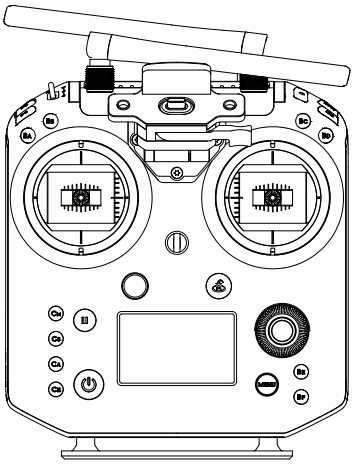
Cendence

User Manual V1.0

2018.01



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.

Using this manual

Legends

Warning Important Hints and Tips Reference

Watch the video tutorials

Please watch the tutorial video below to learn how to use Cendence™ correctly and safely:

http://www.dji.com/cendence/info#video

Download the DJI GO 4 app

Be sure to use the DJI GO™ 4 app or other apps compatible with DJI aircraft during flight. Scan the QR code or visit “https://m.dji.net/djigo4” to download the app.

Use mobile devices running Android v4.4 or iOS v9.0 or above.

* For increased safety, the flight is restricted to a height of 30 m and distance of 50 m when not connected or logged into the app during flight, including DJI GO 4 and all apps compatible with DJI aircraft.

Download the DJI Assistant 2

Download and install the ASSISTANT™ 2 before use.
http://www.dji.com/cendence/info#downloads

Contents

Product Profile

Introduction

The Cendence™ remote controller features DJI's LIGHTBRIDGE™ technology for a maximum transmission distance of up to 4.3 mi (7km).* Dual transmission frequency support makes HD video downlink stable and reliable. In Dual Remote Controller mode, two remote controllers can control the aircraft and camera separately and simultaneously. Dual Remote Controller mode even works when users are up to 328 ft (100 m) apart.

The remote controller works with a WB37 intelligent battery, which can be charged via the charging port (in about 2 hours and 24 minutes with a 180W charger) or with the WCH2 Intelligent Battery Charging Hub (in about 1 hour and 11 minutes). The maximum operation time of the remote controller is approximately four hours without supplying power to a monitor and with the Dual Remote Controller mode disabled.*

Cendence can be equipped with a DJI CrystalSky™ monitor (the 7.85-inch model is used as example in this user guide), which offers an HD live camera view with its built-in DJI Pilot app or DJI GO™ 4 app for a precise and responsive flying experience.

With various customizable buttons, you can adjust a number of flight controller, camera, and gimbal parameters with just your hands. The Cendence Patch Antenna also allows for high-gain signal transmission and improved reception.

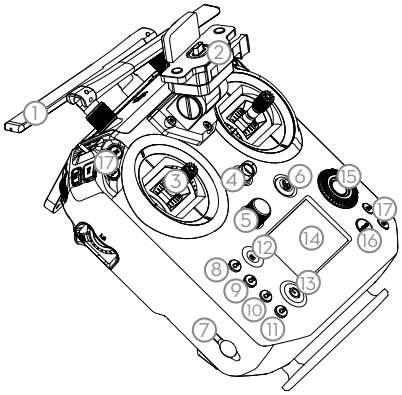
⚠
- The remote controller can reach its maximum transmission distance (FCC) in a wide open area with no electro-magnetic interference at an altitude of about 400 feet (120 meters).
- To comply with local regulations, the 5.8 GHz frequency is not available in some countries and regions.
- Maximum run time is estimated without supplying power to a smart device or monitor.
- Other products referred in this manual can be purchased separately from the official DJI Online Store.

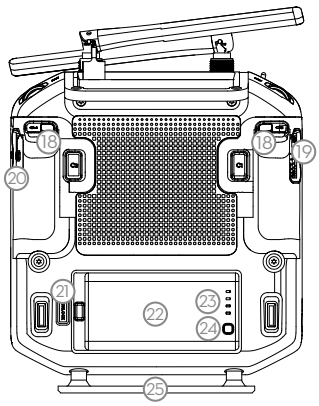
In the Box

Cendence Remote Controller×1
WB37 Intelligent Battery* ×1
Cendence Monitor Mounting Bracket* ×1
Cendence Remote Controller Support Rig* ×1
Screwdriver ×1
Screws ×2
Cendence Control Stick Cover ×2
Cendence Control Stick Cover Mounting Key ×1
Remote Controller Strap ×1

* Connected to the remote controller.

