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

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

August 25, 2015

Exemption No. 12600
Regulatory Docket No. FAA−2015−2355

Mr. Neil B. Sulish
2006 Long Beach Boulevard
Surf City, NJ 08008

Dear Mr. Sulish:

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 May 30, 2015, you petitioned the Federal Aviation Administration (FAA) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial evaluation of infrastructure and videography.

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 are the DJI Phantom 3 Professional and DJI Inspire 1.

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, Mr. Neil B. Sulish 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, Mr. Neil B. Sulish 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 3 Professional and DJI Inspire 1 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 five 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 attached 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 August 31, 2017, unless sooner superseded or rescinded.

Sincerely,

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

Enclosures

May 30, 2015

Mr. Bill Crozier
Acting Manager, Flight Standards Service
Unmanned Aircraft Systems Integration Services
Room 4102
Federal Aviation Administration
470 L'Enfant Plaza SW
Washington, DC 20024

RE: Request for exemption from multiple regulatory provisions to allow the use of small unmanned aerial systems on land controlled by clients of mine to assist in the safe evaluation of infrastructure and operations for my future clients

Dear Mr. Crozier,

I Neil B Sulish respectfully request an exemption from several provisions of Title 14 of the Code of Federal Regulations (C.F.R.) to permit the use of small unmanned aerial systems (sUAS) to assist in the evaluation of infrastructure of operations for my clients. Also in filming various functions for my future clients in the field of Real Estate, outdoor weddings, and outdoor water-sports i.e.. surfing. Accordingly, the grant of an exemption is consistent with Congress' intent, reflected in Section 333 of the FAA Modernization and Reform Act of 2012 (Modernization Act),[1] that safe systems be permitted in the national airspace prior to the issuance of final regulations governing general use of these systems.[2] A summary of this request suitable for Publication in the Federal Register is provided as Appendix A.

Appendix B provides the manufacturers information regarding the design, aircraft performance, and fail-safe features. I have provided the information related to operating limitations, normal and emergency procedures, and maintenance and inspection procedures. As I add aircraft designs, I will update this appendix appropriately. Also, provides the manual for flights covered under this Exemption Request.

[1] P.L. 112-95, stat 11, February 14. 2012

[2] Section 333(b) (2) specifically contemplates that the FAA may issue a certificate of waiver upon finding that a type of UAS, as a result of size, weight, speed, operational capacity, proximity t o airports and populated areas, and operations within visual line of sight do not create a hazard to users of the NAS or the public or pose a threat to national security.

Background Information

I plan on working in the Real Estate Industry, outdoor weddings, and outdoor sporting activities over water i.e. surfing.

I have been contacted by many future clients looking for me to operate sUAS for their business needs.

Infrastructure Safety Inspection Operations:

Roof inspection

Construction Companies' Projects

Agriculture (farm crop inspection

Solar panel inspection

As a part of this I am requesting FAA Exemption for sUAS operations for safety, inspection and video capture usage.

Regulatory Basis for Exemption Request

In addition to the waiver authority provided in Section 333 of the Modernization Act, the FAA may grant an emption under 49 U.S.C. §44701(f) if it has determined that such an exemption is in the public interest. The FAA has imposed a separate requirements it procedural regulations, providing that the petitioner shall explain why granting the exemption would not adversely affect safety or how the exemption would provide at least an equivalent level of safety as compliance with the underlying regulation.

Granting an Exemption will not Adversely Affect Safety

I do note that there is no applicable standard for an equivalency determination. Some have argued that the appropriate standard is that for model aircraft, noting that their operations, if conducted for recreational purposes, would fall completely within the allowable operations for model aircraft. I believe it is difficult to argue that there is sufficient correlation between model operations controlled by the Academy of Model Aeronautics and the ones contemplated by myself. At the same time , it is clear that equivalency cannot be established for traditional, manned civil aircraft because the design and use profiles between traditional aircraft and sUAS are

contemplated operations would not adversely affect safety, which is all that §11.81(e) requires.

Granting an exemption will not adversely affect safety. I contemplate conducting sUAS operations over client owned or controlled land, solely during daylight hours, at altitudes well below that which would pose a risk presented by standard infrastructure operations, my clients already have taken steps to secure property against unauthorized public access. For example, substantial stretches of pipeline, utilities, railroad tracks, solar farms, and other sites, are usually fenced, elevated, or otherwise secured to prevent access. Other long stretches of interest are, as noted above could be in wilderness areas. Most of my anticipated work will be on privately owned real estate developments, outdoor venues, private large farms and over bodies of water. The nature of operations that I anticipate requires that the sUAS be flown at relatively low speeds. I expect that in most instances, the sUAS will be flown less than 75 feet from the highest structure along the path of the sUAS. Accordingly, the risk of interference with another aircraft is minimal. I plan to conduct sUAS operations at least 3 miles from a any public airports (including heliports).

Approval of exemption allowing commercial operation of sUAS in the infrastructure aerial inspection industry, outdoor sporting events, construction projects, and outdoor wedding venues will enhance safety by reducing risk. Conventional operations, using jet or piston power aircraft, operate a extremely low altitudes just feet from the subject being inspected or filmed and in extreme proximity to people and structures: and present the risks associated with vehicles that weigh in the neighborhood of 4,000 lbs., carrying large amounts of jet A or other fuel (140 gallons for jet helicopters). such aircraft must fly to and from the job site. In contrast, a sUAS weighing fewer than 55 lbs. and powered by batteries eliminates virtually all of that risk given the reduced mass and lack of combustable fuel carried on board. The uSAS is carried to the site. the sUAS will carry no passengers or crew and, therefore, till not expose them to the risk associated with manned flights.

The operation of small UASs, weighing less than 55 lbs., conducted in the strict conditions outlined above, will provide an equivalent level of safety supporting the grant of the exemptions requested herein, including 333 Aircraft Exemption Status exempting the applicant from conventional aircraft requirements and allowing commercial operations. These lightweight aircraft operate at slow speeds, close to the ground,and in a controlled environment and, as a result, are far safer than

conventional operations conducted with turbine helicopters operating in close proximity to the ground and people.

The safety of this on the ground is protected by the fact that no one will be allowed into the area without permission of the landowner. Security will be established for the flight area as part of the pre-flight control. Each individual within the secure area will be briefed prior to flight and will consent to being in the area.

I initially intend to use myself as the dedicated pilot for all sUAS operations. All operations will be within the visual line-of-sight (i.e. no more than approximately 0.5 miles from the manipulator of the controls (myself), or pilot in command (PIC myself). As PIC I will conduct at least three take-offs and landings with the sUAS on which I was trained every 90 days as a minimum. As PIC I will establish my qualifications thru a combination of aeronautical knowledge, UAS airmanship skill, and verification through established protocol before any operations commence. Depending on the type of operation, additional ground-based visual observers may be employed as well. These observers will be within constant visual line of sight and in constant contact with the PIC. The visual observers will assist the PIC in avoiding objects near the sUAS.

There are no standards for either Private or Commercial sUAS pilot certificates. The safe operation and control of the UAS as described in this application dow not depend on the type of FAA license held by the PIC. Given the restricted and controlled airspace within which operations will take place, the key factors needed by the PIC are knowledge of the airspace within which the operation will take place and how that airspace fits into the National Airspace System (NAS). That knowledge can be and is gained primarily through ground school and not though flight training in fixed wing aircraft, has the skill or ability to safely operate a small unmanned aerial vehicle, operating at 400 AGL or lower, within a strictly controlled pre-approved airspace. Besides knowledge of airspace regulations, dexterity in the control and operation of the sUAS acquired from actual operation of the aircraft is the most important factor in establishing an equivalent level of safety.

If the PIC has acquired the necessary knowledge of airspace requirements, the relevant issues are (1) where the aircraft will be flown, (2) the size of the aircraft relative to what is being used today to accomplish the same mission, and (3) what precautions will be taken to ensure the safety of those in the area of operation. I propose that the aircraft be operated within a secure environment; and that no one

be allowed to enter the secure environment unless the are part of the operation of the sUAS, and have consented to the risk associated with being in the operating area. Should there be a mishap, the sUAS being flown pose significantly less of a threat than the helicopters and fixed wing aircraft now being employed because they are a fraction of the size, carry no flammable fuel, do not carry crew or passengers, and pose an infinitesimal risk to others. This is in stark contrast to conventional aircraft that are flown to the site , carry explosive fuel, carry passengers and crew, and operate in a much larger area.

From a practical standpoint, there are relatively few licensed full-scale aircraft pilots who are also qualified to fly the type of sUAS that are utilized for infrastructure and other image capture operations. There are even fewer commercial pilots that can fly these sUAS- to the point that to do both is considered rare. Assuming that it is unlikely for a company to find a pilot that has both qualifications, that company would either have to source a qualified sUAS pilot to train and obtain a commercial certificate, or find a commercial certificated pilot who would be willing to learn to fly a sUAS to the competency level required for professional use.

Minimum requirements for the PIC include:

1. A minimum of 200 flight cycles and 25 hours of total time as a sUAS rotorcraft pilot and at least 10 logged as a sUAS pilot with a similar sUAS type (single blade or multi-rotor);

2. A minimum of 5 hours as sUAS pilot with the make and model of sUAS to be utilized for operations under the exemption and 3 take offs and landings in the preceding 90 days;

3. Have undergone a qualification process as specified in the Flight Operations & Procedures Manual consisting of a knowledge & skill test the aircraft to be used.

I intend to use commercially available sUAS Components for sUAS. These sUAS systems will be tested for quality & safety under controlled conditions before being used in the field. The sUAS is less than 55 lbs. fully loaded, carries neither a pilot nor a passenger, and operates exclusively within a secured area. I have a routine maintenance schedule to verify that the sUAS will remain in safe and operational condition. Please see **Appendix B**, for Specific Types of sUAS.

Notes regarding : 14 C.F.R. Part 21, Subpart H

In accordance with the statutory criteria provided in Section 333 of PL 112-95 in reference to 49 USC 44704, and in consideration of the size, weight, speed, and limited operating area associated with the aircraft and its operation , we request that's aircraft exemption meets the conditions of Section 333. Therefore , if granted Section 333 relief of 14 CFR part 21, and any accosted noise certification and testing requirements of part 36, is not necessary.

Notes regarding: 14 C.F.R. § 45.23(b). Marking of the Aircraft

Given the size of the sUAV, two inch lettering will be impossible, UAS will 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 will be as large as practicable.

Notes regarding: 14 CFR § 91.7(a) Civil Aircraft Airworthiness

My request is based on the fact tat no airworthiness certificate will be issued for the UAS. My UAS will not require an airworthiness certificate in accordance with 14 CFR part 21, subpart H. Based on the fact that an airworthiness certificate will not be issued, exemption from § 91.7(a) is not necessary.

Notes Regarding: 14 CFR§91.9(b)(2)Civil aircraft flight manual, marking and placard

Certifications required, the original intent these regulations was to display an aircraft's airworthiness, certification, and registration documents so they would be easily available to inspectors and passengers. Based on the FAA Memorandum subject "Interpretation regarding whether certain required documents may be kept at an unmanned aircraft's control station," dated August 8, 2014, the requested relief from 14 CFR §§ 91.9(b)(2) and 91.203(a) and (b) is not necessary.

Notes Regarding: §91.109 Flight instruction; Simulated instrument & certain flight test

Small UASs, by their design, do not have fully functional dual controls. Flight control is accomplished through the use of a control box that communicates with the aircraft via radio communications. Aircraft being considered for use by me allow the UAS Instructor to place the aircraft into "loiter" mode (fixed altitude stationary hold). In the event of the student losing control, the UAS instructor can quickly and via alternate equipment (equipment not in the hands of the student) place the aircraft

into a mode that then allows the instructor to bring the aircraft back into control and back to the pre-determined and/or safe landing location.

I do not describe training scenarios in which a dual set of controls would be utilized or required, i.e. dual flight instruction, provided by a flight instructor or other company-designed individual, that would require that individual to have fully functioning dual controls. Rather, I would evaluate the qualification of its PICs based on their experience with the UAS to be operated and verifies through testing, in lieu of formalized training. As such, I do not seek relief from 14 CFR § 91.109.

Notes Regarding § 14 CFR 91.119(b)

Relief from § 14 CFR 91.119(b), operation over congested areas is not applicable, because the operations performed will only be conducted within the secure area described herein.

My safety Operations & Procedures Overview:

Technology Considerations:

Best in class, tried and proven technologies that are in advanced iterations. Software from highly-reputable industry partners will include feature-

1. Auto descent (landing) if communication signal were to be severed. If the sUAS loses communications, the sUAS will have the capability to return to a pre-determined location within the security perimeter and land.
2. Auto descent (landing) if battery were to drop lower than nominal level.
3. Flights will be terminated at 25%battery power reserve.
4. Live video for the operator gives real-time positioning feedback. Another words, I can monitor the scene from the vehicle's perspective for collision avoidance, and to maintain spatial orientation.
5. The sUAS will have the capability to abort a flight in case of unpredicted obstacles or emergencies.
6. On-Screen-display (OSD) contains operating information to ascertain vehicle health at all times: speed, altitude,number of GPS satellites (when available), heading, and voltage.
7. GPS Lock supplies for return-to-home (RTH). Should command and Control (C2) link failures occur (highly improbable), vehicle returns automatically to the point of launch.
8. Altitude information will be provided to the sUAS pilot via a digitally encoded telemetric data feed, which downlinks from the aircraft to a a ground-based on-screen display. This altitude information will be generated by equipment installed on board the aircraft, using GPS triangulation, digitally encoded barometric altimeter, or radio altimeter, or any combination thereof. Prior to each flight, a zero altitude initiation point will be established and confirmed for accuracy by the Pilot.

Mechanical/Physical:

1. I will fly in Line-of-sight (LOS) only. The vehicle will always remain in direct LOS to the pilot, thus eliminating the concern of signal severance (flying behind objects/walls).
2. The sUAS will with less than 55lbs and travel at less than 50 knots.
3. Batteries should far exceed the capacity required for the actual flight time.
4. Flights will be operated at an altitude of no more than 400 feet AGL.
5. Fireproof bags for storage and charging of high capacity Lipo batteries on-site.
6. UA operated under this exemption will be marked in accordance with 14 CFR part 45 or as otherwise authorized by the FAA.

Personel:

1. Spotters ensure safe iteration and act as a redundant set of eyes for operators (pilot, gimbal op, director.
2. Radio spectrum analysis for interference on the frequencies utilized for vehicle control/communication.
3. A briefing will be conducted in regard to the planned sUAS operations prior to each day's activities. It will be mandatory that all personnel who will be performing duties within the boundaries of the safety perimeter be present for this briefing.
4. The operator will obtain consent of all persons involved in the sUAS operations and ensure that only consenting persons will be allowed within 100 feet of the flight operations.
5. Observer and pilot will at all times be able to communicate by voice.
6. Written and/or permission from the relevant property holders will be obtained.
7. Pilot and observer will have been trained in operate of UAS generally and received up-to-date information on the particular UAS to be operated.

Operations:

1. The unmanned aircraft (UA) must weigh less than 55 pounds (25 Kg), including energy source(s) and equipment. Operations authorized by this petition of exemption are limited to the following aircraft described in Appendix B. Proposed operations of any other aircraft will require a new petition or a petition amendment to this request.

2. Th UA may not be flown at a ground speed exceeding 50 knots.

3. Flights must be operate at an altitude of no more than 400 feet above ground level (AGL), as indicated by the procedures specified in the operator's manual. All altitudes reported ago ATC must be in feet AGL.

4. 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.

5. All operations must utilize a visual observer (VO). 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 verbal at all times.

6. The operator's manual included as Appendix C and this petition of exemption must be maintained and made available to the Administrator upon request. If a discrepancy exist between the conditions and limitations in this exemption and the procedures outlined in the operator's manual, the conditions and limitations herein take precedence and must be followed. Otherwise, the operator must follow the procedures as outlined in its operator's manual.
   The operator may update or revise its operator'd manual. It is the operator's responsibility to track such revisions and present updated and revised documents to the Administrator upon request. The operator must also present updated and revised casements if i petitions for extension or amendment. If the operator determines that any update or revision would affect the basis for which the FAA grants this petition for exemption, ten the operator must petition for amendment to their exemption. The FAA's UAS Integrations Office (AFS-80) may be contacted if questions arise regarding updates or revisions to the operator's manual.

7. Prior to each flight the PIC must inspect the UAS to ensure it is in a condition for safe flight. 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. The Ground Control Station, if utilized, ,must be included in the pre-flight inspection. All maintenance and alterations must be properly documented in the aircraft records.

8. Any UAS that has undergone maintenance of alterations that affect the UAS operation or flight characteristics, e.g. replacement of a flight critical component, must undergo a functional test flight in accordance with the operator's manual. The PIC who conducts the functional test flight must make an entry in the UAS aircraft records of the flight. The requirements and procedures for a functional test flight and aircraft record entry must be added to the operator's manual.

9. The operator must follow the manufacturer's UAS aircraft/component, maintenance, overhaul, replacement, inspection, and life limit requirements. When unavailable, aircraft maintenance/component/overhaul, replacement, and inspection/maintenance requirements must be established and identified in the operator's manual. At a minimum, requirements for the following must be included in the operator's manual:
-Actuators/servos;

-Transmission (single rotor);

-Powerplant (motors);

-Electronic speed controller;

-Batteries;

-Mechanical dynamic components (single rotor)

-Remote command and control;

-Ground Control station (if used); and

-Any other components as determined by the operator;

10. Prior to operations conducted for the purpose of infrastructure inspectrosm the PIC must have accumulated and logged in a manner consistent with 14 CFR § 61.51(b), a minimum of 200 flight cycles and 25 hors of total time as a UAS rotorcraft Pilot and at least 10 hours logged as a UAS pilot with a similar UAS type (single blade or multi rotor). Prior documented flight experience that was obtained in compliance with applicable regulations my satisfy their requirement. Training, proficiency, and experience-building flights, all persons not essential for flight operations are considered nonparticipants, and the PIC must operate the UA withe appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.

11. Prior to operations conducted for the purpose of infrastructure inspection, the PIC must have accumulated and logged, in a manner consistent with 14 CFR § 61.51(b), a minimum of five hours as UAS pilot operations the make and model of UAS to be utilized of operations under the exemption and three take-offs and three landings in the preceding 90 days. Training, proficiency, experience-building, and take-off and landing currency flights can be conducted under this piton of exemption to accomplish the required flight time and 90 day currency. During training, proficiency, experience-building, and take-off and landing currency flights all persons not essential for flight operations are considered non-participants, and the PIC must operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.

12. Prior to any flight apparitions authorized by this petition of exemption, the PIC and VO must have successfully completed a qualification process, as outlined in the operator's manual. As this is a requirement stipulated by the operator, the test must be developed and implemented by a qualified person designated at the sole discretion of the operator. A record of completion of this qualification process must be documented and made available to the Administrator upon request.

13. Prior to operations conducted for the purpose of infrastructure inspection, a flight demonstration, administered by an operator-approved and -qualified pilot must be successfully completed and documented. This documentation must be available for review upon request by the Administrator. Because the knowledge and airmanship test qualifications have been developed by the operator, and there are no established practical test standards that support a jurisdictional FAA FSDO evaluation and approval of company designed

examiners, the petitioner will conduct these test in accordance with the operator's manual.

14. The UA may not be operated over any person, except authorized and consenting personnel, below an altitude that is hazardous to persons or property on the surface in the event of a UAS failure or emergency.

15. Regarding the distance form participating persons, the operator's manual has safety mitigations for authorized and consenting personnel. At all times, those persons must be essential to operations.

16. Regarding distance from nonparticipating persons, the operator must ensure that no persons are allowed within 500 feet of the area except those consenting to be involved and necessary for the operation being performed. This provision may be reduced to no less than 200 feet if it would not adversely affect safety and the Administrator has approved it. For example, an equivalent level of safety may be determined b y an aviation safety inspector's evaluation of the infrastructure inspection area to note terrain features, obstructions, buildings, safety barriers, etc. Such barriers may protect nonparticipating persons (observers, the public, news media, etc.) from debris in the event of an accident.

17. If the UAS loses communications or loses its GPS signal, the UA must return to a pre-determined location within the security perimeter and land or be recovered in accordance with the operator's manual.

18. The UAS must abort the flight in the event of unpredicted obstacles or emergencies in accordance with the operator's manual.

19. Each UAS operation must be completed with 25% battery power remaining.

20. The Operator must obtain an Air Traffic Organization (ATO) issued Certificate Waiver or Authorization (COA) prior to conducting any operations under this petition of exemption. This COA will also require the operator to request a Notice to Airman (NOTAM) not more than 72 hours in advance, but not less than 48 hours prior to the operation.

21. 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.

22. The operator must develop procedures to document and maintain a record of the UAS maintenance, preventative maintenance, alterations, status of replacement/overhaul component parts, and the total time in service of the UAS. These procedures must be added to the operator's manual.

23. Each UAS operated under this exemption must comply with all manufacturer Safety bulletins.

24. The operator must develop UAS technician qualification criteria. These criteria must be added to the operators manual.

25. The preflight inspection section in the operator's manual must be amended to include the following requirement: The preflight inspection must account for all discrepancies, i.e. inoperable compost, items or equipment, not covered in the relevant preflight inspection sections of the operator's manual

26. Before conducting operations, the radio frequency spectrum used for operation and control of the UA must comply with the Federal Communications Commission (FCC) or other appropriate government oversight agency requirements.

27. At least 3 days before scheduled flight the operator of the UAS affected by this exemption must have a written Plan of Activities.
The Plan of Activities must include at least the following: Dates and Times of proposed flight; Name and phone number of the operator for the UAS; name and phone number of the person responsible for the on-scene operation of the UAS; Make, model, and serial number or N-Number of UAS to be used; Name and certificate number of UAS PICs involved in the event; a statement that the operator obtained permission from property owners and/or local officials if applicable; Signature of Exemption holder and a description of the flight activity, including maps of affected areas and altitudes essential to accomplish the operation.

28. The documents require under 14 CFR §§ 91.1 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.

29. The UA must remain clear and yield the right of way to all other manned operations and activities at all times (including, but not limited to, ultralight vehicles, parachute activities, parasailing activities, hang gliders, etc.).

30. UAS operations may not be conducted during the 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.

31. The UA may not operate in class B, C, or D airspace without written approval from the FAA. The UA may not operate within 5 nautical miles of the geographic center of non-towered airport as denoted on a current FAA-published aeronautical chart unless a letter of agreement within the airport's management is obtained, and the operation is conducted in accordance with a NOTAM as required by the operator's COA. The letter of agreement with the airport management must be made available to the Administrator upon request.

32. 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. Further flight operations may not be conducted until the incident, accident, or transgression is reviewed by AFS-8- and authorization to resume operations I provided.

Support for Petition for Exemption

In accordance with the procedural requirements of 14 C.F.R. § 11.81, I provide the following information:

Contact Information:

Neil B. Sulish

2006 Long Beach Boulevard

Surf City, NJ 08008

(609) 234-0864

NeilSulish@yahoo.com

Regulatory Provisions from which I seek an Exemption

I believe it may need an exemption from the following provisions to conduct the contemplated operations. In some instances, relief is needed because relief form another provisions renders compliance with the regulation at hand infeasible.

333 Aircraft Exemption Status

14 C.F.R. §61.113(a) and (b)

14 C.F.R. §91.119(c)

14 C.F.R. §91.121

14 C.F.R. §91.151

14 C.F.R. §91.405(a)

14 C.F.R. §91.407(a)

14 C.F.R. §91.409(a)(1)&(2)

14 C.F.R. §91.417(a)&(b)

I believe an exemption is only needed form the above-listed regulatory provisions. To the extent that the FAA believes that additional relief is required for me to conduct

the operations described here, I request an exemption from any such regulatory provisions as well.

The Extent of Requested Relief and the Reasons Relief is Needed

Section 333 Aircraft Exemption Status:

Section 333 of the Modernization Act authorizes the FAA to exempt the aircraft from the requirement for an airworthiness certificate based on a consideration of the size, weight, speed, operational capability of the particular UAS, as well as its proximity to airports and populated areas. An analysis of these criteria demonstrates that the sUAS operated without an airworthiness certificate in the areas and under the conditions contemplated by myself will be at least as safe, or safer, than a conventional aircraft (fixed wing or rotorcraft) operating with an airworthiness certificate without the conditions proposed in this request.

The sUAS is less than 55 lbs. fully loaded, carries neither a pilot nor passenger, and operates exclusively within a secured area. Unlike other civil aircraft, operations under this exemption will be tightly controlled and monitored by the operator and observer. Operations will be conducted in compliance within the FAA and with local public safety requirements to provide security for the area of operation as is now done with conventional equipment, infrastructure, bridge and out building evaluation. These safety enhancements provide an expanded degree of safety to the inspectors over conventional operations. Lastly, application of these same criteria demonstrates that there is no credible threat to national security posed by the sUAS due to its size, speed of operation, lack of explosive materials and inability to carry an extensive external load.

Given the size and limited operating area associated with the aircraft to be utilized by the Applicant, this meets the requirements of an equivalent level of safety under Part 11 and Sections 333 of the Reform Act. The Federal Aviation Act (49 U.S.C. §44701(f)) and Section 333 of the Reform Act both authorize the FAA to exempt aircraft for the requirement for an airworthiness certificate, upon consideration of the size, weight, speed, operational capability, and proximity to airports and populated areas of the particular sUAS. In all cases, an analysis of these criteria demonstrates that the UAS operated without an airworthiness certificate, in the restricted environment and under the conditions proposed will be at least safe, or safer, than a conventional aircraft (fixed wing or rotorcraft) operating with an airworthiness certificate without the restrictions and conditions proposed.

14 C.F.R. §61.113(a) and (b)

§61.113 Private Pilot privileges and limitations: Pilots in command.

(a) Except as provided in paragraphs (b) through (h) of this section, no person who holds a private pilot certificate may act as pilot in command of an aircraft that is carrying passengers or property for compensations or hire; nor may that person, for compensation or hire, act as pilot in command of an aircraft.

(b) A private pilot may, for compensation or hire, act as pilot in command of an aircraft in connection with any business of 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.

I plan on conducting all sUAS operations, while I do not hold a commercial pilot license, the sUAS will not carry property for compensation or hire since it will be used solely to perform operations at hand. Without an exemption, I would be required to hold a commercial pilot certificate under §61.133. However, the risk associated with the contemplated operations is less than the risk posed by a traditional aircraft. The sUAS will fly at altitudes well below the permissible limits for other civil aircraft, eliminated the risk to other aircraft, and within a geographical envelope under the sole control of myself. Accordingly, the risk would be limited to myself, as I will be appropriately outfitted in safety gear, and my property on the ground. Requiring a commercial pilot certificate would provide no appreciable safety benefit and would needlessly impose additional cost on myself. Because the contemplated operations would not comply with §61.113(b)(1) and none of the other exceptions to paragraph (a) apply, relief is needed from both paragraphs (a) and (b).

14 C.F.R. 91.119(c)

§91.119 Minimum safe altitudes: General.

Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes:

***

(c) Over other than congested areas. An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to an person, vessel, vehicle, or structure

****

I submit that the only relief it requires from §91.119 is from the minimum altitudes listed in paragraph (c). Relief is required from paragraph (c) for fixed wing operations because asset evaluation conducted at 500 feet or higher is insufficiently distinct to be meaningful. Since operations at this altitude also pose a heightened risk of collision with another aircraft, safety can only be assured through a grant of an exemption. The anticipated rotorcraft operations should be adequately addressed by paragraph (d)(1). Additionally, relief should not be needed from paragraph (a) because an emergency landing of the aircraft due to power failure will not create an undue hazard to persons or property on the surface. As noted in the depletion of why an exemption will not adversely affect safety, I have exclusive use of the land over with the sUAS will be operated, and public access is usually restricted. It also has exclusive use of significant portions of land adjacent to the infrastructure and structures that will be objects of evaluation and analysis. My clients will tightly unreal access to land and have the ability to assure that no individuals unassisted with the planned operations are on the affected land. As such, the risk of injury is minimal. I do not contemplate conduction operations over congested areas, so relief is not request from paragraph (b).

