Panasonic®

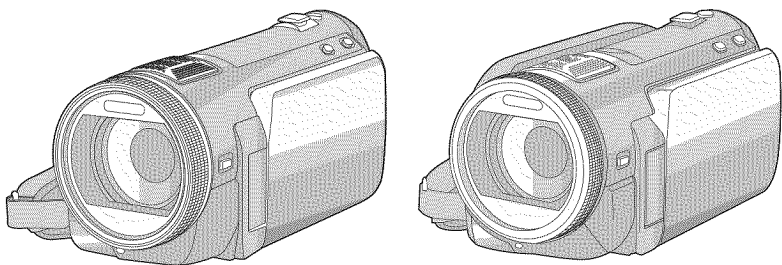## Operating Instructions
High Definition Video Camera

Model No. **HDC-TM700P/PC**
HDC-HS700P/PC

Before connecting, operating or adjusting this product, please read the instructions completely.
Spanish Quick Use Guide is included.
Guía para rápida consulta en español está incluida.

AVCHD™   DOLBY DIGITAL 5.1 CREATOR   LEICA DICOMAR   SDXC™

HDMI   VIERA Link™

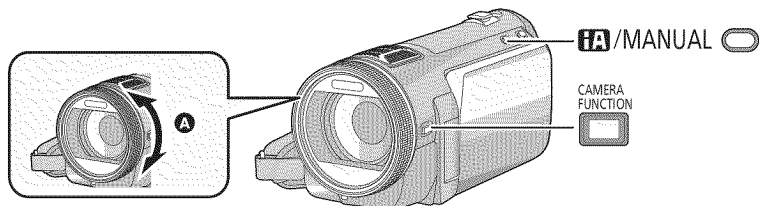VQT2M75

8 Recording with Manual focus

VIDEO PHOTO

Perform focus adjustments using the multi manual ring.
If auto focusing is difficult due to the conditions, then use Manual Focus.

◇ **Change the mode to ▥ or ▢ .**

● **Press the iA/MANUAL button or CAMERA FUNCTION button to switch to Manual Mode. (→ 82)**
● **For how to perform the settings when using the viewfinder, refer to page 82**

Ⓐ Rotate the multi manual ring to adjust the focus.

1 (When MF assist function is used)
Select the menu.

(MENU) : [RECORD SETUP] →
[MF ASSIST] → [ON]
● It is possible to set from the quick menu. (→ 45)

2 Touch [FOCUS].

3 Touch [MF] to change to Manual Focus.

● MF appears on the screen.

4 Adjust the focus by rotating the ring.

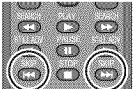The in-focus area is displayed in blue. The normal screen returns approximately 2 seconds after you finish bringing the subject into focus.
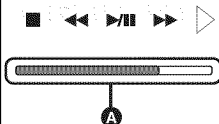● When [MF ASSIST] is [OFF], the blue area is not displayed.
● To restore Auto Focus, touch [AF] of step 3 or press the iA/MANUAL button.

● Zoom operation cannot be performed using the multi manual ring.
● The blue display does not appear on the images actually recorded.

1 **Playback Operations**

Motion picture playback using operation icon

VIDEO

For details on the basic playback operations, refer to page 41.

Playback operation	Playback display	Operating steps
Fast forward/ rewind playback	**During Playback** ■ ◄◄ ►/Ⅱ ►► ▷	**Touch ►► during playback to fast forward.** **(Touch ◄◄ to rewind.)** ● The fast forward/rewind speed increases if you touch ►►/◄◄ again. (The display on the screen changes from ►► to ►►►.) ● Normal playback is restored when you touch ►/Ⅱ.
Skip playback (to the start of a scene)		Press the I◄◄ or ►►I button during playback. (Operation is possible with the remote control only.)
Slow-motion playback	**During Pause** ■ ◄Ⅱ ►/Ⅱ Ⅱ► ▷ ● When the operation icon disappears, touch the screen to display the icon again	**With the playback paused, continue touching Ⅱ►.** **(◄Ⅱ is for slow rewind playback)** Playback is slow while touching. ● Normal playback is restored when you touch ►/Ⅱ. ● When slow-motion pictures are played back in reverse, they will be shown continuously at approximately 2/3rd the speed of normal playback (intervals of 0.5 seconds).
Frame-by-frame playback The motion picture is advanced one frame at a time.		**With the playback paused, touch Ⅱ►.** **(Touch ◄Ⅱ to advance the frames one at a time in the reverse direction.)** ● Normal playback is restored when you touch ►/Ⅱ. ● When the frames are advanced one at a time in the reverse direction, they will be shown in intervals of 0.5 seconds.

Playback operation	Playback display	Operating steps
Direct playback	**During Playback** ■ ◄◄ ►/Ⅱ ►► ▷ (━━━━━━━━━━━) Ⓐ	1) Touch ► to display the direct playback bar Ⓐ. 2) Touch the direct playback bar. ● The playback is paused and the image is skipped until the position you touched. ● Playback starts again when you release the touch screen. ● Touch ◄ to display the operation icon. ● Direct playback bar cannot be operated with the remote control.

Creating still picture from motion picture

VIDEO

A single frame from the recorded motion picture can be saved as a still picture.
Picture size of the still picture to be recorded is [2.1M] (1920×1080).

1 **Pause at the scene you want to save as a still picture during playback.**

● It is convenient to use slow-motion playback and frame-by-frame playback.

2 **Press the ⬤ button fully.**

● Date the motion picture was recorded will be registered as date of the still picture.
● Quality will be different from the normal still picture.

Highlight&Time frame index

An image of one scene is displayed as a thumbnail at set search condition. Scene can be played back from any midway point of the scene you wish to see.

● **Operate the zoom lever or the adjust zoom buttons to Q side and change over the thumbnail display to Highlight&Time frame index. (→ 43)**

1 Touch selected search condition.

● Next (previous) scene can be displayed by touching [▲]/[▼].

2 Touch the desired condition.

[3 SECONDS]/[6 SECONDS]/[12 SECONDS]/ [MINUTES]/[FACE]/[HIGHLIGHT]

● When you select [FACE], thumbnails for sections of the motion picture in which faces were recognized will be displayed.

Ⓐ Selected search condition

Ⓑ Scene selection

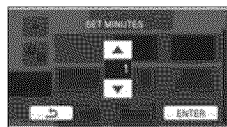● A portion judged to be clearly recorded will be detected and displayed in thumbnail if you select [HIGHLIGHT].

3 (Only when [MINUTES] is selected)
Touch [▲]/[▼] to set the time.

● It can be set up to a maximum of 60 minutes.
● Touch [ENTER].

4 Touch the thumbnail to be played back.

● Next (previous) thumbnail can be displayed by touching [◄]/[►].

Repeat playback

Playback of the first scene starts after playback of the last scene finishes.

(MENU) : **[VIDEO SETUP] → [REPEAT PLAY] → [ON]**

The ⟳ indication appears on the full screen views.

● All the scenes are played back repeatedly. (When playing back motion pictures by date, all the scenes on the selected date are played back repeatedly.)

Resuming the previous playback

If playback of a scene was stopped halfway, the playback can be resumed from where it was stopped.

(MENU) : **[VIDEO SETUP]** → **[RESUME PLAY]** → **[ON]**

If playback of a motion picture is stopped, ▷▷ appears on the thumbnail view of the stopped scene.

- The memorized resume position is cleared if you turn off the power or change the mode. (The setting of [RESUME PLAY] does not change.)

Zooming in on a still picture during playback (Playback zoom)

[PHOTO]

You can zoom in by touching a still picture during playback.

1 Touch the part you wish to zoom in on during still picture playback.

- The still picture is zoomed in on, centering on the part you touched. With each touch, you zoom in further. (×1 → ×2 → ×4)

2 Move your position on the zoomed still picture by touching ▲/▼/◄/►.

- The location of the zoom displays for about 1 second when zooming in (zooming out) or moving the displayed location.
- The more picture is enlarged, the more its quality deteriorates.

Ⓐ Displayed location of the zoom

Zooming out from the zoomed still picture

Touch ⊖ to zoom out. (×4 → ×2 → ×1)
- Touch 1× | to return to normal playback (×1).

- You can also perform zoom operations using the zoom lever or the adjust zoom buttons.

2 Various playback functions

Playing back motion pictures/still pictures by date

VIDEO PHOTO

The scenes or the still pictures recorded on the same day can be played back in succession.

1 Touch the date select icon.

Ⓐ Date select icon

2 Touch the playback date.

The scenes or the still pictures recorded on the date selected are displayed as thumbnails.

3 Touch the scene or the still picture to be played back.

● Playing back of all the scenes or the still pictures returns if the power is turned off or the mode is changed.
● Even if scenes are recorded on the same day, they are grouped separately in the following cases. −1, −2... is added after the recording date displayed on the screen.
  − When the number of scenes exceeds 99
  − When the media is repaired
  − When the Interval recording is used
● Even if still pictures are recorded on the same day, they are grouped separately in the following cases.
  − When the number of still pictures exceeds 999
  − When pictures are recorded in Hi-Speed Burst Shooting mode (🖳 is indicated after the date in the list by date).
● [🔽] is displayed after the date in the list by date for the still pictures created from the motion picture. (➜ 87)

VIDEO

A part can be extracted and played back even when not set to normal playback.

1 Touch 🖾 .

2 Touch the desired playback mode.

[FACE HIGHLIGHT]:   Giving priority to the parts with detected faces, the part that was recognized as clearly recorded is extracted from a long recording, and it can be played back in a short time with music added.

[HIGHLIGHT]:   Part that was recognized as clearly recorded is extracted from a long recording, and it can be played back in a short time with music added.

[INTEL. SCENE]:   Scenes can be played back with music, excluding a portion of the scene judged to have failed to shoot due to fast movement of this unit, camera shake, or focus error.

3 Touch the desired item.
● When **[FACE HIGHLIGHT]/[HIGHLIGHT]** is selected

[SCENE SETUP]:   Select the scene or date to be played back. (➜ 92)

[PRIORITY SETUP]*:   Select the person registered for face recognition to be played back. (➜ 92)

[PLAYBACK TIME]:   Select the time to play back. (➜ 93)

[MUSIC SELECT]:   Select the music to be played on playback. (➜ 93)

* This appears only when [FACE HIGHLIGHT] is selected.

● When **[INTEL. SCENE]** is selected

[DATE SETUP]:   Select the date to be played back. (➜ 93)

[MUSIC SELECT]:   Select the music to be played on playback. (➜ 93)

4 Touch [START].
● When Face Highlight Playback/Highlight Playback is selected, the playback time is displayed and playback is paused.

5 Select the playback operation. (➜ 41, 86)
● When the playback is finished or stopped, the screen to select [REPLAY], [SELECT AGAIN] or [EXIT] is displayed. Touch the desired item.

● Playing back of all the scenes returns if the power is turned off or the mode is changed. (Highlight playback)

● Highlight playback cannot be performed with interval-recorded motion pictures. (➔ 67) (Intelligent scene selection)

● Up to 9 sections can be skipped for a single scene.

● When motion pictures are skipped, the image stops momentarily.

● Divided scene will not be skipped.

