EP UK Investments

South Humber Bank Energy Centre Project

Planning Inspectorate Reference: EN010107

South Marsh Road, Stallingborough, DN41 8BZ

The South Humber Bank Energy Centre Order

Unmanned Aerial Vehicle (UAV) Video Technical Information

Applicant: EP Waste Management Ltd
Date: March 2021

DOCUMENT HISTORY

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GLOSSARY

Abbreviation	**Description**
AOD	Above Ordnance Datum.
DCO	Development Consent Order: provides a consent for building and operating an NSIP.
EPWM	EP Waste Management Limited ('The Applicant').
ExA	Examining Authority: An inspector or panel of inspectors appointed to examine the application.
fps	Frames per second.
mAOD	Metres Above Ordnance Datum.
NSIP	Nationally Significant Infrastructure Project: for which a DCO is required.
PA 2008	Planning Act 2008.
PINS	Planning Inspectorate.
SHBEC	South Humber Bank Energy Centre.
SHBPS	South Humber Bank Power Station.
UAV	Unmanned Aerial Vehicle.

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APPENDICES

1.0 INTRODUCTION

1.1 Overview

1.1.1 This 'Unmanned Aerial Vehicle (UAV) Video Technical Information' document has been prepared on behalf of EP Waste Management Limited ('EPWM' or the 'Applicant') to accompany the UAV video footage issued to the Planning Inspectorate. It relates to the application (the 'Application') for a Development Consent Order (a 'DCO'), that has been submitted to the Secretary of State for Business, Energy and Industrial Strategy, under section 37 of 'The Planning Act 2008' (the 'PA 2008').

1.1.2 This document sets out the technical information in relation to the UAV video footage of the Site provided as requested by the Examining Authority ('ExA') in the Rule 9 letter issued on 15th January 2021. The UAV video footage is to provide a "*safer and more convenient means of understanding the Site*" given the uncertainties around COVID-19 restrictions.

1.1.3 The Applicant has provided a separate Data Protection Impact Assessment to the Planning Inspectorate ('PINS') setting out the measures taken to ensure personal data is not shared with the video footage. Owing to the remote and industrial context of the Site and the ongoing COVID-19 restrictions and 'lockdown', very low numbers of people were present in the vicinity during the UAV flight and the footage has been edited such that any personal data such as faces and vehicle registrations are not distinguishable.

1.1.4 This document is not envisaged to be an examination document but may be published by PINS.

2.0 UAV SURVEY TECHNICAL INFORMATION

2.1 UAV Flight Date

2.1.1 The UAV flight was undertaken on Thursday 4th February 2021.

2.2 UAV Speed and Elevation

2.2.1 The UAV reached a speed of no more than 3.5 m/s (or a slow walking pace) as is specified by Civil Aviation Authority (CAA) commercial permissions that the UAV was operated under.

2.2.2 There were multiple take-off locations throughout the site which allowed the operator to gain as much footage of the Site as possible. The UAV flight was between the altitudes of 80 m – 115 m. Elevations below 100 m were used to improve the quality of the video data, but elevations of 100-115 m were used in the vicinity of the existing South Humber Bank Power Station stacks, which are 75 m tall to ensure there was no risk of conflict.

2.3 UAV and Camera Type

2.3.1 Digitial image and video data has been collected from different positions within the Site to provide visual data using a DJI Phantom 4 RTK UAS with a 20mp digital RGB sensor. This has produced 4k video and high definition imagery.

2.3.2 Further information on the UAV and camera specification is presented in Appendix 1.

2.4 Camera Functions and Telemetry

2.4.1 No special camera functions were used in the collection of the imagery. When collecting for use in video the normal convention is to double the shutter speed of the frames per second (fps) of the footage. In this case shooting at 24fps with a 1/50 shutter speed. The camera ISO was as low as possible as it was for daytime footage in this case ISO 100-200 on the DJI Phantom 4 RTK UAS, but this was in automatic mode to compensate to any changing conditions.

2.4.2 Due to the nature of the work the aperture was kept at f8 for wide landscape, although this can vary in order to keep the shutter speed at the right level, this was automatically compensated during the flight. A neutral density filter was used to adjust the exposure based on these settings. White balance was left as a pre-set due to the clear and bright conditions, and any adjustment made through post processing where necessary to ensure the right levels.

2.4.3 The use of the camera zoom function during the UAV video is evident in the video footage and noted at relevant points in the description at Section 3 below, as is the orientation of the UAV and the camera throughout the video sequence.

