C (71.6° to 82.4° F). Charging at the ideal temperature range can prolong battery life. Charging stops automatically if the temperature of the battery cells reaches 55° C (131° F) or higher.
3. Low Temperature Notice:

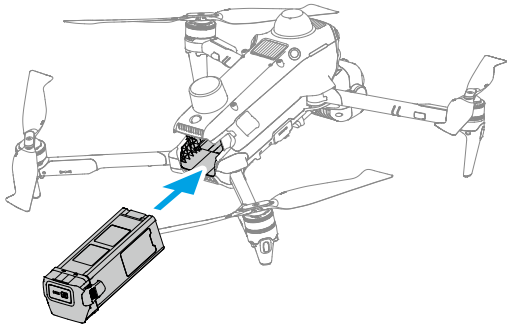
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- Battery capacity is significantly reduced when flying in low-temperature environments. Ensure the battery is fully charged, and complete the steps in Warming the Battery before takeoff.
- The reduced battery capacity in low-temperature environments reduces the wind speed resistance performance of the aircraft. Fly with caution.
- Take extra caution when flying at a high elevation with a low temperature.
- When the aircraft is in flight after the above conditions are satisfied, and the DJI Pilot 2 app shows a critically low battery level warning, the user is advised to stop flying immediately and land the aircraft in an appropriate place. During auto landing, users can still use the remote controller to control the aircraft. For example, users can push the throttle stick to lift the aircraft.

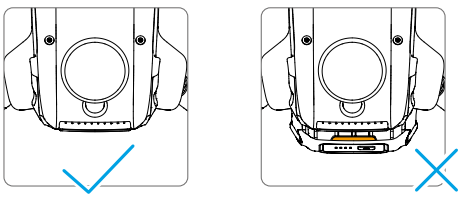
4. A fully charged battery will automatically discharge when it is idle for a period of time. Note that it is normal for the battery to emit heat during the discharging process.
5. Fully charge the battery at least once every three months to maintain battery health. If the battery is not used for an extended period, battery performance may be affected or may even cause permanent battery damage. If a battery has not been charged or discharged for three months or more, the battery will no longer be covered by the warranty.
6. For safety purposes, keep the batteries at a low power level in transit. Before transportation, it is recommended to discharge the batteries to 30% or lower.
7. Over-discharge protection is enabled and discharging stops automatically to prevent over-discharge when the aircraft is idle. Charge the battery to wake it from over-discharge protection before using again. Over-discharge protection is not enabled during flight.
8. Over-discharging will lead to serious damage of the battery. If the battery level is less than 5% while the aircraft is idle, the battery enters Hibernation mode to prevent over-discharge.
9. Remove the battery from the aircraft if stored separately, refer to the Safety Guidelines and follow the instructions on battery storage.
10. When storing the battery separately, always lay it flat. DO NOT place it upright with the metal terminals facing down. Otherwise, sand or other foreign objects may enter the port, causing a short circuit, damaging the battery port, or contaminating the water-resistant foam.

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Inserting/Removing the Battery



- DO NOT insert or remove the battery while the aircraft is powered on.
- Make sure the orange mark on the battery is not visible after the battery is installed in the aircraft.



- Make sure the battery is firmly mounted before takeoff. DO NOT launch the aircraft when the battery is not securely mounted, as this may cause poor contact between the battery and the aircraft and present hazards.

Checking the Battery Level

Press the power button once to check the current battery level.

The battery level LEDs display the power level of the battery during charging and discharging. The statuses of the LEDs are defined below:

LED is on

LED is flashing

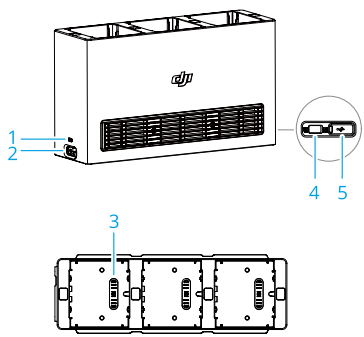
LED is off

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Blinking Pattern	Battery Level
● ● ● ●	88-100%
● ● ● ☼	76-87%
● ● ● ○	63-75%
● ● ☼ ○	51-62%
● ● ○ ○	38-50%
● ☼ ○ ○	26-37%
● ○ ○ ○	13-25%
☼ ○ ○ ○	1-12%

Charging

Using the Charging Hub



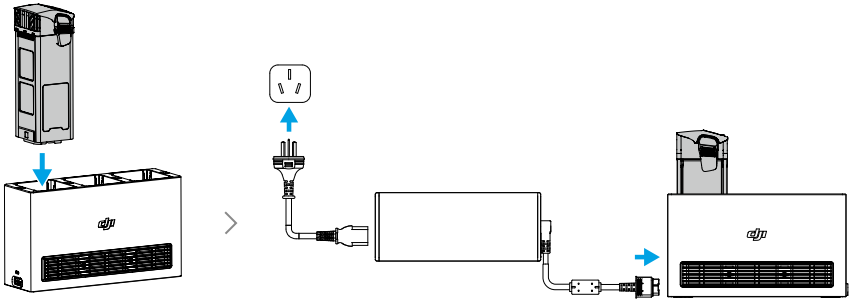
1. Status LED
2. Power Port
3. Battery Port
4. Mode Switch

   Standard Mode: Each battery is charged to 100% in sequence.

   Ready-to-Fly Mode: Each battery is charged to 95% in sequence. This mode facilitates quick use of batteries.
5. USB-C Port

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Charging the Batteries



The charging hub will charge the batteries based on the charging temperature and the current battery level. The battery with the shortest charging time will be charged first. During charging, the charging hub status LEDs indicate the current status, and the battery level LEDs indicate the battery level.

Charging External Devices

Make sure the charging hub is connected to an AC power source. Connect an external device (e.g., a remote controller or mobile phone) to the USB-C port of the charging hub using a USB-C cable.

- When a battery and an external device are connected simultaneously, the charging hub will prioritize charging the battery, and the maximum output power of the USB-C port is 36 W. Once the battery is fully charged or removed, the maximum output power of the USB-C port can reach 140 W.
- The USB-C port can be used to connect the remote controller to update the charging hub firmware.

Status LED Descriptions

Blinking Pattern	Description
Solid yellow	No battery is inserted
Pulses green	Charging the battery
Solid green	Charging completed
Blinks yellow	Exceeds the charging temperature range (no action required; charging will resume automatically after the battery or charging hub temperature returns to normal)

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Blinking Pattern	Description
 Solid red	Unrecoverable abnormality of battery or charging hub (remove and reinsert the battery or unplug and plug in the adapter)

- The DJI 515W Power Adapter is required when using the charging hub to charge Intelligent Flight Batteries.
- The charging hub is only compatible with a specific model of the Intelligent Flight Battery. DO NOT use the charging hub with other battery models.
- Place the charging hub on a flat and stable surface when in use. Make sure the device is properly insulated to prevent fire hazards.
- DO NOT touch the metal terminals on the battery ports. Clean the metal terminals with a clean, dry cloth if there is any noticeable buildup.

Battery Level LEDs

The table below shows the battery level during charging.

Blinking Pattern	Battery Level
	0-50%
	51-75%
	76-99%
	100%

Battery Protection Mechanisms

The battery level LEDs can display battery protection notifications triggered by abnormal charging conditions.

LEDs	Blinking Pattern	Status
	LED2 and LED4 blink three times per second	Aircraft short circuit/overcurrent at power on
	LED2 and LED4 blink two times per second	Undervoltage at power on
	LED2 blinks twice per second	Overcurrent detected
	LED2 blinks three times per second	Short circuit detected
	LED3 blinks twice per second	Overcharge detected

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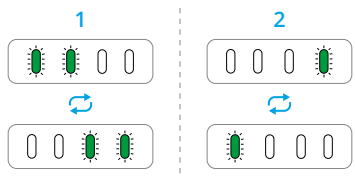
LEDs	Blinking Pattern	Status
	LED3 blinks three times per second	Overvoltage charger detected
	LED4 blinks twice per second	Charging temperature is too low
	LED4 blinks three times per second	Charging temperature is too high
	All 4 LEDs blink fast	The battery is abnormal and unavailable

If any of the battery protection mechanisms are activated, unplug the charger, and plug it in again to resume charging. If the charging temperature is abnormal, wait for it to return to normal. The battery will automatically resume charging without the need to unplug and plug in the charger again.

Warming the Battery

The battery has a self-heating feature to be used when operating in low-temperature conditions:

- If the battery is inserted into the aircraft and powered on, self-heating will start automatically when the battery temperature is low. The aircraft will take off after the battery is warmed up.
- If the battery is not inserted into the aircraft, press and hold the power button on the battery to activate self-heating. Press and hold the power button again to stop self-heating.
- When the battery is **Warming Up (1)** and **Keeping Warm (2)**, the battery level LEDs will blink as follows.



4.8 Aircraft RTK

The built-in RTK module of the aircraft can withstand strong magnetic interference from metal structures and high-voltage lines, ensuring safe and stable flight. When used with a D-RTK product (sold separately) or a DJI-approved Network RTK service, more accurate positioning data can be obtained.

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- Visit https://www.dji.com/downloads to view the accessory user guide and learn about how to use the product.

Enabling/Disabling RTK

Ensure that the RTK function is enabled and the RTK service type is correctly set before each use. Otherwise, RTK cannot be used for positioning. Go to DJI Pilot 2, tap **Camera View** > > to view and check the settings.

- RTK positioning can be enabled and disabled during flight.
- After RTK is enabled, Maintain Positioning Accuracy Mode can be used.

Custom Network RTK

Make sure the remote controller is connected to the internet via a nano-SIM card or Wi-Fi.

Keep the remote controller powered on and connected to the internet when using this function. Custom Network RTK can be used to replace the RTK station. Connect the Custom Network RTK account to the designated NTRIP server to send and receive differential data.

1. Make sure that the remote controller is connected to the aircraft and the internet.
2. Go to DJI Pilot 2, tap **Camera View** > > , select Custom Network RTK as the RTK service type and fill in the required information. Then tap **Save**.
3. Wait to connect to the NTRIP server. In the RTK settings, when the status of the aircraft's positioning in the status table shows "FIX", it indicates that the aircraft has obtained and used differential data from Network RTK.

4.9 Return to Home

Read this section carefully and make sure that you are familiar with the aircraft action during Return to Home (RTH).

The Return to Home (RTH) function will automatically fly the aircraft back to the last recorded Home Point. RTH can be triggered in three ways: the user actively triggers RTH, the aircraft has low battery, or the remote control signal has been lost (Failsafe RTH is triggered). If the aircraft records the Home Point successfully and the positioning system is functioning normally, when the RTH function is triggered, the aircraft will automatically fly back and land at the Home Point.

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- **Home Point**: The Home Point will be recorded at takeoff as long as the aircraft has a strong GNSS signal 26 or the lighting is sufficient. After the Home Point is recorded, DJI Pilot 2 will issue a voice prompt. If it is necessary to update the Home Point during a flight (such as if you have changed your position), the Home Point can be manually updated in > > **Control** in DJI Pilot 2.

During RTH, the AR RTH route will be displayed on the camera view, helping you to view the return path and ensure flight safety. The camera view also displays the AR Landing Point. When the aircraft reaches the area above the Home Point, the gimbal camera will automatically flip downwards. The AR aircraft shadow will appear in the camera view when the aircraft is approaching the ground, enabling you to control the aircraft to land more accurately in your preferred location. The display can be changed in > > **Assist**.

- The AR RTH route is only used for reference, and may deviate from the actual flight route in different scenarios. Always pay attention to the liveview on the screen during RTH. Fly with caution.
- During RTH, the aircraft will automatically adjust the gimbal tilt to point the camera toward the RTH route by default. Using the gimbal dial to adjust the camera orientation or pressing the customizable buttons on the remote controller to recenter the camera will stop the aircraft from automatically adjusting the gimbal tilt, which may prevent the AR RTH route from being viewed.

Notice

- The aircraft may not be able to return to the Home Point as normal if the positioning system is functioning abnormally. During Failsafe RTH, the aircraft may enter ATTI mode and land automatically if the positioning system is functioning abnormally.
- When there is no GNSS, do not fly over water surfaces, buildings with glass surface, or in scenarios where the altitude above the ground is greater than 30 meters. If the positioning system is functioning abnormally, the aircraft will enter ATTI mode.
- It is important to set a suitable RTH altitude before each flight. Launch DJI Pilot 2 and set the RTH altitude. The default RTH altitude is 100 m.
- The aircraft cannot sense obstacles during RTH if the environment conditions are not suitable for the sensing system.
- GEO zones may affect the RTH. Avoid flying near GEO zones.

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- The aircraft may not be able to return to a Home Point if the wind speed is too high. Fly with caution.
- Pay extra attention to small or fine objects (such as tree branches or power lines) or transparent objects (such as water or glass) during RTH. Exit RTH and control the aircraft manually in an emergency.
- Set Advanced RTH as **Preset** if there are power lines or transmission towers that the aircraft cannot bypass on the RTH path and make sure the RTH Altitude is set higher than all obstacles.
- The aircraft will brake and return to home according to the latest settings if the **Advanced RTH** settings in DJI Pilot 2 are changed during RTH.
- If the max altitude is adjusted below the current altitude during RTH, the aircraft will descend to the max altitude first and then continue returning to home.
- The RTH Altitude cannot be changed during RTH.
- If there is a large difference between the current altitude and the RTH altitude, the amount of battery power used cannot be calculated accurately due to wind speed differences at different altitudes. Pay extra attention to the battery power prompts and warning prompts in DJI Pilot 2.
- When the remote controller signal is normal during Advanced RTH, the pitch stick can be used to control the flight speed, but the orientation and altitude cannot be controlled and the aircraft cannot be controlled to fly to the left or right. Constantly pushing the pitch stick to accelerate will increase the battery power consumption speed. The aircraft cannot bypass obstacles if the flight speed exceeds the effective sensing speed. The aircraft will brake and hover in place and exit RTH if the pitch stick is pushed all the way down. The aircraft can be controlled after the pitch stick is released.
- If the aircraft reaches the altitude limit of the aircraft current location or of the Home Point while it is ascending during Preset RTH, the aircraft stops ascending and returns to the Home Point at the current altitude. Pay attention to flight safety during RTH.
- If the Home Point is within the Altitude Zone but the aircraft is not in the Altitude Zone, when the aircraft reaches the Altitude Zone it will descend below the altitude limit, which may be lower than the set RTH altitude. Fly with caution.
- If the OcuSync video transmission is obstructed and disconnects, the aircraft can only rely on 4G enhanced transmission. Considering there may be large obstacles on the RTH route, to ensure safety during RTH, the RTH route will take the previous flight path as reference. When using 4G enhanced transmission, pay more attention to the battery status and the RTH route in the map.

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- The aircraft will exit RTH if the surrounding environment is too complex to complete RTH, even if the sensing system is working properly.
- RTH cannot be triggered during auto landing.

Advanced RTH

When Advanced RTH is triggered, the aircraft will automatically plan the best RTH path, which will be displayed in DJI Pilot 2 and will be adjusted according to the environment. During RTH, the aircraft will adjust the flight speed automatically according to environmental factors such as the wind speed, wind direction, and obstacles.

If the control signal between the remote controller and the aircraft is good, exit RTH by pressing the RTH button or the flight pause button on the remote controller. After exiting RTH, you will regain control of the aircraft.

Trigger Method

The user actively triggers RTH

During flight, you can trigger RTH by pressing and holding the RTH button on the remote controller.

Aircraft low battery

During flight, if the battery level is low and only sufficient to fly to the Home Point, a warning prompt will appear in DJI Pilot 2. If you tap to confirm RTH or do not take action before the countdown ends, the aircraft will automatically initiate low battery RTH.

If you cancel the low battery RTH prompt and continue flying the aircraft, the aircraft will land automatically when the current battery level can only support the aircraft long enough to descend from its current altitude.

Auto landing cannot be cancelled but you can still fly the aircraft horizontally by moving the pitch stick and roll stick, and change the descent speed of the aircraft by moving the throttle stick. Fly the aircraft to a suitable place for landing as soon as possible.

⚠
- When the Intelligent Flight Battery level is too low and there is not enough power to return home, land the aircraft as soon as possible. Otherwise, the aircraft will crash after the battery power is completely depleted.
- DO NOT keep pushing the throttle stick upward during auto landing. Otherwise, the aircraft will crash after the battery power is completely depleted.

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Loss of remote controller signal

When the remote controller signal is lost, the aircraft will automatically initiate Failsafe RTH if the Signal Lost Action is set to RTH.

When the lighting and environment conditions are suitable for the vision system, DJI Pilot 2 will display the RTH path that was generated by the aircraft before the signal was lost. The aircraft will start RTH using Advanced RTH according to the RTH settings. The aircraft will remain in RTH even if the remote controller signal is restored. DJI Pilot 2 will update the RTH path accordingly.

When the lighting and environment conditions are unsuitable for the vision system, the aircraft will brake and hover, then enter Original Route RTH.

- If the RTH distance (the horizontal distance between the aircraft and the Home Point) is farther than 50 m, the aircraft adjusts its orientation and flies backward for 50 m on its original flight route before entering Preset RTH.
- If the RTH distance is farther than 5 m but less than 50 m, the aircraft adjusts its orientation and flies straight horizontally back to the home point at the current altitude.
- The aircraft lands immediately if the RTH distance is less than 5 m.

RTH Procedure

After Advanced RTH is triggered, the aircraft brakes and hovers in place.

- **When the environment or lighting conditions are suitable for the vision system:**
  - The aircraft will adjust its orientation to the Home Point, plan the best path according to the RTH settings and then return to the Home Point if GNSS was available when takeoff.
  - If GNSS was unavailable and only the vision system was working when takeoff, the aircraft will adjust its orientation to the Home Point, plan the best path according to the RTH settings and then return to the position with strong GNSS signal based on the RTH settings. It will approximately follow the outbound trajectory back to the vicinity of the home point. At this time, pay attention to the app prompts and choose whether to let the aircraft automatically RTH and land or to manually control the RTH and landing.

    Pay attention if GNSS was unavailable when takeoff:

    - Make sure that the obstacle avoidance is enabled.
    - DO NOT fly in narrow spaces and the environmental wind speed should be less than 3 m/s.
    - Fly to the open area and stay at least 10 meters away from any obstacles quickly after takeoff, otherwise, the aircraft may not be able to return to

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home. During flight, avoid flying over water surfaces until reaching an area with strong GNSS signal. The altitude above the ground should be greater than 2 meters and less than 30 meters, otherwise, the aircraft may not be able to return to the home point. If the aircraft enters ATTI mode before reaching the area with strong GNSS signal, the home point will be invalidated.

- If the vision positioning is not available during flight, the aircraft cannot return to the home point. Pay attention to the environment according to the App voice prompts to prevent collisions.
- When the aircraft returns to the vicinity of the takeoff point and the App prompts when the current environment is complex, please confirm whether to continue flying:
  - You need to confirm whether the flight path is correct and pay attention to flight safety.
  - You need to confirm whether the lighting condition is sufficient for the vision system. If not, the aircraft may exit RTH. Forcing the aircraft to continue RTH or flight may cause it to enter ATTI mode.
- After confirmation, the aircraft will continue to return to the home point at a low speed. If an obstacle appears on the return path, the aircraft will brake and may exit RTH.
- This RTH process does not support obstacle detection in textureless scenes such as glass or white walls.
- This RTH process requires the ground and nearby environments (such as walls) to have rich textures and no dynamic changes.

- **When the environment or lighting conditions are not suitable for the vision system:**
  - If the RTH distance is further than 5 meters, the aircraft will return to home according to the **Preset.**
  - The aircraft lands immediately if the RTH distance is less than 5 m.

Terrain Data

When the remote controller is connected to the internet, tap > > **Assist** in DJI Pilot 2, and enable **Terrain Data**, the remote controller will automatically download the elevation database to the aircraft. Based on the terrain data, the aircraft can plan an optimal flight path to bypass obstacles along the path during RTH.

When terrain data is enabled,

- if the environment or lighting conditions are suitable for the vision system, the aircraft will automatically plan an optimal flight path based on the terrain data and the data

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collected by the vision system. The optimal flight path will maintain a safe distance from the terrain obstacles.

- If the environment or lighting conditions are not suitable for the vision system, only the terrain data is effective. Safety risks may arise if the model data is inaccurate.

- Based on the terrain data, the aircraft will bypass the area that has weak GNSS signal to ensure aircraft positioning accuracy. If there are suspended models in the terrain data, such as cranes, power lines, and bridges, the aircraft will try to bypass the obstacles by flying above the objects.

- When the aircraft is using GNSS for positioning, the positioning accuracy is relatively low, and the obstacle bypassing performance may be affected. Users should fly with caution, and pay close attention to the flight route and the camera view.

RTH Settings

RTH settings are available for Advanced RTH. Go to the camera view inDJI Pilot 2 , tap > **Control**, and scroll to **Return to Home**.