● For data that are edited with the editing function of HD Writer AE 2.1, the Intelligent scene selection is disabled.
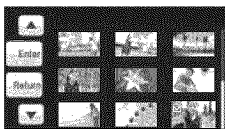
■ Scene setting

1 Touch [SELECT SCENES] or [SELECT DATE].

2 (When [SELECT SCENES] is selected)
Touch the scenes to be played back.

● Up to 99 scenes can be selected in succession.

● When touched, the scene is selected and √ is displayed. Touch the scene again to cancel the operation.

(When [SELECT DATE] is selected)
Touch the date to be played back.

● A maximum of 7 days can be selected.

● When touched, the date is selected and surrounded by red. Touch the date again to cancel the operation.

**3 Touch [Enter]/[ENTER].**

■ Priority setting

1 Touch [SELECTED FACE].

● If you touch [NONE], any detected face, including the face of person registered for Face Recognition, is given priority on playback.

2 (When [SELECTED FACE] is selected)
Touch a face to specify.

● You can specify up to 6 faces, which are to be played back in priority.

● When touched, the registered face is selected and surrounded by red. Touch the registered face again to cancel the operation.

● Touch [ENTER]. When a single face is specified, the name registered for that face is displayed. When multiple faces are specified, the number of faces is displayed.
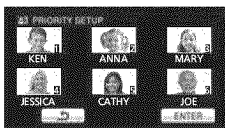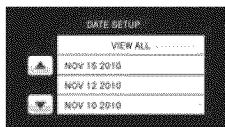
■ Playback time setting

Touch the playback time to set.

- The playback time of [AUTO] is a maximum of approx. 5 minutes.
- Playback time may become shorter than the setting, or it may not even play back if the part recognized as clearly recorded is short.

■ Date setting

Touch the playback date.

■ Music setting

1 Touch your favorite music.

- When [NO MUSIC] is selected, the audio recorded at the time of shooting is played back.
- To adjust the volume of music during playback or audio testing, operate the volume lever or the adjust zoom buttons. (➜ 43)

2 Touch [ENTER].

To test the music audio
Touch [START].

- Touch the other music option to change the music to be tested.
- When you touch [STOP], the music playback stops.
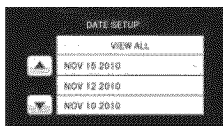
PHOTO

1 Touch 📇 .

2 Touch the desired item.

[DATE SETUP]:   Select the date to be played back.

[SLIDE INTERVAL]:   Selects the interval between still pictures at playback.

[MUSIC SELECT]:   Select the music to be played on playback.

3 (When [DATE SETUP] is selected)
   Touch the playback date.

   (When [SLIDE INTERVAL] is selected)
   Touch the interval of playback for the slide show.

[SHORT]:   Approx. 1 second

[NORMAL]:   Approx. 5 seconds

[LONG]:   Approx. 15 seconds

   (When [MUSIC SELECT] is selected)
   Touch the desired sound.

● To adjust the volume of music during
   playback of the slide show or audio testing,
   operate the volume lever or the adjust zoom
   buttons. (→ 43)
● Touch [ENTER].

   (To test the music audio)
   Touch [START] and start the audio testing.

● Touch the other music option to change the music to be tested.
● When you touch [STOP], the music playback stops.

4 Touch [START].

5 Select the playback operation. (→ 41)
● When the playback is finished or stopped, the screen to select [REPLAY],
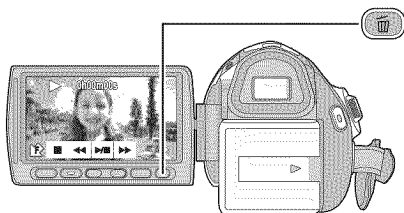   [SELECT AGAIN] or [EXIT] is displayed. Touch the desired item.

1 Deleting scenes/still pictures

Deleted scenes/still pictures cannot be restored, so perform appropriate confirmation of the contents before proceeding with deletion.

◇ Change the mode to ▶ .

To delete by confirming images being played back

Press the 🗑 button while scenes or still pictures to be deleted are being played back.

■ **Deleting multiple scenes/still pictures from the thumbnail display**

1 **Press the 🗑 button while the thumbnail view screen is displayed.**

2 **Touch [ALL SCENES] or [SELECT].**

● When [ALL SCENES] is selected, all the scenes or still pictures on the selected media will be deleted.
(In case of playing back scenes or still pictures by date, all the scenes or still pictures on the selected date will be deleted.)
● Protected scenes/still pictures cannot be deleted.

3 (Only when [SELECT] is selected in step 2)
Touch the scene/still picture to be deleted.

● When touched, the scene/still picture is selected and the 🗑 indication appears on the thumbnail. Touch the scene/still picture again to cancel the operation.
● Up to 99 scenes can be selected to be deleted.

4 (Only when [SELECT] is selected in step 2)
Touch [Delete] or press the 🗑 button.

● To continuously delete other scenes/still pictures, repeat steps 3-4

When you stop deleting halfway
Touch [CANCEL] or press the MENU button while deleting.
● The scenes or still pictures that have already been deleted when the deletion is canceled cannot be restored.

To complete editing
Press the MENU button.

- You can also delete scenes by pressing the MENU button, selecting [EDIT SCENE] → [DELETE] → [ALL SCENES] or [SELECT].
- You can also delete still pictures by pressing the MENU button, selecting [PICT. SETUP] → [DELETE] → [ALL SCENES] or [SELECT].
- During Face Highlight Playback, Highlight Playback, Intelligent Scene Selection, or Disc Playback when connected to a DVD burner (optional), scenes/still pictures cannot be deleted.
- Scenes/still pictures which cannot be played back (the thumbnails are displayed as [!]) cannot be deleted.
- In case of [ALL SCENES], the deletion may take time if there are many scenes or still pictures.
- If you delete scenes recorded on other products or still pictures conforming to DCF standard with this unit, all the data related to the scenes/still pictures may be deleted.
- When still pictures recorded on an SD card by other products are deleted, a still picture (other than JPEG) that cannot be played back on this unit may be erased.

Dividing a scene to partially delete

VIDEO

To delete an unnecessary portion of a scene, first divide the scene and then delete the unnecessary portion.
- **Change the mode to ▶ and touch the Play mode select icon to select desired media to divide a scene. (➜ 41)**

1 Select the menu.

(MENU) : [EDIT SCENE] → [DIVIDE] → [SET]

2 Touch the scene to be divided.

3 Touch ✂ to set the dividing point.

- Using slow-motion playback or frame-by-frame playback makes it easy to search for the point where you want to divide the scene. (➜ 86)
- Touch [YES] to continue dividing the same scene. To continue dividing other scenes, touch [NO] and repeat steps 2-3.

4 Press the MENU button to complete dividing.

5 Delete the unnecessary scene. (➜ 95)

To delete all the divided points

[DIVIDE] → [CANCEL ALL]

- The scenes that were deleted after division cannot be recovered.

- You cannot divide a scene if you are playing back a disc with a DVD burner (optional) connected, or if the number of scenes of a given date would exceed 99 scenes.
- It may not be possible to divide scenes with a short recording time.
- Data that has been recorded or edited on another device cannot be divided and the divided points cannot be deleted.
- If personal information in the divided scenes is deleted, the personal information is deleted when the divided scenes are canceled.

96

Deleting personal information

Deletes face recognition information from scenes in which faces were recognized.
● Change the mode to ▶

1 Select the menu.

(MENU) : [VIDEO SETUP] → [DELETE PERSONAL INFO]

2 Touch the desired scenes with personal information to be deleted.

● 🂠 appears at scenes for which faces were recognized. Touch one of the scenes where 🂠 appears.
● 🂠 will change to 🂠 (red) when touched. Touch the 🂠 (red) again to cancel the operation.
● Up to 99 scenes can be selected in succession.

3 Touch [Delete].

● To continuously delete other personal information, repeat steps 2-3.
● Press the MENU button to complete the settings.

When you stop deleting halfway

Touch [CANCEL] or press the MENU button while deleting personal information.
● The personal information that has already been deleted when the deletion is canceled cannot be restored.

● During Face Highlight Playback, Highlight Playback, Intelligent Scene Selection, or disc playback when connected to a DVD burner (optional), scenes/still pictures cannot be deleted.

Protecting scenes/still pictures

Scenes/still pictures can be protected so that they are not deleted by mistake.
(Even if you protect some scenes/still pictures, formatting the media will delete them.)
● Change the mode to ▶ .

1 Select the menu.

(MENU) : [VIDEO SETUP] or [PICT. SETUP] → [SCENE PROTECT]

2 Touch the scene/still picture to be protected.

● When touched, the scene/still picture is selected and the O🔒 indication appears on the thumbnail. Touch the scene/still picture again to cancel the operation.
● Press the MENU button to complete the settings.

● When the disc playback is selected while a DVD burner (optional) is connected, scenes/still pictures cannot be protected.

2 DPOF setting

PHOTO

You can write the data selecting still pictures to be printed and the number of prints (DPOF data) onto the SD card. (Copy still pictures recorded to the built-in memory or HDD to the SD card before setting DPOF.)

◇ **Change the mode to** ▶ **and touch the play mode select icon to select [PICTURE/SD CARD]. (→ 41)**

■ What is DPOF?

DPOF (Digital Print Order Format) is a format which allows the user of a digital camera to define which captured images on the SD card are to be printed, together with information on the number of copies they wish to print. (Please note: Not all commercial printing services support this feature at this time.)
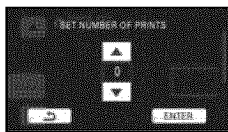
1 Select the menu.

(MENU) : [PICT. SETUP] → [DPOF SET] → [SET]

2 Touch the still picture to be set.

3 Touch ▲/▼ to set the number of prints.

- Up to 999 prints can be selected. (Prints for set number can be printed with a printer that supports DPOF.)
- To cancel the setting, set the number of prints to [0].

4 Touch [ENTER].

- To continuously set other still pictures, repeat steps 2-4.
- Press the MENU button to complete the settings.

To cancel all DPOF settings

[DPOF SET] → [CANCEL ALL]

- When the disc playback is selected while a DVD burner (optional) is connected, scenes/ still pictures cannot be set DPOF.
- You cannot add the recording date to pictures to be printed with the DPOF settings.
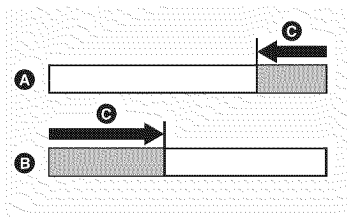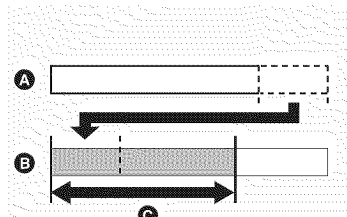
3 Relay scene combining

[HDC-TM700]

`[VIDEO]`

You can combine the relayed scene (➜ 68) in the built-in memory and the continued scene in the SD card to be one into the SD card.

| Relay-recorded scene | Relay scene combining |

Ⓐ Built-in memory
Ⓑ SD card
Ⓒ Range of Relay recording

● Change the mode to `▶` and touch the play mode select icon to select desired media. (➜ 41)

1 Insert the SD card that was used for Relay recording.

2 Select the menu.

`(MENU)` : [EDIT SCENE] → [RELAY SCENE COMBINE]

3 When the confirmation message appears, touch [YES].

● Scene in the built-in memory will be deleted. (Protected scenes in the built-in memory are not deleted.)

