DJI Matrice 350 RTK

DJI Matrice 350 RTK Drone User Manual

Model: Matrice 350 RTK

1. Introduction

The DJI Matrice 350 RTK is an upgraded flagship drone platform designed for industrial applications. It features an advanced video transmission system, an efficient battery system, comprehensive safety features, and robust payload capabilities. This manual provides essential information for the safe and effective operation of your Matrice 350 RTK drone.



Figure 1: Front view of the DJI Matrice 350 RTK Drone, showcasing its robust design and propeller configuration.

2. Setup and Assembly

2.1 Unboxing and Component Check

Carefully unpack all components from the carrying case. Verify that all items listed below are present:

- Aircraft Body
- RC Plus Remote Controller
- 2x Landing Gear
- 2110s Propeller (Pair)
- WB37 Intelligent Battery for Controller
- 4x Spare Gimbal Damper
- Cleaning Tools
- Rubberport Cover (Set)
- Carrying Case
- Screws and Tools
- User Manual

Note: Main flight batteries are not included with this package and must be acquired separately.

2.2 Landing Gear Installation

Attach the two landing gear components to the designated slots on the aircraft body. Ensure they are securely fastened using the provided screws and tools.

2.3 Propeller Attachment

Carefully attach the 2110s propellers to the motor mounts. Ensure correct propeller rotation direction is matched to the motor, typically indicated by markings on the propeller and motor base. Tighten securely.

2.4 Remote Controller Battery Charging

Charge the WB37 Intelligent Battery for the RC Plus Remote Controller using the provided charging cable until fully charged. Refer to the remote controller's specific manual for detailed charging instructions.

3. Operating Instructions

3.1 Pre-Flight Checklist

Before each flight, perform the following checks:

1. Ensure all batteries (flight and controller) are fully charged.
2. Verify propellers are securely attached and undamaged.
3. Check for any visible damage to the aircraft body, landing gear, or camera payload.
4. Ensure the flight environment is clear of obstacles and within legal operating limits.
5. Confirm GPS signal strength and compass calibration are complete.

3.2 Flight Performance and Features

The Matrice 350 RTK offers robust flight performance:

- **Max Flight Time:** Up to 55 minutes, ideal for extended missions.
- **Max Payload:** Supports up to 2.7 kg, allowing for various camera, sensor, and LiDAR configurations.
- **Max Flight Altitude:** Operates effectively up to 5000m.
- **Max Wind Speed Resistance:** Withstands winds up to 12 m/s.
- **Operating Temperature:** Functions reliably in temperatures ranging from -20°C to 50°C (-4°F to 122°F).
- **IP55 Protection Rating:** Provides enhanced protection against dust and water ingress.



Figure 2: The Matrice 350 RTK performing an aerial inspection over solar panels, demonstrating its utility in industrial applications.

3.3 O3 Enterprise Transmission

The Matrice 350 RTK utilizes DJI O3 Enterprise Transmission, providing stable and long-range communication. Key features include:

- **Triple-channel 1080p HD Live Feeds:** Ensures clear and detailed real-time video transmission.
- **Max Transmission Distance:** Up to 20 km.
- **Four-Antenna Transceiver System:** Both the aircraft and remote controller feature a four-antenna system. This system intelligently selects the two optimal antennas for signal transmission while simultaneously receiving signals on all four antennas, significantly improving anti-interference capabilities and transmission stability.



Figure 3: The Matrice 350 RTK conducting an inspection near power lines, highlighting its stable transmission and suitability for infrastructure monitoring.

3.4 Obstacle Avoidance

The drone is equipped with a six-directional obstacle avoidance system, enhancing safety during flight by detecting and reacting to obstacles in its path.

4. Maintenance

Regular maintenance is crucial for the longevity and optimal performance of your Matrice 350 RTK drone.

4.1 Cleaning

Use the provided cleaning tools to gently remove dust and debris from the aircraft body, propellers, and camera lens after each flight. Avoid using harsh chemicals or abrasive materials.

4.2 Propeller Inspection

Regularly inspect propellers for any signs of cracks, chips, or deformation. Replace damaged propellers immediately to ensure safe flight.

4.3 Battery Care

Store batteries in a cool, dry place. Avoid fully discharging or overcharging batteries. Follow the manufacturer's guidelines for battery storage and charging.

5. Troubleshooting

This section addresses common issues you might encounter with your Matrice 350 RTK drone.

5.1 Drone Not Powering On

- Ensure flight batteries are properly inserted and fully charged.
- Check the power button sequence for proper activation (typically press once, then press and hold).

5.2 Loss of Signal

- Ensure the remote controller battery is charged.
- Move to an area with less electromagnetic interference.
- Ensure the drone is within the maximum transmission distance (20 km).
- Check for any physical obstructions between the drone and the remote controller.

5.3 Unstable Flight

- Recalibrate the compass and IMU (Inertial Measurement Unit) as per the DJI app instructions.
- Inspect propellers for damage or improper attachment.
- Ensure the drone is operating within its specified wind resistance limits.

If issues persist, please contact DJI customer support.

6. Specifications

Detailed technical specifications for the DJI Matrice 350 RTK Drone:

Feature	Specification
Product Dimensions	31 x 21.5 x 14.25 inches
Item Weight	30.7 pounds
Item Model Number	Matrice 350 RTK
Manufacturer	DJI
Date First Available	July 10, 2023
Max Flight Time	55 minutes
Max Payload	2.7 kg
Max Flight Altitude	5000m
Max Wind Speed Resistance	12 m/s

Feature	Specification
Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Protection Rating	IP55
Transmission System	DJI O3 Enterprise Transmission
Max Transmission Distance	20 km

7. Warranty Information

The DJI Matrice 350 RTK Drone comes with a**DJI 1 Year Limited Warranty**. This warranty covers manufacturing defects and issues arising from normal use within one year from the date of purchase. Please retain your proof of purchase for warranty claims. For full terms and conditions, refer to the official DJI warranty policy document or contact DJI support.

8. Support

For technical assistance, troubleshooting beyond this manual, or warranty inquiries, please contact DJI customer support through their official website or the contact information provided with your product packaging.

Online Resources: Visit the official DJI support page for updated FAQs, video tutorials, and software downloads.

Note on Videos: No official seller videos are embedded in this manual as per the specified criteria (only 'Seller' created videos and not 'videopreview' files are permitted). The provided video is a customer review video and is not included.

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How can I use the DJI Matrice 350 RTK at an airport?

Operating a high-performance industrial drone like the DJI Matrice 350 RTK at or near an airport is strictly regulated and requires specific safety protocols. Based on the manual and standard aviation safety guidelines, here...

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