iX Flight Pro

Operation Guide

Rev 3.0

PHASEONE

Legal Notice

The company disclaims all liability and warranties in relation to this manual, including warranty of merchantability, fitness for particular purpose and accuracy, and may amend it without further notice.

Warning

- iX Flight Pro is not designed, tested, or certified as a primary flight guidance system.
- Use iX Flight Pro only in VFR flight conditions.
- While using iX Flight Pro, the pilot is responsible for maintaining safe altitude and safe distance from obstacles.

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Contact Support

You can contact Phase One Technical Support directly by creating a support case at

https://support.phaseone.com/

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iX Flight Pro Operation Guide 26/06/2025

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1. Introduction

1.1. Scope

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- Section 6 - Recommended Flight Operation Procedure.
- Section 7 - Post Flight Operations
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- Appendix B - Exporting and Importing Settings
- Appendix C - Using the Simulator
- Appendix D - Requesting and Installing a License

1.2. Applicable Documents

Item	Manual
Phase One Controllers	Connecting to a Phase One Controller Using Remote Desktop Connection
Phase One iX Plan	iX Plan Operation Guide
Phase One iX Process	iX Process Operation Guide
Phase One iX Capture	iX Capture User Guide
Phase One PAS 150MP MK3	PAS 150MP Operation Guide MK3
Phase One PAS 280MP MK3	PAS 280MP Operation Guide MK3
Phase One PAS 880	PAS 880 Operation Guide
Phase One PAS Pana	PAS Pana Operation Guide

2. Product Overview

2.1. Description

iX Flight Pro, integrated in certain PAS controllers, contains all functions required for aerial photography flight management and image collection, from engine start to post-landing. It serves as a flight management center, interfacing with all hardware such as cameras, Applanix GNSS/IMU, SOMAG mount, and pilot/operator monitors.

The flight director module provides position altitude and speed commands to the pilot based on mission design and planned tolerances. This easy-to-follow flight director graphical display enables the execution of long missions with low pilot fatigue, resulting in higher mission safety and quality. The operator's monitor aids in mission and image collection management. A graphical collection summary ensures that all images are captured at the correct locations and quality within the required speed and height tolerances.

iX Flight Pro imports flight plans created in iX Plan.

Continuously displayed images and exposure value graphs allow the operator to manage camera parameters for best image acquisitions. Post-flight reports are used to decide whether the mission was successfully completed.

2.2. Requirements

iX Flight Pro is preinstalled on Phase One controllers when a PAS solution is ordered by customers.

Note

This version of iX Flight Pro has been tested on and is optimized for use on:

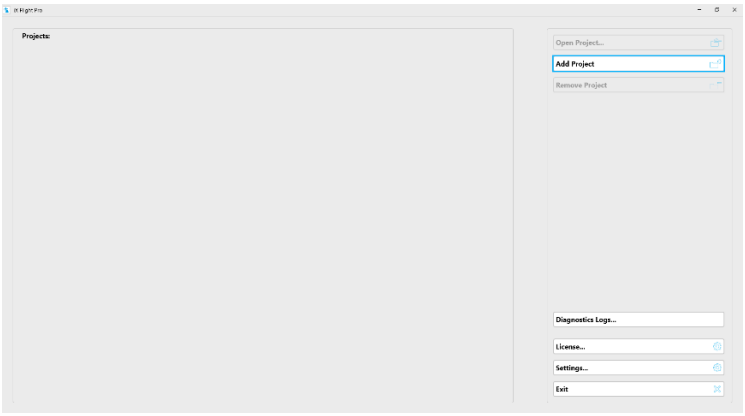
- iX Controller MK6
- PAS POD controller

3. Managing Projects

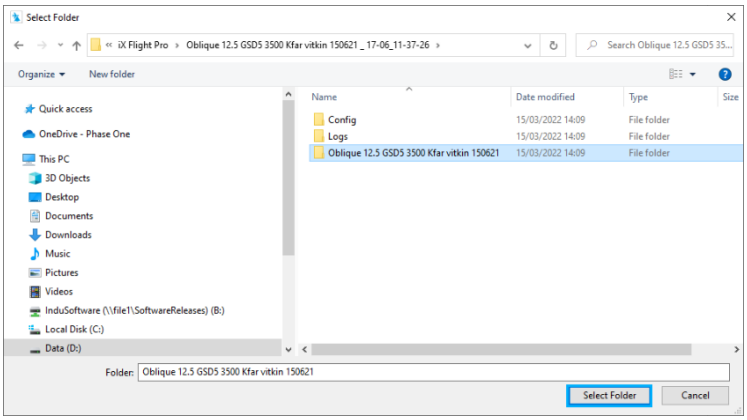
3.1. Importing a Project from iX Plan

To import a flight plan from iX Plan:

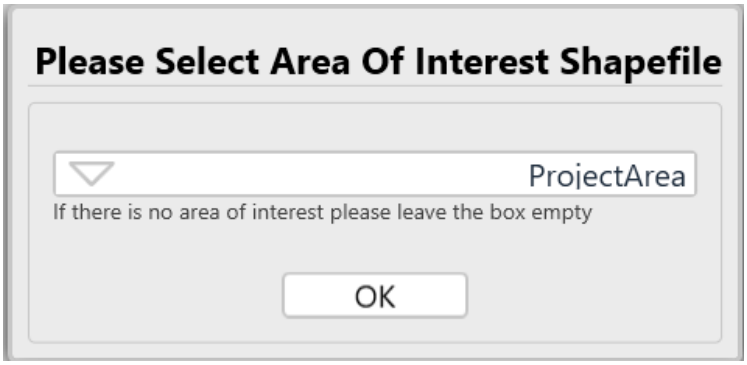
1. In the Home window, tap **Add Project**.



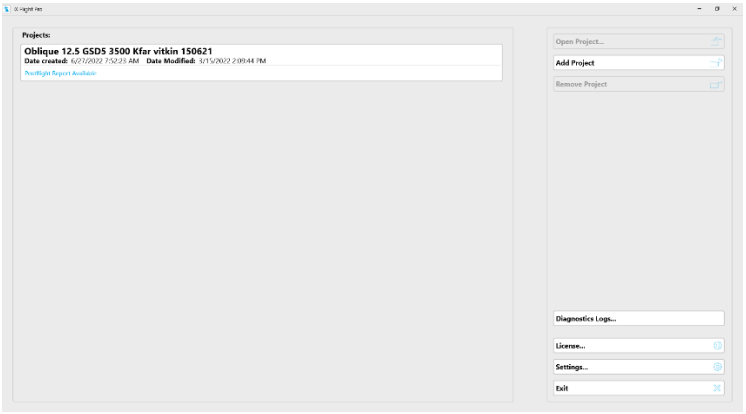
2. Navigate to the folder containing the required iX Plan project and tap **Select Folder**.



3. Select an area of interest shapefile. This file has the same file name that was used during planning to define the project area.
4. Click **OK**.



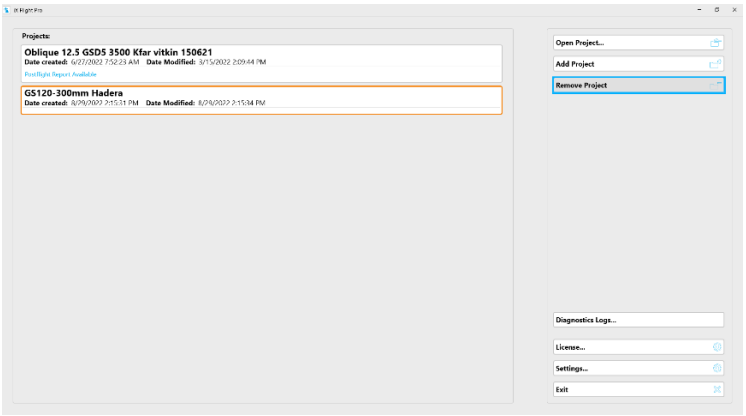
The project is imported and added to the Home window project list.



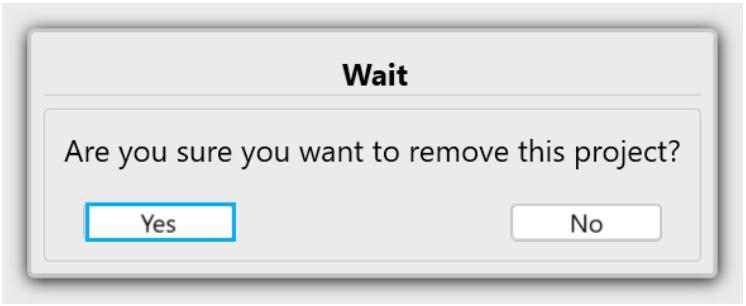
3.2. Removing Projects

To remove a flight plan from the Home window projects list:

1. In the Home window, tap the required project and tap **Remove Project**.



2. Tap **Yes**.

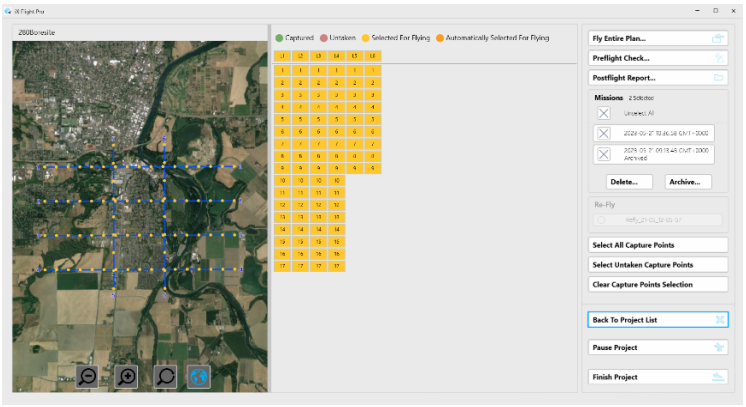


The project is removed from the Home window project list. No files are deleted from the hard drive.

3.3. Returning to the Home Window

To return to the Home window from the Project window:

1. Tap **Back to Project List**.



4. Project Tasks

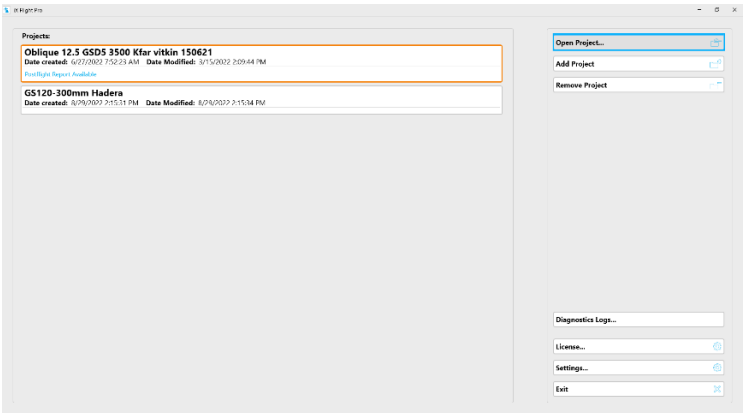
Before commencing a flight, you must validate your system configuration and plan the upcoming mission, as described in this section.

4.1. Performing a Preflight Check

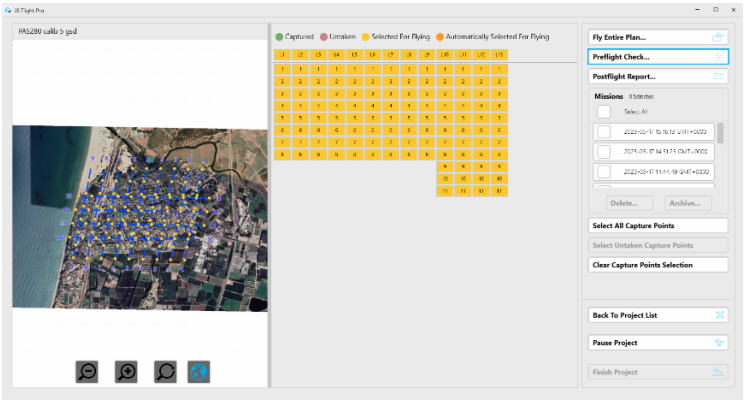
The preflight check validates that the configuration of the actual connected system matches the configuration defined in iX Flight Pro. If there are discrepancies, relevant warnings appear detailing the issues. You can select which Items (such as camera system, flight plan, GNSS/GPS) to validate.

To perform a preflight check:

1. Tap the required project and tap **Open Project**.

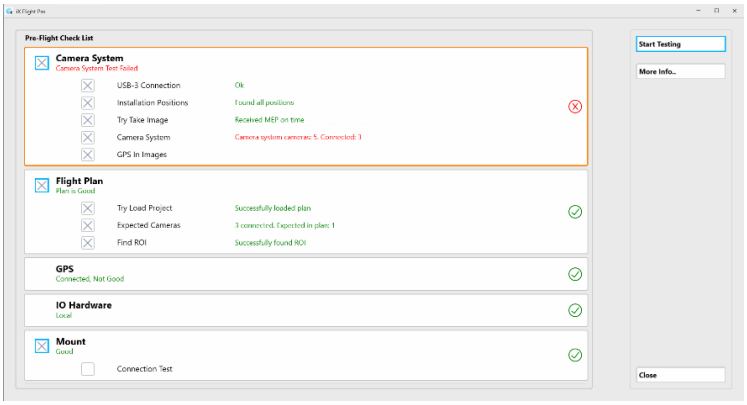


2. Tap **Preflight Check**.

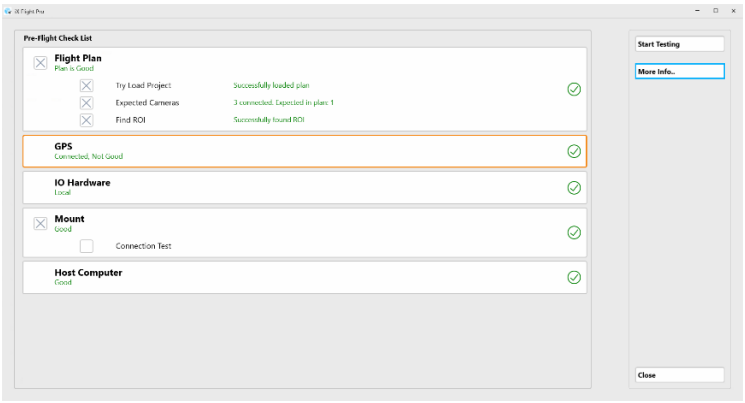


3. Select the checkboxes for the items you want to validate and tap **Start Testing**.

   If there are any issues, relevant warnings appear.

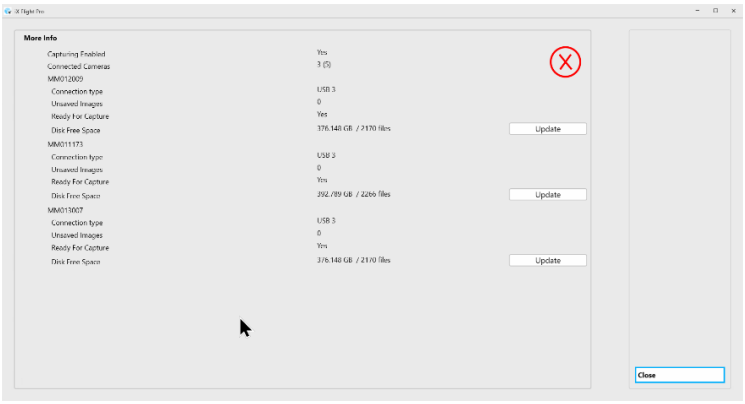


4. To view details for each group of items, tap the item then tap **More info.**



The details for the selected group appear. If there are faults, correct them according to the information displayed.

5. Tap **Close**.

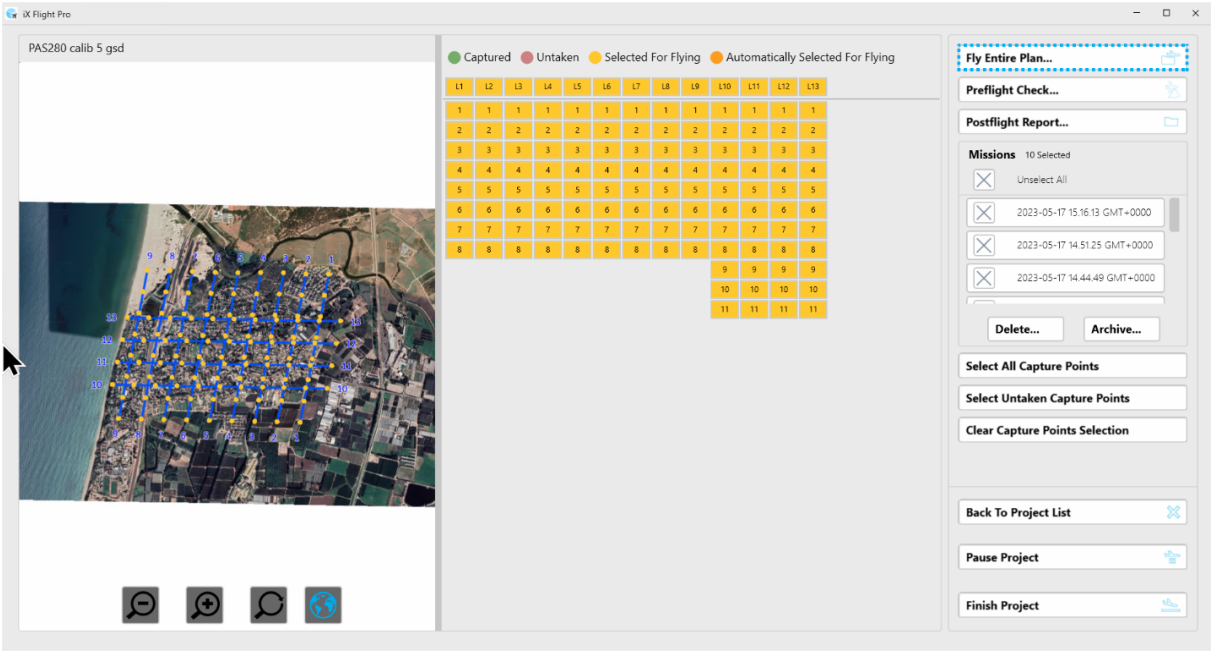


6. Tap **Close** to display the Project window.

4.2. Upcoming Mission Activation

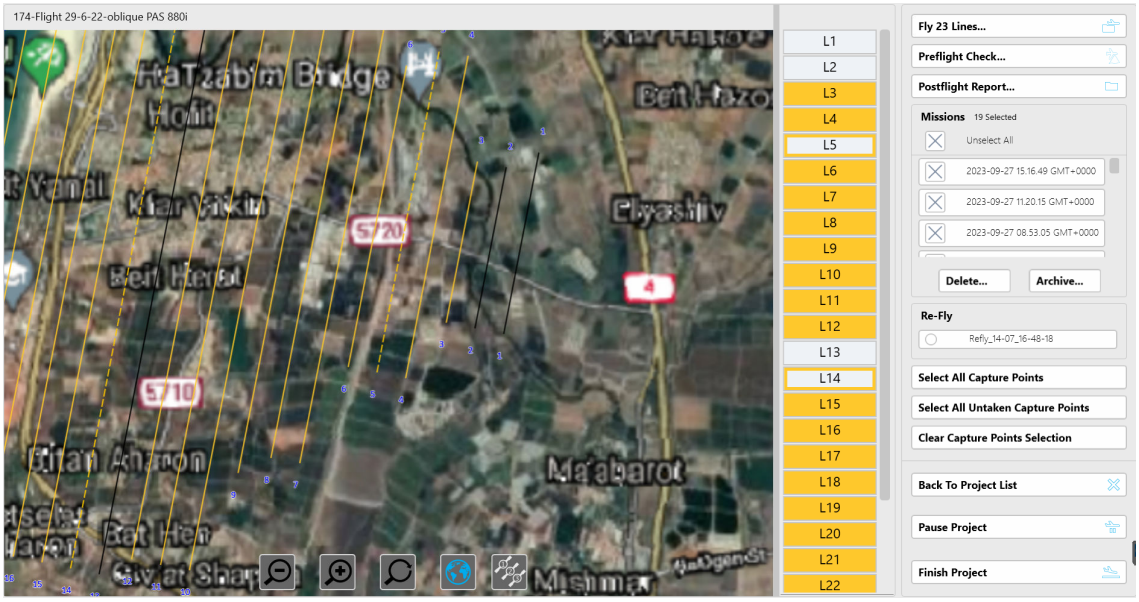
After you open the required project, you can plan an upcoming flight through two main methods:

- Selecting all Capture Points for an Upcoming Flight (default setting when a project is opened) - if all capture points are selected, the **Fly Entire Plan** button appears.
  For details, see Section 4.2.1 - Selecting/Clearing all Capture Points.

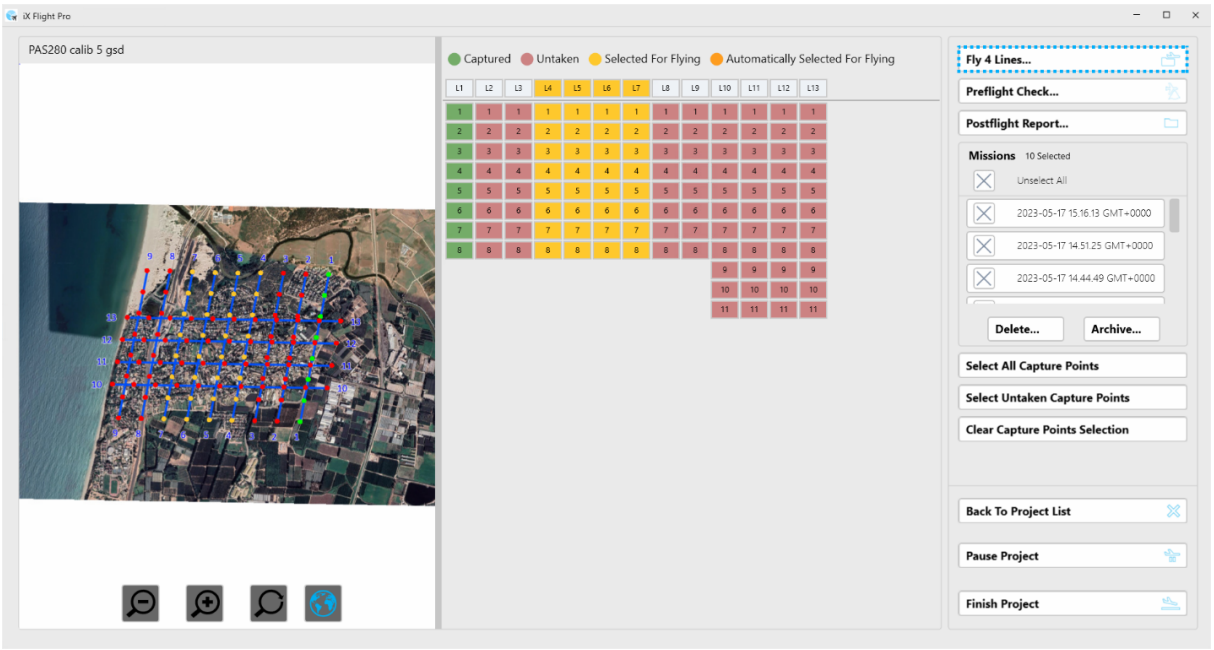


Note

Flight plans that have more capture points than the value set in Large Flight Plan Threshold display a line-centric user interface as shown following:



- Selecting Specific Lines and/or Capture Points for an Upcoming Flight - if only specific lines or capture points are selected, the **Fly XX Lines** button appears.
  For details, see Section 4.2.2 - Selecting Specific Lines and/or Capture Points for an Upcoming Flight.



Note

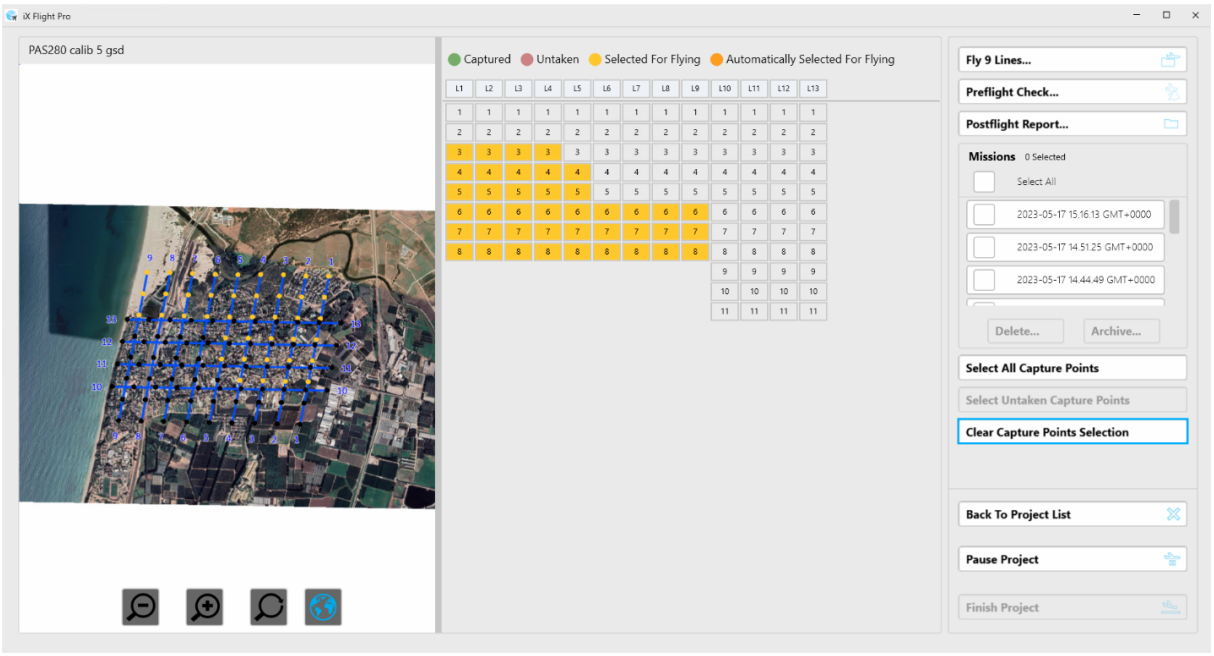
The lines and/or capture points that you select become the new flight plan for the upcoming mission when you tap **Fly XX Lines** or **Fly Entire Plan**.

Once you start flying the plan, you cannot add any other flight lines or capture points. to this mission. To add lines, you need to end the current iX Flight Pro mission and open a new mission by selecting the new lines and images you want to fly.

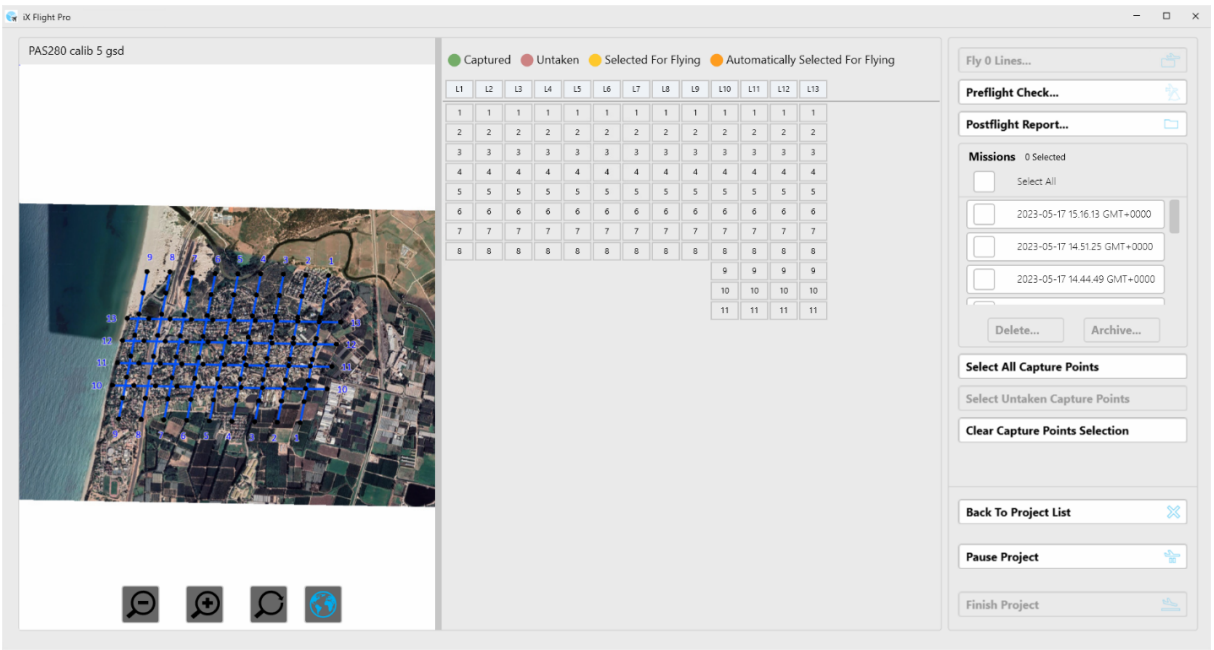
4.2.1 Selecting/Clearing all Capture Points

To clear selected capture points:

1. Tap **Clear Capture Points Selection**.

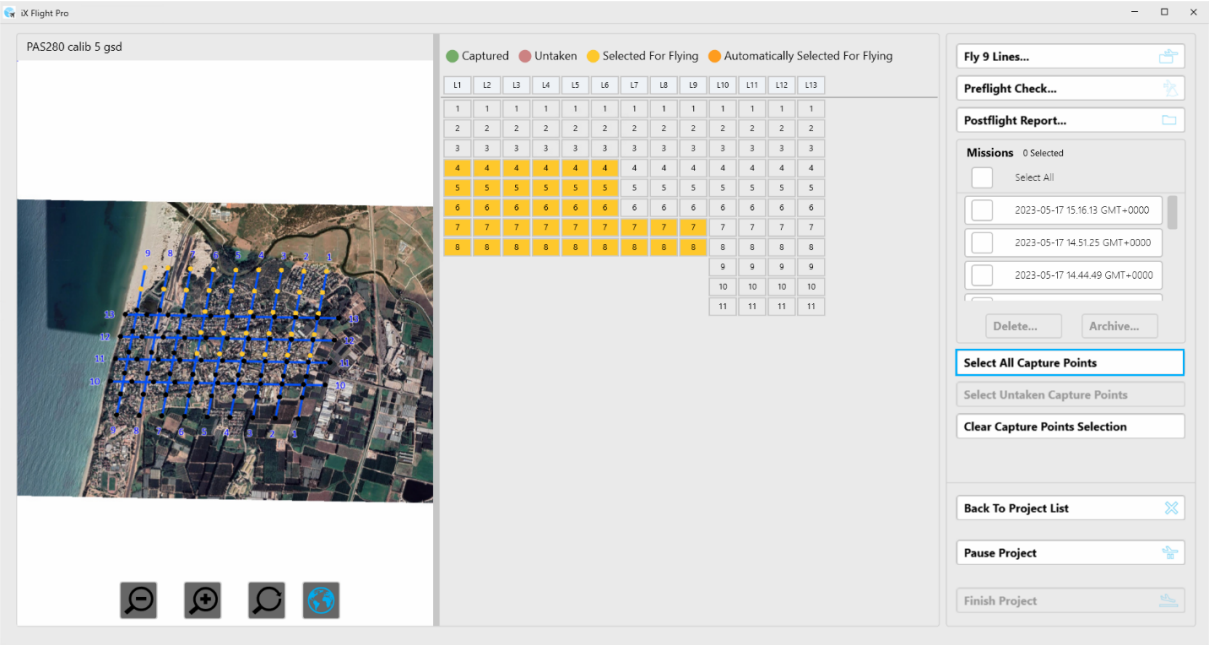


All capture points in the project are cleared.

