



U.S. Department
of Transportation

**Federal Aviation
Administration**

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

July 9, 2015

Exemption No. 11995
Regulatory Docket No. FAA-2015-1230

Mr. Frederick Alimonti
Counsel for Rotor Air Cam, LLC
Alimonti Law Offices, PC
200 Mamaroneck Avenue
White Plains, New York 10601

Dear Mr. Alimonti:

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 April 30, 2015 you petitioned the Federal Aviation Administration (FAA) on behalf of Rotor Air Cam, LLC (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial surveying, photography, 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 re the DJI Phantom 2 and DJ Inspire 1 .

The petitioner requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*. 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 the requested 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 collection¹ 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, Rotor Air Cam, LLC 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.

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.

Conditions and Limitations

In this grant of exemption, Rotor Air Cam, LLC is hereafter referred to as the operator.

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

1. Operations authorized by this grant of exemption are limited to the DJI Phantom 2 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 July 31, 2017, unless sooner superseded or rescinded.

Sincerely,

/s/

John S. Duncan
Director, Flight Standards Service

Enclosures

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Alimonti Law Offices, P.C.

Date: April 23, 2015

U. S. Department of Transportation
Docket Management System
1200 New Jersey Ave.,
SE Washington, DC 20590

RE: **Petition for Summary Exemption of Rotor Air Cam, LLC for Exemption Pursuant to Section 333 of the FAA Reform Act**
Docket Number: TBD

Operator Information:

Rotor Air Cam, LLC
Pilot Certificate No. 2415677
125 Newtown Road, Suite 100
Plainview, NY 11803
Principal: David N. Sanders

Dear Sir/Madam:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (the Reform Act) and 14 C.F.R. Part 11, **Rotor Air Cam, LLC** (“Rotor”) respectfully applies for an Exemption to conduct commercial operations using Small Unmanned Aircraft Systems (“SUAS”), consisting of aerial photography, surveying, and videography. As set out below, this application is substantially similar to previous Exemptions and therefore appropriate for Summary Approval, as referenced at: <http://www.faa.gov/news/updates/?newsId=82485>. The basis for seeking summary approval is the substantial similarity of Rotor’s proposed commercial operation with that of numerous other operators for which FAA Exemptions

have been granted. For example, Rotor's application is substantially similar to the Exemption granted to *Toledo Aerial Media, LLC* (Docket No. 11288) (hereafter, *Toledo* and *Toledo* Exemption). Moreover, the Exemption granted to *Toledo* cited the following "similar" operations as a basis for the granting of *Toledo*'s Exemption: Docket Nos: 11062, 11109, 11112, and 11213. Accordingly, we submit that this Exemption does not require publication and notice in the Federal Register for purposes of notice and comments. For your convenience, we summarize these listed similar exemptions below:

DKT #/Date Approved	Operator	Vehicles/Operation
11062/Sept. 25, 2014	Astreus Aerial	Astraeus Aerial Cinema System V.3CS (proprietary design)/closed set filming
11109/Dec. 10, 2014	Clayco	Skycatch/aerial imaging
11112/Dec. 10, 2014	VDOS Global	Aeryon SkyRanger/stack inspections for Shell Oil
11213/March 24, 2015	Aeryon Labs	SkyRanger/market research, aerial surveys, mapping, and inspections

It is noteworthy that none of the four operators having Exemptions listed as "similar" to *Toledo* operate the same UAS Systems. Rather, the similarity appears to be more a function of the operational parameters. *Rotor*, in comparison, will have a virtually identical operational profile as *Toledo* and will operate the same two Small UAS ("SUAS") systems as already approved for *Toledo*, specifically the DJI *Phantom 2* and DJI *Inspire 1*. *Rotor* would operate under the following restrictions as contained in the *Toledo* Grant of Exemption (Docket 11288):

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

¹ In accordance with recent guidance in the NPRM, Rotor seeks relief from this requirement, provided the PIC/Operator remains in VLS with the SUAS and determines that the flight can be safely conducted without a VO. See page 8.

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.²
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

² As per recent FAA guidance, Rotor requests that this requirement be changed to a minimum of a Recreational Pilot Certificate and a valid driver's license. *See page 10.*

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 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.
- 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.
- Operations for which the Exemption is Requested**
- Rotor* intends to operate as an aerial survey and photography company, engaged by private and governmental entities as an independent contractor for the following services:
- Real Estate & related Photography/Videography missions
 - Building, Infrastructure, Construction site inspections/recording
 - Aerial surveying and mapping
 - Educational and research operations
 - Such other operations that may be conducted safely within the limits of Rotor's Exemption

Why Rotor's Requested Exemption is in the Public Interest

In its “Costs and Benefits Analysis” section of the Notice of Proposed Rule Making to 14 C.F.R. pt. 107 (“NPRM”), the FAA acknowledges the following benefits with respect SUAS operations:

[A]dvances in small UAS have led to a developing commercial market for their uses by providing a safe operating environment for them and for other aircraft in the NAS. In time, the FAA anticipates that the proposed rule would provide an opportunity to substitute small UAS operations for some higher risk manned flights, such as inspecting towers, bridges, or other structures. The use of small unmanned aircraft would avert potential fatalities and injuries to those in the aircraft and on the ground. It would also lead to more efficient methods of performing certain commercial tasks that are currently performed by other methods.

The utility and benefits of commercial SUAS operations, as summarized above, is implicitly recognized in the numerous Section 333 Exemptions granted to commercial operations similar to *Rotor*, including *Toledo*, the four listed similar Exemptions at page 2, and the operators listed at Tables 1.1 & 1.2 at Appendix I. These exemptions benefit the operator in the form of authorizing and facilitating a business enterprise, and benefit the public by enabling them to purchase an aerial photographic service they would otherwise be unable to afford where their choices limited to manned operations.

Because of their low purchase price (as compared to manned aircraft), low operating costs, low weight, lack of volatile fuel, low operating speeds, low-level operations, and short flight duration, SUAS aerial photography and surveys are creating new and affordable access to the NAS at minimum risk to manned operations and in closer proximity to the subject of the photos/survey than could be safely conducted with manned aircraft. As recognized in the NPRM, it is this ability of the SUAS to operate at lower altitudes that creates a safety buffer between the SUAS and manned operations.

Summary of FAR Exemptions Sought

As noted above, with minor exceptions for allowing for operators with Recreational Pilot Certificates and higher, *Rotor*'s operations will be substantially similar to those of *Toledo* as granted in Exemption Docket No. 11288.

In accordance with the NPRM, Rotor also requests that the decision to use, or not use, a Visual Observer be left to the Operator, who will determine if the flight can be conducted safely without a Visual Observer, only when the Operator can remain in VLS with the SUAS at all times.

For your convenience we summarize the exemption sought below and include, where useful, reference to the Notice of Proposed Rule Making (“NPRM”) for Small Unmanned Aerial Systems to be codified at 14 C.F.R. pt. 107. Although these regulations do not as yet have the force of law, they are the best indicators currently available to SUAS operators as to the Administrator's operational minima and requirements for safe SUAS operations.

FAR	Subject	Basis for Exemption
14 C.F.R. Part 21	Aircraft Certification	<p>The two SUAS Systems proposed, the DJI <i>Phantom</i> 2 and DJI <i>Inspire</i> 1, have been subject to multiple approvals for 333 Exemptions in the absence of certificates of airworthiness. See tables 1.1 and 1.2, listing other Exemptions granted to DJI Phantom 2 and DJI Inspire 1.</p> <p>The NPRM does not anticipate requiring airworthiness certificates for SUAS:</p> <p>“Pursuant to section 333(b)(2) of Public</p>

		<p>Law 112-95, the Secretary has determined that small UAS subject to this proposed rule would not require airworthiness certification because the safety concerns associated with small UAS operation would be mitigated by the other provisions of this proposed rule. Rather, this proposed rule would require the operator to ensure that the small UAS is in a condition for safe operation by conducting an inspection prior to each flight.”</p> <p>The NPRM similarly recognized that “[I]t is not practically feasible for many small UAS manufacturers to go through the certification process required of manned aircraft. This is because small UAS technology is rapidly evolving at this time, and consequently, if a small UAS manufacturer goes through a 3-to-5-year process to obtain a type certificate, which enables the issuance of a standard airworthiness certificate, the small UAS would be technologically outdated by the time it completed the certification process.”</p> <p>Accordingly, it is well established that the issuance of an airworthiness certificate is not a prerequisite to the operation of SUAS, and operations of the DJI <i>Phantom</i> II and DJI <i>Inspire</i> 1 have been routinely granted in the absence of such certifications. See Tables 1.1 & 1.2</p>
14 C.F.R. 45.23 (b)	Display of Marks	<p>The SUAS systems will be registered with the FAA and have their registration numbers displayed in as conspicuous a manner as possible given the limitations imposed by the size of these SUAS systems. The FAA has recognized that SUAS systems cannot be expected to comply with the type size requirements of 14 C.F.R. 45.23 (b). The <i>Toledo</i> Exemption provides that these registration markings be “as large as</p>

		practicable” and <i>Rotor</i> will adhere to this requirement.
14 C.F.R. pt. 61 (subpart D)	Recreational Pilots	In accordance with recent guidance provided by the FAA on summary approvals, all SUAS operators will have, at minimum, Recreational Pilot Certificates, a valid driver’s license and will self-certify as to their medical condition. http://www.faa.gov/news/updates/?newsId=82485
14 C.F.R. 91.7 (a)	Airworthiness	Airworthiness Certificates have not been required for previous SUAS Exemptions and have not been issued for the DJI <i>Phantom</i> II or the DJI <i>Inspire</i> 1 SUAS. They are not contemplated for SUAS systems in the NPRM. In accordance with §107.15 of the NPRM, Rotor will assure that all operations are conducted with the SUAS in “condition for safe operation” and in compliance with any applicable Airworthiness Directives. NPRM §107.13. See Table _____
14 C.F.R. 91.9 (b) (2)	Civil aircraft flight manual, marking, and placard requirements	This rule has no practical application to SUAS systems. Applicable Manufacturer’s manuals and registrations and any other documents required for operations will be in the possession of the operator during all SUAS operations, including preflight, and will be made available for review by FAA Administrator upon request. NPRM §107.7
14 C.F.R. 91.109	Flight instruction; Simulated instrument flight and certain flight tests	The proposed SUAS systems will be operated with both dual controls, and single controls for purpose of training flights. In accordance with the terms of the <i>Toledo</i> Exemption, “training operations [will] only be conducted during dedicated training sessions.”
14 C.F.R. 91.119	Minimum safe altitudes	This provision has little applicability to SUAS systems, which are intended to operate below 400’ AGL within airspace not expected to be occupied by manned aircraft. In fact, this provides an

		operation buffer that enhances safety, as recognized by the FAA in that “a 500-foot altitude ceiling for small UAS operations would create a buffer between a small unmanned aircraft and most manned aircraft flying in the NAS.” FAA Comments to NPRM
14 C.F.R. 91.121	Altimeter settings	The proposed SUAS systems transmit AGL altitude to the operator, enabling line-of-site operations to be restricted to 400' AGL and below.
14 C.F.R. 91.151(a)	Fuel requirements for flight in VFR conditions.	In accordance with item #20 of the approval for <i>Toledo</i> , the proposed SUAS will only be operated when “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.”
14 C.F.R. 91.203 (a) & (b)	Civil aircraft: Certifications required	Airworthiness Certificates are not required for SUAS systems. All FAA documentation, including this grant of exemption and all registration documents for the UAS and any applicable COA will be in the possession of the operator during UAS operations and available for inspection upon request.
14 C.F.R. Subpart “E”	Maintenance, Preventive Maintenance, Alterations	The operator may perform routine maintenance associated with preflight action and confirming the airworthiness of the SUAS. All structural repairs will be performed by the manufacturer or a manufacturer-authorized service center. This is in accordance with §107.21 of the NPRM.

Additional Rotor Air Cam, LLC, Operational Information

Rotor’s Principal initial operator/PIC for its UAS system will be David N. Sanders. Mr. Sanders holds a commercial pilot Rotorcraft Pilot’s Certificate and is a veteran Marine Corps helicopter pilot.

The Proposed UAS Systems:

DJI Phantom 2:

A copy of the DJI *Phantom 2* User's Manual accompanies this Petition as Exhibit "A."

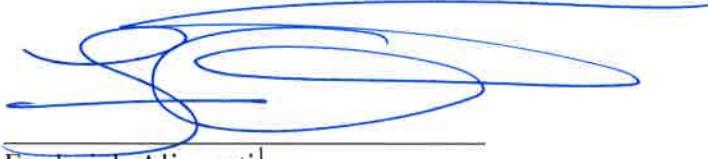
DJI Inspire 1:

A copy of the DJI *Inspire 1* User's Manual accompanies this Petition as Exhibit "B."

Conclusion

For the foregoing reasons, the exemptions requested herein should be granted, and *Rotor Air Cam, LLC* should be permitted to conduct small UAS operations in accordance with its manuals and all other operating parameters deemed necessary and appropriate by the FAA.

Sincerely,



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APPENDIX

TABLE 1.1

Table 1.1
Approved Operators of DJI Phantom 2, SUAS Systems

	Docket	Vehicles Operated	Nature of Operations	Date of Approval
1.	11354 – Natalie Contracting, LLC	DJI Phantom 2	Aerial videography and cinematography throughout Illinois and Indiana.	04/17/2015
2.	11351 – bizUAS Corp.	DJI Phantom 2 Multirotor G4 Eagle	Videography, cinematography, photogrammetry, and industrial inspections and analysis.	04/17/2015
3.	11357 – The Barefoot Group	DJI Phantom 2 Vision +	Aerial photography and survey service.	04/17/2015
4.	11369 – Sydor Aerial Photography	DJI Phantom 2 Vision	Flights over construction sites during all phases of development.	04/17/2015
5.	11367 – ADM Crop Risk Services, Inc.	DJI Phantom 2 Vision	Operations to map crop areas and assess crop damage.	04/17/2015
6.	11366 – Norman Hirsch/Florida Aerials, LLC	DJI Phantom 2 DJI Phantom 2 Vision	Aerial videography/cinematography to enhance academic community awareness for those unfamiliar with the geographical layout of the SE Florida area, and to augment real estate listing videos.	04/17/2015
7.	11364 – Jeffrey Galindo	DJI Phantom 2 Vision +	Aerial videography/cinematography.	04/17/2015
8.	11363 – David Ho	DJI Phantom 2 Vision +	Saleable aerial cinematography in video or still format to enhance real estate listings.	04/17/2015
9.	11361 – Photo-Flight Aerial Media	DJI Phantom 2 Vision +	Aerial photography, virtual tours, and professional real estate photographic services.	04/17/2015
10.	11373 – The Dobbins Company	DJI Phantom 2 DJI Phantom 2 Vision	Real estate inspections.	04/17/2015
11.	11377 – Quad Productions of Chicago	DJI Phantom 2 DJI Inspire 1 DJI Phantom S1000 +	Aerial videography and cinematography to enhance academic community awareness.	04/17/2015
12.	11378 – Shanon Kern	DJI Phantom DJI F550	Aerial photography, videography, and cinematography.	04/17/2015
13.	11381 – Gregory Zonsius/ZonCom Productions, Inc.	DJI Phantom 2 Vision +	Aerial photography, videography, and cinematography.	04/17/2015
14.	11380 – Mark Sobczyk	DJI Phantom 2	Aerial imaging and video of Louisville landmarks and homes for sale.	04/17/2015
15.	11336 – Pacific Aviation	DJI Phantom 2 Vision + DJI Inspire 1	Aerial surveying, remote sensing, precision agriculture, aerial photography, wildlife and natural resource monitoring, and educational/multidisciplinary research.	04/16/2015