14 C.F.R. 91.121

14 C.F.R § 91.121 Altimeter Settings

This regulation requires each person operating an aircraft to maintain cruising altitude by reference to an altimeter that is set "...to the elevation of the departure airport or an appropriate altimeter setting available before departure."

*****

As the sUAS may not be a barometric altimeter, but instead a GPS altitude read out, an exemption may be needed. An equivalent level of safety will be achieved by the operator, pursuant to the Manual and Safety Check list, confirming the altitude of the launch site shown on the GPS altitude indicator before flight.

Altitude information will be provided to the sUAS pilot via a digitally encoded telemetric data fee,d which downlinks from the aircraft to a ground-based on-screen display, This altitude information will be generated by equipment installed on board the aircraft, using GPS triangulation, or digitally encoded barometric altimeter, or radio altimeter, or any combination thereof. Prior to each flight a zero altitude initiation point will be established and confirmed for accuracy by the pilot.

14 C.F.R. 91.151

Operating the sUAS in a pre-defined area with less than 30 minutes of reserve fuel does not raise the type of risk contemplated by §91.151, i.e., that an aircraft could run out of fuel in the event that it has to be flown to an alternate airport or circle that planned airport in the event of unanticipated conditions. I do not indeed to use the sUAS for point-to-point flights and will not operate the sUAS beyond visual line of sight. Nor will the sUA require an airport in order to land. Rather, I will operate the sUAS will be pre-planned flight paths (taking into account weather conditions) designed to allow the sUAS to fly to the point of intended landing. As such, there is no need for a time-based excess fuel requirement. Rather it should be sufficient to require only as much additional excess flight capacity as necessary to safely land the sUAS. I believe that a 25% battery reserve is more than sufficient to meet the objective.

14 C.F.R. 91.405(a), 91.407(a)(1), 14 C.F.R. 91,409(a)(1)&(2) and 14 C.F.R. 91.417(a)&(B)

§91.405 Maintenance required.

Each owner or operator of an aircraft -

(a) Shall have that aircraft inspected as prescribed in subpart E of this part and shall between required inspections, except as provided in paragraph (c) of this section, have discrepancies repaired as prescribed in part 43 of this chapter;

*****

§91.407 Operation after maintenance, preventive maintenance, rebuilding, or alteration.

(a) No person may operate any aircraft that has undergone maintenance, rebuilding or alteration unless -

(1) It has been approved for return to service by a person authorized under 43.7 of this chapter

§91.409 Inspections

(a) Except as provided in paragraph (c) of this section, no person may operate an aircraft unless, within the preceding 12 calendar months it has had _

(1) An annual inspection in accordance with part 43 of this chapter and has been approved for return to service by a person authorized by §43.7 of this chapter; or

(2) An inspection for the issuance of an airworthiness certificate in accordance with part 21 of this chapter.

*****

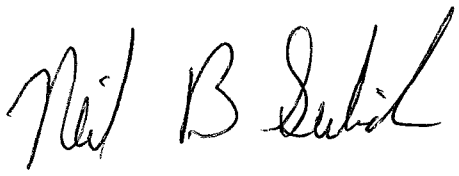
§91.417 (a)&(b)

*****

I believe that an exemption form these three maintenance requirements i approbate because the FAA has not developed maintenance standards that would allow an operator to meet the part 91 maintenance requirements. In particular, there are no individuals authorized by the FAA to approve a sUAS for return to service inspections required by §91.409(a) or conduct the initial airworthiness and annual return to service inspections required by §91.409(a). I will maintain the aircraft as instructed in the owner's manual and ASTM F2909, where applicable, and will not operate the aircraft until it has reasonably determined that any needed repairs have been made. However, because of the technical impossibility of meeting the requirements of §§91.405(a), 407(a), 409(a) and 417(a)&(b), I believe an exemption from these provisions is appropriate.

Please do not hesitate to contact me at the phone number or via the e-mail address provided above should you have any questions or concerns.

Respectfully submitted,



Neil B. Sulish

Appendix A

Summary for Federal Register Publication

Pursuant to 14 C.F.R. Part 11, the following summary is provided for publication in the Federal Register should the FAA determine that publication is needed.

Petitioner: Neil B. Sulish

Sections of 14 C.F.R. Affected:

333 Aircraft Exemption Status

14 C.F.R. §61.113(a) and (b)

14 C.F.R. §91.119(c)

14 C.F.R. §91.121

14 C.F.R. §91.151

14 C.F.R. §91.405(a)

14 C.F.R. §91.407(a)

14 C.F.R. §91.409(a)(1)&(2)

14 C.F.R. §91.417(a)&(b)

Description of Relief Sought:

Petitioner seeks relief form the requirements of 333 Aircraft Exemptions Status, 14 C.F.R., 61.113(a)&(b)), 91.119(c), 91.121, 91.151, 91.405(a), 91.407(a), 91.409(a) and 91.417(a)&(b) to conduct sUAS operations over my client's one or controlled land, solely during daylight hours, to assist in the safe evaluation and analysis of operations. In general, sUAS operations are intended to be conducted in remote areas remote from both congested areas and airports. The nature of operations anticipated by myself required that the sUAS be flown at relatively low altitudes. I expect that in most instances, the sUAS will be flown less than 75 feet from the highest structure along the path of the sUAS and in no instances will be flown higher than 400 feet above the ground. Accordingly, the risk of interference with other aircraft is minimal.

Appendix B

Specific type(s), make, and model

#1-DJI Phantom 3 Professional

see attached Flight Manuals:

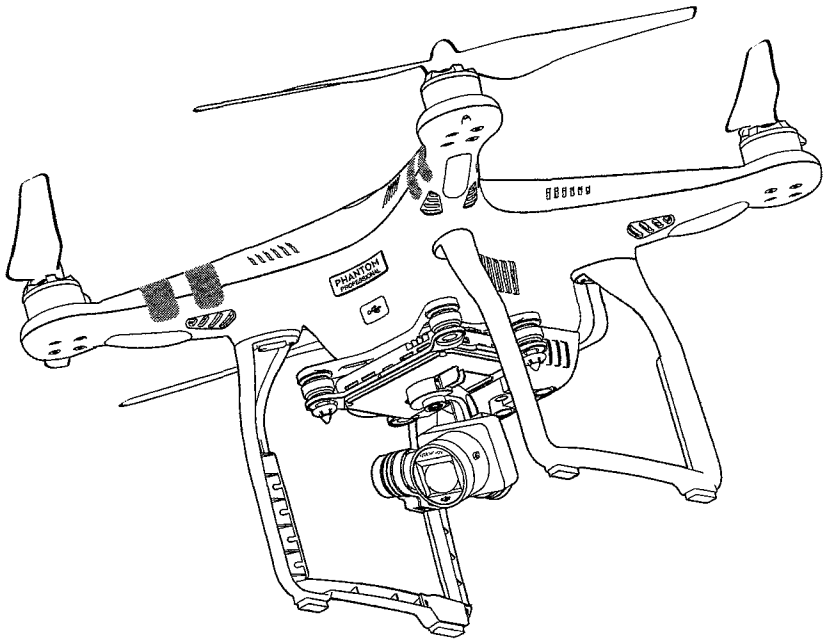
DJI Phantom 3 user manual

PHANTOM 3

PROFESSIONAL

User Manual V1.2

2015.06



Using this manual

Legends

⊘ Warning ⚠ Important Hints and Tips Reference

Read Before the First Flight

Read the following documents before using the Phantom 3 Professional:

1. *In the Box*
2. *Phantom 3 Professional User Manual*
3. *Phantom 3 Professional Quick Start Guide*
4. *Phantom 3 Professional / Advanced Safety Guidelines and Disclaimer*
5. *Phantom 3 Professional / Advanced Intelligent Flight Battery Safety Guidelines*

We recommend that you watch all tutorial videos on the official DJI website and read the Disclaimer before you fly. Prepare for your first flight by reviewing the Phantom 3 Professional Quick Start Guide and refer to the User Manual for more detailed information.

Video Tutorials

Please watch the tutorial videos at the link below, which demonstrates how to use Phantom 3 Professional safely:

http://www.dji.com/product/phantom-3/video

Download the DJI Pilot app

Download and install the DJI Pilot app before using the aircraft. Scan the QR code to the right to download the latest version.

The Android version of the DJI Pilot app is compatible with Android 4.1.2 or later.
The iOS version of the DJI Pilot app is compatible with iOS 8.0 or later.

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Product Profile

This section introduces the Phantom 3 Professional and lists the components of the aircraft and remote controller.

Product Profile

Introduction

The Phantom 3 Professional represents the next generation of DJI quadcopters. It is capable of capturing 4K video and transmitting an HD video signal out of the box. The built-in camera has an integrated gimbal to maximize stability while minimizing both weight and size. Even when no GPS signal is available, the Vision Positioning System allows the aircraft to hover accurately in place.

Feature Highlights

Camera and Gimbal: With the Phantom 3 Professional, you're shooting 4K video at up to 30 frames per second and capturing 12 megapixel photos that look crisper and cleaner than ever. An enhanced sensor gives you greater clarity, lower noise, and better pictures than any previous flying camera.

HD Video Downlink: The low-latency long range HD downlink is powered by an enhanced version of DJI Lightbridge.

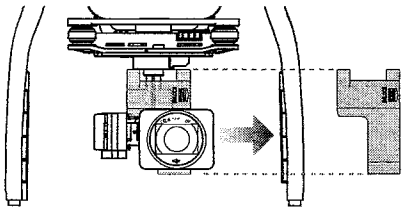
DJI Intelligent Flight Battery: The 4480 mAh DJI Intelligent Flight Battery features upgraded battery cells and an advanced power management system.

Flight Controller: The next-generation flight controller has been updated to provide a safer, more reliable flight experience. A newly implemented flight recorder stores critical data from each flight and the Vision Positioning System enhances hovering precision when flying indoors or in environments where GPS is unavailable.

Preparing the Aircraft

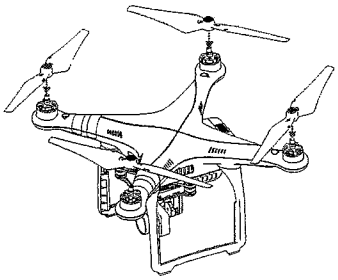
Removing Gimbal Clamp

Remove the gimbal clamp by sliding it to the right (when facing the nose of the aircraft), as shown below.



Attaching the Propellers:

Mount the propellers with black dots on to motors with black axes and spin counter-clockwise to secure. Mount the propellers with sliver dots on to motors with sliver axes and spin clockwise to secure. Be sure all propellers are securely in place.

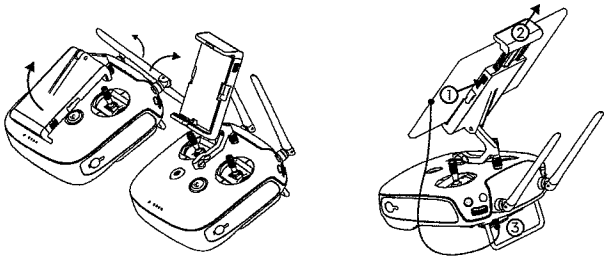


⚠ Place all propellers onto the correct motors and tighten by hand to lock them in position.

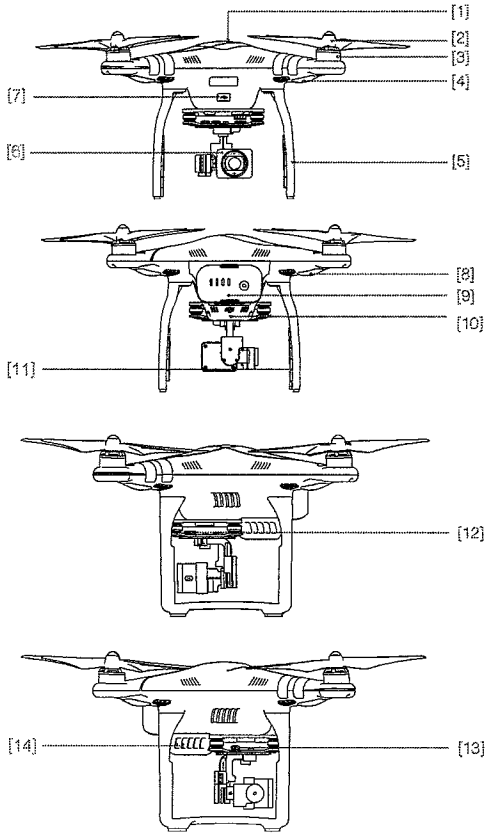
Preparing the Remote Controller:

The mobile device holder is designed for securing tablet or mobile device. Tilt the mobile device holder to the desired position, then adjust the antennas so they are facing outward.

1. Press the button on the top right side of the mobile device holder to release the clamp, then adjust the clamp to fit the size of your mobile device.
2. Secure your mobile device in the clamp by pressing down, and connect your mobile device to the remote controller using a USB cable.
3. Plug one end of the cable into the mobile device, and the other end into the USB port on the back of the remote controller.



Aircraft Diagram



[1] GPS

[2] Propeller

[3] Motor

[4] Front LED Indicator

[5] Landing gear

[6] Gimbal and Camera

[7] Aircraft Micro-USB Port

[8] Aircraft Status Indicator

[9] Intelligent Flight Battery

[10] Vision Positioning Sensors

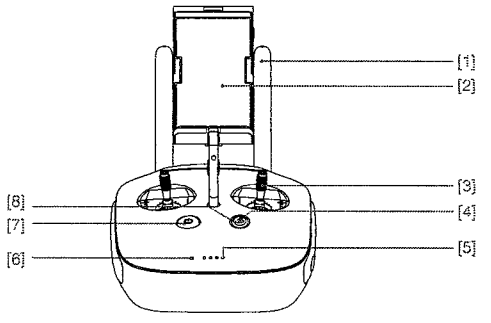
[11] Antennas

[12] Camera Micro-SD Card Slot

[13] Camera Micro-USB Port

[14] Link Button

Remote Controller Diagram



[1] Antennas

Relays aircraft control and video signal.

[2] Mobile Device Holder

Securely mounts your mobile device to the remote controller.

[3] Control Stick

Controls the orientation and movement of the aircraft.

[4] Return Home (RTH) Button

Press and hold the button to initiate Return to Home (RTH).

[5] Battery Level LEDs

Displays the battery level of the remote controller.

[6] Status LED

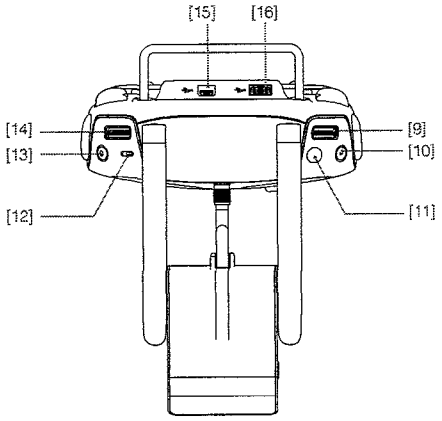
Displays the remote controller's system status.

[7] Power Button

Used to turn the remote controller on and off.

[8] RTH LED

Circular LED around the RTH button displays RTH status.



[9] Camera Settings Dial

Turn the dial to adjust camera settings. (Only functions when the remote controller is connected to a mobile device running the DJI Pilot app.)

[10] Playback Button

Playback the captured images or videos. (Only functions when the remote controller is connected to a mobile device running the DJI Pilot app.)

[11] Shutter Button

Press to take a photo. If burst mode is selected, the set number of photos will be taken with one press.

[12] Flight Mode Switch

Switch between P-mode, A-mode, and F-mode.

[13] Video Recording Button

Press to start recording video. Press again to stop recording.

[14] Gimbal Dial

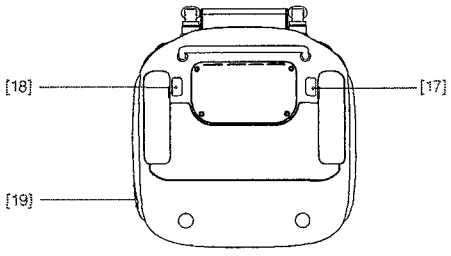
Use this dial to control the tilt of the gimbal.

[15] Mircro-USB Port

Connect to a SD card reader to upgrade the firmware.

[16] USB Port

Connect to mobile device or to a USB port for firmware upgrade.



[17] C1 Button

Customizable through the DJI Pilot app.

[18] C2 Button

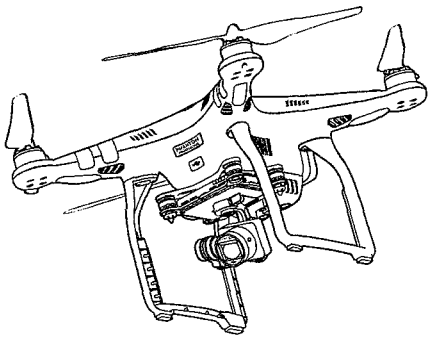
Customizable through the DJI Pilot app.

[19] Power Port

Connect to the DJI Phantom 3 Charger to charge the battery of the remote controller.

Aircraft

This section introduces the features of the Flight Controller, Vision Positioning System, and the Intelligent Flight Battery



Aircraft

Flight Controller

The Phantom 3 Professional's flight controller features several important upgrades, including a new flight mode. Safety modes include Failsafe and Return-to-Home. These features ensure the safe return of your aircraft if the control signal is lost. The flight controller can also save critical flight data from each flight to the on-board storage device. The new flight controller also provides increased stability and a new air braking feature.

Flight Mode

Three flight modes are available. The details of each flight mode are found below:

P-mode (Positioning) : P-mode works best when GPS signal is strong. There are three different states of P-mode, which will be automatically selected by the Phantom 3 Professional depending on signal strength of GPS and Vision Positioning sensors :

P-GPS: GPS and Vision Positioning both are available. The aircraft is using GPS for positioning.

P-OPTI: Vision Positioning is available but the GPS signal strength is not sufficient. The aircraft is using only the Vision Positioning System for positioning.

P-ATTI: Neither GPS nor Vision Positioning is available. The aircraft is using only its barometer for positioning, so only altitude can be stabilized.

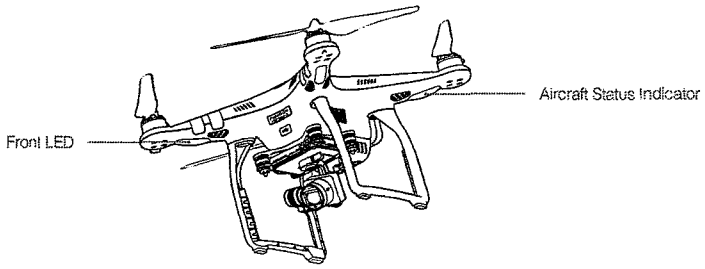
A-mode (Attitude): GPS and Vision Positioning System are not used for stabilization. The aircraft only uses its barometer. The aircraft can still automatically return to the home point if the control signal is lost and the Home Point was recorded successfully.

F-mode (Function): Intelligent Orientation Control (IOC) is activated in this mode. For more information about IOC, refer to the IOC section in the Appendix.

Use the Flight Controller mode switch to change the flight mode of the aircraft, refer to the "Flight Mode Switch" on Page 26 for more information.

Flight Status Indicator

The Phantom 3 Professional has Front LEDs and Aircraft Status Indicators. The positions of these LEDs are shown in the figure below:



The Front LEDs show the orientation of the aircraft. The Front LEDs glow solid red when the aircraft is turned on to indicate the front (or nose) of the aircraft. The Aircraft Status Indicators communicate the system status of the flight controller. Refer to the table below for more information about the Aircraft Status Indicators:

Aircraft Status Indicator Description

Normal	
R G Y ····· Red, Green and Yellow Flash Alternatively	Turning On and Self Diagnostic Testing
G Y ····· Green and Yellow Flash Alternatively	Warming Up
G ····· Green Flashes Slowly	Safe to Fly (P-mode with GPS and Vision Positioning)
G X2 ····· Green Flashes Twice	Safe to Fly (P-mode with Vision Positioning but without GPS)
Y ····· Yellow Flashes Slowly	Safe to Fly (A-mode but No GPS and Vision Positioning)
Warning	
Y ····· Fast Yellow Flashing	Remote Controller's Signal Lost
R ····· Slow Red Flashing	Low Battery Warning
R ····· Fast Red Flashing	Critical Battery Warning
R ····· Red Flashing Alternatively	IMU Error
R —— Solid Red	Critical Error
R Y ····· Red and Yellow Flash Alternatively	Compass Calibration Required

Return-to-Home (RTH)

The Return-to-Home (RTH) function brings the aircraft back to the last recorded Home Point. There are three types of RTH procedures: Smart RTH, Low Battery RTH, and Failsafe RTH. This section describes these three scenarios in detail.

	GPS	Description
Home Point		If a strong GPS signal was acquired before takeoff, the Home Point is the location from which the aircraft was launched. The GPS signal strength is indicated by the GPS icon ( ). The aircraft status indicator will blink rapidly when the home point is recorded.

Smart RTH

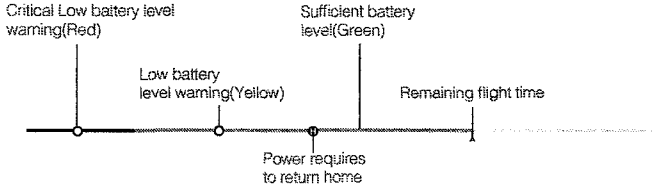
Use the RTH button on the remote controller (refer to "RTH button" on page 26 for more information) or tap the RTH button in the DJI Pilot app and follow the on-screen instructions when GPS is available to initiate Smart RTH. The aircraft will then automatically return to the last recorded Home Point. You may use the remote controller's control sticks to control the aircraft's position to avoid a collision during the Smart RTH process. Press and hold the Smart RTH button once to start the process, and press the Smart RTH button again to terminate the procedure and regain full control of the aircraft.

Low Battery RTH

The low battery level failsafe is triggered when the DJI Intelligent Flight Battery is depleted to a point that may affect the safe return of the aircraft. Users are advised to return home or land the aircraft immediately when prompted. The DJI Pilot app will display a notice when a low battery warning is triggered. The aircraft will automatically return to the Home Point if no action is taken after a ten-second countdown. The user can cancel the RTH procedure by pressing the RTH button on the remote controller. The thresholds for these warnings are automatically determined based on the aircraft's current altitude and distance from the Home Point.

The aircraft will land automatically if the current battery level can only support the aircraft long enough to descend from its current altitude. The user can still use the remote controller to alter the aircraft's orientation during the landing process.

The Battery Level Indicator is displayed in the DJI Pilot app, and is described below:



Battery level Indicator

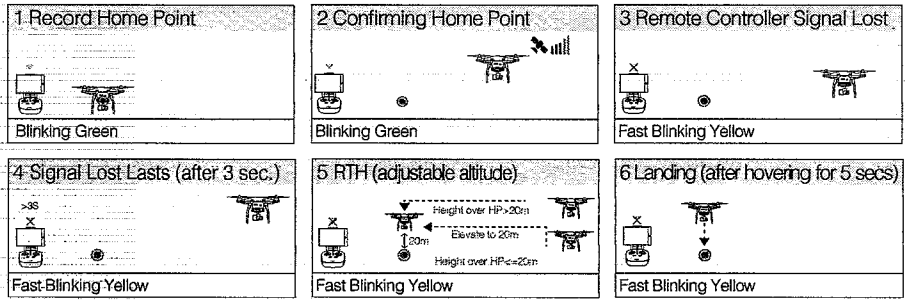
Battery Level Warning	Remark	Aircraft Status Indicator	DJI Pilot app	Flight Instructions
Low battery level warning	The battery power is low. Please land the aircraft.	Aircraft status indicator blinks RED slowly.	Tap "Go-home" to have the aircraft return to the Home point and land automatically, or "Cancel" to resume normal flight. If no action is taken, the aircraft will automatically go home and land after 10 seconds. Remote controller will sound an alarm.	Fly the aircraft 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.	Aircraft status indicator blinks RED quickly.	The DJI Pilot app display will flash red and the aircraft will start to descend. The remote controller will sound an alarm.	Allow the aircraft to descend and land automatically.
Estimated remaining flight time	Estimated remaining flight based on current battery level.	N/A	N/A	N/A

- When Critical battery level warning is triggered and the aircraft begins to land automatically, you may push the throttle upward to make the aircraft hover at its current altitude, giving you an opportunity to navigate to a more appropriate landing location.
- The colored zones and markers on the battery level indicator bar reflect the estimated remaining flight time. They are automatically adjusted according to the aircraft's current location and status.

Failsafe RTH

If the Home Point was successfully recorded and the compass is functioning normally, Failsafe RTH will be automatically activated if the remote controller signal is lost for more than three seconds. The Return-to-Home process may be interrupted and the operator may regain control of the aircraft if the remote controller signal connection is re-established.

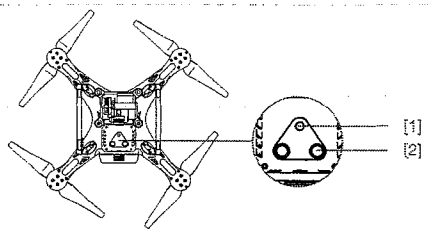
Failsafe Illustration



- The aircraft cannot avoid obstruction during the Failsafe RTH, therefore, it is important to set an suitable Failsafe altitude before each flight. Launch the DJI Pilot app and enter "Camera" and select "MODE > Advanced Settings > Failsafe mode" to set the Failsafe altitude.
- The aircraft will stop its ascent and return to the Home Point immediately if the throttle stick is moved during the Failsafe RTH procedure.

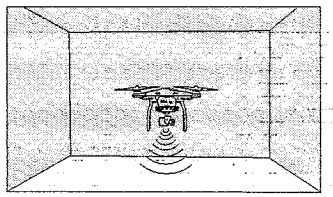
Vision Positioning System

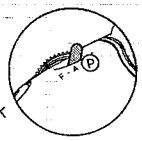
The DJI Vision Positioning System uses ultrasound and image data to help the aircraft maintain its current position. With the help of Vision Positioning, your Phantom 3 Professional can hover in place more precisely and fly indoors or in other environments where a GPS signal is not available. The main components of the Vision Positioning System are located on the bottom of your Phantom 3 Professional; they include [2] two ultrasonic sensors and [1] one monocular camera.



Using Vision Positioning

Vision Positioning is activated automatically when the Phantom 3 Professional is turned on. No further action is required. Vision Positioning is typically used in indoor environments, where GPS is unavailable. Using the sensors that are built into the Vision Positioning system, the Phantom 3 Professional can hover precisely even without GPS.





Follow the steps below to use Vision Positioning:

1. Toggle the flight mode switch to P-mode.
2. Place the aircraft on a flat surface. Note that the Vision Positioning system cannot work properly on surfaces without clear pattern variations.
3. Turn on the aircraft. The aircraft status indicator will flash green two times, which indicates the Vision Positioning system is ready. Gently push the throttle up to lift off and the aircraft will hover in place.

⚠ The performance of your Vision Positioning System is affected by the surface over which it is flying. The ultrasonic sensors may not be able to accurately measure distances when operating above sound-absorbing materials. In addition, the camera may not function correctly in suboptimal environments. The aircraft will switch from P-mode to A-mode automatically if neither GPS nor Vision Positioning System are available. Operate the aircraft with great caution in the following situations:

- Flying over monochrome surfaces (e.g. pure black, pure white, pure red, pure green).
- Flying over a highly reflective surfaces.
- Flying at high speeds(over 8 m/s at 2 meters or over 4 m/s at 1 meter).
- Flying over water or transparent surfaces.
- Flying over moving surfaces or objects.
- Flying in an area where the lighting changes frequently or drastically.
- Flying over extremely dark (lux < 10) or bright (lux > 100,000) surfaces.
- Flying over surfaces that can absorb sound waves (e.g. thick carpet).
- Flying over surfaces without clear patterns or texture.
- Flying over surfaces with identical repeating patterns or textures (e.g. tiles with the same design).
- Flying over inclined surfaces that will deflect sound waves away from the aircraft.