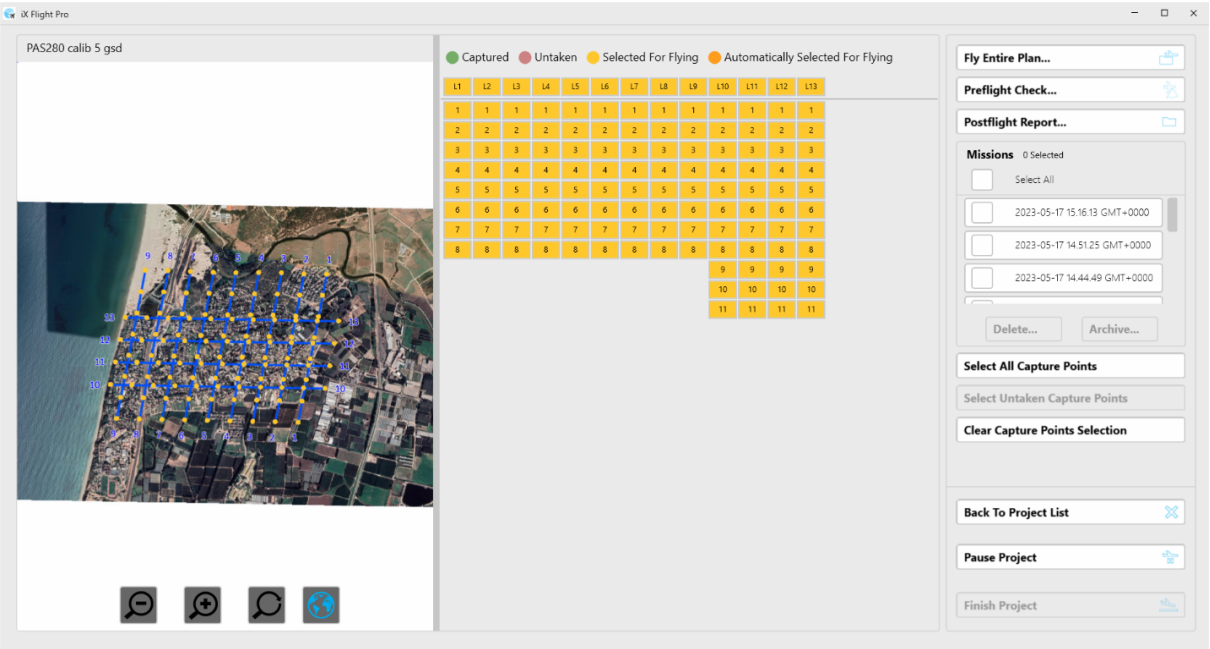


To select all capture points:

1. Tap **Select All Capture Points**.



All capture points in the project are selected.



4.2.2 Selecting Specific Lines and/or Capture Points for an Upcoming Flight

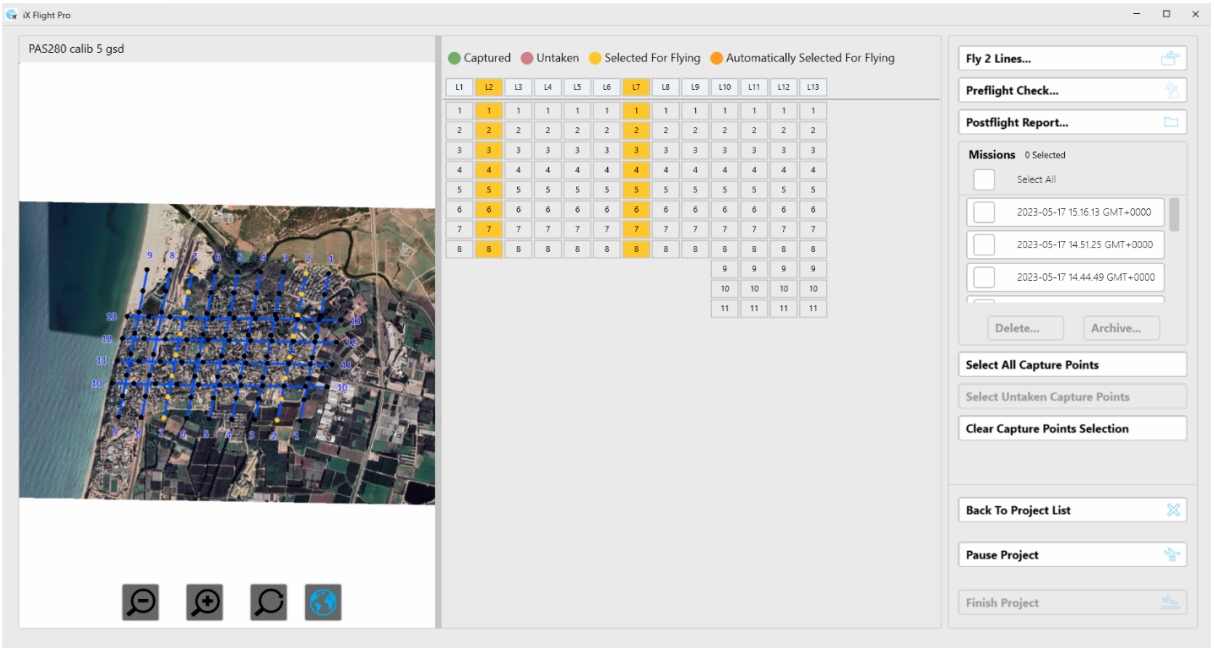
There are several methods for selecting a subset of the capture points in a project, as described in this section.

> **Note**
> This section assumes you have already opened the required project.

4.2.2.1 Manually Select Lines and/or Capture Points

To manually select capture points, use either of the following methods:

- Tap one or more flight lines:



Or

- Tap individual capture points:

Note

- Use the horizontal scroll bar under the capture points to view additional flight lines that are currently hidden.
- If you are also using a keyboard, pressing Shift selects all lines or capture points between the first and second tap.
- On the map, tap and drag the required capture points.

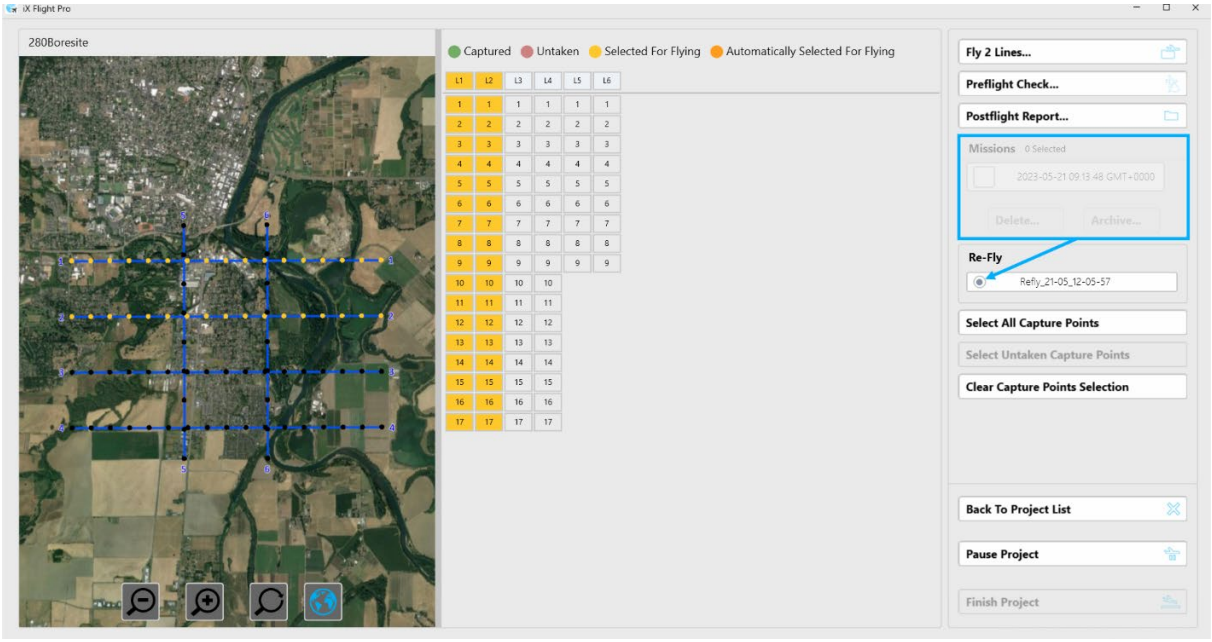
4.2.2.2 Select Some or All Missions Based On Previous Missions

You can select some or all missions flown previously in order to see the untaken capture points and select them for flying.

Note

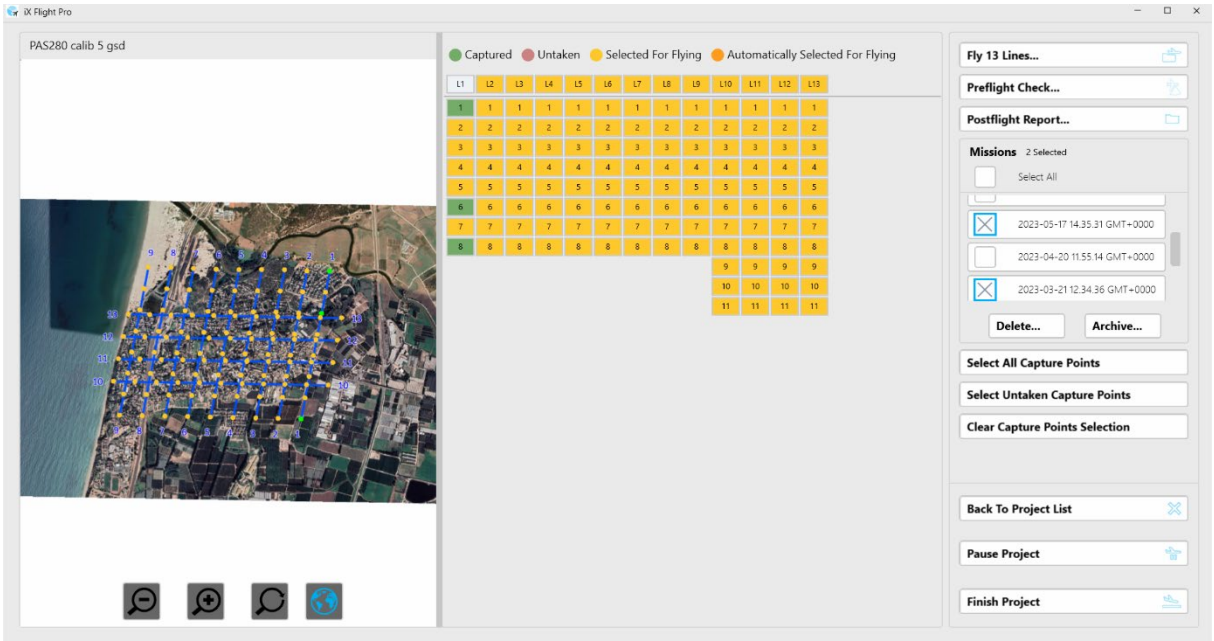
If the Missions box is grayed out, check that a refly plan is not selected.

To unselect a refly plan, tap it.

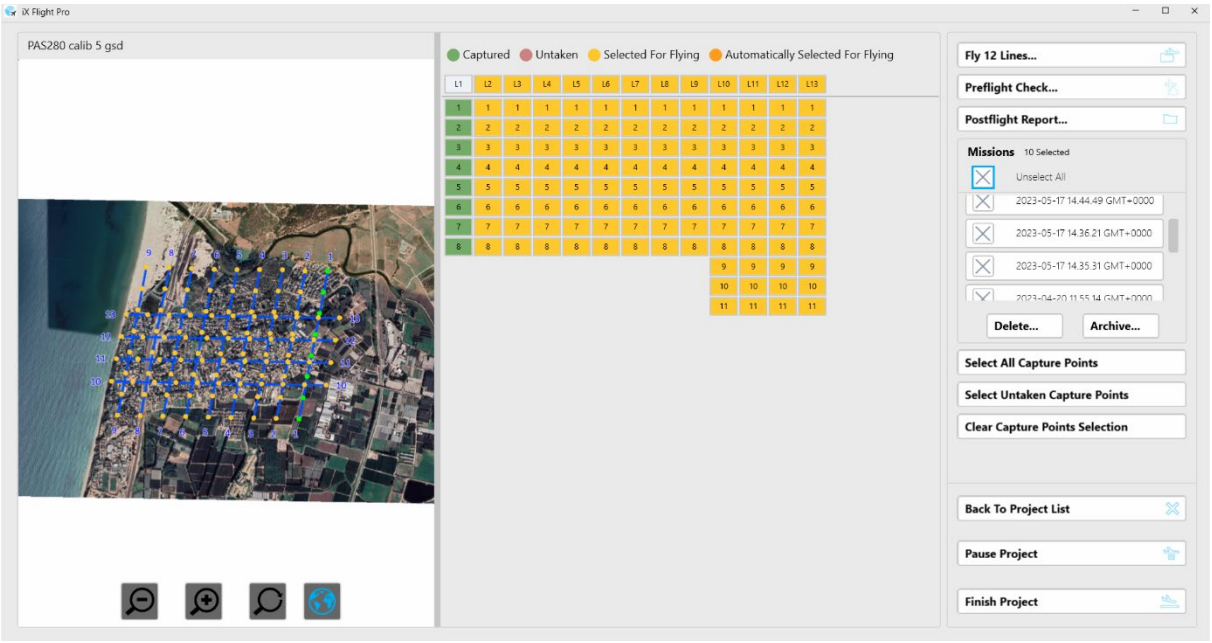


To select previous missions:

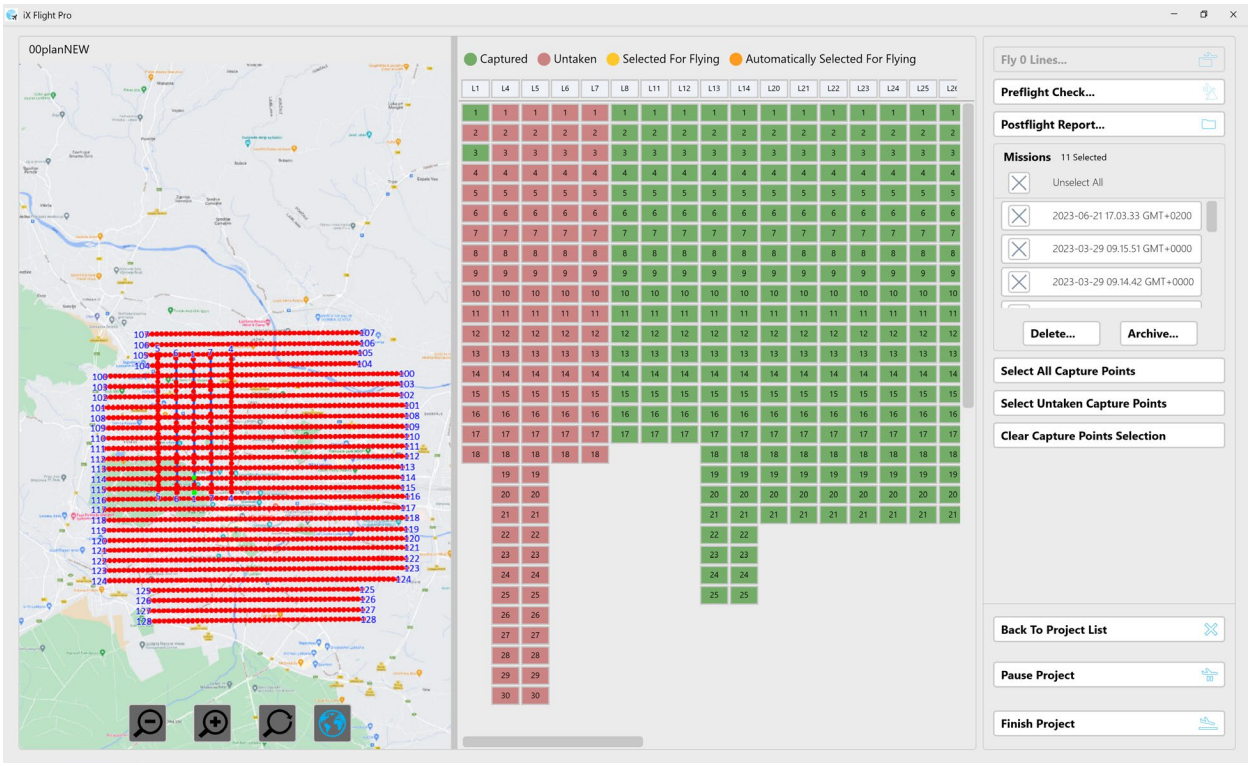
1. Under Missions, either:
   - Select the relevant previous missions (use the scroll bar to scroll through the list of missions):



- Select all missions:

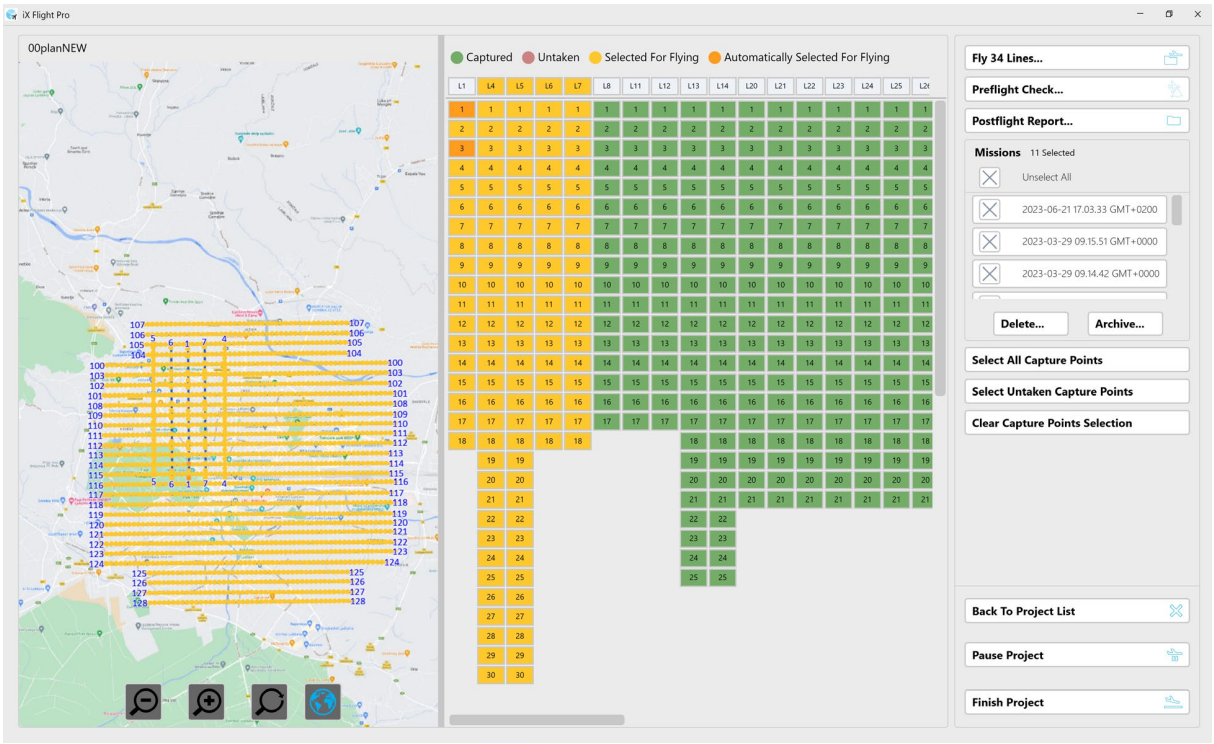


The status of the flight lines/capture points are updated according to the missions you selected as follows:



- Green: Captured - the images for this capture point were successfully captured.
- Red: Untaken – the images for this capture point have not yet been captured.

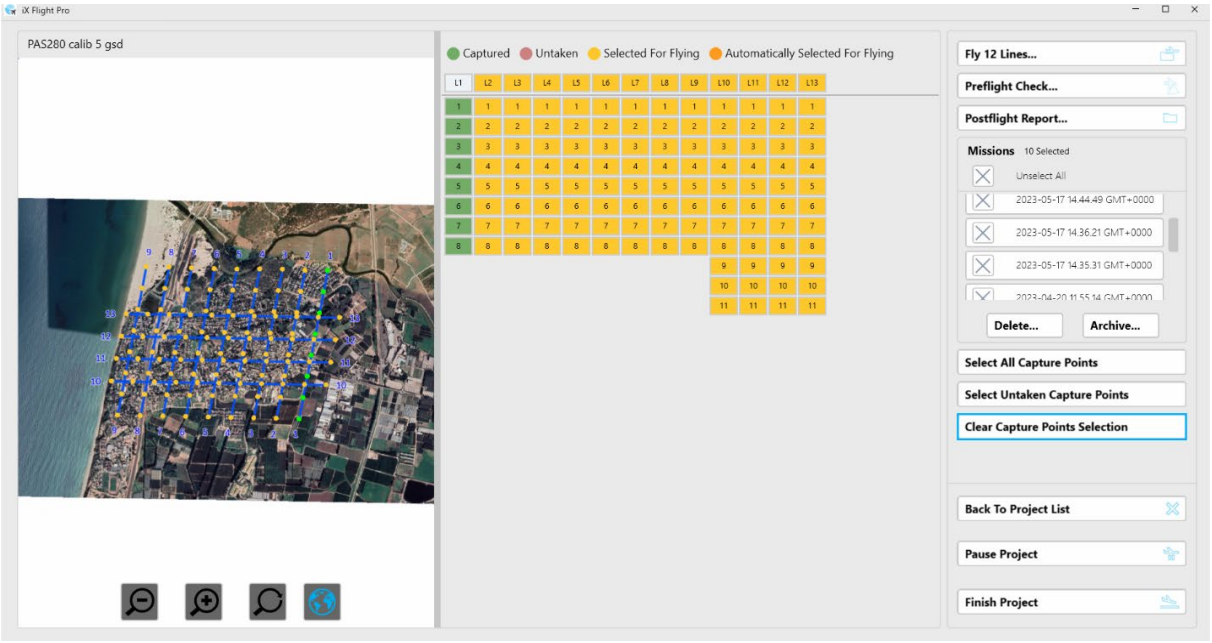
After you click Select Untaken Capture Points, the status of the flight lines/capture points are updated as follows:



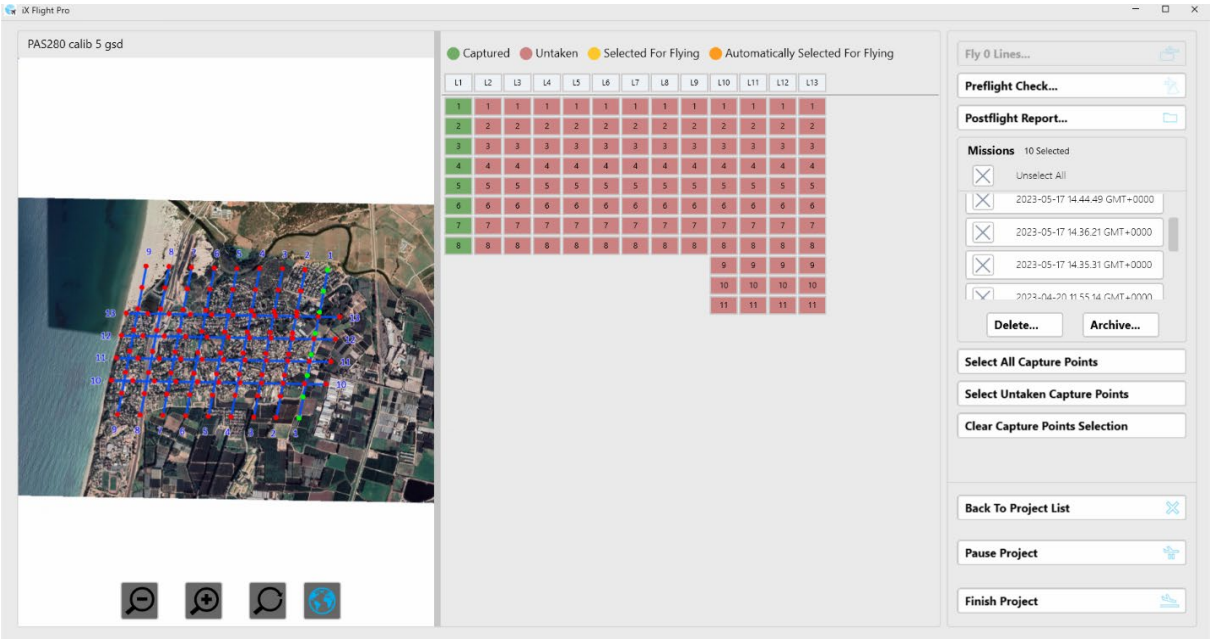
- Yellow: Selected for Flying – these points are included in the mission.
- Orange: Automatically Selected for Flying - untaken capture points that are automatically selected for flying according to the Extra Points for Replanning parameter in iX Flight Pro system settings.

To clear the capture points selection:

1. Tap **Clear Capture Points Selection**.



The untaken capture points are displayed in red:



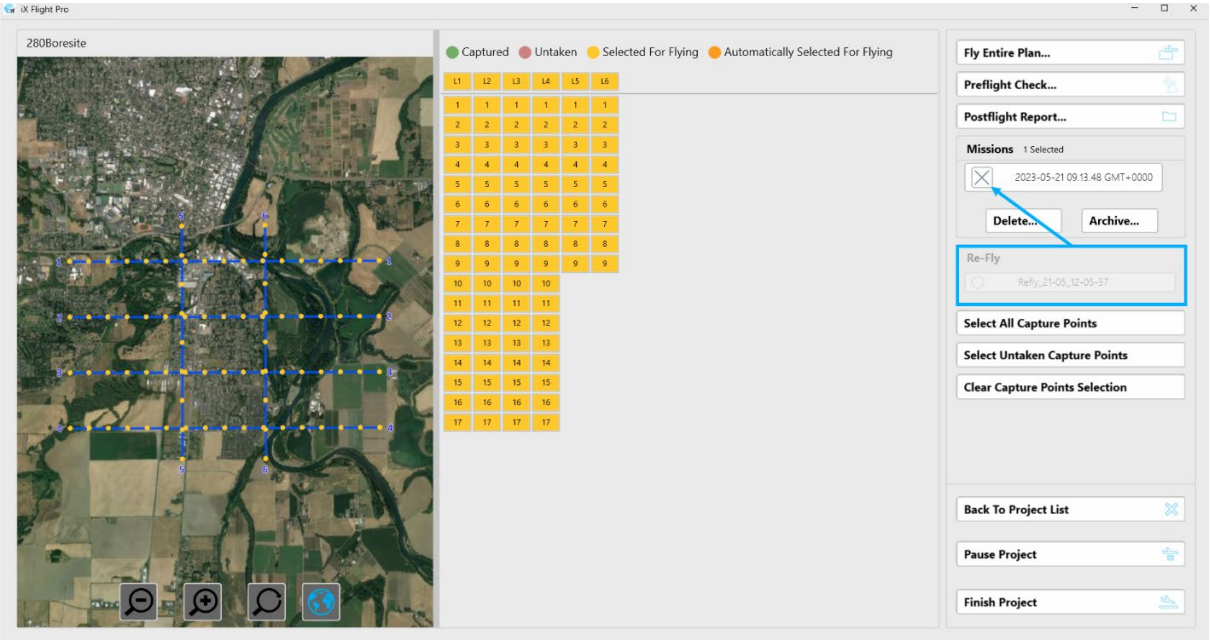
You can now select untaken capture points for flying as described above. To reselect all untaken capture points, tap **Select Untaken Capture Points**.

4.2.2.3 Selecting an iX Process Subplan (Re-Fly)

You can select a subplan generated by iX Process, modify it as required and refly it.

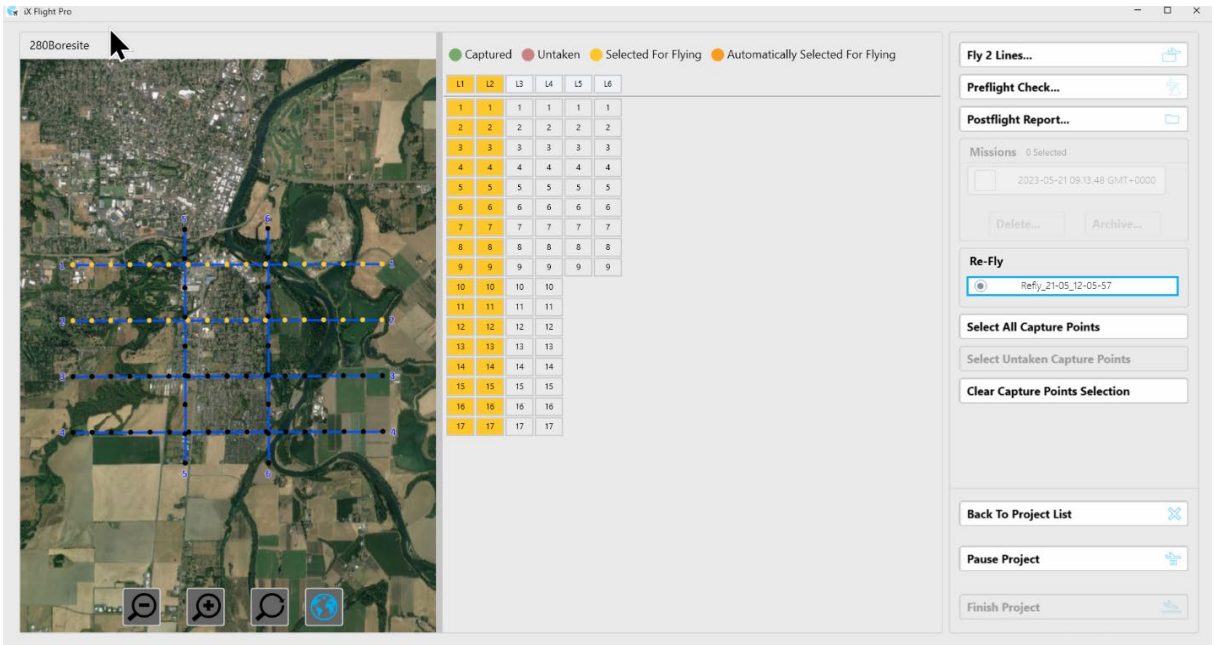
Note

If the **Re-Fly** box is grayed out, clear any selected missions.

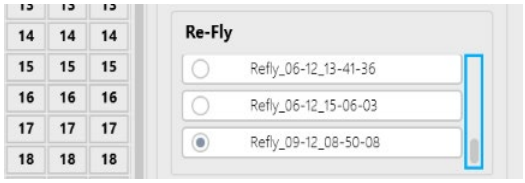


To select a refly subplan:

1. Under **Re-Fly**, select the required refly plan:



> **Note**
> Use the scroll bar to scroll through the list of refly plans.



The flight lines/capture points to be flown are selected for flying (yellow) according to the refly plan you selected.

