U.S. Department
of Transportation
**Federal Aviation
Administration**

800 Independence Ave., S.W.
Washington, D.C. 20591

September 1, 2015

Exemption No. 12699
Regulatory Docket No. FAA–2015–2526

Mr. Henry Clay Lehman
Rise Above Video
705 West Main Street
Kerrville, TX 78028

Dear Mr. Lehman:

This letter is to inform you that we have granted your request for exemption. It transmits our decision, explains its basis, and gives you the conditions and limitations of the exemption, including the date it ends.

By letter dated June 4, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Rise Above Video (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial videography for geographical awareness and for real estate marketing and inspections.

See Appendix A for the petition submitted to the FAA describing the proposed operations and the regulations that the petitioner seeks an exemption.

The FAA has determined that good cause exists for not publishing a summary of the petition in the Federal Register because the requested exemption would not set a precedent, and any delay in acting on this petition would be detrimental to the petitioner.

Airworthiness Certification

The UAS proposed by the petitioner is a DJI Phantom 2 Vision.

In accordance with the statutory criteria provided in Section 333 of Public Law 112−95 in reference to 49 U.S.C. § 44704, and in consideration of the size, weight, speed, and limited operating area associated with the aircraft and its operation, the Secretary of Transportation has determined that this aircraft meets the conditions of Section 333. Therefore, the FAA

finds that relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates,* and any associated noise certification and testing requirements of part 36, is not necessary.

The Basis for Our Decision

You have requested to use a UAS for aerial data collection[1]. The FAA has issued grants of exemption in circumstances similar in all material respects to those presented in your petition. In Grants of Exemption Nos. 11062 to Astraeus Aerial (*see* Docket No. FAA−2014−0352), 11109 to Clayco, Inc. (*see* Docket No. FAA−2014−0507), 11112 to VDOS Global, LLC (*see* Docket No. FAA−2014−0382), and 11213 to Aeryon Labs, Inc. (*see* Docket No. FAA−2014−0642), the FAA found that the enhanced safety achieved using an unmanned aircraft (UA) with the specifications described by the petitioner and carrying no passengers or crew, rather than a manned aircraft of significantly greater proportions, carrying crew in addition to flammable fuel, gives the FAA good cause to find that the UAS operation enabled by this exemption is in the public interest.

Having reviewed your reasons for requesting an exemption, I find that—

- They are similar in all material respects to relief previously requested in Grant of Exemption Nos. 11062, 11109, 11112, and 11213;
- The reasons stated by the FAA for granting Exemption Nos. 11062, 11109, 11112, and 11213 also apply to the situation you present; and
- A grant of exemption is in the public interest.

Our Decision

In consideration of the foregoing, I find that a grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. 106(f), 40113, and 44701, delegated to me by the Administrator, Rise Above Video is granted an exemption from 14 CFR §§ 61.23(a) and (c), 61.101(e)(4) and (5), 61.113(a), 61.315(a), 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b), to the extent necessary to allow the petitioner to operate a UAS to perform aerial data collection. This exemption is subject to the conditions and limitations listed below.

Conditions and Limitations

In this grant of exemption, Rise Above Video is hereafter referred to as the operator.

[1] Aerial data collection includes any remote sensing and measuring by an instrument(s) aboard the UA. Examples include imagery (photography, video, infrared, etc.), electronic measurement (precision surveying, RF analysis, etc.), chemical measurement (particulate measurement, etc.), or any other gathering of data by instruments aboard the UA.

Failure to comply with any of the conditions and limitations of this grant of exemption will be grounds for the immediate suspension or rescission of this exemption.

1. Operations authorized by this grant of exemption are limited to the DJI Phantom 2 Vision when weighing less than 55 pounds including payload. Proposed operations of any other aircraft will require a new petition or a petition to amend this exemption.

2. Operations for the purpose of closed-set motion picture and television filming are not permitted.

3. The UA may not be operated at a speed exceeding 87 knots (100 miles per hour). The exemption holder may use either groundspeed or calibrated airspeed to determine compliance with the 87 knot speed restriction. In no case will the UA be operated at airspeeds greater than the maximum UA operating airspeed recommended by the aircraft manufacturer.

4. The UA must be operated at an altitude of no more than 400 feet above ground level (AGL). Altitude must be reported in feet AGL.

5. The UA must be operated within visual line of sight (VLOS) of the PIC at all times. This requires the PIC to be able to use human vision unaided by any device other than corrective lenses, as specified on the PIC's FAA-issued airman medical certificate or U.S. driver's license.

6. All operations must utilize a visual observer (VO). The UA must be operated within the visual line of sight (VLOS) of the PIC and VO at all times. The VO may be used to satisfy the VLOS requirement as long as the PIC always maintains VLOS capability. The VO and PIC must be able to communicate verbally at all times; electronic messaging or texting is not permitted during flight operations. The PIC must be designated before the flight and cannot transfer his or her designation for the duration of the flight. The PIC must ensure that the VO can perform the duties required of the VO.

7. This exemption and all documents needed to operate the UAS and conduct its operations in accordance with the conditions and limitations stated in this grant of exemption, are hereinafter referred to as the operating documents. The operating documents must be accessible during UAS operations and made available to the Administrator upon request. If a discrepancy exists between the conditions and limitations in this exemption and the procedures outlined in the operating documents, the conditions and limitations herein take precedence and must be followed. Otherwise, the operator must follow the procedures as outlined in its operating documents. The operator may update or revise its operating documents. It is the operator's responsibility to track such revisions and present updated and revised documents to the Administrator or any law enforcement official upon request. The

operator must also present updated and revised documents if it petitions for extension or amendment to this grant of exemption. If the operator determines that any update or revision would affect the basis upon which the FAA granted this exemption, then the operator must petition for an amendment to its grant of exemption. The FAA's UAS Integration Office (AFS−80) may be contacted if questions arise regarding updates or revisions to the operating documents.

8. Any UAS that has undergone maintenance or alterations that affect the UAS operation or flight characteristics, e.g., replacement of a flight critical component, must undergo a functional test flight prior to conducting further operations under this exemption. Functional test flights may only be conducted by a PIC with a VO and must remain at least 500 feet from other people. The functional test flight must be conducted in such a manner so as to not pose an undue hazard to persons and property.

9. The operator is responsible for maintaining and inspecting the UAS to ensure that it is in a condition for safe operation.

10. Prior to each flight, the PIC must conduct a pre-flight inspection and determine the UAS is in a condition for safe flight. The pre-flight inspection must account for all potential discrepancies, e.g., inoperable components, items, or equipment. If the inspection reveals a condition that affects the safe operation of the UAS, the aircraft is prohibited from operating until the necessary maintenance has been performed and the UAS is found to be in a condition for safe flight.

11. The operator must follow the UAS manufacturer's maintenance, overhaul, replacement, inspection, and life limit requirements for the aircraft and aircraft components.

12. Each UAS operated under this exemption must comply with all manufacturer safety bulletins.

13. Under this grant of exemption, a PIC must hold either an airline transport, commercial, private, recreational, or sport pilot certificate. The PIC must also hold a current FAA airman medical certificate or a valid U.S. driver's license issued by a state, the District of Columbia, Puerto Rico, a territory, a possession, or the Federal government. The PIC must also meet the flight review requirements specified in 14 CFR § 61.56 in an aircraft in which the PIC is rated on his or her pilot certificate.

14. The operator may not permit any PIC to operate unless the PIC demonstrates the ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles and structures. PIC qualification flight hours and currency must be logged in a manner consistent with 14 CFR § 61.51(b). Flights for the purposes of training the operator's PICs and VOs

(training, proficiency, and experience-building) and determining the PIC's ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption are permitted under the terms of this exemption. However, training operations may only be conducted during dedicated training sessions. During training, proficiency, and experience-building flights, all persons not essential for flight operations are considered nonparticipants, and the PIC must operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.

15. UAS operations may not be conducted during night, as defined in 14 CFR § 1.1. All operations must be conducted under visual meteorological conditions (VMC). Flights under special visual flight rules (SVFR) are not authorized.

16. The UA may not operate within 5 nautical miles of an airport reference point (ARP) as denoted in the current FAA Airport/Facility Directory (AFD) or for airports not denoted with an ARP, the center of the airport symbol as denoted on the current FAA-published aeronautical chart, unless a letter of agreement with that airport's management is obtained or otherwise permitted by a COA issued to the exemption holder. The letter of agreement with the airport management must be made available to the Administrator or any law enforcement official upon request.

17. The UA may not be operated less than 500 feet below or less than 2,000 feet horizontally from a cloud or when visibility is less than 3 statute miles from the PIC.

18. If the UAS loses communications or loses its GPS signal, the UA must return to a pre-determined location within the private or controlled-access property.

19. The PIC must abort the flight in the event of unpredicted obstacles or emergencies.

20. The PIC is prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough available power for the UA to conduct the intended operation and to operate after that for at least 5 minutes or with the reserve power recommended by the manufacturer if greater.

21. Air Traffic Organization (ATO) Certificate of Waiver or Authorization (COA). All operations shall be conducted in accordance with an ATO-issued COA. The exemption holder may apply for a new or amended COA if it intends to conduct operations that cannot be conducted under the terms of the enclosed COA.

22. All aircraft operated in accordance with this exemption must be identified by serial number, registered in accordance with 14 CFR part 47, and have identification (N−Number) markings in accordance with 14 CFR part 45, Subpart C. Markings must be as large as practicable.

23. Documents used by the operator to ensure the safe operation and flight of the UAS and any documents required under 14 CFR §§ 91.9 and 91.203 must be available to the PIC at the Ground Control Station of the UAS any time the aircraft is operating. These documents must be made available to the Administrator or any law enforcement official upon request.

24. The UA must remain clear and give way to all manned aviation operations and activities at all times.

25. The UAS may not be operated by the PIC from any moving device or vehicle.

26. All Flight operations must be conducted at least 500 feet from all nonparticipating persons, vessels, vehicles, and structures unless:
    a. Barriers or structures are present that sufficiently protect nonparticipating persons from the UA and/or debris in the event of an accident. The operator must ensure that nonparticipating persons remain under such protection. If a situation arises where nonparticipating persons leave such protection and are within 500 feet of the UA, flight operations must cease immediately in a manner ensuring the safety of nonparticipating persons; and
    b. The owner/controller of any vessels, vehicles or structures has granted permission for operating closer to those objects and the PIC has made a safety assessment of the risk of operating closer to those objects and determined that it does not present an undue hazard.

    The PIC, VO, operator trainees or essential persons are not considered nonparticipating persons under this exemption.

27. All operations shall be conducted over private or controlled-access property with permission from the property owner/controller or authorized representative. Permission from property owner/controller or authorized representative will be obtained for each flight to be conducted.

28. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the FAA's UAS Integration Office (AFS−80) within 24 hours. Accidents must be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: www.ntsb.gov.

If this exemption permits operations for the purpose of closed-set motion picture and television filming and production, the following additional conditions and limitations apply.

29. The operator must have a motion picture and television operations manual (MPTOM) as documented in this grant of exemption.

30. At least 3 days before aerial filming, the operator of the UAS affected by this exemption must submit a written Plan of Activities to the local Flight Standards District Office (FSDO) with jurisdiction over the area of proposed filming. The 3-day notification may be waived with the concurrence of the FSDO. The plan of activities must include at least the following:
    a. Dates and times for all flights;
    b. Name and phone number of the operator for the UAS aerial filming conducted under this grant of exemption;
    c. Name and phone number of the person responsible for the on-scene operation of the UAS;
    d. Make, model, and serial or N−Number of UAS to be used;
    e. Name and certificate number of UAS PICs involved in the aerial filming;
    f. A statement that the operator has obtained permission from property owners and/or local officials to conduct the filming production event; the list of those who gave permission must be made available to the inspector upon request;
    g. Signature of exemption holder or representative; and
    h. A description of the flight activity, including maps or diagrams of any area, city, town, county, and/or state over which filming will be conducted and the altitudes essential to accomplish the operation.

31. Flight operations may be conducted closer than 500 feet from participating persons consenting to be involved and necessary for the filming production, as specified in the exemption holder's MPTOM.

Unless otherwise specified in this grant of exemption, the UAS, the UAS PIC, and the UAS operations must comply with all applicable parts of 14 CFR including, but not limited to, parts 45, 47, 61, and 91.

This exemption terminates on September 30, 2017, unless sooner superseded or rescinded.

Sincerely,

/s/
John S. Duncan
Director, Flight Standards Service

Enclosures

June 4, 2015

United States Department of Transportation
Docket Management System VIA FEDERAL EXPRESS
1200 New Jersey Ave., SE VIA FEDERAL DOCUMENT MANAGEMENT
Washington, DC 20590

RE: Petition for Exemption from certain Title 14 CFRs in regards to Section 333 of the FAA Modernization & Reform Act of 2 012 concerning Unmanned Aerial Systems (UAS)

Attachments:

1) Copy of petitioners FAA Commercial Pilot's License
2) Copy of petitioners Driver's License (State of Texas)
3) Phantom-2-Vision-Release-Notes-en.pdf
4) Phantom-2-Vision-Quick-Start-en.pdf
5) Phantom-2-Vision-User-Manual-v1.8-en.pdf
6) Smart-Flight-Battery-Safety-Guidelines.pdf
7) Phantom-2-Vision-Pilot-Training-Guide-en.pdf

References:

1) FAA Exemption No. 11138, Regulatory Docket No. FAA-2014-0481 in the matter of the petition of DOUGLAS TRUDEAU
2) FAA Exemption No. 11136, Regulatory Docket No. FAA–2014–0508 in the matter of the petition of ADVANCED AVIATION SOLUTIONS LLC
3) FAA Exemption No. 11080 Regulatory Docket No. FAA-2014-0355 in the matter of the petition of FLYING CAM INC

Dear Sir or Madam:

The Title 14 CFRs exemptions that this request entails are 61.113(a) & (b); 91.7(a); 91.119; 91.121; 91.151(a); 91.405; 91.407(a); 91.409(a)(1) & (2); 91.417(a) & (b). Reasons for request are cited below.

Per this letter of request, I seek exemption from several Title 14 CFRs that relate to the commercial use of unmanned aerial systems (UAS). The following will be included in this request: Name & Information of Petitioner; Executive Summary of Petitioner summarizing the rules Petitioner seeks exemption from and reasons the exemptions would serve the public good; Specific Title 14 CFRs to which an exemption is sought; the extent & reasons for the requested exemptions; reasons why safety would not be compromised.

PERSONAL INFORMATION

Name Henry Clay Lehman **(hereafter referred to as "Petitioner")**
Company RISE-ABOVE-VIDEO
Address 705 West Main St
Kerrville, TX 78028
830 329-4794
CLAY@CLAYLEHMAN.COM

EXECUTIVE SUMMARY

The Petitioner, Henry Clay Lehman, was born on April 20, 1944 in San Antonio, TX. and is a US citizen. He has been a REALTOR® for over 10 years and is presently working with REALTY EXECUTIVES in Kerrville, Tx. The petitioner is a licensed COMMERCIAL PILOT (#2105618) with an instrument rating. His ratings include AIRPLANE SINGLE ENGINE LAND & SEA; AIRPLANE MULTIENGINE LAND; INSTRUMENT AIRPLANE, and holds type rating: L-188. He is a Vietnam Era Vet having flown as a Plane Commander with USNAVY PATROL SQUADRON VP-40 in California. In addition to his time as a Naval Aviator, he has previously owned and flown several fixed-wing aircraft. Petitioner has never been cited for any FAA violations. Since March 2014, Petitioner has owned and flown a DJI Phantom 2 Vision (UAS). As a hobbyist. Petitioner has become very proficient with the Phantom 2 Vision model with over 50 hours flown in type. Petitioner is requesting an exemption from the current rules in Section 333, which govern the uses of UASs for commercial purposes. The Petitioner seeks authorization to perform commercial UAS operations for real estate inspections and use in real estate marketing. This would include residential, commercial and rural properties. Prospective customers and clients would include real estate agents & brokers, property inspection companies, management companies, insurance companies & vendors, banks and private property owners.

PUBLIC GOOD

Aerial videography for geographical awareness and for real estate marketing and inspections has been around for a long time through manned fixed wing aircraft and helicopters. But for small business owners, its expense has been cost-prohibitive. Granting this exemption to the Petitioner would allow him to provide this service at a much lower cost. Further, the small UAS being utilized in this application will pose no threat to the public given its small size and lack of combustible fuel when compared to larger manned aircraft. The operation of this UAS will minimize ecological damage and promote economic growth by providing information to businesses & individuals in the Texas Hill Country and central Texas area.

DESCRIPTION OF UAV TO BE DEPLOYED UNDER REQUESTED EXEMPTIONS

Petitioner currently owns a DJI Phantom 2 Vision quad-copter. The petitioner intends to use the Phantom 2 Vision as the primary UAV in commercial applications described herein. The Phantom 2 Vision is a quad-copter that can take off and land vertically. It weighs approximately 3 lbs. and has a maximum airspeed of approximately 25 knots. This UAS uses a lithium polymer battery, which gives this

UAS approximately 20-25 minutes of flight time with sufficient remaining battery charge to land safely. The particular model of Phantom 2 being utilized under this request for exemption has First Person View (FPV), which allows the PIC to visually monitor certain telemetry data on a ground station monitor including altitude (AGL), GPS signal strength, battery charge information, etc. This FPV also gives the PIC video feed from the attached camera showing what images are being captured. This is a significant safety feature as it shows the attitude of the UAS and its forward direction. However, this FPV feature will never be used as a tool to deviate from VLOS operation by the PIC.

The UNMANNED AIRCRAFT (UA)

The UAS to be deployed here is a DJI Phantom 2 Vision.

General Features

- Lightweight, multi-functional integrated aircraft and camera
- Camera remote-control by DJI VISION APP
- Range Extender increases Wi-Fi distance to 300m
- Anti-vibration camera platform with single axis stabilization
- Low-voltage protection
- Virtual Radar aircraft locator on mobile device
- Range of camera tilt options
- Multiple, continuous and timed capture options
- HD Video Recording (1080/p30 or 1080/60i)
- RAW and JPEG picture formats

Aircraft

• Battery	5200mAh LiPo
• Weight (Battery & Propellers Included)	1160g (2.56 lbs)
• Hover Accuracy (Ready To Fly)	Vertical: 0.8m; Horizontal: 2.5m
• Max Yaw Angular Velocity	200°/s
• Max Tilt Angle	35°
• Max Ascent / Descent Speed	Ascent: 6m/s; Descent: 2m/s
• Max Flight Speed	15m/s (Not Recommended)
• Diagonal Length	350mm
• Tilting Range Of Gimbal	0°-60°

Transmitter

• Operating Frequency	5.728GHz-5.8GHz
• Communication Distance (Open Area)	CE:300m; FCC: 500m
• Receiver Sensitivity (1%PER)	93dBm
• Transmitter Power	CE: 25mw; FCC: 125mw
• Working Voltage	80 mA@6V

- Battery — 4 AA Batteries

Camera

- Resolution — 14 Megapixels
- FOV — 120°/ 110°/ 85°
- Sensor Size — 1/2.3"
- Functionality
  - Support of multi-capture, continuous capture and timed capture
  - Support of HD Recording (1080/p30 or 1080/60i)
  - Supports of both RAW and JPEG picture format

Range Extender

- Operating Frequency — 2412-2462MHz
- Communication Distance (Open Area) — 300m
- Transmitter Power — <=17dBm
- Power Consumption — 1.5W

DJI VISION App

- System Requirement Of Mobile Device — iOS version 6.1 or above/ Android system version 4.0 or above
- Mobile Device Support
  - iOS recommended: iPhone 4s, iPhone 5, iPhone 5s, iPhone 6, iPhone 6 Plus, touch 5 (available but not recommended: iPad 3, iPad 4, iPad mini)
  - Android recommended: Samsung Galaxy S3, S4, Note 2, Note 3 or phones of similar configuration

PREFLIGHT

The petitioner will always follow procedures outlined in the UAS operator's manual as to proper preflight inspection of all hardware, software, environment and any other factors needed to ensure a safe flight.

PIC QUALIFICATIONS

The petitioner holds a FAA Commercial Pilot's License with an instrument rating. Petitioner has over 1200 hours PIC time in a variety of aircraft including Cessna 150's, Piper Cherokee (PA-140), Twin Aero Commanders, and Lockheed P3-ORION (P3A & P3B), with the majority being in the Lockheed P3-ORION. Petitioner has owned the UAS described above since March 2014 and has over 50 hours of documented flight time in this type of UAS as a hobbyist. The petitioner envisions being the PIC in all operations that will be performed under the requested rule exemptions and the subsequent COA request. However, if another PIC is used for these operations, petitioner agrees that any PIC of the UAS in the envisioned operations will hold at least a FAA Private pilots certificate, hold at least a 3rd class medical certificate, or a valid, state issued driver's

license and have no less than 25 hours of PIC time in the UAS being deployed before beginning any type of commercial for hire operations and conform to all safety protocols.

We propose that the minimum medical requirements for the PIC and VO be vision corrected to 20/20 and a valid, state issued driver's license. The 20/20 vision requirement will ensure that the PIC and VO can see and avoid air traffic; a licensed driver is medically qualified to operate a much larger vehicle.

DESCRIPTION OF INTENDED COMMERCIAL OPERATIONS

Petitioner intends to solicit work for aerial real estate inspections and marketing from real estate agents & brokers, property inspection companies, insurance companies & related vendors, banks and private property owners to provide photography and videography of residential, commercial and rural real estate. This work will always be conducted with the permission of the property owner or their respective agent. Flight operations will be restricted to flights directly over the property that has granted permission. Given the type of work being targeted here, the Petitioner does not foresee any instance where the UAS would be flown over any crowds or assemblages of people in an open-air environment. If in fact any job does entail flights over crowds, petitioner will elect not to make said flight. Safety will always be the primary concern regarding any flight at any time.

Petitioner agrees to place a sign during any flight operation that says: CAUTION-UNMANNED AERIAL VEHICLE IN OPERATION. STAY BACK 100 FEET FROM AIRCRAFT.

OPERATING PARAMETERS

The UAS being deployed in this exemption request can fly at a speed of approximately 25 knots. However, given the intended use describe here, this speed will never be necessary. Much slower speeds are preferred to collect the photographic material needed.

The UAV System will be operated in the field with both a PIC and a VO in accordance with FAA Policy N 8900.227 Section 14 "Operational Requirements for UAS" and with the following Restrictions:

(a) No flight will be made with a UA Gross weight exceeding 55 pounds;
(b) All operations must occur in FAA Class G airspace at no more than 400 ft AGL, at an airspeed of no more than 25 knots and no further than 3/4 NM from the PIC;
(c) Petitioner agrees to use a Visual Observer (VO) during all operations. The VO will be used to help visually track the UA while in flight. The VO and PIC must be able to communicate by voice at all times during a flight operation;
(d) Operations will be restricted to flights over private property with the permission of the property owner;
(e) The UAS System will not be operated over densely populated areas;
(f) The UAS System will not be operated at air shows;
(g) The UAS System will not be operated over any open-air assembly of people;

(h) The UAS System will not be operated over heavily trafficked roads;
(i) The PIC will brief the VO and property owner about the operation and risk before the first flight at each new location;
(j) No flight may be made without a Pre-Flight Inspection by the PIC before each operation to ascertain that the UA is in a condition safe for flight (see Appendix A).
(k) Although the UAS being deployed has an approximate control link distance of 3/4 mile, this is much more than VLOS will allow. Petitioner agrees never to fly UAS outside of VLOS.
(l) Petitioner will only fly UAS during the day in VMC conditions. Given the petitioner agrees to never fly higher than 300 feet AGL, distance from clouds should not be a factor if flown in VMC conditions.
(m) The UAS will not operate within 5 nautical miles of an airport reference point as denoted on a current FAA published aeronautical chart.
(n) The UAS being deployed with these exemption requests has the capability of using GPS signals to return to its initial point of take off if connection with the radio control link is lost.
(o) The petitioner agrees to yield right of way to all manned aviation activities at all times.

EXEMPTION REQUESTS

The following are a list of Title 14 CFAs which the petitioner seeks exemption. Please note that the Petitioner has used Exemption No. 11138 to Douglas Trudeau (Regulatory Docket No. FAA-2014-0481) as a reference. Given that the petitioner and Mr. Trudeau intend to use the exemptions in similar manners and both use similar equipment, it seemed prudent not to burden the reviewer in this matter with exemption requests that have been previously deemed that relief was not necessary. These rules are Part 21, 45.23(b), 91.9(b)(2), 91.103(b), 91.109 and 91.203(a) & (b). If the reviewer believes that these rules need to be addressed in this request, the petitioner will make a supplemental request including these additional rule exemptions.

RULE 61.113 PRIVATE PILOT PREVELEGES AND LIMITATIONS

The Petitioner currently holds an FAA Commercial Pilot Certificate. His other ratings include AIRPLANE SINGLE ENGINE LAND & SEA; AIRPLANE MULTIENGINE LAND; INSTRUMENT AIRPLANE. He also holds a L-188 Type Rating.
The regulation provides that no person that holds a private pilot certificate may act as pilot in command of an aircraft for compensation or hire. Subparagraph (b) allows a private pilot to act as pilot in command of an aircraft in connection with any business or employment if: (1) The flight is only incidental to that business or employment; and (2) The aircraft does not carry passengers or property for compensation or hire.

Pursuant to 14 C.F.R. §§ 61.113 (a) & (b), private pilots are limited to noncommercial operations. I, Henry Clay Lehman, can achieve an equivalent level of safety as achieved by current Regulations because my UAS does not carry any pilots or passengers. The risks attended to the operation of my UAS is far less than the risk levels inherent in the

commercial activities outlined in 14 C.F.R. § 61, et seq. Thus, allowing me to operate my UAS meet and exceed current safety levels in relation to 14 C.F.R. §61.113 (a) & (b). In addition, Grant of Exemption No. 11062 to Astraeus Aerial (Astraeus), the FAA determined that a PIC with a private pilot certificate operating the Astraeus UAS would not adversely affect operations in the NAS or present a hazard to persons or property on the ground.

As to private pilot limitations concerning operations for hire or compensation, it seems that Exemption No. 11062 to Astraeus has allowed this exemption previously and was noted in the Trudeau Exemption No. 11138.

As to airmanship skills, the Petitioner has been operating his UAS since March 2014 and has over 50 hours of logged flight time. Petitioner currently fly's this UAS several hours a month as a hobby and is very proficient and has the skills to maintain altitude, maintain VLOS, navigate, avoid obstacles, avoid air traffic and respond to loss of control link. Petitioner understands that he must make at least 3 takeoffs and landings within a 90-day period for currency purposes

RULE 91.7(a) CIVIL AIRCRAFT AIRWORTHINESS

There is no current FAA regulatory standard for determining airworthiness of UAS and there is no certificate currently available for UAS airworthiness. Petitioner seeks an exemption from this rule by ensuring that the UAS is in an airworthy condition based on compliance with the operating documents prior to every flight. Flight manuals and other important documents will be kept in a location readily accessible to the PIC at all times.

RULE 91.119(c) MINIMUM SAFE ALTITUDES

91.119 prescribes safe altitudes for the operation of civil aircraft, but it allows helicopters to be operated at lower altitudes in certain conditions. Petitioner seeks an exemption from this rule as Petitioner will only operate the UAS in a range from ground level up to but not exceeding 300 feet (AGL) and will only operate in safe areas away from the public thus providing a level of safety not available to manned aircraft. The petitioner asserts that given the size, weight, maneuverability and speed of the UAS, an equivalent or higher level of safety will be achieved that from conventional manned helicopters.

Petitioner will avoid actively populated areas. These areas will be interpreted to include areas on a FVR chart depicted in yellow and will be supplemented with information from a Flights Standard District Office (FSDO). Petitioner intends to operate the UAS over real estate for inspection purposes. Petitioner will not operate over any assemblage of people in an open-air environment.

Per the exemption granted in No. 11138 concerning 91.119(c), Petitioner agrees to act in strict accordance to that exemption. However, Petitioner seeks an exemption from the rule stipulating that a UAS cannot be operated *within 500 feet* of a structure *without permission of the owner.* Given the intended use Petitioner will use these

exemptions for, which is for photography and videography of real estate for marketing & inspection purposes, agreement from the ***engaging*** property owner or their agent is an absolute necessity. The UAS will only be flown over properties with this permission. However, given the housing density in certain areas in Kerrville, TX area, maintaining a 500-foot distance from other structures even while strictly flying over a permission granting owner's property is impossible in many instances. The Petitioner seeks an exemption to this rule, which would allow a 50' standoff from other structures as long as the UAS is operated completely over and within the property boundary lines of a permission granting property owner. Petitioner agrees to always keep privacy rights of other property owners in mind and will never engage a UAS in any type of surveillance or spying

RULE 91.121 ALTIMETER SETTINGS

Petitioners' UAS has GPS derived altitude capabilities. The petitioner believes this rule is not applicable to the UAS operations intended.

RULE 91.151(a) FUEL REQUIREMENTS FOR FLIGHT IN VFR CONDITIONS

Petitioner seeks relief from this rule due to the UAS being deployed is battery operated and the requirements under this rule are not applicable. The UAV in question has First Person Vision capabilities, which transmits certain telemetry to a monitor where the PIC can monitor certain aspects of the flight including battery level. A typical battery for a Phantom 2 UAS will last approximately 20-25 minutes before total exhaustion. Certain battery level warnings are set where the PIC will know when the battery state is at 30% and 15% remaining charge levels. This will normally allow a flight of 12 - 15 minutes with sufficient battery charge to make a safe landing. Petitioner will never begin a flight unless a fully charged battery is used.

RULE 91.405(a) MAINTENANCE REQUIRED, 91.407(a) OPERATION AFTER MAINTENANCE, PREVENTITIVE MAINTENANCE, REBUILDING OR ALTERATION; 91.404(a)(2) INSPECTIONS; 91.417(a)(b) MAINTENANCE RECORDS

Petitioner seeks relief from these rules due to it being an alternate inspection requirement of 91.409(a)(2). The Petitioner will inspect and ensure UAS is in a condition for safe flight and adhere to all operating documents.

SUPPLEMENTAL INFORMATION

The Petitioner has provided the following information to support these requests for rule exemptions:

- Phantom-2-Vision-Release-Notes-en.pdf
- Phantom-2-Vision-Quick-Start-en.pdf
- Phantom-2-Vision-User-Manual-v1.8-en.pdf
- Smart-Flight-Battery-Safety-Guidelines.pdf
- Phantom-2-Vision-Pilot-Training-Guide-en.pdf
- Copy of petitioners FAA Commercial Pilot's License
- Copy of petitioners Driver's License (State of Texas)

CLOSING

The Petitioner believes that exemption from the above listed Title 14 CFRs is warranted given Petitioner's background as a Commercial Pilot, the nature of the type of UAS flights that will be undertaken, the size & weight of the UAS being deployed, the safety precautions to the general public and the NAS the Petitioner intends to adhere to, the positive environmental impact the flight operations would have compared to manned fuel consuming missions and the economic benefit the Petitioner's business would have in this new area of aviation.

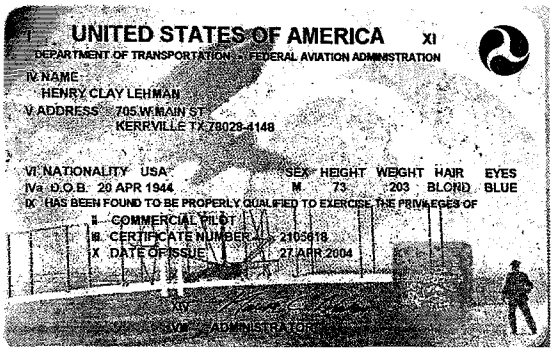
Thank you for your review of this matter. Please feel free to contact me at any time with any questions regarding this matter.

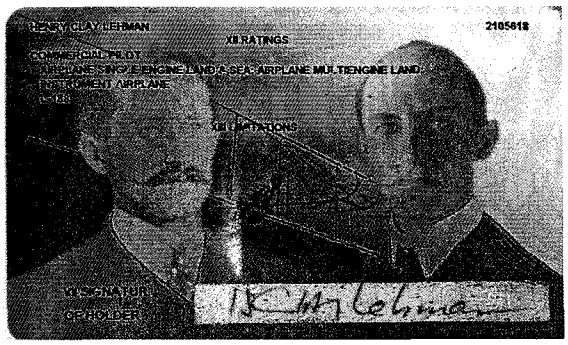
Sincerely,

Henry Clay Lehman
705 West Main St
Kerrville, Tx 78028

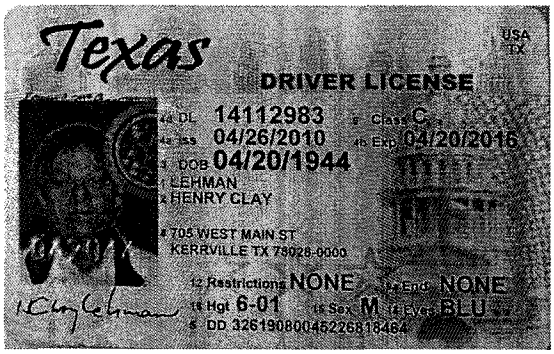
ATTACHMENTS

Copy of petitioners FAA Commercial Pilot's License





Copy of petitioners Driver's License (State of Texas)



Firmware Updates on April 27, 2015

Overview:

a) Flight controller firmware has been updated to v3.14.

