SD Memory Card

User's Manual

Rev. 1.06 E

Photron

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Introduction

Thank you for purchasing your Photron FASTCAM.
This manual contains the operating instructions and warnings necessary for using SD Memory Cards.

Please read the entire manual before using SD Memory Cards.
If any part of this manual is unclear, contact Photron using the contact information printed at the back of this manual.

Manual Notation

The following icons and symbols are used in the explanations in this manual.

Icon/Symbol	Description
	This symbol indicates supplementary items to be aware of when using the software.
	This symbol indicates the location of a reference.
	This symbol indicates instructions that should always be followed when using the software, or things to be careful of when using the software.
	This symbol indicates content that should always be read.
	This symbol indicates a space for you to use for making notes.

About this manual

The contents of this book are structured as follows:

Introduction

The outline of this book is shown.

1. Notes

Special notes and cautions for using this manual are given.

2. Recommended SD Memory Card

Products and models currently recommended by Photron are presented.

3. Mounting on high speed camera

How to mount an SD memory card onto high speed camera is explained.

4. Initial Setting

Initial setting required to be made before saving image data from high speed camera is explained.

5. Remote controller

Operation and setting up by means of the remote controller are explained

6. Photron FASTCAM Viewer (PFV)

Image data viewing and storing operations using PFV are explained.

7. Reference

How to send a question or how to make reference when in trouble is explained.

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MEMO

1. Notes

③ This book describes how to perform storing of image data into an SD memory card, and viewing of stored data, using the FASTCAM series model camera that has a built-in SD memory card interface. The setting method varies greatly by the environment, especially the OS and the network adaptor in the PC. Use this manual as an example for checking the flow of setting arrangement.

④ The setting method of PFV is also included in explanation in this manual. To use the PFV, PFV software must be installed in advance.

⑤ If an SD memory card which is less than recommended specification is used, the transfer rate may fall remarkably or may fail in storing image data.

⑥ When using this book, also refer to the hardware manuals of the FASTCAM camera, the SD memory card and your PC.

2. Recommended SD Memory Card

The specification and the specific model names of the SD memory cards which can be used for data storage in FASTCAM high speed camera are shown below:

Recommended Specification

Item	Specification
Standard	SD, SDHC, SDXC
Speed specification	UHS-1 SDR104
Manufacturer's nominal speed	90MB/sec or higher
Recommended manufacturer	SanDisk, Panasonic, Toshiba

Supplement

- If an SD card with low nominal speed, specified by manufacturer, is used, the transfer rate may become extremely slow.

Caution

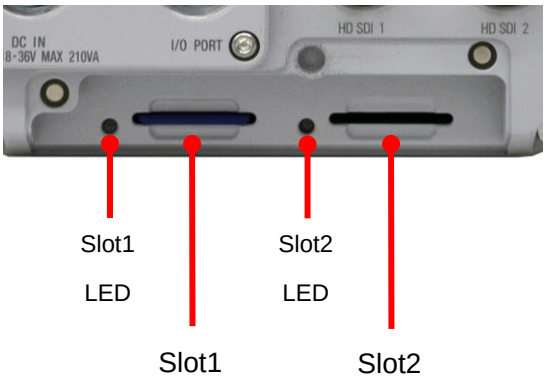
- When using SD memory cards other than a recommended manufacturer, the transfer rate may become extremely slow even if the manufacture nominal speed is high enough.
- If an SD memory is used for image data storage of high speed camera, it cannot save other data.

3. Mounting on high speed camera

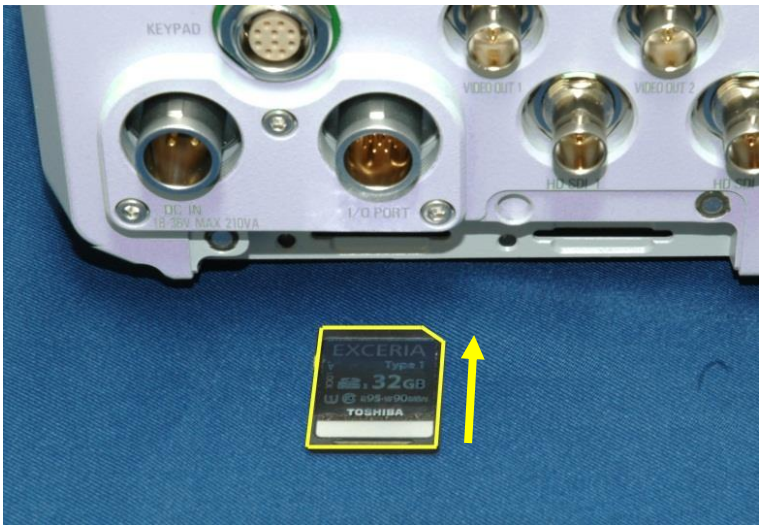
How to mount an SD memory card to your FASTCAM high speed camera is explained below.

① Remove the SD memory card slot cover on the back of the camera by rotating the screwed type knob.

② Two SD memory card slots are prepared there. LED on the side of the slot lights up and blinks at the time of recognition and access.



③ Insert SD memory cards into the slots on the camera back until you hear a click sound.



④ If an inserted SD card is correctly recognized, LED corresponding to the slot turns on green.

Supplement

- An SD memory card can be inserted into the camera body regardless of the power supply status, ON or OFF (hot-swappable). However, do not even attempt to remove it during data writing.
- LED turns on/off or blinks as follows according to the existence/recognition status of inserted SD card.

Status	LED
No SD memory card	Off
SD memory card recognized	Turns on green
Writing data	Blinks red
Error found	Turns on red

- When an error occurs and LED turns on red, it can be reset by pushing the button on the remote controller.

Caution

- If the inserted SD memory card is pulled out during data writing (with LED blink red), the data being written in may be broken.