4 Touch [EXIT] when the relay scene combining complete message is displayed.

● The thumbnail view of the SD card is indicated.
● Relay recording information will be deleted when the relay scenes are combined, and Relay recording will be possible again.
● When the relayed scenes in the built-in memory or SD card are deleted, combining of the relayed scenes will not be possible.

To cancel relay information

[EDIT SCENE] → [RELAY INFO CANCEL]

● When the relay information is canceled, combining of the relayed scenes will not be
possible anymore.

Combining of the relay scene cannot be performed if the available space on the SD card
is less than the volume of the relayed scene in the built-in memory. It is recommended to
combine the relay scene using a DVD burner or the HD Writer AE 2.1.

● When the disc playback is selected while a DVD burner (optional) is connected, you cannot
combine relay scenes or cancel relay information.
● The personal information of the relayed scene in the built-in memory or SD card is deleted,
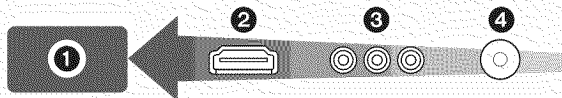the personal information of the combined relay scene is not recorded.

1

Watching Video/Pictures on your TV

| VIDEO | PHOTO |

Confirm the terminals on your TV and use a cable compatible with the terminals. Image quality may vary with the connected terminals.

❶ High quality
❷ HDMI terminal
❸ Component terminal
❹ Video terminal

● Use the supplied AV multi cable. Check the output settings when connecting the component terminal or the video terminal with the AV multi cable. (➜ 104)
● Use of the following Panasonic HDMI mini cables is recommended to connect the unit to the HDMI terminal.
● HDMI is the interface for digital devices. If you connect this unit to a HDMI compatible high definition TV and then play back the recorded high definition images, you can enjoy them in high resolution with high quality sound.

1 Connect this unit to a TV.
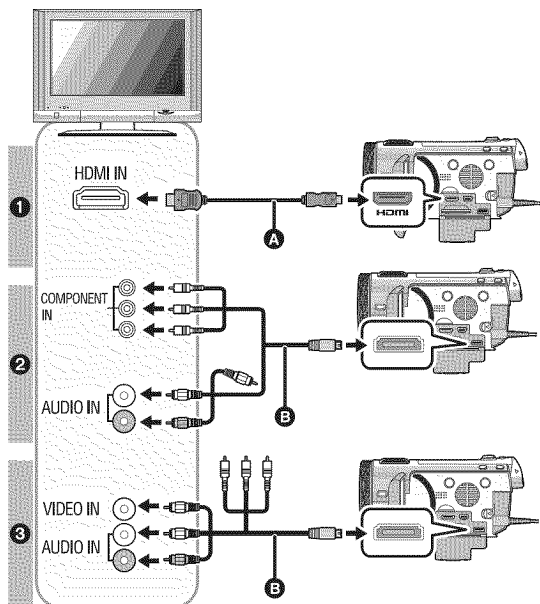
Ⓐ HDMI mini cable (optional)
● Be sure to connect to the HDMI terminal.
Ⓑ AV multi cable (supplied)

Picture quality
❶ High definition images when connecting to HDMI terminal
❷ High definition images when connecting to component terminal compatible with 1080i
Standard images when connecting to component terminal compatible with 480i
❸ Standard images when connecting to video terminal

- Check that the plugs are inserted as far as they go.
- Do not use any other cables except a genuine Panasonic HDMI mini cable (RP-CDHM15, RP-CDHM30; optional).
- Do not use any other AV multi cables except the supplied one.
- When connecting to the component terminal of the TV, the yellow plug of the AV multi cable is not required.
- When connecting to the AV terminal of the TV, the component plug of the AV multi cable is not required.

2 Select the video input on the TV.

- Example:
  Select the [HDMI] channel with a HDMI mini cable.
  Select the [Component] or [Video 2] channel with an AV multi cable.
  (The name of the channel may differ depending on the connected TV.)
- Check the input setting (input switch) and the audio input setting on the TV. (For more information, please read the operating instructions for the TV.)

3 Change the mode to ▶ to play back.

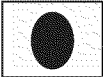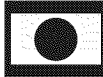| Cables	Reference items
❹ HDMI mini cable (optional)	● Connecting with a HDMI mini cable (➜ 104) ● Listening in 5.1 channel sound (➜ 104) ● Playback using VIERA Link™ (HDAVI Control™) (➜ 105)
❺ AV multi cable (supplied)	● Connecting with the AV multi cable (➜ 104)

■ To watch images on a regular TV (4:3) or when both sides of the images do not appear on the screen

Change the menu setting to display the images correctly. (Check the TV setting.)

: [SETUP] → [TV ASPECT] → [4:3]

Example of images with a 16:9 aspect ratio on a regular TV (4:3)

[TV ASPECT] setting	
[16:9]	[4:3]

● If a wide-screen TV is connected, adjust the aspect setting on the TV. (Refer to the operating instructions of the TV for details.)

■ To display the on-screen information on the TV

When the EXT DISPLAY button on the remote control is pressed, the information displayed on the screen (operation icon and time code etc.) can be displayed/not displayed on the TV.

● It will not display when the power is turned off.

● If the HDMI mini cable and AV multi cable are connected at the same time, output will be prioritized in order of the HDMI mini cable, AV multi cable.

Refer to the following support site for information about Panasonic TVs with an SD card slot for playing back your pictures.
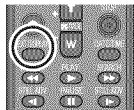**http://panasonic.net/**
● It may not be possible to play back scenes on the TV depending on the recording mode.
● For details on how to play back, please read the operating instructions for the TV.

Connecting with a HDMI mini cable

Select the desired method of HDMI output.

(MENU) : **[SETUP]** → **[HDMI RESOLUTION]** → **[AUTO]/[1080p]/[1080i]/[480p]**

● [AUTO] determines the output resolution automatically based on information from the connected TV.
  If the images are not output on the TV when the setting is [AUTO], switch to the method [1080p], [1080i] or [480p] which enables the images to be displayed on your TV. (Please read the operating instructions for the TV.)
● Image will not display on TV for a few seconds in the following cases.
  — When the 1080/60p recording mode is turned on/off during Motion Picture Recording Mode
  — When [SELECT VIDEO] is touched during Motion Picture Playback Mode

Listening in 5.1 channel sound

You still can listen to the 5.1 channel sound recorded from the internal microphones when this unit is connected to the 5.1 channel compatible AV amplifier or TV using the HDMI mini cable.
Please read the AV amplifier and TV operating instructions for how to connect this unit to the AV amplifier and TV.

● If you connect this unit to a Panasonic AV amplifier that are compatible with VIERA Link, linked operations (VIERA Link) become possible. (→ 105)
● Audio recorded when [MIC SETUP] is set to [STEREO MIC] or recorded from an external microphone is in stereo (2 ch).

Connecting with the AV multi cable

AV multi connector output setting can be changed.

(MENU) : **[SETUP]** → **[AV MULTI]** → **desired setting**

[COMPONENT]: When connecting to the component terminal

[AV OUT]: When connecting to the video terminal

Changing the component output setting

(MENU) : **[SETUP]** → **[COMPONENT OUT]** → **desired setting**

[480i]: When connecting to the component terminal on the TV compatible with 480i. (Playback is in standard quality.)

[1080i]: When connecting to the component terminal on the TV compatible with 1080i. (Playback is in high definition quality.)

104
VQT2M75

Playback using VIERA Link™ (HDAVI Control™)

[VIDEO] [PHOTO]

What is the VIERA Link?
- VIERA Link™ is a new name for EZ Sync™.
- This function allows you to use your remote control for the Panasonic TV for easy operations when this unit has been connected to a VIERA Link compatible device using a HDMI mini cable (optional) for automatic linked operations. (Not all operations are possible.)
- VIERA Link is a unique Panasonic function built on a HDMI control function using the standard HDMI CEC (Consumer Electronics Control) specification. Linked operations with HDMI CEC compatible devices made by other companies are not guaranteed. When using devices made by other companies that are compatible with VIERA Link, refer to the operating instructions for the respective devices.
- This unit is compatible with VIERA Link Ver.5. VIERA Link Ver.5 is the newest Panasonic version and is also compatible with existing Panasonic VIERA Link devices. (As of Dec 2009)

◇ **Change the mode to** ▶ .

1 Select the menu.

(MENU) : **[SETUP] → [VIERA Link] → [ON]**

- If you are not using VIERA Link, set to [OFF].

2 Connect this unit to a Panasonic TV compatible with VIERA Link with a HDMI mini cable.
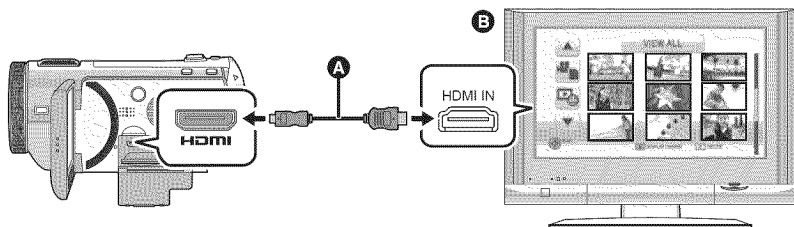
Ⓐ HDMI mini cable (optional)
Ⓑ Panasonic TV compatible with VIERA Link
- It is recommended to connect this unit to an HDMI terminal other than the HDMI1 if there are 2 or more HDMI input terminals on the TV.
- VIERA Link must be activated on the connected TV. (Read the operating instructions of the TV for how to set etc.)
- Do not use any other cables except a genuine Panasonic HDMI mini cable (RP-CDHM15, RP-CDHM30; optional).

3 Operate with the remote control for the TV.
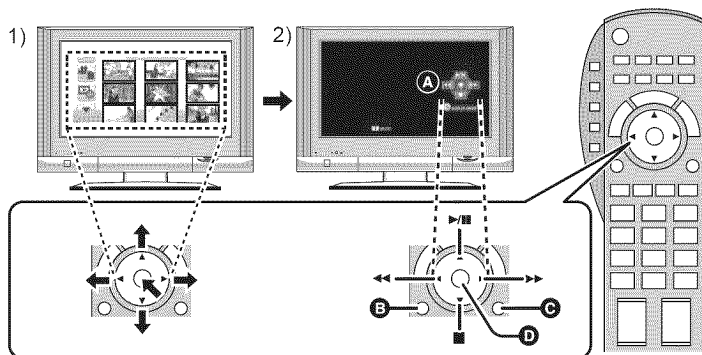
1) Press the button up, down, left or right to select a scene or still picture to be played back, and then press the button in the center to set it.

2) Activate the operation icons that are displayed on TV screen with the remote control for the TV.

Ⓐ Operation icons

Ⓑ Display operation icons

Ⓒ Cancel operation icons

Ⓓ Display/Cancel operation icons

● The following operations are available by pressing the color buttons on the remote control.