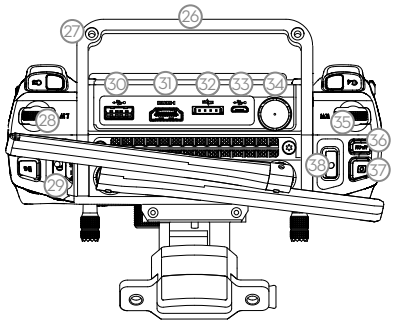
Remote Controller Diagram





1. Antennas
   Relay aircraft control and video signal.
2. Monitor Mounting Bracket
   Used to mount the DJI CrystalSky monitor.
3. Control Sticks
   Control the orientation and movement of the aircraft.
4. Strap Hood
5. Focus Adjustment Knob
   Rotate to set the focal length.
6. Return-to-Home (RTH) Button
   Press and hold to initiate Return to Home (RTH).
7. Power Port
   Connect to the Charger to charge the battery of the remote controller.
8. EV Setting Button
   Press and rotate the Camera Setting Dial to set the EV.
9. Shutter Setting Button
   Press and rotate the Camera Setting Dial to set the shutter speed.
10. Aperture Setting Button
    Press and rotate the Camera Setting Dial to set the aperture.
11. ISO Setting Button
    Press and rotate the Camera Setting Dial to set the ISO.
12. Pause Button
    Press once to exit TapFly, ActiveTrack, or other Intelligent Flight Modes.
13. Power Button
    Used to turn the Remote Controller on and off.
14. Remote Controller Display
    Shows information about the aircraft and camera.
15. Camera Settings Dial
    Works with the EV, Shutter, Aperture and ISO Setting Buttons to adjust their values.
16. Customizable Button Settings Menu
    Press to set Customizable Button functions in the DJI GO 4 app.
17. Customizable Buttons (BA-BH)
    Customizable through the DJI GO 4 app.
18. Customizable Buttons (C1-C4)
    Customizable through the DJI GO 4 app.
19. Left Lever
    Customizable through the DJI GO 4 app.
20. Right Lever
    Customizable through the DJI GO 4 app.

21. Battery Release Button
22. WB37 Intelligent Battery
23. Battery Level LEDs
    Display the battery level of the Intelligent Battery.
24. Battery Level Button
    Press to show the battery level.
25. Remote Controller Support Rig
26. Handle Bar
27. Patch Antenna Mounting Holes
    Used to mount the Cendence Patch Antenna.
28. Left Dial
    Controls gimbal tilt.
29. Flight Mode Switch
    Switch between P-mode, S-mode, and A-mode.
30. USB Port
    Connection to mobile device for DJI GO 4 app if used a third-party mobile device.
31. HDMI A Port (for Video Output)
    HDMI A Port is for video output.
32. CAN Bus Port
    Used to connect external devices.
33. Micro USB Port
    Used to update firmware.

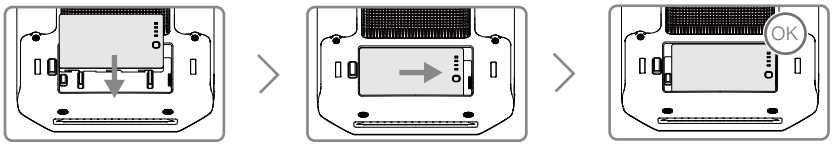


34. SDI Port (for Video Output)
    Used for video output.
35. Right Dial
    Used to control gimbal pan.
36. Auto Focus Button
    Press to focus automatically.
37. Record Button
    Press to start recording video. Press again to stop recording.
38. Shutter Button
    Press to take a photo. Photos can also be captured during video recording.

Preparing the Remote Controller

Mounting/Removing the Intelligent Battery

Put the battery into the Battery Slot, then slide it to the end until you hear a click.



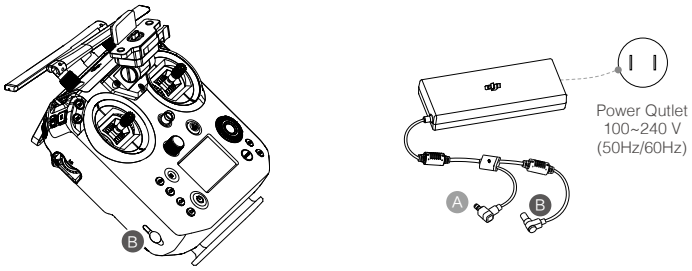
⚠ • Press the Battery Release Button before removing the battery.
• Press the Battery Level Button once to check the battery level.