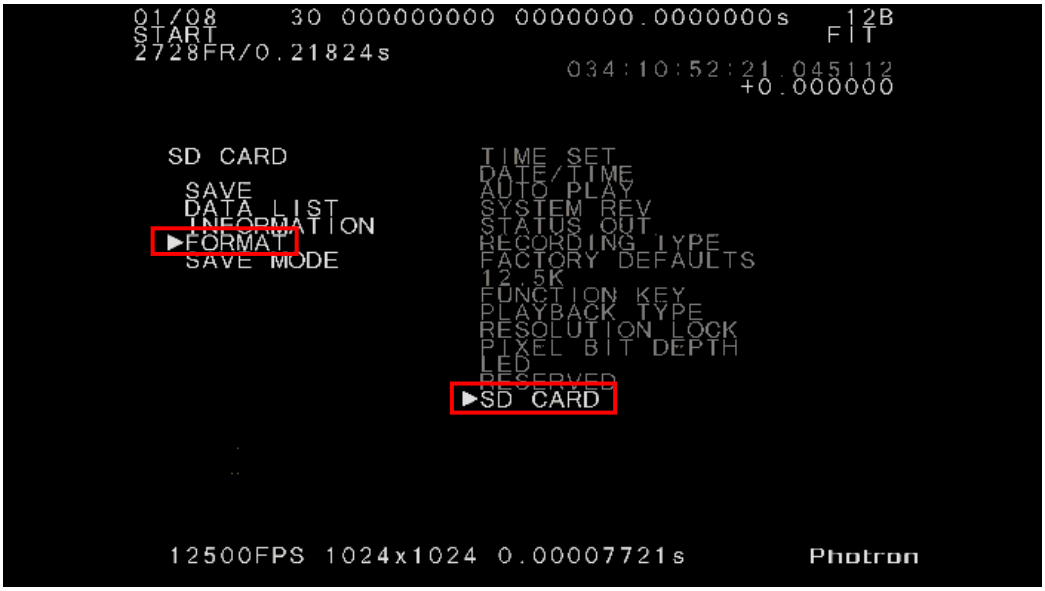
4. Initial Setting

When using an SD memory card, it is necessary to format it first. The high speed camera body and remote controller are used for formatting.

① Connect the remote controller to the high speed camera. If your remote controller is a model without an LCD monitor, a video monitor should be connected to it.

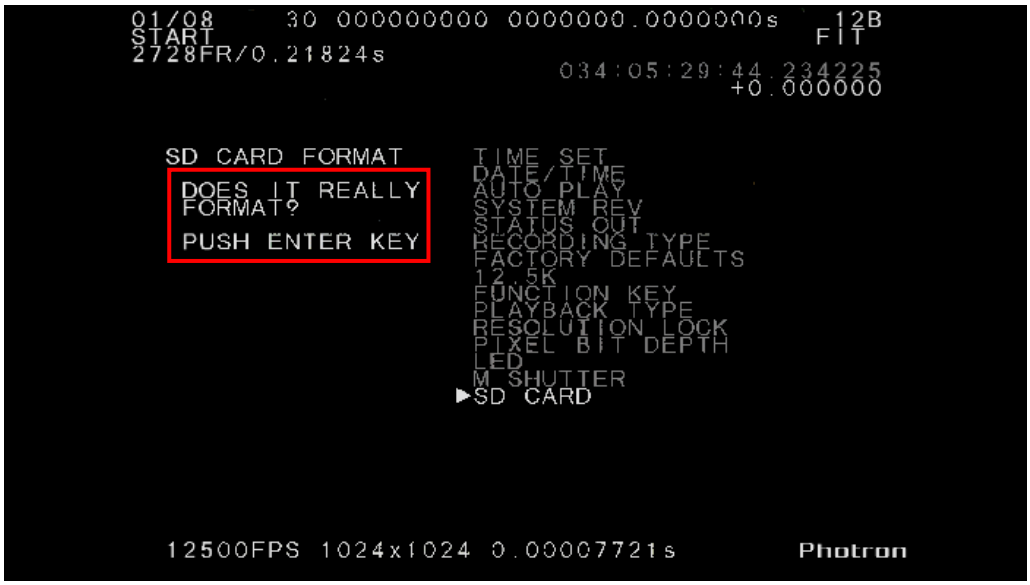
② Switch on the camera.

③ Operate the remote controller while looking at the monitor screen. Press [MENU] key, followed by [OTHERS], [SD CARD], [FORMAT], then press [ENTER] key to set.



④ Choice window of which slot to format is displayed.Choose one of the slots using the △▽ keys and press [ENTER] key to set.

⑤ A message is displayed asking for confirmation on whether or not the inserted SD card may really be formatted. Press [ENTER] key, if it is really all right.



⑥ When formatting completes, the [SD CARD] menu returns.

Supplement

- When formatting is not completed properly for some reason, an indication is given with the following error message. In this case, press the [ENTER] key to return to the menu.

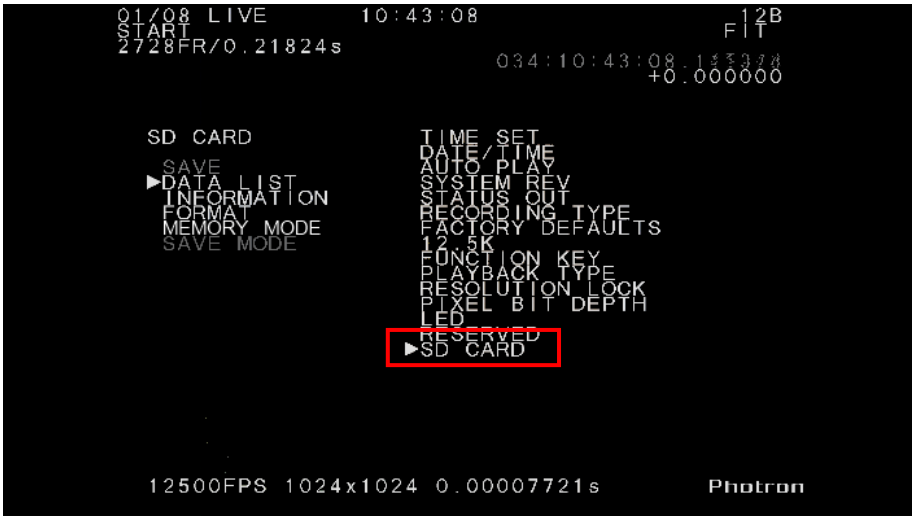
5. Remote Controller

Here, how to carry out data storage and setup using the remote controller is explained.

5.1. SD CARD menu

① Press [MENU] key on the remote controller to open the menu.

② In the menu, go to [OTHERS] => [SD CARD] then press the [ENTER] key. The [SD CARD] menu will appear as shown below.



