

■ This product is eligible for the P2HD 5 Year Warranty Repair Program. For details, see page 11.

## Operating Instructions

### Memory Card Portable Recorder/Player

# P2HD

Model No. **AJ-HPM200P**

Model No. **AJ-HPM200E**



**AVCHD** 

**AVC INTRA**

**DVCPRO HD**

**DVCPRO 50**

**DVCPRO**

**IX**

**ENGLISH**  
Excerpted Version

This manual is an excerpted version of the full Operating Instructions. For more information, please refer to the PDF manual provided on the supplied CD-ROM.

**DEUTSCH**  
Kurzversion

Dieses Handbuch stellt eine Kurzversion der vollständigen Bedienungsanleitung dar. Weitere Informationen siehe PDF-Datei mit der Bedienungsanleitung auf der mitgelieferten CD-ROM.

**FRANÇAIS**  
Version extraite

Ce manuel est une version extraite du mode d'emploi complet. Pour plus d'informations, consultez le manuel au format PDF fourni sur le CD-ROM.

**ITALIANO**  
Estratto

Questo manuale è un estratto dalle istruzioni per l'uso complete. Per ulteriori informazioni fare riferimento al manuale in formato PDF fornito sul CD-ROM in dotazione.

**ESPAÑOL**  
Versión extractada

Este manual es una versión extractada del manual de instrucciones completo. Para más información, consulte el manual en formato PDF proporcionado con el CD-ROM suministrado.

Before operating this product, please read the instructions carefully and save this manual for future use.

- AVCHD capability is available when the optional AVCHD Codec board AJ-YCX250G is installed.

# Read this first! (For AJ-HPM200P)



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## WARNING:

This equipment must be grounded. To ensure safe operation, the three-pin plug must be inserted only into a standard three-pin power outlet which is effectively grounded through normal household wiring. Extension cords used with the equipment must have three cores and be correctly wired to provide connection to the ground. Wrongly wired extension cords are a major cause of fatalities. The fact that the equipment operates satisfactorily does not imply that the power outlet is grounded or that the installation is completely safe. For your safety, if you are in any doubt about the effective grounding of the power outlet, please consult a qualified electrician.

## WARNING:

- To reduce the risk of fire or shock hazard, do not expose this equipment to rain or moisture.
- To reduce the risk of fire or shock hazard, keep this equipment away from all liquids. Use and store only in locations which are not exposed to the risk of dripping or splashing liquids, and do not place any liquid containers on top of the equipment.

## CAUTION:

The mains plug of the power supply cord shall remain readily operable. The AC receptacle (mains socket outlet) shall be installed near the equipment and shall be easily accessible. To completely disconnect this equipment from the AC mains, disconnect the mains plug from the AC receptacle.

## CAUTION:

In order to maintain adequate ventilation, do not install or place this unit in a bookcase, built-in cabinet or any other confined space. To prevent risk of electric shock or fire hazard due to overheating, ensure that curtains and any other materials do not obstruct the ventilation.

## CAUTION:

To reduce the risk of fire or shock hazard and annoying interference, use the recommended accessories only.

## CAUTION:

To reduce the risk of fire or shock hazard, refer mounting of the optional interface boards to qualified service personnel.

## CAUTION:

This apparatus can be operated at a voltage in the range of 100 – 240 V AC. Voltages other than 120 V are not intended for U.S.A. and Canada. Operation at a voltage other than 120 V AC may require the use of a different AC plug. Please contact either a local or foreign Panasonic authorized service center for assistance in selecting an alternate AC plug.

## CAUTION:

Excessive sound pressure from earphones and headphones can cause hearing loss.

## CAUTION:

A coin type battery is installed inside of the unit. Do not store the unit in temperatures over 60 °C (140 °F). Do not leave the unit in an automobile exposed to direct sunlight for a long period of time with doors and windows closed.

The rating plate is on the underside of this equipment.

## **IMPORTANT SAFETY INSTRUCTIONS**

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus.  
When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



### **Notice (U.S.A. only):**

**This product has a fluorescent lamp that contains mercury. Disposal may be regulated in your community due to environmental considerations. For disposal or recycling information, please contact your local authorities, or the Electronic Industries Alliance: <http://www.eiae.org>.**

### **<For USA-California Only>**

**This product contains a CR Coin Cell Lithium Battery which contains Perchlorate Material - special handling may apply.  
See [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate).**

## FCC NOTICE (U.S.A.)

### Declaration of Conformity

Model Number: AJ-HPM200P  
Trade Name: Panasonic  
Responsible Party: Panasonic Corporation of North America  
One Panasonic Way, Secaucus, NJ07094  
Support contact: Panasonic Broadcast & Television Systems Company  
1-800-524-1448

This device complies with Part 15 of FCC Rules.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

To assure continued compliance, follow the attached installation instructions and do not make any unauthorized modifications.

### Note:

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The user may find the booklet "Something About Interference" available from FCC local regional offices helpful.

### Warning:

To assure continued FCC emission limit compliance, follow the attached installation instructions and the user must use only shielded interface cables when connecting to host computer or peripheral devices. Also, any unauthorized changes or modifications to this equipment could void the user's authority to operate this device.

# Read this first! (For AJ-HPM200E)

## **WARNING:**

This equipment must be earthed.

To ensure safe operation, the three-pin plug must be inserted only into a standard three-pin power point which is effectively earthed through normal household wiring.

Extension cords used with the equipment must have three cores and be correctly wired to provide connection to the earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power point is earthed or that the installation is completely safe. For your safety, if you are in any doubt about the effective earthing of the power point, please consult a qualified electrician.

## **WARNING:**

- To reduce the risk of fire or shock hazard, do not expose this equipment to rain or moisture.
- To reduce the risk of fire or shock hazard, keep this equipment away from all liquids. Use and store only in locations which are not exposed to the risk of dripping or splashing liquids, and do not place any liquid containers on top of the equipment.

## **CAUTION:**

To reduce the risk of fire or shock hazard and annoying interference, use the recommended accessories only.

## **CAUTION:**

To reduce the risk of fire or shock hazard, refer mounting of the optional interface boards to qualified service personnel.

## **CAUTION:**

In order to maintain adequate ventilation, do not install or place this unit in a bookcase, built-in cabinet or any other confined space. To prevent risk of electric shock or fire hazard due to overheating, ensure that curtains and any other materials do not obstruct the ventilation.

## **CAUTION:**

The mains plug of the power supply cord shall remain readily operable.

The AC receptacle (mains socket outlet) shall be installed near the equipment and shall be easily accessible.

To completely disconnect this equipment from the AC mains, disconnect the mains plug from the AC receptacle.

## **CAUTION:**

Excessive sound pressure from earphones and headphones can cause hearing loss.

## **CAUTION:**

Do not remove panel covers by unscrewing them. To reduce the risk of electric shock, do not remove the covers. No user serviceable parts inside. Refer servicing to qualified service personnel.

## **CAUTION:**

A coin type battery is installed inside of the unit. Do not store the unit in temperatures over 60 °C (140 °F).

Do not leave the unit in an automobile exposed to direct sunlight for a long period of time with doors and windows closed.

The rating plate is on the underside of this equipment.

## Caution for AC Mains Lead

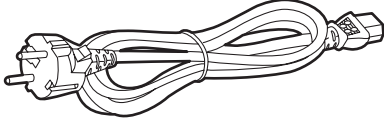
### FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.

This product is equipped with 2 types of AC mains cable. One is for continental Europe, etc. and the other one is only for U.K.

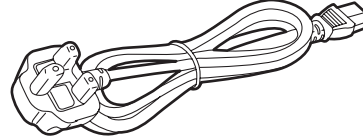
Appropriate mains cable must be used in each local area, since the other type of mains cable is not suitable.

#### FOR CONTINENTAL EUROPE, ETC.

Not to be used in the U.K.



#### FOR U.K. ONLY



#### FOR U.K. ONLY

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 13 amp fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 13 amps and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

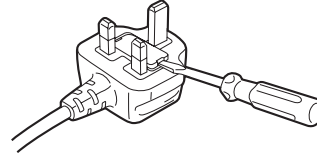
If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

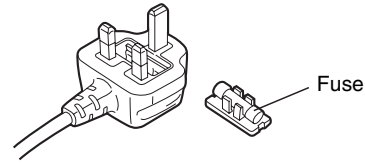
A replacement fuse cover can be purchased from your local Panasonic Dealer.

#### How to replace the fuse

1. Open the fuse compartment with a screwdriver.



2. Replace the fuse.



 indicates safety information.

EEE Yönetmeliğine Uygundur.

EEE Complies with Directive of Turkey.

## EMC NOTICE FOR THE PURCHASER/USER OF THE APPARATUS

### 1. Applicable standards and operating environment (AJ-HPM200E)

The apparatus is compliant with:

- standards EN55103-1 and EN55103-2 1996.11, and
- electromagnetic environments E1, E2, E3 and E4

### 2. Pre-requisite conditions to achieving compliance with the above standards

#### <1> Peripheral equipment to be connected to the apparatus and special connecting cables

- The purchaser/user is urged to use only equipment which has been recommended by us as peripheral equipment to be connected to the apparatus.
- The purchaser/user is urged to use only the connecting cables described below.

#### <2> For the connecting cables, use shielded cables which suit the intended purpose of the apparatus.

- Video signal connecting cables  
Use double shielded coaxial cables, which are designed for 75-ohm type high-frequency applications, for SDI (Serial Digital Interface).  
Coaxial cables, which are designed for 75-ohm type high-frequency applications, are recommended for analog video signals.
- Audio signal connecting cables  
If your apparatus supports AES/EBU serial digital audio signals, use cables designed for AES/EBU. Use shielded cables, which provide quality performance for high-frequency transmission applications, for analog audio signals.
- Other connecting cables (IEEE1394, USB)  
Use shielded cables, which provide quality performance for high-frequency applications, as connecting cables.
- When connecting to the DVI signal terminal, use a cable with a ferrite core.
- If your apparatus is supplied with ferrite core(s), they must be attached on cable(s) following instructions in this manual.

### 3. Performance level

The performance level of the apparatus is equivalent to or better than the performance level required by these standards.

However, the apparatus may be adversely affected by interference if it is being used in an EMC environment, such as an area where strong electromagnetic fields are generated (by the presence of signal transmission towers, cellular phones, etc.). In order to minimize the adverse effects of the interference on the apparatus in cases like this, it is recommended that the following steps be taken with the apparatus being affected and with its operating environment:

1. Place the apparatus at a distance from the source of the interference.
2. Change the direction of the apparatus.
3. Change the connection method used for the apparatus.
4. Connect the apparatus to another power outlet where the power is not shared by any other appliances.



### To remove the battery

#### Back-up Battery (Lithium Battery)

- For the removal of the battery for disposal at the end of its service life, please consult your dealer.

- SDHC logo is a trademark.
- miniSD logo is a trademark.
- “AVCHD” and “AVCHD” logo are trademarks of Panasonic Corporation and Sony Corporation.
- Microsoft®, Windows® and Windows Vista® are registered trademarks or trademarks of Microsoft Corporation of the United States and/or other countries.
- Microsoft product screen shots reprinted with permission from Microsoft Corporation.
- Names of products, brands, etc., appearing in this manual are trademarks or registered trademarks of their respective owners.
- This product is licensed under the AVC Patent Portfolio License for the personal and non-commercial use of the following activities of a consumer but no license is granted or implied for any other use.
  - Encoding video in compliance with the AVC standard (hereafter referred to as “AVC video”).
  - Decoding AVC video that was encoded by a consumer engaged in a personal and non-commercial activity.
  - Decoding AVC video that was obtained from a video provider licensed to provide AVC video.

Additional information may be obtained from MPEG LA, LLC (<http://www.mpegla.com>).

  - Using this product to make recordings on SD memory cards for distribution to end users for a commercial purpose requires a separate license agreement from MPEG-LA. End user refers to a person or organization using content for private purposes.

## Illustrations in this manual

- Note that illustrations of the unit and menu screens may differ from the ones you actually see.

## Page references

- In this manual, references to pages are indicated as: (→ page 00, PDF page 00).

## Terminology

- The term “SD memory card” will be used below as a generic for SD and SDHC memory cards.
- A memory card with the “P2” logo (for example the separately sold AJ-P2C064AG) is referred to as a “P2 card.”
- A hard disk drive (HDD) is referred to as a “hard disk.”
- A continuous video recording created during a single recording is referred to as a “clip.”
- The state when the THUMBNAIL and PLAYLIST buttons are off is referred to as the “recording/playback mode.” (Refer to page 30.)

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### ■ Information on software for this product

1. Included with this product is software licensed under the GNU General Public License (GPL) and GNU Lesser General Public License (LGPL), and users are hereby informed that they have the right to obtain, change and redistribute the source codes of this software.

Details on GPL and LGPL can be found on the installation CD provided with the unit. Refer to the folder called "LDOC".

(Details are given in the original (English-language) text.)

To obtain the source codes, go to the following home page:

<https://www.pavc.panasonic.co.jp/pro-av/>

The manufacturer asks users to refrain from directing inquiries concerning the source codes they have obtained and other details to its representatives.

2. Included with this product is software which is licensed under MIT-License.

Details on MIT-License can be found on the installation CD provided with the unit. Refer to the folder called "LDOC".

(Details are given in the original (English-language) text.)

3. This product contains software licensed under the OpenSSL License and SSLeay License. Details on OpenSSL and SSLeay can be found on the installation CD provided with the unit. Refer to the folder called "LDOC". (Details are given in the original (English language) text.)

### ■ Panasonic makes no guarantees for your recordings

Please understand that Panasonic makes no guarantees for your recordings in cases where video and/or audio were not recorded as you intended due to problems with this unit, P2 cards, or SD memory cards.

### ■ What to remember when throwing memory cards away or transferring them to others

Formatting memory cards or deleting data using the functions of the unit or a computer will merely change the file management information: it will not completely erase the data on the cards. When throwing these cards away or transferring them to others, either physically destroy them or use a data deletion program for computers (commercially available) to completely erase the data. Users are responsible for managing the data on their memory cards.

### ■ Place of Installation

Do not install this unit in a location exposed to direct sunlight as this may deform the cabinet or damage the LCD screen.

### ■ Liquid crystal displays

- While 99.99% or more of the pixels on an LCD screen will function normally, 0.01% may either be dead or constantly lit (seen as red, blue or green dots). This is not a malfunction.
- There may be some unevenness on the screen depending on the image displayed.
- Wiping or rubbing the LCD screen with a rough cloth may damage it.
- Leaving an unchanging image on the screen for a long period of time may create a temporary afterimage (burn-in).
- LCD response and brightness vary with ambient temperature.
- In a high-temperature and high-humidity location, the LCD panel characteristics may change and result in uneven image quality.

# Accessories

## Included Accessories

|                   |                |
|-------------------|----------------|
| Power cable ..... | 1 (AJ-HPM200P) |
|                   | 2 (AJ-HPM200E) |
| CD-ROM .....      | 1              |

### ◆ NOTE:

- Be sure to appropriately dispose of the packing material when you have unpacked the product.
- Consult your supplier regarding purchase of accessories.

## Optional Accessories

- AVCHD Codec board  
AJ-YCX250G

### ◆ NOTE:

- Do not use optional boards other than the above product.
- Have your supplier install optional boards.

## P2HD 5 Year Warranty Repair Program<sup>\*1</sup>

Thank you for purchasing this Panasonic P2HD device.

Register as a user for this device to receive a special service warranty up to five years of free warranty repairs.

Customers who register as users on the website will receive an extended warranty repair valid for up to five years.



|                           | 1 <sup>st</sup> year         | 2 <sup>nd</sup> year                   | 3 <sup>rd</sup> year | 4 <sup>th</sup> year | 5 <sup>th</sup> year <sup>*5</sup> |
|---------------------------|------------------------------|----------------------------------------|----------------------|----------------------|------------------------------------|
| P2HD device <sup>*2</sup> | Basic warranty <sup>*3</sup> | Extended warranty repair <sup>*4</sup> |                      |                      |                                    |

<sup>\*1</sup>: Please note that this extended warranty is not available in some countries/regions. <sup>\*2</sup>: Not all models eligible for extended warranty coverage.

<sup>\*3</sup>: The basic warranty period may vary depending on the country/region. <sup>\*4</sup>: Not all repair work is covered by this extended warranty.

<sup>\*5</sup>: The maximum warranty period may be adjusted depending on the number of hours the device has been used.



Purchase  
P2 product



Register online  
within 1 month



"Registration Notice"  
e-mail sent

Free 5 years of Warranty Repairs

Make sure to save the "Registration Notice" e-mail  
during the warranty period.

Details about user registration and the extended warranty: [http://panasonic.biz/sav/pass\\_e](http://panasonic.biz/sav/pass_e)

Please note, this is a site that is not maintained by Panasonic Canada Inc. The Panasonic Canada Inc. privacy policy does not apply and is not applicable in relation to any information submitted. This link is provided to you for convenience.

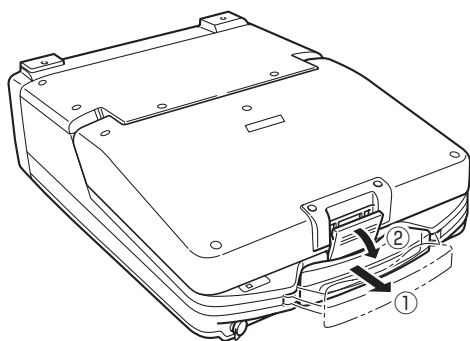
# Opening and Closing the Top Panel

## ◆ NOTE:

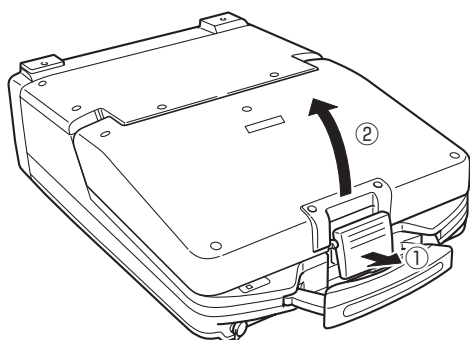
- Take care to avoid pinching your fingers when opening and closing the top panel.
- Check that the card lock is set to on before closing the top panel. Never use force to close it when the lock is not set to on as this will damage the unit.

## Opening the top panel

- 1** Pull out the handle, then pull the top of the lever towards you to release the lock.

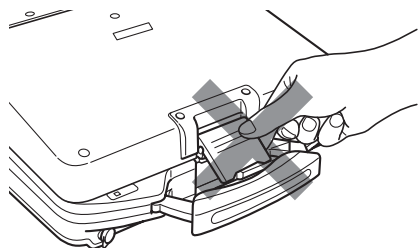


- 2** Free the bottom of the lever. Then hold the top panel and raise it to open.



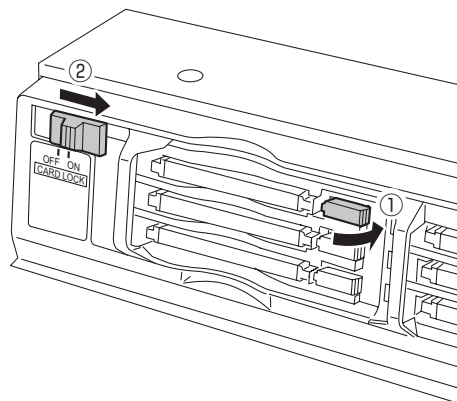
## ◆ NOTE:

- Do not expose the lever to excessive force.

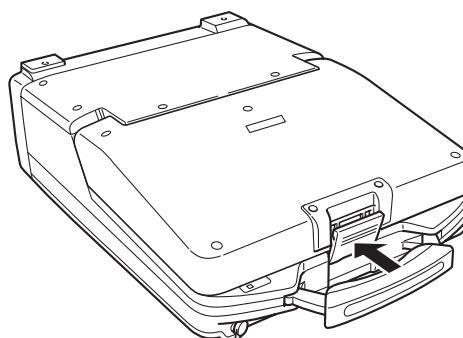


## Closing the top panel

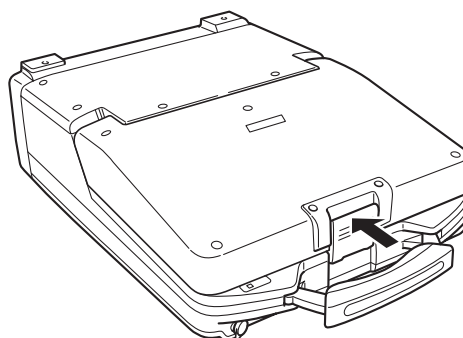
- 1** Make sure the EJECT button is folded downwards. If not folded, fold the EJECT button to the right and set the card lock to on.



- 2** Close the top panel and engage the bottom of the lever with the receptacle in the lower portion of the panel assembly.



- 3** While making sure that the bottom of the lever has been properly seated, press the top of the lever towards the rear to lock it.



# Introduction

## Features

The AJ-HPM200 is a portable memory card recorder/player equipped with six P2 card slots and a 9-inch color LCD monitor. It allows you to record and play back audio and video in the compressed DVCPRO HD, DVCPRO50, DVCPRO, DV and AVC-Intra formats on the six P2 cards, to edit P2 card and hard disk video data and edit using an external VTR as a player. The AJ-HPM200 comes with the following features.



## ■ Connecting a P2 Card Camera

A P2 card recorded in a P2 camera recorder plugs directly into a PC card slot in this unit for immediate access. The P2 card is a semiconductor memory card that Panasonic developed for professional AV use.

## ■ AVC-Intra standard feature

The AVC-Intra codec is provided as a standard feature. An Intra-Frame compression format based on the H.264 video compression standard makes possible a high compression rate and high-quality image.

The AVC-Intra codec for this product is compatible with the following two formats.

AVC-Intra 100: High-quality video supporting full-bit HD

AVC-Intra 50: Low-rate and low-cost operation

## ■ Built-in up/down/cross converter for output and up converter for input

The AJ-HPM200 provides a built-in up/down/cross converter for output as standard. It also up-converts composite and SD-SDI input signals to record in the same HD format as the system.

### ◆ NOTE:

- The cross converter function is not available during up-conversion recording.
- SD closed caption signals during up-conversion recording are recorded in the 608 HD (VANC) signal format (59.94 Hz only).
- Closed caption signals are not output during playback or down- and cross-conversion.
- Nor are closed caption signals output during playback of up-converted SD signals.

## ■ Frame rate conversion

Recording input from variable frame-rate cameras at 24PN (Native), the unit is also capable of playing back cards recorded at 24 fps and converting the output to 1080/24 PsF. It can also record input from a variable frame-rate camera at 25PN (Native).

