PHASEONE

iX Trigger

User Guide

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Doc No. 80128001 Rev 1.0

iX Trigger User Guide 02/11/2026

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1. Introduction

1.1 About iX Trigger

iX Trigger is an aerial imaging application for supported Phase One cameras. Operators use iX Trigger to configure cameras, control deterministic camera triggering, verify capture events, and monitor image quality during airborne missions.

iX Trigger supports single-camera and multi-camera acquisition workflows. The application provides tools for synchronized image capture, trigger verification, exposure assessment, image preview, and camera connectivity monitoring.

> **Note**
> To view and adjust captured images, use Phase One iX Process or iX View.

1.2 Intended Audience

This guide is intended for personnel who prepare, operate, or support iX Trigger, including:

- Aerial survey operators
- Payload operators
- System integrators
- Field support personnel
- Test and evaluation personnel

1.3 Intended Use

iX Trigger is intended for airborne image acquisition missions that require reliable camera triggering, synchronized capture, and operator monitoring during acquisition.

Use iX Trigger to:

- Trigger image capture manually or at timed intervals
- Acquire synchronized images from one or more supported cameras
- Verify that trigger events result in successful image captures
- Monitor camera connection status, trigger status, image counters, and acquisition alarms
- Review image preview, histogram, and exposure indicators during acquisition

1.4 Glossary

Term	Definition
Alarm	Notifies the operator about trigger failures, camera communication issues, or acquisition issues.
Camera controls	Provides access to ISO, shutter speed, aperture, and exposure mode.
EV indicator	Provides a simplified exposure quality state.
Histogram	Shows a graphical representation of image brightness distribution.
Image count	A count of captured images used to verify acquisition progress.
Image preview	Displays the latest captured image for quality inspection.
Interval capture	A trigger generated automatically at a configured time interval.
Manual capture	A trigger initiated by the operator from the iX Trigger user interface.
Hardware synchronization	Image acquisition performed across multiple cameras at the same trigger event.
Trigger	A command that initiates image acquisition.
Trigger verification	Confirmation that a trigger event resulted in a successful image capture.

1.5 Abbreviations

Abbreviation	Definition
CFexpress	CompactFlash Express storage card
EV	Exposure Value (camera exposure adjustment unit)
FMS	Flight Management System
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
HDMI	High-Definition Multimedia Interface
IP	Internet Protocol
ISO	International Organization for Standardization (camera sensitivity rating)
USB	Universal Serial Bus
UTC	Coordinated Universal Time
WB	White Balance

2. System Requirements

2.1 Minimum System Requirements

The computer used to run iX Trigger must meet the following minimum system requirements:

Component	Minimum Requirement
Operating System	Microsoft Windows 10 or Windows 11
Processor (CPU)	11th Generation Intel® Core™ i7-11700 processor, 2.50 GHz, or higher
Memory (RAM)	32 GB RAM or higher
Video Memory (VRAM)	8 GB VRAM or higher
NVIDIA Driver	Version 550 or later
CUDA Compatibility	Compatible with CUDA Toolkit 12.4 or later
Media Component	Windows Media Player

Note
The installed NVIDIA GPU must be based on the NVIDIA Volta architecture or a later architecture generation and must support the required CUDA Toolkit version.

2.2 Multi-Camera Support

iX Trigger supports simultaneous operation of multiple-connected cameras.

Note
iX Trigger can operate with up to four cameras.

2.3 Storage Requirements

iX Trigger saves captured image files to the selected capture folder. The host computer must have enough available storage for the planned mission.

Use a storage location that supports the expected image write rate. Do not use a storage location that may become unavailable during acquisition, such as a disconnected external drive or a network location with unstable connectivity.

Captured image files are saved in IIQ format.

See Section 6.5.2 - Changing the Capture Folder .

3. Installation and Managing Licenses

This section describes how to manage licenses foriX Trigger as follows:

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3.1 Installing iX Trigger

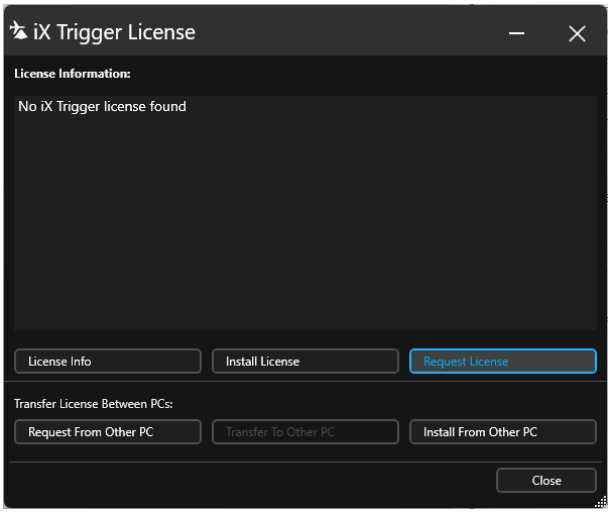
1. Download iX Trigger from: https://www.phaseone.com/download-categories/ix-trigger/
2. Run the installation file you downloaded and .follow the instructions displayed.

3.2 Requesting a License

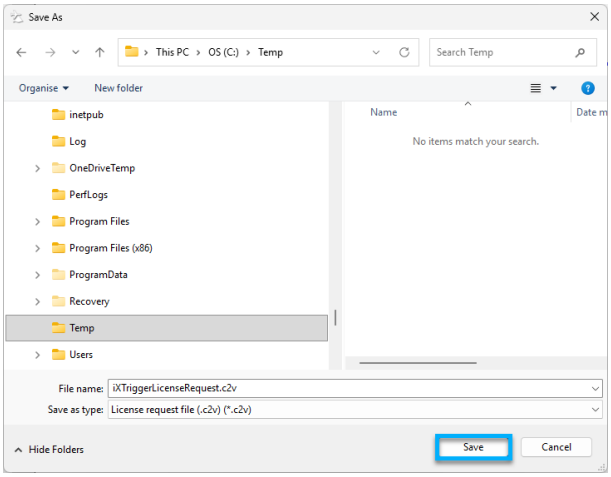
When you run iX Trigger for the first time after installation, you will need to request a license from Phase One and install it.

To request a license from Phase One:

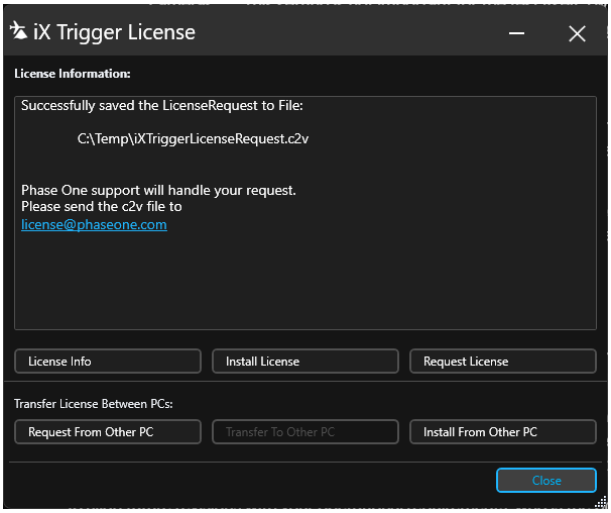
1. In the **Menu**, click **Help** then click **License**.
2. Click **Request License**.



3. Navigate to the folder where you want to save the LicenseRequest.c2v file and click **Save**.



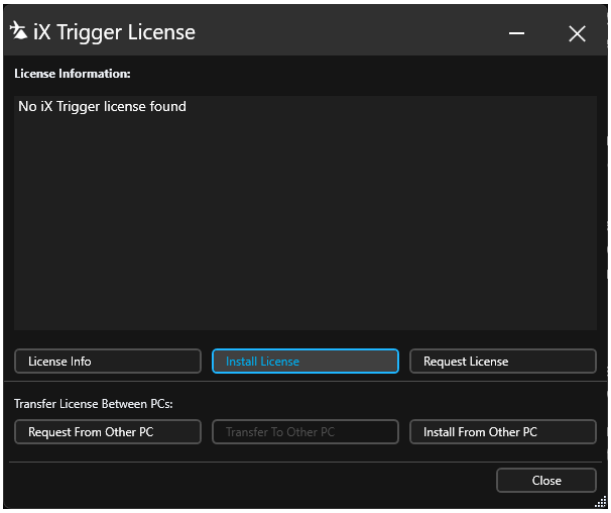
4. Follow the instructions in the **License Information** window then click **Close**.



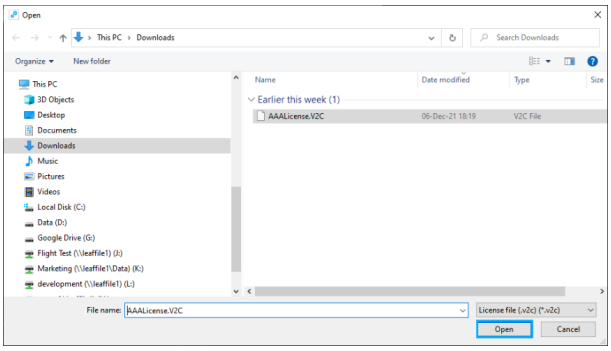
3.3 Installing a License

To install the license:

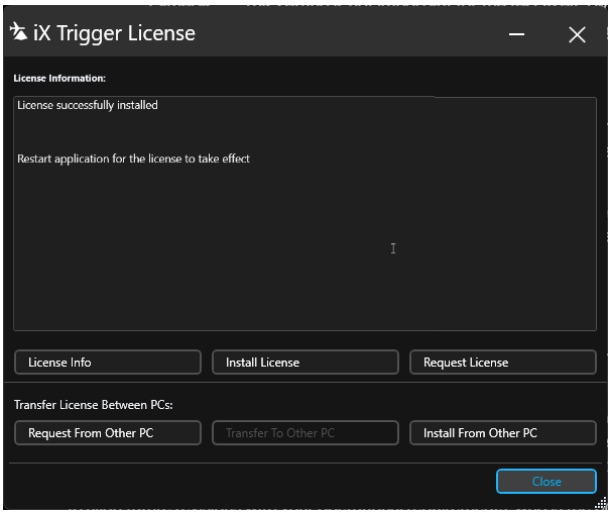
1. Save the .v2c or .v2cp file you received from Phase One in a folder on your PC.
2. In the **Menu**, click **Help** then click **License**.
3. Click **Install License**.



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



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

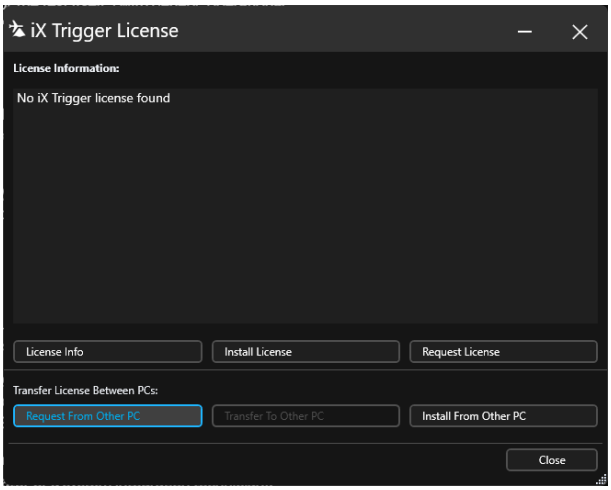


3.4 Transferring a License

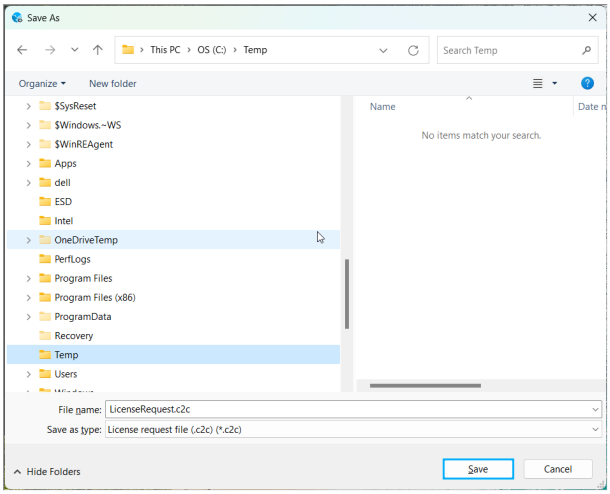
To transfer a license from a PC with a current license, you first need to create a request on the PC without the license and copy that request file to the PC with the license, as detailed in the following procedure.

To transfer the license from another PC:

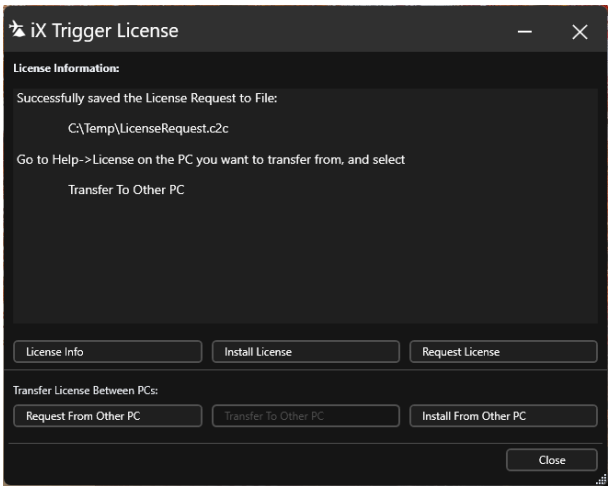
1. Install iX Trigger on the required PC and run iX Trigger.
2. Click **Request From Other PC**.



