U|g|CS for DJI

Mobile companion application v. 2.4
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1. Preface

U|g|CS is a fully functional ground control software for your drone which runs on your PC. U|g|CS gives you all the tools required to plan aerial surveys, control your drone directly, monitor telemetry, view and record online video and do post-flight analysis. For more information, please visit www.ugcs.com.

U|g|CS for DJI mobile companion application (U|g|CS mobile companion) is an android application specific to:

- DJI Phantom 4 / Phantom 4 PRO (experimental),
- Phantom 3 (all editions)
- Inspire 1,
- Inspire 2 (experimental),
- A3,
- N3 (experimental),
- M600 / M600 PRO,
- M100,
- Mavic Pro (experimental)

Drone series. It bridges the gap between the drone and full featured U|g|CS desktop application but can also be used standalone.

⚠️ For DJI Phantom 2 Vision Plus please use U|g|CS for P2V+ application from Google Play¹ and compatible UgCS 2.9 update 1.

2. Drone connection and first run

2.1. Before you begin

To continue you need the following items:

- One of the following DJI drones:
  - Phantom 4
  - Phantom 4 PRO (experimental support),
  - Phantom 3 (all editions),
  - Inspire 1 (Professional, Raw),
  - Inspire 2 (experimental support)
  - autopilot A3\* series,
  - autopilot N3\* series (experimental support),
  - M600\* or M600 Pro\*,
  - M100,
  - Mavic Pro (experimental support).
- U|g|CS for DJI mobile companion – get the latest app from Google Play\(^2\)
- U|g|CS desktop application – get the latest version [here]\(^3\).
- Android 4.4+ compatible device (smartphone). It is recommended to use 4.5” display or larger.

2.2. First run

When launching the application for the first time, your smartphone must be connected to the internet, in order to pass DJI verification. This is an automatic process and does not need any input from the user.

2.3. Connecting smartphone to the drone

Connecting U|g|CS mobile to your drone depends on the type of drone you are using.

2.3.1. For DJI Phantom 3 Standard

The remote controller of DJI Phantom 3 Standard creates Wi-Fi network. Ensure your drone and RC has no obstacles in between. Connect your smartphone to the wireless network provided by this device, and then connect your laptop / PC with the installed U|g|CS desktop application to the same network. Launch U|g|CS for DJI application and wait until drone detected.
When both mobile application and desktop application are in the same network they should detect each other. Go to 2.4

The drone won’t be detected if you already have any connected applications like DJI GO, Litchi, etc. as multiple connections are not supported. In this case, close active applications and restart UgCS for DJI mobile application.

2.3.2. For other supported DJI vehicles

Start normally, by connecting your mobile device to the remote controller via the micro USB Cable. After that, your mobile device should propose you to choose between applications, for example DJI GO or UgCS for DJI, please choose UgCS for DJI.

If your android device does not give you the application choice, but opens DJI GO application, you will need to clear the defaults for DJI Go (Settings -> Apps -> DJI Go -> Clear Defaults).

The DJI drone type will be automatically recognized by the application.

Shortly after that you will be able to see application main screen:
In order to connect U|g|CS desktop application to the mobile companion, the PC and smartphone must be in the same network. You can use your mobile device as Wi-Fi access point or an external network router.

**In drone settings tab you can check your drone firmware version. Please keep always your drone up-to-date. If you don't see your drone firmware, that might mean you are using old firmware!**

2.4. Connecting U|g|CS mobile companion and U|g|CS desktop application

Once both devices are on the same network, connection will be established automatically. In the mobile app a green light in the window footer will confirm this.

2.5. Creating the route for your drone

When all previous steps are done and your drone connected to remote control, U|g|CS desktop application and U|g|CS mobile companion are in the same Wi-Fi network you should see your drone available to in U|g|CS desktop software.
Please note that some vehicles have the same profile in UgCS and can be displayed with common name:

<table>
<thead>
<tr>
<th>Vehicle</th>
<th>Common name (detects as)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phantom 4, Phantom 4 PRO</td>
<td>Phantom 4</td>
</tr>
<tr>
<td>A3, N3, Mavic Pro</td>
<td>A3</td>
</tr>
<tr>
<td>Inspire 1, Inspire 2</td>
<td>Inspire 1</td>
</tr>
</tbody>
</table>

*Installing new UgCS for DJI application, drone serial number may be different to serial number you have seen in old version of UgCS for DJI. In this case you will see two vehicle cards in UgCS: one for old application and one for new.*

You can keep old card in order to review previous flights telemetry data.