Major New Features

No-Fly Zones have been updated to include a 1.2 km radius centered on the Imperial Palace and a 1 km radius centered on the Prime Minister's Official Residence, both in Tokyo, Japan.

Firmware Updates on March 03, 2015

Overview:

b) Flight controller firmware has been updated to v3.12.

Major New Features

a) No-Fly Zones have been updated to include a 25km radius centered in Washington, DC.
b) The compass calibration program has been optimized to improve reliability.
c) When automatic landing is initiated, users can now continue to control the aircraft's position and altitude. During this process, the maximum speed of ascent is 1 m/s.
d) After an automatic landing has been completed and the motors have stopped spinning, users can immediately restart the motors and begin a new flight.

Special Note:

a) It is recommended that the compass be calibrated in an environment that is free from sources of potential interference. If you become aware of any source of potential interference, move to a different location and calibrate the compass again. Be aware that underground metal pipes may cause interference when the aircraft is close to the ground during compass calibration.

VISION App Updates on February 13, 2015

Overview:

a) DJI VISION App has been updated to iOS v1.0.48, Android v1.0.58.

Major New Features

a) An issue that caused The VISION app to crash on Android 5.0.1 devices has been fixed.
b) Bugs that were discovered in the VISION app have been removed.

Firmware Updates on January 30, 2015 *

Overview:

a) Flight controller firmware has been updated to v3.10*.
b) DJI Phantom Assistant has been updated to v3.8.
c) DJI VISION App has been updated to iOS v1.0.46, Android v1.0.56.

*The flight controller firmware v3.10 has been discontinued. Its updates have been optimized and included in the v3.12 update.

Major New Features

a) No-Fly Zones have been updated to include a 25km radius centered in Washington, DC.
b) The iOS VISION app is compatible with iOS 8.0. The Android VISION app is compatible with Android 5.0.
c) GPS Signal Notice added to the VISION app. The VISION app will display a pop-up tip when attempting to takeoff without a sufficient GPS signal.
d) Rear LED indicator display has been added to the VISION app to show the aircraft's current flight status.
e) An "Upgrade Range Extender" feature has been added to the VISION app (iOS). It is now possible to use a mobile device's data network to access internet functions while connected to the Phantom.
f) The ability to view and download manuals and new manual notices has been added to the VISION app.
g) The latest DJI Phantom 2 Vision + FC200 firmware fixes the issue that prevented the camera from starting in some cases.
h) The latest DJI Phantom 2 Vision+ FC200 firmware adds the ability to modify the filename prefix of photos when using the DJI SDK.
i) "Upgrade All" function added to the DJI Phantom Assistant.
j) When automatic landing is initiated, users can now continue to control the aircraft's position and altitude. During this process, the maximum speed of ascent is 1 m/s.
k) After an automatic landing has been completed and the motors have stopped spinning, users can immediately restart the motors and begin a new flight.

Firmware Updates on Nov 28

Overview:

a) Central board firmware updated to v1.0.2.10.

Major New Features

a) Improved the communication between the smart flight battery and the Phantom.
b) Fixed issues in communication between the smart flight battery (V2.0) and the compass.

Firmware Updates on October 31

Overview:

a) DJI Smart Battery Flight firmware updated to v2.6.0.0
b) DJI Phantom Assistant updated to v3.6.

Major New Features

a) Battery cell warning added to the VISION app that alerts users if battery issues are detected. Browse battery cell warning history in the VISION app.
b) New auto-discharging feature to address to address the swelling problem of fully charged battery when it is stored for an extended period. The auto-discharging function will start automatically if the battery does not operate in 10 days.
c) Battery cell damages detection feature added.
d) New battery cell balancing feature to extend battery life.

Special Notes:

a) Update DJI Smart Flight Battery firmware to v2.6 through Phantom Assistant v3.6.
b) The new battery firmware v2.6.0.0 does not support battery with loader of v1.3.0.0 or firmware of v1.6.0.0.

Firmware Updates on Oct 28

Overview:

a) Flight controller firmware updated to v3.08.
b) Central board firmware updated to v1.0.2.7.
c) 3-axial gimbal firmware updated to v1.0.0.6.
d) DJI Phantom Assistant updated to v3.4.
e) DJI Vision App updated to iOS v1.0.43, Android v1.0.54.

Major New Features

a) Dynamic home point: when using a GPS-enabled mobile device and running the VISION app, the Home Point will automatically be reset to the location of the device every 2 seconds during flight.
b) Ability to change the Return to Home altitude added to the VISION app (ability to change this setting in the Assistant software remains).
c) Maximum operating area, based on remaining battery power and current settings, can now be displayed on the ground station map view. This area automatically expands or contracts when new flight plans are set.
d) The aircraft's current longitude and latitude will be displayed on the VISION app's radar. When using ground station, the longitude and latitude of each waypoint is also displayed as they are set.
e) New pre-flight checklist that reminds users of important considerations before flying added.
f) Battery cell warning added to the VISION app that alerts users if battery issues are detected. Browse battery cell warning history in the VISION app.
g) To address the issue of fully charged battery swelled when it was stored for an extended period.
h) Battery cell damages detection feature added.
i) New battery cell balancing feature to extend battery life.
j) Maximum descent speed set to 0.6m/s when the aircraft's altitude is less than 10m and descending automatically (for example in failsafe mode). The maximum speed of descent remains 2m/s in other flight conditions.
k) Propulsion system performance enhancements.
l) German, French and Japanese language support added to the VISION app.

Special Notes:

a) The dynamic home point is only available when using GPS-enabled mobile devices. Your aircraft will not be able to record a dynamic home point if you are using a mobile device without a GPS module (e.g. iPod).

Firmware Updates on July 29

Overviews:

a) Flight controller firmware updated to v3.06.
b) Central board firmware updated to v1.0.1.32.
c) DJI Vision App updated to iOS v1.0.42 and Android v1.0.52.
d) Phantom 2 PC Assistant updated to v3.2.

Flight Controller - Major New Features:

a) Added two levels of battery warnings: Low Battery Level Warning and Critical Battery Level Warning. When enabled, Auto Go Home will be activated if the battery level reaches a Low Battery Level Warning. Setup these warnings using either the DJI Phantom Assistant or DJI Vision App.
b) When the battery level reaches a Critical Battery Level Warning, the aircraft will automatically land. The motors will power off after landing.
c) The speed of descent will be automatically adjusted based on current altitude.
d) Minimum adjustable height limit set to 20m.
e) Magnetic declination value stored to improve flight course accuracy.
f) New fix of a video signal problem that affected some Phantom 2 Vision users.
g) Various bug fixes.

DJI Vision App Major New Features:

a) The current battery level can now be viewed real-time through the DJI Vision App, via a battery level indicator bar near the top of the screen.
b) "Hotline" feature for easy access to post-sales supports.
c) "Compass Calibration" feature added.
d) "Low Battery Auto Go Home" feature added.

Phantom 2 PC Assistant Major New Features:

a) Added Japanese as a supported language.

Firmware Updates on July 01

Overviews:

a) Central board firmware updated to: v1.0.1.31.

Major New Features:

a) Fixed iOSD compatibility issues.

Special Notes:

a) Ensure flight controller firmware has been updated to the latest version (v3.04) before you start to update the central board firmware.

Firmware Updates on June 26

Overviews:

a) Central board firmware updated to: v1.0.1.30.

Major New Features:

a) Fixed issue of vision+ gimbal and H3-3D shaking involuntarily when powering on.

Firmware Updates on June 24

Overviews:

a) DJI Vision App updated to iOS v1.0.41 and Android v1.0.50.

Major New Features:

a) Ground Station support:
   - Plan missions of up to 16 waypoints.
   - "Go Home" function.
   - Flight safety protection:
     - 3.1 miles (5 km) flight distance limit.
     - Ground station disabled when battery level is below 30%.
     - 1640 feet (500 m) flight radius based on HOME point, 656 feet (200 m) altitude restriction.

Special Notes:

a) Upgrade flight controller firmware to the latest version (v3.04) by using Phantom Assistant to enable ground station feature.

Firmware Updates on May 21

Overviews:

a) Flight controller firmware updated to: v3.04.

Major New Features:

a) Stability when carrying heavy payloads improved.
b) Flight restriction database updated.

Firmware Updates on April 30

Overviews:

a) Central board firmware updated to: v1.0.1.27.

Major New Features:

a) Stability when carrying heavy payloads improved. Maximum descent speed restricted to 2m/s.

Firmware Updates on April 7

Overviews:

a) The Phantom 2 Vision flight controller firmware has been upgraded to v3.00.
b) The central board firmware has been upgraded to v1.0.1.25.
c) Phantom2 Vision Assistant has been upgraded to v3.00.
d) The User Manual has been updated to v1.16.

Major New Features:

a) Special area flight restriction.
b) Compass data error notification.
c) Special area restriction section added in Assistant.
d) New chapter about special area restriction in the user manual.

Special Notes:

a) Please be aware that this firmware version limits aerial systems from flying above special areas such as airports. For more information, please visit www.dji.com. Updating your firmware signifies you fully acknowledge and accept this function. DJI accepts no liability or damages or injuries incurred directly or indirectly from your refusal to update this firmware.
b) Ensure both flight controller and central board firmware have been updated to the latest version using Assistant v3.00.

Firmware Updates on Mar 26

Overviews:

a) The Phantom 2 Vision flight controller firmware has been upgraded to v2.00.
b) The central board firmware has been upgraded to v1.0.1.24.
c) Phantom2 Vision Assistant Software has been upgraded to v2.00.
d) User manual has been updated to v1.14.

Major New Features:

a) Flight controller firmware now includes the Flight Limits functions, inclusive of maximum height radius limits, which is aimed to help users fly more safely. Max height is set at 400m and max radius is 1600m by default. The default parameters can be configured in the Assistant Software v2.00.
b) The max descent speed has changed to 3m/s.
c) Assistant Software v2.00 includes Flight Limits page for configuration.
d) The latest version of user guide includes descriptions of Flight Limits function.

Special Notes:

a) Ensure both flight controller and central board firmware have been updated to the latest version using Assistant Software v2.00.

Firmware Updates on Feb 20

Overviews:

a) Phantom RC Assistant Software v1.1 released with support for Mac OS X 10.6 or above. Assistant Software usages on Mac and Windows are exactly the same. Phantom RC v1.1 has been optimized, no new function added.

Special Notes:

a) When launching for the first time on Mac OS X, please open the Phantom RC Assistant Software in the Finder. After the first successful launch, the application can be launched by double-clicking the Phantom RC icon in the Finder or using Launchpad.
b) Please download the application installer in DMG format from the download page of Phantom 2 Vision on the DJI website.
c) The Assistant Software for Windows and Mac OS X will updated simultaneously in the future.

Firmware Updates on Jan 20

Overviews:

a) The DJI Vision has been updated and now can be downloaded. (iOS App: v1.0.32; Android App: v1.0.38)
b) The firmware of Phantom 2 Vision's camera FC200 has been updated to v1.1.9. Please download it through our website.

Major New Features:

Thank you for your patience! The latest camera firmware v1.1.9 now supports Adobe DNG RAW format capturing. It also records the GPS location and relative altitude in the metadata of the Adobe DNG RAW file. DJI will keep working hard on improving the quality of the RAW file and providing the best aerial photography solution to our customers. Thank you for your constant support!

Update Procedures:

Follow the below instructions to update your firmware.

a) Download the latest camera firmware and unzip it.
b) Get a clean Micro-SD card (less than or equals to 32GB), and copy the "firmware.bin" file to the root folder of the Micro-SD card.
c) Make sure the camera is turned off, and insert the Micro-SD card into the camera before turning it on.
d) Turn on the camera.
e) The firmware update will begin automatically. A yellow flashing LED on the camera indicates that the camera is updating.

f) When the yellow flashing disappears, the firmware has been updated. After a successful update, the "firmware.bin" file's name will change to "firmware.bin.bak00". This file on the card can now be deleted.

Special Notes:

a) During the update, do not turn off the camera or take out the Micro-SD card. This may prevent your camera from switching on and will need a factory reset.
b) A fast red flashing LED on the camera after the update means the update has failed. Please try again.
c) You need to use the latest DJI Vision App (iOS App: v1.0.32; Android App: v1.0.38).

Firmware Updates on Dec 27

Overviews:

a) Phantom 2 Vision Assistant Software v1.08 released with support for Mac OS X 10.6(Lion) or above. Assistant Software usages on Mac and Windows are exactly the same.

Special Notes:

a) When launching for the first time on Mac OS X, please open the Phantom 2 Vision Assistant Software in the Finder. After the first successful launch, the application can be launched by double-clicking the Phantom 2Visionicon in the Finder or using Launchpad.
b) Please download the application installer in DMG format from the download page of Phantom 2 Vision on the DJI website.
c) The Assistant Software for Windows and Mac OS X will updated simultaneously in the future.

Firmware Updates on Dec 19

Overviews:

a) The Phantom 2 Vision Autopilot's firmware has been upgraded to v1.08.
b) The Central Board firmware has been upgraded to v1.0.1.19.
c) Phantom 2 Vision and PHANTOM 2 will share the PHANTOM 2 Assistant Software, which has been upgraded to v1.08.
d) The User Guide has been updated to v1.08.

Major New Features:

a) In a Failsafe situation, if less than 6 GPS satellites are found for more than 20 seconds, the aircraft will descend automatically.
b) The latest version of Central Board firmware optimizes the calculation method of battery life.

Special Notes:

a) Be sure to upgrade the flight controller and central board firmware to the latest version using Assistant Software v1.08.

Firmware Updates on Dec 4

Overviews:

a) The latest version of the DJI Vision App (iOS App: v1.0.30; Android App: v1.0.34) is available on the App Store and Google Play. Or you can get it from http://m.dji.net/djivision.
b) The latest version of the Phantom 2 Vision Camera, FC200, is v1.1.8.

Major New Features:

a) PAL support has been added to the camera including1080p25 and 960p25.

Update Procedures:

Follow the below instructions to update your firmware.

a) Copy the "firmware.bin" file to the root folder of your Micro-SD card.
b) Make sure the camera is turned off, and insert the Micro-SD card into the camera before turning it on.
c) Turn on the camera.
d) The firmware update will begin automatically. A yellow flashing LED on the camera indicates that the camera is updating.
e) When the yellow flashing disappears, the firmware has been updated. After a successful update, the "firmware.bin" file's name will change to "firmware.bin.bak00". This file can now be deleted.

Special Notes:

a) During the update, do not turn off the camera or take out the Micro-SD card. This may prevent your camera from switching on and will need a factory reset.
b) A fast red flashing LED on the camera after the update means the update has failed. Please try again.

Firmware Updates on Nov 25

Overviews:

a) The latest version of the DJI Vision App (iOS App: v1.0.29; Android App: v1.0.33) has passed both iOS App Store and Google Play reviews. Please go to the App Store, Google Play or visit http://m.dji.net/djivisionto download the latest version.
b) Adobe has released a lens profile for the DJI Phantom 2 Vision camera to remove its lens distortion.

Firmware Updates on Nov 17

Overviews:

a) The Phantom 2 Vision Autopilot's firmware has been upgraded to v1.05.
b) The Central Board firmware has been upgraded to v1.0.1.18.
c) The PC Assistant Software has been upgraded to v1.05.
d) The Cell Phone App has been upgraded to (iOS App: v1.0.29 Android App: v1.0.33), they are now under App store reviews.
e) The User Guide has been updated to v1.04.

Major New Features:

a) Professional users can use the PC Assistant Software (v1.05) to enter a "Naza-like" Mode, enabling IOC and original Atti, GPS and Manual Modes. The LED flight indicator will behave like the Naza, not the Phantom 2 Vision. Please alert users to only enter the Naza-like Mode if they are experienced pilots as more and more Phantom 2 Vision users will be those with no experience of flying.
b) Contact pins may fail when the Phantom 2 Vision is still in the air, triggering an "Invalid Battery" warning. This causes autopilot to receive a "0" battery level, triggering the auto-landing failsafe. After updating to Autopilot (v1.05) and Central Board (v1.0.1.18), the "Invalid Battery" warning will not occur in-flight, even if contact pins fail. This will prevent auto-landing. Autopilot will provide warnings if battery voltage drops lower than 10.65V (Autopilot can track battery percentage with and without the contact pins). If using iOS app v1.0.29, a message box will pop up to warn that "There has been a battery communication failure. Please fly carefully and bring your Phantom 2 Vision back to you ASAP."
c) PS: The Phantom 2 Vision is "Ready To Fly," "Ready to Capture" and "Ready to Share" but it is still an aircraft. Keeping contact needles and pads clean is very important. Any dirt and dust may cause a communication failure.
d) 2nd Level Low Battery Warning is set to 15% instead of 20%.
e) A new level of protection is a hidden third low battery voltage in addition to the 1st and 2nd battery level (percentage) warnings. This uses 10.65V as its threshold. Both this voltage threshold and the 2nd Level Low Battery Warning will trigger auto-landing. Altitude can be maintained if necessary by pulling up on the throttle.)
f) Switching the S2 from upper most position to its bottom most position for at least 5 times will reset the home point of Phantom 2 Vision. Definition of "home point" is i) where the Phantom 2 Vision return to when control signal is lost ii) the home position which is used to calculate the horizontal distance between you and the aircraft which is displayed on your cell phone app. When the home point is set, you will see a very short period of fast green light flashing on the LED Flight Indicator.
g) The map used in the "Find My Phantom 2 Vision" is changed to Google Map in Android App (v1.0.33).
h) Other minor bugs fixed.

Special Notes:

a) Must use the latest PC Assistant Software (v1.05).
b) Must upgrade both Autopilot (v1.05) and Central Board (v1.0.1.18).

c) Before switching to Naza-like Mode, you need to update autopilot and central board first.
d) Latest Cell Phone App is under review by app stores, the only major difference will be, by using earlier version app, you won't get the popup message "battery communication failure". But it really doesn't matter that much. The review takes about 1 week.

Firmware Updates on Nov 5

Overviews:

a) The Phantom 2 Vision5.8GHz Receiver's firmware has been upgraded to v1.0.1.3.
b) The Phantom 2 Vision 5.8GHz Remote Controller's firmware has been upgraded to v1.0.2.22.
c) The PC Remote Controller Assistant Software has been released(v1.00).

Major New Features:

a) The algorithm is improved so that even under CE compliant mode, the communication range of Remote Controller can achieve around 400 meters in open areas.
b) By using the Remote Controller's PC Assistant Software, users can calibrate the sticks and switch between Mode 1 and Mode 2.
c) Other minor bugs fixed.

Special Notes:

a) Users must upgrade both of the Remote Controller and Receiver. Upgrading only one of them will result in potential communication failures.
b) The hidden USB port is located inside the Remote Controller. Follow the video guide on the Remote Controller.

SMART FLIGHT BATTERY
Safety Guidelines

SMART FLIGHT BATTERIE
Nutzungshinweise

BATTERIES INTELLIGENTES
Guide d'Utilisation

飞行器智能电池
安全使用指引

マルチコプター電池
安全使用ガイド

V1.0 2014.07

English

Battery Use

- Never use non-DJI batteries. Go to www.DJI.com to purchase new batteries. DJI takes no responsibility for any accidents caused by non-DJI batteries.
- Never use or charge a swollen, leaky or damaged battery. If so, contact DJI or its designated dealers for further assistance.
- Do NOT install the battery into the battery compartment on the Phantom when turned on. Turn off the battery before installing it or removing it from the Phantom. Never install or remove the battery from the Phantom when it is turned on.
- The battery should be used in temperatures from -20°C to 40°C. Use of the battery above 50°C can lead to a fire or explosion. Use of battery below -20°C can lead to permanent damage.
- Do not use the battery in strong electrostatic or electromagnetic environments. Otherwise, the battery control board may malfunction and a serious accident may happen during flight.
- Never disassemble or pierce the battery in any way, or the battery may catch fire or explode.
- Electrolytes in the battery are highly corrosive. If any electrolytes splash onto your skin or eyes, immediately wash the affected area with fresh running water for at least 15 minutes then see a doctor immediately.
- Check the condition of the battery if it falls out of the Phantom. Make sure the battery is NOT damaged or leaking before putting it back to the Phantom.
- Land the Phantom immediately when the low battery level warning activates in the DJI VISION App.
- Do not drop the battery into water. If the inside of the battery comes into contact with water, chemical decomposition may occur, potentially resulting the battery catching on fire, and may even lead to an explosion. If the battery falls into water with the Phantom during flight, take it out immediately and put it in a safe and open area. Maintain a far distance from the battery until it is completely dry. Never use the battery again, and dispose of the battery properly as described in Battery Disposal below.
- Put out any battery fire using sand or a dry powder fire extinguisher. Never use water to put out a battery fire.

Charging the Battery

- Batteries must be charged using a DJI approved adapter. DJI takes no responsibility if the battery is charged using a non-DJI charger. Never leave the battery unattended during charging. Do not charge the battery near flammable materials or on flammable surfaces such as carpet or wood.
- Do not charge battery immediately after flight, because the battery temperature may be too high. Do not charge the battery until it cools down to near room temperature. Charging battery outside of the temperature range of 0°C-40°C may lead to leakage, overheating, or battery damage.
- Charge and discharge the battery completely once every 20 charge/discharge cycles. Discharge the battery until there is less than 8% power or until it can no longer be turned on, then recharge it to the maximum capacity. This power cycling procedure will optimize the battery life.

Battery Storage

- Do not leave the battery near heat sources such as a furnace or heater. The ideal storage temperature is 0°C-21°C.
- Keep the battery dry. Never drop the battery into water.
- Do not drop, strike, impale, or manually short-circuit the battery.
- Keep the battery away from metal objects such as necklaces and hairpins.
- Discharge the battery to 30%-50% of the battery level if it will not be used for 7 days or more. This can greatly extend the battery life.

Battery Disposal

- Dispose of the battery into specific recycling boxes only after a complete discharge. Do not place the battery into regular rubbish bins. Strictly follow your local disposal and recycling regulations of batteries.
- If the power on/off button of the smart battery is disabled and the battery cannot be fully discharged, please contact a professional battery disposal/recycling agent for further assistance.

Deutsch

Batterienutzung

- Benutzen Sie ausschließlich originale DJI

Batterien. Gehen Sie auf www.DJI.com, um neue Batterien zu erwerben. Für Schäden, die durch die Verwendung von Nicht-Originalteilen und Zubehör entstehen, ist jedwede Haftung des Herstellers ausgeschlossen.

- Benutzen oder Laden Sie niemals eine angeschwollene, undichte oder beschädigte Batterie. Kontaktieren Sie gegebenenfalls DJI oder unsere ausgewiesenen Händler für weitere Informationen.
- Setzen Sie NIEMALS die Batterie in das Batteriefach des Phantom ein, während die Batterie eingeschaltet ist. Schalten Sie die Batterie aus, bevor Sie diese in das Batteriefach einsetzen oder vom Phantom entfernen. **Setzen Sie niemals die Batterie ins Batteriefach ein oder entfernen sie, wenn diese eingeschaltet ist.**
- Die Batterie sollte nur in einem Temperaturbereich von -20°C bis 40°C benutzt werden. Der Gebrauch der Batterie bei über 50°C kann zu Feuer oder einer Explosion führen. Die Verwendung bei unter -20°C kann zu dauerhaften Schäden führen.
- Verwenden Sie die Batterie nie in starken elektrostatischen oder elektromagnetischen Umfelden. Das Batterie Control Board könnte versagen und **ein schwerer Unfall während des Fluges passieren.**
- Bauen Sie die Batterie niemals auseinander oder durchbohren Sie diese, die Batterie könnte Feuer fangen oder explodieren.
- Die Akkumulatorsäure in der Batterie ist **stark korrosiv**. Säurespritzer im Auge oder auf der Haut sofort unter frischem, laufenden Wasser aus- bzw. abspülen und anschließend sofort einen Arzt aufsuchen.
- Überprüfen Sie den Zustand der Batterie, falls diese aus dem Phantom herausfällt. Stellen Sie sicher, dass die Batterie **NICHT beschädigt ist oder ausläuft**, bevor Sie diese zurück in den Phantom stecken.
- Landen Sie den Phantom umgehend, sobald die Batteriewarnung in Ihrer DJI VISION App erscheint.
- **Lassen Sie die Batterie niemals in Wasser fallen.** Wenn das Innere der Batterie mit Wasser in Kontakt kommt, könnte eine chemische Zersetzung ausgelöst werden, durch die die Batterie möglicherweise Feuer fängt oder sogar explodiert. Falls die Batterie während des Fluges mit dem Phantom in Wasser fällt, entfernen Sie diese unverzüglich aus dem Fluggerät und legen diese in eine sichere und offene Umgebung. Halten Sie großen Abstand zu der Batterie bis diese komplett getrocknet ist. **Benutzen Sie die Batterie niemals erneut und entsorgen Sie die Batterie sachgerecht, wie unten in dem Kapitel Entsorgen der Flugbatterie beschrieben.**
- Löschen Sie jeden Batteriebrand mit Hilfe von Sand oder einem Pulverlöscher. Löschen Sie einen Batteriebrand niemals mit Wasser.

Aufladen der Flugbatterie

- Batterien **müssen mit einem von DJI zugelassenen Adapter geladen werden.** DJI übernimmt keine Haftung für Batterien, die mit einem nicht von DJI autorisierten Ladegerät geladen wurden. Lassen Sie die Batterie während des Ladevorgangs niemals unbeaufsichtigt. Laden Sie die Batterie nicht in der Nähe von entflammbaren Materialien oder Oberflächen wie Teppich oder Holz.
- Laden Sie die Batterie nicht direkt nach dem Flug, die Temperatur der Batterie könnte zu hoch sein. Laden Sie die Batterie erst, sobald sie auf mindestens Raumtemperatur abgekühlt ist. Das Laden der Batterie außerhalb des Temperaturbereichs von 0°C - 40°C kann zu Auslaufen, Überhitzen oder einem Schaden an der Batterie führen.
- Laden und Entladen Sie die Batterie einmal vollständig alle 20 Lade-/Entladevorgänge. Entladen Sie die Batterie bis auf unter 8% bis sie nicht mehr eingeschaltet werden kann, dann laden Sie diese bis zum Maximum ihrer Kapazität auf. Das beschriebene Verfahren optimiert die Lebensdauer Ihrer Batterie.

Lagerung der Flugbatterie

- Lassen Sie die Batterie nicht in der Nähe von Hitzequellen wie einem Ofen oder Heizkörper. Die ideale Lagerungstemperatur liegt zwischen 0°C - 21°C.
- Die Batterie ist sauber und trocken zu lagern. Lassen Sie die Batterie niemals in Wasser fallen.
- Lassen Sie die Batterie nicht fallen, spießen Sie diese nicht auf, schließen Sie sie nicht manuell kurz und wirken Sie nicht mit Gewalt auf die Batterie ein.
- Halten Sie die Batterie fern von Metallobjekten wie Ketten und Haarnadeln.
- Entladen Sie die Batterie bis auf 30% - 50%, falls Sie diese für 7 Tage oder länger nicht benutzen.

Dies kann die Lebensdauer Ihrer Batterie stark verlängern.

Entsorgung der Flugbatterie

- Entsorgen Sie die Battterie, nur nachdem Sie komplett entladen wurde, in speziellen Recycling Tonnen. Werfen Sie die Batterie nicht in die normale Mülltonne. Beachten und befolgen Sie unbedingt die kommunalen Entsorgungs- und Recyclingvorschriften für Batterien.
- Falls der On/Off Knopf der Batterie nicht funktioniert und die Batterie nicht vollständig entladen werden kann, kontaktieren Sie bitte eine professionelle Entsorgungs-/ Recyclingfirma.

Français

Utilisation de la Batterie

- N'utilisez jamais de batterie autre que d'origine. Rendez-vous sur www.DJI.com pour acheter de nouvelles batteries. La responsabilité de DJI ne pourrait être engagée pour tout accident résultant de l'utilisation de batteries non-DJI.
- N'utilisez ni ne chargez jamais de batterie déformée, qui suinte ou qui est endommagée. Si vous constatez un problème contactez DJI ou ses revendeurs agréés pour recevoir l'assistance nécessaire.
- N'installez PAS la batterie dans le compartiment du Phantom si elle est allumée. Eteignez la batterie avant de l'installer ou de la retirer du Phantom. N'installez ou ne retirez jamais la batterie du Phantom lorsqu'il est allumé.
- La batterie peut être utilisée sous des températures allant de -20°C à 40°C. Utiliser la batterie au-delà de 50°C peut causer un incendie ou une explosion. L'utiliser en deçà de -20°C peut causer un dommage irréparable à la batterie.
- N'utilisez pas la batterie dans un environnement électrostatique ou électromagnétique important. Sinon, l'unité de contrôle de la batterie pourrait mal fonctionner et un sérieux accident pourrait survenir pendant le vol.
- Ne désassemblez ou ne percez jamais la batterie d'aucune manière, ou celle-ci pourrait prendre feu ou exploser.
- L'électrolyte dans la batterie est très corrosif. Si de l'électrolyte éclabousse votre peau ou vos yeux, rincez immédiatement la zone affectée à l'eau fraiche courante pendant au moins 15 minutes puis consultez immédiatement un docteur.
- Vérifiez l'état de la batterie si elle tombe du Phantom. Vérifiez que la batterie n'est PAS endommagée ou suintante avant de la remettre dans le Phantom.
- Faites atterrir le Phantom immédiatement dès que l'alerte de faible batterie se déclenche dans l'App DJI VISION.
- N'immergez pas la batterie. Si l'intérieur de la batterie entre en contact avec de l'eau une réaction chimique peut se produire, résultant potentiellement en un incendie ou même en l'explosion de la batterie. Si la batterie tombe à l'eau avec le Phantom lors d'un vol retirez-la immédiatement et mettez-la à l'abri dans un endroit sécurisé et ouvert. Restez à bonne distance de la batterie jusqu'à ce qu'elle soit entièrement sèche. Ne la réutilisez jamais et déposez-la correctement comme décrit plus bas dans le paragraphe sur le Recyclage des Batteries. Eteignez une batterie en flammes en utilisant du sable ou un extincteur à poudre sèche. N'utilisez jamais d'eau pour éteindre une batterie en feu.

Charge de la Batterie

- Les batteries doivent être chargées à l'aide d'un chargeur approuvé par DJI. La responsabilité de DJI ne peut être engagée si la batterie est chargée avec un autre chargeur que celui proposé par DJI. Ne laissez jamais la batterie sans surveillance durant la charge. Ne chargez pas la batterie près d'une source de chaleur, d'un matériau inflammable ou sur une surface inflammable comme un tapis ou du parquet.
- Ne chargez pas votre batterie immédiatement après un vol car la température pourrait être trop élevée. Ne chargez la batterie que lorsque celle-ci aura atteint la température ambiante. Charger la batterie hors de la plage de température comprise entre 0°C et 0°C peut entrainer une fuite, une surchauffe ou une panne de la batterie.
- Chargez et déchargez complètement la batterie tous les cycles de 20 charges/décharges. Déchargez la batterie jusqu'à ce qu'il reste moins de 8% de charge ou jusqu'à ce que la batterie ne puisse plus être allumée puis rechargez-la jusqu'à sa capacité maximale.

Cette procédure de charge cyclique optimisera la durée de vie de votre batterie.

Stockage des Batteries

- Ne laissez jamais la batterie près d'une source de chaleur comme un radiateur ou un poêle. La température idéale de stockage est de 0°C -21°C.
- Maintenez la batterie bien sèche. Ne l'immergez jamais dans un liquide.
- Ne faites pas tomber ni ne cognez la batterie, ne la percez pas, ne provoquez pas volontairement de court-circuit sur la batterie.
- Gardez la batterie éloignée de petits objets métalliques tels que des épingles à cheveux, des trombones, des petits bijoux.
- Déchargez la batterie aux alentours de 30%-50% de son niveau de charge si vous ne l'utilisez pas pendant une semaine ou plus. Ceci augmentera de manière conséquente la durée de vie de votre batterie.

Recyclage des Batteries

- Mettez votre batterie dans une boite de recyclage adaptée uniquement après l'avoir complètement déchargée. Ne mettez pas votre batterie avec les ordures ménagères. Suivez scrupuleusement les consignes locales précises en matière de recyclage des piles et batteries.
- Si le bouton ON/OFF de la batterie intelligente est inopérant et que la batterie ne peut être complètement déchargée, veuillez s'il vous plait contacter un Professionnel du recyclage afin d'obtenir l'assistance nécessaire.

