

Photron FASTCAM Viewer

for High Speed Digital Imaging

Release Notes
Ver. 4.1.0.0 E

Photron

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Chapter 1. Release Summary

1.1. PFV4 Release Notes

1.1.1. PFV Version

- PFV Ver. 4.1.0.0
- SDK (PDCLIB.DLL) Ver. 4.1.0.0

1.1.2. Contents of the folder in DVD

- PFV Setup64: PFV installer for 64bit Windows
- PFA: PFA (Photron FASTCAM Analysis) installer
- SDK: SDK components, documents, and samples
- LabVIEW and MATLAB: SDK for LabVIEW and MATLAB, documents, and samples
- Doc: Manuals of PFV, cameras, and others
- CheckerBoard: Image data of checkerboard for lens distortion correction
- ReleaseNotes: Release notes of PFV
- ReportSample: Sample data for Report output function
- Driver: Device drivers

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Chapter 2. New Functions

2.1. PFV4.1.0.0 New Functions

2.1.1. New Camera Support

FASTCAM Mini R5-4K is supported.

2.1.2. Additional Function

Common to the all modes		
Item	Fixed / Modified Item	
[Assistance]	[Exposure Alert]	<p>The menu name has been changed to “Exposure Alert”. * Prior to Ver. 4.0.7.0, it was called “Overexposure Alert”.</p> <p>The following functions have been added.</p> <ul style="list-style-type: none"> • A function to set the luminance threshold to warn against overexposure. • Underexposure alert function (blue color is displayed where the luminance is lower than the set threshold)
[Special Effects]	[B/G Subtraction]	<p>The background subtraction menu has been improved.</p> <ul style="list-style-type: none"> - The background can now be selected an image from the previous frame. - The background can now be selected from an average of 1 to 5 images. - The background can now be selected from a different file.
[MENU]	[Configuration] - [Connection]	Added the function to save (preset) camera settings to the camera when disconnecting the camera.

LIVE mode		
Item	Fixed / Modified Item	
[Assistance]	[Synchronization Assistance]	<p>The camera synchronization setting function can now be activated even when a dummy camera is included in the connected cameras. This allows the wiring diagram to be checked even in the case of a dummy camera. * Actual synchronization settings cannot be performed.</p>
[Add-ons]	[PFV4 Mobile]	<p>The display of thumbnail images in the side panel of PFV4 Mobile has been changed from top-aligned to center-aligned.</p> <p>Added image rotation and flipping functions to PFV4 Mobile.</p>
[Function panel]	[Setup]	When initialization of EF lenses, etc. fails, an error is now displayed in the information display and the [Update] button in the lens settings is activated.
[MENU]	[Configuration] – [I/O]	Added the ability to stop HDMI output when the Mini CX is connected and transitioned to recording standby.

MEMORY/FILE mode		
Item	Fixed / Modified Item	
[Save]	[Info save]-[Edit]-[Edit Format]	<ul style="list-style-type: none"> Text font size for items displayed in Info save has been improved to fix the resolution and ratio of the image. More font sizes now can be selected.
	[Layout save]	The layout save settings can now be registered and applied as templates for layout save.
	When the screen transitions to the save screen from the save button, etc. during data playback, data playback is now stopped.	

MCAT
MCAT startup process is now faster.
Adding cameras process to MCAT is now faster.
Faster tab switching behavior in the MCAT table.
Changed so that only “Cameras in selected group” are displayed instead of “Cameras in selected group” + “Cameras that were selected in PFV4 Mobile” when transitioning to the save tab.
When a camera is connected, the trigger mode and I/O settings configured in [MCAT Detailed setting] are now reflected in the newly connected camera.
A progress bar is now displayed when the camera enters the recording standby state to make it easier to recognize the status of the camera.
The background color of the MCAT table can now be changed in the “recording standby” state, “recording in progress” state, and “Save tab”.
The border of the recording button has been highlighted to prevent accidental button presses.

Other
Faster processing when starting PFV4 from a PCSX file.
MH6 Main Unit and camera head serial numbers are now displayed on the camera edit screen and in the CIHX file.
<p>The message that appears when closing the PFV4 to confirm whether to turn off the power of the connected camera has been corrected as follows.</p> <ul style="list-style-type: none"> Old: If the “Do not show this message again” checkbox was checked and the option to turn off the power was selected, the camera would be turned off the next time the PFV4 was closed. New: If the “Do not show this message again” checkbox was checked and the option to turn off the power was selected, the camera will remain turned on the next time the PFV4 is closed.
<p>The text of the confirmation message to turn off the camera power when exiting PFV4 has been improved for clarity.</p> <ul style="list-style-type: none"> Old: “Yes”, “No” New: “Turn off camera”, “Do not turn off camera”
<p>It is now possible to determine whether the PFV4 you are using is the official or beta version from the following descriptions.</p> <ul style="list-style-type: none"> PFV version confirmation window The version.txt file in the support file Properties of pfv4.exe Log