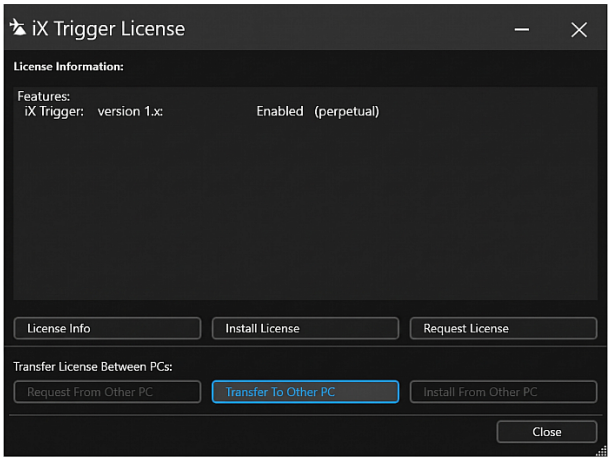
3. Navigate to the folder where you want to save the LicenseRequest.c2c file and click **Save**.



4. Click **Close**.

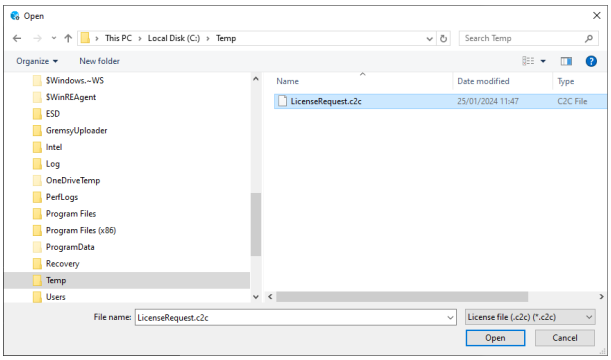


5. Copy the .c2c file that you saved to the other PC (the PC with the license).
6. On the PC with the current license (that you want to transfer), click **Transfer to other PC**.

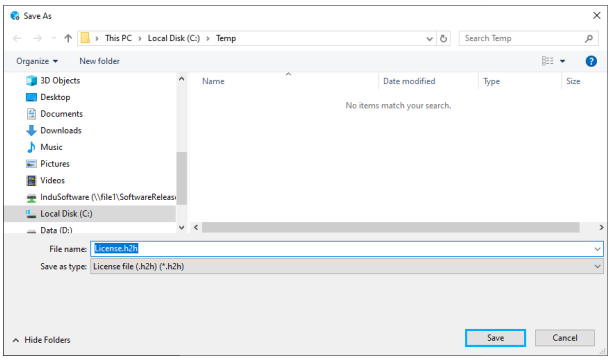


7. Navigate to the folder where you saved the .c2c file, select the file and click **Open**.

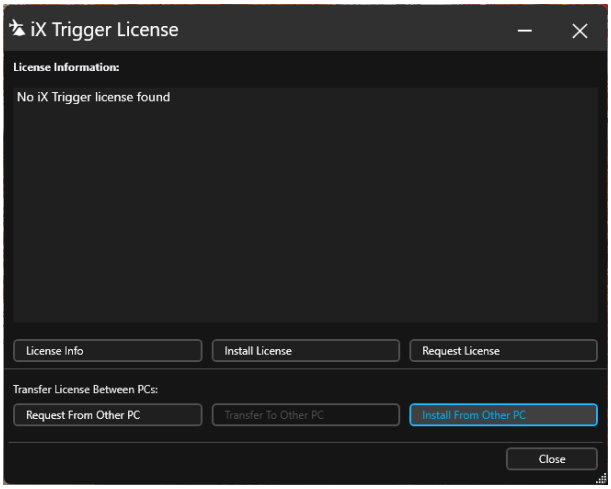
   iX Trigger immediately creates an .h2h file that contains the license for transfer.



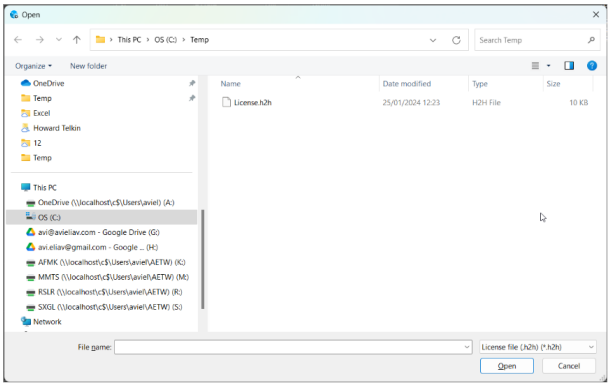
8. Click **Save**.



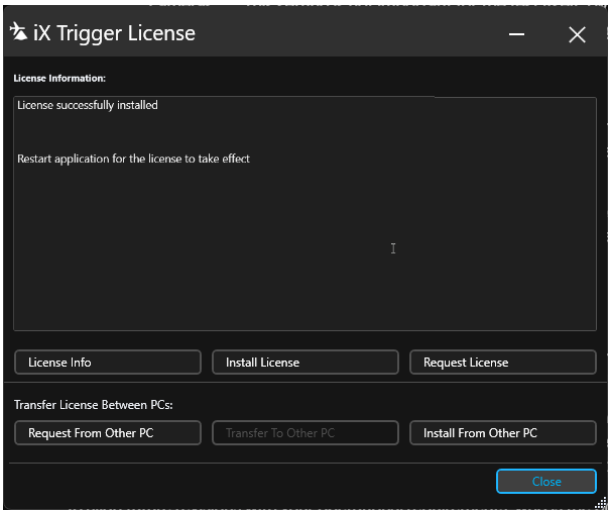
9. Copy the .h2h file that you saved to the PC without the license.
10. On the PC without the license, click **Install From Other PC**.



11. Navigate to the folder where you saved the .h2h file, select the file and click **Open**.



12. The license is installed. Click **Close**.

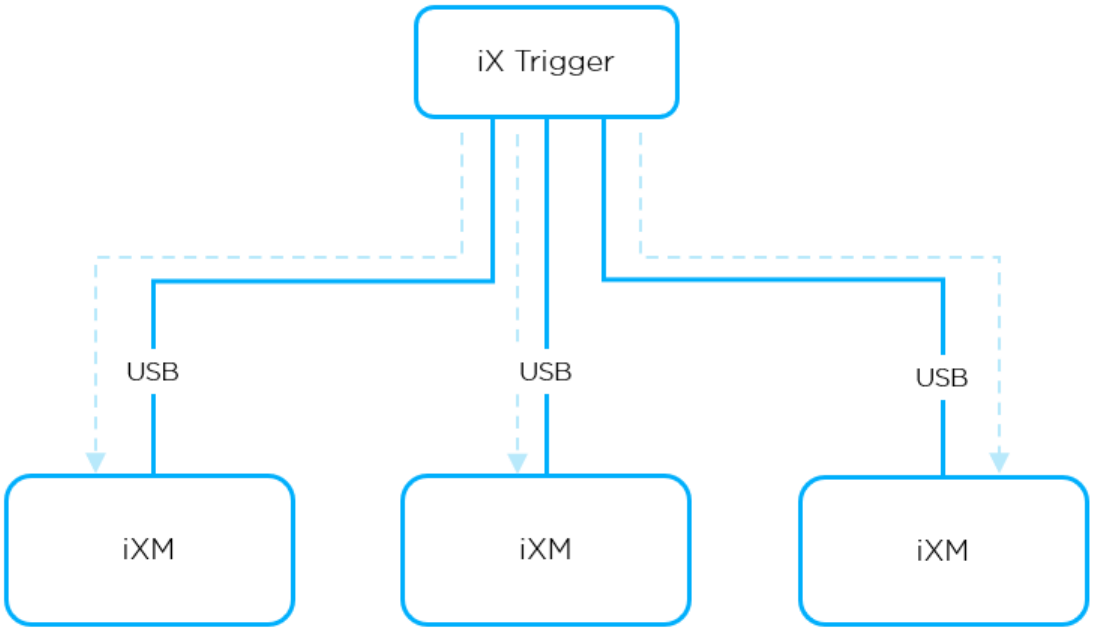


4. System Configurations

This section describes typical camera configurations when using iX Trigger.

4.1 Simple Configuration

In a simple configuration, iX Trigger communicates with each camera individually over USB. The cameras are triggered simultaneously over their USB connections, but they are not hardware synchronized. iX Trigger interval capture is the most suitable in this configuration.

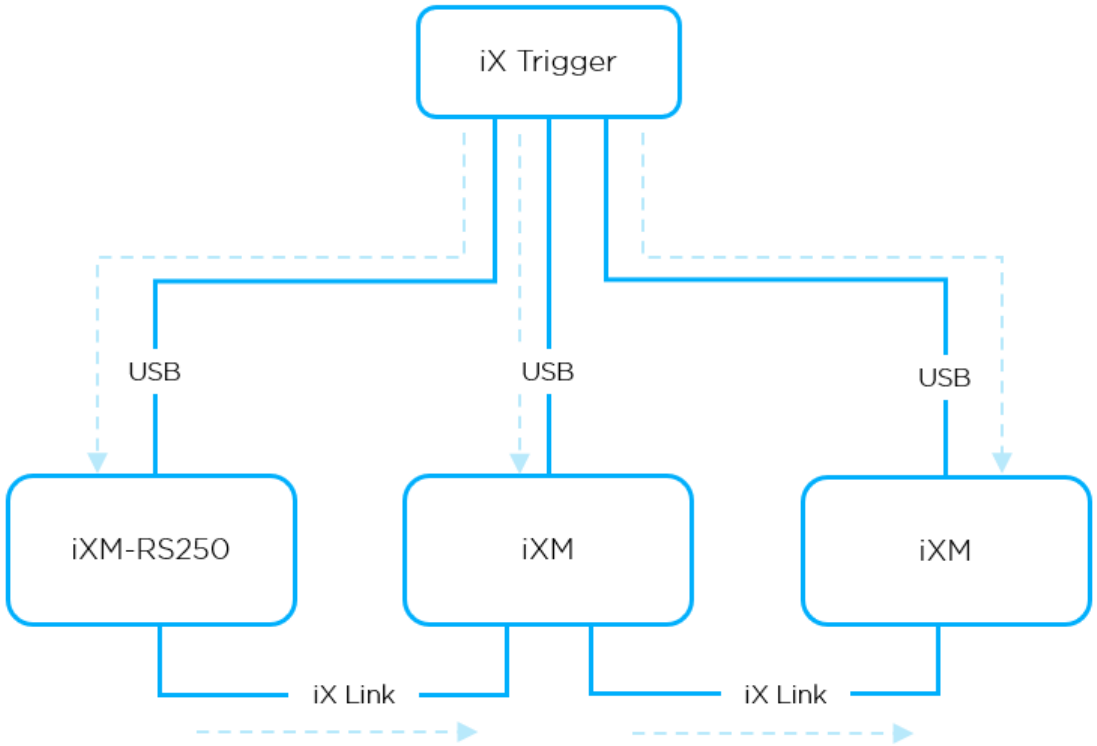


4.2 Hardware Synchronization

Hardware synchronization requires at least one camera that supports hardware triggering. In iX Trigger, this camera is referred to as the lead camera.

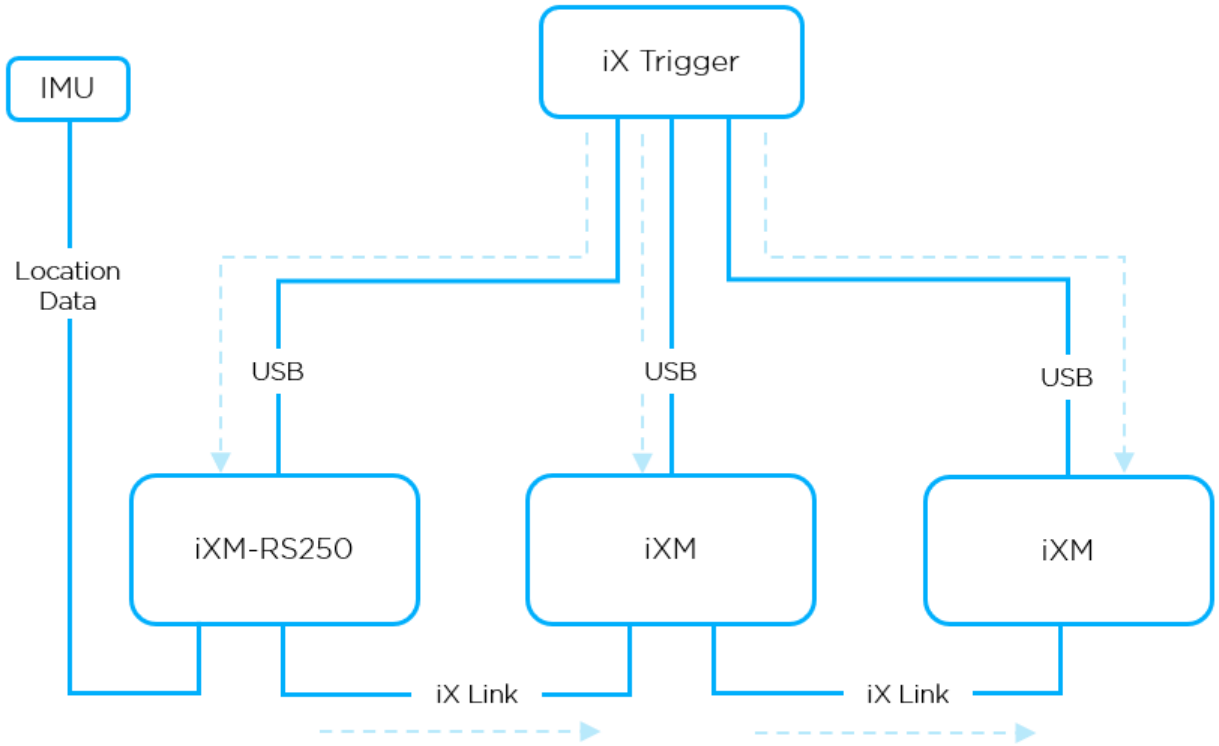
> **Note**
> Currently, Phase One's iXM-RS250 supports hardware triggering.

iX Trigger sends a normal trigger command to the lead camera over USB. The lead camera controls iX Link, which hardware-triggers the other cameras. iX Trigger interval capture is the most suitable in this configuration.