中 文

使 用

- 严禁使用非大疆官方提供的电池。如需更换，请到大疆官网查询。因使用非大疆官方提供的电池而引发的电池事故、飞行故障，大疆概不负责。
- 严禁使用鼓包的、漏液的、包装破损的电池。如有以上情况发生，请联系大疆或者其指定代理商做进一步处理。
- 在将电池安装或者拔出于飞行器之前，请保持电池的电源关闭。请勿在电池电源打开的状态下，拔插电池。
- 电池应在室温为 -20℃至 40℃之间使用。温度过高，会引起电池着火，甚至爆炸。温度过低，电池寿命会受到严重损害。
- 禁止在强静电或者磁场环境中使用电池。否则，电池保护板会失灵，导致飞行器发生严重故障。
- 禁止以任何方式拆解或用尖利物体刺破电池。否则，会引起电池着火甚至爆炸。
- 电池内部液体有强腐蚀性。如有泄露，请远离。如有溅射到人体皮肤或者眼睛里，请立即用清水冲洗至少 15 分钟，并立即就医。
- 若电池从飞行器中摔落，再次使用前，务必确保电池外观无损，无破损、无漏液等问题。
- 若飞机进入电量低报警模式，应尽快降落并停止飞行，更换新电池或者对电池进行充电。
- 请勿将电池浸入水中或将其弄湿。电池内部接触到水后可能会发生分解反应，引发电池自燃，甚至可能引发爆炸。如果电池在 Phantom 飞行过程中或其它情况下意外坠入水中，请立即拔出电池并将其置于安全的开阔区域，这时应远离电池直至电池完全晾干。晾干的电池不得再次使用，应该按照本文的废弃方法妥善处理。
- 若电池发生起火，应立即采用“窒息灭火法”，如使用沙子或固体或干粉灭火器进行灭火。严禁用水来灭火。

充 电

- 智能电池必须使用 DJI 官方提供的专用充电器或车载充电器进行充电。对于使用非 DJI 官方提供的充电器进行充电所造成的一切后果，DJI 将不予负责。
- 请留意充电过程以防发生意外。充电时请将电池和充电器放置在水泥地面等周围无易燃、可燃物的地面。
- 禁止在飞行器飞行结束后，立刻对电池进行充电。此时，电池处于高温状态，强制充电会对电池寿命造成严重损害。建议待电池降至室温，再对电池进行充电。理想的充电环境（0-40℃）可大幅度延长电池的使用寿命。
- 电池每经过约 20 次充放电后，需要进行一次完整的放电和充电过程（将电池充满电，然后放电至电量为 8% 以下或电池自动关闭，再充满电）以保证电池工作在最佳状态。

储 存

- 禁止将电池放在靠近热源的地方，比如火源或加热炉。智能电池的理想的保存温度为 0-21℃。
- 存放电池的环境应保持干燥。请勿将电池置于水中或者可能会漏水的地方。
- 禁止机械撞击电池、碾压、坠落、人为短路、刺穿电池。
- 禁止将电池与金属项链、发夹或者其他金属物体一起贮存或运输。
- 超过 7 天不使用电池，请将电池放电至 30%-50% 电量存放，可大大延长电池的使用寿命。

废 弃

- **务必将电池彻底放完电后，才将电池置于指定的电池回收箱中。**电池是危险化学品，**严禁废置于普通垃圾箱。**相关细节，请遵循当地电池回收和弃置的法律法规。
- 如电池因为电源开关失灵而无法完成彻底放电，请勿将电池直接弃置于电池回收箱，应联系专业电池回收公司做进一步的处理。

日本語

使 用

- 非 DJI 社製の電池を使用することによって発生する事故はDJI社一切の責任を負いません。
- 包装破損、傷づいた電池を使用することが禁じます。上記したものが発生した場合、DJI 社或いは購入先の代理店までご連絡ください。
- 電池の取り付けや取り外しの前は、必ず電源をオフにしてください。電源をオンにしたままで、操作しないでください。
- 電池は温度－ 20℃から 40℃の間で使用してください。温度が高くなると、火事を引き起こします。低くなると、電池の寿命が短縮します。
- 強い静電気または磁気が起こる環境での電池の使用を禁止します。バッテリー保護基板の機能が失い、飛行器の故障につながる可能性があります。
- いかなる方法で電池を解体することは禁じます。火事や爆発事故が発生する原因とみられます。
- 電池内部の液体は腐食性が強いです。液体が漏れると、離れてください。皮膚や目に入った場合、すぐに 15 分以上水で洗い流し、速やかに医師の診察を受けてください。
- 飛行中に電池が墜落したら、再使用する前に電池の外観が破損したかどうかを確認してください。
- 飛行中に低電量アラームがなりましたら、すぐ安全地に着陸して、電池を交換するか充電してください。
- 電池を水に入れないでください。電池内部は水が入ると化学反応が起こり、自然発火して爆発する可能性があります。飛行中、機体が水に落ちた場合、直ちに電池を外して安全地で乾燥してください。乾燥した電池を再利用することは禁じます。本章の廃棄方法で処理してください。
- 電池が発火したら、砂や消火器で消火してください。水での消火を避けてください。

充電について

- 必ず DJI 社の充電器或いはカーチャージャで充電してください。非 DJI 社提供した充電器を使用することで起こった事故など、DJI 社は一切の責任を負いません。
- 充電中の充電状況を常に確認してください。充電時、可燃物の上に置かないでください。
- 飛行が終わった後、電池はまだ高温状態の為、充電してはいけません。電池の寿命が短縮します。推奨の充電温度は 0 ～ 40 度です。
- 電池のベスト状況を確保する為、20 回充電した後、一回完全放電してください。

保管について

- 発熱源の近くで使用したり、保管したりしないでください。0 － 21℃の環境での保管を推奨します。
- 乾燥した環境での保管してください。水中や水漏れの場所に置かないでください。
- バッテリーに衝撃加えたり、墜落させたり、人為的にショートさせてたりしないでください。
- 金属物体或いは金属アクセサリーと一緒に保管したり運送したりしないでください。
- 使用しない期間は 7 日間を超える場合はバッテリー残量を３０%－５０%の状態にすることでバッテリーの寿命を延ばすことが可能です。

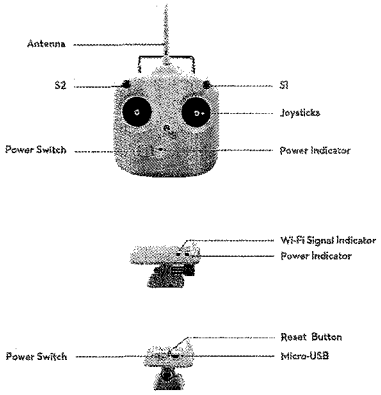
破棄について

- バッテリーは化学品の為、破棄するときは火災の原因とならないように、完全に放電を行ってから破棄してください。破棄方法は各エリアの条例を守ってください。
- バッテリーの電源の故障による放電できない場合は回収箱に入れずに、業者に連絡のうえ正しく処理を行ってください。

PHANTOM 2 VISION

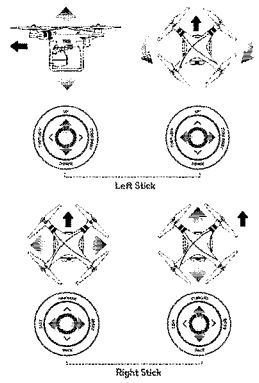
QUICK START GUIDE

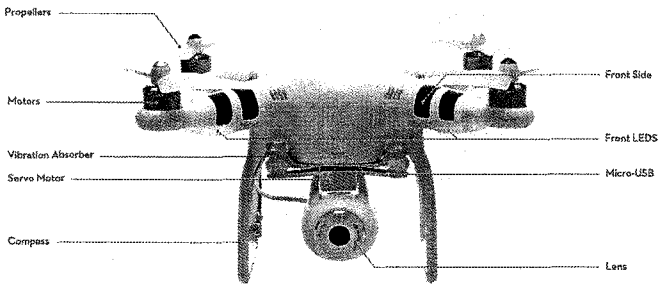
Learn More : www.dji.com

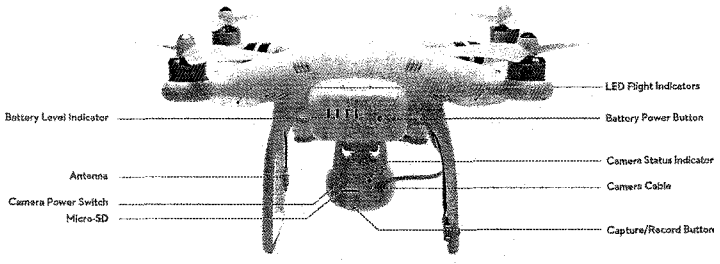


Basic Flight Operations

⬅ Forward Direction (Indicates Front Side)







PHANTOM 2 VISION

QUICK START GUIDE

0

Scan QR Code to Watch the Quick Start Video
or browse direct to
www.dji.com/phantom2vision/training

Preparing to fly

How to connect to the DJI VISION App

The basics of flying, recording and sharing

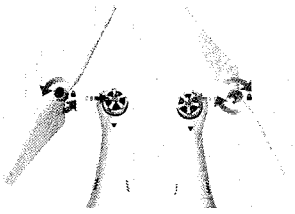
⚠ ATTENTION: For SAFETY reasons and for further flight instruction, it is advised that you watch the videos above in full before attempting to use the Phantom.

1

ATTACHING THE PROPELLERS

- Remove the four warning cards from the motors.
- Screw the propellers, clockwise for grey nuts and anti-clockwise for black nuts, onto the four motors. Be sure to match the black propeller nuts with the black dot motors.

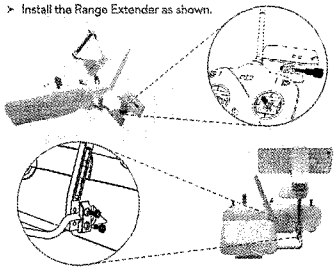
⚠ ATTENTION: DO NOT use thread lock on the propeller shafts.



2

PHONE HOLDER & RANGE EXTENDER

- Install the Philips screws as shown to correctly attach the Phone Holder.
- Install the Range Extender as shown.

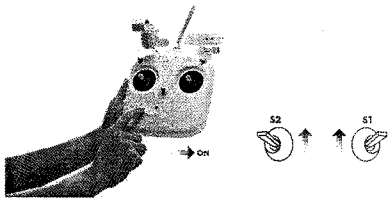


3

PREPARING THE REMOTE CONTROLLER

- Be sure S1 and S2 are switched to the upper most position.
- Install 4 x AA batteries into the back of the Remote Controller.

⚠ ATTENTION: A continuous beeping sound emitted from the Remote Controller indicates LOW BATTERY VOLTAGE.

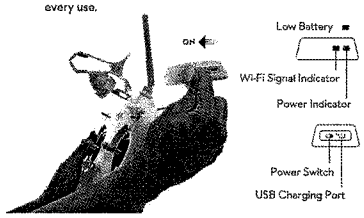


4

SWITCHING ON THE RANGE EXTENDER

- Before flying, be sure to switch on the Range Extender.

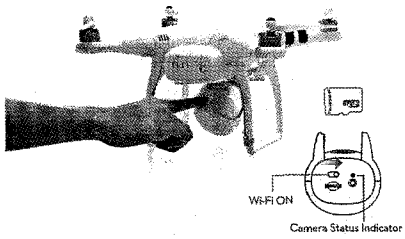
⚠ ATTENTION: If the power indicator on the Range Extender displays red, it means that there is LOW BATTERY power and needs to be recharged. To avoid this in the future, it is suggested that you charge the Range Extender fully before every use.



5

PREPARING THE CAMERA

- Make sure the switch is on the "Wi-Fi ON" position.
- Insert a micro SD card.

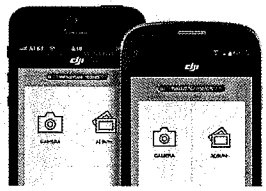


6

INSTALLING THE DJI VISION APP

- To install the DJI VISION App onto your mobile phone, either download from the Apple App Store or the Google Play Store.
- You can also use the QR Code below to scan and download.
- Once installed, start the App and register.

Scan QR Code above

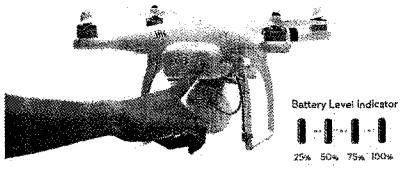


7

TURNING THE FLIGHT BATTERY ON/OFF

- Press the circular button once, then press and hold for 2 seconds to turn on the flight battery.
- Press the circular button once, then press and hold for 2 seconds to turn off the flight battery.

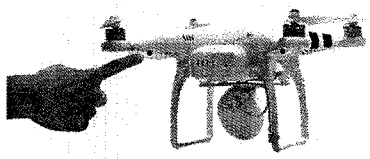
⚠ ATTENTION: Pressing the circular button once with no further action will indicate current BATTERY LEVEL.



8

LED FLIGHT INDICATORS

- Slow green flashing indicates ready to fly with GPS.
- Slow yellow flashing indicates ready to fly without GPS.
- Fast yellow flashing indicates your Remote Controller is switched off.
- Fast red flashing indicates low flight battery level.
- Please refer to the card attached to the Remote Controller for more details.

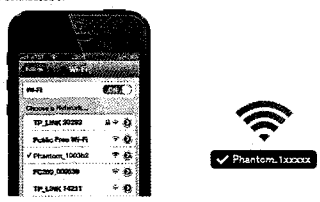


9

CONNECTING TO THE CAMERA

- First switch on the Range Extender before activating the Phantom 2 Vision.
- Be sure Wi-Fi on your mobile device is switched on.
- Connect to the SSID Phantom_1XXXXX, which should appear in your Wi-Fi signals list approx. 30 seconds after both the Range Extender and Phantom 2 Vision are powered on.

⚠ ATTENTION: ALWAYS connect to the SSID Phantom_1XXXXX. FC200_0XXXXX is the SSID of the Camera and SHOULD NOT be connected to.

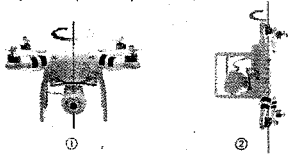


10

CALIBRATING THE COMPASS

- Rapidly flip the S1 switch from the 'fully up' to the 'fully down' positions for at least 10 times.
- Once the LED Flight Indicators change to display solid yellow, the compass calibration mode has been initiated.
- Holding the Phantom horizontally, rotate it 360° on its center axis until the LED Flight Indicators switch to solid green.
- Then while holding the Phantom vertically, rotate 360° on its center axis until the LED Flight Indicators light disappears.

⚠ ATTENTION: If the LED Flight Indicators flash between yellow and red, then the process has FAILED. You must start over and repeat the previous steps until the process is successful.



11

BEGINNING YOUR FIRST FLIGHT

- Start by placing the Phantom 2 Vision on the ground with the Battery Life Indicator lights facing yourself.
- Switch on the Remote Controller.
- Turn on the flight battery.
- If you wish to use your mobile phone, be sure that you are connected to the Phantom 2 Vision via the App.
- Pull both sticks on the remote controller to bottom corners as shown to start/stop the motors.
- Start flying.

⚠ ATTENTION: ONLY stop the motors after the Phantom 2 Vision has landed. DO NOT stop the motors during flight!

Start/Stop Motors

PHANTOM 2 VISION

User Manual V1.8

January, 2015 Revision

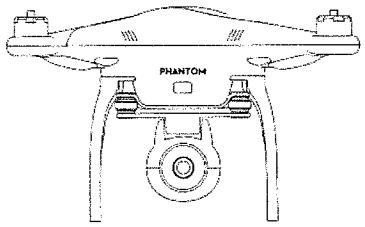
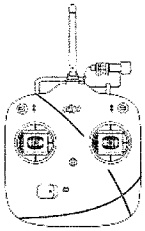
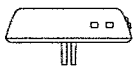
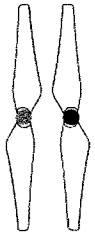
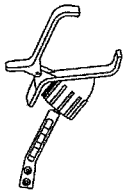
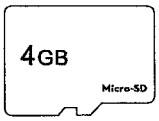
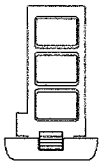
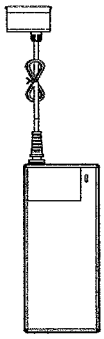
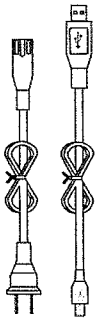
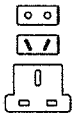
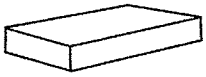
Congratulations on purchasing your new DJI product. Please thoroughly read the entire contents of this manual to fully use and understand the product.

It is advised that you regularly check the PHANTOM 2 VISION's product page at **www.dji.com** which is updated on a regular basis. This will provide services such as product information, technical updates and manual corrections. Due to any unforeseen changes or product upgrades, the information contained within this manual is subject to change without notice.

If you have any questions or concerns regarding your product, please contact your dealer or DJI Customer Service.

Index

In the Box

PHANTOM 2 VISION X1	5.8GHz Remote Controller X1	Range Extender X1
		
Propeller Pair X4	Mobile Device Holder X1	Micro-SD Card X1
		
Intelligent Battery X1	Charger X1	Cables X1
		
Plug Set X1	Screw X12	Screwdriver X 1
		
Assistant Wrench X1	Accessories Box X1	
		

Symbol Legend

Forbidden(Important) Caution Tip Reference

Watch the Quick Start Videos

This user manual details installation and usage procedures of the product. In addition, we provide a range of quick start videos. It is advised that you watch them fully before attempting to use the product.

Approach 1	Direct link.	www.dji.com/phantom-2-vision/training	
Approach 2	Scan the QR code to get the quick start video link.		Preparing for flight.
			How to connect to the DJI VISION App.
			The basics of flying, recording and sharing.

Downloading the DJI VISION App

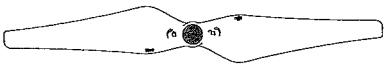
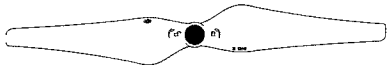
Before attempting to use the product, please download and install the DJI VISION App. Get the DJI VISION App according to the following methods.

Approach 1	Download from the App store or Google Play.	iOS user	Search "DJI VISION" from App Store.
		Android user	Search "DJI VISION" from Google Play.
Approach 2	Scan the QR code to get the download link.		Scan and download.

1 Attaching the Propellers

Please use the original 9-inch propellers which are classified by the color of each central nut. Damaged propellers can be replaced by purchasing new ones if necessary.

1.1 Introduction

Propellers	Grey Nut (9450)	Black Nut (9450 R)
Diagram		
Assembly Location	Attach to the motor thread that **does not have a black dot.**	Attach to the motor thread that **has a black dot.**
Fastening/Un-fastening Instructions	Lock: Tighten the propeller in this direction. Unlock: Remove the propeller in this direction.	

1.2 Assembly

1. (Fig.1) Remove the four warning cards from the motors after you read them.
2. (Fig.2) Prepare the two grey nut propellers and two black nut propellers. Make sure to match the black nut propellers with the correctly marked black dot motors. Tighten the propellers according to the fastening instructions.

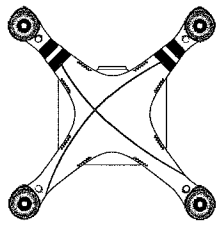


Fig.1

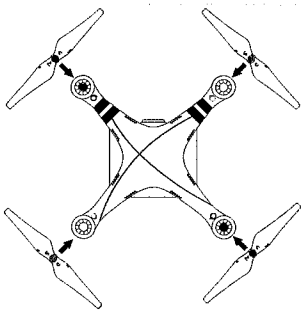


Fig.2

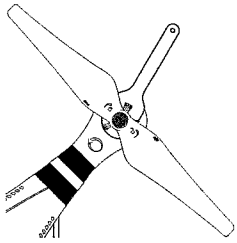


Fig.3

1.3 Removing the Propellers

(Fig.3) Keep the motor deadlocked in place with the assistant wrench (or one hand) and remove the propeller according to the un-fastening instructions.

1.4 Notes

(1) Propellers are self tightening during flight. DO NOT use any thread locker on the threads.

(2) Make sure to match the propeller nut colors with the corresponding motors.

(3) It is advised to wear protective gloves during propeller assembly and removal.

(4) Check that the propellers and motors are installed correctly and firmly before every flight.

(5) Check that all propellers are in good condition before flight. DO NOT use any ageing, chipped, or broken propellers.

(6) To avoid injury, STAND CLEAR of and DO NOT touch the propellers or motors when they are spinning.

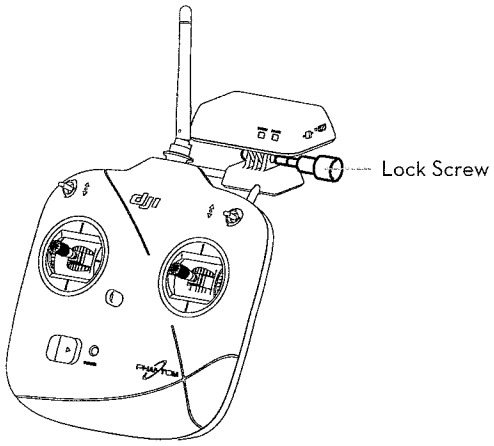
(7) ONLY use original DJI propellers for a better and safer flight experience.

2 Installing the Range Extender and Mobile Device Holder

2.1 Installing the Range Extender

1. Adjust the range extender to align with the mounting bracket installed on the carrying handle.
2. Tighten the lock-screw to affix the range extender on the right side of the carrying handle.

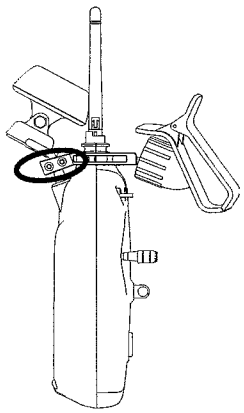
	(1) Make sure the assembly orientation is correct with the LED side facing you. (2) To obtain better communication, try to keep the range extender facing the aircraft during flight.

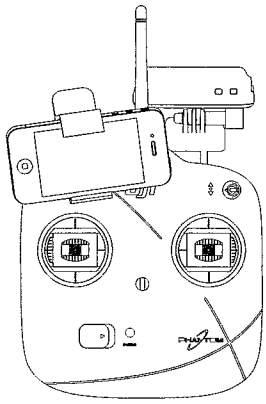


2.2 Installing the Mobile Device Holder

1. Tighten the Philips screws as shown to correctly attach the mobile device holder on the left side of the carrying handle.
2. Affix the mobile device sideways within the holder.

	(1) Make sure the assembly orientation is correct. The mobile device should be facing you when mounted. (2) It is recommended not to use oversized mobile devices (e.g. iPad), which cannot be placed into the Mobile Device Holder.



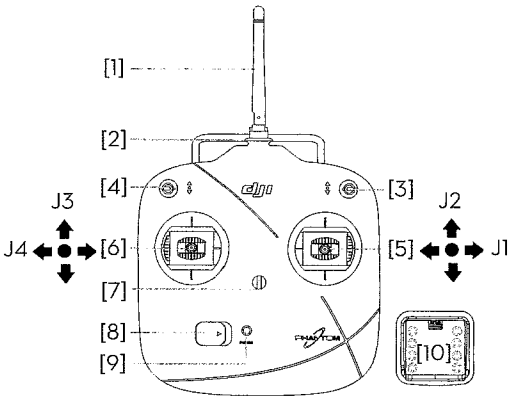


3 Preparing the Remote Controller

The PHANTOM 2 VISION remote controller is a wireless communication device that uses the 5.8GHz frequency band. It is compliant with CE and FCC (see the FCC ID) regulations and is set to Mode 2 before delivery. The compliance version can be configured by twisting the potentiometer knob on the back of the remote controller. The stick configuration can also be reset in the PHANTOM RC Assistant. Refer to the PHANTOM RC Assistant and the Compliance Version Configuration (Page 12) for details.

	(1)	CE compliant devices have an effective communication range of 300 meters in open spaces due to power limitations. Be sure to watch your fight distance as the PHANTOM 2 VISION will enter Failsafe mode (auto-landing or go home and land) if it flies beyond this range.
⚠	(2)	FCC compliant devices have an effective range of 500 meters in open spaces. Be sure to watch your fight distance as the PHANTOM 2 VISION will enter Failsafe mode (auto-landing or go home and land) if it flies beyond this range.
	(3)	Pay attention to and follow local laws and regulations.

3.1 The Remote Controller

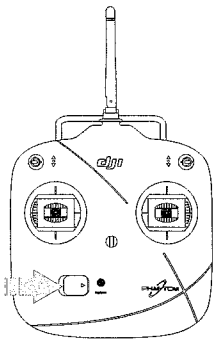


[1]	Antenna
[2]	Carrying Handle
[3]	Switch S1
[4]	Switch S2 (Reserved)
[5]	Joystick(J1: Roll [left & right], J2: Pitch [front & back])
[6]	Joystick(J3: Throttle [up & down], J4: Yaw [rotation])
[7]	Neck Strap Attachment
[8]	Power Switch
[9]	Power Indicator
[10]	Battery Compartment (On the back)

3.2 Power on the Remote Controller

1. Install the four AA Batteries (not included) into the battery compartment on the back of the remote controller according to the negative and positive poles.
2. Set the S1 and S2 switches to the upper most position (position-1, refer to the Remote Controller Operation (Page 10) for details) and ensure both joysticks are at the mid-point position. Then toggle on the power switch.
3. There will be a power on indicator beep. If the remote controller is set to be CE compliant, then there will be one beep, while the FCC compliant version will emit two beeps. The power indicator blinks green

quickly indicating the remote controller and receiver is linking. Once fully linked, the power indicator will change to a solid green.



(1) If the low voltage warning alert sounds (refer to the Remote Controller Power Indicator Status Information (Page 9)), please replace batteries as soon as possible.

(2) Using the incorrect type of battery may prevent a risk of damage.

(3) Remove the batteries after use and dispose of them safely.

(4) For long term storage, be sure to remove the batteries from the remote controller.

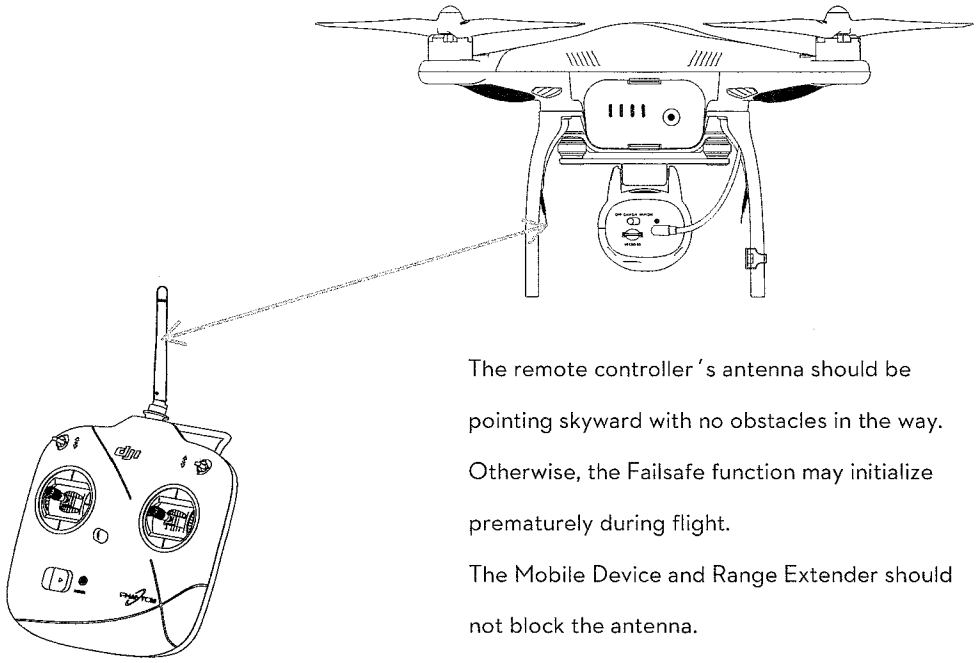
3.3 Remote Controller Power Indicator Status Information

Power indicator	Sound	Remote Controller State
▬▬▬▬	None	Functioning normally.
●●●●●●	None	Establishing a link between the remote controller and the receiver.
● ● ● ●	B-B-B.....	Low voltage (at 3.9V-4.5V), should replace the batteries immediately.
●●●●●●	BBBB	Low voltage (lower than 3.9V). The remote controller will automatically power off. Batteries should be replaced immediately.
● ● ● ●	B-B-B.....	The remote controller will display a blinking green light and sound an alarm after 15 minutes without operator input. The alarm status will disappear once you start operation of the remote controller.

The remote controller will blink the LED and sound an alert when the voltage drops below 3.9V and automatically power off after 3 seconds. This process will repeat even if you power cycle the remote controller. If this low voltage warning occurs during flight, the remote controller will automatically power off causing the aircraft to enter Failsafe mode, which cannot be interrupted (refer to the Failsafe Function (Page 32) for details). It is strongly recommended to replace batteries if the 3.9V-4.5V low voltage warning occurs.

3.4 Antenna Orientation

Try to keep the antenna pointing skyward, perpendicular to the ground, in order to achieve the maximum communication range during flight.



The remote controller's antenna should be pointing skyward with no obstacles in the way. Otherwise, the Failsafe function may initialize prematurely during flight.

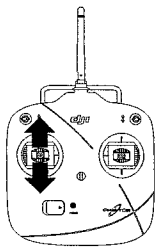
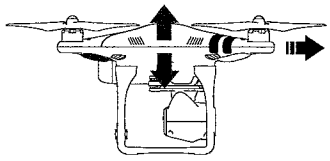
The Mobile Device and Range Extender should not block the antenna.

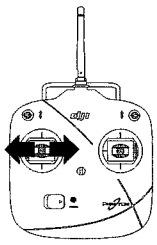
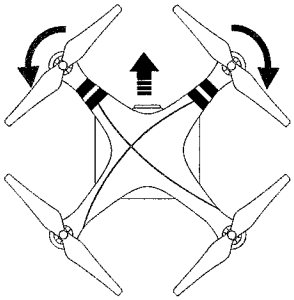
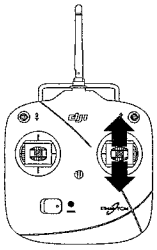
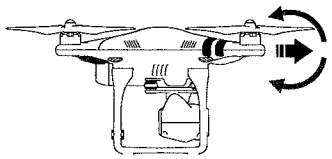
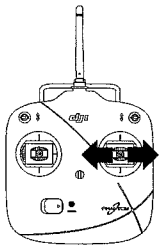
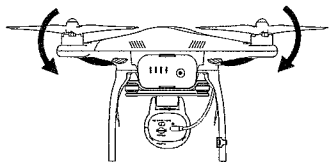
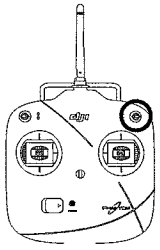
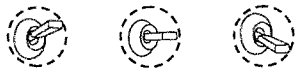
3.5 Remote Controller Operation

Definitions

The '**stick neutral**' positions and '**stick released**' mean the control sticks of the remote controller are placed at the central position.

To '**move the stick**' means that the stick of remote controller is pushed away from the central position.

Remote Controller (Mode 2)	**Aircraft** (◀ nose direction)	**Operation details**
		The throttle stick controls aircraft altitude/elevation. Push the stick up and the aircraft will rise. Pull the stick down and the aircraft will descend. The aircraft will automatically hover and hold its height if the sticks are centered. Push the throttle stick above the centered (mid-point) position to make the aircraft take-off. When flying, we suggest that you push the throttle stick slowly to prevent the aircraft from sudden and unexpected elevation changes.

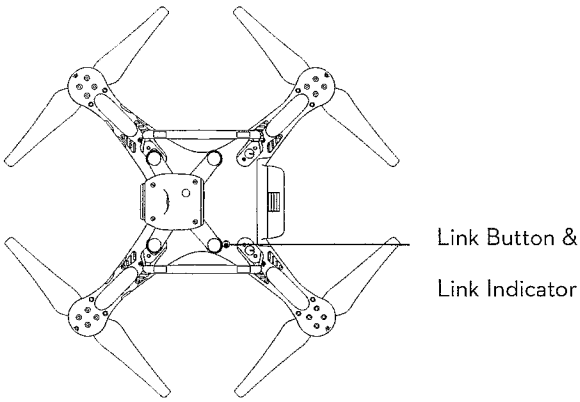
		The yaw stick controls the aircraft rudder. Push the stick left and the aircraft will rotate counter clock-wise. Push the stick right and the aircraft will rotate clock-wise. If the stick is centered, the aircraft will remain facing the same direction. The yaw stick controls the rotating angular velocity of the aircraft. Pushing the stick further away from center results in a faster aircraft rotation velocity.
		The pitch stick controls the aircraft's front & back tilt. Push the stick up and the aircraft will tilt and fly forward. Pull the stick down and the aircraft will tilt and fly backward. The aircraft will keep level and straight if the stick is centered. Pushing or pulling the stick further away from center will result in a larger tilt angle (maximum of 35°) and faster flight velocity.
		The roll stick controls the aircraft's left & right tilt. Push the stick left and the aircraft will tilt and fly left. Push the stick right and the aircraft will tilt and fly right. The aircraft will keep level and straight if the stick is centered. Pushing the stick further away from center will result in a larger tilt angle (maximum of 35°) and faster flight velocity.
	 Position-1 Position-2 Position-3	S1 is for compass calibration. Toggle the S1 from position-1 to position-3 and back to position-1 at least 6-10 times, which will force the aircraft to enter into compass calibration mode.

⚠	(1) For 'Ready to Fly' the aircraft will hover (hold a stable horizontal position) when all sticks are released. (2) For 'Ready to Fly (non-GPS)' the aircraft will keep the aircraft level without horizontal positioning when all sticks are released.

3.6 Link between the Remote Controller and Receiver

There is a 5.8G receiver in the PHANTOM 2 VISION, with the link button and indicator located on the bottom of the aircraft as illustrated in the following diagram.

The link between the remote controller and aircraft is already established for you so you can initially skip this procedure. If you ever replace the remote controller, re-establishing the link is required.