Charging the Battery

The remote controller is powered by a WB37 intelligent battery, which can be charged via the charging port or by the WCH2 Intelligent Battery Charging Hub.

Using the Charging Port

The INSPIRE™ 2 charger is used as for example below.
Place the battery into the remote controller, and connect connector B of the battery power port, then connect the battery charger to a power outlet (100-240V, 50/60Hz). When charging is complete, the display on the remote controller will show 100%.



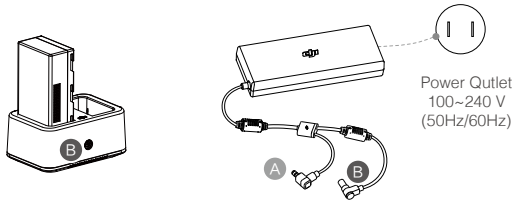
Charging Time: 2 hours and 24 min

Using the Charging Hub

The Inspire 2 Charger and the WCH2 Intelligent Battery Charging Hub are used for example below.

Place the battery into the Charging Hub, and connect connector B of the battery charger to the charging hub, then connect the battery charger to a power outlet (100-240V, 50/60Hz). The Charging Hub will intelligently charge batteries in sequence according to battery power levels from high to low. The buzzer will begin beeping when charging is complete. Remove the battery or turn off the Buzzer Switch to stop it.

The charging hub blinks green while charging and turns solid green when charging is finished.



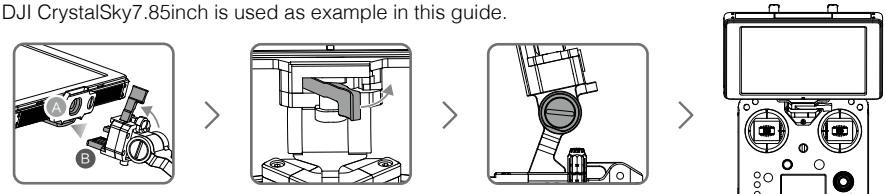
Using the WCH2 Charging Hub, charging time is approximately 1 hour and 11 minutes (for one battery).

⚠	USB power supply port can be used to charge the mobile device of 5V/2A.
💡	Refer to the WCH2 Charging Hub User Guide for more details.

Mounting the Monitor to the Remote Controller

Mounting the DJI CrystalSky Monitor

DJI CrystalSky7.85inch is used as example in this guide.



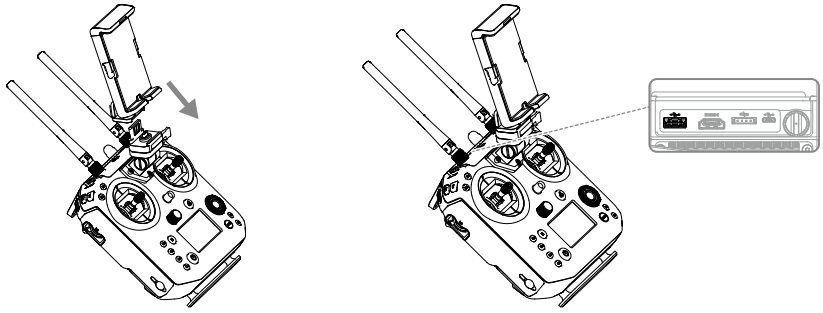
Ensure that Part B is unlocked. Install Part B into Part A.

Lock the Mounting Bracket.

Use a coin to adjust the tightness of the pitch axis.

Mounting the Third Party Mobile Devices

For other mobile devices (e.g. iPhones, iPads), the Cendence Mobile Device Holder and an appropriate USB cable are required.



Unlock the Mounting Bracket and mount the Mobile Device Holder.

Lock the Mounting Bracket.

Attach your mobile device, then tighten the clamp to secure it. Connect your mobile device to the remote controller with a USB cable. Plug one end of the cable into your mobile device, and the other end into the USB port on the back of the remote controller.