Table 1.1
Approved Operators of DJI Phantom 2, SUAS Systems

16.	11338 – R.W. Zollinger Consulting Engineers	DJI Phantom 2	General aerial data collection.	04/16/2015
17.	11347 – Birdseye Video, LLC dba BirdsiVideo	DJI Phantom 2	Aerial videography; augmenting real estate listing videos in various metropolitan areas.	04/16/2015
18.	11341 – The Sokoler Medley Team/Bob Sokoler	DJI Phantom 2 Vision +	Aerial imaging and video of Louisville landmarks and homes the team lists for sale.	04/16/2015
19.	11330 – SkyWords Advertising	DJI Phantom 2 Vision + Harris I8 HL	Aerial photography and cinematography for commercial and residential real estate and closed-set special events.	04/16/2015
20.	11327 – Unmanned Aerial Assessment & Video, LLC	DJI Phantom 2 DJI Phantom Vision DJI Inspire 1	Conduct search and rescue, Hazmat management (Chemical, Biological, Radiation, and Nuclear), and emergency and disaster response.	04/16/2015
21.	11325 – Cambervision, Inc.	DJI Phantom 2	Community training workshops, research and development, and aerial inspections of buildings and land within the U.S.	04/16/2015
22.	11310 – Colin Hinkle	DJI Phantom 2 Vision	General aerial photography.	04/09/2015
23.	11313 – DeGrazia Music, LLC	DJI Inspire 1 DJI Phantom 2 Vision +	Aerial cinematography and photography.	04/09/2015
24.	11315 – Climate Corp. Precision Planting, LLC	DJI Phantom 2	Research and development, agricultural modeling, simulations, and imaging.	04/09/2015
25.	11318 – Micro Drone Vision	DJI Phantom 2 DJI Phantom 1 DJI Inspire 1 550S Flame Wheels	Flight training, agriculture, education, real estate photography and videography, film and movie production, and demonstration flights.	04/09/2015
26.	11295 – RoboFlight Systems, LLC	DJI Phantom 2 Vision + DJI Inspire 1 DJI S-900 RF-70	Agricultural surveying, small UAS operator training, real estate photography, product demonstrations, and research and development.	04/08/2015
27.	11296 – Sydor Aerial Photography, LLC	DJI Phantom 2 Vision	Aerial photography – landfills.	04/08/2015
28.	11297 – Aerial Media Systems	DJI Phantom 2 S1000	Video, images, surveying of persons and property for commercial broadcast.	04/08/2015
29.	11288 – Toledo Aerial Media, LLC	DJI Phantom 2 Vision + DJI Inspire 1	Aerial surveying, remote sensing, photography; agricultural, construction, and wildlife monitoring.	04/08/2015

Table 1.1
Approved Operators of DJI Phantom 2, SUAS Systems

30.	11289 – Bird's Eye Solutions, LLC	DJI Phantom 2	Aerial photography, closed-set filming of motion pictures, and scientific data collection.	04/08/2015
31.	11293 – Erie Insurance Group	DJI Phantom 2 Vision +	Research and development; surveys and inspections; risk assessment, risk management, loss prevention and underwriting.	04/08/2015
32.	11300 – Extreme Media Productions	DJI Phantom 2 Vision +	Real estate, marketing, surveying, industrial and special event operations.	04/08/2015
33.	11301 – Gulf Coast Unmanned Aerial Services	DJI Phantom 2 DJI Inspire 1	Aerial photography and videography for agricultural inspections and flight training.	04/08/2015
34.	11302 – M&G Enterprises	DJI Phantom 2	Video filming and photography; inspection of land; residential, commercial, and industrial structures and property training.	04/08/2015
35.	11306 – Hawk Aerial, LLC	DJI Phantom 2 Multirotor G4 Eagle Altavian Nova	Photogrammetry, inspections, and analyses.	04/08/2015
36.	11250 – Videe This! Inc. dba Yeah Drones	DJI Phantom 2 DJI S900	Closed-set filming and aerial photography.	04/03/2015
37.	11280 – Shotwell Media, LLC	DJI Phantom 2 DJI Inspire 1 DJI S1000 DJI S900	Closed-set filming and aerial photography.	04/03/2015
38.	11275 – Danis Building Construction Company	DJI Phantom 2 Vision +	Aerial inspection for construction sites.	04/03/2015
39.	11273 – AIG PC Global Services, Inc.	DJI Phantom 2 Vision Hawkeye Lancaster MK-III IRIS+	Research and development; assess risks in locations that may be unsafe for human contact.	04/03/2015
40.	11271 – Monterey Drone	DJI Phantom 2	Commercial application for produce field management, real estate, marketing purposes, electrical engineering inspections, and live sporting events.	04/03/2015
41.	11267 – ETAK Systems, Inc.	DJI Phantom 2 Vision	Cellular tower and compound surveys for wireless providers.	04/03/2015
42.	11260 – First Flight Photography, LLC	DJI Phantom 2 Vision + DJI Spreading Wings S1000	General aerial photography.	04/03/2015
43.	11253 – Drone Fleet and Aerospace Management, Inc.	DJI Phantom 2 DJI S1000 Drone-Fleet Carbon Fiber V5	Evaluation and analysis of infrastructure inspections and operations.	04/03/2015

Table 1.1
Approved Operators of DJI Phantom 2, SUAS Systems

44.	11230 – Montico, Inc.	DJI Phantom 2 Vision +	Tower inspections and mapping operations to an existing tower structure.	03/24/2015
45.	11224 – NextEra Energy, Inc.	DJI Phantom 2 Vision + DJI Inspire 1 T600 DJI S900	Inspections of energy infrastructure.	03/24/2015
46.	11228 – Steven Zeets	DJI Phantom 2 Vision + DJI S1000 ARF-MikroKopter	General aerial acquisition and research.	03/24/2015
47.	11218 – Saratoga Aerial Photo and Video	DJI Phantom 2 Vision +	General aerial photography.	03/20/2015
48.	11215 – Mike Johnson dba B.E.V. Roof Inspections	DJI Phantom 2 Vision +	Roof inspections.	03/20/2015
49.	11220 – Aerial Production Services, Inc.	DJI Phantom 2	Aerial photography and inspection.	03/20/2015
50.	11195 – FalconSkyCam	DJI Phantom 2 Zenmuse H3-2D Gimbal	Aerial photography for real estate, surveying, marine photo and video, agriculture, and special events.	03/06/2015
51.	11191 – Singer's Creations	DJI Phantom 2 Vision	Aerial photography and videography for homeowners, realtors, home builders, home contractors, and/or home inspectors for real estate marketing and inspections of home exteriors.	03/03/2015
52.	11189 – Video Solutions, LLC	DJI Phantom 2 Vision +	Closed-set filming for the motion picture and television industry.	02/27/2015
53.	11153 – Burnz Eye View	DJI Phantom 2	General aerial photography and inspections.	01/23/2015
54.	11138 – Douglas Trudeau, Tierra Antigua Realty	DJI Phantom 2 Vision +	Real estate photography and videography.	01/06/2015

TABLE 1.2

Table 1.2
Approved Operators of DJI Inspire 1, SUAS Systems

	Docket	Vehicles Operated	Nature of Operations	Date of Approval
1.	11359 – Celestial Imaging	DJI Inspire 1	Aerial photography and videography.	04/17/2015
2.	11377 – Quad Productions of Chicago	DJI Phantom 2 DJI Inspire 1 DJI Phantom S1000 Plus	Aerial videography and cinematography to enhance academic community awareness.	04/17/2015
3.	11336 – Pacific Aviation	DJI Phantom 2 Vision Plus DJI Inspire 1	Aerial surveying, remote sensing, precision agriculture, aerial photography, wildlife and natural resource monitoring, and educational/multidisciplinary research.	04/16/2015
4.	11342 – Geosky3, LLC	DJI Inspire 1 T600	Security services, real estate photography, and Geographic Information Systems for business and personal purposes.	04/16/2015
5.	11327 – Unmanned Aerial Assessment & Video, LLC	DJI Phantom 2 DJI Phantom Vision DJI Inspire 1	Conduct search and rescue, Hazmat management (Chemical, Biological, Radiation, and Nuclear), and emergency and disaster response.	04/16/2015
6.	11323 – M-Kopter Aerials	DJI Inspire 1	Aerial videography for geographical awareness/mapping and real estate marketing.	04/16/2015
7.	11313 – DeGrazia Music, LLC	DJI Inspire 1 DJI Phantom 2 Vision Plus	Aerial cinematography and photography.	04/09/2015
8.	11314 – Ryan K. Koffman	DJI Inspire 1	Aerial photography and/or video; training; closed-set filming.	04/09/2015
9.	11318 – Micro Drone Vision	DJI Phantom 2 DJI Phantom 1 DJI Inspire 1 550S Flame Wheels	Flight training, agriculture, education, real estate photography and videography, film and movie production, and demonstration flights.	04/09/2015
10.	11295 – RoboFlight Systems, LLC	DJI Phantom 2 Vision Plus DJI Inspire 1 DJI S-900 RF-70	Agricultural surveying, small UAS operator training, real estate photography, product demonstrations, and research and development.	04/08/2015
11.	11288 – Toledo Aerial Media, LLC	DJI Phantom 2 Vision Plus DJI Inspire 1	Aerial surveying, remote sensing, photography; agricultural, construction, and wildlife monitoring.	04/08/2015
12.	11301 – Gulf Coast Unmanned Aerial Services	DJI Phantom 2 DJI Inspire 1	Aerial photography and videography for agricultural inspections and flight training.	04/08/2015
13.	11303 – TradeCraft, LLC	DJI Inspire 1	Agriculture, aerial surveying, imagery operations.	04/08/2015
14.	11280 – Shotwell Media, LLC	DJI Phantom 2 DJI Inspire 1 DJI S1000	Closed-set filming and aerial photography.	04/03/2015

Table 1.2
Approved Operators of DJI Inspire 1, SUAS Systems

	DJI S900		
15.	11279 – CineDrones, LLC	DJI Inspire 1 DJI S900 DJI S1000	Aerial photography for purposes of HD filming for cinematography. 04/03/2015
16.	11254 – Upward Aerial	DJI Inspire 1 T600	Aerial photography and videography for closed-set motion picture, television, and commercial videography. 04/03/2015
17.	11224 – NextEra Energy, Inc.	DJI Phantom 2 Vision Plus DJI Inspire 1 T600 DJI S900	Inspections of energy infrastructure. 03/24/2015

EXHIBIT A

PHANTOM 2 User Manual v1.4

For PHANTOM 2 Flight Controller Firmware version V3.10

& PHANTOM 2 Assistant version V3.8

& PHANTOM RC Assistant version V1.1

2015.01

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

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

DJI and PHANTOM 2 are registered trademarks of DJI. Names of product, brand, etc., appearing in this manual are trademarks or registered trademarks of their respective owner companies. This product and manual are copyrighted by DJI with all rights reserved.

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

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In the Box

PHANTOM 2	Remote Controller-2.4GHz	Propeller Pair
Intelligent Battery	Charger	Plug Set
Screwdriver	Assistant Wrench	Cables
Micro-USB Cable	Screws	Accessories Box

Legend



Forbidden(Important)



Caution



Tip



Reference

1 PHANTOM 2 Aircraft

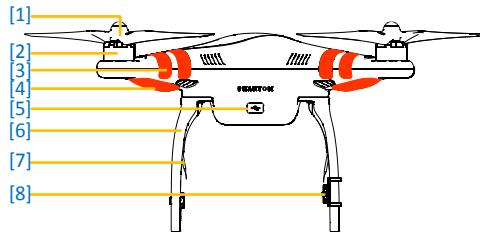


Figure 1-1

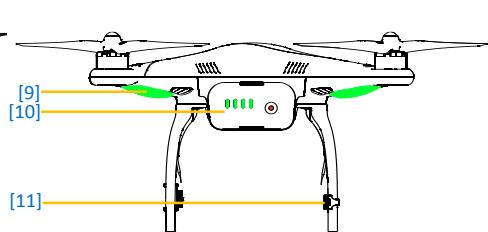


Figure 1-2

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

1.1 Built-in Flight Control System Instructions

The built-in flight control system is used to control the entire aircraft's functions in flight such as Pitch (forwards and backwards), Roll (left and right), Elevator (up and down) and Yaw (turn left or right). The flight controller contains the MC (Main Controller), IMU, GPS, compass, receiver.

The IMU (Inertial Measurement Unit) has a built-in inertial sensor and a barometric altimeter that measures both attitude and altitude. The compass reads geomagnetic information which assists the GPS (Global Position System) to accurately calculate the aircraft's position and height in order to lock the aircraft in a stable hover. The receiver is used to communicate with the remote controller and the MC acts as the brains of the complete flight control system connecting and controlling all the modules together.

The PHANTOM 2 can be configured in the Assistant, by choosing Naza-M mode or Phantom 2 mode.



This manual is for Phantom 2 mode. Please refer to the [Naza-M V2 Quick Start Manual](#) for more information.

1.2 Connections with Other DJI Products

PHANTOM 2 is compatible with other DJI products, including ZENMUSE H3-2D and H3-3D gimbal, iOSD mini, iOSD Mark II. Below are connections for these products and wireless video transmission module.

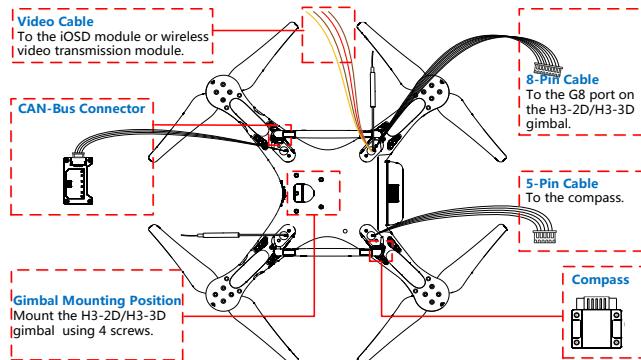


Figure 1-3

Important Notes of Using with Other DJI Products

- (1) The video cable can provide power for the wireless video transmission module with a battery voltage (11.1V-12.6V) and a maximum current 2A.
- (2) Make sure the working current of the wireless video transmission module you connect can work with an operational voltage between 11.1V-12.6V and the total working current of the iOSD and wireless video transmission module is under 2A, as an overcurrent will damage the central board's components. If the total current exceeds 2A, please be sure to provide power supplied from a separate power source for the wireless video transmission module.
- (3) PHANTOM 2 uses a 2.4GHz RC system. To avoid communication interference, it's not recommended to use other 2.4GHz devices (including 2.4G Wi-Fi or 2.4G wireless video transmission module) except the 2.4G Bluetooth and 2.4G Datalink.
- (4) Be sure to keep the wireless video transmission module and other communicating devices away from the compass during installation and connection to avoid interference.
- (5) To improve the compatibility with ZENMUSE gimbals, the latest factory deliveries of PHANTOM 2 has updated to the Version 2 shown below. H3-2D/H3-3D gimbal can be directly installed for the Version 2 while for Version 1, a H3-3D adapter kit (coming soon) is required to install the H3-3D gimbal.

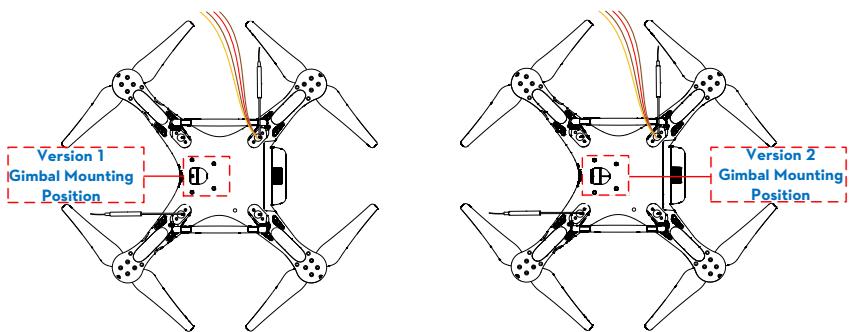


Figure 1-4

- (6) When using the H3-3D gimbal, please connect the 8-Pin cable of PHANTOM 2 to the G8 port of H3-3D shown below.

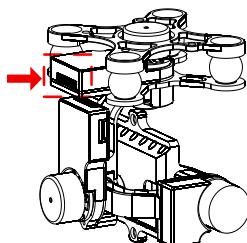


Figure 1-5

Connections with Other DJI Products

- (1) Connecting the H3-2D and H3-3D gimbal and wireless video transmission module, the figure below uses H3-2D as an example.