Link Procedures

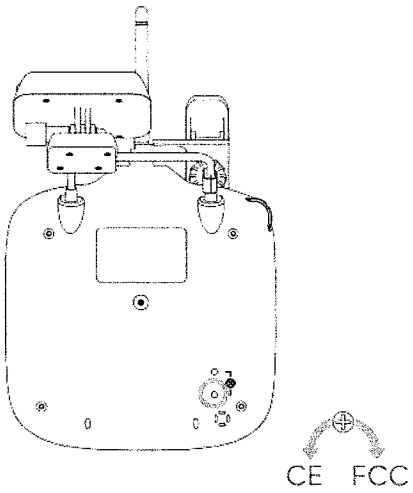
1. Power off the remote controller, power on the aircraft. You will see the link indicator blinking red.
2. Press the link button with a thin object and hold until the link indicator blinks yellow. Release the link button.
3. Power on the remote controller and the link indicator should switch off. This indicates that the link has been successfully established.

Link Indicator

Link Indicator	Description	Operation
● ● ● ● ●	No signal received.	Switch on the remote controller or perform a link procedure.
● ● ● ● ●	In link status.	Switch on the remote controller.

3.7 Compliance Version Configuration

The compliance version can be reconfigured by twisting the potentiometer knob (See the following diagram) on the back of the remote controller using a flathead screwdriver. For CE compliance, set the remote controller to CE compliance by carefully turning the potentiometer knob to the full counter clock-wise position. For FCC compliance, set the remote controller to FCC compliance by carefully turning the potentiometer knob to the full clock-wise position. Users should follow their local regulations accordingly.



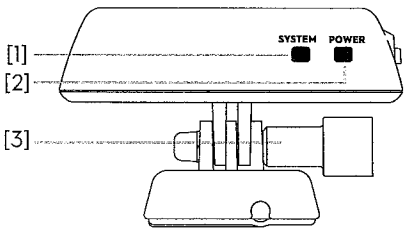
⚠	When adjusting the potentiometer knob to its limit position, be very careful to prevent damaging the potentiometer knob. Do not apply too much force during this adjustment. Also be sure to use the correct sized screwdriver.
💡	(1) It is recommended to use a flathead screwdriver of Φ 2.4mm for adjustment. (2) You can use the DJI screwdriver with the flathead for adjustment. (3) There is another potentiometer reserved.

4 Preparing the Range Extender

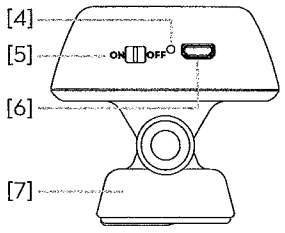
The PHANTOM 2 VISION range extender is a wireless communication device that operates within the 2.4 GHz frequency band and is used for extending the effective range of communication between a mobile device (Smartphone) and the PHANTOM 2 VISION. In an open unobstructed area, the transmission distance can reach up to 300 meters, but is usually affected by the surrounding environment, such as trees, buildings and other sources of the same frequency. Before every flight, it is suggested that you ensure the range extender functions properly. Otherwise you may experience a communication issue with the mobile device and the PHANTOM 2 VISION.

Each range extender has a unique MAC address and network name (SSID), details of which are printed on the back label as 'Phantom_xxxxxx'. The 'xxxxxx' represents the last six letters or numbers of the MAC address for the range extender.

4.1 The Range Extender



Front View



Right View

[1]	Wi-Fi Signal Indicator
[2]	Power Indicator
[3]	Lock-screw
[4]	Reset Button
[5]	Power Switch
[6]	Micro-USB
[7]	Mounting Bracket

4.2 Function Description

[1] Wi-Fi Signal Indicator (SYSTEM)

Tells you the system status of the range extender.

Wi-Fi Signal Indicator	Description
● ● ● ●	The range extender system is working normally.
Off	The range extender system is working abnormally.

[2] Power Indicator (POWER)

Tells you the power status of the range extender.

Power Indicator	Description
▬▬▬	The range extender is working normally or completely charged.
▬▬▬	Low voltage alert, a re-charge is required.
▒▒▒	The range extender is charging (allow for 3~4 hours, depending on USB power output).

(1) Make sure to charge the range extender completely before using it for the first time.

(2) If the power indicator is a solid red light, the ranger extender may stop working at any moment. Recharge it as soon as possible.

(3) It is recommended to charge the range extender completely before each use.

(4) Turn off the range extender after every use.

(5) Keep the range extender facing the aircraft during flight for the best communication link.

[3] Lock-screw

For attaching the range extender on the right side of the remote controller's carrying handle.

[4] Reset Button:

Press to link the range extender and the camera.

[5] Power Switch:

ON – Power on.

OFF – Power off.

[6] Micro-USB

Used to charge the range extender.

[7] Mounting Bracket

It has been pre-installed on the remote controller's handle. It is used to attach the range extender.

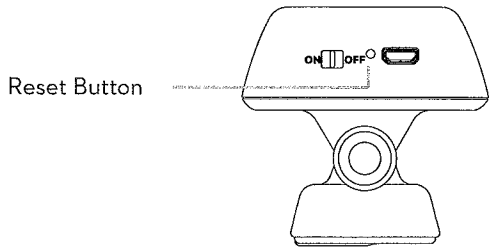
4.3 Powering on the Range Extender

1. Toggle the power switch of range extender to ON position.
2. Wait for approximately 30 seconds. The Wi-Fi signal indicator should blink green indicating the range extender is communicating properly.

It is advised that you power off the range extender after every flight to avoid discharging the battery.

4.4 How to Bind the Camera & Range Extender

If the camera and range extender connection is lost, or one of them needs to be repaired or replaced, a camera and range extender binding will need to be performed via the DJI VISION App.



1. Power on the camera and range extender. Note: (Place the camera power switch to the 'WIFI ON' position).
2. Approximately 30 seconds later, press the reset button on the range extender with a thin object until the Wi-Fi signal indicator turns off. The range extender will then restart automatically.
3. Approximately 30 seconds later, the Wi-Fi signal indicator should start to blink green, which indicates the range extender is now ready to be bound.
4. Find and select the Phantom_xxxxxx via the Wi-Fi list on the mobile device to connect the range extender.
5. (Fig.1) Run the DJI VISION App->Settings->General->Binding. (Fig.2) Select 'Scan the QR Code' to scan the camera QR code on the product packaging. (Fig.3) Get the camera SSID (E.g. FC200_0xxxxx) and the MAC address, select the tick ✔ on the top right corner. The range extender should automatically restart. The binding procedure is now complete.

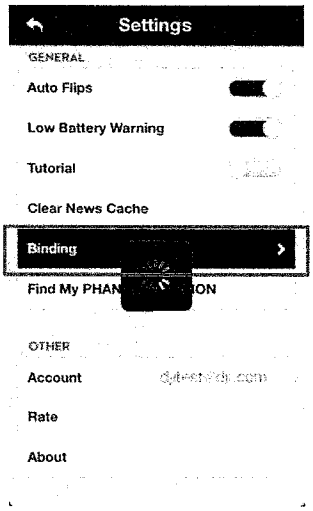


Fig.1

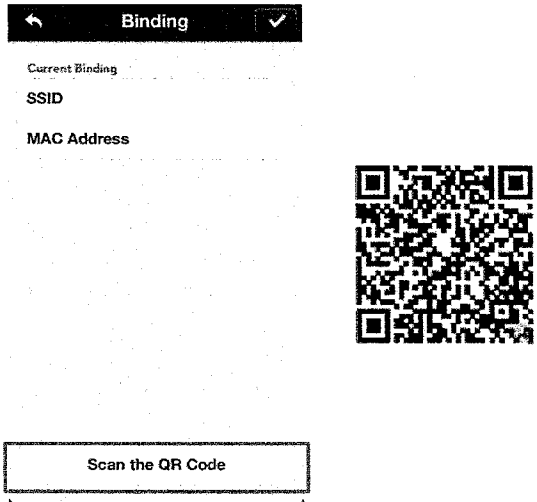


Fig.2 (QR code is only for example.)

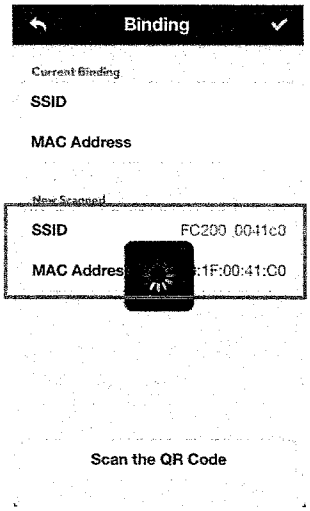


Fig.3

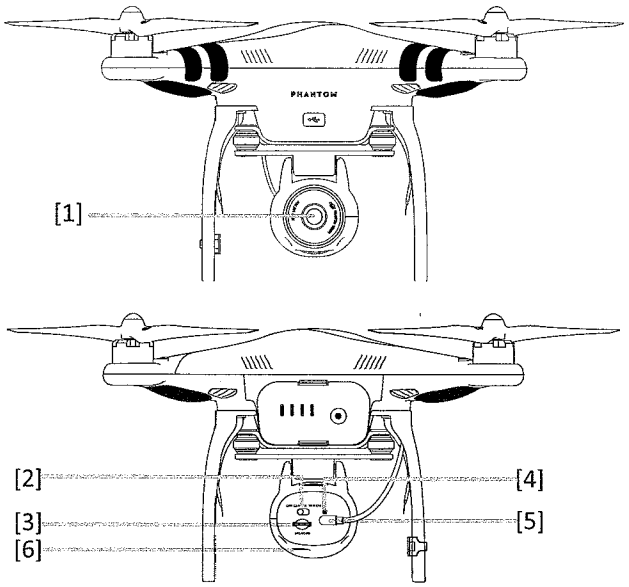
(1) If both the camera and range extender are powered on and working normally, you will be able to find the SSID on the Wi-Fi list of the mobile device.

(2) DO NOT push the reset button of the range extender unless you are ready to rebind the range extender and the camera! This will unbind your camera and you must follow the steps above to rebind.

(3) The QR code is located on the packaging of the PHANTOM 2 VISION. If you cannot find the QR code, please contact DJI customer service to receive the QR code related to your camera's serial number.

5 Preparing the Camera

5.1 The built-in camera



[1]	Lens
[2]	Camera Power Switch
[3]	Micro-SD Card Slot
[4]	Camera Status Indicator
[5]	Camera Cable
[6]	Capture/Record Button

Camera Features	Specifications
Resolution	14 Megapixels
FOV	120° / 110° / 85°
Sensor size	1/2.3"
Functions	Supports multi-capture, continuous capture and timed capture Supports HD Recording (1080p30/1080i60) Supports both RAW and JPEG photo formats

5.2 Main Functions

[1] Lens

For viewing and photographing, with main parameters of f/2.8 , FOV 120°.

Please remove the lens cover when the camera is in use and replace the cover for storage.

[2] Camera Power Switch (on the back of the camera)

Used to power the camera on and off.

OFF - Powered off.

CAM ON - Power on, Wi-Fi off.

WIFI ON - Power and Wi-Fi are both on. Make sure to switch to 'WIFI ON' and the range extender is powered on if using the DJI VISION App.

[3] Micro-SD Card Slot (on the back of the camera)

Make sure that the Micro-SD card is inserted before you take any photos or record any videos.

(1) Maximum supported Micro-SD card capacity is 32GB.

(2) The DJI VISION App may not be able to read the Micro-SD card prepared by the user. It is suggested that you use the DJI VISION App to format the Micro-SD card when first used in the camera.

(3) Refer to the Camera Settings (Page 46) for Micro-SD card formatting details.

[4] Camera Indicator (on the back of the camera)

The Camera Indicator is used to inform the user of the working status of the camera.

Camera indicator	Wi-Fi	Camera status
● Solid	OFF	Power On; Idle State
● Slow Blink (0.2s on, 1.8s off)	ON	Idle State
● Fast Blink (0.1s on, 0.3s off)	ON	Synchronizing photos and videos
● Solid	OFF	Recording
● Blink Once (0.2s on, 0.3s off)	ON/OFF	Taking a single capture
● Blink 3 Times(0.1s on, 0.1s off)	ON/OFF	Taking 3 or 5 photos per shot
● Fast Blink (0.1s on, 0.3s off)	ON/OFF	Firmware Upgrading
●● (0.2s green, 1.8s orange)	ON	Recording
● Solid	ON/OFF	Critical error
● Slow Blink (0.2s on, 1.8s off)	ON/OFF	CMOS sensor error
● Blink Once (0.2s on, 0.3s off)	ON/OFF	Operation failed
● Blink 3 Times(0.1s on, 0.1s off)	ON/OFF	Micro-SD Card error
● Fast Blink (0.1s on, 0.3s off)	ON/OFF	Upgrade error
●●● (0.5s green, 0.5s orange, 0.5s red, 0.5s Off)	ON/OFF	Camera has overheated

When camera temperature rises above 80℃, the LED indicator will blink ●●●. The camera will automatically power off if the temperature rises above 85℃.

[5] Camera Cable (on the back of the camera)

Make sure that the camera cable is firmly attached to the camera before powering the camera on.

[6] Capture/Record Button (on the bottom of the camera)

Capture function: Press the button once (less than 2 seconds) to take a single capture.

Record function: Press the button once (greater than 2 seconds) to begin recording. Press once again to stop.

5.3 Upgrading the Firmware of Camera

Follow the below instructions to update your firmware.

1. Download the latest firmware of camera from DJI website.
2. Copy the "firmware.bin" file to the root folder of your Micro-SD card.
3. Insert the SD card into the camera before turning it on.
4. Turn on the camera.
5. The firmware update will begin automatically. A yellow flashing LED indicates that the camera is updating.
6. When the yellow flashing disappears, the firmware has been updated. After a successful update, the "firmware.bin" file's name will change to "firmware.bin.bak00". This file can now be deleted.

(1) During the update, do not turn off the camera or take out the Micro-SD card. This may prevent your camera from switching on and will need a factory reset.

(2) A fast red flashing LED after the update means the update has failed. Please try again.

(3) For the v1.1.8 version of the PHANTOM 2 VISION Camera, PAL support has been added to the camera including 1080p25 and 960p25.

6 Downloading and Installing the DJI VISION App

6.1 Download and Install

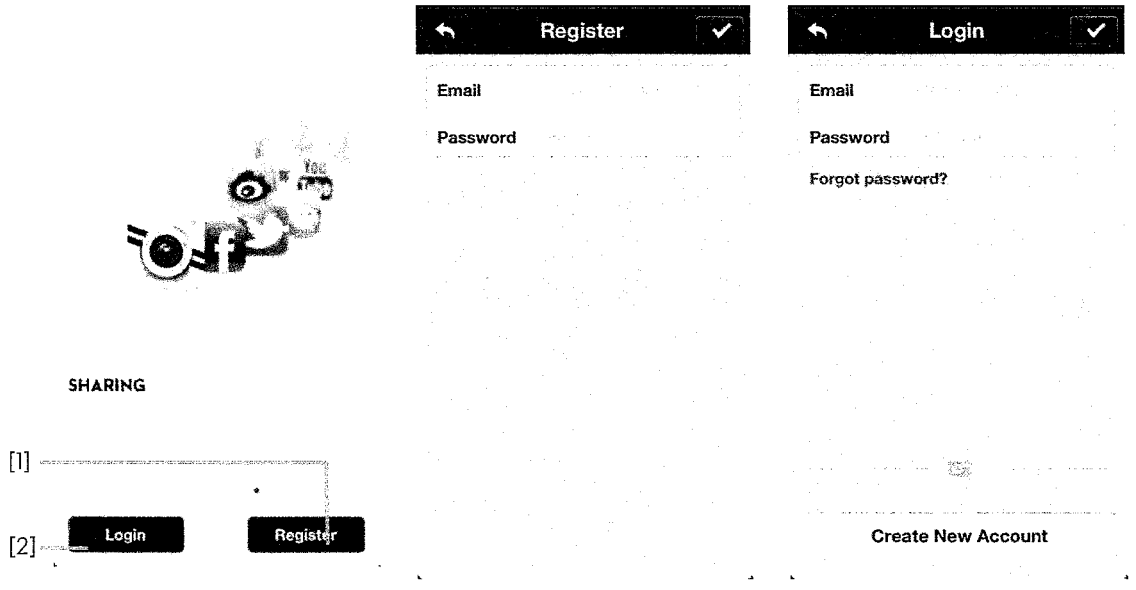
Download and install approaches		
Approach 1	Scan the QR code to read the download link. Download and install the DJI VISION App on your mobile device. You can find the QR code on the 'Quick Start Guide' as well as on the packaging of the PHANTOM 2 VISION.	
Approach 2	iOS user	Search "DJI VISION" from App Store, download and install on your mobile device.
	Android user	Search "DJI VISION" from Google Play, download and install on your mobile device.

Supported mobile devices	
iOS (iOS6 or above)	Recommended: iPhone4s, iPhone5, iPhone5s, iPhone5C, iPhone6, iPhone6 Plus, iPod Touch4, iPod Touch5; Available but not recommended: iPad3, iPad4, iPad mini.
Android (System 4.0 or above)	Samsung Galaxy S3, S4, Note2, Note3 or mobile devices of similar configuration.

	DJI continues to support many mobile devices and any information from users are welcome. Please send any questions or queries to the following mailbox: phantom2vision@dji.com.
	Be aware that the DJI website regularly updates so make sure you visit often as well as the App Store or Google Play in order to download the latest version of the DJI VISION App.

6.2 Register & Login

	Access the Internet to register and login.



The App Welcome Page Registration Page Login Page

[1] Register

Select 'Register' to enter the registration page. Fill in your Email and Password information and then select ✔ to create a new account.

[2] Login

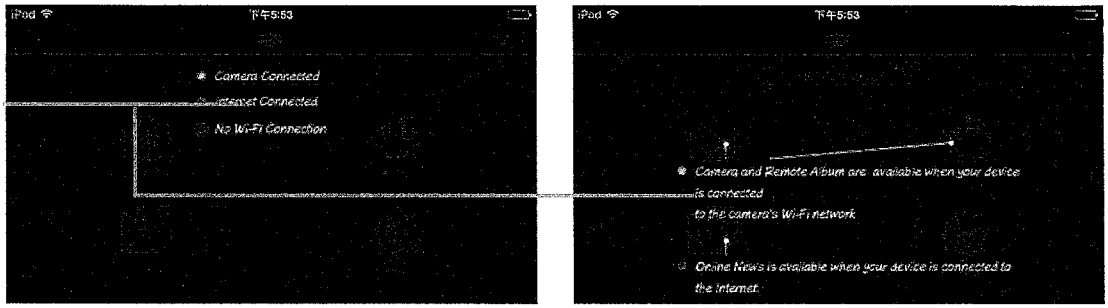
Select 'Login' to enter the login page. Fill in your registered Email and Password and then select ✔ to login.

⚠	(1) You should login to your account the first time you use the DJI VISION App. (2) If you do have an account, but forgot the password, select the "Forgot password" to retrieve it.

[3] Usage tips

Useful tips will display when you enter the welcome page. Tap the screen to display the next useful tip.

[3]



7 Preparing the Flight Battery

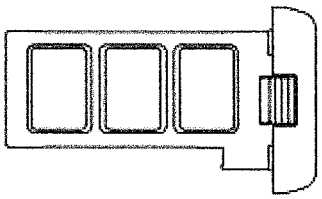
Before use, please read and follow the user manual, disclaimer, and the warnings on the battery.

Users take full responsibility for all operations and usage.

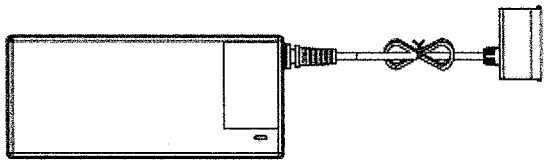
7.1 Intelligent Battery and Charger Instructions

The intelligent battery is specially designed for the PHANTOM 2 VISION, with a battery capacity of 5200mAh, voltage of 11.1v and charge-discharge management functionality. The battery should only be charged with the charger provided by DJI. DJI does not take any responsibility for operation of any charger from a third party. There are many features provided by the DJI charger:

- Balance charge protection
- Full charge protection
- Short circuit protection
- Output protection
- Sleep protection
- Overheating protection



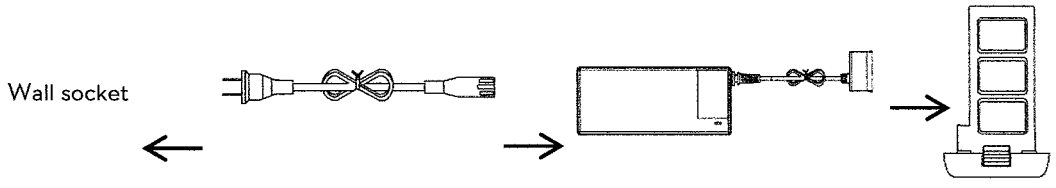
Intelligent Battery

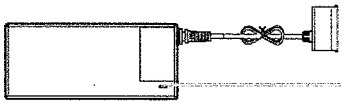


Charger

7.2 Charging Procedures

1. Connect the battery to the charger while the power is OFF.
2. Connect the charger to a wall socket. The charger indicator light will turn a solid red when it is charging.
3. Wait until the charger indicator turns solid green to which indicates that the battery is completely charged.



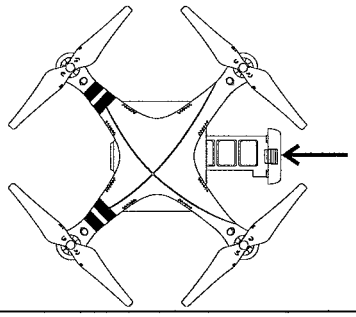


Charger Indicator

Charger indicator	Status of charge
■	Charging.
■	Completely charged.

7.3 Install the Battery

Push the battery into the battery compartment correctly as the following diagram shows. Make sure to push the battery into the compartment until you hear a ' click ' sound.



An incorrectly inserted battery may cause one of the following to occur:

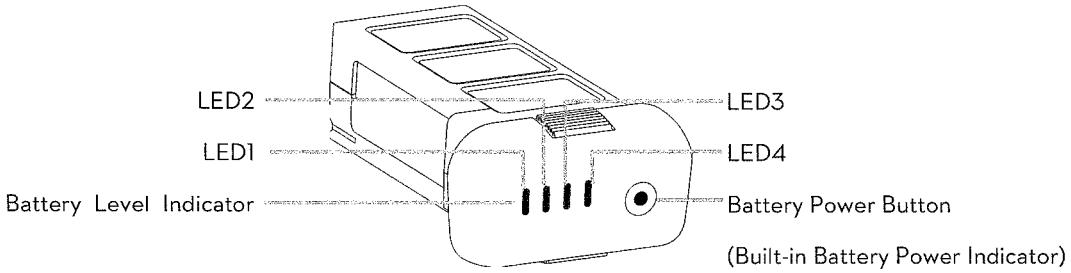
(1) Bad contact.

(2) Unavailable battery information.

(3) Unsafe for flight.

(4) Unable to take off.

7.4 Battery Usage



(1) Checking the battery level: When the battery is powered off; pressing the battery power button once will indicate the current battery level. Refer to Description of the Battery Level Indicator (Page 24) for details.

(2) Powering on: When the battery is powered off; press the battery power button once and then press and hold for 2 seconds to turn on the intelligent battery.

(3) Powering off: When the battery is powered on; press the battery power button once and then press and hold for 2 seconds to turn off the intelligent battery.

More battery information is available in the battery tab of the PHANTOM 2 VISION Assistant.

Description of the Battery Level Indicator

The current battery level is shown during both the charging and discharging process. Refer to the following table for details:

The indicators are defined below : ■ LED is on. ● LED blinks. LED is off.

Battery level indicator	Current battery level

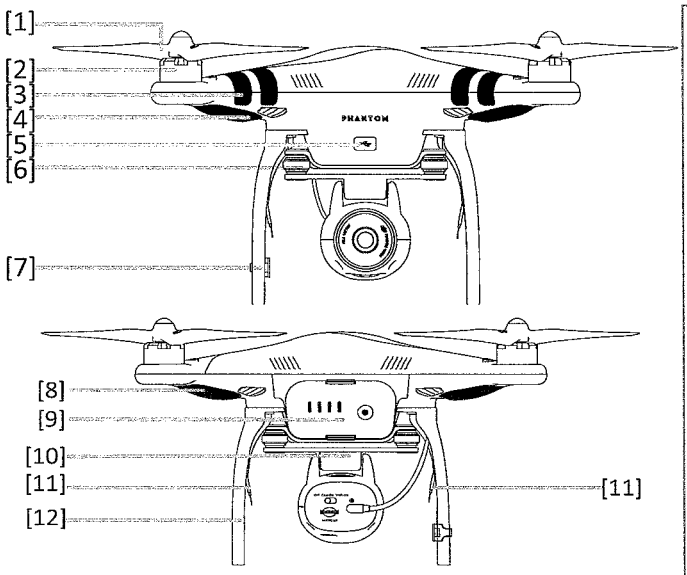
LED1	LED2	LED3	LED4	
■	■	■	■	87.5%~100%
■	■	■	●	75%~87.5%
■	■	■		62.5%~75%
■	■	●		50%~62.5%
■	■			37.5%~50%
■	●			25%~37.5%
■				12.5%~25%
●				0%~12.5%
				<0%

7.5 Correct Battery Usage Notes

- It's suggested you purchase a new battery after you have discharged your current battery over 300 times.
- It's recommended to charge and discharge the battery thoroughly once every 20 charge/discharge cycles. Users should discharge the battery until there is less than 8% power left or until the battery can no longer be turned on. Refer to the DJI VISION App for an exact readout of the battery percentage level. You should then fully recharge the battery to maximum capacity. This power cycling procedure will ensure the battery is working at its optimal level.
- Turn the power OFF when you have finished flying and remove the battery from its compartment. NEVER plug or unplug the battery into the aircraft when it is powered on.
- Take the battery out of the aircraft after every flight and store the battery in a safe and secure place. For long term storage please place the battery with only a 40~50% capacity in a strong battery box securely. We recommend discharging and charging the battery completely once every 3 months to keep it in good condition. The capacity should be varied in such a cycle (40%~50%)—0%—100%—(40%~50%).
- Adhere to the notes for the battery in the disclaimer and regard safety as your first priority.
- The battery should be charged in an environment that is between 10℃ to 40℃, and be discharged in an environment that is between -20℃ to 60℃. Both charging and discharging should be in an environment that the relative humidity is lower than 80%.
- It's suggested that you purchase a new battery if the current battery is swollen or damaged in any way.
- Never try to recharge or fly with a battery that is swollen or damaged in any way.
- Never charge the battery unattended. Always charge the battery on a non-flammable surface such as concrete and never near any flammable materials.

8 PHANTOM 2 Aircraft

8.1 The Aircraft



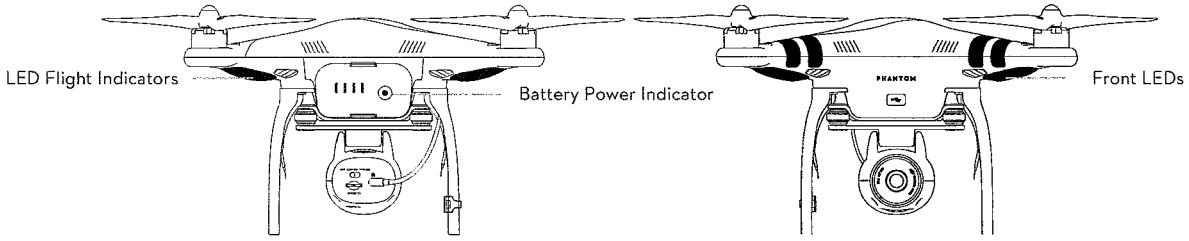
[1]	Propeller
[2]	Motor
[3]	Front Side
[4]	Front LEDs
[5]	Micro-USB
[6]	Vibration Absorber
[7]	Compass
[8]	LED Flight Indicators
[9]	DJI Intelligent Battery
[10]	Servo
[11]	Receiver Antenna
[12]	Landing Gear

8.2 Built-in Flight Control System Instructions

The built-in flight control system is used to control the entire aircraft's functions in flight such as Pitch (forwards and backwards), Roll (left and right), Elevator (up and down) and Yaw (turn left or right). The flight controller contains the MC (Main Controller), IMU, GPS, compass, receiver and LED indicators. The IMU (Inertial Measurement Unit) has a built-in inertial sensor and a barometric altimeter that measures both attitude and altitude. The compass reads geomagnetic information which assists the GPS (Global Position System) to accurately calculate the aircrafts position and height in order to lock the aircraft in a stable hover. The receiver is used to communicate with the remote controller and the MC acts as the brains of the complete flight control system connecting and controlling all the modules together.

8.3 LED Flight Indicators Description

After powering on the intelligent battery, the LED flight indicators light up to show the aircraft's current status.



Front LEDs

The front LEDs are for indicating where the nose of the aircraft is. They light up solid red only after the motors have started spinning.

LED Flight Indicators Description

Normal status	**LED flight indicators**	**Notes**
Power On Self-Test		----
Warming Up		Aircraft cannot take off.
Ready to Fly		Slow blinking green.
Ready to Fly (non-GPS)		Slow blinking yellow.
Abnormal status	**LED flight indicators**	
Remote Controller Signal Lost		Fast blinking yellow. Refer to the Failsafe Function (Page 32).
Low Battery Capacity Warning		Slow blinking red.
Critical Low Battery Capacity Warning		Fast blinking red.
Not Stationary or Sensor Bias is too big		Keep aircraft stationary or perform IMU calibration.
Error*		Cannot fly.
Compass Needs Calibration		Refer to the Calibrating the Compass (Page 30).

(1) The aircraft should be kept stationary on level ground before takeoff.

(2) Make sure the aircraft's status is in Ready to Fly or Ready to Fly (non-GPS) mode before takeoff.

(3) If an error occurs (LED is solid red), please connect to the PHANTOM 2 VISION Assistant for more detailed information.

NO.	Errors	Operation
1	IMU calibration is required.	Calibrate within the Assistant.
2	IMU is abnormal.	Should be repaired.
3	Compass is abnormal.	Should be repaired.
4	Remote Controller's mid-point is set abnormally.	Refer to the How to solve large margin(s) mid-point error? (Page 66) for details.

9 Connecting to the Camera

9.1 Camera Connection Procedures

Please carry out the following procedures to connect a mobile device to the PHANTOM 2 VISION.

1. Power on the remote controller and the range extender.
2. Make sure the switch on the back of the camera is set to "WIFI ON" and then power on the PHANTOM 2 VISION.
3. (Fig.1)Enable the Wi-Fi on your mobile device; wait for about 30 seconds, and then select the Phantom_xxxxxx from theWi-Fi network list.
4. (Fig.2)Run the DJI VISION App on your mobile device which will indicate the current Wi-Fi connection status on the main menu. The Wi-Fi connection indicator will turn solid green which means the connection is good.
5. Tap the "CAMERA" icon and the DJI VISION App will establish a live camera preview (Fig.3). This means everything is now functioning.

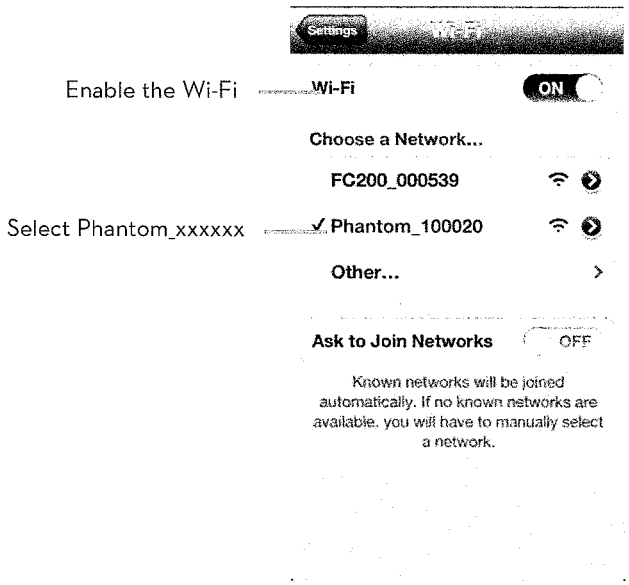


Fig.1

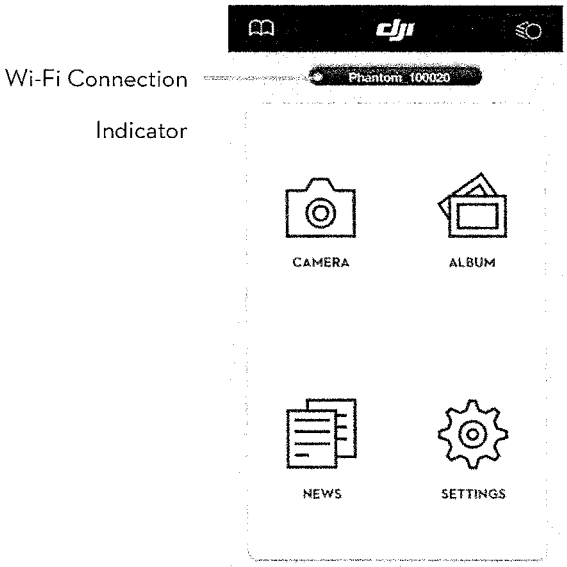


Fig.2

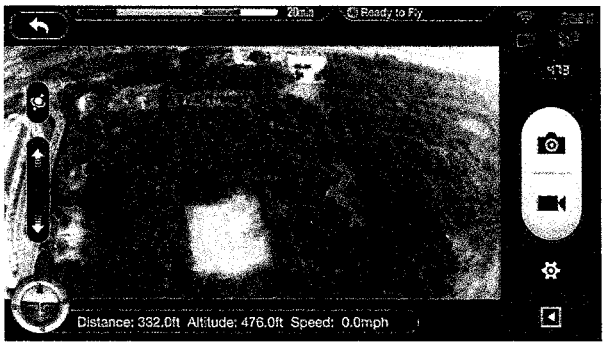


Fig.3

Wi-Fi Connection Indicator Description

Icon		Description
○	Solid green	Wi-Fi is now connected to the PHANTOM 2 VISION.
◉	Solid blue	Wi-Fi is connected to another Wi-Fi network and NOT to the PHANTOM 2 VISION.
●	Off	No Wi-Fi connection.

