Operating Instructions

High-definition Image Management/Easy Editing Software

HD Writer 2.5E for HDC

Before use, please read these instructions completely.
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Introduction

What can the software do?

- Copy to a PC or removable media (AVCHD)
- Edit/Record to media (AVCHD/DVD-Video)
- High-definition playback of AVCHD media

For details → 31

Please read the notes on the following page.
Introduction

What can the software do?

Attention

SD cards and DVD discs in the AVCHD standard produced by this software can be played back only on players that support the AVCHD standard. (They cannot be played back on an ordinary DVD player that does not support the AVCHD standard.)

Do not insert the discs into any device that does not support the AVCHD standard, because the discs may not be ejected or the device may delete data on the disc after displaying a message prompting format of the discs.

- In addition, the top menu can be displayed only on a player capable of playing back the top menu. (The top menu will not display on a high-definition video camera.)

- Operations are guaranteed only for image data in the AVCHD standard recorded on a video camera supported by this software (⇒11). Images recorded on other video cameras or created by other software may not be operated correctly.

- Pictures on a DVD disc cannot be copied. HD Writer is not capable of copying a DVD disc with only pictures recorded with the DVD Multi Drive and a video camera connected.

Tip

- Available cards/discs: ⇒13
- Scenes cannot be added with your video camera to the 8 cm DVD-RAM/RW disc created with this software.
- When you want to add scenes to the SD card with the video camera after a top menu was created on the SD card with this software, the top menu must be deleted. (⇒67)
Introduction

Terms

■ **Scene**
This means the image recorded during one recording (after starting recording until it is stopped). Scene can also be split with this software.

■ **Video**
This means a series of scenes recorded on the same day.

- If a single scene has been recorded over several days, the date when the recording started shall be the recording date for that scene.

■ **Picture**
This means a still image in JPEG format that is recorded in the DCF standard.
- DCF, which is an abbreviation of the Design rule for Camera File system, is a record format compliant to the file system standard of Japan Electronics and Information Technology Industries Association (JEITA).

■ **Picture folder**
This means the folder that directly stores pictures in accordance with the DCF standard.

![Image of folder structure]

- DCF: Design rule for Camera File system

■ **Image data**
This means the folder structure in the AVCHD standard, the recorded video, and the set of associated data, which are created when an image is recorded in the AVCHD standard.

![Image of AVCHD folder structure]

- AVCHD: Advanced Video Codec High Definition

■ **Top menu**
This is a contents list that displays thumbnails of images. Click a thumbnail to play back the image from the selected point.
- The top menu will be displayed on a device capable of playing back the top menu.
- It will not be displayed on a video camera.

*1: Pictures can be copied only between an SD card and a PC.
Introduction

Terms

- **Video camera HDD**
  This refers to the hard disk drive built into a video camera.
Introduction

Read before starting operation

- Contents of these operating instructions
  - The description of Windows® in these operating instructions is based on the Windows Vista® screen.
  - Please note that the explanations and screen images in these operating instructions may differ from the actual explanations and screen images due to version upgrades of the software and the use environments of PCs.
  - In these operating instructions, the operations are described based on the PAL system. The screen display may be different on the NTSC system.
  - Basic operations and basic terms for the PC are not explained in these operating instructions. For information, refer to the operating instructions of the PC.
  - Reference pages are indicated with a “⇒00” in these operating instructions.

- Terms used in these operating instructions
  - In these operating instructions, HD Writer 2.5E for HDC is also referred to as “HD Writer”.

- General information about using the software
  - Do not execute the following operations while the software is running. Doing so may cause defects (damage to media, etc.).
    - Turn off the PC or video camera, or restart the PC.
    - Switch the user or log off.
    - Change the screen settings.
    - Use the screen saver or the power saving functions (makes the PC enter the standby or sleep modes after a certain time has elapsed without any operation on the PC).
    - Use other software (recording or encoding software with high CPU demand and memory requirements, in particular).
    - Use the shared drive of another PC connected to the network.
    - Revise or delete files and folders required by the software.
    - Use an AC adaptor (and a battery) to power the notebook PC and video camera. If the battery capacity drops too low during data transfer, recording or copying operations may not function properly.

- Treatment of important images
  - When deleting the original data from the PC after recording the data to an SD card or DVD disc, before deleting confirm that the image was properly recorded to the media.
  - When editing images, the original data is edited directly and cannot be restored. To retain the original data, first make a backup copy of image data (⇒64) before editing.

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  - Manufactured under license from Dolby Laboratories.
Introduction

Read before starting operation

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• This product is licensed under the AVC patent portfolio license for the personal and non-commercial use of a consumer to (i) encode video in compliance with the AVC Standard (“AVC Video”) and/or (ii) decode AVC Video that was encoded by a consumer engaged in a personal and non-commercial activity and/or was obtained from a video provider licensed to provide AVC Video.
No license is granted or shall be implied for any other use.
Additional information may be obtained from MPEG LA, LLC.
## Operating environments

System requirements for installation of HD Writer.

| **PC:** | IBM® PC/AT compatible personal computer with an Intel® Pentium® III 1.0 GHz or higher CPU (including compatible CPU)  
(When using Playback function and the MPEG2 output function, Intel® Core™2 Duo 2.16 GHz or higher, or Intel® Pentium® D 3.2 GHz or higher is recommended.) |
|---------|----------------------------------------------------------------------------------------------------------------------------------|
| **OS:** | Preinstalled  
Microsoft® Windows Vista® Ultimate  
Microsoft® Windows Vista® Home Premium  
Microsoft® Windows Vista® Home Basic  
Microsoft® Windows Vista® Business  
Microsoft® Windows® XP Home Edition SP2  
Microsoft® Windows® XP Professional SP2  
Microsoft® Windows® 2000 Professional SP4 |
| **RAM:** | Windows Vista®: 1024 MB or more,  
Windows® XP/2000: 512 MB or more (1024 MB or more recommended) |
| **Display:** | High Colour (16 bit) or more (32 bit or more recommended)  
Desktop resolution 1024 × 768 pixels or more (1280 × 1024 pixels or more recommended)  
Windows Vista®: Graphics card complying with DirectX® 10  
Windows® XP/2000: Graphics card complying with DirectX® 9.0c  
DirectDraw® overlay support  
A PCI Express™ x 16 supported unit is recommended |
| **Hard disk:** | Ultra DMA-100 or more  
Available hard disk capacity of 300 MB or more for installation  
(When writing to DVD, the twice amount of free space as the disc is necessary.)  
• If the compression setting is enabled, errors will occur during recording. Clear the check for [Compress this drive to save disk space] in [Properties] for the hard disk drive. |
Operating environments

Introduction

Necessary software:
- Windows Vista®, Microsoft® DirectX® 10
- Windows® XP/2000: Microsoft® DirectX® 9.0c
  • If HD Writer is installed on a PC that does not support the above DirectX®, the software may not function properly. If you do not know whether your PC supports the required version of DirectX®, contact the manufacturer.

Sound:
- DirectSound® support

Drive:
- CD-ROM drive (for installation)
- (When writing to DVD, a compatible drive and media are necessary.)

Interface:
- USB port (Hi-Speed USB (USB2.0))

Supported high-definition video camera:
- Panasonic HDC-SD1/SD5/SD9, HDC-DX1, HDC-SX5, HDC-HS9
  • There are limitations to the availability of the following.

<table>
<thead>
<tr>
<th></th>
<th>Record from a PC to a video camera (USB connection)</th>
<th>Additional record to AVCHD media produced by this software</th>
<th>Using an initialized SD card with this software</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SD card DVD disc Video camera HDD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD1/SD5/SD9</td>
<td>○</td>
<td>-</td>
<td>○</td>
</tr>
<tr>
<td>DX1</td>
<td>x</td>
<td>-</td>
<td>△*1</td>
</tr>
<tr>
<td>SX5</td>
<td>○</td>
<td>x</td>
<td>○ (SD card)</td>
</tr>
<tr>
<td>HS9</td>
<td>○</td>
<td>-</td>
<td>○ (SD card)</td>
</tr>
</tbody>
</table>

*1: Since video recorded on an SD card cannot be played back on the HDC-DX1, a warning message will be displayed when attempting to record to an SD card that was formatted with the HDC-DX1.

Other requirements:
- Mouse or equivalent pointing device

• Even if the system requirements mentioned in these operating instructions are fulfilled, some personal computers cannot be used.
• Supplied CD-ROM is available for Windows only.
• This software is not compatible with Windows® 3.1, Windows® 95, Windows® 98, Windows® 98 SE, Windows® Me, and Windows NT®.
• When 2 or more USB devices are connected to a PC, or when devices are connected through USB hubs or by using extension cables, proper operation is not guaranteed.
Operating environments

- Operation on an upgraded OS is not guaranteed.
- Operation on an OS other than the one pre-installed is not guaranteed.
- This software does not support the multi-boot environments.
- Windows Vista®: Log on with an administrator account or a standard user account before using this software. The software will not function with a Guest account.
  Windows® XP/2000: Log on with an administrator account before using this software.
  (Installation and uninstallation of the software requires an administrator account.)
- This software does not support the multi-monitor environments.
- For fonts and screen settings, use the standard Windows® settings. Characters may not display properly depending on the settings.
- This software cannot be used simultaneously with other time-shifting image editing software or video capture products. Note that other software running background processes, timer recording in particular, may cause HD Writer to malfunction.
- HD Writer operates only when the built-in clock on the PC is set to a value within the following range.
  From 0:00 on January 1, 1970, to 23:59 on December 31, 2037
  If the built-in clock is set to a value outside this range, this software cannot be activated and will not operate properly.
Available Cards/Discs (media)

The following media are available.

- **SD card**
  - SD memory card with 256 MB to 2 GB,
  - SDHC memory card with 4 GB to 16 GB
  - SD cards with a capacity of less than 32 MB cannot be used. Operations with SD cards where the capacity is from 32 MB to 128 MB are not guaranteed.

- **DVD-RAM**
  - 8 cm/12 cm, Single-sided/Double-sided
  - DVD-RAM discs of the 2.6 GB and 5.2 GB double sided type cannot be used.
  - A new DVD-RAM disc must be formatted with this software before use.

- **DVD-RW**
  - 8 cm/12 cm, Single-sided/Double-sided

- **DVD-R**
  - 8 cm/12 cm, Single-sided/Double-sided/Dual layer on a single side
  - Only a blank disc is available.

- **Video camera HDD**
  - This is recognized as a read-only medium.
  - Only an HDD in a video camera supported by this software is available.

### To copy

<table>
<thead>
<tr>
<th>Copy source</th>
<th>Copy destination</th>
<th>SD card</th>
<th>DVD-RAM/R/RW</th>
<th>PC</th>
<th>Video camera HDD</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD card</td>
<td>×</td>
<td>O(⇒41)</td>
<td>O(⇒35)</td>
<td>×</td>
<td></td>
</tr>
<tr>
<td>DVD-RAM/R/RW</td>
<td>O(⇒41)</td>
<td>×</td>
<td>O(⇒35)</td>
<td>×</td>
<td></td>
</tr>
<tr>
<td>PC</td>
<td>O(⇒38)</td>
<td>O(⇒38)</td>
<td>−</td>
<td>×</td>
<td></td>
</tr>
<tr>
<td>Video camera HDD</td>
<td>O(⇒41)</td>
<td>O(⇒41)</td>
<td>O(⇒35)</td>
<td>×</td>
<td></td>
</tr>
</tbody>
</table>

### To edit, record and format

<table>
<thead>
<tr>
<th>Edit image data</th>
<th>SD card</th>
<th>DVD-RAM</th>
<th>DVD-RW</th>
<th>DVD-R</th>
<th>PC</th>
<th>Video camera HDD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record in the AVCHD (Adding record)</td>
<td>O(×)</td>
<td>O(×)</td>
<td>O(×)</td>
<td>O(×)</td>
<td>(×)</td>
<td>(×)</td>
</tr>
<tr>
<td>Record in DVD-Video</td>
<td>×</td>
<td>×</td>
<td>O</td>
<td>O</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Format</td>
<td>× •</td>
<td>O</td>
<td>O</td>
<td>×</td>
<td>−</td>
<td>×</td>
</tr>
</tbody>
</table>

*1: Before copying the DVD-RW/R/R DL (dual layer on single side) discs in the AVCHD standard recorded by video camera, the discs must be finalized with the video camera used for the recording.