- Keep the sensors clean at all times. Dirt or other debris may adversely affect the effectiveness of the sensors.
- Vision Positioning is only effective when the aircraft is at altitudes of 0.3 to 3 meters.
- The Vision Positioning System may not function properly when the aircraft is flying over water.
- The Vision Positioning System may not be able to recognize pattern on the ground in low light conditions (less than 100 lux).
- Do not use other ultrasonic devices with frequency of 40 KHz when Vision Positioning system is in operation.
- Vision Positioning System may not be able to stabilize the aircraft when flying close to the ground (below 0.5 meters) at fast speeds..

⊘ Keep the animals away from the aircraft when Vision Positioning system is activated. The sonar sensor emits high frequency sounds that are only audible to some animals.

Flight Recorder

Flight data is automatically recorded to the internal storage of the aircraft. This includes flight telemetry, aircraft status information, and other parameters. To access these data, connect the aircraft to the PC through the Micro-USB port and launch the DJI Pilot app.

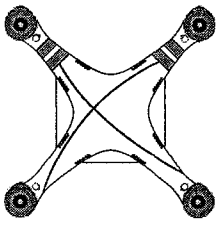
Attaching and Detaching the Propellers

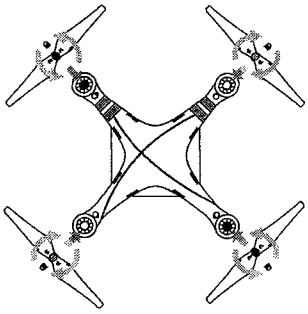
Use only DJI approved propellers with your Phantom 3 Professional. The grey and black nuts on the propeller indicate where they should be attached and in which direction whey should spin. To attach the propellers properly, match the nut color with the motor axis color.

Propellers	Silver Dot	Black Dot
Figure		
Attach On	Motors with a grey axes	Motors with a black axes
Legends	Lock : Turn the propellers in the indicated direction to mount and tighten. Unlock : Turn the propellers in the indicated direction to loosen and remove.	

Attaching the Propellers

1. Be sure to remove the warning stickers from the motors before attaching the propellers.
2. Attach the propellers with silver dots onto the motors with silver axes and spin the propellers clockwise to secure them in place. Attach the propellers with black dots onto the motors with black axes and spin the propellers counter-clockwise to secure them in place. Be sure to tighten each propeller by hand before flight.





- Ensure propellers are attached to its corresponding motors, otherwise the aircraft cannot take off.
- Wear gloves when handling propellers.
- Hand tighten each of the propellers on the corresponding motors to ensure it is attached firmly.

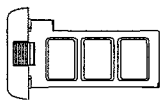
Detaching the Propellers

Hold the motor in place with one hand, then spin the propeller in the indicated unlock direction.

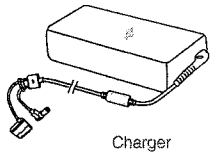
- Check that the propellers and motors are installed correctly and firmly before every flight.
- Ensure that all propellers are in good condition before each flight. DO NOT use aged, chipped, or broken propellers.
- To avoid injury, STAND CLEAR of and DO NOT touch propellers or motors when they are spinning.
- ONLY use original DJI propellers for a better and safer flight experience.

DJI Intelligent Flight Battery

The DJI Intelligent Flight Battery has a capacity of 4480 mAh, a voltage of 15.2 V, and a smart charge/discharge functionality. It should only be charged using an appropriate charger that has been approved by DJI.



Intelligent Flight Battery



Charger

The Intelligent Flight Battery must be fully charged before using it for the first time. Refer to "Charging the Intelligent Flight Battery" for more information.

Be aware that the output power of the supplied Phantom 3 Professional charger is 100W.

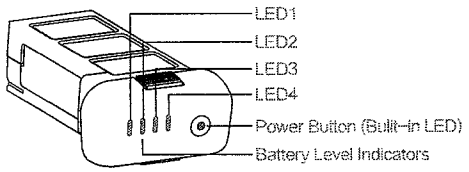
DJI Intelligent Flight Battery Functions

1. Battery Level Display: the LED indicators display the current battery level.
2. Battery Life Display: the LEDs display the current battery power cycle.
3. Auto-Discharging Function: To prevent swelling, the battery automatically discharges to below 65% of total power when it is idle for more than ten days. It takes around two days to discharge the battery to 65%. It is normal to feel moderate heat being emitted from the battery during the discharge process. Discharge thresholds can be set in the DJI Pilot app.
4. Balanced Charging: Automatically balances the voltage of each battery cell when charging.
5. Overcharge Protection: Charging automatically stops when the battery is fully charged.
6. Temperature Detection: The battery will only charge when the temperature is between 0°C (32°F) and 40°C (104°F).
7. Over Current Protection: The battery stops charging when high amperage (more than 8 A) is detected.
8. Over Discharge Protection: To prevent over-discharge damage, discharging automatically stops when the battery voltage reaches 12 V.
9. Short Circuit Protection: Automatically cuts the power supply when a short circuit is detected.

10. Battery Cell Damage Protection: The DJI Pilot app displays a warning message when a damaged battery cell is detected.
11. Battery Error History: Browse the battery error history in the DJI Pilot app.
12. Sleep Mode: To save power, the battery enters sleep mode after 20 minutes of inactivity.
13. Communication: Information pertaining to the battery's voltage, capacity, current, etc. is transmitted to the aircraft's main controller.

⚠ Refer to *Phantom 3 Professional / Advanced Intelligent Flight Battery Safety Guidelines* before use. Users take full responsibility for all operations and usage.

Using the Battery



Turning ON/OFF

Turning On: Press the Power Button once, then press again and hold for 2 seconds to turn on. The Power LED will turn red and the Battery Level Indicators will display the current battery level.

Turning Off: Press the Power Button once, then press again and hold for 2 seconds to turn off. The battery power LED will flash when powering off the Phantom to allow automatically stopping of a recording during the event recording wasn't stopped.

Low Temperature Notice:

1. Battery capacity is significantly reduced when flying in low temperature (< 0°C) environments.
2. It is not recommended that the battery be used in extremely low temperature (< -10°C) environments. Battery voltage should reach the appropriate level when operating environment with temperatures between -10°C and 5°C.
3. End the flight as soon as the DJI Pilot app displays the "Low Battery Level Warning" in low temperature environments.
4. Keep the battery indoors to warm it before flying in low temperature environments.
5. To ensure optimal performance of the battery, keep the battery temperature above 20°C.
6. The charger will stop charging the battery if the battery cell's temperature is not within the operating range (0°C ~ 40°C).

⚠ In cold environments, insert the battery into the battery compartment and allow the aircraft for approximately 1-2 minutes to warm up before taking off.

Checking the Battery Level

The Battery Level Indicators display how much power remains. When the battery is turned off, press the Power Button once. The Battery Level Indicators will light up to display the current battery level. See below for details.

The Battery Level Indicators will also show the current battery level during charging and discharging. The indicators are defined below.

▮ : LED is on. ▯ : LED is flashing.

▯ : LED is off.

Battery Level				
LED1	LED2	LED3	LED4	Battery Level
▮	▮	▮	▮	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%

Battery life

Battery life refers to how many more times the battery can be discharged and recharged before it must be replaced. When the battery is turned off, press and hold the Power Button for 5 seconds to check the battery life. The Battery Level Indicators will light up and/or blink for two seconds, as shown below:

Battery Life				
LED1	LED2	LED3	LED4	Battery Life
▮	▮	▮	▮	90%~100%
▮	▮	▮	▯	80%~90%
▮	▮	▮	▯	70%~80%
▮	▮	▯	▯	60%~70%
▮	▮	▯	▯	50%~60%
▮	▯	▯	▯	40%~50%
▮	▯	▯	▯	30%~40%
▯	▯	▯	▯	20%~30%
▯	▯	▯	▯	below 20%

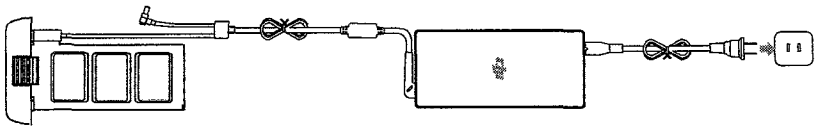
⚠ When battery life reaches 0%, it can no longer be used.

For more information about the battery, launch the DJI Pilot app and check the information that is listed under the battery tab.

Charging the Intelligent Flight Battery

1. Connect the Battery Charger to a power source (100-240 V 50/60 Hz).
2. Open the Protection Cap and connect the Intelligent Flight Battery to the Battery Charger. If the battery level is above 95%, turn on the battery before charging.
3. The Battery Level Indicator will display the current battery level as it is charging.
4. The Intelligent Flight Battery is fully charged when the Battery Level Indicators are all off.
5. Air-cool the Intelligent Flight Battery after each flight. Allow its temperature to drop to room temperature before storing it for an extended period.

⚠
- We do not recommend charging the Intelligent Flight Battery and remote controller with the standard charger at the same time, otherwise the charger may overheat.
- Always turn off the battery before inserting it or removing it from the Phantom 3 Professional. Never insert or remove a battery when it is turned on.



Intelligent Flight Battery Charger Power Outlet

Battery Level Indicators While Charging				
LED1	LED2	LED3	LED4	Battery Level
▮	□	□	□	0%~25%
▮	▮	□	□	25%~50%
▮	▮	▮	□	50%~75%
▮	▮	▮	▮	75%~100%
□	□	□	□	Fully Charged

Battery Protection LED Display

The table below shows battery protection mechanisms and corresponding LED patterns.

Battery Level Indicators while Charging					
LED1	LED2	LED3	LED4	Blinking Pattern	Battery Protection Item
□	▮	□	□	LED2 blinks twice per second	Over current detected
□	▮	□	□	LED2 blinks three times per second	Short circuit detected
□	□	▮	□	LED3 blinks twice per second	Over charge detected
□	□	▮	□	LED3 blinks three times per second	Over-voltage charger detected
□	□	□	▮	LED4 blinks twice per second	Charging temperature is too low
□	□	□	▮	LED4 blinks three times per second	Charging temperature is too high

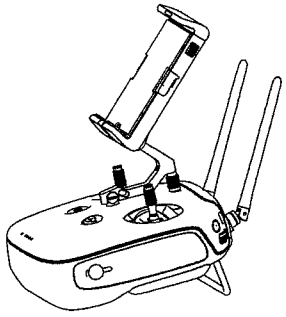
After these issues are resolved, press the Power Button to turn off the Battery Level Indicator. Unplug the Intelligent Flight Battery from the charger and plug it back in to resume charging. Note that you do not need to unplug and plug in the charger in the event of a room temperature error; the charger will resume charging when the temperature is within the allowable range.

⚠ DJI does not take any responsibility for damage caused by third-party chargers.

How to discharge your Intelligent Flight Battery:
Slow : Place the Intelligent Flight Battery into the Phantom 3 Professional's Battery Compartment and turn it on. Leave it on until there is less than 8% of power left, or until the battery can no longer be turned on. Launch the DJI Pilot app to check battery levels.
Rapid : Fly the Phantom 3 Professional outdoors until there is less than 8% of power left, or until the battery can no longer be turned on.

Remote Controller

This section describes the features of the remote controller and includes instructions for controlling the aircraft and the camera.



Remote Controller

Remote Controller Profile

The Phantom 3 Professional remote controller is a multi-function wireless communication device that integrates the video downlink system and aircraft remote control system. The video downlink and aircraft remote control system operate at 2.4 GHz. The remote controller features a number of camera control functions, such as taking and previewing photos and videos, as well as controlling gimbal motion. The remote controller is powered by a 2S rechargeable battery. The battery level is displayed via LED indicators on the front panel of the remote controller.

- **Compliance Version:** The remote controller is compliant with both CE and FCC regulations.
- **Operating Mode:** Control can be set to Mode 1 or Mode 2, or to a custom mode.
- **Mode 1:** The right stick serves as the throttle.
- **Mode 2:** The left stick serves as the throttle.

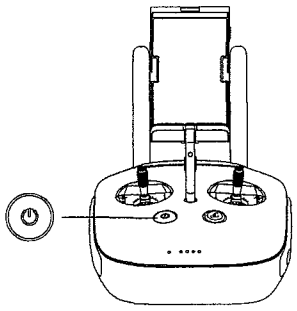
⚠ To prevent transmission interference, do not operate more than three aircrafts in the same area.

Using the Remote Controller

Turning the Remote Controller On and Off

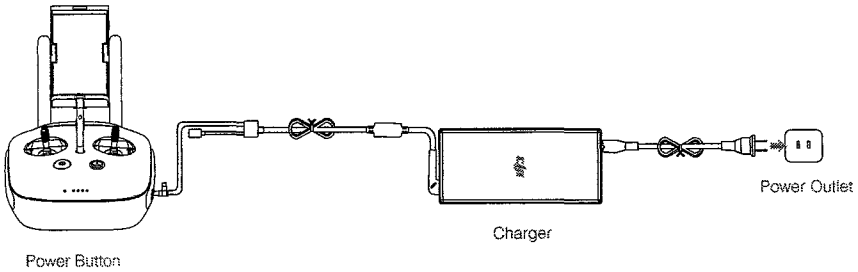
The Phantom 3 Professional remote controller is powered by a 2S rechargeable battery that has a capacity of 6000 mAh. The battery level is indicated via the Battery Level LEDs on the front panel. Follow the steps below to turn on your remote controller:

1. When the remote controller is turned off, press the Power Button once. The Battery Level LEDs will display the current battery level.
2. Press and hold the Power Button to turn on the remote controller.
3. The remote controller will beep when it is turned on. The Status LED will rapidly blink green, indicating that the remote controller is linking to the aircraft. The Status LEDs will glow solid green when linking is complete.
4. Repeat Step 2 to turn off the remote controller.



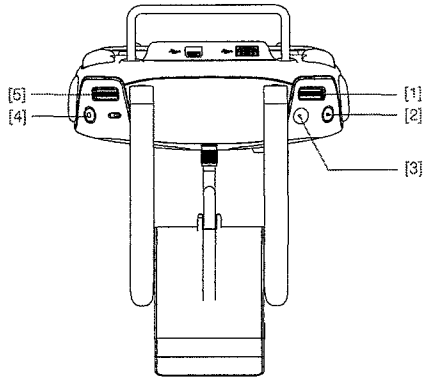
Charging the Remote Controller

Charge the remote controller using the included charger. Refer to the figure on next page below for more details.



Controlling the Camera

Shoot videos/pictures, view recorded images, and adjust camera settings via the Shutter Button, Camera Settings Dial, Playback Button, and Video Recording Button on the remote controller.



[1] Camera Settings Dial

Turn the dial to adjust camera settings such as ISO, shutter speed, and aperture without letting go of the remote controller. Move the dial to left or right to scroll through pictures and videos in playback mode. Press down on the dial to toggle between these settings.

[2] Playback Button

Press to view images and videos that have already been captured.

[3] Shutter Button

Press to take a photo. If burst mode is activated, multiple photos will be taken with a single press.

[4] Video Recoding Button

Press once to start recording video, then press again to stop recording.

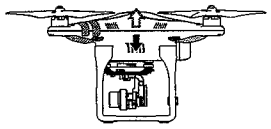
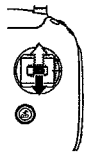
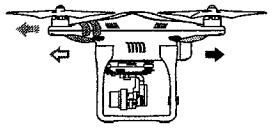
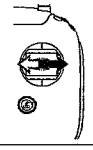
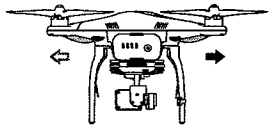
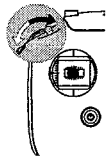
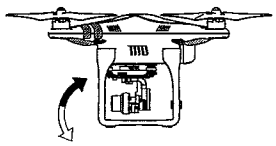
[5] Gimbal Dial

Use this dial to control the tilt of the gimbal.

Controlling Aircraft

This section explains how to control the orientation of the aircraft through the remote controller. The Remote Control is set to Mode 2 by default.

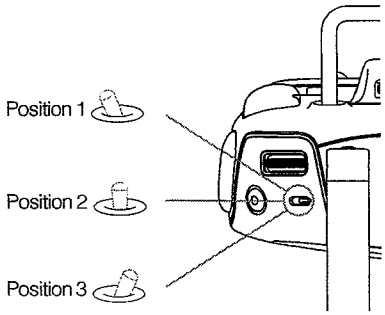
Stick Neutral/Mid-Point: Control sticks are in the center position.
Moving the Control Stick: The control stick is pushed away from the center position.

Remote Controller (Mode 2)	Aircraft (* Indicates Nose Direction)	Remarks
		Moving the left stick up and down changes the aircraft's elevation. Push the stick up to ascend and down to descend. When both sticks are centered, the Phantom 3 Professional will hover in place. The more the stick is pushed away from the center position, the faster the Phantom 3 Professional will change elevation. Always push the stick gently to prevent sudden and unexpected elevation changes.
		Moving the left stick to the left or right controls the rudder and rotation of the aircraft. Push the sick left to rotate the aircraft counter-clockwise, push the stick right to rotate the aircraft clockwise. If the stick is centered, the Phantom 3 Professional will maintain its current orientation. The more the stick is pushed away from the center position, the faster the Phantom 3 Professional will rotate.
		Moving the right stick up and down changes the aircraft's forward and backward pitch. Push the stick up to fly forward and down to fly backward. Phantom 3 Professional will hover in place if the stick is centered. Push the stick further away from the center position for a larger pitch angle (maximum 30°) and faster flight.
		Moving the right stick control left and right changes the aircraft's left and right pitch. Push left to fly left and right to fly right. The Phantom 3 Professional will hover in place if the stick is centered.
		Gimbal Dial: Turn the dial to the right, and the camera will shift to point upwards. Turn the dial to the left, and the camera will shift to point downwards. The camera will remain in its current position when dial is static.

Flight Mode Switch

Toggle the switch to select the desired flight mode. You may choose between; P-mode, F-mode and A-mode.

Position	Figure	Flight Mode
Position 1		F-mode
Position 2		A-mode
Position 3		P-mode



P-mode (Positioning): P-mode works best when the GPS signal is strong. There are three different versions of P-mode, which will be automatically selected by the Phantom 3 Professional depending on GPS signal strength and the Vision Positioning sensors:

P-GPS: GPS and Vision Positioning both are available; the aircraft is using GPS for positioning.

P-OPTI: Vision Positioning is available but a sufficient GPS signal is not available. Aircraft is using only Vision Positioning for position holding.

P-ATTI: Neither GPS nor Vision Positioning is available, the aircraft is using only its barometer for positioning, so only altitude is maintained.

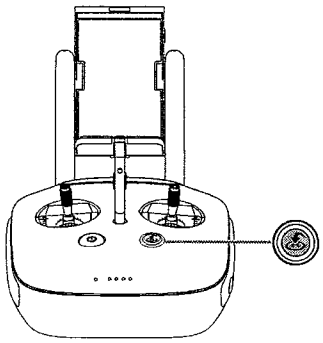
A-mode (Attitude): GPS and Vision Positioning System are not used for stabilization. The aircraft uses only its barometer to stabilize. The aircraft can automatically return to the Home Point if remote controller signal is lost and the Home Point was recorded successfully.

F-mode (Function): Intelligent Orientation Control (IOC) is activated in this mode. For more information about IOC, refer to the IOC section in the Appendix.

By default, the Flight Mode Switch is locked to P-mode. To unlock other flight modes, launch the DJI Pilot app, enter the "Camera" page, and tap "Mode", then activate "Multiple Flight Mode".

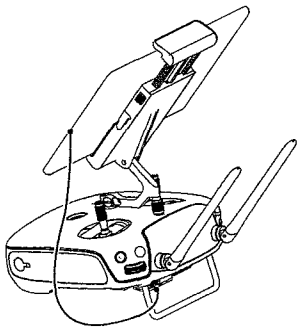
RTH Button

Press and hold the RTH button to start the Return-to-Home (RTH) procedure. The LED ring around the RTH Button will blink white to indicate that the aircraft is entering RTH mode. The aircraft will then return to the last recorded Home Point. Press this button again to cancel the RTH procedure and regain control of the aircraft.



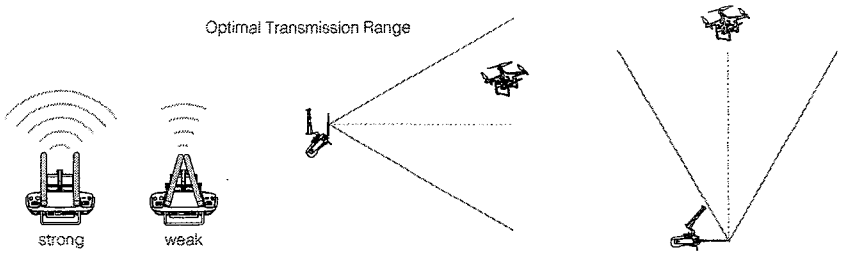
Connecting Your Mobile Device

Tilt the mobile device holder to the desired position. Press the button on the side of the mobile device holder to release the clamp, and then place your mobile device into the cradle. Adjust the clamp down to secure the mobile device. To connect your mobile device to the remote controller using a USB cable, plug one end of the cable into your mobile device and the other end into the USB port on the back of the remote controller.



Optimal Transmission Range

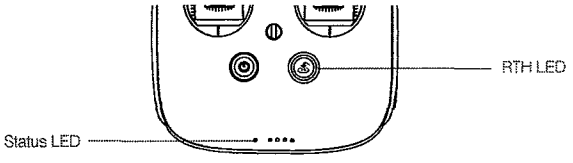
The transmission signal between the aircraft and the remote controller is most reliable within the area that is depicted in the image below:



Ensure that the aircraft is flying within the optimal transmission zone. To achieve the best transmission performance, maintain the appropriate relationship between the operator and the aircraft.

Remote Controller Status LED

The Status LED reflects the strength of the connection between the remote controller and the aircraft. The RTH LED indicates the Return-to-Home status of the aircraft. The table below contains more information about these indicators.



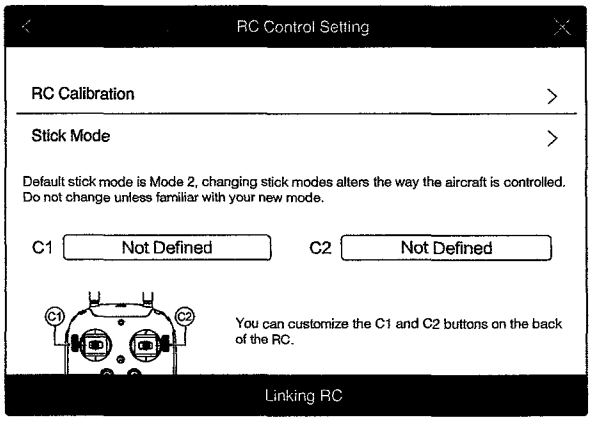
Status LED	Alarm	Remote Controller Status
R —— Solid Red	♪ Chime	The remote controller is disconnected from the aircraft.
G —— Solid Green	♪ Chime	The remote controller is connected to the aircraft.
R ····· Slow Blinking Red	D-D-D·····	Remote controller error.
R G/R Y ····· Red and Green/ Red and Yellow Alternate Blinks	None	HD downlink is disrupted.
RTH LED	**Sound**	**Remote Controller Status**
W —— Solid White	♪ Chime	Aircraft is returning home.
W ····· Blinking White	D···	Sending Return-to-Home command to the aircraft.
W ····· Blinking White	DD ·· ·· ··	Return-to-Home procedure in progress.

⚠ The Remote Status Indicator will blink red and sound an alert, when the battery level is critically low.

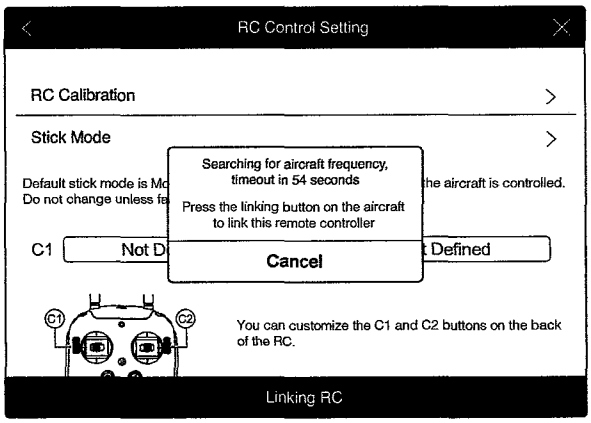
Linking the Remote Controller

The remote controller is linked to your aircraft before delivery. Linking is only required when using a new remote controller for the first time. Follow these steps to link a new remote controller:

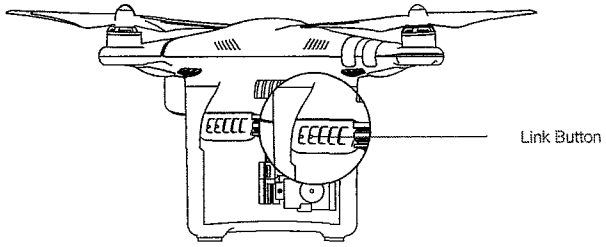
1. Turn on the remote controller and connect to the mobile device. Launch the DJI Pilot app.
2. Turn on the Intelligent Flight Battery.
3. Enter "Camera" and tap on and then tap "Linking RC" button as shown below.



4. The remote controller is ready to link. The Remote Controller Status Indicator blinks blue and a beep is emitted.



5. Locate the linking button on the side of the aircraft, as shown in the figure below. Press the link button to start linking. The Remote Controller Status Indicator LED will display a solid green once the remote controller is successfully linked to the aircraft.



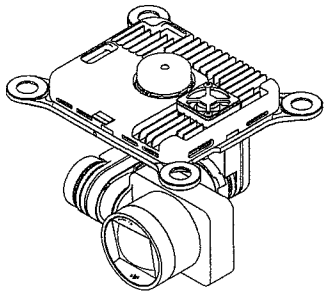
⚠ • The remote controller will un-link itself from an aircraft if a new remote controller is linked to the same aircraft.

Remote Controller Compliance Version

The remote controller is compliant with both CE and FCC requirements.

Camera and Gimbal

This section provides the technical specifications of the camera and explains the gimbal's operation modes.



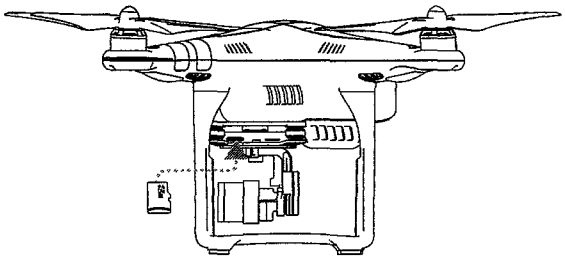
Camera and Gimbal

Camera Profile

The on-board camera uses the 1/2.3 inch CMOS sensor to capture video (up to 4096x2160p at 24fps or 4K at up to 30fps with the Phantom 3 Professional) and 12 megapixel stills. You may choose to record the video in either MOV or MP4 format. Available picture shooting modes include burst, continuous, and time-lapse mode. A live preview of what the camera sees can be monitored on the connected mobile device via the DJI Pilot app.

Camera Micro-SD Card Slot

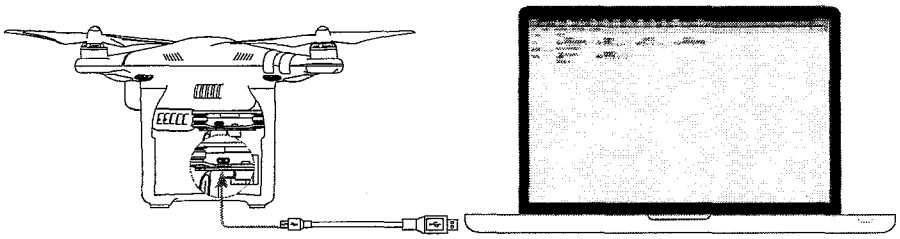
To store your photos and videos, insert the Micro-SD card into the slot, as shown below, before turning on the Phantom 3 Professional. The Phantom 3 Professional comes with a 16 GB Micro-SD card and supports Micro-SD cards up to 64 GB. A UHS-1 Micro-SD card is recommended due to their fast read and write speeds allowing you to save high-resolution video data.



⊘ Do not remove the Micro-SD card from the Phantom 3 Professional when it is turned on.