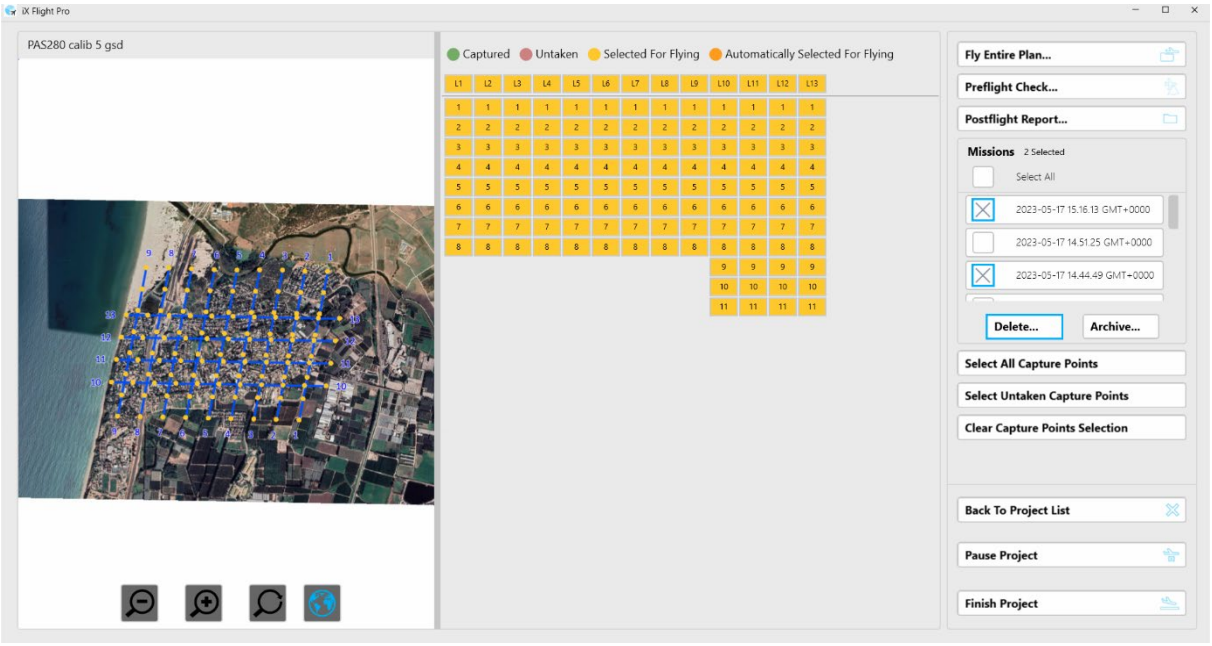
> **Note**
> You can select or clear capture points as described above.

4.2.3 Mission Management Tasks

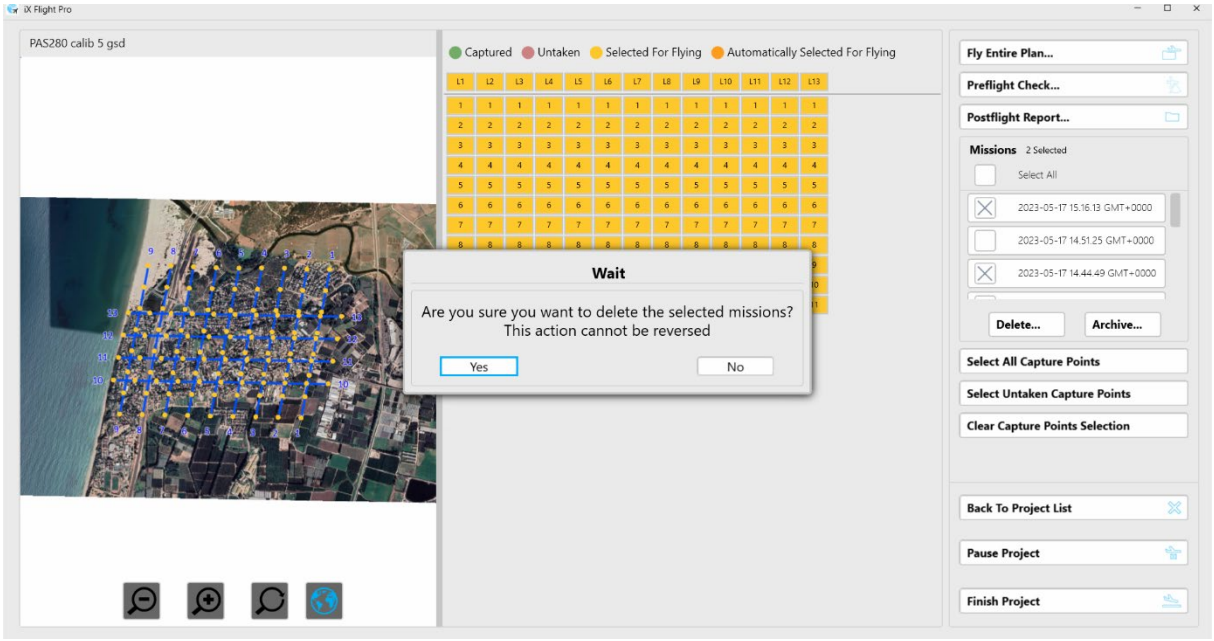
4.2.3.1 Deleting Missions

To delete selected missions that appear in the open project:

1. Select the missions to delete and tap **Delete**.



2. Confirm the action by tapping **Yes**.

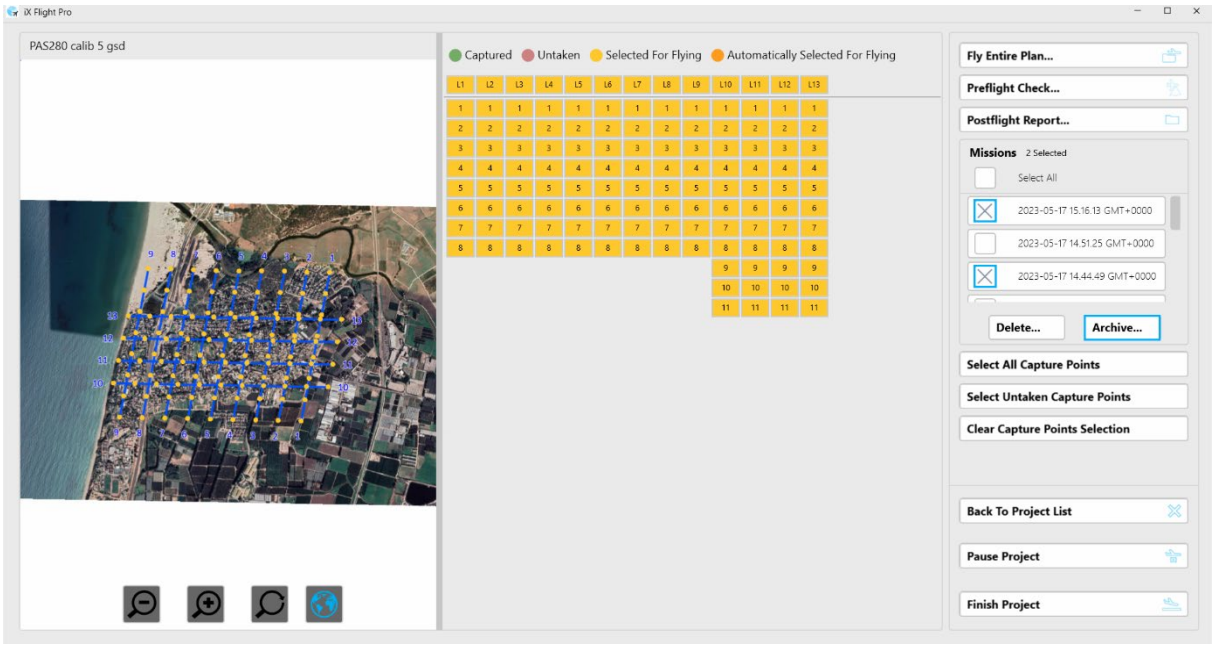


4.2.3.2 Archiving Missions

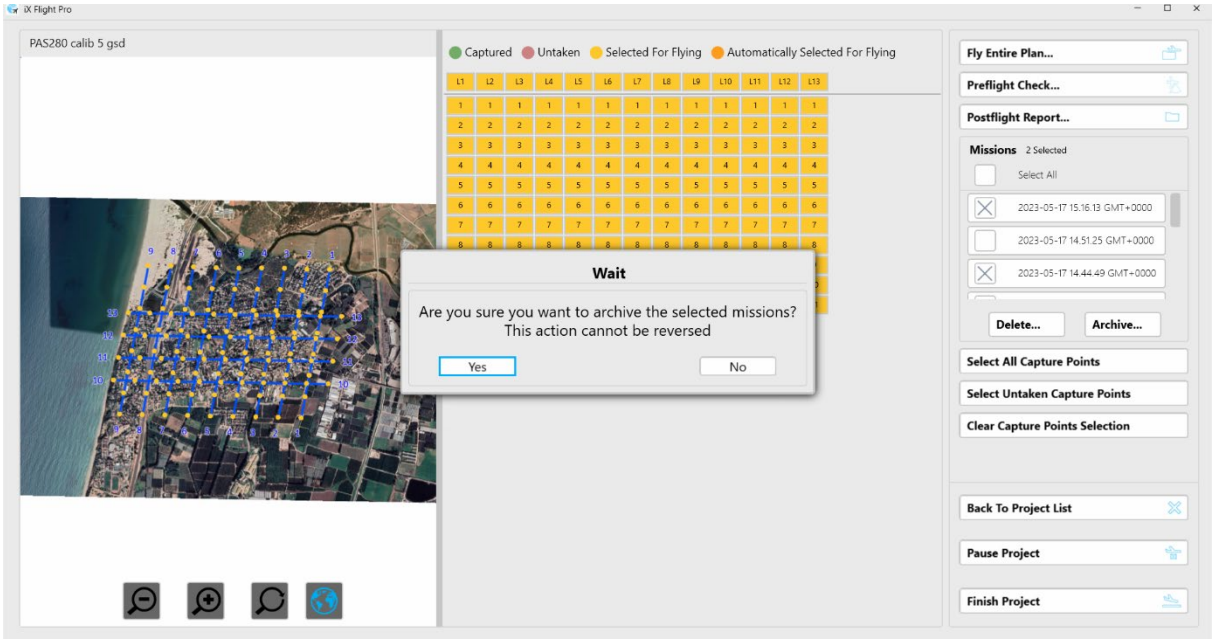
You can archive missions that are probably no longer required. This frees up disk space and cleans the project folder, but crucial files are kept for future use.

To archive missions that appear in the open project:

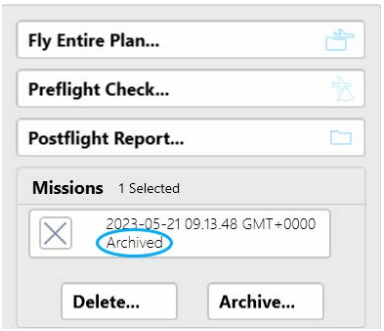
1. Select the missions to archive and tap **Archive**.



2. Confirm the action by tapping **Yes**.



The word Archived is added to the mission's name.



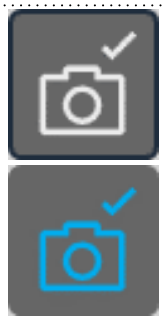
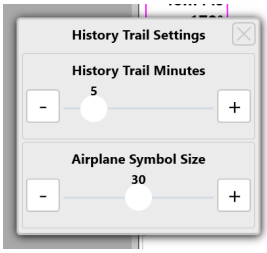
5. Getting to Know the Flight Interface

There are two main flight interfaces:

- Pilot display
- Operator display

5.1. Using the Pilot and Operator Displays Interface

Although the pilot and operator display interfaces are different, interaction with the icons in the displays are the same, as described in the following table:

Icon	Action	Description
 Grey/black icon	Tap.	The action represented by the icon is performed. In this example, zoom in on the map.
 Grey/white or grey/blue icon	Tap (toggles the function on/off).	• White - function is inactive. • Blue - - function is active. In this example, image capturing is off when white, and on when blue.
	Tap and hold an icon with a triangle in top right corner.	Open additional settings related to the function. In this example: 
	Tap.	Status: • Green - hardware is OK for photography. • Amber - GNSS/GPS data issue or mount is in standby/manual mode. • Red - communication error. Tap to see details.

Note

If you are using a mouse to interact with iX Flight Pro, the color of icons at the bottom of the display changes when you hover on it.

5.2. Pilot Display

The pilot display's advanced intuitive interface, with clear visuals and touchscreen controls, enable the pilot to follow and maintain the required flight parameters for a successful mission.

There are two views that appear automatically according to the flight phase:

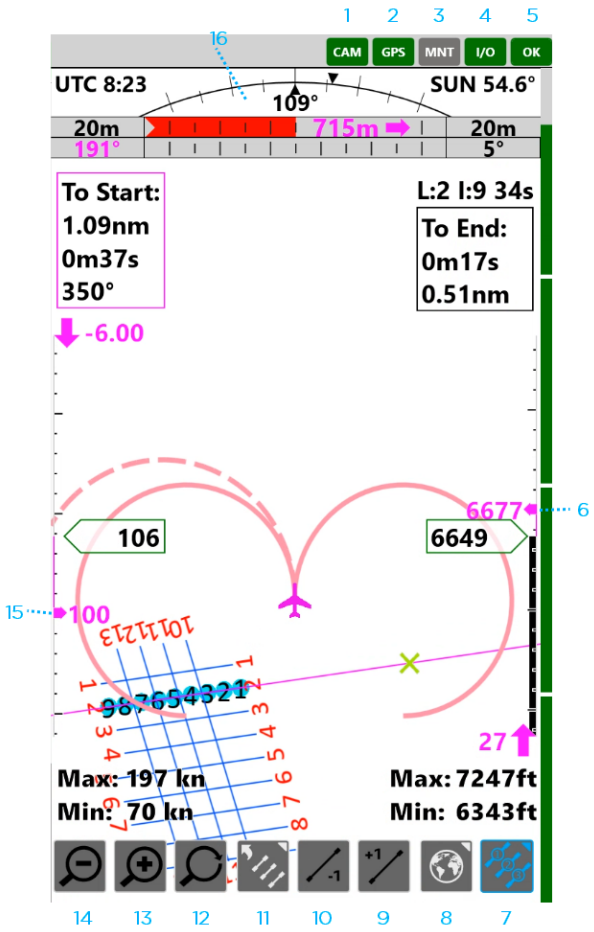
- Navigation
- In Line

Warning

- iX Flight Pro is not designed, tested, or certified as a primary flight guidance system.
- Use iX Flight Pro only in VFR flight conditions.
- While using iX Flight Pro, the pilot is responsible for maintaining safe altitude and safe distance from obstacles.

5.2.1 Pilot Controls

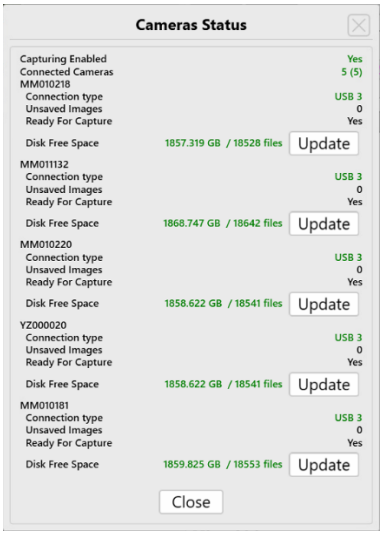
Pilot display controls are shown and described in the following figure and tables.

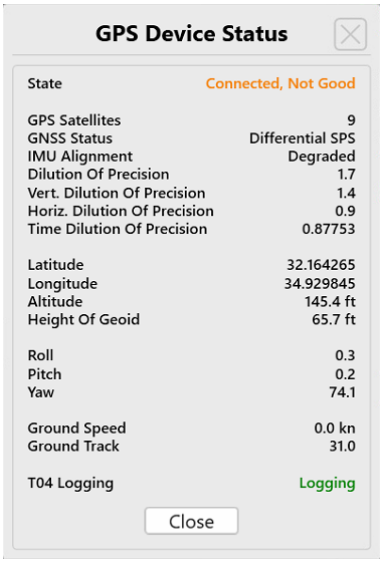


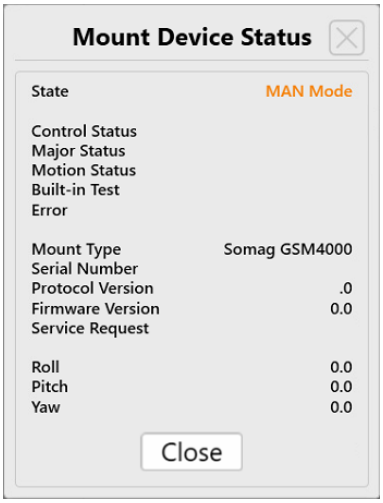
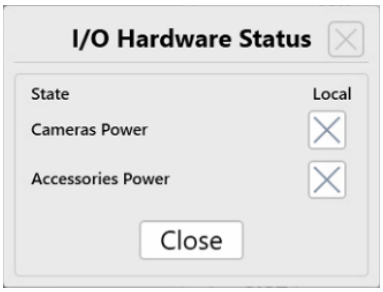
1. Camera Status
2. GNSS/GPS Status
3. Mount Status
4. I/O Status
5. General System Status
6. Planned Altitude
7. Capture point numbers display toggle
8. Map display toggle
9. Next flight line
10. Previous flight line
11. Flight Lines Select Window
12. Pan
13. Zoom In
14. Zoom Out
15. Speed Display
16. Deviation Panel Settings

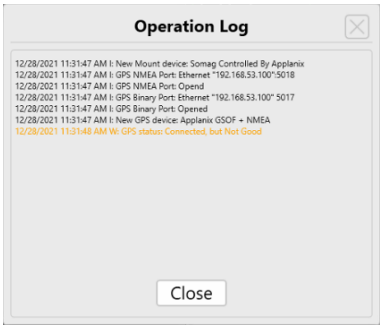
Note

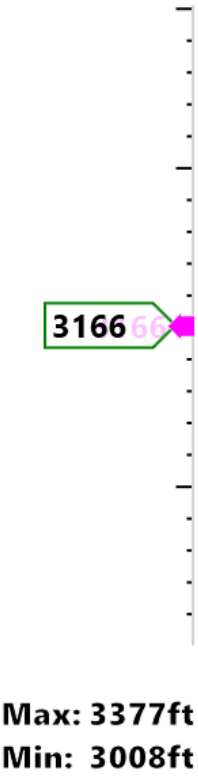
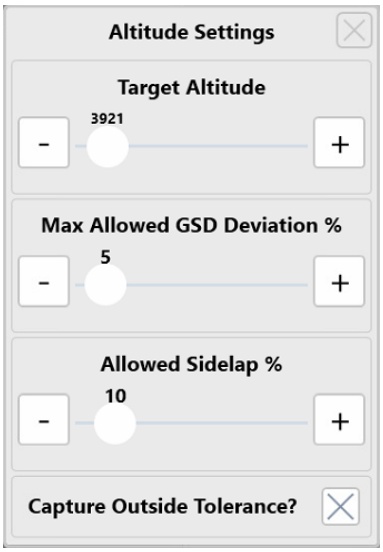
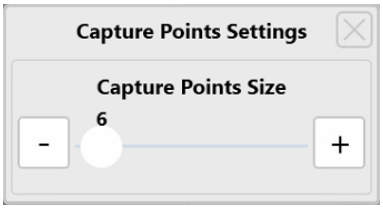
The item numbers in the following table relate to the number assigned to the control in the above figure.

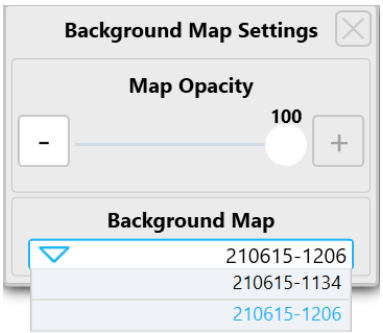
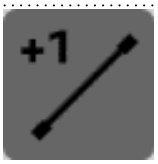
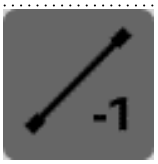
Control Number in Figure on Page 29	Control	Description	Indication/Actions
1		Camera Status	Indications: • Green - OK for photography • Red - image collection is disabled by operator or camera communication error. Actions: Tap icon for details: 

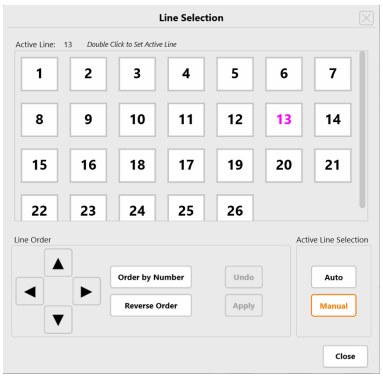
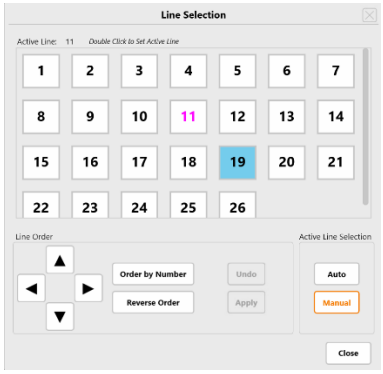
Control Number in Figure on Page 29	Control	Description	Indication/Actions
2		GNSS/GPS Status	Indications: • Green - OK for photography • Amber - GNSS/GPS data issue • Red - communication error. Actions: Tap icon for details: 

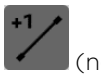
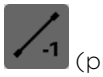
Control Number in Figure on Page 29	Control	Description	Indication/Actions
3	MNT	Mount Status	Indications: • Green - mount is in STAB mode. • Amber - mount is in manual mode. • Red – mount fatal error. Actions: Tap icon for details: 
4	I/O	I/O Status	Indications: • Green - OK for photography. • Red - communication error. Actions: Tap icon for details:  **Note** Use this window to reset camera power.

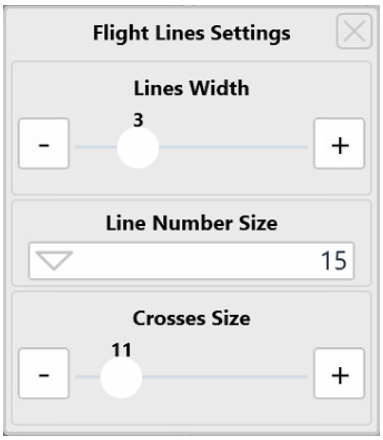
Control Number in Figure on Page 29	Control	Description	Indication/Actions
5		General System Status	Indications: • Green - OK for photography. • Red - not ready for photogrammetry. Actions: Tap icon for operations log: 

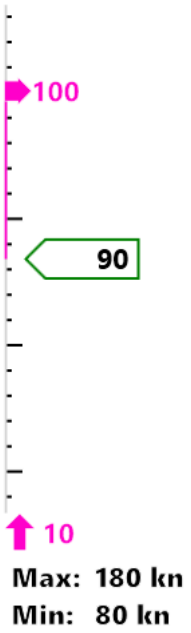
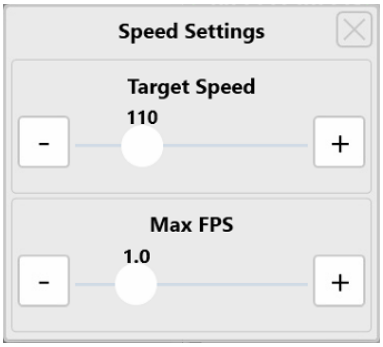
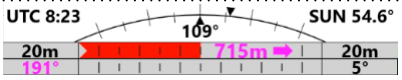
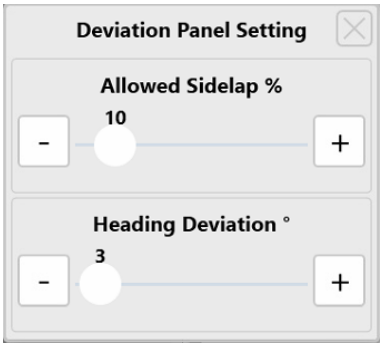
Control Number in Figure on Page 29	Control	Description	Indication/Actions
6		Altitude Settings	Tap and hold - displays the window for setting **Target Altitude**, **Maximum Allowed GSD Deviation %**, **Allowed Sidelap Deviation** and the **Capture Outside Altitude Tolerance** options:  **Note** • **Maximum Allowed GSD deviation %** affects the maximum altitude calculation. • **Allowed Sidelap %** sets maximum allowed deviation in the sidelap and affects the minimum allowed flight height.
7		Capture point numbers	• Tap - toggles the capture point numbers on the active flight line on/off • Tap and hold - displays the Capture Points Size window. 

Control Number in Figure on Page 29	Control	Description	Indication/Actions
8		Map	• Tap - toggle the background map on/off. • Tap and hold - toggles the window for setting **Map Opacity** and for selecting the **Background Map**. • Select the map for display on pilot display. 
9		Previous flight line	Tap - set the next flight line to active.
10		Next flight line	Tap - set the previous flight line to active.

Control Number in Figure on Page 29	Control	Description	Indication/Actions
11		Flight Lines window	• Tap - toggles the Flight Lines window on/off. The active line is marked by numerals in magenta. You can set the order in which the lines are flown.  • To select a flight line, tap and hold it. The selected flight line is then colored blue.  • To change the position of the selected flight line, use the cursor keys and tap **Apply**: 

Control Number in Figure on Page 29	Control	Description	Indication/Actions
11 (continued)			• Flight Lines window options (continued): ◦ To set a flight line to active, tap and hold it. ◦ To modify the flight line order, tap the following as required: ◦ Order by Number - sorts the flight lines order numerically. Tap Apply to confirm. ◦ Reverse Order - swaps the start/end of the current flight lines order. Tap Apply to confirm. ◦ Undo - reverts the last change to the previous setting. Each tap undoes the previous change. Tap Apply to confirm. ◦ Auto - when the current flight line has been completed, iX Flight Pro activates the next flight line automatically according to the order in the Flight Lines window. ◦ Manual - the next flight line must be activated manually by the operator or pilot using one of the following: - Flight Line window Set button -  (next flight line) -  (previous flight line) • Apply

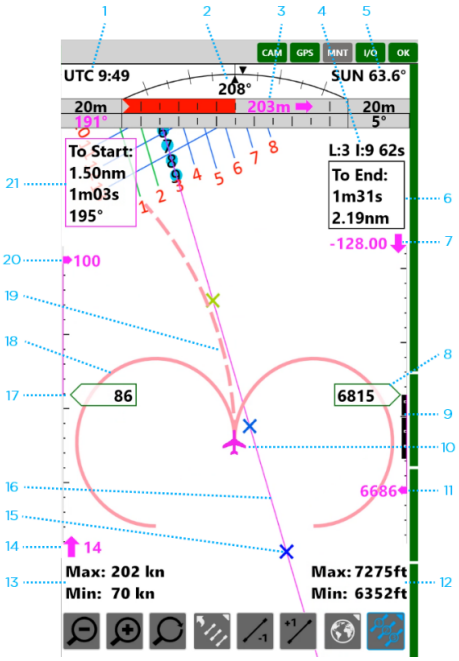
Control Number in Figure on Page 29	Control	Description	Indication/Actions
11 (continued)			• Tap and hold - toggles the window for setting **Line Width**, **Line Number Size** and **Cross Size**. 
12		Pan	Tap and slide - after tapping the icon, slide the display in the required direction to pan the image.
13		Zoom In	Tap - display zooms in.
14		Zoom Out	Tap - display zooms out.

Control Number in Figure on Page 29	Control	Description	Indication/Actions
15		Speed Settings	Tap and hold - displays the window for setting **Target Speed** and **Max FPS** (available Frames Per Second): 
16		Deviation Panel Settings	Tap and hold - displays the window for setting the allowed band for taking image in terms of sidelap % and heading deviation scale size. 

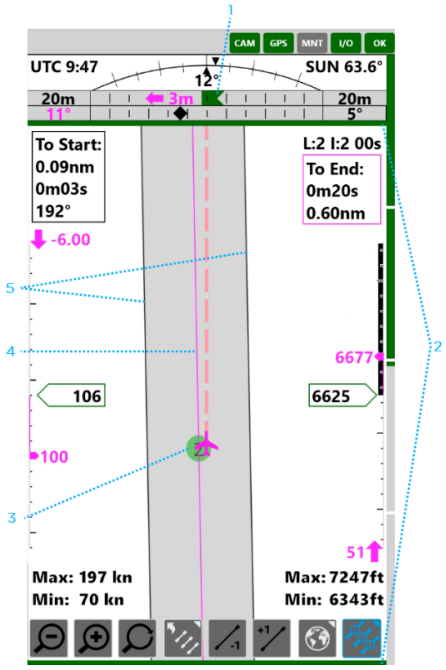
5.2.2 Pilot Indicators

The pilot display indicators are shown and described in the following figure and table:

Navigation View



In Line View



1. UTC time
2. Roll angle
3. Cross Distance from line
4. Current line, next image number and time to next image
5. Sun angle
6. Data to last image of selected line
7. Planned altitude
8. Current altitude
9. Vertical speed (± 200 fpm)
10. Own ship icon
11. Required altitude correction and direction.
12. Min/max altitude:
    - Min - the minimum altitude you may fly while maintaining the defined sidelap tolerance
    - Max - the maximum altitude you may fly while maintaining the GSD within the defined maximum tolerance
13. Min/max speed:
    - Min - as per your aircraft definition
    - Max - the maximum speed that does not cause smear of more than 1 pixel
14. Required speed correction
15. Distance/time markers (as per settings)
16. Photography line
17. Current ground speed
18. Standard turn indicator
19. Actual turn indicator
20. Planned ground speed
21. First image start data

Note

The In Line View above shows only indicators exclusive to this view.

1. Track deviation
2. Image capture bars (momentary):
3. Image marker:
    - green when image is captured
    - red when no MEP response is received to a trigger
4. Photography line
5. Allowed corridor for image capture

5.3. Operator Display

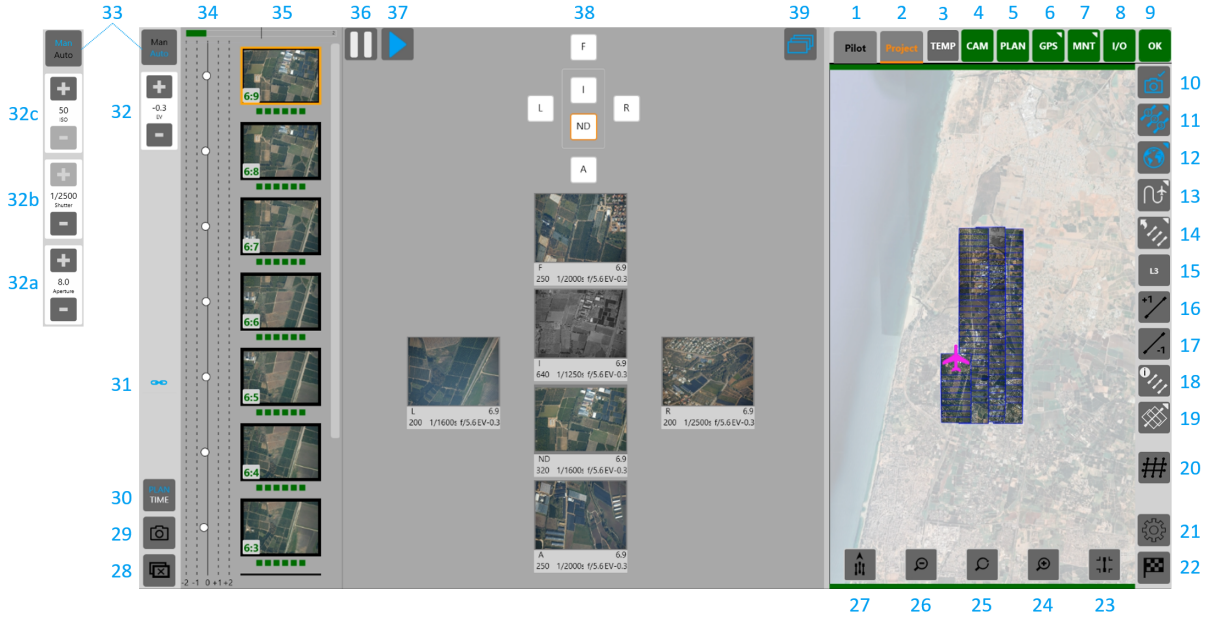
The operator display's advanced intuitive interface enables the operator to perform quality control of the captured photos in real time. If an image was not captured properly, the operator can mark it for refly.

