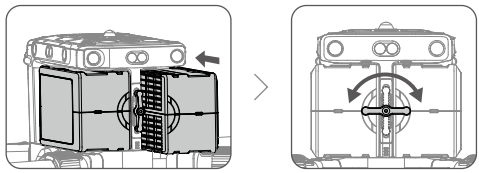
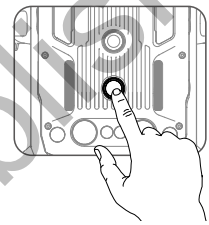
Installing the Batteries



Pairing Batteries

Before first use, it is recommended to mark 2 batteries as a pair and continue using them as a pair (charge and discharge them together) to maximize service life and ensure flight performance. If two batteries with a significant difference in battery life are installed and powered on, a prompt will pop up in the app to recommend that you replace the batteries to a pair with similar performance.

Turning On / Off



The battery can only be turned on and off after it is installed on the aircraft.

Turning On: Press the Power button once, then press again and hold for 3 seconds to turn on. The Power LED will turn green and the Battery Level Indicators will display the current battery level.

Turning Off: Press the Power button once, then press again and hold for 3 seconds to turn off. The Power LED and the Battery Level Indicators will be off.

Replacing the Batteries When Turned On

If the battery needs to be replaced immediately after landing, you can replace it without turning off the aircraft. Replace with one fully charged battery, and wait for 3 seconds, and then replace another battery.

Heating the Battery

Manual Heating: If the Flight Battery is not installed into the aircraft, press and hold the battery level button on the battery for four seconds to initiate the self-heating, keeping the batteries at a temperature between 61° F (16° C) and 68° F (20° C), which is the ideal range of operating temperature, for approximately 30 minutes. Press and hold the battery level button for two seconds to stop heating.

Auto Heating: Insert the batteries into the aircraft and power it on. If a low battery temperature is detected, the battery will automatically heat up to maintain a temperature between 61° F (16° C) and 68° F (20° C).

Low Temperature Notice:

1. The performance of the Flight Battery is significantly reduced when flying in low temperature environments (temperatures below 5°C). Ensure that the battery is fully charged and the cell voltage is at 4.4 V before each flight.
2. End the flight as soon as the app displays the “Low Battery Level Warning” in low temperature environments. You will still be able to control the aircraft’s movement when this warning is triggered.
3. In extremely cold weather, the battery temperature may not be high enough even after warming up. In

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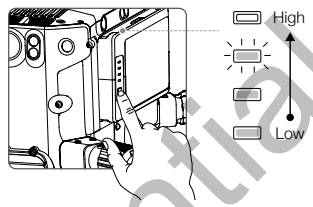
these cases, insulate the battery as required.

4. To ensure optimal performance of the battery, keep the battery temperature above 16°C.
5. In low temperature environments, it will take a longer time for the batteries to warm up. It is recommended to keep the battery warm before use to reduce the warm-up time.

Checking Battery Levels

When the battery is turned off, press the Battery Level button once and the Battery Level Indicators will display the current battery level.



Battery Level Indicators display how much power remains. When the battery is turned off, press the Power button once and the Battery Level Indicators will display the current battery level. See below for details.

The Battery Level Indicators will also show the current battery level during discharging. The indicators are defined below.

: LED is on. : LED is off. : LED is flashing.

Battery Level				
LED1	LED2	LED3	LED4	Battery Level
				88%~100%
				75%~88%
				63%~75%
				50%~63%
				38%~50%
				25%~38%
				13%~25%
				0%~13%

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RTK

Introduction

The aircraft has a built-in RTK, which can withstand magnetic interference from metal structures, ensuring stable flight.

Enable / Disable RTK

Ensure that the “Aircraft RTK” is enabled and RTK service type is correctly set before each use.

•••

Using the Custom Network RTK

You can mount a Dongle to the remote controller or use the app to connect to a Wi-Fi, and enable Internet network to use the Custom Network RTK. Custom Network RTK can be used to replace the RTK base station. Connect the Custom Network RTK account to the designated Ntrip server to send and receive differential data. Keep the remote controller turned on and the Internet network connected.

1. Make sure the remote controller and the aircraft are linked, and the app is connected to the Internet network.
2. Go to Camera View in the app > ••• > RTK, select the RTK service type as “Custom Network RTK”, fill in the Ntrip’s host, port, account, password, mount point, and then tap to set by following the instructions.
3. Wait to connect to the Ntrip server. In the RTK Settings page, the status of the aircraft’s positioning in the status table will show “FIX” to indicate that the aircraft has obtained and used the differential data from the mobile station.

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ADS-B Sensor

Airplanes and helicopters with an ADS-B transceiver will actively broadcast flight information including location, flight path, speed, and altitude. ADS_B sensor receives this by ADS-B transceivers via an on-board receiver or internet connection. UAVs installed ADS-B sensor can obtain the position, orientation and velocity information from the manned airplane built-in ADS-B transmitter (1090 ES and UAT standard supported), calculate the collision risk level real time and display the warning to user. The system will analyze the potential risk of collision by comparing the location of an airplane or a helicopter, displaying timely warnings to pilots via the DJI Pilot app.