Remote Controller Operations

Button Types

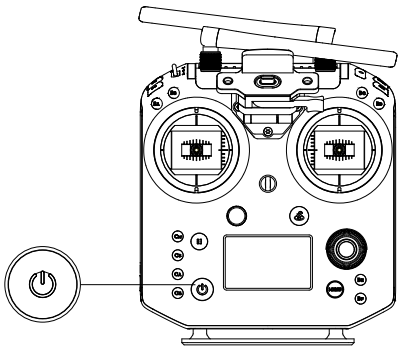
Users can use the preconfigured buttons to control the aircraft and the camera and can also assign functions to the customizable buttons through the DJI GO 4 app. There are three types of button:

1. Preconfigured buttons for aircraft control, e.g. the Pause Button, RTH Button, etc.
2. Preconfigured buttons for camera control, e.g. the Shutter Button, Recording Button, Focus Adjustment Knob, etc.
3. Customizable buttons and knobs that you can set through the DJI GO 4 app.

Turning the Remote Controller On and Off

Follow the steps below to turn the remote controller on and off.

1. Press the power button once to check the current battery level. Charge the remote controller if the battery is too low.
2. Next, press and hold the Power button to power on the remote controller.
3. Repeat step 2 to power off the remote controller after you finish using it.

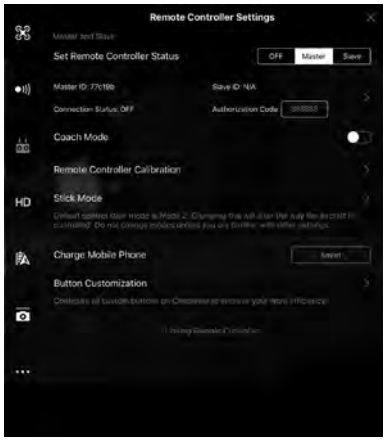


Linking the Remote Controller

Linking is only required when using for the remote controller for the first time. Follow these steps to link a remote controller:

1. Power on the remote controller, connect to your mobile device, and launch DJI GO 4.
2. Power on the aircraft.
3. Enter the Camera View and tap the Linking Remote Controller button shown below.
4. The DJI GO 4 app will display a countdown box, the remote controller will be ready to link, with its display showing Connecting and a beeping sound being emitted.

5. Locate the Linking button on the aircraft and press the Linking button to start linking. The remote controller display shows the current status information. The master remote controller shows the aircraft status, and the slave remote controller shows the camera settings.



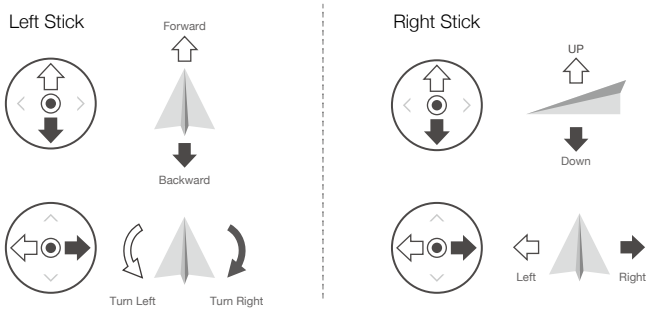
⚠ If No Connection is shown after linking, repeat the above steps to try linking again.

Operating the Aircraft

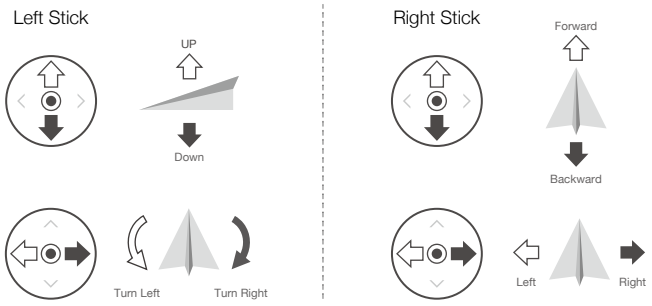
Control the Aircraft

This section explains how to control the orientation of the aircraft through the remote controller. Control can be set to Mode 1, Mode 2 or Mode 3, or to a custom mode.

