



dji RC Pro Smart Controller User Guide

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DJI RC Pro

dji RC Pro Smart Controller



Disclaimer

Carefully read this entire document and all safe and lawful practices provided by DJITM before using this product for the first time. Failure to read and follow instructions and warnings may result in serious injury to yourself or others, damage to your DJI product, or damage to other objects in the vicinity. By using this product, you hereby signify that you have read this document carefully and that you understand and agree to abide by all terms and conditions of this document and all relevant documents of this product. You agree that you are solely responsible for your own conduct while using this product and for any consequences thereof. DJI accepts no liability for damage, injury, or any legal responsibility incurred directly or indirectly from the use of this product.

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This document is available in various languages. In the event of divergence among different versions, the English version shall prevail.

Important

Stay alert when using the DJI Smart Controller V2.0 to control an Unmanned Aerial Vehicle (UAV). Carelessness may result in serious harm to yourself and others. Download and read the user manuals for the aircraft and Smart Controller V2.0 before using for the first time.

1. Fully charge the remote controller before each flight.
2. The remote controller will sound an alert if it is powered on but has not been used for five minutes. It will automatically power off after a further 30 seconds. Move the control sticks or perform any other remote controller action to cancel the alert.
3. Make sure the antennas of the remote controller are unfolded and adjusted to the proper position for optimal transmission.
4. Contact DJI Support to repair or replace the antennas if they are damaged. Damaged antennas greatly decrease performance.
5. Link the remote controller and the aircraft every time the aircraft is changed.

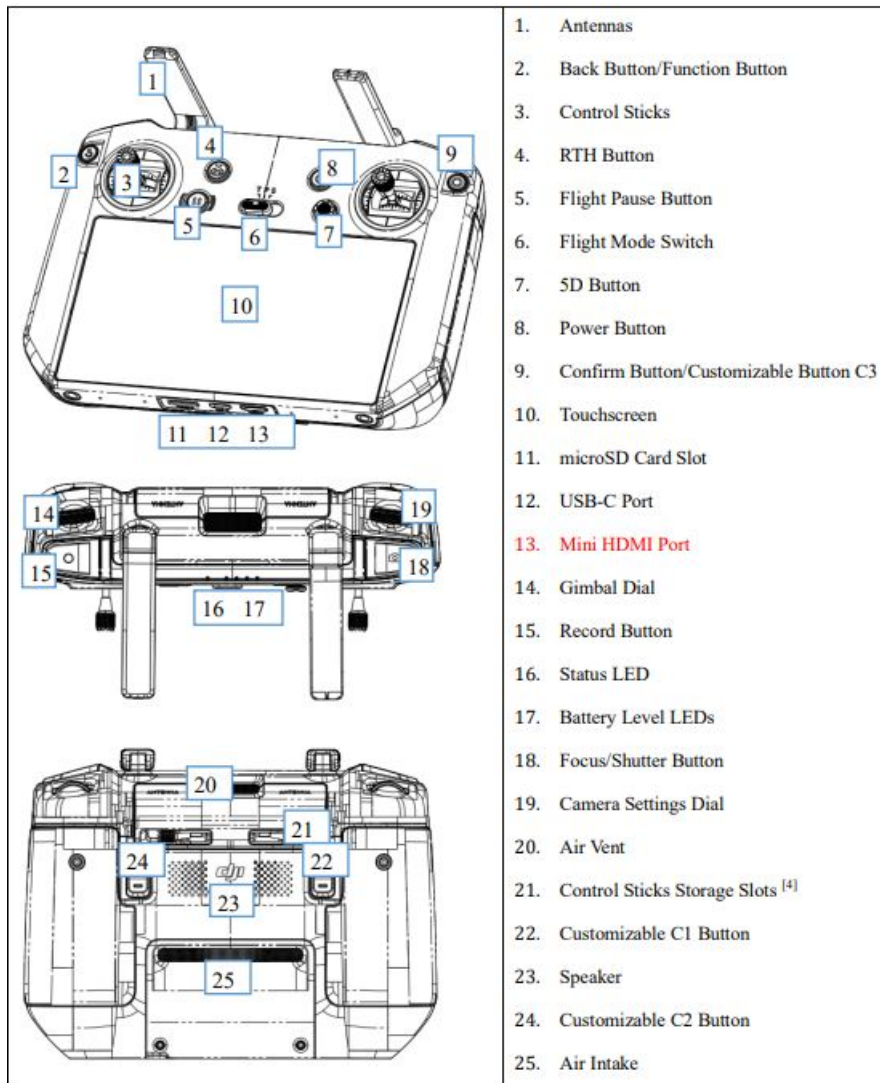
6. Make sure to power off the aircraft before the remote controller.
7. Fully charge the remote controller every three months.
8. Charge the remote controller immediately if the power level reaches 0%. Otherwise, the remote controller may be damaged due to being over discharged for an extended period. Discharge the remote controller to between 40% and 60% if stored for an extended period.
9. **DO NOT** cover the air vent or the air intake on the remote controller. Otherwise, the performance of the remote controller may be affected due to overheating.
10. **DO NOT** disassemble the remote controller without the assistance of a DJI authorized dealer. Contact DJI or a DJI authorized dealer to replace the components of the remote controller.