2.4.4 The wind speed throughout the UAV survey was 8 km/h and the wind direction was southerly.

2.5 Video Editing

2.5.1 The UAV footage has been edited into a video sequence. Apart from minor adjustments to the speed of the video and reversal of two pan views within the video (see paragraphs 3.1.12 and 3.2.21 below), no other editing has been undertaken.

2.5.2 No specific editing has been required for data protection purposes as no personal details can be distinguished from the images.

3.0 TECHNICAL DESCRIPTION OF THE UAV VIDEO FOOTAGE

3.1.1 The UAV video commences with an aerial image of the Site and a flashing icon to indicate the starting location of the video and the route of the UAV flight path is then marked.

3.1.2 The UAV flight path is shown in the bottom right corner of the video to provide a navigational aid throughout the video.

3.1.3 At 0:23 minutes the UAV footage begins with a view from the north, with the camera angled at around 45 degrees from vertical towards the south in the direction of the existing South Humber Bank Power Station ('SHBPS'). This provides a view along the existing power station main site entrance and access road, the starting point of the UAV flight path. The National Grid Gas Above Ground Installation can be seen on the left of the image.

3.1.4 The UAV then moves east along South Marsh Road, with the camera still angled towards the south to provide a view of the Main Development Area (Work No. 1) from the north. The perimeter ditch and existing culverts (which partly fall within Work No. 4) can be seen in the foreground of the image.

3.1.5 At 0:30 minutes, the UAV video returns to the SHBPS site access road, with the camera angled towards the east-south-east, looking across the northern part of the Main Developent Area towards the Humber Estuary. The internal access road between the main SHBPS buildings and the cooling water pumphouse can be seen running through the Main Development Area, and the alignment of the cooling water pipelines is marked with posts on the ground. The UAV pilot and colleagues are also visible (in high visibility clothing) standing at the first UAV take-off location.

3.1.6 The UAV moves slowly eastwards along South Marsh Road and the northern perimeter ditch around the SHBPS site, with the camera still angled towards the east-south-east. The location of the main site entrance for the Proposed Development (Work No. 4) is visible in the centre of the image, at the end of the South Marsh Road public highway, indicatively marked by white tape across the ditch.

3.1.7 At 0:47 minutes, the UAV begins to turn towards the south-east, with the camera also angled towards the south-east, towards the eastern boundary of the Site.

3.1.8 The UAV continues moving in a south-easterly direction until 1:05 minutes, when it begins to turn towards the east. By 1:15 minutes the UAV is moving eastwards and the camera is angled towards the east. The video provides a clear view of the SHBPS cooling water pumphouse and the flood defence wall and Public Right of Way along the Humber Estuary.

3.1.9 At 1:25 minutes the camera angle is adjusted downwards prior to the UAV turning 180 degrees in a clockwise direction to face westwards. The agricultural field to the south of the Site is visible with standing water possibly resulting from the recent period of snow cover.

3.1.10 The UAV rotation ends at 1:38 minutes and the camera is then angled west-south-west providing a view of the southern part of the Main Development Area and the SHBPS buildings beyond. The height of the existing stacks (75 m) is marked at 2:18 minutes for reference.

3.1.11 At 1:54 minutes the UAV begins to move west-south-west across the southern part of the Main Development Area towards the SHBPS buildings, with the camera angled towards the west-south-west.

3.1.12 At 2:20 minutes a pan video sequence is seen as the UAV rotates 180 degrees from north to south, providing a view across the SHBPS buildings from the site entrance in the north to the proposed construction laydown area (Work No. 5) in the south. This section of UAV footage has been reversed so that the video sequence moves north to south, in the general direction of the travel for the video sequence. The UAV is located above the third UAV take-off location, with the camera angled at approximately 45 degrees from vertical facing the direction of UAV travel.

3.1.13 At 2:38 minutes the camera zooms in towards the proposed construction laydown area.

3.1.14 At 2:40 minutes the video shows the UAV footage recorded from the fourth UAV take-off location within the proposed construction laydown area. The UAV moves in a southerly direction at approximately 80 m above ground level, with the camera angled at around 45 degrees from vertical towards the west. The construction laydown area is visible in the centre of the image, with Hobson Way beyond and the roundabout junction with the South Humber Bank Link Road visible in the top left of the image.

3.1.15 At 3:07 minutes the UAV begins to turn towards the west and the camera remains angled at around 45 degrees vertically turning towards the north.