4.2.1 Hardware Synchronization with Location Data

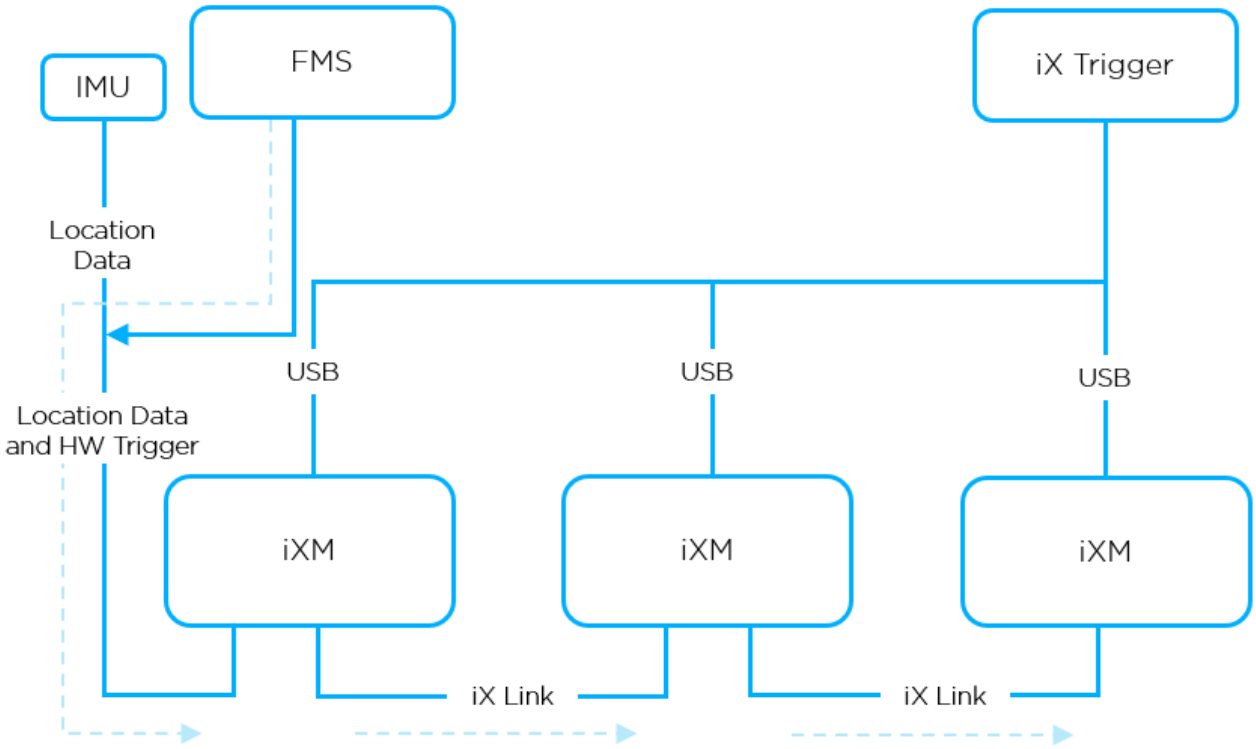
A variant of the hardware synchronization configuration can be used to provide location data to the iXM cameras.



4.3 External Hardware Trigger

This is the most common configuration. An external flight management system (FMS) determines when images are captured and triggers the cameras using the iX Link hardware signal.

> **Caution**
> In this configuration, make sure that HW synchronization is disabled. The cameras or FMS can be damaged if both en external FMS and the lead camera are trying to control the trigger signal (within iX Link).



5. iX Trigger Interface Overview

iX Trigger provides four workspace views, each designed for a specific task. Use the workspace icons at the top of the application window to switch between views.

The available menu options change according to the active workspace and display the commands applicable to that workspace.

5.1 Workspace Navigation

Use the workspace icons to switch between image review, thumbnail browsing, detailed image inspection, and camera setup. The selected workspace icon is highlighted in orange.

Icon	Workspace	Shortcut	Description
	Show Review	R	Displays the main review workspace, including camera exposure and acquisition controls, captured-image previews, and the selected image.
	Show Thumbnails	T	Displays captured or imported images in a thumbnail grid for browsing and selection.
	Show Image	I	Displays a selected image together with the histogram, image information, and thumbnail strip for detailed inspection.
	Setup Cameras		Displays connected cameras and camera availability and provides access to camera setup functions.

5.2 Show Review

The **Show Review** workspace provides the main operational view for reviewing captured images and accessing camera exposure and acquisition controls.

Click the **Show Review** icon or press **R** to open the workspace.



Item	Element	Description
1	Workspace Navigation	Switches between **Show Review**, **Show Thumbnails**, **Show Image**, and **Setup Cameras**.
2	Menu	Provides access to application, review, and Help commands. See Section 5.6 - File Menu, Section 5.11 - Review Menu , and Section 5.7 - Help Menu.
3	Capture Control	Triggers image capture for all connected cameras. In a multi-camera configuration, each connected camera captures an image when capture is triggered. When interval acquisition is enabled, the control changes to indicate interval operation.
4	Pause / Play Controls	**Pause** freezes the image-review display without stopping image acquisition. Images received while review is paused are queued. **Play** resumes the review display and displays the queued images.
5	Camera Status	Displays the selected camera and current camera information. The status indicator identifies the camera connection state.
6	Exposure Mode	Provides **Aut** and **Man** controls for selecting automatic or manual exposure operation.

Item	Element	Description
7	ISO	Displays the current ISO value. Use the + and – controls to adjust the value where available. **Note** You can invert the + and – controls. See Section 5.6.1 - Settings.
8	Tv	Displays the current shutter-speed value. Use the + and – controls to adjust the value where available. **Note** You can invert the + and – controls. See Section 5.6.1 - Settings.
9	Av	Displays the current aperture value. Use the + and – controls to adjust the value where available. **Note** You can invert the + and – controls. See Section 5.6.1 - Settings.
10	Camera Controls	SYNC - applies the selected camera's current exposure settings to all other cameras as a single update. LINK - shares exposure settings across all cameras continuously, updating every camera automatically whenever a setting changes.
11	Advanced	Expands or collapses additional acquisition controls.
12	Interval	Enables timed image acquisition at the configured interval. The interval is displayed in seconds. Use the + and – controls to adjust the interval.
13	Auto Exp.	Runs a one-time automatic exposure action and updates the exposure settings from the calculated result. Images used for the calculation are not retained unless configured to be kept.
14	Camera Layout Controls	Switches between the single-camera and multi-camera review layouts. In the single-camera layout, the selected camera is displayed and identified by the orange camera tab. Use the camera tabs to switch between connected cameras. In the multi-camera layout, the connected cameras are displayed together.
15	Image Preview Strip	Represents a chronological timeline of recently captured images and their EV indications. Selecting an image in the strip displays the corresponding images from each connected camera.
16	Main Image Preview	Displays the selected or current captured image for review.
17	Image Information Bar	Displays available image information including ISO, shutter speed, aperture, exposure value, GPS information, capture number, and capture time.

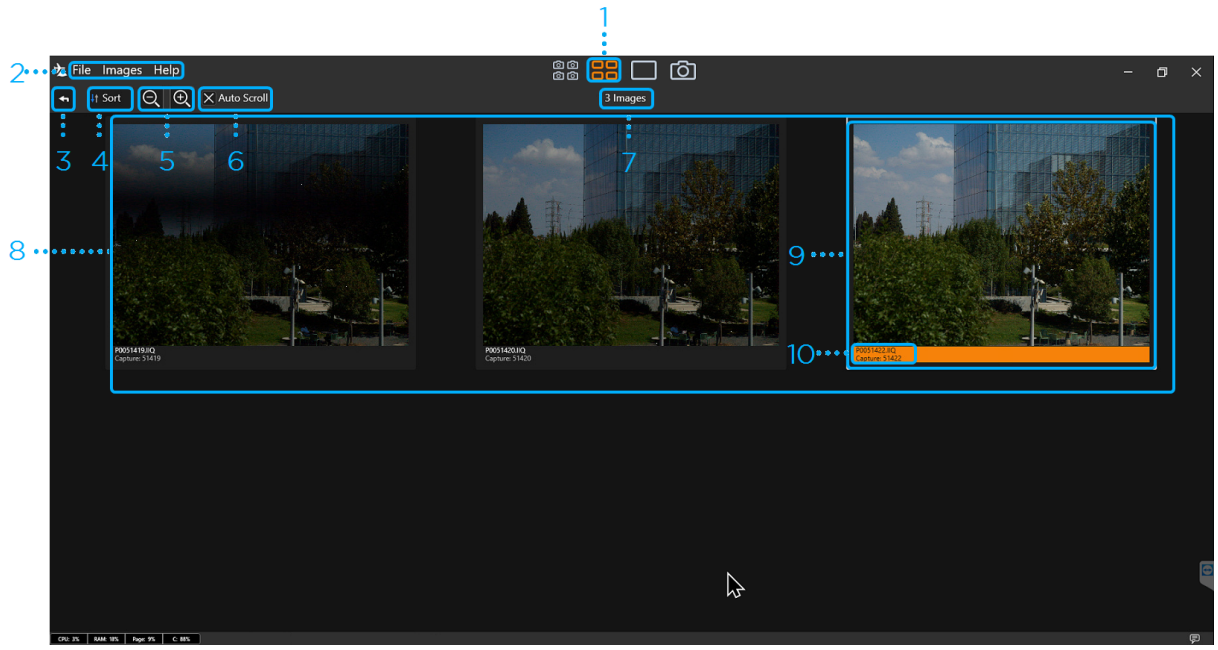
Note

- Double-click an image to open it in the **Show Image** workspace.
- The Pause control freezes the image-review display only. It does not stop camera triggering or interval acquisition. Images received while review is paused are queued and displayed when review resumes.

5.3 Show Thumbnails

The **Show Thumbnails** workspace displays captured and imported images in a grid of thumbnails. Use this workspace to browse images, move between images, change thumbnail size, and select an image for further inspection.

Click the **Show Thumbnails** icon or press **T** to open the workspace.



Item	Element	Description
1	Workspace Navigation	Switches between **Show Review**, **Show Thumbnails**, **Show Image**, and **Setup Cameras**.
2	Menu	Provides access to application commands and Help. See Section 5.6 - File Menu and Section 5.7 - Help Menu.
3	Back	Returns to the previous view.
4	**Sort**	Provides controls for changing the order in which images are displayed.
5	Thumbnail Size Controls	Increase or decrease the displayed thumbnail size.
6	**Auto Scroll**	Toggles automatic scrolling on or off for the thumbnail display. When images are queued and the display refreshes, the view automatically moves to the new images.
7	Image Count	Displays the number of images currently loaded.
8	Thumbnail Grid	Displays the captured or imported images available for review.
9	Selected Thumbnail	Identifies the currently selected image. The selected thumbnail is outlined and highlighted.
10	Thumbnail Information	Displays the image filename and capture number.