### ◆ NOTE:

- Do not use cards that have been edited or contain clips shot in different formats as the loss of management data may prevent normal playback.

## ■ Native recording

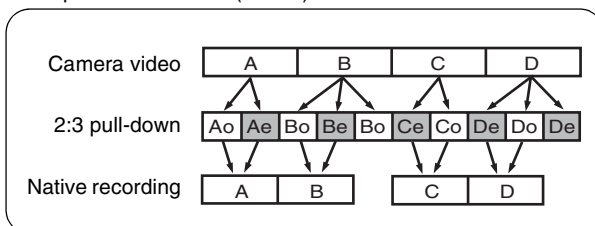
The unit provides support for native recording, a mode that records only active frames. This provides longer recording time when a VariCam, AJ-HPX2000/2100 or AJ-HPX3000 is connected to the HD-SDI IN connector. Variable frame rate (VFR) recording becomes possible by connecting a VariCam.

### ● Native recording defined

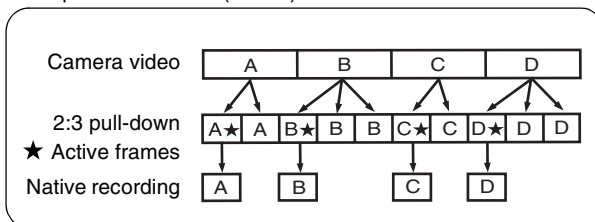
Native recording extracts only the active frames during 1080i AVC-Intra recording as well as 720P DVCPRO HD and AVC-Intra recording. At 720P, this lengthens the recording time 2 to 2.5 times over pull-down recording.

During native recording at a 59.94 Hz or 50 Hz setting in setup menu No. 25 (SYSTEM FREQ), the unit produces pull-down output.

Example of 1080-24PN (Native)



Example of 720-24PN (Native)



## ■ Thumbnails for managing clips visually

The 9-inch color LCD monitor displays video clips (thumbnails) stored on a P2 card. The viewer can select the thumbnails he wants to see and change the order in which they appear.

Clips can be selected from the thumbnail list for immediate playback. The list also provides quick access to other clip management operations such as copying and deleting, adding shot marks and text memos as well as confirming and editing clip data.

## ■ Expanded high-speed hard disk interface

### ● High-speed eSATA interface

The unit now supports hard disks using the eSATA interface, which is faster than the regular USB interface. This interface provides faster backup of video data on a P2 card to hard disk and can restore hard disk data to a P2 card.

### ● Playback (best effort) and playlist editing of hard disk video data

Video data on a hard disk can be viewed as thumbnails or a smooth <sup>\*1</sup> video stream. A protective feature ensures a continuous audio output even if reading performance drops due to use of a slow hard disk or through interference such as vibrations.

Playback of hard disk video data <sup>\*1</sup> enables editing of video on a hard disk in the same way as editing video on a P2 card. Playback <sup>\*1</sup> of hard disk video data enables direct editing.

<sup>\*1</sup>: This does not guarantee playback without frame skipping.

## ■ Gigabit Ethernet network supported

### ● FTP client

In the thumbnail screen, this network allows to select video stored on a P2 card or external hard disk and transfer it at high speed via an FTP server on the Internet. Video stored on an FTP server can be displayed and selected as a thumbnail for downloading to a P2 card or external hard disk. And SD memory card data can be sent by the card to and from an FTP server. The network also enables transmission of data encrypted using SSH.

### ● Browser

A browser mode enables the user to browse web sites with web page authentication required for connecting to the Internet.

### ● FTP server

The unit can operate as an FTP server allowing a computer or other FTP client to load video files stored on P2 cards or in an external hard disk.

### ● SAMBA server

When connected to a Windows computer or other network computer, the unit can operate as a SAMBA server to load video files stored on P2 cards or in an external hard disk.

### ● HTTP server

Using the unit as an HTTP server allows you to view lists of video data from a browser on a computer, view metadata, and play back proxy data.

## ■ Editing and GUI

### ● Independent audio and video editing

Any video and audio (4ch) tracks can be independently selected for editing.

### ● Insert editing and overwrite editing

Two types of editing are available: insert editing, in which new events are added between two editing events and overwrite editing, in which a new event overwrites an event.

### ● Two screens for editing material and playlist video

Editing material (player) and playlist (recorder) video appear in two screens at all times. A timeline indicating editing status appears simultaneous with these screens for intuitive editing.

### ● Capability to edit both tape and hard disk material

Use of a VTR or similar device with an RS-422A interface as player makes possible linear-like editing (deck-to-deck editing). Video data transferred to an eSATA or USB hard disk can also be edited.

● Function for adjusting audio level (variable) of any section  
Preview and audio level adjustments make it possible to operate the audio playback fader for the required audio section to adjust the audio level (variable).

### ● Display and playback of player thumbnails

A player using P2 cards or a hard disk can display player thumbnails. Thumbnails can be set to limit the clips used by the player to the required clips.

## ■ Audio AES/EBU input and output supported (16 bit, 48 kbps/4 ch)

The unit comes with a 4-channel AES/EBU input and output interface as standard. This enables interfacing with digital audio equipment and digital VTRs using a 48 kHz sampling rate.

## ■ AVCHD option (AJ-YCX250G)

Installation of the AJ-YCX250G, an optional AVCHD codec board, will enable recording and playback of the AVCHD format on SD memory cards.

This makes the following possible.

- Dubbing AVCCAM recorded clips onto a P2 card in the DVCPROHD or AVC-Intra format, playlist editing of such clips and ingesting such clips to non-linear editor.
- Dubbing P2 card clips recorded on a P2HD camera-recorder to an SD memory card in the AVCHD format.
- HD-SDI or other external input can be recorded as DVCPROHD or AVC-Intra to a P2 card simultaneous with recording of the same input in AVCHD format video on an SD memory card.

## ■ Waveform and vector display

The LCD screen can display either video waveform or vector waveform.

During up-conversion, a waveform is displayed after up-conversion.

### ◆ NOTE:

- A waveform is not displayed when there is no input signal.

## ■ HD-SDI remote

When the unit is connected to a camera-recorder with an external device control, start and stop of recording of HD-SDI signal input can be automatically controlled through recording start and stop signals in the input.

## ■ USB keyboard

A USB keyboard can be connected to enable the following functions.

- Entry and editing of clip metadata
- Network setup, browser

### ◆ NOTE:

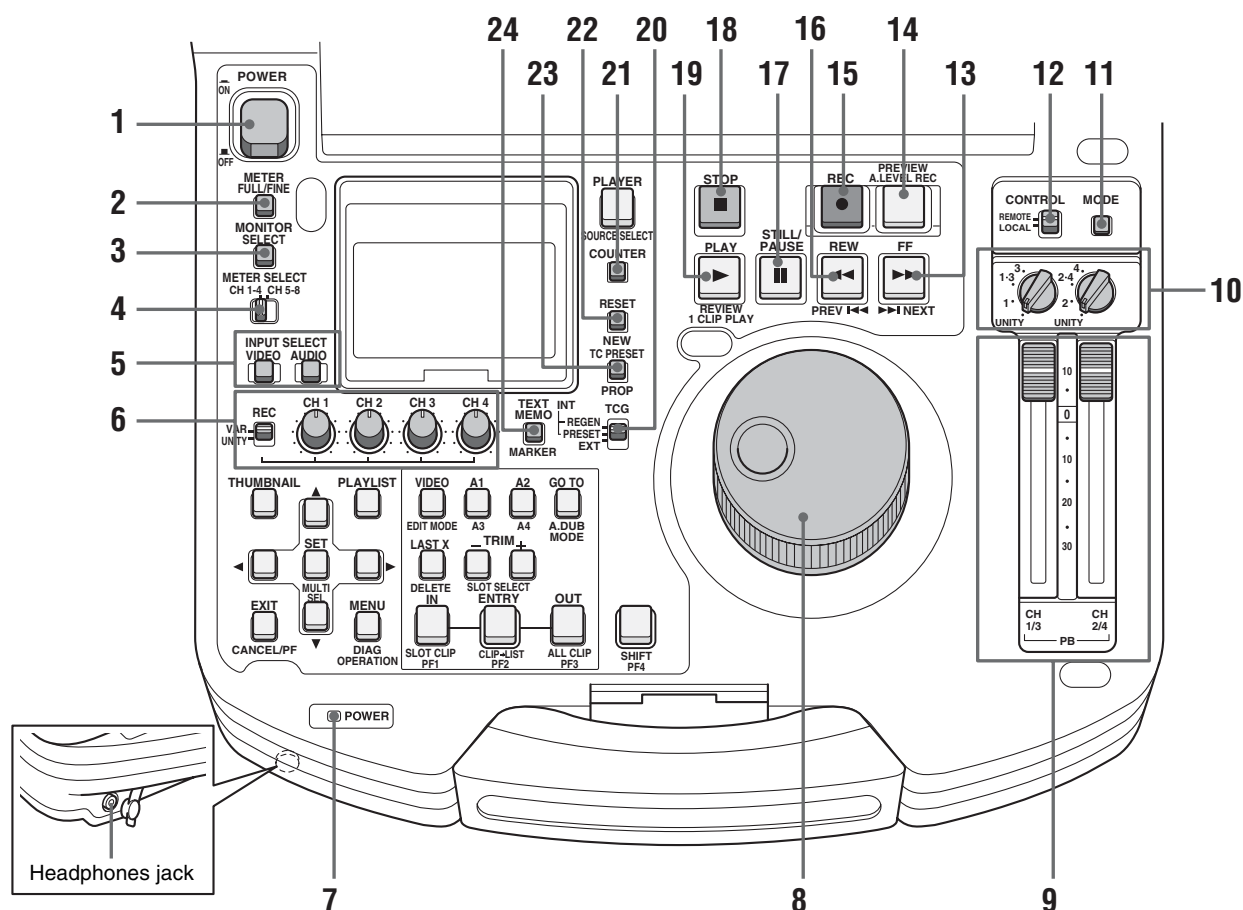
- Some USB keyboards may not enable normal input.

## ■ VANC data recording/playback function (59.94 Hz, 50 Hz only)

Recording and playback of ancillary data (VANC data) of up to 5760 bytes per frame conforming to SMPTE 291M is superimposed on the vertical blanking area of video.

# Control Reference Guide

## Audio and Video Controller



### 1. POWER switch

Turns the power on and off.

### 2. METER (FULL/FINE) selector button

Switches the scale of the audio level meter.

|            |                                                                                                                                                    |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| FULL mode: | Selects the standard scale<br>(-∞ to 0 dB range)                                                                                                   |
| FINE mode: | Selects a scale divided into 0.5 dB increments.<br>“■” indicates reference level (as set in setup menu) on a scale divided into 0.5 dB increments. |

### 3. AUDIO MONITOR SELECT button

Switches the audio signals to be output to the MONITOR L/R connectors and the headphones jack. Each press of the button switches the output signals to the MONITOR L/R connectors and the headphones jack as described below.

|                                                                                       |                                                                                                                       |
|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| When the METER SELECT switch is set to CH 1 to 4:                                     | [CH1 / 2] → [CH3 / 4] → [CH1 / 1] → [CH2 / 2] → [CH3 / 3] → [CH4 / 4] → [CH1+2 / 1+2] → [CH3+4 / 3+4] → [CH1+3 / 2+4] |
| When the METER SELECT switch is set to CH 5 to 8:<br>(selectable only with HD format) | [CH5 / 6] → [CH7 / 8] → [CH5 / 5] → [CH6 / 6] → [CH7 / 7] → [CH8 / 8] → [CH5+6 / 5+6] → [CH7+8 / 7+8] → [CH5+7 / 6+8] |

The L/R lamps in the audio level meter indicate which signal is selected.

#### 4. METER SELECT switch

Switches to CH1-4 or CH5-8 in the audio meter and the monitor.

#### 5. INPUT SELECT buttons

Switch between video and audio input signals.

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VIDEO: | Press the VIDEO button to open a screen for selecting input signal. Pressing the button when the screen is open enables selection of CMPST, HDSDI, SDSDI, 1394 or SG input. When SG is selected, the signal switches to the internal signal selected in setup menu No. 601 (VIDEO INT SG).<br>Selecting composite or SD SDI when setup menu No. 020 (SYS FORMAT) is set to 1080i or 720p automatically up-converts SD to HD when recording. The unit indicates this as CMPST (U/C) and SDSDI (U/C). |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|        |                                                                                                                                                                        |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AUDIO: | Press the AUDIO button to open a screen for selecting input signal. Pressing the button when the screen is open enables selection of ANALOG, AES/EBU, SDI or SG input. |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

##### ◆ NOTE:

- When VIDEO is set to 1394, AUDIO is automatically set to 1394.
- The selected input item blinks when there is no input signal.
- Press the INPUT SELECT button once to show the current setting. When you do not want to change the setting, press the EXIT button or wait for 3 seconds to allow the display of the current setting to vanish.

#### 6. AUDIO REC VOL SEL switch

##### UNITY/VAR switch

|        |                                                                                                     |
|--------|-----------------------------------------------------------------------------------------------------|
| UNITY: | Records the audio signals at a fixed level regardless of the positions of the audio level controls. |
| VAR:   | Records audio signals at the level set with the audio level controls.                               |

##### Audio level controls

Use these controls to adjust the recording levels of the audio signals (CH1/CH2/CH3/CH4). However, the recording level cannot be adjusted during 1394 input.

#### 7. POWER indicator

Lights when the power is on.

#### 8. Search dial

Use to search and check video.

→Refer to “Jog and Shuttle Operations Using the Search Dial” (page 36).

Hold down the SHIFT button and turn the search dial to perform high-speed scrolling in the thumbnail screen.

→Refer to “Thumbnail and Clip Management” (page 38).

#### 9. Audio playback level controls

Adjust the playback level of audio signals (of channels selected using the UNITY/VAR channel select switch). However, they cannot adjust the playback level of 1394 output signals. CH5 to 8 are at all times played back at a fixed level.

#### 10. UNITY/VAR channel select switches

|               |                                                                                                                                    |
|---------------|------------------------------------------------------------------------------------------------------------------------------------|
| UNITY:        | Plays back audio signals at a fixed level regardless of the positions of the audio level controls.                                 |
| 1(2):         | Plays back and outputs audio CH1(2) at the level adjusted using the audio level controls to CH1(2) and at a fixed level to CH3(4). |
| 1+3<br>(2+4): | Plays back and outputs audio CH1(2) and CH3(4) at the level adjusted using the audio level controls to CH1(2) and CH3(4).          |
| 3(4):         | Plays back and outputs audio CH3(4) at the level adjusted using the audio level controls to CH3(4) and at a fixed level to CH1(2). |

#### 11. MODE button

Switch to the USB device mode for connecting a personal computer, to the network server mode, browser mode or AVCHD mode (available only with optional equipment).

Press this button to open the mode selection screen on the LCD monitor and select the desired mode.

→For details, refer to “Using USB or eSATA Connectors” (PDF page 112).

→Refer to “Connecting This Unit to a Network” (PDF page 126).

→Refer to “Operating the AVCHD Thumbnail Screens” (PDF page 143).

## 12.CONTROL switch

---

REMOTE: Select this position to control the unit through AV/C commands via the 9-pin REMOTE or IEEE1394.

---

LOCAL: Select this position to control the unit from the operation panel.

---

## 13.FF/NEXT buttons

### FF button

Press to start fast forward playback. Select the speed in setup menu No. 102 (FF. REW MAX).

### NEXT (SHIFT + FF) button

Press this button during playback to move to the beginning of the next clip or the beginning of a clip or text memo. During playback of a recorder in playlist mode, the beginning of the next video event is located. The operation interrupted by this function is resumed when clip beginning is located.

In the thumbnail display, press this button to move to the last thumbnail.

## 14.PREVIEW/A LEVEL REC button

### PREVIEW button

Press this button to preview (playback from the IN point of set preroll time to 1 sec past the OUT point) edit in playlist mode.

→Refer to “Buttons Used in Playlist Operations” (PDF page 82).

### A LEVEL REC (SHIFT + PREVIEW) button

Adjust level of audio tracks.

→Refer to “Buttons Used in Playlist Operations” (PDF page 82).

## 15.REC button

Press this button and the PLAY button simultaneously to start recording. During playback, press this button to check EE mode video and audio on the monitor. (EE mode is not available during IEEE1394 input) Press the STOP button to return to the original video and audio. In playlist mode, press this button to check edit results.

## 16.REW/PREV button

### REW button

Press to rewind. Select the speed in setup menu No. 102 (FF. REW MAX).

### PREV (SHIFT + REW) button

During playback, press this button to move to the beginning of the current clip, the next clip or text memo. During playback of a recorder in playlist mode, the beginning of the previous video event is located. The operation interrupted by this function resumes when the beginning of a clip is located.

In the thumbnail display, press this button to move to the first thumbnail.

## 17.STILL/PAUSE button

Press this button to engage the search mode and display a still picture. In the search mode, you can use the search dial for JOG and SHTL (shuttle) operations.

## 18.STOP button

Press this button to stop. When the setting in setup menu No. 122 (STOP EE SEL) is PB, you can monitor freeze pictures and when set to EE, you can monitor input video.

## 19.PLAY/REVIEW/1 CLIP PLAY button

### PLAY button

Press to start playback.

Press this button and the REC button simultaneously to start recording.

### 1 CLIP PLAY (SHIFT + PLAY) button

In the thumbnail display, press this button to play back the clip at the cursor location. During playback only the STOP button is available.

### REVIEW (SHIFT + PLAY) button

In playlist mode, press this button to review the event at the cursor location.

→Refer to “Buttons Used in Playlist Operations” (PDF page 82).

## 20.TCG switch

|             |                                                                                                                                                                                              |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INT REGEN:  | The internal time code generator synchronizes with the time code read by the time code reader from the P2 card. Select whether to make TC or UB the REGEN in setup menu No. 505 (TCG REGEN). |
| INT PRESET: | Uses the internal time code generator of this unit. Settings can be preset on the operation panel and the remote control panel.<br>→Refer to “Time Code, User Bit and CTL” (PDF page 185).   |
| EXT:        | Uses the external time code input from the TIME CODE IN connector or video signal VITC, SLTC, SVITC and IEEE1394 digital input connectors. Select in setup menu No. 507 (EXT TC SEL).        |

## 21.COUNTER button

Press to switch the counter display of the LCD panel. Each press of this button changes the counter display as follows: [CTL (relative position from the beginning)] → [TC (read time code)] → [UB (user bit of the read time code)].

## 22.RESET/NEW button

### RESET button

Press this button when the LCD panel counter is in the CTL mode to reset the counter display to [0:00:00:00]. Hold down the TC PRESET button and press this button when the LCD panel counter is in the TC mode (read time code) or UB mode (user bit of the read time code) to reset the time code generator. When using the on-screen keyboard, use this button to delete all text, IN/OUT points in playlists, etc.

### NEW (SHIFT+RESET) button

Use these buttons in the playlist.

→Refer to “Creating a New Playlist” (PDF page 87).

## 23.TC PRESET/PROP button

### TC PRESET button

Use to set TC and UB values.

→Refer to “Time Code, User Bit and CTL” (PDF page 185).

### PROP (SHIFT + TC PRESET) button

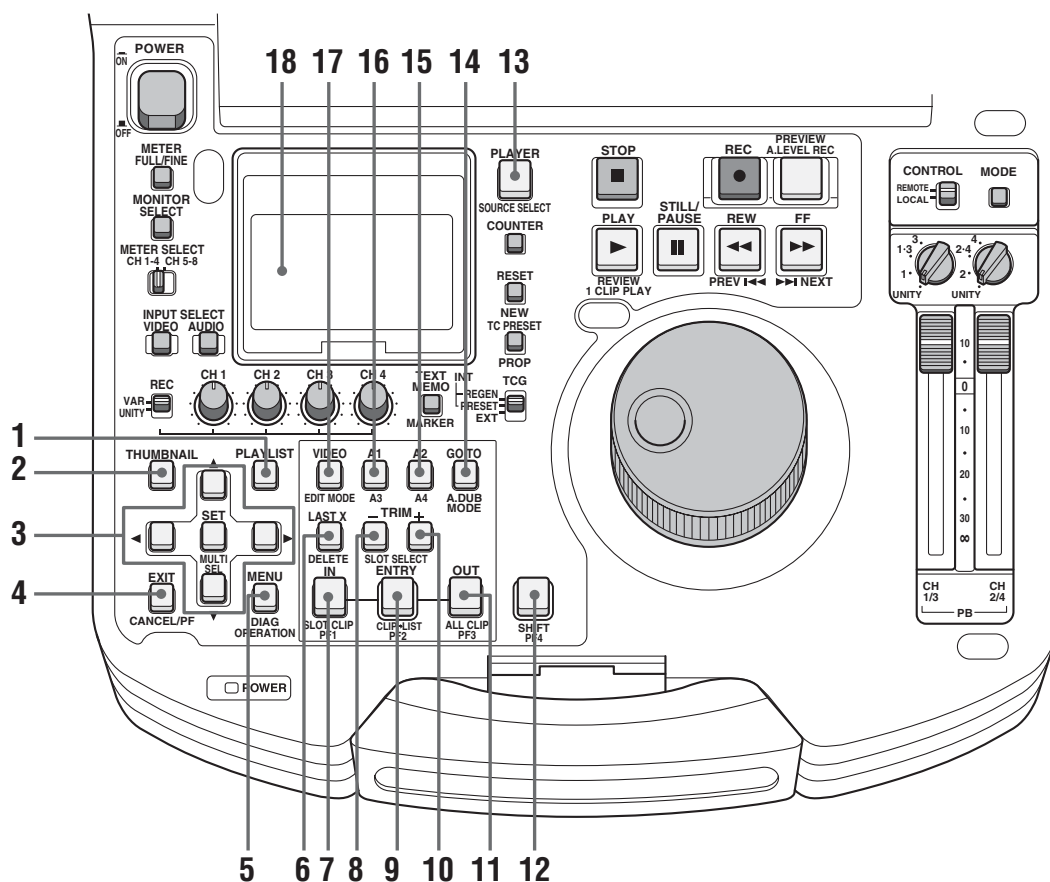
In the thumbnail and playlist screen (when no menu is displayed), press the SHIFT button and this button simultaneously to show the property of a clip or an event.

→Refer to “Viewing and Revising Clip Information” (PDF page 61).

## 24.TEXT MEMO/MARKER button

**TEXT MEMO:** Press this button during recording and playback where you wish to enter a text memo. In the thumbnail screen, press this button to add a text memo at the start of a clip.  
→For details, refer to “Attaching Text Memos” (PDF page 56).