3.1.16 The UAV moves along the southern boundary of the Site, showing views of the construction laydown area (Work No. 5), and the southern perimeter ditch and existing trees at the south-west corner of the Site which are located within the landscaping and biodiversity area (Work No. 3).

3.1.17 At 4:51 minutes the camera (angled at around 45 degrees vertically) turns towards the north-west to provide a view across the south-west corner of the Site with Hobson Way and the junction with South Marsh Road visible in the top left part of the image.

3.1.18 At 4:54 minutes the footage from the fifth UAV take-off location begins. The camera is angled at around 45 degrees vertically providing views north-north-westwards along the western boundary of the Site alongside Hobson Way.

3.1.19 The UAV moves north-north-west over the existing trees in the south-west and west of the Site (Work No. 3) and over the existing SHBPS access from Hobson Way.

3.1.20 At 5:28 minutes the grassland within the landscape and biodiversity area (Work No. 3) is visible in the centre of the image and the National Grid electrical substation is visible on the right hand side of the image. Overhead

power lines into and out of the substation are seen crossing the north-western corner of the Site, which the UAV begins to fly over at 5:48 minutes.

3.1.21 At 5.49 minutes, the video sequence from the sixth UAV take-off location begins, with the camera angled at approximately 45 degrees vertically, facing south-south-east towards the south-western corner of the Site and the South Humber Bank Link Road beyond. The UAV turns through 180 degrees showing views across the SHBPS buildings and the Main Development Site behind. This section of UAV footage has been reversed so that the video sequence moves south to north, in the general direction of the travel for the video sequence.

3.1.22 A 6:15 minutes the video sequence from the seventh UAV take-off location begins, with the camera angled downwards at the north-western corner of the Site adjacent to the junction of Hobson Way and South Marsh Road. The UAV rotates from west to east over the existing trees in the north-west corner of the Site, and the camera angles towards 45 degrees from vertical and zooms into the existing SHBPS main site entrance as the UAV moves slowly westwards, back to the SHBPS main entrance, with a final view towards the east-south-east across the Main Development Area.

3.1.23 The last minutes of the video, from 07:00 minutes, provides a 360 degree pan view around the Site from above the Main Development Area.

APPENDIX 1 UAV AND CAMERA TECHNICAL SPECIFICATION

PHANTOM 4 RTK

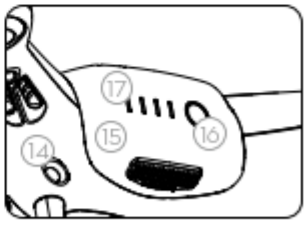
Quick Start Guide

v1.2

Phantom 4 RTK

The PHANTOM™ 4 RTK is a smart mapping and imaging drone capable of highly accurate mapping functions. The aircraft has a built-in DJI™ Onboard D-RTK*, which provides precision data for centimeter-level positioning accuracy. Multi-directional obstacle sensing is enabled by forward, rear, and downward vision and infrared sensors*. The camera features a 1-inch 20-megapixel CMOS sensor housed within a high stability gimbal. When it comes to mapping, the high-performance mechanical shutter eliminates rolling shutter distortion when capturing images at speed. Image data can be used to generate maps for field planning when operating a DJI AGRAS™ aircraft. Users can also import photos to the DJI PC GS Pro application or third-party mapping software to composite highly accurate maps for different applications.

1. Gimbal and Camera
2. Downward Vision System
3. Micro USB Port
4. Camera/Linking Status Indicator and Link Button
5. Camera microSD Card Slot
6. Forward Vision System
7. Infrared Sensing System
8. Front LEDs
9. Motors
10. Propellers
11. Aircraft Status Indicators
12. OCUSYNC™ Antennas
13. Onboard D-RTK™ Antenna
14. Rear Vision System
15. Intelligent Flight Battery
16. Power Button
17. Battery Level Indicators