(1) The first time you launch the DJI VISION App, Internet access is required to finish the login process or new account creation.

(2) The SSID is unique for each PHANTOM 2 VISION which should appear in your Wi-Fi list as Phantom_xxxxxx. Always connect to the SSID starting with Phantom_xxxxxx. FC200_0xxxxx is the SSID of the camera and should not be connected to. If the SSID FC200_0xxxxx is connected to, then the connection signal range will be extremely shortened.

10 Calibrating the Compass

IMPORTANT: Make sure to perform the Compass Calibration procedures prior to the first flight.

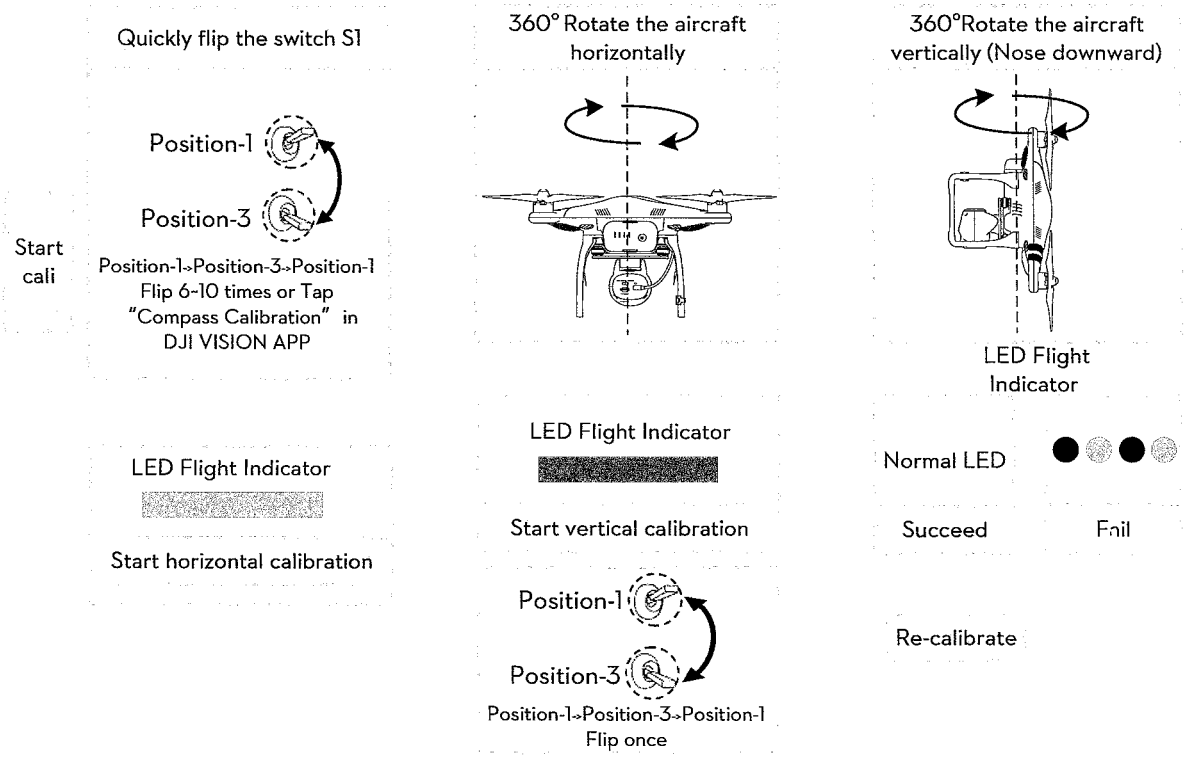
The compass is very sensitive to electromagnetic interference which causes abnormal compass data and leads to poor flight performance or even flight failure. Regular calibration of the compass enables the compass to perform at its optimal level.

10.1 Calibration Warnings

⊘	(1)	DO NOT calibrate your compass where there is a possibility for the existence of strong magnetic interference such as magnetite, parking structures, and steel reinforcement underground.
	(2)	DO NOT carry ferromagnetic materials with you during calibration such as keys or cellular phones.
	(3)	Compass Calibration is very important; otherwise the flight control system will not work properly.

10.2 Calibration Procedures

Choose an open space to carry out the following procedures. Please watch the quick start video of the PHANTOM 2 VISION for more compass calibration details.



10.3 When Recalibration Is Required

(1) When Compass Data is abnormal, the LED flight indicator will blink alternating between red and yellow.

(2) Last compass calibration was performed at a completely different flying field/location.

(3) The mechanical structure of the aircraft has changed, i.e. changed mounting position of the compass.

(4) Evident drifting occurs in flight, i.e. the aircraft doesn't fly in straight lines.

11 Flight

11.1 Flying Environment Requirements

(1) Before your first flight, please allow yourself some flight training (Using a flight simulator to practice flying, getting instruction from an experienced person, etc.).

(2) DO NOT fly in bad weather, such as rain or wind (more than moderate breeze) or fog.

(3) The flying field should be open and void of tall buildings or other obstacles; the steel structure within buildings may interfere with the compass.

(4) Keep the aircraft away from obstacles, crowds, power lines, trees, lakes and rivers etc.

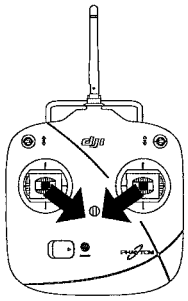
(5) Try to avoid interference between the remote controller and other wireless equipment. (No base stations or cell towers around)

(6) The flight control system will not work properly at the South Pole or North Pole.

(7) All parts must be kept out of the reach of children to avoid CHOKING HAZARDS; if a child has accidentally swallowed any part, you should seek immediate medical assistance.

11.2 Starting/Stopping the Motors

A Combination Stick Command (CSC) is used to start the motors instead of simply pushing the throttle stick up. This is a safety precaution to prevent the motors from accidentally spinning up. Push both sticks to their bottom corners as indicated in the diagram below to start the motors. Once the motors have spun up, release both sticks simultaneously. The same combination stick command (CSC) is used to stop the motors.



11.3 Takeoff/Landing Procedures

1. Start by placing the PHANTON 2 VISION on the ground with the battery level indicator facing you.
2. Power on the remote controller.
3. Power on the range extender.
4. Switch the camera to the "WIFI ON" position.
5. Power on the aircraft by turning on the intelligent battery, refer to the Battery Usage (Page 24) for details.
6. Connect the mobile device to the PHANTOM 2 VISION and then run the DJI VISION App to enter the camera preview page.

7. Wait until the LED flight indicator starts to slowly blink green/yellow. This means the aircraft is initializing and entering the "Ready to Fly"/"Ready to Fly (non-GPS)" state. Then proceed to execute the CSC command to start motors.
8. Push the throttle stick up slowly to lift the aircraft off the ground. Refer to the Remote Controller Operation (Page 10) for more details.
9. Enjoy your flight while capturing and recording with the DJI VISION App. Refer to the Using DJI VISION App (Page 42) for more details.
10. Pull down the throttle stick to descend. The stick will lock into place and the aircraft will descend steadily.
11. After landing the aircraft on the ground, keep the throttle stick at its lowest position for about 3 to 5 seconds which will automatically stop the motors.

⊘	You SHOULD NOT execute the CSC during normal flight! This will stop the motors and cause the aircraft to descend rapidly and drop without any type of control.
⚠	(1) When the LED flight indicator blinks yellow rapidly during flight, the aircraft has entered into Failsafe mode, refer to the Failsafe Function (Page 32) for details. (2) A low battery capacity warning is indicated by the LED flight indicator blinking red slowly or rapidly during flight. Refer to the Low Battery Level Warning Function (Page 34) for details. (3) Watch the quick start video about flight for more flight information. (4) Aircraft and battery performance is subject to environmental factors such as air density and temperature. Be very careful when flying 3000 meters (9800 feet) or more above sea level, as battery and aircraft performance may be reduced.

11.4 Failsafe Function

The aircraft will enter Failsafe mode when the connection from the remote controller is lost. The flight control system will automatically control the aircraft to return to home and land to reduce injuries or damage. The following situations would make the aircraft fail to receive a signal from the remote controller and enter Failsafe mode:

(1) The remote controller is powered off.

(2) The aircraft has flown out of the effective communication range of the remote controller.

(3) There is an obstacle obstructing the signal between the remote controller and the aircraft, essentially reducing the distance the signal can travel.

(4) There is interference causing a signal problem with the remote controller.

Failsafe works differently depending on the mode the aircraft is in when Failsafe mode is initiated whether it is in the Ready to Fly or Ready to Fly (non-GPS) mode.

Ready to Fly (non-GPS) ---- Automatic landing

The flight control system will try to keep the aircraft level during descent and landing. Note that the aircraft may be drifting during descent and landing process.

Ready to Fly --- Automatic go home and land

The flight control system will automatically control the aircraft to fly back to the home point and land.

Home Point

When the aircraft is initializing the Ready to Fly status, the aircraft will record the current GPS coordinates as the home point. It is recommended to lift off only after Ready to Fly status is confirmed for the safety of being able to fly back to home point successfully in case the Failsafe mode is initiated.

Dynamic Home Point

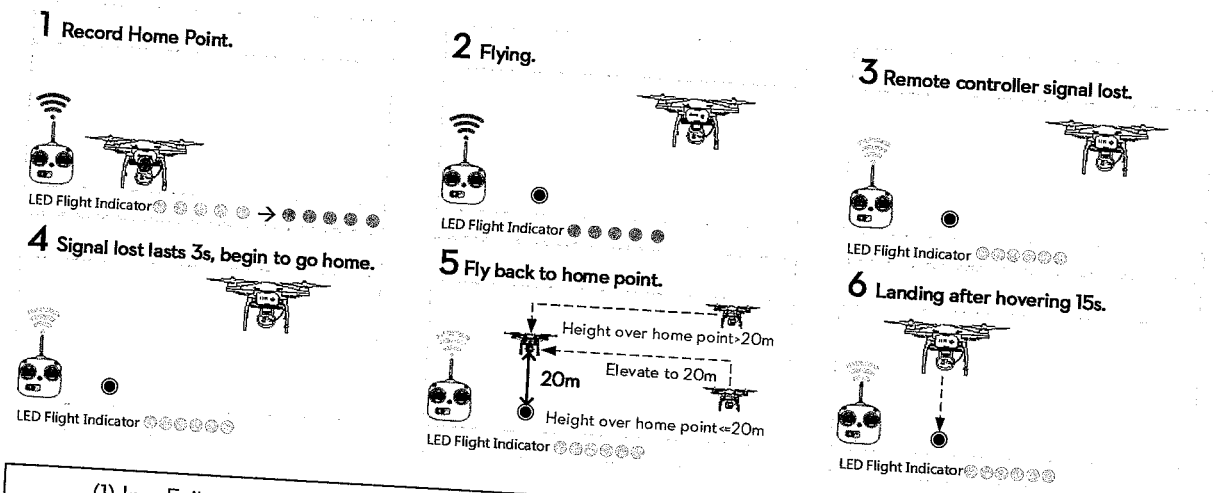
The Home point will be reset to position of the mobile device at specific time intervals.

(1) Enable dynamic home point in DJI Vision app or Phantom 2 Assistant.

(2) Dynamic home point is only available to the GPS-enabled mobile device. Turn on GPS and data service to obtain higher accuracy of the mobile device position.

(3) Dynamic home point is useful in situations when you are in motion and require a Home point that is different from the takeoff point.

Go Home Procedures



(1) In a Failsafe situation, if less than 6 GPS satellites are found for more than 20 seconds, the aircraft will descend automatically.

(2) When the aircraft is landing automatically, users can control the aircraft's position and altitude if the remote controller signal is recovered.

(3) Aircraft cannot navigate around vertical obstacles on its return home course during Failsafe. However, you can set return home altitude value in Phantom Assistant to avoid hitting vertical obstacles through DJI Phantom Assistant.

In Phantom 2 Vision mode, users can set a new home point manually when the aircraft is in "Ready to fly" status as long as a home point has been recorded automatically. Quickly flipping the S2 switch of the remote controller from upper most to lower most positions 5 times or more will reset the current aircraft position as a new home point of PHANTOM 2 VISION. When successfully reset, you will see a series of rapid green blinks on the LED Flight Indicator. The definition of "home point" is: i) The home point is the

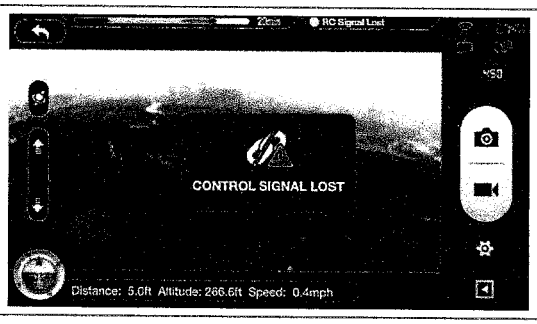
place PHANTOM 2 VISION returns to when the control signal is lost, which is recorded last time. ii) The home point is used to calculate the horizontal distance between you and the aircraft, the distance will be displayed on the DJI VISION App.

Regaining Control During Failsafe Procedure

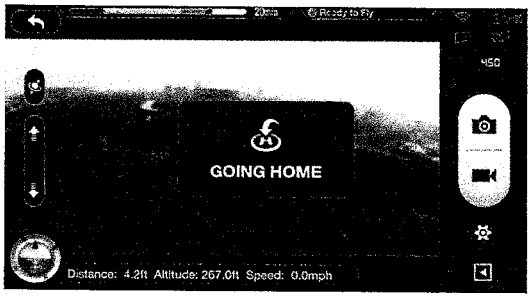
Position of Switch S1	Position-1	Position-2	Position-3
How to regain control	When the S1 switch is switched to Position-1, toggle the S1 switch to any other position once to regain control. If remote controller's signal is recovered, control is returned back to the pilot.	Regain control as soon as signal is recovered.	

Failsafe on the DJI VISION App

The DJI VISION App will provide information during Failsafe.



Control Signal Lost Indicator

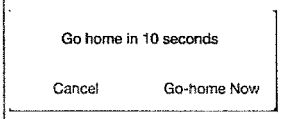


Going Home Indicator

Refer to the Using DJI VISION App (Page 42) for details.

11.5 Low Battery Level Warning Function

If the DJI intelligent battery is depleted to a point that may affect the safe return of the aircraft, the low battery level warning notifies users to take action. Users are advised to land the aircraft immediately when they observe these warnings. The thresholds for these warnings are automatically determined based on the current aircraft altitude and its distance from the Home point. Details of the battery level warning are listed below:

Battery Level Warning	Remark	Rear LED Flight Indicator	DJI VISION App	Flight Instructions
Sufficient battery level	Sufficient battery level.	Green LED blinks slowly.	No message prompts.	Operating normally, no specific action needed.
Low battery level warning	The battery power is low. Please land the aircraft.	Red LED blinks slowly.	When "Go-Home" is selected in the Phantom Assistant, this message will appear:  Tap "Go-home Now" to have the aircraft return to the Home point and land automatically, or "Cancel" to resume normal flight. If no action is taken, the aircraft will automatically go home and land after 10 seconds.	Fly the Phantom 2 Vision+ back and land it as soon as possible, then stop the motors and replace the battery.
Critical Low battery level warning	The aircraft must land immediately.	Red LED blinks quickly.	The DJI Vision App screen will flash red and aircraft starts to descend.	The Phantom 2 Vision+ will begin to descend and land automatically.
Estimated remaining flight time 	Estimated remaining flight based on current battery level.	N/A	N/A	N/A

1. Color zones on the battery level indicator  reflect estimated remaining flight time and are adjusted automatically, according to the aircraft's current status.
2. When the critical battery level warning activates and the aircraft is descending to land automatically, you may push the throttle upward to hover the aircraft and navigate it to a more appropriate location for landing.

⚠	When these warnings are triggered, please bring the aircraft back to the Home point or land to avoid losing power during flight.

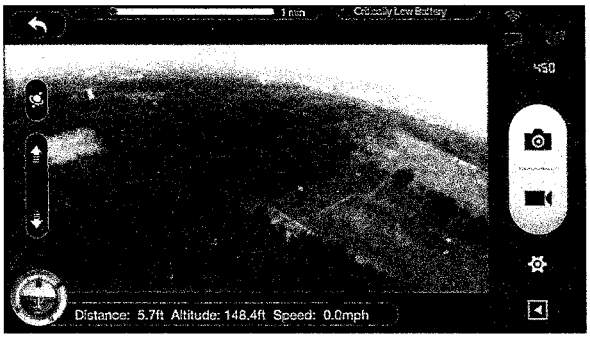
Low Battery Level Warning on the DJI VISION App

Battery level warnings will show on the camera page of the DJI VISION App when the battery level is low.

(1) A red light will flash along the edges of the app screen.

(2) An audible alarm will sound. Make sure sound is turned on and volume is turned up on your mobile device.

(3) The aircraft battery icon will turn red.



Low Battery Capacity Warning

🔍	Refer to the Using DJI VISION App (Page 42) for details.
⚠	(1) Remember to fly your PHANTOM 2 VISION back as soon as you see a low battery capacity warning. (2) The PHANTOM 2 VISION is "Ready To Fly," "Ready to Capture" and "Ready to Share" but it is still an aircraft. Keeping the battery contact needles and pads clean is very important. Any dirt and dust may cause a communication failure.

11.6 Flight Limits

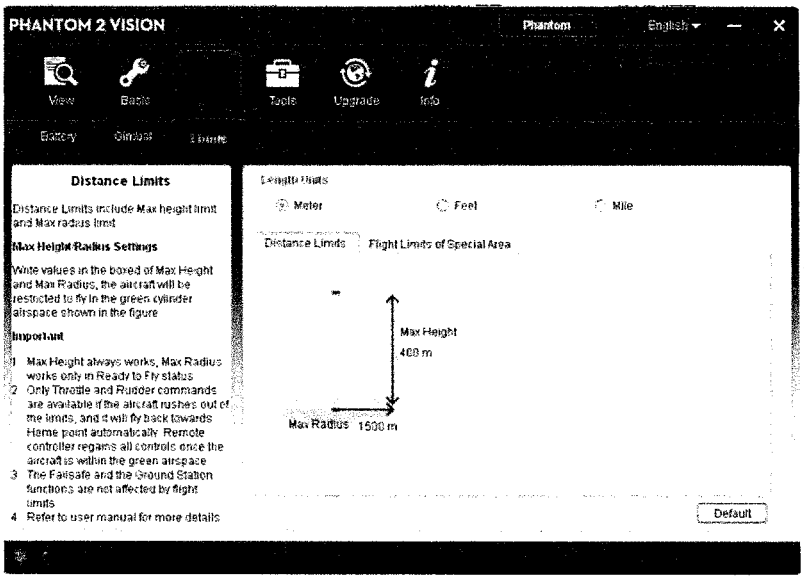
All UAV (unmanned aerial vehicle) operators should abide by all regulations from such organizations at ICAO (International Civil Aviation Organization) and per country airspace regulations. For safety reasons, the flight limits function is enabled by default to help users use this product safely and legally. The flight limits function includes height, distance limits.

In Ready to Fly status, height and distance limits works together to restrict the flight. In Ready to Fly (non-GPS) status, only height limit works and the flying height restricted to be not over 120m.

🔍	(1) The default parameters in the Assistant is compliant within the definitions of class G ruled by ICAO. (Refer to Airspace Classification to get more details). As each country has its own rules, make sure to configure the parameters to comply with these rules too, before using the PHANTOM 2 VISION. (2) Users in Mainland China can refer to 民用航空使用空域办法.

11.6.1 Max Height & Radius Limits

The Max Height & Radius restricts the flying height and distance. Configuration can be done in the PHANTOM 2 VISION Assistant. Once complete, your aircraft will fly in a restricted cylinder.



Ready to Fly ● ● ● ● ●		
	Limits	**Rear LED flight indicator**
Max Height	The flight height is restricted to fly under the max height.	None.
Max Radius	The flight distance is restricted to fly within the max radius.	Rapid red flashings ●●●●● when close to the Max radius limit.

Ready to Fly(non-GPS) ● ● ● ● ●		
	Flight Limits	**Rear LED flight indicator**
Max Height	The flight height is restricted to fly under the minor height between the Max height and 120m.	None.
Max Radius	Not limited and no LED indicators.	

(1) If the aircraft flies out of the limits, you can still control your aircraft except to fly it further away.

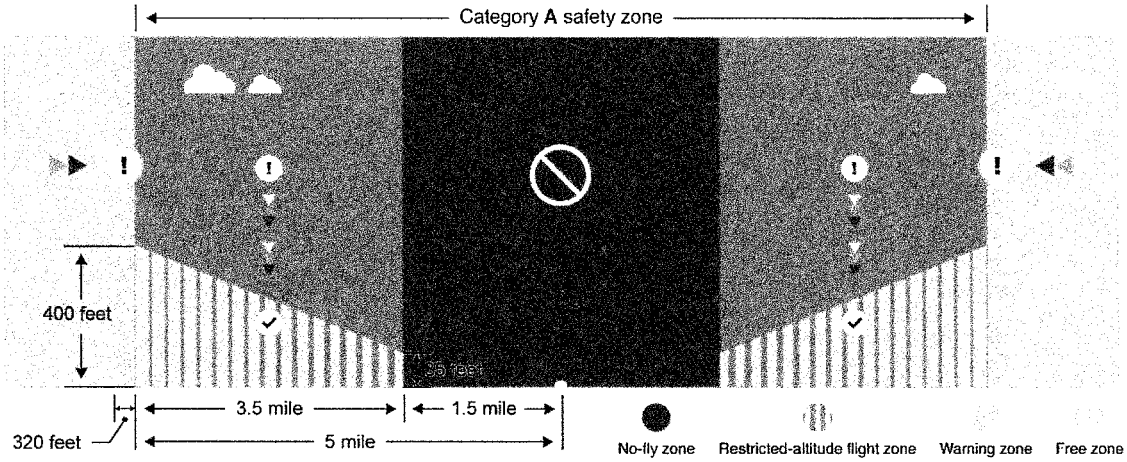
(2) If the aircraft is flying out of the max radius in Ready to Fly (non-GPS) status, it will fly back within the limits range automatically if 6 or more GPS satellites have been found.

11.6.2 Flight Limits of Special Areas

Restricted areas include airports worldwide. All restricted areas are listed on the DJI official website at http://www.dji.com/fly-safe/category-mc. Restricted areas are divided into category A and category B. Category A areas cover major international airport such as LAX and Heathrow, while category B areas includes smaller airports.

Category A Safety Zone

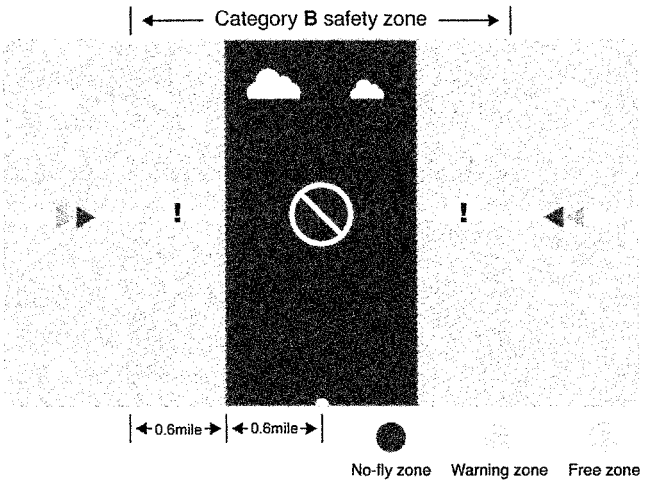
- The category A "safety zone" is comprised of a small "no-fly zone" and a range of "restricted-altitude zones". Flight is prevented in the "no-fly zone" but can continue with height restrictions in the restricted-altitude zone.
- 1.5 miles (2.4 km) around a designated safety zone is a no-fly zone, inside which takeoff is prevented.
- 1.5 miles (2.4 km) to 5 miles (8 km) around restricted areas are altitude restricted, with maximum altitude going from 35 feet (10.5 m) at 1.5 miles (2.4 km) to 400 feet (120 m) at 5 miles (8 km).
- A "warning zone" has been set around the safety zone. When you fly within 320 feet (100m) of the safety zone, a warning message will appear on the DJI Vision app.



Category A

Category B Safety Zone

- Category B "safety zone" is comprised of a "no-fly zone" and a "warning zone".
- 0.6 miles (1 km) around the safety zone is a designated "no-fly zone".
- A "warning zone" has been set around the safety zone. When you fly within 0.6 miles (1Km) of this zone, a warning will appear on the DJI Vision app.



Category B

Ready to Fly mode ● ● ● ● ●			
Zone	**Restriction**	**DJI VISION App Notification**	**Rear LED Flight Indicator**
No-fly Zone ●	Motors will not start.	Warning: You are in a No-fly zone. Take off prohibited.	●●●●●
	If the Phantom enters the restricted area in Ready to Fly (non-GPS) mode but Ready to Fly mode activates, the Phantom will automatically descend to land then stop its motors after landing.	Warning: You are in a No-fly zone, automatic landing has begun. (If you are within 1.5 mile radius)	
Restricted-altitude flight zone	If the Phantom enters a restricted area in Ready to Fly (non-GPS) mode and Ready to Fly mode activates, it will descend to a safe altitude and hover 15 feet below the safe altitude.	Warning: You are in a restricted zone. Descending to safe altitude. (If you are between the range of 1.5 mile and 5 mile radius)	

		Warning: You are in a restricted zone. Max flight height restricted to between 10.5m and 120m. Fly Cautiously.	
Warning zone 	No flight restriction applies, but there will be warning message.	Warning: You are approaching a restricted zone, Fly Cautiously.	
Free zone 	No restrictions.	None.	None.

	**Semi-automatic descent:** All stick commands are available except the throttle stick command during the descent and landing process. Motors will stop automatically after landing. Users will regain control once the motors have stopped. There is no need to toggle the S1 switch.
	(1) When flying in the safety zone, LED flight indicators will blink red ●●●●● quickly and continue for 3 seconds, then switch to indicate current flying status and continue for 5 seconds at which point it will switch back to red blinking. (2) For safety reasons, please do not fly close to airports, highways, railway stations, railway lines, city centers and other special areas. Try to ensure the aircraft is visible.

11.6.3 Conditions of Flight Limits

In different working modes and flight modes, flight limits will differ according to number of GPS satellites found. The following table demonstrates all the cases(**√: available;** ×: unavailable).

All flights are restricted by height, distance and special areas simultaneously.

Phantom mode			
Flight Status	**Limits of Special Area**	**Max Height**	**Max Radius**
Ready to Fly	√	√	√
Ready to Fly (non-GPS)	×	√	×

Naza-M mode				
Control Mode	**number of GPS found**	**Limits of Special Area**	**Max Height**	**Max Radius**
GPS	≥6	√	√	√
	<6	×	√	×
ATTI.	≥6	√	√	×
	<6	×	√	×
Manual	≥6	×	×	×
	<6	×	×	×

11.6.4 Disclaimer

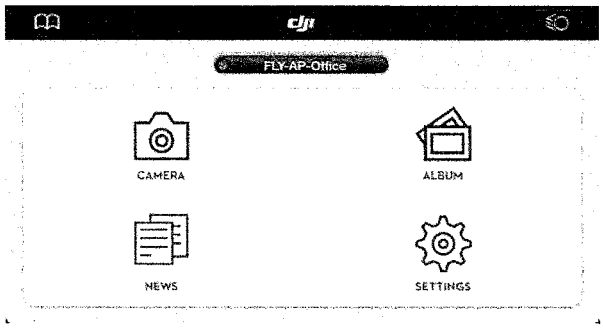
Please ensure that you are up to date with international and domestic airspace rules and regulations before using this product. By using this product, you hereby agree to this disclaimer and signify that you have read this fully. You agree that you are responsible for your own conduct and content while using this product, and for any direct or indirect consequences caused by not following this manual, violating or disregarding other applicable local laws, administrative rules and social habits thereof.

12 Using DJI VISION App

The DJI VISION App controls the PHANTOM 2 VISION camera including capture and recording, settings, pitch angle adjustments, and displays essential status including flight parameters and battery life.

12.1 DJI VISION App Main Menu

After login you will come to the main page. This shows the current Wi-Fi connection and four app function icons.



Icons		Description
	Camera	Tap to enter the Camera view screen
	Album	Tap to enter your Album of photos and videos
	News	Tap to read the latest DJI News
	Settings	Tap to change and view app Settings
	Checklist	Tap to enter the preflight checklist
	Manuals	Tap to view and download manuals

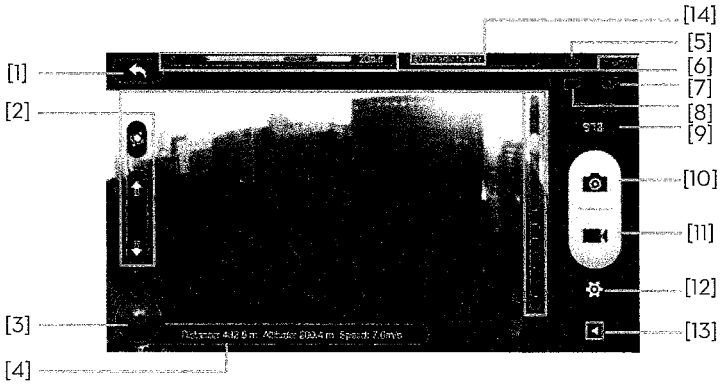
(1) Connect your mobile device to the PHANTOM 2 VISION Wi-Fi network to use the camera and onboard album.

(2) Connect your mobile device to the internet (mobile or Wi-Fi) to share photos, videos and read DJI news.

(3) If you receive a phone call during flight, the live camera preview screen may be interrupted. It's recommended to ignore the call and pay full attention to your flight.

12.2 Camera Page

Basic Use



[1] Return

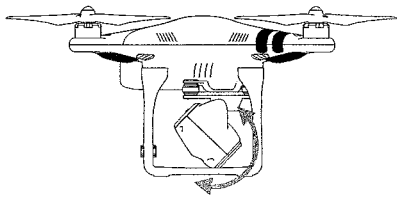
- Return to the preview page

[2] Camera Tilt Control

- Tilt Control Mode. Tap and hold to enter the Accelerometer Sensor Mode. Release to return to normal mode.

Normal Mode

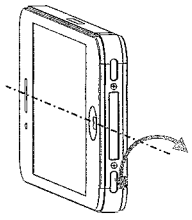
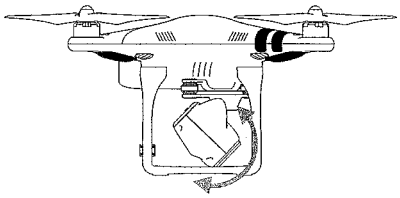
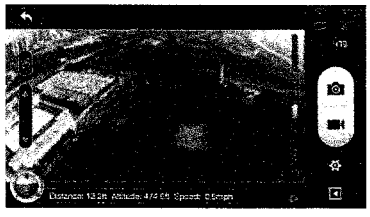
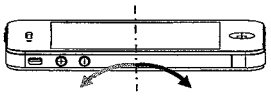
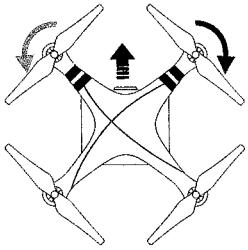
Tap up arrow ( ) to pitch camera upwards and down arrow ( ) to pitch downwards. Green slider indicates current camera pitch.

Normal Mode pitch control	Pitch movement
	

Accelerometer Sensor Mode

Tap and Hold to switch on Accelerometer Sensor Mode to control camera pitch and rotation by moving your mobile device.

Tilt device forward to pitch camera downward and backward to pitch upward. Lean it left to rotate left( ) and right to rotate right( ).

Accelerometer Sensor Mode Pitch Control		Pitch Movement
		
Accelerometer Sensor Mode Yaw Control		**Yaw Movement**
		

In Accelerometer Sensor Mode, the pitch angle indicator will show a grey area. When the green pitch indicator is inside the grey area, the camera will move according to pitch gestures. When the indicator reaches the boundary of the grey area, pitch gestures will control the camera's pitch speed at a constant rate.

[3] Flight Attitude and Radar Function

Flight attitude is indicated by the flight attitude icon.

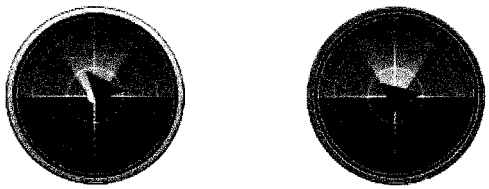
(1) The red arrow shows which direction the PHANTOM 2 VISION is facing.