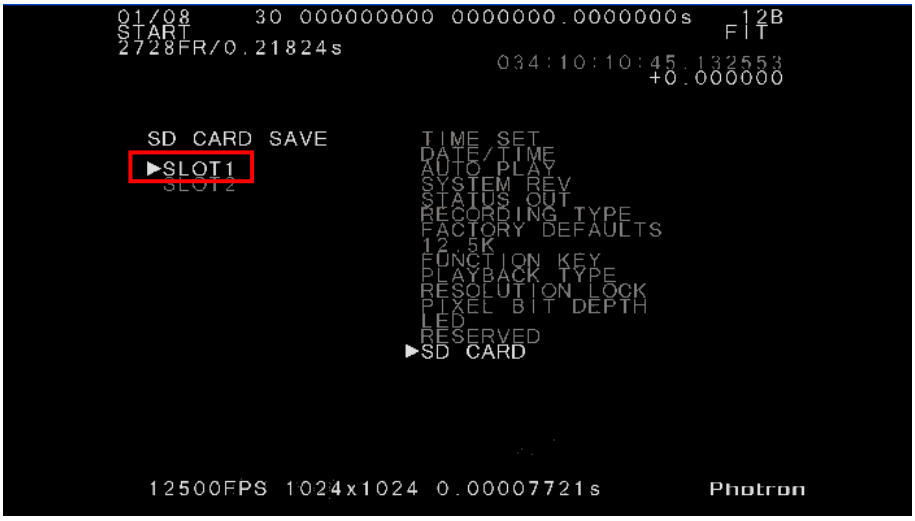
5.2. SAVE

Here is how to store image data of the photographed object.

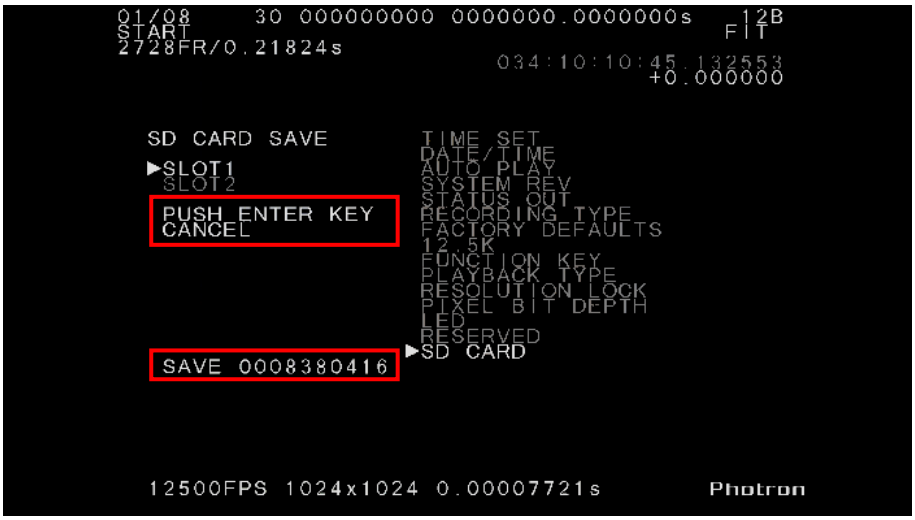
① Set the camera in PLAYBACK mode and open the [SD CARD] menu as described in 5.1.

② In the menu, select [SAVE] and press the [ENTER] key to set.

③ Select your desired slot and press the [ENTER] key to set.



④ Storing process starts. A counter is displayed on the screen, which shows the end of storing as the indication comes down to 0 (zero). Storing may be cancelled by pressing the [ENTER] key at any time.



Supplement

If you wish to store only a small portion of whole stored image data, use the block-replay function to set out a range of image data that you wish to store, then use the SAVE function to store the image data. Follow the below steps to use the block-replay function:

1. Set the system in the PLAYBACK mode.
2. Press the [ON/OFF] key in the [SEGMENT PLAYBACK] section on the remote controller.
3. Press the [START] key at the starting point of your desired range to store, and then press the [END] key at the point where you wish to end.

Reference

- See 5.6. MEMORY MODE section, page 16, before starting a storing process.
- Refer to the “Remote Controller User’s Manual” for detailed explanation about how to use the block replay function.

Caution

- When image data is stored using the block-replay function, the number of pieces of image data that can be stored is limited to 32, maximum.

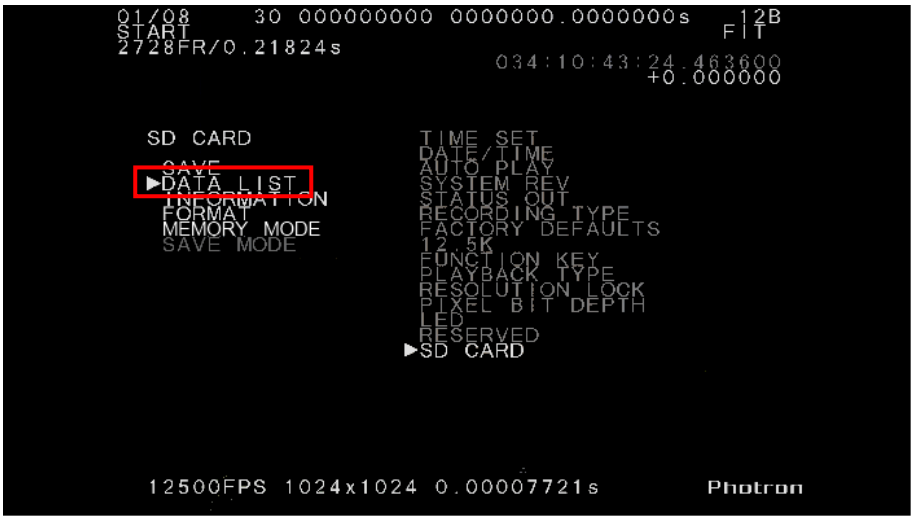
Important

- In order to prevent data disappearance, a write-protected setup is recommended.

5.3. DATA LIST

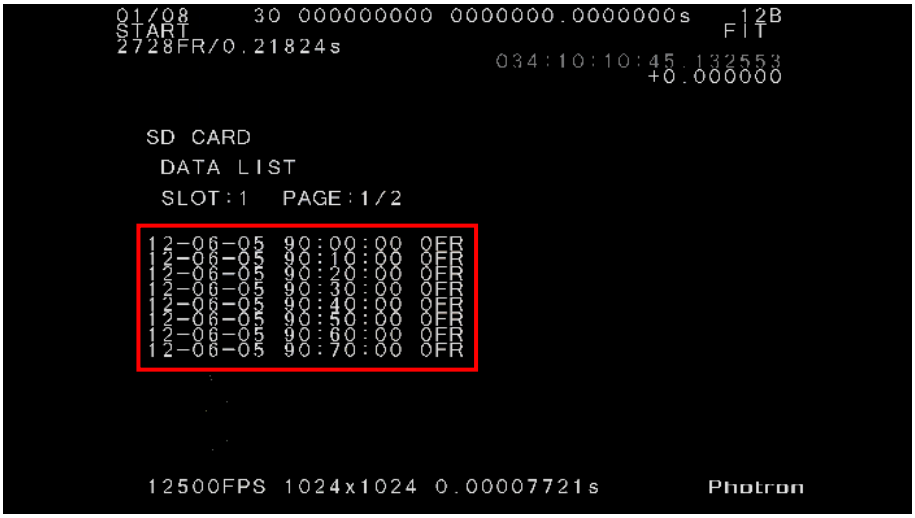
This function displays a list of all image data stored in the SD card that is currently inserted in the camera.