*2: Adding a recording is only available for a DVD-RAM disc when recording in AVCHD standard. When copying to a DVD-RAM disc, recording in DVD-Video format on a DVD-RAM disc, or copying to
or recording on an SD card or a DVD-RW disc, data cannot be added if data have already been recorded.

To record on the media, initialize (format) first. (Once the media are formatted, all recorded data will be deleted.)

*3: Data cannot be added to a protected DVD-RAM disc. Clear the settings by using the device that write protected the disc or enable the [Auto Protect] settings (⇒90).

*4: This software cannot initialize SD cards. Use a video camera supported by this software (⇒11).

---

### Data length that can be recorded on a DVD disc or an SD card

For copying or recording images, the data length that can be recorded on a single SD card or a single DVD disc shall be as follows.

(The following values are estimates. The actual length may be shorter than as indicated.)

#### For AVCHD format

Data length that can be recorded (Minutes)

<table>
<thead>
<tr>
<th>Picture quality of the data</th>
<th>HA mode (Best quality)</th>
<th>HG mode (High quality)</th>
<th>HX mode (Standard)</th>
<th>HE mode (Long duration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD card (2 GB)</td>
<td>16</td>
<td>20</td>
<td>29</td>
<td>44</td>
</tr>
<tr>
<td>SD card (4 GB)</td>
<td>32</td>
<td>40</td>
<td>58</td>
<td>88</td>
</tr>
<tr>
<td>DVD disc (8 cm)</td>
<td>Single sided</td>
<td>11</td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td>DVD disc (12 cm)</td>
<td>Single sided</td>
<td>20</td>
<td>26</td>
<td>38</td>
</tr>
</tbody>
</table>

#### For DVD-Video format

Data length that can be recorded (Minutes)

<table>
<thead>
<tr>
<th>Picture quality of the data</th>
<th>[DVD-Video (High quality)]</th>
<th>[DVD-Video (Standard quality)]</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVD disc (8 cm)</td>
<td>Single sided</td>
<td>20</td>
</tr>
<tr>
<td>DVD disc (12 cm)</td>
<td>Single sided</td>
<td>60</td>
</tr>
<tr>
<td>DVD disc (12 cm)</td>
<td>Dual layer on single side</td>
<td>110</td>
</tr>
</tbody>
</table>
**Introduction**

**Available Cards/Discs (media)**

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### Notes on the use of DVD discs

**DVD drive**
- To copy the image on a DVD disc or to record data on a disc, a DVD drive or video camera that can read and record on each disc is required. (For the operation method, refer to the operating instructions of your PC or drive etc.)
- If the drive is being used by another software (Explorer, etc.), the drive cannot be used with this software. Close the software before using the drive with this software. (If the drive is being used by this software, the drive cannot be used with another software.)
- Before using this software, ensure that the transfer mode of the drive is set to [DMA]. If it is not set to [DMA], set it to [DMA] by referring to the operating instructions of your drive. (It may be impossible to set it to [DMA] depending on your PC.)

**Treatment of discs**
- For treatment of the respective discs, refer to the operating instructions for PCs and DVD drives too. Note that stained or damaged discs may be impossible to record onto and read.
- A disc may not be recognized or data may not be recorded properly even if the drive supports the discs, due to the affinity between the disc and the drive. Select discs that are recommended for the drive by referring to the operating instructions of the PC and the drive.

**Recording speed**
- The recording speeds (2×, 4×, etc.) for drives and discs indicate the maximum speed and not the actual recording speed. (Speeds may vary depending on the combination of drive and disc or the use conditions.)

### Operation during recording
- If the following actions are executed while the data is being recorded onto a disc, recording may not complete properly, and the disc, device, or data may be damaged.
- Operations for logging off from Windows®, such as user switching operation.
- Operation of other recording software. (Or while other recording software is running, start recording with this software.)
- Connection cables for a PC or a DVD device (an external DVD drive) are inserted or removed, or the power is turned on or off.
- Other USB devices such as SD card reader are installed or removed.
- This software is forcibly closed.

### Playback and use of produced discs
- Created discs in AVCHD standard cannot be accessed with software that does not support the AVCHD standard. Since data on an AVCHD standard disc are recorded in UDF 2.5 format, the files on the disc cannot be confirmed with Windows® Explorer in an environment that does not support the UDF 2.5 format.
- For DVD-R discs with dual layer on single side, images may be frozen or sounds may be inaudible for a moment when shifting from the first layer to the second layer, depending on the player.
- Do not delete or revise the folders on the discs and the files in the folders. The data may not play back.
Available Cards/Discs (media)

Notes on the use of SD cards

• To copy the image data on an SD card or to record data on an SD card, a video camera or an SD card reader/writer that can read and record on an SD card are required. (For an SDHC memory card (4 GB to 16 GB), a device supporting the SDHC will be required.)
  (For the operation method, refer to the operating instructions for each device.)
• If the write-protect switch has been set to [LOCK], recording is not possible.
• Do not delete or revise the folders on the produced cards and the files in the folders. The data may not play back.
Connecting the video camera to a PC

Connect a high-definition video camera to a PC to copy image data on the SD card, DVD disc, or HDD on the video camera, or to copy or record to the SD card.

1 Prepare the video camera.
   - Turn on the power to the video camera.
   - Set the video camera to the mode for connecting to a PC.
      (For details, refer to the operating instructions for the video camera.)

2 Connect the video camera to the PC using the USB connection cable after turning on the power and booting up the PC.
   - Insert the cable into the USB port firmly.

3 Confirm that the video camera is recognized by the PC.
   When [Removable Disk] (SD card) appears in [Computer] ([My Computer]), the video camera is recognized properly by the PC.
   - A DVD disc or a video camera HDD may also be added and recognized depending on the video camera.

**Attention**

- Use an AC adaptor (and a battery) to power the notebook PC and video camera. If the battery capacity drops too low during data transfer, recording or copying operations may not function properly.
- You cannot record on media in your camera by connecting a video camera that does not support recording from a PC. Use the SD card adaptor or the DVD drive on your PC.

**Tip**

- For details, refer to the operating instructions for the video camera too.
- When connecting a video camera that does not support the function to record data from a PC, the video camera will not be displayed in the destination list when copying or recording.
- Do not remove the USB connection cable nor operate the video camera while data on the video camera is being transferred. Doing so may cause a malfunction of the software or damage the data being transferred.
- The shape of the USB terminal varies with each model of video camera. Use a USB connection cable that fits into the video camera.
Connecting the video camera to a PC

**To disconnect the cable**

**Attention**

- Disconnect the cable before turning off the video camera.

Check that the media is not being accessed by the video camera. Double-click the [ ] ( ) icon on the task tray and select [USB Mass Storage Device]. Then click the [Stop] button to remove the cable safely without any error messages displayed.
Simple guide

Here, the following typical operations of this software are briefly described.

1. Copy the image data on the media to a PC
2. Copy the image data on a PC to the media
3. Collect your favourite images from several image data on a PC and record to the media in AVCHD standard/DVD-Video format

---

**1 Copy the image data on media to a PC**

More details (⇒35)

**Preparation:**
- Set an SD card, DVD disc, or a video camera HDD. (Example: Insert it in the video camera and connect the video camera to the PC. (⇒17))

1. From the start menu, select [All Programs] >> [Panasonic] >> [HD Writer 2.5E] >> [HD Writer].

2. Click [Copy to PC] button.

3. Select a media from which the image data will be copied.

- It is also possible to start by double-clicking on the desktop.

- Videos on the media are displayed in thumbnails.
Simple guide

1. Copy the image data on media to a PC

2. Specify the destination where the image data will be copied.
   - Select the storage folder in the upper column. Enter the name of the copy destination folder, which is created in the storage folder, in the lower column.

4. If there are any videos or picture folders you do not want to copy, click them to clear the selections.

6. Click [Start copying] button.

7. When the confirmation message is displayed, click [Yes].

Tip
- Image data copied to the PC can be edited easily, such as split or deletion of scenes. (➡️44)
- Double-click the thumbnail to confirm the contents of the video/picture folders (scenes or pictures). (Up to 24 thumbnails)
Copy the image data on a PC to the media

More details (⇒38)

After the copy is finished, play back the media on a player that supports the AVCHD standard. (Ordinary DVD players are not capable of playback.)

Preparation:
- Set an SD card or a DVD disc. (Example: Insert it in the video camera and connect the video camera to the PC. (⇒17))
- Available media: ⇒13

Click [Write data to media] button on the [Start Menu] window that is displayed when starting HD Writer.

Select the image data folder from which the data will be copied.

- Videos in the image data folder are displayed in thumbnails.

If there are any videos or picture folders you do not want to copy, click them to clear the selections.

- Pictures cannot be copied to a DVD disc.
**Simple guide**

3. Copy the image data on a PC to the media.

4. Select a media where the image data will be copied.

5. Click [Start writing] button.

6. When the confirmation message is displayed, click [Yes].
Simple guide

Collect your favourite images from several image data on a PC and record to the media in AVCHD standard/DVD-Video format

More details (⇒81)

- AVCHD
  - After the recording, playback in high-definition quality is possible by inserting the media into a device that supports AVCHD standards.
  - An ordinary DVD player cannot play the AVCHD.

- DVD-Video
  - After recording, the media can be played back on an ordinary DVD player.
  - Playback of images is not in high-definition quality.

Preparation:
- Set an SD card or a DVD disc. (Example: Insert it in the video camera and connect the video camera to the PC. (⇒17))
- Available media: ⇒13

1. Click [Easy editing] button on the [Start Menu] window that is displayed when starting HD Writer.

2. Click [Select videos to copy to media] button.

   - When the button cannot be clicked, select any image data folder. The button will be selectable.

3. Select the image data folder to edit.
Collect your favourite images from several image data on a PC and record to the media in AVCHD standard/DVD-Video format.

Drag and drop your favourite videos and scenes and organize them.

Click [Confirm selection] button.

Click [ ] button and select the recording destination.

Click the [ ] button to select a recording format (AVCHD/DVD-Video).

Click [Start Copy] button.

When the confirmation message is displayed, click [OK] ([Yes]).

Writing will start.

- It takes time to record all the data. Do not operate the PC until the recording process is completed.
Start

Start the software

1. From the start menu, select [All Programs] >> [Panasonic] >> [HD Writer 2.5E] >> [HD Writer].

   - It is also possible to start by double-clicking [ ] on the desktop.

2. Click [OK].

   - Once this is clicked and selected, this window will not be displayed from the next time. (To return to the original settings: \( \rightarrow \) 89)

Attention

- To start for the first time, from the start menu, select [All Programs] >> [Panasonic] >> [HD Writer 2.5E] >> [Read this before starting], and then read the supplemental explanations and the latest information.
- Check the following items before starting the software.
  - Close other software and resident programs.
  - Disable the screen saver or the power saving functions (makes the PC enter the standby or sleep modes after a certain time has elapsed without any operation on the PC).
Start

Start the software

---

3 The [Start Menu] window is displayed. Click the applicable button.

A [Copy to PC]
Select this to copy the image data on an SD card, DVD disc, or a video camera HDD to a PC. (⇒35)

B [Write data to media]
Select this to copy the image data from the PC to a DVD disc or an SD card. (⇒38)

C [Copy between media]
Select this to copy the image data between an SD card, a DVD disc, and a video camera HDD. (⇒41)

D [Easy editing]
The Edit window will be displayed. Select this to browse or edit the image data that were copied to a PC (⇒63), or to collect your favourite images and record them on media in the AVCHD standard or DVD-Video format (⇒81).

E [Start Playback]
Select this to play back the image in the AVCHD standard on media with the AVCHD PLAYER. (⇒27)

F [Operating instructions]
Select this to display these operating instructions of HD Writer.

G [Settings]
Select this to adjust the detailed settings of HD Writer. (⇒89)
• The storage folder on the PC can be changed.

H [Format disc]
Select this to initialize (format) a DVD disc. (⇒94)

I [End]
Select this to close HD Writer.

---

To close the software
Click [End] button at the right bottom on the [Start Menu] window or the Edit window.
Play back the media

Playback function

Play back the image data recorded on media in the AVCHD standard using AVCHD PLAYER in high-definition quality.

Attention

- The top menu is not displayed. To display the top menu, use a player that supports the AVCHD standard and is capable of playing back the top menu.
- Images from a video camera HDD cannot be played back.
- Images in DVD-Video format cannot be played back.
- When data on cards or discs are played back using this software, frames tend to be missed because many CPUs are needed.