**MARKER:** In the thumbnail screen, while pressing the SHIFT button, press this button to turn shot mark display of the clip at the pointer position on and off.  
→For details, refer to “Attaching Shot Marks” (PDF page 57).



## 1. PLAY LIST button

Press to start or end playlist mode.

→Refer to "Playlist Function" (PDF page 74).

selects all track events with the same IN and OUT points as the event at the cursor.

## 2. THUMBNAIL button

Press this button and the button lights, and the thumbnail screen appears on the LCD monitor. Press again to return to video playback and the button goes out.

Setting setup menu No051 (GUI OUTPUT) allows you to transfer the thumbnail screen and the playlist screen to the video output.

## 3. Cursor buttons (◀▶/▲▼)

The four outer buttons are cursor buttons. Use them to move the cursor in thumbnails, menus, events, etc. The SET button at the center is used to select menu items and clips.

In the thumbnail or playlist screen, hold down the SHIFT button and press a cursor button to move the cursor to the beginning or the end. Or hold down the SHIFT button and press the SET button to select multiple clips or events.

Holding down the SET button in the playlist screen,

## 4. EXIT/CANCEL/PF button

When the PLAYLIST/THUMBNAIL buttons are lit:

Press this button to return from clip property, card status or HDD thumbnail to the previous screen. Selecting [EXIT] in a menu has the same effect as pressing the SET button. Press the SHIFT button and this button simultaneously to cancel a selection.

When the PLAYLIST/THUMBNAIL buttons are off:

Press this button to use the 7 (IN), 9 (ENTRY), 11 (OUT) and 12 (SHIFT) buttons as PF1 to PF4, respectively. Press this button again before pressing another button and this mode will close after a short interval. →Refer to "Making changes using the PF buttons" (page 44).

## 5. MENU/DIAG/OPERATION button

### MENU button

Press this button to open the setup menu, thumbnail or playlist menus. Press again to return to the previous screen.

→Refer to “Moving Between Screens and Menu Operations” (page 30).

Refer to “Setup” (page 43).

### DIAG (SHIFT+MENU) button

When not in the thumbnail or playlist screen, press this button to show information about this unit. Press again to return to the previous screen. However, in the thumbnail or playlist screen, it has the same effect as pressing the OPERATION (SHIFT + MENU) button. Information about this unit includes [VIDEO SYSTEM], [WARNING], [HOURS METER], [UMID] and [DIF]. Use the SET button or the right and left cursor buttons (◀▶) to switch among them.

|                        |                                                                                                                            |
|------------------------|----------------------------------------------------------------------------------------------------------------------------|
| [VIDEO SYSTEM] screen: | Shows current system frequency, recording format, input and output formats and other information.                          |
| [WARNING] screen:      | Shows warning information.                                                                                                 |
| [HOURS METER] screen:  | Shows the unit serial number, the number of hours it has been on, and the number of times it has been switched on and off. |
| [UMID] screen:         | Shows UMID information for the current video.                                                                              |
| [DIF] screen:          | Shows various information on the current DIF (the IEEE 1394 interface).                                                    |

### OPERATION (SHIFT + MENU) button

In the thumbnail and playlist screen (when no menu is displayed), press the SHIFT button and this button simultaneously to show and select the [OPERATION] menu.

## 6. LAST X/DELETE button

### LAST X button

In the playlist mode, use this button to return a previous editing operation.

→Refer to “Buttons Used in Playlist Operations” (PDF page 82).

### DELETE (SHIFT + LAST X) button

In the thumbnail or playlist screen, press this button to delete the selected clip or event.

## 7. IN/SLOT CLIP/PF1 button

### IN button

Use this button to perform the following functions during clip playback or when the unit is controlled externally.

- IN+ENTRY

Press the ENTRY button and this button to set an IN point.

- IN

Press this button to confirm a set IN point. “--:--:--” is displayed when no point has been set.

- IN+RESET

Press the RESET button and this button simultaneously to delete the current IN point.

- IN+GOTO

Press the GOTO button and this button simultaneously to cue up to the set IN point.

### SLOT CLIP (SHIFT + IN) button

In the thumbnail screen, each simultaneous press of the SHIFT button and this button switches the clip display between a specific SLOT or selected clip.

### PF1 button

In recording/playback mode, press this button after pressing the PF button to start the setup menu operation registered in the PF1 button.

## 8. TRIM – /SLOT SELECT – button

### SLOT SELECT – (SHIFT + TRIM –) button

Hold down the SHIFT button and this button simultaneously to move to the previous recording slot position. Pressing this button when the unit is in slot 1 results in a move to slot 6.

### TRIM – button

Use this button to move to a hard disk partition.

→Refer to “Displaying Clip Thumbnails on a Hard Disk” (PDF page 121).

Use this function for trimming.

→Refer to “Buttons Used in Playlist Operations” (PDF page 82).

## 9. ENTRY/CLIP → LIST/PF2 button

### ENTRY button

During clip playback or control of an external device, press the IN or OUT button simultaneous with this button to set an IN or OUT point.

### CLIP → LIST (SHIFT + ENTRY) button

Clip load function

→Refer to “Buttons Used in Playlist Operations” (PDF page 82).

### PF2 button

In recording/playback mode, press this button after pressing the PF button to start the setup menu operation registered in the PF2 button.

## 10. TRIM + /SLOT SELECT + button

### SLOT SELECT + (SHIFT + TRIM+) button

Hold down the SHIFT button and this button simultaneously to move to the previous recording slot position. Pressing this button when the unit is in slot 6 results in a move to slot 1.

### TRIM + button

Use this button to move to a hard disk partition.

→Refer to “Displaying Clip Thumbnails on a Hard Disk” (PDF page 121).

Use this function for trimming.

→Refer to “Buttons Used in Playlist Operations” (PDF page 82).

## 11. OUT/ALL CLIP/PF3 button

### OUT button

Use this button to perform the following functions during clip playback or when the unit is controlled externally.

- OUT + ENTRY

Press the ENTRY button and this button to set an OUT point.

- OUT

Press this button to confirm a set OUT point.

“--:--:--” is displayed when no point has been set.

- OUT + RESET

Press the RESET button and this button simultaneously to delete the current OUT point.

- OUT + GOTO

Press the GOTO button and this button simultaneously to cue up to the set OUT point.

### ALL CLIP (SHIFT + OUT) button

In the thumbnail screen, press the SHIFT button and this button simultaneously to return the clip display to ALL.

### PF3 button

In recording/playback mode, press this button after pressing the PF button to start the setup menu operation registered in the PF3 button.

## 12. SHIFT/PF4 button

### SHIFT

Use this button together with the FF, REW and SET buttons (short cut keys).

→Refer to “List of Shortcuts” (PDF page 205).

### PF4

In recording/playback mode, press this button after pressing the PF button to start the setup menu operation registered in the PF4 button.

## 13. PLAYER/ SOURCE SELECT button

### PLAYER button

Use this button to control an external device or operate a player in playlist mode.

- In modes other than thumbnail or playlist mode:  
Switches to operation of an external device (RS-422A). Pressing PLAY or other operation button will remote control an external device and display externally input video, audio and time code.
- In playlist mode:  
Switches to player/recorder.  
→Refer to “Preparing for Playlist Creation” (PDF page 86)., “Buttons Used in Playlist Operations” (PDF page 82).

### SOURCE SELECT (SHIFT + PLAYER) button

- In recording/playback mode:  
Switches to operation of an IEEE1394 connected device.
- In playlist mode:  
Sets the source (interface) used as a player.  
→Refer to “Playlist Function” (PDF page 74).

## 14. GO TO/ A.DUB MODE button

### GO TO button

Hold down this button and press the IN/OUT button to cue up to an IN or OUT point.

---

#### ◆ NOTE:

- Cue up may fail when the time code is not continuous. Be sure to use a continuous time code.

### A. DUB MODE (SHIFT + GOTO) button

Press this button to engage the A. DUB mode and record voice-overs.

→Refer to “Recording Voice-Overs” (PDF page 102).

## 15.A2/A4 button

Use to select material for editing in the playlist mode (audio channels 2 and 4).

→Refer to “Buttons Used in Playlist Operations” (PDF page 82).

## 16.A1/A3 button

Use to select target for editing in the playlist mode (audio channels 1 and 3).

→Refer to “Buttons Used in Playlist Operations” (PDF page 82).

## 17.VIDEO / EDIT MODE button

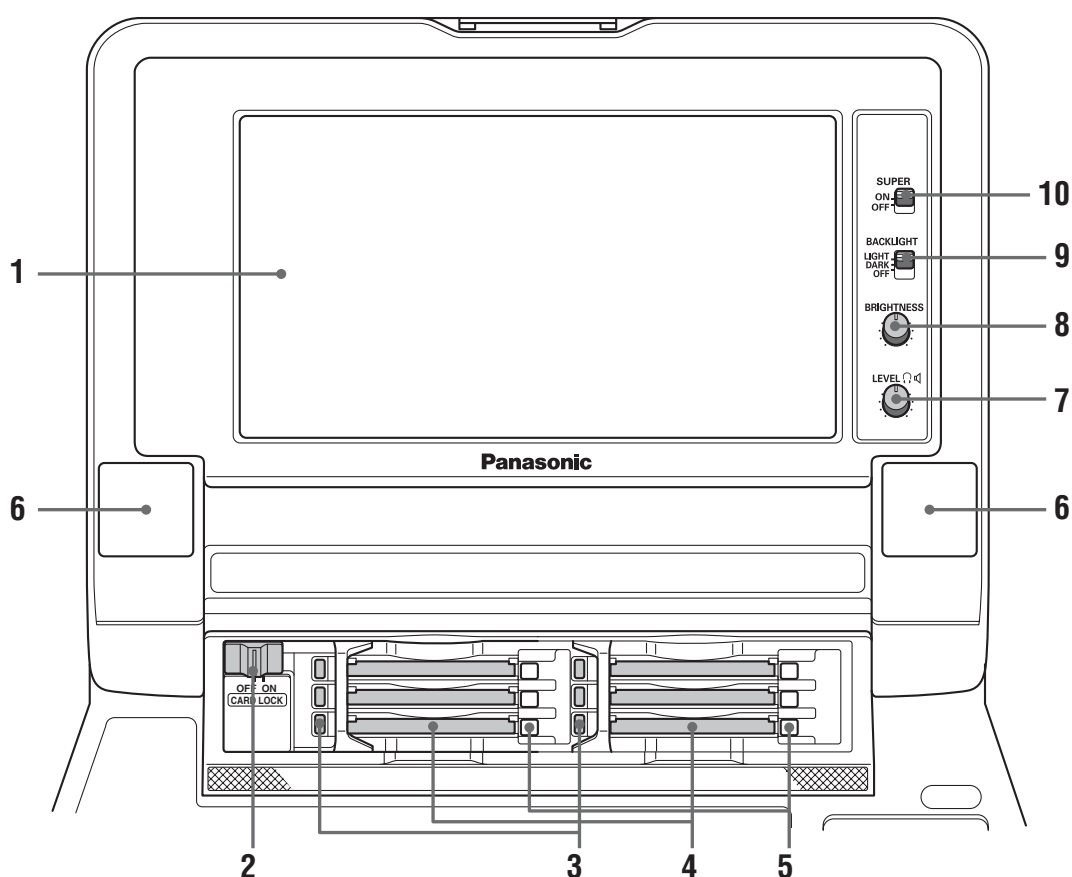
Use to select material for editing (video) in the playlist mode and select edit mode.

→Refer to “Buttons Used in Playlist Operations” (PDF page 82).

## 18.LCD panel

Displays the audio level meters and the time code.

→Refer to “LCD Panel” (page 25).



### 1. 9-inch Color LCD Monitor

Thumbnail screens facilitate video searches and checks.

### 2. Card Lock

This lever locks the cards in place when the top panel is closed. Set the lever to ON before closing the top panel.

### 3. P2 Card Access LEDs

These LEDs indicate P2 card status.

→For details, refer to “P2 card access LEDs and P2 card status” (page 33).

### 4. P2 Card Slots

Insert P2 cards into these slots.

Firmly insert the card until the EJECT button pops out. After inserting a card, fold the EJECT button downward.

### 5. EJECT button

Use this button to remove a P2 card inserted in a P2 card slot. Raise the button and press it in firmly. Do not use the EJECT button when a P2 card access LED flashes orange.

→For details, refer to “P2 card access LEDs and P2 card status” (page 33).

### 6. Stereo speakers

Outputs the audio monitor sound.

### 7. LEVEL control

Adjusts the sound volume of the internal speaker and headphones.

### 8. BRIGHTNESS control

Adjusts the brightness of the LCD monitor.

However, it cannot adjust the brightness of time codes and other superimposed indications.

### 9. BACKLIGHT switch

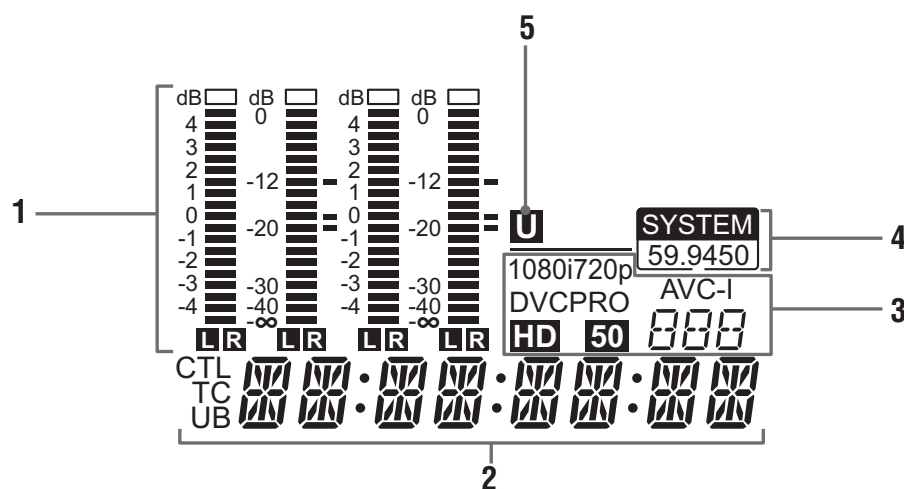
Switches the brightness of the LCD monitor backlight as shown below.

|        |                   |
|--------|-------------------|
| LIGHT: | Bright            |
| DARK:  | Dark              |
| OFF:   | Turns the LCD off |

### 10. SUPER switch

Switches the super output as follows.

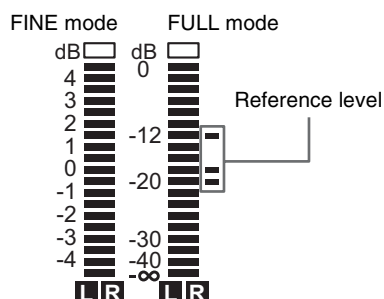
|      |                                                                                                                         |
|------|-------------------------------------------------------------------------------------------------------------------------|
| ON:  | Superimposes the time code and other information on video output set in the setup menu No. 005 (SUPER) and LCD monitor. |
| OFF: | Does not output any superimposed information.                                                                           |



## 1. Level meter

Indicates the level of audio signals for CH1, CH2, CH3 and CH4.

The input signal level of audio signals is indicated during recording and when EE is selected. During playback the meter indicates output signal levels. Use the METER selector button to switch the audio level display to FULL mode or FINE mode. Use the setup menu No. 776 (REF LEVEL) to change the reference level.



## 2. Counter display

This function shows the counter and time codes.

It displays CTL (relative position from the beginning), TC (read time code) and UB (user bit of the read time code).

## 3. Format display

Indicates the set record format and the format of video recorded on an inserted P2 card.

## 4. TV system display

Indicates the selected TV system. Use the SYSTEM setting in setup menu No. 25 (SYSTEM FREQ) to switch between 59.94 Hz, 50 Hz or other settings.

59.94: Lights when a 59.94 Hz system frequency is selected.

50: Lights when a 50 Hz system frequency is selected.

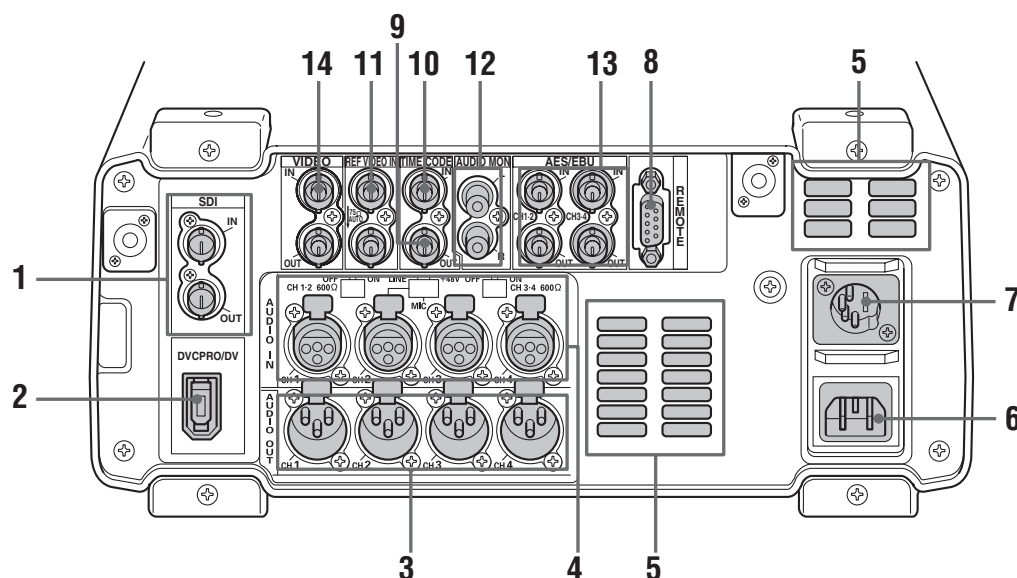
### ◆ NOTE:

- When a frequency other than 59.94 Hz and 50 Hz is selected, also the SYSTEM indicator goes off.

## 5. U lamp

In the EE mode, this lamp lights when an input signal contains UMID information.

Lights during playback when the recording contains UMID information.



## 1. SERIAL DIGITAL COMPONENT AUDIO and VIDEO IN/OUT connectors

These connectors enable input and output of serial digital component audio and video signals.

### ◆ NOTE:

- The input digital audio signals must be synchronized with the video input signals. Otherwise, the audio signals will be affected by noise.
- Use a 5C-FB or equivalent double-shielded cable to make connections to the SERIAL DIGITAL COMPONENT connector.

## 2. IEEE 1394 digital input/output

This is an IEEE1394 digital interface. It inputs/outputs IEEE1394 compressed digital signals that comply with the IEC61883-1, IEC61883-2 and SMPTE396M standards. Use 6-pin connectors. This connector does not support bus power.

### ◆ NOTE:

- Use a double-shielded cable to make connections to the IEEE1394 digital input/output connector.
- AVC-Intra 50 and AVC-Intra 100 recording and playback do not support input/output via the IEEE 1394 connector.
- No input or output is available via the IEEE1394 connector when something other than 59.94 or 50 is selected in setup menu No. 25 (SYSTEM FREQ).

## 3. ANALOG AUDIO OUT connectors

Output analog audio signals.

## 4. ANALOG AUDIO IN connectors/impedance switches/CH2 input switches

Analog audio input connectors

The input impedance of CH1-2 to CH3-4 can be switched. The LINE, MIC and 48V switches make it possible to use CH2 as a microphone input.

|        |                                                                                                                      |
|--------|----------------------------------------------------------------------------------------------------------------------|
| LINE:  | Line input for audio input signals from audio device                                                                 |
| MIC:   | Audio input signal from microphone with internal power supply (this unit does not provide phantom microphone power). |
| +48 V: | Audio input signal from microphone with external power supply (this unit provides phantom microphone power).         |

## 5. Fan

Cools this unit. Install the unit making sure that the air vents are not blocked. If the fan stops due to a breakdown, "E-10" will appear on the counter display. While the unit will operate even when the fan has stopped, it should be shut down immediately.

## 6. AC IN socket

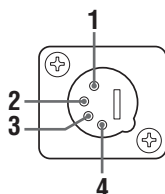
Connect the supplied power cable to a power outlet.

## 7. DC IN socket

Connect a 12 V DC power supply here. Use an external 12 V DC, 4.8 A (15 A peak or more) DC power supply. When the voltage goes below approx. 10.6 V, the power supply of this unit shuts down (When setup menu No. 180 (BATTERY SEL) is not set to "TYPE-A" or

“TYPE-B”). The unit does not automatically recover when the power comes back on. First turn the POWER switch off, wait a few seconds before turning the switch back on.

| Pin No. | Signal |
|---------|--------|
| 1       | Ground |
| 2       | —      |
| 3       | —      |
| 4       | +12V   |



#### ■ Use of external DC power supply

Make sure that the output voltage of the external DC power supply meets the rated voltage of the unit before making a connection.

The output current of the external DC power supply should be large enough to provide the connected unit with its total amperage needs with a reasonable margin.

Use the following formula to calculate the total amperage of the unit.

$$\text{total power consumption} \div \text{voltage}$$

When the power is turned on, a rush current occurs. If the power supply is insufficient during this time, the unit may be damaged. Therefore, we recommend using an external DC power supply that provides at least twice the total power consumed by the unit. We also recommend using the proper DC cable recommended for your external DC power supply.

- When using an external power supply other than the AC adapter, check the DC IN socket pin information to ensure correct polarity. If a +12 V power supply is accidentally connected to the GND terminal, this could cause a fire or personal injury.

#### ◆ NOTE:

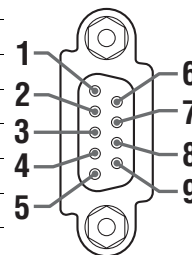
- When using an external DC power supply, be sure to first turn on the power to the DC power supply and then set the POWER switch on this unit from OFF to ON. If the order of the above procedure is reversed, this unit will malfunction since the voltage of an external DC power supply rises slowly. When the POWER switch of the unit is set to ON, do not connect or remove a battery or a cable of an external DC power that is on, to or from the DC IN connector of this unit. For the same reason as above, failure to heed this caution could cause the unit to malfunction.
- Inadvertently connecting an input of 18 V or more triggers an internal protection circuit that shuts down the unit. The unit will operate normally once the power voltage returns to normal levels. Be sure not to connect an AC power supply to this socket.
- When the external DC power supply is connected and set to on, a minute amount of current will still flow even if the POWER switch on this unit is set to OFF.

## 8. Remote control connector

This unit can be connected to an external controller to enable remote operation of the unit or connect and control an external device.