① Choose [DATA LIST] in the SD CARD menu and press the [ENTER] key to set.

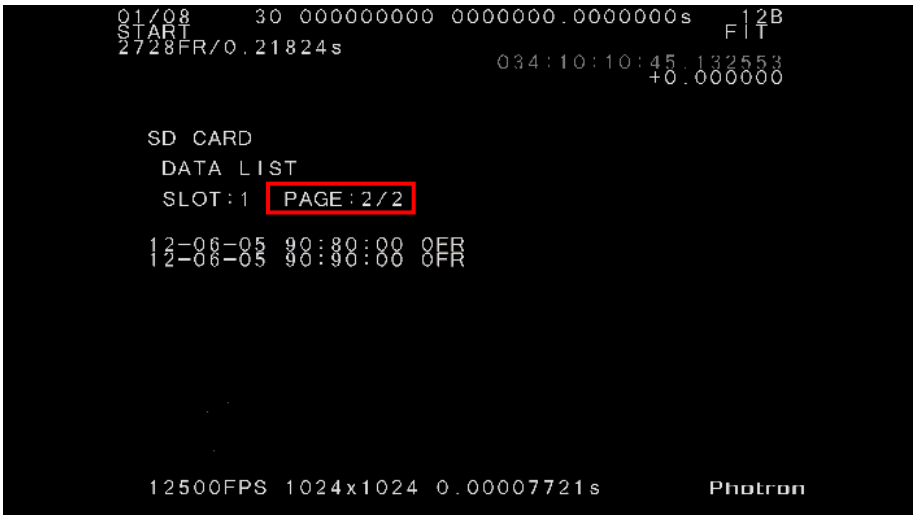


② In the slot selection window, choose your desired slot and press the [ENTER] key to set. Slot 1 is chosen in the below figure.

③ The image data saved in the SD card in Slot1 are listed as shown below. Year, month, day and time of shooting are displayed in the list.



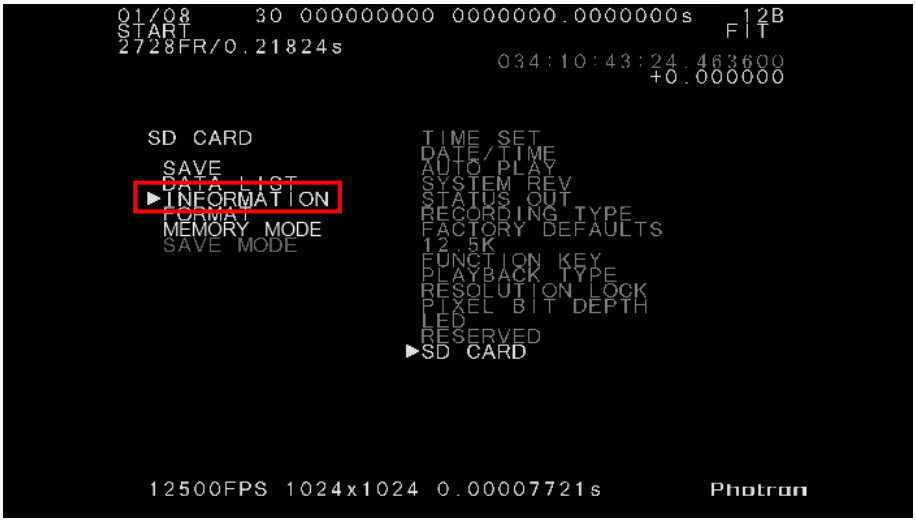
④ You can go to a next page by pressing the [◂ ▸] key on the remote controller. Up to 32 different pieces of image data are stored and listed in four pages, maximum.



5.4. INFORMATION

This function displays the specification of SD memory cards that are currently inserted in the camera.

① In the SD CARD menu, select INFORMATION and press the [ENTER] key to set.



② Detailed information on the SD memory cards is displayed. Use this function to see whether the inserted SD cards have satisfactory specification.

5.5. FORMAT

This function formats, or initializes, SD memory cards that are inserted in the camera.

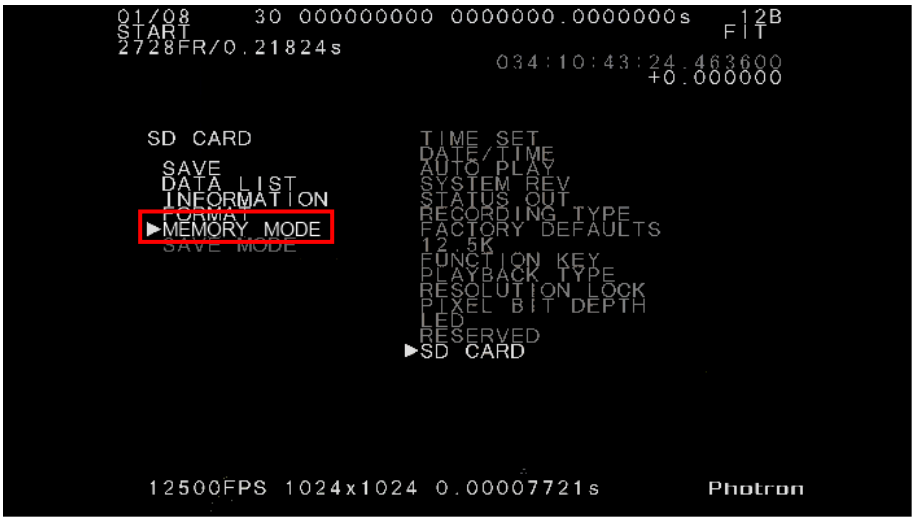
Reference

- For detailed discussion of operation, see “4.Initial Setting” on page 6.