The operator display is divided into two panes:

- Left - always displays the captured photos collection.
- Right pane - can display either:
  - Project view - shows the project flight lines. In addition, you can select whether to show the images draped on the DTM.
  - Pilot view - the same view that appears on the pilot display.

5.3.1 Operator Controls

The operator's display controls for the collection summary and DTM view are shown and described in the following figure and tables.



1. Pilot View
2. Project View
3. Camera(s) Temperature
4. Camera Status
5. Flight Plan Status
6. GNSS/GPS Status
7. Mount Status
8. I/O Status
9. General System Status
10. Enable/Disable image capture
11. Capture point numbers
12. Map
13. History Trail
14. Flight Lines
15. Select Line
16. Next flight line
17. Previous flight line
18. Image capture status
19. Draped images (Project View only)
20. Replan window
21. Open Settings window
22. End Mission
23. Reset Pan
24. Zoom In
25. Pan
26. Zoom Out
27. Track Up/North Up Display
28. Mark selected shot as bad
29. Manual trigger
30. Capture Mode
31. Link Camera Properties
32. Increase/decrease EV appears (appears in **Auto** mode only)

32a. Increase/decrease aperture (appears in **Man** mode only)

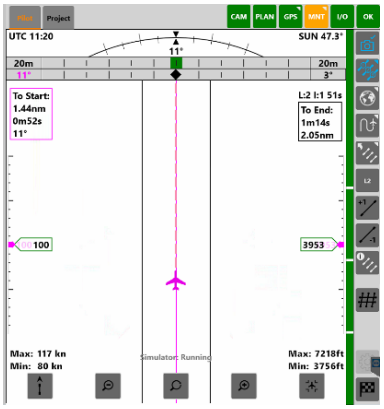
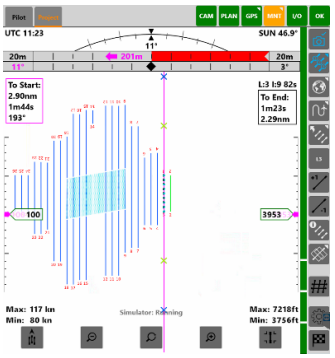
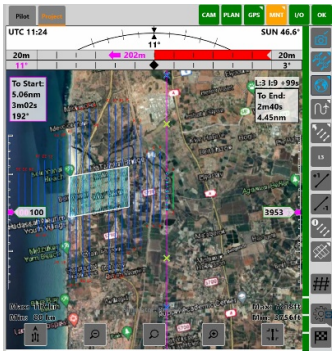
32b. Increase/decrease shutter speed (appears in **Man** mode only)

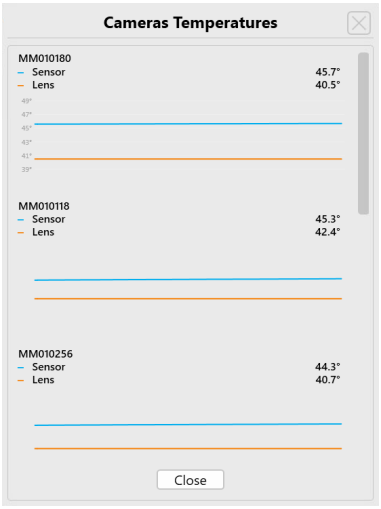
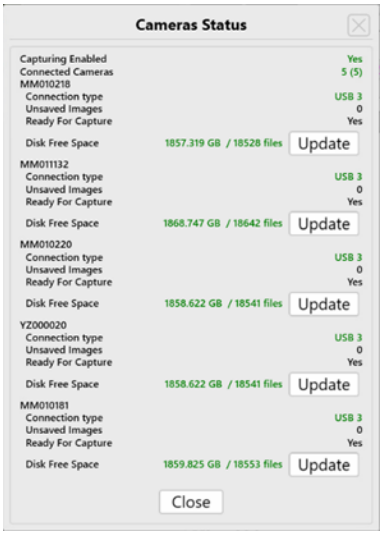
32c. Increase/decrease ISO appears (appears in **Man** mode only)

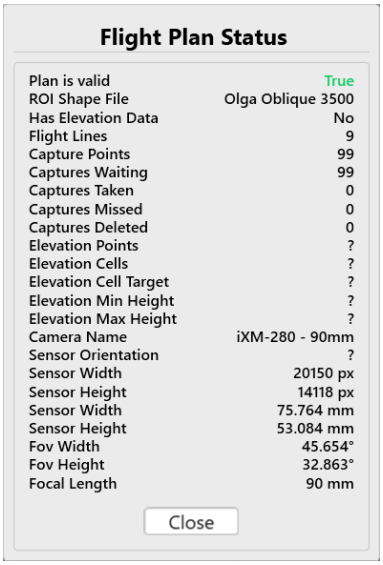
33. Auto/Manual Exposure
34. EV scale
35. Image history for selected camera
36. Freeze image history
37. Unfreeze image history
38. Camera selector
39. Show all camera images

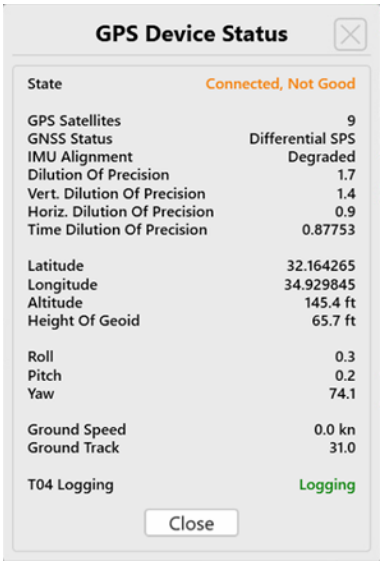
Note

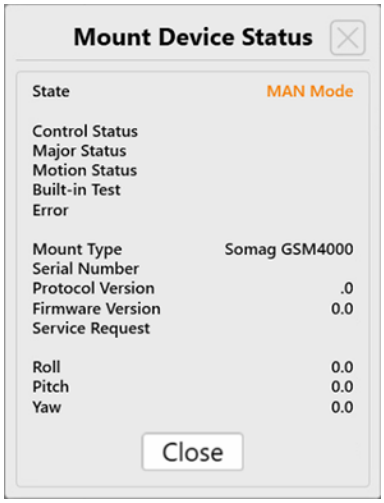
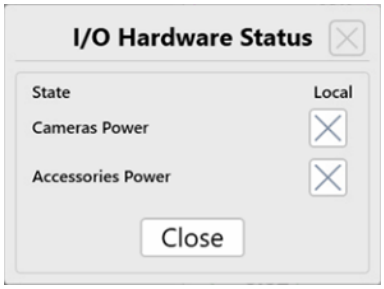
The item numbers in the following table relate to the number assigned to the control in the above figure.

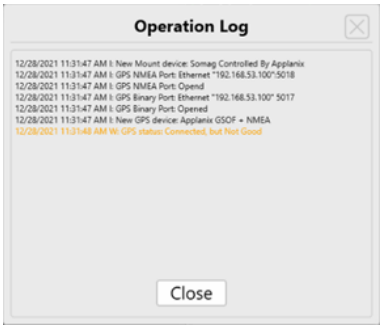
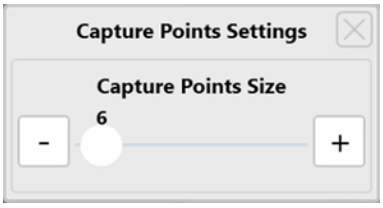
Control Number in Figure on Page 42	Control	Description	Indication/Actions
1		Pilot View	Shows the same view that appears on the pilot display: 
2		Project View	Shows the project flight lines with or without the backdrop map and with images are draped on the map, taking into account the DTM.  

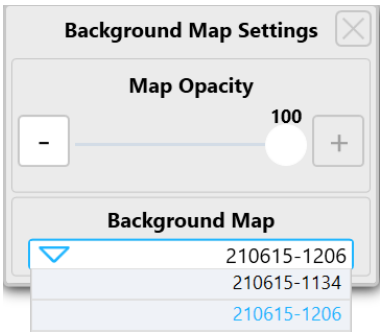
Control Number in Figure on Page 42	Control	Description	Indication/Actions
3		Sensor and Lens Temperature	Actions: Tap icon for details: 
4		Camera Status	Indications: • Green - OK for photography • Red - image collection is disabled by operator or camera communication error. Actions: Tap icon for details: 

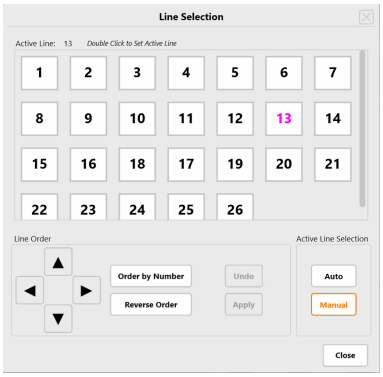
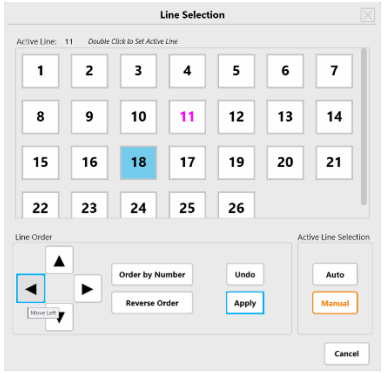
Control Number in Figure on Page 42	Control	Description	Indication/Actions
5		Plan Status	Indications: • Green - OK for photography • Amber - files missing in plan • Red – plan file error. Actions: Tap icon for details:  **Note** If items are in red, reload the plan file or verify the camera name.

Control Number in Figure on Page 42	Control	Description	Indication/Actions
6		GNSS/GPS Status	Indications: • Green - OK for photography • Amber - GNSS/GPS data issue • Red - communication error. Actions: Tap icon for details: 

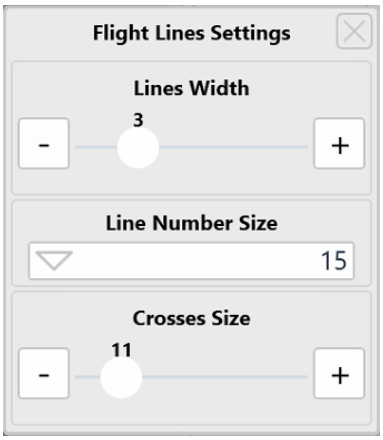
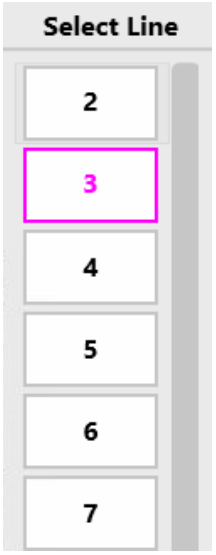
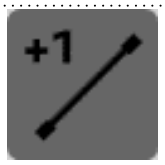
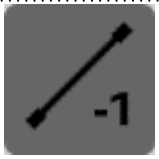
Control Number in Figure on Page 42	Control	Description	Indication/Actions
7	MNT	Mount Status	Indications: • Green - OK for photography; mount is in stabilized mode. • Amber - mount is in standby/manual mode • Red - communication or mount error. Actions: Tap icon for details: 
8	I/O	I/O Status	Indications: • Green - OK for photography • Red – I/O hardware error. Actions: Tap icon for details: 

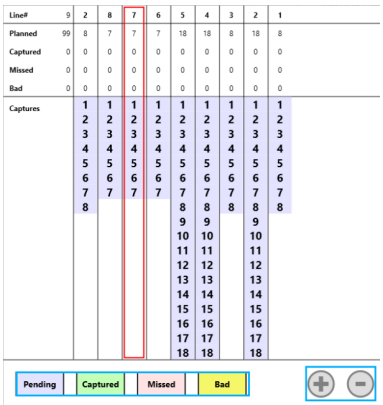
Control Number in Figure on Page 42	Control	Description	Indication/Actions
9		General System Status	Indications: • Green - OK for photography • Red – a subsystem is not ready Actions: Tap icon for details: 
10		Enable/ Disable image capture	Tap - toggles image capturing. If disabled, images are not captured during the flight (camera icon is red).
11		Capture point numbers	• Tap - toggles the capture point numbers on the active flight line on/off • Tap and hold - displays the Capture Points Size window. 

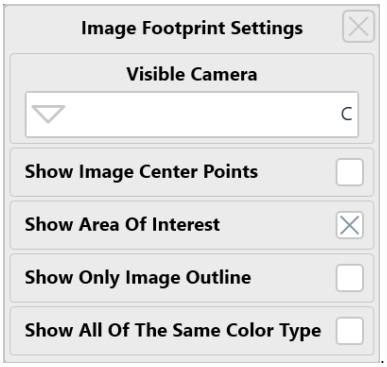
Control Number in Figure on Page 42	Control	Description	Indication/Actions
12		Map	• Tap - toggle the background map on/off. • Tap and hold - toggles the window for setting **Map Opacity** and the **Background Map**. • Select the map for display on operator display. 
13		History Trail	Shows the flight path flown (according to the System Parameters **History Trail Minutes** parameter).

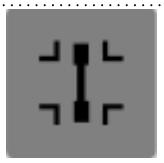
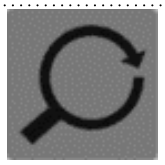
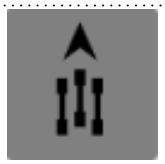
Control Number in Figure on Page 42	Control	Description	Indication/Actions
14		Flight Lines window	• Tap - toggles the Flight Lines window on/off. The active line is marked by numerals in magenta.  • To select a flight line, tap and hold it. The selected flight line is then colored blue.  • To change the position of the selected flight line, use the cursor keys and tap **Apply**:  • To set a flight line to active, tap and hold it.

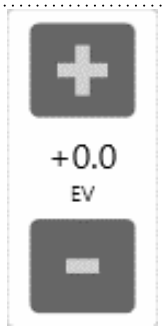
Control Number in Figure on Page 42	Control	Description	Indication/Actions
14 (continued)			• Flight Lines window options (continued): ◦ To modify the flight line order, tap the following as required: ◦ **Order by Number** - sorts the flight lines order numerically. Tap **Apply** to confirm. ◦ **Reverse Order** - swaps the start/end of the current flight lines order. Tap **Apply** to confirm. ◦ **Undo** - reverts the last change to the previous setting. Each tap undoes the previous change. Tap **Apply** to confirm. ◦ **Auto** - when the current flight line has been completed, iX Flight Pro activates the next flight line automatically according to the order in the Flight Lines window. ◦ **Manual** - the next flight line must be activated manually by the operator or pilot using one of the following: - Flight Line window **Set** button -  (next flight line) -  (previous flight line) • Apply

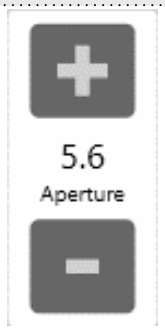
Control Number in Figure on Page 42	Control	Description	Indication/Actions
14 (continued)			• Tap and hold - toggles the window for setting **Lines Width**, **Line Number Size** and **Crosses Size**. 
15		Select Line	Tap - opens the Select Line view for quick selection of a specific flight line. 
16		Next flight line	Tap - set the next flight line to active.
17		Previous flight line	Tap - set the previous flight line to active.

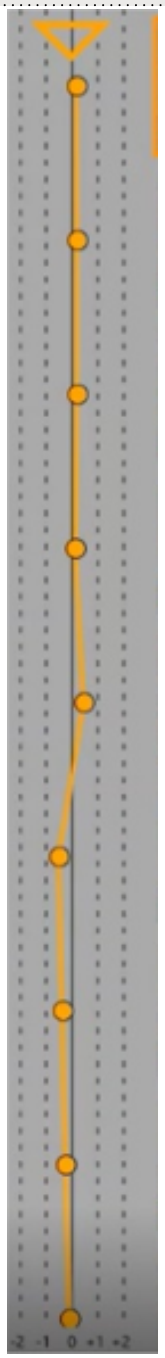
Control Number in Figure on Page 42	Control	Description	Indication/Actions
18		Image capture status	Tap - toggles the Image Capture Status window on/off.  The active line is marked with a red border. • Tap any of the 4 status buttons (**Pending**, **Captured**, **Missed**, **Bad**) at the bottom of the window to toggle the display filter for that status in the window. • Tap the + and - buttons to increase/decrease the window size.

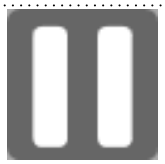
Control Number in Figure on Page 42	Control	Description	Indication/Actions
19		Draped images (Project View only and if the System Setting: **Drape images on the DTM within AOI** is enabled)	Tap - drapes captured images that coincide with the AOI on the flight lines:  **Note** If the system parameter **Drape Only Image Outline** is on, a polygon outline is shown instead of the image. • Tap and hold - toggles the window for **Image Footprint Settings:** 
20		Replan window	Tap - displays the Replan Window (see Section 6.4.2.4 - Replanning Flight Lines or Capture Points During Flight).
21		Settings window	Tap - displays the System Settings/Camera Settings (see Appendix A - Configuring Settings).

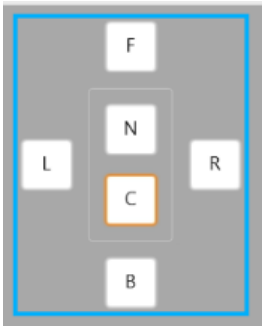
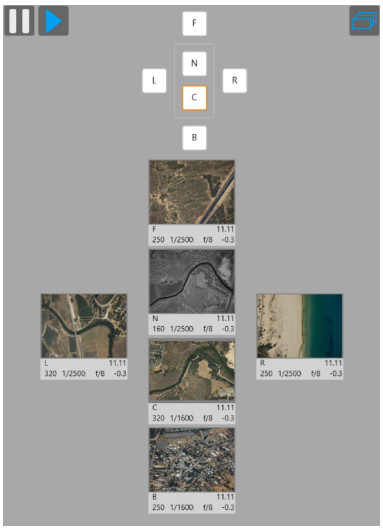
Control Number in Figure on Page 42	Control	Description	Indication/Actions
22		End Mission	Tap – terminates the current mission and displays the Home window.
23		Reset Pan	Resets panning.
24		Zoom In	Tap - display zooms in.
25		Pan	Tap and slide - after tapping the icon, slide the display in the required direction to pan the image.
26		Zoom Out	Tap - display zooms out.
27		Track Up/North Up	Tap to toggle the display between track up and north up.
28		Mark selected shot as bad	Marks the selected image as bad. Bad and missed images will be included in the replan. The mark is also included when the project is opened or reviewed in iX Process.
29	 	Manual trigger	Manually capture an image immediately. When using time capture mode (see 30 below), start capture according to the time interval in camera settings.

Control Number in Figure on Page 42	Control	Description	Indication/Actions
30		Capture mode	**PLAN** mode - capture images only when in the flight line and within the limitations set in **System Settings > Mission > Capture Tolerances**. **TIME** mode - capture images according to the **Camera Settings > Trigger Interval**. You need to start and stop capturing by tapping  (Manual trigger).
31		Link Camera Properties	Links the properties for cameras defined as linked (RGB and NIR, if present) so that in manual mode, any adjustments to aperture, shutter speed, or ISO is implemented equally on all linked cameras. For example, in a system with RGB and NIR cameras, if you increase the shutter speed by 2 steps, the shutter speed for linked cameras will be increased by 2 steps. **Note** To enable this feature, make sure that in **System Settings** > **Capture** > **Camera**, the **Link Camera Properties** checkbox is selected.
32		Increase/ decrease EV	Appears in **Auto** (Auto Exposure) mode only: • Tap + to increase the EV. Tap - to decrease the EV.

Control Number in Figure on Page 42	Control	Description	Indication/Actions
32a		Increase/ decrease aperture	Appears in **Man** mode only: • Tap + to increase the aperture. • Tap - to decrease the aperture.
32b		Increase/ decrease shutter speed.	Appears in **Man** mode only: • Tap + to increase the shutter speed. • Tap - to decrease the shutter speed.
32c		Increase/ decrease ISO	Appears in **Man** mode only: • Tap + to increase the ISO. • Tap - to decrease the ISO.
33		Auto/ Manual Exposure	Tap to toggle between manual and automatic exposure modes.

Control Number in Figure on Page 42	Control	Description	Indication/Actions
34		EV scale	Shows the EV for each adjacent image in the image history.

Control Number in Figure on Page 42	Control	Description	Indication/Actions
35		Image history for selected camera	Shows the image history for the selected camera.
36		Freeze image history	Tap to freeze the image history.
37		Unfreeze image history	Tap to unfreeze the image history (arrow is red while frozen).

Control Number in Figure on Page 42	Control	Description	Indication/Actions
38		Camera selector	Tap a camera icon to select the active camera (the active camera's images are displayed in the image history).
39		Last capture point image display	Toggles the view between last image from either the active camera or from all cameras. • Active camera:  • All cameras: 

6. Recommended Flight Operation Procedure

6.1. Before Aircraft Power Up

1. Lens covers/filters:
   a. PAS 150 MK3 + PAS 280 MK3: verify that lens cover(s) are removed.
   b. PAS 880/PAS Pana: verify that lens filters are clean.
2. Power, GNSS, mount power, mount data cable connections - verify they are correct and secure.
3. Controller:
   - PAS 150 MK3 + PAS 280 MK3:
     a. iX Controller MK6 MAIN circuit breaker - verify pulled out.
     b. iX Controller MK6 AUX circuit breaker - verify pulled out.
   - PAS 880/PAS Pana:
     a. PAS 880/PAS Pana Controller POWER circuit breaker - verify pulled out.
     b. PAS 880/PAS Pana Controller CAMERAS circuit breaker - verify pulled out.
4. SOMAG mount POWER SWITCH - verify set to OFF.

6.2. After Aircraft Power Up

6.2.1 Controller and Mount

1. Controller:
   - PAS 150 MK3 + PAS 280 MK3:
     a. iX Controller MK6 MAIN circuit breaker - push in.
     b. Wait 10 seconds.
     c. iX Controller MK6 AUX circuit breaker - push in.
     d. iX Controller MK6 GNSS LED - validate that it is flashing green.
     e. iX Controller On/Off pushbutton - press.
     f. Log in to Windows.
   - PAS 880/PAS Pana:
     a. PAS 880/PAS Pana Controller POWER circuit breaker - push in.
     b. PAS 880/PAS Pana Controller CAMERAS circuit breaker - push in.
     c. PAS 880/PAS Pana Controller - CONTROLLER pushbutton - press.
2. SOMAG mount POWER SWITCH - set to ON and wait till test is finished.

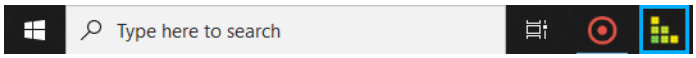
6.2.2 Screen Recording

Note

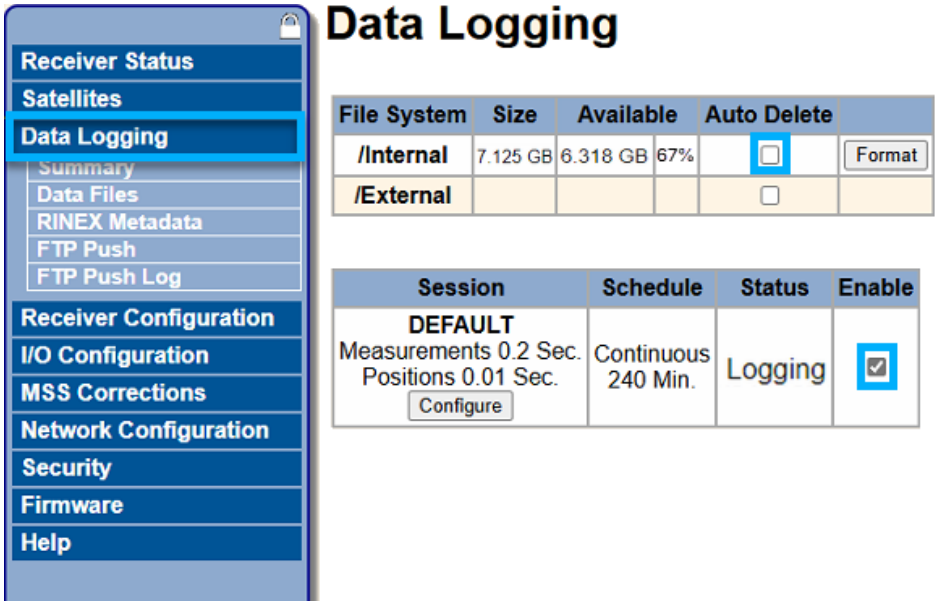
- If screen recording is necessary, install an application of your choice and use it to record the screens during flight.
- Verify that the output folder is set to D:\Videos.

6.2.3 GNSS/GPS

1. On the taskbar, tap the Applanix icon.



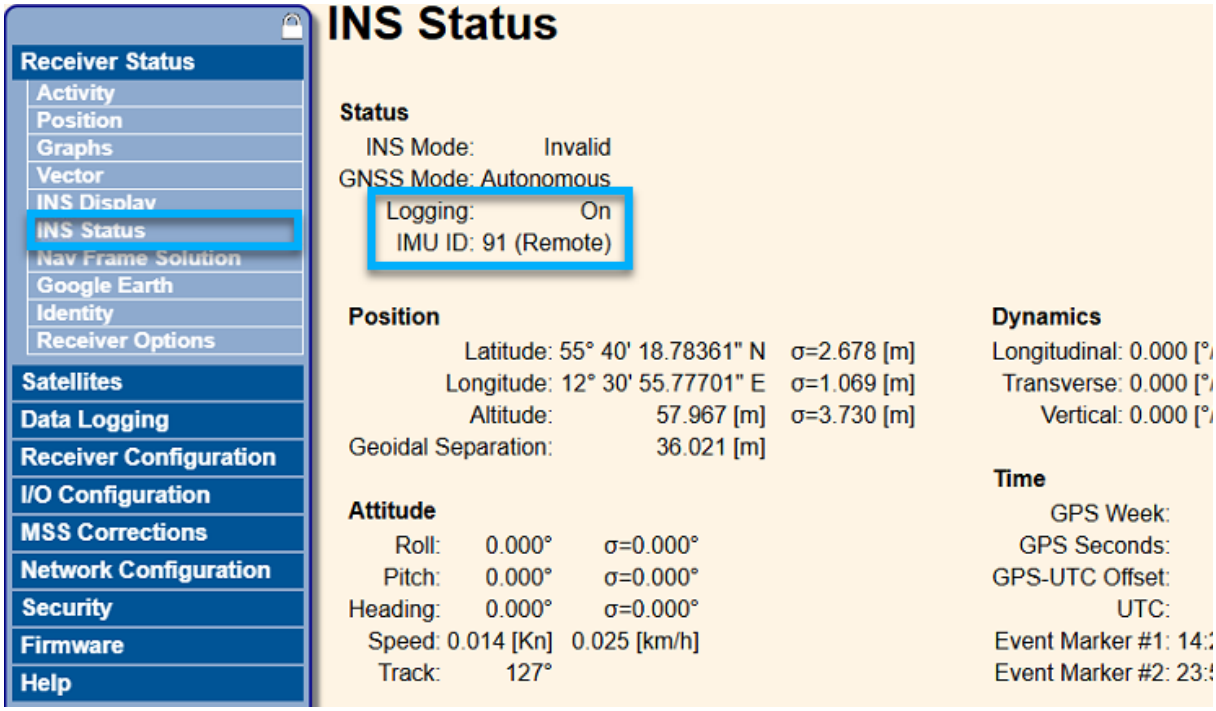
2. In the menu, tap **Data Logging** and configure the parameters as shown following:



Parameter	Setting
/Internal Auto Delete	Unselected
Enable	Selected.

> **Note**
> Verify that in the **Status** column, under **Logging**, a filename is displayed.

3. In the menu, tap **Receiver Status** and tap **INS Status**. Verify the outlined parameters are as shown:



Parameter	Setting
Logging	ON
IMU ID	The ID of the actual IMU that is installed.

4. Tap **OK**.
5. Minimize the **Applanix browser interface** window.

6.2.4 iX Flight Pro

1. Run iX Flight Pro.
2. Simulation mode - verify off.

6.2.4.1 Camera Settings

1. In the Home window, tap **Settings**.
1. Tap Cameras **Settings**.
2. **Show Advanced** - select the checkbox.

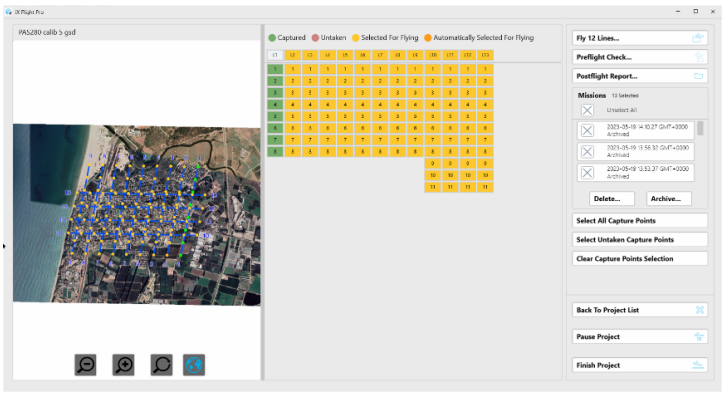
3. For each installed camera:
   - **Camera Name** - verify correctly identifies camera.
   - **Camera Position -** verify correctly set as follows:
     - PAS 150: Center
     - PAS 280: Center, NIR
     - PAS 880 - Front, Back, Center, Right, Left, NIR as required
   - **Master Image Folder** - verify correct folder.
   - **Ready to Capture** - verify marked green.
   - **Image File Name** - edit as required.
   - **Exposure Mode** - set as required.
   - **ISO**, **Aperture** and **Shutter** - verify that settings suit mission light conditions.
   - **Capture Setup:**
     - **White Balance** - verify set to Aerial.
   - **Image Orientation** - set as follows:
     - PAS 280 - 280MP camera appears as 90° and 270° (cannot be changed)
     - PAS 880:
       - Left: **180°**
       - Back: 18**0°**
       - All other cameras: **0°**
   - Left Terminal - set as follows:
     - Terminal is: GPS
     - Baud Rate: 115200
     - GPS Receiver: Applanix GPS
4. Tap **Close**.

6.2.4.2 Preflight Check

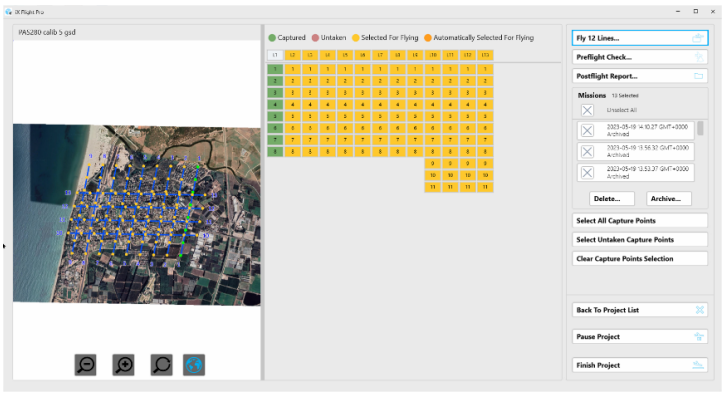
1. Open the required project and perform a Preflight Check.
2. During the test, verify that the mount STATUS LED changes color momentarily from green to yellow and back to green.
3. Verify that under **Camera System**, the **USB-3 Connection** test result is **OK**.
4. Verify that all test results are positive (green). If something failed, tap **Start Testing** again.
5. Close the Preflight Check window.