(2) Light blue and dark blue areas indicate pitch.

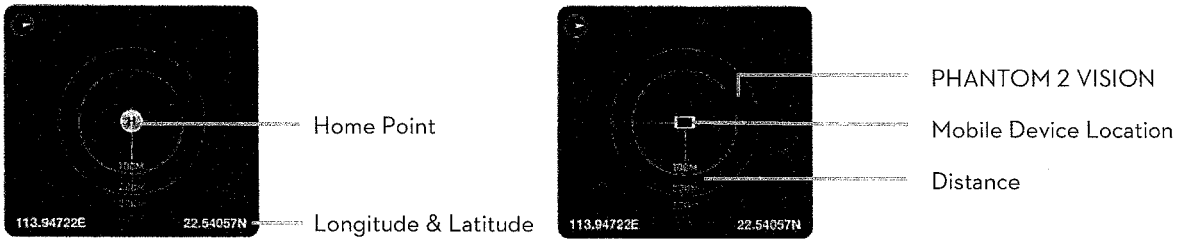
(3) Pitching of the boundary between light blue and dark blue area shows roll angle.

(4) An orange circle around the radar indicates that the dynamic home point is not available.

A green circle around the radar indicates that the dynamic home point is available and a new home point has been set.



Tap the flight attitude icon to turn on the radar function. Home is located in the center of the radar and the red icon indicates the PHANTOM 2 VISION's current heading, direction, and approximate distance from home. The current longitude and latitude of the aircraft is displayed on the bottom of the radar. Tap the flight attitude icon again to disable the radar.



(1) By default, the center of the radar indicates the home point that has been recorded by the PHANTOM 2 VISION. Tap the center of the radar to switch the center to your mobile device's current location.

(2) If your mobile device contains a compass, the top portion of the Radar is the direction you are pointing. If not, the radar will be oriented due north.

[4] Flight Parameters

Tap to set return home (RTH) altitude.

Distance: Horizontal distance from home point.

Altitude: Vertical distance from home point.

Speed: Horizontal flying speed.

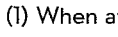
Distance will appear as N/A if the PHANTOM 2 VISION is not Ready to Fly.

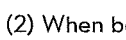
[5] Wi-Fi Signal Strength

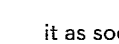
Indicates camera is connected to your mobile device and Wi-Fi is working normally.

The connection between the camera and mobile device may fail if Wi-Fi signal strength is low. Refer to the PHANTOM 2 VISION CONNECTION BROKEN on the camera page.

[6] Flight Battery Level

(1) When available power is more than 30%, the battery icon is blue (e.g. ). This battery level is appropriate for flight.

(2) When below 30%, the battery icon will turn red (e.g. ) and the LED flight indicator will slowly blink red. This battery level is low for flight. It is recommended that you fly your PHANTOM 2 VISION home and land it as soon as possible.

(3) After available power drops below 15% (e.g. ), there is no longer enough power for flight. The LED flight indicator will begin to flash red rapidly and the PHANTOM 2 VISION will begin an automatic descent and land.

The available power thresholds mentioned above can be adjusted in the PHANTOM 2 VISION Assistant.

[7] Aircraft GPS Status

Displays GPS status and the number of available satellites. The icon is highlighted when more than 6 satellites are found, enabling Ready to Fly mode.

[8] Micro-SD Card Status

Displays Micro-SD Card Status. The icon is highlighted when a valid Micro-SD card is inserted. If there is no Micro-SD card present, it is grayed out.

[9] Remaining Shots

Displays estimated shots remaining, based on the current Photo Size setting of camera and the storage capacity of the Micro-SD card. This shows '0' if:

(1) Micro-SD card is not inserted.

(2) Micro-SD card is full.

(3) Micro-SD card is damaged.

(4) Connection between the DJI VISION App and camera is broken.

[10] Shutter Button

Tap to take photos.

Single capture: press once for a single capture.

Continuous capture: press once for 3 or 5 captures.

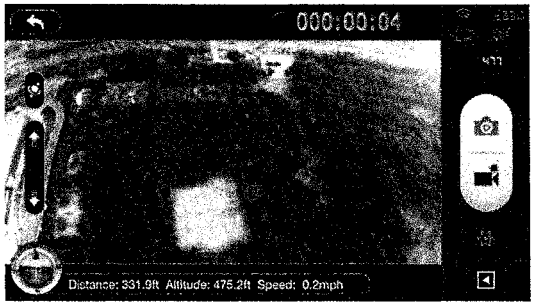
Timed capture: press once to begin a timed capture, press again to stop.

(1) Shutter button is disabled during video recording.

(2) Capture modes can be reconfigured in camera settings; refer to the Camera Settings (Page 46).

[11] Video Recording Button

Start and Stop video recording. Tap once to start recording. A red dot will blink to indicate recording is in progress and a time elapsed counter will appear in the top right corner of the preview screen. Press again to stop recording.



[12] Camera Settings

Tap to open the camera settings menu, refer to Camera Settings (Page 46).

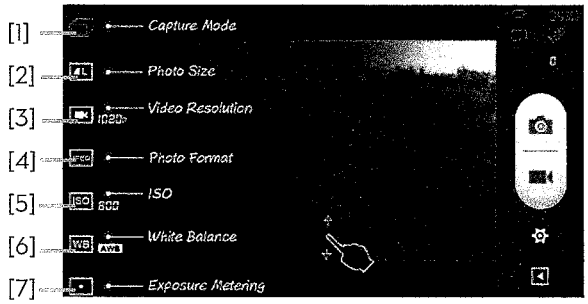
[13] Hide or Show Flight Parameters

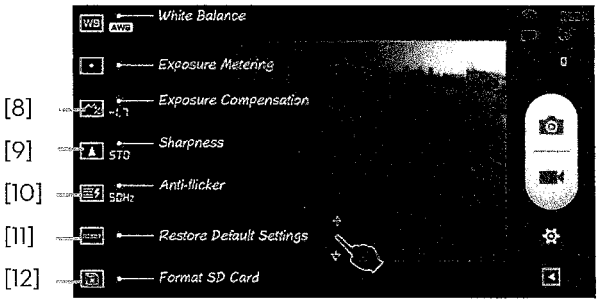
Tap to hide the flight parameters. Tap again to show.

[14] LED Flight Indicator Status

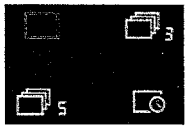
Displays the aircraft's current flight status. Tap for details.

Camera Settings





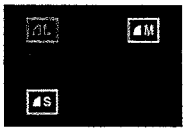
[1] Capture Mode



	Single capture.
	3 captures.
	5 captures.
	Timed capture. Also selectable: a) Intervals between two shots (3~60 s) b) Number of shots (2~254, or infinite shots until Micro-SD card is filled)

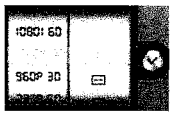
Capture Button will change according to the selected capture mode. (, , , .)

[2] Photo Size



Large:	4384 x 3288, 4:3, 14.4MP
Medium:	4384 x 2922, 3:2, 12.8MP
Small:	4384 x 2466, 16:9, 10.8MP

[3] Video Resolution



1920 x 1080 60i,	16:9
1920 x 1080 30p,	16:9
1920 x 1080 25p,	16:9
1280 x 960 30p,	4:3
1280 x 960 25p,	4:3
1280 x 720 60p,	16:9
1280 x 720 30p,	16:9
640 x 480 30p,	4:3 (VGA)

Three Field of View (FOV) options are supported when shooting in 1920x1080 60i, 1920x1080 30p and 1920x1080 25p: Wide (120°), Medium (110°) and Narrow (85°).

[4] Photo Format

JPEG

RAW

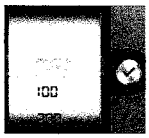
The PHANTOM 2 VISION camera shoots in JPEG and RAW file formats simultaneously when this option is selected. See the following table for detailed specifications.

JPEG photo size	4384 X 3288	4384 X 2922	4384 X 2466
RAW photo size	4384 X 3288	4384 X 2920	4384 X 2464

RAW is not supported in continuous capture mode or timed capture mode. JPEG photos will be created automatically.

RAW format support will be coming soon with DJI Conversion Software to convert PHANTOM 2 VISION's Camera RAW files to Adobe DNG.

[5] Selectable ISO

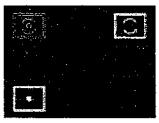


AUTO
100
200
400

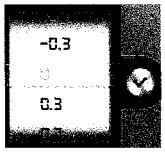
[6] White Balance

	AWB (auto)
	Sunny
	Cloudy
	Indoor

[7] Exposure Metering

	Center
	Average
	Spot

[8] Exposure Compensation

	-2.0 (EV)	2.0 (EV)
	-1.7 (EV)	1.7 (EV)
	-1.3 (EV)	1.3 (EV)
	-1.0 (EV)	1.0 (EV)
	-0.7 (EV)	0.7 (EV)
	-0.3 (EV)	0.3 (EV)
	0 (EV)	

[9] Sharpness

	Standard
	Hard
	Soft

[10] Anti-flicker

	Auto
	50Hz
	60Hz

[11] Restore Default Settings

Restores all camera default settings. Camera reboot is needed to allow restoration to take effect.

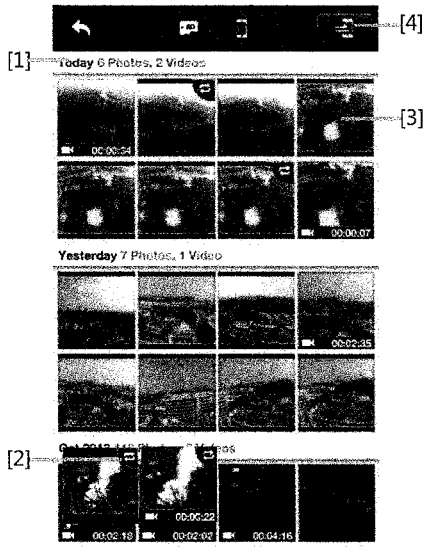
[12] Format SD Card

Format the Micro-SD card. All data stored in the Micro-SD card will be lost after formatting. Remember to backup before formatting.

12.3 Album Page

Camera SD CARD Album

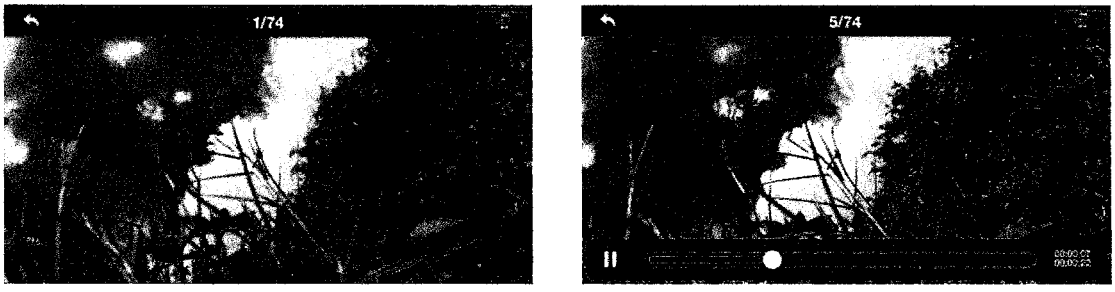
Browse thumbnails of photos and videos stored on the Micro-SD card. Tap to view photo or watch video.



[1] Photos and Videos are listed and grouped by date.

[2] All photos and videos that have already been synced to your mobile device are identified with the icon.

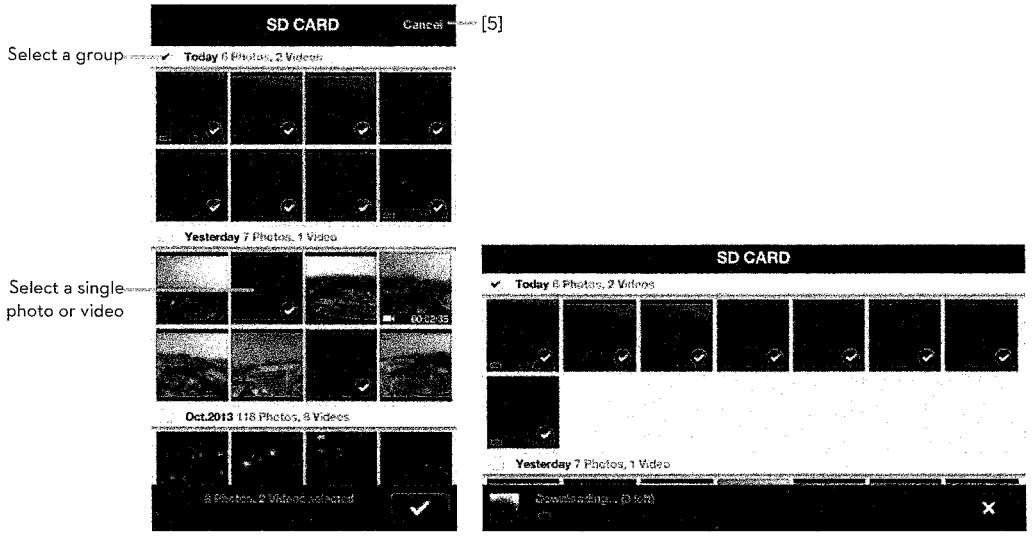
[3] Tap any thumbnail for single view mode. Tap a Photo thumbnail that hasn't been synchronized to the mobile device to view the photo. Swipe left or right to view the previous or next photo item. Tap on a video thumbnail to play it and view the video's length. A progress bar will also appear at the bottom of the screen. Tap to enter single synchronization mode to synchronize a single photo or video, or to synchronize and play a video at the same time.



[4] Tap the button to enter multiple synchronization mode (as shown in the following diagram). Tap thumbnails to select photos or videos to synchronize to your mobile device (The thumbnails identified by the check mark

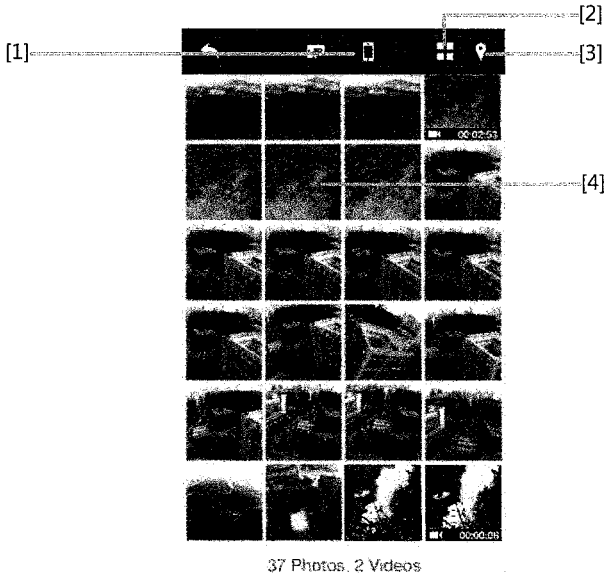
are successfully selected.). Or you can select one or more groups to be synchronized by checking the box before the group, and then tap ✔ to start synchronizing. During the synchronization process, users can tap ✖ to cancel the synchronization. Photos and videos that have been synchronized to the mobile device will remain.

⚠	Some mobile devices may fail to support synchronization of 1080i60 video files.



[5] Tap "Cancel" or "Finished" to exit the multiple synchronization mode and return to the SD CARD page.

Mobile Device Album



[1] You can browse all photos and videos in the album which have been synchronized to the mobile device, view a selected photo or play a selected video.

[2] Photos and videos are listed in thumbnail style and sorted by capture time.

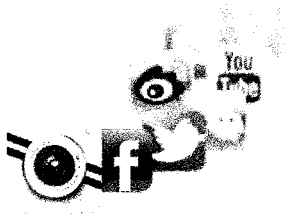
[3] Pictures and videos are sorted by captured/recorded Geo-tagged locations.

	Access to the Internet is required to load a map.

[4] Tap any thumbnail for single view; you can slide left or right to view the previous or next photo. Tap a video thumbnail to play a single video.

[5] Tap to share your photos and videos to social network sites.

	Access to the Internet is required to share your photos and videos.

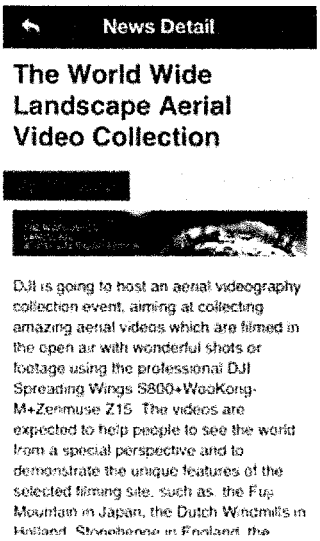


SHARING

12.4 News Page

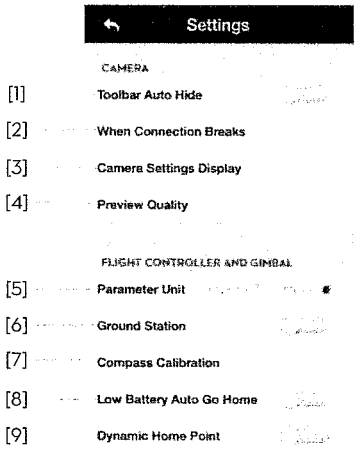
View the latest DJI news. (Internet access is required.)

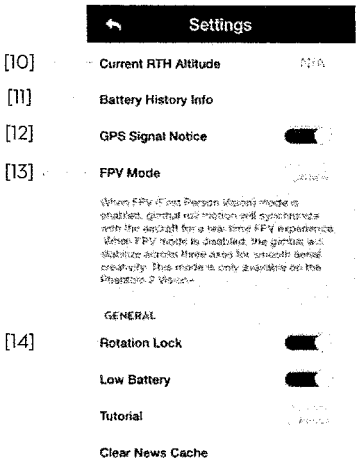
News List

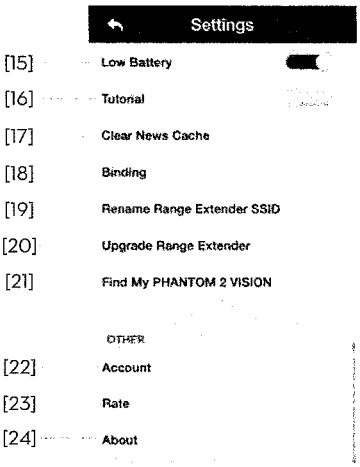


News Details

12.5 Settings Page

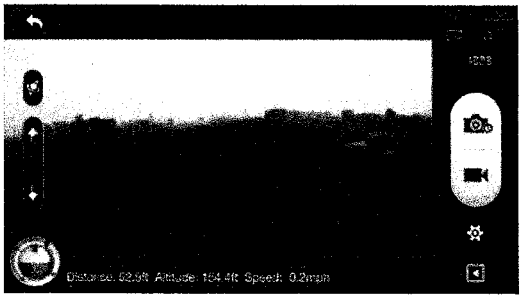






[1] Toolbar Auto Hide

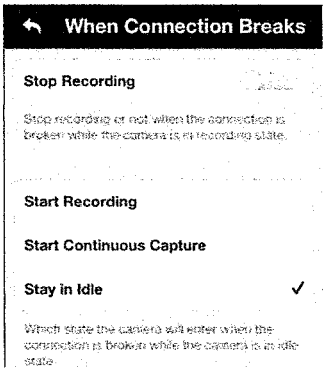
Slide the switch from left to right to enable this function. The toolbar will auto hide on the camera page.



Toolbar Auto Hide Disabled

Toolbar Auto Hide Enabled

[2] When Connection Breaks



Stop Recording:

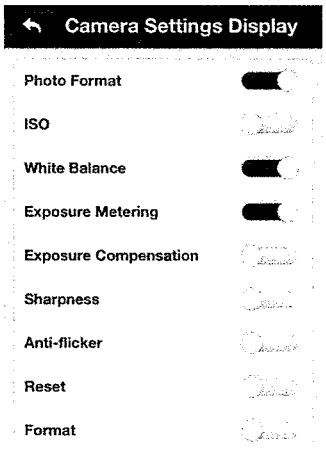
Enabled: Stop recording when the Wi-Fi connection between the mobile device and the camera breaks while the camera is recording.

Disabled: Keep recording when the Wi-Fi connection between the mobile device and the camera breaks while the camera is recording.

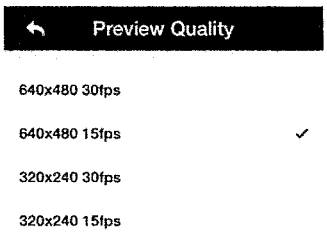
Start Recording / Start Continuous Capture / Stay in Idle: Select the state the camera will enter in the event of a Wi-Fi Connection break between the mobile device and the camera. Use this function to ensure your recording is uninterrupted during the flight.

[3] Camera Settings Display

For iOS users, an enabled item will display in the camera settings toolbar, while a disabled item will be hidden. This feature is not available on Android.



[4] Preview Quality



High: 640×480@30fps

Medium: 640×480@15fps

Medium: 320×240@30fps

Low: 320×240@15fps (Recommended when there is a lot of interference.)

[5] Parameter Unit

Select imperial or metric units of measurement.

[6] Ground Station

Slide to the right to enable ground station feature.

[7] Compass Calibration

Tap to calibrate the compass. Do not calibrate the compass during flight.

[8] Low Battery Auto Go Home

Enable or disable auto go home feature when battery is low.

[9] Dynamic Home Point

When activated, the Home point will be reset to your current position at specific time intervals. The aircraft will return to the latest Home point as required.

[10] Current RTH Altitude

Default RTH altitude set to 20m. Raising the RTH altitude above 120m is not recommended.

[11] Battery History Info

Show the battery history warning records.

[12] GPS Signal Notice

If enabled, the DJI VISION App will display a pop-up tip when attempting to takeoff without a sufficient GPS signal.

[13] FPV Mode

Switched on, the gimbal will work in FPV mode.

Switched off, the gimbal will work in Stabilize mode.

[14] Rotation Lock

The user interface of the DJI VISION App will rotate if rotation lock is enabled (for iOS device only).

[15] Low Battery Warning

If enabled, an alarm will sound when the battery level is too low. Be sure sound is enabled on the mobile device and try to adjust the volume to the highest level.

[16] Tutorial

Hints and Tips

[17] Clear News Cache

Tap to flush news cache.

[18] Binding

In the event the camera and range extender bind is lost or one of them requires repair or replacement, camera

and range extender binding should be performed via the DJI VISION App. Refer to the How to Bind the Camera & Range Extender (Page 15) for details.

[19] Rename Range Extender SSID

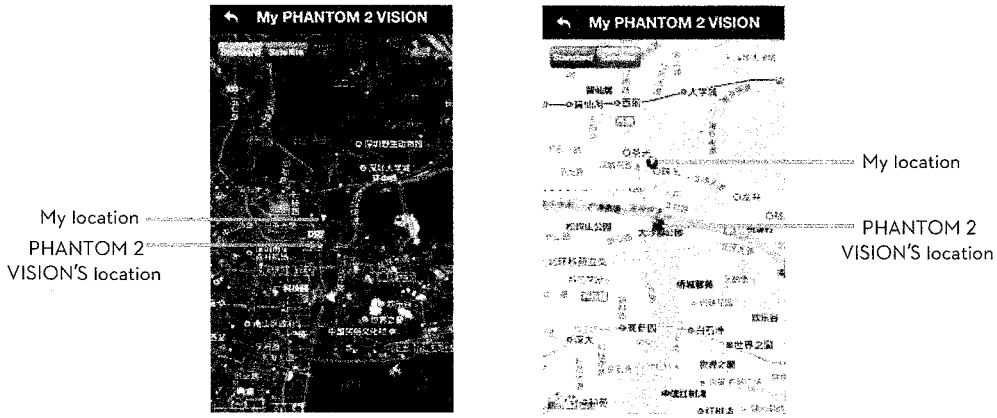
Tap to rename the SSID of the Range Extender. Follow the instructions on the App GUI.

[20] Upgrade Range Extender

When upgraded, it is possible to use a mobile device's data network to access internet functions while connected to the Phantom.

This feature is not available on Android.

[21] Find My PHANTOM 2 VISION



Satellite Mode Standard Mode

[22] Account

Tap to see user account information.

[23] Rate

For iOS users, tap to rate the DJI VISION App. Internet access is required.

Android App does not include rating.

[24] About

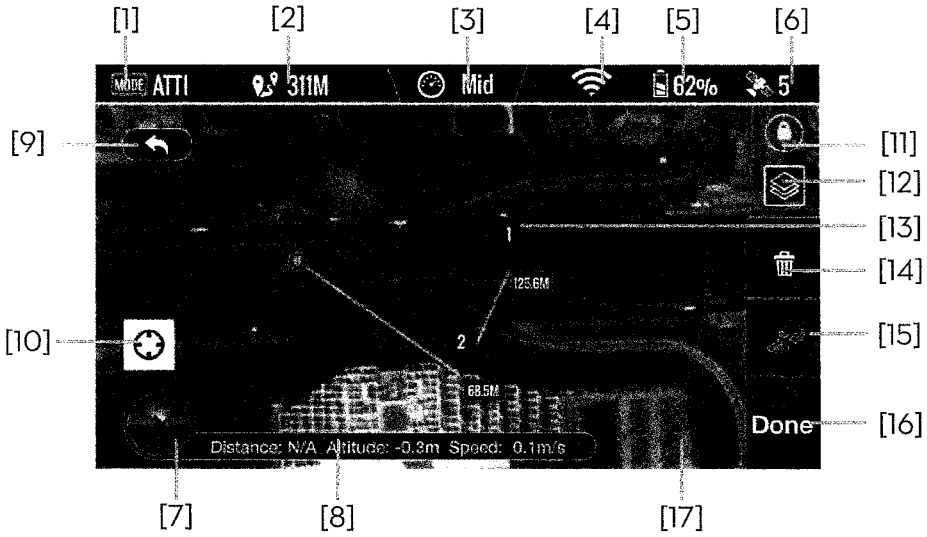
Tap to see the current version of the DJI VISION App and contact information.

12.6 Ground Station

The DJI Vision app features an integrated ground station function. Using it you can create flight missions by placing waypoints and setting waypoint altitude and overall speed. When flight plan has been created, simply tap "GO" and your aircraft will execute the flight mission automatically. You may also abort the flight mission and return home by tapping "GoHome" button.

⚠	Upgrade Phantom firmware to the latest version to enable ground station feature. Refer to the Firmware Upgrade of the PHANTOM 2 VISION (Page 63) for more information about how to upgrade the firmware.

12.6.1 Ground Station GUI



[1] MODE

Modes include

Hover : Hovering

Waypoint : Mission in progress

GoHome : Returning to home point

Take off : Taking off

Landing : Landing

GPS : GPS flight

Atti. : Atti. flight

Manual : Manual flight

[2] Approximated Flight Mission Distance

Planned mission distance. To achieve optimum battery performance, max mission distance is restricted to 5km (3miles).

[3] Speed

For flight safety concern, only three gears of flight speed are available. Choose from Fast (8m/s), Mid(4m/s) and Slow (2m/s) for flight speeds. Estimated 10 minutes flight is achievable when the aircraft travels in "Fast" gear.

[4] Wi-Fi Signal Strength

Wi-Fi signal strength display. Refer to the Basic Use [5] (Page 44) in Camera Page for details

[5] Battery Level

Battery level display. Refer to the Basic Use [6] (Page 45) in Camera Page for details

[6] GPS

Number of satellites connected. Refer to the Basic Use [7] (Page 45) in Camera Page for details

[7] Flight Attitude and Radar

Attitude and Radar display. Refer to the Basic Use [3] (Page 44) in Camera Page for details

[8] Flight Parameters

Flight information display. Refer to the Basic Use [4] (Page 44) in Camera Page for details

[9] Back

Return to camera GUI.

[10] Home Point Locator

Locate your Home point.

[11] Orientation Lock

Unlock to sync map orientation with aircraft movement

[12] Map View

Select map view from standard, hybrid or satellite.

[13] Waypoint

Tap each waypoint to set altitude

[14] Delete

Delete current waypoint.

[15] Go Home

Abort mission, return home and land

[16] Done

Hit "Done" then tap "GO" to begin mission.

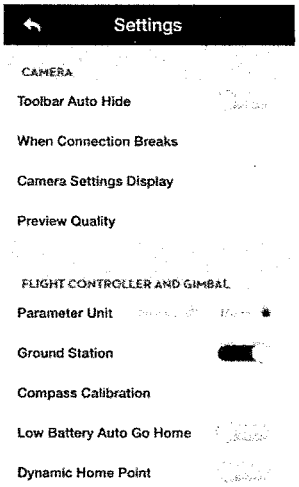
[17] Flight Area

The aircraft can fly in this area and return to the home point with the current battery level. This area is dependent on the current state of the aircraft and will be refreshed at specific time intervals.

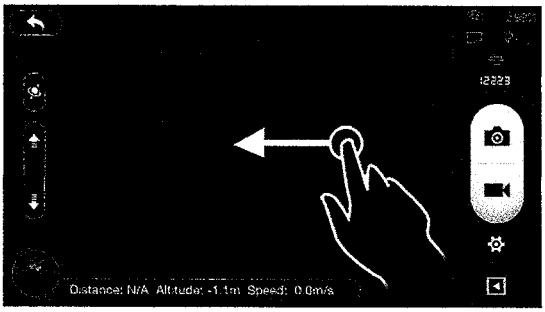
12.6.2 Using Ground Station

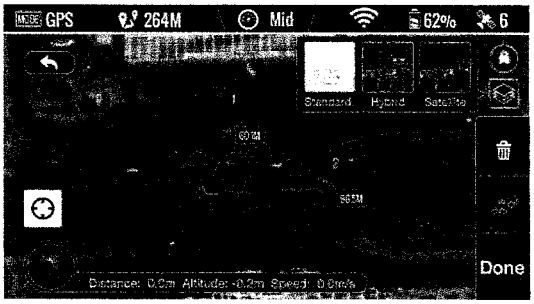
Step 1 Launching Ground Station :

Enable ground station feature from DJI Vision app Settings and a disclaimer for ground station prompts. Read the disclaimer thoroughly before starting to use ground station.



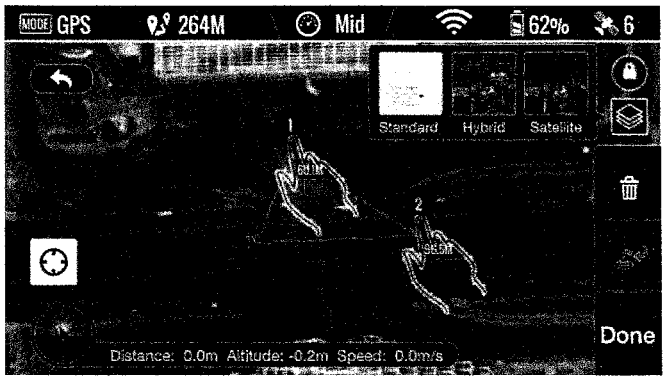
Ensure your mobile device has access to the Internet. Due to the map data required, Wi-Fi connection is recommended. Internet access is required to cache the ground station map, if Wi-Fi is unavailable, mobile data service is required. Open the DJI Vision app camera GUI and swipe left to launch ground station. DJI Vision app cannot connect to your aircraft while it is accessing the Internet. Hence, you may prompt with the warning message such as "Connection to Phantom Failed". This message will not appear when your aircraft is re-connected to DJI Vision app. Map data of your current location will load. You can then drag the map to cache nearby areas for future use.





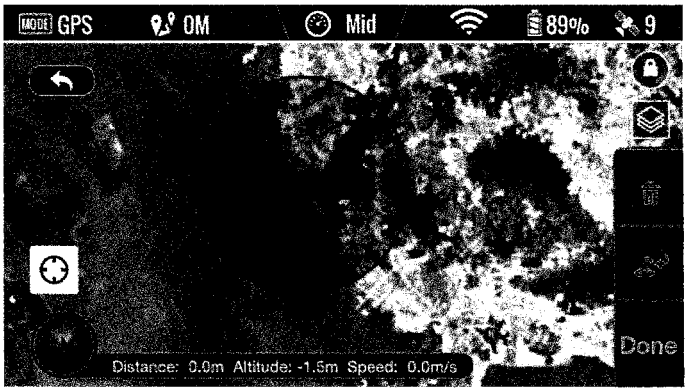
Step 2 Setting a Waypoint :

Disconnect from the Internet and connect the DJI Vision app to your aircraft. Check that remote controller S1 switch is in position (position-1) and the upper left corner in ground station display GPS and wait for the aircraft to enter "Ready-to-Fly" mode (LED indicator blinking green) before swiping left into ground station. Tap on the map to place a waypoint. You can place up to 16 waypoints including the Home point. Waypoints cannot be placed beyond 500m from the Home point or inside No Waypoint Areas.