Note

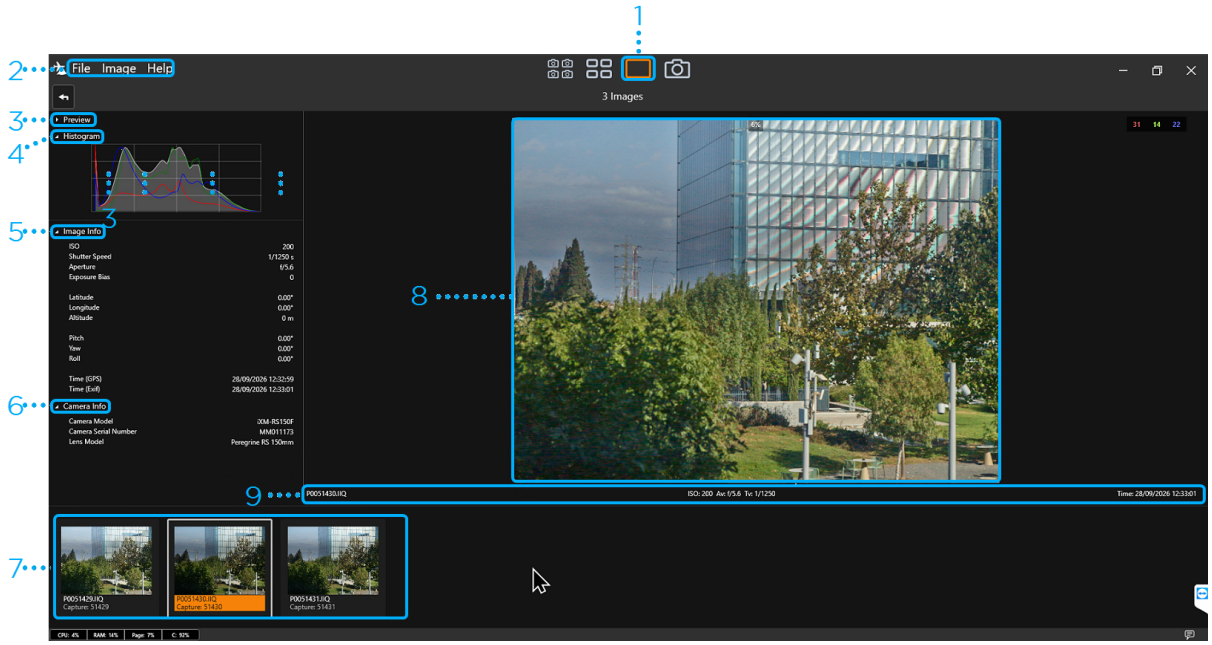
- Double-click an image to open it in the **Show Image** workspace.

5.4 Show Image

The **Show Image** workspace displays a selected image together with image information used for detailed inspection.

Use this workspace to review the selected image, inspect the histogram and metadata, move between images, and zoom or pan the image.

Click the **Show Image** icon or press **I** to open the workspace.



Item	Element	Description
1	Workspace Navigation	Switches between **Show Review**, **Show Thumbnails**, **Show Image**, and **Setup Cameras**.
2	Menu	Provides access to application commands and Help. See Section 5.6 - File Menu and Section 5.7 - Help Menu.
3	**Preview**	Displays a preview of the selected image.
4	**Histogram**	Displays the brightness distribution of the selected image to assist with image review.
5	**Image Info**	Displays available metadata for the selected image, including exposure and capture information.
6	**Camera Info**	Displays camera information associated with the selected image, including the camera model, camera serial number, and lens model, where available.
7	Thumbnail Strip	Displays thumbnails of the images currently loaded. Click a thumbnail to display that image in the main image area.
8	Main Image	Displays the selected image for detailed inspection.
9	Image Information Bar	Displays available exposure and capture information for the selected image.

5.5 Setup Cameras

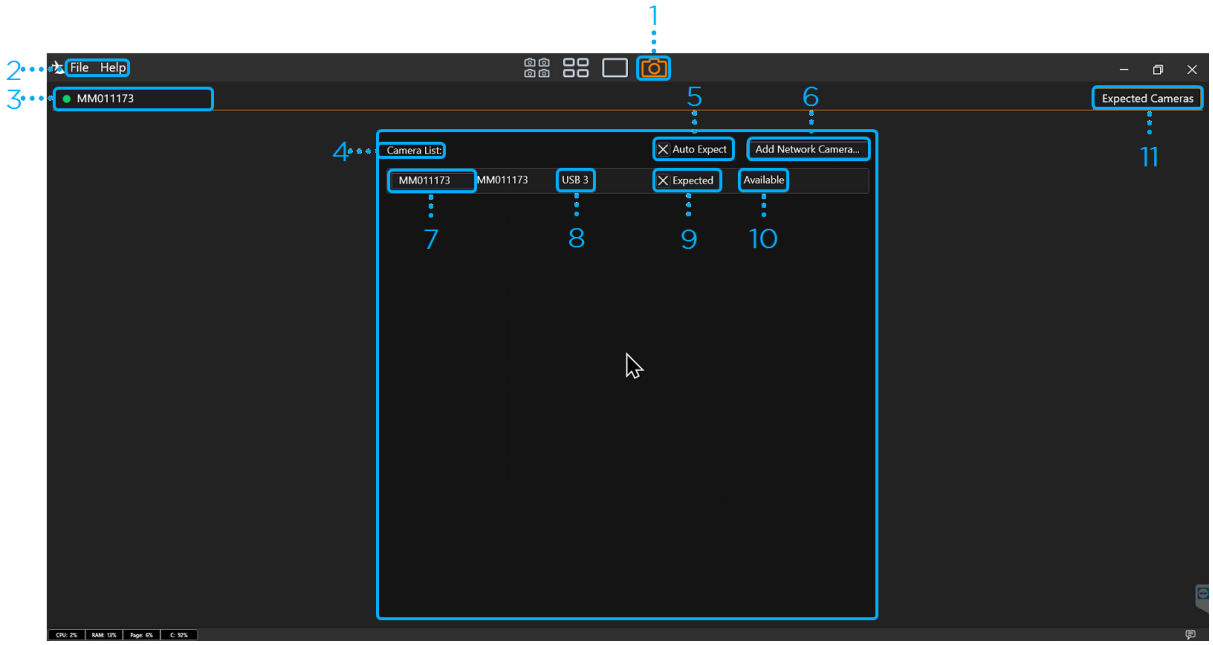
The **Setup Cameras** workspace provides access to the **Expected Cameras** view and the individual camera view. Use these views to review camera availability and configure individual cameras.

Click the **Setup Cameras** icon to open the workspace.

5.5.1 Expected Cameras View

The **Expected Cameras** view displays the detected cameras, their availability, and the expected-camera configuration controls. It is the default view shown when the **Setup Cameras** workspace is opened.



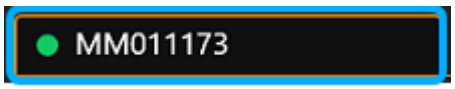


Item	Element	Description
1	Workspace Navigation	Switches between **Show Review**, **Show Thumbnails**, **Show Image**, and **Setup Cameras**.
2	Menu	Provides access to application commands and Help. See Section 5.6 - File Menu and Section 5.7 - Help Menu.
3	Camera Tab	Identifies the connected camera.
4	Camera List	Displays the cameras detected by iX Trigger.
5	Auto Expect	Toggles Auto Expect, which detects and connects to all available cameras.
6	Add Network Camera...	Opens the controls used to add a network-connected camera.
7	Camera Identification	Displays camera identification information that you can edit.
8	Connection	Displays the detected connection type after you connect the camera (for example, **USB 3**).
9	Expected	Indicates that the camera is included in the expected-camera configuration.

Item	Element	Description
10	Available	Indicates that the camera is currently available to iX Trigger.
11	Expected Cameras	Displays the Expected Cameras control.

5.5.2 Individual Camera View

The individual camera view displays configuration settings and status information for the selected camera. It appears when an individual camera tab is selected in the **Setup Cameras** workspace.





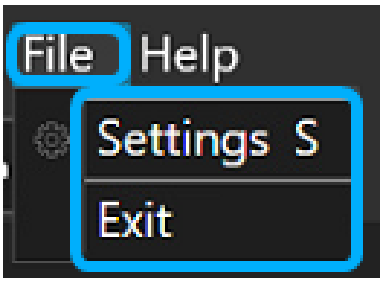
Item	Element	Description
1	Workspace Navigation	Switches between **Show Review**, **Show Thumbnails**, **Show Image**, and **Setup Cameras**.
2	Menu	Provides access to application commands and Help. See Section 5.6 - File Menu andSection 5.7 - Help Menu.
3	Camera Tab	Identifies the selected camera. The selected camera is identified by the active camera tab.
4	Expand / Collapse Controls	Expands or collapses the displayed camera parameter groups.
5	Search	Filters the displayed camera parameters by the entered search text.
6	Settings	Selects the camera-parameter category to display.
7	Capture Folder	Displays the folder where images captured by the selected camera are saved.
8	Browse	Opens the folder-selection dialog used to specify or change the Capture Folder.
9	Camera Preview	Displays the current image for the selected camera.
10	Expected Cameras	Returns to the Expected Cameras view.

Item	Element	Description
11	Capture Control	Captures an image from the currently selected camera.
12	Camera Parameter Panel	Displays camera information and configurable parameters in expandable groups.

5.6 File Menu

The File menu provides access to the iX Trigger application settings and the command used to close iX Trigger.

The File menu is available in all four workspaces.



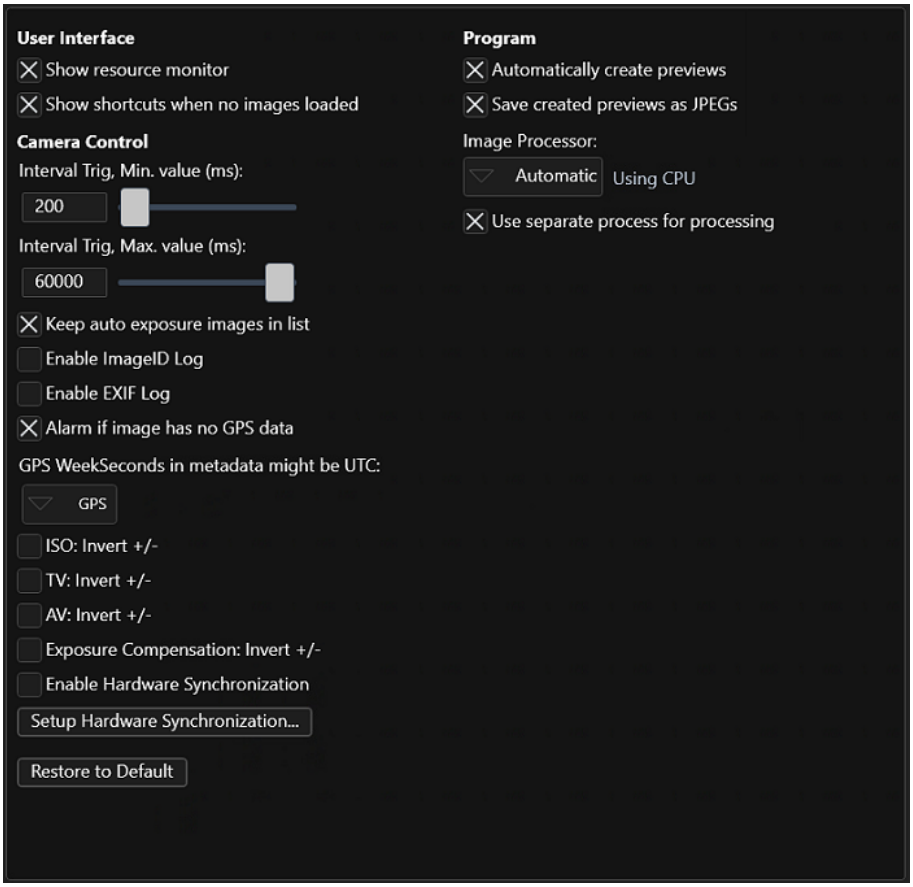
Menu Item	Shortcut	Description
Settings	S	Opens the iX Trigger application settings. See Section 5.6.1 - Settings
Exit	–	Closes iX Trigger.

5.6.1 Settings

Select File > Settings or press S to display the application settings.

The Settings page contains application-level options for the user interface, camera control, image processing, previews, logging, GPS data, and hardware synchronization.

These settings apply to iX Trigger operation and are separate from the parameters configured for an individual camera.



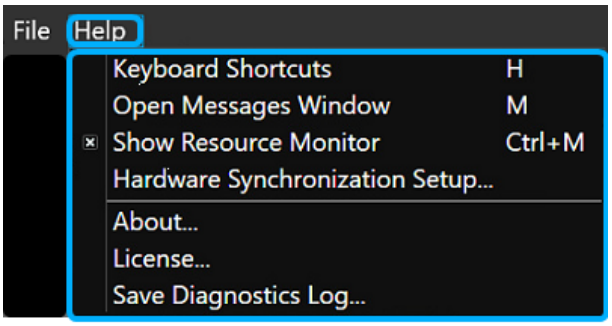
Setting	Description
Show resource monitor	Shows or hides the system resource monitor in the iX Trigger interface.
Show shortcuts when no images loaded	Controls whether keyboard shortcut information is displayed when no images are loaded.
Interval Trig. Min. value (ms):	Sets the minimum interval-trigger value, in milliseconds.
Interval Trig. Max. value (ms):	Sets the maximum interval-trigger value, in milliseconds.
Keep auto exposure images in list	Keeps images captured for automatic exposure in the image list.
Enable ImageID Log	Enables ImageID logging. See Section 11.3 - Create Log Files.
Enable EXIF Log	Enables Exif logging. See Section 11.3 - Create Log Files.
Alarm if image has no GPS data	Generates an alarm when a captured image does not contain GPS data.
GPS WeekSeconds in metadata might be UTC	Provides the setting used for interpreting GPS WeekSeconds metadata.
ISO: Invert +/-	Reverses the direction of the + and – controls used to adjust ISO.
TV: Invert +/-	Reverses the direction of the + and – controls used to adjust shutter speed (Tv).
AV: Invert +/-	Reverses the direction of the + and – controls used to adjust aperture (Av).
Exposure Compensation: Invert +/-	Reverses the direction of the + and – controls used to adjust exposure compensation.