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Chapter 3. Bug Fix and Other Changes

3.1. PFV4.1.0.0 Fixed Bugs and Changes

LIVE mode		
Item	Fixed / Modified Item	
[Function panel]	[Lens control]	Nova S/R series might not restore EF lens settings properly. This bug is fixed.
		When setting the lens control menu to minimum/maximum by dragging the knob on the slider bar, the value was not correct if the knob was still dragged. This bug is fixed.
	[Variable]	When the variable function was enabled and the resolution was set with the mouse, it could be set to a resolution that could not actually be set. This bug is fixed.
[Information display]	<p>When EF lenses or other lenses were connected to the Nova and it was in recording standby or during recording and then reconnected, the lens information was incorrectly displayed as “Unconnected”. This bug is fixed.</p> <p>If the camera is reconnected while in recording standby or recording is in progress, the lens information will be hidden.</p> <p>* After recording is complete, the lens is initialized and the lens information is updated.</p>	
Other	Shading was not automatically executed when settings were changed in PCSX file import, even if the “Auto shading calibration when frame rate/resolution/shutter speed is changed” function was enabled. This bug is fixed.	
	<p>Changed the activation format for paid plug-ins (DAQ Control, PFV4 Mobile, and MCAT). Trial versions of paid plug-ins have been added.</p> <p>Please activate your license from [MENU] - [License Management].</p> <p>Please refer to the "Photron Software License Activation Guide" for the activation procedure.</p>	

MEMORY mode	
Item	Fixed / Modified Item
[Save]	[Info Save] items were not recorded properly when the “Auto save after recording” and “Auto-conversion after saving” functions were enabled together. This bug is fixed.
	<p>When saving in AVI format (uncompressed) in the following cases, the data would not be saved properly. This bug is fixed.</p> <ul style="list-style-type: none"> • The image width of the data is an odd number. • The [Save scaling] is enabled.
	When saving to multiple external storage devices (e.g., FAST Drive) with multiple cameras, waveform data cannot be properly associated. This bug is fixed.

MEMORY/FILE mode	
Item	Fixed / Modified Item
[Graph]	When waveform data was displayed, image update (sampling forward/back) in sampling units did not work. This bug is fixed.

FILE mode	
Item	Fixed / Modified Item
[Open]	The following files could not be played back properly. This bug is fixed. <ul style="list-style-type: none"> • TIFF files without CIHX files (real tone or 16-bit)
Other	When opening data with image rotation or inversion applied from the Quick Toolbar, the image processing might not produce the intended result. This bug is fixed.

Other	
	When using a specific PC (such as EPSON Endeavour NJ7500E), PFV4 (Ver. 4.0.7.0) could not connect to Mini AX. This bug is fixed.
	PFV4 communication optimization might fail when using QNAP Thunderbolt 3 to 10GbE adapter (QNA-T310G1T). This bug is fixed.
	When using Mini CX, the confirmation message for data erase is now also displayed on PFV4 mobile.
	PFV4 might crash when searching for cameras to connect to Mini CX. This bug is fixed.
	When the “Display camera control menu at startup” is enabled, starting PFV4 from a CIHX file did not load the recorded data. This bug is fixed.

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Chapter 4. The Contents of SDK

4.1. The Contents of SDK

4.1.1. New Camera Support

FASTCAM Mini R5-4K is supported.

4.1.2. Additional Function / Improvement

- We have changed the SDK build environment to Visual Studio 2022.
* This change does not require customers to take any special action.

4.1.3. Bug Fix

- PDC_DetectDevice detects GIGE Vision cameras (other than Mini CX) made by other manufacturers.
- Fixed PDC_GetMemFrameInfo to get the correct number of frames when recording is not completed or canceled and the camera enters PLAYBACK mode.

A

A. Appendix

A.1. Cache Storing Specification Change

Starting with PFV4.0.6.0, cache data is stored in the PC to speed up the startup process.

■ Target model

PFV (SDK): Ver. 4.0.6.0 or later

Camera: Nova S/R series, MH6, and cameras to be released in the future

■ Expected Benefits

Faster connection between PFV and camera

When connecting to a camera, correction data was loaded from the camera.

This loading process took a long time for the connection.

By storing the cache data in the PC, the data loading time from the camera can be reduced and the connection speed can be improved.

■ Storing Location

Cache data is stored in the following folder.

C:\Users\User Name\AppData\Roaming\Photron\PDCLIB\Devices\Camera Name\XXXXXXXX

* “User Name” is the user’s local folder name.