### RS-422A REMOTE IN/OUT (9P)

| Pin No. | Signal          |
|---------|-----------------|
| 1       | FRAME GROUND    |
| 2       | TRANSMIT A      |
| 3       | RECEIVE B       |
| 4       | RECEIVE COMMON  |
| 5       | —               |
| 6       | TRANSMIT COMMON |
| 7       | TRANSMIT B      |
| 8       | RECEIVE A       |
| 9       | FRAME GROUND    |



#### ◆ NOTE:

- When using the AJ-YCX250G AVC codec board (optional), AVCHD material cannot be used as a player even if it is controlled by an external controller.

## 9. TIME CODE OUT connector

Outputs the playback time code during playback.

Outputs the time code generated by the internal time code generator during recording.

## 10. TIME CODE IN connector

Use to record an external time code onto P2 cards.

#### ◆ NOTE:

- The time code from the TIMECODE IN connector cannot be input when 29.97 is set in setup menu No. 25 (SYSTEM FREQ).

## 11. REF VIDEO IN connectors

Input connectors for HD and SD reference video signals.

#### ◆ NOTE:

- It is recommended that this unit be used with a system that inputs a reference video signal since video and audio output signals may otherwise deteriorate.
- Input tri-level sync signals with both positive and negative polarities as HD reference video signals. Input signals that meet the input signal and data format.  
→ For information on the reference signal, refer to “Example of Connections in 23.98/24/29.97/25 Hz Mode” (page 35).
- Input a black burst signal that complies with SMPTE170M and ITU624-4 to use for SD reference video signals.
- When no cable is connected to REF VIDEO OUT connector, the REF VIDEO IN connector is automatically terminated at 75 Ω. Connecting a cable to this connector releases 75 Ω termination.
- When 59-23, 60-24 or 60-25 is selected in setup menu No. 25 (SYSTEM FREQ), synchronization is provided only for playback HD reference signals.

## 12. AUDIO MONITOR OUT connector

This connector outputs the audio signal (CH1 to CH8) that is selected with the MONITOR button and the METER SELECT switch.

## 13. DIGITAL AUDIO IN/OUT connectors

These connectors input and output digital audio signals compliant with the AES/EBU standard.

## 14. ANALOG COMPOSITE VIDEO IN/OUT connectors

Input/output analog composite video signals.

### IEEE 1394 Digital Interface

#### ■ Basic Setup

Make sure that setup menu No. 882 (DIF IN CH) and No. 883 (DIF OUT CH) on this unit are set to "AUTO."

#### ◆ NOTE:

- Only signals that comply with the format selected in setup menu No. 020 (SYS FORMAT) can be input. When the SYS FORMAT is 480i (576i at 50 Hz), operations are limited to setup menu No. 024 (REC FMT (SD)) settings.
- The selected recording format and the format of a recording on an inserted P2 card determine the output format.
- Select CH1/CH2 or CH3/CH4 as the output audio channels (in DVCPRO/DV).

#### ■ Precautions

- Connect this unit to only one other device.
- If the E-92 warning (1394 INITIAL ERROR) appears, reconnect the connecting cable or turn the power off and back on again.
- AV signals may be disrupted when connected devices are turned on and off or when the interface cable is connected or disconnected.
- It may take the system a few seconds to stabilize after switching input signals or changing modes. Start recording after the system has stabilized.
- The following applies to recordings made via the IEEE 1394 digital interface as well as to the signals it outputs.
  - The audio level control knobs on the front panel do not work.
  - The settings in menu No. 680 (CC (F1) BLANK) and No. 681 (CC (F2) BLANK) regarding blanking periods are ignored, and no blanking is effectuated.
  - Video and audio recording and EE type video and audio of signal inputs other than 1x speed playback signals are not guaranteed.
- Pressing the REC button during playback to switch to the EE mode may interfere with the IEEE1394 digital interface. To output EE mode, set setup menu No. 122 (STOP EE SEL) to EE.

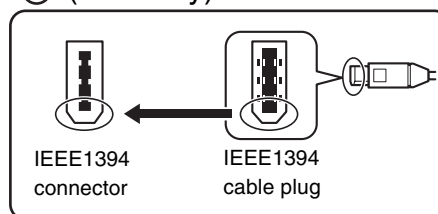
- The following applies to video input via the IEEE 1394 digital interface.
  - In the EE mode, SDI, analog video output signals and time codes become irregular. Do not use these signals for recording.
- Unprocessed video and audio signals are output via the IEEE 1394 digital interface during SLOW and STILL playback. When monitored on another device, these video and audio signals may sound different than when played back on this unit. Do not start up any other application program when this unit is connected to other devices during nonlinear editing. Such applications could adversely affect the video output by such a device during nonlinear editing.

#### ◆ NOTE:

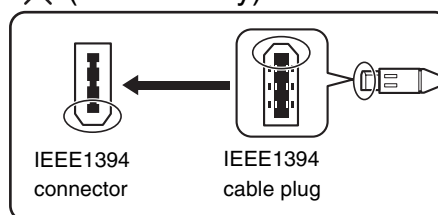
Observe the following when connecting an IEEE 1394 cable (separately sold). (An incorrect connection may damage this unit or external devices.)

- Turn off all connected devices before connecting or disconnecting IEEE1394 cables.  
Connect all devices provided with a ground connector to ground (or to a common ground).
- When connecting the unit to a device with a 4-pin connector, connect the cable to the 6-pin connector on this unit first.
- Be sure to correctly connect an IEEE1394 cable to a connector.
- When connecting a cable to a 6-pin IEEE1394 connector, make sure that it mates properly with the connector.

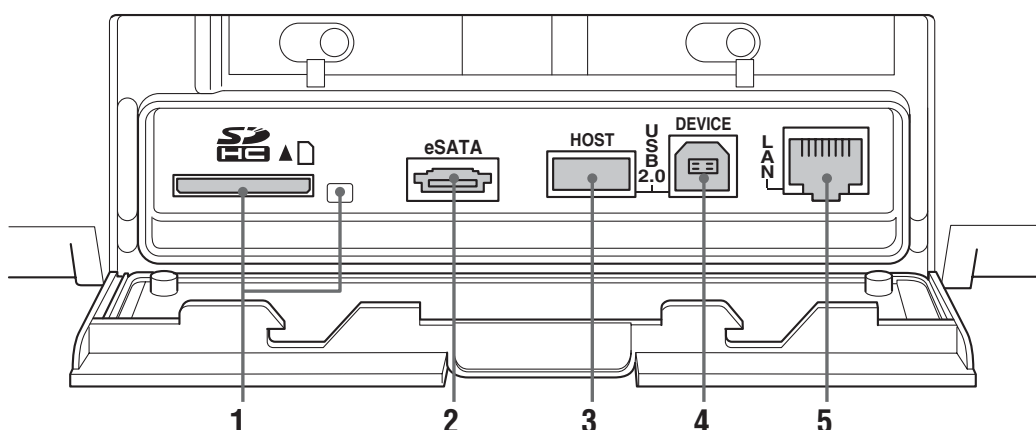
#### ○ (This way)



#### ✕ (Not this way)



- When connecting this unit to an external device, first connect the IEEE1394 cable to the external unit and then to this unit. Connecting the cable to this unit first may damage it by the static electricity generated.
- AVC-Intra 50 and AVC-Intra 100 recording and playback do not support input/output via the IEEE 1394 connector.
- No input or output is available via the IEEE1394 connector when something other than 59.94 or 50 is selected in setup menu No. 25 (SYSTEM FREQ).
- During AVCHD playback no output is made via the IEEE 1394 connectors. And AVCHD cannot be recorded when IEEE1394 input is selected.



## 1. SD/SDHC Memory Card Slot / Access Lamp

Insert an SD/SDHC memory card.

Insert the card with the label side facing up and the end with the corner cut off facing in. Push in the card until it locks into place. To remove the card, first make sure that the lamp is lit in green or the lamp is not blinking in orange, then push it in the direction of insertion to release the lock.

→For recording and playback of optional AVCHD, refer to “Using SD/SDHC Memory Cards” (PDF page 68).

### ◆ NOTE:

<Precautions in using SD/SDHC memory cards>

- Do not insert any cards other than SD/SDHC memory cards.
- This unit uses only SD/SDHC memory cards that comply with the SD/SDHC specifications. Other memory cards such as MultiMediaCard cannot be used. When using a miniSD memory card, be sure to use an adaptor dedicated for use with the miniSD memory card to insert the card into the SD Memory Card Slot.
  - MultiMediaCard (MMC) is a registered trademark of Infineon Technologies AG.
  - The SDHC (SD High Capacity) card is a new standard, established by the SD Card Association in 2006, for large-scale memory cards with capacities above 2 GB.
- Cards that will be used on this unit should also be formatted on this unit.
- This unit supports the following SD and SDHC memory card capacities.
  - SD: 8 MB to 2 GB
  - SDHC: 4 GB to 32 GB
- For the latest information not available in the Operating Instructions, visit the P2 support desk at the following Web sites.

For English: <https://www.pavc.panasonic.co.jp/pro-av/>

- For details on recording and playing back optional AVCHD, refer to “Using an Optional AVCHD Board” (PDF page 140).

## 2. eSATA connector

Enables connection of a hard disk drive with an eSATA connector using the unit as host device.

→Refer to “Using This Unit With a Hard Disk” (PDF page 114).

## 3. USB 2.0 HOST connector (Type A)

Enables connection of a variety of devices using the unit as a USB host.

P2 store and other USB 2.0 compatible hard disks can be connected.

→Refer to “Using This Unit With a Hard Disk” (PDF page 114).

## 4. USB 2.0 DEVICE connector (Type B)

Connect personal computers and other devices for use in the USB device mode.

→Refer to “Using USB or eSATA Connectors” (PDF page 112).

### ◆ NOTE:

- Use double shielded cable for making connections to USB 2.0 connectors.

## 5. LAN connector

Connect to a 1000base-T, 100base-TX or 10base-T network.

→Refer to “Connecting This Unit to a Network” (PDF page 126).

### ◆ NOTE:

- Use a shielded cable to connect to the LAN connector.

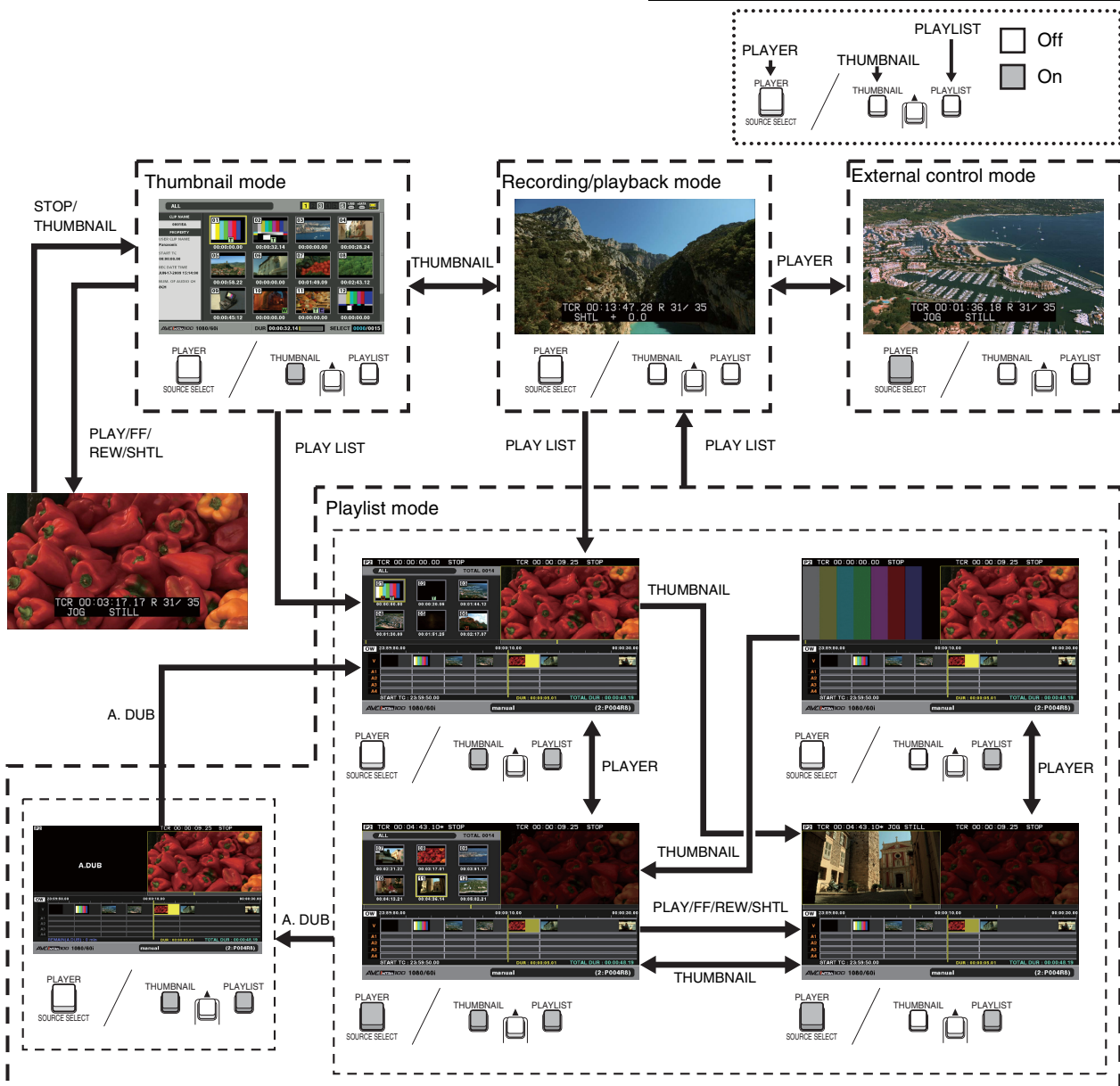
# Moving Between Screens and Menu Operations

## Operating Modes

This unit provides the three operating modes described below. Use the THUMBNAIL and PLAY LIST buttons to select these modes. Lamps indicate which mode is currently engaged.

There is also an external control mode for controlling externally connected devices. The figure below shows a schematic diagram of these modes.

|                             |                                                                                                                                     |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Recording/<br>playback mode | Displays video and performs recording or playback.                                                                                  |
| Thumbnail mode              | Shows thumbnails of clips and manages clips.                                                                                        |
| Playlist mode               | Creates playlists.                                                                                                                  |
| External control mode       | In this mode, the unit controls an external device connected to the REMOTE connector and monitors audio and video from this device. |



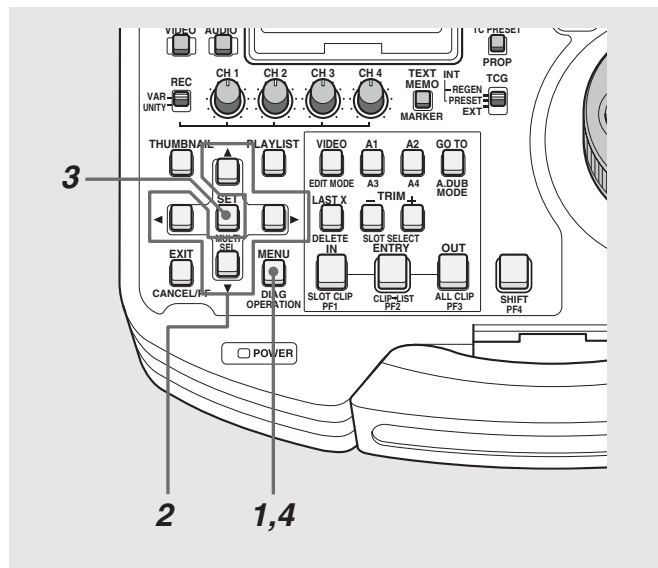
## Menu Operations

In the playlist or thumbnail mode, press the MENU button to open the menu.

In the recording mode, the setup menu appears.

→Refer to “Setup” (page 43).

To perform menu operation, proceed as follows.



**1** Press the MENU button to open the menu.

**2** Use the cursor buttons to place the cursor on menu items.

► appears when a lower level menu exists.



### ◆ NOTE:

- Use the ▲ and ▼ buttons to move the cursor up and down.
- Press the ► button or the SET button to open submenus.
- Press the ◀ button or the EXIT button to return to a higher level.

**3** Press the SET button.

### ◆ NOTE:

- Some menu items may display a confirmation dialog.
- Use the cursor buttons to select a process and press the SET button.
- A check mark appears at the beginning of the process set by the SET button.

**4** Press the MENU button to exit the menu.

### ◆ NOTE:

- Some menu items, when selected, will automatically return you to the previous screen.

# Recording, Playback and P2 Card Handling

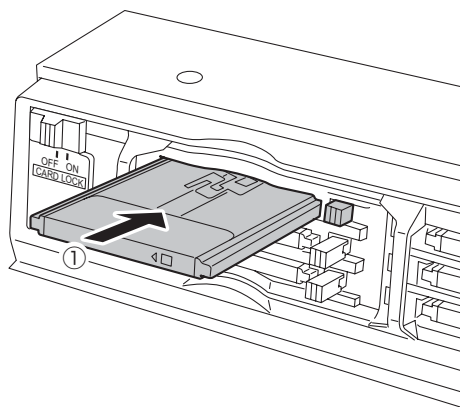
## Insert a P2 Card

### ◆ NOTE:

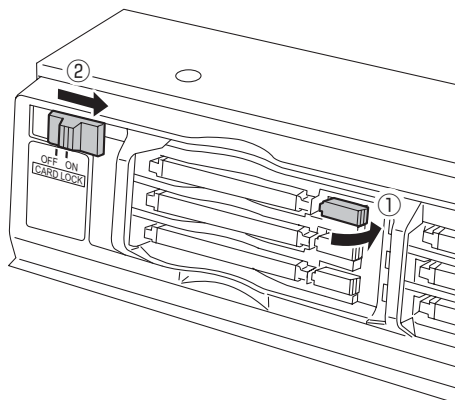
- When you use this unit for the first time, be sure to set the internal clock in setup menu No. 069 (CLOCK SET). (→ PDF page 164)

**1** Turn on the POWER switch of this unit.

**2** Insert a P2 card in a P2 card slot, and push it in until the EJECT button pops out.



**3** Bend the protruding EJECT button downwards to the right and set the card lock to ON.



- The P2 card access LEDs on this unit show P2 card status when a P2 card is inserted.

→For details on P2 card status, refer to “P2 card access LEDs and P2 card status” (page 33).

## Recording and Playback

To start recording after a stop in the recording mode, press the REC  button and the PLAY  button simultaneously. Recording starts on the P2 card whose access LED lights orange. Press the STOP  button to stop recording. Press PLAY  to start playback.

Recording cannot be started from the thumbnail/playlist mode.

→For details, refer to “Control Reference Guide” (page 16).

### ◆ NOTE:

- The P2 card access LED for a slot where a P2 card is inserted during playback of a previously inserted card will remain off and the second P2 card is not recognized. The second P2 card is recognized when playback ends.
- A P2 card inserted in another slot during recording of a previously inserted card will cause the P2 card access LED to flash and the card will be recognized. Do not remove the P2 card from the slot while it is being recognized.

- P2 cards are played back and recorded in the following slot order:  
1 → 2 → 3 → 4 → 5 → 6 → 1

- When the power is turned on and the slot selected for recording at the last power off contains the same P2 card, that slot will again be selected for recording. If the slot does not contain a P2 card or contains another P2 card, a card in a slot with the lowest number will be selected for recording.

- Slots can be selected also during recording.

When a slot could not be selected, for example, at the start of recording or right after changing the P2 card slot used for recording, “SLOT SEL INVALID” appears on the LCD monitor. Ongoing LOOPREC and VFR recording also prevent selection of P2 card slots.

- When a P2 card becomes full during recording, a slot with a higher number that contains a card with free space will be selected for recording.

<Precaution in using P2 cards>

- Format P2 cards only on a P2 card device.

## P2 card access LEDs and P2 card status

| P2 card access LED        | P2 card status                                                                                                                                                                                                                              |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Green light               | Reading and writing are possible.                                                                                                                                                                                                           |
| Orange light              | Reading and writing are possible.<br>The card is selected for recording (including loop recording).                                                                                                                                         |
| Flashes orange            | Reading or writing is being performed.<br>The unit is in USB DEVICE mode and is accessing a P2 card.<br>The unit is in LAN mode, and a P2 card can be accessed or is being accessed.                                                        |
| Flashes rapidly in orange | P2 card is being recognized.                                                                                                                                                                                                                |
| Flashes green             | The P2 card has no remaining memory capacity. Available only for reading.<br>The write-protection switch on the P2 card is set to [PROTECT]. Available only for reading.                                                                    |
| Off                       | The P2 card is not properly formatted. Reformat the card on this unit.<br>This card cannot be used in this unit. Replace the card.<br>No P2 card has been inserted.<br>The unit is in the USB DEVICE mode and is not accessing the P2 card. |

### ◆ NOTE:

- Detailed check of P2 card status is possible. Refer to "Checking Card Status" on PDF page 71.

## P2 card and recording times

Recording time on a single 64 GB P2 card

| HD mode                      |                                      |                    |                     |
|------------------------------|--------------------------------------|--------------------|---------------------|
| Video format                 | Recording format and recording times |                    |                     |
|                              | DVCPRO HD                            | AVC-Intra100       | AVC-Intra50         |
| 1080-59.94/50i <sup>*1</sup> | Approx.<br>64 min.                   | Approx.<br>64 min. | Approx.<br>128 min. |
| 1080-30PN/25PN (Native)      | ----                                 | Approx.<br>64 min. | Approx.<br>128 min. |

|                              |                     |                     |                     |
|------------------------------|---------------------|---------------------|---------------------|
| 1080-24PN (Native)           | ----                | Approx.<br>80 min.  | Approx.<br>160 min. |
| 720-59.94P/50P <sup>*1</sup> | Approx.<br>64 min.  | Approx.<br>64 min.  | Approx.<br>128 min. |
| 720-30PN/25PN (Native)       | Approx.<br>128 min. | Approx.<br>128 min. | Approx.<br>256 min. |
| 720-24PN (Native)            | Approx.<br>160 min. | Approx.<br>160 min. | Approx.<br>320 min. |

\*1: Includes recording of DVCPRO HD with pull-down at 30P, 24P and 25P.

| SD mode                          |                                      |                      |                     |
|----------------------------------|--------------------------------------|----------------------|---------------------|
| Video format                     | Recording format and recording times |                      |                     |
|                                  | DVCPRO 50                            | DVCPRO <sup>*2</sup> | DV <sup>*2</sup>    |
| 480-59.94i/576-50i <sup>*3</sup> | Approx.<br>128 min.                  | Approx.<br>256 min.  | Approx.<br>256 min. |

\*2: For 2-channel audio recording

\*3: Includes recording at 30P, 24P and 25P with pull-down.

