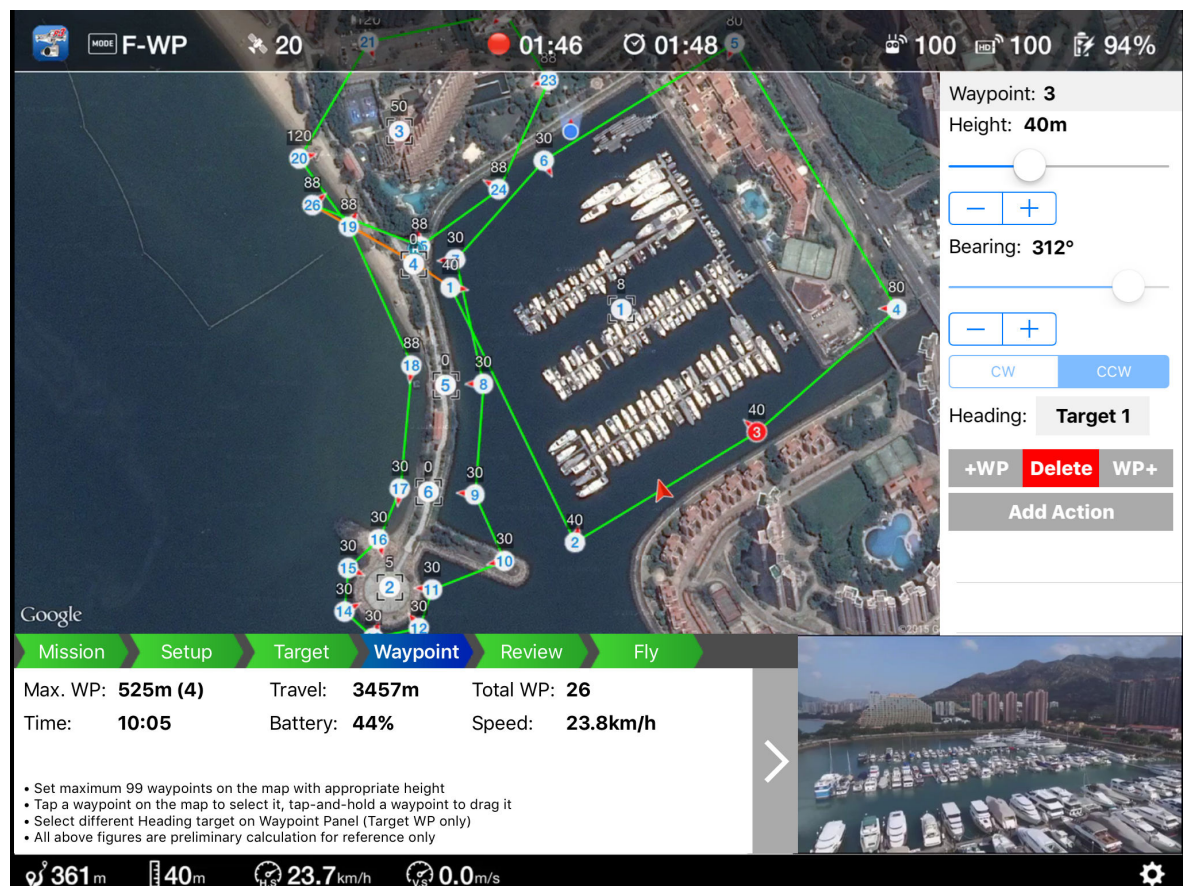


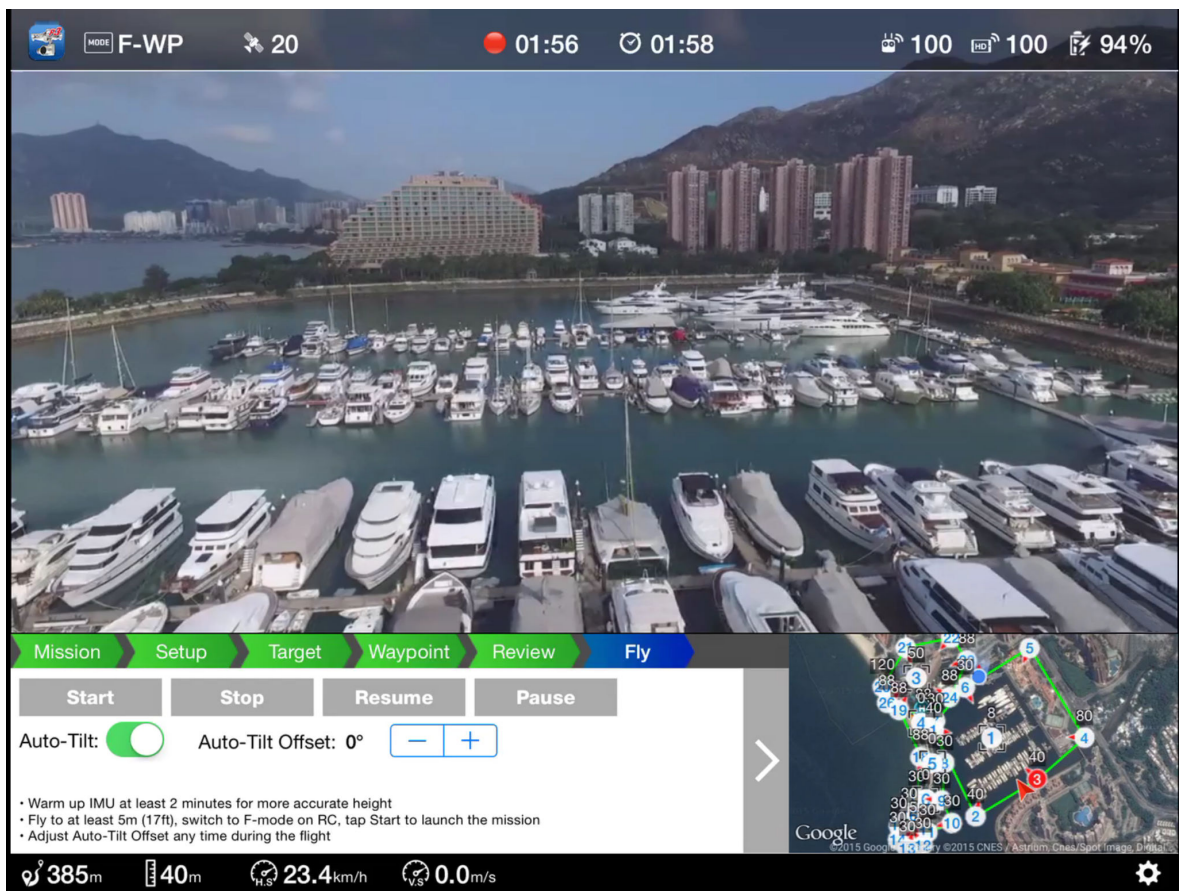
Mission Planner Overview

Mission Planner (iPad only) is an advanced ground station to program autonomous waypoints flight based on Google Map for creating superior footage. You can define maximum 99 waypoints in conjunction with multiple shooting targets in a continuous comprehensive flight plan. With aid of powerful Auto-Tilt gimbal control, it always keeps the targets right at the center of your footage even with some very difficult footage.



Features