Introduction

The DJI Smart Controller V2.0 features O3, the latest version of DJI's signature OCUSYNCTM image transmission technology, and can transmit a live HD view from the camera of an aircraft [1] at a distance of up to 12 km [2]. Users can connect to the internet via Wi-Fi or by using a 4G dongle and the Android operating system comes with a variety of functions such as Bluetooth and GNSS.

The built-in 5.5-in high brightness 1000 cd/m² screen boasts a resolution of 1920×1080 pixels while the remote controller comes with a wide range of aircraft and gimbal controls as well as customizable buttons and has a maximum operating time of 3 hours [3].

Overview

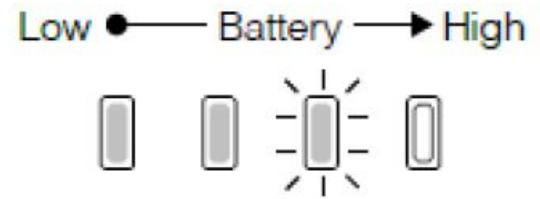


1. Only available with aircraft that support O3. Refer to the Specifications for more information on supported aircraft.
2. The Smart Controller V.2 can reach its maximum transmission distance (FCC) in a wide open area with no electromagnetic interference using a MAVICTM 3 at an altitude of approximately 120 meters.
3. The maximum operating time was tested in a lab environment and is for reference only.
4. A pair of control sticks are stored in the control sticks storage slot before delivery. The control sticks have already been mounted to the remote controller in the illustration in the Overview section.

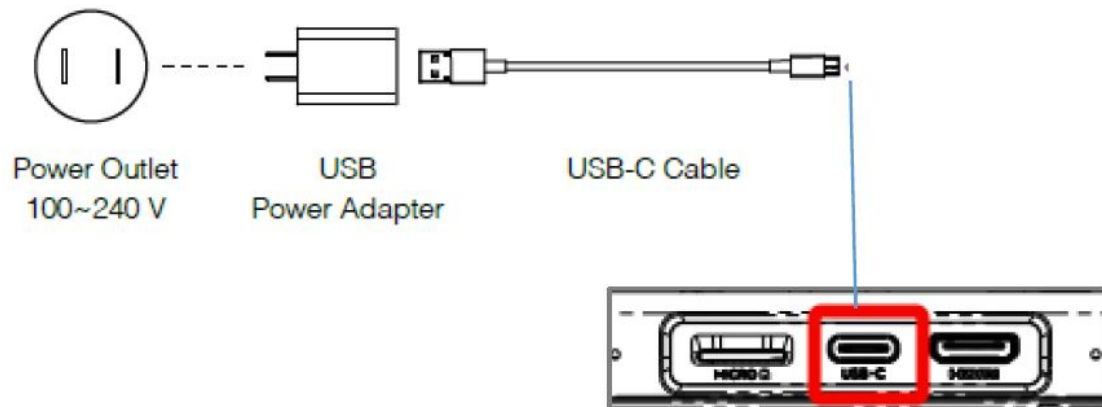
Battery Level and Charging

Press the power button to check the battery level.