* “XXXXXXXX” is a non-duplicate alphanumeric string based on camera and head information.

e.g. C:\Users\User Name\AppData\Roaming\Photron\PDCLIB\Devices\Nova
S12\978C95093DC3BC7EDAEAFEAB771CA6F2

■ Contents of Data

Cached data includes camera correction data (pixel gain, shading, and missing pixel).

■ Details

The camera’s MAC address (Serial number) is used to link to the cached data.

As long as there is no camera with the same MAC address (Serial number), incorrect (from another camera) data will not be linked.



CAUTION

When a camera is returned to Photron for maintenance or repair and the camera’s image quality is readjusted, the cache data remaining on the PC must be deleted so that the old cache data is not referenced.

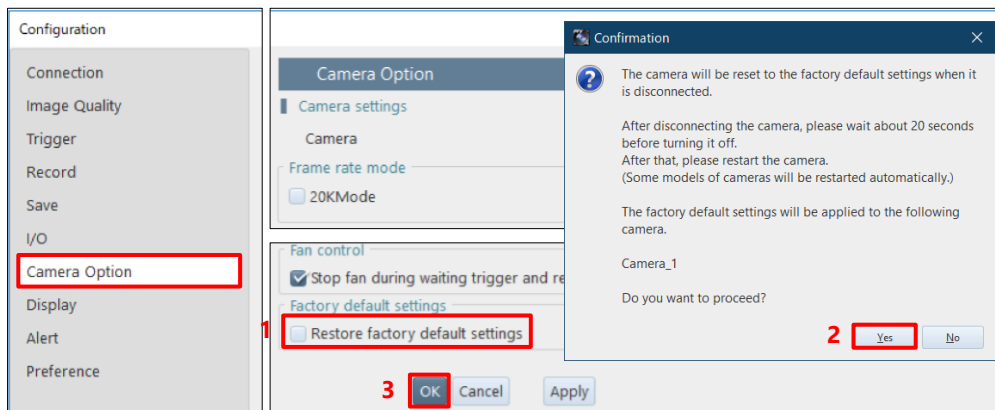
See “How to Delete Cache Data” on page 12 for detailed instructions.

* If the camera is connected without deleting the old cache data, the camera will use the old correction data before image quality readjustment for its operation. In this case, the correction data inside the camera will not be overwritten.

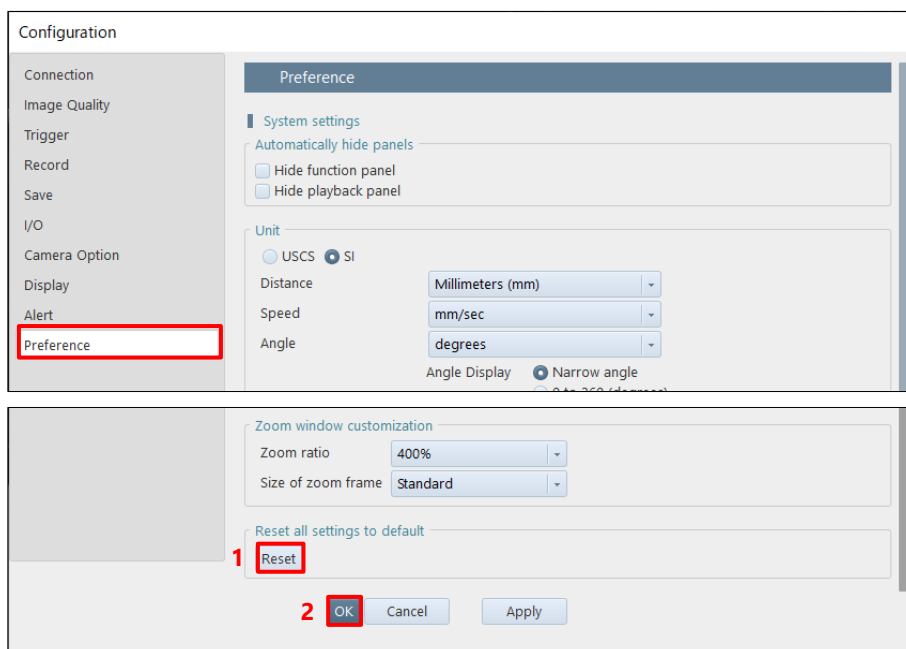
■ How to Delete Cache Data

- If using PFV4, do A), B), or C).
- If using SDK, do C) or D).

A) Initialize the camera from PFV4 to factory settings (after connecting the camera).



B) Perform PFV4 reset (before connecting the camera).



C) Delete cache data directly in the AppData folder (before connecting the camera).

C:\Users\User Name\AppData\Roaming\Photron\PDCLIB\Devices\Camera Name\XXXXXXXX

D) Execute the SDK function “PDC_EraseCachedCorrectionData()” (before connecting the camera).
For details, refer to the SDK Help file.

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