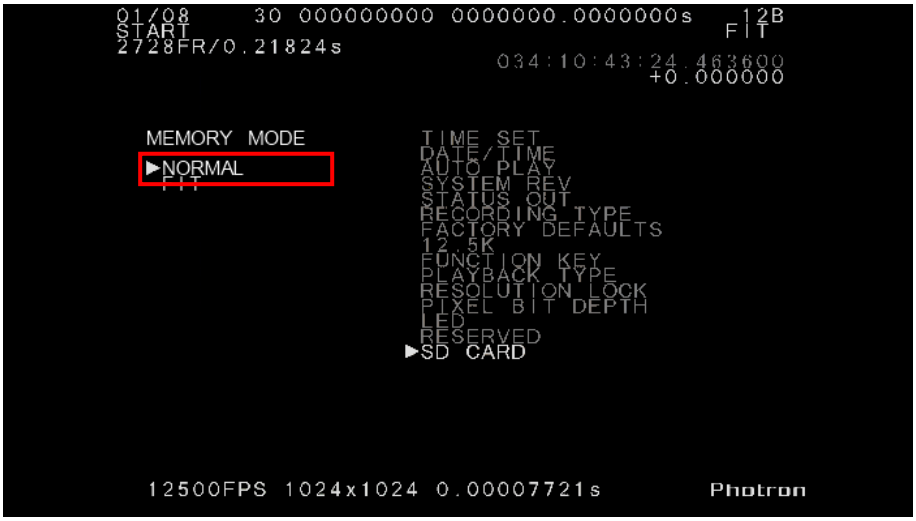
5.6. MEMORY MODE

This function sets whether the recordable duration of the camera is matched up to the storage capacity of an SD memory card being used. Because of certain technical restriction of the specification of SD memory card, the maximum capacity that can be available for actual storage of image data is limited to about 14 GB with an SD memory card with 16 GB specification, for example. Since all image data cannot be saved in this SD memory card when it is used together with a camera of 16 GB specification, overflow of image data will cause an error. In this case, however, if "FIT" mode is used, the photography duration of the camera will be **automatically restricted to 14 GB**, and, as a result, shooting and storing of image data can be performed smoothly.

① In the SD CARD menu, select MEMORY MODE and press the [ENTER] key to set.



② Select NORMAL or FIT and press the [ENTER] key to set.



NORMAL: Recording is performed using the SD memory inserted in the camera to its full capacity.

FIT: Recording is performed with the shooting duration of camera being restricted by the capacity of the SD memory card.

Supplement

- For example, to record with a camera of 32-GB specification to store its image data in full in an SD memory card, it is necessary to use a 64 GB SD memory card in NORMAL mode. Note, however, the surplus capacity (remainder of about 32 GB) in that case cannot be used for storing other photography data.
- The partitioning function, if activated in the FIT mode, divides the capacity that has been fitted by the FIT function.

Caution

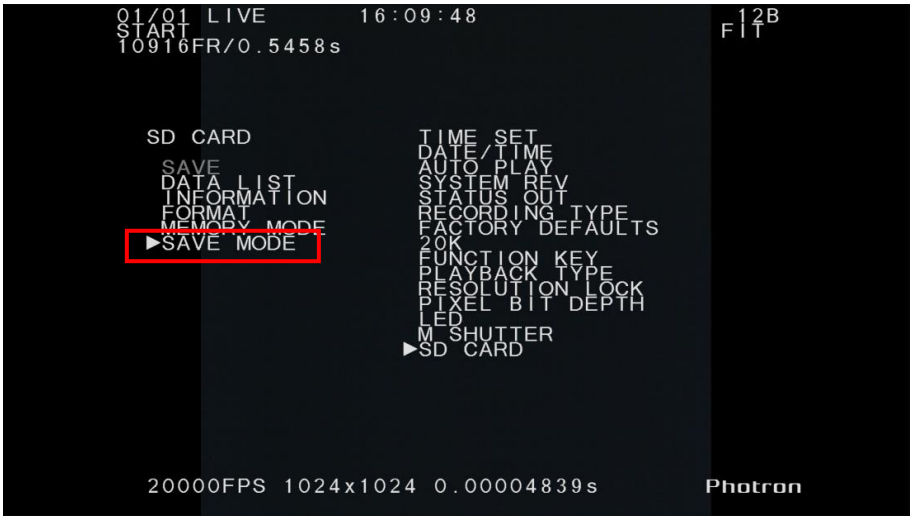
- MEMORY MODE cannot be changed after recording.
- SLOT 1 is first to be restricted in its recording duration when in the FIT mode. If a 16 GB specification camera has an 8 GB memory in SLOT 1 and a 32 GB memory in SLOT 2, for example, the photographing duration is restricted to about 6 GB.

5.7. SAVE MODE

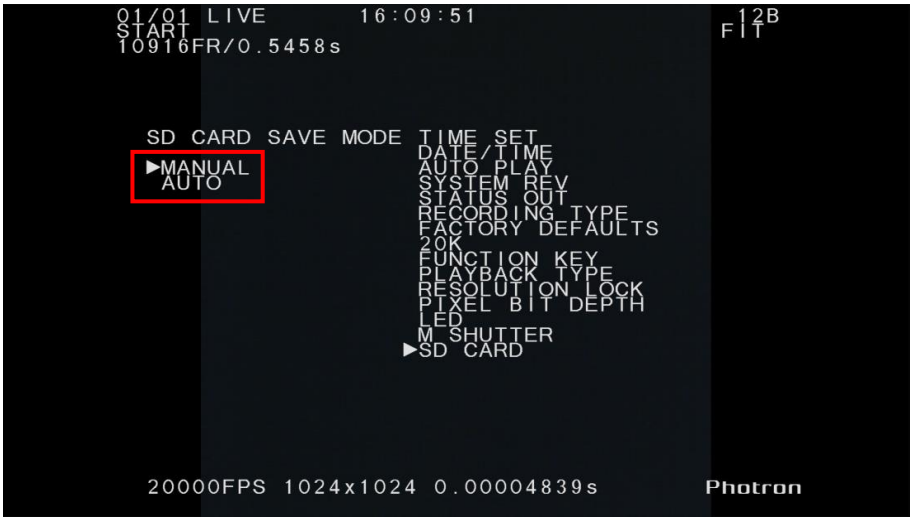
Set either of the following modes to save data to the SD memory card.

Mode	Setting Description
MANUAL	Save from the SD CARD menu
AUTO	Automatically save when recording finishes

① From the [SD CARD] menu, select the [SAVE MODE] item and press the [ENTER] key.