Mission Planner guides you through the setup of autonomous waypoints flight step-by-step. You can plan your mission anywhere you like without requiring connection to RC or aircraft, then save the mission file on your iOS devices for future use like a document file. By default, the main screen shows a Navigation Map and the small window (lower-right corner) would show FPV video feed when connecting to RC and aircraft. You may also toggle the map and FPV by tapping on the small window.

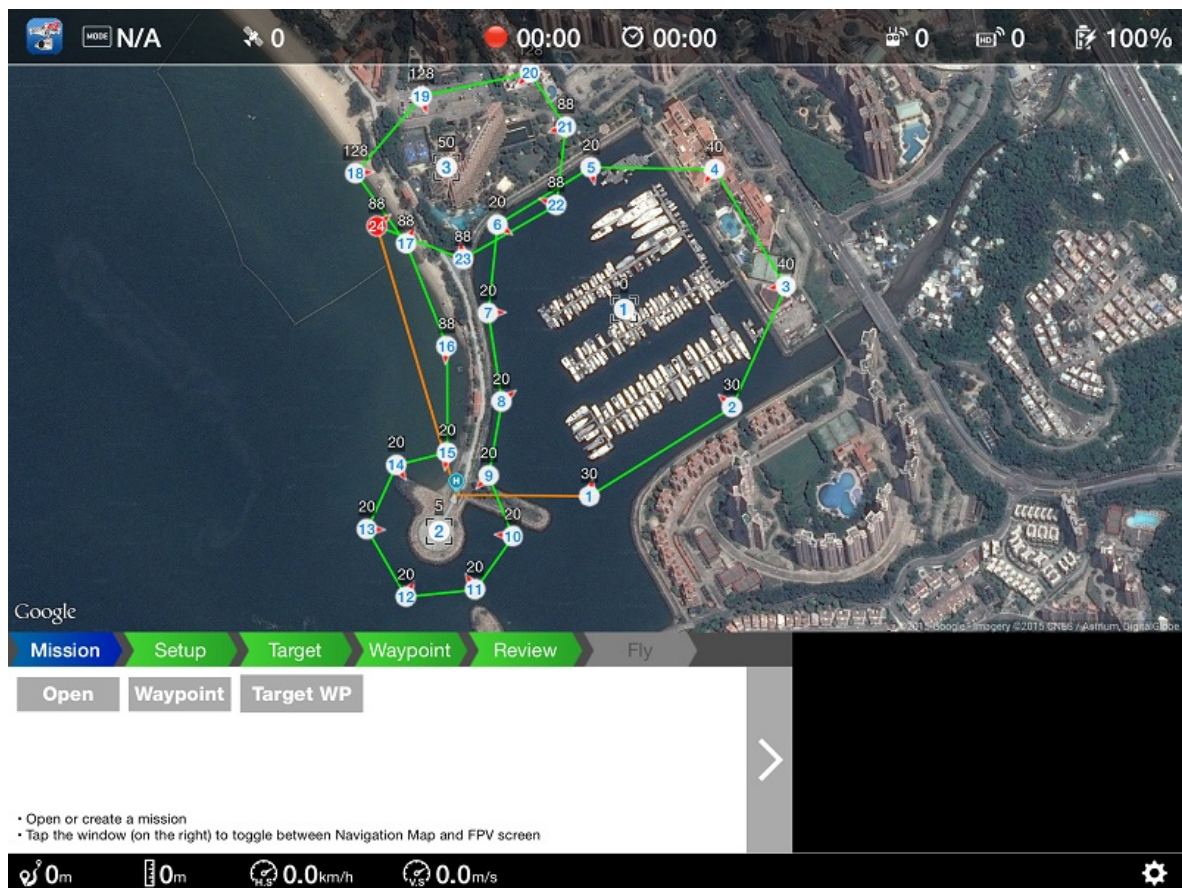


Please refer to the following steps and sections for further details.