Setting	Description
Enable Hardware Synchronization	Toggles hardware synchronization.
Setup Hardware Synchronization...	Opens the Camera HW Synchronization Setup window. See Section 5.7.1 - Camera HW Synchronization Setup.
Automatically create previews	Toggles automatic creation of image previews if the IIQ files do not contain a preview.
Save created previews as JPEGs	Saves created previews as JPEG files.
Image Processor	Selects the image-processing method. The current processing method is displayed alongside the setting.
Use separate process for processing	Enables image processing in a separate process.
Restore to Default	Restores the application settings to their default values.

5.7 Help Menu

The **Help** menu is available in all four workspaces.

Use the **Help** menu to access keyboard shortcuts, messages, system-resource information, hardware synchronization setup, application information, licensing information, and diagnostic logs.

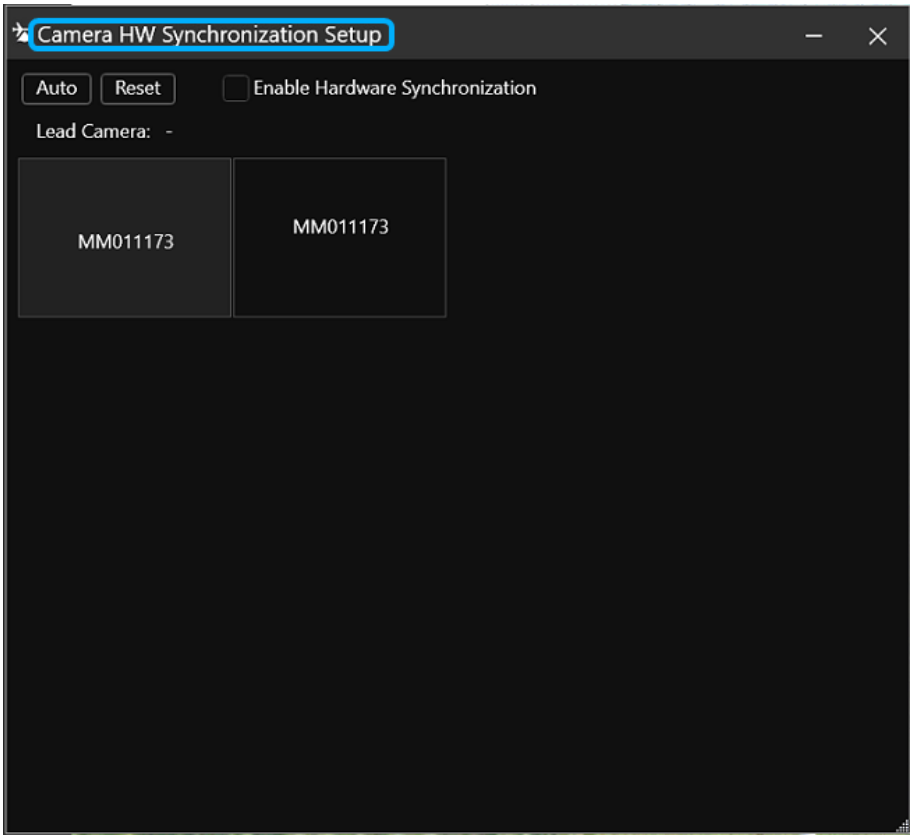


Menu Item	Shortcut	Description
Keyboard Shortcuts	H	Opens the list of available keyboard shortcuts.
Open Messages Window	M	Opens the application messages window.
Show Resource Monitor	Ctrl+M	Opens the Resource Monitor and displays current system-resource information.
Hardware Synchronization Setup...	—	Opens the **Camera HW Synchronization Setup** window. See Section 5.7.1 - Camera HW Synchronization Setup.
About...	—	Displays application version and product information.
License...	—	Displays the current software licensing information.
Save Diagnostics Log...	—	Saves an application diagnostics log for troubleshooting or support purposes.

5.7.1 Camera HW Synchronization Setup

Select **Help** > **Hardware Synchronization Setup...** to open the **Camera HW Synchronization Setup** window.

> **Note**
> For more information on hardware synchronization, see Section 4.2 - Hardware Synchronization.



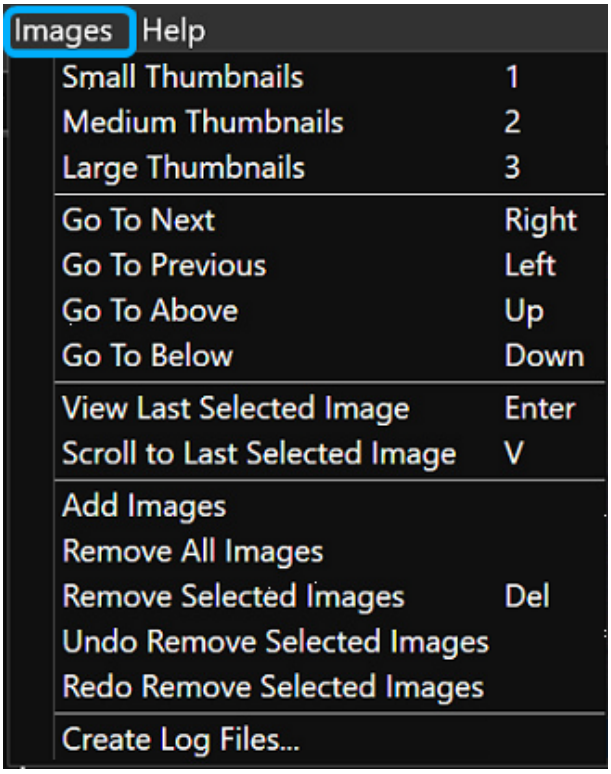
The window contains the following controls:

Element	Description
Auto	Provides automatic hardware-synchronization setup.
Reset	Resets the colors.
Enable Hardware Synchronization	Toggles hardware synchronization.
Lead Camera	Identifies the camera assigned as the lead camera.
Camera Selection Area	Displays the cameras available for hardware-synchronization setup.

5.8 Images Menu

The **Images** menu is available in the **Show Thumbnails** workspace.

Use this menu to change thumbnail size, navigate through displayed images, load or remove images, and perform other image-management operations.



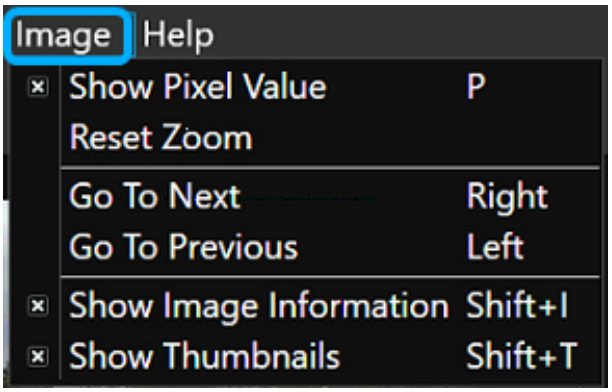
Menu Item	Shortcut	Description
Small Thumbnails	1	Displays images using the small thumbnail size.
Medium Thumbnails	2	Displays images using the medium thumbnail size.
Large Thumbnails	3	Displays images using the large thumbnail size.
Go To Next	Right Arrow	Selects the next image.
Go To Previous	Left Arrow	Selects the previous image.
Go To Above	Up Arrow	Moves the selection to the image above the currently selected image.
Go To Below	Down Arrow	Moves the selection to the image below the currently selected image.
View Last Selected Image	Enter	Opens the last selected image for viewing.
Scroll to Last Selected Image	V	Scrolls the thumbnail display to the last selected image.
Add Images	—	Opens a file browser to add existing images to the current image set.
Remove All Images	—	Removes all currently loaded images from the application view.
Remove Selected Images	Del	Removes the selected image or images from the application view.
Undo Remove Selected Images	—	Restores the most recently removed selected image or images.

Menu Item	Shortcut	Description
Redo Remove Selected Images	—	Reapplies the most recently undone image removal.
Create Log Files...	—	Opens the command used to create log files.

5.9 Image Menu

The **Image** menu is available in the **Show Image** workspace.

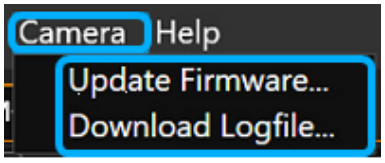
Use this menu to control how the selected image is displayed and to move between loaded images.



Menu Item	Shortcut	Description
Show Pixel Value	P	Displays or hides pixel-value information beneath the mouse pointer.
Reset Zoom	—	Restores the image to its default zoom level.
Go To Next	Right Arrow	Displays the next image.
Go To Previous	Left Arrow	Displays the previous image.
Show Image Information	Shift+I	Displays or hides the Image Information panel.
Show Thumbnails	Shift+T	Displays or hides the thumbnail strip.

5.10 Camera Menu

The **Camera** menu is available when an individual camera is selected in the **Setup Cameras** workspace. Use this menu to update camera firmware or download the camera diagnostic logfile.

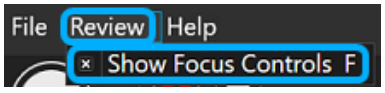


Menu Item	Description
Update Firmware...	Opens the firmware update utility for the selected camera.
Download Logfile...	Downloads the diagnostic logfile from the selected camera.

5.11 Review Menu

The **Review** menu is available in the **Show Review** workspace.

Use the **Review** menu to show or hide focus controls for supported cameras and lenses.



Menu Item	Shortcut	Description
Show Focus Controls	F	Shows or hides the focus control for supported cameras and lenses. Hiding the control prevents unintended focus change.

6. Getting Started

This section describes how to start iX Trigger, connect and verify the required cameras and external hardware, set the capture folder, and perform an initial test capture before mission operation.

This section assumes that iX Trigger has already been installed and licensed.

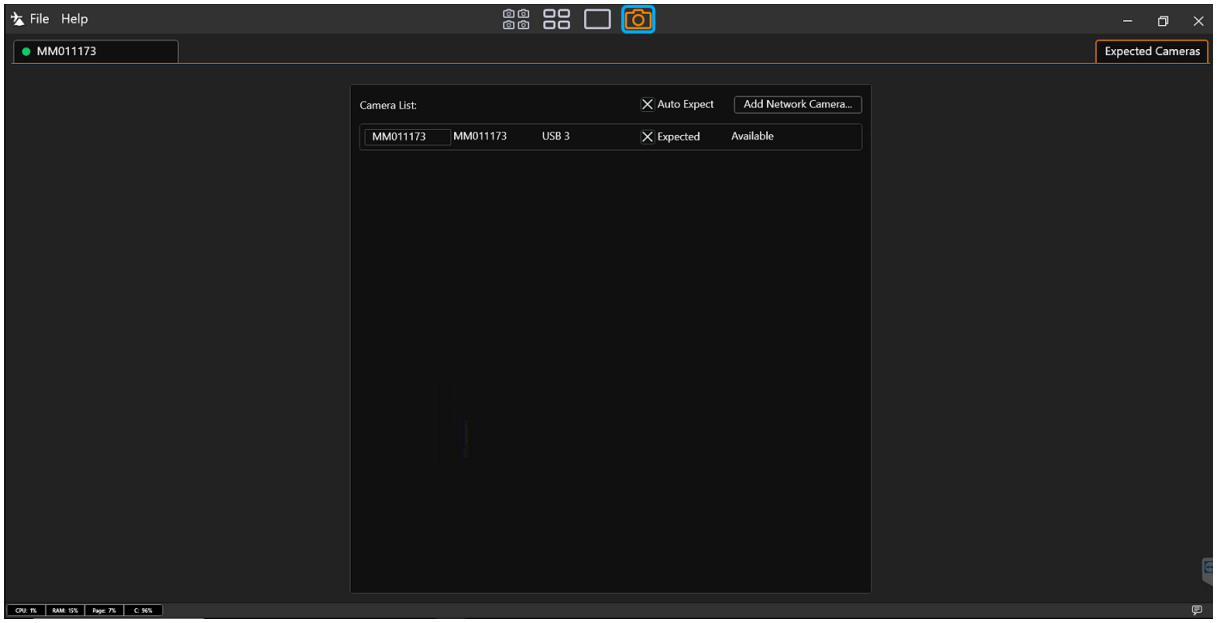
6.1 Connecting Cameras

> **Note**
> For connection details, refer to the Phase One integration guide for your camera.

1. Connect the camera cables as required:
   a. Power cable.
   b. Data cable.
   c. I/O cable.
   d. Sync cable, if used.
2. If required, connect the external trigger source to the host system.
3. Apply power to all connected cameras and external devices.
4. Wait for the cameras and external devices to initialize.

