

Description of the TOPODRONE DJI AIR 2S PPK

Preliminary preparation and verification of the drone

Before you start using the TOPODRONE DJI Air 2S PPK, it is strongly recommended to read the instructions for the DJI Air 2S drone. [It is available on the official website at the link.](#) This instruction and any forms of training do not cancel the recommendations described in the official instructions from the manufacturer.

In order to properly prepare the drone, it is necessary to strictly follow the rules to ensure flight safety and obtain the best quality and accuracy of the final materials. Safety is the main priority in operation.

Checking the integrity of the equipment:

- **Body and beams:** it is necessary to check for damage, clean from dirt and dust. Check and eliminate looseness on folding mechanisms.
- **Propellers:** In case of the slightest damage, it is necessary to replace the propellers with new ones. Flying on damaged propellers is strictly prohibited, as this can lead to strong vibrations and a drone crash. Use only original DJI propellers. In case the propellers are not removed from the drone when stored in the case, it is recommended to remove and check the blade mounted realize every 5 flights. Folded propellers of the front beams, in the stowed position of the drone, can press the battery button in a certain position. It is recommended to remove the propellers of the front beams when transporting in a case bag.
- **Motors:** remove the propellers, and turn them with a sharp movement of your fingers. The motors should turn with the same force. Any extraneous noise indicates a malfunction of the engine and requires contacting the Service Center. Try vacuuming the motors on maximum mode. It is not recommended to use a can to blow out photographic equipment.
- **Gimbal with camera:** make sure that nothing interferes with the gimbal motors when starting, make sure that the camera lens is clean: free of dust and fingerprints.. If necessary, wipe with a special cloth or soft paper towel.
- **Batteries:** Check the batteries for damage and swelling before use, and the contact terminals must be intact and clean. Batteries must be fully charged before flying!

- **Memory Card:** Check if there is enough free space to take aerial photos on the drone's memory card and upgrade. The format of the drone's memory card is exFAT, the format of the upgrade memory card is FAT32. It is recommended to have multiple memory cards.
- **Obstacle Avoidance System:** check the cleanliness and integrity of the eight lenses of the Visual Positioning System stereo cameras. In sunny weather, the front sensors can be illuminated from the sun directly or due to reflection from water surfaces. It is recommended to turn off the system when flying at a safe altitude relative to the terrain (AGL). It has been experimentally established that on the DJI Air2S drone, the enabled visual positioning sensors are often illuminated by the sun, which leads to a halt in the flight at points.
- **Remote Control:** Check the remote's battery level, the presence of removable remote control sticks, the integrity of foldable antennas, and whether there is sufficient free space in the remote control's internal memory, such as screen recording.
- **Power supply and hub:** Check the integrity and cleanliness of cables and terminals. It is recommended to remove the protective film from the power supply to ensure better cooling.

Charging. Charge all of your drone's batteries, remote controller, and mobile device to 100%. Never use less than 90% charged DJI Intelligent Battery batteries, especially if the process of self-discharge has already begun. This can lead to premature termination of the flight mission due to the occurrence of the "critical battery voltage" error.

Locality. Before starting flights, study the territory where flights are planned in geoservices according to your location. Flights should not be conducted in no-fly zones: near airports, prisons, stadiums. Such objects as military bases, government agencies, objects of strategic importance (thermal power plants, hydroelectric power plants, nuclear power plants,, etc.) and a number of others belong to the category of objects near which flights should also not be conducted.. Power lines located near the flight area can cause electromagnetic interference when flying nearby.

Setting up the drone.

Install the original DJI Fly app. Set up the drone. In general, this setting is performed once, but some parameters will need to be changed periodically. To set up the TOPODRONE DJI Air 2S PPK, turn on the drone, remote control, connect your mobile device, launch the DJI Fly App software and select the following options.

Safety.

- Obstacle avoidance action – "Brake" or "Off" (if the front sensors begin to light up from the sun and the flight is constantly interrupted). This parameter changes depending on the flight conditions.
- The height of the automatic return home is 100 meters or higher. The height of the return home should be at least 20-30 meters higher than any obstacles located in the flight area, when choosing an altitude, the terrain difference should be taken into account. In the future, this parameter can be set when planning the route.

- The maximum height is "500 meters". If the flight altitude along the route is set above this value during planning, the flight will not be possible. This parameter is set once.
- The maximum distance is "Unlimited". The use of distance limitation can cause difficulties when performing linear missions. This parameter is set once.

Advanced security settings.

- Loss of signal is a "Return home". Using other options may result in the loss of the drone. This parameter is set once.
- An emergency stop of the propellers is an "Emergency". This option allows you to turn off the drone's motors in flight. "Emergency" activates this feature only in the event of an impact that is not typical for a real flight. This parameter is set once.
- AirSense - "Disabled". This option consumes energy and is not needed to perform aerial photography tasks in third-party point-to-point flight software. This parameter is set once.

Management.

- The unit of measurement is meters. This parameter is set once.
- Target scanning - "Off". This parameter is set once.
- Stabilizer mode is "Follow Mode". This parameter is set once.
- Stabilizer centering - in the event that the camera loses horizon, roll stabilization must be performed. This function is used when necessary.
- The joystick mode is "Mode 2". We don't recommend using a different joystick mode because it can cause you to lose your drone! This parameter is selected by default and does not need to be changed.
- Calibration of the remote control - it is necessary to perform only if the remote control with a normally charged battery beeps when turned on. This beep indicates the need to calibrate the sticks and tilt wheel of the remote control camera. The function is used when necessary.

Camera.

- The format is JPEG. Using the RAW format will increase the amount of data by 3-4 times, and increase the time for photogrammetric postprocessing by 1.5-2 times. The accuracy of the final aerial photography materials does not increase. This parameter is set once.
- The aspect ratio is 3:2. Using the 16:9 aspect ratio cuts off part of the photo, so the photos lose resolution. This parameter is set once.

- White balance. It is recommended to set it to "Auto" or during the flight, first to "Auto", then to "Manual" in order to use a fixed value under constant lighting conditions.

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