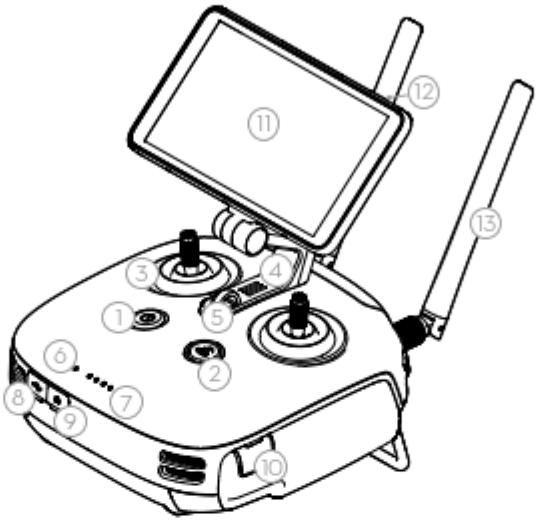


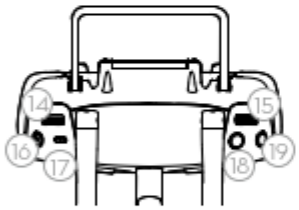
* This should be used with Network RTK service, a DJI D-RTK 2 High-Precision GNSS Mobile Station (purchased additionally) or post-processed kinematic (PPK) data (recommended when RTK signal is weak during operation).
The Vision and Infrared Sensing Systems are affected by surrounding conditions. Read the Disclaimer and Safety Guidelines to learn more.

Remote Controller

The Phantom 4 RTK remote controller has a transmission range of up to 4.3 mi (7 km) * with controls for camera tilt and photo capture. DJI OcuSync is built into the remote controller, transmitting live HD imaging from the camera directly. Simply tap the screen in the DJI GS RTK app or import KML/KMZ files to plan an operation for convenient project management. Users can also connect the remote controller to a PC to access DJI PC GS Pro for planning and executing operations. The remote controller's Multi-Aircraft Control mode can be used to coordinate the operation of up to five aircraft at the same time, enabling pilots to work more efficiently. Replaceable batteries can be easily hot-swapped and the antennas are easily removable for quick maintenance.

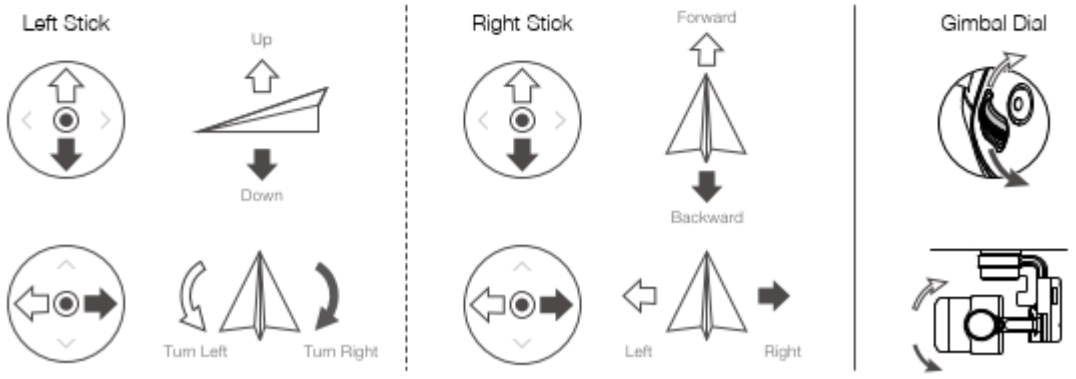
1. Power Button
2. RTH Button
3. Control Sticks
4. Speaker
5. Lanyard Attachment
6. Status LED
7. Battery Level LEDs
8. USB-C Port
9. 3.5 mm Audio Jack
10. MicroSD Card Slot
11. Display Device
12. Sleep/Wake Button
13. Antennas





14. Gimbal Dial
15. Aircraft Control Switch Dial
16. Record Button
17. Pause Switch
18. Shutter Button
19. Reserved Button
20. Button C1 (customizable)
21. Button C2 (customizable)
22. Battery Compartment Cover
23. Battery Compartment Cover Lock
24. Dongle Compartment Cover

The figure below shows the function that each control stick movement performs, using Mode 2 as an example. The left stick controls the aircraft's altitude and heading, while the right stick controls its forward, backward, left and right movements. The gimbal dial controls the camera's tilt.



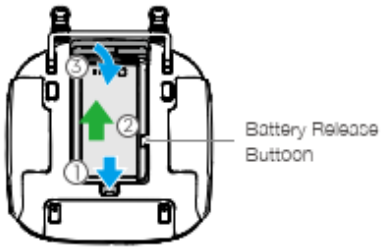
* The remote controller is able to reach its maximum transmission distance (FCC) in a wide open area with no Electro-Magnetic Interference, and at an altitude of about 400 feet (120 meters).

Using Phantom 4 RTK

1. Mount the Remote Controller Battery

The remote controller uses an easily removable interchangeable Intelligent Battery for long-term operation.

① Slide the battery compartment cover lock on the back of the remote controller down to open the cover.
② Insert the Intelligent Battery into the compartment and push it to the top.
③ Close the cover.