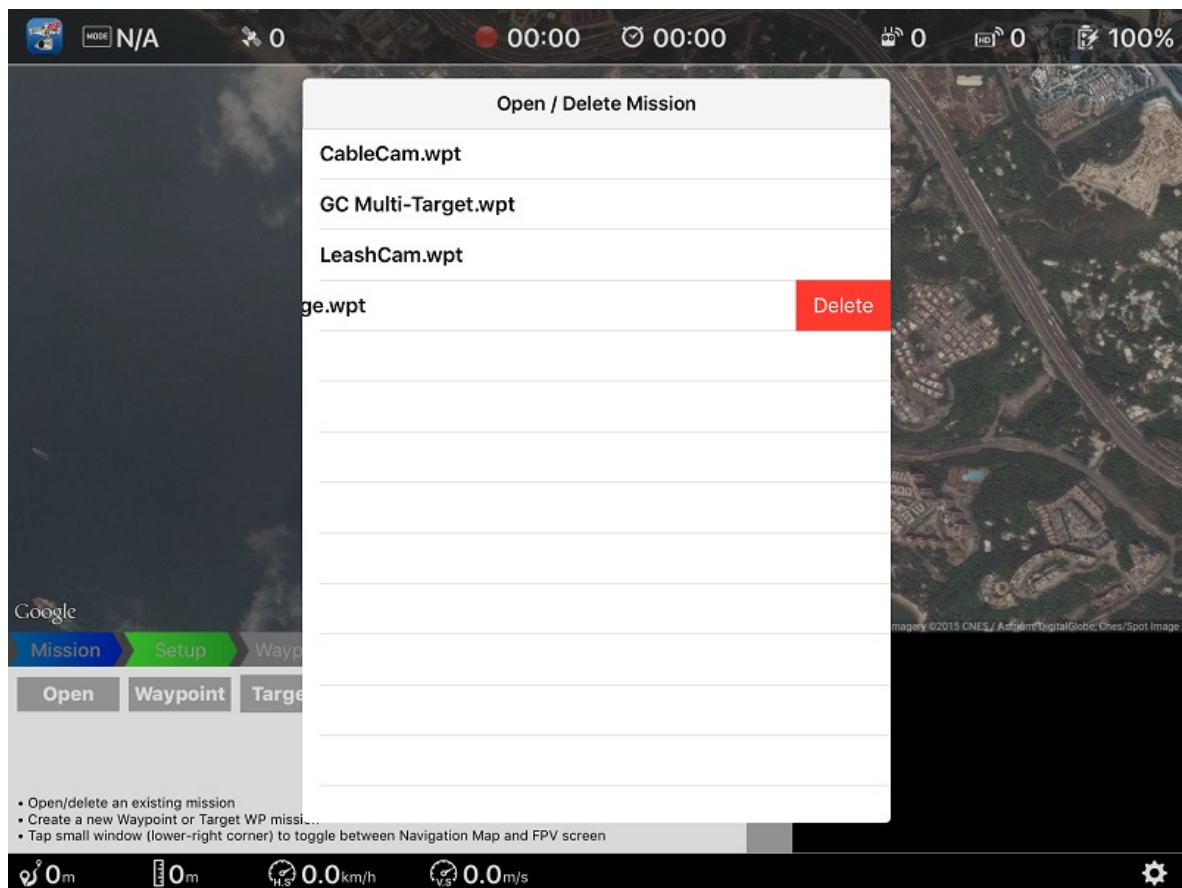
Mission

To start a mission plan, you may open a saved mission or create a new one from scratch by following several simple steps.

- **Open** - Open a previous saved mission file to edit, Review or Fly. Once you select a mission file, it jumps to **Review** tab and you are ready to **Fly** a mission.
- **Waypoint** - Create a traditional waypoint mission with Heading set to Forward (by default, aircraft heading is controlled by RC) in **Setup** tab. You may also set Heading to WP in **Setup** tab to set individual waypoint bearing.
- **Target WP** - Create a new Target WP (Target Waypoint) mission for shooting one/multiple targets with progressive Auto-Tilt gimbal control. This powerful mission type helps you to produce professional look-alike video footage in a single continuous flight plan without too much post-editing.



- To delete a mission file, swipe-left on the mission file you want to delete and tap "Delete" button. It will then prompt (No/Yes) to confirm the deletion.



