D-RTK 3
MULTIFUNCTIONAL STATION

User Manual

v1.0   2025.01

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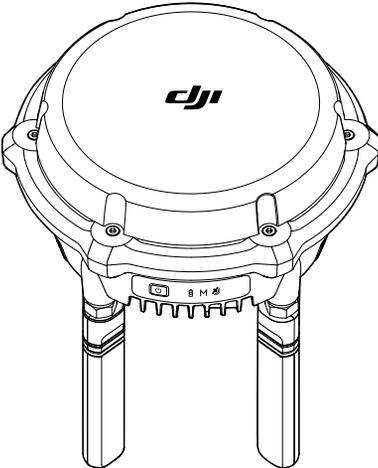
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🔍 Searching for Keywords

Search for keywords such as Battery or 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

Legend

⚠ Important   ☼ Hints and Tips   📖 Reference

Read Before Use

Watch all the tutorial videos first, then read the documentation included in the package and this user manual.

If you have any questions or issues during installation and use of this product, contact the official support or an authorized dealer.

Video Tutorials

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

https://enterprise.dji.com/d-rtk-3/video

Download DJI Enterprise App

Scan the QR code to download the latest version.

☼   •   To check the operating system versions supported by the app, visit https://www.dji.com/downloads/djiapp/dji-enterprise.

      •   The interface and functions of the app may vary as the software version is updated. Actual user experience is based on the software version used.

Download DJI Assistant 2

Download DJI ASSISTANT™ 2 (Enterprise Series) at:

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

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1.1   Overview

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7. 5/8"-11 UNC Thread Hole
8. OcuSync Orientation Antennas

[1] When not in use, make sure to cover the ports to protect the product from moisture and dust.

☀ •   When using the DJI Assistant 2, make sure to use a USB-C to USB-A cable to connect the USB-C port of the device to a USB-A port of the computer.

1.2   Supported Product List

Visit the following link to view compatible products:

https://enterprise.dji.com/d-rtk-3

1.3   Powering On

Charge to activate the internal battery of the product before using for the first time. Make sure to use a PD3.0 USB charger with the voltage from 9 to 15 V, such as DJI 65W Portable Charger.

1. Connect the charger to the USB-C port on D-RTK 3. When the battery level indicator lights up, it means that the battery has been successfully activated. Make sure to charge until the indicator displays green before use.

2. Press, and then press and hold the power button to power on/off the D-RTK 3.

:·ϙ́:· •   When using a non-recommended charger, such as a charger with 5V-output, the product can be charged only after powering off.

1.4   Activation Instructions

The product needs to be activated before using for the first time. The GNSS signal indicator 🔥 blinks red when not activated.

•   When used as a base station/relay station, the D-RTK 3 can be activated by following the prompts in DJI Pilot 2 when connecting to the aircraft and the remote controller. Make sure the remote controller is connected to the internet during activation.

•   When used as a rover station or DJI Pilot 2 does not prompt you to activate, download the latest version of DJI Assistant 2 (Enterprise Series). Connect the D-RTK 3 to the computer using a USB-C cable. Open DJI Assistant 2 and follow the instructions to activate the device.

2   Setup

2.1   Environmental Requirements

- The setup environment requires a wild field of vision. Make sure that there are no obstructions (trees, buildings) within the zone more than a 15° angel above the horizontal plane of the product antennas to prevent the GNSS signals from being absorbed or blocked.

- Use the product in an open, radio interference free environment. Avoid using wireless devices that use the same frequency bands as the product.

- The setup location should be at least 200 m away from high-power radio emission sources (such as television stations, microwave stations, etc.) and at least 50 m away from high voltage transmission lines to avoid electromagnetic interference to GNSS signals.

- The setup location should be away from large area of water or object that strongly interfere with satellite signal reception to reduce multipath effects.

2.2   Notices

- DO NOT bend excessively or fold the cable during installation.

- During installation and placement, make sure the top side of the D-RTK 3 is relatively level with the horizontal surface.

- DO NOT attempt to disassemble any part of the product that has already been mounted prior to shipping.

2.3   Setup Steps

Base Station/Relay Station

Use the Survey Pole and Tripod kit (sold separately) to set up. Make sure to choose an open, unobstructed environment. Make sure the tripod is stable during use. (Figure A)

DO NOT change the position or angle of the tripod or the D-RTK 3 after the tripod has been leveled. Otherwise, it should be readjusted.