6.2 Start iX Trigger

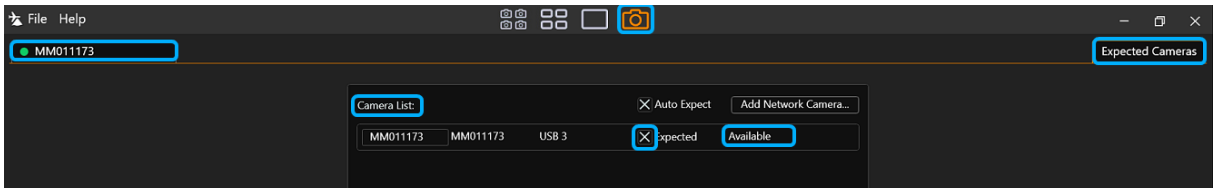
1. Run iX Trigger from the Windows Start menu or desktop shortcut.
2. Verify that the iX Trigger main window appears.



6.3 Verify Camera Connectivity

Use the **Expected Cameras** view to verify that the cameras required for image acquisition are detected and available.

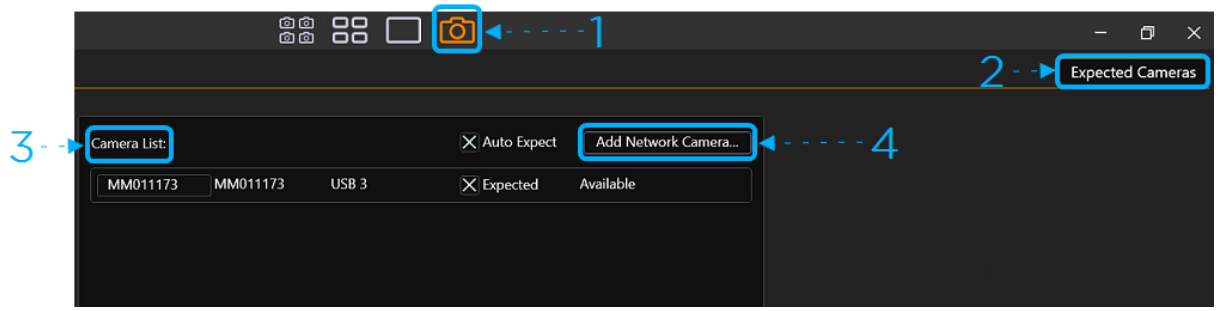
1. Open **Setup Cameras**.
2. Verify that the **Expected Cameras** view is displayed.
3. Verify that each required camera appears in the **Camera List**.



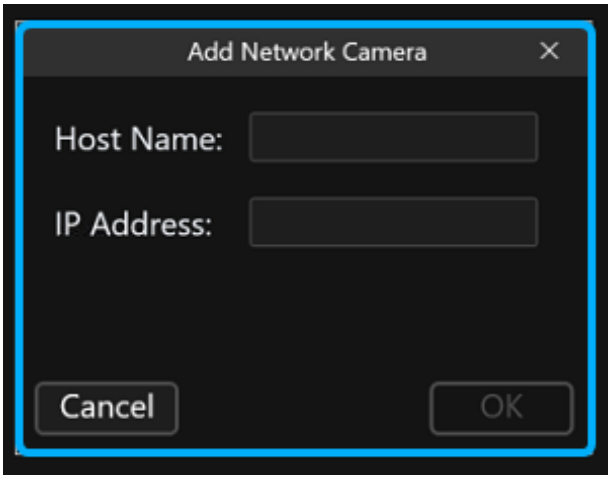
4. Verify that **Available** is shown for each required camera.
5. Verify that each camera required for image acquisition is marked **Expected**.
6. Resolve any missing or unavailable camera before continuing.

6.4 Add a Network Camera

Use this procedure to manually add a network camera that does not appear automatically in the **Camera List**.



1. Open **Setup Cameras**.
2. Select the **Expected Cameras** view.
3. Review the **Camera List** and verify whether the required camera is already available.
4. If the camera is not listed, click **Add Network Camera...**.
5. In the **Add Network Camera** window, enter the required **Host Name** and **IP Address**.



6. Click **OK**.
7. Verify that the added camera appears in the **Camera List**.
8. Verify that the camera is **Available** before using it for image acquisition.
9. Complete the camera verification procedure described in Section 6.3 - Verify Camera Connectivity .

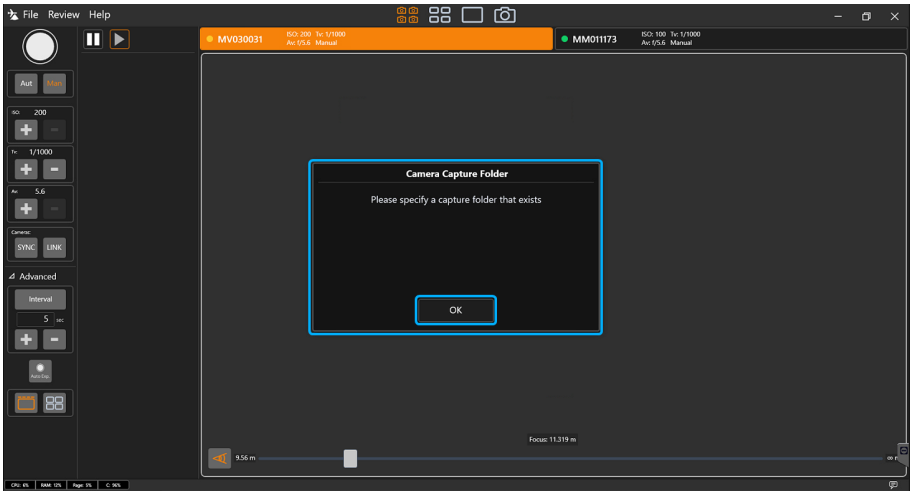
> **Note**
> The required **Host Name** and **IP Address** depend on the installed camera and network configuration.

6.5 Assigning Capture Folders

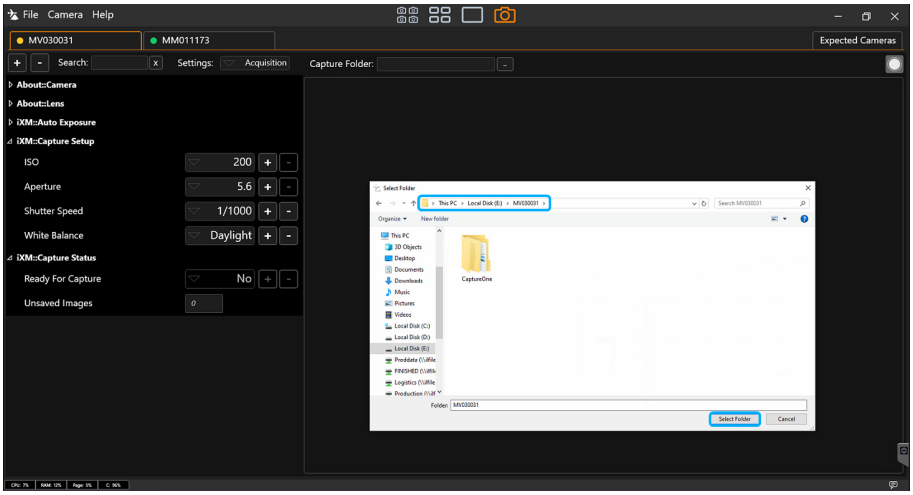
6.5.1 Assigning a Capture Folder for a New Camera

When a newly added camera does not have a valid capture folder configured, iX Trigger prompts you to specify an existing folder for that camera.

1. When the **Camera Capture Folder** message appears, click **OK**.



2. In the **Select Folder** dialog, browse to the folder that you want to use for the new camera.



3. Select the required folder.
4. Click **Select Folder**.
5. Verify that the selected folder path appears in the **Capture Folder** field.

> **Note**
> To change the capture folder after it has been configured, see Section 6.5.2 - Changing the Capture Folder .

6.5.2 Changing the Capture Folder

Use this procedure to change the folder where iX Trigger saves images captured by the selected camera.

1. Open **Setup Cameras**.
2. Select the required camera to display the Individual Camera View.
3. Click the browse button (...) next to the **Capture Folder** field.



4. In the **Select Folder** dialog, browse to the required folder.
5. Select the folder.
6. Click **Select Folder**.
7. Verify that the selected folder path appears in the **Capture Folder** field.

7. Camera Configuration and Baseline Setup

This section describes how to select cameras, view camera parameter groups, search for parameters, and adjust camera settings before image acquisition.

Use this section during setup and test capture to prepare one or more cameras for the planned mission. After you change camera settings, capture a test image and verify the result using the Camera Preview or the appropriate image-review workspace.

> **Note**
> For a description of each camera parameter group and its settings, see the camera parameters section in the integration guide for your camera.
>
> This guide assumes that you are familiar with camera settings such as ISO, shutter speed, aperture, and exposure mode. The procedures in this section describe how to locate, change, and verify these settings in iX Trigger.

7.1 Camera Configuration Overview

Camera settings are shown in the Camera Parameter Panel in the individual camera view of the Setup Cameras workspace. See Section 5 - iX Trigger Interface Overview. The available settings depend on the connected camera model, lens capabilities, firmware, system configuration, and selected parameter group.

Use the Camera Parameter Panel to:

- View available camera parameter groups.
- Expand or collapse parameter groups.
- Search for a specific parameter.
- Change parameter values.
- Verify camera settings before acquisition.

Changes to camera settings apply to subsequent captures. Previously captured images are not changed.

7.2 Select a Camera to Configure

Select the camera that you want to configure before you change camera parameters.

1. Open Setup Cameras.
2. Select the required camera to display the Individual Camera View.
3. Verify that the selected camera is identified by its camera tab and connection-status indicator.

4. Verify that the selected camera shows a healthy connection status.
5. Verify that the Camera Parameter Panel shows settings for the selected camera.
6. Verify that the Camera Preview displays the current image for the selected camera, where available.

> **Note**
> The Individual Camera View is used to access detailed camera configuration. It provides access to the full Camera Parameter Panel and the available parameter groups for the selected camera.
>
> Show Review is used for image review and quick adjustment of the main exposure settings. In Man mode, these include ISO, shutter speed, and aperture. In Aut mode, EV exposure compensation is adjusted instead.

7.3 Navigate and Search Parameter Groups

7.3.1 View Parameter Groups

Parameter groups organize camera settings by category. Use the Settings filter to show the parameter groups that are relevant to the current configuration task.

1. Select the required camera.
2. Locate the Camera Parameter Panel.
3. Review the available parameter groups.
4. In the Control Bar, open the Settings list and select one of the following options:
    - Acquisition
    - Setup
    - Integration
    - All

> **Note**
> When you select an option, the panel displays the settings for that option and all preceding options in the list.

5. Select the required parameter group.

For information about the purpose of each parameter group, see the camera parameters section in the integration guide for your camera.

7.3.2 Show All Parameter Groups

To show all available parameter groups:

1. Select the required camera.
2. In the Control Bar, open the **Settings** list.
3. Select **All**.
4. Scroll through the list to locate the required group.

7.3.3 Expand or Collapse Parameter Groups

Use the expand and collapse controls to show or hide parameter group details.

1. Select the required camera.
2. Locate the parameter group that you want to view.
3. Click the expand icon to show the parameters in a group.
4. Click the collapse icon to hide the parameters in a group.
5. Use the expand-all or collapse-all controls to show or hide all the displayed groups.

7.3.4 Search for a Parameter

Use the search field to locate a camera parameter quickly.

1. Select the required camera.
2. Locate the search field in the Control Bar.
3. Enter the parameter name or part of the parameter name.
4. Review the filtered parameter list.
5. Select the required parameter.
6. Click the **X** to clear the search field and return to the full parameter list.

7.4 Restore Camera Defaults and Profile

All cameras should use the **Aerial** profile so that the default values are appropriate for aerial use.

When preparing a camera, it is recommended to restore all settings to their default values to establish a known starting point. This is particularly important if the camera previously used a different profile, because parameters that are available only in other profiles are also restored to their default values.

1. Verify that the camera profile is set to **Aerial**.
2. Open the **iXM::Restore To Factory Default** parameter group.
3. Leave **Custom WB** set to **Exclude** to maintain existing custom white balance profiles.

4. Set **Network Setup** to **Include** so that the network settings are also reset.
5. Set **Action: Restore** to **Restore**.

7.5 Modifying Camera Parameters

Use this procedure to modify the configuration parameters for an individual camera.

1. Open **Setup Cameras** and select the required camera to display the Individual Camera View.
2. From the **Settings** list, select the required parameter category:
    - **Acquisition** - Displays image acquisition and exposure parameters.
    - **Setup** - Also displays camera setup and configuration parameters.
    - **Integration** - Also displays parameters used for system integration.
    - **All** - Displays all available camera parameters.
3. Locate the required parameter group in the Camera Parameter Panel.
4. Expand the parameter group, if required.
5. Select the parameter that you want to modify.
6. Modify the required parameter. Select a value from the drop-down list or use the **+** or **-** buttons, as applicable.

   The available parameters depend on the selected camera, parameter group, and system configuration. For a description of each parameter and its available settings, see the camera parameters section in the integration guide for your camera.
7. Verify that the updated value appears in the Camera Parameter Panel.