Use a player, including a video camera, that supports the AVCHD standard for smooth image playback.
Names and functions of the respective parts on the window

**Playback window**

1. **Stop button**
   - Click this button to stop playback and return to the [AVCHD PLAYER] window.
   - The same operation is executed by right-clicking in the window and selecting [Stop].

2. **Skip reverse button**
   - If this button is clicked within three seconds after the scene starts, the image returns to the beginning of the previous scene. In another case, it returns to the beginning of the current scene.
   - The same operation is executed by right-clicking in the window and selecting [Previous].

3. **Play/Pause button**
   - Click this button to alternately start and pause playback.
   - Right-click in the window. Select [Pause] to pause and [Play] to start playback.

4. **Skip forward button**
   - Click this button to go to the beginning of the next scene.
   - The same operation is executed by right-clicking in the window and selecting [Next].
**Play back the media**

**Play back**

1. Click [Start Playback] button on the [Start Menu] window that is displayed when starting HD Writer.

![Start Playback button](image)

2. Select the media to play and click [OK].

![Media selection window](image)

- If the [Media information] is not updated after replacing the media, click [Refresh] button.

3. Select the scene to start playback by clicking it.

![AVCHD Player window](image)

- All the scenes in the media are displayed on the AVCHD PLAYER.
- If you want to change the media selection after starting the AVCHD PLAYER, click the [Return to Drive selection] button. Or, right-click in the window, select [Drive selection] and click [Yes] when the confirmation message is displayed.

**Tip**

- Intelligent scene selection on a video camera is a function available only during playback on the video camera. The function is not available on the AVCHD PLAYER.

**Attention**

- Set an SD card or a DVD disc. (Example: Insert it in the video camera and connect the video camera to the PC. (⇒17))
4 Click [Play] button.
The selected scene to the last scene is played back in full screen mode.

- Explanation for the window (→28)

■ To close AVCHD PLAYER

1 Click [End] button.

2 Click [Yes] when the confirmation message is displayed.
HD Writer closes.
Copy function

The following 3 kinds of copy functions are available for different purposes.

- Videos to be copied are selectable.

1. [Copy to PC]: Copy image data from an SD card, DVD disc, or a video camera HDD to a PC. (➔35)

2. [Write data to media]: Copy image data saved on the PC to an SD card or a DVD disc. (➔36)

3. [Copy between media]: Copy image data between an SD card, a DVD disc and a video camera HDD. (➔41)

Attention

- Only image data can be copied. If any data other than image data are recorded on a disc/card, they may not be copied.
- The copy function is not capable of recording in DVD-Video format.
- For the following image data and media, unnecessary scenes cannot be skipped using Intelligent scene selection on the video camera:
  - Image data on the PC copied using [Copy to PC] after selecting only some of the videos
  - Media burned using [Write data to media] after selecting only some of the videos
  - Media burned using [Copy between media] after selecting only some of the videos
  - Image data edited by [Easy editing]
Names and functions of the respective parts on the window

1. Help button
   Click this button to display the following menu.
   [Operating Instructions]
   These operating instructions of HD Writer will be displayed.
   [Version information]
   Version information will be displayed.

2. Minimizing button
   Click this button to minimize the window size. To return to the original size, click the button on the taskbar.

3. Exit button
   If you click this button, a confirmation message for exiting HD Writer is displayed. Click [Yes] to exit HD Writer.

4. Copy source selection
   - If using method [Copy to PC] or [Copy between media]:
     Click the [ ] button to select the media as the copy source.
     - Click the [ ] button to eject the DVD disc.
   - If using method [Write data to media]:
     Click [ ] button to select an image data folder as the copy source.
     - You can select among the folders in the storage folder (⇒91).
Copy

5. Copy image selection

Videos and picture folders in the copy source are displayed in thumbnails. If there are images you do not want to copy, click them to clear the selections so that they will not be copied.

- The following marks are attached depending on the data.
  
<table>
<thead>
<tr>
<th>Video</th>
<th>Picture folder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous recording folder (a folder that contains pictures taken continuously)</td>
<td></td>
</tr>
<tr>
<td>Video that was previously copied to a PC (only for the video camera HDD)</td>
<td></td>
</tr>
<tr>
<td>- The checkbox is automatically cleared. (Manually make the selection to copy it.)</td>
<td></td>
</tr>
<tr>
<td>- When another video camera with an internal HDD is connected, the previous history is cleared. Even though you connected the video camera where the data was previously copied, it is treated as a new one.</td>
<td></td>
</tr>
<tr>
<td>Checkbox (selected)</td>
<td></td>
</tr>
<tr>
<td>- Click the [Refresh] button to reset it to the initial selected/cleared condition.</td>
<td></td>
</tr>
</tbody>
</table>

- Thumbnails cannot be copied or moved by dragging and dropping.
- Double-click the thumbnail to confirm the scenes or pictures in the video or the picture folder. Up to 24 images can be displayed in the confirmation window. (If there are 25 or more images, a message saying [Cannot display further] will be displayed on the 24th thumbnail.) However, scenes or pictures cannot be selected.

6. [Select All] button

Click this button to select all the checkboxes for the videos and picture folders.

7. [Clear All] button

Click this button to clear all the checkboxes for videos and picture folders.

8. Copy source information display

Information about the copy source is displayed.

- The number of selected videos, picture folders, and scenes, as well as the total volume, are displayed.
- Items that have any problems will be displayed in red (for instance, when no video or picture folder is selected).

9. Tip display

This displays information that is helpful for operating the software.

10. Copy destination selection

Select the storage folder in the upper column. Enter the name of the copy destination folder, which is created in the storage folder, in the lower column.

- The storage folder can be selected from up to three folders registered before.
- To register a storage folder, select [Select a new storage folder]. Select [HDWRITER] folder on the folder selection window and click [OK].

If using method [Copy to PC]:

Select the storage folder in the upper column. Enter the name of the copy destination folder, which is created in the storage folder, in the lower column.

- The storage folder can be selected from up to three folders registered before.
- To register a storage folder, select [Select a new storage folder]. Select [HDWRITER] folder on the folder selection window and click [OK].
Copy

Names and functions of the respective parts on the window

If you select a folder other than [HDWRITER] and click [OK], a confirmation message for creating a folder is displayed. If you select [Yes], the [HDWRITER] folder is created in the selected folder and set as a storage folder.

- The setting of the storage folder here is reflected in the [Settings] window. (⇒91)
- By default, the name of the copy destination folder is the recording date of the last recorded image in the copy source using alphanumeric characters _1 to _9/_A to _Z/A0 to ZZ.

13. [Refresh] button
Click this button to update the display. Click this if the drive is not displayed after replacing media or reconnecting a video camera.
- Selection or deselection of images is initialized.

14. [Start copying]/[Start writing] button
Click this button to start copying.
- The actual button displayed will differ depending on the copy method.
- If you do not select any videos or picture folders, you cannot click this button.
- When you are copying to a DVD disc, you cannot click this button if only pictures are selected.
- You cannot click this button if there are other problems. Confirm the information display.

15. [Settings] button
Click this button to display detailed settings window for HD Writer. (⇒89)

16. [Return to Start Menu] button
If you click this button, the confirmation message appears. Click [Yes] to return to the [Start Menu] window.

17. [End] button
If you click this button, a confirmation message for exiting HD Writer is displayed. Click [Yes] to exit HD Writer.
Copy from the media to a PC

It is possible to copy image data on an SD card, a DVD disc, or a video camera HDD to the PC. When the SD card, DVD-RAM/RW disc used for video camera recording is full, copy the data to the PC to use the same media for recording again. Easy edit of the image data saved on the PC can also be performed. (⇒44)

**Attention**
- Set an SD card, DVD disc, or a video camera HDD. (Example: Insert it in the video camera and connect the video camera to the PC. (⇒17))
- Before copying the DVD-RW/R/R DL (dual layer on single side) discs in the AVCHD standard recorded by video camera, the discs must be finalized with the video camera used for the recording.

**Copy the difference from a video camera HDD to a PC**
Differential copy is a function that controls the copy history from a video camera HDD to a PC and copies only the differential part of data since the last copy to a PC.

- Video or picture folders that are additionally recorded after making the previous copy
- Video or picture folders edited with a video camera after making the previous copy
  - When another video camera with an internal HDD is connected, the previous history is cleared. Even if you connect the video camera from which the data was once copied, it is treated as a new one.

**Following data are not copied. (These are automatically cleared.)**
- Video or picture folder that has been copied before with the copied mark [ ]
  - If they were once copied, the selections are cleared even though they were deleted from the PC.

- Checking and unchecking can be switched manually.
- Click the [Refresh] button to reset it to its initial selected/cleared condition.
Copy

Copy from the media to a PC

1. Click [Copy to PC] button on the [Start Menu] window that is displayed when starting HD Writer.

2. When the Copy window (for details: ➔32) opens, set the contents.
   1. Click [ ] button to select a media as the copy source.
   2. If the drive is not displayed after replacing the media, click [Refresh] button.
   3. If there are any videos or picture folders you do not want to copy, click them to clear the selections.
   4. Specify the copy destination.

Select the storage folder in the upper column. Enter the name of the copy destination folder, which is created in the storage folder, in the lower column.
- How to register a new folder as the storage folder: ➔11
- A name that already exists cannot be used as the name of the copy destination folder.

3. Click [Start copying] button.
- When the [Return to Start Menu] button is clicked, the Copy window closes and the display returns to the [Start Menu] window. (The data is not copied at this time.)
- If conditions to start copying are not satisfied, such as when not selecting any videos or picture folders, you cannot click this button. Confirm the information display.

4. When the confirmation message is displayed, click [Yes].
- If [No] is clicked, the display returns to the Copy window.

5. Copy progress is indicated on the progress bar.
- Click [Cancel] to stop copying midway through. (All the data that has been copied will be deleted.)
Copy

It takes time to copy all the data. Do not operate the PC until the copy process is completed.

6 Once the copy process is completed, the following message is displayed. Then click [OK].

7 Click [Yes] on the next message to open the Edit window so that the image data can be edited.

- Pictures cannot be edited. Therefore, this message is not displayed when only pictures are copied.

Tip
- When a storage folder is in any of the following conditions, select another folder as the storage folder. (⇒81)
  - There are 99 or more image data folders.
  - A folder exists with the following name: the recording date of the latest image in the copy source and "ZZ".
- Up to 99 videos and up to 999 scenes can be copied into one folder. If the images exceed these numbers, copies are distributed into multiple folders.
- Do not use any other software, such as Explorer, to delete, change, or remove the folders or files associated with the image data copied on the PC with HD Writer. Changes made by other software may result in HD Writer being unable to properly display, copy, or edit the copied images.
Copy

Copy from a PC to the media

It is possible to copy image data on the PC to an SD card or DVD disc. Image data copied to an SD card or a DVD disc can be played back in the player that support the AVCHD standard (high-definition video camera etc.) in high-definition quality.

- Image data on the media can also be played back using the AVCHD PLAYER with this software. (☞27)

Attention

- Set an SD card or a DVD disc. (Example: Insert it in the video camera and connect the video camera to the PC. (☞17))
- You cannot record on media in your camera by connecting a video camera that does not support recording from a PC. Use the SD card adaptor or the DVD drive on your PC.

1 Click [Write data to media] button on the [Start Menu] window that is displayed when starting HD Writer.

2 When the Copy window (for details: ☞32) opens, set the contents.

   1 Click [ ] button to select a image data folder as the copy source.

   - You can select among the folders in the storage folder (☞91).
Copy

Copy from a PC to the media

2 If there are any videos or picture folders you do not want to copy, click them to clear the selections.
3 Click [ ] button to select a media as the copy destination.
   • If the drive is not displayed after replacing the media, click [Refresh] button.

3 Click [Start writing] button.
   • When the [Return to Start Menu] button is clicked, the Copy window closes and the display returns to the [Start Menu] window. (The data is not copied at this time.)
   • If conditions to start copying are not satisfied, such as when not selecting any videos or picture folders, you cannot click this button. Confirm the information display.

4 When the confirmation message is displayed, click [Yes].
   • If [No] is clicked, the display returns to the Copy window.
   • Pictures cannot be copied to a DVD disc. Therefore, the following message will be displayed if you try to copy image data including pictures to a DVD disc. Click [Yes] to copy only video.