ADS-B sensor provides users with information about nearby airplanes and helicopters to ensure flight safety. The system doesn't actively control the drone to avoid incoming airplanes or helicopters. Always fly your aircraft within a visual line of sight and be cautious at all times. Lower your altitude when you receive warnings. Please be aware that ADS-B sensor has the following limitations:

1. It can only receive messages sent by airplanes and helicopters installed with an ADS-B out device and in accordance with 1090ES (RTCA DO-260) or UAT (RTCA Do-282) standards. Skycatch devices will not receive related broadcast messages or display warnings for airplanes or helicopters without ADS-B outs or with malfunctioning ADS-B outs.
2. If there is an obstacle or steel structure between airplanes or helicopters and Skycatch aircraft, the system won't be able to receive ADS-B messages sent by airplanes or helicopters or display warnings. Keenly observe your surroundings and fly with caution.
3. Warnings may be sent with delay when the ADS-B sensor is interfered by the surrounding. Keenly observe your surroundings and fly with caution.
4. Warnings are not sent when the aircraft is unable to determine its location.
5. It cannot receive ADS-B messages sent by airplanes or helicopters or display warnings when disabled or misconfigured.

On the precondition that connection between the aircraft and the pilot remote controller is stable, when the system confirms the possibility of a collision, it will display a series of warnings based on the distance between drone and airplanes or helicopters. We recommended that the operator descend altitude immediately after the first warning to avoid a collision, choosing another flight path where necessary.

Warning Escalation:
The first (or "lowest") level warning occurs when the manned aircraft is detected. All detected aircraft will be displayed in the app (up to 10 aircraft at a time). Please pay attention to ensure flight safety.

The second (or "middle") level warning occurs two kilometers away from the manned aircraft. Please pay attention to avoid any hazards.

The third (or "highest") level warning occurs one kilometer away from the manned aircraft. Please avoid the manned aircraft immediately.

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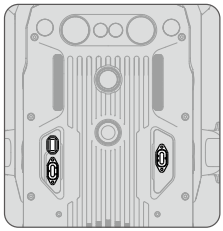
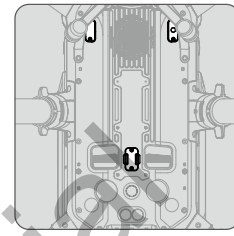
Expansion Ports

The Explore2 offers several SDK expansion ports on the top and bottom of the aircraft. These expansion ports enable developers to explore more possibilities and functions with the aircraft.



Top view



Bottom view

Explore2 supports three payload SDK ports and one onboard SDK port. The external power supply capacity of the payload SDK port is 17.0 V / 13.6 V 4 A. The external power supply capacity of onboard SDK port is 24 V 4 A. These four SDK ports incorporate a power limit of 180 W.

IP45 Protection Rating

Under stable laboratory conditions, the Explore2 achieves an IP45 protection rating by IEC60529 standards when equipped with Flight Batteries. However, this protection rating is not permanent and may reduce over time after long-term use.

- DO NOT fly when the amount of rainfall exceeds 100 mm / 24 h.
- DO NOT fold the frame arms in the rain.
- Make sure the battery ports, battery compartment ports, battery surfaces, and battery compartment surfaces are dry before inserting the batteries.
- Make sure the battery ports and battery surfaces are free from any liquid before charging the batteries.
- Before packing the aircraft into the carrying case, ensure that it is free from any liquid by wiping it carefully.
- Product warranty does not cover water damage.

The aircraft does not achieve IP45 protection rating in the following circumstances:

- Folded frame arms.
- You use batteries other than Flight Batteries.
- The cover for the ports are not attached correctly.
- The waterproofing top shell plug is not firmly attached to the top shell.
- The aircraft is broken due to various reasons, such as broken aircraft shell, failure of the waterproof adhesive, etc.

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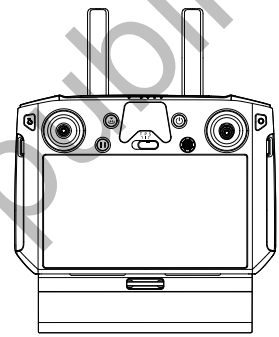
Remote Controller

This section describes the features of the remote controller that includes aircraft and remote controller operations.



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Remote Controller

Profile

The Skycatch Secure Controller (hereinafter referred to as “Secure Controller”) features radio technology, capable of controlling aircraft that supports this technology, and providing a live HD view from the aircraft's camera. It can transmit image data at distances of up to 9.32 mi (15 km) and comes with a number of aircraft and gimbal controls as well as some customizable buttons. *

The built-in 5.5-inch high brightness 1000 cd/m² screen has a resolution of 1920×1080 pixels, featuring an Android system with multiple functions such as Bluetooth and GNSS. In addition to supporting Wi-Fi connectivity, it is also compatible with other mobile devices for more flexible usage. The Secure Controller has a maximum working time of 2.5 hours with the built-in battery. When using the RC Battery, the maximum working time can be e xtended to 4.5 hours. **

* The Secure Controller can reach maximum transmission distance (FCC) in an unobstructed area with no electromagnetic interference at an altitude of about 400 feet (120 meters). The actual maximum transmission distance may be less than the distance mentioned above due to interference in the operating environment, and the actual value will fluctuate according to the strength of interference.