### ◆ NOTE:

- This unit cannot use AJ-P2C002SG (2 GB) cards.
- The recording time of 32 GB, 16 GB and 8 GB P2 cards are 1/2, 1/4 and 1/8, respectively of that provided by a 64 GB P2 card.

- Visit the web site below and go to P2 support desk page for the latest information on P2 card and SD/SDHC memory cards.

For English: <https://www.pavc.panasonic.co.jp/pro-av/>

## Dividing clips over 4 GB in length

A continuous recording that is longer than the durations given below when an 8 GB P2 card is used in this unit will result in the automatic division of the recording into different clips. Even so, the recordings on the two clips can be handled as a single clip in thumbnail operations (display, delete, repair, copy, etc.) on a P2 device.

Such a recording may be handled as separate clips in nonlinear editing software or on PCs.

| Recording format | Recording duration |
|------------------|--------------------|
| DVCPRO HD        | Approx. 5 min.     |
| DVCPRO50         | Approx. 10 min.    |
| DVCPRO/DV        | Approx. 20 min.    |
| AVC-Intra50      | Approx. 10 min.    |
| AVC-Intra100     | Approx. 5 min.     |

## Removing P2 Cards

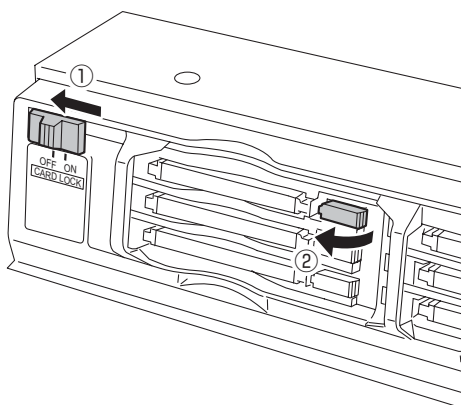
### ◆ NOTE:

- Do not remove P2 cards during access or during recognition directly after insertion (when the P2 card access LED flashes orange).

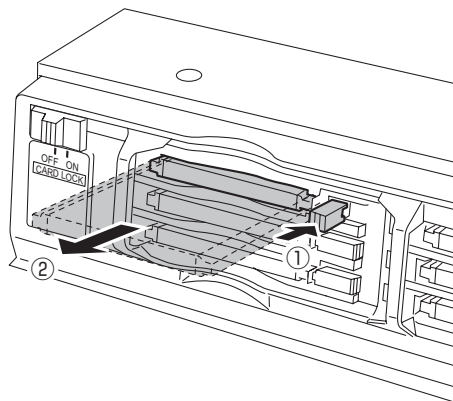
### 1 Press the STOP button.

When the P2 card access LED of a card to be removed flashes orange, press the STOP  button to stop the flashing.

### 2 Set the card lock to OFF and raise the EJECT button.



### 3 Press the EJECT button to eject the P2 card.

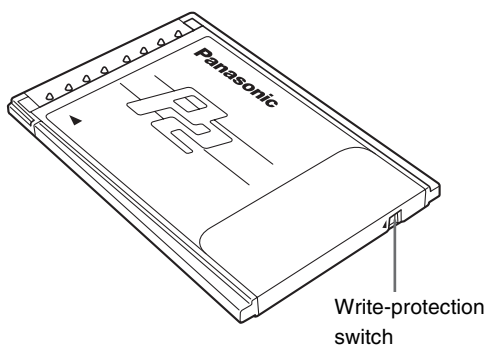


### ◆ NOTE:

- Removing a P2 card in the thumbnail screen automatically closes the thumbnail screen.
- Do not remove P2 cards during access or during recognition directly after insertion (when the P2 card access LED flashes orange); otherwise the P2 cards may be damaged. If a P2 card by any chance is removed during access, [E-30] appears on the LCD monitor and the LCD panel displays the [AUTO OFF] warning. All P2 card access LEDs will flash rapidly in orange. Turn off the power, and then turn it back on.
- The clips on a P2 card that was removed during access may no longer be in the right order. Check the clips and perform the necessary repair operation.  
→ For details, refer to "Repairing Bad Clips" (PDF page 60).
- Removing a P2 card during formatting will in most cases destroy the formatting. Reformat the card after restarting the PC.
- In LAN mode, P2 cards must be available at all times and can therefore not be removed. To remove a P2 card, return to the main mode.

## Preventing Accidental Deletion

Set the write-protection switch to [PROTECT] to prevent accidental deletion of data recorded on a P2 card.



### ◆ NOTE:

- Switching the write-protection switch during recording, playback or other access operation will not take effect until after these access operations (playback, recording, etc.) complete.

## For the latest information on P2 cards and SD memory cards

For the latest information not available in the Operating Instructions of P2 cards and SD memory cards, visit the P2 support desk at the following Web sites.

For English: <https://www.pavc.panasonic.co.jp/pro-av/>

# Connections

## Example of Connections in 23.98/24/29.97/25 Hz Mode

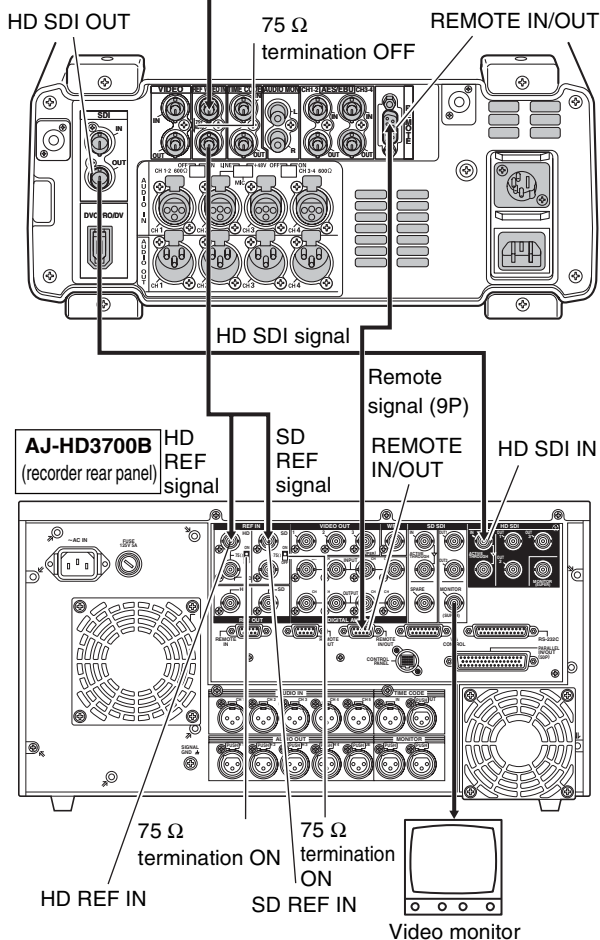
When playing back a card recorded at a frame rate of 24 fps (25 fps), the unit is capable of converting the output to 1080/24 PsF (1080/25 PsF or 1080/50i) for recording on an AJ-HD3700 series.

Shown in the figure below is an example of deck-to-deck connections. Input the following reference signals as REF input.

**AJ-HPM200**  
(source rear panel)

### Reference signal

23.98 Hz mode: HD REF 47.95 Hz (interface)  
24 Hz mode: HD REF 48 Hz (interface)  
25 Hz (HD)/50 Hz (HD) mode: HD REF 50 Hz (interface) or SD REF 50 Hz (interface)  
29.97 Hz mode: HD REF 59.94 Hz (interface) or SD REF 59.94 Hz (interface)



### ◆ NOTE:

- Synchronization with REF input at start of playback in 23.98/24 Hz mode may distort the first number of frames and mute sound output. Note that movement in HD SD video output at speeds other than 1x may look unnatural.

- In 23.98 Hz mode, the composite monitor video signal output by the ANALOG COMPOSITE MONITOR OUT connector does not include VITC signals.
- For details on compatible input and output formats, refer to "List of Compatible Input and Output Formats" (PDF page 190).
- In 23.98/24 Hz mode, HD SDI output is delayed by approximately 2 frames relative to analog VIDEO output.
- Composite video is not output in 24 Hz mode.

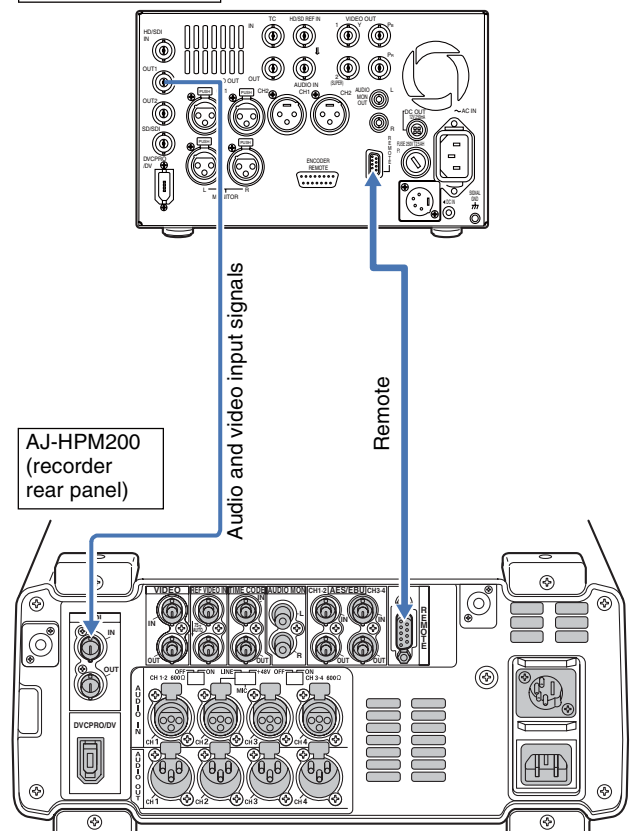
## Example of Connections for Remote Control

These connections make it possible to send commands via the remote control connector to enable remote control of external devices. The playlist mode allows control of the source device to capture video directly to the timeline. Shown in the figure below is an example of deck-to-deck connections.

Set the CONTROL switch on the front panel of the external device to REMOTE.

Set the CONTROL switch on the front panel of this unit to LOCAL.

**AJ-HD1400, etc.**  
(source rear panel)

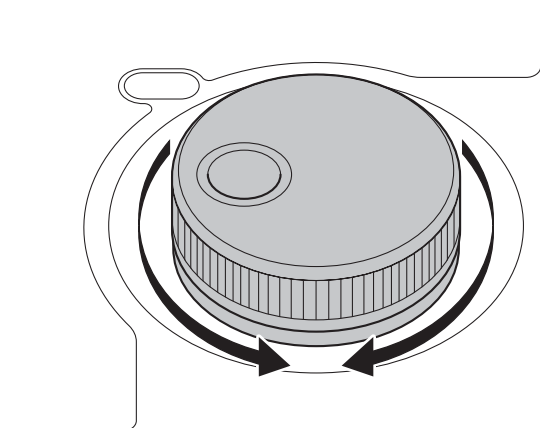


# Jog and Shuttle Operations Using the Search Dial

The search dial is used to search and check video.  
Each press of the dial alternates it between SHTL mode and JOG mode.

When the power is turned on, the search dial will not operate unless it is first returned to the STILL position.

## Jog Mode



- 1 Press the search dial so that it remains pressed in.**  
The jog mode is now engaged.

### 2 Turn the search dial.

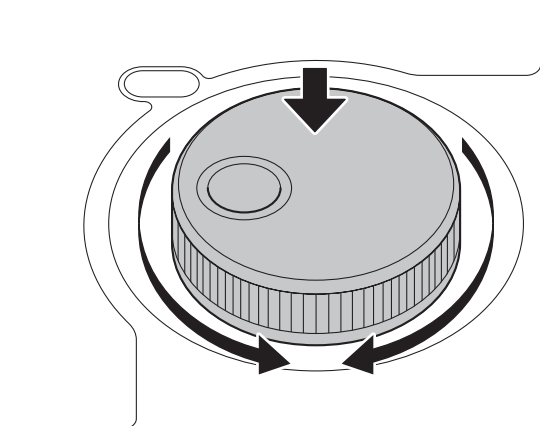
The dial's click stops are released and playback is performed at the speed the dial ( $-1$  to  $+1\times$ ) is turned.  
When the dial stops turning, the video becomes a still picture.

- 3 To go to another mode from the jog mode, press the button of the desired mode.**

#### ◆ NOTE:

- In the factory default setting, turning the search dial engages the direct search mode for immediate access to a search mode (jog mode or shuttle mode).
- You can select [KEY] in setup menu No. 100 (SEARCH ENA) so that the unit will not engage the search mode unless you press the STILL/PAUSE button.
- In the AVCHD mode, not like during P2 card playback, a smooth playback is not possible.  
→ Refer to "Playing Back AVCHD Clips" (PDF page 151).

## Shuttle Mode (SHTL Mode)



- 1 Press the search dial to release it.**

This engages the shuttle mode.

When the power has just been turned on, turn the search dial to its center position.

### 2 Press the STILL/PAUSE button.

### 3 Turn the search dial.

The playback picture speed changes from 0 to  $\pm 16\times$  depending on dial position.

Use setup menu No. 101 (SHTL MAX) to set maximum speed to  $\pm 8$ ,  $\pm 16$ ,  $\pm 32$ ,  $\pm 60$  or  $\pm 100\times$ . Centering the dial allows you to view still pictures.

- 4 To go to another mode from the shuttle mode, press the STOP  button or other button.**

#### ◆ NOTE:

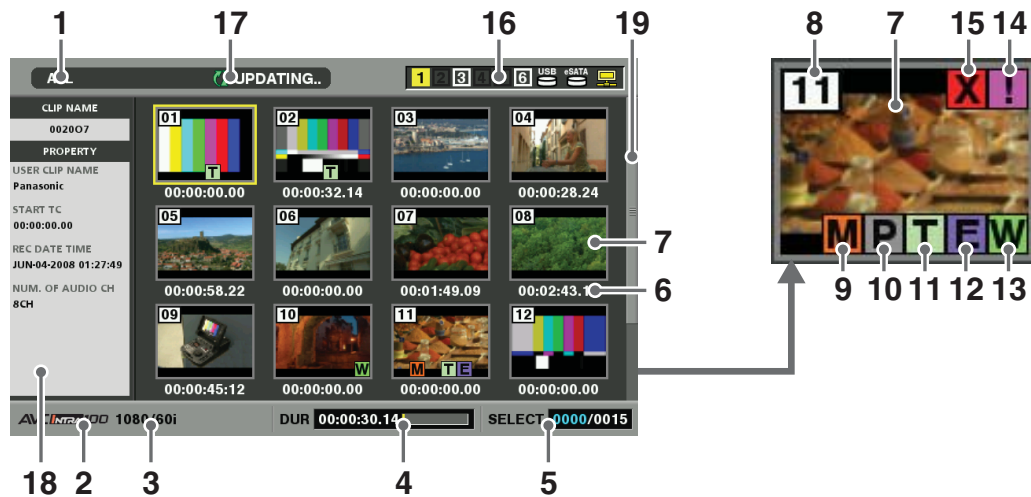
- The playback audio is audible at speeds in the range  $-10$  to  $+10\times$  from the audio monitor output.
- The playback audio in the search mode contains noise.
- Playing back a clip that spans a multiple of P2 cards at speeds faster than  $\pm 1\times$  may break up the sound in the transition to

another card; this is normal and not indicative of a malfunction.

- Playing back a clip at speeds faster than –10× may break up the sound; this is normal and not indicative of a malfunction.
- Movement in an AVC-Intra 1080/23.98p recording played back at +1.0 in shuttle mode may look unnatural.
- In the AVCHD mode, not like during P2 card playback, a smooth playback is not possible.  
→ Refer to “Playing Back AVCHD Clips” (PDF page 151).

# Clip Management

## Thumbnail and Clip Management



This unit provides a thumbnail screen for managing clips. A clip is a single data item that contains video, audio, metadata and other additional information. Normally, a clip is one shot generated from the start of recording until recording stops. A shot that spans multiple P2 cards is handled as a single clip. The thumbnail screen displays a list of thumbnails of the recorded clips. These thumbnails allow you check and also perform the following clip management operations.

- Play back, copy, delete and repair clips
- Attach text memos in clips
- Check and delete text memos
- Display and delete shot marks
- Format P2 cards
- Show clip property
- Show P2 card status

### ◆ NOTE:

- Thumbnails are generated from part of the captured video and therefore appear rougher than the actual video.

# Thumbnail Screen Names and Functions

## 1. Display status

Display status indicates the type of thumbnails displayed on the screen.

|              |                                               |
|--------------|-----------------------------------------------|
| ALL:         | All clips                                     |
| SAME FORMAT: | Clips with the same format as the system      |
| SELECT:      | Clips selected with the SET button            |
| MARKER:      | Clips with shot markers                       |
| TEXT MEMO:   | Clips with text memo data                     |
| SLOTn:       | Clips on P2 card in slot No. n                |
| PROPERTY:    | Detailed clip information                     |
| P2/REMAIN:   | Media information (amount of remaining space) |
| P2/USED:     | Media information (amount of space used)      |
| META DATA:   | Set meta data                                 |

→For details on how to change display, refer to “Switching the type of information that is displayed” (PDF page 50).

## 2. Record mode

Indicates the record mode of the clip at the cursor position.

## 3. System format

Indicates the recording format of the clip at the cursor position.

## 4. Duration

Indicates the length (duration) of the clip at the cursor location and the rough location of current playback. When resume is set to on (→ Refer to “Setting items to display” (PDF page 51)) and the playback start position is not the beginning of the clip, the rough location of the playback position is displayed.

## 5. Selected number of clips

Indicates the number of selected clips and the total number of clips.

## 6. Time display

The following data is displayed: the TC (time code)/UB (user bit) at the start of clip recording/time of shooting/day of shooting/date and time of shooting/clip name/the user clip name/slot number.

→Refer to “Setting items to display” (PDF page 51).

## 7. Thumbnail

Shows the thumbnails recorded for each clip. The EXCH.THUMBNAIL function allows you to replace this thumbnail.

→Refer to “Thumbnail Editing” (PDF page 53).

## 8. Clip no.

Indicates the numbers assigned to P2 card clips, which are normally assigned starting in order from the earliest shooting date. Numbers of clips that cannot be played back are shown in red. The SORT function allows you to change the order the clips appear.

→Refer to “Setting items to display” (PDF page 51).

## 9. **M** Shot mark indicator

Indicates that a shot mark has been attached to a clip.

## 10. **P** Proxy indicator

Indicates that a clip contains a proxy attached using the AJ-HPX2700, AJ-HPX3700 or other camera.

This unit cannot record proxies.

## 11. **T** Text memo indicator

Indicates a clip that contains text memo data.

## 12. **E** Edit Copy indicator

Indicates an edit-copied clip.

## 13. **W** Wide indicator

Indicates a clip recorded in the 16:9 aspect ratio. This is not indicated for an HD format clip.

## 14. **!** Incomplete clip indicator

Indicates a clip spanning multiple P2 cards where one of the cards that contain part of the clip has not been inserted.

15. **X** Bad clip **?** Unknown clip indicator

Indicates a clip that became defective because the power was shut down during recording or was damaged for some other reason. Clips with the yellow bad clip indicator can sometimes be repaired.  
→Refer to “Repairing Bad Clips” (PDF page 60).  
Clips with the red bad clip indicator cannot be repaired and should be deleted. If deleting is not possible, format the P2 card.  
Instead of **X**, **?** appears to indicate that a clip is not in the P2 standard format.

16. P2 card slot, hard disk and LAN status

P2 card, USB or eSATA hard disk drive and LAN status is indicated as shown below.



1 - 6

(white)

The numbers of P2 card slots that contain a P2 card are indicated in white.

1

(yellow)

The number of the P2 card slot of the P2 card that contains the clip at the cursor position is indicated in yellow. When a clip spans multiple P2 cards, the numbers of all the slots housing cards that contain the clip are indicated.

◆ NOTE:

A slot number with a pink frame indicates either of the following conditions for an inserted P2 card.

• [RUN DOWN CARD]

The maximum number of overwrites has been exceeded.

• [DIR ENTRY NG CARD]

The P2 card directory structure does not conform to standard specifications.

■ Hard disk status display

USB

eSATA



Hard disk drives are indicated as USB or eSATA depending on their interface.

USB

(gray)

Gray indicates that the hard disk drive is not connected.

USB

(white)

White indicates that the hard disk drive is available.

USB

(yellow)

Yellow indicates that clips on the hard disk drive appear as thumbnails.

USB



(red)

Red indicates that a hard disk drive is connected but is not available.

■ LAN status display



Indicates that the unit is connected to a LAN.



(gray)

Gray indicates that the LAN is set to DISABLE.



(white)

White indicates that the LAN is set to ENABLE.



(yellow)

Yellow indicates that a LAN cable is connected and that the network is running.



(red)

Red indicates a problem occurred in the unit. Consult your supplier.

17. Status message

Shows messages indicating processing status. For example, screen updating shows an [UPDATING] text message and a rotating  icon.

18. Simple property display

Displays the properties of clips at the cursor location. A menu allows you to select the information that will appear.  
→Refer to “Selecting items to be displayed as properties” (PDF page 52).

◆ NOTE:

- When there are more characters than can be displayed, only those that can be displayed appear and the remaining characters are omitted.

19. Thumbnail scroll bar

Indicates the location of the currently displayed thumbnail among displayed thumbnails.

## Cursor operations in thumbnail screen

Use the up, down, right and left cursor buttons to move the cursor.

---

### ◆ NOTE:

- The search dial also allows you to move the cursor.

### ■ High-speed cursor movement and jumping

- Hold down the SHIFT button and press the up or down cursor button to move the cursor to the first or last clip.
- Hold down the SHIFT button and turn the search dial. The thumbnails change to blue and only the scroll bar moves to allow high-speed movement between cursor pages.