- To remove the Intelligent Battery, open the cover, press and hold the battery release button, then push the battery downward.

2. Mount the Dongle and SIM Card

- The Phantom 4 RTK remote controller can access the Internet using a 4G dongle with SIM card or Wi-Fi signal. For UK, EU, ACUK, or ACEU versions, a Network RTK server can only be accessed using a 4G dongle with SIM card. For AU or AFUC versions, using a 4G dongle with SIM card is recommended, but a WiFi signal can also be used. To confirm the version of your unit, please view the version code after the product name on the label on the product packaging. When uploading or downloading system logs or operation data, using a Wi-Fi signal for Internet access is recommended.
- Only use a DJI approved dongle.
- The dongle supports various network standards. Use a SIM card that is compatible with the chosen mobile network provider and select a mobile data plan according to the planned level of usage.
- The dongle and SIM card are used to enable the remote controller to access to specific networks and platforms, such as the DJI AG platform. Be sure to mount them correctly, or else network access will not be available.

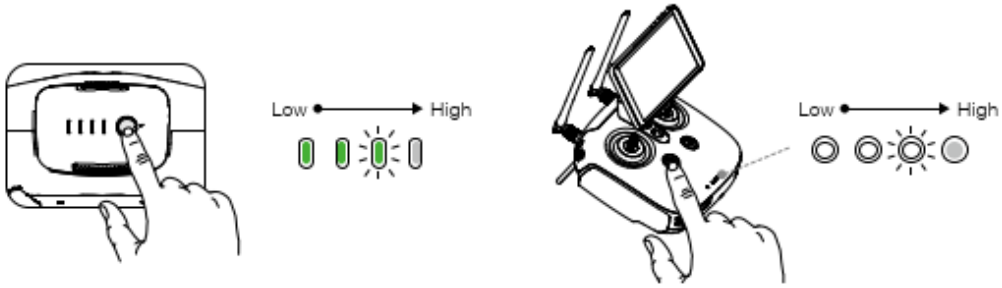
Lift the dongle compartment cover at the gap at its lower right corner, then remove it.

Insert the dongle into the USB port with the SIM card inserted into the dongle and test. *

Re-mount the cover. To secure the cover, open the silicone protectors on it, insert and tighten two Phillips screws, then close the protectors.

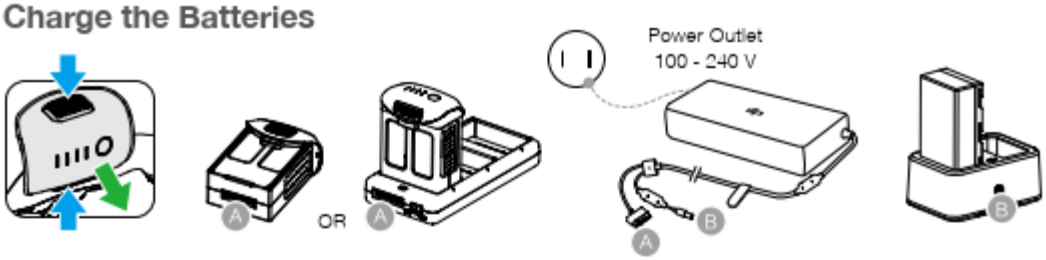
* Test procedure: Press the remote controller power button once, then press again and hold to turn the remote controller on. In the DJI GO RTK app tap ☰ > ⚙ and select **Network Diagnostics**. If the statuses of all the devices in the network chain are shown in green the dongle and SIM card are functioning properly.

3. Check the Battery Levels



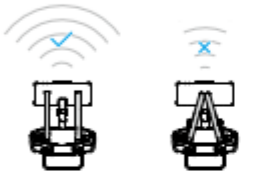
Press once to check the battery level. Short press once, then long press and hold to turn on/off.

4. Charge the Batteries



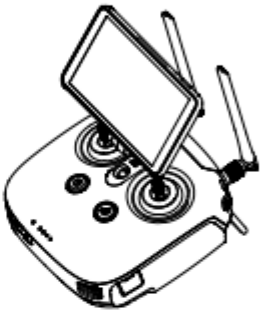
- Fully charge the batteries before first-time use.
- Ensure to connect the Intelligent Flight Batteries to the charging hub as shown in the figure above.
- Ensure that the Mode Switch of the Intelligent Flight Battery charging hub is set to the **Charging Mode** position.

