Photron FASTCAM Viewer

for High Speed Digital Imaging

Release Notes

Ver. 4.0.7.0 E

Photron

Contents

1

Chapter 1. Release Summary

1.1. PFV4 Release Notes

1.1.1. PFV Version

- PFV Ver. 4.0.7.0
- SDK (PDCLIB.DLL) Ver. 4.0.7.0

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

2

Chapter 2. New Functions

2.1. PFV4.0.7.0 New Functions

2.1.1. New Camera Support

N/A

2.1.2. Additional Function

LIVE mode		
Item	**Fixed / Modified Item**	
[Function panel]	[Camera controls] – [Related settings]	Added "Ethernet setting" link. The Ethernet settings window is displayed directly from the Camera controls menu, allowing optimization and manual adjustment of packet settings, etc.
	[Camera list]	When removing a head of a multiple-head camera (e.g. Head 1 of MH6) from the camera list, a message is now displayed to confirm that the other heads will also be removed.
Other	When a camera is connected, a message prompting optimization is now displayed.	
	When using a lens that can acquire information (EF lens, etc.), it is now possible to set whether or not the setting values are displayed in the information display. Display example: Lens: Iris (F-number) 10 Focus 255 Zoom (mm) 23	
	Live image update speed in LIVE mode is improved.	
	Improved to display a warning message when trying to start recording while a camera is out of sync (No Sync or Over Sync).	

LIVE/MEMORY mode		
Item	**Fixed / Modified Item**	
[Add-ons]	[MCAT]	MCAT option (Multi-camera Controller for Automotive Testing, fee-based option) has been added. This function is designed to control multiple cameras for automotive crash tests, etc., and improves operability, download speed, and work efficiency by reducing operational errors.
Other	The following shortcut key is now available. ・ [Ctrl] key and [Up/Down] key: Switch the selected cameras on the camera list in the function panel or on the MCAT table.	

MEMORY mode		
Item	**Fixed / Modified Item**	
[Save]	Added "Thumbnail save" to the save options. The triggered frame will be saved in JPG format.	
	Changed to display a confirmation message when there is a possibility of running out of free space in the destination for hardware auto save or streaming recording. You can choose to format the destination and start recording, start recording as is, or cancel recording.	

MEMORY/FILE mode	
Item	**Fixed / Modified Item**
[Save]	When downloading recorded data, it can now be saved to multiple destinations (paths). Recordings from multiple cameras can be downloaded to multiple drives at once. e.g.) Camera 1 data can be downloaded to "C Drive", Camera 2 data to "D Drive" in parallel.
	Date and time information has been added to the items that can be added in the [Add information] item of the file name edit.
[Recording/ playback panel]	Changed so that "Frame-by-frame playback" and "Frame-by-frame reverse playback" do not function when the current frame cursor is outside the playback range area.
Other	Changed so that the trigger frame is not skipped during skip playback and skip save.

FILE mode	
Item	**Fixed / Modified Item**
[Batch converter]	When a file is deleted by the batch converter function, the following files associated with the file to be deleted will also be deleted. ・ ISO-MME files ・ INF files ・ Thumbnail file (JPG format)

Other
PFV4 can now be started by double-clicking on a PCSX file (.pcsx), which restores the PFV4 settings from the exported PCSX file.
Updated the splash screen at PFV4 startup and changed the timing of closing the splash screen when starting PFV4 to improve camera connection stability.
Changed PFV4 to start at the previous window position at startup.
Previously, when a camera was connected to a PC while it was in recording standby or recording, the camera status (recording standby or recording) was canceled. This specification has been changed for the following cameras so that when they are reconnected, they will remain in recording standby or recording status. This allows recording to begin without reconfiguration in the event of a disconnection during recording standby. ・ Mini AX, SA-Z, Nova S/R, and MH6 ・ Cameras to be released in the future
Communication Optimization function has been modified to add and set the optimal PC power plan for PFV4 and disable the network card's power saving settings. Communication Optimization function now optimizes PC power plans in addition to optimizing network card settings (packet settings, disabling power saving settings).
Default values for packet settings have been changed as follows. ・ Packet size: AUTO (0) to 1458, Packet count: 128 to 32
The color of the window frame of the camera/file that is being selected or set is now highlighted in blue to make it easier to identify which camera/file is selected.
To prevent reduced text size and visibility when using high-resolution displays such as 4K, PFV4 is now configured to automatically override the high DPI scale setting during installation.
YOKOGAWA DAQ DL950 is now supported.
The [Enter] key on the numeric keypad can now be used as a shortcut key.
Changed to display a progress gauge when executing the snapshot shortcut key (Ctrl+C).