Camera Data Port

Turn on the Phantom 3 Professional and connect a USB cable to the Camera Data Port to download photos and videos to your computer.



⚠ The aircraft must be turned on before attempting to access the files on the Micro-SD card.

Camera Operation

Use the Shutter and Video Recording buttons on the remote controller to shoot the images or videos through the DJI Pilot app. For more information about how to use these buttons, refer to "Controlling the Camera Page 24".

Camera LED Indicator

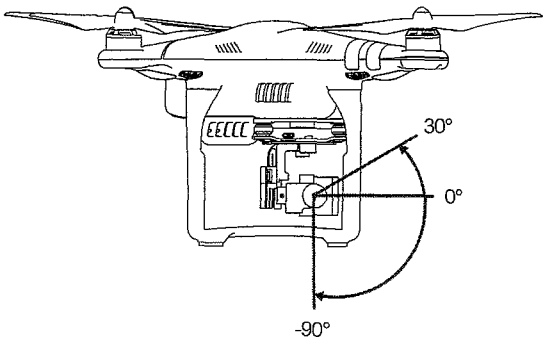
Camera LED Indicator lights up after the flight battery is powered on. It provides information on the working status of the camera.

Camera LED Indicator	Camera status
G: Green Fast Blink (0.2s off, 0.1s on)	System is warming up.
G: Green Blink Once (0.5s off, 0.4s on)	Taking a single picture.
G: Green Blink 3 Times (0.3s off, 0.1s on)	Taking 3 or 5 photos per shot.
R: Slow Red Blink (1.6s on, 0.8s off)	Recording.
R: Fast Red Blink (0.5s off, 0.2s on)	SD card error.
R: R: Double Red Blink (0.1s on, 0.1s off, 0.1s on, 0.1s off)	Overheated Camera
R:Solid Red	System error.
G: R:Green and Red Blink (0.8s green on, 0.8s red on)	Firmware Upgrading

Gimbal

Gimbal Profile

The 3-axis gimbal provides a steady platform for the attached camera, allowing you to capture clear, stable images and video. The gimbal can tilt the camera within a 120° range.



Use the gimbal dial on the remote controller to control the tilt movement of the camera.

Gimbal Operation Modes

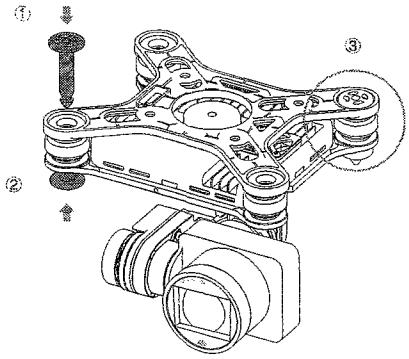
Two gimbal operation modes are available. Switch between the different operation modes on the camera settings page of the DJI Pilot app. Note that your mobile device must be connected to the remote controller for changes to take effect. Refer to the table below for details:

	Follow Mode	The angle between gimbal's orientation and aircraft's nose remains constant at all times.
	FPV Mode	The gimbal will synchronize with the movement of the aircraft to provide a first-person perspective flying experience.

- A gimbal motor error may occur in these situations: (1) the aircraft is placed on uneven ground or the gimbal's motion is obstructed (2) the gimbal has been subjected to an excessive external force, such as a collision. Please take off from flat, open ground and protect the gimbal at all times.
- Flying in heavy fog or clouds may make the gimbal wet, leading to temporary failure. The gimbal will recover full functionality after it dries.

Anti-Drop Kit

The anti-drop kit helps keep the gimbal and camera connected to the aircraft. Two pins have been mounted prior to shipping. If new or additional pins are required, see the diagram below. Press Part ① through the hole of the vibration absorber and into the center hole of Part ②, then lock them together as shown ③. Mounting the anti-drop kit pins diagonally from each other is recommended.

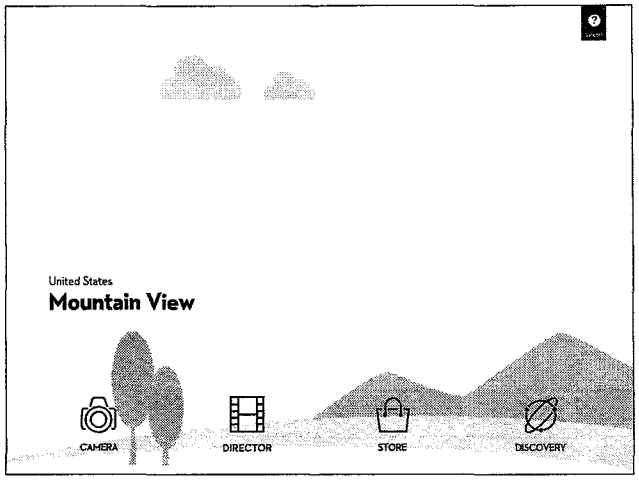


DJI Pilot App

This section introduces the four main functions of the DJI Pilot app.

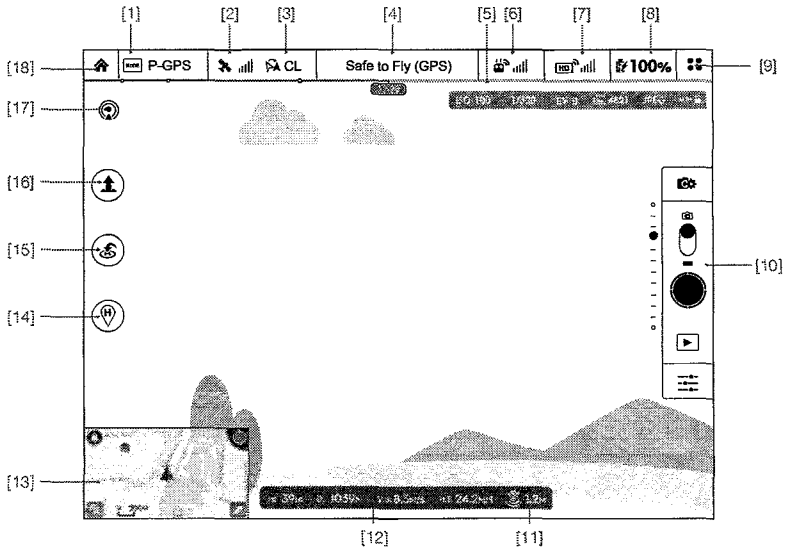
DJI Pilot App

The DJI Pilot app is a mobile application designed specifically for the Phantom 3 Professional. Use this app to control the gimbal, camera, and other aircraft functions. The app also features Map, Academy, and User Center, which are used for configuring your aircraft and sharing your photos and videos with others. It is recommended that you use a tablet for the best experience.



Camera

The Camera page contains a live HD video feed from the Phantom 3 Professional's camera. You can also configure various camera parameters from the Camera page.



[1] Flight Mode

MODE: The text next to this icon indicates the current flight mode.

Tap to configure the MC (Main Controller) Settings. These settings allow you to modify flight limits and set the gain values.

[2] GPS Signal Strength

: This icon shows the current strength of GPS signals. Green bars indicate adequate GPS strength.

[3] IOC Settings

CL : This icon displays the IOC setting when the aircraft has entered F-mode. Tap to view the IOC settings menu and select the desired IOC setting.

[4] System Status

Safe to FLY (GPS) : This icon indicates the current aircraft system status and GPS signal strength.

[5] Battery Level Indicator

: The battery level indicator provides a dynamic display of the battery level. The colored zones on the battery level indicator represent the power levels needed to carry out different functions.

[6] Remote Controller Signal

: This icon shows the strength of remote controller's signal.

[7] HD Video Link Signal Strength

HD : This icon shows the strength of the HD video downlink connection between the aircraft and the remote controller.

[8] Battery Level

100%: This icon shows the current battery level.

Tap to view the battery information menu, set the various battery warning thresholds, and view the battery warning history.

[9] General Settings

: Tap this icon to view the General Settings page. From this page, you can set flight parameters, reset the camera, enable the quick view feature, adjust the gimbal roll value, and toggle the flight route display.

[10] Camera Operation Bar

Shutter and Recording Settings

: Tap to enter various camera value settings, including color space for the recording, resolution of the videos, image size and so on.

Shutter

: Tap this button to take a single photo. Press and hold this button to select single shot, triple shot or time-lapsed shooting modes.

Record

: Tap once to start recording video, then tap again to stop recording. You can also press the Video Recording Button on the remote controller, which has the same functionality.

Playback

[▶] : Tap to enter the playback page. You can preview photos and videos as soon as they are captured.

Camera Settings

: Tap to set ISO, shutter and auto exposure values of the camera.

[11] Vision Positioning

: This icon shows the distance between the surface and the Vision Positioning System's sensors.

[12] Flight Telemetry

The Vision Positioning Status icon is highlighted when the Vision Positioning is in operation.

Flight attitude is indicated by the flight attitude icon.

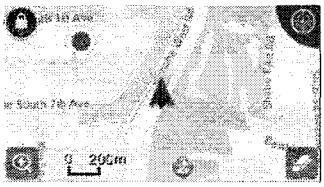
(1) The red arrow shows which direction the aircraft is facing.

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

(3) The angle of the boundary between the light blue and dark blue areas indicates the roll angle.

[13] Map

Display the flight path of the current flight. Tap to switch from the Camera GUI to the Map GUI.



[14] Dynamic Home Point

: Press this button to enable the dynamic home point feature, the home point then will be reset to position of the mobile device at specific time interval.

[15] Return to Home (RTH)

: Initiate RTH home procedure. Tap to have the aircraft return to the last recorded home point.

[16] Auto Takeoff/Landing

: Tap to initiate auto takeoff or landing.

[17] Livestream

: Livestream icon indicates the current video feed is broadcasting live on YouTube. Be sure the mobile data service is available on the mobile device.

[18] Back

: Tap to return to the main GUI.

Director

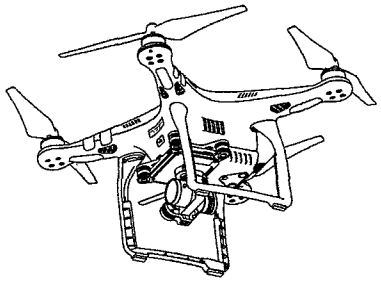
Director is an automatic video editor built into the DJI Pilot app. After recording several video clips, simply tap "Director" from the app's home screen. You can then select a template and a specified number of clips, which are automatically combined to create a short film that can be shared immediately.

Store

Tap "Store" to visit the official DJI Online Store to see the latest information about DJI products and easily buy new products.

Discovery

Sync pictures and videos to your mobile device, view flight logs, and check your DJI account status in "Discovery". Use your registered DJI account to login to "Discovery".



Flight

This section describes safe flight practices and flight restrictions.

Flight

Once pre-flight preparation is complete, it is recommended that you use the flight simulator in the DJI Pilot app to hone your flight skills and practice flying safely. Ensure that all flights are carried out in an open area.

Flight Environment Requirements

1. Do not use the aircraft in severe weather conditions. These include wind speeds exceeding 10 m/s , snow, rain and fog.
2. Only fly in open areas. Tall structures and large metal structures may affect the accuracy of the on-board compass and GPS system.
3. Avoid obstacles, crowds, high voltage power lines, trees, and bodies of water.
4. Minimize interference by avoiding areas with high levels of electromagnetism, including base stations and radio transmission towers.
5. Aircraft and battery performance is subject to environmental factors such as air density and temperature.Be very careful when flying at altitudes greater than 19, 685 feet (6000 meters) above sea level, as the performance of the battery and aircraft may be affected.
6. The Phantom 3 Professional cannot operate within the polar areas.

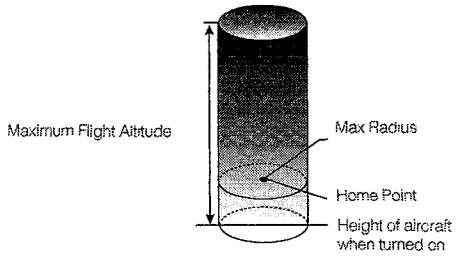
Flight Limits and No-Fly Zones

All unmanned aerial vehicle (UAV) operators should abide by all regulations set forth by government and regulatory agencies including the ICAO and the FAA. For safety reasons, flights are limited by default, which helps users operate this product safely and legally. Flight limitations include height limits, distance limits, and No-Fly Zones.

When operating in P-mode, height limits, distance limits, and No-Fly Zones function concurrently to manage flight safety. In A-mode, only height limits are in effect, which by default prevent the aircraft altitude from exceeding 1640 feet (500 m) .

Maximum flight altitude & Radius Limits

Maximum flight altitude and radius limits may be changed in the DJI Pilot app. Be aware that the maximum flight altitude cannot exceed 1640 feet (500 meters). In accordance with these settings, your Phantom 3 Professional will fly in a restricted cylinder, as shown below:



GPS Signal Strong G ······ Blinking Green			
	Flight Limits	DJI Pilot app	Aircraft Status Indicator
Maximum Flight Altitude	Aircraft's altitude cannot exceed the specified value.	Warning: Height limit reached.	None.
Max Radius	Flight distance must be within the max radius.	Warning: Distance limit reached.	Rapid red flashing ······ when close to the max radius limit.

GPS Signal Weak Y ······ Blinking Yellow			
	Flight Limits	DJI Pilot app	Aircraft Status Indicator
Maximum Flight Altitude	Height is restricted to 400 feet. (120m) and under.	Warning: Height limit reached.	None.
Max Radius	No limits		

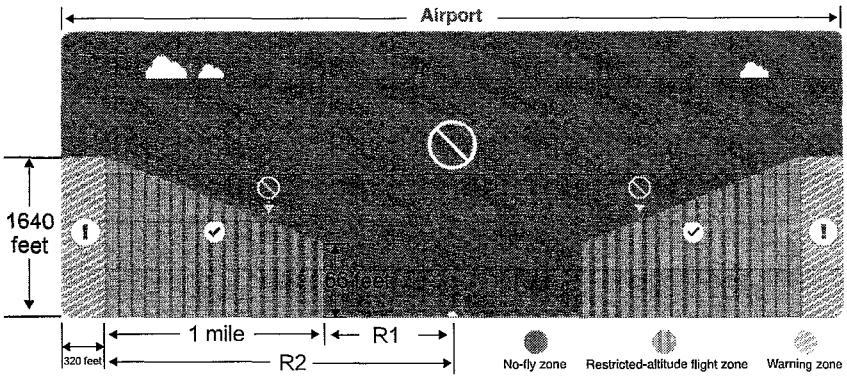
- ~~If you fly out of the limit, you can still control the Phantom 3, but cannot fly it any father. If the~~ Phantom 3 flies out of the max radius in Ready to Fly (non-GPS) mode, it will fly back within range automatically.
- If the Phantom 3 flies out of the max radius in Ready to Fly (non-GPS) mode, it will fly back within range automatically.

No-Fly Zones

All No-Fly Zones are listed on the DJI official website at http://flysafe.dji.com/no-fly. No-Fly Zones are divided into Airports and Restricted Areas. Airports include major airports and flying fields where manned aircraft operate at low altitudes. Restricted Areas include border lines between countries or sensitive institute. The details of the No-Fly Zones are explained as follow:

[illegible] (1) Airport No-Fly Zone [illegible] (2) [illegible] Restricted zones and Restricted Altitude Zones. Each [illegible] (3) [illegible] (100 meters) flight altitude is limited to a 15 degree inclination [illegible] warning message will appear

Flight

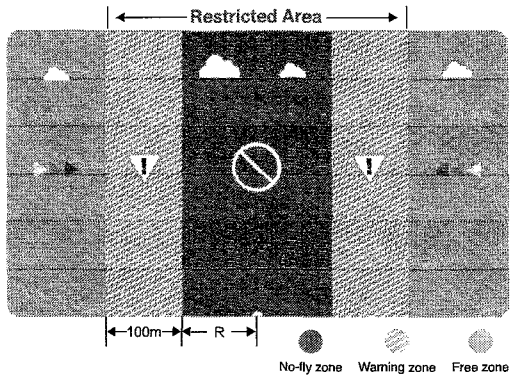


Restricted Area

(1) Restricted Areas does not have flight altitude restrictions.

(2) R miles around the designated restriction area is a Take-off Restricted area. Aircraft cannot take off within this zone. The value of R varies based on the definition of the restricted areas.

(3) A "warning zone" has been set around the Restricted Area. When the aircraft approaches within 0.6 miles (1 km) of this zone, a warning message will appear on the DJI Pilot app.



GPS Signal Strong G ·····Blinking Green			
Zone	Restriction	DJI Pilot App Prompt	Aircraft Status Indicator
No-fly Zone	Motors will not start.	Warning: You are in a No-fly zone. Take off prohibited.	R ····· Red flashing
	If the aircraft enters the restricted area in A-mode, but is switched to P-mode, the aircraft will automatically descend, land, and stop its motors.	Warning: You are in a no-fly zone. Automatic landing has begun.	
Restricted-altitude flight zone	If the aircraft enters the restricted area in A-mode, but is switched to P-mode, it will descend to an appropriate altitude and hover 15 feet below the altitude limit.	R1: Warning: You are in a restricted zone. Descending to safe altitude. R2: Warning: You are in a restricted zone. Maximum flight altitude is restricted to between 20m and 500m. Fly cautiously.	
Warning zone	No flight restriction applies, but there will be a warning .	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.

- When flying in a safety zone, the aircraft's status indicator will blink red rapidly 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 blinking red.
- For safety reasons, please do not fly close to airports, highways, railway stations, railway lines, city centers, or other sensitive areas. Fly the aircraft only within your line of sight.

Preflight Checklist

1. Remote controller, Intelligent Flight Battery, and mobile device are fully charged.
2. Propellers are mounted correctly and firmly.
3. Micro-SD card has been inserted, if necessary.
4. Gimbal is functioning normally.
5. Motors can start and are functioning normally.
6. The DJI Pilot app is successfully connected to the aircraft.

Calibrating the Compass

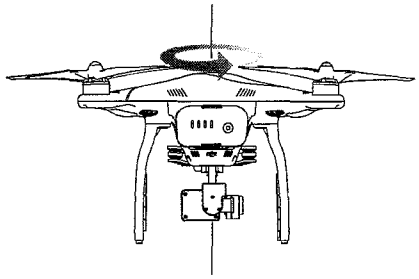
IMPORTANT: Always calibrate the compass in every new flight location. The compass is very sensitive to electromagnetic interference, which can produce abnormal compass data and lead to poor flight performance or flight failure. Regular calibration is required for optimal performance.

- Do not calibrate your compass where there is any possibility of strong magnetic interference. Sources of potential interference include magnetite, parking structures, and subterranean metal structures
- Do not carry ferromagnetic materials with you during calibration such as keys or cellular phones.
- Do not calibrate in direct proximity to large metal objects.
- DO NOT calibrate indoors.

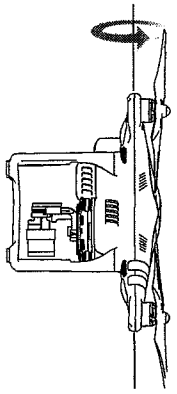
Calibration Procedures

Choose an open area to carry out the following procedures.

1. Ensure that the compass is calibrated. If you did not calibrate the compass as part of your pre-flight preparations, or if you have moved to a new location since the last calibration, tap the Aircraft Status Bar in the app and select "Calibrate", then follow the on-screen instructions.
2. Hold the aircraft horizontally and rotate 360 degrees. The Aircraft Status Indicators will display a solid green light.



3. Hold the aircraft vertically, with nose pointing downward, and rotate it 360 degrees around the center axis. Recalibrate the compass if the Aircraft Status Indicator glows solid red.



⚠ If the Aircraft Status Indicator blinks red and yellow after the calibration procedure, move your aircraft to a different location and try again.

Calibrate the compass before each flight. Launch the DJI Pilot app and follow the on-screen instructions to calibrate the compass. DO NOT calibrate the compass near metal objects such as a metal bridge, cars, scaffolding.

When to Recalibrate

1.When compass data is abnormal and the Aircraft Status Indicator is blinking green and yellow.
2.When flying in a new location or in a location that is different from the most recent flight.
3.When the mechanical or physical structure of the Phantom 3 Professional has been changed.
4.When severe drifting occurs in flight, i.e. Phantom 3 Professional does not fly in straight line.

Auto Takeoff and Auto Landing

Auto Takeoff

Use auto takeoff only if the Aircraft Status Indicators are blinking green. Follow the steps below to use the auto takeoff feature:

1. Launch the DJI Pilot app, and enter "Camera" page.
2. Ensure the aircraft is in P- mode.
3. Complete all steps on the pre-flight checklist.
4. Tap"⏫", and confirm that conditions are safe for flight. Slide the icon to confirm and takeoff.
5. Aircraft takes off and hovers at (1.2 meters) above ground.

⚠ Aircraft Status Indicator blinks rapidly when it is using the Vision Position System for stabilization. The aircraft will automatically hover below 3 meters. It is recommended to wait until there is sufficient GPS lock before using the Auto Take-off feature.

Auto-Landing

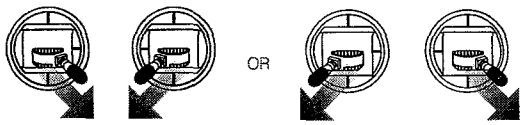
Use auto-landing only if the Aircraft Status Indicators are blinking green. Follow the steps below to use the auto-landing feature:

1. Ensure the aircraft is in P- mode.
2. Check the landing area condition before tapping "⏬", to begin landing. Then follow the on-screen instructions.

Starting/Stopping the Motors

Starting the Motors

A Combination Stick Command (CSC) is used to start the motors. Push both sticks to the bottom inner or outer corners to start the motors. Once the motors have started spinning, release both sticks simultaneously.

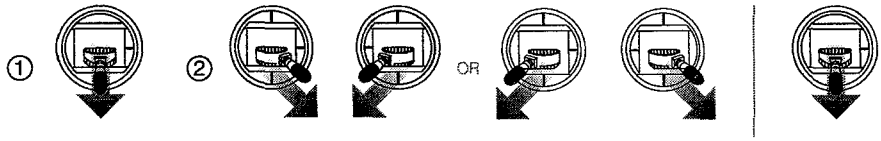


Stopping the Motors

There are two methods to stop the motors.

Method 1: When Phantom 3 Professional has landed, push the throttle down①, then conduct the same CSC that was used to start the motors, as described above②. Motors will stop immediately. Release both sticks once motors stop.

Method 2: When the aircraft has landed, push and hold the throttle down. The motors will stop after three seconds.



⚠ Do not perform a CSC when the aircraft is in midair, otherwise the motors will suddenly stop.

Flight Test

Takeoff/Landing Procedures

1. Place the aircraft in an open, flat area with the battery level indicators facing towards you.
2. Turn on the remote controller and your mobile device, then turn on the Intelligent Flight Battery.
3. Launch the DJI Pilot app and enter the Camera page.
4. Wait until the Aircraft Indicators blink green. This means the Home Point is recorded and it is now safe to fly. If they flash yellow, the Home Point has not been recorded.
5. Push the throttle up slowly to take off or use Auto Takeoff.
6. Shoot photos and videos using the DJI Pilot app.
7. To land, hover over a level surface and gently pull down on the throttle to descend.
8. After landing, execute the CSC command or hold the throttle at its lowest position until the motors stop.
9. Turn off the Intelligent Flight Battery first, then the Remote Controller.

⚠
- When the Aircraft Status Indicators blink yellow rapidly during flight, the aircraft has entered Failsafe mode.
- A low battery level warning is indicated by the Aircraft Status Indicators blinking red slowly or rapidly during flight.
- Watch our video tutorials for more flight information.

Video Suggestions and Tips

1. Go through the full pre-flight checklist before each flight.
2. Select the desired gimbal operation mode in the DJI Pilot app.
3. Only shoot video when flying in P-mode.
4. Always fly in good weather and avoid flying in rain or heavy wind.
5. Choose the camera settings that suit your needs. Settings include photo format and exposure compensation.
6. Perform flight tests to establish flight routes and preview scenes.
7. Push the control sticks gently to keep the aircraft's movement smooth and stable.

FAQ

Troubleshooting (FAQ)

What is the difference between the Phantom 3 Professional and the Phantom 3 Advanced?

The biggest difference between the Phantom 3 Professional and the Phantom 3 Advanced is in the camera. The Phantom 3 Professional is capable of shooting spectacular 4K video at up to 30 frames per second, and the Phantom 3 Advanced is capable of shooting at resolutions up to 1080p60. Both models shoot 12 megapixel photos.

The other main difference is the Intelligent Flight Battery charger. The Phantom 3 Advanced comes with a 57-watt charging unit and the Phantom 3 Professional comes with a 100-watt charger, the latter of which allows for shorter charging times.

Can I remove the camera and attach my own?

No. The cameras that come with both models are permanently attached. Attempting to remove, replace, or modify the camera may damage the product and will void your warranty.

Can I charge my Remote Controller and Intelligent Flight Battery at the same time?

While the Remote Controller charger and Intelligent Flight Battery charger have been integrated into one unit for your convenience, it is recommended that you only charge one item at a time. We recommend that you never charge both items using the same charger at the same time.

What are the buttons on the back of my Remote Controller for?

The two buttons on the back of the Remote Controller can be customized and assigned to function as you choose through the DJI Pilot app. Refer to the manual for more information.

How far can I fly my Phantom 3?

The signal transmission distance will vary depending on environmental conditions, but the Phantom 3 series can reach distances of up to 1.2 miles (2 kilometers) away from the pilot.

What app should I use with my Phantom 3?

The Phantom 3 is compatible with the DJI Pilot app for iOS and Android, which is already used with the DJI Inspire. The app will detect which aircraft is connected and automatically adjust accordingly.

Which mobile devices are compatible with the app?

The DJI Pilot app is only compatible with devices running iOS 8.0 or later or Android v4.1.2 or later.

The following devices are recommended:

iOS: iPhone 5s, iPhone 6, iPhone 6 Plus, iPad Air, iPad Air Wi-Fi + Cellular, iPad mini 2, iPad mini 2 Wi-Fi + Cellular, iPad Air 2, iPad Air 2 Wi-Fi + Cellular, iPad mini 3, and iPad mini 3 Wi-Fi + Cellular. This app is optimized for iPhone 5s, iPhone 6, and iPhone 6 Plus

Android: Samsung S5, Note 3, Sony Z3 EXPERIA, Google Nexus 7 II, Google Nexus 9, Mi 3, Nubia Z7 mini

Support for additional Android devices will become available as testing and development continues.

How do I use the Director automatic video editor?

Director is an automatic video editor built into the DJI Pilot app. After recording several video clips, simply tap "Director" from the app's home screen. You can then select a template and a specified number of clips, which are automatically combined to create a short film that can be shared immediately.

How do I change the control mode of my Phantom 3?

By default, the Remote Controller is set to Mode 2. This means that the right control stick controls the movement of the aircraft and the left control stick controls the throttle and orientation of the aircraft. These controls can be changed to Mode 1 or set to a customized configuration in the DJI Pilot app. This is only recommended for advanced users.

Can I use a Phantom 2 Remote Controller with the Phantom 3?

No. The Phantom 2 Remote Controller operates on a different frequency. The Phantom 2 Remote Controller operates at 5.8 GHz and the new Phantom 3 Remote Controller operates at 2.4 GHz.

Can I use a Phantom 2 Intelligent Flight Battery with the Phantom 3?

No. The Phantom 3 uses a newly designed Intelligent Flight Battery with greater power. The Phantom 3 has a 4 cell battery with a capacity of 4480 mAh and a voltage of 15.2 V.

My Phantom 3 does not turn off right away, is something wrong?

This is normal. After you attempt to power off the Intelligent Flight Battery, it may remain on for a few seconds as any video data is saved to the Micro SD card. This helps prevent your data from being lost or corrupted.

Do I have to buy the Remote Controller separately?

No, there is no need to buy a separate Remote Controller. Your Phantom 3 comes with a Remote Controller that is already linked to the aircraft.

Does my Phantom 3 support dual Remote Controllers?

No. The included Remote Controller can be used to control both the aircraft and the gimbal tilt at the same time.

What does the "P, A, F" switch on the Remote Controller do?

This switch, called the Flight Mode Switch, allows you to toggle different flight modes:

P-mode, or Positioning mode, indicates that both GPS and the Vision Positioning System are active and your Phantom 3 will attempt to stabilize using both.