② Use the remote controller's [▲▼] key to select [MANUAL] or [AUTO] and press the [ENTER] key.



5.7.1 Operation During AUTO Mode

When the SAVE MODE is set to [AUTO], the camera starts saving to the SD memory card immediately after the recording finishes.

The following explains the operations when the trigger mode is set to [START].

Caution

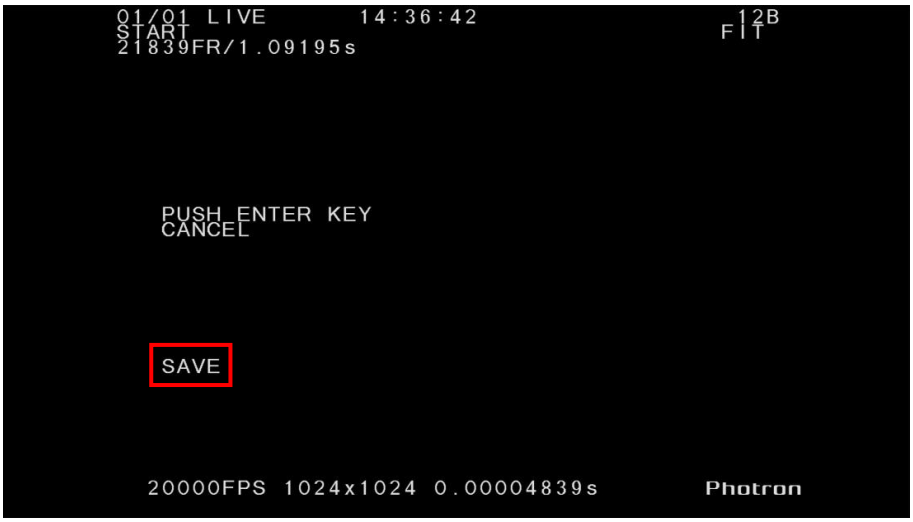
- When using the remote controller with the SAVE MODE set to [AUTO], do not use the PFV while recording or saving to the SD card.

① Start recording.

<READY (standby status)>

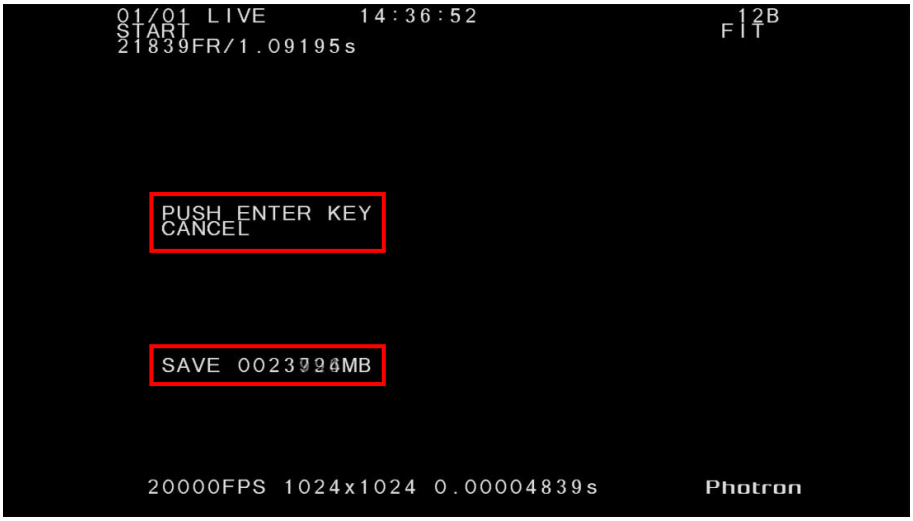
<REC (recording status)>

② [SAVE] is displayed when the recording finishes, and the camera starts saving to the SD memory card.



③ While the data is being saved, the display counts down in units of megabytes to show the remaining storage capacity.

Press the [ENTER] key to cancel the operation.

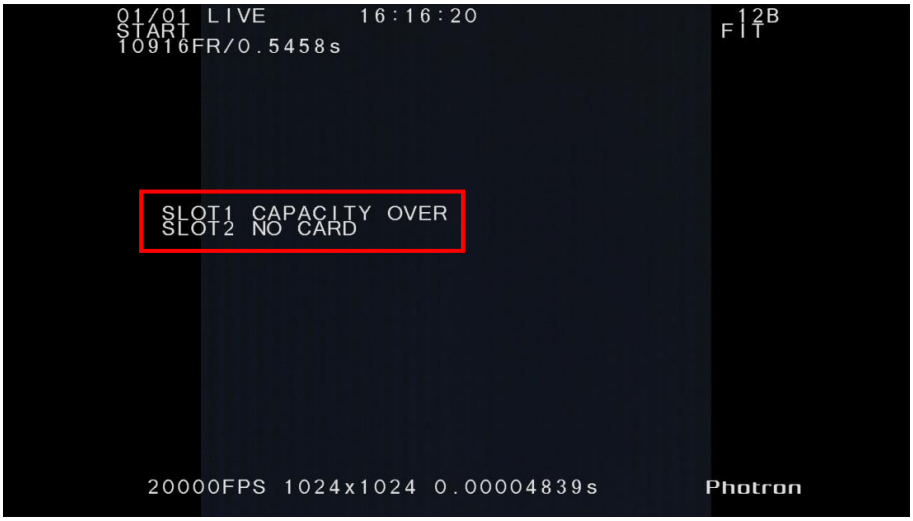


④ The display returns to the [LIVE] screen when the save operation finishes.

Important

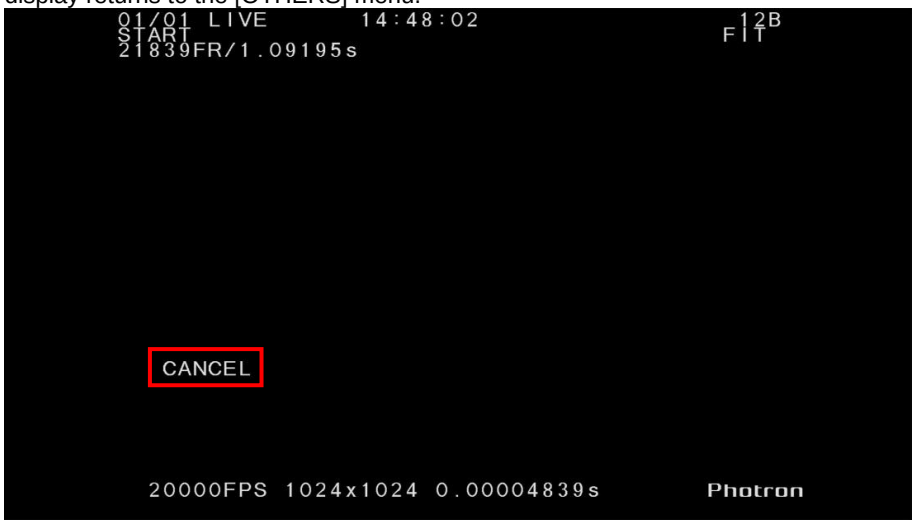
- The following messages are displayed if the data cannot be saved to the SD card. The messages are displayed for both SLOT1 and SLOT2.