- **Optimal**



  - If the lighting is sufficient and the environment is suitable for the vision system, the aircraft will automatically plan the optimal RTH path and adjust the altitude according to environmental factors, such as obstacles and transmission signals, regardless of the RTH Altitude setting. The optimal RTH path means the aircraft will travel the shortest distance possible to reduce the amount of battery power used and to increase flight time.
  - If the lighting is insufficient and the environment is not suitable for the vision systems, the aircraft will perform Preset RTH based on the RTH Altitude setting.
- **Preset**

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RTH Distance/Altitude		Suitable Lighting and Environment Conditions	Unsuitable Lighting and Environment Conditions
RTH distance > 50 m	Current altitude < RTH altitude	The aircraft will plan the RTH path, fly to an open area while bypassing obstacles, ascend to the RTH Altitude, and return to home using the best path.	The aircraft will ascend to the RTH altitude, and fly to the Home Point in a straight line at the RTH altitude. [1]
	Current altitude ≥ RTH altitude	The aircraft will return to home using the best path at the current altitude.	The aircraft will fly to the Home Point in a straight line at the current altitude.
RTH distance is within 5-50 m			

[1] If an obstacle is detected ahead, the aircraft will ascend to avoid the obstacle. It will stop climbing once the path ahead is clear and then continue to RTH. If the obstacle height exceeds the altitude limit, the aircraft will brake and hover, and the user will need to take control.

- When **Return to Home** is set to **Preset**, a **Direct Landing** option will appear. When enabled, aircraft will directly land when arrives above the Home Point.

When the aircraft is approaching the Home Point, if the current altitude is higher than the RTH altitude, the aircraft will intelligently decide whether to descend while flying forward according to the surrounding environment, lighting, the set RTH altitude, and the current altitude. When the aircraft reaches above the Home Point, the current altitude of the aircraft will not be lower than the set RTH altitude.

The RTH plans for different environments, RTH trigger methods, and RTH settings are as follows:

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<table>
<tr><th>RTH trigger method</th><th>Suitable Lighting and Environment Conditions
The aircraft can bypass obstacles and GEO zones</th><th>Unsuitable Lighting and Environment Conditions</th></tr>
<tr><td>The user actively triggers RTH</td><td rowspan="3">The aircraft will perform RTH based on the RTH setting:
• Optimal
• Preset</td><td rowspan="2">Preset (The aircraft can ascend to bypass obstacles and GEO zones)</td></tr>
<tr><td>Aircraft low battery</td></tr>
<tr><td>Loss of remote controller signal</td><td>Original route RTH, Preset RTH will be executed when the signal is restored (The aircraft can bypass GEO zones and will brake and hover if there is obstacle)</td></tr>
</table>

Landing Protection

During RTH, landing protection activates once the aircraft begins to land (with downward obstacle avoidance enabled).

The specific performance of the aircraft is as follows:

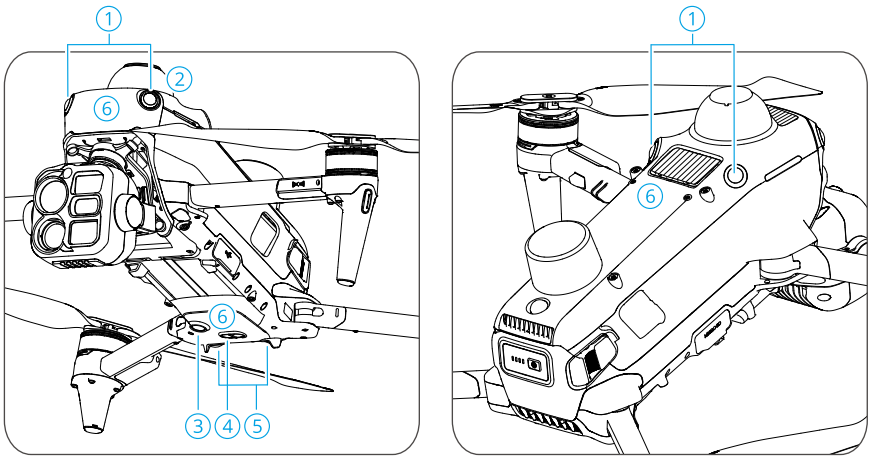
- If the ground is determined suitable for landing, the aircraft will land directly.
- If the ground is determined unsuitable for landing, the aircraft will hover and wait for pilot confirmation.
- If landing protection is not operational, DJI Pilot 2 will display a landing prompt. Tap **Confirm** or push the throttle stick all the way down and hold for one second, and the aircraft will land.

- After reaching the area above the Home Point, the aircraft will land precisely on the takeoff point. Performing a precision landing is subject to the following conditions:
  - The Home Point must be recorded upon takeoff and must not be changed during flight.
  - During takeoff, the aircraft must vertically ascend at least 7 m before moving horizontally.
  - The Home Point terrain features must remain largely unchanged.
  - The terrain features of the Home Point must be sufficiently distinctive. Terrain such as a snow-covered field is not suitable.
  - The lighting conditions must not be too bright or too dark.

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- During landing, movement of any other control stick apart from the throttle stick will be regarded as giving up precision landing, and the aircraft will descend vertically.

4.10 Sensing System



1. Omnidirectional Vision System
2. LiDAR
3. Auxiliary Light
4. Three-Dimensional Infrared Sensing System
5. Downward Vision System
6. mmWave Radar

The omnidirectional vision system works best with adequate lighting and clearly marked or textured obstacles. When **Obstacle Avoidance Action** is set to **Avoid** or **Brake** in DJI Pilot 2, the omnidirectional vision system will activate automatically in Normal, Sport, or Tripod mode. The positioning function is applicable when GNSS signals are unavailable or weak.

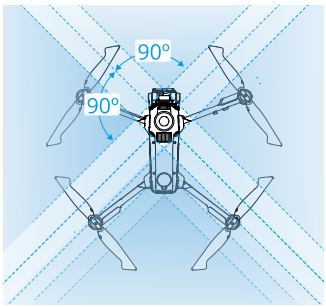
The auxiliary light located at the bottom of the aircraft can assist the downward vision system. It will automatically turn on by default in low-light environments when the flight altitude is under 5 m after takeoff. You can also turn it on or off manually in the DJI Pilot 2 app. Each time the aircraft is restarted, the auxiliary light will revert back to the default setting **Auto**.

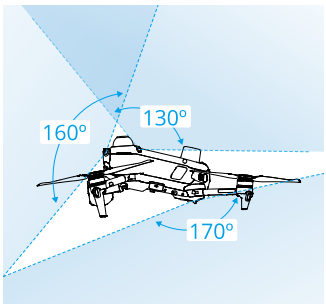
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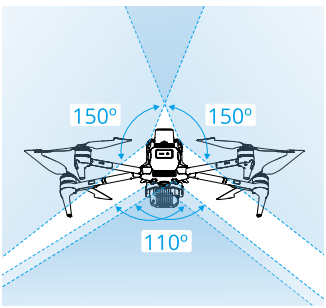
- Vision Positioning and Obstacle Avoidance can be disabled in the settings. When Vision Positioning and Obstacle Avoidance are disabled, the aircraft relies only on GNSS to hover, omnidirectional obstacle avoidance is unavailable, and the aircraft will not automatically decelerate during descent close to the ground. Extra caution is required in this case. If a spotlight or other accessory is mounted on the bottom of the aircraft, the accessory may hit the ground if the aircraft does not decelerate in time, causing shell wear or even damaging components such as the spotlight gimbal.
- Disabling Vision Positioning and Obstacle Sensing takes effect only when flying manually, and will not take effect when using auto modes such as RTH, or auto landing.

Detection Range

Vision System

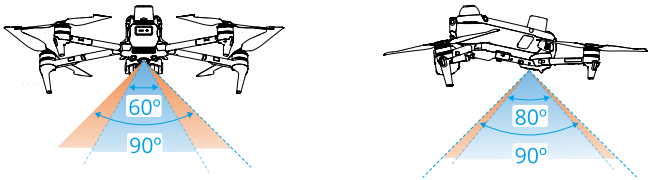






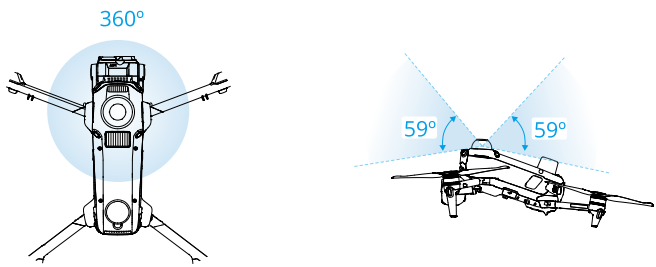
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3D Infrared Sensing System



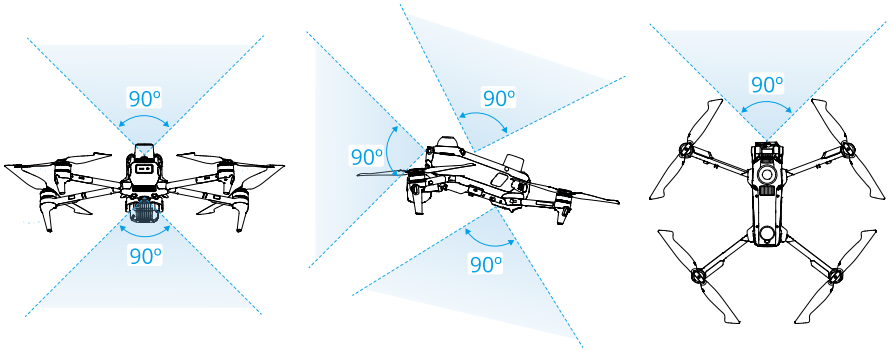
⚠ The blue zone indicates the sensor's detection range while the orange zone indicates the no-obstruction zone. Make sure the payload does not enter the no-obstruction zone to avoid flight accidents. If the payload enters this zone, it is recommended to disable **Downward Infrared Sensor Ranging** in DJI Pilot 2 to prevent sensor interference from affecting normal descent. When disabled, Landing Protection will be unavailable. Land slowly and cautiously.

LiDAR



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mmWave Radar



Notices

⚠
- Pay attention to the flight environment. The sensing system only works in certain scenarios and cannot replace human control and judgment. During a flight, always pay attention to the surrounding environment and the warnings in DJI Pilot 2, and be responsible for and maintain control of the aircraft at all times.
- If there is no GNSS available, the downward vision system will assist with aircraft positioning, and works best when the aircraft is at an altitude from 0.5 m to 30 m. Extra caution is required if the altitude of the aircraft is above 30 m as the vision positioning performance may be affected.
- In low-light environments, the vision systems may not achieve optimal positioning performance even if the auxiliary bottom light is turned on. Fly with caution if the GNSS signal is weak in such environments.
- The Downward Vision System may not function properly when the aircraft is flying over water. Therefore, the aircraft may not be able to actively avoid water below it when landing. It is recommended to maintain flight control at all times, make reasonable judgments based on the surrounding environment, and avoid over-relying on the vision system.
- The vision systems cannot accurately identify large structures with frames and cables, such as tower cranes, high-voltage transmission towers, high-voltage transmission lines, cable-stayed bridges, and suspension bridges.
- The vision system cannot work properly near surfaces without clear pattern variations or where the light is too bright or too dark. The vision system cannot work properly in the following situations:

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  - Flying near monochrome surfaces (e.g., pure black, white, red, or green surfaces).
  - Flying near highly reflective surfaces.
  - Flying over water or transparent surfaces.
  - Flying near moving surfaces or objects.
  - Flying in an area with frequent and drastic lighting changes.
  - Flying near extremely dark (< 0.5 lux) or bright (> 40,000 lux) surfaces.
  - Flying near surfaces that strongly reflect or absorb infrared waves (e.g., mirrors).
  - Flying near surfaces without clear patterns or textures.
  - Flying near surfaces with repeating identical patterns or textures (e.g., tiles with the same design).
  - Flying near obstacles with small surface areas (e.g., tree branches and power lines).
- DO NOT tamper with the sensing system in any way, and make sure the lenses are clean, free of smudges or scratches.
- DO NOT fly when it is rainy, smoggy, or the visibility is lower than 100 m.
- DO NOT obstruct the sensing system. Promptly clean the surfaces of all sensors and lenses after operations in rain.
- Check the following each time before takeoff:
  - Make sure there are no stickers or any other obstructions over the glass of the infrared sensing systems and vision systems.
  - Use a soft cloth if there is any dirt, dust, or water on the glass of the sensing system and infrared sensing system. DO NOT use any cleaning product that contains alcohol.
  - Contact DJI Support if there is any damage to the lenses of the infrared sensing and vision system.
- The aircraft can fly at any time of the day or night. However, the vision system becomes unavailable when flying the aircraft in low-light environments. Fly with caution.
- LiDAR and built-in millimeter-wave radar have detection blind spots and limited detection capabilities for obstacles of different sizes and materials. Obstacle sensing may fail in the following scenes, fly with caution:
  - In special weather conditions such as rain, snow, fog, or dust.
  - Presence of fast-moving objects around the flight route (e.g., operating wind turbines, moving tower cranes, birds in flight, etc.).

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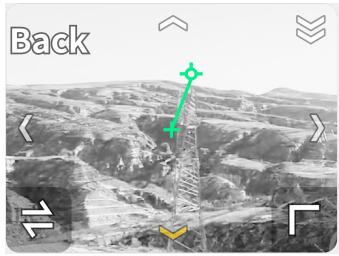
  - Presence of thin brown branches (e.g., when flying in dense forests); or dark linear objects with a diameter of less than 12 mm (e.g., thin Ethernet cables, black rubber wires).
  - Presence of small obstacles, such as cables or branches, while the aircraft is flying in a direction within the LiDAR blind spots (e.g., ascending or descending vertically or diagonally).
  - When the aircraft is flying towards the sun, the obstacle sensing ability of the LiDAR decreases.
  - Presence of water droplets or severe dirt on the LiDAR surface.
- Make sure to remove the protective cover before use. To avoid damaging the product surface, install the protective cover when it is not in use. DO NOT touch the LiDAR directly with your bare hands. Regularly wipe it with a soft cloth and keep it clean to avoid affecting the obstacle sensing performance. DO NOT use alcohol or other solvents when cleaning.

Vision Assist

The vision assist view changes the image on the view from the corresponding vision sensors according to the flight speed direction to help users navigate and observe obstacles during flight.

⚠
- When using Vision Assist, the quality of the video transmission may be lower due to transmission bandwidth limits or the video transmission resolution of the screen on the remote controller.
- It is normal for propellers to appear in the vision assist view.
- Vision Assist should be used for reference only. Glass walls and small objects such as tree branches, electrical wires, and kite strings cannot be recognized accurately.
- Vision assist is not available when the aircraft has not taken off or when the video transmission signal is weak.

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Tap the arrow to switch between different directions of the vision assist view. Tap and hold to lock the direction. Tap the center of the screen to maximize the vision assist view.

- When the direction is not locked, the vision assist view automatically switches to the vision view of the current flight direction. Tap any directional arrow of the vision assist view to temporarily switch to the vision sensor view of that direction, and it will automatically return to the vision sensor view of the current flight direction.
- When the vision assist direction is locked in a specific direction, tap any other arrow to unlock and switch the vision assist view.

4.11 Advanced Pilot Assistance Systems

The Advanced Pilot Assistance Systems (APAS) feature is available in Normal mode and Tripod mode. When APAS is enabled, the aircraft will continue to respond to your commands and plan its path according to both control stick inputs and the flight environment. APAS makes it easier to avoid obstacles, obtain smoother footage, and give a better flying experience.

When APAS is enabled, the aircraft can be stopped by pressing the Flight Pause button on the remote controller. The aircraft brakes and hovers for three seconds and awaits further pilot commands.

To enable APAS, open DJI Pilot 2, go to > , and select **Avoid** in Obstacle Avoidance.

Notices

- Make sure to use APAS when the sensing system is available. Pay attention to the prompts in DJI Pilot 2 and make sure APAS is working normally.

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- Make sure there are no people, animals, objects with small surface areas (e.g., tree branches), or transparent objects (e.g., glass or water) along the desired flight path.
- Make sure to use APAS when the vision system and LiDAR are available or the GNSS signal is strong. APAS may not function properly when the aircraft is flying over water or snow-covered areas.
- Be extra cautious when flying in extremely dark (<0.5 lux) or bright (>40,000 lux) environments.
- APAS may not function properly when the aircraft is flying near flight limits or in a GEO zone.
- When the lighting becomes insufficient and the sensing system, such as vision system, is partially unavailable, the aircraft will switch from bypassing obstacles to braking and hovering. You need to center the control stick and then to continue controlling the aircraft.

Landing Protection

If **Obstacle Avoidance Action** is set to **Avoid** or **Brake**, Landing Protection will be activated when you push the throttle stick down to land the aircraft. Landing Protection is enabled once the aircraft begins to land.

- If the ground is determined to be suitable for landing, the aircraft will land directly.
- If the ground is determined to be unsuitable for landing, the aircraft will hover when the aircraft descends to a certain height above ground. Push down on the throttle stick for at least five seconds, and the aircraft will land without obstacle avoidance.

4.12 DJI AirSense

Airplanes with an ADS-B transceiver will actively broadcast flight information including locations, flight paths, speeds, and altitudes. DJI aircraft incorporated with the DJI AirSense technology are capable of receiving flight information broadcast from ADS-B transceivers that comply with 1090ES or UAT standards within a radius range of 10 kilometers. Based on the received flight information, DJI AirSense can analyze and obtain the location, altitude, orientation, and velocity of the surrounding manned airplanes, and compare such figures with the current position, altitude, orientation, and velocity of the DJI aircraft to calculate in real time the potential risk of collision with the surrounding manned airplanes. DJI AirSense will then display a warning message in DJI Pilot 2 according to the risk level.

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DJI AirSense only issues warning messages on approaches by specific manned airplanes under special circumstances. Please be aware that DJI AirSense has the following limitations:

- DJI AirSense can only receive messages sent by airplanes installed with an ADS-B Out device that is in compliance with 1090ES (RTCA DO-260) or UAT (RTCA DO-282) standards. DJI devices cannot receive broadcast messages from or display warnings on airplanes not equipped with properly functioning ADS-B Out devices.
- If there is an obstacle between a manned aircraft and a DJI aircraft, DJI AirSense will not be able to receive ADS-B messages from the aircraft or send warnings to the user. Keenly observe your surroundings and fly with caution.
- Warning prompts may be sent with delay if DJI AirSense experiences any interference from the surrounding environment. Keenly observe your surroundings and fly with caution.
- Warning prompts may not be received if the DJI aircraft is unable to obtain information on its own location.
- DJI AirSense cannot receive ADS-B messages from manned airplanes or send warnings to the user when it is disabled or misconfigured.

When a risk is detected by the DJI AirSense system, the AR projection display will appear on the current view in DJI Pilot 2, intuitively showing the distance between the DJI aircraft and the airplane, and issuing a warning alert. Users should follow the instructions in DJI Pilot 2 upon receiving the alert.

Notice: A blue airplane icon will appear on the map.

Caution: The app will display the message **Manned aircraft detected nearby. Fly with caution**. A small orange square icon with the distance information will appear on the camera view, and an orange airplane icon will appear on the map view.

Warning: The app will display the message **Collision risk. Descend or ascend immediately**. If the user is not operating, the app will display **Collision risk. Fly with caution**. A small red square icon with the distance information will appear on the camera view, and a red airplane icon will appear on the map view. The remote controller will vibrate to alert.

4.13 IP Rating of the Aircraft

1. Under stable laboratory conditions, the DJI Matrice 5T aircraft achieves an IP55 protection rating of IEC 60529 standards when equipped with the Intelligent Flight Battery. The protection rating is not permanent and may lower over an extended period.
    - DO NOT fly when the amount of rainfall exceeds 100 mm/24 h.

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- Make sure the battery surfaces, battery ports, and the battery compartment ports and surfaces are dry before inserting the battery.
- The product warranty does not cover water damage.

2. The aircraft does not achieve an IP55 protection rating in the following circumstances:
   - Batteries other than the official battery are used.
   - The battery is not firmly installed.
   - The covers for the expansion ports are not firmly closed if not used.
   - External devices (such as the speaker or the spotlight) are not firmly installed or the screws are not tightened.
   - The aircraft shell is cracked or the water-resistant adhesive is aged or damaged.
3. The body surface may become discolored after long-term use. However, such color change does not affect the performance and IP rating of the device.

4.14 Expansion Port

The aircraft is equipped with multiple E-Ports, supporting SDK development and connecting to official accessories. Visit https://developer.dji.com for more information about SDK development and instructions.