6.2.4.3 Fly Project

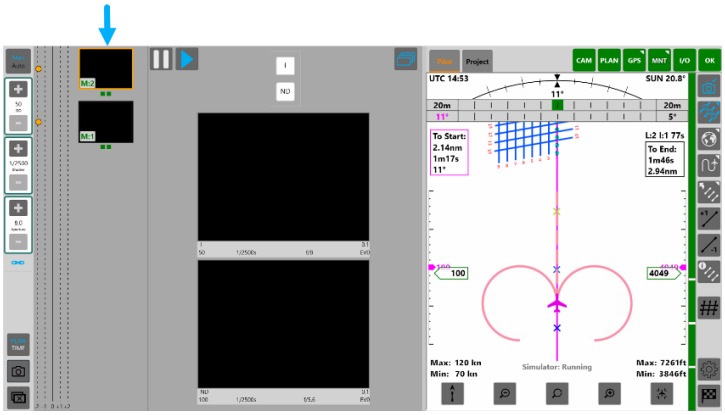
1. On the operator display, select the required options (lines and/or capture points, some or all missions, or an iX Process Subplan (Re-Fly).



2. Tap **Fly XX Lines** or **Fly Entire Plan**.



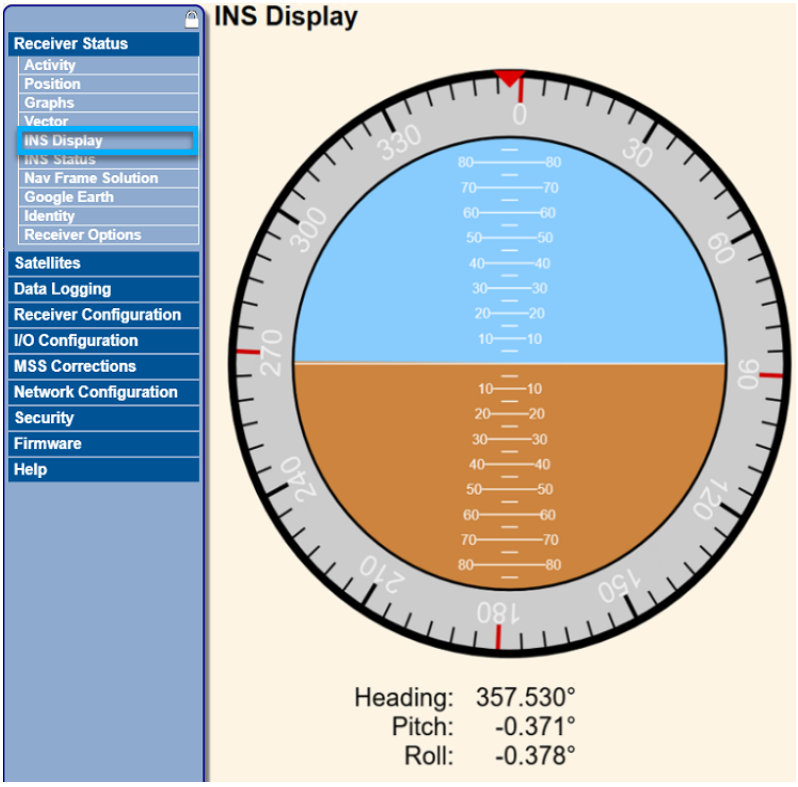
3. Tap  (Manual trigger) – verify images appear in image history.



4. Verify  (Capture Mode) is set to PLAN.
5. On the operator or pilot display, tap  (Flight Lines), double-tap line 1 and tap  (Flight Lines) again to close the **FLIGHT LINES** window.
6. On the pilot display, tap and hold  (Map) and select the required **Background Map**.
7. On the operator display, tap and hold  (Map) and select the required **Background Map** (identified by numbers).

6.3. On Taxiing

1. Open the Applanix browser interface.
2. In the menu, tap INS Display and verify that the INS is aligned.



6.4. In Flight Tasks

6.4.1 In Flight Tasks for Pilot

Fly the plan while maintaining the following:

- Enter passes more than 30 seconds before the first image to allow the mount to stabilize.
- Fly as close as possible to the line and to the planned altitude and within the allowed zone.
- Avoid large and fast control inputs.
- After end of each line – monitor the engine, fuel, and flight parameters.

6.4.2 In Flight Tasks for Operator

6.4.2.1 After Takeoff

1. At mission altitude when over the correct area, in iX Flight Pro take images to adjust camera parameters. Note the image parameters.
2. If the background map is not displayed, tap  (Map).

6.4.2.2 Line Procedure

1. Screen recording application – verify that it is recording video and screen.
2. Status indicators at top of display - verify that all are green.
3. Image history - monitor captured images.
4. Mount - monitor.
5. Missed and bad images - note images that are bad or missed.
6. Next flight line – tap at the end of the line if **Active Line Selection** is set to **Manual**.

6.4.2.3 End of Line

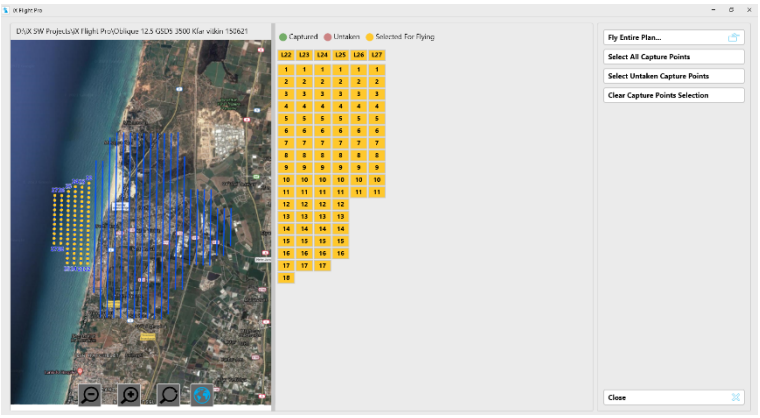
1. Tap  and verify that all images have been successfully collected. Tap  again to close the window.
2. Tap **Project**.
3. Tap  to display draping.
4. For each camera, review the footprint.
5. Zoom out as required to show the entire project.

6.4.2.4 Replanning Flight Lines or Capture Points During Flight

During a flight, the operator can open the Replan window, see which capture points were missed and select some or all of them to refly.

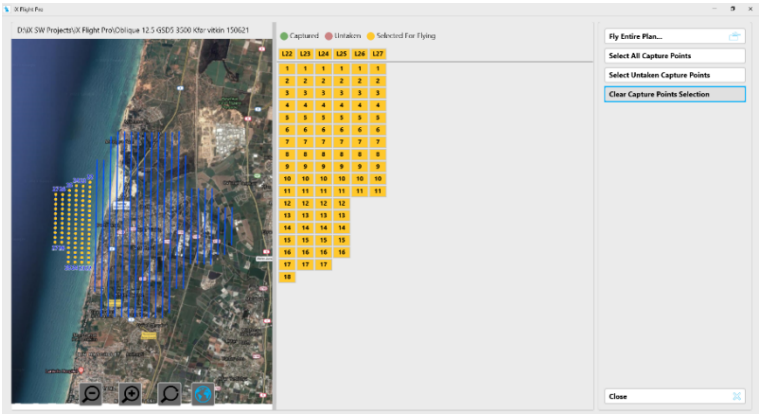
To view missed capture points:

1. Tap `  . The Replan window appears, and any missed capture points are selected.

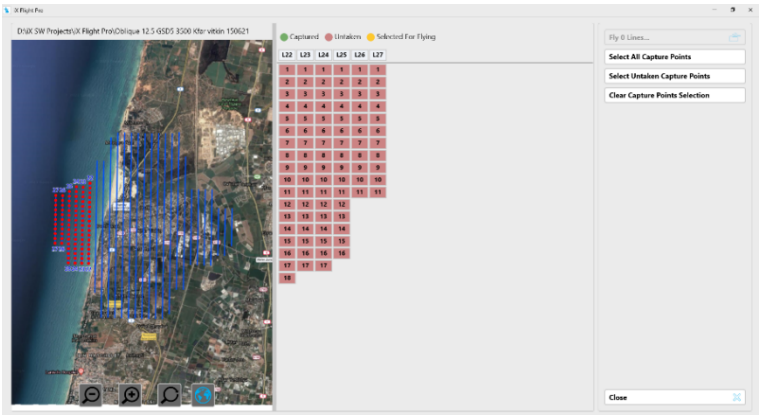


To select only some of the missed capture points:

1. Tap **Clear Caption Points Selection**.

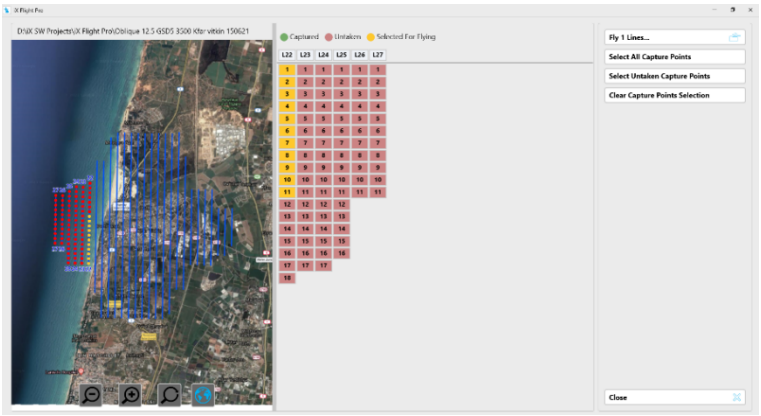


The untaken capture points are displayed.

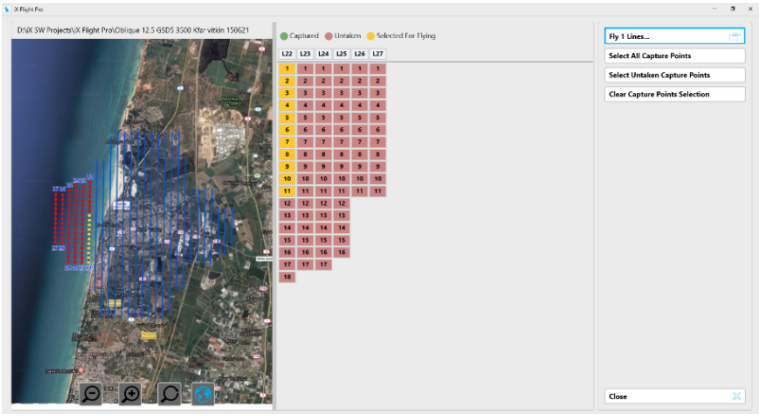


> **Note**
> Any captured points are displayed in green.

2. Select the capture points you require as described in Section 4.2.2.1 - Manually Select Lines and/or Capture Points.



3. Tap **Fly XX Lines** or **Fly Entire Plan** to set the lines and/or capture points that you selected as the new flight plan.

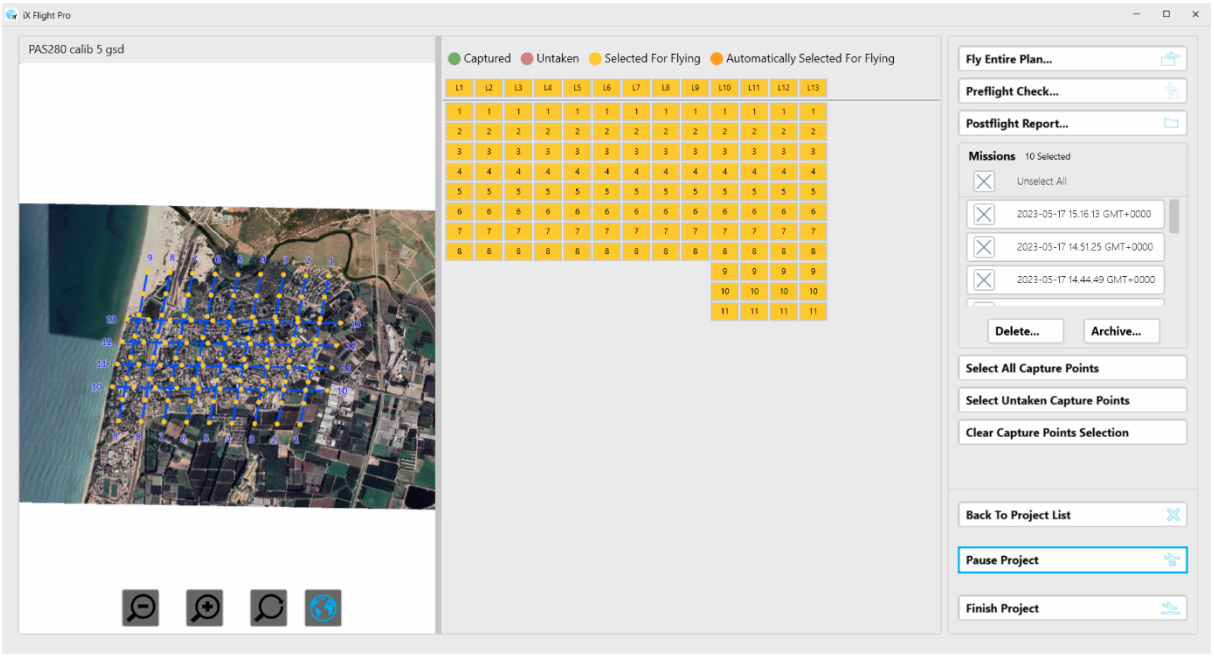


6.4.2.5 Pausing Projects

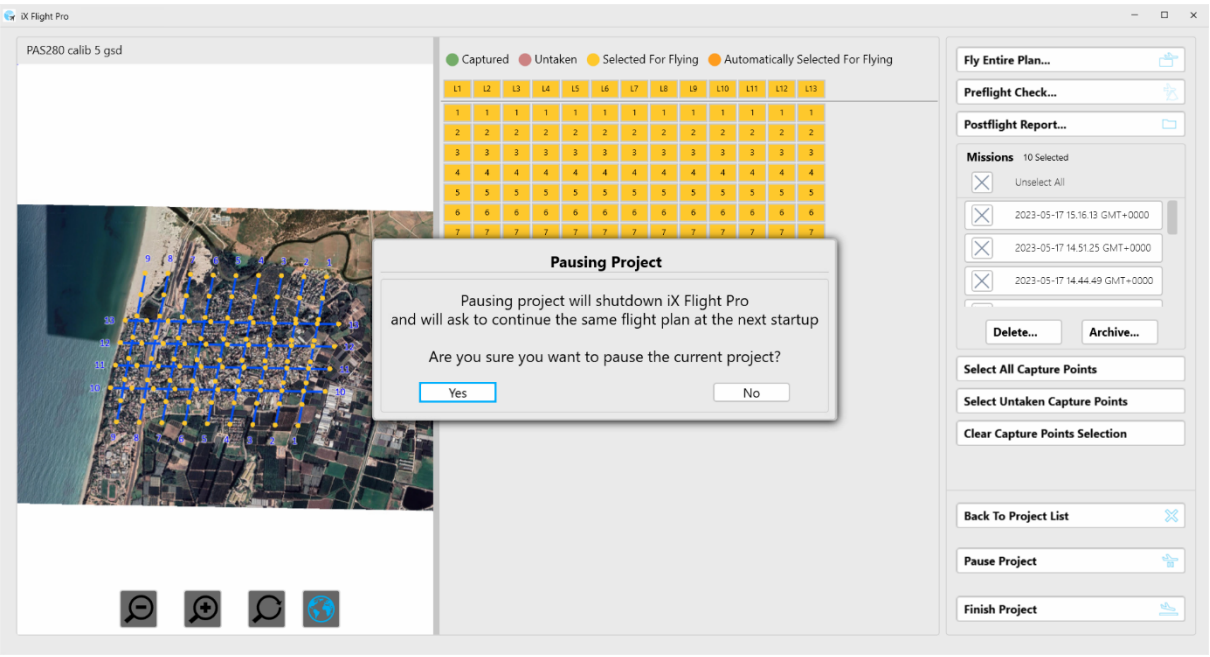
You can split large projects that need to be flown over several flights by pausing the project at a specific point and continue the flight the next time you open the project.

To pause an open project:

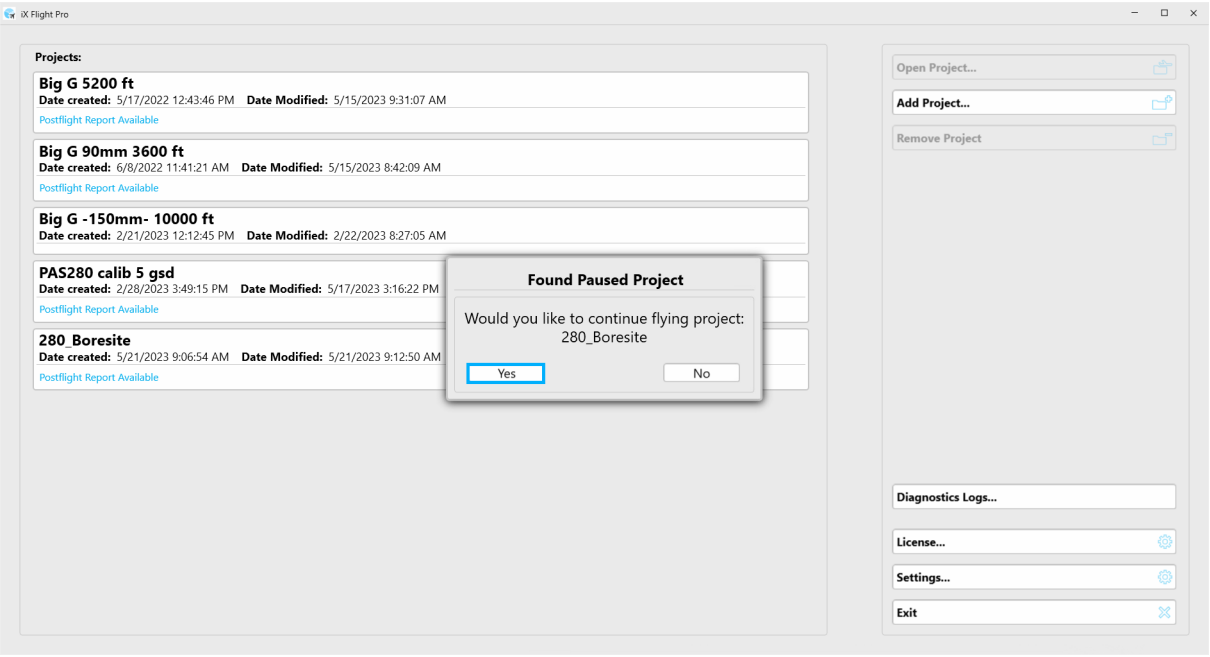
1. Tap  (**End Mission**).
2. Tap **Pause Project**.



3. Confirm the action by tapping **Yes**.



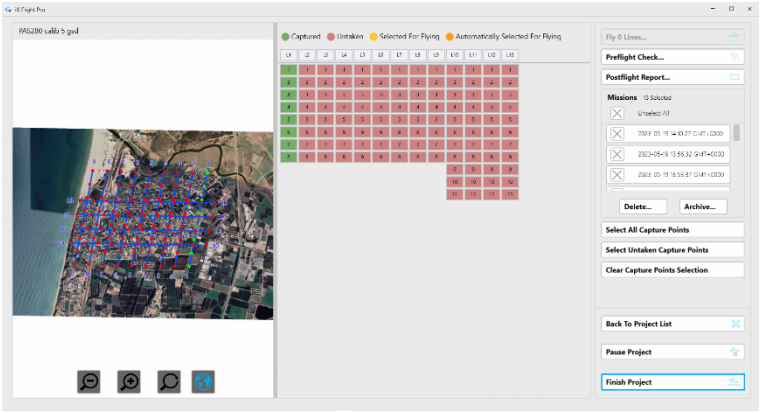
4. When you next open iX Flight Pro, the following message appears:



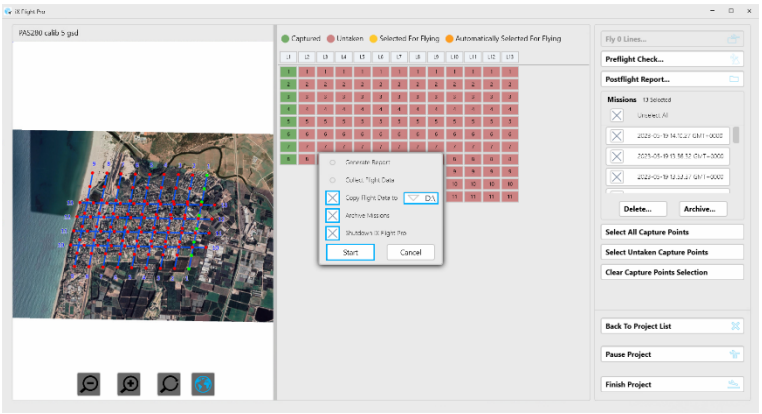
Confirm the action by tapping **Yes**.

6.5. After Landing Tasks for the Operator

1. In iX Flight Pro, tap  (**End Mission**).
2. Screen recording application (optional) – stop recording and close the application. Verify that the video output file is in D:\Videos.
3. In iX Flight Pro, tap **Finish Project**.



4. Select the options required, specify the disk location where the flight data is will be saved, and tap **Start**.

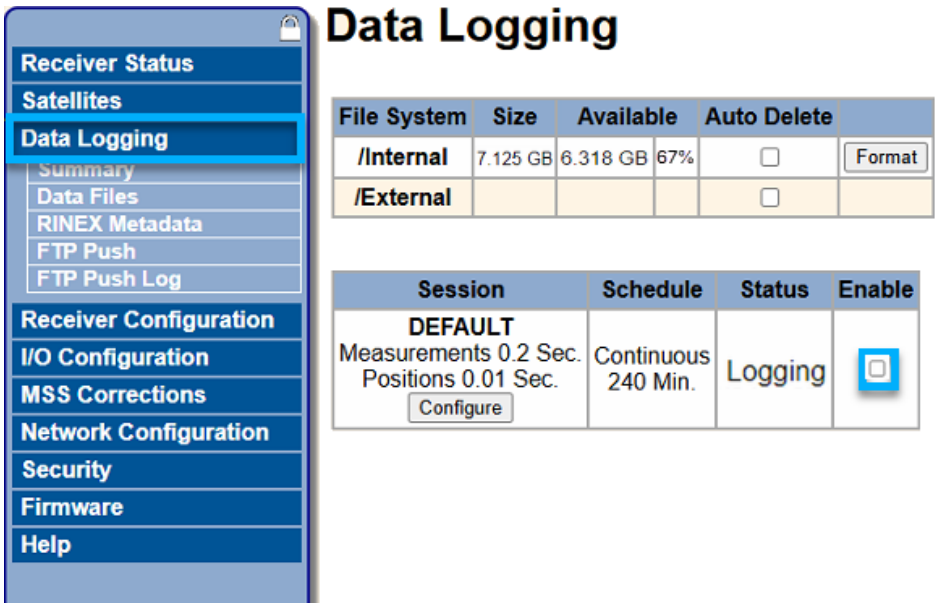


iX Flight Pro collects all required information and saves the flight data zip file in the location you specified.

5. Repeat for all plans flown.
6. Exit iX Flight Pro. When exiting, select whether to stop GNSS/GPS logging now, or later through your GNSS/GPS application.

6.6. Before Engine Shutdown

1. Wait two minutes from end of taxi while standing with engine on.
2. In the menu, tap **Data Logging** and clear the enable checkbox.



Parameter	Setting
Enable	Unselected.

3. If you are removing the SSD:
   a. Download GNSS/GPS data to Drive D.
   b. Verify all logs are in drive D.
4. Microsoft Windows - shutdown.

> **Warning**
> Make sure you shut down Windows properly before powering down the Controller.

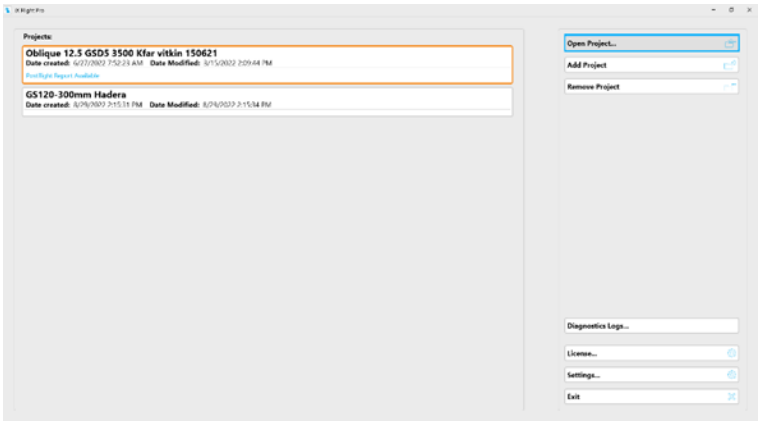
5. SOMAG mount POWER SWITCH - verify set to OFF.
6. Controller:
   - PAS 150 MK3 + PAS 280 MK3:
     a. Verify that the On/Off pushbutton white LED has turned off.
     b. iX Controller MK6 MAIN circuit breaker - verify pulled out.
   - PAS 880/PAS Pana:
     a. PAS 880/PAS Pana Controller POWER circuit breaker - verify pulled out.
7. System power supply (aircraft side) - switch OFF.

7. Post Flight Operations

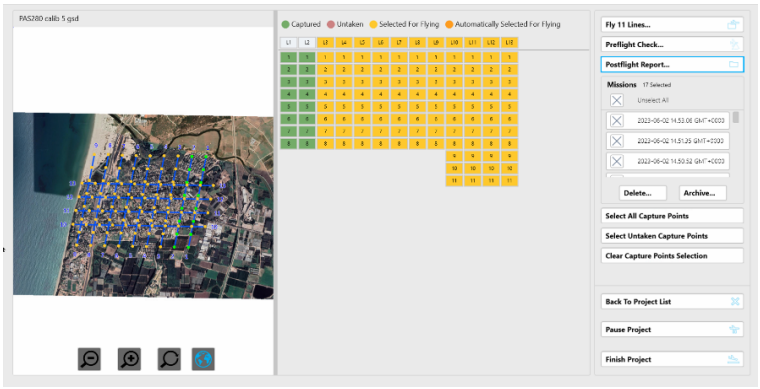
7.1. Generating the Postflight Report

To generate a post flight report:

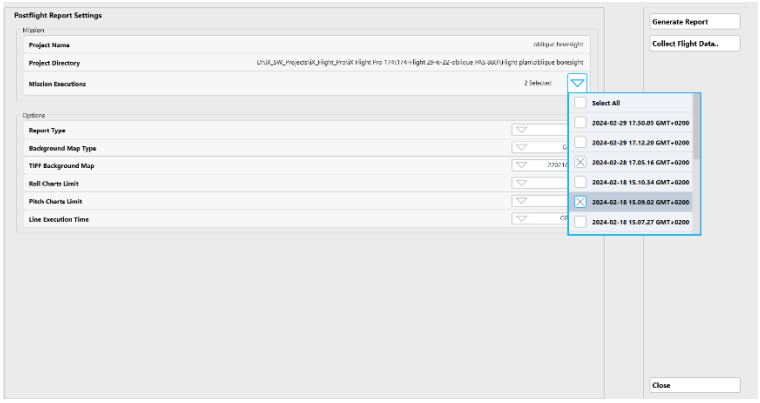
1. Tap a project that is marked with **Postflight Report Available** and tap **Open Project**.



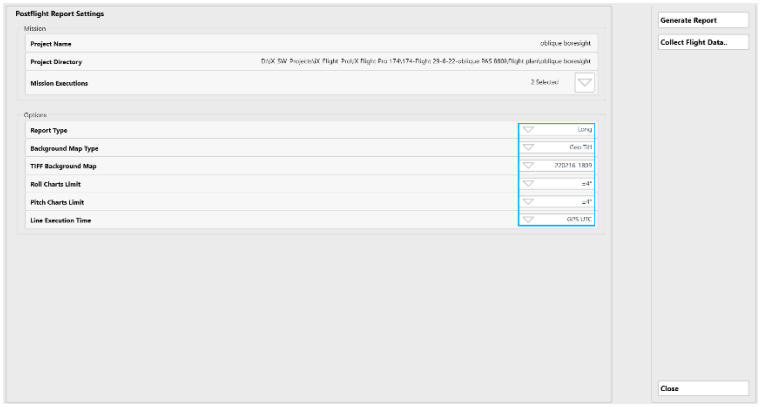
2. Tap Postflight Report.



3. In the Post Flight Menu, select at least one mission execution.



4. Configure the report options as required. A description of the options appears in the following table:

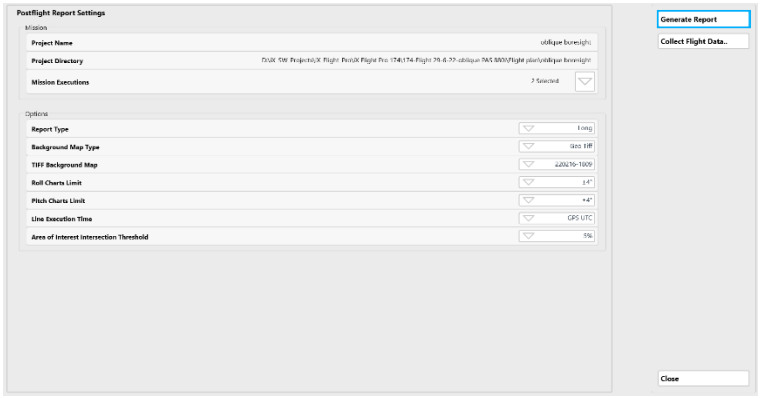


Report Option	Description

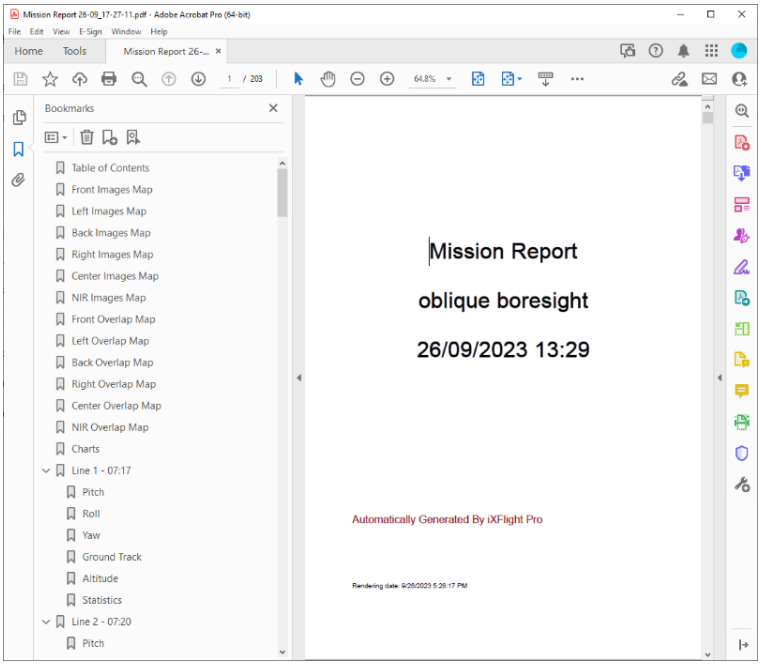
Report Type	• Short - short report containing (for each camera):
	  • a map of collected images with GNSS/GPS event ID or capture number shown per image.
	  • a map of missed images.
	  • a map of overlap and sidelap showing in color areas where the overlap or sidelap are under the mission plan requirement.
	• Long - extensive report:
	  • all items appearing in the short report.
	  • for each flight line:
	  ◦ mission start time (GNSS/GPS time).
	  ◦ graphs for camera and aircraft pitch, roll, yaw, ground track, GNSS/GPS altitude.
	  ◦ mission statistics relating to horizontal and vertical distances from the flight line.
	  • Line Execution Time (shown in the Line Execution Time you selected) with first and last GNSS/GPS Event ID per line.