In A-mode, or Attitude mode, the aircraft does not use GPS or the Vision Positioning System. Only the barometer is used for stabilization. The aircraft can still return to the Home Point as long as a sufficient GPS signal is available.

F-mode, or Function mode, activates Intelligent Orientation Control (IOC) functionality. Refer to the IOC section in the Appendix of the User Manual.

By default, only P-mode may be used. Refer to your user manual for instructions on unlocking the other modes.

What is the Phantom 3 flight time?

Flight times will vary depending on environmental conditions and usage patterns, but the Intelligent Flight Battery is designed to provide up to 23 minutes of uninterrupted flight time when fully charged.

How can I restore a video file if the power is turned off during recording?

Do not remove the Micro-SD card from the camera. If it has been removed, place it back in the camera. Turn the Phantom 3 on and wait approximately 30 seconds as the video file is restored.

How can I ensure that my pictures and videos will be synchronized to my iOS album?

You may need to adjust the settings of your mobile device. Open the Settings menu, select the Privacy tab, select the Photos tab, and then toggle the switch next to the DJI Pilot app icon. If the Pilot app has not been granted access to your albums, the photos and videos cannot be synchronized.

What should I do to land my Phantom 3 smoothly as possible?

Hover the aircraft over a flat, level surface. Slowly pull the throttle stick down until the aircraft touches the ground.

Why is the discharge time of the battery not zero, even though I have never used it?

Every battery is tested prior to being packaged and shipped. This affects the discharge time of a new battery and is the reason that the discharge time is not zero. The battery is safe to use.

Can the mobile device holder be used on the Phantom 2 series Remote Controller?

No, it cannot.

How to safely operate the aircraft when encountering compass error?

A compass error may occur when the aircraft is flying close to strong electric magnetic sources (e.g. power transmission lines). Aircraft Status Indicators blink red and yellow rapidly when a compass error occurs and the DJI Pilot app will display one of the following messages:

- Compass error, calibration required

  This warning message indicates the aircraft is receiving abnormal compass readings. It is recommended to power off the aircraft and re-calibrate the compass at a different location and then resume the flight.
- Compass error, exit P-GPS Mode

  This warning message indicates that the aircraft is drifting severely. Bring the aircraft to a higher altitude to gain enough GPS satellite locks when this warning message is prompted. The flight controller will automatically adjust the orientation of the aircraft in the midair to mitigate the drifts. The aircraft will switch back to P-GPS mode when the automatic adjustment is completed.

Appendix

Appendix

Specifications

Aircraft	
Weight (Battery & Propellers Included)	1280 g
Max. Ascent Speed	5 m/s
Max. Descent Speed	3 m/s
Max. Speed	16 m/s (ATTI mode, no wind)
Max. Flight Altitude	6000 m
Max. Flight Time	Approximately 23 minutes
Operating Temperature	0°C to 40°C
GPS Mode	GPS/GLONASS
Gimbal	
Controllable Range	Pitch: - 90° to + 30°
Vision Positioning	
Velocity Range	< 8 m/s (2 m above ground)
Altitude Range	30 cm-300 cm
Operating Range	30 cm-300 cm
Operating Environment	Brightly lit (lux > 15) patterned surfaces
Camera	
Sensor	Sony EXMOR 1/2.3" Effective pixels:12.4 M (total pixels: 12.76 M)
Lens	FOV 94° 20mm(35mm format equivalent) f/2.8
ISO Range	100-3200(video) 100-1600(photo)
Electronic Shutter Speed	8s -1/8000s
Image Max. Size	4000 x 3000
Still Photography Modes	Single shot Burst shooting: 3/5/7 frames Auto Exposure Bracketing (AEB): 3/5 Bracketed frames at 0.7EV Bias Time-lapse
Supported SD Card Types	Micro SD Max. capacity: 64 GB. Class 10 or UHS-1 rating required
Video Recording Modes	UHD : 4096x2160p 24/25, 3840x2160p24/25/30 FHD:1920x1080p 24/25/30/48/50/60 HD:1280x720p 24/25/30/48/50/60
Max. Bitrate Of Video Storage	60 Mbps
Supported File Formats	FAT32/exFAT Photo: JPEG, DNG Video: MP4/MOV (MPEG-4 AVC/H.264)
Operating Temperature Range	0°C to 40°C

Remote Controller	
Operating Frequency	2.400 GHz-2.483 GHz
Transmitting Distance	2000 m (Outdoor And Unobstructed)
Video Output Port	USB
Operating Temperature Range	0°C- 40°C
Battery	6000 mAh LiPo 2S
Mobile Device Holder	Tablets and smartphones
Transmitter Power(EIRP)	FCC: 20 dbm; CE:16 dbm
Working Voltage	1.2 A @7.4 V
Charger	
Voltage	17.4 V
Rated Power	100 W
Intelligent Flight Battery (PH3-4480 mAh-15.2 V)	
Capacity	4480 mAh
Voltage	15.2 V
Battery Type	LiPo 4S
Energy	68 Wh
Net Weight	365 g
Operating Temperature	-10°C- 40°C
Max. Charging Power	100 W

Aircraft Status Indicator Description

Normal	
R G Y ····· Red, Green and Yellow Flash Alternatively	Turning on and Self-Diagnostics
G Y ····· Green and Yellow Flash Alternatively	Aircraft Warming Up
G ····· Green Flashes Slowly	Safe to Fly (P-mode with GPS and Vision Positioning)
G X2 ····· Green Flashes Twice	Safe to Fly (P-mode with Vision Positioning but without GPS)
Y ····· Yellow Flashes Slowly	Safe to Fly (A-mode but No GPS and Vision Positioning)
Warning	
Y ····· Fast Yellow Flashing	Remote Controller Signal Lost
R ····· Slow Red Flashing	Low Battery Warning
R ····· Fast Red Flashing	Critical Battery Warning
R ····· Red Flashing Alternatively	IMU Error
R —— Solid Red	Critical Error
R Y ····· Red and Yellow Flash Alternatively	Compass Calibration Required

Intelligent Orientation Control (IOC)

IOC allows users to lock the control orientation of the aircraft in different modes. There are three working modes for IOC that can be selected in the DJI Pilot app. IOC only works when the aircraft is in F-mode, therefore the user must toggle the flight mode switch to activate IOC. Refer to the table below:

Course Lock (CL)	The nose direction, at the time that CL is set, will remain the forward direction regardless of how the orientation and position of the aircraft changes. This will remain fixed until you reset it or exit CL mode.
Home Lock (HL)*	Record a Home Point (HP) and enter HL mode. The forward and backward controls will move the aircraft farther from and closer to the established Home Pont, regardless of how the orientation and position of the aircraft changes.
Point of Interest (POI)*	Point of Interest. Record a point of interest (POI). The aircraft can then circle around the POI and the nose will always points toward the POI.

*Home Lock and Point of Interest feature are coming soon.

IOC Requirements

IOC is only available under the following conditions:

Modes IOC	GPS enabled	GPS counts	Flight Distance Limits
Course Lock	No	None	None
Home Lock	Yes		Aircraft ≥10m Home Point
POI	Yes		Aircraft 5m~500m Point of Interest

Using IOC

Toggle the Flight Mode Switch F-mode and follow the instructions prompted on the DJI Pilot app to select the desired IOC mode.

FCC Compliance

FCC Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Compliance Information

FCC Warning Message

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator& your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.

IC RSS warning

This device complies with Industry Canada licence-exempt RSS standard (s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.
Le présent areil est conforme aux CNR d'Industrie Canada licables aux areils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:
(1) l'areil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'areil doit accepter tout brouillage radioélectrique subi, même si le brouillage est

susceptible d'en compromettre le fonctionnement.

IC Radiation Exposure Statement:

This equipment complies with IC RF radiation exposure limits set forth for an uncontrolled environment.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.
Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

KCC Warning Message

"해당무선설비는 운용 중 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없습니다 ."
"해당 무선설비는 운용 중 전파혼신 가능성이 있음"

NCC Warning Message

低功率電波輻射性電機管理辦法
第十二條經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。
第十四條低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

The content is subject to change.

Download the latest version from
http://www.dji.com/product/phantom-3

If you have any questions about this document, please contact DJI by sending a message to **DocSupport@dji.com.**

#2 DJI Inspire 1

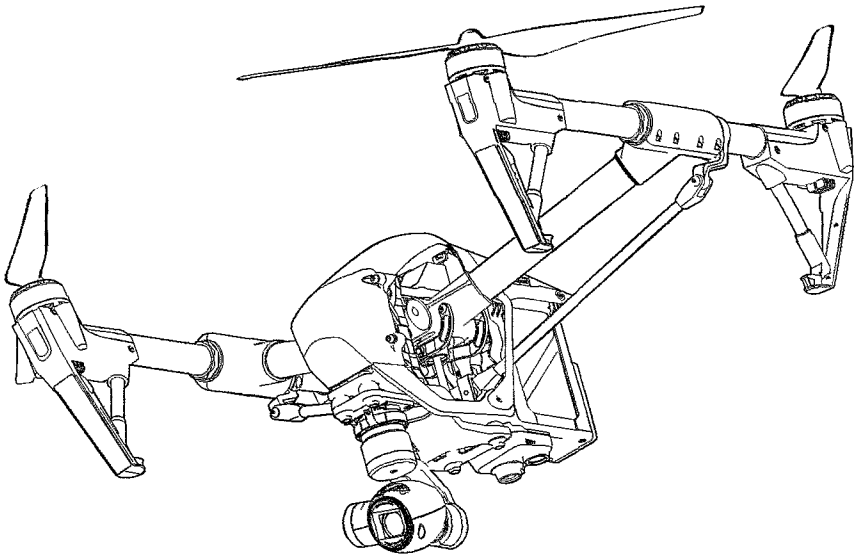
See Attached Flight Manuals:

DJI Inspire 1 user manual

INSPIRE 1

User Manual V1.2

2015.3



Using this manual

Legends

Warning Important Hints and Tips Reference

Before Flight

The following tutorials and manuals have been produced to ensure you to make full use of your Inspire 1.

1.Disclaimer
2.In the Box
3.Inspire 1 Quick Start Guide
4.Safety Guidelines
5.Inspire 1 User Manual
6.Intelligent Flight Battery Safety Guidelines

Watching all the tutorial videos and reading the Disclaimer before flight is recommended. Afterwards, prepare for your first flight by using the Inspire 1 Quick Start Guide. Refer to this manual for more comprehensive information.

Watch the video tutorials

Please watch the tutorial video below to learn how to use Inspire 1 correctly and safely:

www.dji.com/product/inspire-1/video

Download the DJI Pilot app

Download and install the DJI Pilot app before use. Scan the QR code or visit "http://m.dji.net/djipilot" to download the app.

For the best experience, use mobile device with Andriod V 4.1.2 or above. Requires iOS 8.0 or later.

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Product Profile

This chapter describes the features of Inspire 1, instructs you to assemble the aircraft and explains the components on the aircraft and remote controllers.

Product Profile

Introduction

The Inspire 1 is brand new quadcopter capable of capturing 4K video and transmitting an HD video signal (up to 2km) to multiple devices straight out of the box. Equipped with retractable landing gear, it can capture an unobstructed 360 degree view from its camera. The built-in camera has an integrated gimbal to maximize stability and weight efficiency while minimizing space. When no GPS signal is available, Vision Positioning technology provides hovering precision.

Feature Highlights

Camera and Gimbal: Up to 4K video recording and 12 megapixel photo capture. Reserved mounting space for ND filters for better exposure control. New quick-release mount allows you to remove the camera with ease.

HD Video Downlink: Low latency, HD downlink powered by an enhanced version of the DJI Lightbridge system. It also provides dual controllers mode.

Landing gear: Retractable landing gear that enables an unobstructed panoramic view from the camera.
DJI Intelligent Flight Battery: 4500 mAh DJI Intelligent Flight Battery employs new battery cells and a battery management system.

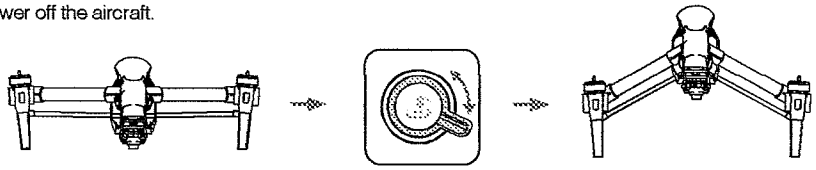
Flight Controller: The next generation flight controller system provides a more reliable flight experience. A new flight recorder stores the flight data from each flight, and Vision Positioning enhances hovering precision when no GPS is available.

Assemble the Aircraft

Unlocking Travel Mode

The aircraft is in Travel Mode during delivery. Follow these steps to change it to Landing Mode before your first flight:

1. Insert the Intelligent Flight Battery into the battery compartment.
2. Power on the Remote Controller and the Intelligent Flight Battery.
3. Toggle the Transformation Switch up and down at least four times.
4. Power off the aircraft.

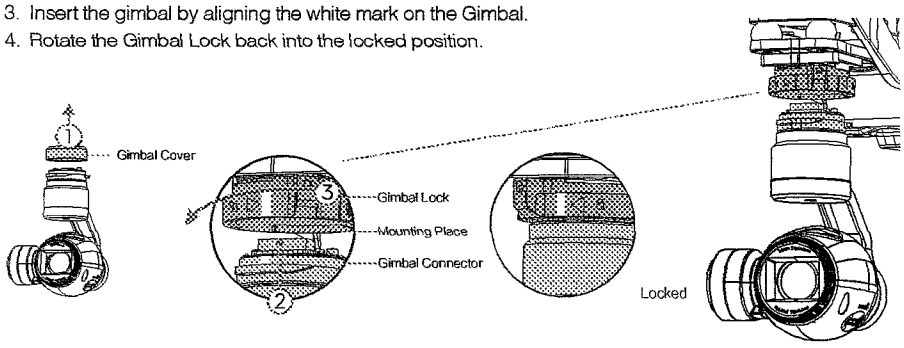


Travel Mode Toggle×4 Landing Mode

⚠
- Battery must be fully charged before using it for the first time. Refer to "Charging the Intelligent Flight Battery" (P21) for more information .
- If you have purchased the dual remote controller version, you must use the Master remote controller to deactivate Travel Mode. Refer to "Setting Up Dual Remote Controllers Mode" (P30) section for more infromation about Master remote controller.
- Be sure to remove the gimbal from the aircraft before switch from Landing Mode to Travel Mode.
- Place the aircraft on the smooth and reflective surface (e.g. table or tile) before switching between the travel modes to the landing mode. Do not place the aircraft on the rough and sound-absorbing surface (e.g. carpet) before switching between the travel modes and landing mode.

Installing Gimbal and Camera

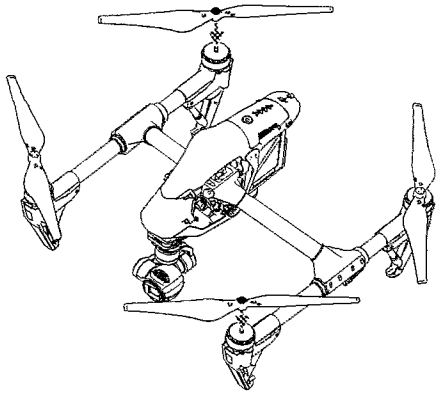
1. Remove Gimbal Cover.
2. Rotate the Gimbal Lock to the unlocked position (to the right when facing the nose of the aircraft).
3. Insert the gimbal by aligning the white mark on the Gimbal.
4. Rotate the Gimbal Lock back into the locked position.



⚠ Ensure the Micro-SD card is correctly inserted into the camera.

Attaching Propellers

Attach propellers with the black nut onto motors with the black dot and spin counter-clockwise to secure. Attach propellers with gray nut onto motors without a black dot and spin clockwise to secure.

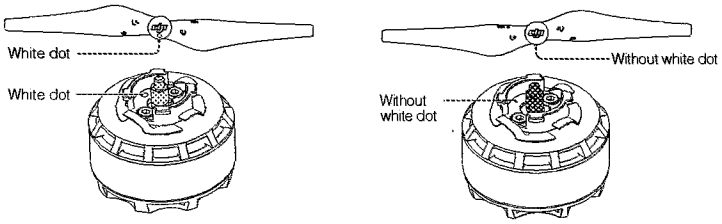


⚠ Place all propellers onto the correct motor and tighten by hand to ensure security before flight.

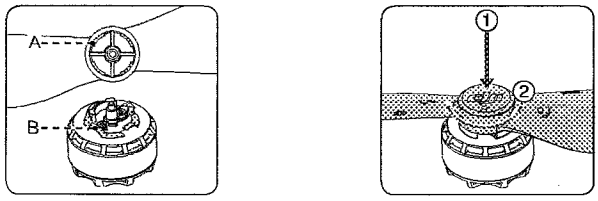
Attaching 1345s Quick-Release Propellers

The 1345s Quick-Release propeller is the upgrade version of the propellers that greatly enhance the reliability of the propeller during the flight. Following the steps below to attach the 1345s Quick-Release propellers.

1. Install the propellers with a white dot onto the mounting plates that have a white dot, and install the propellers without a white dot onto the mounting plates that do not have a white dot.



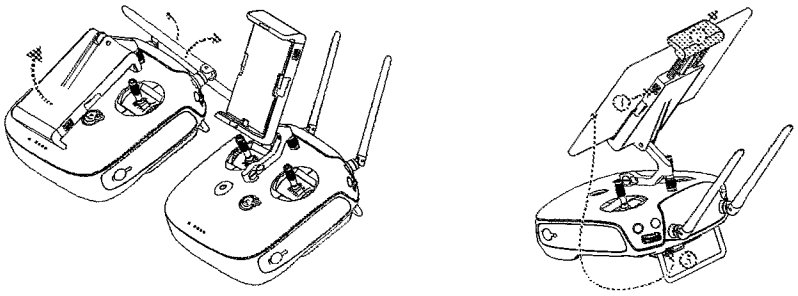
2. Align the hook (A) on the propellers with the securing spring (B), then press down the propeller onto the mounting plate then rotate the propellers according to the lock direction until it is secured.



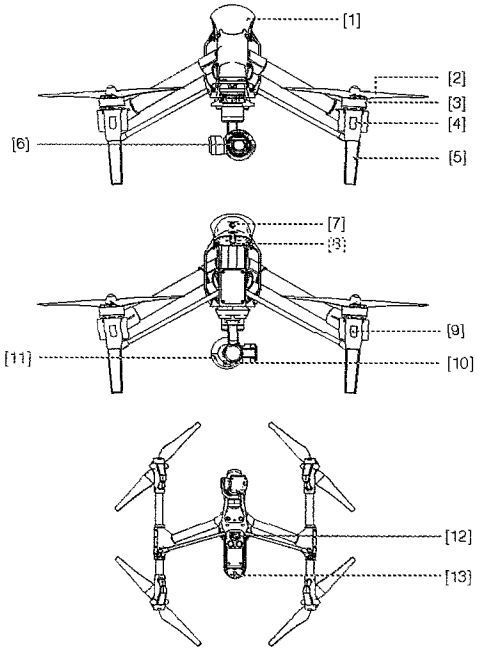
Preparing Remote Controller

Tilt the Mobile Device Holder to the desired position then adjust the antenna as shown.

1. Press the button on the side of the Mobile Device Holder to release the clamp, adjust it to fit then attach your mobile device.
2. Connect your mobile device to the remote controller with a USB cable.
3. Plug one end of the cable into your mobile device, and the other end into the USB port on the back of the remote controller.



Aircraft Diagram



[1] GPS

[2] Propeller (P17)

[3] Motor

[4] Front LED (P12)

[5] Landing gear

[6] Gimbal and Camera (P35)

[7] Intelligent Flight Battery (P18)

[8] Aircraft Micro-USB Port

[9] Rear LED (P12)

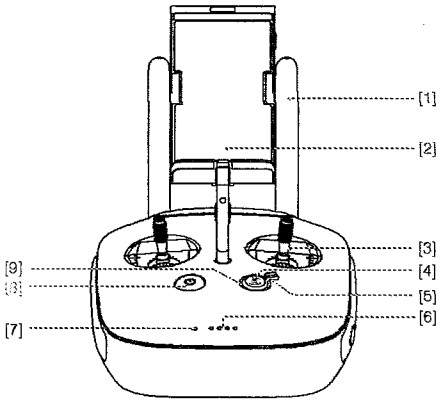
[10] Camera Micro-USB Port

[11] Camera Micro-SD Card Slot (P35)

[12] Vision Positioning Sensors (P16)

[13] Aircraft Status Indicator (P13)

Remote Controller Diagram



[1] **Antennas (P29)**

Relays aircraft control and video signal.

[2] **Mobile Device Holder**

Mounting place for your mobile device.

[3] **Control Stick**

Controls aircraft orientation.

[4] **Return Home (RTH) Button (P13)**

Press and hold the button to initiate Return to Home (RTH).

[5] **Transformation Switch (P27)**

Toggle the switch up or down to raise or lower the landing gear.

[6] Battery Level LEDs

Displays the current battery level.

[7] Status LED

Displays the power status.

[8] Power Button

Used to power on or power off the remote controller.

[9] RTH LED

Circular LED around the RTH button displays RTH status.

[10] Camera Settings Dial

Turn the dial to adjust camera settings. Only functions when the remote controller is connected to a mobile device running the DJI Pilot app.

[11] Playback Button

Playback the captured images or videos.

[12] Shutter Button

Press to take a photo. If in burst mode, the set number of photos will be taken with one press.

[13] Flight Mode Switch

Used to switch between P, A and F mode.

[14] Video Recording Button

Press to start recording video. Press again to stop recording.

[15] Gimbal Dial

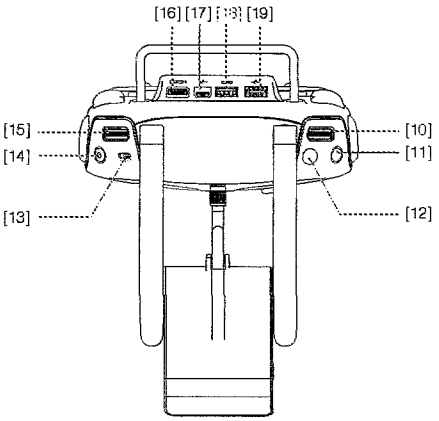
Use this dial to control the tilt of the gimbal.

[16] Mini-HDMI Port

Connect an HD compatible monitor to this port to get a live HD video preview of what the camera sees.

[17] Micro-USB Port

For connecting the remote controller to your computer.

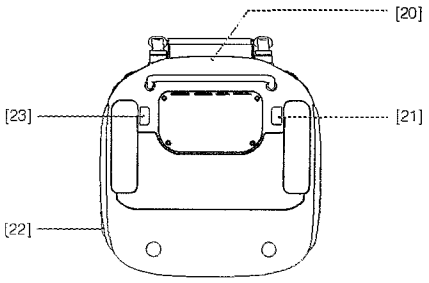


[18] CAN Bus Port

Reserved for future use.

[19] USB Port

Connect to mobile device to access all of the DJI Pilot app controls and features.



[20] GPS Module

Used to pinpoint the location of the remote controller.

[21] Back Left Button

Customizable button in DJI Pilot app.

[22] Power Port

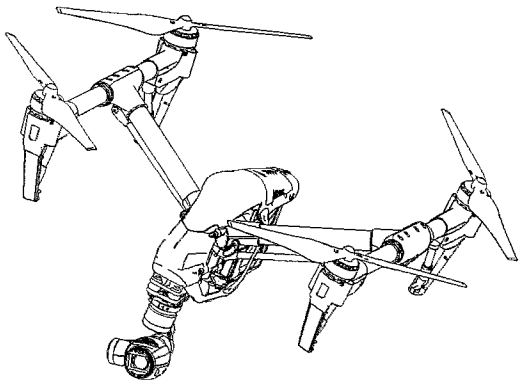
Connect to a power source to charge the remote controller's internal battery.

[23] Back Right Button

Customizable button in DJI Pilot app.

Aircraft

This chapter describes the features of the Flight Controller, Vision Positioning System and the Intelligent Flight Battery.



Aircraft

Flight Controller

The Inspire 1's flight controller is based on DJI flight controller with several enhancements such as new flight mode and new safe mode. Three safe modes are available: Failsafe, Return Home and Dynamic Home Point. These features ensure the safe return of your aircraft if the control signal is lost. A flight recorder stores crucial flight data for each flight.

Flight Mode

Three flight modes are available. The details of each flight mode are found in the section below:

P mode (Positioning) : P mode works best when GPS signal is strong. There are three different states of P mode, which will be automatically selected by the Inspire 1 depending on GPS signal strength and Vision Positioning sensors:

P-GPS: GPS and Vision Positioning both are available, and the aircraft is using GPS for positioning.

P-OPTI: Vision Positioning is available but the GPS signal is not. Aircraft is using only Vision Positioning for hovering

P-ATTI: Neither GPS or Vision Positioning available, aircraft is using only its barometer for positioning, so only altitude is controlled.

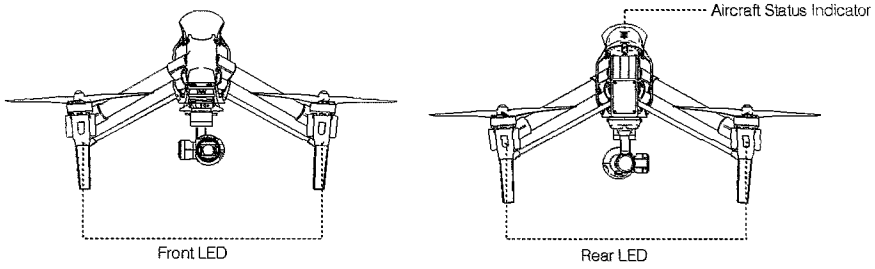
A mode (Attitude): The GPS and Vision Positioning System is not used for holding position. The aircraft only uses its barometer to maintain altitude. If it is still receiving a GPS signal, the aircraft can automatically return home if the Remote Controller signal is lost and if the Home Point has been recorded successfully.

F mode (Function): Intelligent Orientation Control (IOC) is activated in this mode. For more information about IOC, refer to the IOC in Appendix.

Use the Flight Controller mode switch to change the flight mode of the aircraft, refer to the "Flight Mode Switch" on P27 for more information.

Flight Status Indicator

The INSPIRE 1 comes with the Front LED, Rear LED and Aircraft Status Indicator. The positions of these LEDs are shown in the figure below:



The Front and Rear LED show the orientation of the aircraft. The Front LED displays solid red and the Rear LED displays solid green.

Aircraft Status Indicator shows the system status of the flight controller. Refer to the table below for more information about the Aircraft Status Indicator:

Aircraft Status Indicator Description

Normal	
Ⓡ-Ⓖ-Ⓨ ····· Red, Green and Yellow Flash Alternatively	Power on and self-check
Ⓖ-Ⓨ ····· Green and Yellow Flash Alternatively	Aircraft warming up
Ⓖ ····· Green Flashes Slowly	Safe to Fly (P mode with GPS and Vision Positioning)
Ⓖ×2 ····· Green Flashes Twice	Safe to Fly (P mode with Vision Positioning but without GPS)
Ⓨ ····· Yellow Flashes Slowly	Safe to Fly (A mode but No GPS and Vision Positioning)
Warning	
Ⓨ ····· Fast Yellow Flashing	Remote Controller Signal Lost
Ⓡ ····· Slow Red Flashing	Low Battery Warning
Ⓡ ····· Fast Red Flashing	Critical Low Battery Warning
Ⓡ ····· Red Flashing Alternatively	IMU Error
Ⓡ —— Solid Red	Critical Error
Ⓡ-Ⓨ ····· Red and Yellow Flash Alternatively	Compass Calibration Required

Return to Home (RTH)

The Return to Home (RTH) brings the aircraft back to the last recorded Home Point. There are three cases that will trigger RTH procedure; they are Smart RTH, Low Battery RTH and Failsafe RTH.

	GPS	Description
Home Point		The Home Point is the location at which your aircraft takes off when the GPS signal is strong. You can view the GPS signal strength through the GPS icon ( ). If you are using the Dynamic Home Point setting, the Home Point will be updated to your current position as you move around and when the Aircraft Status Indicator blinks green.