Please follow the instructions in UgCS User Manual⁴ to draw the route for the appropriate drone profile. After drawing the route calculate it and after successful calculation upload it to the drone.

In order to upload the route, the switch on Remote Controller should be in correct position:

- **Phantom 3** (Professional, Advanced) – mode “F”
- **Phantom 3** (Standard) - RC switch S1 down,
- **Phantom 4**, **Phantom 4 PRO** – mode “P”,
- **Inspire 1** (Professional, Raw), **Inspire 2** - mode “F”,
- **M600** \ **M600 Pro**- mode “F”,
- **M100** - mode “F”,
- **A3, N3** – mode “P”.

After uploading the mission press “Auto mode” command in UgCS desktop and drone should start the route.

*Note, Planning long routes, take in to account that the distance between adjacent waypoints should be smaller than 2 km. The first and last waypoints are also considered as an adjacent.*

### 2.6. Operation list of UgCS desktop and UgCS mobile companion

Below you can find the basic procedures for the flight route:

<table>
<thead>
<tr>
<th>№</th>
<th>Step</th>
<th>Where step is</th>
<th>Notes</th>
</tr>
</thead>
</table>

⁴ [https://www.ugcs.com/files/PDFs/Manuals/v2.9/user-manual.pdf](https://www.ugcs.com/files/PDFs/Manuals/v2.9/user-manual.pdf)
<table>
<thead>
<tr>
<th></th>
<th>performed</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Create route</strong> U</td>
<td>g</td>
</tr>
</tbody>
</table>
| 2 | **Upload route** U|g|CS desktop | Use U|g|CS desktop client to upload route to the drone after automatic calculation route:  
- Select drone (start route automatic calculation)  
- Press “Upload” button  

Pay attention to the remote control modes:  
**Phantom 3** (Professional, Advanced) – mode “F”  
**Phantom 3** (Standard) - RC switch S1 down,  
**Phantom 4, Phantom 4 PRO** – mode “P”,  
**Inspire 1, 2** (Professional, Raw) - mode “F”,  
**M600 \ M600 Pro-** mode “F”,  
**M100** - mode "F",  
**A3, N3** – mode “P”.  

Stopping a mission can be done by switching the RC switch from "F" to "P". With the Phantom 4 (PRO), stopping the mission can be done by switching the RC from "P" to "S" (Sport) mode.  

Also user should be careful where they set a new home point location (see route settings home location source). A home location is valid if it is within 30m of:  
- initial take-off location  
- aircraft’s current location  
- remote controller’s current location as shown by RC GPS  
- mobile device’s current location  

**Route will not be uploaded if drone have executing the mission. In this case you need to send “hold” or “manual mode” command.**
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td><strong>Auto – Launch route</strong></td>
<td>Use UgCS desktop client or UgCS mobile companion to launch route. Press “Auto mode” commands for the drone in UgCS desktop or button on Android. If drone finishes the route, “Auto Mode” button is again enabled and user can repeat the route. <strong>For Phantom 3 Standard, ensure RC throttle stick in not locked down!</strong></td>
</tr>
<tr>
<td>4</td>
<td><strong>Manual mode</strong></td>
<td>Switches the vehicle to manual mode. User can control vehicle with RC. This command interrupts mission execution and erases it from drone memory. User can upload new route to execute.</td>
</tr>
<tr>
<td>5</td>
<td><strong>Hold</strong></td>
<td>Puts mission execution on hold. In case of Click &amp; Go flight stops the vehicle and clears current target point.</td>
</tr>
<tr>
<td>6</td>
<td><strong>Continue</strong></td>
<td>Continues mission execution from point where mission was put on hold.</td>
</tr>
</tbody>
</table>
| 7 | **Track mission execution** | 1. Use UgCS desktop client for track telemetry information of the vehicle.  
2. Use UgCS mobile companion for control camera.  
3. Use both applications for change control mode or failsafe command execution (return to home). |
<p>| 8 | <strong>Make pictures or record video</strong> | Use your remote control or dedicated buttons in UgCS mobile companion application to make shot or start/stop video recording. |</p>
<table>
<thead>
<tr>
<th>Step</th>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td><strong>Configure camera</strong></td>
<td>You can configure the camera as you need. For photo and video, users can configure camera parameters and etc. Please see &quot;Camera settings&quot;.</td>
</tr>
<tr>
<td>10</td>
<td><strong>Land</strong></td>
<td>Phantom 3 and Inspire 1 support Land mission item in UgCS Desktop. Or use Return to Home command in UgCS mobile companion. When returning home, be sure to maneuver your aircraft to avoid any obstacles.</td>
</tr>
<tr>
<td>11</td>
<td><strong>Click &amp; Go</strong></td>
<td>Allows you to interactively command the copter to travel to a target location by clicking on a point on the map. See 3.6 Click &amp; Go section for more information.</td>
</tr>
<tr>
<td>12</td>
<td><strong>Joystick</strong></td>
<td>Control vehicle from joystick</td>
</tr>
<tr>
<td>13</td>
<td><strong>Return Home</strong></td>
<td>UgCS desktop OR UgCS mobile companion</td>
</tr>
</tbody>
</table>
3. Mission execution specifics