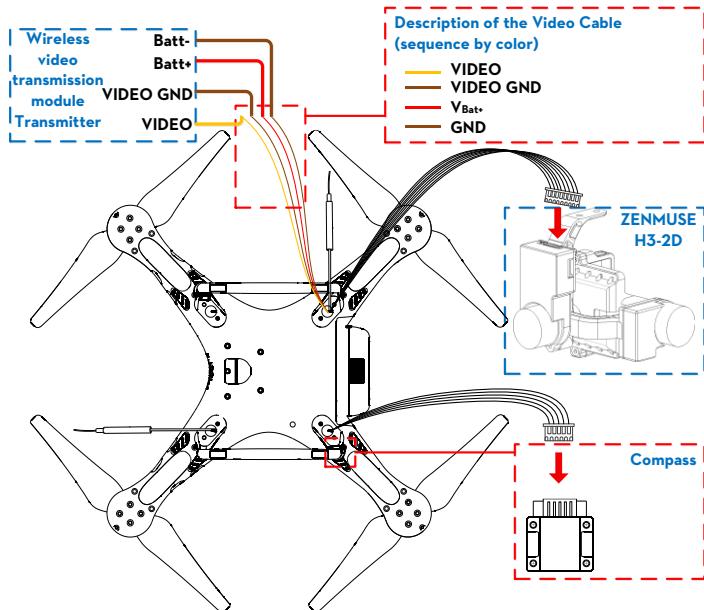


Figure 1-6

- (2) Connecting the H3-2D and H3-3D gimbal, iOSD mini and wireless video transmission module, the figure below uses H3-2D as an example.

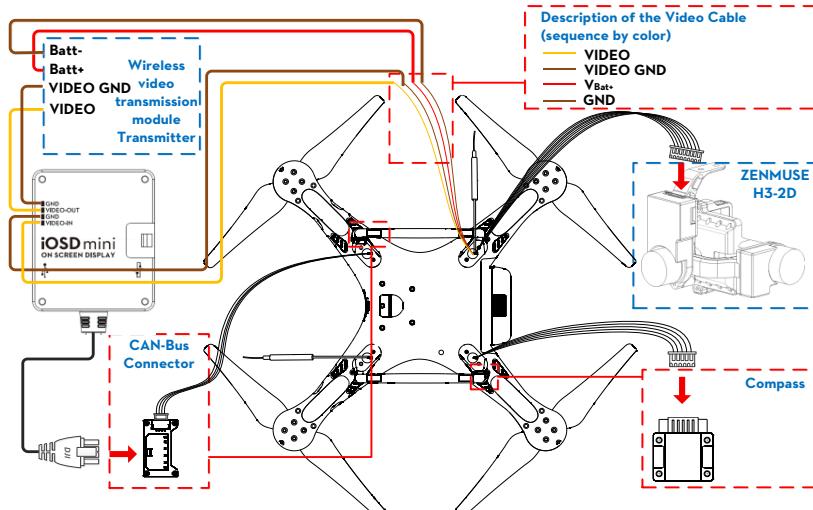


Figure 1-7

(3) Connecting the H3-2D and H3-3D gimbal, iOSD mini and DJI specified wireless video transmission module

AVL58, the figure below uses H3-2D as an example.

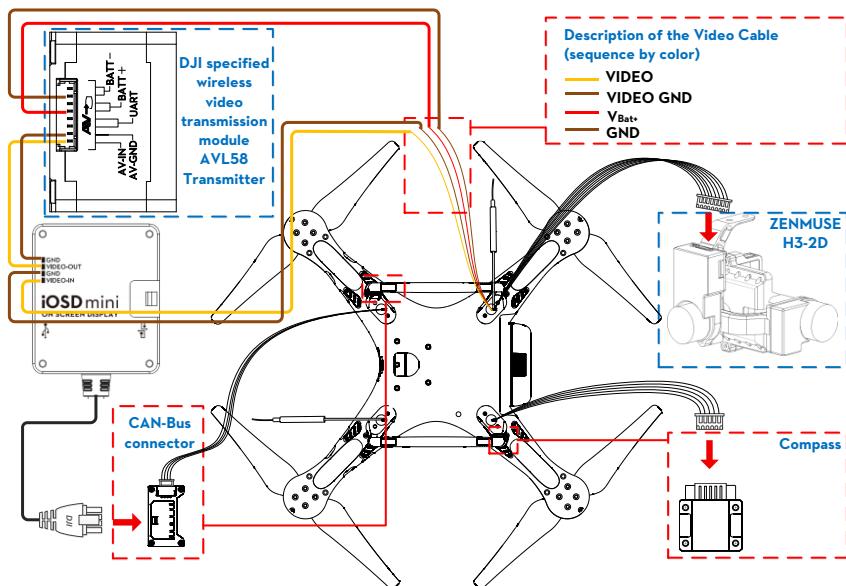


Figure 1-8



We recommend connecting the V_{Bat+} port of the video cable to the two BATT+ ports of the AVL58 simultaneously. The same is true of the GND port of the video cable and two BATT- ports.

(4) Connecting the H3-2D and H3-3D gimbal, iOSD Mark II and wireless video transmission module, the figure

below uses H3-2D as an example.

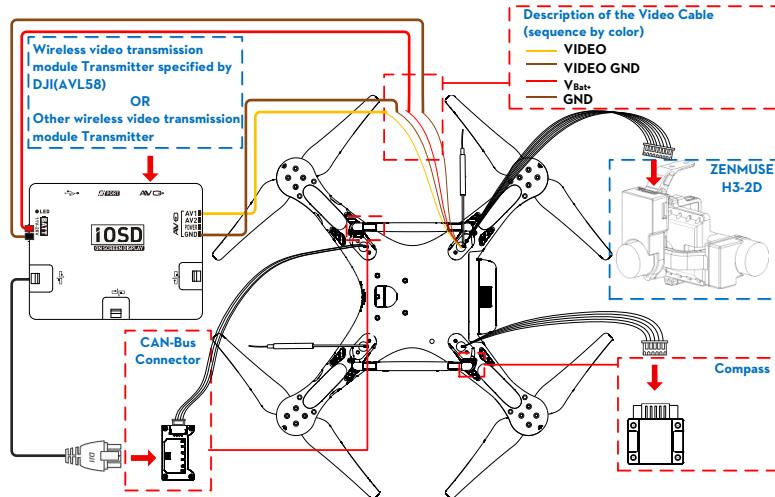
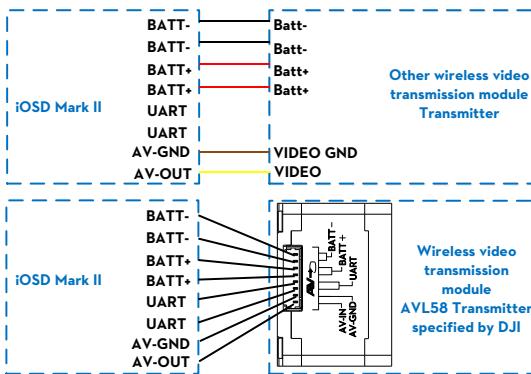


Figure 1-9

The diagram below illustrates the connection between the iOSSD Mark II and the wireless video transmission module.



Use the 8-Pin cable in the iOSSD Mark II package when connecting to the DJI specified wireless video transmission module AVL58.

(5) Using the iPad Ground Station

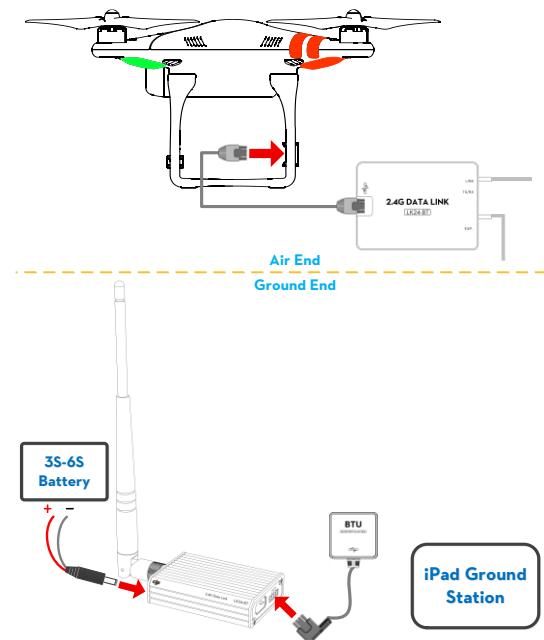


Figure 1-10



Connect the Air End of 2.4G Bluetooth Datalink to a spared CAN-Bus port of iOSD if an iOSD is used.

(6) Using the PC Ground Station

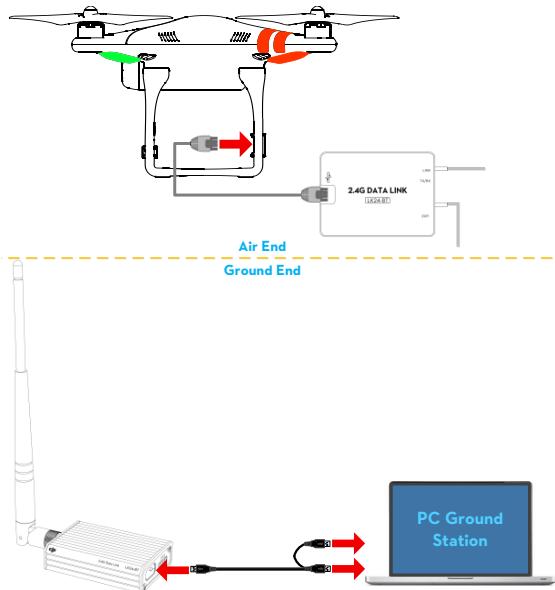
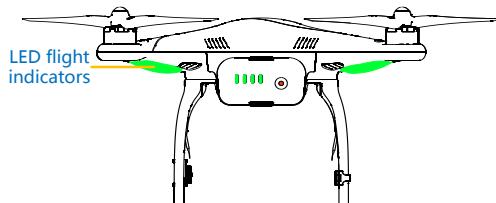


Figure 1-11

1.3 LED Flight Indicators Description

- LED flight indicators are used to show the aircraft's current status. Once powered on, the indicators will light up.



Aircraft in Normal status	Descriptions
	Power On Self-Test
	Warming Up & Aircraft cannot take off during warming up
	Ready to Fly
	Ready to Fly (non-GPS)
Aircraft in abnormal status	Warnings and errors
	Remote Controller Signal Lost
	1 st Level Low Battery Capacity Warning
	2 nd Level Low Battery Capacity Warning
	Not Stationary or Sensor Bias is too big
	Errors & Aircraft cannot fly.
	Compass data abnormal because of ferro-magnetic interference or the compass needs calibration.

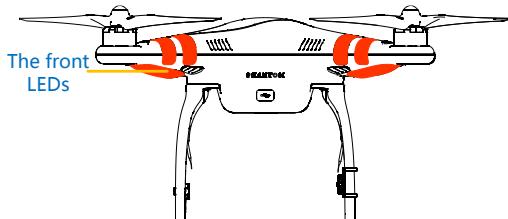
(1) The LED indicators diagram above are for Phantom 2 mode. In Naza-M mode, LED indicators



will work according to the Naza-M flight control system.

(2) Connect to the PHANTOM 2 Assistant for detailed information about warnings and errors.

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



1.4 Notes for PHANTOM 2 using with other DJI products

Before using PHANTOM 2 with other DJI products, users should connect the products correctly and upgrade the firmware as requirements below .

Items to upgrade	Firmware versions required	Assistant for upgrading	Assistant version
P330CB (built-in central board)	V1.0.1.19 or above	PHANTOM 2	V1.08 or above
Zenmuse H3-2D	CMU V1.0 , IMU V1.6 or above	PHANTOM 2	V1.08 or above
iOSD Mark II	V3.01 or above	iOSD	V4.0 or above
iOSD mini	V1.06 or above	iOSD	V4.0 or above

*The iOSD Assistant is applied to both iOSD Mark II and iOSD mini.

2 Propellers

PHANTOM 2 uses the original 9-inch propellers which are classified by the color of each central nut. Damaged propellers should be replaced by purchasing new ones if necessary.

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

2.1 Assembly

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

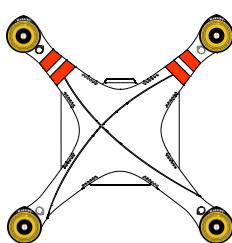


Figure 2-1

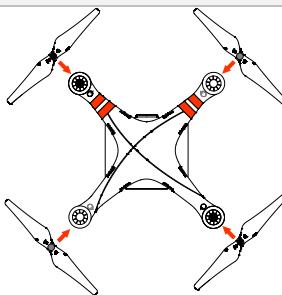


Figure 2-2

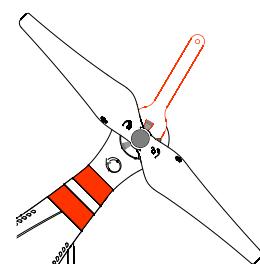


Figure 2-3

2.2 Disassembly

- (Figure 2-3) Keep the motor deadlocked in place with the assistant wrench (or one hand) and remove the propeller according to the un-fastening instructions.

2.3 Notes

- Propellers are self tightening during flight. DO NOT use any thread locker on the threads.
- Make sure to match the propeller nut colors with the corresponding motors.
- It is advised to wear protective gloves during propeller assembly and removal.
- Check that the propellers and motors are installed correctly and firmly before every flight.
- Check that all propellers are in good condition before flight. DO NOT use any ageing, chipped, or broken propellers.
- To avoid injury, STAND CLEAR of and DO NOT touch the propellers or motors when they are spinning.
- ONLY use original DJI propellers for a better and safer flight experience.

3 Remote Controller

The PHANTOM 2 remote controller can be configured in the PHANTOM RC Assistant. The sticks mode is Mode 2 on delivery.



For upgraded remote controller (models: NDJ6 or NRC900), select “Upgrade Version” in Phantom Assistant.

For basic remote controller (models: DJ6 or RC900), select “Basic Version” in Phantom Assistant.

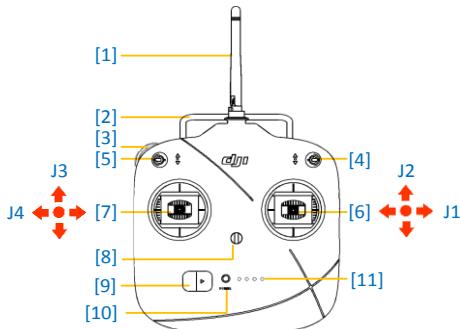


Figure 3-1

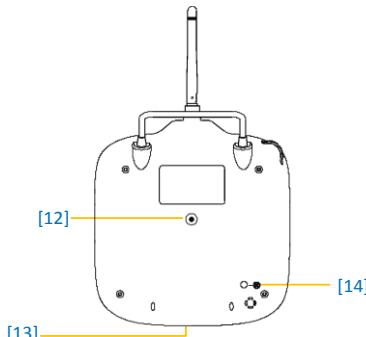
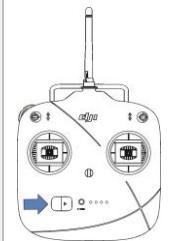


Figure 3-2

- [1]Antenna [2]Carrying Handle [3]Left Dial [4]3-Position Switch S1 [5]3-Position Switch S2 [6]Joystick(J1;J2)
- [7]Joystick2(J3;J4) [8]Neck Strap Attachment [9]Power Switch [10]Power Indicator
- [11]Battery Level Indicators LED1/LED2/LED3/LED4 (from left to right) [12]Trainer Port
- [13]Battery Charge & RC Assistant Port (micro-USB port) [14] Potentiometer

3.1 Power on the Remote Controller

1. Set the S1 and S2 switches to the upper most position and ensure both joysticks are at the mid-point position. Then toggle on the power switch.
2. Push the power switch to the right to power on the remote controller. If the power LED indicator is solid on, the remote controller is functioning normally. The battery level indicators display the current battery level.



1. Please make sure the battery level of remote controller is enough. If the low voltage warning alert sounds (refer to <Remote Controller Power LED Indicator Status>), please recharge the battery as soon as possible.
2. Charge the remote controller's battery by using the included micro-USB cable. Using the incorrect type of charging cable may cause damage.
3. Turn off the remote controller before charging. The power LED indicator will display solid red when charging is in progress. The LED indicators will display solid green when the battery is fully charged.

3.2 Remote Controller LED Indicator Status

3.2.1 Remote Controller Power LED Indicator Status

Power LED Indicator	Sound	Remote Controller Status
	None	Functioning normally.
	None	Charging(remote controller is powered off)
	None	Remote controller joysticks calibration error, need to be re-calibrate.
	BB---BB---BB	Low voltage (from 3.5V-3.53V), recharge the remote controller.
	B-B-B.....	Critical low voltage (from 3.45V-3.5V). Recharge the remote controller immediately.
	B-B-B.....	Alert will sound after 15 minutes of inactivity. It will stop once you start using the remote controller.