Message	Description
NO CARD	SD memory card is not inserted
CAPACITY OVER	There is no capacity left for saving

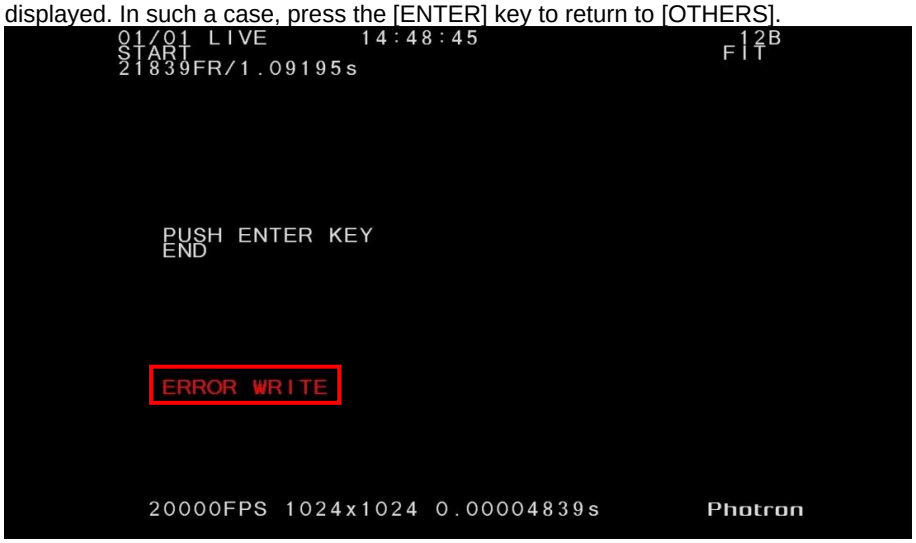


Supplement

- Press the [ENTER] key while saving to cancel the operation.
  [CANCEL] is displayed on the screen while the operation is being canceled, and then the display returns to the [OTHERS] menu.



- If for some reason it is unable to save the data, an error message such as the following is displayed. In such a case, press the [ENTER] key to return to [OTHERS].



6. Photron FASTCAM Viewer

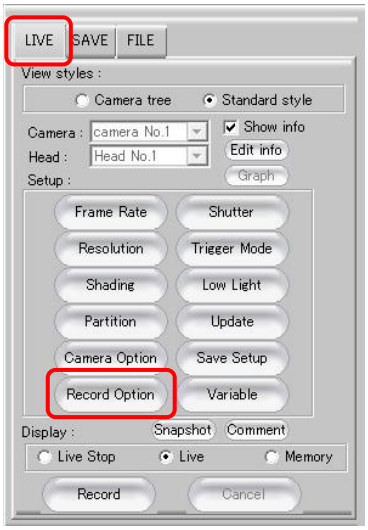
This section explains how to operate the SD memory card the Photron FASTCAM Viewer (PFV).

6.1. Auto Save Settings

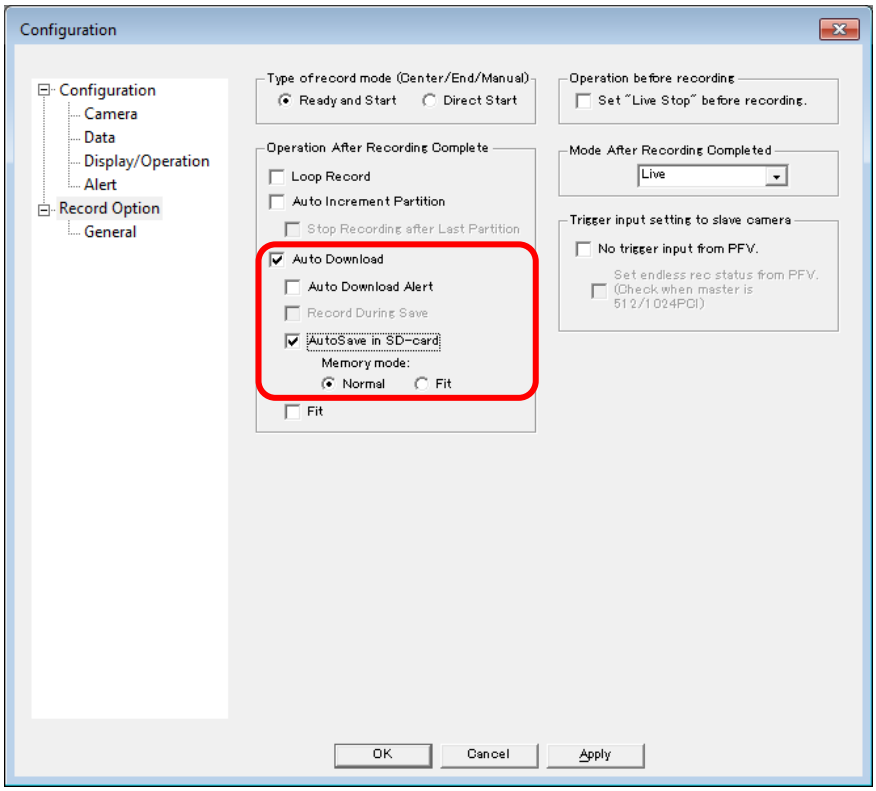
Automatically save the shot data to the SD memory card after shooting.

Configure the environment to automatically save the data.

① Display the [LIVE] tab on the control panel and click the [Record Option] button.



② Check the [Auto Download] and [AutoSave in SD-card] options under [Operation After Recording Complete].



Item	Description
Normal	Shooting is allowed to the full capacity of the camera memory.
Fit	Shooting duration is limited within the SD memory card's capacity.

③ Click the [OK] button.

Once the settings are entered, the files will be automatically saved to the SD memory card after recording is complete.