Current part of article relates to UgCS desktop application and vehicle behavior.

Mission waypoint actions supported by DJI:

<table>
<thead>
<tr>
<th>Flight plan element / action</th>
<th>Support</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Land</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
| Camera control               | Yes     | You can set camera tilt angle.  
- camera yaw angle will force aircraft to make yaw at given waypoint.  
Also you can use RC or UgCS mobile companion to control camera tilt.  

*For Waypoint mission (all drone types), possible tilt values are [0..90].*

*For "Set Camera altitude / zoom" action setting camera yaw different from 0.0 will trigger relative "RotateAircraft" for all models.*

| Camera mode                  | Yes     | You can start/stop video recording or make single shot at given waypoint.  
Also you can use your remote control or dedicated buttons in UgCS mobile companion application to make shot or start/stop video recording. |

<p>| Wait                         | Yes     | Only one wait action per waypoint is allowed. |
| Yaw                          | Yes     | Yaw on DJI drones is a bit of magic - setting yaw on some waypoint means for drone &quot;reach waypoint, start moving to next waypoint and arrive to next waypoint with requested yaw&quot; drone will slowly change yaw during flight to next waypoint. |</p>
<table>
<thead>
<tr>
<th>Flight plan element / action</th>
<th>Support</th>
<th>Notes</th>
</tr>
</thead>
</table>
| Panorama                    | Yes     | **DJI drones has limits on amount of actions can be executed on each waypoint.**
|                             |         | *Application may automatically adjust angular step value in order to match this limits.* |
| Camera by time              | Yes     | **Parameters angular velocity and per-sector waiting are ignored.** |
| Camera by distance          | Yes     | **Minimal time interval is different for different DJI drones. If the time interval is too shot, you will receive an error message during mission execution. We are recommending always test your mission on simulator before going to the fields.** |

**DJI drone** will start continues photo capturing with a time delay till next waypoint. You can add number of photos and a delay before the shot series are started. During mission, user can stop this action execution by pressing “photo/video button” on mobile application.

**Minimal time interval is different for different DJI drones. If the time interval is too short, you will receive an error message during mission execution.** We are recommending always test your mission on simulator before going to the fields.
3.1. Failsafe actions

The failsafe action, like «Home location» and «On RC signal loss» can be configured in route parameters menu.

Note, a point «Home location» is valid if it is within 30m of:

- initial take-off location
- aircraft's current location
- remote controller's current location as shown by RC GPS or
- mobile device's current location

Note, the new home location will be ignored if the drone is on the ground and disarmed. The home location will be automatically assigned to current position upon takeoff.

Emergency return altitude will be used by the drone in case of failsafe event

If the current drone altitude is lower than Emergency return altitude, the aircraft will adjust its nose direction to face the home point and will go to an specified emergency altitude before returning home.

If the current drone altitude is higher than Emergency return altitude, the aircraft will adjust its nose direction to face the home point and fly home at its current altitude.

When returning home, be sure to maneuver your aircraft to avoid any obstacles.