The remote controller will power off automatically when battery voltage drops below 3.45V. Land and recharge the battery as soon as possible when the low voltage alert occurs to avoid loss of control during flight.

3.2.2 Remote Controller Battery Level Indicator Status

The battery level indicators will show the current battery level during both the discharging process. The following is a description of the indicators.

: The LED is solid on

: The LED will blink regularly

: The LED is light off

Discharging process				
LED1	LED2	LED3	LED4	Current battery level
				75%~100%
				50%~75%
				25%~50%
				12.5%~25%
				0%~12.5%
				<0%

3.3 Antenna Orientation

The remote controller's antenna should point skywards without obstructions for maximum communication range during flight.

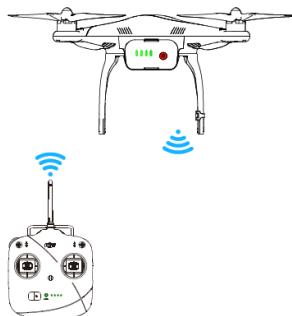


Figure 3-3

3.4 Remote Controller Operation

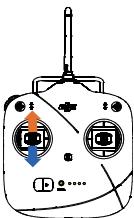
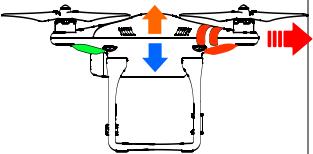
The operations of remote controller are based on mode 2 stick configuration.

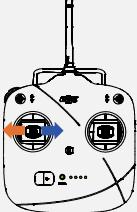
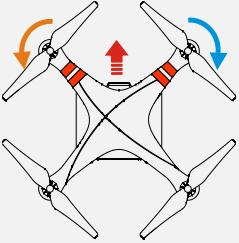
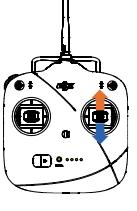
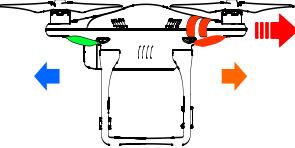
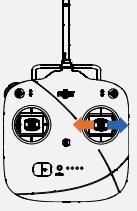
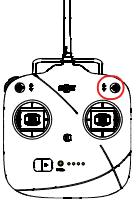
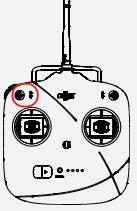
Definitions

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

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

Slide Lever is used for the pitch control of the H3-2D and H3-3D gimbal.

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

		<p>The yaw stick controls the aircraft rudder. Push the stick left and the aircraft will rotate counter clock-wise. Push the stick right and the aircraft will rotate clock-wise. If the stick is centered, the aircraft will remain facing the same direction. The yaw stick controls the rotating angular velocity of the aircraft. Pushing the stick further away from center results in a faster aircraft rotation velocity.</p>
		<p>The pitch stick controls the aircraft's front & back tilt. Push the stick up and the aircraft will tilt and fly forward. Pull the stick down and the aircraft will tilt and fly backward. The aircraft will keep level and straight if the stick is centered. Pushing or pulling the stick further away from center will result in a larger tilt angle (maximum of is 35°) and faster flight velocity.</p>
		<p>The roll stick controls the aircraft's left & right tilt. Push the stick left and the aircraft will tilt and fly left. Push the stick right and the aircraft will tilt and fly right. The aircraft will keep level and straight if the stick is centered. Pushing the stick further away from center will result in a larger tilt angle (maximum of 35°) and faster flight velocity.</p>
	 Position-1 Position-2 Position-3	<p>S1 is for compass calibration. Toggle the S1 switch from position-1 to position-3 and back to position-1 at least 5 times, which will force the aircraft to enter into compass calibration mode. Users can configure position 3(bottom position) of the S1 switch to trigger the Failsafe in the Assistant.</p>
	 OFF Course Lock Home point Lock	<p>S2 is the IOC mode switch. IOC (Intelligent Orientation Control) function can be enabled in the Assistant when in Naza-M mode. Only use the IOC function after you are familiar with flying.</p>

		<p>The left dial controls the pitch of the H3-2D and H3-3D gimbal. The position of left dial determines the pitch angle relative to the horizontal level.</p> <p>Turn the left dial to the right to make the gimbal pitch up.</p> <p>Turn the left dial to the left to make the gimbal pitch down.</p> <p>The gimbal will keep its current position if the dial is static.</p>
--	--	--

- ⚠ (1) For 'Ready to Fly' the aircraft will hover when all sticks are released.
- (2) For 'Ready to Fly (non-GPS)' the aircraft will only keep the altitude when all sticks are released.

3.5 Linking the Remote Controller & Built-in Receiver

PHANTOM 2 has a built-in receiver, the link button and indicator located on the bottom of the aircraft as illustrated in the Figure 3-4.

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

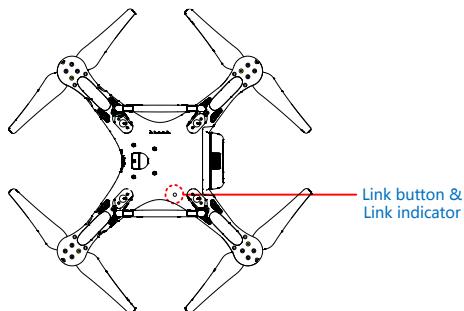


Figure 3-4

Linking procedures

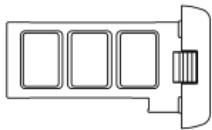
1. Power on the PHANTOM 2.
2. Turn on the remote controller and place it 0.5m~1m away from the aircraft.
3. Push the link button with a thin object and hold it until the Link indicator blinks red, then release it.
4. When the Link indicator turns solid green, the link between the remote controller and the built-in receiver has been successfully established.

Link Indicator	Status
	The remote controller is turned off and there is no 2.4GHz signal around, please turn on the remote controller.
	The receiver is ready for linking.
	There is 2.4GHz signal around but the remote controller is not linked with the receiver,

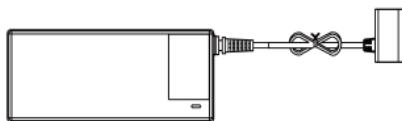
	please carry out the linking procedures.
	The remote controller is linked with the receiver successfully.

4 Intelligent Battery

The intelligent battery is specially designed for the PHANTOM 2, with a battery capacity of 5200mAh, voltage of 11.1V and charge-discharge management functionality. The battery should only be charged with the DJI charger.



Intelligent Battery



Charger

DJI Intelligent Battery Functions

(1) Balance Charging	Automatically balance the voltage of each battery cell during charging.
(2) Capacity Display	Display the current battery level.
(3) Communicating	The main controller communicates with the battery via communication ports for battery voltage, capacity, current and other information.
(4) Overcharging Protection	Charging stops automatically when the battery voltage reaches 12.8V to prevent overcharging damage.
(5) Over Discharging Protection	Discharging stops automatically when the battery voltage reaches 8.4V to prevent over discharging damage.
(6) Short Circuit Protection	Automatically cuts off the power supply when a short circuit is detected.
(7) Sleep Protection	The battery will enter sleep mode after 10 minutes of inactivity to save power. The static current is 10mA in sleep mode when the battery is powered on without connecting to other devices.
(8) Charging Temperature Detection	The battery will charge only when its temperature is within 0°C-55°C. If the battery temperature is out of this range, the battery will stop charging.

- (1) Before use, please read and follow the user manual, disclaimer, and the warnings on the battery.
! Users take full responsibility for all operations and usage.

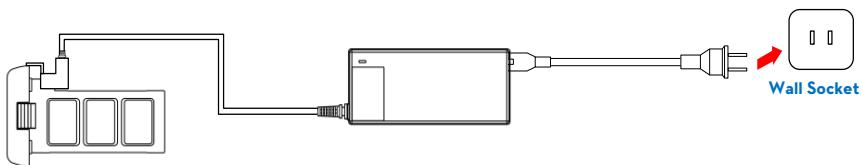
- (2) The battery should only be charged with the charger provided by DJI. DJI does not take any responsibility for operation of any charger from a third party.

4.1 Charging Procedures

1. Connect the charger to a wall socket (Use the plug set if necessary).
2. Connect the battery to the charger. If the current capacity of the battery is over 75%, you should power on the battery to begin charging.
3. The Battery Level indicators display current capacity level as the battery charges. Please refer to battery

level indicator description for details.

4. The battery is fully charged when the Battery Level indicator lights are off. Please disconnect the charger and battery when the charging is completed.



4.2 Install the Battery

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

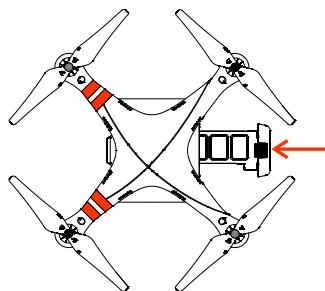


Figure 4-1



An incorrectly inserted battery may cause one of the following to occur: (1) Bad contact. (2) Unavailable battery information. (3) Unsafe for flight. (4) Unable to take off.

4.3 Battery Usage

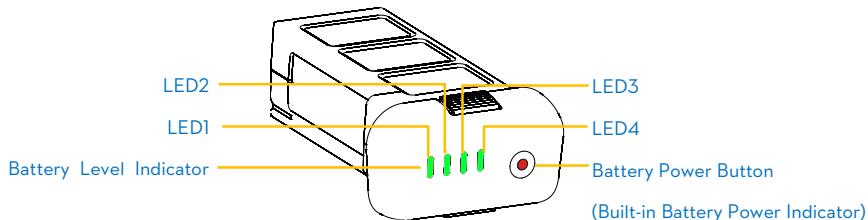


Figure 4-2

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

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

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

(4) Checking the battery life: When the battery is powered off; press and hold the battery power button for 5 seconds to check the battery life. The battery level indicators will show the life and the battery power indicator will blink for 10 seconds, then all LEDs will light out and the intelligent battery will turn off. Refer to < Battery Level Indicator Description> for details.



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

4.4 Description of the Battery Level Indicator

The battery level indicators will show the current battery level during both the charging and discharging process as well as battery life. The following is a description of the indicators.

: The LED is solid on

: The LED will blink regularly

: The LED is light off

Charging process				
LED1	LED2	LED3	LED4	Current battery level
				0%~25%
				25%~50%
				50%~75%
				75%~100%
				Full charged

Discharging process				
LED1	LED2	LED3	LED4	Current 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				
LED1	LED2	LED3	LED4	Current battery life
				90%~100%

				80%-90%
				70%-80%
				60%-70%
				50%-60%
				40%-50%
				30%-40%
				20%-30%
				Less than 20%

4.5 Correct Battery Usage Notes

1. Never plug or unplug the battery into the aircraft when it is powered on.
2. The battery should be charged in an environment that is between 0°C to 40°C, and be discharged in an environment that is between -20°C to 50°C. Both charging and discharging should be in an environment where the relative humidity is lower than 80%.
3. It's recommended to charge and discharge the battery thoroughly once every 20 charge/discharge cycles. Users should discharge the battery until there is less than 8% power left or until the battery can no longer be turned on. Users should then fully recharge the battery to maximum capacity. This power cycling procedure will ensure the battery is working at its optimal level.
4. For long term storage please place the battery with only a 40-50% capacity in a strong battery box securely. We recommend discharging and charging the battery completely once every 3 months to keep it in good condition. The capacity should be varied in such a cycle (40%-50%)—0%—100%—(40%-50%).
5. It's suggested you purchase a new battery after you have discharged your current battery over 300 times. Please completely discharge a battery prior to disposal.
6. It's suggested that you purchase a new battery if the current battery is swollen or damaged in any way.
7. Never try to recharge or fly with a battery that is swollen or damaged in any way.
8. Never charge the battery unattended. Always charge the battery on a non-flammable surface such as concrete and never near any flammable materials.
9. Safety is extremely important and users can get more information in the DISCLAIMER.

5 Calibrating the Compass

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

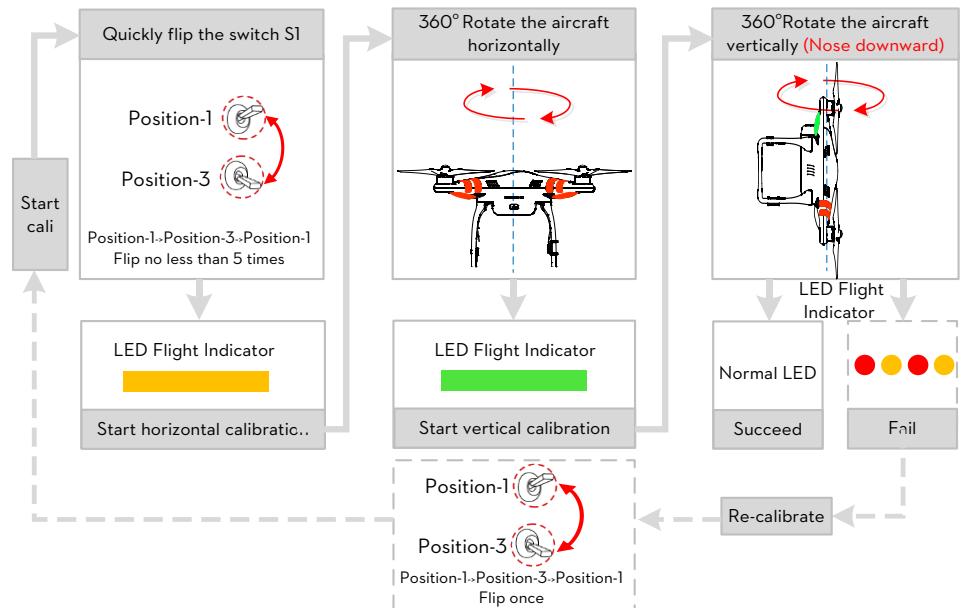
The compass is very sensitive to electromagnetic interference which causes abnormal compass data and leads to poor flight performance or even flight failure. Regular calibration of the compass enables the compass to perform at its optimal level.

5.1 Calibration Warnings

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

5.2 Calibration Procedures

Please carry out the calibrating procedures in the flight field before flight. Please watch the quick start video of the PHANTOM 2 for more compass calibration details.



5.3 When Recalibration is required

- (1) When Compass Data is abnormal, the LED flight indicator will blink alternating between red and yellow.
- (2) Last compass calibration was performed at a completely different flying field/location.
- (3) The mechanical structure of the aircraft has changed, i.e. changed mounting position of the compass.
- (4) Evident drifting occurs in flight, i.e. the aircraft doesn't fly in straight lines.

6 Flight

6.1 Flying Environment Requirements

- (1) Before your first flight, please allow yourself some flight training (Using a flight simulator to practice flying, getting instruction from an experienced person, etc.).
- (2) DO NOT fly in bad weather, such as rain or wind (more than moderate breeze) or fog.
- (3) The flying field should be open and void of tall buildings or other obstacles; the steel structure within buildings may interfere with the compass.
- !** (4) Keep the aircraft away from obstacles, crowds, power lines, trees, lakes and rivers etc.
- (5) Try to avoid interference between the remote controller and other wireless equipment (No base stations or cell towers around).
- (6) The flight control system will not work properly at the South Pole or North Pole.
- (7) Never use the aircraft in a manner that infringes upon or contravenes international or domestic laws and regulations.

6.2 Starting the Motors

A Combination Stick Command (CSC) is used to start the motors. Push the sticks according to one of the options below to start motors. Once the motors have started, release both sticks simultaneously. The same CSC is used to stop the motors.

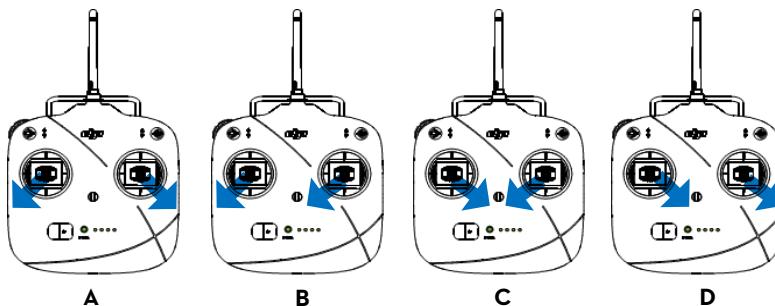


Figure 6-1

6.3 Takeoff/Landing Procedures

1. Start by placing the PHANTOM 2 on the ground with the battery level indicators facing you.
2. Turn on the remote controller.
3. Power on the aircraft by turning on the intelligent battery.
4. When LED flight indicator blinks green/yellow, the PHANTOM 2 is entering Ready to Fly/Ready to Fly (non-GPS) mode. Start the motors with the CSC command.
5. Push the throttle stick up slowly to lift the aircraft off the ground. Refer to <Remote Controller Operation> for more details.
6. Be sure you are hovering over a level surface. Pull down the throttle stick to descend. The stick will lock into

place and the aircraft will descend steadily.