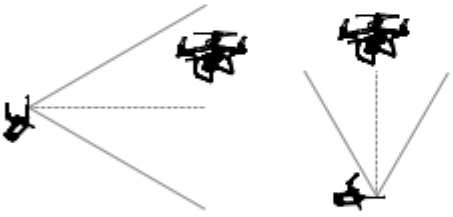
5. Prepare the Remote Controller



Strong Weak

Unfold

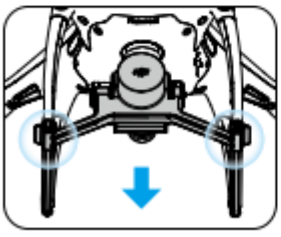




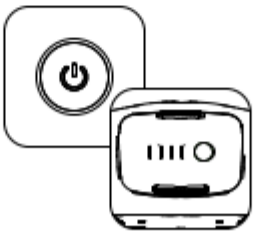
Optimal Transmission Zone

Try to keep the aircraft inside the optimal transmission zone. If the signal is weak, adjust the antennas or fly the aircraft closer.

6. Prepare for Takeoff



Remove the gimbal clamp from the camera.



Power on the remote controller and the aircraft.

DJI GS RTK App

Enter the DJI GS RTK app.

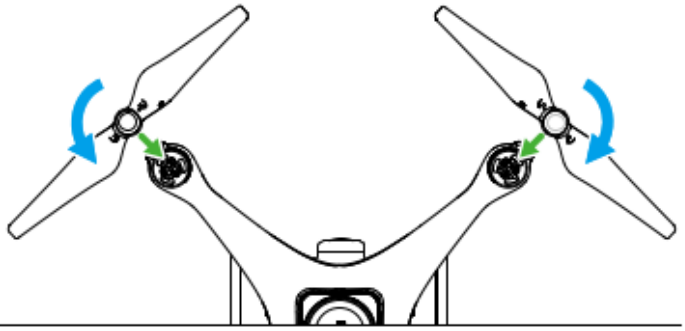
Internet

When using your Phantom 4 RTK for the first time, activate it using the DJI GS RTK app. Ensure that the remote controller has access to the Internet.

Black propeller rings go on motors with black dots.

Silver propeller rings go on motors without black dots.

Press the propeller down onto the mounting plate and rotate in the lock direction until secure.



- Check that the propellers are secure before each flight.

7. Flight

Ready to Go (RTK)

Before taking off, make sure the Aircraft Status Bar in the DJI GS RTK app indicates Ready to Go (RTK)* or Ready to Go (GNSS).

Takeoff

Combination Stick Command to start/stop the motors

Left stick (in Mode 2) up slowly to take off

Landing

Left stick down slowly until you touch the ground

Hold for 3 seconds to stop the motors

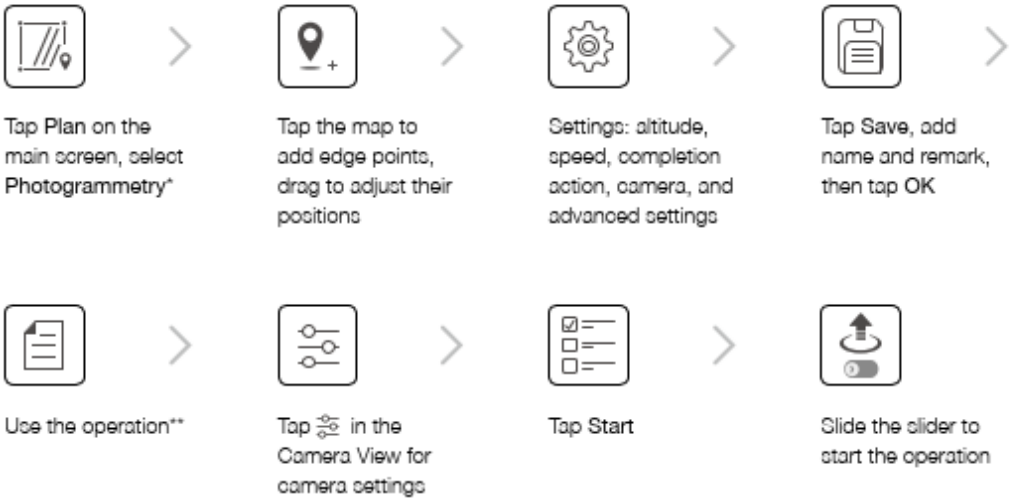
- Spinning propellers can be dangerous. Stay away from spinning propellers and motors. DO NOT start the motors in confined spaces or when there are people nearby.
- Always keep your hands on the remote controller when the motors are spinning.
- **Stopping motors mid-flight: Perform the CSC to stop the motors. This feature is disabled by default. It can be enabled in the app. Only stop motors mid-flight in emergency situations when doing so can reduce the risk of damage or injury.**

It is important to understand basic flight guidelines, for the safety of both you and those around you. Do not forget to read the Disclaimer and Safety Guidelines.