Background Map Type	• GeoTIFF - use an **iX Plan TIFF file**as the background (see TIFF Background Map). • Project Area - do not use a background.
TIFF Background Map	If you selected GeoTIFF in **TIFF Background Map, select the iX Plan GeoTIFF file to use as the Map Background.**
Roll Charts Limit (for Long Report Types only)	Sets the range of the roll chart axis.
Pitch Charts Limit (for Long Report Types only)	Sets the range of the pitch chart axis.
Line Execution Time (for Long Report Types only)	Sets the time format for the table showing line execution times.

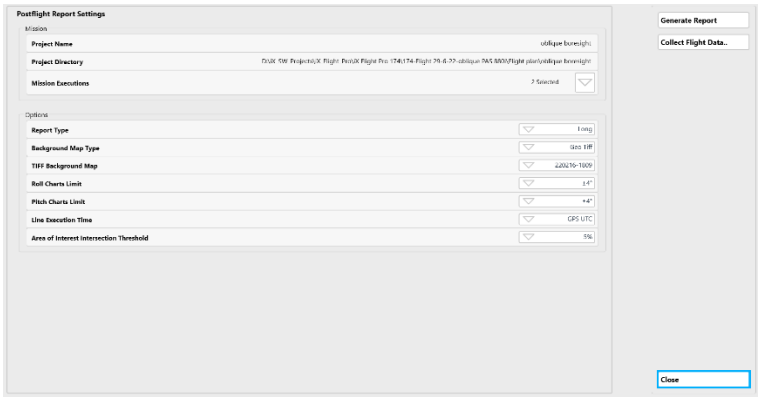
5. Tap **Generate Report**.



When the report has been generated, the PDF file appears.



6. Tap **Close**.



7.2. Collecting Flight Data

You can collect a project's flight data for:

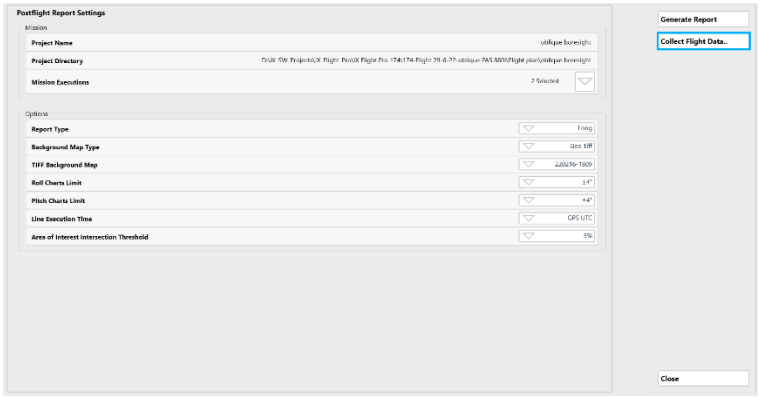
- post-flight processing, such as importing into iX Process.
- troubleshooting (zips all flight-related files required for sending to Phase One for analysis, including Window system files if required).

The archive (zip) file created when you perform an export contains the following folders:

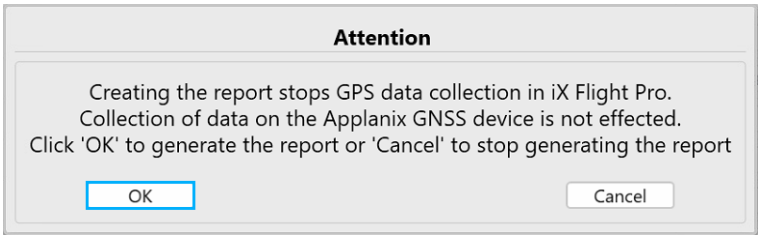
- [Flight Plan Name]
- Config
- Crash Dumps (if exists)
- GNSS/GPS (if exists)
- Logs
- Reports (if exists)

To collect flight data:

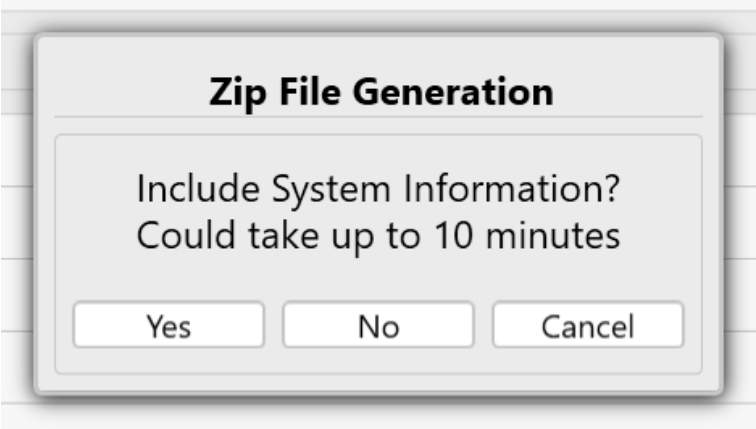
1. Perform steps 1 - 4 in Section 7.1 - Generating the Postflight Report.
2. Tap **Collect Flight Data**.



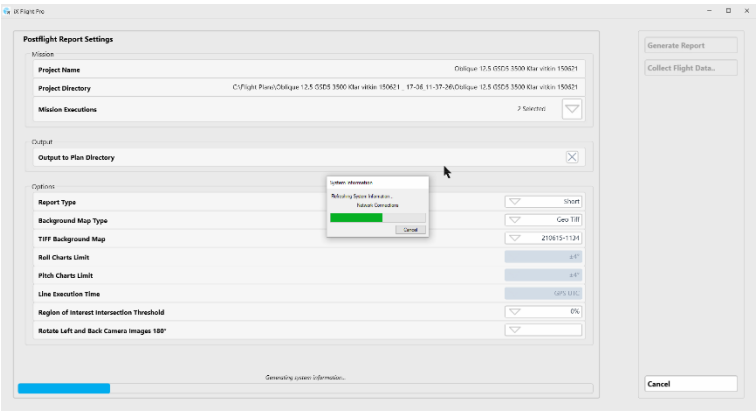
3. If you agree to stop GNSS/GPS data collection, tap **OK**.



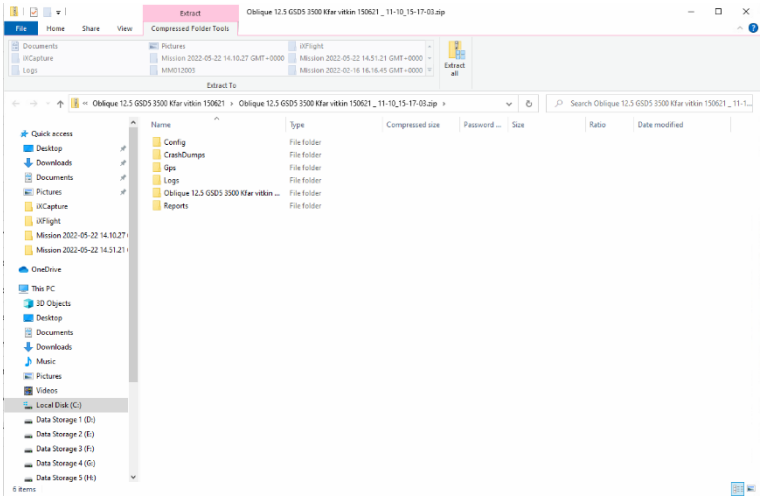
4. Decide whether to include Microsoft Windows system information and tap the required response.



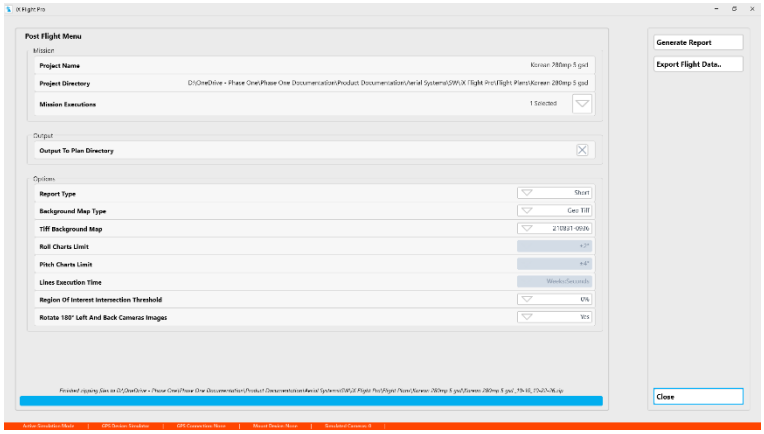
The system collects the data.



When the zip file is created, a window showing the zip file content appears.



5. Tap **Close**.

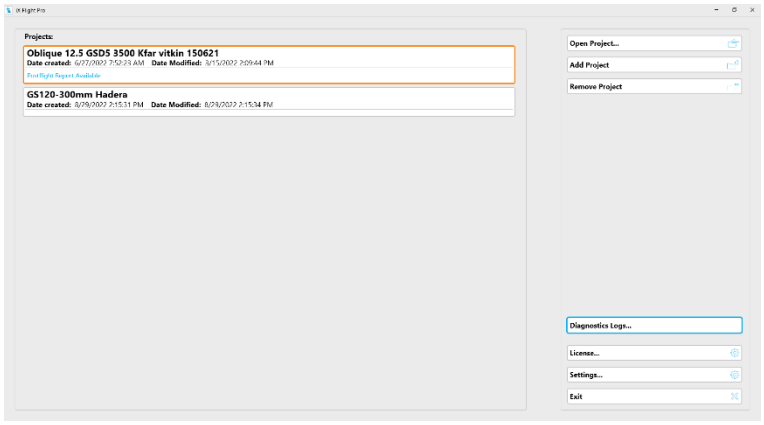


7.3. Saving Diagnostics Logs

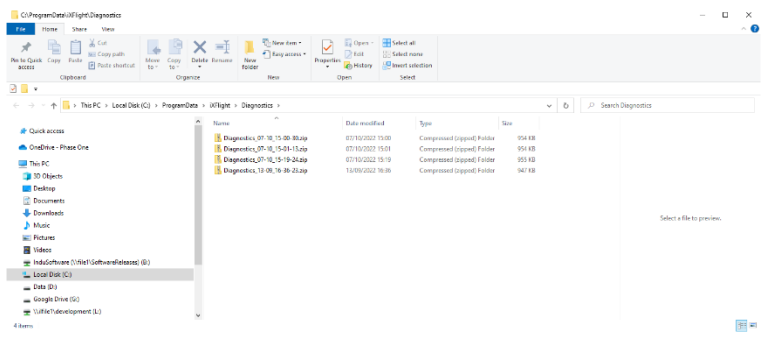
If there is an issue in your system, Phase One Technical Support may request that you send a log containing diagnostics of your system.

To save a diagnostics log as a zip file:

1. Tap **Diagnostics Logs**.



Windows File Manager appears showing the Diagnostics folder and the created zip file so that you can send it to Phase One Technical Support. The zip file filename has the following template: Diagnostics_DD-MM_HH-MM-SS.zip.

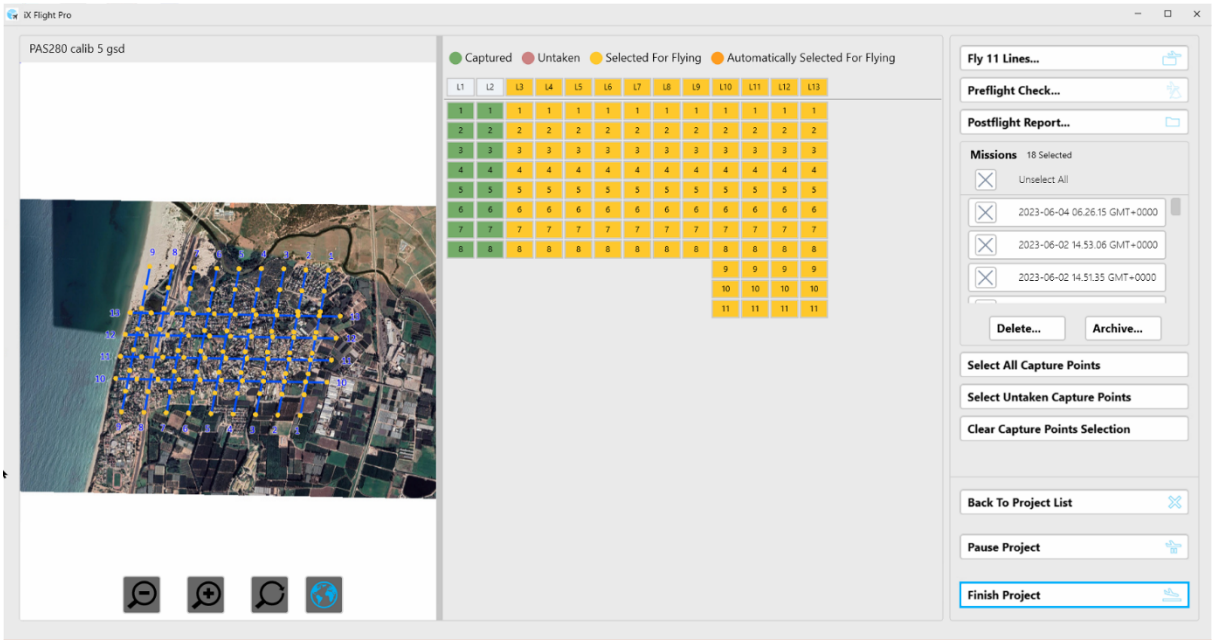


2. When finished, close the File Manager window.

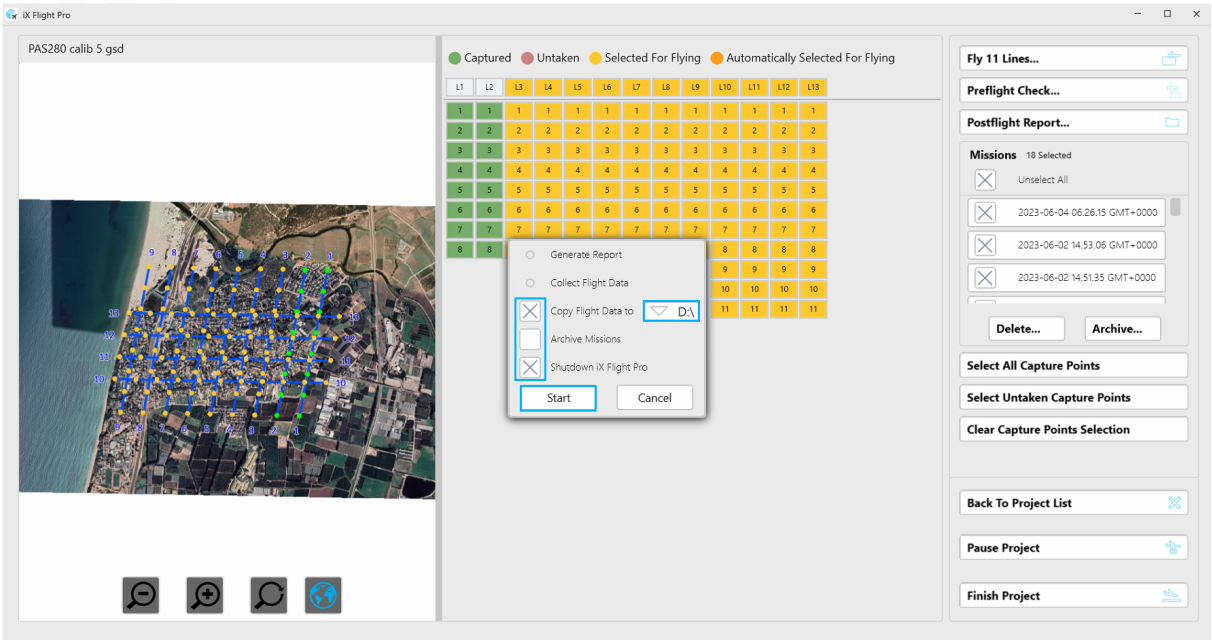
7.4. Finishing a Project

To finish a project:

1. Tap **Finish Project**.

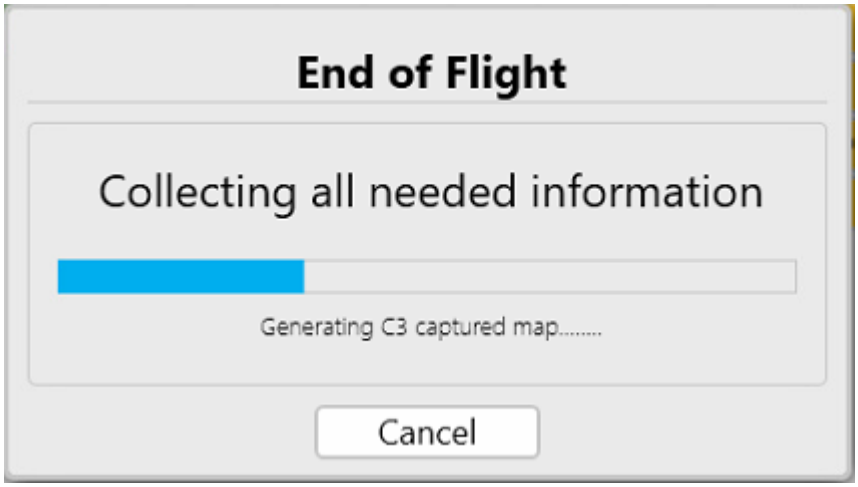


2. Select the required options as described in the table below and tap **Start**.



Option	Description
Generate Report	Generates the Postflight Report (see Section 7.1 - Generating the Postflight Report). Always selected.
Collect Flight Data Type	Saves the Flight Data in a zip file (see Section 7.2 - Collecting Flight Data). Always selected.
Copy Flight Data to	Copies the flight data zip file to the drive you specify.
Archive Missions	Archives all missions in the project (see Section 4.2.3.2 - Archiving Missions).
Shutdown iX Flight Pro	Shuts down iX Flight Pro.

The data is collected.



When completed, Windows File Manager appears showing the folder that contains the zip file with the collected data.

Appendix A. Configuring Settings

iX Flight Pro includes an extensive list of parameters organized into the following main groups:

- System Settings
- Camera Settings
- Camera System

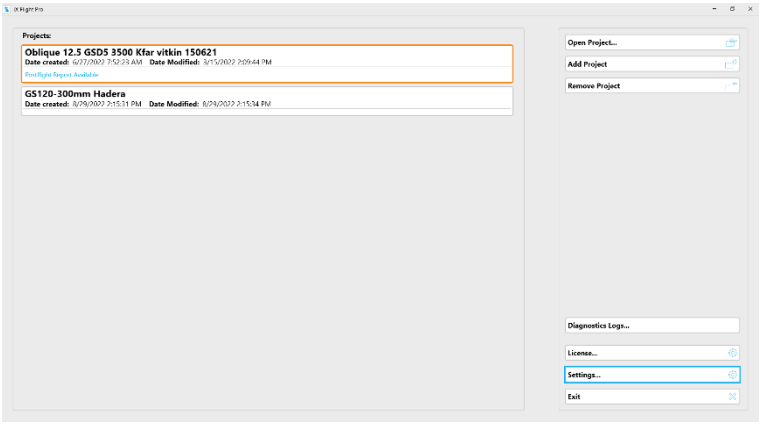
> **Note**
> You cannot configure settings while in Simulation mode.

A.1 Configuring System Settings

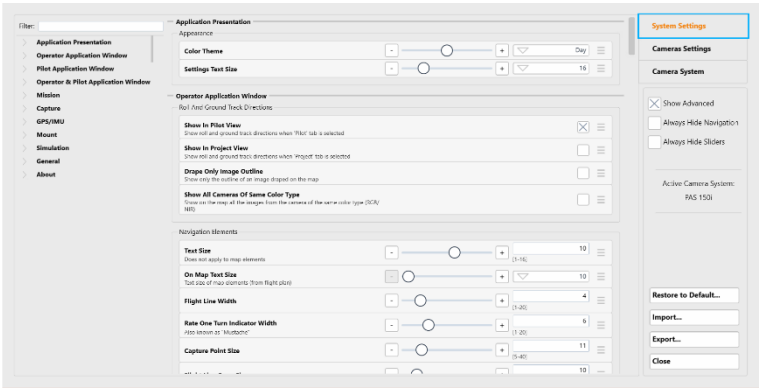
A.1.1 Accessing System Settings

To configure the system settings:

1. In the Home window, tap **Settings**.



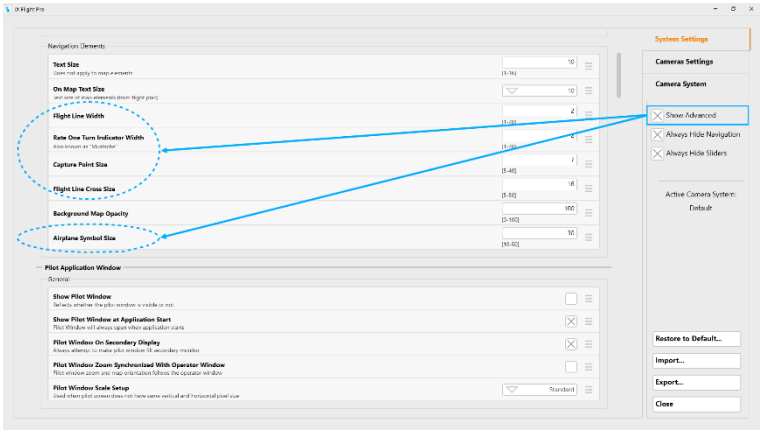
2. Tap **System Settings**.



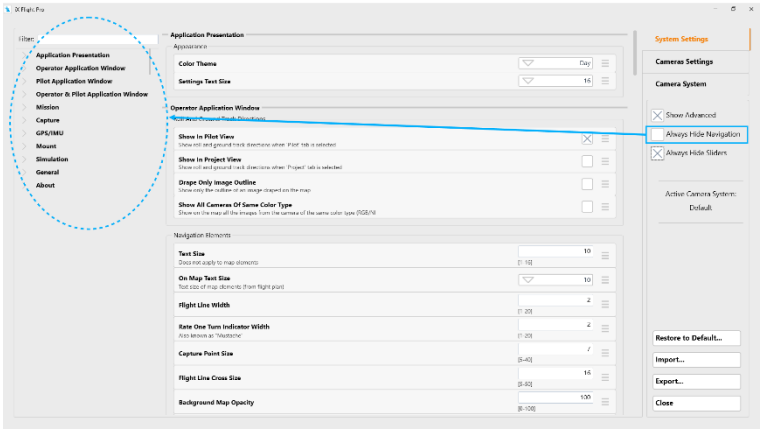
A.1.2 Using the System Settings Interface

To use the System Settings interface efficiently, set the following controls as required:

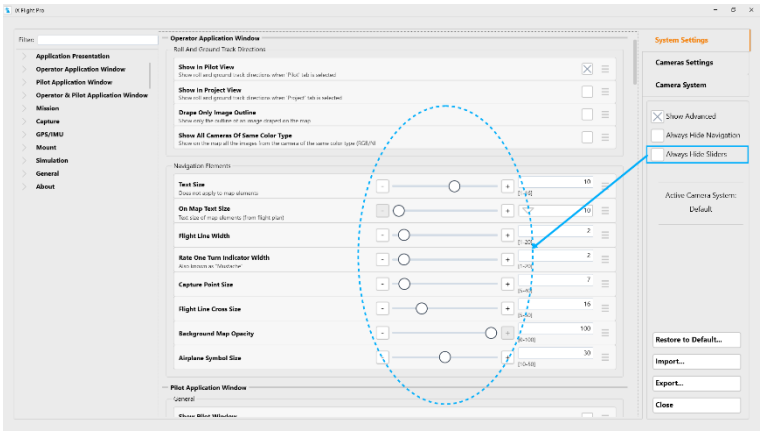
- **Show Advanced** - tap the checkbox to toggle parameters defined with the Advanced access level (see Access Level in A.1.3 - System Parameters).



- **Always Hide Navigation** - tap the checkbox to toggle the left navigation pane on/off.

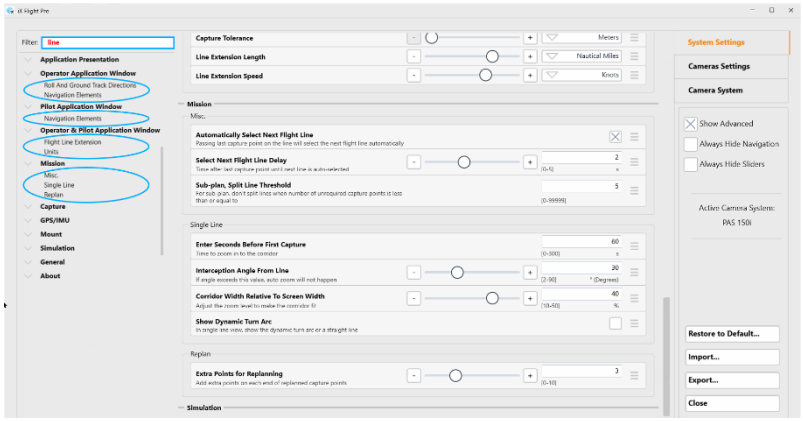


- **Always Hide Sliders** - tap to toggle parameter sliders on/off.

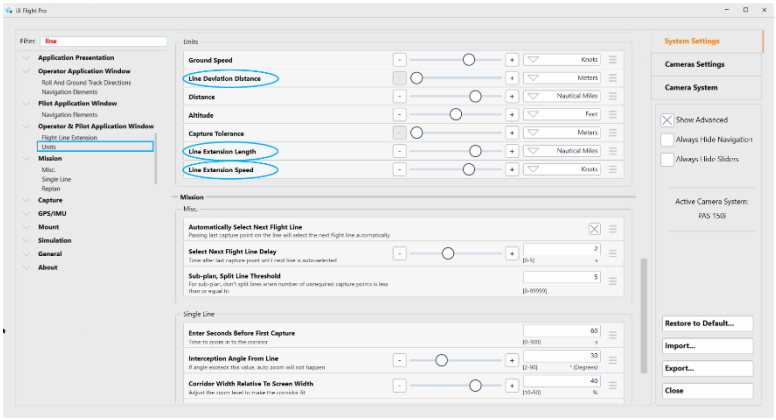


To filter the left navigation pane to display only parameters related to a specific keyword:

1. In the Filter textbox, enter the required keyword. As you type, unrelated items are filtered out.

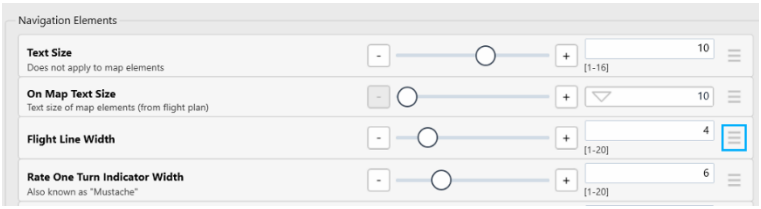


2. Tap the required item. The related parameters appear.



To undo the last change that you made to a parameter:

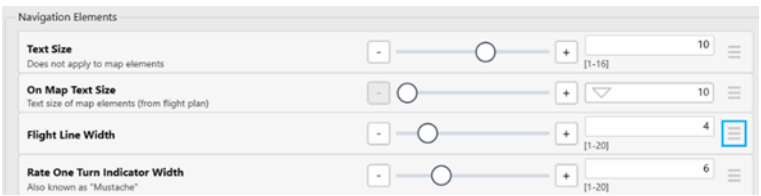
1. On the required parameter row, tap ☰.



2. Tap **Undo**.

To reset a parameter to its default value:

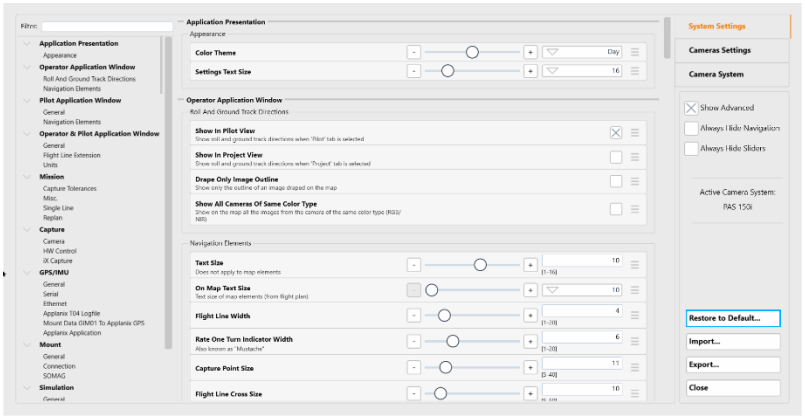
1. On the required parameter row, tap ☰.



2. Tap **Set to Default**.

To reset all or a collection of parameters to their default values:

1. Tap **Restore to Default**.



2. Tap the required group checkboxes that you want to restore, tap **Restore to Default** then tap **Close**.

A.1.3 System Parameters

> **Note**
> In the following table, the parameters that can be viewed depend on the access level for that parameter as set by your company administrator (see Access Level below).

Category	Group	Parameter	Default Value	Description
Application Presentation	Appearance	Color Theme	Day	Black letters on white background.
		Settings Text Size	16	
Operator Application Window	Roll And Ground Track Directions	Show In Pilot View	On	Show roll and ground track directions when 'Pilot' tab is selected
		Show In Project View	Off	Show roll and ground track directions when 'Project' tab is selected
		Drape Only Image Outline	Off	When draping captured images on the DTM, show only a polygon outline (without the actual image).
		Show All Cameras of Same Color Type	Off	When you select from which camera images should be displayed, images from all cameras of that type (RGB or NIR) are displayed.
	Navigation Elements	Text Size	10	Does not apply to map elements
		On Map Text Size	10	Text size of map elements
		Flight Line Width	2	
		Rate One Turn Indicator Width	2	Also known as "Mustache"
		Capture Point Size	7	
		Flight Line Cross Size	16	
		Background Map Opacity	100	
		Airplane Symbol Size	30	

Category	Group	Parameter	Default Value	Description
Pilot Application Window	General	Show Pilot Window	On	Reflects whether the pilot window is visible or not
		Show Pilot Window at Application Start	On	Pilot Window always opens when application starts
		Pilot Window On Secondary Display	On	Always attempt to make pilot window fill secondary monitor
		Pilot Window Zoom Synchronized With Operator Window	Off	Pilot window zoom and map orientation follows the operator window
		Pilot Window Scale Setup	Standard	Used when pilot screen does not have same vertical and horizontal pixel size
	Navigation Elements	Text Size	10	Does not apply to map elements
		On Map Text Size	10	Text size of map elements (from flight plan)
		Flight Line Width	2	Rate One Turn Indicator Width
		Rate One Turn Indicator Width	2	
		Capture Point Size	7	
		Flight Line Cross Size	16	
		Background Map Opacity	100	
		Airplane Symbol Size	30	

Category	Group	Parameter	Default Value	Description
Operator & Pilot Application Window	General	Capture Indicator Duration	300 ms	Green/red bars appearing in top and bottom of operator/pilot view
		Track Deviation Range	3 degrees	
		History Trail Minutes	5 minutes	
		Project View - Number Of Captures In Screen	10 captures	
		Rate One Turn 360 Duration	120 seconds	
		Enable Auto Zoom		Change the map zoom level automatically based on the selected flight line
		Auto Zoom Amount	100	Set the maximum level of auto zoom
	Flight Line Extension	Line Extension By	Distance	
		Line Extension Speed	121 knots	
		Line Extension Time	300 seconds	
		Line Extension Length	3 nautical miles	
		Crosses On Line By	Seconds	You can set the crosses to refresh by time or distance from first image.
		Inner Cross	30 seconds	
		Middle Cross	60 seconds	
		Outer Cross	90 seconds	
	Units	Ground Speed	Knots	
		Line Deviation Distance	Meters	
		Distance	Nautical Miles	
		Altitude	Feed	
		Capture Tolerance	Meters	
		Line Extension Length	Nautical Miles	
		Line Extension Speed	Knots	

Category	Group	Parameter	Default Value	Description
Mission	Drape Images	Drape Images on the DTM within AOI	Enabled	When enabled, both the DTM and AOI must be available in the flight plan in order to fly.