- After landing, leave the throttle stick down for 3 to 5 seconds to stop the motors. Return throttle stick to middle position after the motors have stopped.

 You **SHOULD NOT** execute the CSC during normal flight! This will stop the motors and cause the aircraft to descend rapidly and drop without any type of control.

- (1) When the LED flight indicator blinks yellow rapidly during flight, the aircraft has entered into Failsafe mode, refer to <Failsafe Function> for details.
- (2) A low battery capacity warning is indicated by the LED flight indicator blinking red slowly or rapidly during flight. Refer to the <Low Battery Capacity Warning Function> for details.
- (3) Watch the quick start video about flight for more flight information.
-  (4) Aircraft and battery performance is subject to environmental factors such as air density and temperature. Be very careful when flying 3000 meters (9800 feet) or more above sea level, as battery and aircraft performance may be reduced.
- (5) When used with a H3-3D gimbal, a GoPro camera, and the iOSD mini, your Phantom 2 will be very close to its maximum takeoff weight. It is not recommended that you attach the Phantom 2 propeller guards at this weight. Otherwise, the aircraft will be unable to fly normally.

6.4 Failsafe Function

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

- (1) The remote controller is powered off.
- (2) The remote controller is powered on but the S1 is toggled in the position triggering the Failsafe (this must have been configured in the PHANTOM 2 Assistant).
- (3) The aircraft has flown out of the effective communication range of the remote controller.
- (4) There is an obstacle obstructing the signal between the remote controller and the aircraft, essentially reducing the distance the signal can travel.
- (5) There is interference causing a signal problem with the remote controller.

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

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

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

Ready to Fly ---- Automatic go home and land

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

Home Point

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

Go Home Procedures

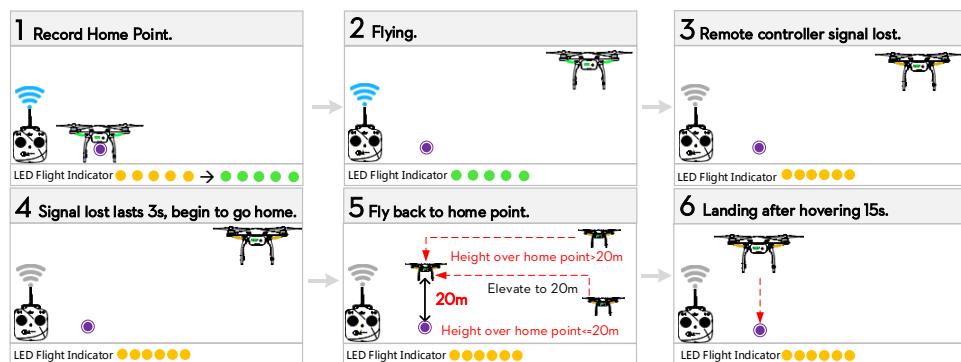


Figure 6-2

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



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

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



- (1) The home point is the place PHANTOM 2 returns to when the control signal is lost, which is recorded last time.
- (2) The home point is used to calculate the horizontal distance between you and the aircraft, the distance will be displayed as if using iOSD module.

Regaining Control during Failsafe Procedure

Position of Switch S1	Position-1	Position-2	Position-3 (No triggering the Failsafe)
How to regain control	When the S1 switch is switched to Position-1, toggle the S1 switch to any other position once to regain control. If remote controller's signal is recovered, control is returned back to the pilot.		Regain control as soon as signal is recovered.

6.5 Low Battery Capacity Warning Function

The low battery capacity warning alerts users when the battery is close to depletion during flight. When it appears, users should promptly fly back and land to avoid accidental damage. The PHANTOM 2 has two levels of low battery capacity warning. The first appears when the battery has less than 30% power and the second appears when it has less than 15% power.

- (1) When battery power drops below 30% and LED indicator will blink red slowly.
- (2) At lower than 15% the LED indicator will blink red rapidly, the PHANTOM 2 will also begin to descend and land automatically. After it has landed, keep the throttle stick at its lowest point or execute CSC.
- (3) There is a hidden third low battery threshold in addition to the 1st and 2nd level warnings. This uses 10.65V as its threshold. Both this voltage threshold and the 2nd Level Low Battery Warning will trigger auto-landing. Altitude can be maintained if necessary by pushing up on the throttle stick.

 (1) Remember to fly your PHANTOM 2 back as soon as you see a low battery capacity warning.

(2) Keeping the battery contact needles and pads clean is very important. Any dirt and dust may cause a communication failure.

6.6 Flight Limits Function

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

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

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

Max Height & Radius Limits

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



Figure 6-3

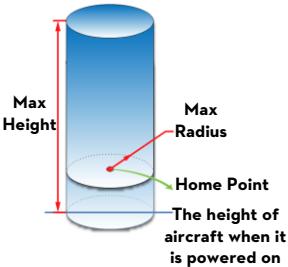


Figure 6-4

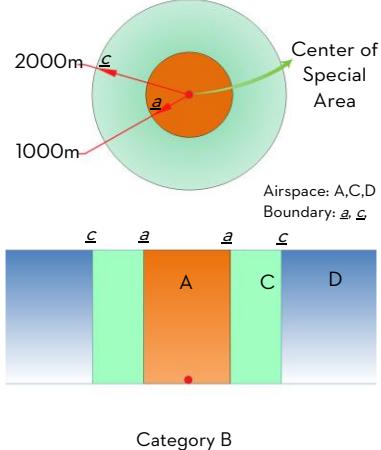
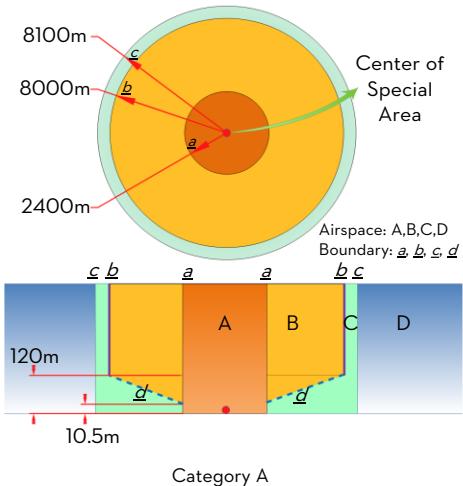
Ready to Fly			
	Limits	Ground Station	Rear LED flight indicator
Max Height	The flight height is restricted to fly under the max height.	Warning: Height limit reached.	None.
Max Radius	The flight distance is restricted to fly within the max radius.	Warning: Distance limit reached.	Rapid red flashings 

Ready to Fly(non-GPS)			
	Flight Limits	Ground Station	Rear LED flight indicator
Max Height	The flight height is restricted to fly under the minor height between the Max height and 120m.	Warning: Height limit reached.	None.
Max Radius	Not limited, no warnings or LED indicators.		

- ! (1) If the aircraft flies out of the limits, you can still control your aircraft except to fly it further away.
- (2) If the aircraft is flying out of the max radius in Ready to Fly (non-GPS) status, it will fly back within the limits range automatically if 6 or more GPS satellites have been found.

6.7 Flight Limits of Special Areas

Special areas include airports worldwide. All special areas are listed on the DJI official website. Please refer to <http://www.dji.com/fly-safe/category-mc> for details. These areas have been divided into category A and category B.



Ready to Fly		Rear LED Flight Indicator
Airspace	Limits	
A Orange	Motors will not start. If the Phantom flies into a special area in Ready to Fly (non-GPS) mode and Ready to Fly mode activates, it will automatically descend and land then stop its motors.	
B Yellow	If the Phantom flies into a special area in Ready to Fly (non-GPS) mode and Ready to Fly mode activates, it will descend to airspace C and hover 5 meters below edge <u>d</u> .	
C Green	No restrictions of flight, but the Phantom will not enter Category A, the aircraft can fly free, but it will not enter Airspace B through Boundary <u>b & d</u> . Around Category B sites, the phantom can fly freely, but it will not enter into Airspace A through Boundary <u>a</u> .	
D Blue	No restrictions.	None.

 **Semi-automatic descent:** All stick commands are available except the throttle stick command during the descent and landing process. Motors will stop automatically after landing. Users will regain control once the motors have stopped. There is no need to toggle the S1 switch.

- (1) When flying in the airspace (A/B/C) of restricted special area, LED flight indicators will blink red  quickly and continue for 3 seconds, then switch to indicate current flying status and continue for 5 seconds at which point it will switch back to red blinking.
-  (2) For safety reasons, please do not fly close to airports, highways, railway stations, railway lines, city centers and other special areas. Try to ensure the aircraft is visible.

6.8 Conditions of Flight Limits

In different working modes and flight modes, flight limits will differ according to number of GPS satellites found.

The following table demonstrates all the cases(√: available; ✗:unavailable).

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

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

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

Disclaimer

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

7 Assistant Installation and Configuration

7.1 Installing Driver and PHANTOM 2 Assistant

Installing and running on Windows

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



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

Installing and running on Mac OS X

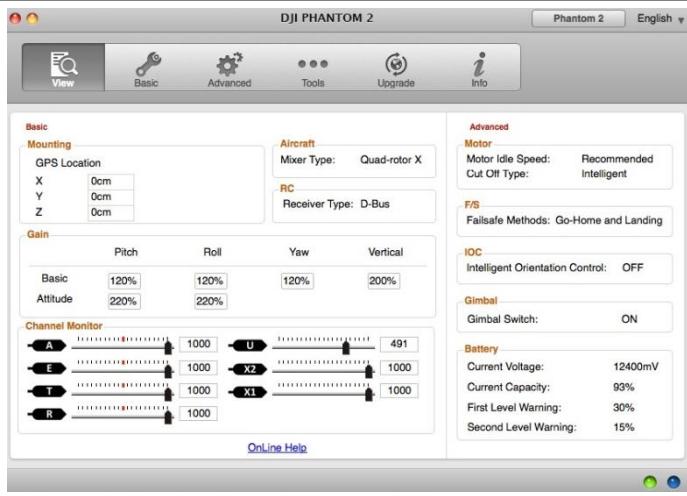
1. Download the Assistant installer in **DMG** format from the download page of PHANTOM 2 on the DJI website.
2. Run the installer and follow the prompts to finish installation.



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



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



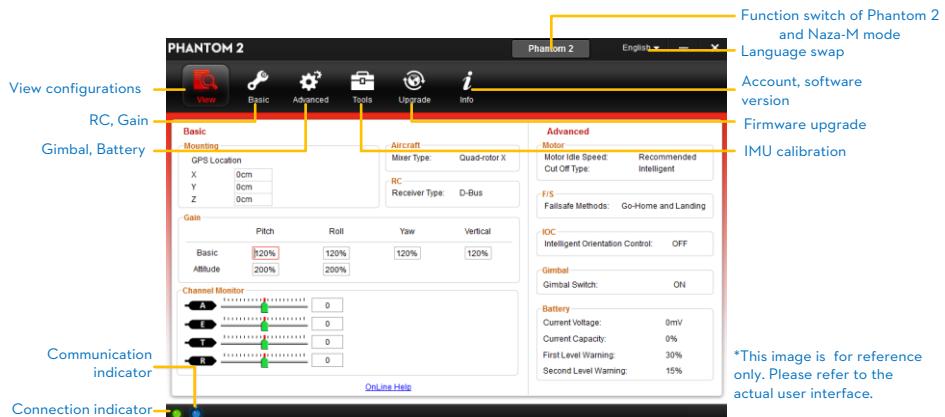
Installer in DMG format supports only Mac OS X 10.6 or above.



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

7.2 Using the PHANTOM 2 Assistant on a PC

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

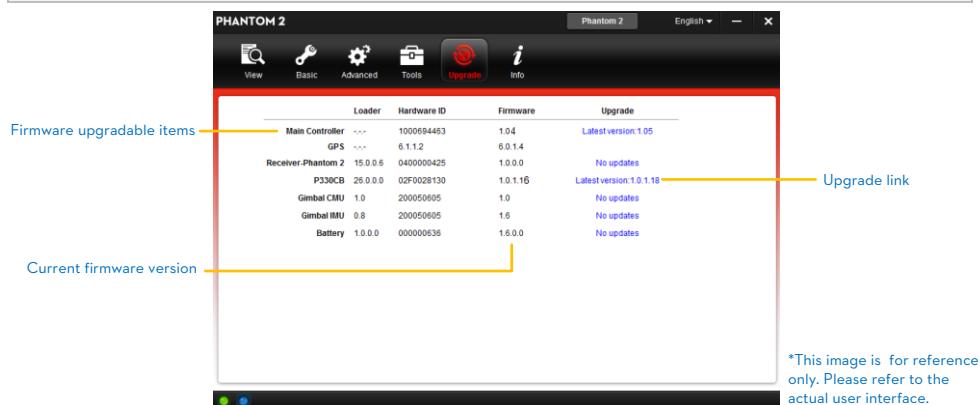


- (1) Users should not enable the Naza-M function before finishing Advanced Flight Maneuvers procedure in the "PHANTOM Pilot Training Guide". If the Naza-M mode is enabled, users can switch the control mode between ATTI. Mode, GPS Mode or Manual Mode, and access the advanced settings (e.g. IOC). In addition, the LED located on the rear frame arms will display Naza-M flight status indications instead of the PHANTOM 2's indicators. Do not enable the Naza-M mode unless you are an experienced user or guided by a professional.
- (2) You can change to the Phantom 2 mode by clicking the same button used to turn on the Naza-M mode. This operation will disable the Naza-M mode and enable Phantom 2 mode. All parameters will be returned to factory settings.

7.3 Firmware upgrade of PHANTOM 2

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

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



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

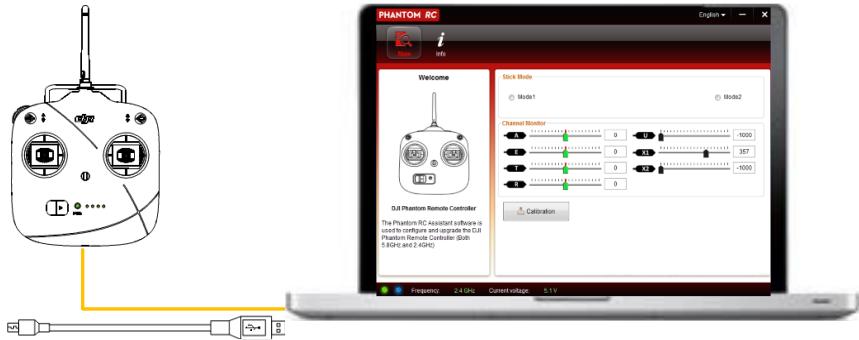


Firmware upgradable items: (1) Main Controller (2) P330CB(Main Board) (3) Receiver (4) Gimbal CMU (5) Gimbal IMU (6) Battery

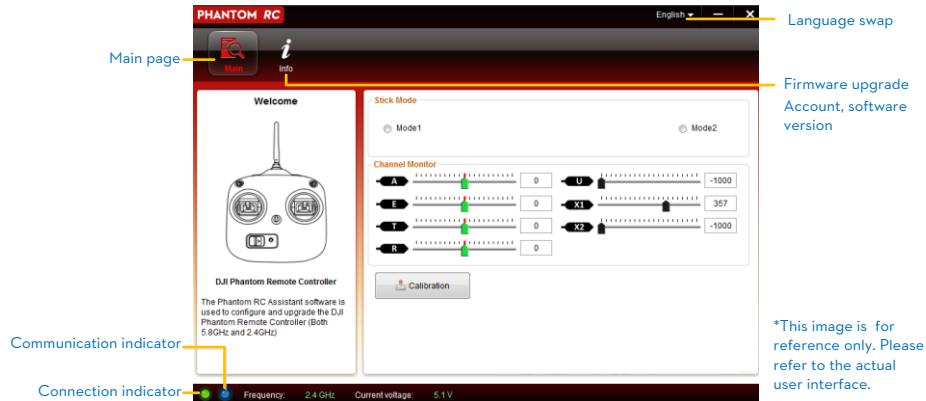
7.4 PHANTOM RC Assistant Description

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

1. Turn off the remote controller and find the Micro-USB port on the bottom of it.
2. Start up the PC, power on the remote controller, and then connect the remote controller to the PC with a Micro-USB cable. DO NOT disconnect until the configuration is finished.
3. Run the PHANTOM RC Assistant and wait for the remote controller to connect to the Assistant. Observe the indicators   on the bottom left of the screen. When connected successfully, the connection indicator is  and communication indicator is blinking .
4. Finish configuration in the [Main] page.
5. Finish upgrade in the [Info] page if necessary.