— Green: Switching the number of scenes/still pictures in thumbnail display
(9 thumbnails → 20 thumbnails → 9 thumbnails...)
Zoom in on still picture

— Yellow: Deleting scenes/still pictures

— Red: Zoom out from still picture

■ Other linked operations

Turning the power off:

If you use the remote control for the TV to turn off the power, the power on this unit also turns off.

Automatic input switching:

If you connect with a HDMI mini cable and then turn on the power on this unit, the input channel on the TV automatically switches to this unit's screen. If the TV's power is in standby status, it will turn on automatically (if [Set] has been selected for the TV's [Power on link] setting).

● Depending on the HDMI terminal on the TV, the input channel may not switch automatically. In this case, use the remote control for the TV to switch the input channel.

● If you are unsure whether or not the TV and AV amplifier you are using are compatible with VIERA Link, read the operating instructions for the devices.

● Available linked operations between this unit and a Panasonic TV is different depending on the types of Panasonic TVs even if they are compatible with VIERA Link. Refer to the operating instructions of the TV for the operations that support on the TV.

● Operation is not possible with a cable that is not based on the HDMI standard.

Copying between SD card and Built-in Memory/HDD

[VIDEO] [PHOTO]

Motion pictures or still pictures recorded with this unit can be copied between an SD card inserted in this unit and a built-in memory/HDD.

■ Confirming remaining capacity on the copy destination

[MEDIA STATUS] (➜ 51) allows you to confirm how much capacity remains on the SD card, built-in memory or HDD.

- If the remaining capacity on a single SD card is not enough, you can copy to multiple SD cards following the instruction on the screen. In this case, the last scene copied to an SD card is automatically divided to fit the space on the SD card.
- If you divide the scenes (➜ 96), and copy by scene selection, it is possible to copy matching the remaining capacity of the media, or only the necessary parts.

Copying

- If there is not much remaining capacity in the SD card, a confirmation message asking to copy after deleting all data on the SD card is displayed. Be aware that deleted data cannot be restored.
- Refer to page 108 for approximate time for copying.

1 Change the mode to ▶ .

- Use a sufficiently charged battery or the AC adaptor.

2 Select the menu.

(MENU) : [COPY]

[HDC-TM700]

[〔 〕 ➡ ■]   When copying from the built-in memory to the SD card

[■ ➡ 〔 〕]   When copying from the SD card to the built-in memory

[1080/60p 〔 〕 ➡ ■ AVCHD]   This will convert and copy the scenes recorded as 1080/60p scenes in the built-in memory to the SD card as normal scenes.

- When there are relay-recorded scenes in the built-in memory, a message appears on the screen. Touch [YES] and copy after combining relay recorded scenes to the SD card. (➜ 99)

[HDC-HS700]

[⊜ ⇨ ■]   When copying from the HDD to the SD card

[■ ⇨ ⊜]   When copying from the SD card to the HDD

[1080/60p ⊜ ➡ ■ AVCHD]   This will convert and copy the scenes recorded as 1080/60p scenes in the HDD to the SD card as normal scenes.

3 Touch desired items following the screen display.

● It will return to the previous step by touching ⤺ .
● (When [SELECT SCENES] is selected)
  When touched, the scene/still picture is selected and the ☐i indication appears on the thumbnail. Touch the scene/still picture again to cancel the operation.
● (When [SELECT DATE] is selected)
  When touched, the date is selected and surrounded by red. Touch the date again to cancel the operation.
● Up to 99 scenes/still pictures or 99 dates can be set in succession.
● If 2 or more SD cards are necessary to copy, change the card following the instructions on the screen.

4 Touch [EXIT] when the copy complete message is displayed.

● The thumbnail view of the copy destination is indicated.

When you stop copying halfway
Touch [CANCEL] or press the MENU button while copying.

Approximate time for copying
When copying a recorded motion picture of full 4 GB size:
10 minutes to 20 minutes
When performing [1080/60p ☐]➡■AVCHD]/[1080/60p ⊜➡■AVCHD] on a recorded 1080/60p motion picture of full 4 GB size:
15 minutes to 30 minutes
To copy approx. 600 MB still pictures (picture size 14.2M):
3 minutes to 5 minutes

> **If you will delete the motion pictures or still pictures after copying is complete, be sure to play back the motion pictures or still pictures to check that they have been copied to correctly before deleting.**

● When the disc playback is selected while a DVD burner (optional) is connected, menus are not displayed.
● Depending on the following conditions, the time it takes for copying may be longer.
  - The number of recorded scenes is large.
  - The temperature of the unit is high.
● If some motion pictures or still pictures have already been recorded to the copy destination, then the same date may be assigned or images may not display by date when the list by date is selected.
● Motion pictures that have been recorded on another device may not be copied. Data recorded on a PC with HD Writer AE 2.1, etc. cannot be copied.
● Protection and DPOF settings will be cleared on the copied motion pictures and still pictures when copying motion pictures and still pictures with protection and DPOF settings.
● The order in which the scenes or still pictures were copied cannot be changed.

Connecting a DVD burner to copy to/play back a disc

| VIDEO | PHOTO |

Motion pictures or still pictures recorded with this unit can be copied to a DVD disc by connecting a DVD burner (optional) to this unit using a Mini AB USB Connection Cable (supplied with DVD burner). The copied DVD disc can also be played back.
● Please read the operating instructions of the DVD burner for how to use it.

Preparing for copying/playing back

We recommend using Panasonic DVD burner VW-BN1/VW-BN2.

■ **About discs that can be used for copying**

Disc type	DVD-RAM	DVD-RW / +RW *4	DVD-R / DVD-R DL / +R *4/ +R DL *4
Copy*1	○	○	○
Additional copy*2	○	—	—
Format*3	○	○	—

*1   Use a new disc. You can additionally copy only to a DVD-RAM. When you copy to DVD-RW, DVD-R, DVD-R DL, +RW, +R or +R DL, the disc is automatically finalized to allow playback on other devices and additional copying will not be possible.

*2   Only DVD-RAM copied with the DVD burner or HD Writer AE 2.1 can additionally copy.

*3   Connect this unit and a DVD burner before formatting. If you format a used disc, you can copy on that disc. Please be aware that if a disc is formatted, then all the data recorded on the disc will be erased. (➜ 115)

*4   Only VW-BN2 can be used for +RW, +R, and +R DL.

● We recommend using the discs that have been recommended in the operating instructions of the DVD burner. Refer to the operating instructions of the DVD burner for details about recommended discs, disc handling etc.

1 Connect the AC adaptor (supplied with DVD burner) to the DVD burner.

● You cannot supply power to the DVD burner from this unit.

2 Connect this unit to the AC adaptor and change the mode to ▶ .

3 Connect this unit to the DVD burner with the Mini AB USB Connection Cable (supplied with DVD burner).
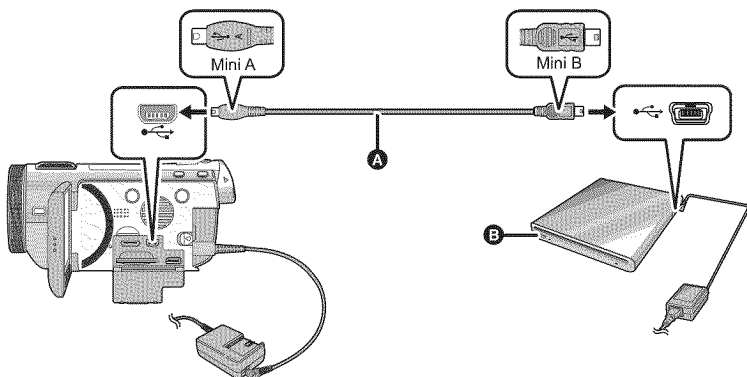
Ⓐ Mini AB USB Connection Cable (supplied with DVD burner)
Ⓑ DVD burner (optional)
● Insert the plugs as far as they will go.

4 Insert the disc in the DVD burner.

● Insert the DVD disc with the recording side down when using the DVD burner.

5 Touch the desired item.

[BURN DISC]:
Refer to page 111 for how to copy discs.
[PLAY DISC]:
Refer to page 114 for how to play back the copied discs.

To terminate the connection with the DVD burner
Touch [EXIT].
● Disconnect the Mini AB USB Connection Cable from this unit.

● You cannot copy from multiple SD cards to 1 disc. (You can additionally copy only to a DVD-RAM.)
● You cannot copy motion pictures together with still pictures or motion pictures in a different picture quality (AVCHD picture quality and conventional normal picture quality) to the same disc.
● [HDC-TM700]
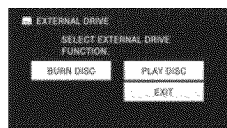When copying a scene in the built-in memory to a disc that includes a scene that was relay-recorded, the continued scene that is on the SD card will be copied together to the disc.

1 Connect this unit to the DVD burner to prepare for copying. (➜ 110)

2 Touch the desired items following the instructions on the screen.

● It will return to the previous step by touching ↩ .
● (When [SELECT SCENES] is selected)
When touched, the scene/still picture is selected and the 🔲 indication appears on the thumbnail. Touch the scene/still picture again to cancel the operation.
● (When [SELECT DATE] is selected)
When touched, the date is selected and surrounded by red. Touch the date again to cancel the operation.
● Up to 99 scenes/99 dates can be selected in succession.

3 Touch [START].

● When 2 or more discs are necessary for copying, follow the on-screen instructions to switch discs.
● You may need more discs than displayed number of discs when you are copying additionally to a used DVD-RAM.
● Eject the disc after copying is completed.
● When the copied disc is played back on another device and the list of scenes is displayed, they are ordered by date.

■ **About recording formats when copying motion pictures**
[AVCHD] ([HA]/[HG]/[HX]/[HE]):
The scenes recorded in 1080/60p by this unit will be copied after converting to AVCHD
picture quality. Normal scenes will be copied as high definition picture quality as recorded.
● When copying scenes recorded in 1080/60p, select the recording picture quality ([HA]/
[HG]/[HX]/[HE]).
[Standard] ([XP]/[SP]):
Images are converted into the original standard picture quality and then copied.
● Since XP has a higher picture quality compared to SP, the data capacity becomes large so
that you may need more discs for copying than SP.

**Before you delete the data on the media after copying is complete, be sure to play
back the discs to check that they have been copied to correctly. (➜ 114)**

Important Notice
● When connecting an optional DVD burner and this unit for copying a disc, do not
insert a disc with recorded motion pictures in high definition picture quality into
devices that do not support the AVCHD format. In some cases the disc may get
stuck in the device. The disc will not play back on devices that do not support the
AVCHD format.
● When inserting a disc containing recorded motion/still pictures into other
devices, a message prompting you to format the disc may be displayed. Do not
format the disc, since deleted data cannot be restored later.

Approximate time for copying to a disc

To copy motion pictures to the full capacity of a disc

Disc type	Copy time		
	[AVCHD]	[Standard] ([XP])	[Standard] ([SP])
DVD-RAM	Approx. 50 min to 80 min	Approx. 90 min to 120 min	Approx. 135 min to 180 min
DVD-RW*/ +RW*	Approx. 35 min to 75 min		
DVD-R*/+R*	Approx. 15 min to 45 min		

* Even if the data capacity to be copied is small, the time it takes for copying may be
  about the same as the time shown in the table.
● When copying motion pictures in standard picture quality to a disc, the recordable time
  of [Standard] ([XP]) is approx. 60 minutes and that of [Standard] ([SP]) is approx.
  120 minutes.