The following official accessory can be connected to the E-Port:

- USB-C Assistant Port (E-Port V3 High-Speed Port) : DJI AP1 Parachute
- E-Port 2 (E-Port V3 Low-Speed Port) : DJI AS2 Speaker
- E-Port 3 (E-Port V3 Low-Speed Port) : DJI AL2 SpotLight

Third-Party Payload Requirements

- Installing a third-party payload may affect the aircraft performance (such as video transmission, GNSS and obstacle avoidance) and flight safety. It is recommended to use official payloads or the payloads in the Enterprise Ecosystem Solution Catalogue. The payload size and installation height must meet Payload Development Criteria. Visit https://developer.dji.com for more information.
- Make sure that the total weight of the aircraft does not exceed the maximum takeoff weight.
- Third-party payloads should have a IP rating equal to or higher than that of the aircraft in order not to reduce the working stability or the service life of the aircraft. It is recommended to use third-party payloads that maintain the overall IP rating of the aircraft after installation. If water leaks into the aircraft, it will seriously affect flight safety.

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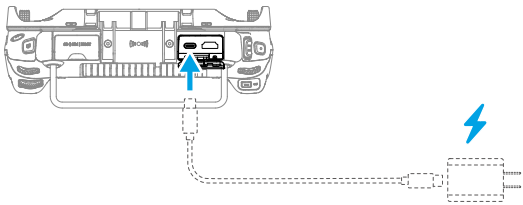
- After installing a third-party payload, make sure to perform a stability test. Make sure there is no interface disconnection, no impact on the GNSS satellite search of the aircraft, no degradation in video transmission performance, and no incorrect obstacle sensing.

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5 Remote Controller

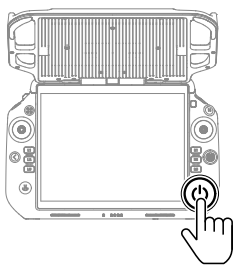
5.1 Charging the Battery

- Fully discharge and charge the remote controller every three months. The battery depletes when stored for an extended period.
- It is recommended to use the included USB-C to USB-C cable for optimal charging.



Checking the Battery Level

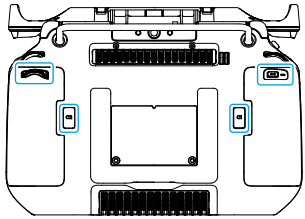
Press the power button once to check the battery level.

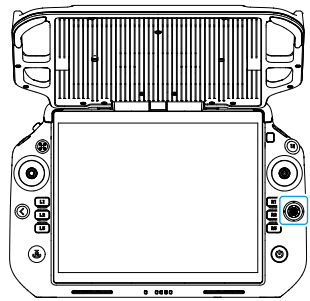


5.2 Customizable Button

The C1, C2, C3, C4 and 5D buttons are customizable. Open DJI Pilot 2 and enter camera view. Tap > to configure the functions of these buttons. In addition, combinations can be customized using the C1, C2, and C3 buttons with the 5D button.

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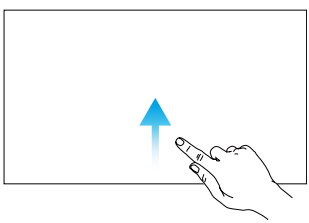
5.3 Button Combinations

Some frequently used features can be activated by using combination buttons. To use combination buttons, press and hold the back button and operate the other button in the combination.

The default button combinations cannot be changed. The following table displays the function of each default button combination.

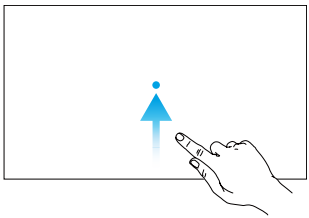
Combination Operation	Function
Back Button + Left Dial	Adjust Brightness
Back Button + Right Dial	Adjust Volume
Back Button + Record Button	Record Screen
Back Button + Shutter Button	Screenshots
Back Button + 5D Button	Toggle up - Homepage Toggle down - Shortcut settings Toggle left - Recently opened apps

5.4 Operating the Touchscreen

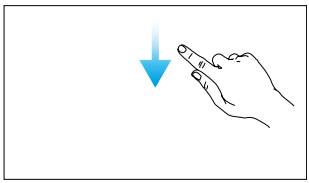


Slide up from the bottom of the screen to return to the homepage.

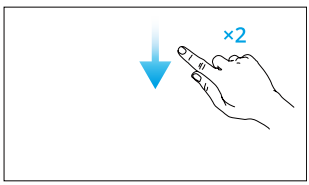
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Slide up from the bottom of the screen and hold to access recently opened apps.



Slide down from the top of the screen to open the status bar when in DJI Pilot 2. The status bar displays information such as time, Wi-Fi signal, and remote controller battery level.



Slide down twice from the top of the screen to open Quick Settings when in DJI Pilot 2. Slide down once from the top of the screen to open Quick Settings when not in DJI Pilot 2.

5.5 Sleep Mode

Close the antenna panel or press the power button once to turn off the touchscreen. If the remote controller is not connected to an aircraft, it will enter sleep mode after the screen is off for a certain period. To wake up the remote controller, open the antenna panel or press the power button once. If not awakened within a certain period, the remote controller will automatically power off.

Go to **Settings** > **Display** to adjust the auto-screen-off and auto-power-off timeout settings.

5.6 Remote Controller LEDs

Status LED

Blinking Pattern	Description
Solid red	Disconnected from the aircraft.
Blinks red	The battery level of the aircraft is low

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Blinking Pattern	Description
Solid green	Connected with the aircraft.
Blinks blue	The remote controller is linking to an aircraft
Pulses blue	The remote controller is in sleep mode.
Solid yellow	Firmware update failed.
Solid blue	Firmware update successful.
Blinks yellow	The battery level of the remote controller is low.
Blinks cyan	Control sticks not centered.

Battery Level LEDs

The battery level LEDs indicate the battery level of the remote controller.

Blinking Pattern	Battery Level
	88-100%
	75-87%
	63-74%
	50-62%
	38-49%
	25-37%
	13-24%
	0-12%

5.7 Remote Controller Alert

The remote controller beeps to indicate an error or warning. Pay attention when prompts appear on the touchscreen or in DJI Pilot 2.

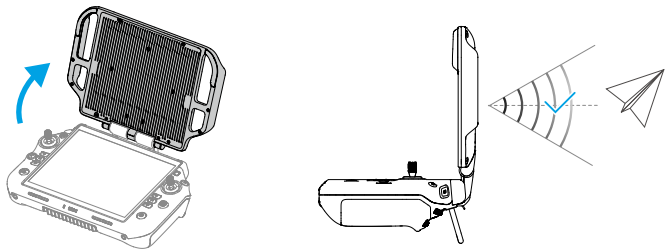
To disable all alerts, slide down from the top of the screen, and select **Mute** or slide the volume bar to 0.

The remote controller sounds an alert during RTH, which cannot be cancelled. The remote controller sounds an alert when the battery level of the remote controller is low. A low battery level alert can be cancelled by pressing the power button. When the battery level is critically low, the alert cannot be cancelled.

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5.8 Optimal Transmission Zone

Signal strength varies depending on antenna position. Adjust the direction of the antennas and ensure the antenna plane faces the aircraft, so that the remote controller and aircraft are within the optimal transmission zone.



- DO NOT overstretch the antennas to avoid damage. Contact DJI Support to repair the remote controller if the antennas are damaged. A damaged antenna will greatly decrease the performance of the remote controller and might affect flight safety.
- During flight, DO NOT use other 2.4 GHz or 5.8 GHz communication devices in the same frequency band at the same time, so as not to interfere with the communication signal of the remote controller. For example, avoid enabling mobile phone Wi-Fi.
- A prompt will appear in DJI Pilot 2 if the transmission signal is weak during flight. Adjust the antennas to make sure that the aircraft is in the optimal transmission zone.

5.9 Sub2G Antenna

The remote controller is equipped with built-in Sub2G antennas. In the camera view, tap > **HD** > **Work Frequency** > **Multi-Frequency**, then enable the Sub2G frequency.

- Operating frequency allowed varies among countries and regions. Please refer to local laws and regulations for more information.

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5.10 Linking the Remote Controller

The remote controller is already linked to the aircraft when purchased together as a combo. Otherwise, follow the steps below to link the devices.

Method 1: Using Combination Buttons

1. Power on the aircraft and the remote controller.
2. Press the C1, C2, and Record buttons simultaneously until the status LED blinks blue and the remote controller beeps.
3. Press and hold the power button of the aircraft for at least five seconds. The aircraft beeps, and its battery level LEDs blink in sequence to indicate it is ready to link. The remote controller will beep twice, and its status LED will turn solid green to indicate linking is successful.

Method 2: Using App

1. Power on the aircraft and the remote controller.
2. Run DJI Pilot 2 and tap **Link Remote Controller** to link. The status LED of the remote controller blinks blue, and the remote controller will beep during linking.
3. Press and hold the power button of the aircraft for at least five seconds. The aircraft beeps, and its battery level LEDs blink in sequence to indicate it is ready to link. The remote controller will beep twice, and its status LED will turn solid green to indicate linking is successful.

- Make sure the remote controller is within 0.5 m of the aircraft during linking.
- Make sure the remote controller is connected to the internet when logging in using a DJI account.
- The aircraft supports Airborne Relay, allowing it to serve as a relay for other aircraft to perform long-distance operations. When using this function, the linking procedure is slightly different from the standard linking process. Watch the tutorial video for detailed instructions.

5.11 HDMI Settings

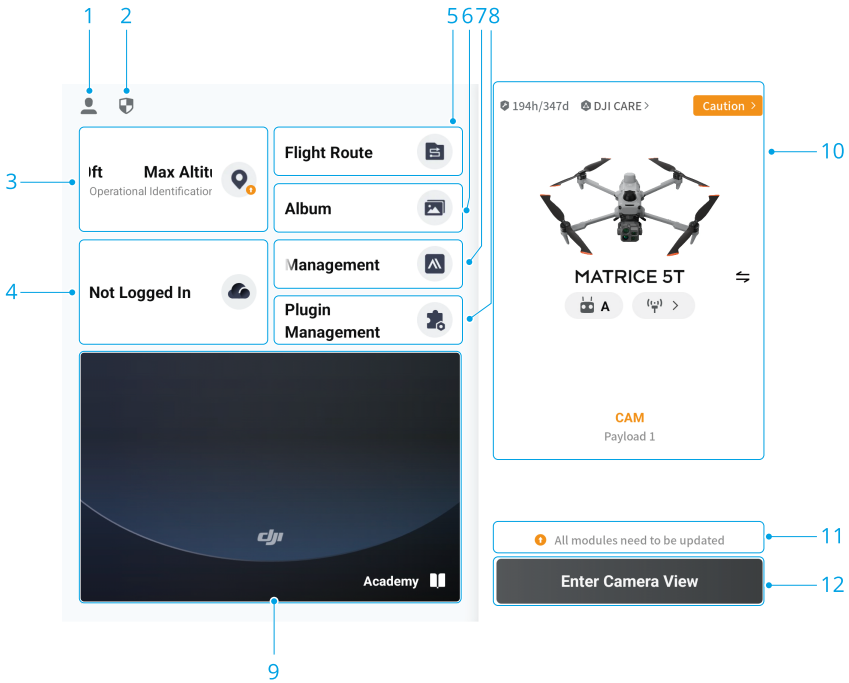
The touchscreen can be shared to a display after connecting the HDMI port of the remote controller.

The resolution can be set by entering > **Display** > **HDMI** > **Resolution Setting**.

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6 DJI Pilot 2 App

6.1 Homepage



1. **Profile**

   Tap to view flight records, download offline maps, manage GEO Zone unlocking certificates, read help documentation, select a language, and more.

2. **Data and Privacy**

   Tap to manage network security modes, set security codes, manage app cache, and clear DJI device logs.

3. **GEO Zone Map**

   Tap to view whether the current operating area is in a restricted zone or authorization zone, and the current flyable altitude.

4. **Cloud Service**

   Tap to view the connection status of the cloud service, select the type of service, or switch from the currently connected service to another cloud service.

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- If the DJI account logged in by the user has the DJI FlightHub 2 license, tap the cloud service on the app homepage to automatically log in to DJI FlightHub 2.

  Visit the DJI FlightHub 2 page on the DJI official website for more information: https://www.dji.com/flighthub-2.

5. **Flight Route**

   Tap to enter the flight route library. Users can create and view all flight tasks. Flight tasks can be imported and exported in batches to the remote controller or another external mobile storage device. If DJI FlightHub 2 is connected, you can also view all flight tasks sent from the cloud or upload local tasks to the cloud.

6. **Album**

7. **Intelligent Function Management**

   Includes Algorithm Management and Alert List:

   - Algorithm Management: Import and manage third-party intelligent algorithms.
   - Alert List: view the alert information of all Smart Capture tasks, and export alert reports to local storage or upload them to the cloud.

8. **Plugin Management**

   Install local plugins to expand flight operation capabilities. Tap to view the status of local plugins and manage them.

9. **Academy**

10. **Device Status**

11. **Firmware Upgrade Shortcut**

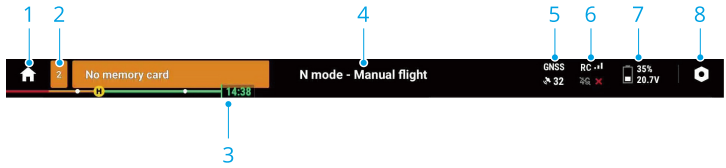
    - A consistent firmware update is required when the firmware versions of some modules of the aircraft are inconsistent with the compatible version of the system.

12. **Enter Camera View**

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6.2 Camera View

Top Bar



1. **Back**
2. **System Status Bar**

   If a new alert appears during flight, it will be displayed here and continue flashing. Tap to view the information and stop the flashing.
3. **Battery Level Indicator Bar**

   Displays the battery level and the remaining flight time of the Intelligent Flight Battery after takeoff.
4. **Flight Status**

   Tap to enter the Preflight Check view.
5. **GNSS Positioning Status**

   Displays the number of searched satellites. When the RTK service is not enabled, the RTK icon is gray. When the RTK data is converged, the RTK icon will turn white. Tap the GNSS positioning status icon to view the RTK mode and GNSS positioning information.
6. **Signal Strength**

   RC : The transmission signal is strong.

   RC : The transmission signal is normal.

   RC : The transmission signal is weak. A voice alert warns: Image transmission signal weak, fly with caution.

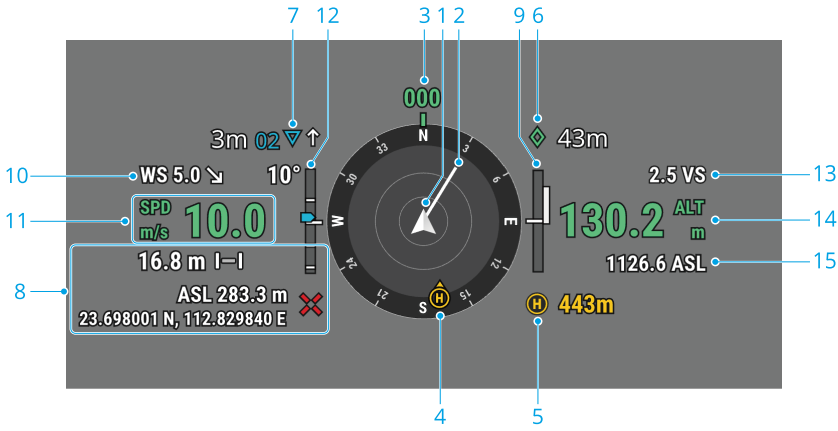
   RC ✕ : The transmission signal is lost. A voice alert warns: Image transmission signal lost, fly with caution.
7. **Intelligent Flight Battery Level**

   Displays the battery level of the aircraft. Tap to view battery level, voltage, and temperature.
8. **Settings**

   Tap to expand the settings menu to set the parameters of each module.

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Navigation Display



1. **Aircraft**
2. **Aircraft Horizontal Speed Vector**

   The white line drawn by the aircraft indicates the flight direction and speed of the aircraft.
3. **Aircraft Orientation**

   Displays the current orientation of the aircraft, with 0 degrees as North on the compass.
4. **Home Point and Remote Controller Orientations**
   - Displays the position of the Home Point (yellow H) and the remote controller (blue dot) relative to the aircraft.
   - If the remote controller and the Home Point are close to each other, only the Home Point will be displayed.
   - The remote controller dot features an arrow to indicate the orientation. If the signal is weak during flight, adjust the remote controller's direction so that the arrow points towards the aircraft.
5. **Home Point Distance**

   Displays the horizontal distance between the Home Point and the aircraft.
6. **PinPoint Information**

   Displays the name of the PinPoint and the horizontal distance from the aircraft to the PinPoint, when PinPoint is enabled.
7. **Waypoint Information**

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Displays the name of the waypoints, the horizontal distance from the aircraft to the waypoint, and the ascending or descending trajectory of the flight route, during a flight route.

8. **RNG Information**

   When RNG is enabled, the navigation display shows the altitude and coordinates of the measurement point and the actual distance represented by the scale in the center of the camera view.

9. **Vertical Obstacle Sensing Information**

   Once an obstacle is detected in the vertical direction, an obstacle bar icon will appear. When the aircraft reaches the warning distance, the icon will glow red and orange, and the remote controller will emit long beeping sounds. When the aircraft reaches the obstacle braking distance, the icon will glow red, and the remote controller will emit short beeping sounds. Both the obstacle braking distance and the warning distance can be set in DJI Pilot 2. Follow the prompted instructions in the app to set them. The white line shows the position of the aircraft in three seconds. The higher the vertical speed, the longer the white line.

   Horizontal Obstacle Sensing Information

   The light areas are the obstacle avoidance areas of the aircraft, while the dark areas are the blind spots. During flight, keep the aircraft speed vector line out of the obstacle-sensing blind spots.



- If an obstacle is detected, a colored frame will appear to indicate the distance:
  - **Green**: The obstacle is outside the warning distance.
  - **Orange**: The obstacle has reached the warning distance.
  - **Red**: The obstacle is approaching the obstacle braking distance.
- The obstacle avoidance status is displayed as follows:
  - **OFF**: Obstacle avoidance is disabled.
  - **TOF**: Obstacle avoidance is enabled, the vision system is not available and only the infrared sensing system is working.
  - **NA**: Obstacle avoidance is enabled, but the vision system and the infrared sensing system are not available.

10. **Wind Speed and Direction**

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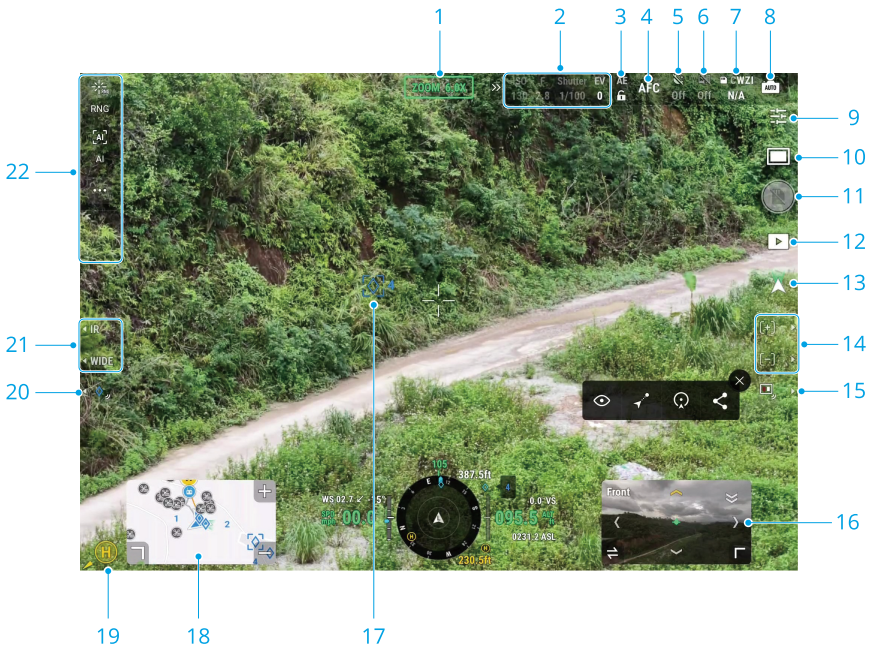
The wind direction is relative to the aircraft.

11. **Aircraft Horizontal Speed**
12. **Gimbal Tilt**
13. **Aircraft Vertical Speed**
14. **Relative Altitude (ALT)**

    Displays the altitude of the aircraft relative to the takeoff point.
15. **Altitude (ASL)**

Zoom Camera View

Below is an illustration using the zoom camera as the main view.



1. **Camera Type**
2. **Camera Parameters**
3. **Auto Exposure Lock**
4. **Focus Mode**

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5. **Night Scene Mode**
6. **Electronic Dehazing**

   In winter environments with large temperature differences (e.g., moving from a warm indoor room to a cold, windy outdoor environment), the lens is highly prone to fogging or heavy frost. It is recommended to enable electronic dehazing before takeoff in such scenarios.
7. **Storage Info**
8. **Camera Mode**
9. **Camera Settings**
10. **Photo/Video Mode**
11. **Shutter/Record Button**
12. **Playback**
13. **Gimbal Mode**
14. Press the R1/R2 button on the remote controller to control the camera zoom.
15. **Split**

    Press the R3 button to enable multi-split-screen. Press and hold the R3 button to switch split-screen combinations.
16. **Vision Assist**
17. **PinPoints**
18. **Map View**
19. **Home Point**
20. **PinPoint Function**

    Press the L3 button on the remote controller to add a PinPoint in the center of the screen. Press and hold on the L3 button to expand the PinPoint settings panel.
21. Press the L1/L2 button on the remote controller to switch the camera lens.
22. **Customizable Function Bar**

    Tap ••• to access more functions, and it supports custom panels.