Setup

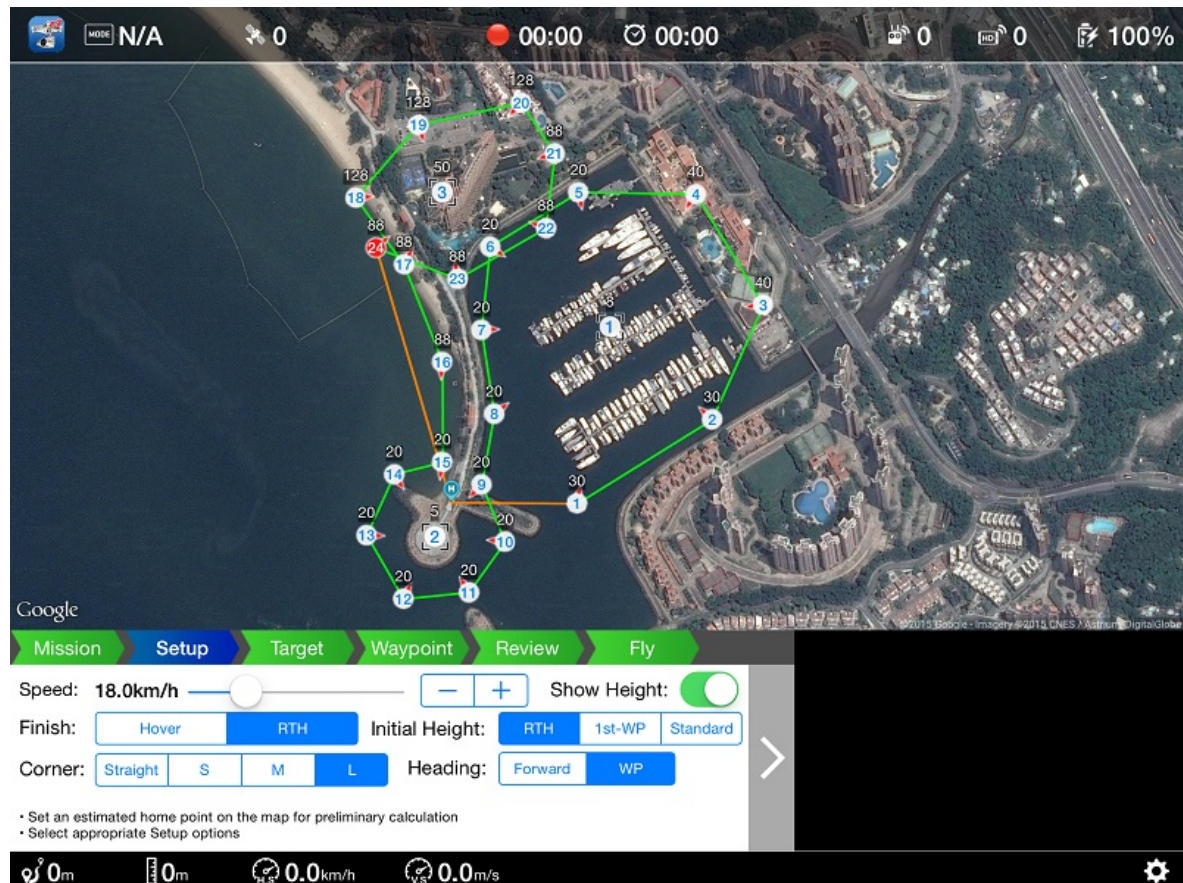
This is the most important step in Mission Planner to define crucial mission parameters. Tap > button to proceed next step upon Setup completion.

- Tap a planned home point on the map for preliminary calculation in [Waypoint](#) and [Review](#) tabs. You may tap any location on the map for moving the only home point.
- Speed - Define the required cruising speed, range from 7.2 to 54 km/h (4.5 to 33.5 mph). You may use either slider or -/+ buttons to adjust the speed accordingly. In general, you may use the slider adjusting to proximate speed, then use -/+ buttons for fine tuning. You are recommended to set lower than 18 km/h (11.2 mph) for shooting close targets with smooth footage.

You can always use RC pitch forward to speed up (or backward to slow down) aircraft during mission. It's common to shoot multiple targets in the same mission, but those targets might be far apart. In this case, RC pitch control is very useful to speed up flying from one target to another, in order to save battery on slow mission. Check [Mission](#)

[Planner Tutorial - Waypoints RC Speed & Yaw Control](#) for details.

- Show Height - Toggle On/Off to show/hide the height of both waypoints and targets on the map. This is very handy for planning various height of waypoint missions. Occasionally, you might want to turn this off if the map is too crowded.



- Finish - Define Finish action upon completion of the mission, which would affect preliminary calculation figures.
 - RTH (default): Aircraft RTH (Return-To-Home) and land automatically after completion of mission. This option is usually safer in case of lost RC control signal (RF interference, too far or blocked by obstacle) during mission. If you want to cancel RTH, press RTH button a few seconds or flip to P-mode on RC.
 - Hover: Hover at the last waypoint upon mission completed.
- Initial Height - Define the Initial Height upon starting the mission.
 - RTH (default): Aircraft ascends/descends to RTH altitude before flying to the first waypoint.
 - 1st-WP: Aircraft ascends/descends to the first waypoint

altitude before flying to the first waypoint.