To copy approx. 600 MB still pictures (picture size 14.2M)

Disc type	Copy time
DVD-RAM/DVD-RW/DVD-R/+RW/+R	Approx. 10 min to 20 min

To copy approx. 30 minutes of motion pictures recorded in 1080/60p converted to
[AVCHD]/[Standard]

Disc type	Copy time
DVD-RAM/DVD-RW/DVD-R/+RW/+R	Approx. 45 min to 60 min

● Copy time of DVD-R DL/+R DL is approximately 2 to 3 times that of DVD-R/+R.
● Depending on the following conditions, the time it takes for copying may be longer than
  the above times.
  — When the number of recorded scenes is large
  — When the temperature of the DVD burner has become high

- The disc that was copied to can be played back by connecting this unit and a DVD burner.
- Do not turn off this unit or the DVD burner or disconnect the Mini AB USB Connection Cable while copying. Also, do not shake this unit or the DVD burner.
- It is impossible to stop copying halfway.
- The order in which the scenes were copied cannot be changed.
- Data that has been recorded on another device may not be copied.
- When 2 or more discs are necessary for copying, the last scene copied to a disc is automatically divided to fit the space on the disc.
- Copying may be completed using less discs than the number displayed if scenes were automatically divided.
- For discs being copied using [Standard] ([XP])/[Standard] ([SP]), you cannot select Face Highlight Playback, Highlight Playback, Intelligent Scene Selection and [HIGHLIGHT] or [FACE] of Highlight & Time Frame Index.
- The remaining copy time displayed while copying is the time for disc 1.

Playing back the copied disc

- **Only discs that have been copied by connecting this unit to the DVD burner or created with HD Writer AE 2.1 can be played back.**
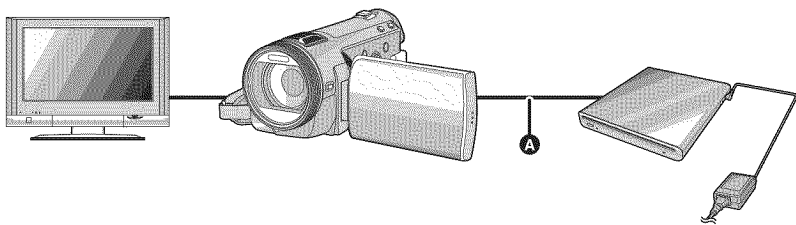
Ⓐ Mini AB USB Connection Cable (supplied with DVD burner)

1 Connect this unit to the DVD burner to prepare for playback. (➜ 110)

- When playing back on a TV, connect this unit to the TV. (➜ 101)

2 Touch the scene or still picture to be played back and then play it back.

- The playback operation is performed the same as when playing back motion pictures or still pictures. (➜ 41, 86)
- It will return to Step 5 on page 110 when [RETURN] is selected in the thumbnail screen.

- It is also possible to switch the media to play back by touching the play mode select icon. It is possible to select [VIDEO/DISC] or [PICTURE/DISC] when the DVD burner is connected.
- Black bands may appear on the left and right of the screen when it is played back connected to a TV with 4:3 ratio.

● Connect this unit to the DVD burner and then touch [PLAY DISC]. (→ 110)

■ Formatting discs

This is for initializing DVD-RAM, DVD-RW and +RW discs.

Please be aware that if a disc is formatted, then all the data recorded on the disc will be erased. Back up important data on a PC etc.

(MENU) : [DISC SETUP] → [FORMAT DISC]

● When formatting is complete, touch [EXIT] to exit the message screen.

● Connect this unit and the DVD burner to format discs.
  You may no longer be able to use the discs if you format them on another device such as a PC etc.

■ Auto protect

You can protect (write protect) a DVD-RAM disc when copying motion pictures in high definition picture quality or DVD-RW disc when copying motion pictures or still pictures in high definition picture quality to the disc.

1 Select the menu.

(MENU) : [DISC SETUP] → [AUTO PROTECT] → [ON]

● If a disc that you copied to is inserted in another device without protecting it, a message may be displayed prompting you to format the disc. We recommend setting [AUTO PROTECT] to [ON] in order to prevent accidental deletion.

2 Copy to the disc. (→ 111)

● After copying, the disc is write protected.

To release the disc protection

[DISC SETUP] → [CANCEL PROTECT]

● Touch [EXIT] and close the message screen after the auto protection is released.

■ Displaying disc information

Information such as the type of recorded disc, the number of recorded scenes and whether or not the disc is finalized is displayed.
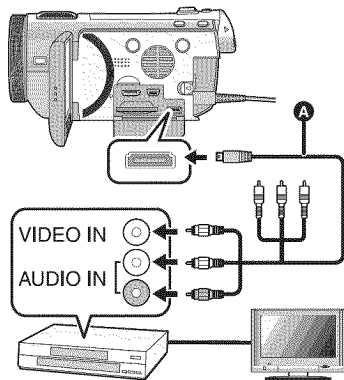
(MENU) : [DISC SETUP] → [DISC STATUS]

● Touch [EXIT] to exit the information screen.

Dubbing images onto other video devices

VIDEO

Images played back on this unit can be dubbed onto a DVD recorder or video device.
- **Images are dubbed in standard quality.**
- Use the AC adaptor to free you from worrying about the battery running down.

VIDEO IN

AUDIO IN

Change the video input on the video device and TV that this unit is connected to.
- The channel set will differ depending on the terminal to which the unit is connected.
- See the operating instructions of the video device for details.
- Insert the plugs as far as they will go.
- Do not use any other AV multi cables except the supplied one.
- Ⓐ AV multi cable (supplied)

1 **Connect this unit to a video device and then change the mode to ▶.**

2 **Start playback on this unit.**

3 **Start recording on the connected device.**
- To stop recording (dubbing), stop playback on this unit after stopping recording on the recorder.

- If the date and time display and function indication are not wanted, cancel them before dubbing. (➜ 47, 103)

If the dubbed images are played back on a wide-screen TV, the images may be stretched vertically.
In this case, refer to the operating instructions for the device you are connecting to or read the operating instructions of the wide-screen TV and set the aspect ratio to 16:9.

1 What you can do with a PC

HD Writer AE 2.1

You can copy the motion/still picture data to the HDD of PCs or write to media like Blu-ray discs (BD), DVD discs or SD cards using HD Writer AE 2.1, the software installed in the supplied CD-ROM.
Refer to the operating instructions of HD Writer AE 2.1 (PDF file) for details on how to use it.

■ Smart wizard

The Smart wizard screen is automatically displayed when you connect this unit to a PC with HD Writer AE 2.1 installed. (→ 125)
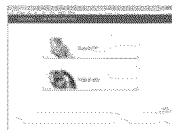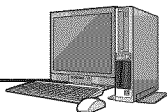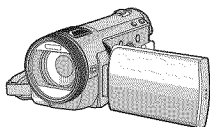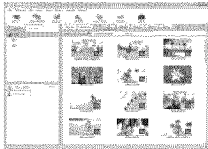
Copy to PC:
You can copy motion/still picture data to the HDD of PCs.
Copy to disc:
You can copy to disc in high definition picture quality or conventional standard picture quality (MPEG2 format).
● Select the function you wish to use and follow the on-screen instructions for easy copying.

Available function	Data type	Software required
Copying data to a PC	Motion picture and still picture	**CD-ROM (supplied):** HD Writer AE 2.1
Copying in BD/AVCHD format		
Copying in DVD-Video format: ● Converted to conventional standard quality (MPEG2 format).		
Editing: Editing motion picture data copied on an HDD of a PC ● Title, Transition, Delete partially, Divide Scene ● Converting the motion picture data to MPEG2 ● Converting part of motion picture into still picture	Motion picture	
Playing back on a PC: Play back the motion picture data in high definition picture quality on a PC.		
Formatting discs: Depending on the type of disc that you use, formatting is necessary.		

Available function	Data type	Software required
Playing back on a PC	Still picture	HD Writer AE 2.1 or Standard Windows picture viewer or a commercially available picture viewer
Copying still pictures to a PC (➜ 127)		Windows Explorer
Refer to page 129 if using a Mac.		

Important Notice

● **When using an SDXC Memory Card, check the following support site.**
  http://panasonic.net/avc/sdcard/information/SDXC.html
● **Do not insert a disc recorded in AVCHD format with HD Writer AE 2.1 in a device that does not support the AVCHD format. In some cases the disc may get stuck in the device. The disc will not play back on devices that do not support the AVCHD format.**
● **When inserting a disc containing recorded motion pictures into other devices, a message prompting you to format the disc may be displayed. Do not format the disc, since deleted data cannot be restored later.**

● **It is impossible to write data to the built-in memory or HDD on this unit from a PC.**
● **Motion pictures that have been recorded on another device cannot be written to the software supplied with this unit. To write motion picture data recorded with the Panasonic High Definition Video Camera sold previously, use the HD Writer supplied with the unit.**
● We cannot guarantee operation if you use software other than that supplied to read/write motion picture.
● Do not start the software supplied with this unit and other software at the same time. Close any other software if you start the software supplied with this unit and close the software supplied with this unit if you start any other software.

■ **About Conversion Assist Function**

When you want to convert the recording quality and write to media, the "Conversion Assist Function", which is a linking function between this unit and the HD Writer AE 2.1, is activated by connecting this unit to the PC with the USB cable. When the "Conversion Assist Function" is used, it is possible to write to media faster than when operating only on PC.
● Please refer to page 125 for details about the connection of this unit and a PC.
● Refer to the operating instructions of the software for details.

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Operating environment

- Even if the system requirements mentioned in these operating instructions are fulfilled, some PCs cannot be used.
- A CD-ROM drive is necessary to install the supplied software applications. (A compatible BD/DVD writer drive and media are necessary for writing to a BD/DVD.)
- Operation is not guaranteed in the following cases.
  - When 2 or more USB devices are connected to a PC, or when devices are connected through USB hubs or by using extension cables.
  - Operation on an upgraded OS.
  - Operation on an OS other than the one pre-installed.
- This software is not compatible with Microsoft Windows 3.1, Windows 95, Windows 98, Windows 98SE, Windows Me, Windows NT and Windows 2000.