Complete list of failsafe actions you can find and configure in DJI Assistant software. The default settings are as follows:
<table>
<thead>
<tr>
<th>Condition</th>
<th>Behavior</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>On GPS signal loss</td>
<td>Land</td>
<td>Happens when there are less than 6 satellites visible for more than 20 seconds</td>
</tr>
<tr>
<td>On RC signal loss</td>
<td>Finish mission if the drone is in auto mode and return to home.</td>
<td>Return home altitude is defined in route settings tab.</td>
</tr>
<tr>
<td>On low battery</td>
<td>Land</td>
<td>See autopilot User Manual for more information.</td>
</tr>
</tbody>
</table>

When you create a flight route, please, pay special attention to location of a point «Home location» regarding to the route! Point «Home location» must be specified so that if «Fail-safe» mode is switched on the drone from any point of the route is able to fly in a straight and not face with obstacles (buildings, terrain features).

3.2. Command execution specifics

Current part of article is about vehicle behavior. Some commands you can find in the U|g|CS desktop application, some in the U|g|CS mobile companion. See table below for more information.

**Supported commands:**

<table>
<thead>
<tr>
<th>Command</th>
<th>Support</th>
<th>Application</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arm</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disarm</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auto Mode</td>
<td>Yes</td>
<td>U</td>
<td>g</td>
</tr>
<tr>
<td>Hold</td>
<td>Yes</td>
<td>U</td>
<td>g</td>
</tr>
<tr>
<td>Continue</td>
<td>Yes</td>
<td>U</td>
<td>g</td>
</tr>
<tr>
<td>Manual Mode</td>
<td>Yes</td>
<td>U</td>
<td>g</td>
</tr>
<tr>
<td>Return Home</td>
<td>Yes</td>
<td>U</td>
<td>g</td>
</tr>
<tr>
<td>Take-Off</td>
<td>No*</td>
<td>U</td>
<td>g</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>---------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Land</td>
<td>No*</td>
<td>U</td>
<td>g</td>
</tr>
<tr>
<td>Click &amp; Go</td>
<td>Yes</td>
<td>U</td>
<td>g</td>
</tr>
<tr>
<td>Joystick</td>
<td>Yes</td>
<td>U</td>
<td>g</td>
</tr>
</tbody>
</table>

If within the distance of 20 meters from the home point, you execute GoHome command, the aircraft will directly land in the current location instead of returning back to the home Point!

If predefined route Emergency Return Altitude is less than vehicle current altitude, vehicle returns home with vehicle altitude at which Return Home button/command was used.

3.3. Command availability

U|g|CS Desktop can show command buttons in different shades. You can always press all buttons disregarding of shade. Highlighted buttons suggest recommended commands, depending on current status of the vehicle.

3.4. Telemetry information specifics

Vehicle state (armed/disarmed) is controlled from RC transmitter.

Flight mode meaning:

- Auto: Vehicle is executing mission or is returning to launch position.
- Manual: Vehicle is holding position.
- Click & Go: Vehicle is ready to fly to target point.

User can take over the control from any mode at any time by flipping the RC mode.
If you see strange altitudes in UgCS desktop client telemetry window, please check your vehicle “Take-off point altitude”.

3.5. Waypoint turn types

UgCS desktop route planning allows you to specify different turn types – i.e. the way drone passes the waypoint. There are 2 different routing planning modes for DJI autopilots: fixed-point turn mode (Stop and Turn) and adaptive coordinated turn mode (Adaptive Bank Turn). You can choose turn type for each Waypoint, Circle, and Perimeter. The default turn mode in the system is Stop and turn.

![Figure 1: Turn type](image)

<table>
<thead>
<tr>
<th>Turn type</th>
<th>Support</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop and Turn</td>
<td>Yes</td>
<td>Aircraft flies to the first fixed point accurately, stops at the fixed point and then flies to the next fixed point.</td>
</tr>
<tr>
<td>Adaptive Bank Turn</td>
<td>Yes</td>
<td>Aircraft will not stop at the fixed point, but will “cut the corner” and pass through without a stop. The maximum corner radius can be adjusted in UgCS for DJI mobile application in “drone specific settings”.</td>
</tr>
</tbody>
</table>

Please note that in most cases with Trajectory Type: Safe, Adaptive Bank turn type will not work.

E.g. in case with 3 WPs which have different altitudes, Adaptive Bank turn type will not work, since ascending/descending movement must happen above the corresponding WP. As a consequence with Trajectory Type: Safe in most cases where the WPs have different altitudes, Adaptive Bank turn type will not be applied.”
3.6. Click & Go

Click & GO mode allows you to interactively command the copter to travel to a target location by clicking on a point on the map. Once the location is reached, the copter will hover at that location, waiting for the next target. This behavior implemented as a mini mission containing two waypoints: current drone position and target point.