Main Page of the 2.4GHz Remote Controller



8 Appendix

8.1 Specifications

Aircraft	
Operating environment temperature	-10°C to 50°C
Power consumption	5.6W
Supported Battery	DJI Intelligent battery
Weight (including the battery)	1000g
Take-off Weight	≤1300g
Hovering Accuracy (Ready to Fly)	Vertical: 0.8m; Horizontal: 2.5m
Max Yaw Angular Velocity	200°/s
Max Tilt Angle	35°
Max Ascent / Descent Speed	Ascent: 6m/s; Descent: 2m/s
Max Flight Speed	15m/s (Not Recommended)
Wheelbase	350mm
2.4GHz Remote Controller	
Operating Frequency	2.4GHz ISM
Communication Distance (open area)	1000m
Receiver Sensitivity (1%PER)	-97dBm
Working Current/Voltage	120 mA@3.7V
Built-in LiPo Battery Working Current/Capacity	3.7V, 2000mAh
DJI Intelligent Battery	
Type	3S LiPo Battery
Capacity	5200mAh, 11.1V
Charging Environment Range	0°C to 40°C
Discharging Environment Range	-20°C to 50°C

8.2 LED Flight Indicators Description

Aircraft in Normal status	Descriptions
	Power On Self-Test
	Warming Up & Aircraft cannot take off during warming up
	Ready to Fly
	Ready to Fly (non-GPS)
Aircraft in abnormal status	Warnings and errors
	Remote Controller Signal Lost
	1 st Level Low Battery Capacity Warning

	2 nd Level Low Battery Capacity Warning
	Not Stationary or Sensor Bias is too big
	Errors & Aircraft cannot fly.*
	Compass data abnormal because of ferro-magnetic interference or the compass needs calibration.

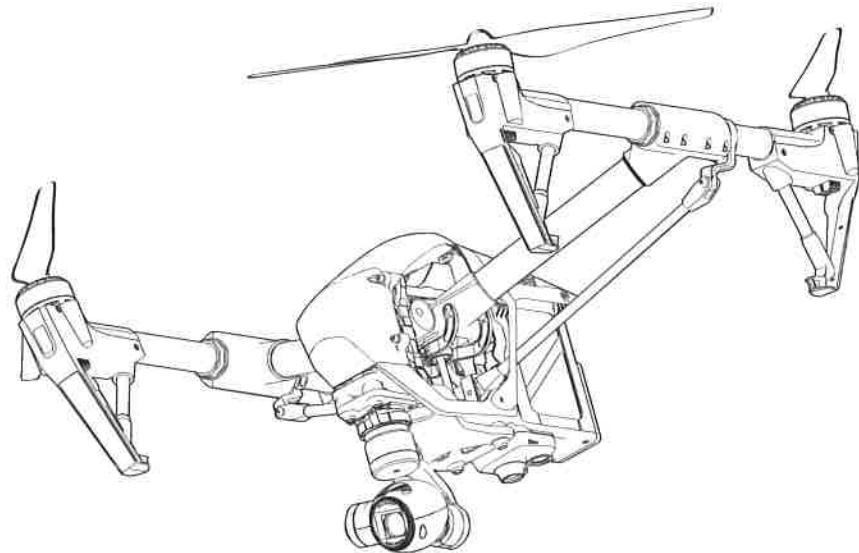
* Users can connect to the PHANTOM 2 Assistant to get detailed information about warnings and errors.

EXHIBIT B

INSPIRE 1

User Manual V1.0

2015.3



dji

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.

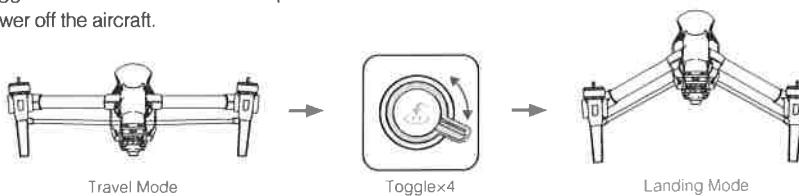
Flight Controller: The next generation flight controller system provides a more reliable flight experience. A new flight recorder stores the flight data from each flight, and Vision Positioning enhances hovering precision when no GPS is available.

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:

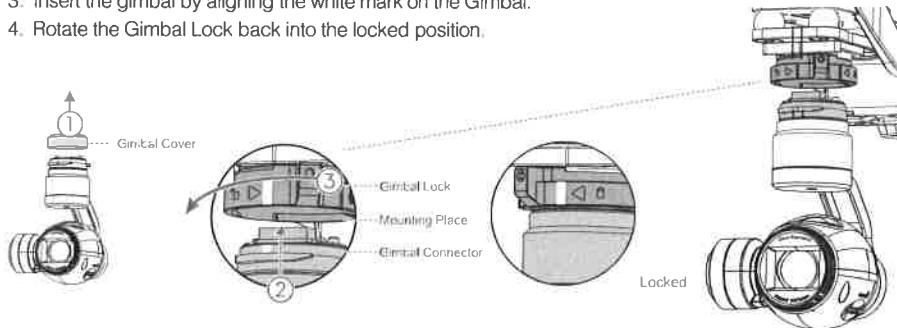
1. Insert the Intelligent Flight Battery into the battery compartment.
2. Power on the Remote Controller and the Intelligent Flight Battery.
3. Toggle the Transformation Switch up and down at least four times.
4. Power off the aircraft.



- ⚠**
- 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 information 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

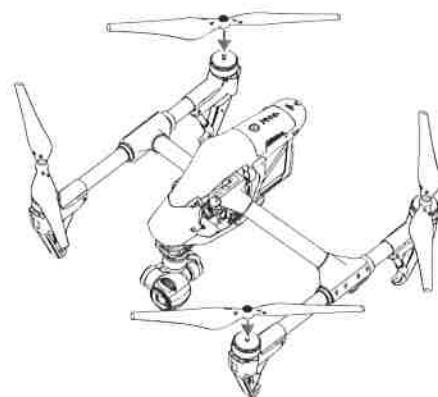
- Remove Gimbal Cover.
- Rotate the Gimbal Lock to the unlocked position (to the right when facing the nose of the aircraft).
- Insert the gimbal by aligning the white mark on the Gimbal.
- Rotate the Gimbal Lock back into the locked position.



- ⚠** 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.

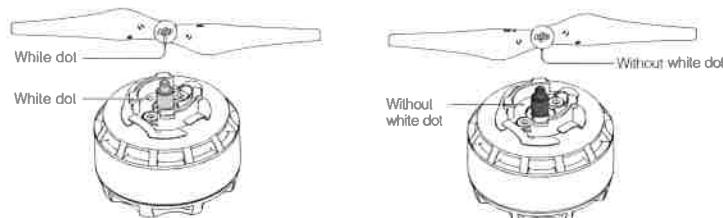


⚠ Place all propellers onto the correct motor and tighten by hand to ensure security before flight.

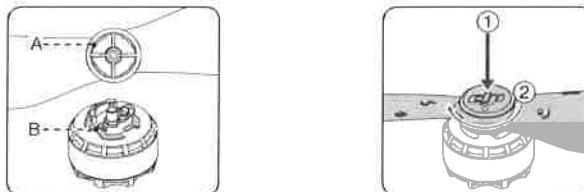
Attaching 1345s Quick-Release Propellers

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.



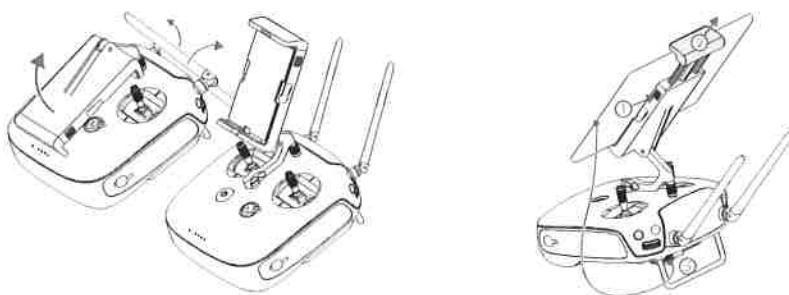
2. Align the hook (A) on the propellers with the securing spring (B), then press down the propeller onto the mounting plate then rotate the propellers according to the lock direction until it is secured.

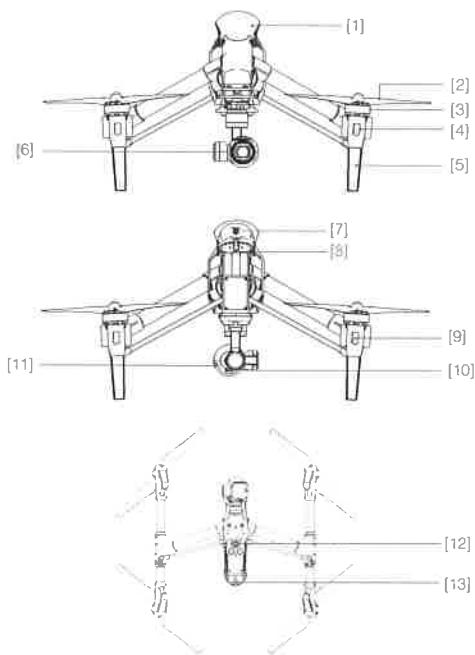


Preparing Remote Controller

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

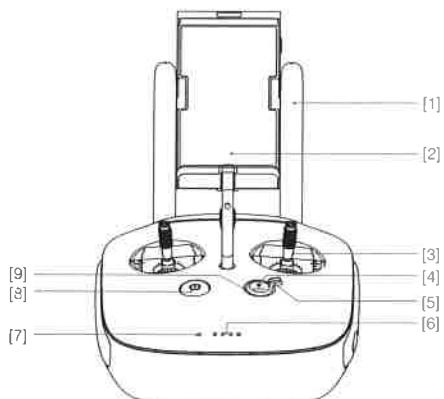
1. Press the button on the side of the Mobile Device Holder to release the clamp, adjust it to fit then attach your mobile device.
2. Connect your mobile device to the remote controller with a USB cable.
3. Plug one end of the cable into your mobile device, and the other end into the USB port on the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

Product Profile

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.

INSPIRE 1 User Manual

Product Profile

[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

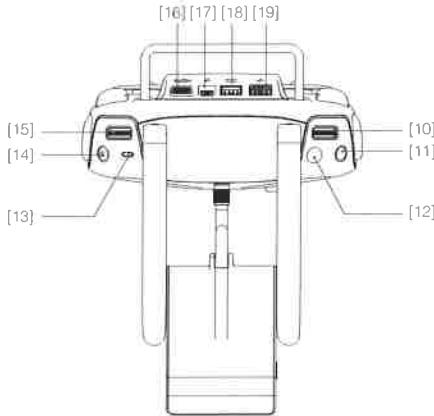
Use this dial to control the tilt of the gimbal.

[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

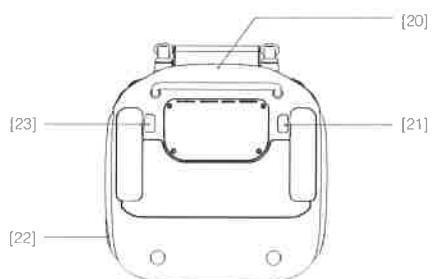
Customizable button in DJI Pilot app.

[22] Power Port

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

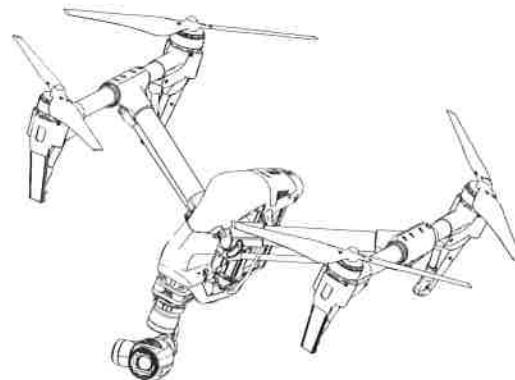
[23] Back Right Button

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.

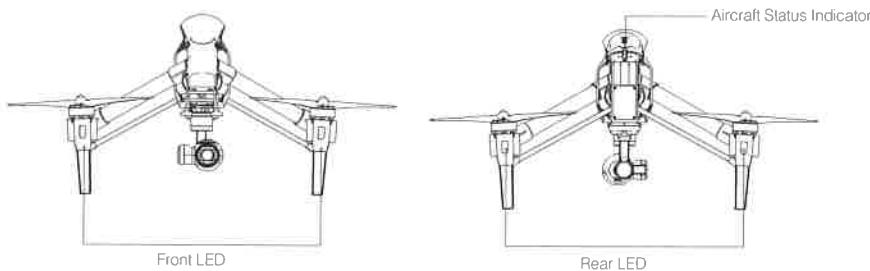
F mode (Function): Intelligent Orientation Control (IOC) is activated in this mode. For more information about IOC, refer to the IOC in Appendix.



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)
 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.

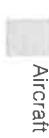
Icon	GPS	Description
Home Point		The Home Point is the location at which your aircraft takes off when the GPS signal is strong. You can view the GPS signal strength through the GPS icon (). If you are using the Dynamic Home Point setting, the Home Point will be updated to your current position as you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

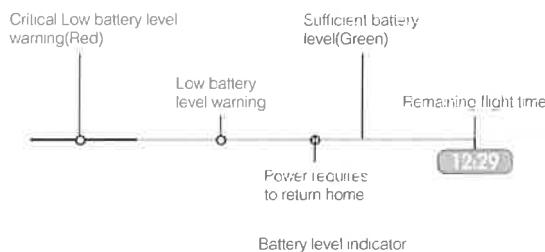
Low Battery RTH

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 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

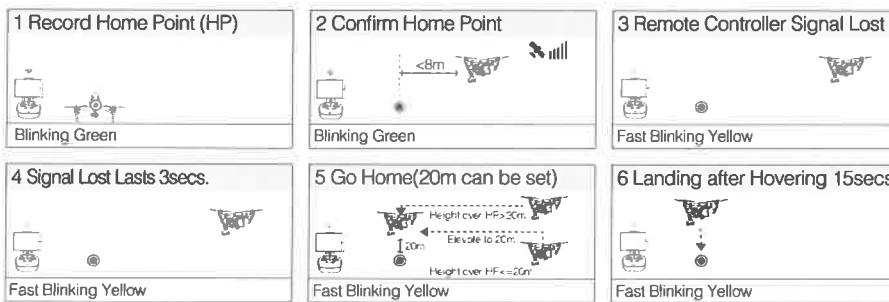
-  • When the critical battery level warning activates and the aircraft is descending to land automatically, you may push the throttle upward to hover the aircraft and navigate it to a more appropriate location for landing.
 • Color zones and markers on the battery level indicator reflect estimated remaining 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.



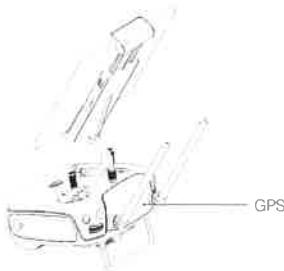
Failsafe Illustration



- Aircraft 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 during the 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

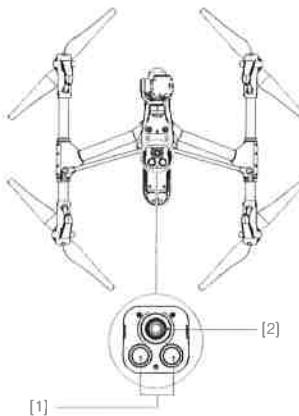
Follow the steps below to setup Dynamic Home Point:

1. Connect to the mobile device and launch the DJI Pilot app and go to the "Camera" page.
2. Tap "DJI" and select "H", to reset the remote controller's coordinates as the new Home Point.
3. Tap "DJI" and select "A", 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.