■ Operating environment for HD Writer AE 2.1

PC	IBM PC/AT compatible PC
OS	Microsoft Windows XP Home Edition Service Pack 2/Service Pack 3 Microsoft Windows XP Professional Service Pack 2/Service Pack 3 Microsoft Windows Vista Home Basic Service Pack 1/Service Pack 2 Microsoft Windows Vista Home Premium Service Pack 1/Service Pack 2 Microsoft Windows Vista Business Service Pack 1/Service Pack 2 Microsoft Windows Vista Ultimate Service Pack 1/Service Pack 2 Microsoft Windows 7 Starter Microsoft Windows 7 Home Basic Microsoft Windows 7 Home Premium Microsoft Windows 7 Professional Microsoft Windows 7 Ultimate
CPU	Intel Pentium 4 2.8 GHz or higher (including compatible CPU) ● Intel Core 2 Duo 2.16 GHz or higher or AMD Athlon™ 64 X2 Dual-Core 5200+ or higher is recommended when using playback function or MPEG2 output function. ● Intel Core 2 Quad 2.6 GHz or higher is recommended when using editing or Continuous Photo Playback function. ● Intel Core i7 2.8 GHz or higher is recommended when playing back or using the editing function for 1080/60p
RAM	Windows Vista/Windows 7: 1 GB or more Windows XP: 512 MB or more (1 GB or more recommended)

Display	High Color (16 bit) or more (32 bit or more recommended) Desktop resolution of 1024×768 pixels or more (1280×1024 pixels or more recommended) Windows Vista/Windows 7: DirectX 9.0c compatible video card (DirectX 10 recommended) Windows XP: DirectX 9.0c compatible video card Compatible with DirectDraw overlay PCI Express™×16 compatible recommended
Free hard disk drive space	Ultra DMA — 100 or more 450 MB or more (for installing the software) ● When writing to a DVD/BD/SD, more than double the amount of free space as the disc being created is necessary.
Sound	DirectSound Support
Interface	USB port [Hi-Speed USB (USB 2.0)]
Other requirements	Mouse or equivalent pointing device Internet connection

● Supplied CD-ROM is available for Windows only.
● Input is not supported in languages other than English, German, French and Simplified Chinese.
● Operation cannot be guaranteed on all BD/DVD drives.
● Operation is not guaranteed on Microsoft Windows Vista Enterprise, Windows XP Media Center Edition, Tablet PC Edition and Windows 7 Enterprise.
● Operation is not guaranteed on 64 bit editions of Windows XP and Windows Vista.
● This software is not compatible with a multi-boot environment.
● This software is not compatible with a multi-monitor environment.
● If using Windows XP, an administrative account user only can use this software. If using Windows Vista/Windows 7, administrative account and standard account users only can use this software. (An administrative account user should install and uninstall this software.)

■ **To use the HD Writer AE 2.1**

You will need a high performance PC depending on the functions to be used. It may not properly play back or properly operate depending on the environment of the PC used. Refer to the operating environment and notes.

● Operation during the playback may become slow if the CPU or memory is not fulfilling the requirements of the operating environment.
● Always use the most current driver for the video card.
● Always make sure there is enough capacity on the HDD in the PC. It may become inoperable or the operation may stop suddenly if the capacity gets low.

■ **Operating environment for the card reader function (mass storage)**

PC	IBM PC/AT compatible PC
OS	Microsoft Windows XP Home Edition Service Pack 2/Service Pack 3 Microsoft Windows XP Professional Service Pack 2/Service Pack 3 Microsoft Windows Vista Home Basic Service Pack 1/Service Pack 2 Microsoft Windows Vista Home Premium Service Pack 1/Service Pack 2 Microsoft Windows Vista Business Service Pack 1/Service Pack 2 Microsoft Windows Vista Ultimate Service Pack 1/Service Pack 2 Microsoft Windows Vista Enterprise Service Pack 1/Service Pack 2 Microsoft Windows 7 Starter Microsoft Windows 7 Home Basic Microsoft Windows 7 Home Premium Microsoft Windows 7 Professional Microsoft Windows 7 Ultimate
CPU	Windows Vista/Windows 7: 32-bit (×86) Intel Pentium III 1.0 GHz or higher processor Windows XP: Intel Pentium III 450 MHz or higher or Intel Celeron 400 MHz or higher
RAM	Windows 7: 1 GB or higher Windows Vista Home Basic: 512 MB or higher Windows Vista Home Premium/Business/Ultimate/Enterprise: 1 GB or higher Windows XP: 128 MB or higher (256 MB or higher recommended)
Interface	USB port
Other requirements	Mouse or equivalent pointing device

● The USB equipment operates with the driver installed as standard in the OS.

Installation

When installing the software, log on to your computer as the Administrator or with a user name with equivalent authorization. (If you do not have authorization to do this, consult your manager.)

- Before starting the installation, close all applications that are running.
- Do not perform any other operations on your PC while the software is being installed.
- Explanation of operations and screens is based on Windows Vista.

1 Insert the CD-ROM into the PC.

- The following screen is displayed automatically. Click [Run setup.exe] → [Continue].
- If the following screen is not displayed automatically, select [Start] → [Computer] (or double-click on [Computer] on the desktop), and then double-click [PANASONIC].
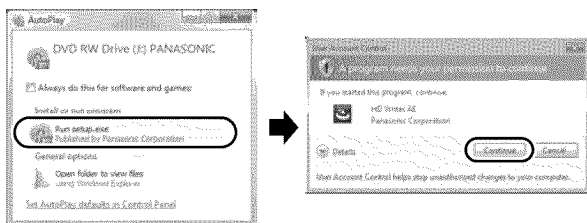
2 Click [Next].

3 Read the [End User License Agreement], then place a check beside [I accept the terms of the license agreement] if you agree to them and click [Next].

4 Select the country or region where you live, then click [Next].

- If the country or region cannot be selected, select [NTSC Area].
- When the confirmation message appears, click [Yes].
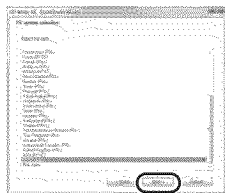
5 Select where the application is to be installed, then click [Next].

6 Select [Yes] or [No] to create shortcut.

- A message regarding the playback in the environment used may be displayed depending on the performance of the PC used. Click [OK] after confirming.
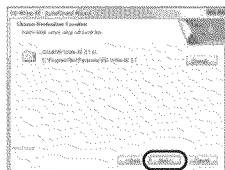
7 When installation is complete, some notes will appear.
Check the contents, then close the window.

8 Select [Yes, I want to restart my computer now.], then click [Finish].

The PC must be rebooted for the application to work.
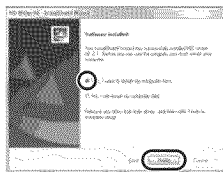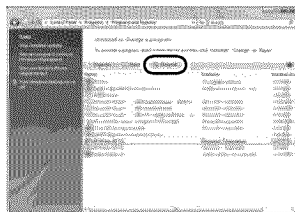

■ **Uninstalling HD Writer AE 2.1**

Follow the steps below to uninstall any software applications that you no longer require.

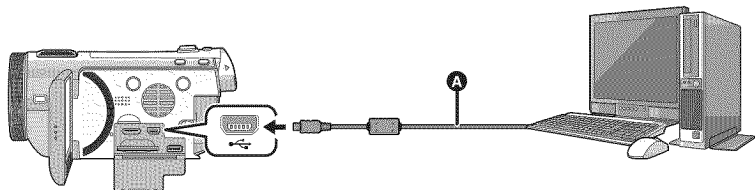**1** Select [Start] →
[Control Panel] →
[Uninstall a Program].
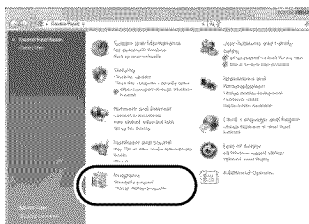
2 Select [HD Writer AE 2.1], then click [Uninstall].
● Proceed with the uninstallation by following the on-screen instructions.
● After uninstalling the software, be sure to reboot the PC.

2 Connecting to a PC

● Connect this unit to the PC after the software applications are installed.
● Remove the supplied CD-ROM from your PC.

Ⓐ USB cable (supplied)

1 Connect this unit to the AC adaptor.

● It is possible to use the unit connected to the PC with the batteries only, but you will not be able to write data into the unit.
● Connect with the AC adaptor when using the Conversion Assist Function.

2 Turn on the unit.

● This function is available in all modes.

3 Connect this unit to a PC.

● Do not use any other USB cables except the supplied one. (Operation is not guaranteed with any other USB cables.)
● The Smart wizard screen is automatically displayed when HD Writer AE 2.1 is installed.
● This unit is automatically recognized as an external drive of the PC. (➜ 127)
● When HD Writer AE 2.1 is not installed, a USB function selection screen will appear. Touch [PC]. When you select an option other than [PC], reconnect the USB cable.
● When using an SDXC Memory Card, check the following support site.
http://panasonic.net/avc/sdcard/information/SDXC.html

● When the unit is connected to a PC, its power cannot be turned off.
Disconnect the USB cable, before turning this unit off.
● Do not disconnect the USB cable or the AC adaptor while the access lamp is on or card
access icon ( ) appears on the unit screen.
● (HDC-TM700)
Do not disconnect the USB cable or the AC adaptor while the access lamp is on or built-in
memory access icon ( ) appears on the unit screen.
● HDC-HS700
Do not disconnect the USB cable or the AC adaptor while the HDD access lamp is on or
HDD access icon ( ) appears on the unit screen.
● When performing reading/writing between a PC and an SD card, be aware that some SD
card slots built into PCs and some SD card readers are not compatible with the SDHC
Memory Card or SDXC Memory Card.

■ To disconnect USB cable safely

1 Double click the icon in task tray displayed on the PC.
● Depending on your PC's settings, this icon may not be displayed.
2 Select [USB Mass Storage Device] and click [Stop].
3 (HDC-TM700)
Verify [MATSHITA HDC-TM700/SD USB Device] or [MATSHITA HDC-TM700/MEM
USB Device] is selected and click [OK].
HDC-HS700
Verify [MATSHITA HDC-HS700/SD USB Device] or [MATSHITA HDC-HS700/HDD
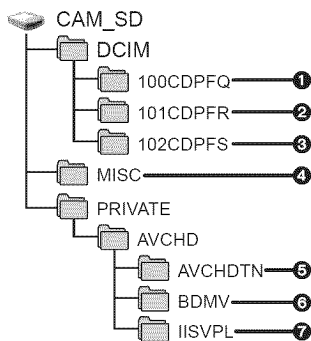USB Device] is selected and click [OK].

About the PC display

When the unit is connected to a PC, it is recognized as an external drive.
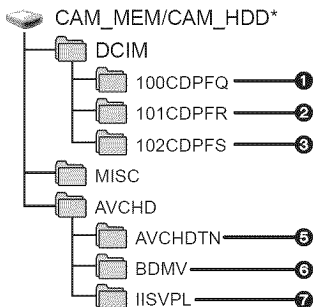- Removable disk (Example: ___ CAM_SD (G:)) is displayed in [Computer].

We recommend using HD Writer AE 2.1 to copy or write back motion picture data. Using Windows Explorer or other programs on the PC to copy, move or rename files and folders recorded with this unit will result in them being unusable with HD Writer AE 2.1.
It is impossible to write data to the built-in memory or HDD on the unit from a PC.

Example folder structure of an SD card:

CAM_SD
├── DCIM
│   ├── 100CDPFQ ———— ❶
│   ├── 101CDPFR ———— ❷
│   └── 102CDPFS ———— ❸
├── MISC ———————————— ❹
└── PRIVATE
    └── AVCHD
        ├── AVCHDTN ——— ❺
        ├── BDMV ————— ❻
        └── IISVPL ———— ❼

Example folder structure of built-in memory or HDD:

CAM_MEM/CAM_HDD*
├── DCIM
│   ├── 100CDPFQ ———— ❶
│   ├── 101CDPFR ———— ❷
│   └── 102CDPFS ———— ❸
├── MISC ———————————— ❹
└── AVCHD
    ├── AVCHDTN ——— ❺
    ├── BDMV ————— ❻
    └── IISVPL ———— ❼

* [CAM_MEM] is displayed when using the HDC-TM700, and [CAM_HDD] is displayed when using the **HDC-HS700** .