Caution

- Set the remote controller SAVE MODE to [MANUAL] when automatically saving to the SD memory card with the PFV (refer to "5.7.1 Operation During AUTO Mode" on p. 19 for the setting method).

6.2. Playback and Conversion of Saved Data

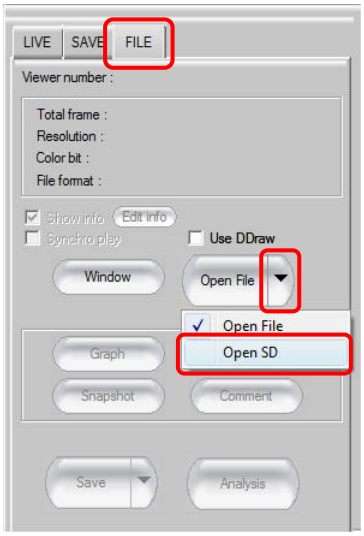
The following explains how to play back data saved to the SD memory card on a PC as well as the procedure for converting the data.

① Connect an SD memory card containing image data to your PC via a memory card reader (sold separately). Camera need not be connected to your PC.

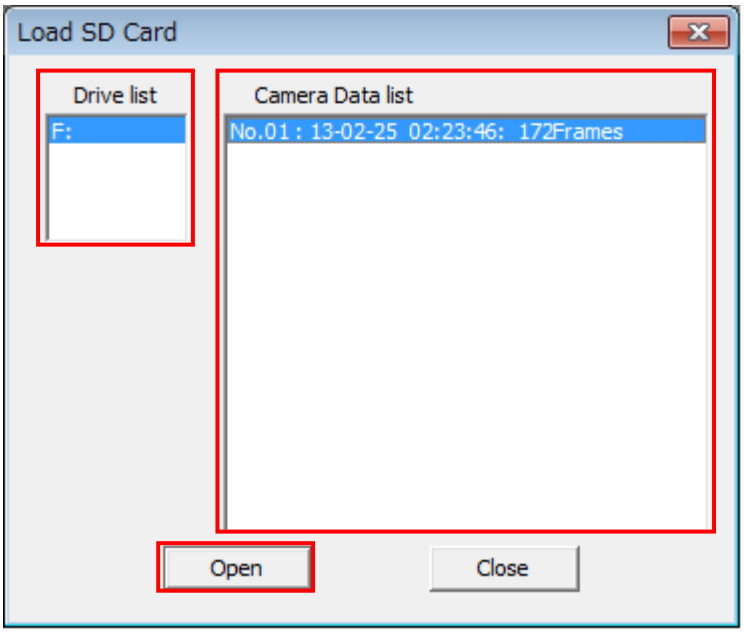
Caution

- When an SD memory card is connected to your PC, a message “Formatting is needed” is displayed. But, NEVER format the card. The above message always comes up because the SD card contains image data in a unique format.

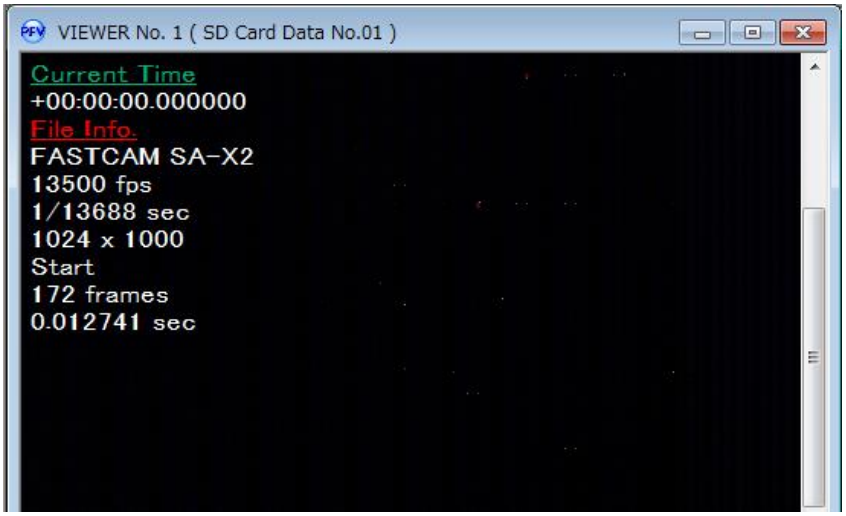
② Start up PFV. Have the [FILE] tab displayed in the control panel and click [▼] on the right of the [Open File] button and select “Open SD”.



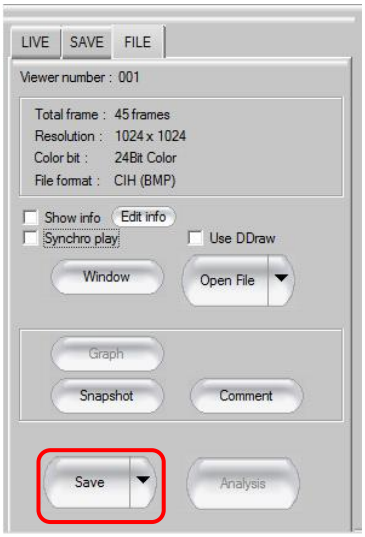
③ "Read SD card" window is displayed. In the "Drive List" part of the window, specify the name of the drive in which SD card you wish to read is inserted, choose data to read in [Camera Data List], and then push the [OPEN] button.



④ The image data stored in the SD memory card is displayed. The image data number, SD Card Data No. XX, is shown in the title field. The image data is ready for replay now.



⑤ The displayed data can also be saved to the PC.



Supplement

- PFV 3.3.8 or earlier cannot read in data.

Reference

- For more detailed instructions for operation, refer to the “Photron FASTCAM Viewer User’s Manual”.

7. Contacting Photron

For inquires related to PFV, contact Photron at the contact information listed below.
Additionally, the following items will be verified when inquiring, so please prepare them in advance.

Items Verified	Concrete Example
Contact Information	Company, school or organization name, customer contact name, contact phone number, contact e-mail.
Product Name	The Photron FASTCAM Viewer version number and the high-speed camera name, SD Memory Card name. For the version number, check the version information.
Condition of the system and what is known about it.	

Contact Information	
In Americas and Antipodes	**PHOTRON USA, INC.** 9520 Padgett Street, Suite 110, San Diego, CA 92126-4426, USA Phone: +1 (800) 585 2129 or +1 (858) 684 3555 Fax: +1 (858) 684 3558 E-mail: image@photron.com Web: www.photron.com
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SD Memory Card

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