** Maximum operating time is estimated in a lab environment at room temperature, for reference only. When the Secure Controller is powering other devices, the run time will be reduced.

- **Compliance Standards**: The remote controller is compliant with local laws and regulations.
- **Stick Mode**: Controls can be set to Mode 1, Mode 2, or to a custom mode.

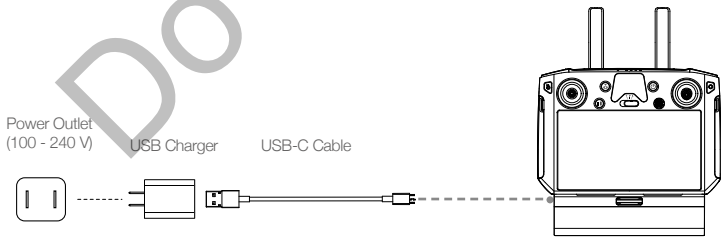
Do NOT operate more than three aircrafts within the same area (roughly the size of a soccer field) to prevent transmission interference.

Preparing the Remote Controller

Charging

Charging the Remote Controller

When turned off (using the standard USB charger at room temperature), it takes approximately 2 hours and 15 minutes to fully charge the Secure Controller.



- Please use the official USB Charger to charge the Secure Controller. When a standard USB Charger is not available, it is recommended to use an FCC / CE certified USB power adapter rated 12 V / 2 A.
- Please recharge the battery at least every three months to prevent over discharging - the battery will deplete when stored for an extended period.

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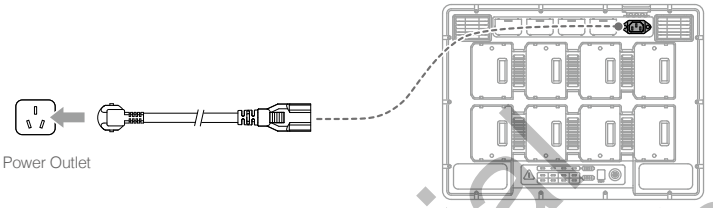
External Battery

1. Connect the Charging Station to a power outlet (100-120 Vac, 50-60 Hz / 220-240 Vac, 50-60 Hz).
2. Press the Power Button once to turn on the Charging Station.
3. Insert the batteries into the Battery Ports to start charging. The Charging Station will charge the battery with the highest remaining battery power first.

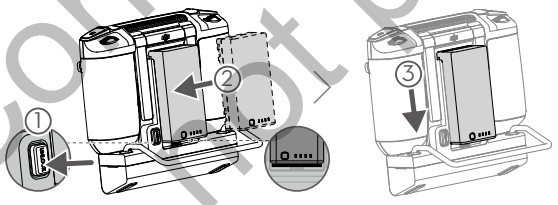


Mounting the RC Battery

① Press and hold the battery release button.

② Insert the Battery into the battery compartment. Make sure the bottom of the battery is aligned to the marking line in the compartment.

③ Push the battery to the bottom.



To remove the Battery, press and hold the battery release button, then push the battery upward.

Mounting the 4G Dongle and SIM Card

- Only use a approved dongle.
- The dongle and SIM card enable the Secure Controller to access 4G network. Make sure to deploy these correctly, otherwise, network access will not be available.
- The dongle and SIM card are excluded.

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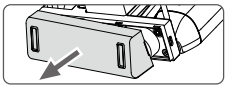
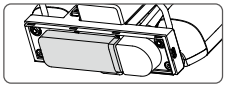
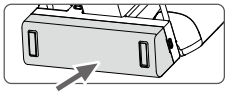


Remove the dongle compartment cover.

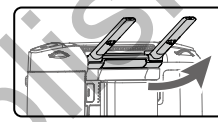


Insert the dongle into the USB port with the SIM card inserted into the dongle.



Reattach the cover firmly.

Adjusting the Antennas

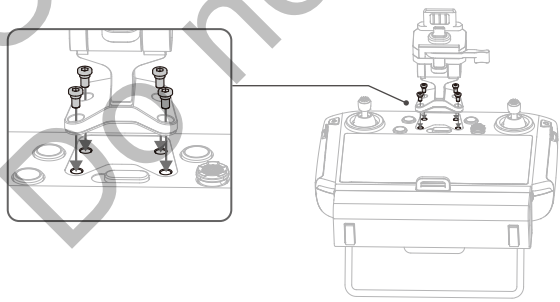


Lift the antennas and adjust them. The strength of the Secure Controller signal is affected by the position of the antennas. When the angle between the antennas and the back of the Secure Controller is 80° or 180°, the connection between the Secure Controller and aircraft can reach its optimal performance.

Installing Other Mobile Devices

For other mobile devices (e.g. iPhones, iPads), the Screen Mounting Bracket and an appropriate USB cable are required.

Mounting the Screen Mounting Bracket



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