The following data will be recorded.
❶ Up to 999 still pictures in JPEG format ([S1000001.JPG] etc.)
❷ JPEG format still pictures recorded in Hi-speed Burst Shooting Mode
❸ JPEG format still pictures created from the motion picture
❹ The DPOF setting files
❺ The motion picture thumbnails
❻ AVCHD format motion picture files ([00000.MTS] etc.)
❼ Files for Intelligent Scene Selection playback

■ Copying your still pictures to your PC

Card reader function (mass storage)
Still pictures recorded with this unit can be copied to the PC with Explorer or other programs.
1 Double click the folder that contains the still pictures. ([DCIM] → [100CDPFQ] etc.)
2 Drag and drop the still pictures onto the destination folder (on the PC's HDD).

- Do not delete the SD card's folders. Doing so may make the SD card unusable in this unit.
- When data not supported by this unit has been recorded on a PC, it will not be recognized by this unit.
- Always use this unit to format SD cards.

Starting HD Writer AE 2.1

● When using HD Writer AE 2.1 on Windows XP, log on to your computer as Administrator (or with a login name equally authorized). If you log on with a login name other than Administrator, you cannot use the applications.
● When using HD Writer AE 2.1 on Windows Vista/Windows 7, log on to your computer as Administrator (or with a login name equally authorized) or with the user name for a standard user account. If you log on with a user name for a guest user account, the software cannot be used.

(On the PC)
Select [Start] → [All Programs] → [Panasonic] → [HD Writer AE 2.1] → [HD Writer AE].
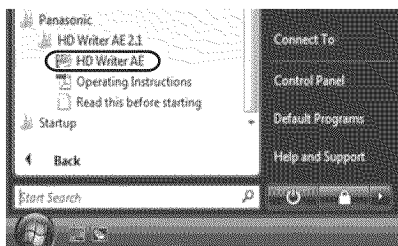
● For details on how to use the software applications, read the PDF operating instructions of the software.

Reading the operating instructions of the software applications

● You will need Adobe Acrobat Reader 5.0 or later or Adobe Reader 7.0 or later to read the PDF operating instructions.

Select [Start] → [All Programs] → [Panasonic] → [HD Writer AE 2.1] → [Operating Instructions].

2 If using Mac

- HD Writer AE 2.1 is not available for Mac.
- iMovie'09 supported. For details about iMovie'09, please contact Apple Inc.
- 1080/60p scenes cannot be imported to a Mac.
  Import after converting to a normal scene using [1080/60p ▪] ➡ ▪ AVCHD]/[1080/60p ▪ ➡ ▪ AVCHD]. (➔ 107)

■ Operating environment

PC	Mac
OS	Mac OS X 10.5.8 Mac OS X 10.6
CPU	Intel Core Duo Intel Core 2 Duo
RAM	1 GB or more
Interface	USB port

- Even if the system requirements mentioned in these operating instructions are fulfilled, some PCs cannot be used.
- The USB equipment operates with the driver installed as standard in the OS.
- Supplied CD-ROM is available for Windows only.

■ Copying still pictures on PC

1 Connect this unit to a PC via the supplied USB cable.

- The USB function selection screen will appear.

2 Touch [PC].

3 Double-click [CAM_SD] displayed on the desktop.

- For users who have (HDC-TM700) , [CAM_SD] and [CAM_MEM] are displayed on the desktop and for users who have **HDC-HS700** , [CAM_SD] and [CAM_HDD] are displayed on the desktop.
- Files are stored in [100CDPFQ] or [101CDPFR] folder etc. in the [DCIM] folder.

4 Using a drag-and-drop operation, move the pictures you want to acquire or the folder storing those pictures to any different folder on the PC.

■ To disconnect USB cable safely

Drag [CAM_SD] disk icon to the [Trash], and then disconnect the USB cable.

- For users who have (HDC-TM700) , [CAM_SD] and [CAM_MEM] are displayed on the desktop and for users who have **HDC-HS700** , [CAM_SD] and [CAM_HDD] are displayed on the desktop.

- Do not remove the SD card from this unit when this unit is connected to the PC using a USB cable.

Indications

*1 [HDC-TM700] only
*2 [HDC-HS700] only

■ Recording indications

Motion Picture Recording Mode
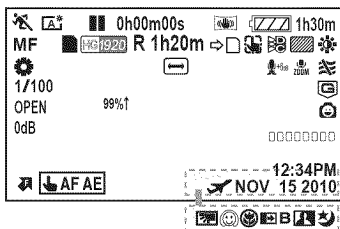
Still Picture Recording Mode
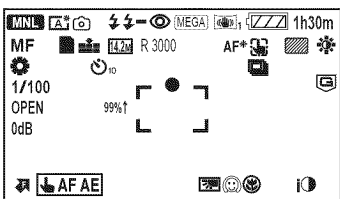
⟨▨▨▨⟩	Remaining battery power (➜ 26)
1h30m	Remaining battery time (➜ 26)
R 1h20m	Remaining time for motion picture recording (➜ 36)
0h00m00s	Elapsed recording time (➜ 36)
NOV 15 2010	Date indication (➜ 32)
12:34PM	Time indication (➜ 32)
✈	World time setting (➜ 46)
[HA1920] / [HG1920] / [HX1920] / [HE1920]	

Motion picture recording mode (➜ 66)

[1080/60p]	1080/60p recording (➜ 58)
[]	Built-in memory recording possible status*1
⬢	HDD recording possible status*2

■ (White)	Card recording possible status
■ (Green)	Recognizing the card
●/II (Red)	Recording
II (Green)	Recording pause
[PRE-REC]	PRE-REC (➜ 60)
[↩]	Interval Recording (➜ 67)
MNL	Manual Mode (➜ 82)

[iA] / [iA] / [iⓌ] / [iⓍ] / [iⒺ] / [iⓎ] / [iⓏ] / [iⒶ] / [iⒷ]

Intelligent Auto Mode (➜ 39)

✈ / 🖐	Operation icon is displayed/not displayed. (➜ 59)
MF	Manual Focus (➜ 85)

AWB / ☀ / ☁ / 🔆 / 💡 / 🖐

White Balance (➜ 83)

1/100	Shutter Speed (➜ 84)
OPEN/F2.0	Iris value (➜ 84)
0dB	Gain value (➜ 84)

🎿 / 🌃 / 🎆 / 🕯 / 🌅 / 🌄 / ❄ / ⛰ /
🏖 / 💐 / 👤

Scene Mode (➜ 65)

[+2] / [+1] / [-1] / [A]

Power LCD (➜ 49)

⟨🖐⟩ / ⟨🖐⟩₁ / ⟨🖐⟩₂ / ⟨🖐⟩ / ⟨🖐⟩₁ / ⟨🖐⟩₂

Image Stabilizer (➜ 56)

⛶AF AE / 🔲	AF/AE tracking (➜ 57)
⇨ []	Relay Recording (➜ 68)*1
▨▨	Zebra (➜ 76)
☀	Picture adjustment (➜ 75)
■	Digital Cinema (➜ 67)
▦	Hi-Speed Burst Shooting (➜ 80)
▨	Digital cinema color (➜ 72)
AF*	AF assist lamp (➜ 81)

🎤 ZOOM	Zoom Microphone (➜ 73)
🎤	Focus Microphone (➜ 73)
🎤2 ch	Stereo Microphone (➜ 73)
🎤	Wind Noise Canceler (➜ 73)
🎤+3dB/🎤+6dB/ 🎤LOW CUT	Bass Setting (➜ 75)
😊 / 😊	Smile Shot (➜ 61)
▯▯▯▯▯▯▯▯▯	Microphone Level (➜ 74)
🔅	Backlight Compensation (➜ 62)
🙂	Soft Skin Mode (➜ 63)
🌸	Tele Macro (➜ 63)
▶ W/▶ B	Fade (White), Fade (Black) (➜ 60)
⭐	Color Night Rec function (➜ 64)
🔆	Intelligent Contrast Control (➜ 60)
i⭕	Intelligent Exposure (➜ 62)
99%↑	Luminance Level (➜ 76)

○ **(White)/● (Green)/ 🔅 / 🔅 / 🔅 / 🔅 / 🔅**

Focus indication (➜ 37)

⏱10/⏱2	Self-Timer Recording (➜ 62)
⚡/⚡A/🚫	Flash (➜ 61)
⚡+/⚡−	Flash Level (➜ 61)
👁	Red-Eye Reduction (➜ 62)
▦ /▦	Picture Quality (➜ 79)

12.2м / 7.7м / 4.9м / 0.3м / 14.2м / 8.6м / 5.5м / 13.3м / 8.3м / 5.3м / 2.1м

Number of recording pixels for still pictures (➜ 38, 78, 80, 87)

In Playback Mode, the picture size is not displayed for still pictures recorded with other products that have different picture sizes from the sizes shown above.

R3000	Remaining number of still pictures (➜ 38)
📷 (White)	Still picture recording possible status
📷 (Red)	Recording still picture
MEGA	MEGA OIS (➜ 37)
📦	HDD Falling Detection (➜ 8)[2]

■ Playback indications

▶/❚❚/▶▶/▶▶▶/◀◀/◀◀◀/▶❘/◀❘/▶▶❘/❘◀◀/ ▶❘/◀❚❚▶/◀❚❚
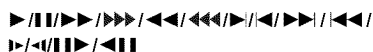
Display during playback (➜ 41, 86)

🔁 / 🔁	Operation icon is displayed/ not displayed. (➜ 41)
0h00m00s	Playback Time (➜ 41)
No.10	Scene Number
⭕	Repeat Playback (➜ 88)
▷▷	Resume Playback (➜ 89)
100-0001	Still picture folder/file name
🔂 1	DPOF already set (to more than 1) (➜ 98)
🔒	Protected motion pictures/ still pictures (➜ 97)
1080/60p	1080/60p recorded scene (➜ 42)
⇨	Relay-recorded scene (➜ 68)[1]
↦	Interval-recorded scene (➜ 67)
😊	Still picture recorded using Smile Shot (➜ 61)

■ Indication of connection to other devices

◀▤	Accessing the card (→ 126)
◀🗋	Accessing the built-in memory (→ 126)[*1]
◀🗃	Accessing the HDD (→ 126)[*2]

■ Confirmatory indications

–– (Time display)	The built-in battery is low. (→ 32)
⚠	Warning for face-to-face recording (→ 31)

■ Confirmatory indications when a DVD burner is connected

⊙	Disc Playback (→ 114)
XP SP	Scene copied in [Standard]([XP]) Scene copied in [Standard]([SP])
RAM / RW / R / RDL / RW / R / RDL Disc type (→ 109)	
◀▨	Unusable disc

Messages

Major confirmation/error messages to be indicated on the screen in text.

* **HDC-HS700** only

RECOMMEND DATA BACK UP PERIODICALLY.