In order to start Click & GO mission, you need to interrupt currently running task by switching to manual mode and then select a point where you want to fly.

Steps:

- Press “Click & Go” commands
- Click on the map to define target point
- Adjust additional parameters “AGL alt”, “Speed” and “Heading” if needed and press confirm to send command to the drone
- Press «OK» button.

Heading it is the angle between north direction and the vehicle bow.

When you perform Click&Go mode for drone on the ground it firstly go up to “Minimal safe altitude” (default – 5m, can be changed at Settings – Drone Specific Settings) and then going to selected point.

It may be necessary set Take-off point altitude (3.7 Set Take-off point altitude).

If you interrupt some action trigger (Camera by time, Camera by distance and etc.) with Click & Go command this action will not be performed when you click Continue button. Actions at next waypoints will work as usual.
3.7. Set Take-off point altitude

If the drift barometer sensor on the vehicle has reached a certain threshold, the UGCS can request information on the current altitude of the vehicle.

The same can occur when the data from the barometer sensor reset (for example, restarting the vehicle).

You can determine this when in vehicle log will see the following error:

*Route upload failed. Command cannot be sent: please specify take-off point altitude for the drone.*

In these cases, the following window appears:

![Take-off point altitude window](image)

You can click to set value from the current terrain altitude under the vehicle.

![Set value from current terrain](image)

Or you can set value manually.
4. Using Simulator

There are two possible simulator engines to use with U|g|CS – U|g|CS mobile companion simulator and DJI PC Simulator.

U|g|CS Mobile Companion simulator is a simulator built-in mobile companion application for Android devices. See 4.1 below for using information.

The DJI PC Simulator is a flight simulator designed for developers. Moreover, you can use it to perform safe tests of your flights. The simulator creates a virtual 3D environment and provides data analysis from flight data transmitted to the PC with U|g|CS.

To enable simulator built-in mobile companion, you need just go to Menu > Simulator:

And check the box:
Next you can specify takeoff coordinates:

You will be informed with message at main screen. Now you can control simulator through remote control and U|g|CS.

**Always turn-off simulator after use!**

After downloading the route to in the emulator, the vehicle will be moved to the home position of the route at ground level if the drone current locations is more than 500m away from the new route first waypoint.

Built-in simulator is our new function so check Troubleshooting section of this manual if you experienced any problems.

There are applications to emulate the flight of the DJI. For example “DJI PC Simulator”. You can control simulator through remote control and U | g | CS.
5. U|g|CS mobile companion user interface
The mobile companion interface includes Main Screen and Settings Menu.

5.1. Main screen

The Main application screen has live video preview on the background. You can see live video stream at UgCS Desktop client after enabling Live stream.

Main application screen could be divided in five zones, as shown on image: system bar (1), vehicle control panel (2), payload control (3), camera position control panel (4), camera settings (5) and application status bar (6).

System bar (1) display standard Android device bar. Usually this part of screen includes status of network connection (Wi-Fi, 3G/LTE etc.), device battery level and time.

The camera position control panel (4) consist of the blue indicator showing camera current position. To control camera just touch display and move finger up and down or left and right (if yaw is supported by your payload). You can invert camera control in Settings of main menu.

You can also configure various camera parameters from the camera settings (5). Tap to set ISO, shutter and exposure values of the camera.

The application status bar (6) displays main status indicators from the vehicle and UCS connection status.
You can see SD card remaining memory percent (a), number of visible satellites (b), range extender or remote control battery voltage (c). You need to have connection from UCS to UgCS mobile companion to upload mission, control vehicle from UgCS client and record telemetry. Status of this connection displays in the part (d). Drone battery status displays in the part (e). In the bottom-right corner of the main screen are three flight status indicators: distance to home position* (f), altitude above ground (g) and airspeed h).

The vehicle control panel (2) consists of the following buttons:

- go to Home location

- set Home location

- take-off

- pause mission

- resume

- restart

Payload control (3) consists of button to select camera mode – photo or video and make shot/start & stop video recording button. Also this panel has button for navigation to Settings Menu.