In a flight task, the two waypoints that the aircraft is about to pass will be projected on the camera view.

Wide-Angle Camera View

This section mainly sets out the differences with zoom camera. Refer to the Zoom Camera View section for more details.

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1. **Zoom Frame**

   After switching to the wide-angle camera as the main view, the zoom frame will display the field of view and camera zoom ratio.

Thermal Camera View

This section mainly sets out the differences with zoom camera. Refer to the Zoom Camera View section for more details.

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1. **Palette**

   Displays the highest and lowest temperature measurement values of the current view. Tap to choose between different infrared temperature measurement palettes, or enable the isotherm to set temperature measurement intervals. Note that if the measured area exceeds the maximum or minimum temperature measurement values of the current view, the setting will not take effect.

2. **Gain Mode**

   Tap to select different gain modes and adjust the temperature measurement range:

   - The High Gain mode offers more precise temperature measurement capabilities, with a measurement range of -40° to 150° C (-40° to 302° F) *.
   - The Low Gain mode provides a broader temperature measurement range, from 0° to 550° C (32° to 1022° F) *.
   - The High-Res mode is designed for observing objects with small temperature differences. Temperature measurement is not supported in this mode.

To improve the accuracy, it is recommended to tap > **Infrared Thermometry Parameters** and set the correct thermometry parameters.

* When measuring a blackbody 10 m away at 25° C in a windless indoor environment, the infrared thermal camera provides an accuracy of ±2° C or ±2% (whichever is the larger value) when using the High Gain mode, and an accuracy of ±5° C or ±3% (whichever is the larger

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value) when using the Low Gain mode. Temperature measurement is highly affected by the environment at -40° to -20° C (-40° to -4° F) and the accuracy is not guaranteed. Since the emissivity of different blackbodies varies, this measurement result only represents the accuracy of tested blackbodies in the lab and is for reference only.

3. **Fusion**

   Tap to enable fusion mode, which displays both the infrared and visible light feeds in one view.

4. **FFC**

   Tap to start FFC calibration. FFC calibration is a function of the thermal camera that optimizes image quality for easy observation of temperature changes.

5. **Link Zoom**

   Tap to synchronize the zoom of the thermal and zoom cameras, and view the linked zoom effect via Fusion.

6. **Thermal Camera Zoom**

- Tap on the screen or select an area to perform spot temperature measurement or area temperature measurement.

Laser Rangefinding



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1. Tap to enable the RNG.
2. The cross hair in the center of the lens will turn red, which means the laser rangefinder is aiming at the subject and measuring the altitude of the subject and the distance between the subject and the aircraft. The latitude and longitude of the subject can be obtained after a PinPoint is created on the subject.
3. The linear distance between the subject and the aircraft.
4. A scale is displayed in the center of the liveview to quickly measure object size. The value represented by the scale is shown in the navigation display.
5. The altitude of the subject.
6. The latitude and longitude of the subject

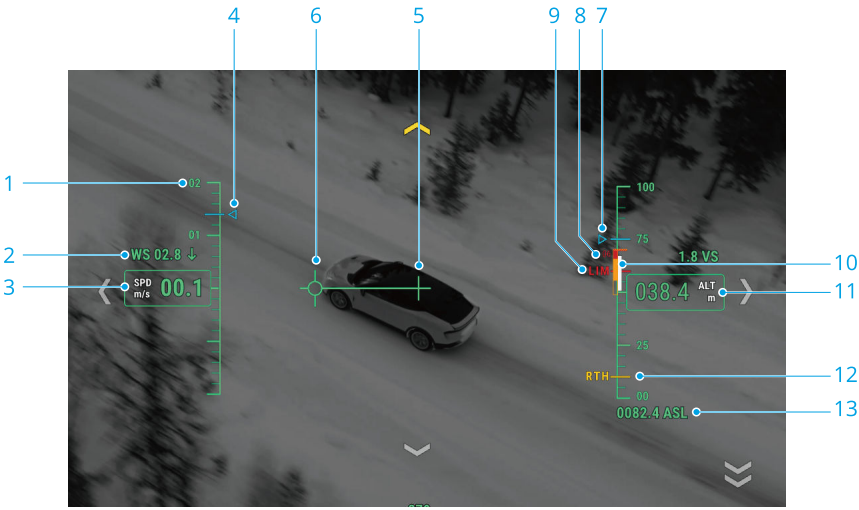
- RNG positioning is limited by factors such as the GNSS positioning accuracy and gimbal attitude accuracy. The GNSS position, horizontal distance, navigation display, and AR projection are provided for reference only.
- The shape of the cross hairs varies with different camera lenses.

Primary Flight Display (PFD)

Primary Flight Display (PFD) makes flying easier and more intuitive, enabling users to see and avoid obstacles around the aircraft, as well as stop and adjust the flight trajectory if necessary.

The Primary Flight Display varies depending on which camera view is selected as the main view.

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1. **Speed Wheel**
2. **Wind Speed and Direction**

   The wind direction is relative to the aircraft.
3. **Aircraft Horizontal Speed**
4. Preset speed of the flight route during the flight task.
5. **Aircraft Heading Indicator**
6. **Flight Path Vector**

   The position the aircraft is about to reach.
7. Preset height of the flight route during the flight task.
8. **Vertical Obstacle Indicator**

   When there is an obstacle above or below the aircraft, you can refer to the obstacle sensing display or compare the speed bar with the obstacle height to determine if a collision is imminent and avoid accidents.
9. **Altitude Limit (LIM)**
10. **Aircraft Vertical Speed**

    The white line shows the position of the aircraft in three seconds. The higher the vertical speed, the longer the white line.
11. **Relative Altitude (ALT)**

    The altitude of the aircraft relative to the takeoff point.

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12. **Return-to-Home Altitude (RTH)**
13. **Altitude (ASL)**

6.3 Map View



1. Line and Area Annotation Management
2. **Camera View**
3. **Aircraft/Remote Controller Position**

   The icons show the positions of the remote controller and the aircraft. Tap the icon to view more information. Take the aircraft as an example:

   a. Location information
   b. Set the current position as the Home Point.
   c. Add, edit, or delete PinPoints.
4. **Map Lock**

   When enabled, the map cannot be rotated freely.
5. **Map Layer Selection**

   Tap to select a satellite or street map (standard mode) according to operation requirements.

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6. **Clear Aircraft Flight Track**
7. **Recenter Button**

   Tap to display the map with the aircraft or the remote controller centered, or display with the annotations centered when editing annotations.

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7 Flight Operations

7.1 Annotation Management and Synchronization

PinPoint

PinPoint can be used to set the location point of a subject in gimbal camera view or map view, for quick observation and information synchronization.



1. **PinPoint**

   Adjust the attitude of the aircraft and the gimbal to move the subject to the center of the current view. Press the L3 button of the remote controller to pin the subject at the center. The PinPoint can record the latitude, longitude and altitude of the subject.

2. **Pin**

   - AR projection will be created for the subject in gimbal camera view or FPV camera view. It will be big when near, small when far.
   - After selecting a PinPoint:
     - A small frame will appear around the PinPoint, indicating it is selected.
     - The Navigation Display shows the name of the PinPoint, its horizontal distance to the aircraft, and its direction relative to the aircraft.

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- If the selected PinPoint is outside the video transmission view, the PinPoint icon will stay on the edge of the screen, indicating its orientation relative to the center of the view.
- After selecting a PinPoint, the user can edit the PinPoint or drag the PinPoint on the map.

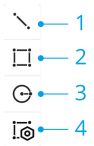
3. **Switch to Map View**

   In map view, you can add a PinPoint by dragging the point to the crosshairs in the center of the map. The altitude is the current flight altitude of the aircraft.

- Tap > to set the remote controller's custom buttons to the PinPoint related functions. Users can quickly create and select PinPoints by using the buttons.
- PinPoint positioning is limited by factors such as the GNSS positioning accuracy and gimbal attitude accuracy. The latitude and longitude, horizontal distance, Navigation Display, and AR projection are provided for reference only.

Line and Area Annotation Management

Create lines and areas in Map View to synchronize key information such as routes and operational areas.



1. Tap to display the Edit Line view.
2. Tap to display the Edit Area view.
3. Tap to display the Edit Circle view.
4. Manage annotation elements.

Annotation Sharing

The location of the target point identified by PinPoint can be synchronized with the camera view, Navigation Display, map view, and DJI FlightHub 2. It can be displayed on both camera and map views.

When connected to DJI FlightHub 2, the point, line and area annotations of DJI Pilot 2 app and DJI FlightHub 2 can be synchronized with each other. Locations and annotations can be viewed on the remote controller and other devices logged into DJI FlightHub 2 for real-time sharing.

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7.2 Intelligent Functions

The aircraft supports various intelligent functions such as:

- Smart Track
- Cruise
- POI
- Terrain Follow
- Smart Capture
- Power Line Inspection

Click the link below or scan the QR code to watch the tutorial videos for Smart Capture and Power Line Inspection.

https://enterprise.dji.com/matrice-5t/video

Smart Track

Smart Track allows the aircraft to continuously follow moving objects such as vehicles and boats.

Usage

1. Tap the tracking icon in the camera view to enable smart track.
2. Tap the detected subject box in the view to start tracking. Alternatively, drag a box around the subject or align the crosshairs with the subject, then press the C1 button on the remote controller to lock the subject and start tracking.
3. After the subject is confirmed, the aircraft automatically adjusts the gimbal angle and camera zoom to keep the subject centered in the frame at an appropriate size. Use the right dial on the remote controller to manually adjust the camera zoom. Release the dial and the camera zoom will automatically return to the previous level.

- If the subject is lost, the aircraft will automatically search for it based on the predicted trajectory. You can also manually control the gimbal and camera zoom to find the subject.

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- To ensure optimal results when tracking moving subjects, the gimbal will not lock when taking photos, which may cause motion blur in the static background.

⚠
- Use Smart Track in an open environment to avoid losing the subject.
- Smart Track cannot be enabled when the aircraft is returning to the Home Point, landing, or in T-mode. If any of these situations occur during tracking, the aircraft will exit Smart Track immediately.
- Smart Track performance may be affected in the following situations:
  - At night, or in environments with poor visibility such as rain, fog, or haze.
  - When the camera operates at a high zoom level.
  - In areas with heavy traffic or a large number of similar objects, where the tracking target may inadvertently switch.

Cruise

In scenarios that require prolonged control stick input (such as bridge or pipeline inspections), Cruise Control can be enabled to lock the flight speed, reducing control effort.

Usage

1. Tap the Cruise icon in the camera view to enable Cruise Control.
2. Push the right control stick to increase the flight speed. Press the C1 button to lock the speed when prompted by the app.
3. During cruise control, scroll the C4 wheel on the remote controller to adjust the flight speed. Alternatively, push the right control stick further to accelerate, and then press the C1 button again to set a new cruise speed.

POI

After enabling the POI mode, the aircraft flies around the selected PinPoint in a circle, making it convenient for users to take orbit shots. POI can be enabled only when the aircraft is in Normal mode.

In POI mode, if the vision systems are working normally, the aircraft will brake when an obstacle is detected, regardless of whether obstacle avoidance is set to Avoid or Brake.

Usage

1. After takeoff, select an existing PinPoint from the camera view or the map view or create a new PinPoint after finding the subject.
2. Manually control the aircraft to adjust the radius.

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3. Tap the POI icon in the camera view to enable the POI mode. The aircraft looks at the selected PinPoint automatically.

   - As the PinPoint has altitude, when the aircraft looks at the PinPoint, it will look at the altitude of the PinPoint. To look at the subject right below the PinPoint, lock or adjust the gimbal angle manually after tapping the POI icon.

4. Move the roll stick left or right to make the aircraft start to fly clockwise or counterclockwise. The more the stick is pushed away from the center position, the faster the aircraft will move.
5. Once the desired speed has been reached, press the C1 button on the remote controller or tap C1 in the camera view to set the current speed as the POI speed. The aircraft will automatically circle at the POI speed.
6. While the aircraft is circling automatically, users can move the roll stick left or right to decrease or increase the circling speed. Once the desired speed has been reached, press the C1 button on the remote controller or tap C1 in the camera view to set the updated speed as the POI speed. The aircraft will automatically circle at the new POI speed.
7. Tap the shutter/record button to take photos or start recording.
8. Press the flight pause button or the C1 button once on the remote controller or tap C1 in the camera view, the aircraft will brake and hover in place. Tap the POI icon in the camera view to exit the POI mode.

- Only Single and Timed photos and video recordings are supported in POI mode.
- The maximum circling speed changes based on the current circling radius. The larger the circling radius, the higher the maximum circling speed.
- While the aircraft is circling, if the user has changed the aircraft orientation with the yaw stick so that the aircraft does not look directly at the selected PinPoint, in this condition, if the user moves the pitch stick up and down, the aircraft will not fly forward or backward following current orientation. Instead, the aircraft will fly toward or away from the selected PinPoint.

Terrain Follow

Enable real-time Terrain Follow when operating in mountainous or uneven terrain. The aircraft will automatically adjust its altitude based on terrain variations, maintaining a constant relative height above ground to ensure the accuracy and overlap of collected data.

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Usage

1. Go to the camera view and tap ••• > **Terrain Follow** in the customizable function bar to enable manual terrain follow.
2. Tap the parameter settings panel that pops up in the upper-left corner, and adjust the terrain follow altitude.
3. After configuration, push the control stick to start flying.
4. During Manual Terrain Follow, Cruise Control can be enabled. Push the throttle stick to temporarily adjust the altitude, and release the throttle stick to return to the set altitude.

⚠
- When flying beyond the long-distance detection range of the vision system, Real-Time Follow cannot be performed. Fly with caution. Real-Time Follow cannot work in locations that feature cliffs, steep slopes, power lines, and towers.
- The vision system cannot work properly in low-light environments. Real-Time Follow cannot be used normally in rainy, snowy, and foggy environments.
- The vision system may not work properly over water. Therefore, the aircraft may not be able to actively detect the distance to the water for real-time follow. It is not recommended to use real-time follow in large areas of water and ocean waves.
- The vision system cannot work properly near surfaces without clear pattern variations or where the light is too bright or too dark. The vision system cannot work properly in the following situations:
  - Flying near monochrome surfaces (e.g., pure black, white, red, or green surfaces).
  - Flying near highly reflective surfaces.
  - Flying near water or transparent surfaces.
  - Flying near moving surfaces or objects.
  - Flying in an area with frequent and drastic lighting changes.
  - Flying near extremely dark (<0.5 lux) or bright (>40,000 lux) surfaces.
  - Flying near surfaces that strongly reflect or absorb infrared waves (e.g., mirrors).
  - Flying near surfaces without clear patterns or textures.
  - Flying near surfaces with repeating identical patterns or textures (e.g., tiles with the same design).
  - Flying near obstacles with small surface areas (e.g., tree branches and power lines).

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- Keep the sensors clean at all times. DO NOT tamper with the sensors. DO NOT use the aircraft in dusty or humid environments.

7.3 Airborne Relay

The aircraft supports Airborne Relay, allowing it to serve as a relay for other aircraft to perform long-distance operations.

Click the link below or scan the QR code to watch the tutorial video before first use.

https://enterprise.dji.com/matrice-5t/video

7.4 Boat Launch

The aircraft supports ship-based takeoff and landing using the official landing marker.

Click the link below or scan the QR code to watch the tutorial video before first use.

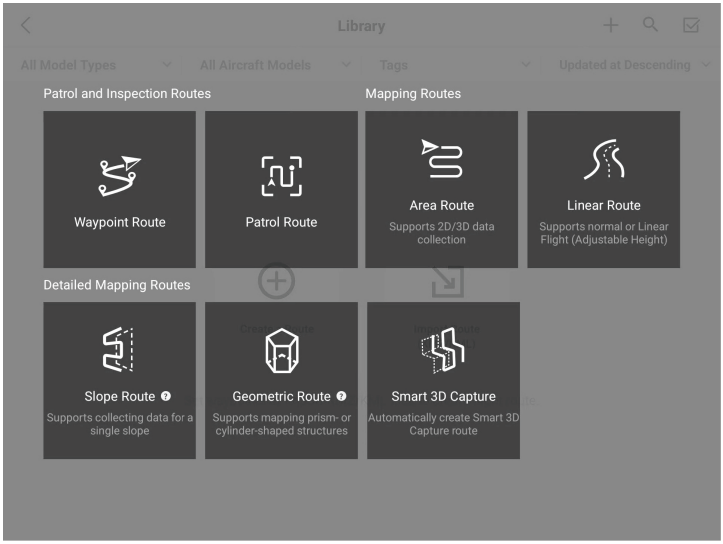
https://enterprise.dji.com/matrice-5t/video

⚠ To use the Boat Launch feature, make sure to download the landing marker file from https://www.dji.com/downloads/products/matrice-5t/#doc and strictly follow the usage requirements. Failure to do so may result in damage or loss.

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7.5 Flight Tasks

Tap **Flight Route** on the homepage of DJI Pilot 2 to enter the flight route library, or tap the flight route icon in the camera view or in the map view to enter the flight route library. Users can view flight tasks or create a flight task.

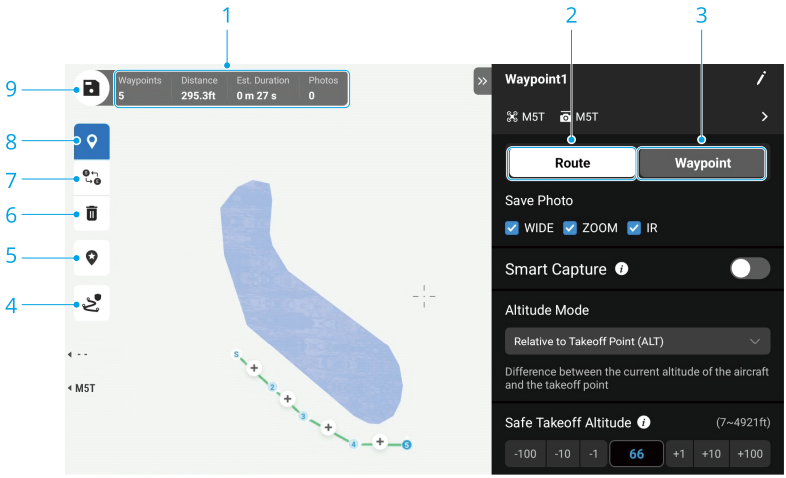


Waypoint Route

Waypoint Route can be planned in two ways: Set Waypoints or Live Mission Recording. Use Set Waypoints to create a route by adding and editing waypoints on the map. Use Live Mission Recording to create a route by adding waypoints when taking photos along the route.

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Set Waypoints



1. **Flight Route Information**
2. **Flight Route Settings**

   These parameters will take effect for all waypoints in the route.
3. **Individual Waypoint Settings**
4. **No-Return Points**

   In waypoint routes, waypoints with overhead obstacles can be marked as no-return points to ensure safe RTH in complex environments.
5. **Point of Interest (POI)**

   Tap to enable the POI function, and a POI will be displayed on the map. Drag to adjust its position. After a POI is added, the aircraft yaw can be set as facing the POI, so that the aircraft nose points at the POI during the task. Tap this icon again to disable the POI function.
6. **Reverse Path**

   Tap to swap the start and end points to reverse the flight path. S refers to the start point.
7. **Enable/Disable Editing Waypoint on Map**
8. **Delete Selected Waypoint**
9. **Save**

   Tap to save the flight route. After the flight route is saved, the icon becomes the perform task button, tap the button and then check the settings and status of the

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aircraft in the pop-up checklist. Tap to upload the flight route. Once the upload is complete, tap the Start button to perform the current task.

Live Mission Recording



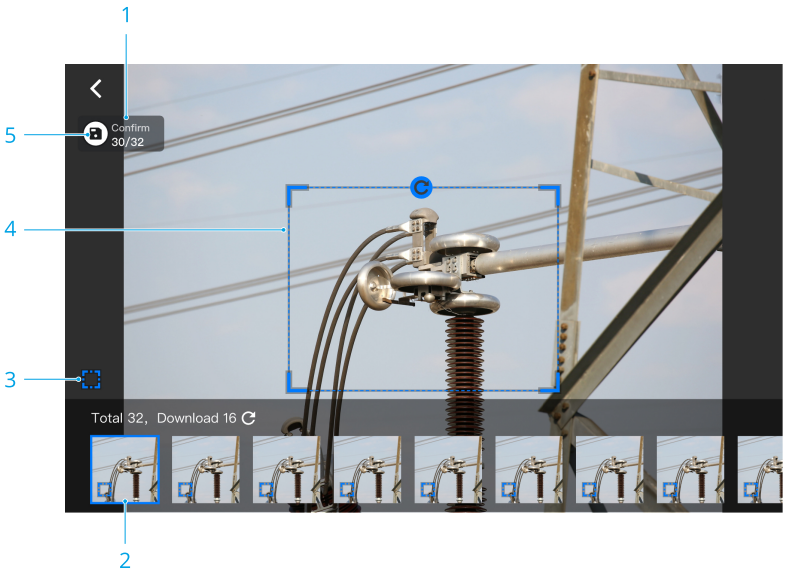
1. Control the gimbal, adjust the zoom scale, and aim at the subject. Tap to capture photos or press the C1 button of the remote controller to add a waypoint. The number of waypoints and photos will be added accordingly.
2. The number of planned waypoints.
3. The number of planned photos.
4. Tap to switch to map view for editing or viewing.