3

Chapter 3. Bug Fix and Other Changes

3.1. PFV4.0.7.0 Fixed Bugs and Changes

LIVE mode		
Item	**Fixed / Modified Item**	
[MENU]	[Configuration] – [Trriger]	When a camera that supports the noise filter function and a camera that does not support the function are connected at the same time, the noise filter function is enabled on the display even though it cannot actually be set when the device is set to "All". This bug is fixed.
[Function panel]	[Setup]	When changing trigger mode with trigger parameters locked, the "After trigger" value was recalculated and fluctuated. This bug is fixed.
	[Dual slope shutter]	When the "Rate" (exposure duration rate) was lowered to "0" by clicking or holding the spin button (▼), the menu did not close and the slider position and displayed value were not correct. This bug is fixed.
	[Variable]	When the resolution display is other than the maximum resolution, and the "Live stop" checkbox is checked so that the live image update is stopped, even though the variable setting was made, the screen display was not updated and the resolution display did not change to the maximum resolution. This bug is fixed.
	[Shading]	The following problem occurred when performing shading with external sync enabled (ON OTHERS) and no sync signal input when connected to Nova S/R. ・ Camera control related error was displayed and PFV4 operation became very slow after closing the error message. ・ After that, connection to the camera that was trying to perform shading became impossible. Changed to display a warning message that shading will not complete unless a sync signal is input with external sync enabled.
	[Lens control]	Modified so that EF lens for which the focus range could not be adjusted can now be adjusted correctly. EF lenses that can now be adjusted: Canon EF100mm f/2.8L Macro IS USM lens
	[Camera Controls] – [Camera list] – [Edit]	When connecting MH6 via USB, IP address could not be changed. This bug is fixed.
[Assistance]	[Synchronization Assistance]	An error occurred when selecting the slave camera's frame rate when "Sync via chain connection" was selected in the Synchronization Assistance window. This bug is fixed.
		When synchronization-related settings were changed after setup, the message prompting re-synchronization might not appear. This bug is fixed.
[Recording/ playback panel]	When using multiple cameras, the time between the recording standby state and the start of recording is longer in PFV4 Ver. 4.0.6.0 or later than in previous versions. This bug is fixed.	

MEMORY mode		
Item	**Fixed / Modified Item**	
[Save]	The "Auto-conversion after saving" function would not run and be forced OFF in the following case. This bug is fixed. 1. Check the "Auto-conversion after saving" checkbox in the Save option. 2. Click [Edit] button of Auto-conversion after saving and check the "INF save" checkbox in the Save option. * The problem occurred only when saving immediately after checking the "INF save" checkbox. If it was checked in advance, the auto conversion was executed normally.	
	PFV4 crashed when "Auto -conversion after saving" was enabled and the destination path was specified as "Same as original path" from [Edit] button while the file name was incorrect (e.g. file name was blank). This bug is fixed.	
	The predicted capacity of downloaded data when the record count was set in Random type triggers has been modified to be close to the actual value.	
	As predicted capacity, the total predicted capacity of the data checked in the camera list was displayed. It has been corrected to display the total value of the data that is checked and to be downloaded to the same device.	
	When MH6 was connected and multiple camera heads were selected, saving recording data with DAQ waveform data to the internal SSD caused PFV4 to crash during saving. This bug is fixed.	
	[Skip save]	When data with luminance analysis data was skip saved, the luminance analysis data did not match the frame of the saved data and the graph and the image became misaligned. This bug is fixed.
		After recording with the Center trigger, the trigger frame became "-1" when it was skip saved with the setting that the number of saved frames became an even number.
Other	When a multi-head camera was connected and the shortcut key (Ctrl+Q) was used to exit PFV4 in [MEMORY] mode, PFV4 might stop responding during the exit process and the exit process might not be completed. This bug is fixed.	

MEMORY/FILE mode		
Item	**Fixed / Modified Item**	
[Dimensions]	[Manual tracking]	PFV4 might crash after adding manual tracking points and clicking [Apply] button. This bug is fixed.
[Graph]	[Graph Settings] – [Conversion factor]	The waveform of the graph did not change even after selecting [Conversion factor] from "Graph Settings" and performing "Differentiation/integration processing" on the XT graph. This bug is fixed.

FILE mode		
Item	**Fixed / Modified Item**	
[Save]	[Layout save]	When the file name display setting on the file view in [MENU]-[Configuration]-[Display] was set to "Display full path in title bar", the layout save cannot be performed in [FILE] mode.
[Open]	Changed so that when data converted by the "Auto-conversion after saving" function is opened, the data saved together are linked and opened together.	