Category	Group	Parameter	Default Value	Description
	Capture Tolerances	Max Allowed Sidelap Deviation	5%	Affects horizontal allowed band for image taking. A value that is too low is hard to fly and may cause loss of images. A value that is too high may affect adherence to the contract-required sidelap.
		Override Calculated Horizontal Distance	Off	Set to On if you want to enter a distance different from the calculated one.
		Capture When Horizontal Distance Is Within	20 meters	Only used when the override option is enabled.
		Capture Outside Altitude Tolerance	On	Enable capturing outside altitude tolerance.
		Max Allowed GSD Deviation	10%	Affects the maximum altitude deviation.
		Target Speed	100 knots	For display purposes.
		Minimum Speed	80 knots	For display purposes.
	Misc.	Automatically Select Next Flight Line	On	Passing last capture point on the line automatically selects the next flight line
		Select Next Flight Line Delay	2 seconds	Time after last capture point until next line is auto-selected.
		Sub-plan split line threshold	5 unrequired capture points	For a sub-plan, flight lines are split when the number of unrequired capture points on a line is greater than the value you enter here.
		Large Flight Plan Threshold	1000 capture points	Flight plans larger than threshold defined here display a line-centric user interface.
	Single Line	Enter Seconds Before First Capture	60 seconds	Time to zoom in to the corridor
		Interception Angle From Line	30 degrees	If angle exceeds this value, auto zoom will not occur
		Corridor Width Relative To Screen Width	40%	Adjust the zoom level to make the corridor fit
		Show Dynamic Arc Turn	Off	
	Replan	Extra Points for Replanning	3	Specifies the number of extra images to be captured around points selected for reflying.

Category	Group	Parameter	Default Value	Description
Capture	Camera	Link Camera Properties	Off	Links the properties for cameras defined as linked (RGB and NIR, if present) so that manual adjustments to aperture, shutter speed, or ISO is incrementally implemented on all linked cameras.
	iX Capture	Collaborate with Remote Computer	On	
GPS/IMU	Applanix Application	Applanix IP Address	192.168.53.100	Should be the same as GPS Ethernet address
		Applanix Application	OpenApp	

Category	Group	Parameter	Default Value	Description
Mount	General	Mount Device	SomagiXFlightPro	
		Mount Angles Update Rate	100 ms	
		Mount Heading Correction	On	
		Mount Roll and Pitch Correction	On	
		Mount Correction Mode	Stabilized	
		Mount Heading Direction	Planned Heading	
		Time To Start Stab Mode	30 seconds	Related to first capture point on flight line
		Time To Stop Stab Mode	2 seconds	Related to last capture point on flight line
		Activate Mount While Time Triggering	Off	
	Connection	Mount Status Timeout	1000 milliseconds	
		Mount Reconnect Timeout	2000 milliseconds	
		Mount Connection	Serial	
		Mount Serial Port	COMx	
		Mount Serial Port Baud Rate	115200	
	SOMAG	Somag App Path	C:\Program Files (x86)\SOMAG AG Jena\SOMAG Mount Control App 4.4\SOMAG_App.exe	
		Somag Application	Open App	
Simulation	General	Activate Simulation Mode	Off	Activating overrides all other GNSS/GPS IMU settings
		Turn Behavior	Keep value	
		Altitude Behavior	Vertical Speed	
General	System recovery on failures	Continue flight on crashes	Off	On system crash, restart system and continue flight automatically.
		Continue flight on power loss	Off	On system power loss, restart system and continue flight automatically.

Category	Group	Parameter	Default Value	Description
		Max crash restarts	3	The maximum times a flight is continued after a crash.
	Access Level		User	There are two access levels: • **User** - can only view parameters that are defined as basic (see below). • **Company** - if you access this password-protected level, you can view all parameters and set the visibility level for each System Settings parameters (see A.1.4 - Setting Access Levels for System Setting Parameters).

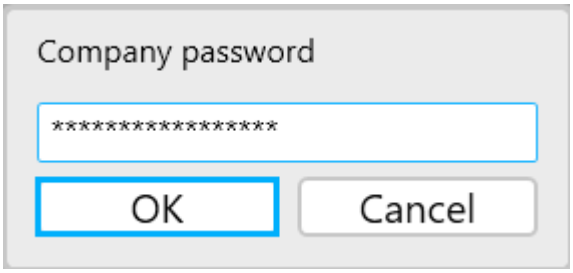
A.1.4 Setting Access Levels for System Setting Parameters

To set the access level to Company:

> **Note**
> You need the company password to perform the procedures in this section.

1. In the Navigation panel, in the **General** category, tap **Access Levels**.
2. On the **Access Level** row, tap ☰, then tap **Access Level to Company**.

3. Enter the password and tap **OK**.

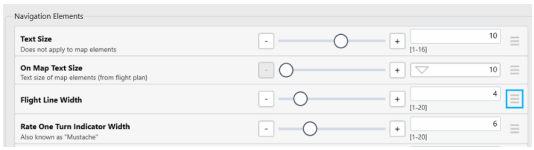


The access level is now set to **Company** and you can set access levels for each system parameter as described in the procedure below.

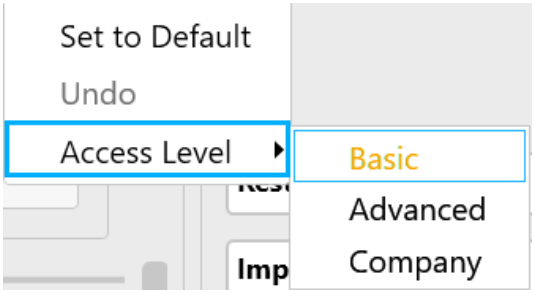
To set the access level for a system parameter:

> **Note**
> This procedure requires that the access level is set to **Company** as described in the procedure above.

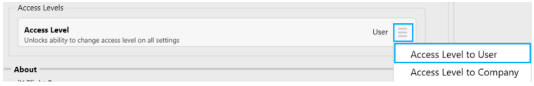
1. On the required parameter row, tap ☰.



2. Tap **Access Level** and tap the required setting for that parameter as follows (the current setting appears in orange):
   - **Basic** - parameter is visible to all.
   - **Advanced** - parameter is visible to users with either basic or company access levels when the **Show Advanced** checkbox is selected (see A.1.2 - Using the System Settings Interface).
   - **Company** - parameter is visible only to those with company access level.



3. When you have completed setting access levels for the parameters, revert the access level back to User:
   a. On the **Access Level** row, tap ☰, then tap **Access Level to User.**



A.2 Configuring Camera Settings

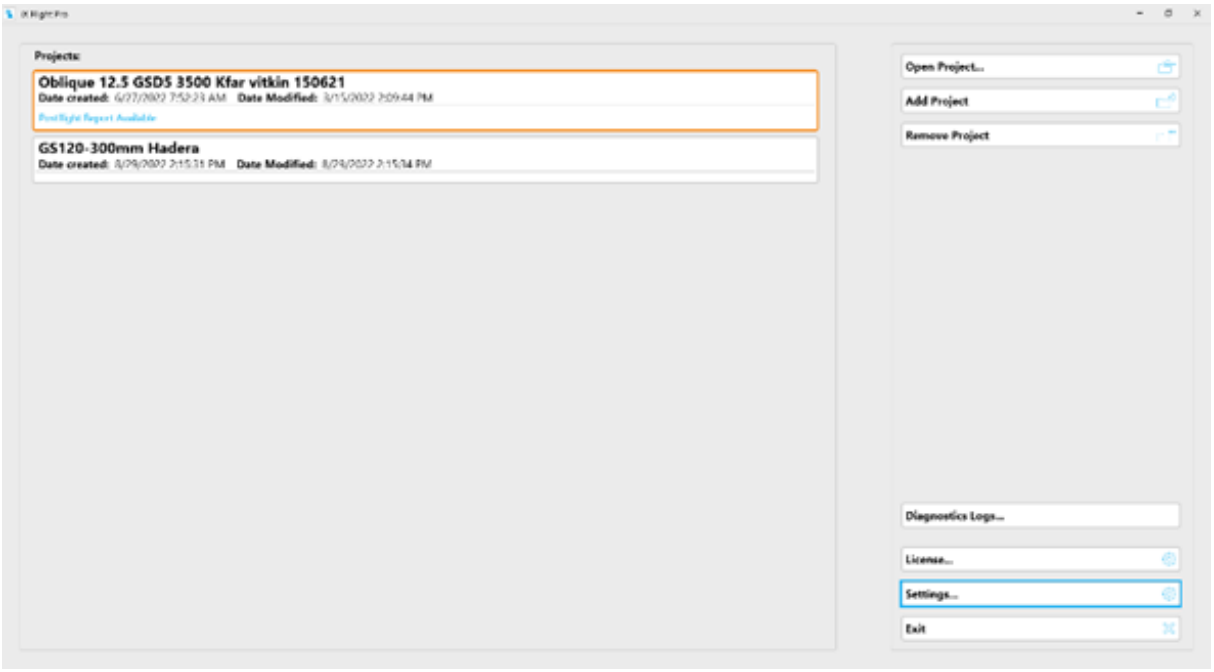
Camera settings for each camera are loaded from the cameras when the Controller is powered on. Changes you make to a camera setting are stored in the camera itself.

> **Note**
> - The maximum frames per second setting (Max FPS) is set globally for all cameras in iX Flight Pro.
> - Some options shown in the images in this section may be different to what is available in your system.
> - For options not shown below, contact Phase One.

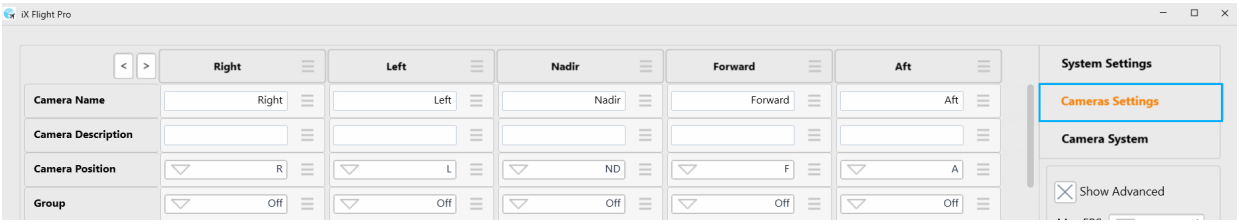
A.2.1 Accessing Camera Settings

To configure the camera settings:

1. In the Home window, tap **Settings**.



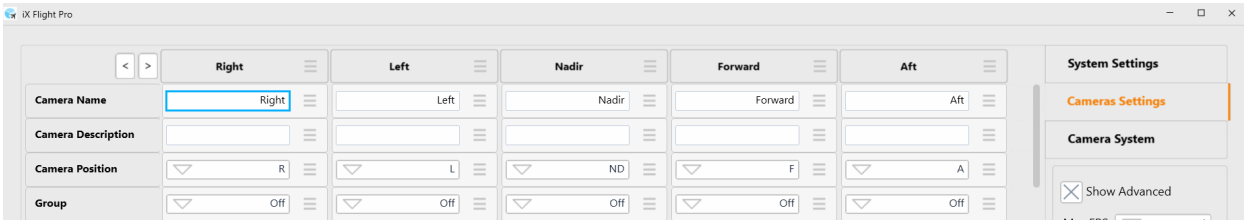
2. Tap Cameras **Settings**.



A.2.2 Setting the Camera Name

To enter a camera name:

1. In **Camera Name**, enter a name to identify the camera. The column header is updated accordingly.

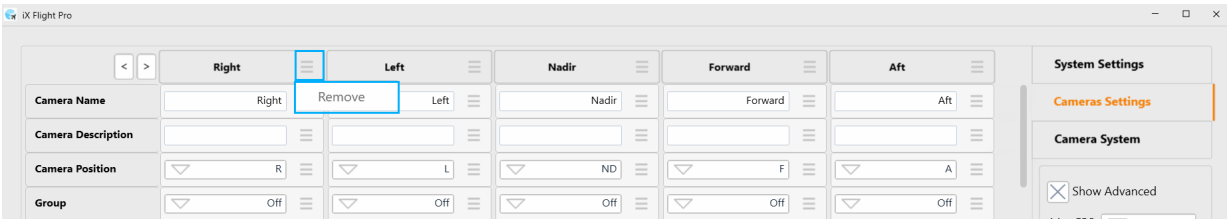


> **Note**
> For PAS 880, cameras positions are identified by the production report according to the camera serial number.

A.2.3 Removing a Camera

To remove a camera from the iX Flight Pro:

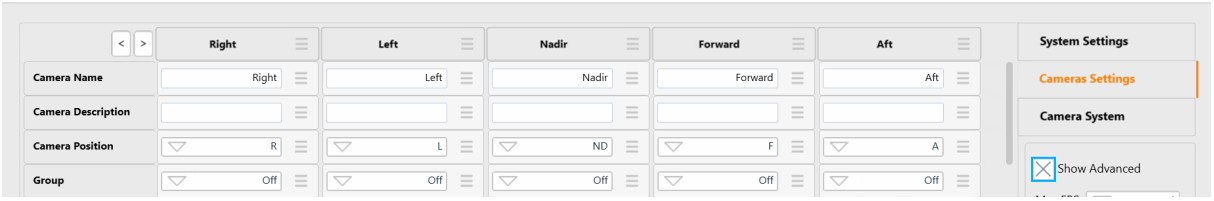
1. In the required column header, tap the menu and tap **Remove**.



A.2.4 Using the Camera Settings Interface

To use the Camera Settings interface efficiently, set the following controls as required:

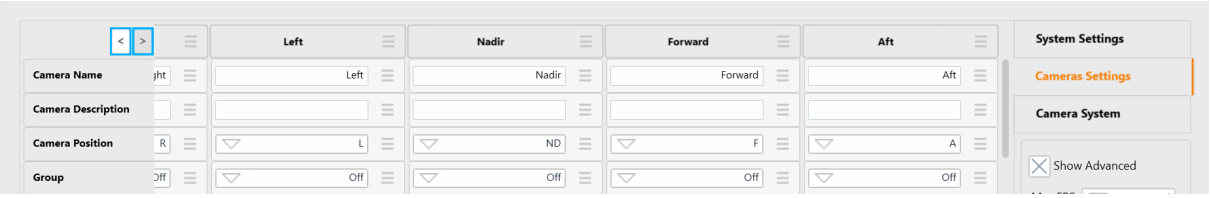
- **Show Advanced** - tap the checkbox to toggle settings that are rarely changed on/off.



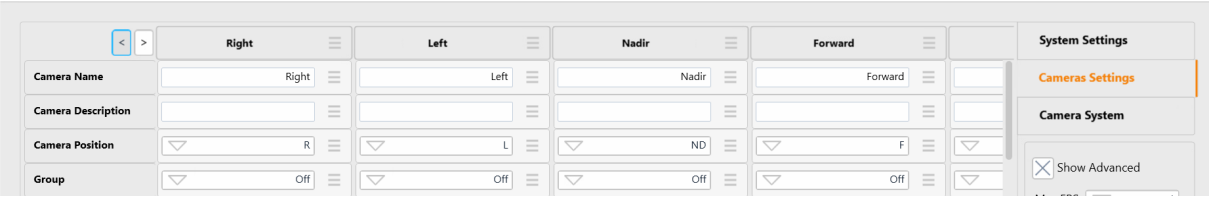
- **Column Width** - tap Column Width and select the width for the camera columns. The wider the width, the more you need to scroll left and right to view columns at each end of the window.

To scroll the camera columns left or right:

1. Tap the left or right angle brackets as required.

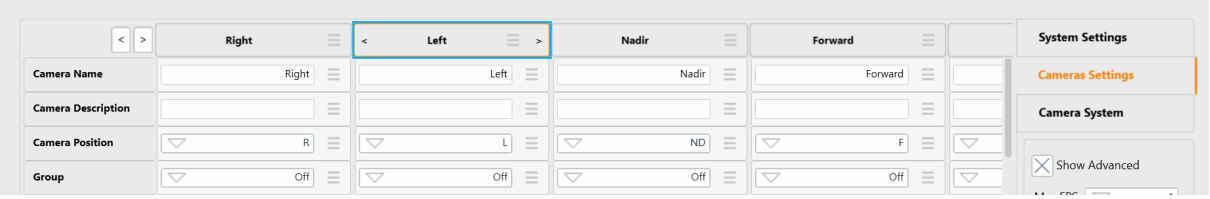


The next camera column appears.



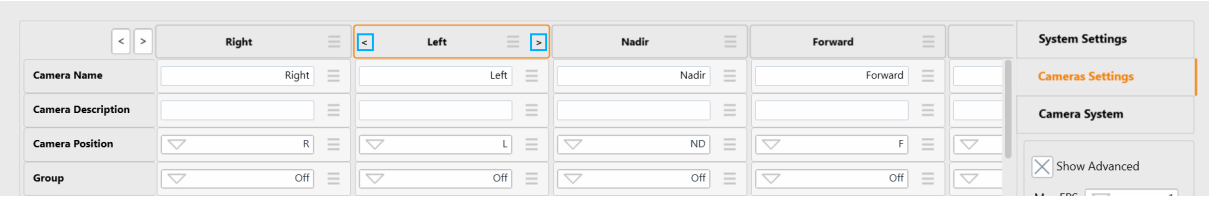
To change the order in which camera columns appear:

1. Tap the headers of the column or columns you want to move.

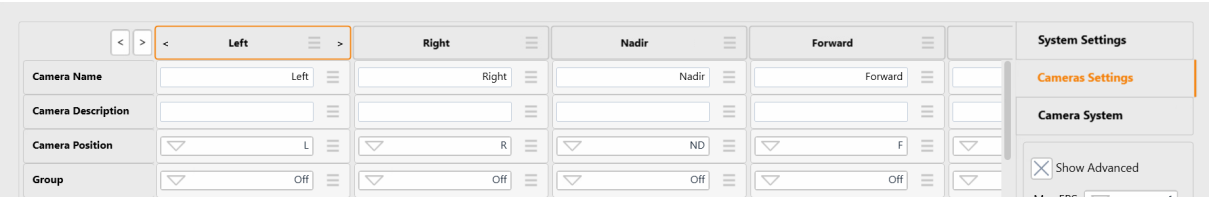


> **Note**
> To unselect a column, tap it again.

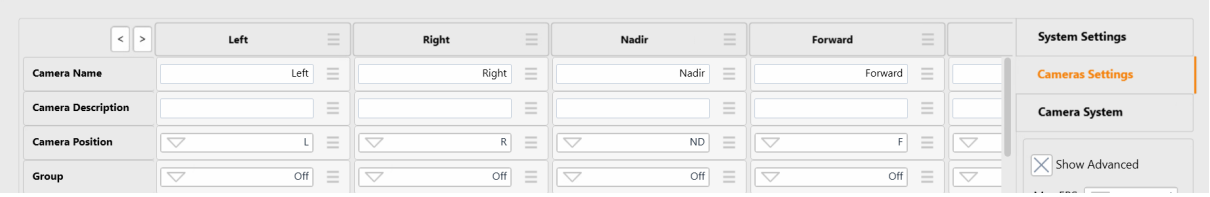
2. Tap the left or right-angle brackets in a selected column(s) as required.



The column(s) are moved accordingly.

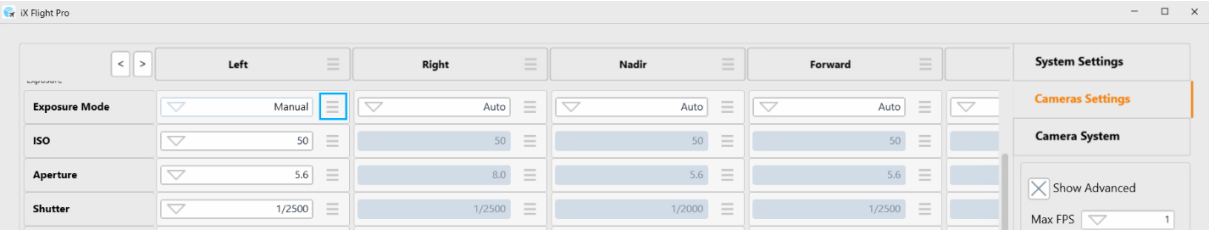


3. Tap the selected column(s) to unselect them.

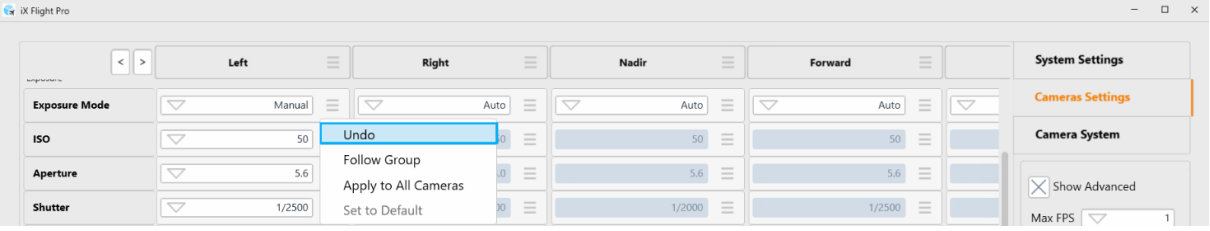


To undo the last change you made to a parameter:

1. On the required parameter row, tap ☰.

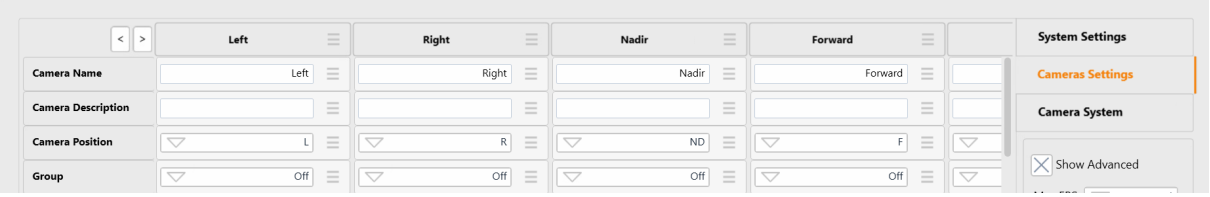


2. Tap **Undo**.

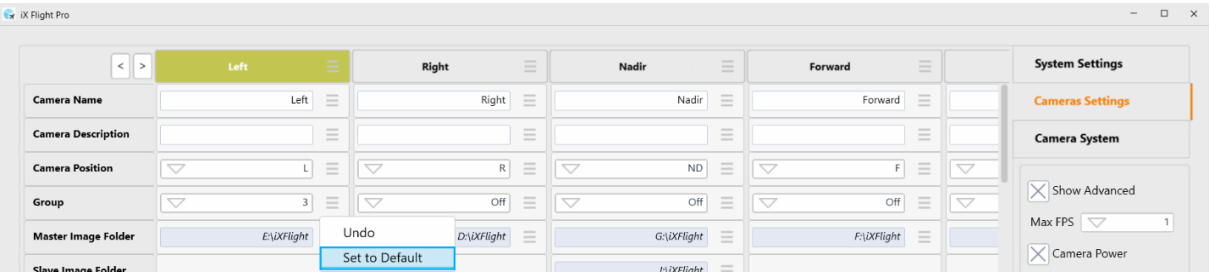


To reset a parameter to its default value:

1. On the required parameter row, tap ☰.

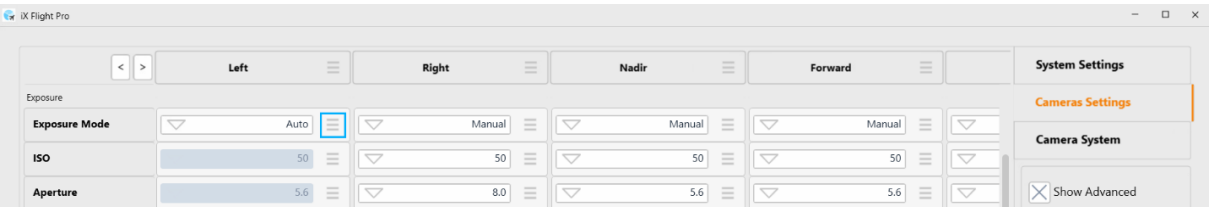


2. Tap **Set to Default**.

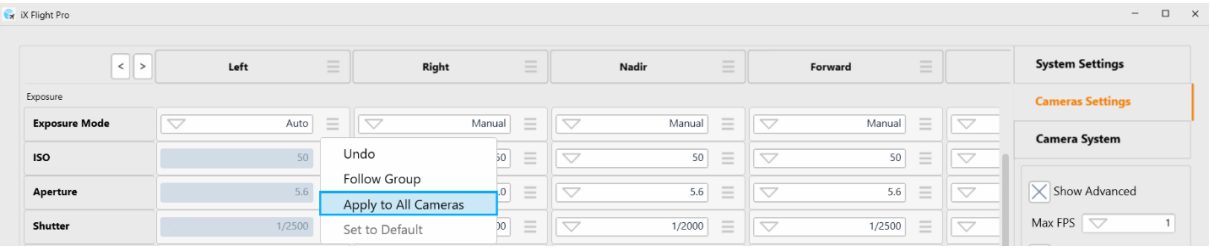


To apply a parameter value to all cameras:

1. On the required parameter row, tap ☰.

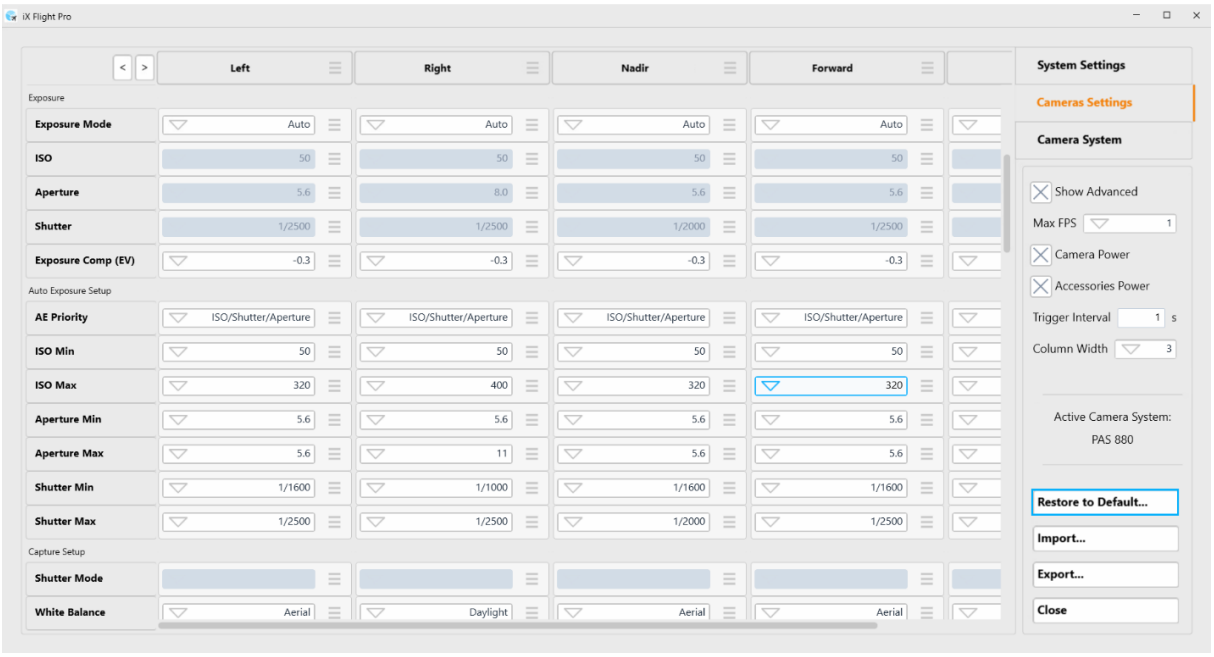


2. Tap **Apply to All Cameras**.

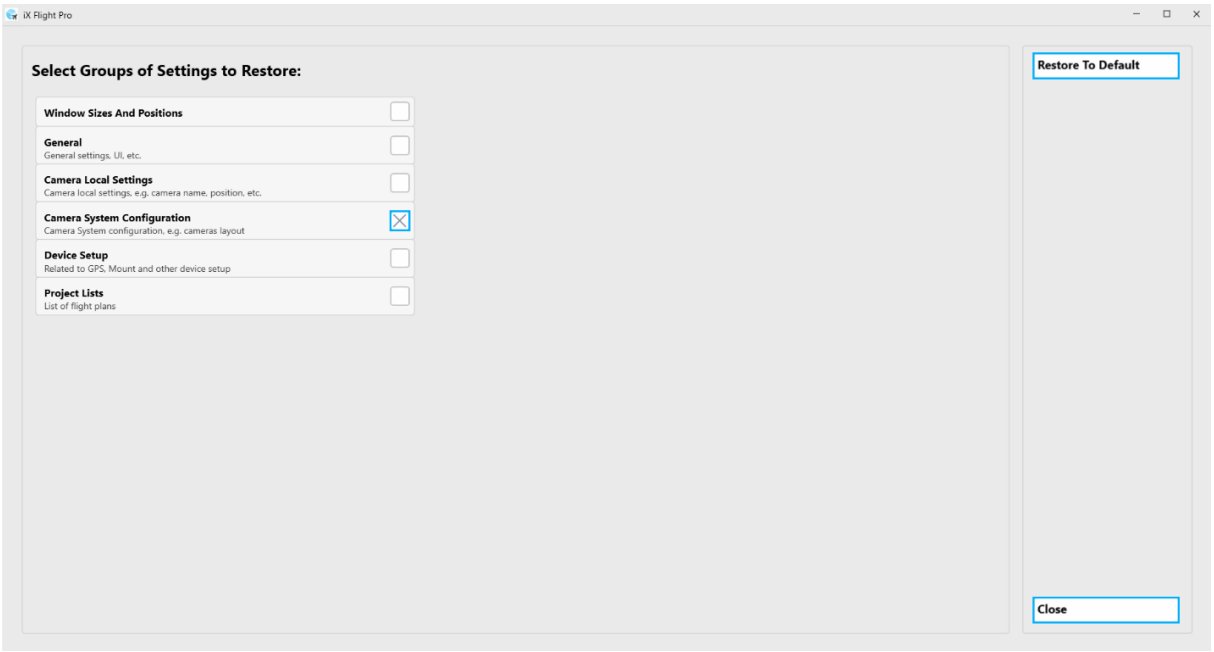


To reset basic camera parameters to their default values (Camera Name, Camera Description, Camera Position, Group, Master Image Folder, Image File Name):

1. Tap **Restore to Default**.



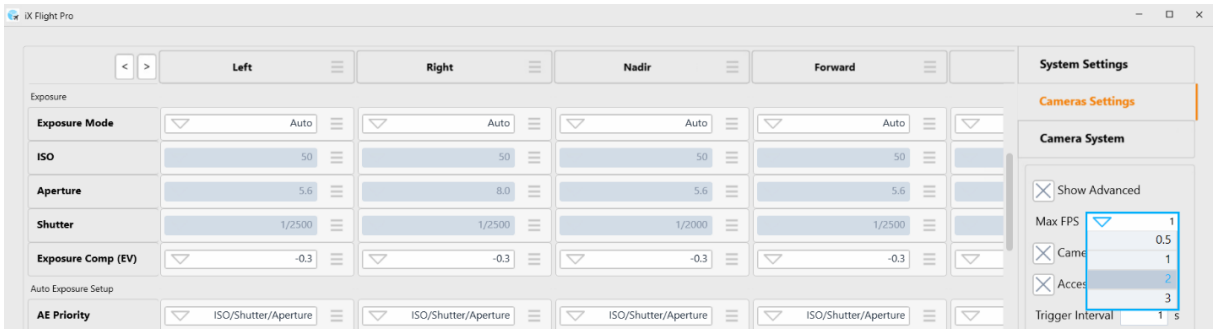
2. Tap the **Camera Configuration** checkbox, tap **Restore to Default** then tap **Close**.