In the settings page you can select photo camera working mode: single photo, multiple photos, continuous photo capturing**

* - “Dist.” (distance from home position) indicator displays distance projected to the ground, not actual (vertical + horizontal distance).

** - Continuous photo may not work for Inspire 1.
5.2. Camera settings

You can make the camera settings (see 5.1 #5)

Camera settings contain the camera settings for photos, camera settings for video and basic settings of the camera.

Note: for vehicle DJI, Camera Settings type resolution, aspect ratio applies only to photos and videos saved to the memory card drone. On real time video-stream have no effect. Various filters are recorded on camera video-stream.

5.2.1. Camera settings for photos

Camera settings for photos contain the following options:

Capturing mode - the parameters of the control shutter;

Image ratio - the ratio of the sides in the frame;

Image format - the recording format of the frame to the memory card.

5.2.2. Camera settings for video

Camera settings for video contain the following options:

Video size - the parameters of the frame image resolution;

Video format - the recording format of stream to the memory card;

NTSC/Pal – used colour encoding systems;

5.2.3. Basic settings of the camera

White Balance - is the global adjustment of the intensities of the colors;

Exposure Mode - the parameter lets you choose the exposure automatic or manual modes;

ISO – parameter to change the equivalent sensitivity matrix and their subsequent analog-to-digital algorithms conversion in the color space;

Shutter Speed - is the length of time when the digital sensor inside the camera is exposed to light, also when a camera's shutter is open when taking a photo or frame of video. Is the same as exposure time;

EV - exposure value (EV) is a number that represents a combination of a camera's shutter speed and f-number (focal ratio), such that all combinations that yield the same exposure have the same EV (for any fixed scene luminance);

Format SD Card – used colour encoding systems;
5.3. Settings menu

Settings Menu has four sections:

- DJI Drone
- Camera
- App Settings
- About area.

“DJI Drone” area includes:

1. First field displays information about connected drone: type, serial number and firmware version.
2. Built-in Simulator option.
3. Drone Specific settings.
• Corner radius controls the curvature of the path in case if the route contains Adaptive Bank Turn waypoints.
• Go first waypoint mode has 2 options: Safety and Point to Point. Safety mode will force drone to reach required altitude before moving to 1st waypoint. In Point to Point mode drone will move to 1st waypoint in strait line directly from current location.

“Camera” area includes the following fields:

• Show Preview field allows to enable or disable video streaming in main view;
• More Camera Settings – advanced settings based on drone type:

Users can select between Single photo capture and capturing by time interval. In case of Interval, users can set photo count and interval value.

*Minimal time interval is different for different DJI drones. If the time interval is too short, you will receive an error message when pressing photo button. In this case try to increase time interval.*
“App Settings” area has two fields:

- User Interface field allows to change user preferences settings, for example Localization setting: Select the unit system to use throughout the app.
- Advanced field allows to configure application settings which are necessary for normal functionality of application, it includes Enable/Disable SSDP for automatic searching of U|g|CS desktop application in local network.
- Logs directory access.

“About” area has the following fields:

- Version field shows current version of this mobile application.
- Network settings field shows current network information.
- UCS connection port shows port which currently is selected.

“Live stream” stream video to U|g|CS desktop application Show Enable Live Stream field allows to enable or disable video streaming in U|g|CS desktop application or media player;

- Live Stream Port – advanced settings for set channel port:

More information can be found in the document "User manual" in the section "Video display and recording" and "Configure connection to the Videostream".