5 Copy progress is indicated by the progress bar.
   • Click [Cancel] to stop copying midway through. (All the data that has been copied will be deleted.) However copying cannot be stopped on DVD-R/RW discs.
   • It takes time to copy all the data. Do not operate the PC until the copy process is completed.

6 Once the copy process is completed, the following message is displayed. Then click [OK].
Copy from a PC to the media

7 Click [OK].

Exit the Copy window and return to the [Start Menu] window.

Tip
It is also possible to collect your favourite images from several image data and record them to media in AVCHD standard or DVD-Video format. (81)
Copy

Copy between media

Image data can be copied between the SD card, the DVD disc and the video camera HDD with this software.

Attention

- Set an SD card, a DVD disc, or a video camera HDD.
  (Example: Insert it in the video camera and connect the video camera to the PC. (⇒17))
  However, a video camera HDD is only available as the copy source. You cannot record to it.
- Data cannot be copied between the same kinds of media, for instance from an SD card to an SD card or from a DVD disc to another DVD disc.

1. Click [Copy between media] button on the [Start Menu] window that is displayed when starting HD Writer.

2. When the Copy window (for details: ⇒32) opens, set the contents.
   1. Click [ ] button to select a media as the copy source.
   2. If there are any videos or picture folders you do not want to copy, click them to clear the selections.
      - Select images so that the total size is within the capacity of the copy destination. Copies cannot be distributed to multiple media.
3 Click the [ ] button to select the media as the copy destination.
   - If the drive is not displayed after replacing the media, click [Refresh] button.
   - The same kind of media that is selected as the copy source is not displayed in the copy destination list.

3 Click [Start copying] button.
   - When [Return to Start Menu] button is clicked, the Copy window closes and the display returns to the [Start Menu] window. (The data is not copied at this time.)
   - If conditions to start copying are not satisfied, such as when no videos or picture folders are selected, you cannot click this button. Confirm the information display.

4 When the confirmation message is displayed, click [Yes].
   - If [No] is clicked, the display returns to the Copy window.
   - Pictures cannot be copied to a DVD disc. Therefore, the following message will be displayed if you try to copy image data including pictures to a DVD disc. Click [Yes] to copy only video.

5 Copy progress is indicated by the progress bar.
   - Click [Cancel] to stop copying midway through. (All the data that has been copied will be deleted.) However copying cannot be stopped on DVD-R/RW discs.
   - It takes time to copy all the data. Do not operate the PC until the copy process is completed.

6 Once the copy process is completed, the following message is displayed. Then click [OK].
7 Click [OK].

Exit the Copy window and return to the [Start Menu] window.
Easy edit function

Easy edit can be performed using the image data saved on the PC. The easy edit function provides the following 2 functions.

1. Editing of image data: Split or delete scenes and produce the top menu on the image data. (⇒63)

2. Recording of the favourite image: Collect your favourite videos and scenes from several image data, and then record it on the media in the AVCHD or DVD-Video format. (⇒81)

Attention

If the following edits are executed and the images are then recorded on an SD card or a DVD disc, scenes being played back may stop for several seconds where scenes were switched during playback on a DVD/BD recorder.
- Select scenes and execute [Select videos to copy to media]
- Select video where some scenes are coupled and execute [Select videos to copy to media]
- Select video where some scenes were deleted and execute [Select videos to copy to media]

Important Notice

- Do not use any other software, such as Explorer, to delete, change, or remove the folders or files associated with the image data copied on the PC with HD Writer. Changes made by other software may result in HD Writer being unable to properly display, copy, or edit the copied images.
- HD Writer will not function with any image data copied to a PC by any other application even if the folder name appears (Example: data copied with Windows® Explorer). The copy function (⇒31) of HD Writer must be used to copy data.
- When the media created by [Select videos to copy to media] in the easy edit function plays back on a video camera, unnecessary scenes cannot be skipped using Intelligent scene selection.
Easy edit of image data on a PC

Names and functions of the respective parts on the window

Start the Edit window first

The Edit window is used for easy edit.

Attention

- Before starting the easy edit, copy the image data to the PC. When the image data does not exist in the storage folder (→31), the following error message is displayed. [No image in the currently designated folder on the HDD. (Error:12068-E-1)]

1 Click [Easy editing] button on the [Start Menu] window that is displayed when starting HD Writer.

2 The Edit window is opened, and you can carry out easy edit.

- Select the image data folder to display videos and scenes.
Easy edit of image data on a PC

Names and functions of the respective parts on the window

**Edit window**

Folder selection area
Storage folder (→91) on the PC and image data folders contained in the folder are displayed.

1  (→47)

Operation buttons for image data
These buttons are for manipulating image data.

2  (→48)

Scene display area/Picture display area/Image recording area
Use this to display (edit) a scene or picture or to record image.
- The Image recording area is displayed by clicking [Select videos to copy to media] button.
- [Save as MPEG2] button
Output the videos or scenes that you selected in MPEG2 format by clicking the [Save as MPEG2] button. (→78)
- [Select videos to copy to media] button
Click this button to display the Image recording area just above this button. At the same time, this button becomes [Confirm selection] button.

3  (→50)

Menu buttons

4  (→50)

Help button/Minimizing button/Exit button

5  (→51)

Image display format switching button
Switch between thumbnail display and detailed display for image display. The thumbnail size can also be switched between large and small.

Image display area
Videos and picture folders in the image data folder are displayed with the thumbnail and detailed information.

[Operating Instructions] button
Click this button to display these operating instructions of HD Writer.
Easy edit of image data on a PC

Names and functions of the respective parts on the window

1. **Operation buttons for image data**

These buttons are for manipulating image data.

1. **[Top menu production] button**
   After selecting an image data folder without a top menu, click this button to add a top menu in compliance with the AVCHD standard to the selected image data. (⇒68)

2. **[Top menu deletion] button**
   After selecting an image data folder with a top menu, click this button to delete the top menu from the selected image data. (⇒67)
   - Image data cannot be edited if the image data has a top menu. To edit the image data, delete the top menu.

3. **[Image copy] button**
   After selecting an image data folder, click this button to copy the selected image data. (⇒64)

4. **[Image deletion] button**
   After selecting an image data folder, click this button to delete the selected image data. (⇒65)
   - Videos, scenes, pictures, and any other data in the image data folder are deleted.

Tip
- If the Image recording area (⇒49) is displayed, image data cannot be edited. Click [Close] button to close the area.
- If the image data does not have any video, the top menu cannot be deleted from or attached to the image data.
Easy edit of image data on a PC

Names and functions of the respective parts on the window

- **Scene display area/Picture display area/Image recording area**
  Use this to display (edit) a scene or picture or to record image.

**Scene display area (This appears when a video is selected.)**

The contents of the video selected in the Image display area are displayed scene-by-scene in thumbnails. Scenes can be split, deleted, or merged.

1. **[Split scenes] button**
   After selecting a scene, click this button to display the Preview window and to split selected scene. (⇒71)

2. **[Merge scenes] button**
   After selecting a scene, click this button to merge the selected scene with the immediately preceding scene. (⇒74)

3. **[Delete scenes] button**
   After selecting a scene, click this button to delete the selected scene. (⇒73)

4. **[Edit Assistance] button**
   After selecting a scene with [A], click this button to launch the [Edit Assistance] window to display the parts that the camera determines as an abnormal recording (such as camera shake and back light). (⇒69)

- **Picture display area (This appears when a picture folder is selected.)**

The pictures in the picture folder selected in the Image display area are displayed.
Easy edit of image data on a PC

Names and functions of the respective parts on the window

- **Image recording area**
  (This appears when is clicked.)

When collecting your favourite images to record onto media, drag and drop the video and scenes into this area to make an image recording list. (\(\Rightarrow\)82)
A thumbnail will represent the image that was dragged and dropped. (For instance, for a video composed of more than one scene, a single thumbnail will be displayed instead of thumbnails for all scenes.)
When recording, the images will be recorded as video for the respective thumbnails independently.

1. **[Remove from list] button**
   After selecting an image, click this button to delete the selected image from the image recording list.
   - It is deleted from the list but the original data will not be deleted.

2. **[Total size]**
   The approximate total capacity of the image recording list is displayed below.
   - This value is an estimate and may differ from the actual capacity to be recorded depending on the environment.

3. **[Size of selected]**
   The capacity of the image selected in the Image recording area is displayed.

4. **[Close] button**
   Click this button to close the Image recording area. (The list that is being produced will be cancelled.)

--- Tip
- If the Image recording area is displayed, image data and scene cannot be edited.
Click [Close] button to close the area.
Easy edit of image data on a PC

Names and functions of the respective parts on the window

### Menu buttons

1. **[Settings] button**
   - Click this button to display the [Settings] window. (89)

2. **[Return to Start Menu] button**
   - If you click this button, the confirmation message appears. Click [Yes] to return to the [Start Menu] window.

3. **[End] button**
   - If you click this button, a confirmation message for exiting HD Writer is displayed. Click [Yes] to exit HD Writer.

### Help button/Minimizing button/Exit button

Use these to verify the version or change the window size.

1. **Help button**
   - Click this button to display the following menu.
     - **[Operating Instructions]**
       - These operating instructions of HD Writer will be displayed.
     - **[Version information]**
       - Version information will be displayed.

2. **Minimizing button**
   - Click this button to minimize the window size. To return to the original size, click the button on the taskbar.

3. **Exit button**
   - If you click this button, a confirmation message for exiting HD Writer is displayed. Click [Yes] to exit HD Writer.
Easy edit of image data on a PC

Names and functions of the respective parts on the window

5. **Image display format switching button**

It is possible to switch the image display format between thumbnail display and detailed display. The thumbnail size can also be switched between large and small.

1. **[Thumbnail display] button**
   Images are displayed as thumbnails.

2. **[Detailed display] button**
   Images are displayed together with the thumbnail and detailed information. (default setting)

3. **[Large] button**
   The thumbnail size is large. (default setting)

4. **[Small] button**
   The thumbnail size is small.

**Tip**

- Display of detailed information (resolution, playback time, file name, and capacity) may vary with the type of images.
Easy edit of image data on a PC

Names and functions of the respective parts on the window

**Menu list**
Display the menu by right-clicking image data folders, videos, and scenes.

**Menu in the Folder selection area**

- **[Rename]**
  Select this to change the name of image data folders. (§77)

- **[Properties]**
  Select this to confirm the detailed information about the image data. (§93)

**Menu in the Scene display area**

- **[Delete videos]**
  Select this to delete the video from the PC. (§76)

- **[Properties]**
  Select this to confirm the detailed information about the video. (§93)

- **[Preview]**
  Select this to confirm the selected scene by playing them back. (§62)

- **[Delete scenes]**
  Select this to delete the scene from the PC. (§73)

- **[Properties]**
  Select this to confirm the detailed information about the scene. (§93)

**Menu in the Image display area**

- **[Preview]**
  Select this to confirm the video by playing them back. (§81)
Easy edit of image data on a PC

Names and functions of the respective parts on the window

**Preview window**

The Preview window is used to confirm the video (→61), split scenes (→71), and store part of motion picture as a still picture (→80). Read each explanation page for information on how to open the Preview window.

1. **Video name display**
   The name of the current video is displayed.

2. **Image display**
   The image being played back is displayed.

3. **Playback knob**
   The position of images being played back is indicated with the knob. Move the knob right or left when playback is paused to change the playback position.
   - Since the position shifts by about 0.5 seconds on the window for splitting scenes, the image may stop at the shifted position when the knob is released.

4. **Stop button**
   Click this button to stop the playback of images. (The images return to the beginning point and are in a static state.)

5. **Pause button**
   Click this button to pause the playback of images. Once the playback button is clicked, playback resumes.

6. **Playback button**
   Click this button to play back images.

7. **Frame reverse button**
   Click this button while playback is paused to display the image just one frame before the current image.

8. **Frame forward button**
   Click this button while playback is paused to display the image just one frame after the current image.
Easy edit of image data on a PC

Names and functions of the respective parts on the window

9. Image information display
   The video number (A), scene number (B), length (C), playback time (D), and the volume level (E) of the image currently being played back are displayed.

10. Volume control button
    Click the [+] button to increase the volume of sounds. Click the [-] button to decrease the volume. Click the [M] button to mute sounds, and the icon will change to [M]. Click the button again to restore sounds.

11. [Capture] button*3
    Click this button while playback is paused to store the scene being displayed as a picture. (⇒80)

12. [Split scenes] button*2
    Click this button while playback is paused to split scenes at the current playback point. (⇒71)

13. [Close] button
    Click this button to exit the Preview window and return to the Edit window.