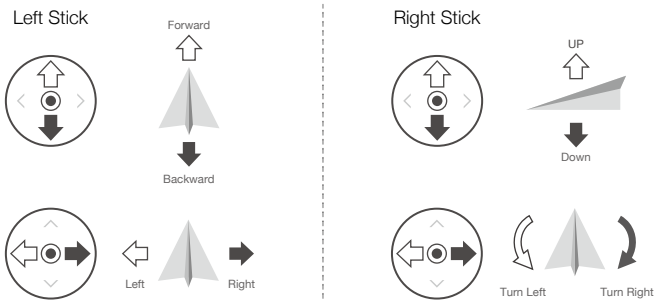
Mode 1



Mode 2

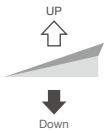


Mode 3



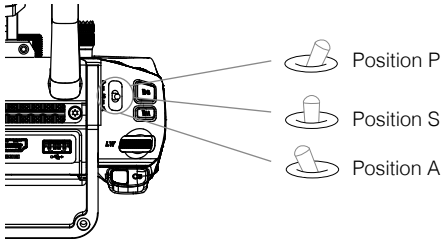
The Stick Mode is set to Mode 2 by default.

Stick Neutral/Mid-Point: Control sticks are centered.
Moving the Control Stick: Control sticks are pushed away from the center.

Remote Controller (Mode 2)	Aircraft	Remarks
Left Stick 		Moving the left stick up and down changes the aircraft's elevation. Push the stick up to ascend and down to descend. When both sticks are centered, the aircraft will hover in place. The more the stick is pushed away from the center position, the faster the aircraft will change elevation. Always push the stick gently to prevent sudden and unexpected elevation changes.
Left Stick 		Moving the left stick to the left or right controls the rudder and rotation of the aircraft. Push the sick left to rotate the aircraft counter clockwise, and push the stick right to rotate the aircraft clockwise. If the stick is centered, the aircraft will maintain its current orientation. The more the stick is pushed away from the center position, the faster the aircraft will rotate.
Right Stick 		Moving the right stick up and down changes the aircraft's forward and backward pitch. Push the stick up to fly forward and down to fly backward. The aircraft will hover in place if the stick is centered. Push the stick further away from the center position for a larger pitch angle and faster flight.
Right Stick 		Moving the right stick control left and right changes the aircraft's left and right pitch. Push left to fly left and right to fly right. The aircraft will hover in place if the stick is centered. Push the stick further away from the center position for a larger pitch angle and faster flight.

Flight Mode Switch

Toggle the switch to select the desired flight mode. Choose between: P-mode, S-mode, and A-mode.



Position	Figure	Flight Mode
Position P		P-mode
Position S		S-mode
Position A		A-mode

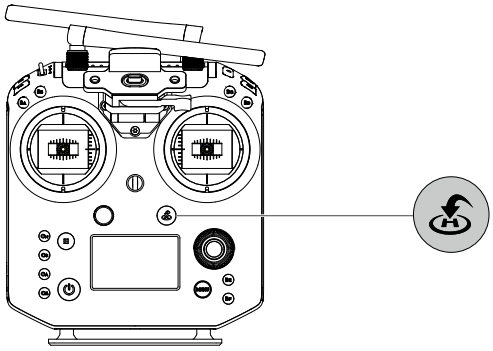
P-mode (Positioning): P-mode works best when the GPS signal is strong. The aircraft utilizes GPS, stereo Vision Systems, and an Infrared Sensing System to stabilize, avoid obstacles or track moving subjects. Advanced features such as TapFly and ActiveTrack are enabled in this mode.
S-mode (Sport): The handling gain values of the aircraft are adjusted to enhance aircraft maneuverability. Note that Obstacle Sensing systems are disabled in this mode.
A-mode (Attitude): When neither the GPS nor the Vision System is available, the aircraft will only use its barometer for positioning to control the altitude.

The Flight Mode Switch is locked to P-mode, regardless of the Flight Mode Switch's position. To change flight modes, go to the Camera View in DJI GO 4 and enable Multiple Flight Modes in Main Controller Settings. After enabling multiple flight modes, toggle the switch to P for Position mode and S for Sport Mode.

RTH Button

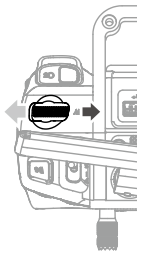
Press and hold the RTH button to start the Return to Home (RTH) procedure. The aircraft will then return to the last recorded Home Point. Press this button again to cancel the RTH procedure and regain control of the aircraft.

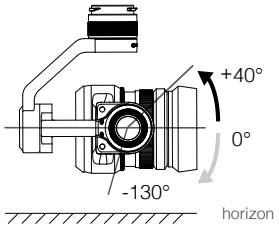
Determine RTH status by sound:
Single beep... Request to return, but not receive the respond from the aircraft yet.
Double beep... RTH in progress.