In UGCS client video is always displayed with aspect ratio 3:4.
6. Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you can't launch U</td>
<td>g</td>
</tr>
<tr>
<td>Drone reject the flight</td>
<td>Difference in altitudes of your route is more than 120 meters</td>
</tr>
<tr>
<td>Experience problems with drone connection</td>
<td>Check out native “DJI GO” application is not installed</td>
</tr>
<tr>
<td>Your device does not appear on map view screen</td>
<td>Specify your vehicle the in vehicle list:</td>
</tr>
<tr>
<td>No connection to the mobile application UGCS between your PC and mobile devices</td>
<td>Try to restart PC U</td>
</tr>
<tr>
<td>If the U</td>
<td>g</td>
</tr>
<tr>
<td></td>
<td>○ Restart PC application (UGCS standalone client).</td>
</tr>
<tr>
<td></td>
<td>○ Make sure both device, your smartphone and PC is in same network.</td>
</tr>
<tr>
<td>If your receiving message like this: “Route upload failed</td>
<td>This situation can happen if you are using waypoints with Adaptive bank turn and the distance between two points is too small to perform nice curve. Open Drone Specific settings and decrease damping distance. In case of any issues with the software, please report them to <a href="mailto:support@ugcs.com">support@ugcs.com</a>*.</td>
</tr>
<tr>
<td>Route segment 2 is too short to perform damping</td>
<td></td>
</tr>
<tr>
<td>Route segment 2 is too short to perform damping</td>
<td></td>
</tr>
<tr>
<td>Decrease damping distance. (suggested 13.4 m)”</td>
<td></td>
</tr>
<tr>
<td>Issue</td>
<td>Solution</td>
</tr>
<tr>
<td>-------</td>
<td>----------</td>
</tr>
<tr>
<td>If your receiving message like this: “Route upload failed Set home location FAILED Error! A location is valid if it is within 30M of initial take-off location OR current RC location as shown by RC GPS or mobile device GPS”</td>
<td>The user should be careful where they set a new home point location (see route settings home location source) as in some scenarios the product will not be in control of the user when going to this location. A home location is valid if it is within 30m of: 1. initial take-off location 2. aircraft's current location 3. remote controller's current location as shown by RC GPS 4. mobile device's current location</td>
</tr>
<tr>
<td>Your receiving “Route upload failed” when trying to upload route with Circle item</td>
<td>Ensure your route start point is not at the same palace as route end point. You can add one extra WP before or after circle or add takeoff or land command.</td>
</tr>
<tr>
<td>You always see “Permission Check Failed” dialog</td>
<td>Check your network connection. Some proxy servers may block verification request. You need to be connected to the internet when starting your application first time in order to perform DJI verification. You also can try to reinstall application.</td>
</tr>
<tr>
<td>Video preview is not shown</td>
<td>This issue could happen if you previously changed video resolution in DJI GO application. In order to fix it, please close U</td>
</tr>
<tr>
<td>Some waypoint actions are ignored and you receiving message like this: “Route Uploaded With Warning Some waypoints have too many actions. Nr: 2”</td>
<td>This warning is related to DJI drones' waypoint actions limit – you can use maximum 15 action for 1 waypoint. Note: photo panorama uses 2 actions for one segment (rotate aircraft and make photo)</td>
</tr>
<tr>
<td>During mission execution you receive message like this:</td>
<td></td>
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<tr>
<td>---</td>
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</tr>
<tr>
<td>“Camera is busy command is not supported in the Camera’s current state”</td>
<td></td>
</tr>
<tr>
<td>That means the time interval between two shots is too small, try to decrease flight speed (if you are using camera trigger by distance) or increase time interval.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Get this error: “The distance between adjacent waypoints should be smaller than 2km. Note, that first and last waypoints are also considered as an adjacent”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set waypoint closer to each other or supplement route to home.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drone does more pictures than specified or Filming continued after reaching the last point in the complex algorithms (e.g. Area Scan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>When planning a route, after the passage of a complex algorithm, you must install the Waypoint no Actions. After the device will make the designated or calculated number of shots, shooting stops.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drone continues capture pictures by some interval after mission completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press “photo/video button” on mobile application in order to stop this action. (This scenario can happen if user sets camera trigger by time in last waypoint)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Message like “Execution of this process has timed out” even if you have no any obstacles between the drone and RC and you have good GPS signal (or you are in simulator mode)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sometimes during mission upload or attempt to switch to auto mode, you can get this message even if you have no any obstacles between the drone and RC and you have good GPS signal (or you are in simulator mode). The problem is not only the obstacles, but the interfere would lead to the timeout as well.</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>“Simulator is on” message on the screen after drone restart (for example you changed the battery)</th>
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<tbody>
<tr>
<td>Please restart mobile application or open application menu and stop simulator.</td>
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</table>

<table>
<thead>
<tr>
<th>Faulty video stream displayed at UGCS client</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please set the camera settings aspect ratio = 4:3</td>
</tr>
</tbody>
</table>

*Please about errors report to support@ugcs.com. Please send us a detailed description of the problem and your version number which you can find in the settings menu. Please try to provide screenshots and logs together with a description of the issue – Logs can be found in the following locations: Device storage>Android>data=com.ugcs.android.vsm.dji>files>logcat directory.*