14. Full screen button
    Click this button to maximize the screen to play back images in high resolution.
    • Close the Preview window by right-clicking on the window and selecting [Stop].

*1: On the window for splitting scenes, the length of a single frame is about 0.5 seconds.
   On the window for confirming videos or storing part of motion picture as a picture, the length of a single frame is 1/25 seconds (1/30 seconds for NTSC).

*2: This button only appears if the Preview window is displayed by clicking the [Split scenes] button in the Scene display area.

*3: This button will be displayed only when the Preview window starts by double-clicking images or right-clicking the image and selecting [Preview].
Easy edit of image data on a PC

Names and functions of the respective parts on the window

Top menu production window

Use the Top menu production window to produce the top menu (⇒68) or to collect and record your favourite image (⇒81). Read each explanation page for information on how to open the Top menu production window.

1. [Save To]*1
   Click [ ] to set the recording destination.

2. [ ] (displayed when the data is recorded onto a DVD disc)*1
   Click this button to open the tray of the DVD drive.

3. [Initialize] button (displayed when the data is recorded onto a DVD disc)*1
   Click this button to display the initialization (format) window for discs. (⇒94)

4. Menu editing screen
   Top menus are displayed page-by-page. It is possible to enter titles.

5. [ ] [ ]
   Click this button to switch the page.

6. Used space display*1
   The ratio of used space to the capacity of the recording destination will be displayed with a bar indication. The portion that cannot be stored in the recording destination will be displayed in red.
   • The used space is the sum of the sizes of image to be recorded and the existing data in the media.
   • At the top of the bar, the numeric values for used space and total capacity on the destination are displayed.
   • Even if a drive in which no media is inserted is selected as the recording destination, the capacity is set automatically.
   If the capacity is not appropriate for the capacity of the media where the data will actually be recorded, click the [ ] button on the left to change it manually.

7. Recording format selection area*1
   Click the [ ] button to select a recording format.
   • [DVD-Video] can be selected only when the [Save To] is the DVD-R/RW disc.
Easy edit of image data on a PC

Names and functions of the respective parts on the window

8. [Settings] button*1
   Click this button to display the [Settings] window. (⇒89)

9. [Save menu]*2 /[Start Copy]*1 button
   Click this button to execute the setting of the top menu or recording of the image.

10. [Close] button
    Click this button to exit the Top menu production window and return to the Edit window.

*1: This function is displayed only when collecting and recording your favourite image (⇒81).
*2: This function is displayed only when producing the top menu for the image data on the PC (⇒68).
Easy edit of image data on a PC

Names and functions of the respective parts on the window

■ [Bg/Layout] setting
If the [Bg/Layout] button is clicked, this area is displayed and the background and the layout can be set.

11. Background design selection
Select the background design.
- If you select [User's picture], a picture (JPEG format) on your PC can be used for the background. Select a picture in the File selection window and click the [Open] button.

12. Layout selection
A method for arranging images can be selected.
- The maximum number of pages for layout is 10.
- When selecting [No menu], the top menu will not be created. Images are played back in the order that they were recorded.
- When selecting [No menu], you cannot set the background design and title.

- If you select [No menu] when producing a DVD-Video, you cannot output.
Easy edit of image data on a PC

Names and functions of the respective parts on the window

13. [Font/Title] setting
   If the [Font/Title] button is clicked, this area is displayed
   and the characters for use in the page title and the image
   title can be set.

14. [Disc title]
   Set the characters for use in the page title (displayed on
   the top of the page).

15. [Video title]
   Set the characters for use in the image titles.

16. [Font]
   Select the types of characters.

17. [Size]
   Select the sizes of characters.

18. [Style]
   When each of the following buttons are clicked, the
   respective effects are applied to the characters. (Click
   again to release the settings.)
   - : Characters will be bold.
   - : Characters will be italic.
   - : Underlines will be added.
   - : Shades will be applied.

19. [Colour]
   Click this button to select colours for characters in colour
   settings window.
   - Click the [Define Custom Colors] button in colour
     settings window to select a custom colour.
   - Click your favourite colour.
     The brightness can be adjusted
     by moving the knob on the right
     side up and down.
   - The custom colour is displayed.
     Click the [Add to Custom Colors] button to add the custom colour to
     the selection list.

20. [Align]
   Left alignment or centring can be selected.
Display image data

Confirm the contents (videos, scenes, pictures) of image data using the thumbnails.

1. Select an image data folder in the Folder selection area.

   - In the Folder selection area, the storage folder and image data folders contained in the folder are displayed. If the target image data folder is in a folder other than the storage folder, designate the folder as the storage folder.

2. In the Image display area, videos or picture folders are displayed.

   - [Video] button
     When this button is clicked, videos are displayed together with the thumbnail and detailed information.

   - [Picture] button
     When this button is clicked, picture folders are displayed together with detailed information.
     - The 1st picture in the folder is displayed in the centre of the folder icon.
     - Videos are indicated with a [ ] symbol, and picture folders are indicated with a [ ] symbol.
     - When the Image recording area is displayed, the [Picture] button cannot be selected.

Attention

- A large number of images may take some time to display.
- When displaying image data, an image data cannot be selected unless the free space in the work area is more than 1.5 times the size of the image data.
Easy edit of image data on a PC

Display image data

3 Select video or picture folders in the Image display area.

- If multiple videos are selected simultaneously, the scenes are not displayed.
- If a video is selected, the Scene display area will be displayed for checking the scenes on the video. When selecting a picture folder, the Picture display area will be displayed for checking the pictures in the folder.

Tip
- The contents of image data in compressed folders cannot be displayed.
- The maximum number of scenes that can be displayed is 99. (The maximum number of pictures is 999.)
- It is possible to change the name of a scene, video, or image data. (☞93)
Easy edit of image data on a PC

Confirm the videos (Preview)

The contents of videos can be confirmed by playing them back.

1. **Double-click the video for playback in the Image display area.**
   - It is also possible to right-click the video and select [Preview] to play back the video.

2. **The Preview window opens, and the image will be played back.**

### Attention
- Pictures cannot be played back.
- Playback of images is not in high-definition quality.

### Tip
- In the normal Preview window, quality is lower than the actual recorded images, and playback may be impeded in places.
- The image may jerk during playback more easily since more CPU is required to play back images in full screen.
- The frame rates for the CPU on a PC are as follows. (The following values are estimates.)

<table>
<thead>
<tr>
<th>CPU</th>
<th>Frame rate (fps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentium® III 1.0 GHz-Pentium® 4</td>
<td>2</td>
</tr>
<tr>
<td>Pentium® 4 Hyper-Threading Technology 3.0 GHz-Pentium® D 3.0 GHz</td>
<td>10</td>
</tr>
<tr>
<td>Pentium® D 3.0 GHz-Pentium® D 3.2 GHz</td>
<td>30</td>
</tr>
<tr>
<td>Pentium® D 3.2 GHz-60 (fields)</td>
<td></td>
</tr>
</tbody>
</table>

* The frame rate may be lower than the value in the table.
Easy edit of image data on a PC

Confirm the videos (Preview)

depending on the PC environment or use conditions.
Example:
- When other software is running during installation of this software
- When other software is running during video playback with this software
- When the PC has a video card that uses main memory for video memory
- When the free space on the system drive or the save destination drive for temporary files is extremely small
  • Sound plays back in 2 ch mode.

■ To play back your favourite scene only
In the Scene display area, double-click the scene, or right-click the scene and select [Preview]. Only the selected scene will be played back.

■ To play back videos in full screen
Click the button on the upper right of the Preview window to maximize the screen to play back images in high resolution.

  • Return the window to the original size by right-clicking on the window and selecting [Restore].
  • Close the Preview window by right-clicking on the window and selecting [Stop].
Easy edit of image data on a PC

Edit image data

It is possible to split or delete scenes and produce the top menu on the image data on the PC.

- **Copy/Deletion of image data:** (→64)
- **Deletion/Production of the top menu:** (→67)
- **Deletion of scenes with Edit assistance:** (→69)
- **Split/Deletion/Merger of scenes:** (→71)(→73)(→74)
- **Deletion of the video:** (→76)
- **Change the folder name:** (→77)
- **Output in MPEG2 format:** (→78)
- **Convert part of motion picture into picture:** (→80)

**Attention**

- Once the editing process begins, the original data is edited directly and cannot be restored. In order to retain the original data, copy the image data before editing. (→64)
- If the Image recording area (→49) is displayed, image data cannot be edited.
  
  Click [Close] button to close the area.
- The image data cannot be edited if a top menu is attached to the image data. To edit the image data, delete the top menu. (→67)
Copy/delete image data

It is possible to copy or delete image data. Copy the image data before editing in order to retain the original image data.

**To copy image data**

1. Select an image data folder in the Folder selection area.

   - Multiple folders cannot be selected simultaneously.

2. Click [Image copy] button.

3. When the confirmation message is displayed, click [Yes].

   - If [No] is clicked, the data will not be copied.

4. Name the image data folder to be created, and then click [OK].
Copy/delete image data

5 Copy progress is indicated on the progress bar.

- Click [Cancel] to stop copying midway through.
- It takes time to copy data. Do not operate the PC until the copy process is completed.

6 The produced image data folder is displayed in the Folder selection area.

To delete image data

Attention

- All videos, scenes, and pictures in the image data folder are deleted and cannot be restored. To delete the respective videos and scenes independently, refer to (76) and (73).
- Even if some of the scenes in the image data have been protected, all the scenes are deleted.

1 Select an image data folder in the Folder selection area.

- Multiple folders cannot be selected simultaneously.
Copy/delete image data

2 Click [Image deletion] button.

3 When the confirmation message is displayed, click [Yes].

- If [No] is clicked, the data will not be deleted.

Tip
- If there is any data other than image data (Data produced or copied using software other than this software), it is also deleted.
Delete/produce top menu

If the top menu is attached to image data, the image data cannot be edited. To edit the image data, delete the top menu. (For details: ➔ 100)
After editing, it is also possible to produce a new top menu.

To confirm whether or not the image data has a top menu
Select the image data folder in the Folder selection area. If the [Top menu production] button can be selected, a top menu is not attached to the selected image data. If the [Top menu deletion] button can be selected, a top menu is attached to the data.

Tip
• If the image data does not have any video, the top menu cannot be deleted from or attached to the image data.

To delete the top menu

1 In the Folder selection area, select an image data folder that has a top menu.

2 Click [Top menu deletion] button.

• When you select an image data folder without a top menu, you cannot click this button.

3 When the confirmation message is displayed, click [Yes].
• If [No] is clicked, the top menu will not be deleted.
Easy edit of image data on a PC

Delete/produce top menu

To produce the top menu

1. In the Folder selection area, select an image data folder that does not have a top menu.
   - Multiple folders cannot be selected simultaneously.

2. Click [Top menu production] button.
   - When you select an image data folder with a top menu, you cannot click this button.

3. When the confirmation message is displayed, click [Yes].
   - If [No] is clicked, the display returns to the Edit window.

4. When the Top menu production window opens, set the layout and title.
   - Follow the same steps as when collecting and recording your favourite image: ⇒85 (Steps 6 to 7)
   - It is impossible to change or add images or change the sequence.

5. Click [Save menu] button.

6. Once the top menu producing process is completed, the following message is displayed. Then click [OK].
Delete a scene with Edit assistance

Use Edit assistance to display parts that the camera determines as an abnormal recording (such as camera shake and back light).  
- Scenes recorded in [Edit Assistance] mode and with recording information attached, such as camera shake, are the targets. (The scenes have [A] marks.)

1. Select the video in the Image display area.
2. Select scenes with [A] in the Scene display area.
   - Edit assistance does not work on scenes without [A] because they have no record information such as camera shake.
   - Select a single scene.
3. Click the [Edit Assistance] button.
4. Confirm the recording information in the [Edit Assistance] window.
Delete a scene with Edit assistance

- Each recording information mark is attached.

<table>
<thead>
<tr>
<th>Camera shake</th>
<th>Back light</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast pan</td>
<td>Low light intensity</td>
</tr>
<tr>
<td>Rapid tilt</td>
<td>Recording earth</td>
</tr>
<tr>
<td>Out of focus</td>
<td></td>
</tr>
</tbody>
</table>

- To check the image, select the image and click the [Preview] button. (Details of the [Preview] window: \(\rightarrow\) 53)

- Click the [Properties] button to display the detailed information (playback time, attributes, etc.) of the selected images.