* RTK positioning is recommended. Go to DJI GO RTK > **Fly** > ••• > **RTK** to enable RTK module and select a method for receiving RTK signals.

8. Start Operations

Photogrammetry and waypoint actions can be performed using both PC GS Pro software and the DJI GS RTK app. The following example includes instructions for photogrammetry operation using the DJI GS RTK app. Refer to PC GS Pro User Manual for details (if in use).



* Users can also import KML/KMZ files to the app through a microSD card to plan photogrammetry operations. Refer to the Phantom 4 RTK User Manual for details.

** Select the operation again via the following method if the operation was not used immediately. Go to DJI GS RTK main screen > Fly > on the left, select the operation from the planning list, and tap Invoke.

- Only take off in open areas.
- An operation can be paused by toggling the Pause Switch. The aircraft will hover and record the breakpoint, and then the aircraft can be controlled manually. To continue the operation, select it from the list again and then resume. The aircraft will automatically return to the breakpoint and resume the operation.
- The aircraft will return to the Home Point automatically once the operation is complete. Instead of RTH, the aircraft can also be set to perform other flight actions within the app.

9. Applications

Field Planning

Import aerial photos into PC GS Pro to perform map post-processing. Then plan the field in PC GS Pro. Use a microSD card to import the plan file from PC GS Pro into the Agras MG-1S Advanced / MG-1P series remote controller. Refer to corresponding user manuals for more details.

High Accuracy Mapping

Import the original aerial photos into PC GS Pro and perform map post-processing to produce a high-accuracy map. Please refer to the PC GS Pro User Manual for more details.

Visit the link below to learn more about PC GS Pro:
http://www.dji.com/pc-gs-pro

Specifications

• Aircraft	
Weight (Battery & Propellers Included)	1391 g
Max Service Ceiling Above Sea Level	19685 ft (6000 m)
Max Ascent Speed	6 m/s (automatic flight); 5 m/s (manual control)
Max Descent Speed	3 m/s
Max Speed	31 mph (50 kph) (P-mode); 36 mph (58 kph) (A-mode)
Max Flight Time	Approx. 30 minutes
Operating Temperature	32° to 104° F (0° to 40° C)
Operating Frequency	2.400 GHz to 2.483 GHz (Europe, Japan, Korea) 5.725 GHz to 5.850 GHz (United States, China)
EIRP	2.4 GHz CE (Europe) / MIC (Japan) / KCC (Korea): < 20 dBm 5.8 GHz FCC (United States) / SRRC (Mainland China) / NCC (Taiwan, China): < 26 dBm
Hover Accuracy Range	RTK enabled and functioning properly: Vertical: ±0.1 m; Horizontal: ±0.1 m RTK disabled: Vertical: ±0.1 m (with vision positioning); ±0.5 m (with GNSS positioning) Horizontal: ±0.3 m (with vision positioning); ±1.5 m (with GNSS positioning)
Image Position Offset	The position of the camera center is relative to the phase center of the onboard D-RTK antenna under the aircraft body's axis: (36, 0, and 192 mm) already applied to the image coordinates in Exif data. The positive x, y, and z axes of the aircraft body point to the forward, rightward, and downward of the aircraft, respectively.
• GNSS	
Single-Frequency High-Sensitivity GNSS	GPS + BeiDou + Galileo* (Asia); GPS + GLONASS + Galileo* (other regions)
Multi-Frequency Multi-System High-Precision RTK GNSS	Frequency Used GPS: L1/L2; GLONASS: L1/L2; BeiDou: B1/B2; Galileo*: E1/E5 First-Fixed Time: < 50 s Positioning Accuracy: Vertical 1.5 cm + 1 ppm (RMS); Horizontal 1 cm + 1 ppm (RMS). 1 ppm indicates error with a 1 mm increase over 1 km of movement. Velocity Accuracy: 0.03 m/s
• Mapping Functions	
Mapping Accuracy**	Mapping accuracy meets the requirements of the ASPRS Accuracy Standards for Digital Orthophotos Class III.
Ground Sample Distance (GSD)	(H/36.5) cm/pixel, H indicates the aircraft altitude relative to the shooting scene (unit: m)
Acquisition Efficiency	Max operating area of approx. 1 km^2 for a single flight (at an altitude of 182 m, i.e., GSD is approx. 5 cm/pixel, meeting the requirements of the ASPRS Accuracy Standards for Digital Orthophotos Class III).
• Gimbal	
Controllable Range	Pitch: -90° to +30°
• Vision System	
Velocity Range	≤ 31 mph (50 kph) at 6.6 ft (2 m) above ground with adequate lighting
Altitude Range	0 - 33 ft (0 - 10 m)
Operating Range	0 - 33 ft (0 - 10 m)
Obstacle Sensory Range	2 - 98 ft (0.7 - 30 m)
Operating Environment	Surfaces with clear patterns and adequate lighting (> 15 lux)
• Infrared Sensing System	
Obstacle Sensory Range	0.6 - 23 ft (0.2 - 7 m)
Operating Environment	Surface with diffuse reflection material, and reflectivity > 8% (such as wall, trees, humans, etc.)
• Camera	
Sensor	1" CMOS; Effective pixels: 20M
Lens	FOV (Field of View) 84°, 8.8 mm (35 mm format equivalent: 24 mm), f/2.8 - f/11, auto focus at 1 m - ∞
ISO Range	Video: 100 - 3200 (Auto), 100 - 6400 (Manual); Photo: 100 - 3200 (Auto), 100 - 12800 (Manual)