Smart RTH

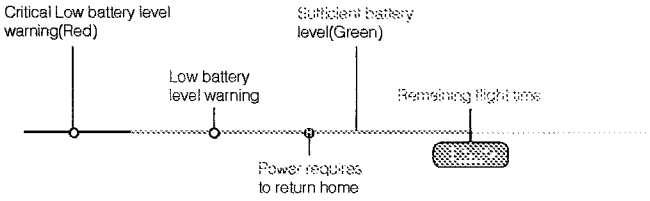
Using the RTH button on the remote controller (refer to "RTH button" on P28 for more information) or the RTH button in the DJI Pilot app when GPS is available to enables smart RTH. The aircraft return to the latest recorded Home Point, you may control the aircraft's orientation to avoid collision during the Smart RTH. Press the Smart RTH button once to start the process, press the Smart RTH button again to exit Smart RTH and regain the control.

Low Battery RTH

The low battery level failsafe is triggered when the DJI Intelligent Flight Battery is depleted to a point that may affect the safe return of the aircraft. Users are advised to return home or land the aircraft immediately when these warnings are shown. DJI Pilot app will advise user to return the aircraft to the Home Point when low battery warning is triggered. Aircraft will automatically return to the Home Point if no action is taken after 10 seconds countdown. User can cancel the RTH by pressing once on the RTH button. The thresholds for these warnings are automatically determined based on the current aircraft altitude and its distance from the Home Point.

Aircraft will land automatically if the current battery level can only support the aircraft to land to the ground from the current altitude. User can use the remote controller to control the aircraft's orientation during the landing process.

The Battery Level Indicator is displayed in the DJI Pilot app, and is described below



Battery level indicator

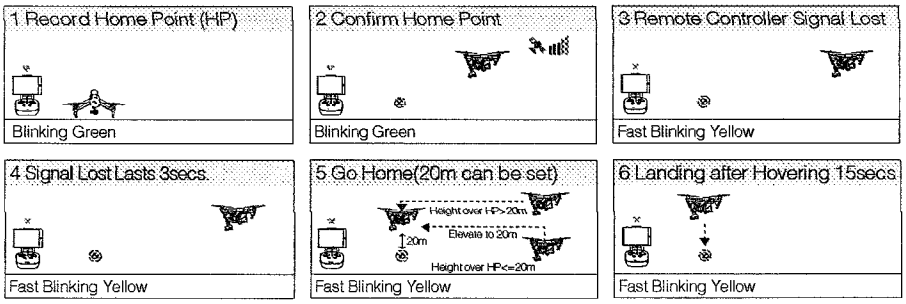
Battery Level Warning	Remark	Aircraft Status Indicator	DJI Pilot app	Flight Instructions
Low battery level warning	The battery power is low. Please land the aircraft.	Aircraft status indicator blinks RED slowly.	Tap "Go-home" to have the aircraft return to the Home point and land automatically, or "Cancel" to resume normal flight. If no action is taken, the aircraft will automatically go home and land after 10 seconds. Remote controller will sound an alarm.	Fly the aircraft 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.	Aircraft status indicator blinks RED quickly.	The DJI Pilot app screen will flash red and aircraft starts to descend. Remote controller will sound an alarm.	The aircraft 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

- 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.
- Color zones and markers on the battery level indicator reflect estimated remaining flight time and are adjusted automatically, according to the aircraft's current status.

Failsafe RTH

Failsafe RTH is activated automatically if remote controller signal (including video relay signal) is lost for more than 3 seconds provided that Home Point has been successfully recorded and compass is working normally. Return home process may be interrupted and the operator can regain control over the aircraft if a remote controller signal is resumed.

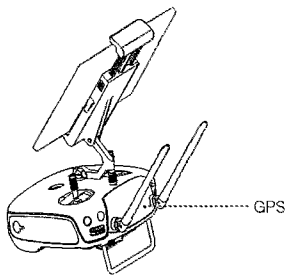
Failsafe Illustration



- Aircraft automatically descends and lands if RTH is triggered when the aircraft flies within a 20 meter (65 feet) radius of the Home Point.
- Aircraft cannot avoid obstruction during the Failsafe RTH, therefore it is important to set an reasonable Failsafe altitude before each flight. Launch the DJI Pilot app and enter "Camera" view and select "MODE" to set the Failsafe altitude.
- Aircraft will stop ascending and immediately return to the Home Point if you move the throttle stick if the aircraft reaches 20 m altitudes or beyond during Failsafe.

Dynamic Home Point

Dynamic home point is useful in situations when you are in motion and require a Home Point that is different from the takeoff point. GPS module is located at the position shown in the figure below:



Ensure the space above the GPS module is not obstructed when using Dynamic Home Point.

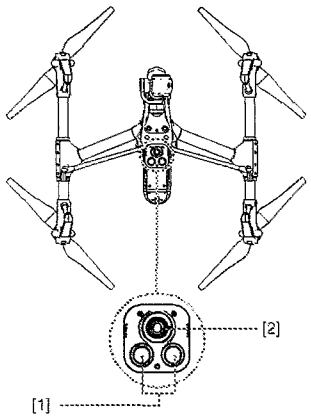
There are two options for Dynamic Home Point.
1. Set the aircraft current coordinate as the new Home Point.
2. Set the remote controller's coordinate as the new Home Point.

Setting Up Dynamic Home Point

Follow the steps below to setup Dynamic Home Point:
1. Connect to the mobile device and launch the DJI Pilot app and go to the "Camera" page.
2. Tap"📍"and select"🎮", to reset the remote controller's coordinates as the new Home Point.
3. Tap"📍"and select"✈", to reset the aircraft's coordinates as the new Home Point.
4. The aircraft status indicator blinks green to show Home Point is set successfully.

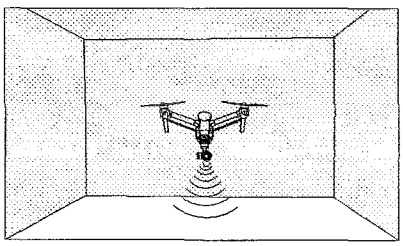
Vision Positioning System

DJI Vision Positioning is a positioning system that uses ultrasonic and image data to help the aircraft identify its current position. With the help of Vision Positioning, your Inspire 1 can hover in place more precisely and fly indoors or in other environments where there is no GPS signal available. The main components of DJI Vision Positioning are located on the bottom of your Inspire 1, including [1]two sonar sensors and[2]one monocular camera.



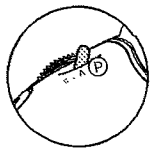
Using Vision Positioning

Vision Positioning is activated automatically when the Inspire 1 is powered on. No manual action is required. Vision Positioning is typically used in the indoor environment where no GPS is available. By using the sensors on the Vision Positioning system, Inspire 1 can perform precision hovering even when no GPS is available.



Follow the steps below to use Vision Positioning:

1. Toggle the switch to "P" as shown the figure to the right:
2. Place the Inspire 1 on a flat surface. Notice that the Vision Positioning system cannot work properly on surfaces without pattern variations.
3. Power on the Inspire 1. The aircraft status indicator will flash twice in green light, which indicates the Vision Positioning system is ready. Gently push the throttle up to lift off, and the Inspire 1 will hover in place.



⚠ The performance of your Inspire 1's Vision Positioning System is subject to the surface you are flying over. The ultrasonic waves may not be able to accurately measure the distance over sound absorbing materials, and the camera may not function correctly in suboptimal environments. The aircraft will switch from "P" mode to "A" mode automatically if both GPS and Vision Positioning System are not available. So operate the aircraft cautiously when in any of the following situations:

- Flying over monochrome surfaces (e.g. pure black, pure white, pure red, pure green).
- Flying over a highly reflective surfaces.
- Flying at high speeds(over 8m/s at 2 meters or over 4m/s at 1 meter).
- Flying over water or transparent surfaces.
- Flying over moving surfaces or objects.
- Flying in an area where the lighting changes frequently or drastically.
- Flying over extremely dark (lux < 10) or bright (lux > 10,000) surfaces.
- Flying over surfaces that can absorb sound waves (e.g. thick carpet).
- Flying over surfaces without clear patterns or texture.
- Flying over surfaces with identical repeating patterns or textures (e.g. tiles with same design).
- Flying over inclined surfaces that will deflect sound waves away from the aircraft.
- In the event of loss of remote controller's signal, the aircraft will hover for 8 seconds and then auto-land if it is in "P" mode.

- Keep the sensors clean at all times. Dirt or other debris may adversely affect the effectiveness of the sensors.
- The effective hovering altitudes of the aircraft is from 0 to 2.5 meters.
- Vision Positioning system may not function properly when the aircraft is flying over water.
- Vision Positioning system may not be able to recognize pattern on the ground in low light conditions (less than 100lux).
- Do not use other ultrasonic devices with frequency of 40 KHz when Vision Positioning system is in operation.
- Vision Positioning system may not be able to stabilize the aircraft when flying close to the ground (below 0.5 meters) in fast speed.

⊘ Keep the animals away from the aircraft when Vision Positioning system is activated. The sonar sensor emits high frequency sound that is only audible to some animals.

Flight Recorder

Flight data is automatically stored in the internal storage device of the aircraft. User can gain access to these data through the DJI Pilot app. This includes flight duration, orientation, distance, aircraft status information, speed, and other parameters.

Attaching and Detaching the Propellers

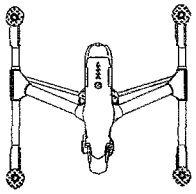
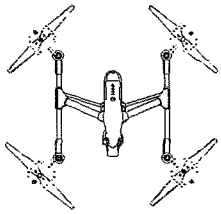
Use only DJI approved propellers with your Inspire 1. The grey or black nut on the propeller indicates the rotation direction of the propeller and where it should be attached. To attach the propellers properly,

match the nut with the dots on the motors of your Inspire 1:

Propellers	Grey cap(1345)	Black cap(1345R)
Figure		
Attach On	Motors without a black dot	Motors with a black dot
Legends	Lock : Turn the propellers in the indicated direction to mount and tighten Unlock : Turn the propellers in the indicated direction to loosen and remove	

Attaching the Propellers

1. Attach the propellers with a grey nut onto a motor without a black dot and spin the propellers clockwise to secure them in place. Attach the propellers with a black nut onto a motor with a black dot and spin the propellers counter clockwise to secure its position. Be sure to completely tighten each propeller by hand before flight.

⚠
- Ensure propellers are attached to its corresponding motors, otherwise the aircraft cannot take off.
- Handling the propellers with care.
- Manually tighten each of the propellers on the corresponding motors to ensure it is attached firmly.

Detaching the Propellers

Hold the motor still. Then spin the propeller in the unlock direction indicated on the propeller itself.

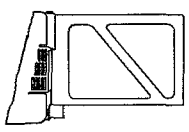
Detaching 1345s Quick-Release Propellers

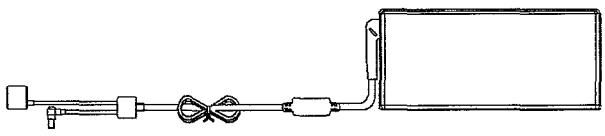
Press the 1345s Quick-Release propellers downward firmly then rotate the propeller in the unlock direction to unlock the propellers.

⚠
- Check that the propellers and motors are installed correctly and firmly before every flight.
- Ensure that all propellers are in good condition before each flight. DO NOT use old, chipped, or broken propellers.
- To avoid injury, STAND CLEAR of and DO NOT touch propellers or motors when they are spinning.
- ONLY use original DJI propellers for a better and safer flight experience.

DJI Intelligent Flight Battery

The DJI Intelligent Flight Battery has a capacity of 4500mAh, voltage of 22.2V, and smart charge-discharge functionality. It can only be charged with an appropriate DJI approved charger.


Intelligent Flight Battery


Charger

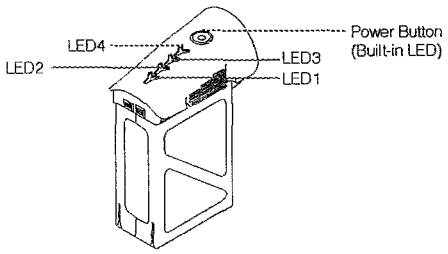
⚠ Battery must be fully charged before using it for the first time. Refer to "Charging the Intelligent Flight Battery" P21 for more information .

DJI Intelligent Flight Battery Functions

1. Battery Level Display: LEDs display the current battery level.
2. Battery Life Display: LEDs display the current battery power cycle.
3. Auto-discharging Function: The battery automatically discharges to below 65% of total power when it is idle (press the power button to check battery level will cause battery to exit idle state) for more than 10 days to prevent swelling. It takes around 2 days to discharge the battery to 65%.It is normal to feel moderate heat emitting from the battery during the discharge process. Discharge thresholds can be set in the DJI Pilot app.
4. Balanced Charging: Automatically balances the voltage of each battery cell when charging.
5. Over charge Protection: Charging automatically stops when the battery is fully charged.
6. Temperature Detection: The battery will only charge when the temperature is between 0 °C(32°F) and 40°C (104°F).
7. Over Current Protection: Battery stops charging when high amperage (more than 10A) is detected.
8. Over Discharge Protection: Discharging automatically stops when the battery voltage reaches 18V to prevent over-discharge damage
9. Short Circuit Protection: Automatically cuts the power supply when a short circuit is detected.
10. Battery Cell Damages Protection: DJI Pilot app shows warning message when damaged battery cell is detected.
11. Battery Information History: Show the last 32 entries of battery information records that include warning messages and so on.
12. Sleep Mode: Sleep mode is entered after 10 minutes of inactivity to save power.
13. Communication: Battery voltage, capacity, current, and other relevant information is provided to the aircraft's to the main controller.

⚠ Refer to *Disclaimer* and *Intelligent Flight Battery Safety Guidelins* before use. Users take full responsibility for all operations and usage.

Using the Battery



Powering ON/OFF

Powering On: Press the Power Button once, then press again and hold for 2 seconds to power on. The Power LED will turn red and the Battery Level Indicators will display the current battery level.

Powering Off: Press the Power Button once, then press again and hold for 2 seconds to power off.

Low Temperature Notice:

1. The performance of the intelligent Flight Battery is significantly reduced when flying in a low temperature environments (those with air temperatures below 5°C). Ensure that the battery is fully charged and the cell voltage is at 4.43 V before each flight.
2. Using the Intelligent Flight Battery in extremely low temperature environments (those with air temperatures below -10°C) is not recommended. When flying in environments with temperatures between 5°C and -10°C, the Intelligent Flight Battery should be able to achieve the appropriate voltage levels (above 4.2 V), but it is recommended that you apply the included insulation sticker to the battery in order to prevent a rapid drop in temperatures.
3. If the DJI Pilot app displays the "Critical Low Battery Level Warning" when flying in low temperature environments, stop flying and land the aircraft immediately. You will still be able to control the aircraft's movement when this warning is triggered.
4. Store the Intelligent Flight Battery in a room temperature environment and ensure that its temperature exceeds 5°C before using it in the low temperature environment.
5. When using the Inspire 1 in a low temperature environment, begin by allowing the aircraft to hover at a low altitude, for approximately one minute, to heat the battery.
6. To ensure optimum performance, keep the Intelligent Flight Battery's core temperature above 20°C when in use.

⚠ In cold environments, insert the battery into the battery compartment and allow the aircraft to warm up for approximately 1-2 minutes before taking off.

Checking the battery level

The Battery Level Indicators display how much remaining power the battery has. When the battery is powered off, press the Power Button once. The Battery Level Indicators will light up to display the current battery level. See below for details.

The Battery Level Indicators will also show the current battery level during charging and discharging. The indicators are defined below.

: LED is on. : LED is flashing.
: LED is off.

Battery Level				
LED1	LED2	LED3	LED4	Battery Level
On	On	On	On	87.5%~100%
On	On	On	Flashing	75%~87.5%
On	On	On	Off	62.5%~75%
On	On	Flashing	Off	50%~62.5%
On	On	Off	Off	37.5%~50%
On	Flashing	Off	Off	25%~37.5%
On	On	Off	Off	12.5%~25%
Flashing	On	Off	Off	0%~12.5%
Off	Off	Off	Off	=0%

Battery life

The battery life indicates how many more times the battery can be discharged and recharged before it must be replaced. When the battery is powered off, press and hold the Power Button for 5 seconds to check the battery life. The Battery Level Indicators will light up and/or blink as described below for 2 seconds:

Battery Life				
LED1	LED2	LED3	LED4	Battery Life
⋖	⋖	⋖	⋖	90%~100%
⋖	⋖	⋖	⋖	80%~90%
⋖	⋖	⋖	⋖	70%~80%
⋖	⋖	⋖	⋖	60%~70%
⋖	⋖	⋖	⋖	50%~60%
⋖	⋖	⋖	⋖	40%~50%
⋖	⋖	⋖	⋖	30%~40%
⋖	⋖	⋖	⋖	20%~30%
⋖	⋖	⋖	⋖	below 20%

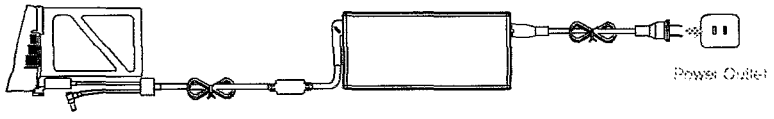
⚠ When battery life reaches 0%, it can no longer be used.

For more information about the battery, launch DJI Pilot app and check the information under the battery tab.

Charging the Intelligent Flight Battery

1. Connect Battery Charger to a power source (100-240V 50/60Hz).
2. Open the Protection Cap and connect the Intelligent Flight Battery to the Battery Charger. If the battery level is above 95%, turn on the battery before charging.
3. The Battery Level Indicator will display the current battery level during charging.
4. The Intelligent Flight Battery is fully charged when Battery Level Indicators are all off.
5. Air cool the Intelligent Flight Battery after each flight. Allow its temperature to drop to room temperature before storing it for an extended period.

⚠
- Do not charge the Intelligent Flight Battery and remote controller with standard charger (model: A14-100P1A) at the same time, otherwise the charger may overheat.
- Always turn off the battery before inserting it or removing it from the Inspire 1. Never insert or remove a battery when it is powered on.



Intelligent Flight Battery Charger

Battery Level Indicators while Charging				
LED1	LED2	LED3	LED4	Battery Level
☼				0%~25%
☼	☼			25%~50%
☼	☼	☼		50%~75%
☼	☼	☼	☼	75%~100%
				Fully Charged

Charging Protection LED Display

The table below shows battery protection mechanisms and corresponding LED patterns.

Battery Level Indicators while Charging					
LED1	LED2	LED3	LED4	Blinking Pattern	Battery Protection Item
	☼			LED2 blinks twice per second	Over current detected
	☼			LED2 blinks three times per second	Short circuit detected
		☼		LED3 blinks twice per second	Over charge detected
		☼		LED3 blinks three times per second	Over-voltage charger detected
			☼	LED4 blinks twice per second	Charging temperature is too low (<0°C)
			☼	LED4 blinks three times per second	Charging temperature is too high (>40°C)

After any of the above mentioned protection issues are resolved, press the button to turn off the Battery Level Indicator. Unplug the Intelligent Flight Battery from the charger and plug it back in to resume charging. Note that you do not need to unplug and plug the charger in the event of a room temperature error, the charger will resume charging when the temperature falls within the normal range.

⚠ DJI does not take any responsibility for damage caused by third-party chargers.

☼ **How to discharge your Intelligent Flight Battery:**

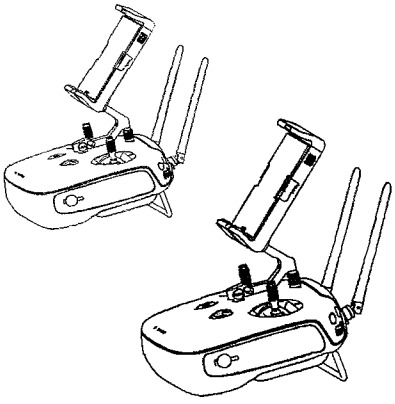
To effectively calibrate the battery capacity, it is recommended to charge and discharge the battery thoroughly for every 10 charge-and-discharge cycle. User should install the battery onto the aircraft and then power on the aircraft to initiate the discharge process, discharge the battery until the aircraft is powered off automatically. User should then fully charge the battery to ensure the battery is working at its optimal.

Slow: Place the Intelligent Flight Battery into the Inspire 1's Battery Compartment and power it on. Leave it on until there is less than 5% of power left, or until the battery can no longer be turned on. Launch the DJI Pilot app to check battery level.

Rapid: Fly the Inspire 1 outdoors until there is less than 5% of power left, or until the battery can no longer be turned on.

Remote Controllers

This chapter describes the features of the remote controller that includes aircraft and remote controller operations and dual remote controller mode.



Remote Controller

Remote Controller Profile

The Inspire 1 Remote Controller is a multi-function wireless communication device that integrates the video downlink ground system and aircraft Remote Controller system. The video downlink and aircraft Remote Controller system operate at 2.4 GHz with maximum transmission distance of 2km. The remote controller features a number of camera functions, such as taking and previewing photos and video, and controlling gimbal motions. The remote controller is powered by a 2S rechargeable battery. The current battery level is displayed by LEDs on the front panel of the remote control.

- **Compliance Version:** The Remote Controller is compliant with both CE and FCC regulations.
- **Operating Mode:** Control can be set to Mode 1 , Mode 2.
- **Mode 1:** The right stick serves as the throttle.
- **Mode 2:** The left stick serves as the throttle.

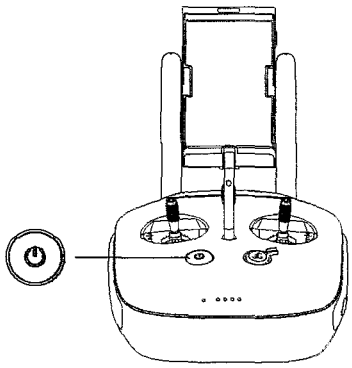
⚠ Do not operate more than 3 aircrafts within in the same area (size equivalent to a soccer field) to prevent transmission interference.

Remote Controller Operations

Powering On And Off The Remote Controller

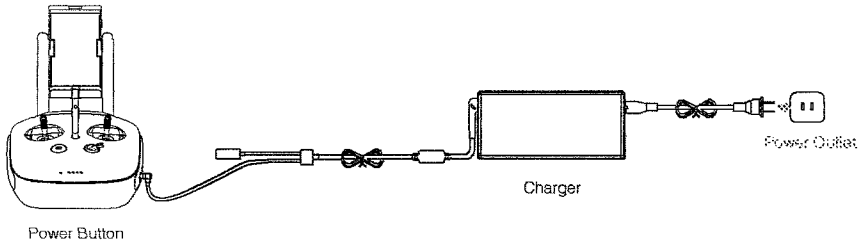
The Inspire 1 remote controller is powered by a 2S rechargeable battery with a capacity of 6000mAh. The battery level is indicated by the Battery Level LEDs on the front panel. Follow the steps below to power on your remote controller:

1. When powered off, press the Power Button once and the Battery Level LEDs will display the current battery level.
2. Then, press and hold the Power Button to power on the remote controller.
3. The Remote Controller will beep when it powers on. The Status LED will blink green (slave remote controller blinks solid purple) rapidly, indicating that the remote controller is linking to the aircraft. The Status LED will show a solid green light when linking is completed.
4. Repeat step 2 to power off the remote controller after finish using it.



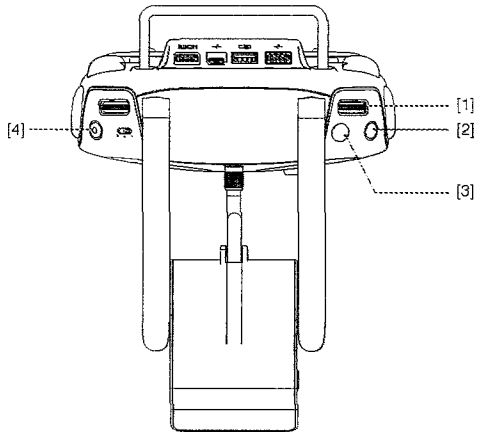
Charging Remote Controller

Charge the remote controller via supplied charger.



Controlling Camera

Shoot videos or images and adjust camera settings via the Shutter Button, Camera Settings Dial, Playback Button and Video Recording Button on the remote control.



[1] Camera Settings Dial

Turn the dial to quickly adjust camera settings such as ISO and shutter speed without letting go of the remote controller. Move the dial button to left or right to view the pictures or videos in playback mode.

[2] Playback Button

Press to view images or videos that have already been captured.

[3] Shutter Button

Press to take a photo. If burst mode is activated, multiple photos will be taken with a single press.

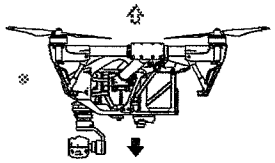
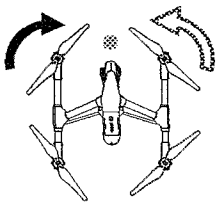
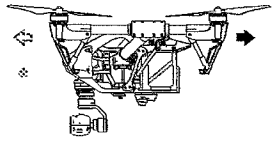
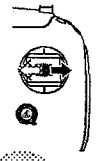
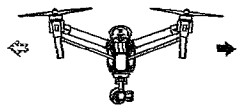
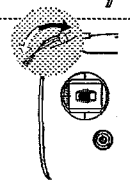
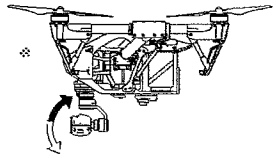
[4] **Recoding Button**

Press once to start recording video, then press again to stop recording.

Controlling Aircraft

This section explains how to use the various features of the remote controller. The Remote Controller is set to Mode 2 by default.

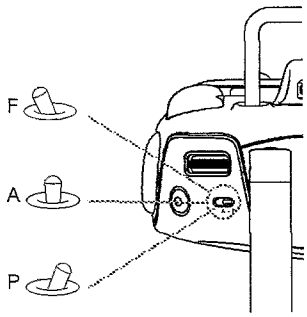
Stick Neutral/ mid point: Control sticks of the Remote Controller are placed at the central position.
Move the Stick: The control stick is pushed away from the central position.

Remote Controller (Mode 2)	Aircraft (※ indicates nose direction)	Remarks
		Moving the left stick up and down changes the aircraft's elevation. Push the stick up to ascend and down to descend. Push the throttle stick up to takeoff. When both sticks are centered, the Inspire 1 will hover in place. The more the stick is pushed away from the center position, the faster the Inspire 1 will change elevation. Always push the stick gently to prevent sudden and unexpected elevation changes.
		Moving the left stick to the left or right controls the rudder and rotation of the aircraft. Push the sick left to rotate the aircraft counter clock-wise, and push the stick right to rotate the aircraft clockwise. If the stick is centered, the Inspire 1 will stay facing its current direction. The more the stick is pushed away from the center position, the faster the Inspire 1 will rotate.
		Moving the right stick up and down changes the aircraft's forward and backward pitch. Push the stick up to fly forward and down to fly backward. The Inspire 1 will hover in place if the stick is centered. Push the stick further away from the center position for a larger pitch angle (maximum 35°) and faster flight.
		Moving the right stick control left and right changes the aircraft's left and right pitch. Push left to fly left and right to fly right. The Inspire 1 will hover in place if the stick is centered. Push the stick further away from the center position for a larger pitch angle (maximum 35°) and faster flight.
		Gimbal Dial: Turn the dial to the right, and the camera will shift to point upwards. Turn the dial to the left, and the camera will shift to point downwards. The camera will remain in its current position when dial is static.

Flight Mode Switch

Toggle the switch to select the desired flight mode. You may choose between; P mode, F mode and A mode.

Figure	Flight Mode
F	F mode
A	A mode
P	P mode



P mode (Positioning) : P mode works best when GPS signal is strong. There are three different states of P mode, which will be automatically selected by the Inspire 1 depending on GPS signal strength and Vision Positioning sensors:

P-GPS: GPS and Vision Positioning both are available, and the aircraft is using GPS for positioning.