5 Select the parts to delete and click the [Delete] button.

6 When the confirmation message is displayed, click [Yes].

- The selected parts will be deleted.
  - If [No] is clicked, the parts will not be deleted.

7 Click the [Close] button to close Edit assistance.

- A scene is not split even if the middle part of the scene is deleted. In this case, the playback stops for several seconds at the deleted point.

(For these scenes, the [ ] is indicated similar to coupling scenes.)

- When all parts that have recording information, such as camera shake, are deleted, the [ ] mark on the scene will disappear.

Tip

- If the scene has been protected, Edit assistance cannot be applied. Clear the protection settings. (\(\rightarrow\) 93)
- The image length cannot be adjusted on the [Edit Assistance] window. If you want to adjust it, execute the usual split scenes operation (\(\rightarrow\) 71). The playback time displayed by the [Properties] button on Edit assistance will be helpful.

Camera shake: Back light
Fast pan: Low light intensity
Rapid tilt: Recording earth
Out of focus:
Split a scene

You can split a scene by clicking the split button at the chosen position while viewing the image on the Preview window. To delete a part of the scene, split the range and then delete it.

1. Select the video in the Image display area.

2. Select the scene for scene split by clicking it in the Scene display area.
   - Select a single scene.

3. Click [Split scenes] button.
   - By double-clicking a video or scene, it is possible to open Preview window but impossible to split the scenes.

4. Search for the position to split scenes on the Preview window, and then pause playback.
   - Explanation for the window: ➔53
   - The split position can be set with the playback knob after pausing playback.

5. Click [Split scenes] button.
   - Scenes cannot be split when the length of an individual scene is less than 1 second.
Split a scene

6 Click [OK].

7 Exit the Preview window and the split scene is displayed in the Scene display area.

- For example, a scene with the name [AAA] is split, the names of the split scenes will be [AAA_1] and [AAA_2] respectively.

Tip
- Scenes are always sorted in the sequence of the recording.

Time. The sequence of scenes cannot be changed.
- Method for deleting scenes: ➔ 73
- Method for merging scenes: ➔ 74
- Method for changing the name of the scenes: ➔ 93
- If the scene has been protected, it cannot be split. To split the scene, clear the protection settings. (➔ 93)
- The maximum number of scenes that can be produced is 99.
Delete a scene

Select a scene and click the [Delete scenes] button to delete the selected scene from the video.

**Attention**
- The original data is deleted and is impossible to restore. Confirm the contents carefully before deleting. In order to retain the original data, copy the image data before editing. (⇒64)

1. Select the video in the Image display area.
2. Select the scene for deletion by clicking it in the Scene display area.
3. Click [Delete scenes] button.

4. When the confirmation message is displayed, click [Yes].
   The selected scene will be deleted.
   - If [No] is clicked, the scene will not be deleted.

**Tip**
- Method for splitting scenes: ⇒71
- If there is only 1 scene in the video, the video will also be deleted when you delete that scene.
- If the scene has been protected, it cannot be deleted. To delete the scene, clear the protection settings. (⇒93)
- Depending on the scenes selected for deletion, a large amount of free space in the work area may be required, and it will take time to execute the deletion process. (For details: ⇒101)
Merge scenes

Select a scene and click the [Merge scenes] button to merge the selected scene with the scene immediately before the selected scene.

- The merge scene function plays back two scenes sequentially. However, a pause of a few seconds is inserted between the scenes. You cannot play them without the pause.

1. Select the video in the Image display area.
2. Select the scene to merge with the immediately preceding scene in the Scene display area.
   - Select a single scene.
3. Click [Merge scenes] button.
4. When the confirmation message is displayed, click [Yes].
   - If [No] is clicked, the data will not be merged.
5. The selected scene will be merged with the immediately preceding scene.
   - If scenes with respective names are merged (Example: [AAA] and [BBB]), the name of the merged scene will be [AAA+BBB].
   - [ ] is indicated on the coupled scenes.
**Tip**
- Method for splitting scenes: ➔71
- If either one of two scenes that will be merged is protected, it is impossible to merge the scenes. To merge these scenes, clear the settings. (➔93)
- A 5.1 ch-sound scene and a 2 ch-sound scene cannot be merged. (The number of channels can be confirmed in the [Properties] window.)
Delete a video

To delete a video on the PC, select the video to be deleted in the Image display area.

1. Right-click the video in the Image display area and then select [Delete videos].

   • Select a single video.

2. When the confirmation message is displayed, click [OK].

   • If [Cancel] is clicked, the video will not be deleted.

   Tip

   • If any scenes on the video have been protected, the video cannot be deleted. To delete the video, clear the protection settings. (⇒93)
Change the folder name

It is possible to change the folder name for image data.

1. Right-click the folder in the Folder selection area, and then select [Rename].

2. When the name change window is displayed, enter the new name.

   - Up to 20 characters can be used.
   - Existing folder names cannot be used.

3. Click [OK].
   The folder name will change.
Output images in MPEG2 format

It is possible to output selected videos and scenes in MPEG2 format. Output data can be used to produce DVD-Video with DVD-Video production software.

Attention

- When outputting fast moving images in MPEG2 format, the contours may be out of focus or noise may occur when converting images. When converting fast moving images, adjusting the [Quality preference] in the [Motion detection] setting window may improve the quality. (p.92)
- If the images with 5.1 ch sound is output in MPEG2 format by [Save as an original image], the aspect ratio will be 16:9 and the sound will be 5.1 ch. If the software does not support this format, copy or playback of the edited images might fail. In this situation, output it by [Save as 2ch].
- Video consisting of both 5.1 ch-sound scene and 2 ch-sound scene cannot be output in MPEG2 format. (The number of channels can be confirmed in the [Properties] window.)
- An MPEG2 file cannot be recorded on media with this software. To do this, use DVD-Video production software.

1. Select the video for output in MPEG2 format in the Image display area.
   - To output a scene, select the scene in the Scene display area.
   - If multiple videos or scenes are selected, they are not output in MPEG2 format.

2. Click the [Save as MPEG2] button.
Output images in MPEG2 format

When the settings window opens, set the save destination and other settings.

1. Confirm the image for output.
   [Video-by-video basis]
   The selected video is output as a file.
   [Scene-by-scene basis]
   The selected scene is output as a file.

2. Click [ ] button to select the save destination, enter [File name], and then click [Save] button.

3. Select the image quality (bit rate).

4. Select the number of sound channels.
   • If the original image sound is 5.1 ch mode, you can select [Save as 2ch].

5. When the confirmation message is displayed, click [OK].
   Output in MPEG2 format will start.
   • Click [Cancel] to cancel outputting.

6. When the save completion message is displayed, click [OK].

7. To proceed to open the folder with the saved MPEG2 file, click [Yes].
Convert part of motion picture into picture

It is possible to save part of video or scene as picture.

1. Double-click the video or scene to play back.
   - Playback is also possible by right-clicking it and selecting [Preview].

2. Pause at the position where you want to save as a picture.

3. Click [Capture] button.

4. When the storage window is displayed, designate the destination where data will be stored and enter the file name, and then click [Save] button.

5. When the save completion message is displayed, click [OK].

Tip
- It is impossible to display stored pictures using HD Writer.
- Pictures are saved in JPEG format with Exif information.
Easy edit of image data on a PC

Collect and record your favourite images

It is possible to collect your favourite videos and scenes from several image data and record them to media in the AVCHD standard or DVD-Video format.

First produce a recording list, and then record it with the top menu if necessary.

**AVCHD**
- After the recording, playback in high-definition quality is possible by inserting the media into a device that supports AVCHD standards.
- An ordinary DVD player cannot play the AVCHD.

**DVD-Video**
- After recording, the media can be played back on an ordinary DVD player.
- Playback of images is not in high-definition quality.

**Tip**
- When images are played back after recording on media, playback may be interrupted momentarily at the position where videos are switched. If the video consists of two or more scenes, the same phenomenon may happen at the position where scenes are switched.
Prepare for recording images (Image recording list)

Select the images to be recorded by dragging and dropping in the Image recording area first.

**Attention**
- If the Image recording area (49) is displayed, image data or scenes cannot be edited.
  Edit scenes such as splitting a scene in advance.
- Scenes less than 1 second in duration cannot be recorded.

1. Click [Select videos to copy to media] button to display the Image recording area.

   - When the button cannot be clicked, select any image data folder. The button will be selectable.
   - If the [Picture] button is selected in the Image display area, the Image recording area cannot be displayed.
     Select [Video] button before executing this operation.

2. Select your favourite folders and arrange videos in the Image display area and scenes in the Scene display area by dragging and dropping them onto the Image recording area.

   - Images are organized by repeating this operation.
   - A thumbnail will represent the image that was dragged and dropped. (For instance, for a video composed of more than one scene, a single thumbnail will be displayed instead of thumbnails for all scenes.) When recording, the images will be recorded as video for the respective thumbnails independently.
   - Up to a maximum of 99 images can be arranged.
   - Images are recorded in the arranged sequence and played back in the recording sequence.
Easy edit of image data on a PC

Collect and record your favourite images

Prepare for recording images (Image recording list)

- Pictures cannot be arranged.
- To select multiple items, click videos and scenes while holding the [Ctrl] key down.
- An estimate of the total capacity of the image recording list is displayed below [Total size]. (Since this value is an estimate, it may differ from the actual capacity to be recorded.)

■ To delete an image
1. Select an image for deletion by clicking it in the Image recording area.
   - To select multiple items, click images while holding the [Ctrl] key down.
2. Click the [Remove from list] button.
   The selected image is deleted from the Image recording area.

■ To change the sequence of images
1. Select the images, move them into the new position, and then release.

3. Click [Confirm selection] button.

Exit the Edit window and the Top menu production window opens.
Record in the AVCHD standard/DVD-Video format

1 Prepare images. (→82)

2 When the Top menu production window (for details: →55) opens, set the media.
   - Example: Insert it in the video camera and connect the video camera to the PC. (→17)

   **AVCHD**

   To add data to DVD-RAM disc
   When a DVD-RAM disc recorded in the AVCHD standard is set, a confirmation message to add data is displayed. Click [Yes] to enter the data addition mode. New images can be added to recorded discs in data addition mode.

3 Click [ ] button and select the recording destination.
   - A video camera that does not support recording from PCs will not be displayed as the recording destination if connected.
   - The recording destination cannot be selected in data addition mode.

**Attention**

- You cannot record on media in your video camera by connecting a video camera that does not support recording from a PC. Use the SD card adaptor or the DVD drive on your PC.
- To record fast moving images in DVD-Video format, the contours may be out of focus or noise may occur when converting images. When recording fast moving images, adjusting the [Quality preference] in the [Motion detection] setting window may improve the quality. (→92)
- If [No] is selected, images are displayed in normal mode and cannot be added to the disc.
- To cancel data addition mode, click [ ] button to eject the disc.

Data addition mode

Recorded image

- Click [ ] button and select the recording destination.
Easy edit of image data on a PC

Collect and record your favourite images

Record in the AVCHD standard/DVD-Video format

4 Click [ ] button and select a recording format.

- If the SD card or the DVD-RAM disc is selected in the [Save To], [AVCHD] will be selected automatically and it is impossible to change it.

5 Confirm the free space of the recording destination.

- If the size of the recording data exceeds the free space on the destination, the amount that cannot be stored will be displayed in red.
- In this case, click [Close] button to return to the Edit window, and delete some images from the image recording list.

- Even if a drive in which no media is inserted is selected as the recording destination, the capacity is set automatically.
- In this case, click the [ ] button on the left to change it manually.

6 Select a layout.

1 Click [Bg/Layout] button.

2 Select one of the background designs by clicking the choice.

- If you select [User's picture], a picture (JPEG format) on your PC can be used for the background. Select a picture in the File selection window and click the [Open] button.
- Depending on the selected designs, characters may be difficult to be read due to the contrast between the colours of the characters and the background. Changing the design may not be required but changing the character’s settings may help to make the characters readable. (Refer to Step 7.)
Easy edit of image data on a PC

Collect and record your favourite images

Record in the AVCHD standard/DVD-Video format

Select one of the methods for arranging images by clicking the choice.

- If the number of the frames is less than the number of images, images are divided into several pages. (How to switch the pages: page 55)
- The maximum number of pages for layout is 10.

AVCHD

- When selecting [No menu], the top menu will not be created. Images are played back in the order that they were recorded.
- When selecting [No menu], you cannot set any background design and title.