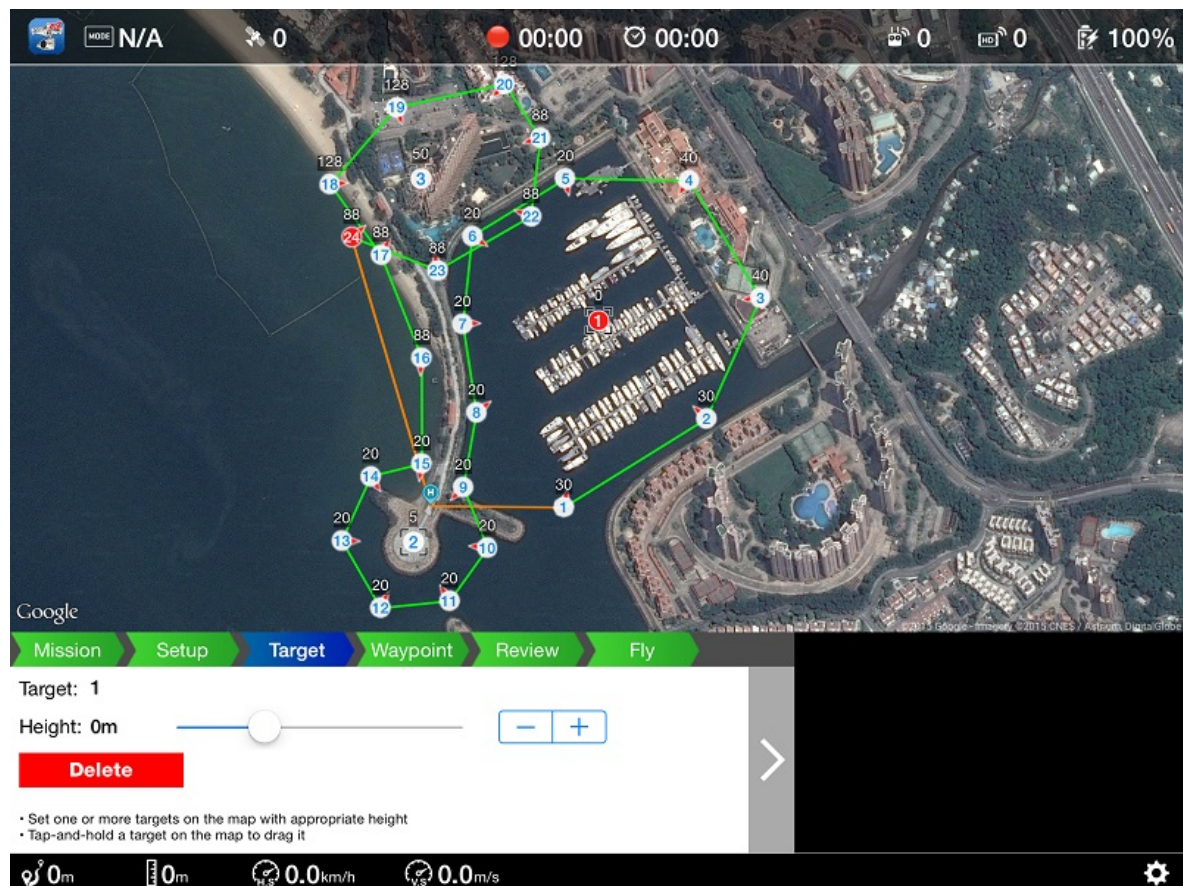
- Standard: Aircraft flies to the first waypoint diagonally from the current height. Beware of any obstacle in diagonal path between the current height and the first waypoint.
- Corner - Define the corner size of waypoints with Straight corner, S (Small), M (Medium) or L (Large) curved corners.
 - Straight: Aircraft stops at each waypoint a short period of time then fly to next waypoint. You may assign actions (such as wait, take photo, start/stop video recording) at each waypoint before proceeding to the next waypoint.
 - S, M, L: Aircraft is optimized to fly Small, Medium or Large curved corners WITHOUT stopping for smooth footage. If you set a high speed mission with sharp corner turns or short distance to next waypoints, aircraft might be slowing down automatically at the corners to maintain flying along flight path.
- Heading - Define aircraft orientation during mission
 - Forward: Aircraft flies forward by default along the flight path. Pilots are allowed to yaw the aircraft by RC during mission flight.
 - WP: Aircraft is heading toward a specified bearing per individual waypoint setting. Pilots CANNOT yaw the aircraft by RC during mission flight.
 - For safety reason, you might consider to fly a pre-mission flight with Heading set to "Forward", turn off "Auto-Tilt" in [Fly](#) tab and camera tilting forward as a preview to ensure no obstacles in the flight path. After pre-mission flight, you can then switch Heading back to "WP" for shooting footage.

Target

This step is used for setting one or more targets you want to focus in Target WP mission only. You need to define at least 1 target in Target WP mission. Tap > button to proceed next [Waypoint](#) step upon Target setup completion.

- Add Target - Tap on the map to set one or multiple targets. Use Height slider or +/- buttons to adjust the target height. Target height is a relative height to home point, and used for Auto-Tilt gimbal control to focus the targets.
- Select Target - Tap on an existing target to select it for changing

height or deletion.



- Move Target - Tap-and-hold an existing target (until the map shift-up a bit) then drag it on the map to required location. Once a target is moved, the orientation of all aiming waypoints would be changed accordingly.

Waypoint

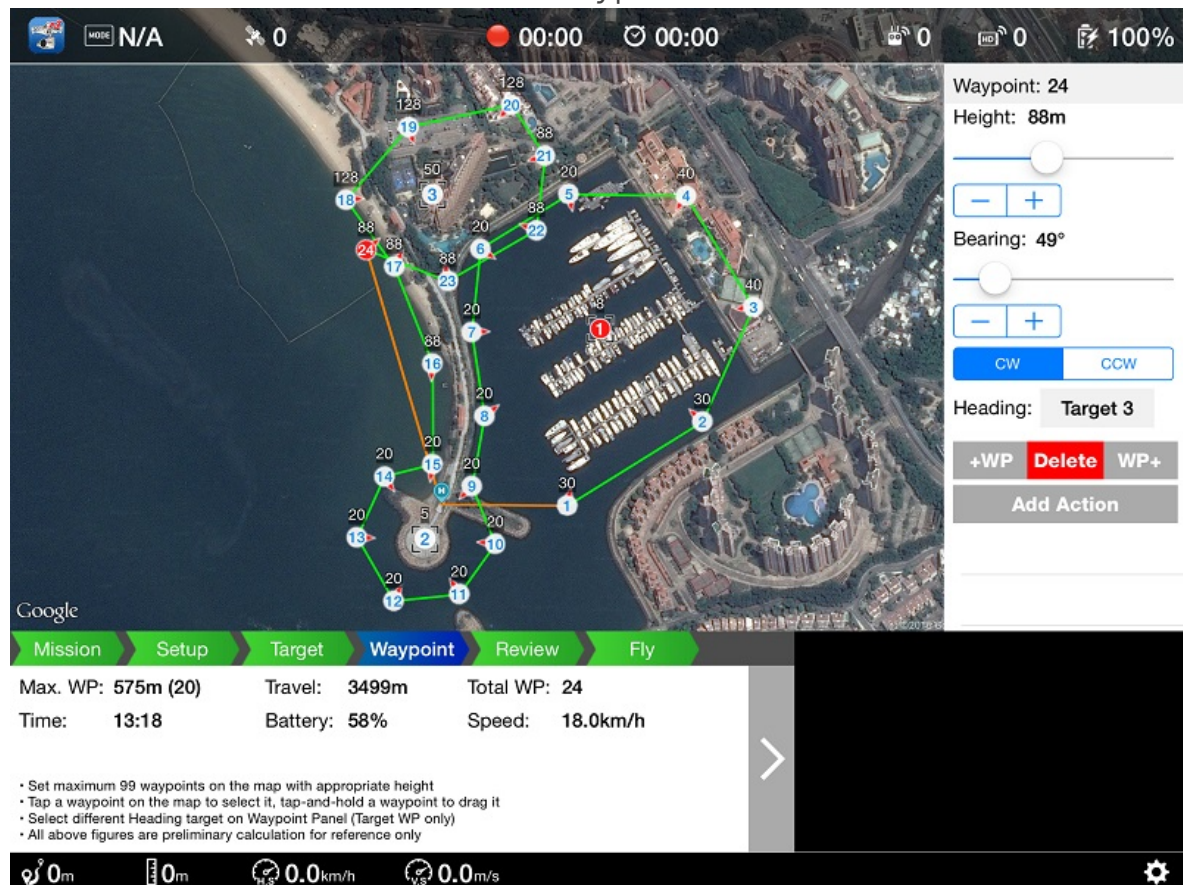
You would spend most of the time on this step for planning your autonomous waypoints flight, and Waypoint Panel is shown on the right of screen. Tap > button to proceed next [Review](#) step upon waypoints setup completion.