* supported later

** The actual accuracy depends on surrounding lighting and patterns, aircraft altitude, mapping software used, and other factors when shooting.

Mechanical Shutter	8 - 1/2000 s
Electronic Shutter	8 - 1/8000 s
Max Image Size	4864×3648 (4:3); 5472×3648 (3:2)
Video Recording Modes	H.264, 4K: 3840×2160 30p
Photo	JPEG
Video	MOV
Supported File Systems	FAT32 (≤ 32 GB); exFAT (> 32 GB)
Supported SD Cards	microSD, Max Capacity: 128 GB. Class 10 or UHS-1 rating required
Operating Temperature	32° to 104° F (0° to 40° C)

- **Remote Controller**

Operating Frequency	2.400 GHz to 2.483 GHz (Europe, Japan, Korea) 5.725 GHz to 5.850 GHz (United States, China)
EIRP	2.4 GHz CE / MIC / KCC: < 20 dBm 5.8 GHz FCC / SRRC / NCC: < 26 dBm
Max Transmission Distance	FCC / NCC: 4.3 mi (7 km); CE / MIC / KCC / SRRC: 3.1 mi (5 km) (Unobstructed, free of interference)
Power Consumption	16 W (typical value)
Display Device	5.5 inch screen, 1920×1080, 1000 cd/m², Android system, 4G RAM + 16G ROM
Operating Temperature	32° to 104° F (0° to 40° C)

- **Intelligent Flight Battery (PH4-5870mAh-15.2V)**

Capacity	5870 mAh
Voltage	15.2 V
Battery Type	LiPo 4S
Energy	89.2 Wh
Net Weight	468 g
Operating Temperature	14° to 104° F (-10° to 40° C)
Max Charging Power	160 W

- **Intelligent Flight Battery Charging Hub (PHANTOM 4 CHARGING HUB)**

Voltage	17.5 V
Operating Temperature	41° to 104° F (5° to 40° C)

- **Remote Controller Intelligent Battery (WB37-4920mAh-7.6V)**

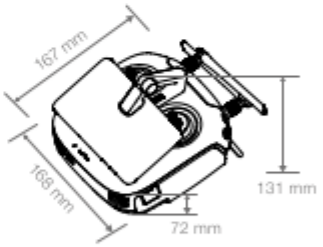
Capacity	4920 mAh
Voltage	7.6 V
Battery Type	LiPo 2S
Energy	37.39 Wh
Operating Temperature	-4° to 104° F (-20° to 40° C)

- **Intelligent Battery Charging Hub (WCH2)**

Input Voltage	17.3 to 26.2 V
Output Voltage and Current	8.7 V, 6 A; 5 V, 2 A
Operating Temperature	41° to 104° F (5° to 40° C)

- **AC Power Adapter (PH4C160)**

Voltage	17.4 V
Rated Power	160 W



Download the user manual for more information:
http://www.dji.com/phantom-4-rtk

※This Quick Start Guide is subject to change without prior notice.

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PHANTOM 4 RTK

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