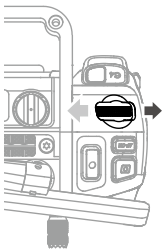
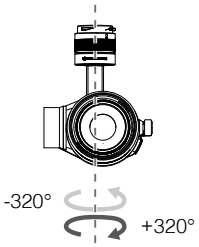
Controlling the Gimbal

Use the left dial and right dial to adjust the gimbal tilt.





The left dial controls the gimbal tilt. Turn the dial to the right, and the gimbal will shift to point upwards. Turn the dial to the left, and the gimbal will shift to point downwards. The camera will remain in its current position when the dial is static.

		The right dial controls the gimbal pan. Turn the dial to the right, and the gimbal will shift clockwise. Turn the dial to the left, and the gimbal will shift counter clockwise. The camera will remain in its current position when the dial is static.

Operating the Camera

Shoot videos/photos with the Shutter Button and Video Recording Button on the remote controller.

1. Shutter Button
   Press to take a photo. If Burst mode is selected, multiple photos will be taken with a continuous press. Photos can be taken even while recording video.
2. Video Recoding Button
   Press once to start recording video, then press again to stop recording.
3. Autofocus button
   Press once to focus automatically.

Adjusting Camera Settings

1. EV Setting
   Press EV Setting Button and rotate the Camera Setting Dial at the same time to set the EV value.
2. Shutter Setting
   Press Shutter Setting Button and rotate the Camera Setting Dial at the same time to set the shutter speed.
3. Aperture Setting
   Press Aperture Setting Button and rotate the Camera Setting Dial at the same time to set aperture.
4. ISO Setting
   Press ISO Setting Button and rotate the Camera Setting Dial at the same time to set the ISO value.
5. Focus Adjustment
   Rotate Focus Adjustment Knob to set the focal length.

Customizable Buttons

Go to the Customizable Button Settings Menu in DJI GO 4. Here you can set functions for the left lever, right lever, C1-C4 buttons, and BA-BH buttons.

Dual Remote Controller Mode

More than one remote controller can connect to the same aircraft in Dual Remote Controller mode. The Master remote controller operator controls the orientation of the aircraft, while the Slave remote controller controls the movement of the gimbal and camera operation. Master and Slave remote controllers communicate each other via Wi-Fi.

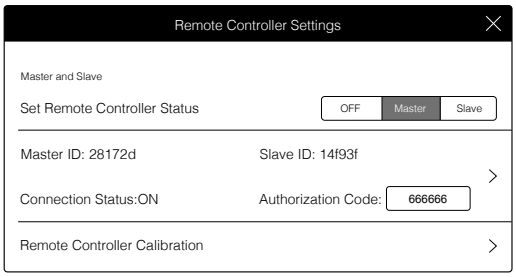
⚠
- In Dual Remote Controller Mode, when the Master remote controller is primary, it can control gimbal pitch and pan. When the Slave remote controller is primary, it can control gimbal pitch, pan, and roll.
- Dual Remote Controller mode is not available in Russia and Israel.

Setting Up Dual Remote Controller Mode

Dual Remote Controller mode is disabled by default. Users must enable this feature on the Master remote controller via DJI GO 4. Follow the steps below to setup:

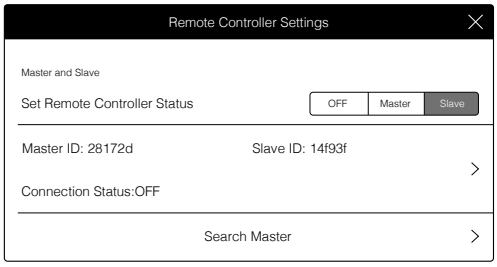
Master Remote Controller:

1. Connect the remote controller to your mobile device and launch DJI GO 4.
2. Go to the Camera View and tap to enter the remote controller settings window.
3. Select Master and set the remote controller as the Master remote controller.
4. Enter the connection password for the Slave remote controller.