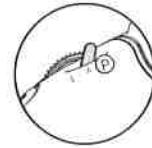
Using Vision Positioning

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 ($\text{lux} < 10$) or bright ($\text{lux} > 10,000$) 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.



Aircraft

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,

INSPIRE 1 User Manual

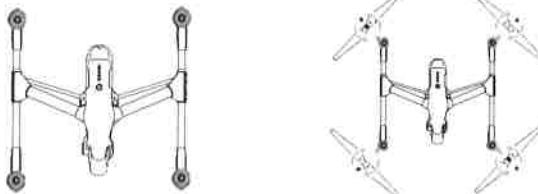
match the nut with the dots on the motors of your Inspire 1:

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

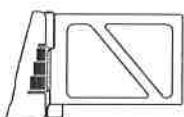
Press the 1345s Quick-Release propellers downward firmly then rotate the propeller in the unlock direction to unlock the propellers.



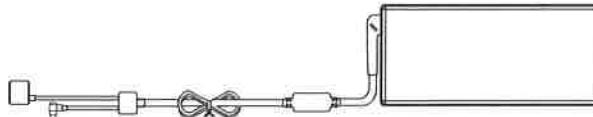
- Check that the propellers and motors are installed correctly and firmly before every flight.
- Ensure that all propellers are in good condition before each flight. DO NOT use old, chipped, or broken propellers.
- To avoid injury, STAND CLEAR of and DO NOT touch propellers or motors when they are spinning.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

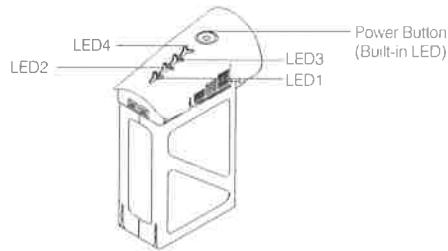
DJI Intelligent Flight Battery Functions

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 Guidelines* 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 off.

 : LED is flashing.

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

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
灭	灭	灭	灭	90%~100%
灭	灭	灭	快闪	80%~90%
灭	灭	灭	灭	70%~80%
灭	灭	快闪	灭	60%~70%
灭	灭	灭	灭	50%~60%
灭	快闪	灭	灭	40%~50%
快闪	灭	灭	灭	30%~40%
快闪	灭	灭	灭	20%~30%
灭	灭	灭	灭	below 20%



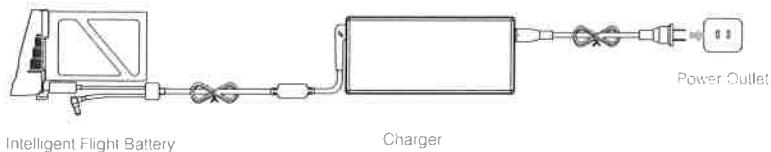
When battery life reaches 0%, it can no longer be used.

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.





Battery Level Indicators while Charging

LED1	LED2	LED3	LED4	Battery Level
灭	灭	灭	灭	0%~25%
灭	亮	灭	灭	25%~50%
灭	亮	亮	灭	50%~75%
灭	亮	亮	亮	75%~100%
亮	亮	亮	亮	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
灭	亮	灭	灭	LED2 blinks twice per second	Over current detected
灭	亮	灭	灭	LED2 blinks three times per second	Short circuit detected
灭	灭	亮	灭	LED3 blinks twice per second	Over charge detected
灭	灭	亮	灭	LED3 blinks three times per second	Over-voltage charger detected
灭	灭	灭	亮	LED4 blinks twice per second	Charging temperature is too low (<0°C)
灭	灭	灭	亮	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.

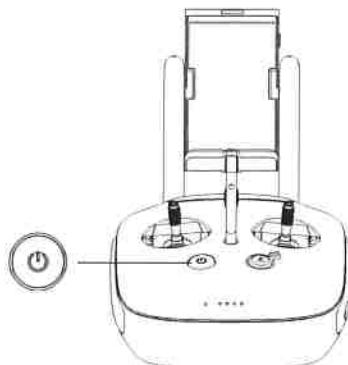
⚠ Do not operate more than 3 aircrafts within in the same area (size equivalent to a soccer field) to prevent transmission interference.

Remote Controller Operations

Powering On And Off The Remote Controller

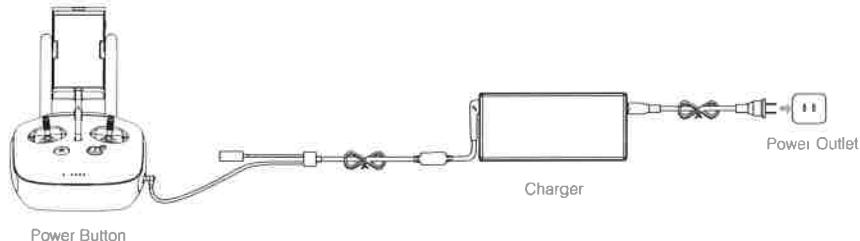
The Inspire 1 remote controller is powered by a 2S rechargeable battery with a capacity of 6000mAh. The battery level is indicated by the Battery Level LEDs on the front panel. Follow the steps below to power on your remote controller:

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

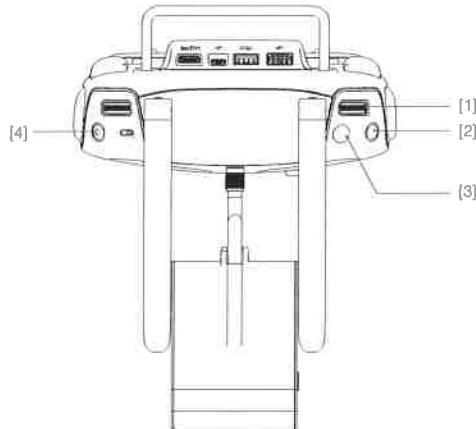
Charge the remote controller via supplied charger.



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.

Remote Controllers



[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] Recording Button

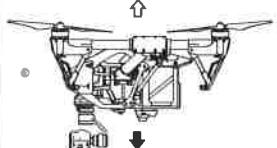
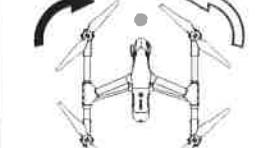
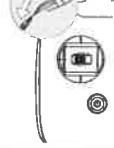
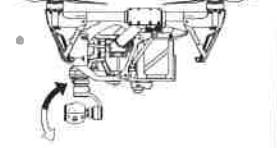
Press once to start recording video, then press again to stop recording.

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.

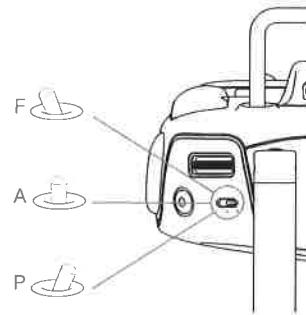
Remote Controllers

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 stick 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.

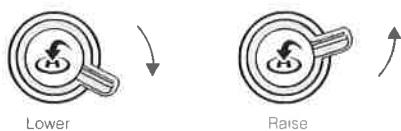
The Flight Mode Switch is locked in P mode by default. To unlock the switch, launch the DJI Pilot app, enter the "Camera" page, tap "MODE", and then activate "Multiple Flight Mode".

Transformation Switch / RTH Button

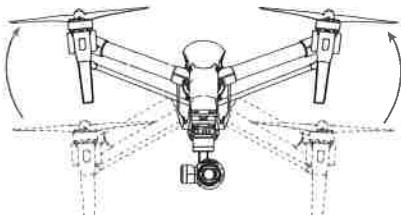
The Transformation Switch / RTH Button combination serves two functions. Toggle the switch up or down to raise or lower the landing gear. Or, press the button to activate the Return to Home (RTH) procedure.

Transformation Switch

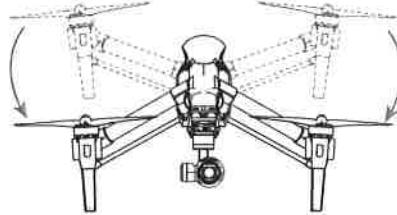
This switch has two positions. The effect of toggling the switch to any of these positions is defined below:



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



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

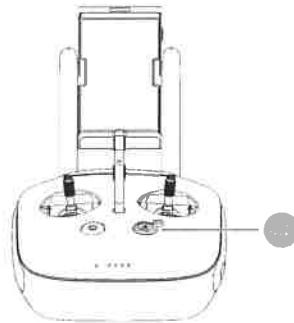


⚠ Do not raise the landing gear when the aircraft is on the ground. Ensure the landing gear is lowered before landing.

Remote Controllers

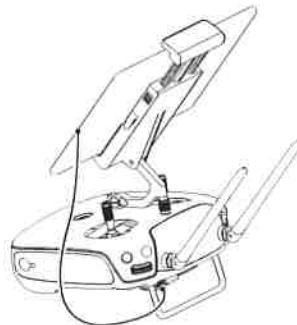
RTH button

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.



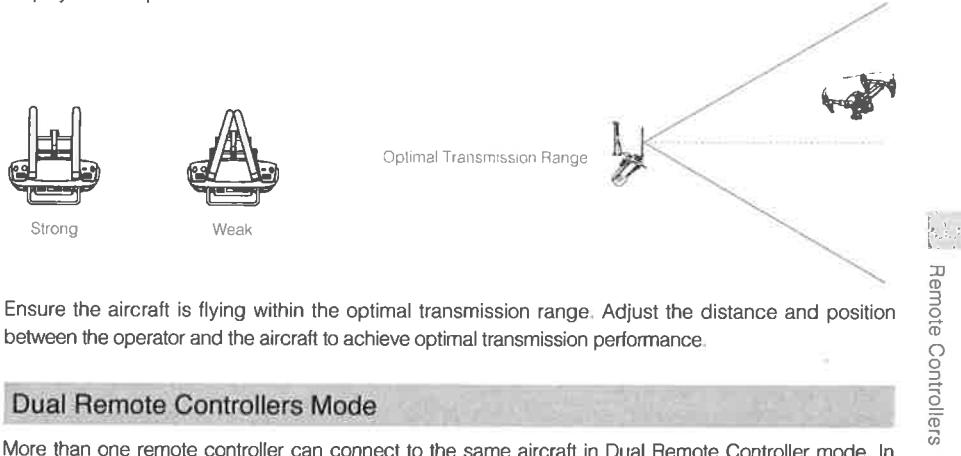
Connecting Mobile Device

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

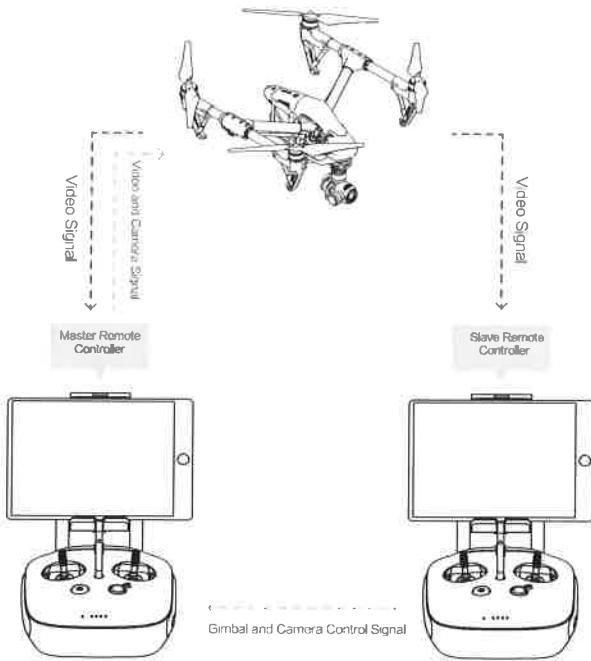
The signal transmission between aircraft and remote controller perform best within the range that displayed in the picture shown below:



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.



Remote Controllers



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

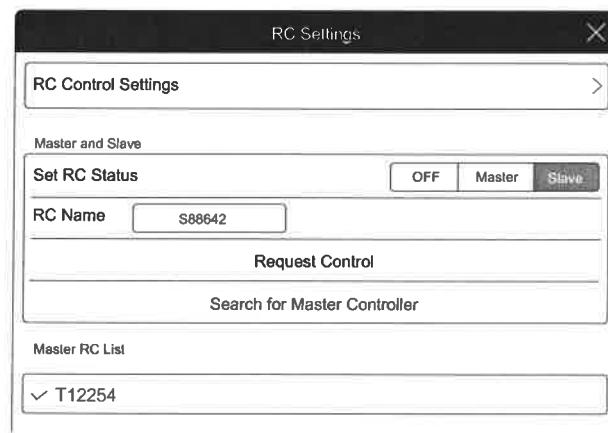
"Slave" Remote Controller:

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.

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



Remote Controllers

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

✓ T12254

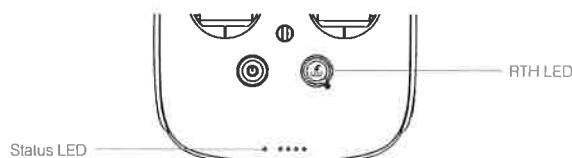
Connection Password

1234

Master RC List

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.



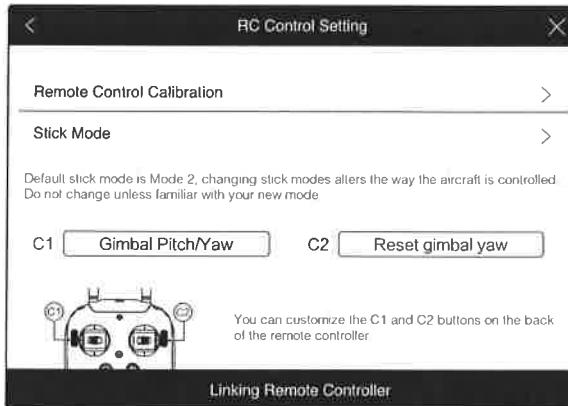
	Status LED	Alarm	Remote Controller Status
	R — Solid Red	♪ chime	The remote controller set as "Master" but it is not connected with the aircraft.
	G — Solid Green	♪ chime	The remote controller set as "Master" and it is connected with the aircraft.
	P — Solid Purple	D-D-	The remote controller set as "Slave" but it is not connected with the aircraft.
	B — Solid Blue	D-D- ♪ chime	The remote controller set as "Slave" and it is connected with the aircraft.
	R Slow Blinking Red	D-D-D.....	Remote controller error.
Remote Controllers	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	Aircraft Return to Home in progress.

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

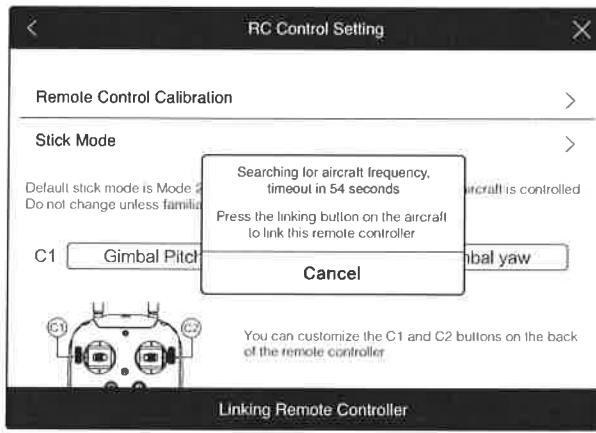
Linking the Remote Controller

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.

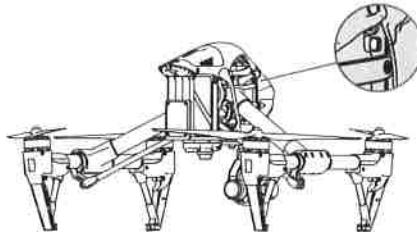


4. The remote controller is ready to link. The Remote Controller Status Indicator blinks blue and "beep" sound is emitted.



Remote Controllers

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.