P-OPTI: Vision Positioning is available but the GPS signal is not. Aircraft is using only Vision Positioning for hovering

P-ATTI: Neither GPS or Vision Positioning available, aircraft is using only its barometer for positioning, so only altitude is controlled.

A mode (Attitude): The GPS and Vision Positioning System is not used for holding position. The aircraft only uses its barometer to maintain altitude. If it is still receiving a GPS signal, the aircraft can automatically return home if the Remote Controller signal is lost and if the Home Point has been recorded successfully.

F mode (Function): Intelligent Orientation Control (IOC) is activated in this mode. For more information about IOC, refer to the IOC in Appendix.

The Flight Mode Switch is locked in P mode by default. To unlock the switch, launch the DJI Pilot app, enter the "Camera" page, tap "MODE", and then activate "Multiple Flight Mode" .

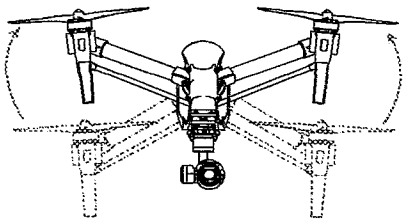
Transformation Switch / RTH Button

The Transformation Switch / RTH Button combination serves two functions. Toggle the switch up or down to raise or lower the landing gear. Or, press the button to activate the Return to Home (RTH) procedure.

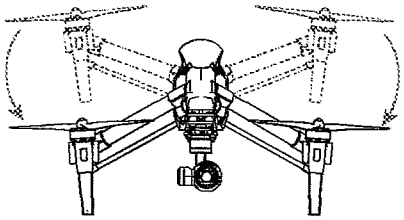
Transformation Switch

This switch has two positions. The effect of toggling the switch to any of these positions is defined below:

1. **Raise:** Raise the landing gear to its upper most position.



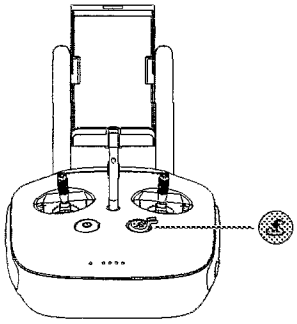
2. **Lower:** The landing gear will lower to its lowest position for landing.



⚠ Do not raise the landing gear when the aircraft is on the ground. Ensure the landing gear is lowered before landing.

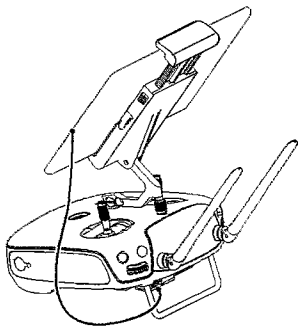
RTH button

Press and hold this button to start the Return to Home (RTH) procedure. The LED around the RTH Button will blink white to indicate the aircraft is entering RTH mode. The aircraft will then return to the last recorded Home Point. Press this button again to cancel the RTH procedure and regain the control of the aircraft.



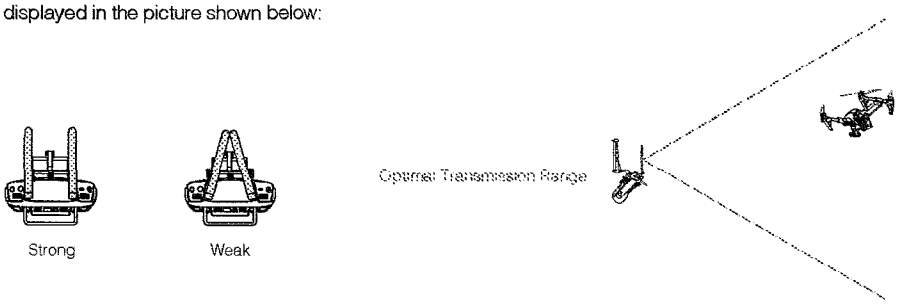
Connecting Mobile Device

Tilt the Mobile Device Holder to the desired position. Press the button on the side of the Mobile Device Holder to release the clamp, and then place your mobile device into the clamp. Adjust the clamp to secure your mobile device. Then connect your mobile device to the remote controller with a USB cable. Plug one end of the cable into your mobile device, and the other end into the USB port on the back of the remote controller.



Optimal Transmission Range

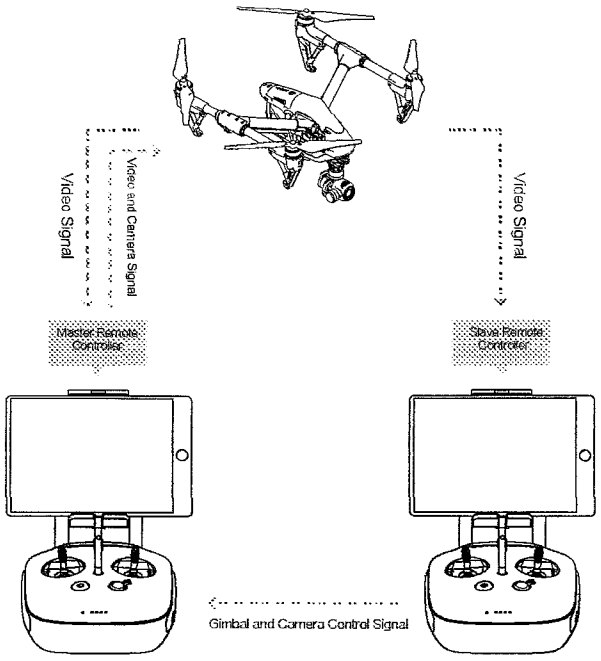
The signal transmission between aircraft and remote controller perform best within the range that displayed in the picture shown below:



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

Dual Remote Controllers Mode

More than one remote controller can connect to the same aircraft in Dual Remote Controller mode. In Dual Controllers mode, the "Master" remote controller operator controls the orientation of the aircraft, while the "Slave" remote controller controls the movement of the gimbal and camera operation. When multiple "slave" remote controllers (max of 6) are connect to the aircraft, only the first connected "slave" remote controller is able to control the gimbal, the remaining "slave" remote controller can view the live feed video from the aircraft and set the camera parameters, but they cannot control the gimbal.



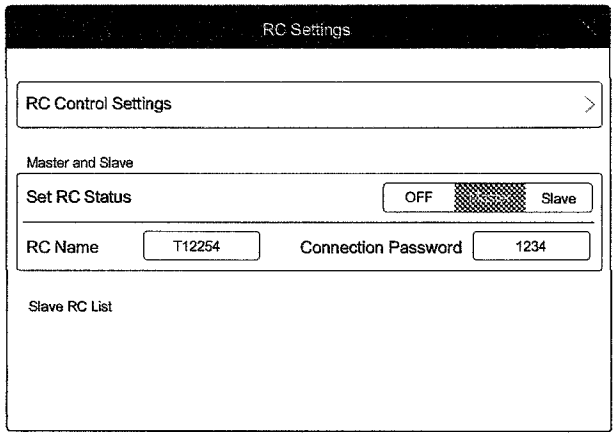
⚠ Use the gimbal dial on the remote controller to control the pitch movement of the camera in the single remote controller mode, however, you cannot control the pan movement of the camera.

Setting Up Dual Remote Controllers Mode

Dual Remote Controllers mode is disabled by default. Users must enable this feature on the "Master" remote controller by through the DJI Pilot app. Follow the steps below for setup:

"Master" Remote Controller:

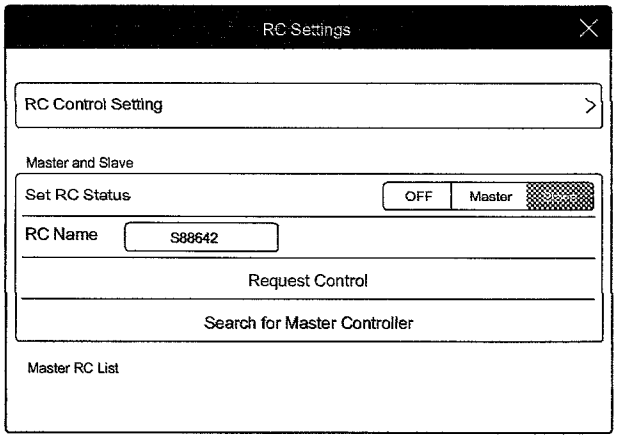
1. Connect the remote controller to your mobile device and launch the DJI Pilot app.
2. Go to the Camera page, and tap to enter the remote controller settings window.
3. Tap "Set RC Status" to enable Master-and-Slave mode.
4. Select "Master" in the "Set RC Status" section to set the remote controller as "Master" remote controller.



5. Enter the connection password for the "Slave" remote controller.

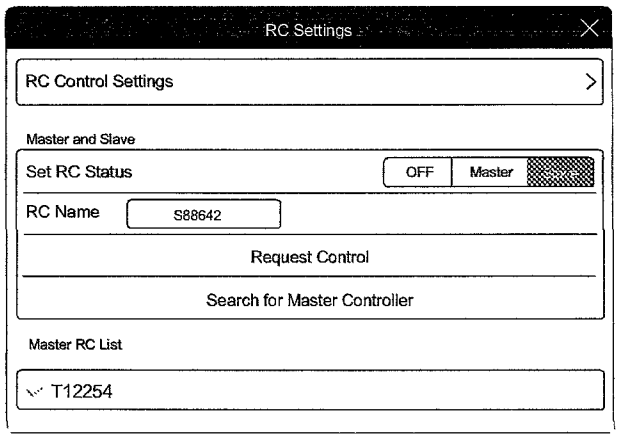
"Slave" Remote Controller:

1. Tap "Search for Master Controller" to search the "Master" remote controller.

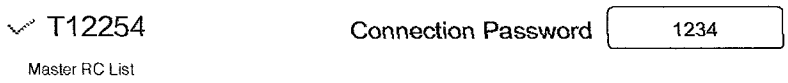


⚠ Remote controller cannot link to the aircraft if the remote controller is set as "Slave". Meanwhile, the "Slave" remote controller cannot control the orientation of the aircraft. Reset the remote controller to "Master" in DJI Pilot app if you wish to link the remote controller to the aircraft.

2. Search the "Master" remote controller in the surrounding area in the "Request Control" section.

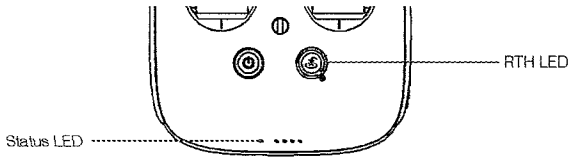


3. Select the "Master" remote controller from the "Master RC List" and input the connection password to connect to the desired "Master" remote controller.



Remote Controller Status LED

The Status LED reflects connection status between Remote Controller and aircraft. The RTH LED shows the Return to Home status of the aircraft. The table below contains details on these indicators.



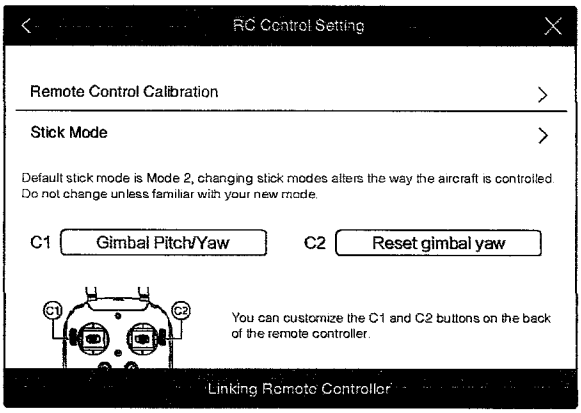
Status LED	Alarm	Remote Controller Status
Ⓡ —— Solid Red	♪ chime	The remote controller set as "Master" but it is not connected with the aircraft.
Ⓖ —— Solid Green	♪ chime	The remote controller set as "Master" and it is connected with the aircraft.
Ⓟ —— Solid Purple	D-D-	The remote controller set as "Slave" but it is not connected with the aircraft.
Ⓑ —— Solid Blue	D-D- ♪ chime	The remote controller set as "Slave" and it is connected with the aircraft.
Ⓡ ····· Slow Blinking Red	D-D-D·····	Remote controller error.
Ⓡ Ⓖ/Ⓡ Ⓨ ····· Red and Green/ Red and Yellow Alternate Blinks	None	HD Downlink is disrupted.
RTH LED	**Sound**	**Remote Controller Status**
Ⓦ —— Solid White	♪ chime	Aircraft is returning home.
Ⓦ ····· Blinking White	D· · ·	Sending Return to Home command to the aircraft.
Ⓦ ····· Blinking White	DD · · · · ·	Aircraft Return to Home in progress.

⚠ The Remote Status Indicator will blink red, sound an alert, when the battery level is critically low.

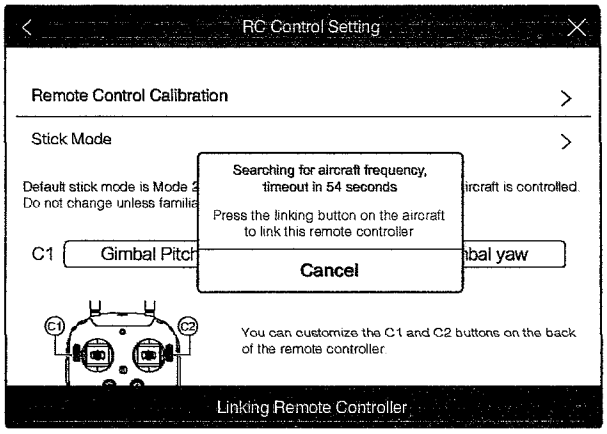
Linking the Remote Controller

The remote controller is linked to your aircraft before delivery. Linking is only required when using a new remote controller for the first time. Follow these steps to link a new remote controller:

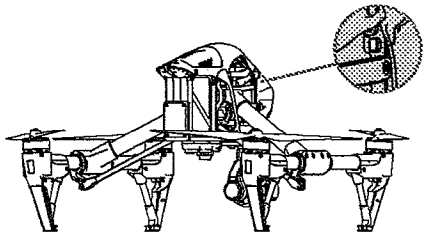
1. Power on the remote controller and connect to the mobile device. Launch DJI Pilot app.
2. Power on the Intelligent Flight Battery.
3. Enter "Camera" view and tap on and then tap "Linking Remote Controller" button as shown below.



4. The remote controller is ready to link. The Remote Controller Status Indicator blinks blue and "beep" sound is emitted.



5. Locate the Linking button on the front of the aircraft, as shown in the figure shown below. Press the Linking button to start linking. The Remote Controller Status Indicator will display solid green if Link is succeed.



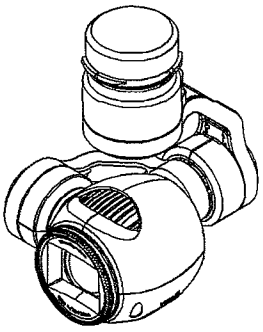
- Remote controller cannot link to the aircraft if the remote controller is set as "Slave". Meanwhile, the "Slave" remote controller cannot control the orientation of the aircraft. Reset the remote controller to "Master" in DJI Pilot app if you wish to link the remote controller to the aircraft.
- Remote controller will disconnect from the linked aircraft if a new remote controller is linked to the same aircraft.

Remote Controller Compliance Version

The remote controller is compliant with both CE and FCC requirements.

Gimbal and Camera

This chapter provides the technical specifications of the camera and explains the working mode of the gimbal.



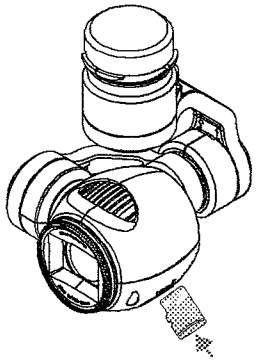
Camera and Gimbal

Camera Profile

The on-board camera supports 4K video capture up to 4096x2160p24 and 12M pixel photos capture by using the 1/2.3 inch CMOS sensor. You may export the video in either MOV or MP4 format for editing. Available picture shooting modes include burst, continuous, and timer mode. A live preview of what the camera is seeing before you shoot videos and pictures is supported through the DJI Pilot App.

Camera Micro-SD Card Slot

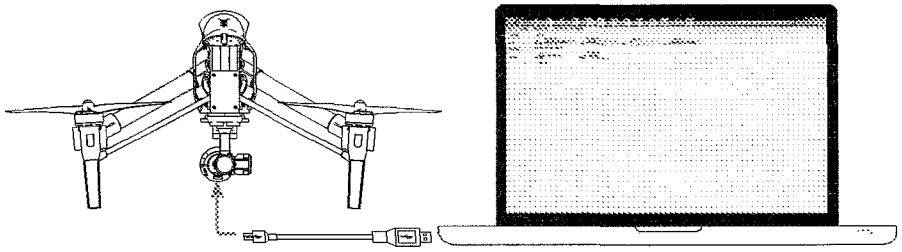
To store your photos and videos, plug in the micro-SD card into the slot shown below before powering on the Inspire 1. The Inspire 1 comes with a 16GB micro-SD card and supports up to a 64GB micro-SD card. A UHS-1 type micro-SD card is recommended, because the fast read and write capability of these cards enables you to store high-resolution video data.



⊘ Do not remove micro-SD card from the Inspire 1 when it is powered on.

Camera Data Port

Power on the Inspire 1 and then connect a USB cable to the Camera Data Port to download photos or videos from the camera to your computer.



⚠ Power on the aircraft before attempting to download the files.

Camera Operation

Use the Shutter and Record button on the remote controller to shoot the images or the videos through the DJI Pilot app. For more information about how to use these buttons, refer to "Controlling Camera" P25.

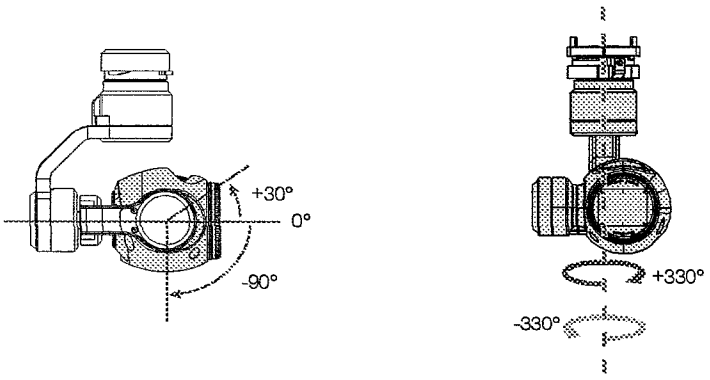
ND Filter

Attach an ND filter to the front of the camera to reduce over-exposure and "jello" effect.

Gimbal

Gimbal Profile

The 3-axis Gimbal provides a steady platform for the attached camera, allowing you to capture stabilized images and video. The Gimbal can tilt the camera up to 120 degrees and rotate 360 degrees.



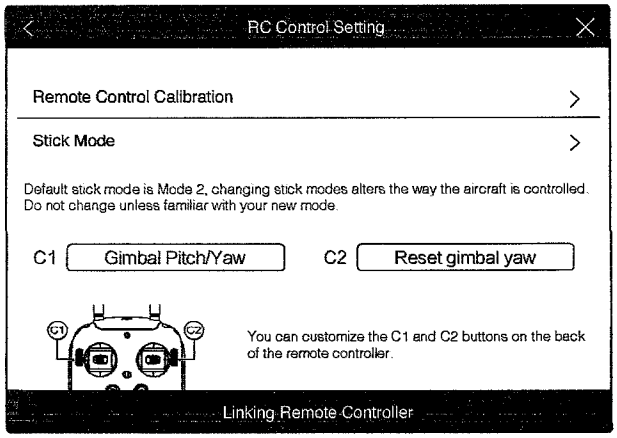
Use the gimbal dial on the remote controller to control pitch movement of the camera by default. Note that you cannot control the pan motion of the camera by default. Enable the "Master-and-Slave" mode and set the remote controller to "Slave" state if you wish to control both the pan and pitch movement of the camera.

⚠ Use the gimbal dial on the remote controller to control the pitch movement of the camera in the single remote controller mode, however, you cannot control the pan movement of the camera.

Pan Control

Follow the instructions below to use the gimbal dial to control the pan movement of the gimbal:

1. Power on the aircraft and remote control, launch DJI Pilot app and enter "Camera" page.
2. Tap "RC Control Settings" icon and select either C1 or C2 customizable button as the gimbal pitch/yaw switching button.
3. Select "Gimbal Pitch/Yaw" from the dropdown list.

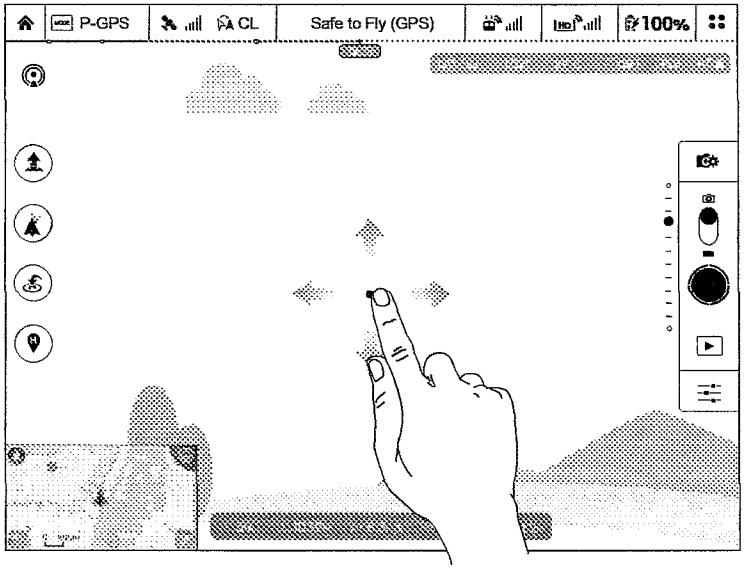


Press C1 or C2 button to switch from pitch mode to yaw mode. You may use the gimbal dial to pan the gimbal under yaw mode. Press C1 or C2 again to exit yaw mode.

Using DJI Pilot App to Control Gimbal

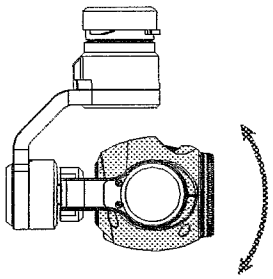
Follow the steps below to use DJI Pilot app to control the gimbal orientation:

1. Launch DJI Pilot app, enter "Camera" page.
2. Tap and press on the screen until a blue circle is shown.
3. Slide to control the gimbal orientation within the "Camera" page as shown below.

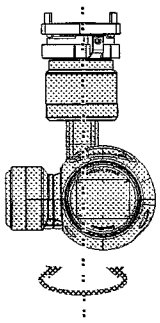


Gimbal Operation Modes

Three Gimbal operation modes are available. Switch between the different operation modes on the Camera page of the DJI Pilot App. Note that your mobile device must be connected to the remote controller for changes to take effect. Refer to the table below for details:



Pitch



Pan

	Follow Mode	The angle between Gimbal's orientation and aircraft's nose remains constant at all times. One user alone can control the pitch motion of the Gimbal, but a second user is required to control the pan motion using a second remote controller.
	FPV Mode	The Gimbal will lock to the movements of the aircraft to provide a First-Person-View flying experience.
	Free Mode	The Gimbal's motion is independent of the aircraft's orientation. One user alone can control the pitch motion of the Gimbal, but a second user is required to control the pan motion using a second remote controller.
	Re-alignment	Tap to force the Gimbal orientation to re-align with aircraft's orientation by panning from gimbal's current orientation. Pitch angle will remain unchanged during the re-alignment.

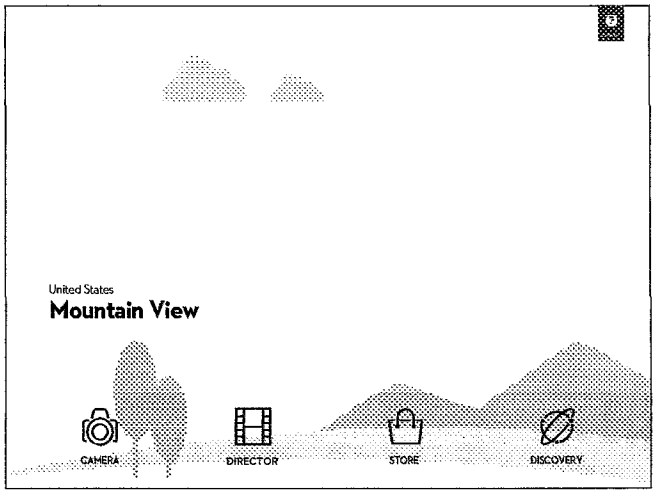
- Gimbal motor error may occur in these situations: (1) Gimbal is placed on uneven ground. (2) Gimbal has received an excessive external force, e.g. a collision. Please take off from flat, open ground and protect the gimbal after powering up.
- Flying in heavy fog or cloud may make the gimbal wet, leading to a temporary failure. The gimbal will recover when it dries out.

DJI Pilot App

This chapter describes the four main GUI of the DJI Pilot app.

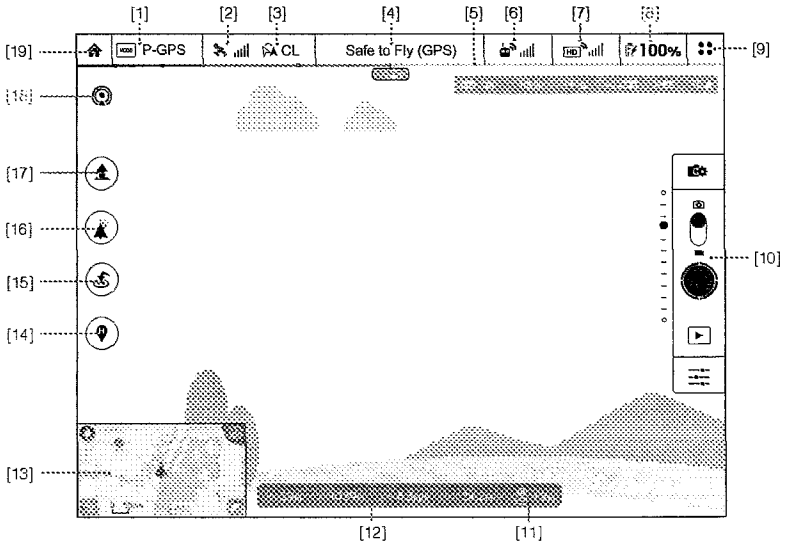
DJI Pilot App

The DJI Pilot app is a new mobile app designed specifically for the Inspire 1. Use this app to control the gimbal, camera and other features of your flight system. The app also comes with Map, Store a User Center, for configuring your aircraft and sharing your content with friends. It is recommended that you use a tablet for the best experience.



Camera

The Camera page contains a live HD video feed from the Inspire 1's camera. You can also configure various camera parameters from the Camera page.



[1] Flight Mode

: The text next to this icon indicates the current flight mode.

Tap to configure the MC (Main Controller) Settings. These settings allow you to modify flight limits and set the gain values.

[2] GPS Signal Strength

: This icon shows the current strength of GPS signals. Green bars indicate adequate GPS strength.

[3] IOC Settings

CL : This icon displays the IOC setting when the aircraft has entered F-mode. Tap to view the IOC settings menu and select the desired IOC setting.

[4] System Status

: This icon indicates the current aircraft system status and GPS signal strength.

[5] Battery Level Indicator

: The battery level indicator provides a dynamic display of the battery level. The colored zones on the battery level indicator represent the power levels needed to carry out different functions.

[6] Remote Controller Signal

: This icon shows the strength of remote controller's signal.

[7] HD Video Link Signal Strength

: This icon shows the strength of the HD video downlink connection between the aircraft and the remote controller.

[8] Battery Level

100%: This icon shows the current battery level.

Tap to view the battery information menu, set the various battery warning thresholds, and view the battery warning history.

[9] General Settings

: Tap this icon to view the General Settings page. From this page, you can set flight parameters, reset the camera, enable the quick view feature, adjust the gimbal roll value, and toggle the flight route display.

[10] Camera Operation Bar

Shutter and Recording Settings

: Tap to enter various camera value settings, including color space for the recording, resolution of the videos, image size and so on.

Shutter

: Tap this button to take a single photo. Press and hold this button to select single shot, triple shot or time-lapsed shooting modes.