AI Spot-Check

Live mission recording supports AI Spot-Check. By selecting the target object in photos of the flight route, the aircraft will accurately take photos of the same object during subsequent flight tasks.

When recording the flight route, it is recommended to place the target into the target selection box. When editing the flight route, select **Drag-Select Target** to enter the AI Spot-Check editing page.

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1. Current photo number and total number of photos.
2. Photo thumbnail. Tap to perform AI Spot-Check editing for this photo. Photos requiring AI Spot-Check will have a frame mark.
3. Enable/disable AI Spot-Check for the current photo.
4. Target selection box. You can adjust the box size, drag or rotate the box.
5. Save the flight route.

⚠
- AI Spot-Check can only be used with a zoom camera and requires taking photos within 10x zoom range.
- AI Spot-Check should be used when RTK is enabled, and the RTK base station coordinates for taking photos and re-flight must remain consistent.

Patrol Route

Patrol routes support automatic flight route planning within a designated area for specific subject detection and alerts.

1. Go to the homepage of DJI Pilot 2, tap **Flight Route** > **Create Flight Route** > **Patrol Route**.
2. Tap on the map to draw the patrol area, and tap to confirm.

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3. Confirm the aircraft and camera models, select the lens, and the patrol route will be automatically generated.
4. Enable **Smart Capture Alerts**, select the subject types, adjust the confidence level, and set the alert interval and alert trigger actions.
5. Set route parameters such as safe takeoff altitude and altitude mode. Tap to save the task, and then tap to upload the route and start the flight task.
6. During flight, the real-time task status and alert information will be displayed in the map view.
7. After completing the task, an alert report will be generated automatically. Go to the homepage of DJI Pilot 2, tap **Intelligent Function Management** to view the alert list and export the alert report.

For inspections in areas with a large elevation difference such as mountains, it is recommended to set the altitude mode as AGL and enable Terrain Follow.

Area Route

Area routes include Ortho Collection and Oblique Collection. The aircraft can automatically complete the data collection for the aerial photogrammetry of the planned area along the s-shaped route according to the set route parameters.

Oblique collection generates five s-shaped routes in the mapping area, respectively controlling the gimbal to collect orthophoto and oblique photos in 5 different directions, which can be used to make real 3D models.

Smart Oblique, Terrain Follow, and In-Flight Modeling are available in the area route.

Smart Oblique

Smart Oblique is an innovative oblique photography solution. By automatically controlling the gimbal to capture images from multiple angles, it greatly improves operational efficiency.

- During Ortho Collection, with Smart Oblique enabled, the gimbal supports simultaneous lateral capturing, reducing the flight route density and increasing data collection efficiency.
- During Oblique Collection, with Smart Oblique enabled, the gimbal can capture images in five directions simultaneously. The aircraft only needs to fly one flight route to collect the orthophoto and oblique photos required for 3D reconstruction.

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Terrain Follow

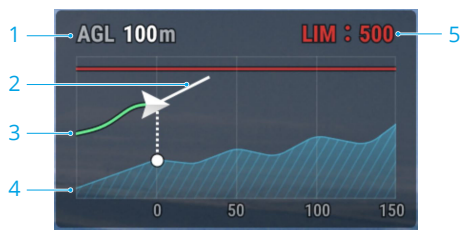
When collecting data in areas with large elevation differences, such as mountainous areas, Terrain Follow allows the aircraft to adjust the flight altitude following the changes in the terrain. Terrain Follow ensures that the relative height of the aircraft and the ground below remains unchanged so that the Ground Sampling Distance (GSD) of the photos collected in each area is consistent, improving the accuracy of mapping data while ensuring flight safety.

- Select AGL for the Altitude Mode to enable Terrain Follow.

Real-Time Follow

Real-Time Follow does not require DSM files. The aircraft vision system detects the terrain fluctuations ahead in real time during the flight. It is recommended to use this function in areas where the terrain slope is less than 75° and the lighting condition and environment are suitable for the vision system.

When performing a mapping task while Real-Time Follow is enabled, the aircraft altitude above ground level (AGL) and the terrain trend ahead of the aircraft will be displayed in the camera view.



1. **Altitude above Ground Level (AGL)**
2. **Aircraft Velocity Direction**
3. **Flight Path**
4. **Terrain Trend Line**
5. **Max Altitude**

- When flying beyond the long-distance detection range of the vision system, Real-Time Follow cannot be performed. Fly with caution. Real-Time Follow cannot work in locations that feature cliffs, steep slopes, power lines, and towers.
- The vision system cannot work properly in low-light environments. Real-Time Follow cannot be used normally in rainy, snowy, and foggy environments.

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- The vision system may not work properly over water. Therefore, the aircraft may not be able to actively detect the distance to the water for real-time follow. It is not recommended to use real-time follow in large areas of water and ocean waves.
- The vision system cannot work properly near surfaces without clear pattern variations or where the light is too bright or too dark. The vision system cannot work properly in the following situations:
  - Flying near monochrome surfaces (e.g., pure black, white, red, or green surfaces).
  - Flying near highly reflective surfaces.
  - Flying near water or transparent surfaces.
  - Flying near moving surfaces or objects.
  - Flying in an area with frequent and drastic lighting changes.
  - Flying near extremely dark (<0.5 lux) or bright (>40,000 lux) surfaces.
  - Flying near surfaces that strongly reflect or absorb infrared waves (e.g., mirrors).
  - Flying near surfaces without clear patterns or textures.
  - Flying near surfaces with repeating identical patterns or textures (e.g., tiles with the same design).
  - Flying near obstacles with small surface areas (e.g., tree branches and power lines).
- Keep the sensors clean at all times. DO NOT tamper with the sensors. DO NOT use the aircraft in dusty or humid environments.

DSM Follow

By importing the DSM file, the app will generate a flight route with altitude changes. The DSM files of the mapping area can be obtained using the following two methods:

Import Local File

- Collect the 2D data of the mapping area and perform a 2D reconstruction using DJI Terra by selecting Fruit Tree mode. A .tif file will be generated and can be imported to the microSD card of the remote controller.
- Download the terrain mapping data from a geobrowser.

Download from Internet

DSM files can be directly obtained by downloading the open source data of the ASTER GDEM V3 geoid database.

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- Make sure the DSM file is a geographic coordinate system file, not a projected coordinate system file. Otherwise, the imported file may not be recognized. It is recommended that the resolution of the imported file be no more than 10 meters.
- Make sure that the mapping area is within the range of the DSM file.

- The open-source geoid database may have errors. DJI is not responsible for the accuracy, authenticity, or validity of the data. Pay attention to the flight environment and fly with caution.

In-Flight Modeling

During Area Route tasks, captured photos can be transmitted in real time to generate a preliminary model on the remote controller for on-site inspection.

Click the link below or scan the QR code to watch the tutorial video before first use.

https://enterprise.dji.com/matrice-5t/video

During in-flight modeling, photos for modeling will be downloaded in priority, which may cause the video transmission to experience blurring or lagging. This is normal and liveview quality will return to normal once the download is complete. Photo download speeds are affected by environmental factors; severe signal obstructions in the surroundings may prolong the blurriness of the liveview.

Linear Route

Linear Route is used to collect orthophotos for strip-shaped areas such as rivers and pipelines. The mapping area can be generated by selecting the center line of the strip and extending outward along this line.

Set Waypoints

First, set Flight Band by selecting points on the map to generate the band-shaped mapping area, and confirm the center line and the scope of the mapping area. Switch

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to Flight Route to generate the corresponding s-shaped route, and adjust the route parameters to complete the setting.

Center line can be generated by tapping on the map or importing a linear KML file. Note: After the band-shaped area is generated, check along the path to see if there is a large deviation from the original mapping area. If there is a deviation, increase some points to cover the area completely or increase the length of the left and right extensions to cover the mapping area completely.

Terrain Follow can also be enabled in the Linear Route. Both Real-Time Follow and DSM Follow are available. Refer to Terrain Follow section in Area Route for more information.

Live Mission Recording

Live Mission Recording is used to plan the route by adding waypoints as the center line of the flight area when the aircraft is close to the subject. Live Mission Recording for linear route supports an adjustable altitude during flight, which is suitable for scenarios such as channel inspection.

- To ensure flight safety, RTK needs to be connected when recording live mission and collecting aerial photogrammetry data.

Slope Route

Slope Route is used to collect photogrammetry data for a single elevation or slope, which is mainly used for modeling and inspection of building facades and slopes. By planning the spatial flight route and verifying the route safety with AR projection, users can collect modeling data.

Create Slope

1. Adjust the aircraft and the camera to face the slope. Ensure the camera view is parallel to the slope.
2. When the distance between the aircraft and the slope appears on the screen, press the C1 button on the remote controller to obtain the AR Slope and Route View.

- If the distance to the slope cannot be identified, move the aircraft left or right under safe circumstances to obtain additional spatial information.
- Make sure RTK is connected during the entire process of planning and performing Slope Route. Otherwise, the function cannot be used.

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- Route Viewer is generated once slope is created and can be updated during the route planning process. Adjusting boundaries of the mapping area is available in Route Viewer.



Adjust and Confirm AR Slope

1. To adjust the distance and angle between AR slope and actual slope to be mapped, fly the aircraft to the side of the AR slope. It is recommended that the AR slope fits the actual slope for more accurate GSD calculation.
   - Adjust the boundary points of the slope and add additional boundary points to modify the shape of the slope.
   - Click Slide/Rotate Mapping Area to open the parameter settings panel for the mapping area. Users can adjust the mapping area angle and move the mapping area forward and backward.
   - If the angle and position of the Route Viewer is inappropriate, click in the lower right corner of the Route Viewer to reset.
2. When the AR slope matches the actual slope sufficiently, click to confirm the mapping area and generate a route.

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Adjust Flight Route Parameters

After the flight route is generated, tap on the Route Viewer to adjust the route parameters. Refer to the Collecting Aerial Photogrammetry Data section for more information about route parameters.

Tap Adjust Mapping Area to readjust the mapping area, if necessary.

Geometric Route

Geometric Route is used to collect photogrammetry data for multiple spatial surfaces, which is mainly used for modeling and inspection of building facades.

Set the Bottom Base Shape

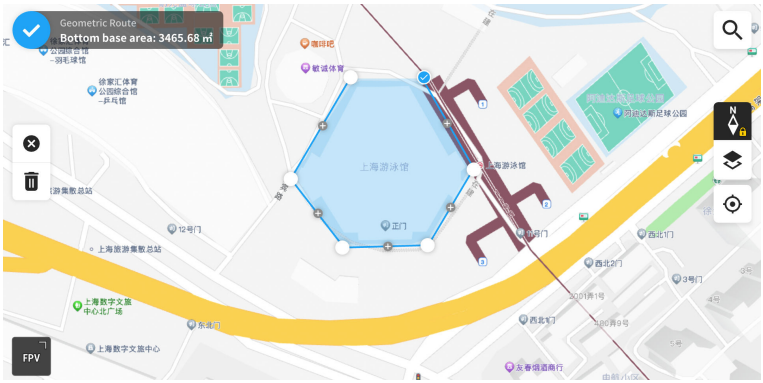
1. Select the shape type of the geometry base on the left side of the map view.
2. Tap on the map to draw the base shape of the geometry.
3. Tap to confirm the bottom base of the mapping area.

- It is recommended to fly the aircraft to the target building and mark its boundary points. Then, enter the map view to draw the boundary points of

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the mapping area's base. The points will automatically snap to the target points, making the drawing quicker and more accurate.

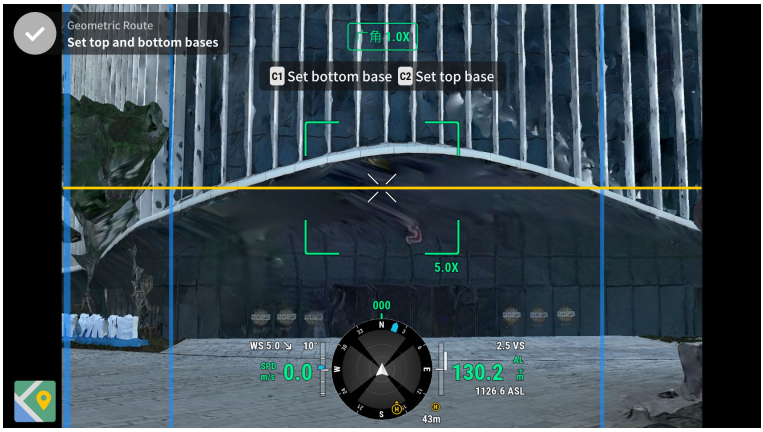
⚠
- Operate in open areas. Avoid performing tasks in narrow spaces between buildings or in areas with many trees.
- The mapping surface should be non-reflective and have rich texture. Avoid mapping glass walls.
- Make sure RTK is connected during the entire process of planning and performing Geometric Route. Otherwise, the function cannot be used.



Set Altitude

1. In the camera view, fly the aircraft to the required bottom and top base of the AR measured object. Press C1 button on the remote controller to record the altitude of the bottom base and C2 to record the altitude of the top base.
2. Tap to confirm the mapping area.

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Adjust Flight Route Parameters

After the flight route is generated, tap on the Route Viewer to adjust the route parameters. Refer to the Collecting Aerial Photogrammetry Data section for more information about route parameters.

Tap Adjust Mapping Area to readjust the mapping area, if necessary.

Smart 3D Capture

Smart 3D Capture uses a rough model of the subject to generate three-dimensional flight routes for precise photography. This allows for close-range data collection near the surface of the subject. It is mainly used for modeling and inspecting complex building facades, detailed ancient architecture, and geological disaster scenarios.

Click to watch the Smart 3D Capture tutorial video.

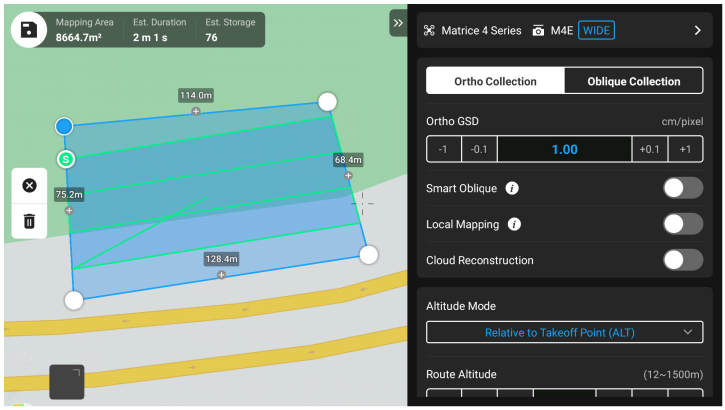
Collecting Aerial Photogrammetry Data

The following takes the Ortho Collection in the Area Route as an example for specific operation instructions.

- Before collecting aerial photogrammetry data, enter the aircraft settings to enable RTK, and ensure that RTK is connected and in FIX state.

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1. On the homepage of DJI Pilot 2, tap **Flight Route** > **Create a Route** > to create an Area Route. Tap on the map view, and drag the boundary point to adjust the range of the mapping area. Tap + in the middle of the boundary point to add a boundary point, and adjust the longitude and latitude of the point in the parameter settings on the right. Tap to delete the current selected boundary point, and tap to delete all boundary points.



2. Select the aircraft model, the camera model, and the lens, then set the following flight route parameters in sequence:
   a. Set the task name and select Ortho Collection.
   b. Set the altitude mode (ASL/ALT), flight route altitude, flight route speed, course angle, actions upon completion, etc., and enable elevation optimization.
   c. In Advanced Settings, set the side overlap ratio, frontal overlap ratio, margin, photo mode, and customize camera angle.
3. Tap to save the task and tap to upload and execute the flight task.
4. Power off the aircraft after the task is completed. Remove the microSD card from the aircraft, and connect it to the computer to check the taken photos and the generated files.

- When using Area Route and Linear Route, the default camera focus mode is MF infinity, and the distortion correction is disabled.
- During an orthophoto operation, it is recommended to adjust the flight route speed to the maximum value and enable elevation optimization.

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Route Parameters

Specifications	Description
Ortho GSD	Ortho GSD is the ground sampling distance of the orthophotos taken on the first route, i.e., the distance between two consecutive pixel centers measured on the ground. The larger the Ortho GSD value, the lower the resolution of the orthophotos. The flight route altitude will be changed accordingly when changing the Ortho GSD value.
Altitude Mode	The starting plane of the flight route altitude. • Relative to Takeoff Point (ALT): the altitude of the aircraft relative to the takeoff point. It is recommended to use this option for aerial mapping operations. Then, Target Surface to Takeoff Point will appear. Target Surface to Takeoff Point = the altitude of the target surface - the altitude of the take-off point. • ASL (EGM96): the altitude of the aircraft relative to the EGM96 geoid. Flight Route to Target Surface will appear. Flight Route to Target Surface = the altitude of the flight route - the altitude of the target surface. • AGL: Altitude above Ground Level, which is the altitude of the aircraft relative to the ground below. Terrain Follow Altitude will appear.
Flight Route Altitude	The altitude of the flight route in a flight task. Different altitude modes have different starting planes for the flight route altitude. The Ortho GSD value will be changed accordingly when changing the flight route altitude.
Safe Takeoff Altitude	After taking off, the aircraft will fly up to the safe takeoff altitude (relative to the takeoff point), then fly to the start point of the flight route. Safe Takeoff Altitude is effective only when the aircraft executes a flight task before takeoff. If the aircraft starts to execute a flight task after takeoff, the safe takeoff altitude will not take effect.
Speed	The operating speed of the aircraft after entering the flight route. This speed is related to the frontal overlap ratio.

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Specifications	Description
Course Angle	The route angle can be adjusted, and the starting and ending positions of the route will be adjusted accordingly. Note: the estimated time of the task varies for different course angles. By adjusting the course angle, the task with the shortest estimated time can be planned to improve the operation efficiency.
Elevation Optimization	When enabled, the aircraft will fly to the center of the mapping area to collect a set of oblique images to optimize the elevation accuracy. It is recommended to enable this option for orthophoto operation, which requires high elevation accuracy. This feature is not supported for Oblique Collection.
Upon Completion	The action performed by the aircraft after completing the operation. The default selection is Return to Home.
Side Overlap Ratio/Frontal Overlap Ratio	Side overlap ratio is the overlap ratio of two pictures taken on two parallel paths. Frontal overlap ratio is the overlap ratio of two pictures captured consecutively in the same heading along the flight path. The overlap ratio is one of the key factors affecting the success of later model reconstruction. The default side overlap ratio is 70%, and the default frontal overlap ratio is 80%, which is suitable for most scenarios. If the mapping area is flat and has no undulations, the overlap ratio can be appropriately reduced to improve operational efficiency. If the mapping area has large fluctuations, it is recommended to increase the overlap ratio to ensure the reconstruction effect. When using Oblique Collection, two more settings will be available: Side Overlap Ratio (Oblique) and Frontal Overlap Ratio (Oblique). The overlap ratio of oblique photos can be lower than that of orthophotos.

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Specifications	Description
Margin	The distance of the flight area beyond the mapping area. The purpose of setting the margin is to ensure the edge accuracy of the mapping area by capturing images outside the mapping area. Smart Oblique does not support setting margin, it will automatically expand the margin according to the range of the mapping area and the gimbal pitch.
Photo Mode	The camera's photo mode. The default selection is Timed Interval Shot.
Custom Camera Angle	Once enabled, users can customize the aircraft yaw angle and the gimbal pitch angle. Only the Ortho Collection in the Area Route supports customizing the camera angle.
Route Start Point	The starting point of the route can be customized in the optional points of the map view.
Takeoff Speed	After the aircraft takes off and reaches the flight route altitude, the flight speed before entering the flight route. This speed is not the vertical take-off speed of the aircraft. It is recommended to set it to the maximum to improve operational efficiency.

Other flight routes or functions also support the following specifications:

Specifications	Description
Gimbal Pitch (Oblique)	Adjusts the camera pitch angle when capturing oblique photos. The default angle is -45°. When the altitude difference of the buildings in the mapping area increases, it is recommended to increase the angle to capture more images of the upper floors of the buildings. When the buildings in the mapping area are dense, it is recommended to appropriately reduce the angle to capture more images between buildings. When capturing images with Smart Oblique, the option is Gimbal Angle, and the default angle is 45°.