DVD-Video

- When selecting [No menu], it cannot be output.
- To change images or the sequence, click [Close] button to return to the Edit window and reselect the applicable images in the Image recording area.

Enter the page title and image titles.

1. Clicking the title will enable the column to accept entries. Enter characters in the column.
   - In the image title column, the video name or the scene name is displayed in the initial settings.
   - The page title is common to all the pages.
   - Up to 64 single-byte characters can be entered for the page title, and up to 24 single-byte characters can be entered for the image title.
   - If the page title is not entered, a top menu without the page title will be produced.

2. Click [Font/Title] button.

3. Adjust the character's settings. (For details: page 58)
   - Depending on the size of the characters, some characters may not display or may overlap other image. In these cases, adjust the size of characters.
8 Click [Start Copy] button.

9 When the confirmation message is displayed, click [OK] ([Yes]).
   • If [Cancel] ([No]) is clicked, the display returns to the Top menu production window.

10 Recording progress is indicated on the progress bar.
   • Click [Cancel] to stop recording midway through. (All the data that has been recorded will be deleted.) However recording cannot be stopped on DVD-R/RW discs.
   • It takes time to record all the data. Do not operate the PC until the recording process is completed.

11 After the recording is completed, the following message is displayed. Click [Yes] to record to another media or [No] to exit.

   If [Yes] is clicked, a message prompting media exchange is displayed. Exchange the media and click [OK].

   **Tip**
   • Set record speed or [Auto Protect] with the [Settings] button. (90)
   • Because it is necessary to record at least about 1 GB of data in DVD-R/RW disc due to the standard, when the produced data is less than 1 GB, dummy data will be added so that the data totals about 1 GB. Thus, even if the size of the images to be recorded is small, the recording process will take time.
   • When using [User’s picture] as the top menu background, black bands are inserted into the right and left sides of pictures with an aspect ratio of 4:3.

   **AVCHD**
   • If a DVD-RAM disc is protected, data cannot be added to the disc. Clear the settings by using the device that writes
Record in the AVCHD standard/DVD-Video format

protected the disc or enable the [Auto Protect] settings
(⇒ 90).

DVD-Video

- It may take several hours to produce a DVD disc in
  DVD-Video format, since the images need to be converted
to MPEG2 format.
- When image and voices are DolbyDigital 5.1 ch, they shall
be recorded as image in DVD-Video format for 5.1 ch.
Detailed settings for the respective functions

Set the detailed settings for the respective functions of HD Writer in [Settings] window. To display the [Settings] window, click [Settings] button in the [Start Menu] window, the Copy window, or the respective operation windows.

Attention
- Click [OK] on the bottom right of the window to apply the settings or changes. Click [Cancel] to disable the settings.
- When opening the [Settings] window from the [Start Menu] window, all panels are displayed. Otherwise, only panels related to each operation window are displayed.

[General settings] panel

Adjust the settings related to all functions.

1. [Display the outlines description when starting]
   Select [Display] to display the general explanation window (⇒25) when HD Writer starts.
   • [Display] is selected in the initial setting.
   • When [Do not display this screen again.] is selected in the general explanation window, this will be set to [Do not display]. To display the general explanation window again, set this to [Display] in [Settings] window.
Detailed settings for the respective functions

[Drive settings] panel
Adjust the settings related to the DVD drive.

1. [Select the default DVD burner]
   Click [ ] to select a drive that is set as the destination in the initial setting for recording or copying to a DVD disc.

2. [Choose the disc writing speed]
   Recording speed for a DVD disc can be changed.
   Select [Maximum] normally; however, if the recording fails, select [Standards]. (This may correct the problem.)
   * [Maximum] is selected in the initial setting.

3. [Auto Protect setting for DVD-RAM/RW]
   When [Auto Protect ON] is selected, the protection setting will be cleared temporarily when data is recorded in AVCHD standard onto a DVD disc that is protected in the AVCHD standard. (The protection setting will be turned on when the DVD disc is ejected.)

Even a DVD disc that has been initialized or formatted, which is not protected, will become a protected DVD disc when it is ejected after recording data.
If [Auto Protect OFF] is selected, recording, etc. to protected DVD discs is not possible.

Tip
Since DVD-RAM/RW discs recorded in the [Auto Protect ON] state are protected, they may not be initialized or formatted with other DVD recording software or Windows® Explorer.
In this case, by formatting discs (Quick format) using the format function of this software, the protect setting is cleared for initialization and formatting with recording software or Windows® Explorer.
* Since standard formatting takes a long time, using quick format is recommended.
Detailed settings for the respective functions

[Settings/Convenient information]

[HDD settings] panel

Adjust the settings related to the hard disk of the PC.

1. [Select the default storage folder on the PC Hard Drive]
The storage folder on the PC can be changed.
To change the folder, click the [ ] button and select [Select a new storage folder], and select a folder on the folder selection window. Click [OK].

- Only folders with a name [HDWRITER] can be selected.
- If a folder other than [HDWRITER] is selected and then [OK] is clicked, a confirmation message about creating the folder is displayed. If [Yes] is selected, a [HDWRITER] folder is created in the selected folder and it is set as the storage folder. (If [No] is selected, the window returns to the [Settings] window.)
- Among the folders set previously, the 3 most current folders are stored and displayed on a list when the [ ] button is clicked, so that one of them can be selected.
- Click [Open] button (A) to confirm the data contained in the selected storage folder with Windows® Explorer.
- Any folder with the compression, archive attribute cannot be selected as the storage folder.
- Up to a maximum of 99 folders can be created in the storage folder.
- If the storage folder is specified in the Copy window, it is reflected in the [Settings] window, as well. (⇒33)

2. [Select the work area]
Click the [ ] button to change the work area.
An [AVCHDTEMP] folder is automatically created on the selected drive, and this folder will be used as the work area.

- Select a drive with sufficient free space for operation.
- If a drive with a free space of 300 MB or less is selected, only some parts of the edit function can be used. For a drive with a free space of 4 GB or less, the function may not operate properly.
- The work area means an area that is temporarily used for operations.
Details settings for the respective functions

**[Preview settings] panel**
Adjust the settings related to the preview function.

1. **[Number of frames per second]**
The number of frames per second (frame rate) can be changed.
   - Select [Play back video at optimal rate] normally; however, if playback fails, select [Specify the number of frames] to select a smaller number than the current setting. (This may correct the problem.)
   - When selecting a larger number of frames than the current setting, images may jerk during playback or the playback may be impeded in places.
   - [Play back video at optimal rate] is selected as the initial setting.

**[Motion detection] panel**
Adjust the settings related to converting images for MPEG2 output or DVD-Video creation.

1. **[Value]**
The quality of images at the time of conversion can be changed.
   - **[Quality preference]**
     Avoid noise when converting images. The conversion may take a fairly long time.
     - Adjusting the settings in [Quality preference] is recommended for converting fast moving images.
   - **[Standards]**
     Images are converted in standard quality.
     - [Standards] is selected as the initial setting.
   - **[Speed preference]**
     Images are converted within the shortest time. Fast moving images tend to generate noise.
Confirm/change detailed information about images

1. [Title]
The names can be changed.
   - With videos and scenes, up to 24 single-byte characters can be entered. With image data, up to 64 single-byte characters can be entered.

2. [Protection setting]
   Status of the scene protection settings with the video camera or this software is displayed. This setting can be changed. If [ON] is set, the scenes are protected and deleting or splitting scenes using a video camera or this software is no longer possible.
   - For scenes that are protected, the [ ] mark is indicated in the Scene display area.

3. [Close] button
   The changed contents are applied and the window is closed.

Only alphanumeric characters can be input. Other characters such as those with accent marks cannot be input.

The names cannot be changed if a top menu is attached to the image data. (67)
Settings/Convenient information

Disc format

A DVD disc must be formatted in the following cases.
- When a DVD-RAM disc for recording data is not formatted in the UDF 2.5 format. (A new DVD-RAM disc must be formatted with this software before use.)
- When you want to copy or record data onto a used DVD-RAM/RW disc. (It is possible to add data onto a DVD-RAM disc in AVCHD standard even though it is not initialized.)
- To delete all data on a DVD-RAM/RW disc. (It is impossible to format a DVD-R disc because the data is recorded only once.)

Attention

- Format will delete all data on a disc. Since the format process cannot be cancelled, be careful and confirm the contents of the disc.
- SD cards must be formatted with the video camera that this software supports (✈11).
- When recording the images in AVCHD format to a DVD disc with this software, the disc must be formatted by this software. The format tool that comes with the DVD drive may not support the AVCHD standard.
- Only discs that can be used with this software (✈13) can be formatted. (However, it is impossible to format a DVD-R disc.)
- For a double sided disc, format one side first and then format the other side.
- Format in UDF 2.0 format is not supported. If a disc is used in an ordinary DVD recorder, it must be formatted in UDF 2.0 format with the format tool on the DVD drive. (For the operation method, refer to the operating instructions for the drive.)
- Format is not possible if the discs are protected. Clear the settings by using the device that write protected the disc or enable the [Auto Protect] settings (✈90). (If a disc has the [Auto Protect] setting enabled, format will clear the [Auto Protect] setting.)

1. Click [Format disc] button on the [Start Menu] window that is displayed when starting HD Writer.

- It is also possible to click [Initialize] button on the Top menu production window to start the [Format Tool]. (✈55)
Disc format

2 Set the format contents.

1 Select a drive.
   • If the drive is not displayed after replacing the DVD disc or reconnecting the DVD drive, click [Refresh] button.

2 Confirm the format method.
   When [Quick format] is selected, quick format will be executed. When it is not selected, standard format will be executed.

Quick format:
A logical format will be executed, and the disc will be formatted in a short period (about 1 minute). If data is already recorded on the disc, only information in the table of contents will be deleted.

Standard format:
The disc will be physically formatted. Depending on the speed of the drive and the disc, it may take a long time.

(It may take 1 hour) If data is already recorded on the disc, all data will be deleted.

• DVD-RAM discs are formatted in UDF 2.5 format.

3 Click [Start] button.

4 When the confirmation message is displayed, click [Yes].

• If [No] is clicked, the display will return to the previous window.
• Because the standard format takes time, the following message will be displayed. Click [Yes] to continue.
5 When the disc is formatted, the following message is displayed. Click [OK].

- It is now possible to record on the DVD disc using this software.

6 Click [Close] button.
### When a problem occurs

<table>
<thead>
<tr>
<th>When the following problem occurs</th>
<th>Confirm the following</th>
</tr>
</thead>
</table>
| The software does not start.     | ● Windows Vista®: Log on with an administrator account or a standard user account before using this software. The software will not function with a Guest account. Windows® XP/2000: Log on with an administrator account before using this software.  
● More than one user cannot start the software at the same time on a PC. Confirm whether another user has started HD Writer.  
● It takes time for the software to start, or the software may not start, if there are any damaged or corrupted images. |
| The screen saver or the power-saving functions do not operate. | ● While HD Writer is started, the screen saver or the power-saving functions (function to make the PC enter the standby or sleep modes after a certain time has elapsed without any operation on the PC) are disabled. (Since HD Writer may not operate properly, the screen saver and the power-saving functions must be disabled before starting HD Writer.) |
### Copy

<table>
<thead>
<tr>
<th>When the following problem occurs</th>
<th>Confirm the following</th>
</tr>
</thead>
</table>
| The video camera is connected but not displayed on the screen or recording fails.                  | ● If the video camera has not been set for connection with the PC, it will not be displayed. (For details, refer to the operating instructions for the video camera.)  
● Some video cameras are not supported by Windows® 2000.  
● If a video camera is connected that does not support the recording of images from a PC, the video camera can be used only for reading data from media, but not for recording data. (It is not displayed as the recording destination.) |
| An SD card is connected but not displayed on the screen.                                           | ● An SDHC memory card (4 GB to 16 GB) will not be displayed unless using a reader/writer that supports SDHC.                                                                                                          |
| An error message is displayed when selecting the destination.                                       | ● Close any other software using the drive.  
● An error message may be displayed when a disc is replaced. Select the drive again.  
● Other recording software may be interfering with the operation. In this case, uninstall the other recording software. |
| The DVD disc is displayed as not being supported.                                                  | ● Before copying the DVD-RW/R/R DL (dual layer on single side) disc in the AVCHD standard recorded by video camera, the discs must be finalized with the video camera used for the recording. |
| Cannot record even though the DVD-RAM disc is new.                                                 | ● Commercially available DVD-RAM discs are initialized (formatted) in UDF 2.0 format so it is necessary to format them on this software in UDF 2.5 format. (参阅94)                                                        |
| Cannot record on the card or disc after formatting it using Windows® Explorer.                     | ● It is necessary to format the DVD disc on this software before using it. (参阅94)  
SD cards must be formatted with the video camera that this software supports (参阅11).  
● It is impossible to use a DVD disc formatted in UDF 2.5 using any application other than this software (for instance Windows® Explorer). |
## When a problem occurs - Copy -