## Thumbnail Menu

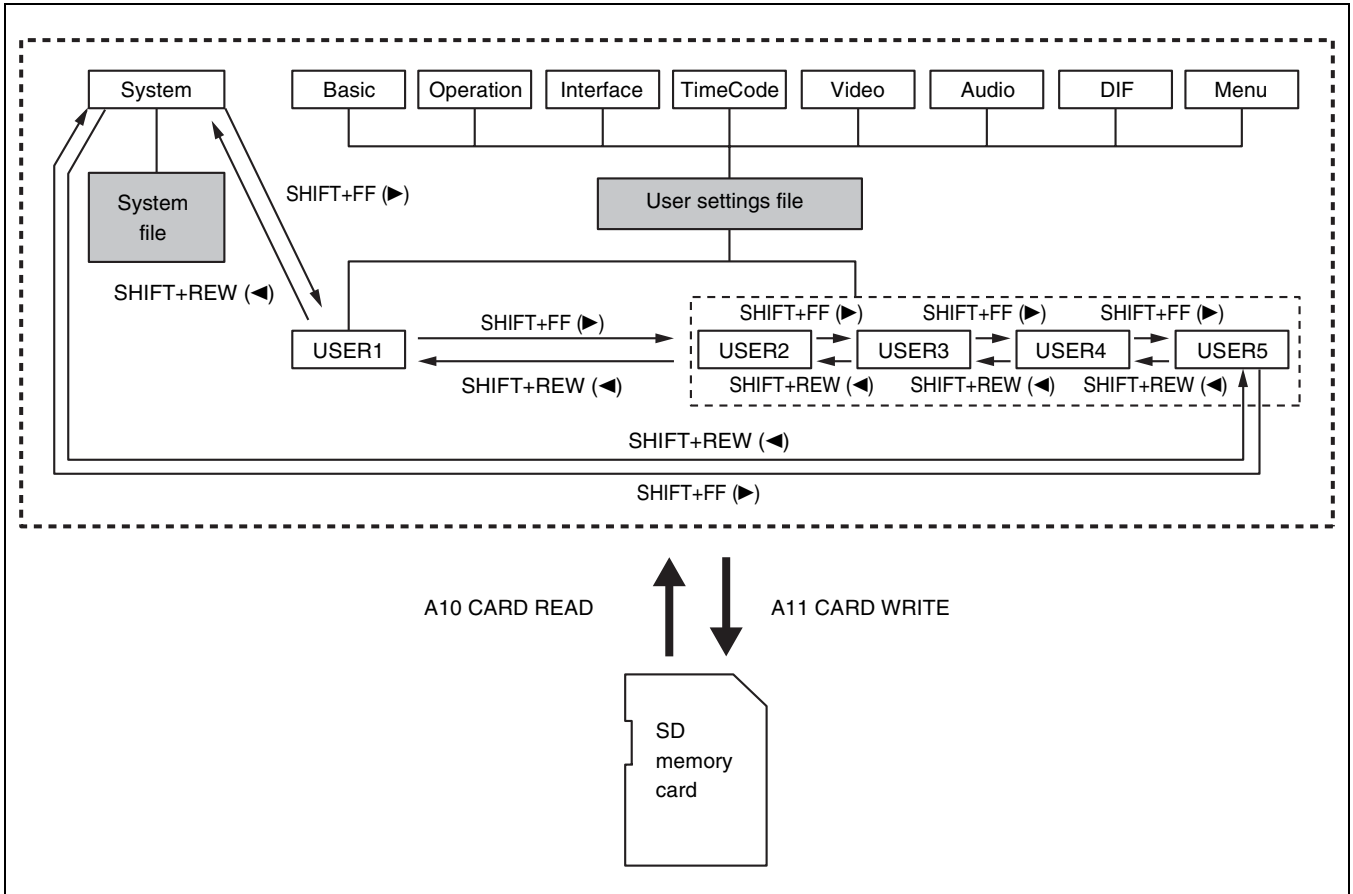
### THUMBNAIL MENU

|             |                   |                            |
|-------------|-------------------|----------------------------|
| THUMBNAIL   | ALL CLIP          | (→PDF page 50)             |
|             | SAME FORMAT CLIPS | (→PDF page 50)             |
|             | SELECTED CLIPS    | (→PDF page 50)             |
|             | MARKED CLIPS      | (→PDF page 50)             |
|             | TEXT MEMO CLIPS   | (→PDF page 50)             |
|             | SLOT CLIPS        | (→PDF page 50)             |
|             | SETUP             | (→PDF page 51)             |
| OPERATION   | DELETE            | (→PDF page 59)             |
|             | FORMAT            | (→PDF page 68)             |
|             | REPAIR CLIP       | (→PDF page 60)             |
|             | RE-CONNECTION     | (→PDF page 60)             |
|             | COPY              | (→PDF pages 117, 121, 133) |
|             | EXCH. THUMBNAIL   | (→PDF page 53)             |
| PROPERTY    | CLIP PROPERTY     | (→PDF page 61)             |
|             | CARD STATUS       | (→PDF page 72)             |
|             | DEVICE            | (→PDF page 68)             |
|             | PROPERTY SETUP    | (→PDF page 71)             |
|             | SYSTEM INFO       | (→PDF page 207)            |
| META DATA   | LOAD              | (→PDF page 66)             |
|             | RECORD            | (→PDF page 67)             |
|             | USER CLIP NAME    | (→PDF page 64)             |
|             | INITIALIZE        | (→PDF page 67)             |
|             | PROPERTY          | (→PDF page 66)             |
| HDD (USB)   | EXPORT            | (→PDF page 116)            |
|             | EXPLORE           | (→PDF page 118)            |
|             | SETUP             | (→PDF page 121)            |
| HDD (eSATA) | EXPORT            | (→PDF page 116)            |
|             | EXPLORE           | (→PDF page 118)            |
|             | SETUP             | (→PDF page 121)            |
| NETWORK     | EXPORT            | (→PDF page 135)            |
|             | EXPLORE           | (→PDF page 131)            |
|             | SETUP             | (→PDF pages 127, 128)      |
|             | STATUS            | (→PDF page 130)            |
|             | TOOLS             | (→PDF page 130)            |
|             | INITIALIZE        | (→PDF page 130)            |

# Setup

## Unit Setup

The settings for this unit consist of SYSTEM, BASIC, OPERATION, INTERFACE, TIME CODE, VIDEO, AUDIO, DIF and MENU. The SYSTEM setting values are stored in the SYSTEM file. The other setting values are stored in the user setting file. Up to five user files (USER1 to USER5) can be saved. These settings (up to 4 files) can be written to and loaded from SD memory cards.



This unit can possess up to five user files, each of which can be selected from a menu setting.

Setting values can be changed as necessary.

→For details on change operations, refer to “Changing Settings” (page 44).

After a change, the content of USER1 can be saved (copied) to USER2 to USER5.

→For details, refer to “Setup menu No. A01 (SAVE)” (PDF page 181).

SETUP menu settings can be saved to and loaded from an SD memory card.

→For details, refer to “Setup menu No. A10 (CARD READ)” (PDF page 182), A11 (CARD WRITE) (PDF page 182)”.

### Automatic Loading of User Setting File at Power up

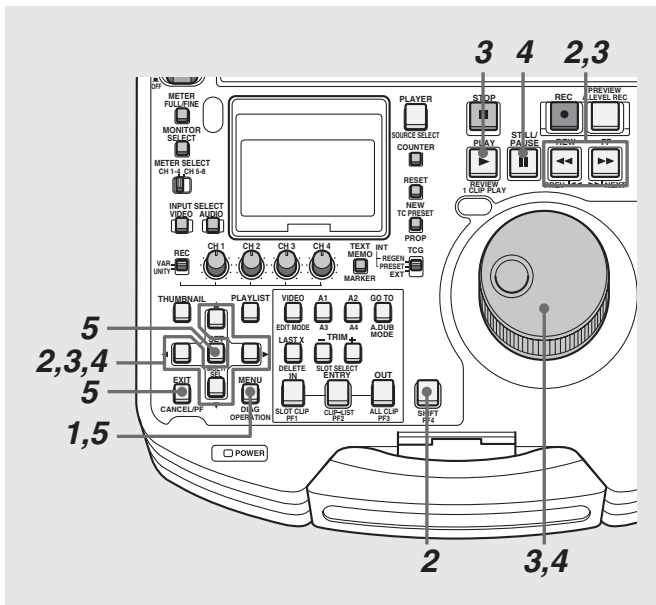
You can specify the user setting files that will be loaded in USER1 at power up. You can also decide to use the same settings as last time.

→For details, refer to “Setup menu No. A02 (P.ON LOAD)” (PDF page 181).

# Changing Settings

The menus superimposed on the LCD monitor and a monitor (when the SUPER switch on the right side of the LCD monitor is set to "ON") connected to the VIDEO OUT or SDI OUT connector make it possible to change settings.

## Change Operations



### 1 Press the MENU button.

The setup menu screen appears on the LCD monitor and the counter display indicates the setup menu number.

### 2 Select the file to change.

Hold down the SHIFT button and press the right cursor button (▶) or the FF (▶▶) button to go to the next file, press the left cursor button (◀) or the REW (◀◀) button to go to the previous file.

### 3 Select items to change.

Turn the search dial or press the up or down cursor button (▲/▼) to move the cursor (\*) to the item you want to change.

- Use the search dial in JOG mode.
- Turn the dial clockwise to increment item numbers (001→002→003→004→) and counterclockwise to decrement them.
- To switch to the next item, hold down the PLAY (▶) button and press the FF (▶▶) button or the + button. To switch to a previous item, hold down the PLAY (▶) button and press the REW (◀◀) button or the - button.

### 4 Change set values.

Select the item to change, hold down the STILL/PAUSE (⏸) button and turn the search dial or press the left or right cursor button (◀▶) to change the setting.

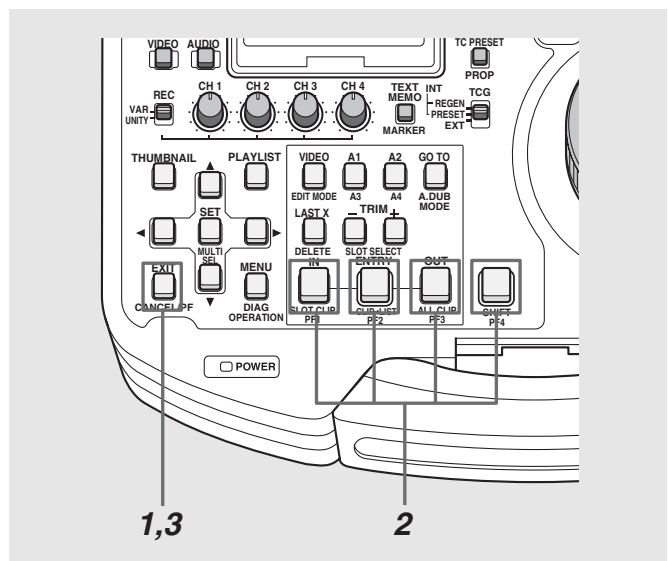
- Turn the dial clockwise (or press the right cursor button (▶)) to increment the set number and turn it counterclockwise (or press the left cursor button (◀)) to decrement it.
- Release the STILL/PAUSE button after making the change.
- In the SHTL mode, set the search dial to the center position or items will move.
- Repeat the operations described in steps 3 and 4 when there are more items to change.

### 5 Finalize the change.

Press the MENU button.

In the confirmation message that appears, press the SET button to accept the change or press the EXIT button to cancel it. The menu closes after this operation.

## Making changes using the PF buttons



You can assign four of the items that are most often changed to the PF buttons to enable quick changes of the setting values.

Setup: Changing Settings **45**

## Setup Menu

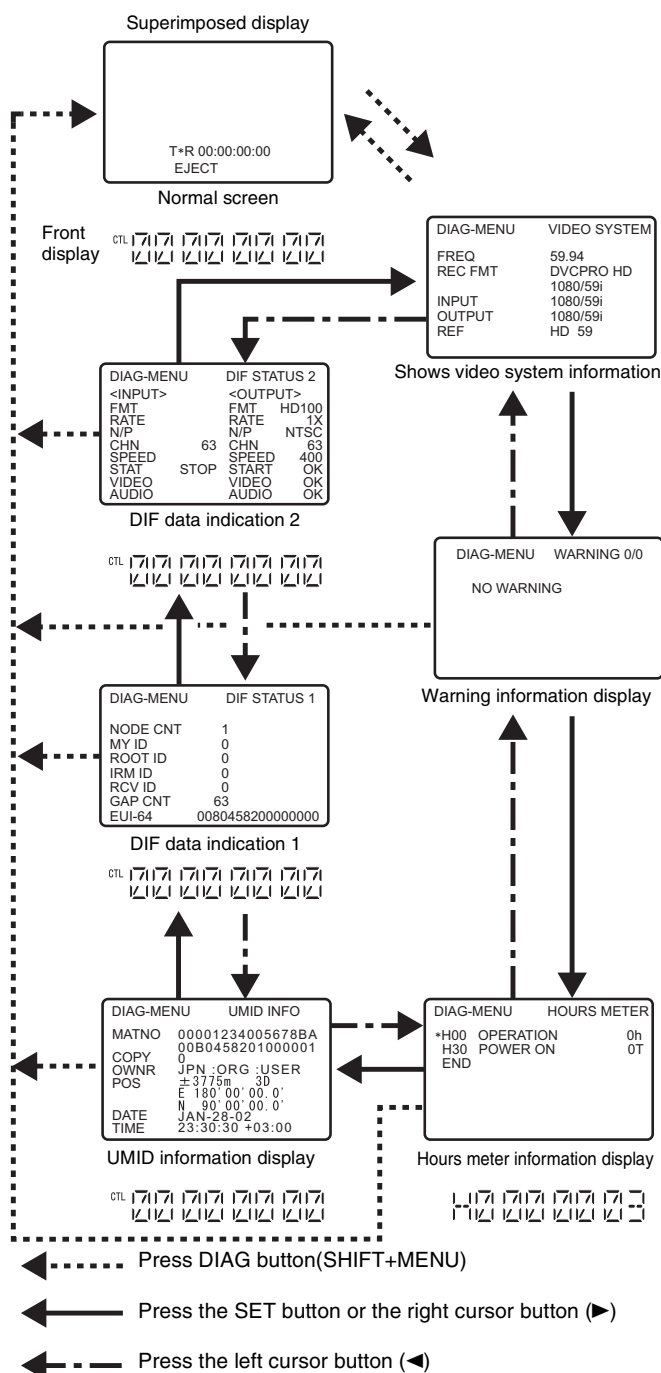
### SETUP MENU

|                              |     |              |     |              |
|------------------------------|-----|--------------|-----|--------------|
| SYSTEM<br>(→PDF page 158)    |     |              | 12  | SYS H(HD)    |
|                              | 001 | LOCAL ENA    | 14  | SYS SC(SD)   |
|                              | 002 | CTL DISP     | 15  | SYS H(SD)    |
| BASIC<br>(→PDF page 160)     | 003 | REMAIN SEL   | 18  | SCH COAR(SD) |
|                              | 005 | SUPER        | 19  | SCH FINE(SD) |
|                              | 006 | DISPLAY SEL  | 20  | AV PHASE     |
|                              | 007 | CHARA H-POS  | 25  | SYSTEM FREQ  |
|                              | 008 | CHARA V-POS  | 26  | HD SYS H ADV |
|                              | 009 | CHARA TYPE   | 30  | MENU LOCK    |
|                              | 020 | SYS FORMAT   |     |              |
|                              | 024 | REC FMT(SD)  | 100 | SEARCH ENA   |
|                              | 025 | REC FMT(HD)  | 101 | SHTL MAX     |
|                              | 026 | PLY LST FMT  | 102 | FF.REW MAX   |
|                              | 028 | AVCHD FMT    | 103 | SEEK SEL     |
|                              | 031 | OUT REF      | 104 | REF ALARM    |
|                              | 032 | REC REF      | 108 | PLAY DELAY   |
|                              | 040 | VFR REC      | 122 | STOP EE SEL  |
|                              | 041 | LOOP REC     | 147 | WFM DISP     |
|                              | 050 | P.ON GUI     | 148 | WFM POS.     |
|                              | 051 | GUI OUTPUT   | 155 | AUTO REC     |
|                              | 069 | CLOCK SET    | 160 | REPEAT PLAY  |
| OPERATION<br>(→PDF page 166) |     |              | 170 | AVCHD REC    |
|                              |     |              | 180 | BATTERY SEL  |
| INTERFACE<br>(→PDF page 169) | 202 | ID SEL       | 181 | TYPE-A NEAR  |
|                              |     |              | 182 | TYPE-A END   |
|                              |     |              | 183 | TYPE-B NEAR  |
|                              |     |              | 184 | TYPE-B END   |
| TIME CODE<br>(→PDF page 169) | 500 | VITC BLANK   |     |              |
|                              | 501 | VITC POS-1   |     |              |
|                              | 502 | VITC POS-2   |     |              |
|                              | 504 | RUN MODE     |     |              |
|                              | 505 | TCG REGEN    |     |              |
|                              | 507 | EXT TC SEL   |     |              |
|                              | 508 | BINARY GP    |     |              |
|                              | 509 | PHASE CORR   |     |              |
|                              | 510 | TCG CF FLAG  |     |              |
|                              | 511 | DF MODE      |     |              |
|                              | 512 | TC OUT REF   |     |              |
|                              | 513 | VITC OUT     |     |              |
|                              | 514 | HD EMBD VITC |     |              |
|                              | 515 | HD EMBD LTC  |     |              |
|                              | 518 | VITC GEN     |     |              |
|                              | 519 | UB OUT SEL   |     |              |

|                          |                  |                    |
|--------------------------|------------------|--------------------|
| VIDEO<br>(→PDF page 172) |                  | 601 VIDEO INT SG   |
|                          |                  | 602 SDI IN MODE    |
|                          |                  | 620 DOWNCON MODE   |
| AUDIO<br>(→PDF page 177) | 701 CH1 IN LV    | 621 UPCONV MODE    |
|                          | 702 CH2 IN LV    | 626 D/C ENH H      |
|                          | 703 CH3 IN LV    | 627 D/C ENH V      |
|                          | 704 CH4 IN LV    | 638 IN U/C MODE    |
|                          | 706 CH1 OUT LV   | 643 OUT MODE SEL   |
|                          | 707 CH2 OUT LV   | 645 WIDE SELECT    |
|                          | 708 CH3 OUT LV   | 650 STYLE          |
|                          | 709 CH4 OUT LV   | 651 HUE STYLE(SD)  |
|                          | 725 REC CH1      | 653 Y LVL(HD)      |
|                          | 726 REC CH2      | 654 Pb LVL(HD)     |
|                          | 727 REC CH3      | 655 Pr LVL(HD)     |
|                          | 728 REC CH4      | 656 BK LVL(HD)     |
|                          | 731 PB FADE      | 658 Y LVL(SD)      |
|                          | 732 EMBEDDED AUD | 659 Pb LVL(SD)     |
|                          | 772 MON FILTER   | 660 Pr LVL(SD)     |
|                          | 774 AVCHD A CH   | 661 BK LVL(SD)     |
|                          | 775 25M REC CH   | 662 V LEVEL        |
|                          | 776 REF LEVEL    | 663 C LEVEL        |
|                          | 777 CH2 MIC PWR  | 664 HUE / C PHASE  |
|                          | 778 AUD OUT DLY  | 665 SETUP / BK LVL |
|                          | 782 EMBD CH SEL  | 669 SETUP          |
|                          | 785 PB MIX       | 673 CONTRAST       |
|                          | 790 VOL SEL      | 676 BLK CLIP       |
|                          | 793 A DUB PB MIX | 677 LCD ASPECT     |
|                          | 797 A DUB MONI   | 680 CC (F1) BLANK  |
|                          |                  | 681 CC (F2) BLANK  |
| DIF<br>(→PDF page 180)   | 880 DIF SPEED    | 684 EDH(SD)        |
|                          | 882 DIF IN CH    | 685 ESR MODE(SD)   |
|                          | 883 DIF OUT CH   | 688 CC REC         |
|                          | 886 DIF CONFIG   | 689 COMP MODE      |
|                          | 890 DIF AUD OUT  | 690 UMID REC       |
| MENU<br>(→PDF page 181)  | A00 LOAD         | 691 UMID GEN       |
|                          | A01 SAVE         | 692 UMID POS       |
|                          | A02 P.ON LOAD    | 693 GAMMA SEL      |
|                          | A03 MENU LOCK    |                    |
|                          | A04 PF1 ASSIGN   |                    |
|                          | A05 PF2 ASSIGN   |                    |
|                          | A06 PF3 ASSIGN   |                    |
|                          | A07 PF4 ASSIGN   |                    |
|                          | A10 CARD READ    |                    |
|                          | A11 CARD WRITE   |                    |
|                          | A12 CARD FORMAT  |                    |

# Error Messages

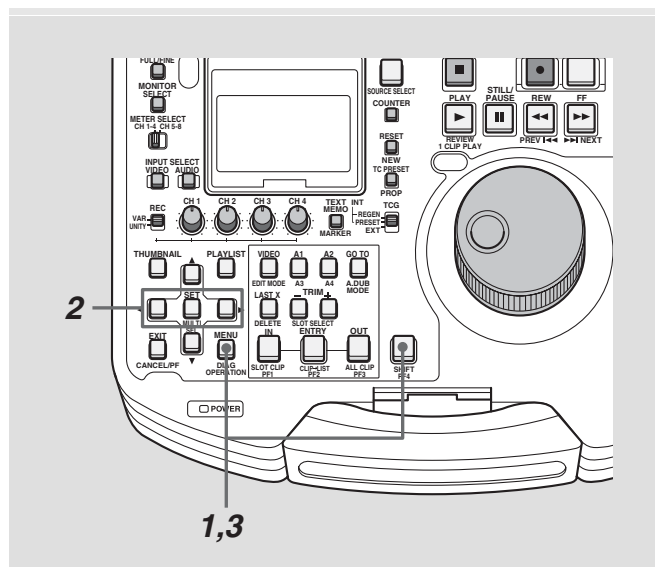
When a warning occurs in this unit, the error number is indicated on the counter display. Open the DIAG menu to view a description of the error on the counter display or a LCD monitor. When an operational malfunction occurs in the unit, an error number will flash on the counter display.



## DIAG menu

This menu shows deck information. Deck information includes “WARNING” information, serial No., “HOURS METER” (usage time) information and “UMID” (Unique Material Identifier) information. A DIAG menu appears on the display monitor when the LCD monitor is connected to the ANALOG COMPOSITE MONITOR OUT connector on the LCD monitor and rear panel of the unit.

## Opening the DIAG menu



- 1 Press the DIAG (SHIFT + MENU) button.  
The DIAG menu appears on the monitor screen and the message appears on the counter display.
- 2 Press the SET button or the left or right cursor button (◀▶).  
Each press of the button changes the display between “WARNING”, “HOURS METER” and “UMID INFO”, etc.
- 3 Press the DIAG button.  
You return to the original display.