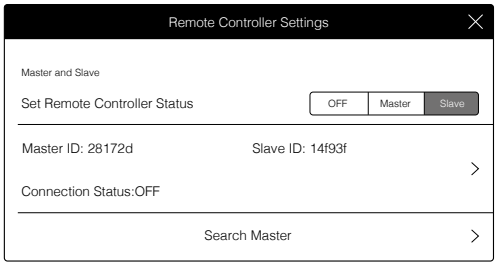
"Slave" Remote Controller:

1. Select Slave to set the remote controller to Slave.

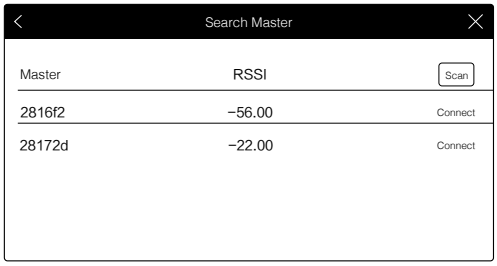


- When in Slave mode, the remote controller cannot link to the aircraft nor control aircraft orientation.
- Select Master in DJI GO 4 if you wish to connect and control the aircraft with the remote controller.

2. Search the "Master" remote controller in the surrounding area.



3. Select the Master remote controller from the Master list and input the password to connect.



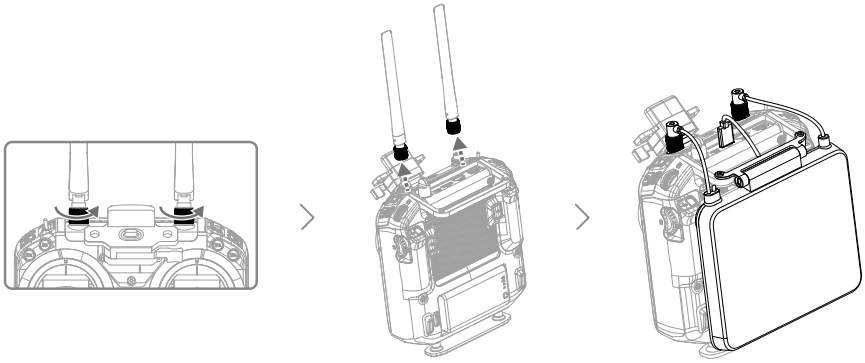
Using Accessories

Using the Patch Antenna

Mounting the Patch Antenna

Follow the steps below to mount the patch antenna.

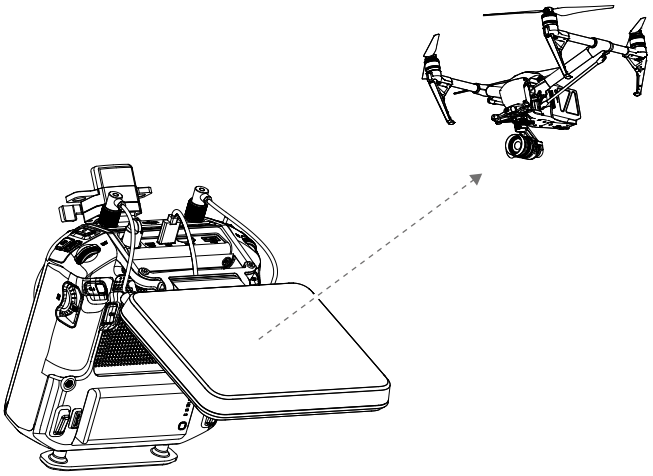
1. Rotate the original antenna screws to remove the antennas. Only pull the antennas from the screws, not the antenna bodies, to avoid damage.
2. Connect the patch antenna with two screws, connect two antenna cables, and connect the CAN bus cable to the remote controller.



⚠ Make sure to power off the remote controller before removing and attaching the antennas.

Usage

The signal transmission between aircraft and remote controller perform best within the range that displayed in the picture shown below:

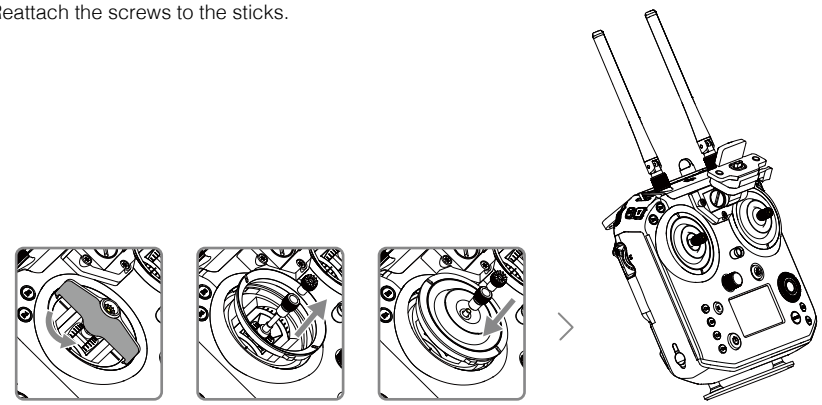


Ensure the aircraft is flying within the optimal transmission range. Adjust the distance and position between the operator and the aircraft to achieve optimal transmission performance.