Press once and then press and hold or hold for a few seconds to power the remote controller on or off.

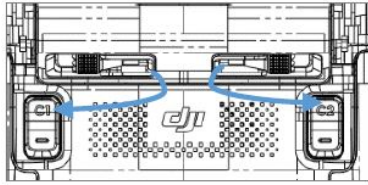


It takes approximately two and a half hours to fully charge the remote controller using a standard USB power adapter.

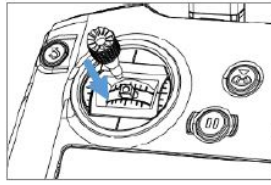


- It is recommended to use an FCC/CE certified USB power adapter rated 12V or 15V.
- Recharge the battery at least every three months to prevent over-discharging. The battery depletes when stored for an extended period.

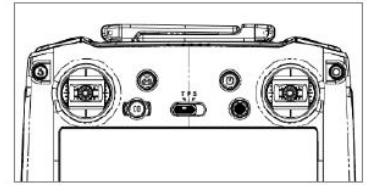
Preparing the Smart Controller V2.0



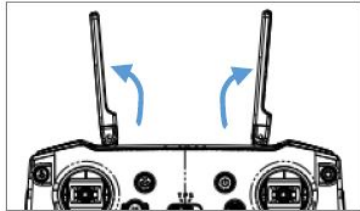
Remove the control sticks from the storage slots



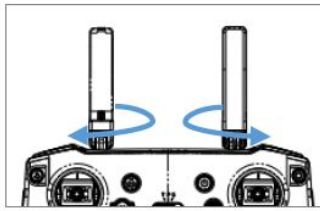
Attach the control sticks and twist to secure



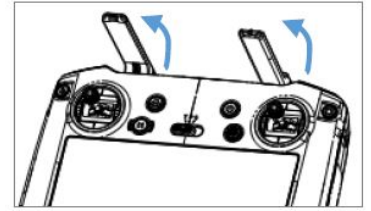
Control sticks attached



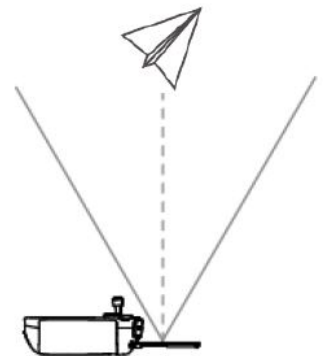
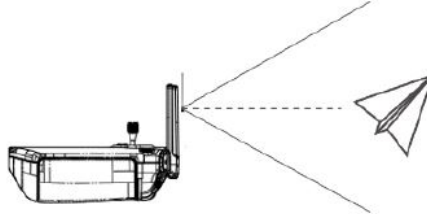
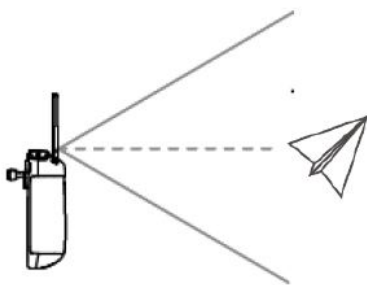
Unfold the antennas



Rotate the antennas



Lift the antennas



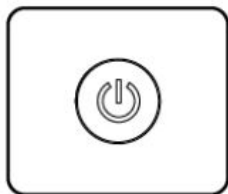
The optimal transmission range is where the antennas are facing toward the aircraft and the angle between the antennas and the back of the remote controller is 180° or 270°.

The illustrations above show situations where the operator and aircraft are far away.