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Specifications	Description
Oblique GSD	Oblique GSD is the ground sampling distance of the oblique photos captured by the remaining four routes, i.e., the distance between two consecutive pixel centers measured on the ground. The larger the Oblique GSD value, the lower the resolution of the oblique photos. The Oblique GSD value will be changed accordingly when changing the flight route altitude.
Single Route	If the Single Route is enabled, a route in the center of the mapping area will be generated. This function is suitable for scenes where only the center of the mapping area needs to be photographed, such as an oil pipeline inspection.
Extension Length	Plan the range of the flight band by adjusting the distance that the route expands from the center to the left and right sides. After enabling Equal Left/Right Extensions, the range of the flight band remains symmetrical compared to the center of the route.
Flight Band Cutting Distance	Adjusting the cutting distance of the flight band can divide the band area into several small areas for operation. The communication range of the aircraft should be mainly considered for the division range, ensuring that the aircraft will not lose control in a small area.
Include Center Line	If enabled, flight routes are generated outwards along the center line. This route will ensure that the center line of the band-shaped mapping area is included.
Boundary Optimization	Add new flight routes outside the current planning flight area to take more photos of the edge of the mapping area. Turn on for objects that mainly capture edge areas, such as river channels.
Flight Route Direction	The slope route can be executed vertically or horizontally. It is recommended to select the orientation based on the surrounding environment of the target.
Rotation Angle	Rotation angle of flight routes relative to geometric structure. Adjust Route Coverage Rate and Rotation Angle to realize mapping for specific face.
Route Coverage Rate	Coverage rate of flight routes on lateral faces of geometric structure. Adjust Route Coverage Rate and Rotation Angle to realize mapping for specific face.

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Data Storage

Photo File

Refer to this list to check the descriptions for the photo file field.

Field	Field Descriptions
ModifyDate	Time photo was modified
CreateDate	Time photo was created
Make	Manufacturer
Model	Product model
Format	Format
Version	XMP version
ImageSource	Camera type
GpsStatus	GPS status
AltitudeType	Elevation type
GpsLatitude	GPS latitude when photo was taken
GpsLongitude	GPS longitude when photo was taken
AbsoluteAltitude	Absolute altitude (geodetic altitude) when photo was taken
RelativeAltitude	Relative altitude (relative to the altitude of takeoff point) when photo was taken
GimbalRollDegree	Gimbal roll angle when photo was taken (NED coordinate system, the rotation order is ZYX)
GimbalYawDegree	Gimbal yaw angle when photo was taken (NED coordinate system, the rotation order is ZYX)
GimbalPitchDegree	Gimbal pitch angle when photo was taken (NED coordinate system, the rotation order is ZYX)
FlightRollDegree	Aircraft roll angle when photo was taken (NED coordinate system, the rotation order is ZYX)
FlightYawDegree	Aircraft yaw angle when photo was taken (NED coordinate system, the rotation order is ZYX)
FlightPitchDegree	Aircraft pitch angle when photo was taken (NED coordinate system, the rotation order is ZYX)
FlightXSpeed	Flight speed in the north direction when photo was taken
FlightYSpeed	Flight speed in the east direction when photo was taken
FlightZSpeed	Flight speed in the elevation direction when photo was taken

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Field	Field Descriptions
CamReverse	Whether the camera is upside down or not
GimbalReverse	Whether the gimbal is upside down or not
SelfData	Customized data
RtkFlag	RTK status: 0 - Failed to position 16 - Single point positioning (meter-level accuracy) 32~49 - Floating point solution positioning (decimeter-level to meter-level accuracy) 50 - Fixed solution positioning (centimeter-level accuracy)
RtkStdLon	RTK positioning standard longitude deviation
RtkStdLat	RTK positioning standard latitude deviation
RtkStdHgt	RTK positioning standard elevation deviation
RtkDiffAge	RTK difference age (correction age)
NTRIPMountPoint	Mount point of Network RTK
NTRIPPort	Port of Network RTK
NTRIPHost	IP address or domain name of Network RTK
SurveyingMode	Whether the photo is suitable for mapping operation or not: 0 - Not recommended, as the accuracy cannot be guaranteed 1 - Recommended as the accuracy can be guaranteed
DewarpFlag	Whether the camera parameters have been dewarped or not: 0 - Not dewarped 1 - Dewarped
DewarpData	Camera parameters for dewarping (the calibration file must be imported and calibrated in DJI Terra for the data to be generated): Parameter sequence - fx, fy, cx, cy, k1, k2, p1, p2, k3 fx, fy - Calibrated focal length (unit: pixel) cx, cy - Calibrated optical center position (unit: pixel, origin point: photo center) k1, k2, p1, p2, k3 - Radial and tangential distortion parameters

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Field	Field Descriptions
CalibratedFocalLength	Designed focal length of lens, unit: pixels
CalibratedOpticalCenterX	X coordinate of the designed optical center position, unit: pixels
CalibratedOpticalCenterY	Y coordinate of the designed optical center position, unit: pixels
UTCAtExposure	UTC when the camera is exposed
ShutterType	Shutter type
CameraSerialNumber	Camera SN
DroneModel	Aircraft model
DroneSerialNumber	Aircraft serial number
ProductName	Product name
SensorTemperature	Sensor temperature
SensorFPS	Sensor FPS
WhiteBalanceCCT	White balance correlated color temperature
LensPosition	Lens position
LensInfinitePosition	Lens infinite position
LensTemperature	Lens temperature
LRFTargetDistance	Straight-line distance to Laser Rangefinder target point
LRFTargetLon	Longitude of Laser Rangefinder target point
LRFTargetLat	Latitude of Laser Rangefinder target point
LRFTargetAlt	Relative altitude of Laser Rangefinder target point above takeoff point
LRFTargetAbsAlt	Absolute altitude (ellipsoidal altitude) of Laser Rangefinder target point

Image Log File

Open an image log file with the extension .MRK to view the data below.

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1. Photo series number: the series number of the image log file stored in this folder.
2. GPS TOW: when the photo was taken expressed in GPS TOW.
3. GPS Week: when the photo was taken expressed in GPS week.
4. Compensation value in the north direction: unit is mm and the northern direction is represented by a positive value.
5. Compensation value in the east direction: unit is mm and the eastern direction is represented by a positive value.
6. Compensation value in the elevation direction: unit is mm and the downward direction is represented by a positive value.
7. Longitude after compensation.
8. Latitude after compensation.
9. Ellipsoid height.
10. Positioning standard deviation in the north direction.
11. Positioning standard deviation in the east direction.
12. Positioning standard deviation in the elevation direction.
13. Positioning status.

GNSS Observation File

The GNSS observation file with the extension .rtk contains the satellite observation data received by the positioning module during the flight. The data is stored in the camera system in RTCM3.2 format at a frequency of 5 Hz.

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8 Appendix

8.1 Specifications

Visit the following website for specifications.

https://enterprise.dji.com/matrice-5t/specs

8.2 Firmware Update

Using DJI Pilot 2

Aircraft and Remote Controller Firmware Update

1. Power on the aircraft and remote controller. Ensure the aircraft is linked to the remote controller, and the remote controller is connected to the internet.
2. Run DJI Pilot 2. A prompt will appear on the homepage if new firmware is available. Tap to enter the Firmware Update view.
3. Tap Update All, and DJI Pilot 2 will download the firmware and update the aircraft and remote controller.
4. The aircraft and remote controller will automatically restart after the firmware update is complete.

⚠
- The devices installed on the aircraft will be updated to the latest firmware version.

Offline Firmware Update

An offline firmware package can be downloaded from the DJI official website to an external storage device such as a microSD card or U disk. Run DJI Pilot 2, tap HMS, and then **Firmware Update** > **Offline Update** to select the firmware package of the remote controller, aircraft, or payload from the external storage device and tap **Update All** to update.

Using DJI Assistant 2

Aircraft and Remote Controller Firmware Update

1. Connect the aircraft or remote controller to a computer separately, as the DJI Assistant 2 does not support updating multiple DJI devices at the same time.

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2. Make sure the computer is connected to the internet and the DJI device is powered on.
3. Launch DJI Assistant 2 and log in with a DJI account.
4. Tap the **firmware update** on the left side of the main interface.
5. Select the firmware version and click to update. The firmware will be downloaded and updated automatically.
6. When the "Update successful" prompt appears, the update is completed, and the DJI device will restart automatically.

Notices

⚠
- Make sure the aircraft and remote controller are fully charged before updating the firmware.
- DO NOT remove accessories or turn off the devices during the update process.
- The battery firmware is included in the aircraft firmware. Be sure to update all batteries.
- During the update process, it is normal for the gimbal to go limp, the aircraft status indicators to blink, and the aircraft to reboot. Wait patiently for the update to complete.
- Make sure to keep the aircraft away from people and animals during a firmware update, system calibration, or parameter configuration.
- For safety, make sure you are using the latest firmware version.
- After the firmware update is completed, the remote controller and the aircraft may become disconnected. Reconnect the devices if necessary.
- Before updating, carefully read the *Release Notes* to understand the update details and precautions.

Visit the following link and refer to the *Release Notes* for firmware update information:

https://www.dji.com/downloads/products/matrice-5t/#doc

8.3 Flight Data

Flight data is automatically recorded to the internal storage of the aircraft. You can connect the aircraft to a computer via the USB port and export this data via DJI Assistant 2 or DJI Pilot 2 app.

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8.4 Compass Calibration

Only calibrate the compass when prompted to do so by the DJI Pilot 2 app or the aircraft status indicators. Observe the following rules when calibrating the compass.

- DO NOT calibrate the compass in locations with strong magnetic interference, such as near magnets, parking lots, or construction sites with underground reinforced concrete structures.
- DO NOT carry ferromagnetic materials such as mobile phones during calibration.
- The DJI Pilot 2 app will display a prompt if the compass is affected by strong interference after calibration is complete. Follow the displayed instructions to resolve the compass issue.

8.5 Using Enhanced Transmission

Enhanced Transmission integrates OcuSync video transmission technology with 4G networks. If the OcuSync video transmission is obstructed, experiencing interference, or used over long distances, 4G connectivity allows you to maintain aircraft control.

The installation requirements are as shown below:

- The aircraft features two built-in cellular dongles and requires installing a nano-SIM card.
- The remote controller features a built-in cellular dongle and requires installing a nano-SIM card. The remote controller also supports data transmission via Wi-Fi connection.

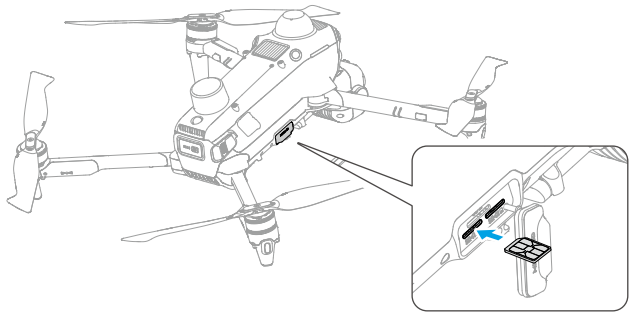
- The nano-SIM card must be purchased separately.
- If using two nano-SIM cards on the aircraft, it is recommended to choose different service providers for better transmission performance.

- Enhanced Transmission will consume data. If the transmission completely switches to a 4G network, a 30-minute flight consumes about 1 GB of data on the aircraft and the remote controller, respectively. This value is for reference only. Refer to the actual data usage.
- Enhanced Transmission is only supported in certain countries and regions. Comply with local laws and regulations and the relevant terms of service.

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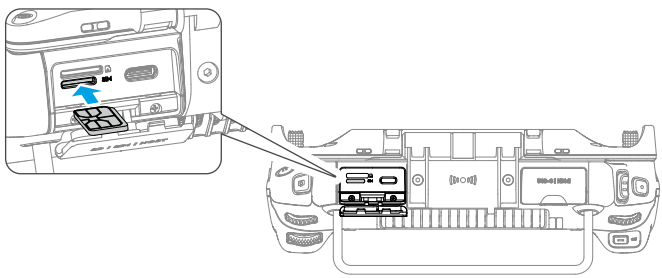
Installing the nano-SIM Card

1. **Aircraft**



The aircraft supports installing two nano-SIM cards. Signal performance of the two slots may vary depending on the operating environment. If only one nano-SIM card is installed, it is recommended to use the slot with stronger signal based on actual network conditions.

2. **Remote Controller**



3. Check the icon in the upper right corner of the system desktop. If the 4G logo appears, it means that the enhanced transmission is available.

- After inserting the SIM card, make sure to firmly close the protective rubber plug of the card slot.
- It is strongly recommended to purchase a nano-SIM card which supports a 4G network from official channels of the local mobile network operator.
- DO NOT use an IoT SIM card, otherwise the video transmission quality will be seriously compromised.

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- DO NOT use a SIM card provided by the virtual mobile network operator, otherwise it may lead to an inability to connect to the Internet.
- DO NOT cut the SIM card by yourself, otherwise the SIM card may be damaged, or the rough edges and corners may cause the SIM card to be unable to be inserted or removed properly.
- If the SIM card is set with a password (PIN code), make sure to insert the SIM card into the smartphone and cancel the PIN code setting, otherwise it will fail to connect to the Internet.

- To remove the nano-SIM card, open the rubber plug and press the nano-SIM card to partially eject it.

Using Enhanced Transmission

After the aircraft and the remote controller are connected by a 4G network, Enhanced Transmission can be enabled in the app.

- Go to the camera view, then tap the video transmission signal icon to enable or disable Enhanced Transmission in the pop-up box.
- Go to the camera view, tap > **HD**, and enable or disable Enhanced Transmission.

- Pay close attention to the video transmission signal strength after enabling Enhanced Transmission. Fly with caution. Tap the video transmission signal icon to view the current OcuSync video transmission and 4G video transmission signal strength in the pop-up box.

Security Strategy

Based on safe flight considerations, Enhanced Transmission can only be enabled when the OcuSync video transmission is in effect. If the OcuSync link is disconnected during flight, it is not possible to disable Enhanced Transmission.

In a 4G-only transmission scenario, restarting the remote controller or DJI Pilot 2 will result in failsafe RTH. The 4G video transmission cannot be restored before the OcuSync link is reconnected.

In the 4G-only transmission scenario, a takeoff countdown will start after the aircraft lands. If the aircraft does not take off before the countdown ends, it will not be allowed to take off until the OcuSync link is restored.

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Remote Controller Usage Notes

If using the 4G network by connecting the remote controller to a mobile device Wi-Fi hotspot, make sure to set the mobile device hotspot frequency band to 2.4 GHz and the network mode to 4G for a better video transmission experience. Avoid answering phone calls on the smartphone providing the hotspot or connecting multiple devices to the same hotspot during flight.

4G Network Requirements

The 4G network transmission speed is determined by the 4G signal strength of the aircraft and the remote controller at the current position and the network congestion level of the corresponding base station. The actual transmission experience is closely related to the local 4G network signal conditions. The 4G network signal conditions include both sides of the aircraft and the remote controller with various speeds. If the network signal of either the aircraft or remote controller is weak, has no signal, or is busy, the experience of 4G transmission may drop and lead to the video transmission freezing, a delayed response of the controls, loss of video transmission, or loss of controls.

Therefore, when using Enhanced Transmission:

1. Make sure to use the remote controller and aircraft in locations where the 4G signal is close to full for a better transmission experience.
2. If the OcuSync signal is disconnected, the video transmission may lag and stutter when the aircraft relies fully on a 4G signal. Fly with caution.
3. When the OcuSync signal is poor or disconnected, make sure to maintain an appropriate altitude during the flight. In open areas, try to keep the flight altitude below 120 meters for a better 4G signal.
4. For flight in the city with tall buildings, make sure to set a suitable RTH altitude (higher than the tallest building).
5. When the app prompts that the 4G signal is weak, fly with caution.

8.6 DJI AL2 SpotLight and DJI AS2 Speaker

DJI AL2 SpotLight and DJI AS2 Speaker can be installed on the aircraft separately, or used in combination.

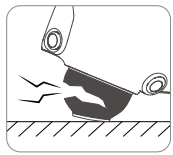
Click the link below or scan the QR code to watch the tutorial video before first time use.

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https://enterprise.dji.com/matrice-5t/video

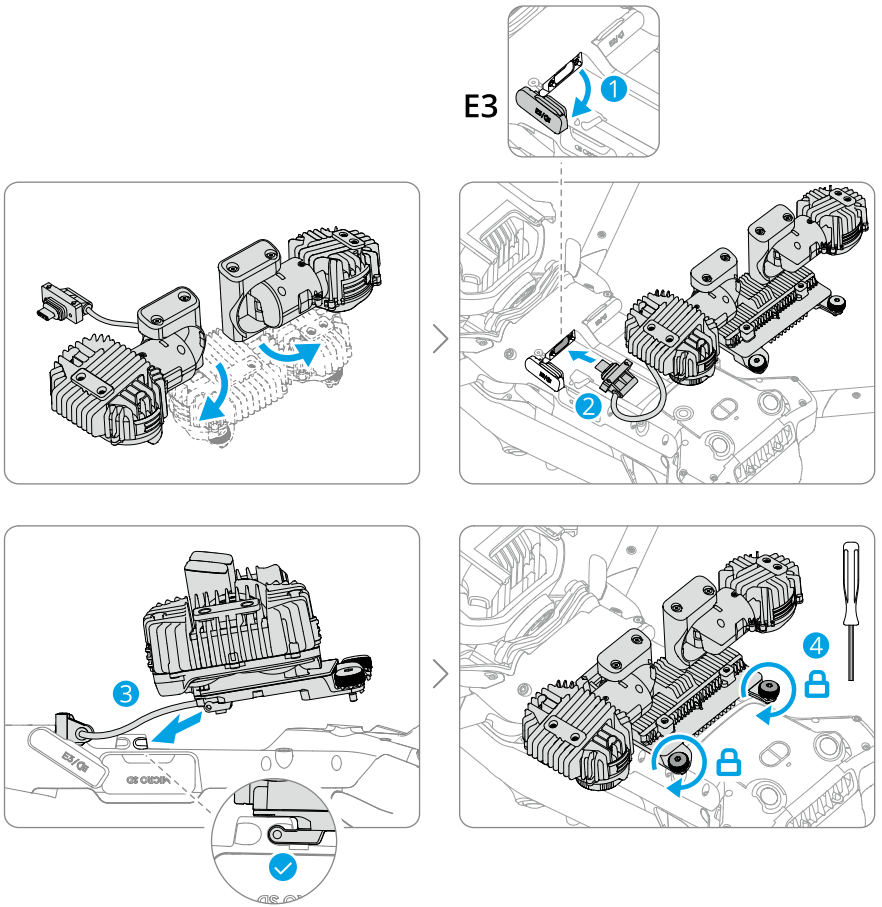
Installation

⚠
- Power off the aircraft before installation or removal.
- It is recommended to attach the gimbal protector before turning the aircraft upside down. Handle with care to protect the LiDAR during operation, and avoid impacts or excessive pressure.



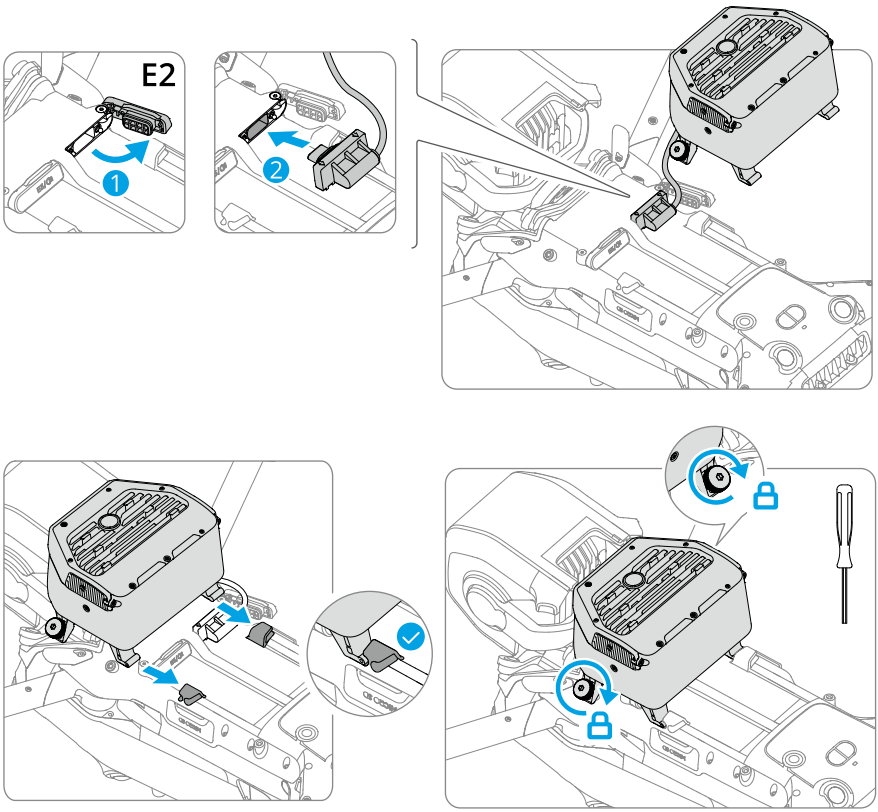
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Installing the DJI AL2 SpotLight



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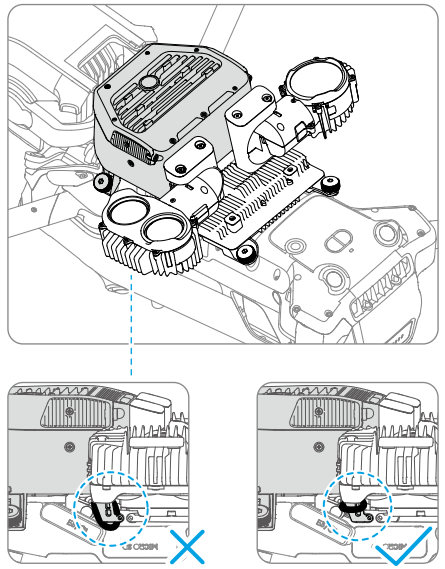
Installing the DJI AS2 Speaker



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Combined Usage

If installing both the spotlight and the speaker, install the spotlight before the speaker. DO NOT pinch the cables during installation.