Rover Station

Simply use the survey pole. Download and install DJI Enterprise App. (Figure B)

A

B

DJI Enterprise
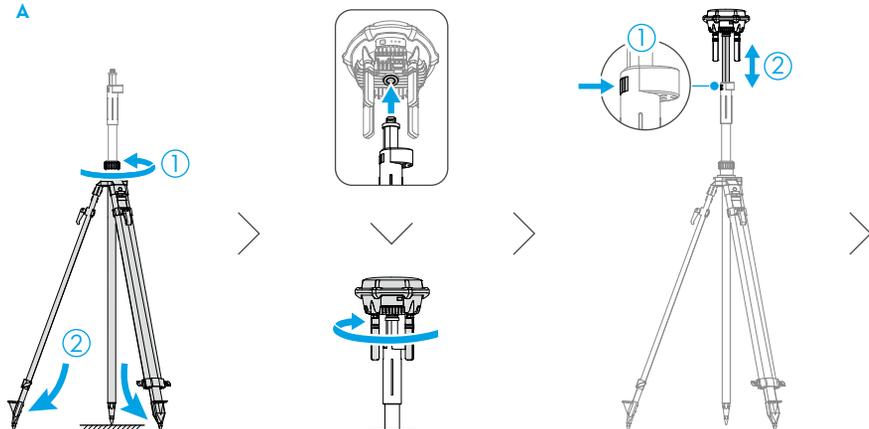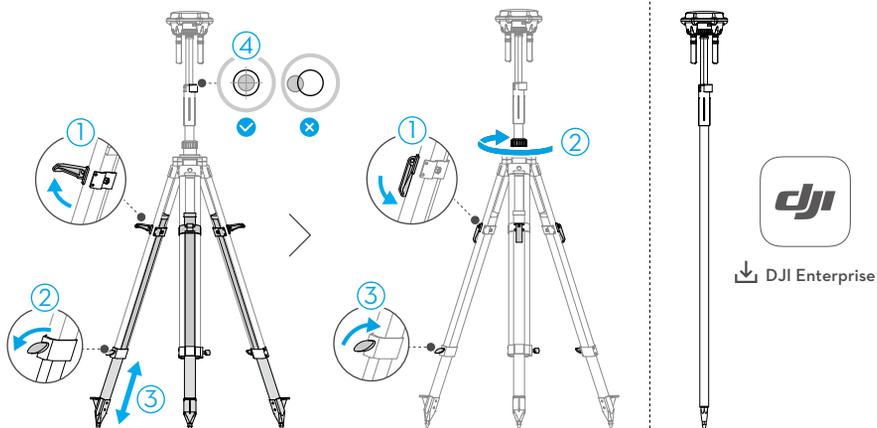
3 Usage

3.1 Notices

- Only use the product in the corresponding frequency band and in accordance with local laws and regulations.

- DO NOT obstruct all the antennas of the product during use.

- Only use genuine parts or officially authorized parts. Unauthorized parts may cause the system to malfunction and compromise safety.

- Make sure there are no foreign matter such as water, oil, soil, or sand inside the product.

- Handle the sharp ends of the survey pole and tripod with caution.

- When using the survey pole and tripod for installation and elevation, be mindful of the surrounding environment to prevent toppling or electrical hazards.

- When using the device in rainy or snowy weather, make sure to take necessary water-resistant measures. Use with caution and pay attention to lightning protection.

- The product contains precision parts. Make sure to avoid collision to avoid damage to precision parts.

- After transportation, the level bubble of the survey pole may be offset and can be re-leveled using the bottom screw.

3.2 Power Button

Press, and then press and hold the power button to power on/off the product.

Press the power button 3 times to switch the operating modes.

When using the rover station, press and hold the power button for 5 seconds to enter the linking status.

When using the base station, press and hold the power button for 8 seconds to reset the password.

- ☀ • If the power button is pressed before the operation of powering on/off the product, the product may not be able to be powering on/off. At this time, please wait for at least 5 seconds. Then re-perform the power on/off operation.

3.3   Indicators

Battery Level Indicator

🔋	Battery Level
🔋	> 60%
🔋	20%-60%
🔋	< 20%

💡 • When the low battery occurs, the buzzer will emit continuous beeping.

• During charging, the indicator will blink quickly when the charging power is sufficient, and blink slowly when it is insufficient.

Mode Indicator

M	Operating Modes
M	Base Station
M	Rover Station
M [1]	Relay Station

[1] Solid on: Connected to both remote controller and aircraft.

Blinks: Unlinked or connected to one device only.

GNSS Signal Indicator

🛰	Satellites Received
🛰	> 30
🛰	10-30
🛰 [1]	< 10

[1] Blinks Slowly: Device inactivated.

Others

Indicators	Buzzer	Device Status
🔋M🛰 Blink simultaneously	/	Firmware updating
🔋M🛰 Blink simultaneously	Beeps once	Mode Switching
MMM Blink alternately	Beeps continuously	Linking

Indicators	Buzzer	Device Status
🔋M🌀 Blink simultaneously	/	Password resetting

3.4   Operating Modes

- M Base Station Mode: Used to provide accurate data for centimeter-level positioning to improve operation precision for multiple compatible aircraft simultaneously.

- M Relay Station Mode: After connecting to one specified compatible aircraft and remote controller, installed at a high place and used as a communication relay to avoid signal blockage during operation.