## WARNING Information Display

- A warning message is displayed whenever a warning occurs.  
When no warnings have been detected, "NO WARNING" is displayed.
- When multiple warnings occur, turn the search dial to check the descriptions of each warning.  
If "T&S&M" is selected in setup menu No. 006 (DISPLAY SEL), a message appears in the mode display whenever a warning or error occurs.

| Monitor display      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Deck operation      | Counter display |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------|
| BUSY                 | Displayed while clip information is being read or when clip configuration has changed. No operations can be performed while this display is on the screen.<br>[Meaning]<br><ul style="list-style-type: none"> <li>• A card has been inserted or removed.</li> <li>• Updating is in progress</li> <li>• Recording post processing is in progress</li> <li>• Other causes</li> </ul>                                                                                                                                                                | Operation continues | BUSY            |
| CANNOT A.DUB         | Displayed when audio voice-over cannot be recorded on a P2 card.<br>[Meaning]<br><ul style="list-style-type: none"> <li>• An attempt was made to record on a card that could not be used.</li> <li>• An attempt was made to record when no card was inserted</li> </ul>                                                                                                                                                                                                                                                                           | Operation continues | CANTADUB        |
| CANNOT LOOP REC      | Appears in LOOP REC mode when P2 card recording is not available.<br>[Meaning]<br><ul style="list-style-type: none"> <li>• An attempt was made to record to a write protected disk.</li> <li>• An attempt was made to record on a card with no free space available.</li> <li>• An attempt was made to record on a card that could not be used.</li> <li>• Card status changed during recording.</li> <li>• Recording was attempted when the unit was BUSY.</li> </ul>                                                                            | STOP                | CANTLREC        |
| CANNOT PLAY          | Displayed when playback was interrupted due to a clip error or other factor.<br>[Meaning]<br><ul style="list-style-type: none"> <li>• An attempt was made to play a clip when no clips were present.</li> <li>• An attempt was made to play back a card that cannot be used</li> <li>• The card could not be played back or playback stopped for some other reason</li> <li>• Playback was attempted when the unit was BUSY.</li> </ul>                                                                                                           | STOP                | CANTPLAY        |
| CANNOT REC           | Displayed when data cannot be recorded on a P2 card.<br>[Meaning]<br><ul style="list-style-type: none"> <li>• An attempt was made to record to a write protected disk.</li> <li>• An attempt was made to record data on a card with no more free memory space on it.</li> <li>• An attempt was made to record on a card with no free space available.</li> <li>• Card status changed during recording.</li> <li>• Recording was attempted when the unit was BUSY.</li> <li>• VFR recording started but no active frame data was input.</li> </ul> | STOP                | CANT REC        |
| CANNOT REC SD        | Displayed when a memory card is protected, there is not enough space or recording in PH/HA mode is not available.<br>(When an AJ-YCX250G AVCHD codec board (optional) is installed.)                                                                                                                                                                                                                                                                                                                                                              | Operation continues | CANT REC        |
| CHECK SD             | Displayed when a non-compatible SD memory card, non-standard management information or mismatched thumbnail data was recognized.<br>(When an AJ-YCX250G AVCHD codec board (optional) is installed.)                                                                                                                                                                                                                                                                                                                                               | Operation continues | CHK SD          |
| INT SG               | Displayed for the first two seconds when the REC button is pressed to enter the EE mode and the INPUT SELECT VIDEO button or the INPUT SELECT AUDIO button is set to SG.                                                                                                                                                                                                                                                                                                                                                                          | Operation continues | INT SG          |
| INVALID IN/OUT POINT | Displayed when an attempt was made to set an IN or OUT point in a location where such points cannot be set.                                                                                                                                                                                                                                                                                                                                                                                                                                       | Operation continues | Counter value   |
| INVALID TRACK SELECT | Displayed when no audio track is selected or 3 or more channels are selected in a voice-over recording on a P2 card.<br>Only 2 channels can be recorded in a voice-over recording.                                                                                                                                                                                                                                                                                                                                                                | Operation continues | CANTADUB        |

| Monitor display     | Description                                                                                                                                                                                                                          | Deck operation      | Counter display    |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|
| LACK OF REC CAP.    | Displayed when a voice-over recording is attempted on a P2 card or when external device is selected for a player of the playlist and the REC button is pressed to start recording, while there is not enough free space on the card. | Operation continues | CANTADUB           |
| MARK ON/OFF         | Displayed for two seconds when a shot mark is added or deleted.                                                                                                                                                                      | Operation continues | MARK ON / MARK OFF |
| MAX. EVENTS         | The number of events that can be registered on the playlist has been reached.                                                                                                                                                        | Operation continues | Counter value      |
| NEED TO REPAIR SD   | Displayed when an SD memory card that needs to be repaired is detected. (When an AJ-YCX250G AVCHD codec board (optional) is installed.)                                                                                              | Operation continues | ND REP             |
| NO INPUT            | Displayed for the first two seconds when the REC button is pressed to enter the EE mode and the INPUT SELECT button is set to a connector with no output except for analog audio signals.                                            | Operation continues | NO INPUT           |
| PL FILE NOT FOUND   | Displayed when a voice-over recording is attempted on a P2 card and there is no playlist file.                                                                                                                                       | Operation continues | CANTADUB           |
| REC LIMIT SD        | Displayed when recording cannot continue because there is no space or because a 12-hour recording has been completed. (When an AJ-YCX250G AVCHD codec board (optional) is installed.)                                                | Operation continues | LIMIT SD           |
| REPAIRING SD        | Displayed when an SD memory card clip is being repaired. (When an AJ-YCX250G AVCHD codec board (optional) is installed.)                                                                                                             | Operation continues | REPAIR             |
| R-OUT NOT AVAILABLE | Displayed when an attempt was made to use a recorder OUT point during insert editing in playlist mode.                                                                                                                               | Operation continues | Counter value      |
| SLOT SEL INVALID    | Displayed when the SLOT SELECT +/- button was pressed while it is not possible to switch P2 card recording slot.                                                                                                                     | Operation continues | INVALID            |
| TEXT MEMO           | Displayed for two seconds when a text memo is added.                                                                                                                                                                                 | Operation continues | TEXT MEMO          |
| TEXT MEMO INVALID   | Appears when there are already 100 text memos and no more memos can be added.                                                                                                                                                        | Operation continues | INVALID            |
| WRITE PROTECTED     | Appears when a voice-over recording is attempted on a write-protected P2 card.                                                                                                                                                       | Operation continues | CANTADUB           |

## WARNING information

If “E- \* \* ” lights in the monitor display, hold down the SHIFT button and press the MENU button to open the DIAG-MENU and read the warning information.

| Display |                   | Description                                                                                                        | Deck operation        |
|---------|-------------------|--------------------------------------------------------------------------------------------------------------------|-----------------------|
| No      | Character code    |                                                                                                                    |                       |
| 04      | UNKNOWN SIG       | Displayed when a signal input from the 1394 interface is not a DVCPRO or DV format signal.                         | Recording is disabled |
| 10      | FAN STOP          | Displayed when the fan motor stops.                                                                                | Operation continues   |
| 11      | NOT 1× 25M SIG    | Displayed when a signal input from the 1394 interface is not a DVCPRO (25 Mbps) 1× normal speed transfer signal.   | Recording is disabled |
| 12      | NOT 1× 50M SIG    | Displayed when a signal input from the 1394 interface is not a DVCPRO50 (50 Mbps) 1× normal speed transfer signal. | Recording is disabled |
| 14      | NO MATCH SIG      | Displayed when signal input via the 1394 interface differs from the system format set on this unit.                | Recording is disabled |
| 15      | NOT 1× DV SIG     | Displayed when a signal input from the 1394 interface is not a DV (25 Mbps) 1× normal speed transfer signal.       | Recording is disabled |
| 16      | INVALID VIDEO SIG | Displayed when the compressed video data of a signal input from the 1394 interface is irregular.                   | Recording is disabled |

| Display |                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Deck operation         |
|---------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| No      | Character code         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |
| 17      | INVALID AUDIO SIG      | Displayed when the audio data of a signal input from the 1394 interface is irregular.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Operation continues *1 |
| 18      | INVALID TC SIG         | Displayed when the time code data of a signal input from the 1394 interface is irregular.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Operation continues *2 |
| 21      | REC WARNING            | Displayed when a video or audio error occurs during recording.<br>To continue operation, turn the power off and then back on again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | STOP                   |
| 26      | CARD<br>ERROR<*****>   | Displayed when data was corrupted due to a P2 card error during recording.<br>This error is displayed after recording ends and remains on until the start of the next operation. This error is not displayed during playback. (* indicates the slot number where the error occurred.)<br>Replace the P2 card in the slot where the error occurred.                                                                                                                                                                                                                                                                                                                                                    | STOP                   |
| 49      | LAN ERROR              | Displayed when a LAN connection or disconnection failed. Power off, then power up again before use.<br>Should E-49 appear again, consult your supplier.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | STOP                   |
| 50      | BATTERY EMPTY          | Displayed when a drop in the backup battery voltage for the internal clock is detected at power on. Replace the internal battery. *5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Operation continues    |
| 70      | DIR NG<br>CARD<*****>  | The P2 card directory structure is not supported. (* indicates the slot number where the error occurred.) Make a quick backup of card data and format the card.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Operation continues    |
| 71      | RUNDOWN<br>CARD<*****> | The maximum number of overwrites has been exceeded. (* indicates the slot number where the error occurred.) This P2 card should be replaced.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Operation continues *3 |
| 75      | HDD INTERMITTENT       | Displayed for 3 seconds when a dropout due to reduced hard disk performance occurs during hard disk playback for monitoring purposes.<br>Use a faster hard disk.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Operation continues    |
| 90      | NOT 1× 100M SIG        | Displayed when a signal input from the 1394 interface is not a DVCPRO HD (100 Mbps) 1× normal speed transfer signal.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Recording is disabled  |
| 91      | COPY PROTECTED         | Displayed when DV format recording is available and the copy guard signal input via the 1394 interface is in the copy inhibit mode.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Recording is disabled  |
| 92      | 1394 INITIAL ERROR     | Displayed when the 1394 interface connection is irregular.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | *4                     |
| 93      | INVALID TC MODE        | <b>23.98Hz 24Hz 59-23Hz 60-24Hz 60-25Hz</b> only<br>Appears during playback when the time code has been recorded in drop frame mode. The video output is distorted and audio output is muted at the drop point of the time code. Check the playback clip. Playing back a 24p frame-rate clip requires that the time code be recorded in non-drop frame mode. Appears when the time code in an HD SDI input is in the drop frame mode during EE or recording. Normal recording will not be possible under these conditions. Check signal input to the unit. Set the input time code to non-drop frame mode. (Appears when 23.98, 24, 59-23, 60-24 or 60-25 is set in setup menu No. 25 (SYSTEM FREQ).) | Operation continues    |
| 95      | INVALID EMBEDDED<br>TC | Displayed while synchronizing recorded video frames to the time code of a signal input to the HD SDI connector when that time code is not advancing at 1× normal speed. (When "SLTC" is selected in setup menu No. 032 (REC REF) or 29.97, 59-23, 60-24, 25 or 60-25 is selected in setup menu No. 25 (SYSTEM FREQ).)                                                                                                                                                                                                                                                                                                                                                                                 | Operation continues    |
| 96      | INVALID TC<br>SEQUENCE | Appears during playback when frame rate data in user bit cannot be detected or when the playback time code is not continuous. The video output is distorted and audio output is muted in sections where the time code is not continuous. Check the playback clip. Appears during EE or recording when frame rate data cannot be detected in the user bit data in an HD SDI input or when the input time code is not continuous. Normal recording will not be possible under these conditions. Check signal input to the unit. Input signals with a matching time code and pull-down sequence (Appears when 23.98, 24, 59-23, 60-24 or 60-25 is set in setup menu No. 25 (SYSTEM FREQ).)               | Operation continues    |

## ◆ NOTE:

\*1: This warning appears only during recording. Then the audio is recorded mute.

\*2: This warning appears only during recording. The internally generated time code is recorded.

\*3: Operation continues but normal recording or playback may not be possible.

\*4: This warning appears at any time. This error disables input to the digital video interface.

\*5: "E-50" appears when the backup battery is depleted. Consult your supplier for information on a store that can provide you with a new battery (CR2032 or the equivalent). Be sure to use setup menu No. 069 (CLOCK SET) to set the clock after battery replacement.

| Display |                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                             | Deck operation                                                              |
|---------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| No      | Character code     |                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                             |
| 97      | NO ACTIVE FRAME    | Appears when active frame data cannot be detected in the user bits in the HD SDI input during EE or recording. Normal recording will not be possible under these conditions. Check signal input to the unit. The input signal must contain the active frame data from a variable frame-rate camera. (Appears when 29.97, 59-23, 60-24 or 60-25 is set in setup menu No. 25 (SYSTEM FREQ) and setup menu No 040 (VFR REC) is set to ON.) | Recording is disabled <sup>*6</sup><br>Operation continues during recording |
| 98      | INVALID FRAME RATE | Appears when active frame data detected from the user bit in the HD SDI input during EE and recording exceeds 50p. Normal recording is not possible under these conditions. When SYSTEM FREQ is set to 60-25, set the frame rate on a variable frame-rate camera to 50p or less. Appears when SYSTEM FREQ is set to 60-25 and VFR REC is set to ON.                                                                                     | Operation continues                                                         |

◆ **NOTE:**

\*6: An attempt to start recording causes the button to temporarily light. It goes out a few seconds later and no recording is made.

The following warning messages appear when an incorrect operation is attempted in the thumbnail playlist screen.

| Item      | Message                                     | Description                                                                                          | Measure                                                                                                                                                                                                                          |
|-----------|---------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Thumbnail | CANNOT ACCESS GATEWAY!<br>CHECK LAN SETTING | Cannot access gateway server.                                                                        | Check if LAN setup is correct.                                                                                                                                                                                                   |
|           | CANNOT ACCESS!                              | Data cannot be accessed because it is corrupted or for other reasons.                                | Restore media and clips to normal state before access. When displayed during network operation, check LAN setup, make sure the LAN cable is correctly connected and check that your network environment is functioning properly. |
|           | CANNOT ADD! NO INPUT                        | User name or password is not entered correctly.                                                      | Enter user name or password correctly.                                                                                                                                                                                           |
|           | CANNOT CHANGE!                              | A thumbnail containing a grayed out text memo that cannot be generated is not available for editing. | Edit settings or content to enable thumbnail display.                                                                                                                                                                            |
|           | CANNOT CONNECT!                             | Connection to the network cannot be established.                                                     | Check LAN setup, make sure the LAN cable is correctly connected and check that your network environment is functioning properly.                                                                                                 |
|           | CANNOT DELETE!                              | Contents version mismatch prevents deletion.                                                         | Match devices and contents version.                                                                                                                                                                                              |
|           | CANNOT FIND FTP-SERVER!                     | FTP server cannot be found.                                                                          | Check if FTP client URL is correct.                                                                                                                                                                                              |
|           | CANNOT FORMAT!                              | P2 card problem prevents formatting.                                                                 | Check P2 card.                                                                                                                                                                                                                   |
|           | CANNOT RE-CONNECT!                          | A clip that does not span multiple cannot be reconnected.                                            | Check selected content.                                                                                                                                                                                                          |
|           | CANNOT REPAIR IN SELECTION!                 | Some of the selected clip could not be repaired.                                                     |                                                                                                                                                                                                                                  |
|           | CANNOT REPAIR!                              | Selected content cannot be repaired.                                                                 | Check selected content.                                                                                                                                                                                                          |
|           | CANNOT SAVE! FILE NAME IN USE               | A network setup file with the same file name exists on the SD memory card.                           | Save to a different name.                                                                                                                                                                                                        |
|           | CARD FULL!                                  | The P2 or SD memory card is full.                                                                    | Insert media with sufficient capacity.                                                                                                                                                                                           |
|           | INVALID VALUE!                              | Entered data was invalid.                                                                            | Enter data in a valid range.                                                                                                                                                                                                     |
|           | IP ADDRESS IS USED!                         | The set IP address is used on another device.                                                        | Consult the network administrator, and set another IP address.                                                                                                                                                                   |
|           | LACK OF REC CAPACITY!                       | There is not enough recording capacity left on the card.                                             | Insert a card with sufficient recording capacity.                                                                                                                                                                                |
|           | LOGIN FAILED!                               | Login to destination FTP server failed.                                                              | Check if user ID and password for the FTP client are correct.                                                                                                                                                                    |
|           | MISSING CLIP!                               | All cards that contain the clip must be inserted to allow attachment of shot marks.                  | Insert all cards that contain the clip.                                                                                                                                                                                          |
|           | NO CARD!                                    | No P2 or SD memory card is inserted.                                                                 | Insert compatible media.                                                                                                                                                                                                         |
|           | NO CONTENTS!                                | No P2 data in the connected network folder.                                                          | Connect to a folder that contains P2 data.                                                                                                                                                                                       |
|           | NO COPY TO SAME CARD!                       | A clip cannot be copied to the card storing the original clip.                                       | Copy the selected clip to a card that does not contain the original clip.                                                                                                                                                        |
|           | NO INPUT!                                   | No data is input.                                                                                    | Set after making input.                                                                                                                                                                                                          |

| Item                  | Message                                     | Description                                                                          | Measure                                                                                                                                                             |
|-----------------------|---------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Thumbnail             | NO SD CARD!                                 | No SD memory card is inserted.                                                       | Insert an SD memory card.                                                                                                                                           |
|                       | NOT SELECTED!                               | An attempt was made to delete an unselected clip.                                    | Select the clip you want to delete.                                                                                                                                 |
|                       | PING FAILED!<br>CHECK LOG or<br>SET FTP-URL | PING failed.                                                                         | Check if LAN setup, FTP client URL and LAN cable connection are correct.                                                                                            |
|                       | SAME CLIP IS<br>SELECTED!                   | The selected clips contain multiple copies of the same clip (duplicated using COPY). | Multiple copies of the same clip (duplicated using COPY) cannot be simultaneously copied. Deselect all identical copies from the selected clips.                    |
|                       | TOO MANY CLIPS!                             | Too many clips are selected.                                                         | Reduce the number of selected clips.                                                                                                                                |
|                       | UNKNOWN<br>CONTENTS<br>FORMAT!              | This warning appears when data not compatible with the unit is detected.             | Match devices and contents version.                                                                                                                                 |
|                       | UNKNOWN DATA!                               | The metadata character code is invalid.                                              | Use UTF-8 for the metadata character code. Use the viewer to enter correct characters.                                                                              |
|                       | USER CLIP NAME<br>MODIFIED!                 | Characters in the clip name had to be deleted in adding the counter value.           | The user clip name plus the counter value can only contain up to 100 bytes. Characters in the clip name are automatically deleted when the total exceeds 100 bytes. |
|                       | WRITE PROTECTED!                            | The P2 or SD memory card is write protected.                                         | Insert write-enabled media.                                                                                                                                         |
| Hard disk             | CANNOT ACCESS<br>CARD!                      | An error occurred during P2 card access.                                             | Check P2 card.                                                                                                                                                      |
|                       | CANNOT ACCESS<br>TARGET!                    | An error occurred during hard disk access.                                           | Check hard disk status and connection.                                                                                                                              |
|                       | CANNOT COPY!<br>FORMAT HDD TO<br>FAT        | Clips cannot be copied to hard disk without partitions.                              | Format using a FAT format or export data from a P2 card to create a partition.                                                                                      |
|                       | CANNOT FORMAT!                              | The hard disk cannot be initialized.                                                 | Connect another hard disk drive.                                                                                                                                    |
|                       | CANNOT<br>RECOGNIZE HDD!                    | The destination target cannot be properly recognized.                                | Reboot the hard disk or connect a different hard disk.                                                                                                              |
|                       | CANNOT SELECT!<br>MAX.6 PARTITIONS          | It is not possible to mount more than 6 hard disk partitions simultaneously.         | Cancel some of the selected partitions.                                                                                                                             |
|                       | CARD IS EMPTY!<br>CANNOT COPY!              | The P2 selected for copying is empty.                                                | Copying is not performed since the card is empty.                                                                                                                   |
|                       | FORMAT P2 CARD!                             | Importing is not possible to a P2 card containing clips.                             | Format the P2 card.                                                                                                                                                 |
|                       | HDD CAPACITY<br>FULL!                       | Not enough space left on the hard disk.                                              | There is not enough space on the connected hard disk. Use a new hard disk or formatted hard disk.                                                                   |
|                       | HDD<br>DISCONNECTED!                        | The unit is not connected to a hard disk.                                            | Reconnect the USB cable. If the hard disk does not operate normally, turn it off and turn it back on again.                                                         |
|                       | MISMATCH<br>COMPONENT!                      | Copying is not possible since the model numbers of the two cards differ.             | Use a P2 card with the same model number or import video in clip units.                                                                                             |
|                       | P2 CARD IS<br>UNFORMATTED!                  | The P2 card is not formatted.                                                        | Use a formatted P2 card.                                                                                                                                            |
|                       | TOO MANY<br>PARTITIONS!                     | There are too many partitions.                                                       | Hard disks can handle up to 23 partitions. Use a new hard disk or formatted hard disk.                                                                              |
|                       | TOO MANY<br>TARGETS!                        | Multiple devices are connected.                                                      | Disconnect devices, turn off the unit and turn it back on again.                                                                                                    |
|                       | UNKNOWN DEVICE<br>CONNECTED!                | The connected DVD drive is not compatible.                                           | Disconnect devices, turn off the unit and turn it back on again.                                                                                                    |
| On-screen<br>keyboard | VERIFICATION<br>FAILED!                     | The compare check after copying failed.                                              | Copy the data again.                                                                                                                                                |
|                       | CANNOT CHANGE!                              | An attempt was made to change PERSON when no text memo had been entered.             | First enter a text memo.                                                                                                                                            |
|                       | CANNOT SET!<br>INVALID VALUE!               | The entered value is invalid.                                                        | Enter a valid value.                                                                                                                                                |