- Make sure the control sticks are firmly mounted.
- A prompt will be received in DJI Fly if the transmission signal is weak during flight. Adjust the antennas to make sure that the aircraft is in the optimal transmission range.

Activating the Smart Controller V2.0

The remote controller needs to be activated before using for the first time. An internet connection is required for activation.



Power on the remote controller



Select the language



Follow the prompts to activate

Check the internet connection if activation fails. Try to activate the remote controller again if the internet connection is normal. Contact DJI if activation fails several times.

Linking

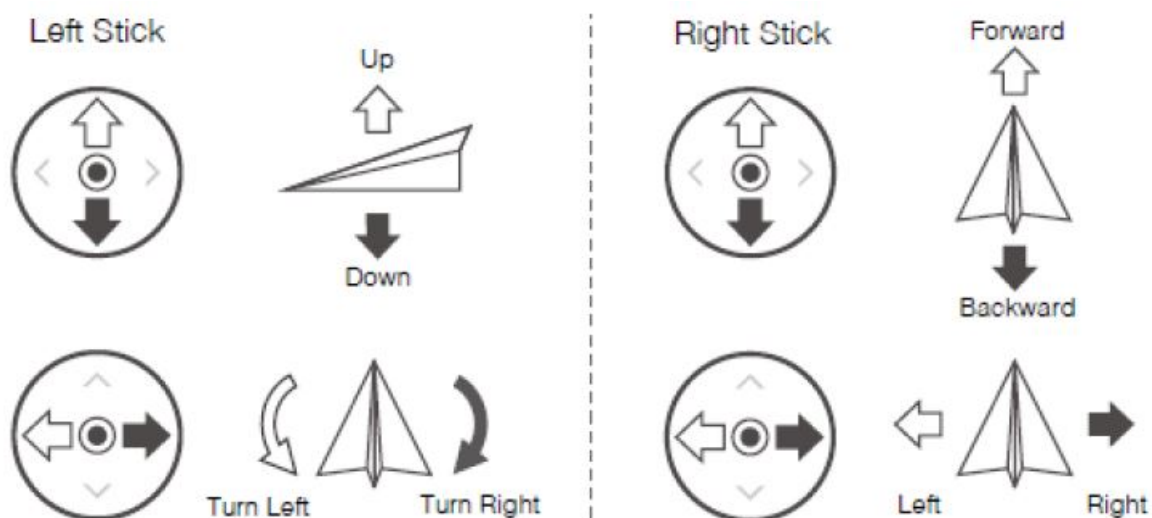
The remote controller is already linked to the aircraft when it is purchased together as part of a combo. Otherwise, follow the steps below to link the remote controller and the aircraft after activation.

1. Power on the remote controller and the aircraft.
 2. Press the customizable button C1, customizable button C2, and the record button simultaneously. The status LED will blink blue and the remote controller will beep twice to indicate linking has started.
 3. Press the linking button of the aircraft. The status LED of the remote controller will turn solid green if linking is successful.
- Refer to the DJI Smart Controller V2.0 User Manual for more information about linking.
 - To download the user manual, visit <http://www.dji.com/dji-smart-controller>

Flight

Before takeoff, make sure that takeoff is permitted in the camera view of DJI Fly.

- **Auto Takeoff/Landing** Tap this icon in the camera view. When the prompt appears, press and hold the button to initiate auto takeoff or landing.
- **Manual Takeoff/Landing** Perform combination stick command to start/stop the motors.
- **Takeoff** Slowly push the left control stick (Mode 2) up to take off.
- **Landing** Slowly push the left control stick down until the aircraft lands. Hold for three seconds to stop the motors.
- The default control stick mode is Mode 2. The left control stick controls the altitude and heading of the aircraft, while the right control stick controls the forward, backward, and sideward movements. The gimbal dial controls the tilt of the camera.



- The motors can only be stopped mid-flight when the flight controller detects a critical error.
- Make sure the remote controller is linked to the aircraft.