<table>
<thead>
<tr>
<th>When the following problem occurs</th>
<th>Confirm the following</th>
</tr>
</thead>
<tbody>
<tr>
<td>The pictures cannot be copied.</td>
<td>• Pictures cannot be copied to a DVD disc.</td>
</tr>
<tr>
<td>Thumbnails are not displayed on the Copy window.</td>
<td>• Since image data produced with video cameras other than compatible video cameras (11) or other software does not have thumbnail folders, they may not be displayed.</td>
</tr>
<tr>
<td>Error occurs while data is recorded. Data recording failed.</td>
<td>• See “Recording your favourite images”. (103)</td>
</tr>
<tr>
<td>The recorded MPEG2 file cannot be copied.</td>
<td>• Images in MPEG2 format cannot be copied or played back.</td>
</tr>
</tbody>
</table>

**Settings/Convenient information**

When a problem occurs - Copy -
## Editing image data

<table>
<thead>
<tr>
<th>When the following problem occurs</th>
<th>Confirm the following</th>
</tr>
</thead>
</table>
| Images do not play back properly. | - Close any other software that is running.  
- Update the device driver for the sound card or video card.  
- Depending on the throughput of the PC, playback may be jerky due to a reduced frame rate. (☞61) |
| Voice is not audible.            | - For Windows Vista®: From the start menu, select [Control Panel] >> [Hardware and Sound] >> [Sound] >> [Speakers], and then click [Properties]. Confirm that [Use this device (enable)] is selected in [Device usage] on the [General] tab or that [Speakers] and [Line input] are not muted on the [Levels] tab.  
- For Windows® XP/2000: Confirm that [Volume Control] and [Line input] are not muted in [Volume Control] window of the PC.  
- Voice will not play back while the image is paused. |
| Image data cannot be edited.     | - When a top menu is attached to the image data, the image data cannot be edited. If an image data with an attached top menu is edited, discrepancies may occur between the top menu and the actual data. Thus, the top menu must be deleted before editing with this software. (☞67)  
A new top menu can be added after editing, but the deleted top menu will not be retained. In order to retain the original data, copy the image data before editing. (☞64) |
| When a scene is split, a thumbnail that differs from the image at the split point is displayed. | - Since editing accuracy is about 0.5 seconds, a thumbnail that differs from the image at the split point may be produced, but it is not a malfunction. |
### Settings/Convenient information

When a problem occurs - Editing image data -

<table>
<thead>
<tr>
<th>When the following problem occurs</th>
<th>Confirm the following</th>
</tr>
</thead>
<tbody>
<tr>
<td>When a scene is deleted, an error message indicates that the capacity is not sufficient.</td>
<td>• If the deleted scene is a part of a video (file), a copy of the remaining part (scenes) will be produced first, and then the original file will be deleted. Thus, some free space for copying data temporarily is required, and it takes time.</td>
</tr>
<tr>
<td>I want to delete/edit a picture.</td>
<td>• Pictures can be displayed and deleted by image data basis (65), but cannot be deleted one-by-one and edited.</td>
</tr>
<tr>
<td>Images output in MPEG2 format cannot be handled with DVD-Video production software.</td>
<td>• If the images with 5.1 ch sound is output in MPEG2 format by [Save as an original image], the aspect ratio will be 16:9 and the sound will be 5.1 ch. If the software does not support this format, copy or playback of the edited images might fail. In this situation, output it by [Save as 2ch].</td>
</tr>
</tbody>
</table>
When a problem occurs - Recording your favourite images -

### Recording your favourite images

<table>
<thead>
<tr>
<th>When the following problem occurs</th>
<th>Confirm the following</th>
</tr>
</thead>
</table>
| The video camera is connected but not displayed on the screen or recording fails. | ● If the video camera has not been set for connection with the PC, it will not be displayed.  
(For details, refer to the operating instructions for the video camera.)  
● Some video cameras are not supported by Windows® 2000.  
● If a video camera is connected that does not support the recording of images from a PC, the video camera can be used only for reading data from media, but not for recording data. (It is not displayed as the recording destination.) |
| An SD card is connected but not displayed on the screen. | ● An SDHC memory card (4 GB to 16 GB) will not be displayed unless using a reader/writer that supports SDHC. |
| Data cannot be recorded. | ● Images without sound or images of less than 1 second cannot be recorded. |
| Cannot add on a DVD-RAM disc. | ● If a disc is protected, data cannot be added to the disc. Clear the settings by using the device that write protected the disc or enable the [Auto Protect] settings (⇒90). |
| An error message is displayed when selecting the recording destination. | ● Close any other software using the drive.  
● An error message may be displayed when media are replaced. Select the drive again.  
● Other recording software may be interfering with the operation. In this case, uninstall the other recording software. |
| The free space displayed on this software is less than the free space displayed on Windows® Explorer. | ● If you record on a disc in AVCHD format, the free space displayed on this software is the free space on the disc that can be continually recorded to following the AVCHD standard. This space may be less than the free space displayed on Windows® Explorer. |
When a problem occurs - Recording your favourite images -

<table>
<thead>
<tr>
<th>When the following problem occurs</th>
<th>Confirm the following</th>
</tr>
</thead>
</table>
| Error occurs while data is recorded. Data recording failed. | ● Data cannot be recorded to media that are not available on this software. (Available card/discs: ►13)  
● For an SD card, it is necessary to be formatted using a file system that supports the software. Insert the SD card into the supported video camera (►11). If it cannot be used, it must be formatted. (Once the card is formatted, all data on the card will be deleted.)  
● Since video recorded on an SD card cannot be played back on some video cameras, a warning message will be displayed when attempting to use this software to record on SD cards that were formatted using these video cameras. (Recording can be executed.)  
● Data may not be recorded due to the affinity between the DVD disc and the DVD drive. Use a disc that is recommended for the drive. In some discs, data may not play back even if the recording was completed properly. Therefore, execute playback confirmation after recording the data.  
● The software may not operate properly depending on the conditions of the drive where the OS is installed or the drive designated as the work area. Optimize if necessary. For the method of optimization, from the start menu, select [Computer] ([My Computer]), right-click the icon for the hard disk drive, and then select [Properties] >> [Tools] >> [Defragment Now] >> [Continue] >> [Defragment now] ([Properties] >> [Tools] >> [Defragment Now] >> [Defragment]). However, do not execute optimization while this software is running.  
● Do not operate other recording software. Doing so may cause unsuccessful recording or damage the media. Do not operate any other application using the DVD drive or the video camera, or software consuming a large amount of memory (recording or encoding software) in particular. |
When a problem occurs - Recording your favourite images -

<table>
<thead>
<tr>
<th>When the following problem occurs</th>
<th>Confirm the following</th>
</tr>
</thead>
<tbody>
<tr>
<td>Error occurs while data is recorded. Data recording failed. (Continued)</td>
<td>● If an ASPI driver for other recording software, scanners, or printers is installed, the software may not operate properly. In this case, the ASPI driver must be uninstalled and then this software must be installed again.  &lt;br&gt;  ● If other software that is capable of reading data from UDF discs is installed, the reading and/or recording operations for discs may not execute normally. In this case, close or uninstall the software.  &lt;br&gt;  ● If several hardware peripherals are connected to the PC, the data transfer operation may become unstable and writing errors may occur. When recording to an external DVD drive, in particular, confirm the operation after disconnecting any peripherals using the same interface as the DVD drive.  &lt;br&gt;  ● If using an external DVD drive, do not install or remove any other USB devices such as an SD card reader while recording data.  &lt;br&gt;  ● The firmware (control program stored in the main unit) for the DVD drive may cause this problem. Since updates to the firmware are sometime available from the PC or drive manufacturer, update the firmware to the latest version.  &lt;br&gt;  ● The CD recording function supported in the standard configuration of the OS may affect the software. The function must be disabled.</td>
</tr>
<tr>
<td>Cannot stop recording midway through.</td>
<td>● Recording can be stopped midway through when recording to an SD card or a DVD-RAM disc, however it cannot be stopped midway through when recording to a DVD-R/RW disc.</td>
</tr>
<tr>
<td>When the produced disc is played back on another player, zones surrounding the image are not displayed.</td>
<td>● Depending on the playback screen (such as a TV, etc.), the zone surrounding the image may not be displayed correctly.</td>
</tr>
</tbody>
</table>
### Settings/Convenient information

When a problem occurs - Recording your favourite images -

<table>
<thead>
<tr>
<th>When the following problem occurs</th>
<th>Confirm the following</th>
</tr>
</thead>
<tbody>
<tr>
<td>When playing back a produced SD card or DVD disc, the playback is interrupted momentarily midway through.</td>
<td>● Playback may be interrupted momentarily at the position where videos are switched. If the video consists of two or more scenes, the same phenomenon may happen at the position where scenes are switched.</td>
</tr>
</tbody>
</table>
| The produced SD card or DVD disc in AVCHD standard does not play back. | ● Playback is not possible on a player that does not support the AVCHD standard.  
● Videos recorded on an SD card cannot be played back on some video cameras. |
When a problem occurs - Other -

<table>
<thead>
<tr>
<th>When the following problem occurs</th>
<th>Confirm the following</th>
</tr>
</thead>
<tbody>
<tr>
<td>When the DVD drive is accessed by other software, such as Explorer, etc., an error message is displayed, and the drive is not accessible.</td>
<td>● Other software cannot use the drive currently used by HD Writer. For instance, if the drive is accessed by Explorer, the error message [It is impossible to access F: Access was rejected.] (when the drive is drive F) or [You do not have sufficient rights to perform this operation.] is displayed. In this case, HD Writer must be closed, and then the drive can be accessed.</td>
</tr>
<tr>
<td>Cannot see the produced DVD disc on Windows® Explorer.</td>
<td>● Since the discs recorded in AVCHD standard is recorded in UDF 2.5 format, they cannot be displayed on a PC where the UDF 2.5 driver is not installed.</td>
</tr>
<tr>
<td>Even though the data is played back on the video camera, top menu is not played back.</td>
<td>● The top menu will be displayed on a player capable of playing back the top menu. The top menu will not display on a video camera.</td>
</tr>
<tr>
<td>When the produced SD card or DVD disc is played back with another device, audio may be heard from one side only.</td>
<td>● Audio recorded in DolbyDigital 5.1 and played back through stereo (2 ch) speakers may be heard from one side only. If available on your TV receiver, we recommend turning on the surround sound function. Refer to the operating instructions of your TV receiver for instructions.</td>
</tr>
<tr>
<td>Cannot format an SD card.</td>
<td>● SD cards cannot be formatted on this software. Format them on the video camera that this software supports. (⇒11)</td>
</tr>
</tbody>
</table>
### Settings/Convenient information

When a problem occurs - Other -

<table>
<thead>
<tr>
<th>When the following problem occurs</th>
<th>Confirm the following</th>
</tr>
</thead>
</table>
| DVD-RW/RAM discs recorded with this software cannot be initialized or formatted. | ● Since DVD-RW/RAM discs recorded in the [Auto Protect ON] state are protected, they may not be initialized or formatted with other DVD recording software or Windows® Explorer. In this case, by formatting discs (page 94) (quick format*) using the format function of this software, the protect setting is cleared for initialization and formatting with recording software or Windows® Explorer.  
* Since standard formatting takes a long time, using quick format is recommended. |
| Produced DVD discs cannot be unfinalized with a video camera. | ● DVD discs recorded with this software cannot be unfinalized with a video camera. By formatting discs (page 94) with this software, discs are unfinalized for recording with a video camera. (When formatting, recorded data is deleted.) |
| Data cannot be added with a video camera to produced DVD-RAM/RW discs or SD cards. | ● Since the DVD-RAM/RW disc produced by this software have a different recording format from the video camera, it is impossible to add scenes using the video camera. 
● Before adding scenes to an SD card with the top menu by the video camera, the top menu must be deleted (page 67). |