- Tighten the screws to ensure secure installation. Make sure the plug is fully inserted, and avoid pulling the cable forcefully, as this may compromise the water-resistant seal or cause damage.
- Calibrate the aircraft compass after installing the speaker. In DJI Pilot 2, enter the camera view, tap the warning message to complete Compass Calibration. DO NOT touch the speaker during calibration.
- Installing the spotlight or speaker will affect the vision system performance and the aircraft's flight time. When the spotlight is turned on, obstacle avoidance in certain directions will be automatically disabled as the vision sensors are affected by the light.

- The aircraft can be directly stored in the carrying case with the speaker and spotlight mounted. If the accessories will not be used for an extended period, detach them from the aircraft and then store them in the carrying case. After removing the accessories, securely close the rubber plug on the aircraft to prevent water ingress.

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Activation

New accessories must be activated using DJI Pilot 2. Make sure the accessory is installed on the aircraft, then power on the aircraft and the remote controller, and follow the on-screen instructions in DJI Pilot 2. Make sure the network connection is stable during activation.

Make sure the aircraft firmware is up to date before activation. If accessory-related features are not displayed in DJI Pilot 2 or a firmware update prompt appears, update the aircraft firmware before activating the accessory.

Usage

1. Power on the remote controller and aircraft, run DJI Pilot 2.
2. If the accessory is installed on the aircraft, the firmware will be updated along with the aircraft firmware. Complete the firmware update if a prompt appears in DJI Pilot 2. Refer to Aircraft and Remote Controller Firmware Update for details.
3. Enter the camera view, tap the accessory icon / use its functions.
4. Tap > > **Customize RC Buttons** to set shortcut keys for quick use of the accessory functions.

- It is recommended to enable the Electronic Dehazing function when using the spotlight in high-altitude environments to achieve better image quality.
- It is recommended to appropriately reduce the brightness of the spotlight and use it as needed, to minimize the impact on the aircraft's flight time.
- The speaker only supports AAC, MP3, and WAV audio files to broadcast, and each file must be within 10 MB.

- DO NOT point the spotlight or the warning lights of the speaker directly at people's eyes to prevent eye injury.
- Lighting requirements vary by country and region. Comply with local laws and regulations when configuring light settings.
- The spotlight may become hot after prolonged operation. Please be careful to avoid burns.
- The spotlight may be damaged or malfunction upon impact. DO NOT forcefully rotate the spotlight gimbal, and handle with care to avoid dropping.
- To prevent ground impact damage, the spotlight automatically relieves motor torque or tilts upward when the aircraft is parked, taking off, or landing. After

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takeoff, the spotlight will perform a self-check and enable Spotlight Follow Camera.

- To prevent hearing damage, DO NOT use the speaker at close range to people. Avoid playing single-frequency or frequency-sweep tones.

8.7 DJI AP1 Parachute

Disclaimer

The parachute is designed as a supplementary safety device, intended solely for deployment in emergency situations where the aircraft experiences power failure, flight control malfunction, or exceeds a safe operating area. The purpose is to attempt to reduce the aircraft's descent speed, thereby seeking to reduce potential damage to the aircraft, payload, and ground personnel and property.

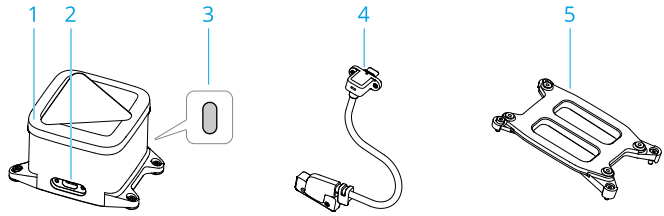
The actual effectiveness of this product may vary depending on factors such as flight altitude, descent speed, descent attitude, aircraft payload, environmental conditions (e.g., wind), deployment timing, and method of use. This product does not replace proper flight safety management, nor does it constitute a guarantee of any specific outcome, including but not limited to zero injury or zero loss.

Before using this product, carefully read this user manual and watch the tutorial videos to receive sufficient training on the correct use of this product. Refer to Read Before Use and Video Tutorials for more information. Users must strictly follow the requirements set out in this user manual or other official guidelines to correctly install, configure, use, and maintain this product. DJI assumes no liability for any loss resulting from improper use, unauthorized disassembly, modification, repair, or non-compliant operation.

⚠ As a critical safety component, this product must be inspected before each flight and its condition must be evaluated periodically. Refer to Regular Inspection for details. If this product has experienced severe impact, water exposure, or any other event that may affect its performance, have it repaired or replaced promptly to ensure continued reliability.

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Component Introduction



1. Parachute
2. USB-C Port
3. Status Indicator
4. Connection Cable
5. Bracket

Parachute Status Indicator Description

Normal Status		
·····	Blinks green intermittently	The parachute is functioning normally
·····	Blinks green slowly	The parachute has been deployed
—	Solid yellow	System initializing or firmware update in progress
Warnings and Anomalies		
·····	Blinks red intermittently	The communication link between the parachute and the aircraft is abnormal. You can power off the aircraft, reconnect the connection cable, and power it on again. If the issue persists, contact DJI Support.
·····	Blinks red slowly	The parachute is not activated
·····	Blinks red quickly	Parachute sensor error. You can restart the aircraft. If the issue persists, contact DJI Support.

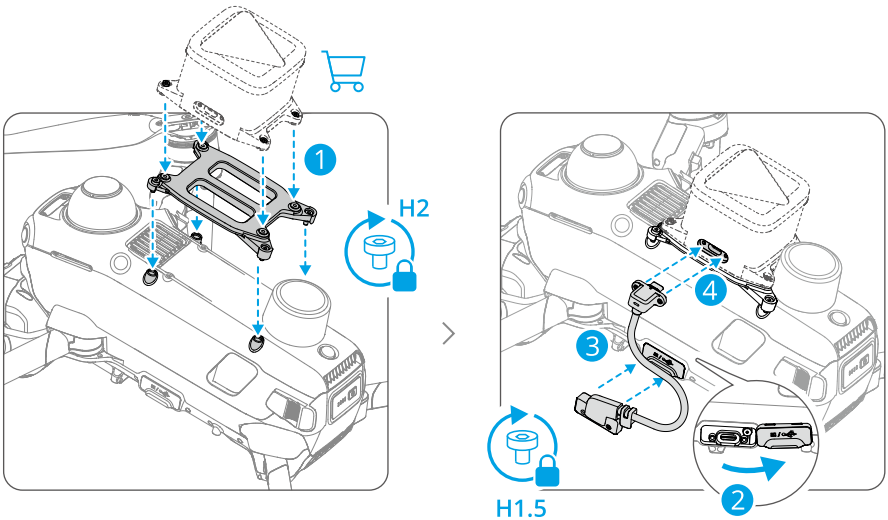
First Use

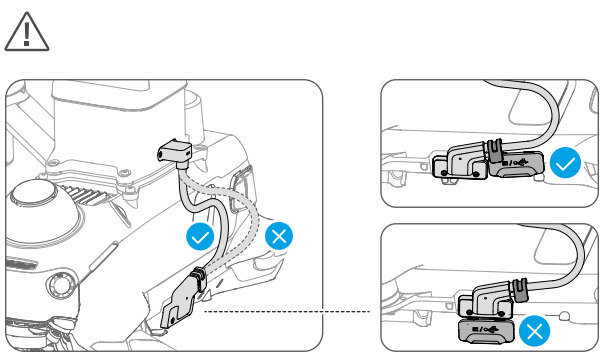
Installation

⚠
- Before first use, make sure that the parachute exterior is intact with no signs of moisture or water ingress.
- Make sure that DJI Matrice 5T is powered off before installing or removing the parachute. DO NOT overtighten the screws during installation. Stop when you feel significant resistance to avoid causing damage.

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- The parachute bracket is a mechanical connecting part. Slight surface wear on the bracket during installation, removal, or rotation is normal.
- The parachute connection cable must only be connected to the USB-C Assistant Port (E-Port V3 High-Speed Port) on the aircraft. Route the cable properly to avoid obstructing the aircraft's vision and sensing systems.
- During installation, DO NOT twist the cable. Ensure the protective rubber plug is secured to the designated retainer on the cable as shown.





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Activation

New accessories must be activated using DJI Pilot 2. Make sure the accessory is installed on the aircraft, then power on the aircraft and the remote controller, and follow the on-screen instructions in DJI Pilot 2. Make sure the network connection is stable during activation.

Make sure the aircraft firmware is up to date before activation. If accessory-related features are not displayed in DJI Pilot 2 or a firmware update prompt appears, update the aircraft firmware before activating the accessory.

Using the Parachute

- DO NOT disassemble the parachute body, connection cable, or other components without authorization.
- Keep the product away from fire or high-temperature environments and store it in a cool, shaded place.
- Check the propellers for damage, deformation, or looseness before takeoff. Compromised propellers may cause abnormal aircraft attitude or speed, which may trigger automatic parachute deployment. Replace any compromised propellers before flight.

- The combined weight of the parachute, parachute bracket, and connection cable is 127.5 g. Before takeoff, make sure that the aircraft's maximum take-off mass (MTOM) does not exceed 2639 g.
- To ensure successful parachute deployment and prevent false obstacle alerts, the aircraft automatically adjusts upward and rear obstacle sensing capabilities after the parachute is installed. As a result, the ability to detect and avoid small obstacles in these directions is reduced. Pay close attention to the surrounding environment during flight, and proactively avoid obstacles to ensure flight safety.

The minimum effective parachute deployment altitude is 35 m above ground level (AGL)*. The effective deployment altitude refers to the minimum AGL required for the parachute to slow the aircraft's descent rate to 6 m/s or below before it reaches the ground. If the deployment altitude is less than 35 m, the parachute may not fully deploy and slow the aircraft's descent. The parachute will not be triggered when the aircraft has not taken off.

* Measured in a windless environment with an ambient temperature of 25°C at an altitude of 30 to 500 m, DJI Matrice 5Tduring takeoff at a full-load weight of 2639 g. Data is for reference only. Results may vary under different environmental conditions, usage methods, and firmware versions. Refer to actual experience.

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Automatic Deployment

- The parachute will deploy automatically when the aircraft attitude or speed is abnormal.
- The parachute supports the Flight Termination System (FTS) in certain regions. FTS can be used with the Geocaging function. Users can define a geocage boundary in DJI Pilot 2. If the aircraft flies beyond the contingency volume boundary, FTS will be triggered, the motors will stop, and the parachute will be deployed.

- In regions where the Flight Termination System (FTS) is supported, tap the icon in the top right corner of the DJI Pilot 2 home screen to enter the Health Management System (HMS), and ensure the status of both the parachute and FTS is normal. DO NOT start operations until the FTS status is confirmed to be normal.
- To reduce the risk of damage to nearby equipment or property caused by close-range parachute deployment, the parachute will not be automatically deployed under the following conditions when the aircraft attitude or speed is abnormal:
  - The horizontal distance between the aircraft and the Home Point is within 10 m, and the relative altitude above the Home Point does not exceed 15 m;
  - The horizontal distance between the aircraft and the Home Point exceeds 10 m, and the downward vision system is functioning properly, with the measured altitude above ground not exceeding 10 m.

- Refer to the FAQ for information on countries and regions that support FTS.

Manual Deployment

In an emergency, choose one of the following methods to manually deploy the parachute:

1. **Stop the motors and deploy the parachute (applicable to operations in all regions)**: Enter the camera view in DJI Pilot 2, tap , and swipe right to deploy the parachute.
2. **Trigger FTS to stop motors and deploy the parachute (applicable to operations in countries and regions that support FTS):** Enter the camera view in DJI Pilot 2, tap > **About** to view and record the aircraft SN and verification code. Visit https://fh.dji.com/fts/index.html on a device connected to the internet, enter the aircraft SN and verification code to trigger FTS, and deploy the parachute.

   To minimize response time in emergencies, check and record the aircraft SN and verification code before flight. Keep the FTS webpage open with the information pre-filled during flight operations so that FTS can be triggered immediately if needed.

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Before the parachute is deployed, the motors will stop. After deployment, the aircraft will continuously emit sound and light alarms. Refer to Post-Deployment Procedures to recover the aircraft and parachute.

Post-Deployment Procedures

After the parachute deploys normally, follow the steps below to retrieve the aircraft and parachute.

1. Check aircraft location on the map in DJI Pilot 2 and estimate the drift range based on the flight altitude and wind speed, then proceed to the approximate landing area.
2. Locate the exact position of the aircraft with the help of the audible and visual alarm emitted by the aircraft.
3. Power off the aircraft.
4. Gather the parachute and fold the canopy.
5. Make sure that no components are left behind at the site.

⚠
- The parachute is a single-use device. Once deployed, it cannot be repaired or reused and must be replaced with a new one. If you have any questions about the parachute deployment, export the logs using DJI Pilot 2 or DJI Assistant 2 and contact DJI Support, then send the parachute back for log analysis as instructed.
- After deployment, the aircraft may have sustained damage during the deployment, descent, or landing. Contact DJI Support to have the aircraft inspected. DO NOT continue using the aircraft until it passes the inspection.
- If the aircraft cannot be located, or if a collision or crash has occurred, refer to Flight Accident Handling Procedures section in the *Maintenance Manual*.

Regular Inspection

If the parachute has never been deployed and passes the daily self-checks, it does not require factory inspection within 3 years after activation. It is recommended to stop using the parachute 3 years after activation.

Additionally, perform the following inspections at least once every 6 months:

1. Make sure that the parachute shows no signs of damage, dirt, moisture, or water ingress, and that the protective cover is not loose.
2. Make sure that the parachute connection cable is undamaged, the connector is securely plugged in with no looseness, the aircraft port shows no corrosion, the

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port screws are securely fastened, and the connection cable does not obstruct the aircraft's vision and sensing systems.

3. Make sure that the bracket screws show no corrosion or damage, and that the parachute is securely mounted with no looseness.
4. After powering on, make sure that the parachute status indicator displays normally.

If any abnormality is found during the inspection, repair or replace the parachute promptly to ensure continued reliability.

8.8 Post-Flight Checklist

- Make sure to perform a visual inspection so that the aircraft, remote controller, gimbal camera, Intelligent Flight Battery, and propellers are in good condition. Contact DJI support if any damage is noticed.
- Make sure that the camera lens and vision system sensors are clean.
- Make sure to store aircraft correctly before transporting it.

8.9 Maintenance Instructions

To avoid serious injury to children and animals, observe the following rules:

1. Small parts, such as cables and straps, are dangerous if swallowed. Keep all parts out of reach of children and animals.
2. Store the Intelligent Flight Battery and remote controller in a cool, dry place away from direct sunlight to ensure the built-in LiPo battery does NOT overheat. Recommended storage temperature: between 22° and 28° C (71° and 82° F) for storage periods of more than three months. Never store in environments outside the temperature range of -4° to 122° F (-20° to 50° C).
3. DO NOT allow the camera to come into contact with or become immersed in water or other liquids. If it gets wet, wipe dry with a soft, absorbent cloth. Turning on an aircraft that has fallen in water may cause permanent component damage. DO NOT use substances containing alcohol, benzene, thinners, or other flammable substances to clean or maintain the camera. DO NOT store the camera in humid or dusty areas.
4. DO NOT connect this product to any USB interface older than version 3.0.
5. Check every aircraft part after any crash or serious impact. If there are any problems or questions, contact a DJI authorized dealer.
6. Check the battery status and cycle count regularly. If the battery has been used for over 12 months or has exceeded 200 cycles (whichever comes first), its stability will

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decline. Be sure to replace it with a new battery. Otherwise, you are responsible for device damage and third-party losses caused by batteries exceeding the specified service life or cycle count.

7. Make sure to transport the aircraft with the arms folded when powered off.
8. Make sure to transport the remote controller with antennas folded when powered off.
9. The battery will enter sleep mode during long-term storage. Charge the battery to exit from sleep mode.
10. Store the aircraft, remote controller, battery, and charger in a dry environment. It is recommended to store and transport the product in an environment with an ambient temperature of 15° to 25° C and a humidity of about 40%.
11. Remove the battery before servicing the aircraft (e.g., cleaning or attaching and detaching the propellers). Make sure that the aircraft and the propellers are clean by removing any dirt or dust with a soft cloth. Do not clean the aircraft with a wet cloth or use a cleanser that contains alcohol. Liquids can penetrate the aircraft housing, which can cause a short circuit and destroy the electronics.
12. Make sure to turn off the battery to replace or to check the propellers.

8.10 Troubleshooting Procedures

1. **Why can the battery not be used before the first flight?**

   The battery must be activated by charging before using it for the first time.

2. **How to solve the gimbal drift issue during flight?**

   Calibrate IMU and compass in DJI Pilot 2. If the problem persists, contact DJI Support.

3. **No function**

   Check if the Intelligent Flight Battery and the remote controller are activated by charging. If the problems persist, contact DJI Support.

4. **Power-on and start-up problems**

   Check if the battery has power. If yes, contact DJI Support if it cannot be started normally.

5. **SW update issues**

   Follow the instructions in the user manual to update the firmware. If the firmware update fails, restart all the devices and try again. If the problem persists, contact DJI Support.

6. **Procedures to reset to factory default**

   Use the DJI Pilot 2 app to reset to factory default settings.

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7. **Shutdown and power-off problems**

   Contact DJI Support.

8. **How to detect careless handling or storage in unsafe conditions**

   Contact DJI Support.

8.11 Risks and Warnings

When the aircraft detects a risk after powering on, there will be a warning prompt on DJI Pilot 2. Pay attention to the list of situations below.

- If the location is not suitable for takeoff.
- If an obstacle is detected during flight.
- If the location is not suitable for landing.
- If the compass and IMU experience interference and need to be calibrated.
- Follow the on-screen instructions when prompted.

8.12 Disposal



Observe the local regulations related to electronic devices when disposing of the aircraft and remote controller.

Battery Disposal

Dispose of the batteries in specific recycling containers only after a complete discharge. DO NOT dispose of the batteries in regular trash containers. Strictly follow the local regulations regarding the disposal and recycling of batteries.

Dispose of a battery immediately if it cannot be powered on after over-discharging.

If the power button is disabled and the battery cannot be fully discharged, contact a professional battery disposal/recycling agency for further assistance.

8.13 Cx Certification

The aircraft model and corresponding UAS classes are listed below. Requirements and restrictions apply when using the aircraft in the European Economic Area (EEA). Make

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sure the remote crew is adequately trained and has the necessary competency for the intended operation.

Please use the drone in compliance with local regulations. Any risks arising from non-compliant usage are the sole responsibility of the user.

Type	M5T, M5TC5 [1]
UAS Class	M5T: C2, C6 M5TC5: C2, C5 [2], C6
Maximum Take-Off Mass (MTOM)	2639 g
Sound Power Level	90 dB (A)
Maximum Propeller Speed	7200 RPM

[1] Check the label on the aircraft frame arm to identify the aircraft type.

[2] C5 class is only applicable when equipped with the DJI AP1 Parachute (Model: AP-1).

MTOM Statement

The MTOM of DJI Matrice 5T is 2639 g to comply with C2 and C6 requirements for type M5T, and C2, C5, and C6 requirements for type M5TC5. The MTOM includes the mass of the parachute when installed. The maximum payload is 400 g.

⚠ DO NOT exceed the Maximum Take-Off Mass (MTOM) of 2639 g.

Users must follow the instructions below to comply with the MTOM requirements for each model:

1. Make sure that when installing any external devices that the total mass of the aircraft does not exceed the Maximum Take-Off Mass. In addition, the external device must be installed in a location so that the center of gravity is maintained within the range of the aircraft top shell to keep the aircraft stable and that the vision systems, the infrared sensing systems, and the auxiliary lights are not blocked. Ensure that the Maximum Take-Off Mass (MTOM) does not exceed the specified limit for any flight.
2. DO NOT use any non-qualified replacement parts, such as intelligent flight batteries or propellers, etc.
3. DO NOT retrofit the aircraft.