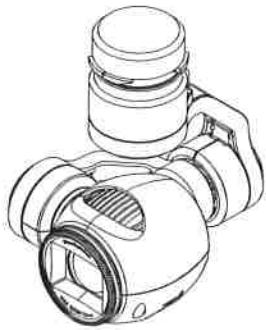
- Remote controller cannot link to the aircraft if the remote controller is set as "Slave". Meanwhile, the "Slave" remote controller cannot control the orientation of the aircraft. Reset the remote controller to "Master" in DJI Pilot app if you wish to link the remote controller to the aircraft.
- Remote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

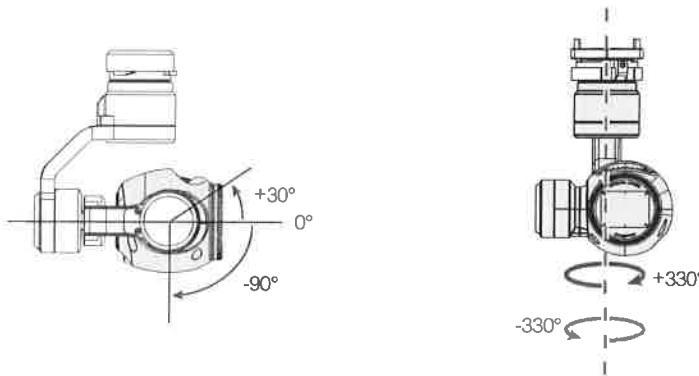
Attach an ND filter to the front of the camera to reduce over-exposure and "jello" effect.

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.

Gimbal and Camera



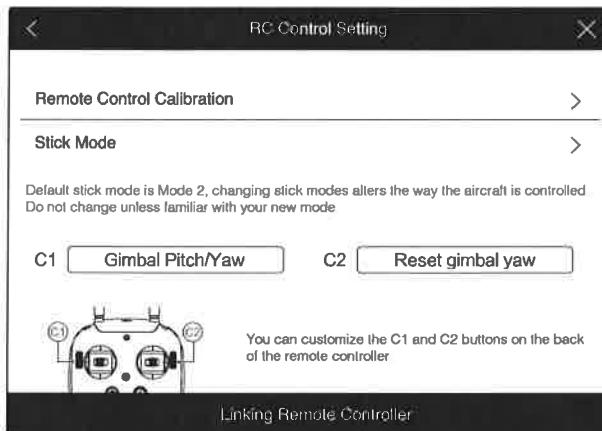
Use the gimbal dial on the remote controller to control pitch movement of the camera by default. Note that you cannot control the pan motion of the camera by default. Enable the "Master-and-Slave" mode and set the remote controller to "Slave" state if you wish to control both the pan and pitch movement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



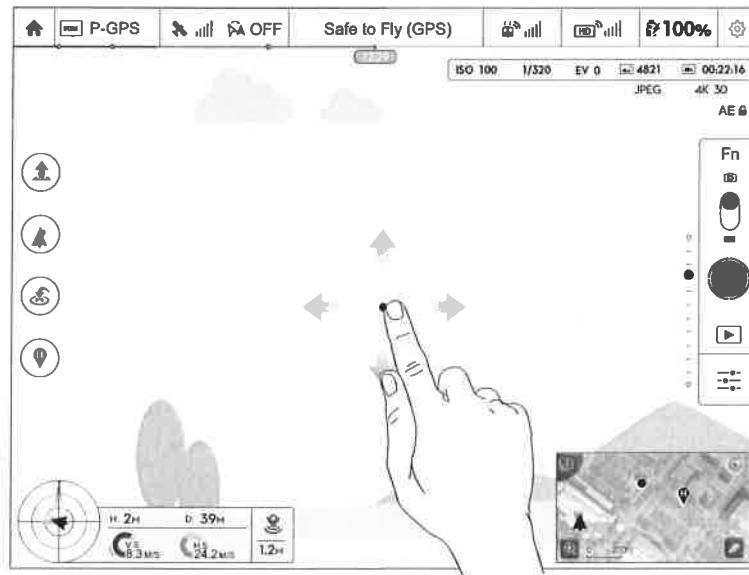
Press C1 or C2 button to switch from pitch mode to yaw mode. You may use the gimbal dial to pan the gimbal under yaw mode. Press C1 or C2 again to exit yaw mode.

Using DJI Pilot App to Control Gimbal

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

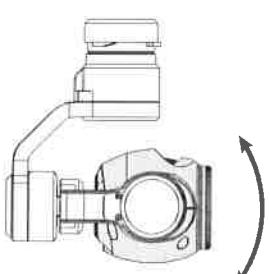
1. Launch DJI Pilot app, enter "Camera" page.
2. Tap and press on the screen until a blue circle is shown.
3. Slide to control the gimbal orientation within the "Camera" page as shown below.

Gimbal and Camera

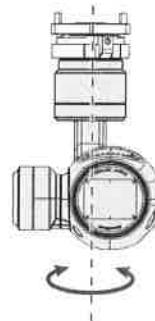


Gimbal Operation Modes

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.



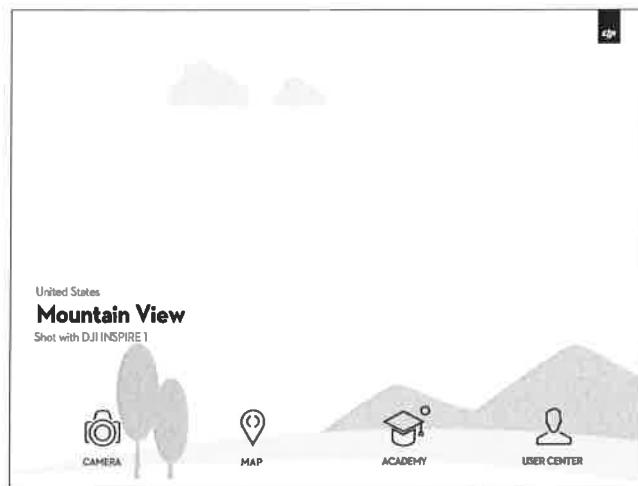
- Gimbal motor error may occur in these situations: (1) Gimbal is placed on uneven ground. (2) Gimbal has received an excessive external force, e.g. a collision. Please take off from flat, open ground and protect the gimbal after powering up.
- Flying in heavy fog or cloud may make the gimbal wet, leading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

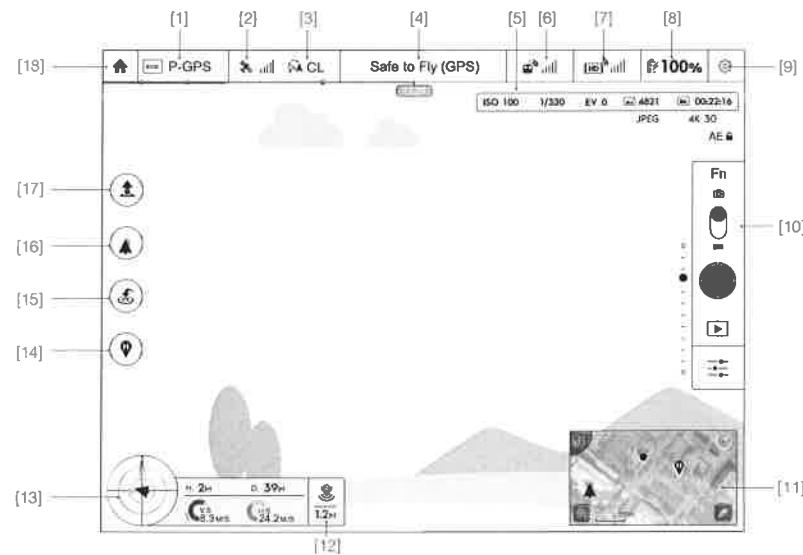
DJI Pilot App

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 enter MC (Main Controller) settings. Modify flight limits, perform compass calibration, and set the gain values on this screen.

[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 shows which IOC setting that the aircraft has entered when in F Mode.
Tap to enter IOC setting menu and select Course Lock, Home Lock or Point of Interest Lock.

[4] System Status

 : This icon shows current aircraft system status, such as GPS signal health.

[5] Battery Level Indicator

 : The battery level indicator dynamically displays the battery level. The color zones on the battery level indicator represent different battery levels.

[6] Remote Controller Signal

 : This icon shows the strength of remote controller signal.

[7] HD Video Link Signal Strength

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

[8] Battery Level

 100%: This icon shows the current Intelligent Flight Battery level.

Tap to enter battery information menu, set the various battery warning thresholds and view the battery warning history in this page.

[9] General Settings

 : Tap this icon to enter General Settings page. Select parameter units, reset the camera, enable the quick view feature, adjust the gimbal roll value and toggle flight route display on this page.

[10] Camera Operation Bar**Exposure Lock**

 AE : Tap to enable or disable the camera exposure lock.

Function

 Fn : Tap to adjust camera settings, such as video format and digital filters.

Shutter

 : Tap this button to take a single photo.



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 function.

Playback

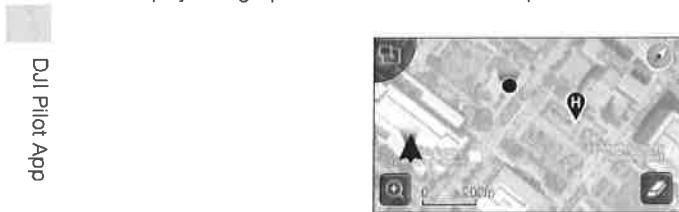
 : Tap to enter playback page. You can preview photos and videos as soon as they are captured.

Camera Settings and Shooting Mode

 : Tap to enter the Camera Settings page and switch from camera shooting mode from manual to auto.

[11] Map

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



DJI Pilot App

[12] Vision Positioning

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

[13] Flight Telemetry**Vision Positioning Status**

Icon is highlighted when 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) Pitching of the boundary between light blue and dark blue area shows roll angle.

[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] Back

: Tap to return to the main GUI.

Map

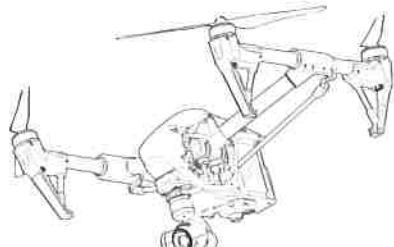
User can view the current flight route in a larger map view in this page. You can also perform Auto takeoff and Landing in the page. Ensure your mobile device has access to the Internet. Due to the map data required, Wi-Fi connection is recommended. Internet access is required to cache the map, if Wi-Fi is unavailable, mobile data service is required.

**Academy**

Download user manual, view online videos. Also you can use the flight simulator to practice your flight skills.

User Center

You can sync the picture and videos to the mobile device, view the flight records and check your DJI account status in the User Center. Use the DJI registered account to login to the User Center.



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

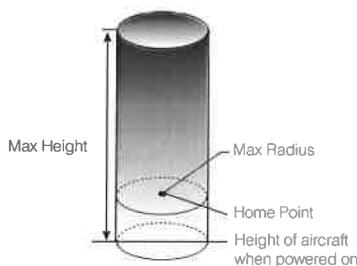
Flight limits on height and distance can be set. The details of these flight limits are described in the following section.

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.



Flight

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		

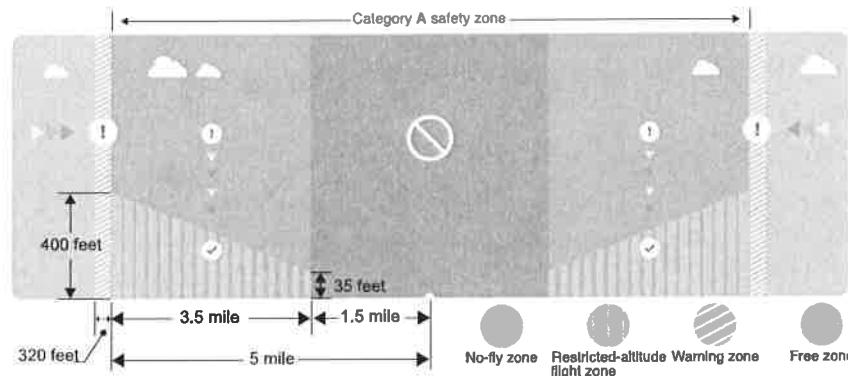
-  • If you fly out of the limit, you can still control the Inspire 1, but cannot fly it further.
 • If the Inspire 1 flies out of the max radius in Ready to Fly (non-GPS) mode, it will fly back within range automatically.

Flight Restriction of Restricted Areas

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

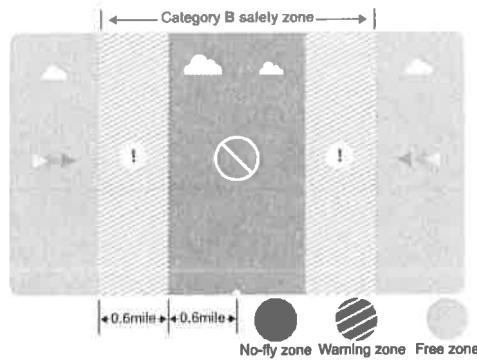
Category A Safety Zone

- (1) The category A "safety zone" is comprised of a small "no-fly zone" and a range of "restricted-altitude zones". Flight is prevented in the "no-fly zone" but can continue with height restrictions in the restricted-altitude zone.
- (2) 1.5 miles (2.4 km) around a designated safety zone is a no-fly zone, inside which takeoff is prevented.
- (3) 1.5 miles (2.4 km) to 5 miles (8 km) around restricted areas are altitude restricted, with maximum altitude going from 35 feet (10.5 m) at 1.5 miles (2.4 km) to 400 feet (120 m) at 5 miles (8 km).
- (4) A "warning zone" has been set around the safety zone. When you fly within 320 feet (100m) of the safety zone, a warning message will appear on the DJI Pilot App.



Category B Safety Zone

- (1) Category B "safety zone" is comprised of a "no-fly zone" and a "warning zone".
- (2) 0.6 miles (1 km) around the safety zone is a designated "no-fly zone".
- (3) A "warning zone" has been set around the safety zone. When you fly within 0.6 miles (1Km) of this zone, a warning will appear on the DJI Pilot App.



Flight

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.

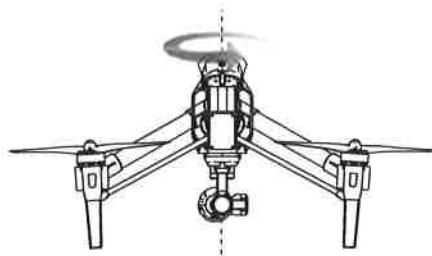
- 🚫 • DO NOT calibrate your compass where there is a chance of strong magnetic interference, such as magnetite, parking structures, and steel reinforcements underground.
 • DO NOT carry ferromagnetic materials with you during calibration such as keys or cellular phones.
 • DO NOT calibrate beside massive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

Flight

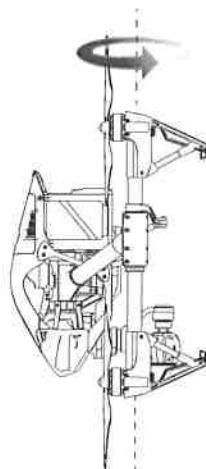
Calibration Procedures

Choose an open space to carry out the following procedures.

1. Ensure the compass is calibrated. If you did not calibrate the compass in the Checklist, or if you have changed your position since last calibrating it, tap "MODE" in the app and select "Compass Calibration" to calibrate the compass. 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.

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.



Flight

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.

Flight

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.

FAQ

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?

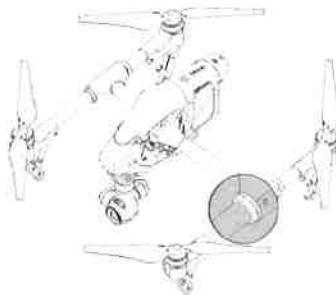
The Inspire 1 uses its own new flight controller.

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.



FAQ

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 Single shoot Burst shooting: 3/5/7 frames Auto Exposure Bracketing (AEB): 3/5 bracketed frames at 0.7EV Bias Time-lapse
Still Photography Modes	UHD (4K): 4096x2160p24/25, 3840x2160p24/25/30 FHD: 1920x1080p24/25/30/48/50/60 HD: 1280x720p24/25/30/48/50/60
Video Recording Modes	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)

Appendix

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  Home Point
POI	Yes		Aircraft  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.



Appendix

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.



Appendix

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 appareil est conforme aux CNR d'Industrie Canada licenciables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil 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.

Appendix

KCC Warning Message

"해당 무선설비는 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](#)

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EXHIBIT C

UNITED STATES OF AMERICA

DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

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VI NATIONALITY USA

VII D.O.B. 24 FEB 1958

VIII HAS BEEN FOUND TO BE PROPERLY QUALIFIED TO EXERCISE THE PRIVILEGES OF

IX COMMERCIAL PILOT

X CERTIFICATE NUMBER 2415677

XI DATE OF ISSUE 8 FEB 2015

SEX HEIGHT WEIGHT HAIR EYES

W 72 160 BROWN BROWN



Administrator