> **Note**
> The **Auto Exp.** control in **Show Review** performs a one-time automatic exposure action. It is separate from the **Aut/Man** exposure mode selection in **Show Review** and from the **iXM::Auto Exposure** parameter group in **Setup Cameras**.

7.6 Configure Power Management

Power management can be used to help prevent the cameras from becoming too hot and to limit power consumption.

1. Open the **iXM::Power Management** parameter group.
2. Set **10G** to **Disable**.
3. Set **Low Power Mode** to the required delay. Use 10 seconds as an example.

With a 10-second Low Power Mode delay, a capture interval of 10 seconds or less keeps the camera fully powered, ensuring minimum capture latency.

7.7 Configure Capture Setup and Compression

Unless the capture rate is very high, enable previews in the IIQ files so that images can be evaluated quickly during flight. Because generating previews is a costly camera operation, use the smallest preview size, S (640x480).

To keep the image files small, set Compression to IIQ S or IIQ X.

For the best possible image quality, configure the Black Reference options so that the camera can create a black reference automatically when it determines that one is needed.

1. Open the iXM::Capture Setup parameter group.
2. Set Previews to On.
3. Set Preview Size to S (640x480).
4. Set Compression to IIQ S or IIQ X.
5. Set Black Ref. to Create.
6. Set Black Ref. Create to Normal.

With Black Ref. Create set to Normal, the camera creates a black reference whenever it determines that one is required. This should not be a problem when the capture rate is lower than one image per second.

7.8 Configure Storage Mode and White Balance

Configure the camera to store images locally and on a connected host, when available.

1. Set White Balance to Aerial.
2. Set Local Storage to If Present.
3. Set Host Storage to If Present.

Host Storage is particularly important in this configuration. When it is set to If Present, the camera is ready for capture only when it is connected to a host that reports sufficient available storage space. If the camera is disconnected from the host, it refuses to capture images.

7.9 Configure Serial Connectors (LEMO) for IMU/GNSS

Configure the two LEMO connectors to accept location data from the Applanix IMU.

1. Open the iXM::Serial Devices - Left Terminal parameter group.
2. Set Device Type to GPS.
3. Set GPS Receiver to Applanix.
4. Set Device Baud Rate to 115200.

5. Open the **iXM::Serial Link - Right Terminal** parameter group.
6. Set **Serial Link** to **Disable**.

7.10 Verify Multi-Camera Configuration Baselines

1. In **Setup Cameras**, configure the required camera parameters for the first camera in the individual camera view.
2. Repeat the camera-specific parameter configuration for each additional camera.
3. Verify that all individual camera settings (such as power management, storage flags, and serial port assignments) are configured correctly on each camera tab before leaving **Setup Cameras**.

> **Note**
> Camera parameters configured in the Individual Camera View are device-specific and are not copied by **Show Review** exposure tools.
>
> - To synchronize or link exposure settings across cameras (including focus adjustments for supported lenses), see Section 8 - Multiple Camera Operations.
> - To perform a preflight test capture and inspect image data, see Section 9 - Preflight Test Capture and Verification.

8. Multiple Camera Operations

This section describes how to select, view, adjust, and capture images with multiple connected cameras in iX Trigger.

Use the camera tabs, single-camera and multi-camera layouts, and the SYNC and LINK controls in Show Review to manage a multi-camera configuration.

8.1 Multi-Camera Overview

When more than one camera is connected, the camera tabs across the top of Show Review identify the connected cameras. The selected camera tab is highlighted in orange.

The selected camera determines which camera is displayed or adjusted. It does not determine which cameras capture when the Capture Control is used in Show Review.

Use the following controls when working with multiple cameras:

Control	Purpose
Camera Tabs	Select the camera to view or adjust.
Single-Camera Layout	Displays the selected camera in a larger single-camera view.
Multi-Camera Layout	Displays the connected camera views together.
SYNC	Copies the current exposure settings from the selected camera to the other connected cameras.
LINK	Links subsequent exposure adjustments across the connected cameras while preserving existing differences between them.

> **Note**
> A capture triggered from Show Review captures an image from each connected camera. The selected camera tab and layout affect what is displayed, not which cameras capture.

8.2 Select a Camera

Select the required camera according to the current camera layout.

1. Open Show Review.
2. In the single-camera layout ,select the required camera using the camera tabs across the top of the workspace. This layout displays the selected camera in a larger view.
3. In the multi-camera layout ,select the required camera directly from the displayed camera views. This layout displays the connected cameras together for combined monitoring.
4. Verify that the selected camera is highlighted in orange.
5. Review or adjust the selected camera settings as required.

> **Note**
> The camera layout controls only how the connected cameras are displayed. They do not change the number of cameras that capture when the Capture Control is used.

8.3 Synchronize Camera Exposure Settings

Use SYNC to copy the current exposure settings from the selected camera to the other connected cameras.

> **Note**
> The settings copied to the target cameras depend on the active exposure mode (Aut or Man).

1. Open Show Review.
2. Select the camera whose exposure settings you want to use as the reference.
3. Verify or adjust the required exposure settings on the selected camera.
4. Click SYNC.
5. Select the other connected camera tabs.
6. Verify that their exposure settings have been updated to match the selected reference camera.

> **Note**
> SYNC is a one-time action. The camera selected when SYNC is clicked acts as the reference camera.

8.4 Link Camera Exposure Settings

Use LINK when subsequent exposure adjustments should be applied across the connected cameras.

1. Open Show Review and select a camera.
2. Click LINK.
3. Verify that LINK is highlighted in orange.
4. Adjust an exposure setting on the selected camera.
5. Select the other connected camera tabs.
6. Verify that the corresponding exposure setting has changed on the other linked cameras.

Note
LINK preserves existing differences between the connected cameras. For example, if one camera is set to ISO 400 and another to ISO 200, reducing the first camera to ISO 200 can reduce the second camera to ISO 100.

Note
To make the connected cameras identical before applying linked adjustments, use SYNC first and then enable LINK.

8.5 Use LINK in Automatic Exposure Mode

When Aut is selected, the manual ISO, shutter speed, and aperture adjustment controls are replaced by the exposure compensation control.

With LINK active, changes to the exposure compensation value are applied across the linked cameras.

1. Select Aut for all cameras.
2. Click LINK.
3. Verify that LINK is highlighted in orange.
4. Use the + or – control to adjust the EV exposure compensation.
5. Select the other connected camera tabs.
6. Verify that the exposure compensation adjustment has been applied to the linked cameras.

Note
In Aut mode, each camera continues to calculate its own automatic exposure. ISO, shutter speed, and aperture values can therefore differ between cameras even when the same EV exposure compensation is applied.

8.6 Capture Images with Multiple Cameras

Use the Capture Control in Show Review to capture images from the connected cameras.

1. Open Show Review.
2. Verify that the required cameras are connected.
3. Select the single-camera or multi-camera layout as required.
4. Select a camera tab as required for viewing or adjustment.

5. Click the Capture Control.
6. Verify that an image is captured from each connected camera.
7. Review the captured images as required.

> **Note**
> The selected camera tab and layout do not limit capture to the displayed camera. A capture triggered from Show Review captures an image from each connected camera.

8.7 Review Multi-Camera Images

Use Show Thumbnails to review the images produced by a multi-camera capture.

1. Capture an image from the connected cameras.
2. Open Show Thumbnails.
3. Verify that the resulting images appear in the thumbnail grid.
4. Select individual images for review as required.
5. Open Show Image for more detailed inspection if required.

> **Note**
> Images from multiple cameras are displayed together in Show Thumbnails. The thumbnail view does not identify which connected camera produced each image. Use Show Review and switch between the camera tabs to identify the view associated with each camera.

8.8 Multi-Camera Issues

If a required camera is not available, does not respond as expected, does not produce an image, or linked or synchronized settings do not behave as expected, verify the camera connection and configuration.

If the issue persists, select Help > Save Diagnostics Log and provide the diagnostics log when reporting the issue.

For additional troubleshooting information, see Section 12 - Troubleshooting and Diagnostics.

9. Preflight Test Capture and Verification

This section describes how to trigger test captures and review the resulting images using the Show Review, Show Thumbnails, and Show Image workspaces. Use the available image preview, histogram, image information, and camera information to assess captured images. Do not rely on one item alone when evaluating image quality or exposure.

9.1 Perform a Preflight Test Capture

Perform a test capture to verify that iX Trigger can acquire an image and save it to the configured Capture Folder.

1. Open Show Review.
2. Verify that Interval is not active for a single test capture.
3. Select the required exposure mode:
    - Aut for automatic exposure mode.
    - Man for manual exposure mode.
4. Verify the required camera settings.
5. Click the Capture Control to acquire a test image.
6. Verify that no camera or acquisition alarm is displayed.
7. Open the configured Capture Folder in Windows Explorer.
8. Verify that the captured image file or files are present in the capture folder or folders.

> **Note**
> The Auto Exp. control in Show Review performs a one-time automatic exposure action. It is separate from the Aut/Man exposure mode selection in Show Review and from the iXM::Auto Exposure parameter group in Setup Cameras.

9.2 Inspect Overall Exposure in Show Review

Review the image immediately after capture to check overall framing and exposure.

1. Verify that the newly captured image appears in the image preview strip in Show Review.
2. Select the required image, if necessary.
3. Switch between the single-camera and multi-camera layouts as required for a larger or combined view of the connected cameras.
4. Review the available exposure information displayed with the image in the Image Information Bar (ISO, shutter speed, aperture, and EV information).

9.3 Detailed Image Analysis in Show Image

Use the Show Image workspace to inspect the selected image in greater detail, including brightness distribution and critical focus.

9.3.1 Open the Image for Detailed Inspection

1. Open Show Thumbnails.
2. Locate the test capture in the grid. Use the + or - controls to change the thumbnail size if required.
3. Double-click the selected image to open it in Show Image.
4. Expand Image Info to review available image and capture metadata.
5. Expand Camera Info to review available camera and lens information.

9.3.2 Interpret Exposure Using the Histogram

Use the Histogram panel to assess the brightness distribution and identify potential clipping.

1. Review the distribution of brightness values in the Histogram panel.
2. Check for loss of detail at the edges of the histogram:
    - Left-heavy: The image contains predominantly dark tones or may be underexposed.
    - Right-heavy: The image contains predominantly bright tones or may be overexposed.
    - Clipped at one end: Detail is lost in very dark or very bright areas. Adjust exposure settings if required.

> **Note**
> A histogram does not have to be centered or evenly distributed for an image to be correctly exposed. Expected distribution depends on the scene. Use the histogram together with the image preview; do not use it as the only image-quality check.

9.3.3 Verify Critical Focus with Zoom

Zoom into the image to verify sharpness and focal accuracy.

1. Move the pointer over the main image.
2. Rotate the mouse wheel to zoom (scroll up to zoom in, scroll down to zoom out).
3. Monitor the zoom percentage displayed on the image.
4. In the Preview pane, drag the orange boundary frame to reposition the magnified area of the image.
5. Inspect the required image area for sharp focus.
6. Select Image > Reset Zoom to return to the default view.

9.4 Final Preflight Acceptance Gate

Review the collected data to verify readiness before proceeding to mission execution.

1. Confirm the test image is correctly exposed without unacceptable clipping.
2. Confirm the test image is correctly framed and sharply focused.
3. Compare the image with previously captured test images, if required.
4. If adjustments are required, return to Setup Cameras or Show Review to adjust parameters, then capture another test image and repeat the verification.
5. Continue to mission acquisition only when the test image is suitable for the planned flight.

10. Mission Capture Execution

This section describes how to prepare, execute, monitor, and complete an airborne image acquisition session in iX Trigger.

10.1 Acquisition Modes Overview

The Show Review workspace provides two image capture methods:

Capture Mode	Typical Application	Operator Action
Manual Capture	Setup, test captures, exposure checks, and individual capture events.	Click Capture Control .
Interval Capture	Repeated image capture at a defined time interval.	Enable Interval, set the interval, and click Capture Control .

> **Note**
> In a multi-camera configuration, a capture triggered from Show Review captures an image from each connected camera.

10.2 Prepare for Acquisition

Perform these verification steps before initiating mission capture:

1. Verify that all required cameras are connected and display an Available status in iX Trigger.
   See Section 6.3 - Verify Camera Connectivity .
2. Verify that the correct capture folder is configured for each camera and has sufficient available storage capacity.
   See Section 6.5.2 - Changing the Capture Folder .
3. Verify the required camera and exposure settings.
   For a multi-camera configuration, verify the camera layout and use SYNC or LINK as required.
4. Capture and review a test image to verify framing, focus, and exposure quality.
   See Section 9 - Preflight Test Capture and Verification.

> **Caution**
> Do not begin the capture session until the required cameras are available and the test images have been reviewed.

10.3 Execute Mission Capture

1. Open **Show Review** or press **R**.
2. Select the required camera layout:
    - Select the single-camera layout to display the selected camera in a larger view.
    - Select the multi-camera layout to display the connected cameras together.
3. Initiate image capture using the required acquisition mode:

    To capture images manually:

    a. Verify that **Interval** is not selected.

    b. Click **Capture Control**  to acquire an image.

    c. Verify that each connected camera captures an image and that the images appear in the preview strip.