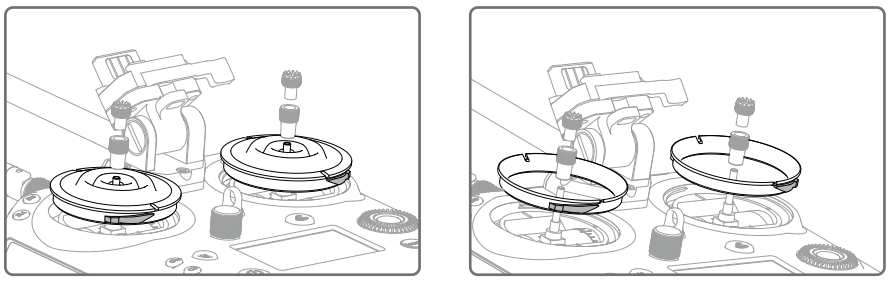
Mounting the Control Stick Covers

Follow the steps below to mount the Control Stick Covers.

1. Remove the rings around the sticks with the Control Stick Cover Mounting Key, and the screws on the top of the sticks.
2. Mount the Control Stick Covers to the remote controller and secure them with the Control Stick Cover Mounting Key.
3. Reattach the screws to the sticks.



The two Control Stick Covers are not the same, and neither are the two rings around the sticks. The left and right Control Stick Covers and rings can be distinguished using the figures below. Be sure to install each Control Stick Cover on the correct side.



Appendix

Upgrading the Remote Controller Firmware

Using the DJI GO 4 App

Power on the remote controller and connect it with the DJI GO 4 app. A prompt will appear if a new firmware upgrade is available. To start upgrading, connect a mobile device to the Internet and follow the on-screen instructions.

⚠
- Ensure the DJI GO 4 app has access to the Internet.
- Ensure the battery level is adequate for the remote controller.
- Do not disconnect the aircraft from the computer during a firmware upgrade.

Specifications

Remote Controller (Cendence)	
Model	GL800A
Operating Frequency	2.400-2.483 GHz; 5.725-5.825 GHz
Max Transmitting Distance (unobstructed, free of interference)	2.4 GHz: 4.3 miles (7 km, FCC); 2.2 miles (3.5 km, CE); 2.5 miles (4 km, SRRC) 5.8 GHz: 4.3 miles (7 km, FCC);1.2 miles (2 km, CE); 3.1 miles (5 km, SRRC)
EIRP	2.4 GHz: 26 dBm (FCC); 17 dBm (CE); 20 dBm (SRRC) 5.8 GHz: 28 dBm (FCC); 14 dBm (CE); 20 dBm (SRRC)
Power Supply	Extended Intelligent Battery (Model: WB37-4920mAh-7.6V)
Intelligent Battery	4920 mAh LiPo
Charging	DJI charger
Output Power	20 W (supplying power to DJI CS550 monitor); 12 W (without supplying power to a monitor)
Video Output Ports	USB, HDMI, SDI
USB Power Supply	iOS: 1 A, 5.2 V (Max); Android: 1.5 A, 5.2 V (Max)
Dual User Capability	Master-and-Slave connection
Operating Temperature	-4° to 104° F (-20° to 40° C)
Storage Temperature	Less than 3 months: -4° to 113° F (-20° to 45° C) More than 3 months: 72° to 82° F (22° to 28° C)
Charging Temperature	41° to 104° F (5° to 40° C)
Supported Displays	DJI CrystalSky Monitor Mobile devices, e.g.iPhone, iPad (a Cendence mobile device holder is required)
Charging Time	About 2 hours and 24 minutes (via the charging port using a 180W charger)
Maximum Run-time	About 4 hours (only Master remote controller function enabled and without supplying power to monitor)
Support DJI Aircraft	Inspire 2 and Matrice 200 series
Weight	1041 g