- Add Waypoint - Tap on the map to set one or multiple waypoints. For Target WP mission, each waypoint is heading toward the corresponding target (Target 1 by default) automatically.
- Select Waypoint - Tap on an existing waypoint to select it for changing attributes in Waypoint Panel.
- Move Waypoint - Tap-and-hold an existing waypoint (until the map

shift-up) then drag it on the map to required location.

- Preliminary Calculation (depending on Finish action of RTH or Hover in [Setup](#) tab). All these calculations are based on optimistic conditions for reference only.

- Max. WP: The farthest waypoint and distance from home point
- Travel: Total travel distance (including from home point to the first waypoint). If Finish set to RTH, it also includes the distance from the last waypoint back to home point.
- Time: Estimated flight time of the whole mission
- Battery: Estimated battery % required of the whole mission
- Speed: Cruising speed in [Setup](#) tab
- Total WP: Total number of waypoints



Waypoint Panel

- Height: Set waypoint height from -200m (-656ft) to 500m (1640ft), and the default height is 30m (98ft).
- Bearing: Set the orientation of each waypoint. This setting is only available with Heading mode is set to WP in [Setup](#) tab, or Heading aims to Null in Waypoint Panel. If Heading is set to a

target in Waypoint Panel, then Bearing is calculated automatically and disabled.

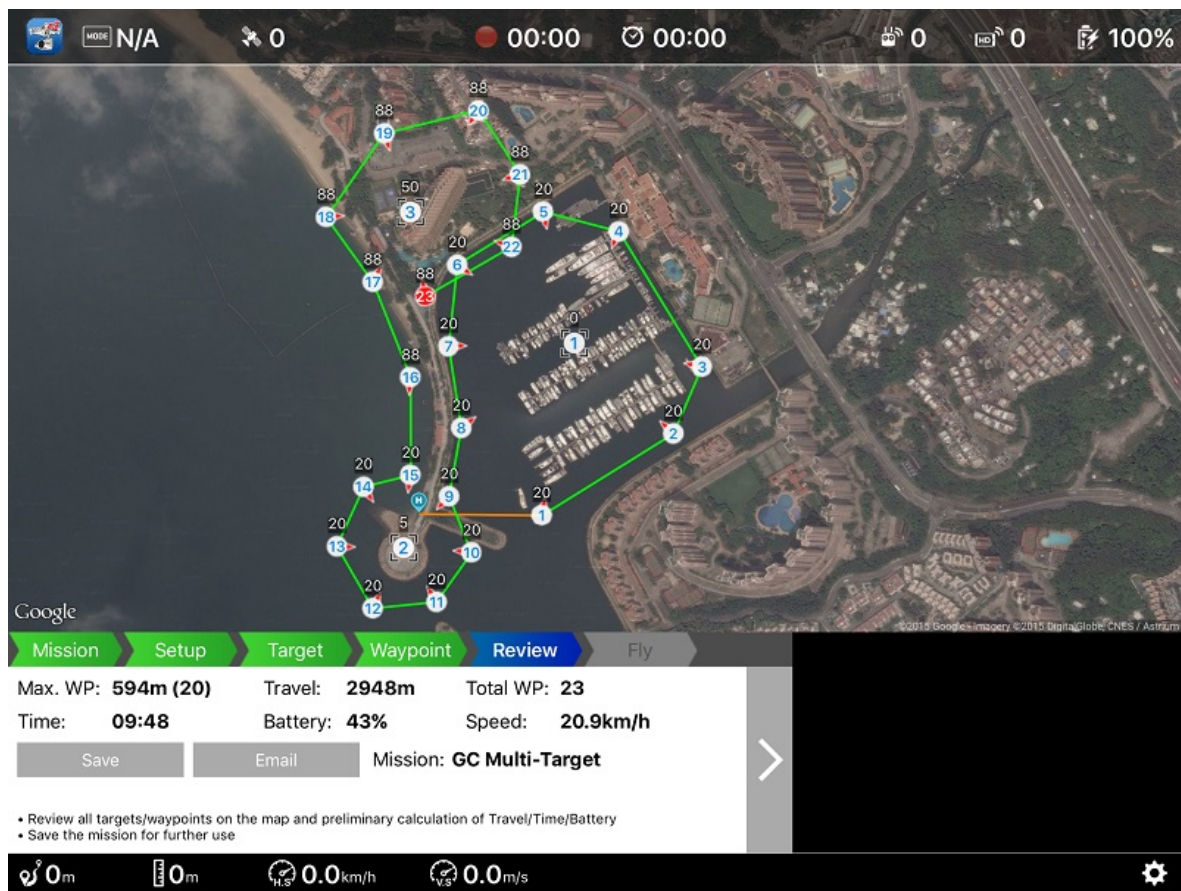
- CW/CCW: Set aircraft yawing CW (Clockwise) or CCW (Counter clockwise) to the next waypoint. This setting is only enabled in Waypoint mission and Heading is set to WP in [Setup](#) tab, or Heading set to Null in Target WP mission.
- Heading: Select a target from Target List for the waypoint to aim. This is only available in Target WP mission. You may select Null target to enable Bearing and CW/CCW option, and Auto-Tilt would not be engaged in these particular waypoints with Null target.
- +WP, WP+: Insert a waypoint before/after the current selected waypoint, then tap on the map to insert a waypoint. All onward waypoints will be re-numbered and preliminary calculation is executed accordingly.
- Delete: Delete a selected waypoint. All onward waypoints will be re-numbered and preliminary calculation is executed accordingly.
- Action: Add one or more actions upon reaching a particular waypoint. This option is only available for Corner mode is Straight. Available actions are Stay, Take Photo, Start Recording, Stop Recording. Swipe-left in Action list to delete an action.