Record

: Tap once to start recording video, then tap again to stop recording. You can also press the Video Recording Button on the remote controller, which has the same functionality.

Playback

: Tap to enter the playback page. You can preview photos and videos as soon as they are captured.

Camera Settings

: Tap to set ISO, shutter and auto exposure values of the camera.

[11] Vision Positioning

: This icon shows the distance between the surface and the Vision Positioning System's sensors.

[12] Flight Telemetry

The Vision Positioning Status icon is highlighted when the Vision Positioning is in operation.

Flight attitude is indicated by the flight attitude icon.

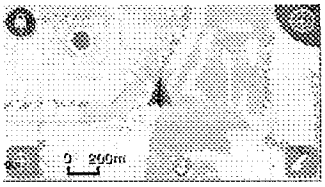
(1) The red arrow shows which direction the aircraft is facing.

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

(3) The angle of the boundary between the light blue and dark blue areas indicates the roll angle.

[13] Map

Display the flight path of the current flight. Tap to switch from the Camera GUI to the Map GUI.



[14] Home Point Settings

: Tap this button to reset the current home point. You may choose to set the aircraft take-off location, the remote controller's current position, or the aircraft's current position as the Home Point.

[15] Return to Home (RTH)

: Initiate RTH home procedure. Tap to have the aircraft return to the latest home point.

[16] Gimbal Operation Mode

Refer to "Gimbal Operation Mode" P38 for more information.

[17] Auto Takeoff/Landing

: Tap to initiate auto takeoff or landing.

[18] Livestream

: Livestream icon indicates the current video feed is broadcasting live on YouTube. Be sure the mobile data service is available on the mobile device.

[19] Back

: Tap to return to the main GUI.

Director

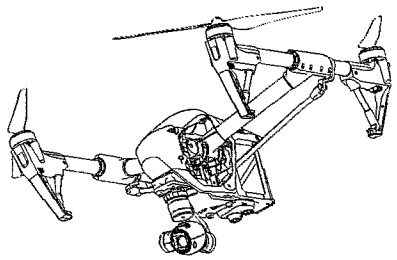
Director is an automatic video editor built into the DJI Pilot app. After recording several video clips, simply tap "Director" from the app's home screen. You can then select a template and a specified number of clips, which are automatically combined to create a short film that can be shared immediately.

Store

Tap "Store" to visit the official DJI Online Store to see the latest information about DJI products and easily buy new products.

Discovery

Sync pictures and videos to your mobile device, view flight logs, and check your DJI account status in "Discovery". Use your registered DJI account to login to "Discovery".



Flight

This chapter describes the flight safety and flight restrictions.

Flight

Once pre-flight preparation is complete, it is recommended to use the flight simulator to learn how to fly safely. Ensure that all flights are carried out in a suitable location.

Flight Environment Requirements

1. Do not use the aircraft in severe weather conditions. These include wind speed exceeding 10m/s , snow, rain and smog.
2. Only fly in open areas. Tall buildings and steel structures may affect the accuracy of the on-board compass and GPS signal.
3. Avoid from obstacles, crowds, high voltage power lines, trees or bodies of water.
4. Minimize electromagnetic interference by not flying in area with high levels of electromagnetism, including mobile phone base stations or radio transmission towers.
5. Aircraft and battery performance is subject to environment factor such as air density and temperature. Be very careful when flying 14700 feet (4500 meters) or more above sea level as battery and aircraft performance may be reduced.
6. The Inspire 1 cannot operate within the polar areas in "P" mode.

Flight Limits and Flight Restriction Area

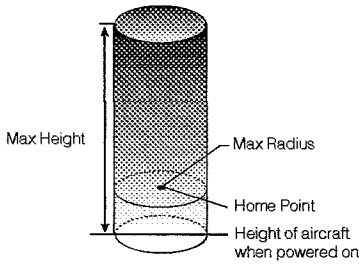
Flight limits on height and distance can be set. The details of these flight limits are described in the following section.

All unmanned aerial vehicle (UAV) operators should abide by all regulations from such organizations as the ICAO (International Civil Aviation Organization), FAA and their own national 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 limits, distance limits and No Fly Zones.

When operating in P Mode, height, distance limits and No Fly Zones work together to manage flight. In A mode only height limits work and flights cannot go higher than 120 meters.

Max Height & Radius Limits

Max Height & Radius limit flying height and distance, and the user may change these settings in the DJI Pilot App. Once complete, your Inspire 1 will fly in a restricted cylinder that is determined by these settings. The tables below show the details of these limits.



GPS Signal Strong ····· Blinking Green			
	Flight Limits	DJI Pilot App	Aircraft Status Indicator
Max Height	Flight altitude must be under the set height.	Warning: Height limit reached.	None.
Max Radius	Flight distance must be within the max radius.	Warning: Distance limit reached.	Rapid red flashing ····· when close to the max radius limit.

GPS Signal Weak ····· Blinking Yellow			
	Flight Limits	DJI Pilot App	Aircraft Status Indicator
Max Height	Flight height restricted to 120m and under.	Warning: Height limit reached.	None.
Max Radius	No limits		

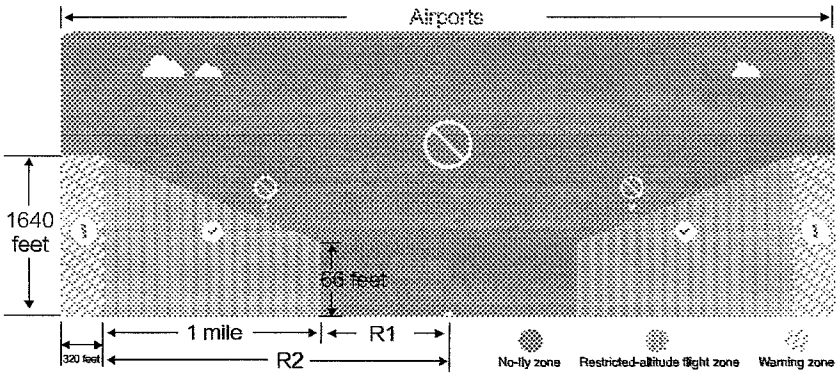
⚠ • If you fly out of the limit, you can still control the Inspire 1, but cannot fly it further.
• If the Inspire 1 flies out of the max radius in Ready to Fly (non-GPS) mode, it will fly back within range automatically.

No-Fly Zones

All No-Fly Zones are listed on the DJI official website at http://flysafe.dji.com/no-fly. No-Fly Zones are divided into Airports and Restricted Areas. Airports include major airports and flying fields where manned aircraft operate at low altitudes. Restricted Areas include borders between countries or sensitive sites. The details of the No-Fly Zones are explained below:

Airport:

(1) Airport No-Fly Zones are comprised of Takeoff Restricted Zones and Restricted-Altitude Zones. Each zone features circles of various size.
(2) R1 depends on the size and shape of the airport, and is an area around the airport that is a Takeoff Restricted Zone, inside of which take-off and flight is prevented.
(3) From R1 to R1+1 mile around the airport, the flight altitude is limited on a 15 degree incline, starting at 65 feet (20 meters) from the edge of airport and radiating outward. The flight altitude is limited to 1640 feet (500 meters) at R1+1 mile.
(4) When the aircraft is within 320 feet (100 meters) of the No-Fly Zones, a warning message will appear in the DJI Pilot app.

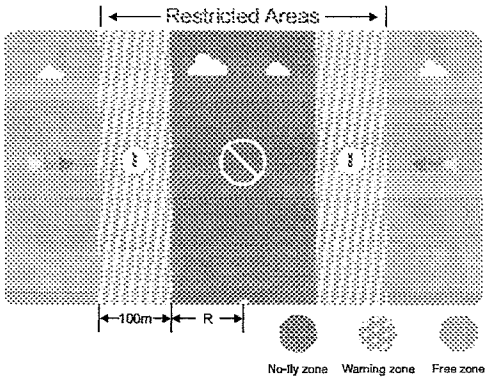


Restricted Areas:

(1) Restricted Areas do not have a flight altitude restriction.

(2) R around the designated Restricted Area is a Take-off Restricted area. Aircraft cannot takeoff within this zone. The value of R varies depending on the definition of the Restricted Area.

(3) A "warning zone" has been set around each Restricted Area. When the aircraft is within 0.6 miles (1 km) of this zone, a warning message will appear in the DJI Pilot app.



GPS Signal Strong ····· Blinking Green			
Zone	Restriction	DJI Pilot App Prompt	Aircraft Status Indicator
No-fly Zone	Motors will not start.	Warning: You are in a No-fly zone. Take off prohibited.	····· Red flashing
	If the aircraft enters the restricted area in A mode but P mode activates the aircraft 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 aircraft enters the restricted area in A mode but P 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.

- When flying in the safety zone, aircraft status indicator 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.
- 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.

Preflight Checklist

1. Remote controller, aircraft battery, and mobile device are fully charged.
2. Propellers are mounted correctly and firmly.
3. Micro-SD card has been inserted if necessary.
4. Gimbal is functioning as normal.
5. Motors can start and are functioning as normal.
6. DJI Pilot app connected to the aircraft.

Calibrating the Compass

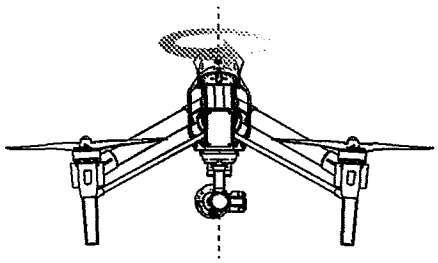
IMPORTANT: Make sure to calibrate the compass in every new flight location. The compass is very sensitive to electromagnetic interference, which can cause abnormal compass data leading to poor flight performance or even failure. Regular calibration is required for optimum performance.

- DO NOT calibrate your compass where there is a chance of strong magnetic interference, such as magnetite, parking structures, and steel reinforcements underground.
- DO NOT carry ferromagnetic materials with you during calibration such as keys or cellular phones.
- DO NOT calibrate beside massive metal objects.

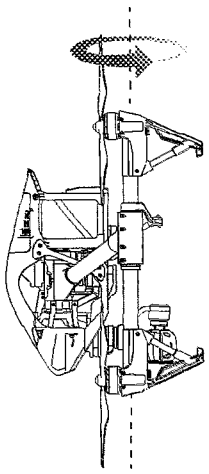
Calibration Procedures

Choose an open space to carry out the following procedures.

1. Ensure that the compass is calibrated. If you did not calibrate the compass as part of your pre-flight preparations, or if you have moved to a new location since the last calibration, tap Aircraft Status Indicator bar in the app and select "Calibrate", then follow the on-screen instructions.
2. Hold and rotate the aircraft horizontally 360 degrees, and the Aircraft Status Indicator will display a solid green light.



3. Hold the aircraft vertically with nose pointing downward, and rotate it 360 degrees around the center axis. Recalibrate the compass if the Aircraft Status Indicator show solid red.



⚠ If the Aircraft Status Indicator blinks red and yellow after the calibration, move your aircraft to a different location to carry out compass calibration.

Calibrate the compass before each flight. Launch DJI Pilot App, follow the on-screen instruction to calibrate the compass.

When to Recalibrate

1. When compass data is abnormal, and the Aircraft Status Indicator is blinking red and yellow.
2. When flying in a new location, or a location that is different from your last flight.
3. When the mechanical structure of the Inspire 1 has changed, i.e. changed mounting position of the compass.
4. When severe drifting occurs in flight, i.e. the Inspire 1 does not fly in straight lines.

Auto Take-off and Auto Landing

Auto Take-off

Use auto take-off to take off your aircraft automatically if the Aircraft Status Indicator displays blinking green. Follow the steps below to use auto take-off:

1. Launch DJI Pilot app, enter "Camera" page.
2. Ensure the aircraft is in "P" mode.
3. Go through the pre-flight checklist.
4. Tap"🛫", and confirm flight condition. Slide to confirm and take-off.
5. Aircraft takes off and hovers at 1.5 meters above ground.

Auto-Landing

Use auto-landing to land your aircraft automatically if the Aircraft Status Indicator displays blinking green. Follow the steps below to use auto-landing:

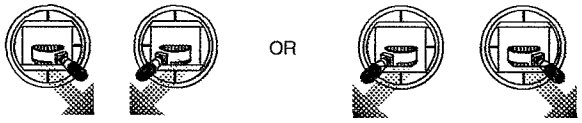
1. Ensure the aircraft is in "P" mode.
2. Check the landing area condition before tapping "⏬", to perform landing.
3. Aircraft lowers the landing gear and proceed to land automatically.

Landing gear will automatically raise when the aircraft reaches an altitude of 1.2m for the first time, and automatically lower every time it descends to 0.8m. Users can turn this feature ON/OFF in the Pilot app.

Starting/Stopping the Motors

Starting Motors

The Combination Stick Command (CSC) listed below are used to start the motors instead of simply pushing the stick up. Ensure that you perform the CSC in one motion.

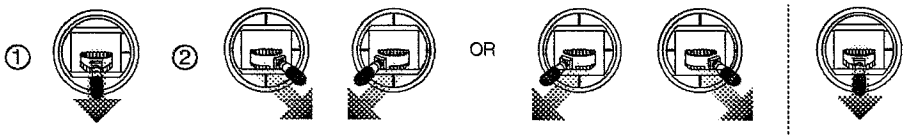


Stopping Motors

There are two methods to stop the motors.

Method 1: When the Inspire 1 has landed, push the throttle down ①, then conduct CSC ②. Motors will stop immediately. Release both sticks once motors stop.

Method 2: When the aircraft has landed, push the throttle down and hold. The motors will stop after 3 seconds.



⚠ Do not perform CSC when aircraft is in midair, otherwise the motors will be stopped.

Flight Test

Take off/Landing Procedures

1. Place the aircraft on open, flat ground with battery indicators facing towards you.
2. Power on the remote controller and your mobile device, then the Intelligent Flight Battery.
3. Launch the DJI Pilot App and enter the Camera page.
4. Wait until the Aircraft Indicator blinks green. This means the Home Point is recorded and it is safe to fly now. If it flashes yellow, it means Home Point is not recorded, and you should not take off.
5. Push the throttle up slowly to take off or using Auto Take-off to take off.

6. Shoot photos and videos using the DJI Pilot app.
7. To land, hover over a level surface and gently pull down on the throttle slowly to descend.
8. After landing, execute the CSC command or hold the throttle at its lowest position for 3 seconds or more until the motors stop.
9. Turn off the Intelligent Flight Battery first, followed by the Remote Controller.

⚠
- When the Aircraft Status Indicator blinks yellow rapidly during flight, the aircraft has entered Failsafe mode.
- A low battery level warning is indicated by the Aircraft Status Indicator blinking red slowly or rapidly during flight.
- Watch video tutorials about flight for more flight information.

Video Suggestions and Tips

1. Work through the checklist before each flight.
2. Select desired gimbal working mode in the DJI Pilot app.
3. Aim to shoot when flying in P mode only.
4. Always fly in good weather, such as sunny or windless days.
5. Change camera settings to suit you. These include photo format and exposure compensation.
6. Perform flight tests to establish flight routes and scenes.
7. Push the sticks gently to make aircraft movements stable and smooth.

FAQ

Troubleshooting (FAQ)

1. How can I put a GoPro camera on the Inspire 1?
   The Inspire 1 does not currently support GoPro attachments. The gimbal is designed to hold DJI cameras only.

2. When will ground station functionality be available?
   The Inspire 1 does not currently support ground station. Ground station will be available with future firmware updates.

3. Is the camera's exposure automatic?
   The exposure can be set to Auto, for automatic changes, or Manual, if you wish to use a specific setting.

4. Can I see the size of images through the app?
   Yes, you can preview image or video sizes through the DJI Pilot app.

5. How much weight can the Inspire 1 carry without its included camera?
   We do not recommend flying with any payload other than the included DJI gimbal and camera.

6. Do you have an LCD monitor available for the Inspire 1?
   No, DJI does not sell LCD or HD monitors for the Inspire 1. However, you can output the live streaming video to a compatible monitor or mobile device of your own.

7. How long does it take to charge the battery? Does it comes with a charger?
   Yes, all Inspire 1 units come with standard TB47 charger.
   With the standard TB47 100W charger, it takes 85min to fully charge a 4500mAh battery.

8. Are the two remote controllers the same? Should I setup the remote controllers in the app or somewhere else to control the camera and aircraft separately?
   The two remote controllers are physically identical. You can set the remote controllers to either "Master" or "Slave" through the DJI Pilot app if you wish to use dual controller mode.

9. Where can I find info on the simulation application that plugs into the trainer port? Can you suggest a simulation program?
   There is no trainer port on the remote controller for the Inspire 1.

10. Can the mobile device holder be used on the Phantom 2 series remote controller?
    No, it cannot. The mobile device holder can only be used with the Inspire 1 remote.

11. Does the Inspire 1 have a SD card included?
    The Inspire 1 comes with a 16GB micro-SD card. It supports SD cards up to 64GB.

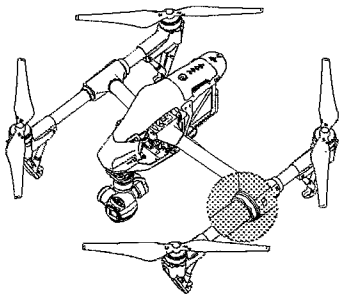
12. Can I upgrade and buy a second remote controller if I only buy a single remote controller now?
    Yes.

13. How big is the Inspire 1?
    Its length x height x width dimensions without the propellers attached are 44 x 30 x 45cm (17.3 x 11.8 x 17.7in).

14. What flight controller does the Inspire 1 use?
    The Inspire 1 uses its own new flight controller.

15. Which motors and propellers does the Inspire 1 come with?
    The Inspire 1 uses 3510 motors and 1345 propellers.

16. Aircraft frame arm joints appear loosen, is that normal?
    The space of the joins shown in the below figure is normal and it will not affect the performance of aircraft, do not adjust the position of the screws on your own.



17. Failed to complete self-check?
    Place the aircraft on the flat surface before powering on. Do not move the aircraft during the self-check.

Appendix

Appendix

Specifications

Aircraft	
Model	T600
Weight (Battery Included)	2935 g
Hovering Accuracy (P Mode)	Vertical: 0.5 m Horizontal: 2.5 m
Max Angular Velocity	Pitch: 300°/s Yaw: 150°/s
Max Tilt Angle	35°
Max Ascent Speed	5 m/s
Max Descent Speed	4 m/s
Max Speed	22 m/s (ATTI mode, no wind)
Max Flight Altitude	4500 m
Max Wind Speed Resistance	10 m/s
Max Flight Time	Approximately 18 minutes
Motor Model	DJI 3510
Propeller Model	DJI 1345
Indoor Hovering	Enabled by default
Operating Temperature Range	-10° to 40° C
Diagonal Distance	559 to 581 mm
Dimensions	438x451x301 mm
Gimbal	
Model	ZENMUSE X3
Output Power (With Camera)	Static: 9 W; In Motion: 11 W
Operating Current	Station: 750 mA; Motion: 900 mA
Angular Vibration Range	±0.03°
Mounting	Detachable
Controllable Range	Pitch: -90° to +30° Pan: ±320°
Mechanical Range	Pitch: -125° to +45° Pan: ±330°
Max Controllable Speed	Pitch: 120°/s Pan: 180°/s

Camera	
Name	X3
Model	FC350
Total Pixels	12.76M
Effective Pixels	12.4M
Image Max Size	4000x3000
ISO Range	100-3200 (video) 100-1600 (photo)
Electronic Shutter Speed	8 s to 1/8000 s
FOV (Field Of View)	94°
CMOS	Sony EXMOR 1/2.3"
Lens	20mm (35mm format equivalent) f/2.8 focus at ∞) 9 Elements in 9 groups Anti-distortion
Still Photography Modes	Single shoot Burst shooting: 3/5/7 frames Auto Exposure Bracketing (AEB): 3/5 bracketed frames at 0.7EV Bias Time-lapse
Video Recording Modes	UHD (4K): 4096x2160p24/25, 3840x2160p24/25/30 FHD: 1920x1080p24/25/30/48/50/60 HD: 1280x720p24/25/30/48/50/60
Max Bitrate Of Video Storage	60 Mbps
Supported File Formats	FAT32/exFAT Photo: JPEG, DNG Video: MP4/MOV (MPEG-4 AVC/H.264)
Supported SD Card Types	Micro SD Max capacity: 64 GB. Class 10 or UHS-1 rating required.
Operating Temperature Range	0° to 40° C
Remote Controller	
Name	C1
Operating Frequency	922.7MHz~927.7 MHz (Japan Only) 5.725~5.825 GHz;2.400~2.483 GHz
Transmitting Distance	2 km (Outdoor And Unobstructed)
EIRP	10dBm@900m, 13dBm@5.8G, 20dBm@2.4G
Video Output Port	USB, Mini-HDMI
Power Supply	Built-in battery
Charging	DJI charger
Dual User Capability	Host-and-Slave connection

Mobile Device Holder	Tablet or Smart Phone
Output Power	9 W
Operating Temperature Range	-10° to 40° C
Storage Temperature Range	Less than 3 months: -20° to 45° C More than 3 months: 22° to 28° C
Charging Temperature Range	0-40° C
Battery	6000 mAh LiPo 2S
Charger	
Model	A14-100P1A
Voltage	26.3 V
Rated Power	100 W
Battery (Standard)	
Name	Intelligent Flight Battery
Model	TB47
Capacity	4500 mAh
Voltage	22.2 V
Battery Type	LiPo 6S High voltage battery
Energy	99.9 Wh
Net Weight	570 g
Operating Temperature Range	-10° to 40° C
Storage Temperature Range	Less than 3 months: -20° to 45° C More than 3 months: 22° C to 28° C
Charging Temperature Range	0° to 40° C
Max Charging Power	180 W
Battery (Optional)	
Name	Intelligent Flight Battery
Model	TB48
Capacity	5700 mAh
Voltage	22.8 V
Battery Type	LiPo 6S
Energy	129.96 Wh
Net Weight	670 g
Operating Temperature Range	-10 to 40° C
Storage Temperature Range	Less than 3 months: -20 to 45° C More than 3 months: 22° to 28° C
Charging Temperature Range	0° to 40° C

Max Charging Power	180 W
Vision Positioning	
Velocity Range	Below 8 m/s (2 m above ground)
Altitude Range	5-500 cm
Operating Environment	Brightly lit (lux > 15) patterned surfaces
Operating Range	0-250 cm
DJI Pilot App	
Mobile Device System Requirements	iOS version 7.1 or later; Android version 4.1.2 or later
Supported Mobile Devices	* iPhone 6 Plus, iPhone 6, iPhone 5S, iPad Air 2, iPad Mini 3, iPad Air, iPad Mini 2, iPad 4;* Samsung Note 3, Samsung S5, Sony Z3 EXPERIA,* Note: It is recommended that you use a tablet for the best experience

Intelligent Orientation Control (IOC)

IOC allows users to lock the orientation of aircraft in different fashions. There are three working modes for IOC and you may select the desired IOC modes from the DJI Pilot app. IOC only works under F mode, and user must toggle the flight mode switch to "F" mode to activate IOC. Refer to the table below:

Course Lock (CL)	Its forward direction is pointing to the nose direction when recording, which is fixed until you re-record it or exit from CL.
Home Lock (HL)*	Record a Home Point (HP), and push Pitch stick to control the aircraft far from or near to the HP.
Point of Interest (POI)*	Point of Interest. Record a point of interest (POI), the aircraft can circle around the POI, and the nose always points to the POI.

*Home Lock and Point of Interest feature are coming soon.

Prerequisites of IOC

Use the IOC feature under the following condition:

Modes IOC	GPS enabled	GPS	Flight Distance Limits
Course Lock	No	None	None
Home Lock	Yes		Aircraft ←≥10m→ Home Point
POI	Yes		Aircraft ←5m~500m→ Point of Interest

Using IOC

Enable the IOC feature by tapping "Enable IOC" in the setting page of the DJI Pilot app. Toggle the Flight Mode Switch to "F" mode and follow the on-screen instruction to use IOC feature.

How to Update Firmware

Follow the process described below to upgrade the aircraft, remote controller and battery.

Updating the Aircraft Firmware

Step 1- Check Battery and SD Card Capacity

Ensure the Intelligent Flight Battery has at least 50% power and there is at least 100MB of free space on the SD card.

Step 2- Prepare the Firmware Update Package

1. Download the firmware update package from the official DJI website (http://www.dji.com/product/inspire-1).
2. Insert the SD into your PC. Extract the all downloaded files into the root directory of the SD card. Remove the SD card from your PC. Ensure the Inspire 1 is powered off then insert the SD card into the SD card slot on the Inspire 1 camera.

Step 3- Update the Aircraft

1. Ensure the remote controller is powered off and then power on the aircraft. Upgrade will begin automatically after aircraft is powered on.
2. It will take approximately 25 minutes to complete the firmware update. The camera will sound a short pulse of "D-D-D-D" beeping sound to indicate the upgrade is in progress and sound a "D---DD" beeping sound to indicate the update is complete with success.
3. Check the upgrade status by opening the ".txt" file that is automatically generated after the update. The update is successful if the text "result: successful" is in the document. Try upgrading the firmware again if the text "result: failed" is found or the gimbal sound a long beep sound.

Updating the Remote Controller Firmware

Step 1- Check Battery and SD Card Capacity

Remote controller firmware is included in the aircraft firmware update package. Use the same update package file that is downloaded from the DJI official website. Ensure the remote controller battery level is above 50%.

Step 2- Prepare the Firmware Update Package

1. Extract all downloaded files into the root directory of an SD card or USB thumb drive.
2. Insert the SD card into a SD card reader or the USB disk onto the remote controller USB port when remote controller powered off. If you do not have a SD card reader, you may insert the SD card into the gimbal and connect the gimbal with remote controller to upgrade the remote controller.

Step 3- Update the Remote Controller

1. Power on the remote controller and wait 60 seconds until the upgrade begins. Do not power off the remote controller during the update.
2. It will take approximately 10 minutes to complete the firmware update. The camera will sound a beeping sound and the Status LED on the remote controller shows solid blue to indicate the update is in progress. The Status LED on remote controller shows solid green and beeping sound will stop if the upgrade is completed with success. The Status LED on remote controller shows solid red if upgrade is failed. Try upgrade again.

Updating Intelligent Flight Battery Firmware

The Intelligent Flight Battery is upgraded during the aircraft firmware upgrade process. It is recommended to keep the upgrade package files in your SD card. The upgrade will start automatically after power cycling the aircraft.

⚠
- Do not perform firmware update while the aircraft is still flying in the air. Only carry out firmware update when the aircraft is landed.
- Be sure to update the remote controller's firmware to the latest version after you upgrade the aircraft's firmware.
- The remote controller may become unlinked from the aircraft after updating. Re-link the remote controller and aircraft.
- Confirm the update results according to the gimbal sounds. It is normal for the aircraft to sound or the LED to blink during the update process.
- Ensure there is only one firmware package file stored on your SD card.
- Only storage devices that are formatted for FAT32 and exFAT file systems are supported for aircraft and remote controller firmware updates.
- Delete any automatically generated txt files (xxx_GS.TXT) in the SD card when updating multiple remote controllers.

FCC Compliance

FCC Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.
Changes or modifications not expressly roved by the party responsible for compliance could void the user's authority to operate the equipment.

Compliance Information

FCC Warning Message

Any Changes or modifications not expressly roved by the party responsible for compliance could void the user's authority to operate the equipment.
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator& your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio

frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.

IC RSS warning

This device complies with Industry Canada licence-exempt RSS standard (s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference,including interference that may cause undesired operation of the device.
Le présent areil est conforme aux CNR d'Industrie Canada licables aux areils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:
(1) l'areil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'areil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

IC Radiation Exposure Statement:

This equipment complies with IC RF radiation exposure limits set forth for an uncontrolled environment.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.
Any Changes or modifications not expressly roved by the party responsible for compliance could void the user's authority to operate the equipment.

KCC Warning Message

"해당무선설비는 운용 중 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없습니다 ."
"해당 무선설비는 운용 중 전파혼신 가능성이 있음"

NCC Warning Message

低功率電波輻射性電機管理辦法
第十二條經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。
第十四條低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

The content is subject to change.

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