A.2.5 Additional Camera Settings Actions

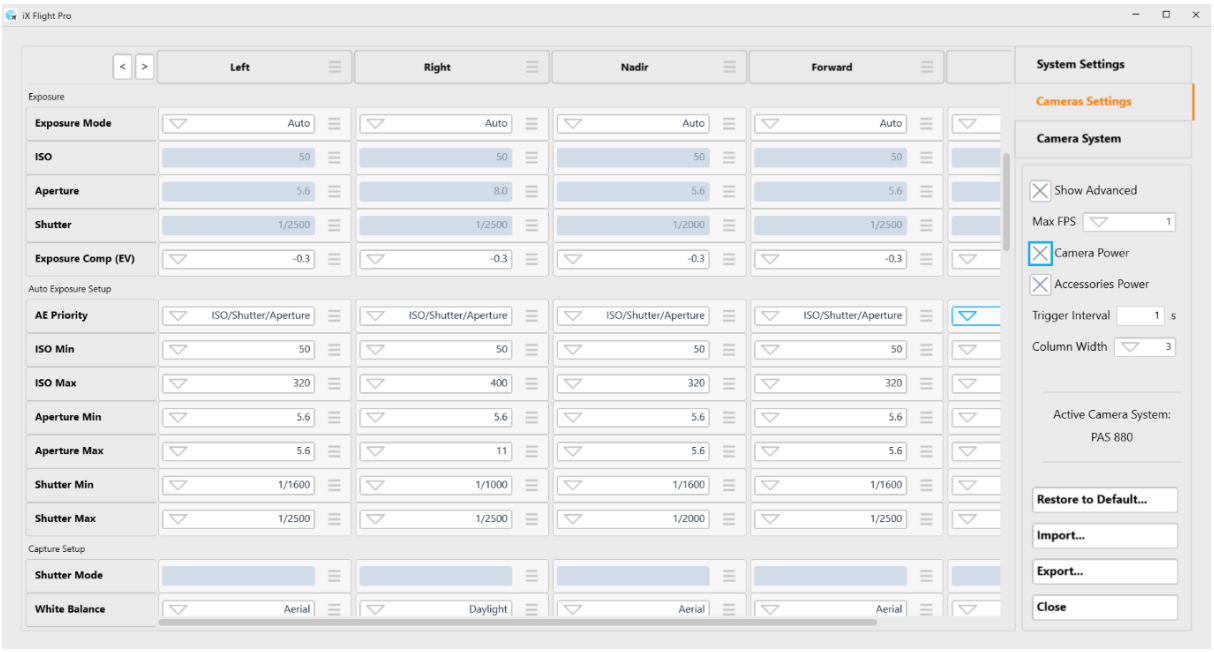
To set the maximum FPS globally for all cameras:

- Tap **Max FPS** and select the required maximum FPS for all system cameras.

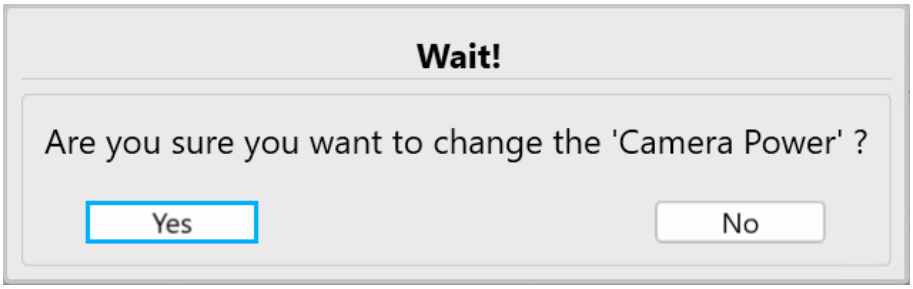


To toggle power to the cameras (appears only in supported systems):

1. Tap the **Camera Power checkbox.**

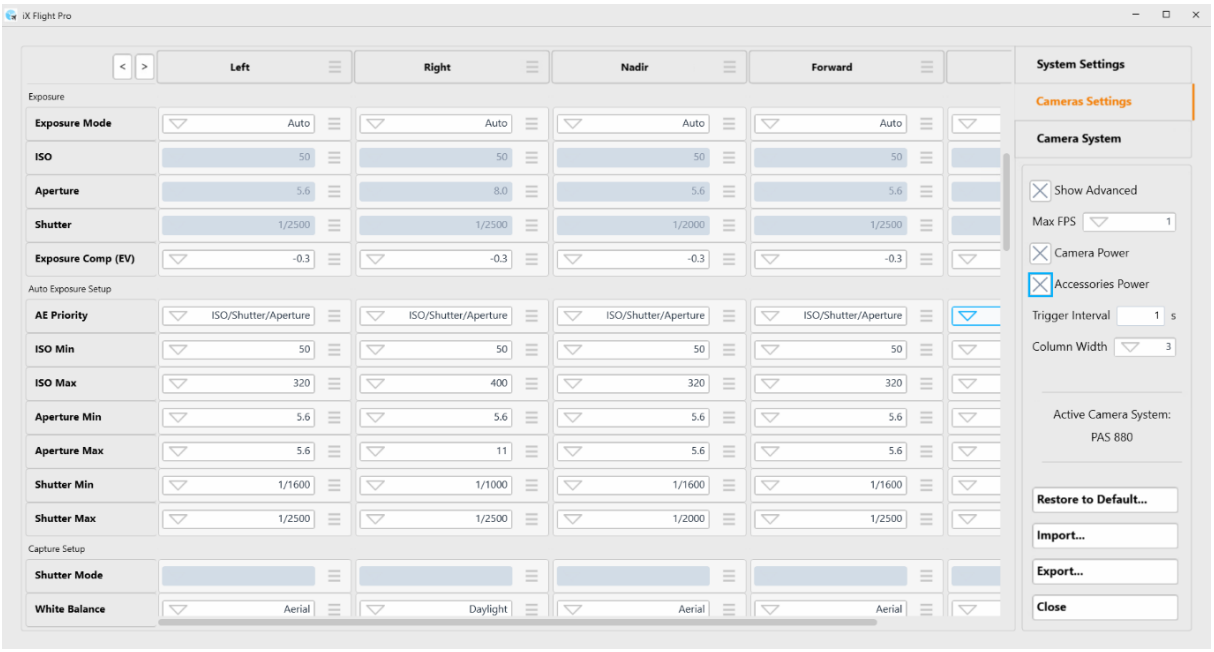


2. **Tap Yes.**

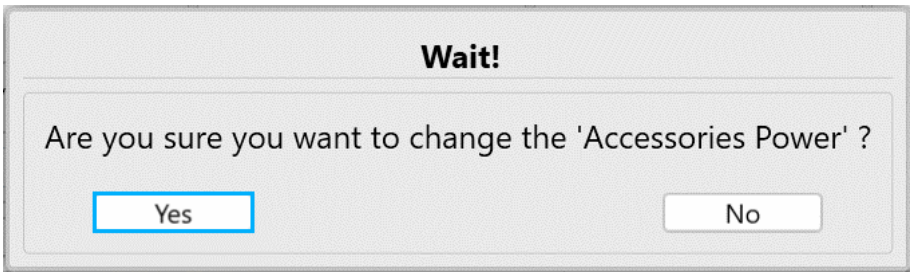


To supply power to the system accessories (appears only in supported systems):

1. Tap the **Accessories Power checkbox.**



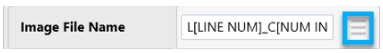
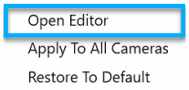
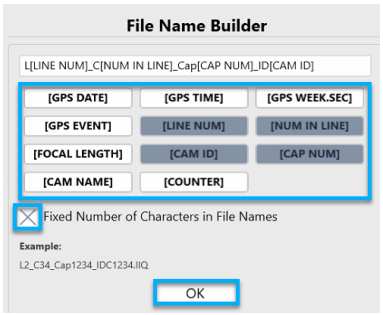
2. **Tap Yes.**



A.2.6 Camera Parameters

Note

- In the following table, parameters from **Camera Name** till **Image File Name** (inclusive) are stored in iX Flight Pro.
- All settings from **Compression** (in the **Camera** category) to the end of the table are stored in the camera itself.
- Ethernet must be disabled for PAS systems operation.
- HDMI must be disabled for PAS systems operation.

Category	Parameter	Default Value	Description
Camera	Camera Name	-	
	Camera Description	-	
	Camera Position	Undefined	Must be defined as required for system operation.
	Group	Off	You can group cameras into different groups. Any changes you make to parameter values (ISO, shutter, speed) for one camera is applied to all cameras in the group. For cameras in the same group, the column header background color is identical.
	Link	Off	If you link a camera, any increase or decrease that you make to a parameter (ISO, shutter, speed) is applied relatively to the other linked cameras. For example, if you increase the ISO by 2 increments, the ISO for all the other linked cameras is also increased by 2 increments.
	Master Image Folder	-	
	Slave Image Folder	-	Appears only for systems with dual-lens cameras.
	Disk Free Space	-	
	Image File Name	-	To define a template for the captured images file name: 1. Click the menu icon.  2. Click **Open Editor**.  3. In the File Name Builder window, select all required name parameters.  4. Click **OK**.
	Compression	IIQ L/IIQ S	Compression method is camera-dependent.
	Ready to Capture	-	Indicator – green when camera is ready.
	Camera Date and Time	-	Tap to sync date and time with PC.

Category	Parameter	Default Value	Description
Exposure	Exposure Mode	Manual	Camera-dependent.
	ISO	-	
	Aperture		
	Shutter		
	Exposure Comp (EV)		
Auto Exposure Setup	AE Priority		
	ISO Min		
	ISO Max		
	Aperture Min		
	Aperture Max		
	Shutter Min		
	Shutter Max		
Capture Setup	Shutter Mode		
	White Balance		
	Black Reference		
	Image Orientation		
	Preview Size		
Left Terminal	Terminal is		
	Baud Rate		
	GPS Receiver	Applanix	
Right Terminal	Serial Link		
	DJI Pos. Mode		
Storage	Local Storage		
Lens	Focus Distance Target		Relevant only for RSM AF lenses.
	Focus Distance Actual		
	Focus Encoder Target		
	Focus Encoder Actual		
Service	Low Power Mode		
	Restore To Default		Restores camera properties to default settings.

Category	Parameter	Default Value	Description
Ethernet	10G		Camera-dependent.
	Static Setup		
	IP Address		
	Netmask		
	Gateway		
	DHCP		
	DHCP Address		
	Setup Status		
	Apply Now		
	Apply On Restart		
	Revert Changes		
	Bonjour Enabled		
	Bonjour At Power On		
	Bonjour Is Running		
HDMI	HDMI Live View		
	HDMI Overlay		
	HDMI Layout		
	HDMI Mode		
	Transparency		
	Preview Timeout		
	Preview Orientation		
	Preview Size		
	Focus Peaking		
	Focus Peaking Threshold		

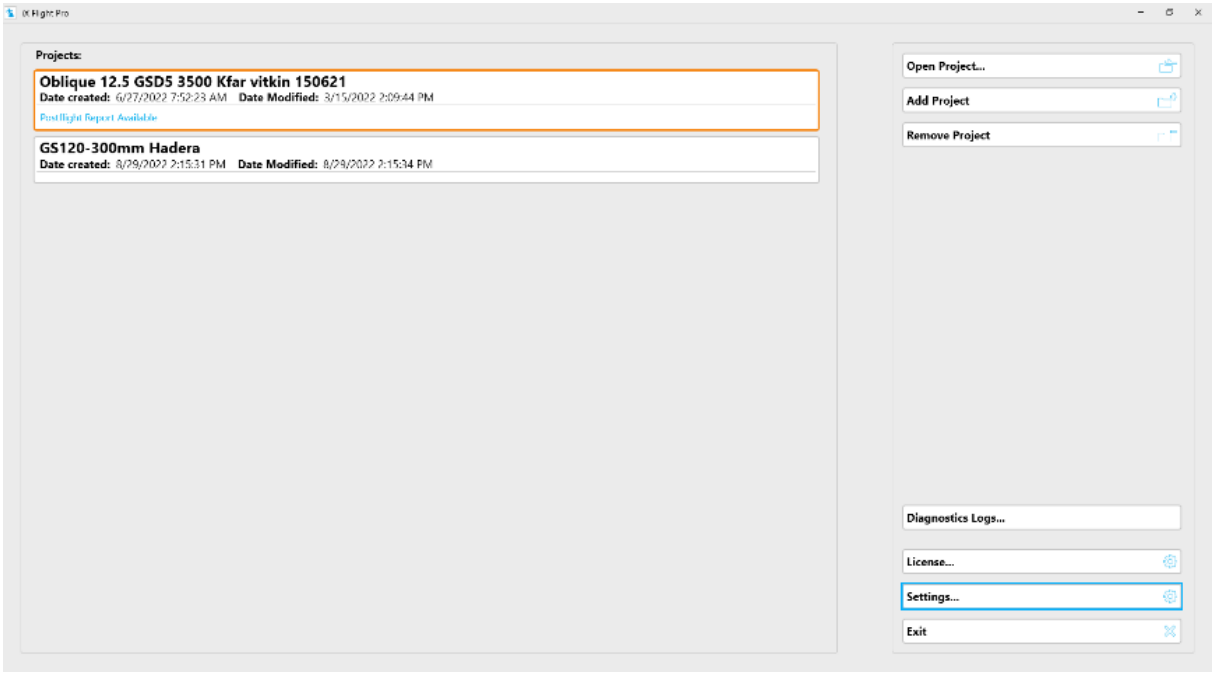
Note

About Camera and About Lens parameters show read-only values.

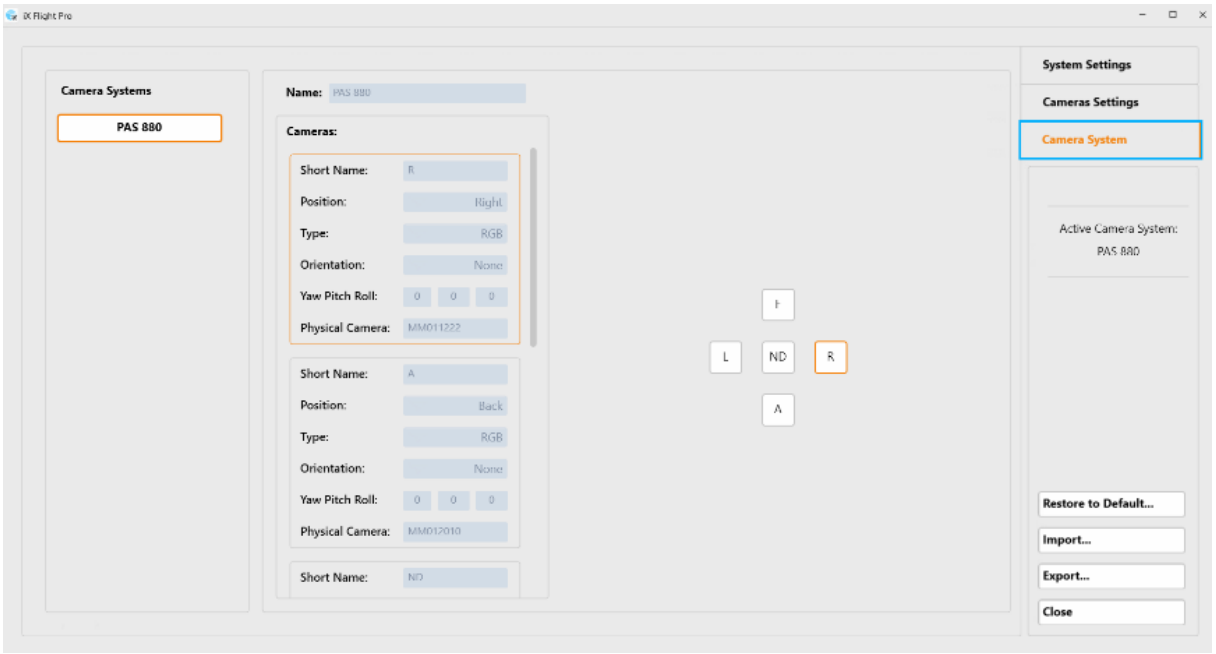
A.3 Viewing the Camera System

To view the current camera system:

1. In the Home window, tap **Settings**.



2. Tap **Camera System**.



The current camera system appears.

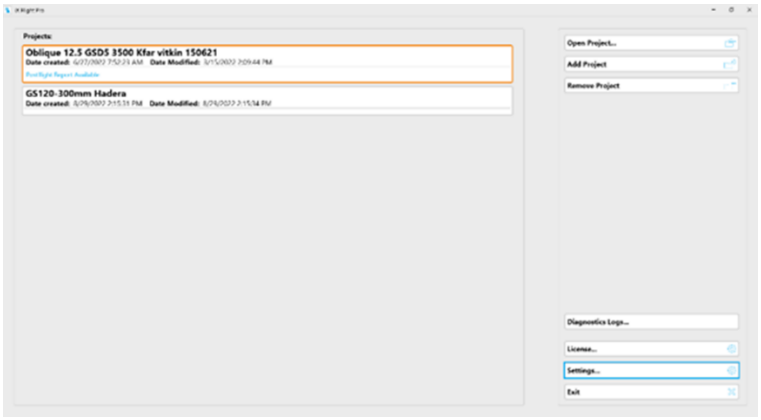
Appendix B. Exporting and Importing Settings

B.1 Exporting Settings

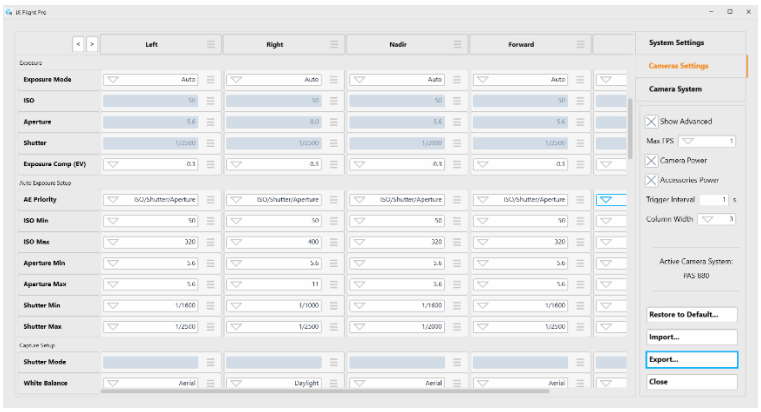
You can save iX Flight Pro settings to an external file for backup or for transfer to another Controller.

To save iX Flight Pro settings to an external file:

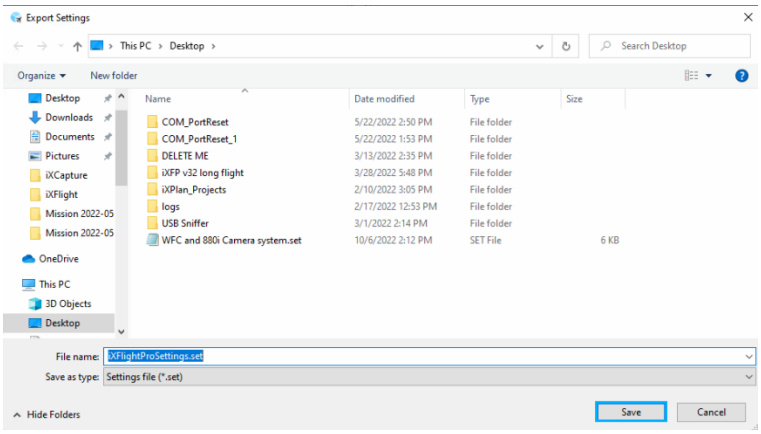
1. In the Home window, tap **Settings**.



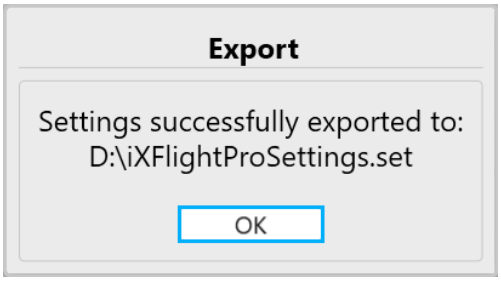
2. Tap **Export**.



3. Navigate to the Controller folder where you want to save the .set file, provide a different file name if required and tap **Save**.



4. When the settings are successfully exported, tap **OK**.



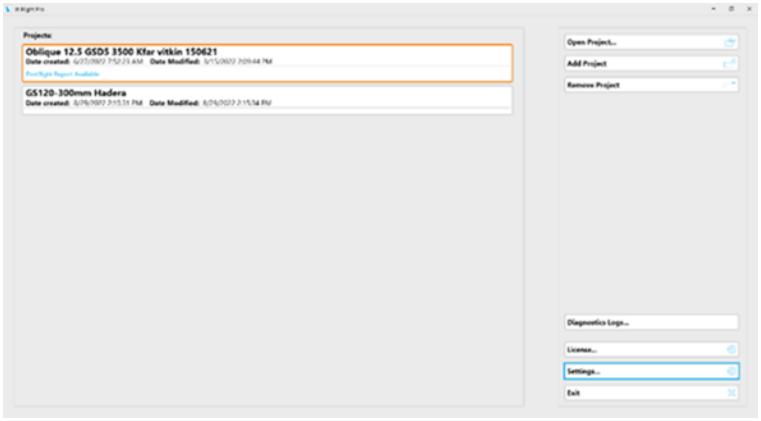
B.2 Importing Settings

You can import all or subsets of the iX Flight Pro settings that were previously exported to an external file (see B.1 - Exporting Settings).

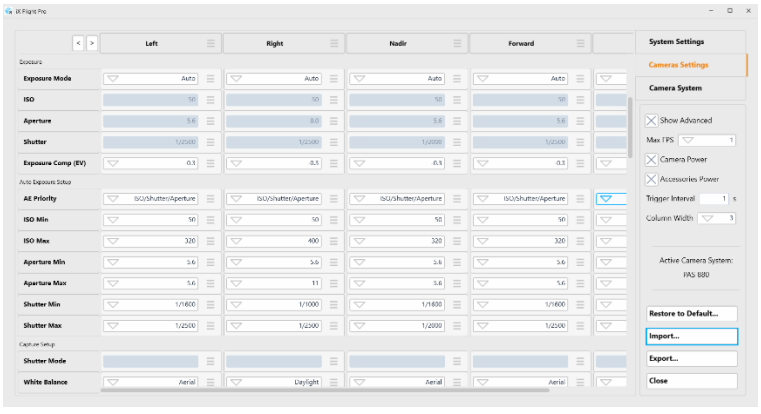
> **Note**
> Settings are imported according to your access level (see Access Level).

To import iX Flight Pro settings from an external file:

1. In the Home window, tap **Settings**.

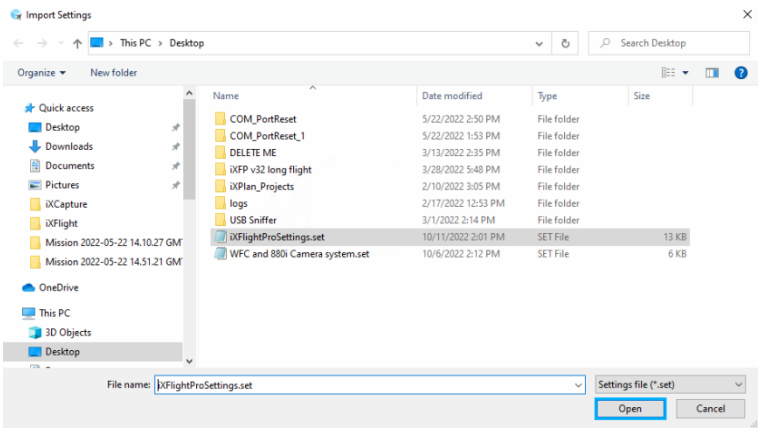


2. Tap **Import**.

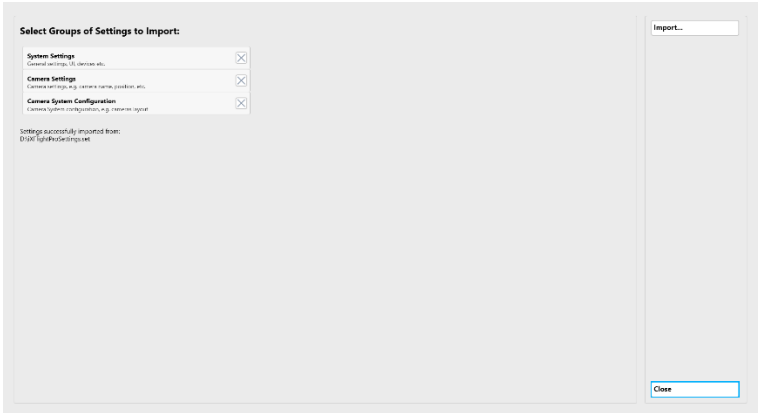


3. Tap the required group checkboxes that you want to import and tap **Import**.

4. Navigate to the Controller folder where the settings file you want to import is located, select the required file and tap **Open**.



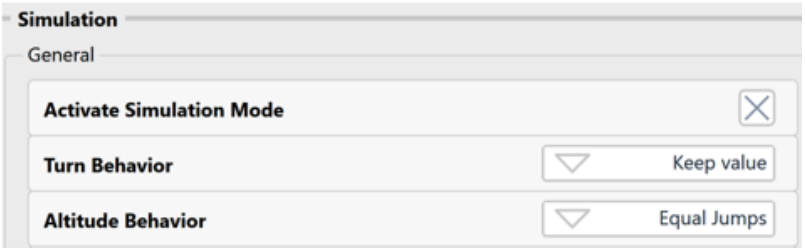
5. When the settings are successfully imported, tap **Close**.



Appendix C. Using the Simulator

To use Simulation Mode:

1. In **System Settings**, scroll down to **Simulation**.
2. Select the **Active Simulation Mode** checkbox.
3. Set the other parameters as required.



The following keys can be used to control the flight in Simulation Mode:

Key	Simulation Mode Function
F1	Decrease speed
F2	Increase speed
Cursor Up	Increase vertical speed
Cursor Down	Decrease vertical speed
Cursor Left	Bank to left
Cursor Right	Bank to right
Spacebar	Pause

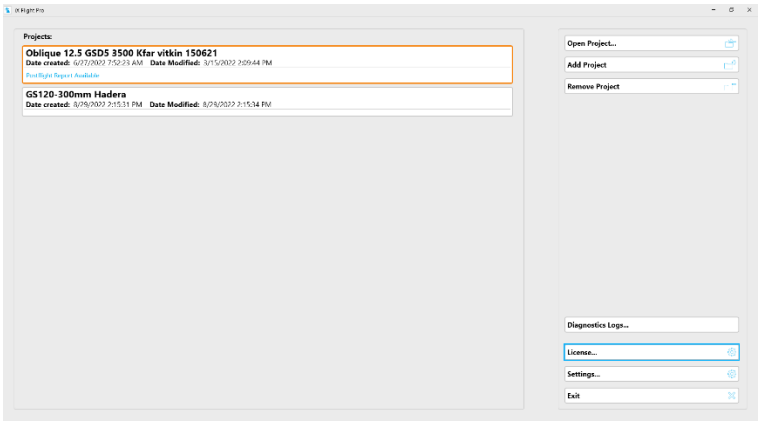
Appendix D. Requesting and Installing a License

iX Flight Pro is preinstalled on certain Phase One Controllers.

If you installed iX Flight Pro on a PC, you need to request a license from Phase One and install it.

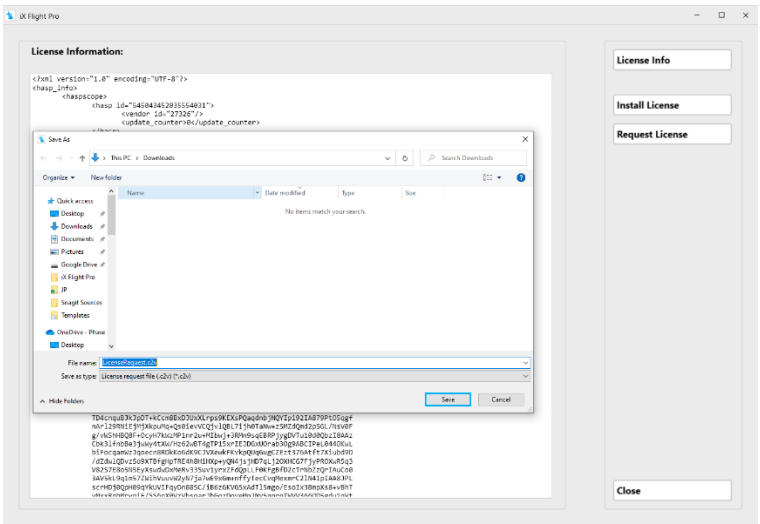
To request a license from Phase One:

1. In the Home window, tap License.



2. Tap **Request License**.

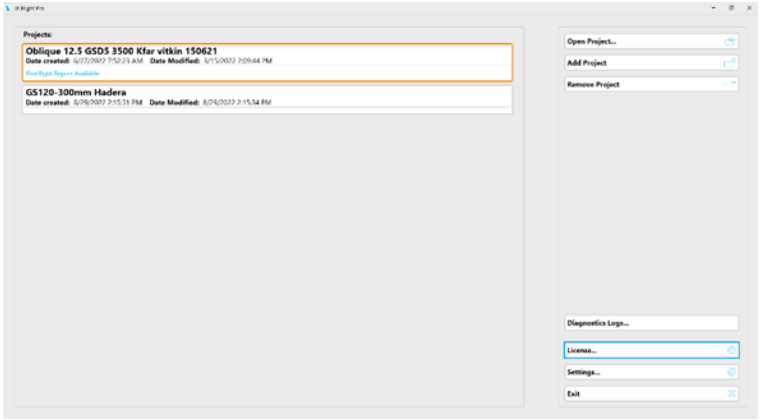
1. Navigate to the Controller folder where you want to save the LicenseRequest.c2v file and tap **Save**.



2. Follow the instructions in the License Information window then tap **Close**.

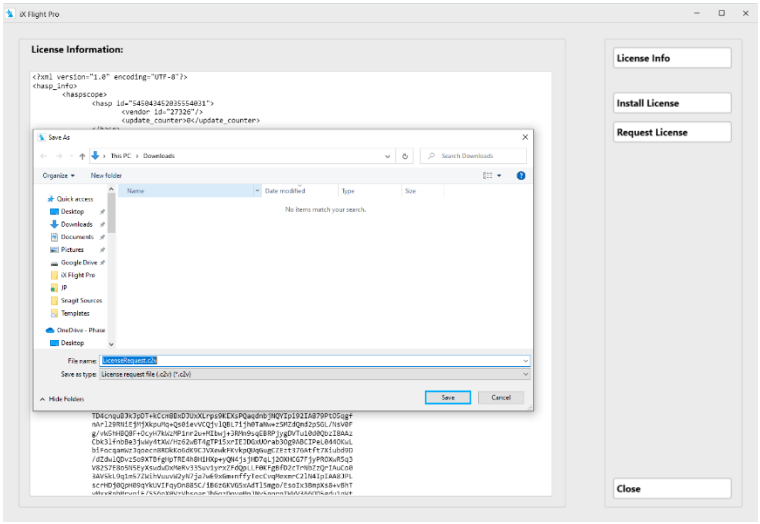
To install the license:

1. Save the .v2c file you received from Phase One in a folder in the Controller.
2. In the Home window, tap **License**.



3. Tap Install **License**.

4. Navigate to the Controller folder where you saved the .v2c file and tap Open.



5. Follow the instructions in the License Information window then tap **Close**.