    To capture images at a repeated interval:

    a. Expand the **Advanced** controls panel in the sidebar.

    b. Select **Interval**. The control is highlighted in orange and the **Capture Control** button displays a timer icon.

    c. Set the required interval in seconds using the **+** or **-** buttons, or enter the time interval value directly.

    d. Click **Capture Control**  to start interval capture.

    e. Verify that **Capture Control** turns orange and that images are captured at the configured interval.

10.4 Monitor the Capture Session

1. Verify that new images continue to appear in **Show Review** as expected.
2. Review representative images for framing, focus, exposure, and image quality.
3. In a multi-camera configuration, switch between connected cameras or use the multi-camera layout as required.
4. Review the available camera and exposure information in the Image Information Bar.
5. Freeze and resume the image-review display without interrupting acquisition as required:

    a. Click **Pause**  to freeze the display. Images captured while review is paused continue saving to disk and are queued.

b. Click **Play**  to resume the review display and view queued images.

6. Respond to any displayed warning or error message.

   For additional troubleshooting information, see Section 12 - Troubleshooting and Diagnostics.

10.5 Complete the Capture Session

Manual capture ends after each individual capture event. Interval capture continues until it is stopped by the operator.

1. For interval capture, click the orange **Capture Control** button.
2. Verify that **Capture Control** returns to white and that repeated capture stops.
3. Review the most recently captured images as required.
4. Open **Show Thumbnails** and verify that the expected images are available.
5. Open the configured capture folder or folders on the host computer and verify that all image files are present.

> **Note**
> **Pause** does not stop image capture. During interval capture, click the orange **Capture Control** button to stop repeated capture.

11. Manage Images and Image Records

This section describes the image-management and image-record functions available after images have been captured or loaded into iX Trigger.

Use **Show Thumbnails** to work with loaded images. Use the configured capture folder to access the image files saved to disk.

11.1 Image Management Overview

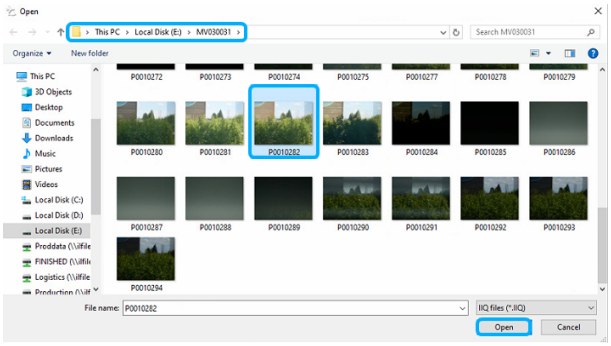
Images displayed in **Show Thumbnails** can include newly captured images and existing images that have been loaded for review.

Use the **Images** menu in **Show Thumbnails** to access the available image-management functions. See Section 5.8 - Images Menu.

> **Note**
> Image-management actions in iX Trigger and file-management actions in Windows Explorer are separate operations. Verify the intended result before removing or deleting image files.

11.2 Add Existing Images

Use **Add Images** to load existing image files into **Show Thumbnails** for review.



1. Open **Show Thumbnails**.
2. Select **Images** > **Add Images**.
3. Browse to the required image files.
4. Select one or more images.
5. Click **Open**.
6. Verify that the selected images appear in **Show Thumbnails**.

11.3 Create Log Files

Use **Create Log Files...** to create image-related log files from the images currently available for review.

When operating a multi-camera setup with iX Trigger, matching images captured simultaneously across different cameras is critical for accurate data processing. Because each camera generates its own independent file sequence, file names alone cannot guarantee perfect synchronization.

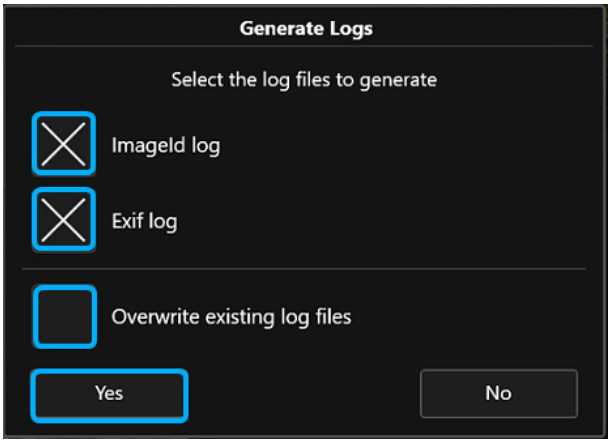
The EXIF and ImageID log files provide the precise temporal and spatial data required to align your image sets. By cross-referencing the time data in both logs, you can identify which images were taken at the exact same fraction of a second. The log files contain the following data:

ImageId log - maps each image filename to a precise timestamp (Week Seconds).

Exif log - provides the exact GPS Time and Weeks:Seconds for each image filename, alongside the spatial coordinates (Longitude, Latitude, Altitude) and camera orientation (Pitch, Roll, Yaw) at the moment of capture.

To enable log file generation:

1. Open Show Thumbnails.
2. Select Images > Create Log Files....



3. Select the required log-file.
4. Choose whether existing log files can be overwritten, if required.
5. Click Yes.

11.4 Access Saved Log Files

Log files are saved in the same folder as the corresponding images.

1. In File Explorer, open the folder containing your images.
2. Verify that the expected log files are present.

12. Troubleshooting and Diagnostics

Use this section to identify and resolve common camera, capture, image-review, and exposure issues in iX Trigger.

If an issue cannot be resolved, save a diagnostics log and provide it with the issue information when contacting Phase One Technical Support.

12.1 Troubleshooting Overview

1. Note the displayed message or unexpected behavior.
2. Verify the affected camera connection and configuration.
3. Correct any obvious connection or configuration issue.
4. Perform a test capture to verify operation.
5. If the issue persists, save a diagnostics log.

12.2 Camera Not Available or Not Detected

Symptom	Possible Cause	Corrective Action
Camera does not appear in iX Trigger.	Camera is not powered.	Verify that the camera is powered on.
Camera does not appear in iX Trigger.	Camera data connection is unavailable or loose.	Check the camera data connection and host-system connection.
Camera remains unavailable after checking the connection.	Camera, firmware, driver, or interface issue.	Restart the camera or application as appropriate. If the issue persists, save a diagnostics log and contact Technical Support.

12.3 Image Capture Does Not Occur

1. Verify that the required camera is connected and available.
2. Verify that the correct capture folder is configured.
3. Open Show Review.
4. Perform a manual test capture.
5. Verify whether an image appears in Show Review and in the configured capture folder.
6. If an error message appears, record the exact message.
7. If the issue persists, save a diagnostics log.

12.4 Interval Capture Does Not Start or Continue

1. Open Show Review.
2. Verify that Interval is selected.

3. Verify that the required interval value is set.
4. Click the Capture Control.
5. Verify that the Capture Control changes to orange.
6. Verify that new images appear at the selected interval.
7. If interval capture stops unexpectedly or an error appears, perform a manual test capture and verify the camera connection.

12.5 Image Review Does Not Update

If the displayed image does not update after capture, verify whether image review is paused.

1. Check the **Pause** and **Play** controls.
2. If image review is paused, verify whether captured images are being added to the queue.
3. Click **Play** to resume image review.
4. Verify that queued images are displayed and that image review continues.

> **Note**
> **Pause** affects image review only. It does not stop image capture.

12.6 Exposure or Image-Quality Problems

1. Open the required image in Show Image.
2. Review the image and **Histogram** panel.
3. Review the available ISO, shutter speed, aperture, and EV information as applicable.
4. Adjust the required camera or exposure settings.
5. Capture another test image.
6. Repeat the review until the image is acceptable.

12.7 Camera Disconnects

1. Check camera power.
2. Check the camera data connection.
3. Verify that the camera becomes available again in iX Trigger.
4. Perform a test capture.
5. If the camera does not reconnect or repeatedly disconnects, save a diagnostics log and contact Technical Support.

12.8 Respond to an Error Message

If an error such as **Auto Exposure failed** or **No image received** appears:

1. Record the exact error message.
2. Verify the affected camera connection and settings.
3. Perform a test capture if appropriate.
4. If the error persists, save a diagnostics log.

12.9 Save a Diagnostics Log

Save a diagnostics log as soon as possible after an application or camera-related issue occurs.

1. Select **Help** > **Save Diagnostics Log**.
2. Browse to the folder where you want to save the diagnostics log.
3. Enter a file name, if required.
4. Click **Save**.

The diagnostics log can be provided to Phase One Technical Support when reporting the issue.

> **Note**
> Saving a diagnostics log does not resolve the issue. It records information that can assist Technical Support during fault investigation.

12.10 Record Information for Technical Support

- Date and time the issue occurred.
- A brief description of the observed behavior.
- The steps performed immediately before the issue occurred.
- The exact error message, if one was displayed.
- The number of connected cameras.
- Whether manual or interval capture was being used.
- Any corrective actions already attempted.
- The saved diagnostics log, if available.

12.11 Verify Operation After an Issue

1. Verify that the affected camera is connected and available.
2. Perform a test capture.
3. Verify that the expected image or images appear.
4. Verify that the expected image files are present in the configured capture folder or folders.
5. Resume normal operation only after the issue has been resolved.

13. Support

Use this section to contact Phase One Technical Support when an issue cannot be resolved using the troubleshooting information in this guide.

13.1 Contact Phase One Technical Support

Create a support case through Phase One Technical Support:

https://support.phaseone.com/

For additional Phase One geospatial product information, visit:

https://www.phaseone.com/solutions/geospatial-solutions/

13.2 When to Contact Support

- A required camera is not detected after completing the applicable troubleshooting steps.
- Image capture does not operate as expected.
- Interval capture repeatedly stops or does not start as expected.
- A camera repeatedly disconnects or cannot be reconnected.
- Expected images are not produced or saved.
- Multi-camera settings or capture behavior do not operate as expected.
- An application or camera-related error continues after corrective actions have been attempted.
- Technical Support requests diagnostic information.

13.3 Information to Provide

When reporting an issue, provide the information required to reproduce and investigate the problem.

- Date and time the issue occurred.
- A brief description of the problem.
- The steps performed immediately before the issue occurred.
- The exact error message, if one was displayed.
- The number of connected cameras.
- Whether manual or interval capture was being used.

- Any corrective actions already attempted.
- The diagnostics log, if available.

> **Note**
> Save the diagnostics log as soon as possible after the issue occurs so that the most relevant diagnostic information is available for investigation.

Appendix A. Camera Property Checklist

When setting up a system, verify the following camera properties are correctly configured:

- Profile
- 10G
- Low Power Mode
- Previews
- Preview Size
- Compression
- Black Ref.
- Black Ref. Create
- White Balance
- Local Storage
- Host Storage
- Device Type
- GPS Receiver
- Device Baud Rate
- Serial Link
- Exposure Comp.
- AE Priority
- ISO Min
- ISO Max
- Shutter Speed Min
- Shutter Speed Max
- Aperture Min
- Aperture Max

Appendix B. Auto Exposure Guidelines

When auto exposure is used, the camera can be configured to operate within defined limits.

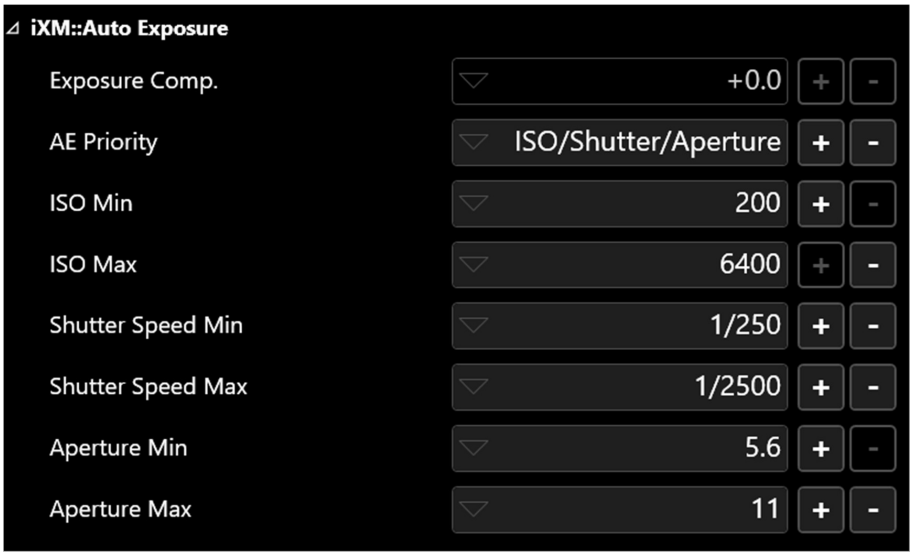
For aerial photography, the maximum exposure time should be short enough to avoid motion blur. Phase One lenses are usually sharp when fully open, which also provides the most light. Smaller apertures can also be acceptable as long as the images remain well exposed.

Higher ISO values increase image noise and should therefore be kept as low as practical. However, more noise in darker image areas is often preferable to motion blur.

Use the following order when the camera needs to increase exposure:

ISO/Shutter/Aperture

The following values are reasonable example ranges. Appropriate values depend on the flight plan, weather conditions, and other operating conditions.



Exposure Comp. can be set only when the camera is in auto exposure mode. In iX Trigger, select Aut in Show Review before adjusting exposure compensation.