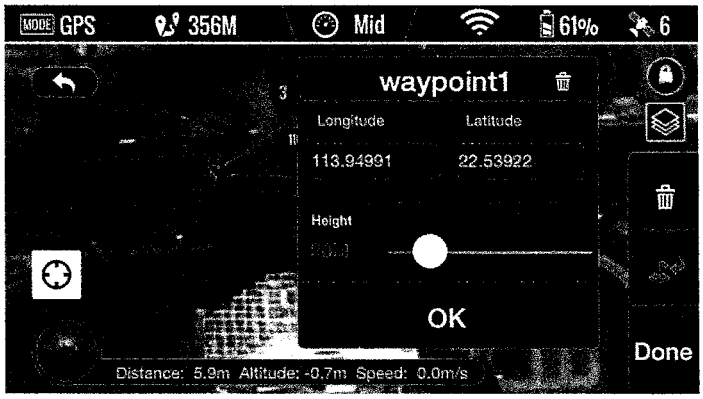


(1) A red circle on the map, as shown in the screenshot below, indicates a restricted, No Waypoint area. Waypoints cannot be placed in this area. For more information, refer to the Flight Limits of Special Areas (Page 38).

(2) To achieve the optimal video transmission quality, the aircraft is set to operate within a 500m-radius area from Home point.

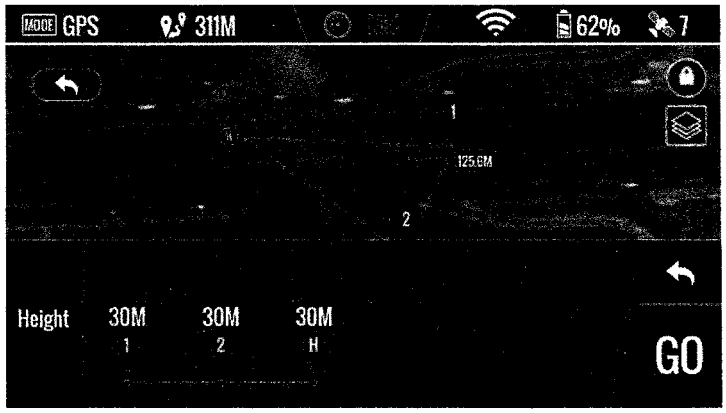


Tap on a waypoint to open a waypoint properties window. Modify longitude and latitude value from the input box. Slide the white dot right to adjust waypoint altitude. The default altitude is set to 98 feet (20 m) and can be adjusted from 0 to 650 feet (200 m). Tap "OK" to save waypoint settings. To delete current waypoint, tap .



Step 3 Preview a Mission :

Tap "Done" to preview the mission when all waypoints are set. A prompt similar to the one below will appear.



This prompt lists all waypoints and their altitudes. The aircraft will fly to each waypoint listed. If there is a difference in altitude between waypoints, the aircraft will adjust its altitude as it flies between points. When ready, tap "GO" to begin mission.

Aircraft reacts differently to the "GO" command：

(1) If aircraft is on the ground, the aircraft takes off automatically and ascend 16 feet (5m) then fly to the first waypoint.

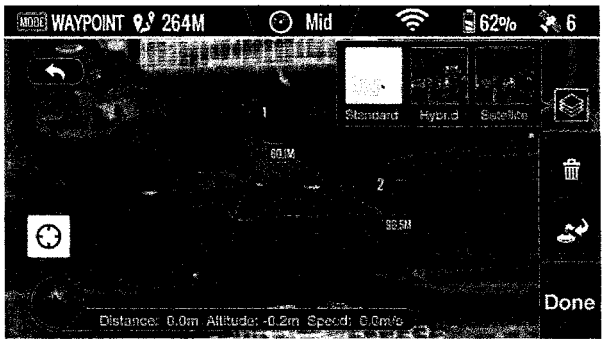
(2) If aircraft is in the air, the aircraft flies to the first waypoint.

Step 4 Executing Flight Mission

The aircraft flies to each waypoint in numerical order. As it flies, swipe back into the DJI Vision app camera GUI to control camera tilt and capture photos or video. Tap ⏸ to pause the mission during the flight, and aircraft will then start hovering. Tap ▶ to resume mission. If you wish to regain control of the aircraft, toggle the S1 switch on remote controller from (Position-1) to either (Position-2) or (Position-3) to discontinue the current mission.

Step 5 Landing

When all waypoints have been visited, the aircraft will return to its Home point and hover. Regain control of the aircraft and land it manually. You may also tap button to initiate "Go Home" procedure. Aircraft will abort current mission, return to Home point and auto land. When the aircraft is landing automatically, users can control the aircraft's position and altitude. Users can start the motors to take off immediately after the motors have stopped following auto landing.



13 Assistant Installation and Configuration

13.1 Installing Driver and PHANTOM 2 VISION Assistant

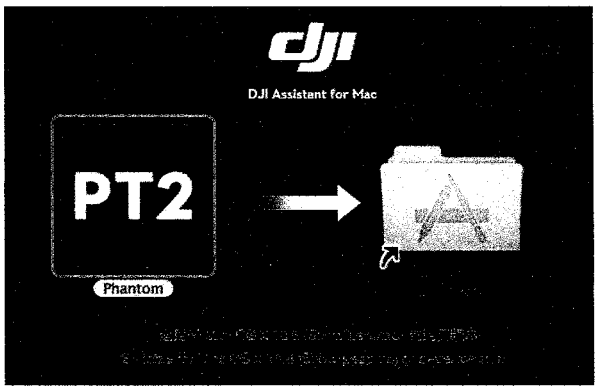
Installing and running on Windows

1. Download driver installer and Assistant installer in EXE format from the download page of PHANTOM 2 VISION on the DJI website.
2. Connect the PHANTOM 2 VISION to a PC via a Micro-USB cable.
3. Run the driver installer and follow the prompts to finish installation.
4. Next, run the Assistant installer and follow the prompts to finish installation.
5. Double click the PHANTOM 2 VISION icon on your Windows desktop to launch the software.

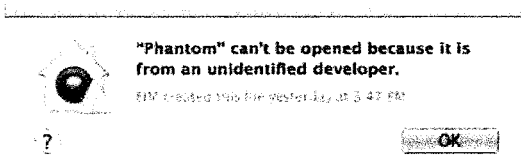
The installer in EXE format only supports Windows operating systems (Win XP, Win7, Win8 (32 or 64 bit)).

Installing and running on Mac OS X

1. Download the Assistant installer in DMG format from the download page of PHANTOM 2 VISION on the DJI website.
2. Run the installer and follow the prompts to finish installation.

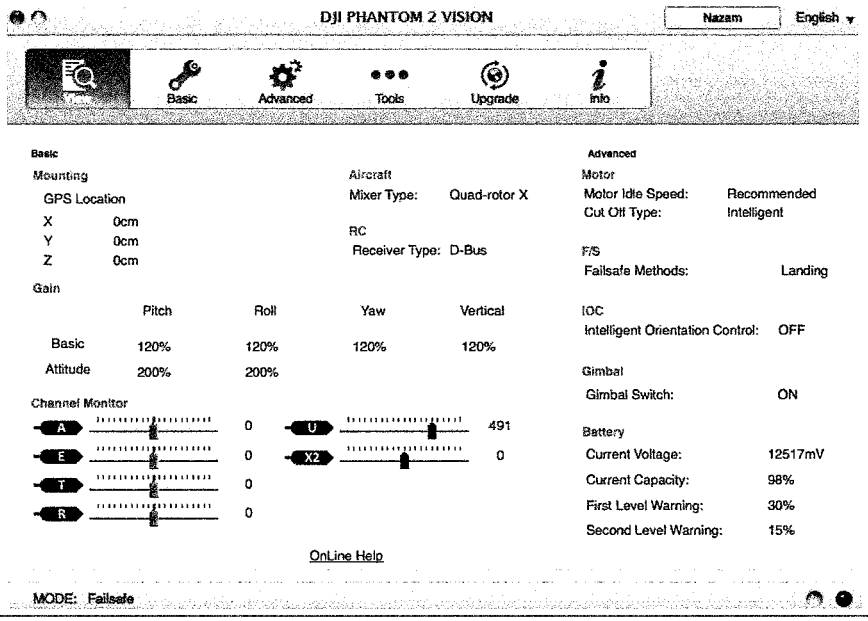


3. When launching for the first time if use Launchpad to run the PHANTOM 2 VISION Assistant, Launchpad won't allow access because the software has not been reviewed by Mac App Store.



4. Locate the PHANTOM 2 VISION icon in the Finder, press the Control key and then click the icon (or right-click the icon using a mouse). Choose Open from the shortcut menu, click Open in the prompt dialog box and then software will launch.
5. After the first successful launch, direct launching of the software can be achieved by double-clicking the

PHANTOM 2 VISION icon in the Finder or using Launchpad.

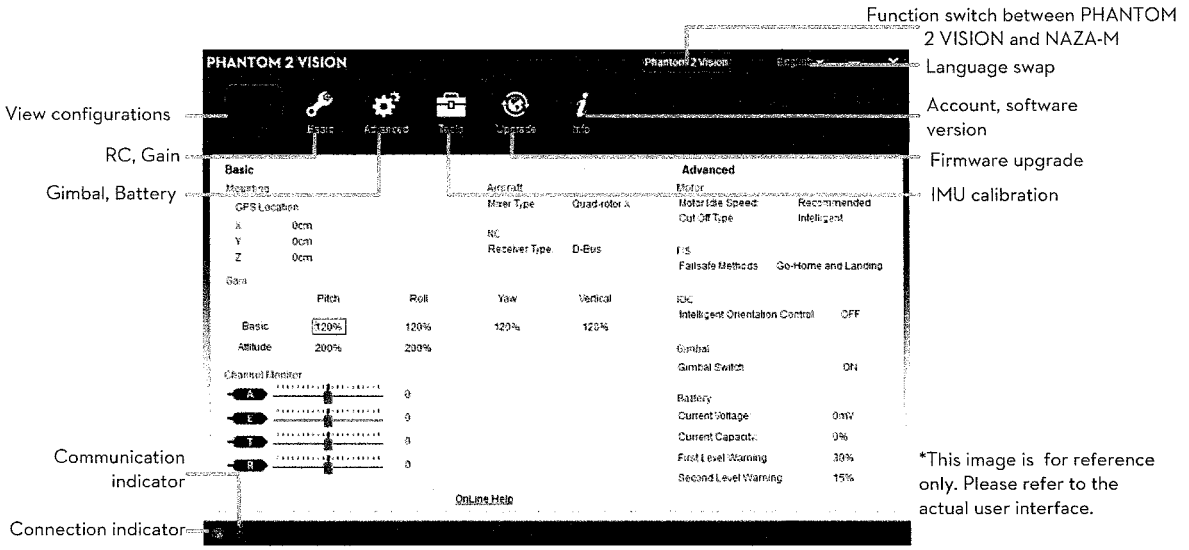


Installer in DMG format supports only Mac OS X 10.6(Lion) or above.

Usage of PHANTOM 2 VISION Assistant on Mac OS X and Windows are exactly the same. The Assistant pages appear in other places of this manual are on the Windows for example.

13.2 Using the PHANTOM 2 VISION Assistant on a PC

1. Start up the PC, power on the PHANTOM 2 VISION, then connect the PHANTOM 2 VISION to the PC with a Micro-USB cable. DO NOT disconnect until configuration is finished.
2. Run the PHANTOM 2 VISION Assistant and wait for the PHANTOM 2 VISION to connect to the Assistant. Observe the indicators ●● on the bottom of the screen. When connected successfully, the connection indicator is ○ and communication indicator is blinking◉.
3. Choose [Basic] or [Advanced] configuration pages.
4. View and check the current configuration in the [View] page.



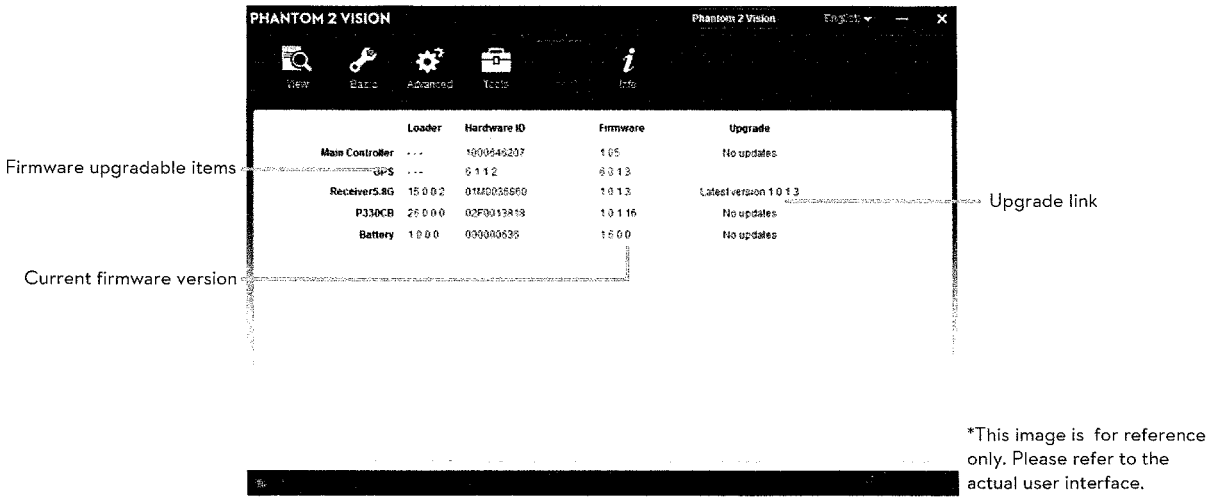
(1) Users should not enable the Naza-M function before finishing the "Advanced Flight Maneuvers" procedure, in accordance with the "Phantom Pilot Training Guide". If the Naza-M function is enabled, users can switch the control mode to either the ATTI. Mode, GPS Mode or Manual Mode, and access the advanced settings (e.g. IOC). In addition, the LED located on the rear frame arms will display the flight status according to the Naza-M's indicator, instead of the Phantom 2 Vision's indicator. Do not enable the Naza-M function unless you are an experienced user or guided by a professional.

(2)You can change to the Phantom 2 Vision function by tapping the same button if the Naza-M function is enabled. This operation will disable the Naza-M function and enable the Phantom 2 Vision function. All parameters will be returned to factory settings.

13.3 Firmware Upgrade of the PHANTOM 2 VISION

Please refer to the PHANTOM 2 VISION Assistant to install driver and PHANTOM RC Assistant, and then follow the procedures below to upgrade the software and firmware; otherwise the PHANTOM 2 VISION might not work properly.

1. An internet connection is required to upgrade the PHANTOM 2 VISION's firmware.
2. Click the [Upgrade] icon to check the current firmware version and whether the installed firmware is the latest version. If not, click the relative links to upgrade.
3. Be sure to wait until the Assistant shows "finished". Click OK and power cycle the PHANTOM 2 VISION after 5 seconds. Once completed, the firmware is up to date.



*This image is for reference only. Please refer to the actual user interface.

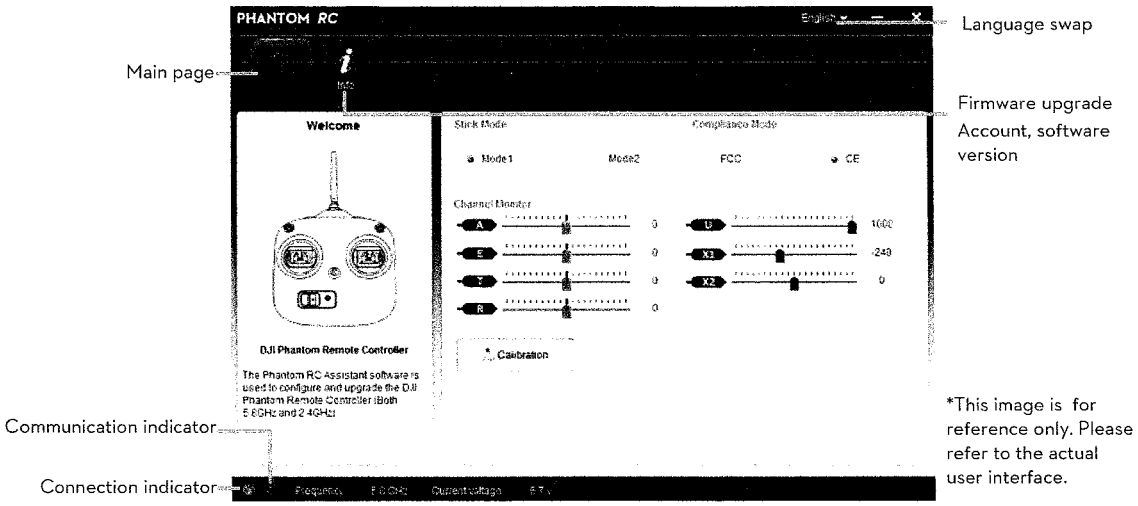
	(1) DO NOT power off until the upgrade is finished.
	(2) If the firmware upgrade failed, the main controller will enter a waiting for firmware upgrade status automatically. If this happens, repeat the above procedures.

	Firmware upgradable items:
	(1) Main Controller
	(2) GPS
	(3) 5.8G Receiver
	(4) P330CB (Main Board)
	(5) Battery

13.4 PHANTOM RC Assistant Description

Please follow the procedures to finish the configuration of the remote controller.

1. Turn off the remote controller and find the Micro-USB port on the back of it. (If there is no one, users should open the rear cover to find the Micro-USB port on the board inner the remote controller.)
2. Start up the PC, power on the remote controller, and then Connect the remote controller to the PC with a Micro-USB cable. DO NOT disconnect until the configuration is finished.
3. Run the PHANTOM RC Assistant and wait for the remote controller to connect to the Assistant. Observe the indicators ●● on the bottom left of the screen. When connected successfully, the connection indicator is ○ and communication indicator is blinking◍ .
4. Finish configuration in the [Main] page.
5. Finish upgrade in the [Info] page if necessary.



*This image is for reference only. Please refer to the actual user interface.

14 Troubleshooting (FAQ)

14.1 How to solve large margin(s) mid-point error?

If the Remote Controller stick(s) mid-point margin of error is too big, the motors will fail to start when you execute the Combination Stick Commands (CSC) and the aircraft will not take off. Below are possible situations where the Remote Controller's stick(s) mid-point margins of error could be too big:

(1) One of the Remote Controller's stick position (except the throttle stick) is not centered when powering on the PHANTOM 2 VISION.

Solution: Place all Remote Controller sticks at their mid-point positions and then power cycle the PHANTOM 2 VISION to re-record the mid-point. If the problem persists, this can be caused by scenario (2).

(2) The Remote Controller sticks have been trimmed which leads to a large deviation of the mid-point position.

Solution: Use the Assistant to perform a Remote Controller calibration. To do so, carry out the following procedures.

(a) Connect to the Assistant, tap Basic-> RC-> Command Sticks Calibration, and push all Remote Controller sticks through their complete travel range to see if any stick cannot reach its outer most position.

(b) Power cycle the PHANTOM 2 VISION. Note that a power cycle is required.

(c) Redo the Remote Controller calibration according to the Assistant.

If the above solutions do not solve your issue, please send your Remote Controller to DJI Customer service for repair.

14.2 How to restore a video file if power is turned off during a recording session?

Solution: Keep or place the Micro-SD card back into the camera. Power cycle the camera and wait about 30 seconds for the video file to be restored.

14.3 Failure to acquire the SSID.

Solution: Double check whether both the camera and Range Extender are powered on and the power switch of the camera is switched to "WIFI ON".

14.4 What to do if PHANTOM 2 VISION is out of sight and the Wi-Fi connections is lost?

Solution: Turn off the Remote Controller to trigger the Failsafe mode and the aircraft will start to fly back, descend, and land at the Home point automatically. Please make sure there are no obstacles within the go home route and you are familiar with the regaining control procedure.

14.5 Wi-Fi connection fails all the time.

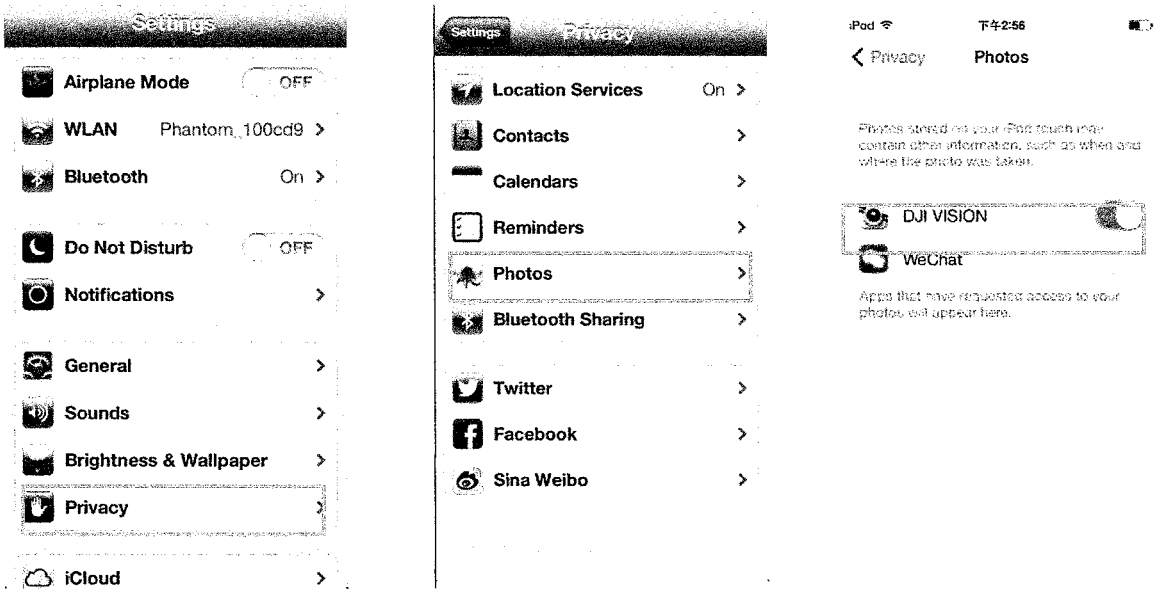
Solution: Double check the current Wi-Fi connection status of the mobile device. The mobile device may be connecting to other Wi-Fi networks after a connection breaks with the PHANTOM 2 VISION.

14.6 Files fail to synchronize.

Solution: Video files that are too large (file sizes close to 4GB) cannot be synchronized to the mobile device. Some mobile devices also fail to support synchronization of the 1080i60 video files.

14.7 Albums fail to synchronize.

Solution: Reset the settings of your mobile device as illustrated below. Enable the Settings ->Private->Photos->DJI VISION. Otherwise the Albums will fail to synchronize with your mobile device.



14.8 Failure to share.

Solution: Please make sure the mobile device has access to the Internet.

14.9 Some mobile Android devices have a problem connecting to the PHANTOM 2 VISION Wi-Fi Extender.

Solution: Some mobile Android devices do not allow for both a Wi-Fi connection and a mobile data connection at the same time. When trying to connect to the PHANTOM 2 VISION Wi-Fi network, most devices will check whether an Internet connection has a certain Wi-Fi setting enabled, e.g. Auto network switch or Test for Internet connection. If no Internet connection is found because the PHANTOM 2 VISION creates a non-routable connection it will drop the PHANTOM 2 VISION Wi-Fi network connection and scan for the next available connection. Example: For the Samsung Note 3, carry out the following procedures to solve this issue. Tap Settings -> Wi-Fi, and then tap the "Menu" button. Select "Advanced" then uncheck the "Auto network switch". You might see a warning that indicates the Internet connection is unstable but just ignore this message.

14.10 Usage tips for the App used on multiple mobile devices.

During flight, if you use the App on multiple mobile devices, please turn off the App on the first mobile device, and then turn on the App on the second one to ensure the App can work normally on the second mobile device.

14.11 How to land the aircraft smoothly in a better way?

First pull the throttle stick position down to lower than 5%, then execute the CSC command to stop the motors.

14.12 Why the discharge cycle of a new battery not at zero?

A battery aging test is performed prior to delivery which affects the discharge time of the new battery. This is why the discharge time of a new battery is not zero. The battery is okay to use.

14.13 What if I accidently exit DJI Vision App when aircraft is still operating under ground station mode?

- If DJI Vision App is closed when aircraft is executing flight mission, aircraft continues with the remaining flight mission.
- If DJI Vision App is closed and failed to re-connect with aircraft within 1 minute, aircraft returns home point automatically.

14.14 Do I need extra equipment to use ground station?

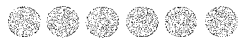
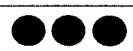
No extra equipment is required.

14.15 Can I cache map data for future use?

Yes, user can cache map data in ground station for future use.

15 Appendix

LED Flight Indicator Status

Normal status	LED Flight Indicators
Power On Self-Test	
Warming Up	
Ready to Fly	
Ready to Fly (non-GPS)	
Warning and Error	**LED Flight Indicators**
Remote Controller Signal Lost	
Low Battery Capacity Warning	
Critical Low Battery Capacity Warning	
Not Stationary or Sensor Bias is too big	
Error*	
Compass Needs Calibration	

*You can figure out the error by connecting the PHANTOM 2 VISION to the PHANTOM 2 VISION's Assistant.

Specifications

Aircraft

Supported Battery	DJI 5200mAh Li-Po Battery
PHANTOM 2 VISION Weight	1160g
Recommend payload	≤1300g
Maximum payload	1350g
Hovering Accuracy (Ready to Fly)	Vertical: 0.8m; Horizontal: 2.5m
Max Yaw Angular Velocity	200°/s
Max Tilt Angle	35°
Max Ascent / Descent Speed	Ascent: 6m/s; Descent: 2m/s
Max Flight Speed	15m/s (Not Recommended)
Wheelbase	350mm
Tilt Range of the Camera	0° - 60°

Remote Controller

Operating Frequency	5.728 GHz - 5.85 GHz
Communication Distance (open area)	CE Compliance: 300m; FCC Compliance: 500m
Receiver Sensitivity (1%PER)	-93dBm
Transmitting Power (EIRP)	CE Compliance: 25mW; FCC Compliance: 125mW
Working Current/Voltage	80mA@6V
Battery	4 AA Batteries

Camera

Resolution	14 Megapixels
FOV	120°/ 110° / 85°
Sensor Size	1/2.3"
Functions	Supports multi-capture, continuous capture and timed capture Supports HD Recording (1080p30,1080i60) Supports both RAW and JPEG photo formats

Range Extender

Operating Frequency	2412MHz - 2462MHz
Communication Distance (open area)	300m
Transmitting Power	17dBm
Power Consumption	1.5W

DJI VISION App

Supported Mobile Devices	Recommended: iPhone4s, iPhone5, iPhone5s, iPhone5C, iPhone6, iPhone6 Plus, iPod Touch4, iPod Touch5; Available but not recommended: iPad3, iPad4, iPad mini.

	Samsung Galaxy S3, S4, Note2, Note3 or phones of similar configuration.
System Requirement of Mobile Device	iOS 6.0 or above; Android system 4.0 or above

PHANTOM PILOT TRAINING GUIDE

Earning Your Stripes

Learn More: www.dji.com

⚠ CAUTION

AGES **18+**

⚠ WARNING!
Rotating parts may cause injury

This product is not suitable for people under the age of 18. Please carefully read the "Quick Start Guide", "User Guide", disclaimer, and fully watch the "Quick Start Videos" before using the PHANTOM. Users should make every effort to fly regularly in order to improve their flight skills as an advanced level pilot (★★★) . Please fly safely and responsibly.

Please follow these guidelines prior to flying your Phantom:

❶ Always turn on the Remote Controller prior to turning on the Phantom.

❷ Toggle S1、S2 to the top.

❸ Be sure there are no distractions when you're flying.

❹ When starting your training, be sure you are in a very large open area. Be aware of your surroundings. Always fly in areas void of obstacles and away from traffic and people.

❺ Before actually taking off, be sure you have calibrated the compass and you have full GPS satellite reception (Slow Continuous Green Flashing).

❻ Never fly over 400 feet.

❼ During training, stay behind your imaginary barrier and never fly behind yourself.

❽ When in doubt, gently pull down on the throttle stick and land.

❾ DO NOT PANIC.

The aircraft camera should face AWAY from the pilot before takeoff.


CAUTION

DO NOT fly the Phantom within a radius of 2 meters.

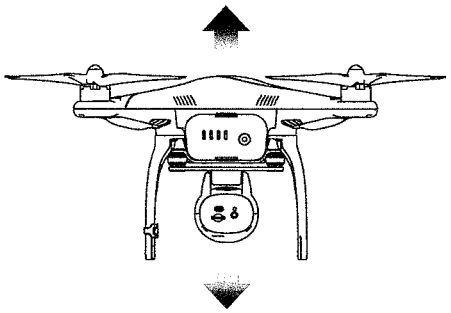

FORBIDDEN

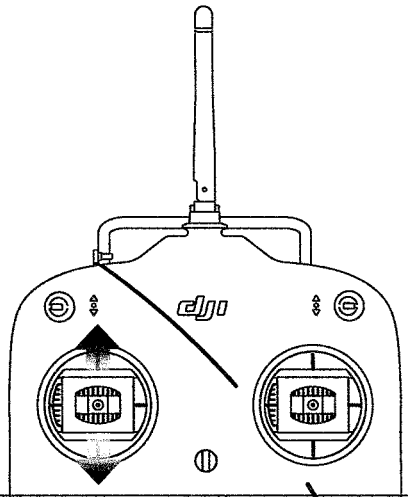
DO NOT touch the propellers after the Phantom has been started.


NO TOUCH

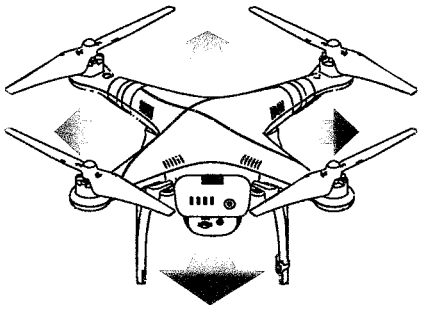
Basic Flight Maneuvers (★)

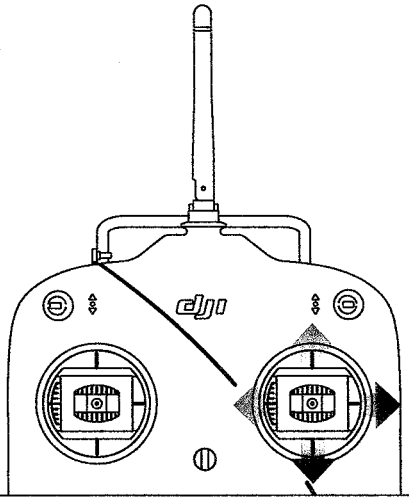
1 Take off and land with battery facing you.



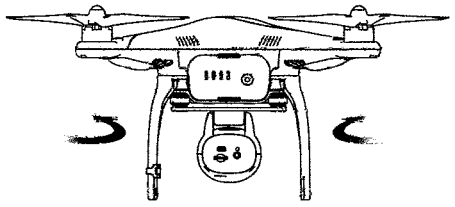


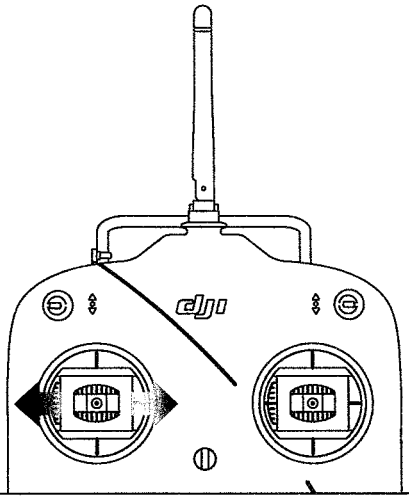
2 Hover in one spot keeping battery facing you, make sure to control Left/Right/Forward/Back movement.





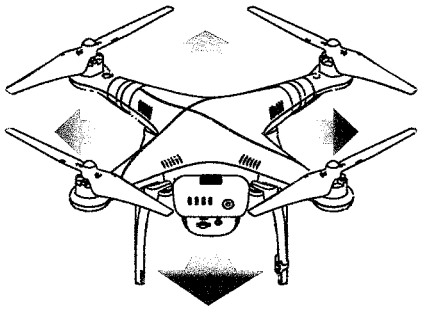
3 Rotate left, rotate right but try to keep the battery pointed at yourself.

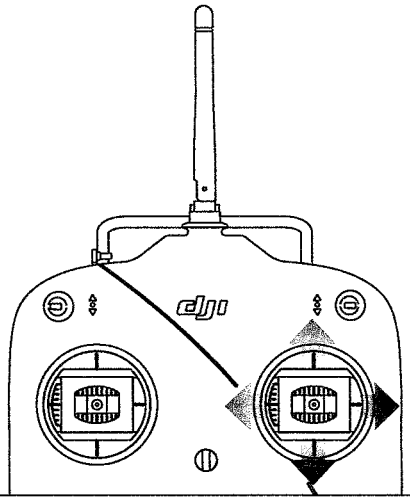




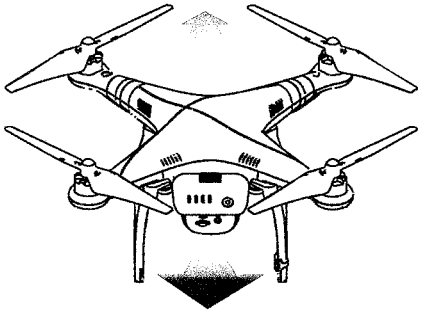
Basic Flight Maneuvers (★)

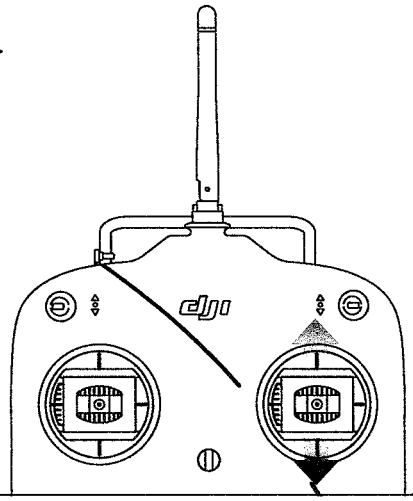
4 Slowly fly forward/back/left/right with back of Phantom pointed at yourself.