Standard Scenarios (STS)

The aircraft may be operated under Standard Scenarios STS-01 and STS-02 as defined in (EU) 2019/947, subject to the population density restrictions and remote crew training requirements specified therein. Operators must ensure compliance with all applicable requirements of (EU) 2019/947, including Appendix 5 (Operations Manual), when conducting STS operations.

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⚠
- When used in the EU, the auxiliary LED is set to auto and cannot be changed. The aircraft Front Arm LEDs are always on when used in the EU and cannot be changed.
- Make sure to use official software for operations that require connecting to external devices, such as firmware updates and exporting media files.

List of Items, including qualified accessories

Item	Model Number	Dimensions	Mass
Propellers	1460F	36.1×15.2 cm	19.0 g (each piece)
Battery	BPX355-10073-21.36	173.72×81.1×56.72 mm	768 g
microSD Card	N/A	8.8×12.3×0.7 mm	0.26 g
DJI AL2 SpotLight [1]	AL-2	200×78×58 mm (unfolded) 104×82×58 mm (folded)	175±2 g
DJI AS2 Speaker [1]	AS-2	96×70×66 mm (L×W×H)	194±2 g
Parachute [1]	AP-1	92×70×56 mm	98 g
Parachute Bracket [1]	AM355-1	71.24×104.4×16.1 mm	16 g
Parachute Connection Cable [1]	ACC355-1	113.51×78.29×27.5 mm	13.5 g

[1] Not included in the original package. Please be careful not to exceed the MTOM.

List of Spare and Replacement Parts

DJI Matrice 5 Series Propellers (Model: 1460F)

DJI Matrice 5 Series Battery (Model: BPX355-10073-21.36)

Refer to the Maintenance Manual for information on list of wearing parts.

Remote Controller Warnings

The remote controller indicator will glow red after disconnecting from the aircraft. DJI Pilot 2 will issue a warning prompt after disconnecting from the aircraft. The remote controller will beep and power off automatically after disconnecting from aircraft and with no operation for a long time.

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- Avoid interference between the remote controller and other wireless equipment. Make sure to turn off the Wi-Fi on nearby mobile devices. Land the aircraft as soon as possible if there is interference.
- Users are responsible for correctly adjusting the display brightness when using the monitor in direct sunlight during flight operation.
- Release the control sticks or press the flight pause button if an unexpected operation occurs.

Direct Remote ID

1. Transport Method: Wi-Fi Beacon.
2. Method of uploading the UAS Operator Registration Number to the aircraft: Enter DJI Pilot 2 > **GEO Zone Map > UAS Remote Identification**, and then upload UAS Operator Registration Number.
3. According to applicable rules, operators shall provide the correct registration number to broadcast in flight. Please make sure you understand and comply with the rules.

GEO Awareness

GEO Awareness contains the features listed below.

UGZ (Unmanned Geographical Zone) Data update: You can update the FlySafe data by using the data update feature automatically or storing the data in the aircraft manually.

- Method 1: Run DJI Pilot 2, tap **GEO Zone Map > FlySafe Database**, select **Auto Update** from **Data Source** to update the FlySafe data automatically.
- Method 2: Check the website of your national aviation authority regularly and obtain the latest UGZ data to import to your aircraft. Run DJI Pilot 2, tap **GEO Zone Map > FlySafe Database**, select **Import Local File** from **Data Source**, and then follow the on-screen instructions to store and import the UGZ data manually.

- A prompt will appear in the app when the import completes successfully. If the import fails due to improper data format, follow the on-screen prompt and retry.

- Before takeoff, users must download the latest GEO Zone data from the official aviation regulation website of the country or region where the aircraft is being used. It is the responsibility of the user to make sure that the GEO zone data is the latest version and that it is applied to every flight.

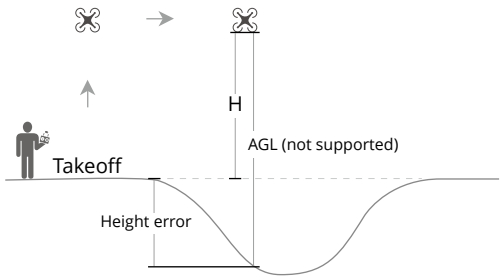
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GEO Awareness Map Drawing: After the latest UGZ data is updated, a flight map with a restricted zone will be displayed in the DJI Pilot 2 app. Name, effective time, height limit, etc., can be viewed by tapping the area.

When GNSS signal is weak, Geo-awareness function will be degraded and the remote controller will provide a prompt. Fly with caution.

AGL (Above Ground Level) Statement

The vertical part of Geo-Awareness may use the AMSL altitude or the AGL height. The choice between these two references is specified individually for each UGZ. Neither AMSL altitude nor the AGL height is supported by DJI Matrice 5T. The height H appears in the DJI Pilot 2 app camera view, which is the height from the aircraft takeoff point to the aircraft. The height above the takeoff point may be used as an approximation but may differ more or less from the given altitude/height for a specific UGZ. The remote pilot remains responsible for not breaching the vertical limits of the UGZ.

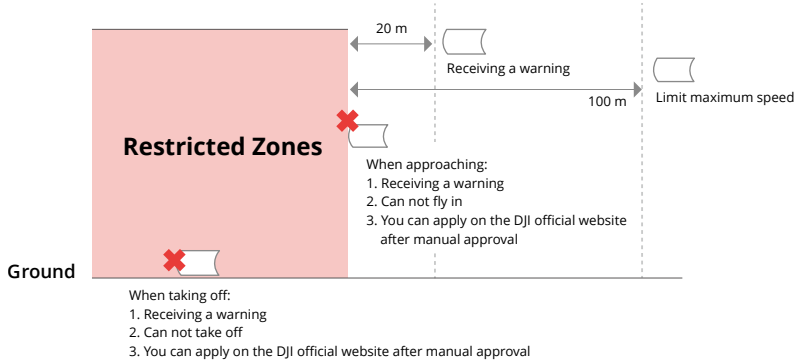


GEO Zones

Restricted Zones

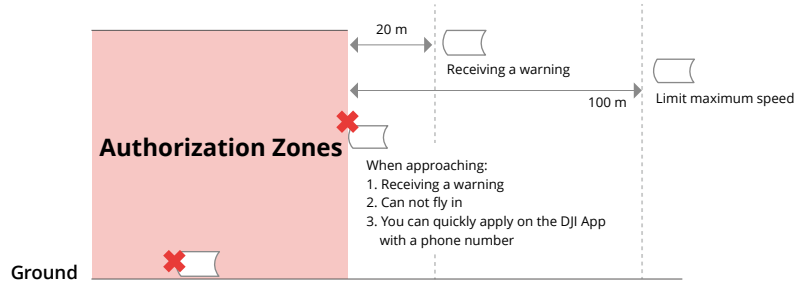
Appear red in the DJI app. You will be prompted with a warning, and flight is prevented. UA cannot fly or take off in these zones. Restricted Zones may be unlocked, to unlock contact flysafe@dji.com or go to Unlock A Zone at dji.com/flysafe.

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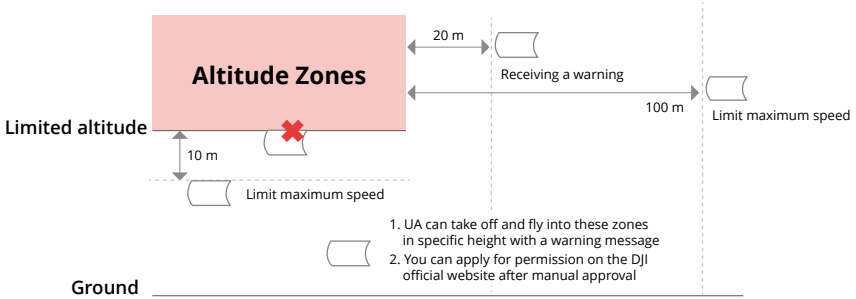
Authorization Zones

Appear blue in the DJI app. You will be prompted with a warning, and flight is limited by default. UA cannot fly or take off in these zones unless authorized. Authorization Zones may be unlocked by authorized users using a DJI verified account.



Altitude Zones

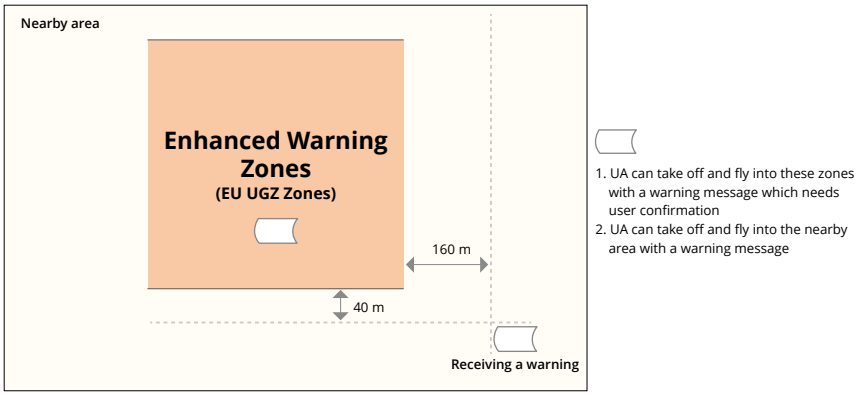
Altitude zones are zones with a limited altitude and appear in gray on the map. When approaching, you will receive a warning in the DJI app.



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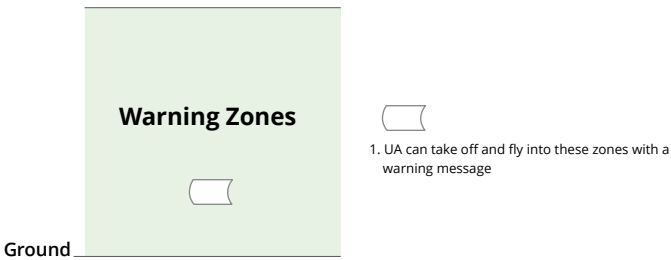
Enhanced Warning Zones

A warning message will appear when the drone reaches the edge of the zone.



Warning Zones

A warning message will prompt you when the drone reaches the edge of the zone.

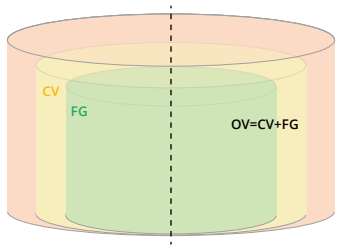


⚠ • When the aircraft and DJI Pilot 2 app cannot obtain a GPS signal, the GEO awareness function will be inoperative. Interference of the aircraft antenna or disabling the GPS authorization in DJI Pilot 2 will cause the GPS signal to fail to be obtained.

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Geo Caging

Introduction



Flight Geography (FG)

In this area, the aircraft can take off, perform flight tasks, and land. If the aircraft approaches the FG edge horizontally or vertically, it will brake and hover, and a voice alert and a warning message will be triggered in DJI Pilot 2. You can still control the aircraft to fly back to the FG.

Contingency Volume (CV)

In this area, the aircraft cannot take off or land, and you cannot initiate automatic features such as RTH and FlyTo tasks. If the aircraft is approaching CV edge or flies into the CV, it will brake and hover. You will receive a voice alert and a warning message in DJI Pilot 2. You can still control the aircraft to fly back to the FG.

Operation Volume (OV)

OV includes the FG and the CV. If the aircraft flies out of the OV, the Flight Termination System (FTS) will be automatically activated. You will receive a voice alert and a warning message in DJI Pilot 2.

To ensure safe landing, the aircraft can still detect its current status and low-battery RTH, auto-landing, and landing protection are still available in the OV.

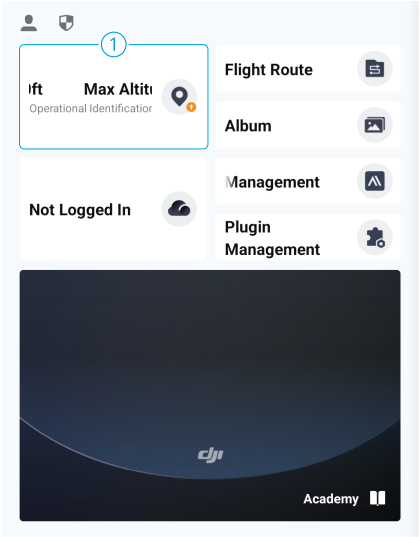
Flight Termination System (FTS)

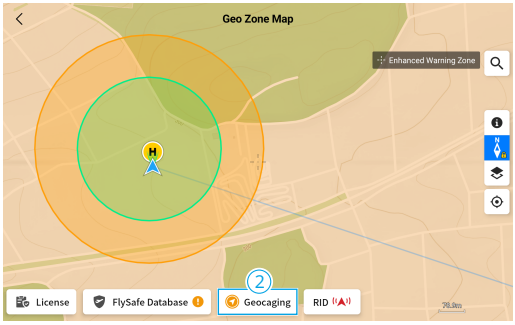
FTS forces the aircraft to stop flying in emergencies. When FTS is activated, the aircraft propellers stop and, if installed, the parachute deploys.

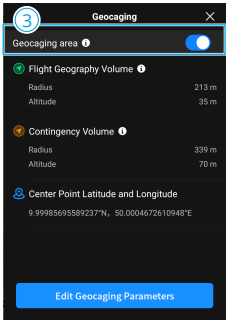
Using Geocaging (DJI Pilot 2)

1. Run DJI Pilot 2, tap **GEO Zone Map** on the home screen, tap **Geocaging**, and enable Geocaging.

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2. Tap **Edit Geocaging Parameters** to modify the radius and altitude of the FG and the CV and the area will be displayed on the map.

	FG	CV
Minimum Radius	100 m	FG radius + 100 m
Minimum Height	35 m	FG height + 35 m

The max configurable altitude of the Geocaging is 1.5 km and the max configurable radius is 30 km. Leave a safe distance of at least 100 m between the FG and the CV.

The vertical altitude limit of the Geocaging takes the height above take-off point (ALT) and only one vertical limit is available. Refer to Navigation Display section for more information.

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⚠
- Users can only modify the Geo Caging Settings when the aircraft is powered on and not performing any flight tasks.
- Make sure the FG height is higher than the aircraft RTH height.
- Geocaging does not conflict with the distance and height limits or GEO Zones. A flight task will be restricted if any of these limits is triggered.

Display Warnings and Information

Takeoff Warnings: The aircraft cannot take off if the device or any task point is outside of the FG and the user will receive a warning message.

When Geocaging is enabled, the device checks its running status and monitors aircraft operation in real time. If Geocaging cannot function properly, the user will receive a warning message and the aircraft cannot take off.

Braking Distance in CV

When Geocaging is enabled, the aircraft will brake and hover when it reaches the Flight Geography (FG) boundary. The distance the aircraft travels from the moment it reaches the FG boundary until it comes to a stable hover consists of two parts:

- **Distance travelled**: The distance the aircraft continues to travel during the system response time (1.2 s) from the moment it reaches the FG boundary until braking begins.
- **Braking distance**: The distance the aircraft travels from the moment braking begins until it comes to a stable hover.

The table below shows the total distance the aircraft travels beyond the FG, from reaching the FG boundary to achieving a stable hover. This distance is the sum of the two parts above.

Flight Conditions	Distance Travelled (during system response time)	Total Distance Travelled
Flying downwind horizontally at maximum speed in Sport mode	0.66 m	48 m
Flying horizontally at default speed in Normal mode	0.3 m	13 m

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Flight Conditions	Distance Travelled (during system response time)	Total Distance Travelled
Ascending at maximum speed in Sport mode, with wind blowing in the direction of flight	0.2 m	15 m
Ascending at default speed in Normal mode	0.12 m	3.7 m

The values above are calculated for selected worst-case and typical conditions. The full set of conditions is listed below:

	Conditions
Worst-case (horizontal)	• Flying perpendicular to FG • Flying at maximum horizontal flight speed • With a maximum wind speed resistance • Wind blowing perpendicular to FG in the flight direction • With a net mass • With a maximum takeoff mass
Typical (horizontal)	• Flying perpendicular to FG • Flying at average flight speed • With a net mass • Without wind
Worst-case (vertical)	• Flying at maximum ascend or descend speed • With a maximum vertical wind speed in direction of flight • With a net mass • With a maximum takeoff mass
Typical (vertical)	• Flying at average flight speed • Ascending or descending at nominal speed • With a net mass • Without wind

* The detailed information on the above conditions can be found in https://enterprise.dji.com/matrice-5t/specs.

This section applies to C6 category aircraft operating under the Specific Standard Scenario STS-02. The braking distance is used to determine the safety margin after the aircraft reaches the FG boundary.

- The standard deviation of GNSS: ±10 m (vertical) and ±10 m (horizontal).

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- The aircraft hovering and flight accuracy range with RTK positioning in windless or breezy conditions: ±0.1 m (vertical) and ±0.1 m (horizontal).
- The maximum deviation between the aircraft location displayed on DJI Pilot 2 and the actual location: 5 m.

Flight Termination System (FTS)

Trigger Method

- Automatic: FTS will be automatically triggered when Geocaging is enabled and the aircraft flies out of the OV. For the aircraft behavior after FTS activation, including motor stop and parachute deployment, refer to Using the Parachute.
- Manual: FTS can be triggered manually when the GNSS signal is weak or based on the user's judgment. For the DJI Pilot 2 operation path and backup web trigger, refer to Using the Parachute.

FTS Status Check

The FTS is built into the aircraft and requires no additional module installation. It is available when the aircraft is powered on. The aircraft does not support starting the motors at idle on the ground. The FTS automatically performs a self-check when the aircraft is powered on. If the FTS module has an abnormality, such as a connection failure, a Health Management System (HMS) warning will be reported in DJI Pilot 2.

Post Inspection

After FTS is triggered, stop using the aircraft. For an aircraft without a parachute, the motors will stop and the aircraft will fall. The aircraft must be returned to the factory for inspection and repair. For an aircraft equipped with a parachute, refer to Post-Deployment Procedures in the Parachute section, and contact DJI Support to have the aircraft and installed accessories inspected. Clean dirty parts and replace damaged parts. DO NOT resume flight operations until the required inspection, repair, or replacement is complete.

Risk and Warnings

The FTS module uses the built-in cellular module. Make sure to operate in areas with a good 4G signal. If the FTS signal is lost for more than 120 s, a warning will appear. The system will attempt to restore the signal every 500 ms after the signal is lost. Check the cellular module's internet connection and try to restore the connection.

The FTS has no operational distance limit. In areas with a good 4G signal, the aircraft can be controlled through the FTS.

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EASA Notice

Make sure to read the Drone Information Notices document included in the package before use.

Visit the link below for more EASA notice information on traceability.

https://www.easa.europa.eu/en/document-library/general-publications/drones-information-notices

Original Instructions

This manual is provided by SZ DJI Technology, Inc., and the content is subject to change.

Address: Lobby of T2, DJI Sky City, No. 53 Xianyuan Road, Xili Community, Xili Street, Nanshan District, Shenzhen, China, 518055.

8.14 FAR Remote ID Compliance Information

The unmanned aircraft system is equipped with a Remote ID system that meets the requirements of 14 CFR Part 89.

- The aircraft automatically initiates a pre-flight self-test (PFST) of the Remote ID system before takeoff and cannot take off if it does not pass the PFST [1]. The results of the PFST of the Remote ID system can be viewed in a DJI flight control app such as DJI Pilot 2.
- The aircraft monitors the Remote ID system functionality from pre-flight to shut down. If the Remote ID system malfunctions or has a failure, an alarm will be displayed in a DJI flight control app such as DJI Pilot 2.
- The user shall keep the DJI flight control app running in the foreground and always allow it to obtain the location information of the remote controller.
- Developers who develop third-party applications based on the DJI Mobile SDK shall obtain and display the PFST results and the failure status of the Remote ID system during operation by calling specific APIs [2].
- Developers who develop third-party platforms based on the DJI Cloud API shall obtain and display the PFST results and the failure status of the Remote ID system during operation by calling specific APIs [3].
- Developers developing payload devices based on DJI PSDK shall read and comply with the requirements in the PSDK's "Flight Safety Notification", and shall not disrupt or degrade the functionality of the Remote ID system. For "Non-RC Flight" developers, they shall send the true and accurate geographic location information of the pilot or operator obtained by appropriate technology to the Remote ID system by calling

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specific APIs[4] provided by the PSDK, and shall obtain and display the PFST results and the failure status of the Remote ID system during operation by calling specific APIs.

- You can visit the official website of FAA to learn more about aircraft registration and Remote ID requirements.

Footnotes

[1] The pass criterion for PFST is that the hardware and software of the Remote ID required-data source and transmitter radio in the Remote ID system are functioning properly.

[2] For detailed APIs information, please visit https://developer.dji.com/mobile-sdk/

[3] For detailed APIs information, please visit https://developer.dji.com/cloud-api/

[4] For detailed APIs information, please visit https://developer.dji.com/payload-sdk/

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Contact
DJI Support

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https://www.dji.com/downloads/products/matrice-5t/#doc

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