Other
When multiple cameras were connected and the number of frames recorded was different, when one camera was selected in [MEMORY] mode and the virtual trigger frame was set, the frame number of the other camera was not displayed correctly. This bug is fixed.
When the color enhancement mode was set to "LEVEL 1", "LEVEL 2", or "LEVEL 3" on the Mini CX, the image was not saturated with luminance. This bug is fixed.

4

Chapter 4. The Contents of SDK

4.1. The Contents of SDK

4.1.1. New Camera Support

N/A

4.1.2. Additional Function / Improvement

GRAW-related functions are now added.

4.1.3. Bug Fix

Error occurred, when calling PDC_MRAWFileSaveOpen with argument PDC_MRAW_BITDEPTH_8. This bug is fixed.

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.

■ **Storring 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.
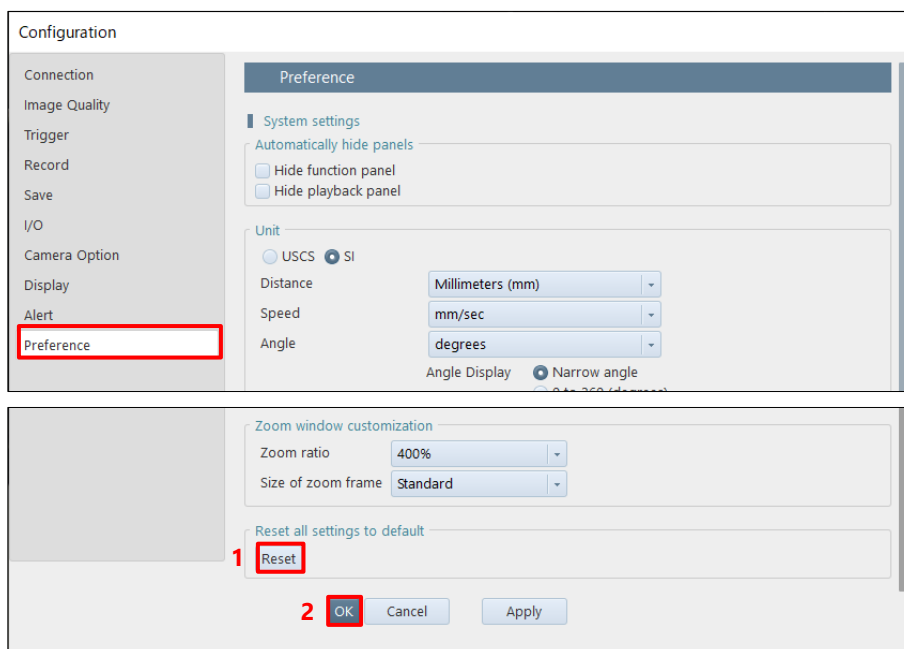
■ **How to Delete Cache Data**

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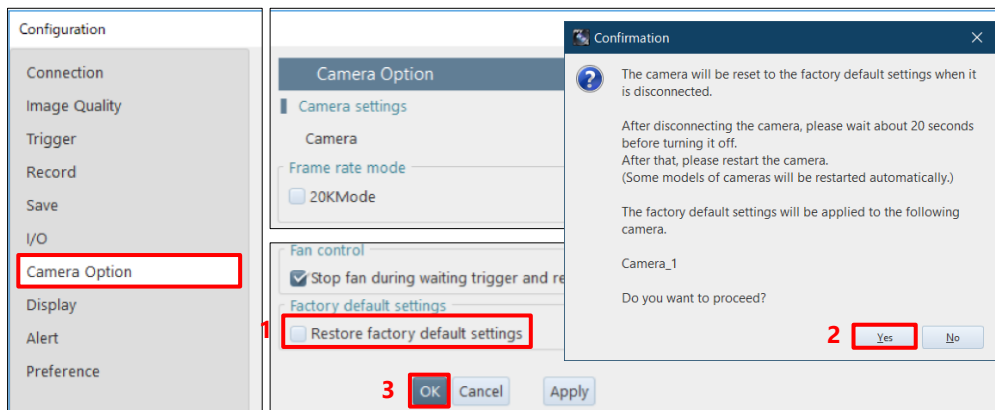
B) Perform PFV4 reset (before connecting the camera).

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.

Photron FASTCAM Viewer

for High Speed Digital Imaging

Release Notes   Ver. 4.0.7.0 E

Issued date   April 2023

Issued by   PHOTRON LIMITED

F21, JINBOCHO MITSUI BUILDING,

Kanda Jimbocho 1-105, Chiyoda-Ku, Tokyo

101-0051, Japan