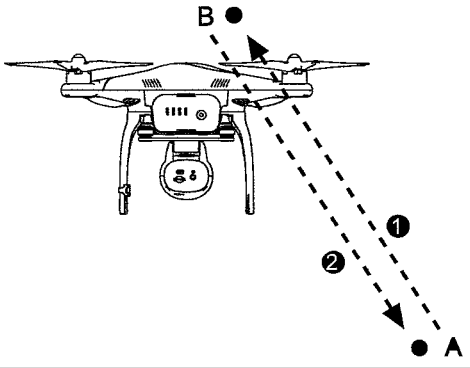


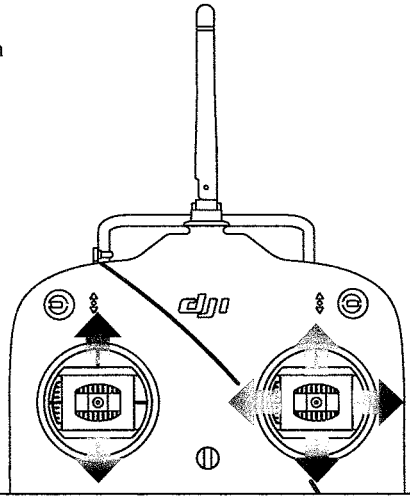
5 Fly forward to a spot 20~30 feet away.
Then fly back keeping the battery pointed at yourself.





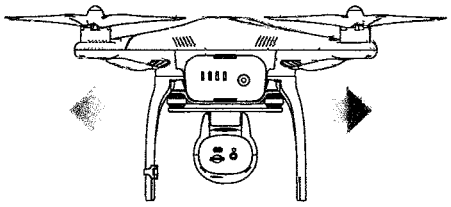
6 Mark a spot (B) on the ground 10ft away from the Phantom's take off point. Hover and fly towards that spot and land at the spot (B). Then go back into a hover and bring the Phantom back to its original position (A) and land again.



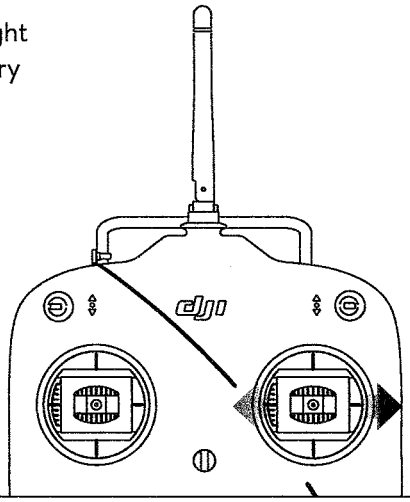


Basic Flight Maneuvers (★)

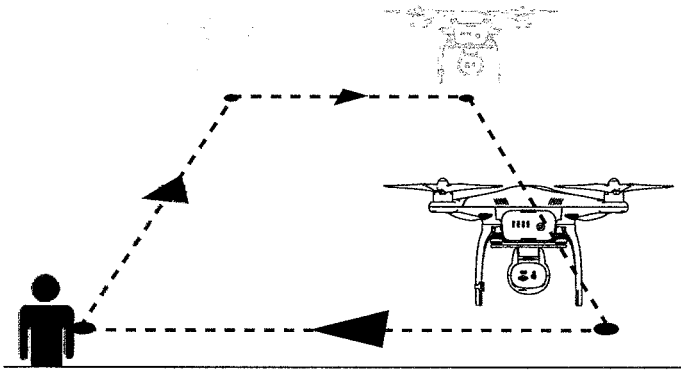
7 Fly left 10ft away from your take-off point, then fly right 10ft from your take-off point all while keeping battery pointed at yourself.

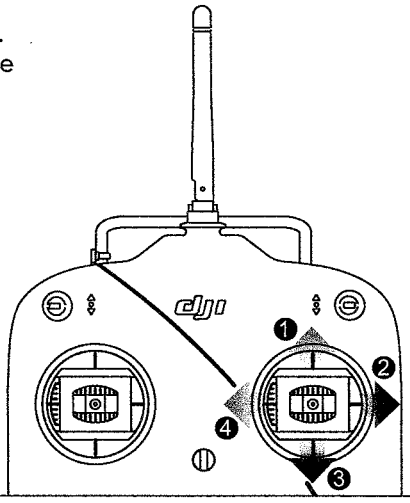


3 meters 3 meters

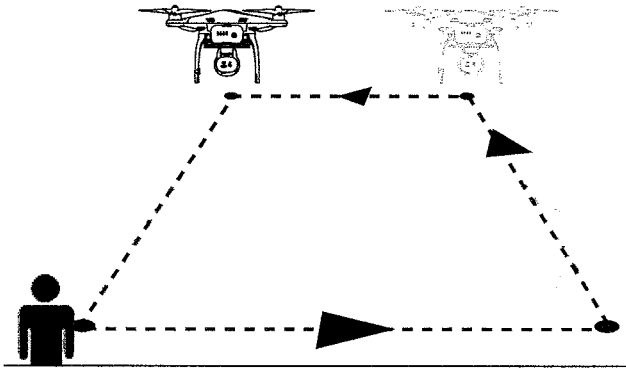


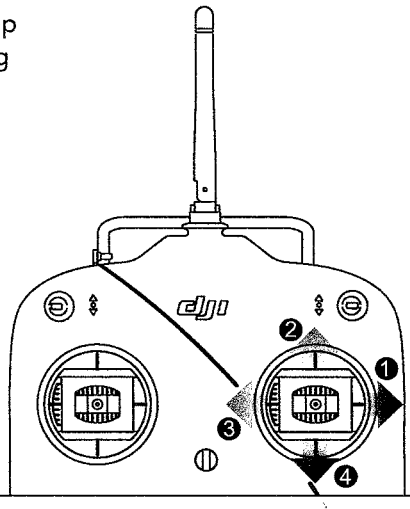
8 Then, while keeping the camera pointed forward, fly a 4 point square box formation going clockwise. Be sure to be in control and stop and hover in place at each point before proceeding to the next point.





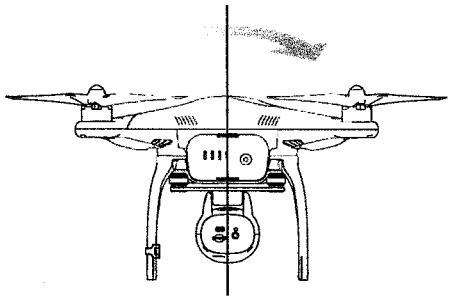
9 Do the same as above but fly the 4 point box formation counter-clockwise. Be sure to be in control and stop and hover in place at each point before proceeding to the next point.

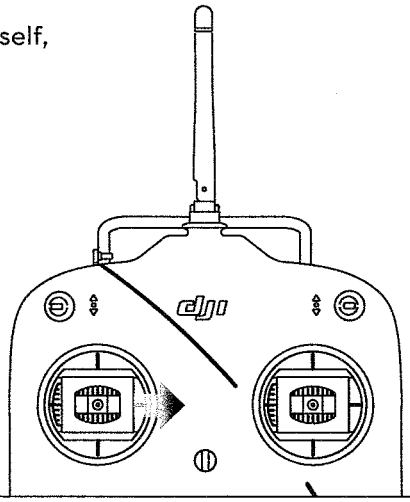




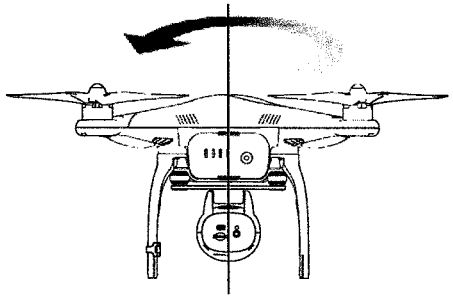
Skilled Flight Maneuvers (★★)

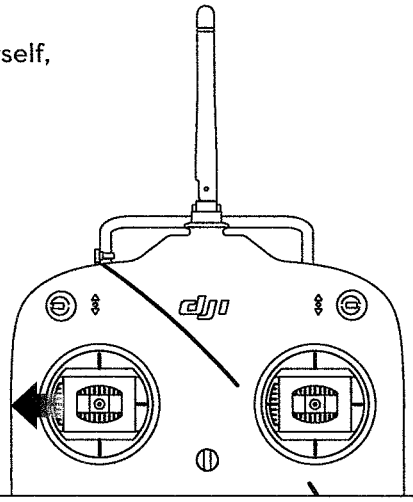
1 In a hover, starting with the battery pointed at yourself, rotate 360 degrees clockwise.



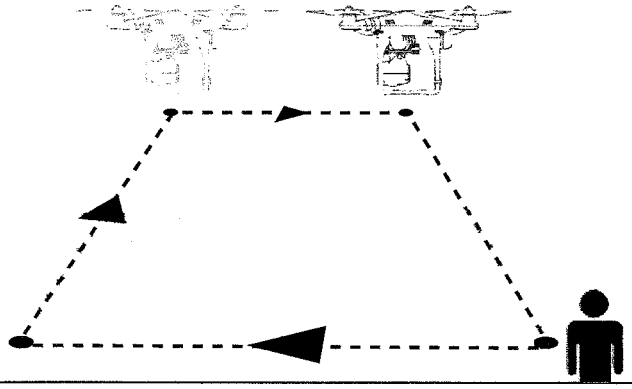


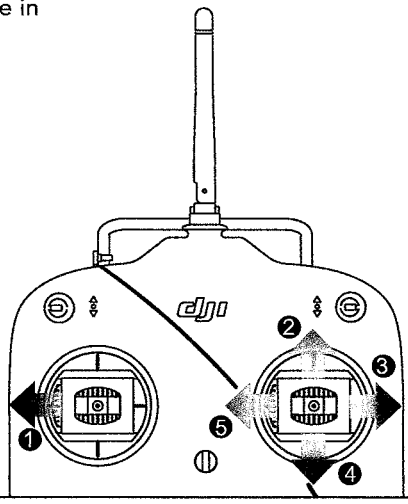
2 In a hover, starting with the battery pointed at yourself, rotate 360 degrees counter-clockwise.





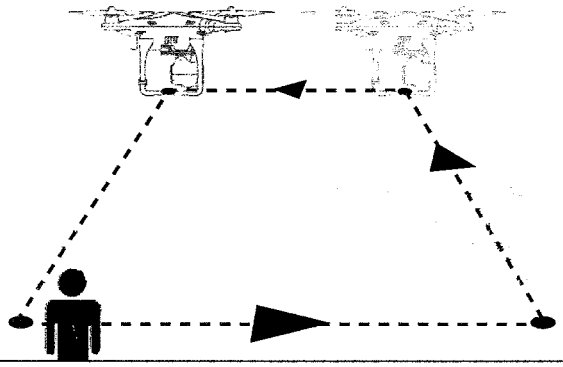
3 Starting with the battery pointed at yourself, go into a hover. Then rotate the Phantom 90 degrees facing left, and fly a 4 point square box formation going clockwise. Be sure to be in control and stop and hover in place at each point before proceeding to the next point.

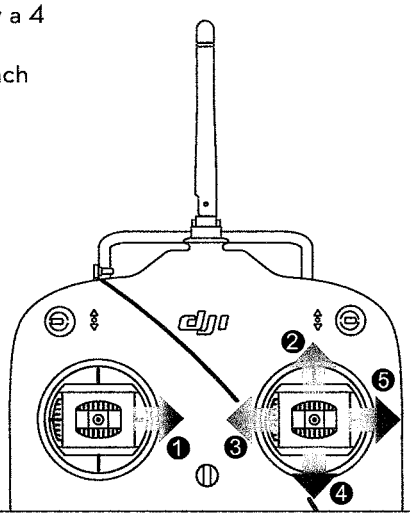




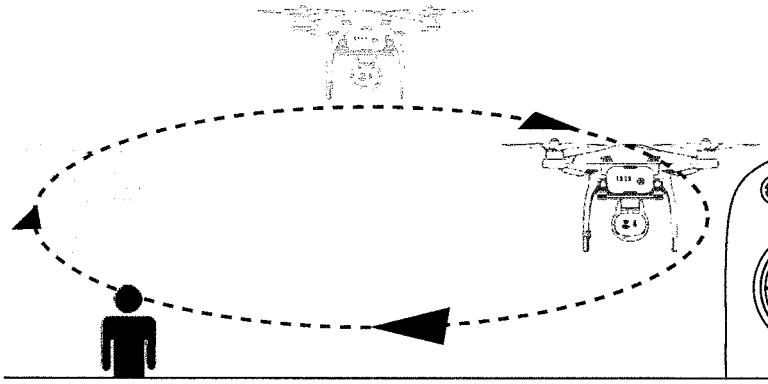
Skilled Flight Maneuvers (★ ★)

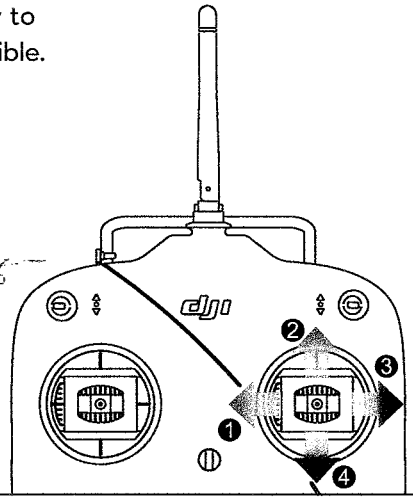
4 Starting with the battery pointed at yourself, go into a hover. Then rotate the Phantom 90 degrees facing right, and fly a 4 point square box formation going counter-clockwise.
Be sure to be in control and stop and hover in place at each point before proceeding to the next point.



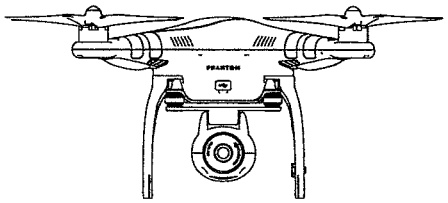


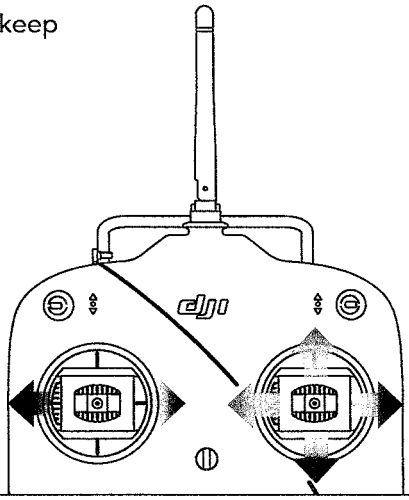
5 With the battery pointed at yourself, fly a circle. Try to keep the altitude and also the circle as uniform as possible.





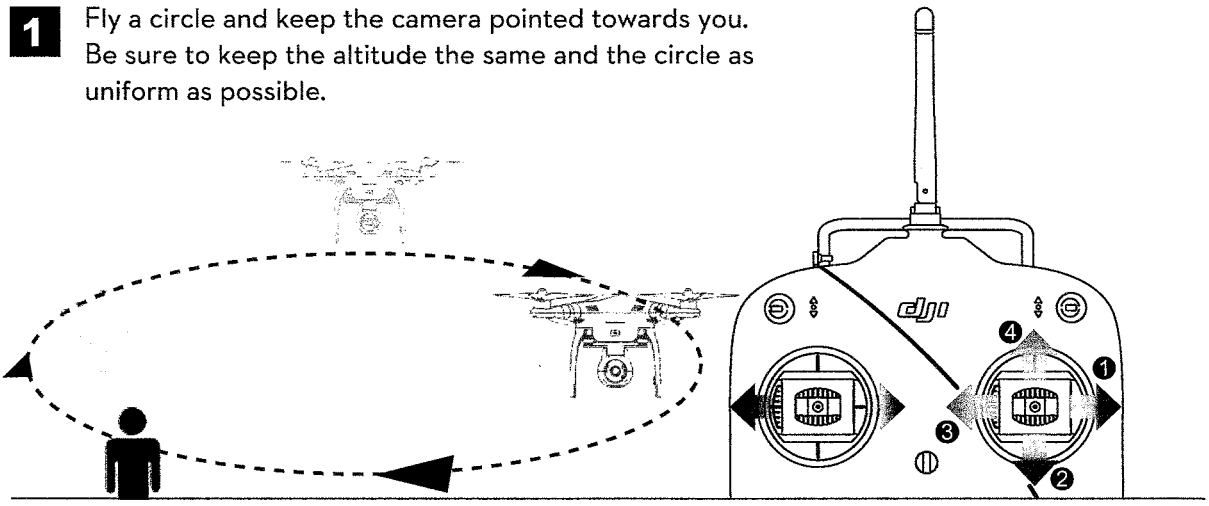
6 Hover with the camera pointed at yourself and try to keep the Phantom in one place.



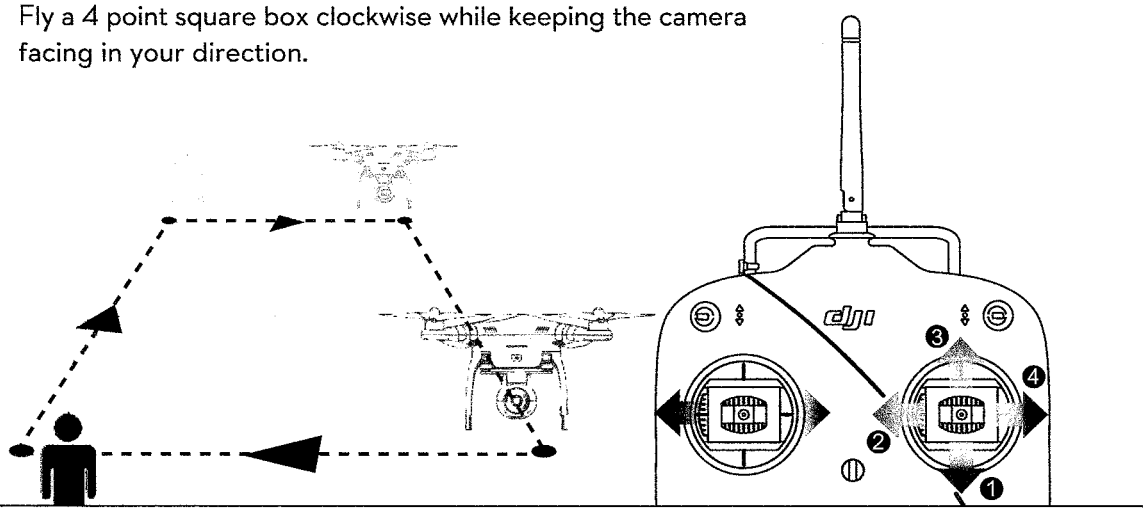


Advanced Flight Maneuvers (★★★)

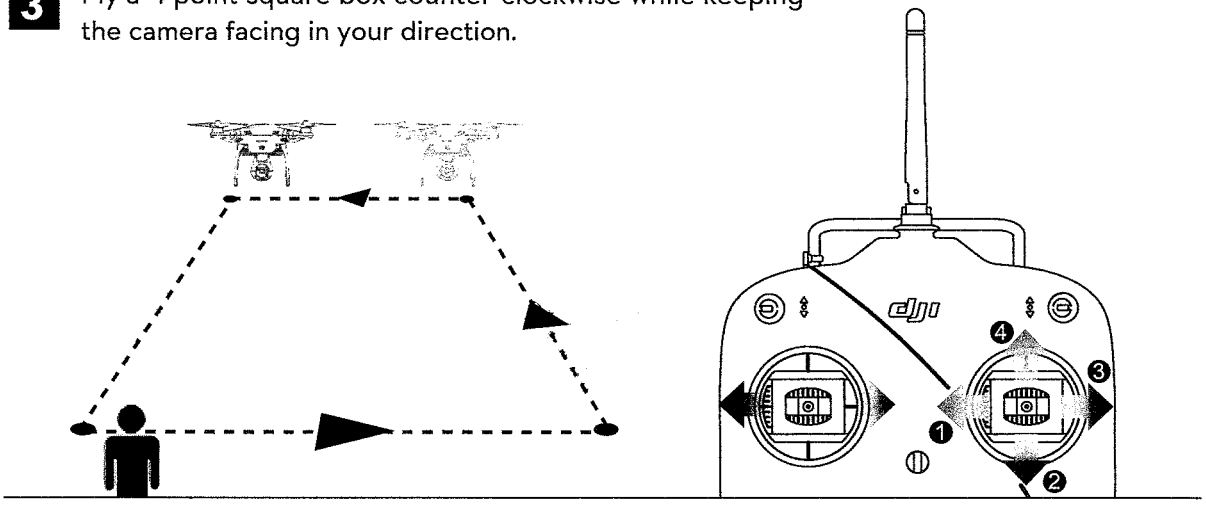
1 Fly a circle and keep the camera pointed towards you. Be sure to keep the altitude the same and the circle as uniform as possible.



2 Fly a 4 point square box clockwise while keeping the camera facing in your direction.

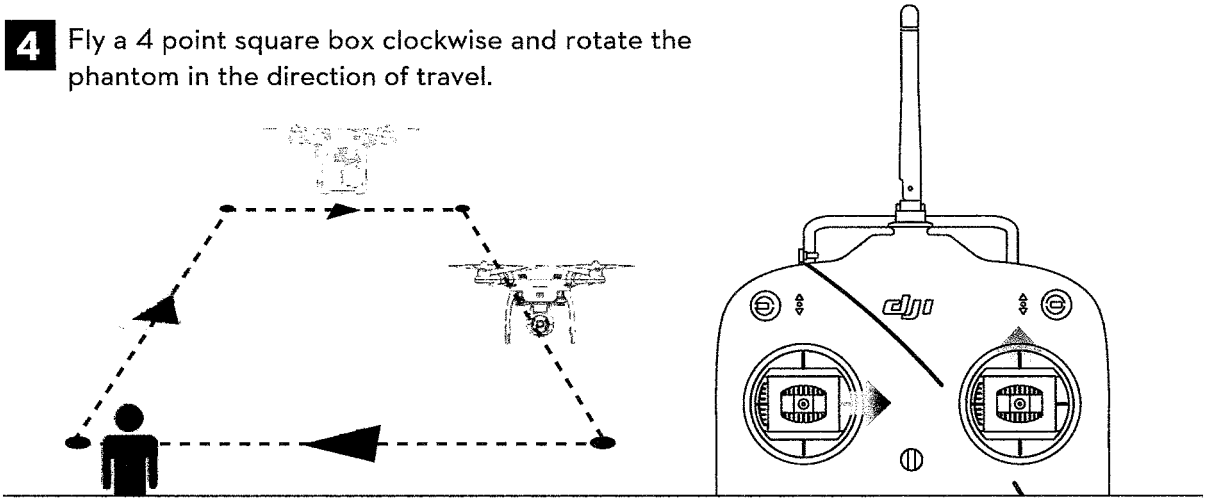


3 Fly a 4 point square box counter-clockwise while keeping the camera facing in your direction.

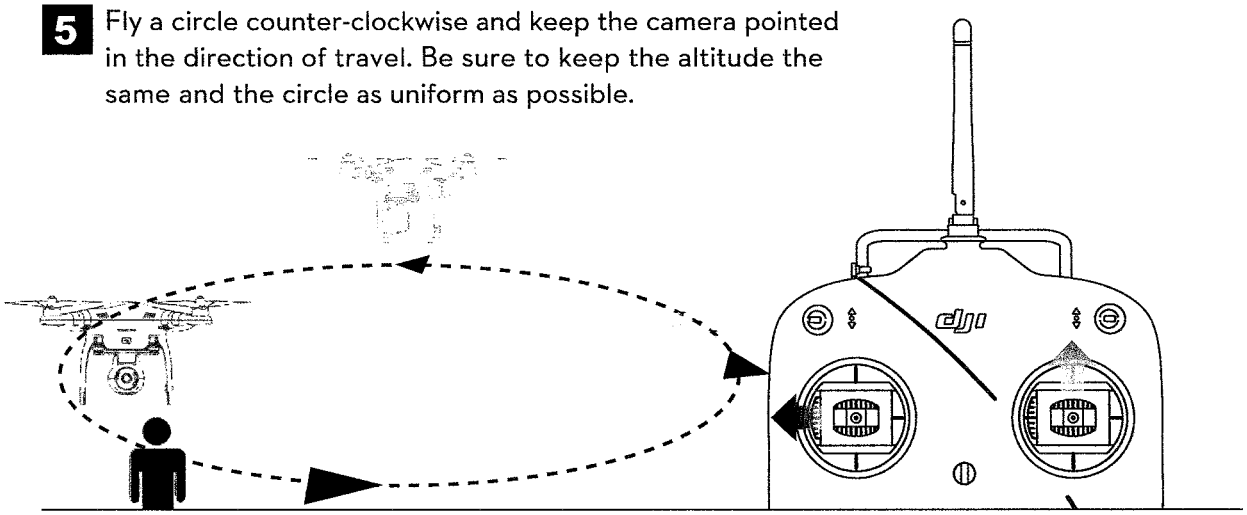


Advanced Flight Maneuvers (★★★)

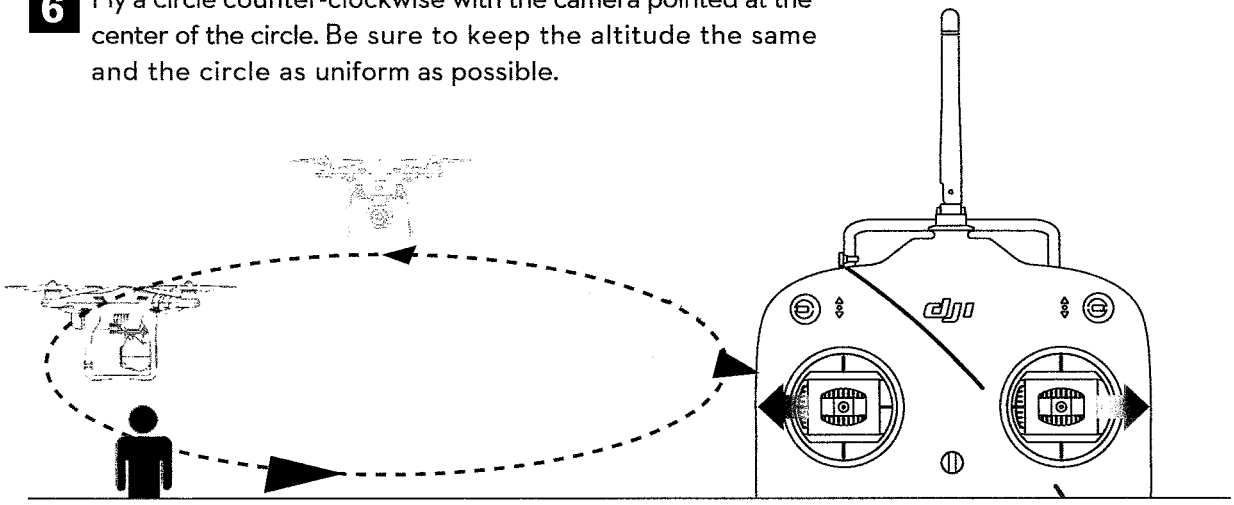
4 Fly a 4 point square box clockwise and rotate the phantom in the direction of travel.



5 Fly a circle counter-clockwise and keep the camera pointed in the direction of travel. Be sure to keep the altitude the same and the circle as uniform as possible.



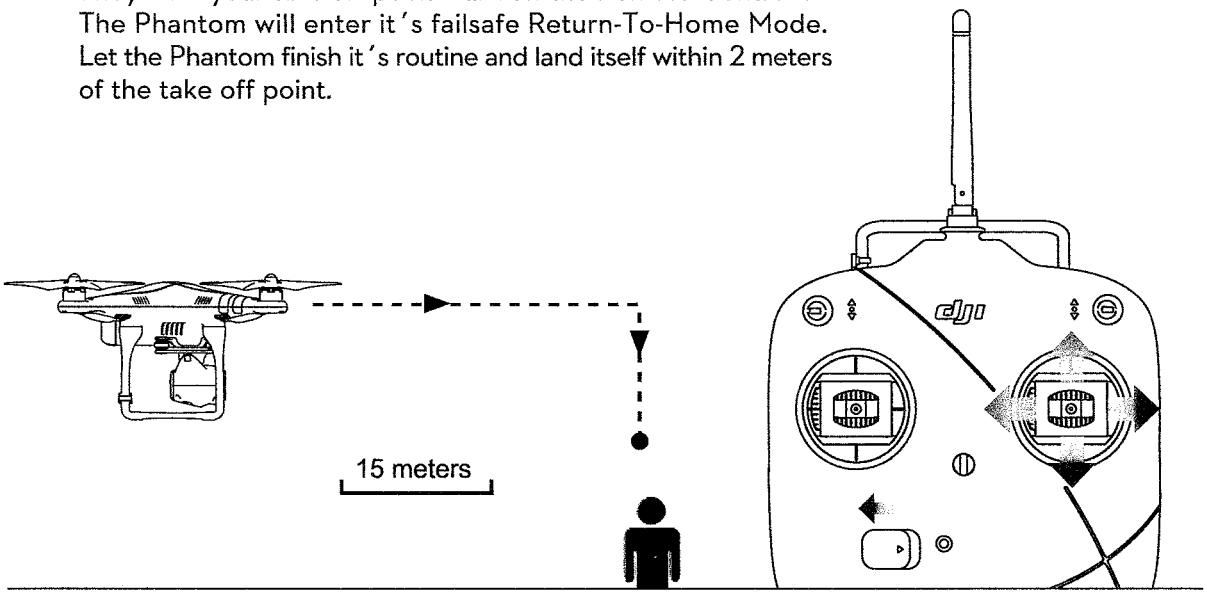
6 Fly a circle counter-clockwise with the camera pointed at the center of the circle. Be sure to keep the altitude the same and the circle as uniform as possible.



Emergency Situations

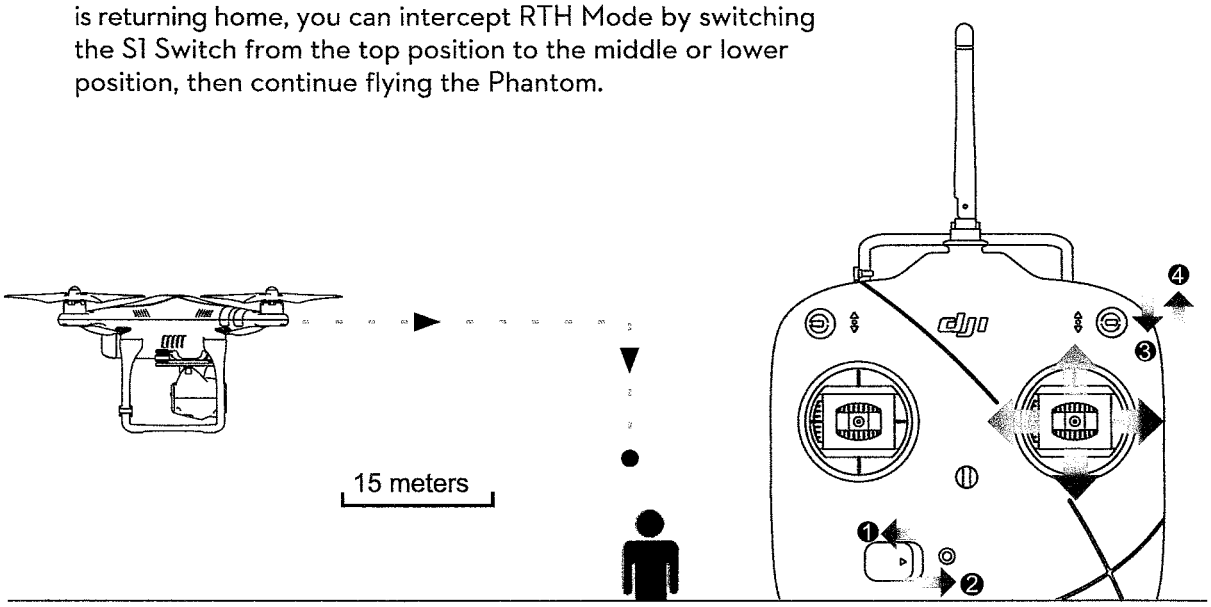
1 Return Home & Land Mode

Be sure you are in a large open area. Before you take off, make sure you have a good GPS lock by ensuring your LED indicators are flashing Green. Fly the Phantom at least 50ft away from your take off point. Turn off the Remote Controller. The Phantom will enter it's failsafe Return-To-Home Mode. Let the Phantom finish it's routine and land itself within 2 meters of the take off point.



2 Intercepting Return Home & Land Mode

Be sure you are in a large open area. Before you take off, make sure you have a good GPS lock by ensuring your LED indicators are flashing Green. Fly the Phantom 50ft away from your take off point. Turn off the Remote Controller. The Phantom will enter it's failsafe Return-To-Home Mode. When the Phantom is returning home, you can intercept RTH Mode by switching the S1 Switch from the top position to the middle or lower position, then continue flying the Phantom.



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