- M Rover Station Mode: Used as a hand-held mapping device. Carry out control point / checkpoint measurements.

It is recommended to click the link below or scan the QR code to watch the tutorial video for usage information.

https://enterprise.dji.com/d-rtk-3/video

⚠ • When installing and elevating the product, be mindful of the surrounding environment to prevent toppling or electrical hazards.

☀ • When using the rover station, make sure that the height of the survey pole setting in the DJI Enterprise App is consistent with the actual height.

- When using the base station, it is available to rename product and reset password in the Precise Positioning Setting in theDJI Pilot 2.

3.5   Exporting and Processing Data

Base Station/Relay Station

1. The raw satellite observation data is recorded in DAT format files following the RTCM3.2 protocol, and stored in the product internal storage.
2. Power on the device. Connect the device to a computer with a USB-C cable.
3. Export the raw satellite observation data.

4. Import the data into DJI Terra for local PPK processing. Refer to the DJI Terra user manual for more information.

☀️ •   Make sure to use the DJI Terra of version 4.4 or later.

•   Third-party decoding tools is also available to be used to convert DAT format files to RINEX or other formats for PPK processing.

Rover Station

After completing the task, export the task report from the task library in the DJI Enterprise App. The export format supports mark file of JSON format for DJI Terra and checkpoint file of CSV (UTF-8) format.

•   Mark File: Go to DJI Terra. Use **GCP Management > Import Mark File** to import the GCP points. DJI Terra will automatically recognize the type of GCPs and mark the error, performing result checks and accuracy optimization.

•   Checkpoint File: It can be imported to the third-party mapping tools for accuracy checks.

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4 Maintenance

4.1 Firmware Update

Only the Relay Station mode can use DJI Pilot 2 to update the firmware. All operating modes can use DJI Assistant 2 to update the firmware.

Notices

⚠ • Make sure the devices are fully charged before updating the firmware.

• Make sure to follow all the steps to update the firmware. Otherwise, the update will fail.

• Update the software in use to the latest version. Make sure the remote controller or the computer is connected to the internet during the update.

• When updating the firmware, it is normal for the product to reboot. Wait patiently for the firmware update to complete.

Using DJI Pilot 2

1. Make sure the D-RTK 3 is linked to the remote controller.

2. Run the app, and follow the prompt to update.

☼ It does not support to update the product with the aircraft and remote controller at the same time.

Using DJI Assistant 2

1. Power on the device. Connect the device to a computer with a USB-C cable.

2. Launch DJI Assistant 2 and log in with an account.

3. Select the device and click **Firmware Update** on the left side of the screen.

4. Select the firmware version and click to update. The firmware will be downloaded and updated automatically.

5. When the "Update successful" prompt appears, the update is completed, and the device will restart automatically.

☼ • DO NOT unplug the USB-C cable during the update.

4.2   Exporting the Log

Only the Relay Station mode can use DJI Pilot 2 to export the log. All operating modes can use DJI Assistant 2 to export the log.

Using DJI Assistant 2

1. Power on the device. Connect the device to a computer with a USB-C cable.

2. Launch DJI Assistant 2 and log in with an account.

3. Select the device and click **Log Export** on the left side of the screen.

4. Select designated device logs and save.

4.3   Storage, Transportation, and Maintenance

·   It is recommended to store the product in an environment at a temperature range from -5° to 30° C (23° to 86° F) when storing for more than three months.

·   It is recommended to store the product with a power level between 30% to 50% when storing for a long time. DO NOT store the product for an extended period after fully discharging. Otherwise, the battery may be over-discharged and cause irreparable damage to the battery cell.

·   The battery enters hibernation mode if depleted and stored for an extended period. Recharge the battery to bring it out of hibernation.

·   DO NOT leave the product near heat sources such as a furnace or heater, under direct sunlight, or inside a vehicle in hot weather.

·   Make sure to store the product in a dry environment. DO NOT disassemble the antenna during storage. Make sure that the ports are covered properly.

·   Fully charge the product at least every six months to maintain battery health.

·   DO NOT disassemble the product in any way, or the battery may leak, catch fire, or explode.

4.4   Part Replacement

When replacing the antenna, make sure to put the rubber sleeve on the antenna connector before installing the antenna onto the product. It is recommended to use the tool that meets the requirements for disassembly and assembly. Tighten to the specified torque during installation.

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13 mm
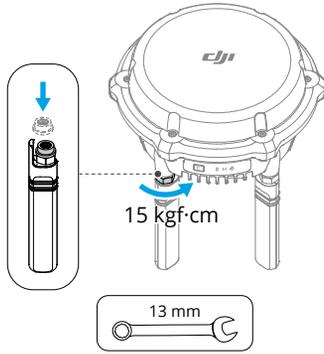
5   Appendix

5.1   Specifications

Visit the following website for specifications:

https://enterprise.dji.com/d-rtk-3/specs

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