| Item     | Message                                                  | Description                                                                                | Measure                                                                                                                   |
|----------|----------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Playlist | CANNOT FIND CLIP!                                        | Specified clip could not be found.                                                         | Insert the card with the clip.                                                                                            |
|          | CANNOT FIND SAME FORMAT!                                 | There are no clips in a matching playlist format.                                          | Use clips that match the playlist format.                                                                                 |
|          | CANNOT MOVE!                                             | Move operation is not possible.                                                            | Select a consecutive area.                                                                                                |
|          | CANNOT OPERATE AT "RED" EVENT!                           | Not allowed in a playback disable (marked red) event.                                      | An illegal operation was attempted in a disabled event. Use a playback enable event or insert a card with suitable clips. |
|          | CANNOT OPERATE WITH EXTERNAL PLAYER                      | A.DUB is not available when an external player is used.                                    | Select a P2 card as a player.                                                                                             |
|          | CANNOT OPERATE: "RED" A.DUB EVENT INCLUDED               | Since the selected events include a red A.DUB event, operation is not possible.            | Remove the red A.DUB event from the selection.                                                                            |
|          | CANNOT OPERATE: A.DUB EVENT INCLUDED                     | Since the selected events include an A.DUB event, operation is not possible.               | Remove the A.DUB event from the selection.                                                                                |
|          | CANNOT OPERATE: BLANK EVENT INCLUDED                     | Since the selected events include a blank event, operation is not possible.                | Remove the blank event from the selection.                                                                                |
|          | CANNOT OPERATE: BLANK VIDEO EVENT INCLUDED               | Since the selected events include a blank video event, operation is not possible.          | Remove the blank video event from the selection.                                                                          |
|          | CANNOT OPERATE: COLLAPSE CLIP INCLUDED                   | Some of the clips are abnormal.                                                            | Use normal clips only.<br>There may also be a bad clip at the location where the data is copied to.                       |
|          | CANNOT OPERATE: DIFFERENT ASPECT RATIO INCLUDED          | There are clips with different aspect ratios.                                              | Aspect ratios cannot be mixed. Use only clips with the same aspect ratio.                                                 |
|          | CANNOT OPERATE: DIFFERENT REFERRED POSITION              | Since the location of the clip referenced by the event differs, operation is not possible. | Select only events whose source clips have the same time code.                                                            |
|          | CANNOT OPERATE: ILLEGAL EVENT INCLUDED                   | There are illegal events.                                                                  | Change the illegal events to the correct status.                                                                          |
|          | CANNOT OPERATE: INTERNAL MEMORY IS FULL                  | Internal memory is full and no new audio level values can be added.                        | Use the UNITY level to delete existing audio level or delete the event to which an audio level was added.                 |
|          | CANNOT OPERATE: INVALID AUDIO FILE                       | This audio file cannot be used.                                                            | A playlist file with 24-bit audio data cannot be loaded.                                                                  |
|          | CANNOT OPERATE: MULTI FORMAT INCLUDED                    | The files are not in the same format.                                                      | Playlist files in different formats cannot be loaded.                                                                     |
|          | CANNOT OPERATE: MULTI SOURCE INCLUDED IN SELECTED EVENTS | Since the selected event references multiple clips, operation is not possible.             | Select only events that reference the same clip.                                                                          |
|          | CANNOT OPERATE: PLAYLIST FILE IS NOT FOUND               | No playlist file could be found.                                                           | Insert a card with a playlist file.                                                                                       |
|          | CANNOT OPERATE: PLAYLIST IS NOT SAVED                    | The playlist has not been saved.                                                           | Save the playlist.                                                                                                        |
|          | CANNOT OPERATE: UNMATCH INPOINT                          | Since there is a track with a non-matching source IN point, operation is not possible.     | Match up the IN points of all tracks.                                                                                     |

| Item     | Message                                     | Description                                                                                                                       | Measure                                                                                                                                                      |
|----------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Playlist | CANNOT OPERATE: UNMATCH INSERT POINTS       | Since there is a track with a non-matching destination points, operation is not possible.                                         | Match up the destination points of all tracks.                                                                                                               |
|          | CANNOT OPERATE: UNMATCH OUTPOINT            | Since there is a track with a non-matching source OUT point, operation is not possible.                                           | Match up the OUT points of all tracks.                                                                                                                       |
|          | CAPTURE INCOMPLETED                         | A capture from an external player failed to capture the entire clip, but registered what was captured.                            | When OUT points are displaced due to intermittent time codes, for example, trimming could be used to revise.                                                 |
|          | DIFFERENT FORMAT!                           | The playlist being edited and the event and clip selected for importing are in a different playlist format (codec or frame rate). | Use clips in a matching playlist format.                                                                                                                     |
|          | DIFFERENT PLAYLIST VERSION!                 | The playlist contains files in different versions.                                                                                | Playlist files in a different version cannot be imported.                                                                                                    |
|          | DIFFERENT SYSTEM FREQUENCY!                 | Some files have a different system frequency.                                                                                     | Use only files with the same system frequency.                                                                                                               |
|          | DURATION LIMITATION!                        | The selected process cannot be performed because playlist duration exceeds 24 hours.                                              | Delete data to reduce the duration to less than 24 hours to process.                                                                                         |
|          | ILLEGAL FILE!                               | The playlist is not in a format that can be loaded into the unit.                                                                 | Use a playlist file in a format that can be loaded into the unit.                                                                                            |
|          | LACK OF REC CAPACITY!                       | The card selected for Edit Copy does not have enough capacity.                                                                    | Insert a card with sufficient capacity.                                                                                                                      |
|          | NO CARD!                                    | The specified card does not exist.                                                                                                | Insert the card before attempting to process it.                                                                                                             |
|          | NO FILE!                                    | The specified file does not exist.                                                                                                | Use SAVE AS to save or insert a normally operating card.                                                                                                     |
|          | NO SPACE!                                   | There is not enough space on the card.                                                                                            |                                                                                                                                                              |
|          | NOT AVAILABLE FORMAT!                       | Cannot edit data in the current format.                                                                                           | Use a compatible playlist format.                                                                                                                            |
|          | NOT SELECTED!                               | No clip is selected.                                                                                                              | Select the clip in the player thumbnail screen.                                                                                                              |
|          | NUMBER OF EVENT LIMITATION!                 | The number of events on a track has reached the upper limit.                                                                      | The upper limit of the number of events on each track is 100. Operate within this limit.                                                                     |
|          | NUMBER OF FILE LIMITATION!                  | The number of playlist files has reached the upper limit.                                                                         | One card can store up to 999 playlist files. Delete files no longer needed or use a new card.                                                                |
|          | READ ONLY PLAYLIST VERSION!                 | The playlist file is opened as read only because it is in a different version.                                                    | Playlists created on the AJ-SPD850, AJ-HPM100, AJ-HPM110 or AJ-HPS1500 can only be opened as read only files. To edit such files on this unit save them out. |
|          | R-OUT POINT IS NOT AVAILABLE IN INSERT MODE | An insert edit cannot use a recorder OUT point.                                                                                   | Select some point other than the recorder OUT point in editing.                                                                                              |
|          | WRITE PROTECTED!                            | The specified card is write protected.                                                                                            | Insert write-enabled media.                                                                                                                                  |

## Error information

| Error |                  | Description                                                                                                                                 | Operation |
|-------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| No.   | Message          |                                                                                                                                             |           |
| E-30  | TURN POWER OFF   | Displayed when an error occurs in reading and writing card data.<br>To continue operation, turn the power off and then back on again.       | STOP      |
| E-37  | COMM ERROR       | Displayed when a system controller command was not complied to.<br>To continue operation, turn the power off and then back on again.        | STOP      |
| E-38  | SYSTEM ERROR     | Displayed when the fan motor stops.<br>To continue operation, turn the power off and then back on again.                                    | STOP      |
| E-55  | OPT SYS ERROR    | Displayed when an AJ-YCX250G AVCHD codec board (optional) malfunctions. Turn the power off and then back on again.                          | STOP      |
| E-56  | OPT NOT RESPONSE | Displayed when an AJ-YCX250G AVCHD codec board (optional) does not respond to communications. Turn the power off and then back on again.    | STOP      |
| E-57  | OPT HALT         | Displayed when communications from an AJ-YCX250G AVCHD codec board (optional) cannot be updated. Turn the power off and then back on again. | STOP      |
| E-BA  | BATTERY          | Appears when the input DC voltage is below the undercut voltage.                                                                            | STOP      |

## AVCHD warning information (when the AJ-YCX250G AVCHD codec board (optional) is installed)

The following lists major warning messages displayed on the LCD monitor and viewfinder. For details on other warning messages, follow the instructions given in the messages.

| Message                                                           | Description                                                        |
|-------------------------------------------------------------------|--------------------------------------------------------------------|
| CANNOT BE USED DUE TO INCOMPATIBLE DATA.                          | This data conforms to a different standard and cannot be used.     |
| CANNOT PLAY.                                                      | Cannot play.                                                       |
| CANNOT SELECT MORE CLIPS.                                         | Too many clips selected to delete.                                 |
| CANNOT SET. THE NUMBER OF INDEXES HAS EXCEEDED THE MAXIMUM LIMIT. | Cannot make settings since the number of indexes exceeds the limit |
| CARD ERROR. PLEASE REFORMAT.                                      | Formatting failed. This card must be reformatted.                  |
| CHECK CARD.                                                       | Check the card.                                                    |
| CONTROL DATA ERROR HAS BEEN DETECTED.                             | A control data error was detected.                                 |
| NO CARD                                                           | No card is inserted.                                               |
| NO FILE.                                                          | The metadata file cannot be found.                                 |
| REPAIR CLIP?                                                      | Repair clip?                                                       |
| THE CLIP IS PROTECTED. PLEASE CANCEL PROTECTION.                  | The clip is protected. Cancel protection.                          |
| THUMBNAIL DATA ERROR IS DETECTED.                                 | A thumbnail data error was detected.                               |
| UNABLE TO FORMAT.                                                 | Cannot be formatted.                                               |
| WRITE PROTECT                                                     | The card is write protected.                                       |

## ■ Error indication

These messages appear when malfunctions occur with the unit or an SD memory card. If the problem cannot be solved by turning the unit off and turning it back on, try replacing the card as directed, or consult your supplier.

| Message                        | Description                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CANNOT RECORD                  | Indicates that an error occurred during shooting.                                                                                                                                                                                                                                                                                                                                                                       |
| REC WARNING                    | Indicates that an error occurred during recording. Rerecord the card. If the warning still persists, contact your supplier.<br>Turn the power off if the warning continues.                                                                                                                                                                                                                                             |
| SYSTEM ERROR<br>TURN POWER OFF | Indicates that a system error occurred. Turn the power off and then turn it back on again.<br>If this message occurred during SD memory card access, for example when a clip was deleted, the SD memory card may be damaged. Replace the SD card with a new one.<br>Use the AVCCAM Restorer, a repair utility, if this message is output during a repair.<br>→ > Refer to "Recovery of SD memory cards" (PDF page 142). |

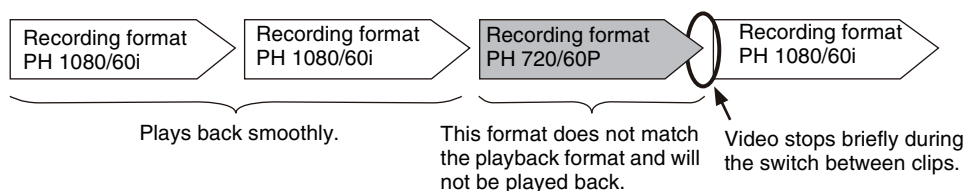
Continuous playback of multiple clips may not be smooth in the transition between clips.

In the following cases, playback may stop briefly in the transition between clips during continuous playback of multiple clips.

## ■ Multiple recording formats

Recording mode = PH mode

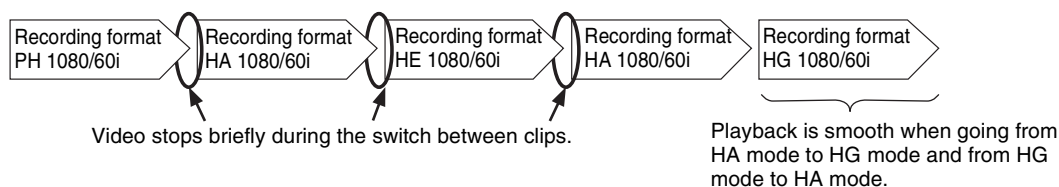
Playback format = 1080/60i (30P)



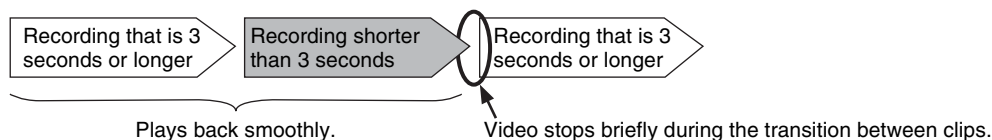
## ■ Multiple recording modes

Recording format = 1080/60i

Playback format = 1080/60i (30P)



## ■ When there are clips shorter than 3 seconds



# Specifications

## GENERAL

**Power supply:** 100-240 V AC, 50/60 Hz, 60 W  
12 V DC, 4.8 A (full options)

 indicates safety information.

**Operating ambient temperature:**

0 °C to 40 °C (32 °F to 104 °F)

**Operating ambient humidity:**

10 % to 80 % (no condensation)

**Ambient storage temperature:**

–20 °C to 50 °C (–4 °F to 122 °F)

**Mass:** 6.6 kg (14.55 lb)

**Dimensions (W × H × D):**

301 mm × 120 mm × 412 mm  
(11<sup>7</sup>/<sub>8</sub> inches × 4<sup>3</sup>/<sub>4</sub> inches × 16<sup>1</sup>/<sub>4</sub> inches)  
(not including the support legs)

**Recording format:** AVC-Intra100/AVC-Intra50/DVCPRO HD/  
DVCPRO50/DVCPRO/DV/AVCHD\*1  
selectable

**Recording video signal:**

1080/59.94i, 1080/23.98p, 1080/24p,  
1080/29.97p, 1080/25p, 1080/50i,  
720/59.94p, 720/50p, 480/59.94i, 576/50i

**Recording audio signal:**

AVC-Intra100/AVC-Intra50/  
DVCPRO HD: 48 kHz 16bits 8CH  
DVCPRO50: 48 kHz 16bits 4CH  
DVCPRO/DV: 48 kHz 16-bits 2/4 channels  
selectable

\*1: When an AJ-YCX250G AVCHD codec board (optional) is installed.

**Recording times:**

| Card      | Recording format           |                          |                     |
|-----------|----------------------------|--------------------------|---------------------|
|           | AVC-Intra100/<br>DVCPRO HD | AVC-Intra50/<br>DVCPRO50 | DVCPRO/DV           |
| 8 GB X 1  | Approx. 8 minutes          | Approx. 16 minutes       | Approx. 32 minutes  |
| 16 GB X 1 | Approx. 16 minutes         | Approx. 32 minutes       | Approx. 64 minutes  |
| 32 GB X 1 | Approx. 32 minutes         | Approx. 64 minutes       | Approx. 128 minutes |
| 64 GB X 1 | Approx. 64 minutes         | Approx. 128 minutes      | Approx. 256 minutes |

◆ **NOTE:**

- All of the above times apply when single clips are recorded continuously one after the other on the P2 card.
- Depending on the number of the clips to be recorded, the recordable time may be shorter than the times given above.

## VIDEO

### DIGITAL VIDEO

**Sampling frequencies:**

AVC-Intra100/ DVCPRO HD:  
(59.94Hz)

Y: 74.1758 MHz

P<sub>B</sub>/P<sub>R</sub>: 37.0879 MHz

(50Hz)

Y: 74.2500 MHz

P<sub>B</sub>/P<sub>R</sub>: 37.1250 MHz

DVCPRO50:

Y: 13.5 MHz

P<sub>B</sub>/P<sub>R</sub>: 6.75 MHz

DVCPRO:

Y: 13.5 MHz

P<sub>B</sub>/P<sub>R</sub>: 3.375 MHz

**Quantizing:**

AVC-Intra100/AVC-Intra50: 10bits  
DVCPRO HD/DVCPRO50/DVCPRO/DV: 8bits

**Video compression method:**

AVC-Intra100/AVC-Intra50:

MPEG-4 AVC/H.264 Intra Profile

DVCPRO HD:

DV-Based Compression (SMPTE 370M)

DVCPRO50/ DVCPRO:

DV-Based Compression (SMPTE 314M)

DV:

DV Compression (IEC61834-2)

**Color sampling:**

AVC-Intra100:

Y : P<sub>B</sub> : P<sub>R</sub> = 4 : 2 : 2

**Resolution:**

AVC-Intra 100:  
 1920 × 1080 (1080/59.94i, 1080/50i)  
 1280 × 720 (720/59.94p, 720/50p)  
 AVC-Intra 50:  
 1440 × 1080 (1080/59.94i, 1080/50i)  
 960 × 720 (720/59.94p, 720/50p)

**VIDEO INPUT****Analog composite input:**

BNC × 1 (VIDEO IN), 1.0 V[P-P] (75 Ω)

**Reference input:**

Automatic switching of black burst/HD 3 value SYNC, BNC × 1 (loop through × 1), automatic 75 Ω termination provided

**SDI input:**

BNC × 1, complies with SMPTE 292M/296M/299M during HD SDI input, complies with SMPTE 259M-C/272M-A, ITU-R BT.656-4 during SD SDI input

**VIDEO OUTPUT****SD analog composite output:**

BNC × 1

**HD SDI/SD SDI output (switchable):**

BNC × 1, complies with SMPTE 292M/296M/299M during HD serial digital output, complies with SMPTE 259M-C/272M-A, ITU-R BT.656-4 during SD serial digital output

**VIDEO ADJUSTMENT RANGES**

**Video output gain:** Can be set to  $-\infty$  to +3 dB or  $-\infty$  to +6 dB depending on menu

**Video output chroma gain:**

$-\infty$  to +3 dB

**Video output HUE (chroma phase):**

$\pm 30^\circ$

**Video output setup level:**

$\pm 10\%$

**Video output sync phase:**

$\pm 15\mu\text{s}$

**Video output SC phase:**

$\pm 180^\circ$

**AUDIO****DIGITAL AUDIO****Sampling frequencies:**

48 kHz (synchronous with video)

**Quantizing:**

16 bits

**Frequency response:**

20 Hz to 20 kHz  $\pm 1.0$  dB  
 (at the reference level)

**Dynamic range:**

Better than 85 dB  
 (1 kHz emphasis off, "A" weighted)

**Distortion:**

Less than 0.1 %  
 (1 kHz, emphasis off, reference level)

**Crosstalk:**

Less than -80 dB  
 (1 kHz, between 2 channels)

**Headroom:**

12/18/20 dB selectable

**De-emphasis:**

T1 = 50  $\mu\text{s}$ , T2 = 15  $\mu\text{s}$  (auto on/off)

**AUDIO INPUT****Analog input (CH1, CH2, CH3, CH4):**

XLR × 4, 600 Ω/high impedance selectable  
 (factory setting: high impedance)  
 +4/0/-3/-20 dBu selectable  
 Only CH2 input can be switched between  
 LINE/MIC/MIC +48 V

**MIC:**

-60 dBu

**MIC+48V:**

Phantom +48V supported, -60 dBu

**Digital input:**

BNC × 2 (CH1/2, CH3/4)  
 AES/EBU format SMPTE276M

**SDI input:**

BNC × 1, complies with SMPTE 292M/296M/299M during HD SDI input, complies with SMPTE 259M-C/272M-A (480/59.94i), ITU-R BT.656-4 (576/50i) during SD SDI input

**AUDIO OUTPUT****Analog output (CH1, CH2, CH3, CH4):**

XLR × 4, low impedance,  
 +4/0/-3/-20 dBu selectable

**Digital output:**

BNC × 2  
 (CH1/2, CH3/4)  
 AES/EBU format SMPTE276M

**SDI output:**

BNC × 1, complies with SMPTE 292M/296M/299M during HD SDI input, complies with SMPTE 259M-C/272M-A (480/59.94i), ITU-R BT.656-4 (576/50i) during SD SDI input

**Monitor output:**

Pin jacks × 2, -8 dBV, 600 Ω

**Headphones:**

Stereo mini jack (3.5 mm diameter), 8 Ω,  
 variable level

## Other input/output

---

**Time code input:** BNC × 1, 0.5 V[P-P] to 8.0 V[P-P], 10 kΩ

**Time code output:** BNC × 1, 2.0 V[P-P] ±0.5 V[P-P],  
low impedance

**RS-422A input/output:**

D-sub 9pin, RS-422A interface

**IEEE1394 input/output:**

IEEE1394 6pin × 1

400/200/100 Mbps selectable

Complies with IEEE1394-1995

Complies with IEC61883-Part1,Part2

Complies with SMPTE 396M

AV/C Command Set supported

**USB 2.0:**

Host × 1, Device × 1

**LAN:**

1000BASE-T/100BASE-TX/10BASE-T × 1

**eSATA:**

eSATA 3Gbit port × 1

[illegible]

## Information for Users on Collection and Disposal of Old Equipment and used Batteries



These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste. For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.



By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.



For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.



### For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

### Information on Disposal in other Countries outside the European Union

These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

Cd

### Note for the battery symbol (bottom two symbol examples):

This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

## Panasonic Broadcast & Television Systems Company Unit Company of Panasonic Corporation of North America

Executive Office: One Panasonic Way 4E-7, Secaucus, NJ 07094 Tel: 201-348-7000

Eastern Zone: One Panasonic Way 4E-7, Secaucus, NJ 07094 Tel: 201-348-7196

Southeast Region: Tel: 201-392-6151

Western Zone: 3330 Cahuenga Blvd W., Los Angeles, CA 90068 Tel: 323-436-3608

Government Marketing Department:

One Panasonic Way 2E-10, Secaucus, NJ 07094 Tel: 201-348-7587

### Broadcast PARTS INFORMATION & ORDERING:

9:00 a.m. – 5:00 p.m. (EST) Tel: 800-334-4881/24 Hr. Fax: 800-334-4880

Emergency after hour parts orders Tel: 800-334-4881

e-mail: PBTSparts@us.panasonic.com

TECHNICAL SUPPORT: Emergency 24 Hour Service Tel: 800-222-0741

e-mail: PBTSCservice@us.panasonic.com

## Panasonic Canada Inc.

5770 Ambler Drive, Mississauga, Ontario L4W 2T3 Tel: 905-624-5010

## Panasonic de México S.A. De C.V.

Casa Matriz: Moras No.313 Col. Tlacoquemecatl Del Valle Del Benito Juárez México, D.F., C.P.03200

Tel: 55-5488-1000 Fax: 55-5575-6783

## Panasonic Latin America, S.A.

P.O.Box 0816-03164 Panama, Republic of Panama Tel: +507-229-2955 Fax: 507-229-5352

## Panasonic do Brasil Ltda.

Rua Cubatão, 320-6º andar-Paraíso CEP 04013-001- São Paulo -SP Tel: 11-3889-4000 Fax: 11-3889-4004

## Professional & Broadcast IT Systems Business Unit Europe

## Panasonic AVC Systems Europe a Division of Panasonic Marketing Europe GmbH

Hagenauer Str. 43, 65203 Wiesbaden-Biebrich Deutschland Tel: +49-611-235-481

## Panasonic Systems Asia Pacific (Broadcast Regional Operation Center)

2 Jalan Kilang Barat, Panasonic Building, Singapore 159346 Tel: +65-6270-0110