Review

When you have completed setup of waypoints, this step let you review the settings, save the mission or share the mission to others by email. You may go back to previous steps to adjust settings if necessary. Tap > button to proceed [Fly](#) tab to prepare and start the mission flight.

• Preliminary Calculation - Same as Preliminary Calculation [Waypoint](#) tab

- Max. WP
- Travel
- Time
- Battery
- Speed
- Total WP



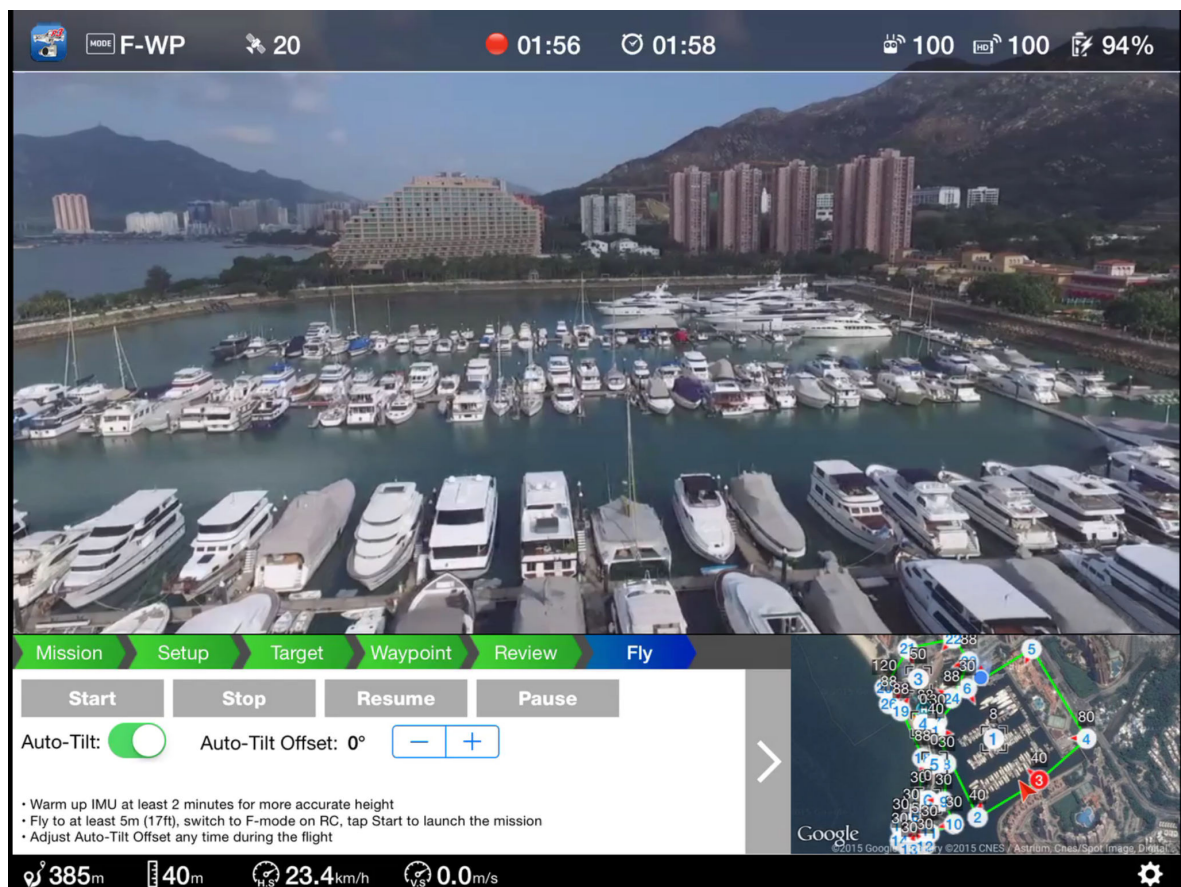
- **Save** - Save to existing mission or save as a new mission file for future use, like a document file. If you want to rename a mission, you may "Save as" a new file name and delete the original one in [Mission](#) tab.
- **Email** - You need to setup a valid email account on your device and save the mission. Mission file will be sent as a file attachment in the email. When you receive a mission file email, you may save and copy the attachment to the app Documents/waypoint folder. Mission file can be transferred by iTunes or third-party software (such as iFunbox, iTools).

Fly

In order to Start a mission flight, aircraft requires to take off at least 5m (17ft) height, and switch to F-mode on RC. To abort a mission and take over control, simply flip to P-mode on RC at any given time.