Specifications

O3 (OcuSync 3.0)	
Operation Frequency Range	2.400-2.4835 GHz; 5.725-5.850 GHz*
Max Transmission Distance (Unobstructed, free of interference)	12 km (FCC); 8 km (CE); 8 km (SRRC); 8 km (MIC)

Transmission Power (EIRP)	2.400-2.4835 GHz: 32.0dBm (FCC); 18.5 dBm (CE) 18.5 dBm (SRRC); 18.5 dBm (MIC) 5.725-5.850 GHz: 33.5dBm (FCC); 12.5 dBm (CE) 18.5 dBm (SRRC)
Wi-Fi	
Protocol	WiFi Direct, Wi-Fi Display, 802.11b/a/g/n/ac/ax 2×2 MIMO
Operation Frequency Range	2.400-2.4835 GHz; 5.725-5.850 GHz*
Transmission Power (EIRP)	2.400-2.4835 GHz: 28.0dBm (FCC); 18.5 dBm (CE) 18.5 dBm (SRRC); 18.5 dBm (MIC); 18.5 dBm (KCC) 5.725-5.850 GHz: 28dBm (FCC); 12.5 dBm (CE) 24 dBm (SRRC); 12.5 dBm (KCC)
Bluetooth	
Protocol	Bluetooth 5.1
Operation Frequency Range	2.400-2.4835 GHz
Transmission Power (EIRP)	6 dBm (FCC); 6 dBm(CE) 6 dBm (SRRC); 6 dBm (MIC); 6 dBm (KCC)
General	
Battery	18650 Li-ion (5000 mAh @ 7.2 V)
Charging Type	Recommended to use USB power adapters rated 12V or 15V
Rated Power	12 W
Storage Capacity	ROM 32GB + expandable storage via microSD card
Charging Time	2.5 hours (using a USB power adapter rated 12V)
Operating Time	3 hours
Video Output Port	Mini HDMI Port
Operation Temperature Range	-20° to 40° C (-4° to 104° F)
Storage Temperature Range	Less than one month: -30° to 60° C (-22° to 140° F) One to three months: -30° to 45° C (-22° to 113° F) Three to six months: -30° to 35° C (-22° to 95° F)

	More than six months: -30° to 25° C (-22° to 77° F)
Charging Temperature Range	5° to 40° C (41° to 104° F)
Supported Aircraft Models**	Mavic 3, DJI Air 2S, Mavic Air 2
GNSS	GPS+GLONASS
Weight	Approx. 750 g
Model	RM510

5.8 GHz is unavailable in some countries due to local regulations.

The Smart Controller V2.0 will support more DJI aircraft in future. Visit the official website for the latest information.

FCC compliance statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant o Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

ISED compliance statement

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End-user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The portable device is designed to meet the requirements for exposure to radio waves established by the Federal Communications Commission (USA). These requirements set a SAR limit of 4W/kg averaging over 10 gram of tissue. The highest SAR value was reported under this standard during product certification for extremity conditions.


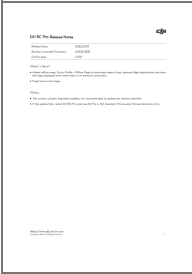
This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. End-user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be

co-located or operating in conjunction with any other antenna or transmitter.



The portable device is designed to meet the requirements for exposure to radio waves established by the ISED. These requirements set a SAR limit of 4W/kg averaging over 10 gram of tissue. The highest SAR value reported under this standard during product certification for extremity conditions.

The user or bystander cannot touch or be within the closest distance evaluated for the SDR antennas while fully extended or in the 90-degree position.

Documents / Resources

	dji RC Pro Smart Controller [pdf] User Guide RM51021, SS3-RM51021, SS3RM51021, RC Pro Smart Controller, RC Pro, Smart Controller
	dji RC Pro Smart Controller [pdf] User Guide RC Pro Smart Controller, RC Pro, Smart Controller

References

-  [DJI - Official Website](#)
-  [DJI Smart Controller - DJI](#)
-  [DJI Virtual Flight](#)
-  [DJI RC Pro - DJI](#)