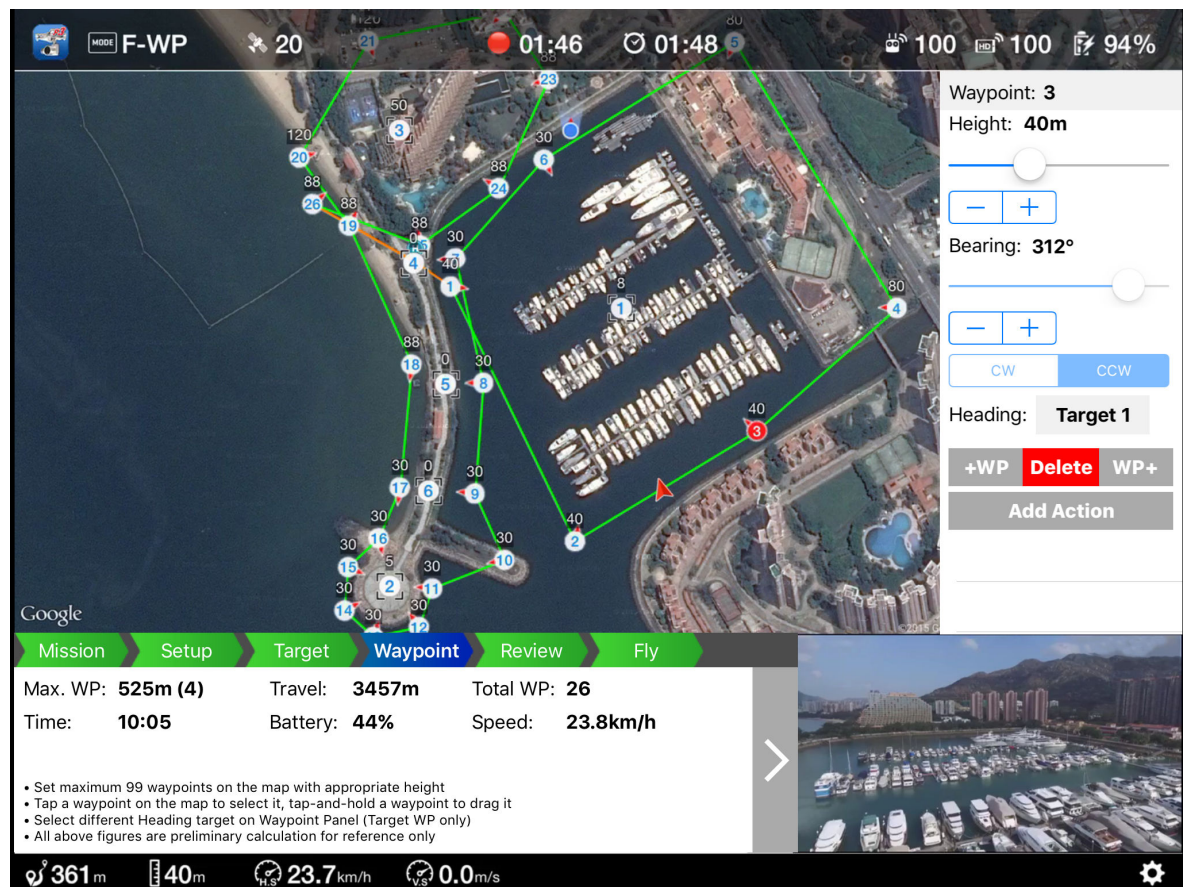
- **Start** - Prepare a checklist to start a mission
 - Check whether the aircraft takeoff at least 5m (17ft) or above.
 - Check whether RC switching to F-mode.

- Verify Initial Height (depending on [Setup](#) tab) to avoid obstacle between the current position and the first waypoint.
- If the checklist is passed, you will then be prompted "Do you want to continue? No/Yes". Tap "Yes" to upload the mission and start autonomous waypoints flight.
- If the checklist is failed with reasons, you will need to rectify the issues and start over again.
- Stop - Abort the mission and hover
- Resume - Resume a paused mission
- Pause - Pause a mission



- Auto-Tilt - Control gimbal tilting automatically to aim specified target (based on target height) per each waypoint in real-time. This powerful feature keeps your targets right at the center of your footage even with some very difficult footage. This option is only available in Target WP mission.
- Auto-Tilt Offset - Aircraft height (altimeter) may easily vary 15-20m (50-66ft) off the actual height, or users might misjudge target height. Auto-Tilt Offset allows you to adjust camera tilting in real-time of

maximum $\pm 10^\circ$ to compensate aforementioned discrepancy. This option is only available in Target WP mission.



- You may toggle the map view and FPV by tapping on the small window. Every time when you toggle the view, the map will perform auto-zoom once automatically to maintain all targets and waypoints staying in the map area. You may further zoom/pan the map as required on both main window or small window.

Important Notes

- Aircraft height (altimeter) may easily vary 20m (66ft) off the actual height after aircraft flying and heating up several minutes. You are recommended to set waypoint height minimum 25m (82ft). For example, if you set a waypoint height 25m, when aircraft reaches such waypoint 10 minutes later, the actual height might be only 5m (17ft) depending on the discrepancy of altimeter, though the altimeter is still reporting 25m height. This is likely a generic issue of DJI products family regardless apps or even without using app.

- It's recommended to set Finish to "RTH" in case of lost control signal during the mission.
- For safety reason, you might consider to fly a pre-mission flight with Heading set to "Forward" as a preview to ensure clearing any obstacles. After pre-mission flight, you can switch Heading back to "WP" for shooting footage.

Video Tutorial Links

[Fly Multi-Target Waypoints](#)

[Setup Multi-Target Waypoints](#)

[RC Speed & Yaw Control](#)