We recommend backing up important recorded motion pictures and still pictures periodically to a PC, DVD disc etc. to protect it. (➜ 109, 117) This message does not indicate that there is a problem with this unit.

HDD BACKUP RECOMMENDED.*

There is a possible problem with the HDD. Copy the motion pictures and still pictures stored on the HDD to a PC or a DVD disc immediately (➜ 109, 117), and detach the power and contact consumer support. (➜ 161, 162)

HDD ERROR OCCURRED. PLEASE TURN UNIT OFF, THEN TURN ON AGAIN.*

Access to HDD failed. Turn on the power again. Make sure not to shock or impact the unit.

CANNOT OPERATE DUE TO LOW TEMPERATURE.*

The internal temperature of this unit is extremely low so it cannot be operated.
If "Please Wait." appears after this message, wait a while without turning the unit off. It may take time until the unit can be used.

CHECK CARD.

This card is not compatible or it cannot be recognized by the unit.
If this message appears even though motion pictures and still pictures are recorded on an SD card, the card may be unstable. Reinsert the SD card, then turn the power off and then on again.

THIS BATTERY CANNOT BE USED.

● Use a battery that is compatible with this unit. (➜ 22)
   If using a Panasonic battery compatible with this unit, remove the battery and then insert it again. If the message appears even after repeating this several times, this unit needs repair. Detach the power and contact consumer support. (➜ 161, 162) Do not attempt to repair it by yourself.
● You are attempting to connect an AC adaptor not compatible with this unit. Use the supplied AC adaptor. (➜ 26)

PLEASE CHECK EXTERNAL DRIVE OR DISC.

A disc that cannot be used when connecting the unit to the DVD burner has been inserted, or the DVD burner is not recognized properly. Connect the Mini AB USB Connection Cable again and insert a disc to copy the data. (➜ 109)

About recovery

If faulty management information is found, the messages may appear and a repair is performed. (Repairing may take time depending on the error.)

SOME SCENES NEED REPAIRING. PLAY SCENES TO BE REPAIRED. (IRREPARABLE SCENES WILL BE DELETED.)

● The above message is displayed when abnormal management information is detected when the scenes are displayed in thumbnail. To perform the repair, touch the scene with [!] in the thumbnail, and start the playback. **Please be aware that if the repair fails, scenes with [!] will be deleted.**

● Use a sufficiently charged battery or the AC adaptor.

● Depending on the condition of the data, it may not be possible to completely repair the data.

● When data recorded on another device is recovered, it may not be possible to play back the data on this unit or the other device.

● If recovery fails, turn the power of the unit off and on again after waiting a while. If recovery fails repeatedly, format a media on the unit. Please be aware that if a media is formatted, then all the data recorded on the media will be erased.

● If the thumbnail information is recovered, displaying the thumbnails may become slower.

Troubleshooting

Problem	Check points
This unit cannot be turned on. This unit does not stay on long enough. Battery runs down quickly.	● Charge the battery again to ensure it is sufficiently charged. (➜ 22) ● In cold places, the battery using time becomes shorter. ● The battery has a limited life. If the operating time is still too short even after the battery is fully charged, the battery has worn out and needs to be replaced.
This unit is turned off automatically.	● If the power of the unit turns off when you turn off the power to the TV using the TV remote control, the VIERA Link is at work. If you are not using the VIERA Link, set [VIERA Link] to [OFF]. (➜ 105) ● When this unit is connected to a DVD burner to copy or play back images (a disc is being accessed), the power turns off automatically if the Mini AB USB Connection Cable is removed.
A clicking sound is heard when the unit is shaken.	● This is the sound of the lens moving and is not a defect. This sound will no longer be heard when the unit's power is turned on and change the mode to 🎥 or 📷 .
Remaining battery indication is not displayed properly.	● The remaining battery capacity indication is an approximation. If the remaining battery capacity indication is not displayed correctly, fully charge the battery, discharge it and then charge it again.
This unit cannot be operated though it is turned on. This unit does not operate normally.	● Remove the battery or AC adaptor, wait about 1 minute and then reconnect the battery or AC adaptor. Then about 1 minute later, turn on the power again. (Conducting the above operation while the media is being accessed may damage the data on the media.) ● If normal operation is still not restored, detach the power connected, and contact consumer support. (➜ 161, 162)

| Problem	Check points
Item other than the touched one is selected. ▶▶▶	● Calibrate the touch screen. (➜ 51)
The remote control does not function. ▶▶▶	● [REMOTE CONTROL] of the [SETUP] is [OFF]. (➜ 53) ● The button-type battery of the remote control may have run out. Replace it with a new button-type battery. (➜ 53)
The remaining time indication or the elapsed time indication is not shown. ▶▶▶	● [DISPLAY] of the [SETUP] is [OFF]. (➜ 46)
The unit arbitrarily stops recording. ▶▶▶	● Use an SD card that can be used for motion picture recording. (➜ 27) ● The recordable time may have shortened due to the deterioration of the data writing speed or repeated recording and deletion. Using the unit, format the SD card, built-in memory or HDD. (➜ 51) ● If [AGS] is [ON], record in the normal horizontal position or set [AGS] to [OFF]. (➜ 71) ● **HDC-HS700** If the unit is exposed to strong vibrations or shocks while recording on HDD, recording may stop to protect the HDD. If the unit is used in a place with loud sounds, the recording may stop due to sound vibrations. Recording data on an SD card is recommended in these places.
Auto focus function does not work. ▶▶▶	● Switch to Intelligent Auto Mode. ● If you are trying to record a scene which is hard to bring into focus in Auto Focus Mode, use the Manual Focus Mode to adjust the focus. (➜ 40, 85)
Color balance of images is strange when recording in a place such as a gymnasium. ▶▶▶	● In a place with multiple light sources, such as a gymnasium or a hall, set the white balance setting to 🔆2 (Indoor mode2). If you cannot record clearly with the 🔆2 (Indoor mode2), set it to 💽 (Manual adjustment mode). (➜ 83)

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Problem	Check points
Any scenes/still pictures cannot be played back.	● Any scenes/still pictures where the thumbnails are displayed as 【 ! 】 cannot be played back.
Although this unit is correctly connected to a TV, images cannot be seen. **The images are squeezed horizontally.**	● Please read the operating instructions of your TV and select the channel that matches the input used for the connection. ● Change the [TV ASPECT] setting to match the aspect ratio of the TV. (→ 103) ● Change the setting of the unit depending on the cable connecting to the TV. (→ 104)
Scenes cannot be deleted.	● Release the protect setting. (→ 97) ● Any scenes/still pictures where the thumbnails are displayed as 【 ! 】 cannot be deleted. If the scenes/still pictures are unnecessary, format the media to erase the data. (→ 51) Please be aware that if a media is formatted then all the data recorded on the media is erased and cannot be recovered. Back up important data on a PC, disc etc.
If the SD card is inserted in this unit, it is not recognized.	● If the SD card is formatted on a PC, it may not be recognized by this unit. Use this unit to format SD cards. (→ 51)
If the SD card is inserted in another device, it is not recognized.	● Check that the device is compatible with the capacity or type of SD card (SD Memory Card/SDHC Memory Card/SDXC Memory Card) that you inserted. Refer to the operating instructions of the device for details.
Color or brightness of the image changes, or you may see horizontal bars in the image. **The LCD monitor flickers indoors.**	● Color or brightness of the image may change, or you may see horizontal bars in the image when the object is recorded under fluorescent light, mercury light or sodium light, etc., but this is not a malfunction. ● In Motion Picture Recording Mode, record in Intelligent Auto Mode or set the shutter speed to 1/60 in areas where the power supply frequency is 60 Hz, or 1/100 in areas of 50 Hz. ● In Still Picture Recording Mode, this will not affect the recorded image.

Problem	Check points

Object seems to be warped.

▶▶▶

● Object seems to be warped slightly when the object moves across the image very fast, but this is because the unit is using MOS for the image sensor. This is not a malfunction.

White round spots like soap bubbles appear on the recorded picture.

▶▶▶

● If you take a picture with the flash in a dark place or indoors, white round spots may appear on the picture caused by the flash reflecting of particles of dust in the air. This is not a malfunction.
A characteristic of this is that the number of round spots and their position differ in every picture.

"ERROR OCCURRED. PLEASE TURN UNIT OFF, THEN TURN ON AGAIN." is displayed.

▶▶▶

● The unit has automatically detected an error. Restart the unit by turning the power off and on.
● The power will be turned off in about 1 minute if the power is not turned off and on.
● Repair is needed if it is repeatedly displayed even if it is restarted. Detach the power connected, contact consumer support. (➜ 161, 162) Do not attempt to repair the unit by yourself.

VIERA Link does not work.

▶▶▶

[Setting on this unit]
● Connect with a HDMI mini cable (optional). (➜ 105)
● Press the MENU button, then touch [SETUP] →
[VIERA Link] → [ON]. (➜ 105)
● Turn the power to the unit off and then back on again.

[Setting on other devices]
● If the TV input does not switch automatically, switch the input using the TV remote control.
● Check the VIERA Link setting on the connected device.
● Please refer to the operating instructions of the connected device.

Problem	Check points
When connected by the USB cable, this unit is not detected by the PC. ▶▶▶	● After re-inserting the SD card into the unit, reconnect the supplied USB cable. ● Select another USB terminal on the PC. ● Check the operating environment. (➜ 120) ● Connect the supplied USB cable again after restarting the PC and turning on this unit again.
When the USB cable is disconnected, an error message will appear on the PC. ▶▶▶	● To disconnect the USB cable safely, double-click the icon in the task tray and follow the instructions on the screen.
The power of the DVD burner cannot be turned on. ▶▶▶	● When the unit is connected to the DVD burner, use the respective AC adaptors for both this unit and the DVD burner.
Cannot see the PDF operating instructions for HD Writer AE 2.1. ▶▶▶	● You will need Adobe Acrobat Reader 5.0 or later or Adobe Reader 7.0 or later to read the PDF operating instructions for HD Writer AE 2.1.
Cannot copy scenes on the SD card by connecting to other equipment with the USB cable. ▶▶▶	● Other equipment might have not recognized the SD card. Unplug the USB cable once, and reconnect it.

■ If scenes do not change smoothly when played back on another device

The images may be still for several seconds at the joins between the scenes if the following operations are performed when multiple scenes have been continuously played back using another unit.

● Just how smoothly the scenes will be played back depends on the playback unit. Depending on the unit used, the images may stop moving and become still for a moment even when none of the following conditions are applicable.

● A continuous recording of motion picture data that exceeds 4 GB may momentarily stop at every 4 GB of data when played back with another device.

● It may not play back smoothly when the editing of scenes was done with the HD Writer AE 2.1, but it will play back smoothly if you set the seamless settings in the HD Writer AE 2.1. Refer to the operating instructions for the HD Writer AE 2.1.

Principal reasons for not playing back smoothly
● When the scenes were recorded on different dates
● When scenes lasting under 3 seconds have been recorded
● When PRE-REC was used for recording
● When the Interval recording is used
● When deleting scenes
● When selected scenes are copied between an SD card and the built-in memory/ HDD
● When selected scenes are copied to a disc in a connected DVD burner.
● When scenes recorded with more than 99 scenes on the same date

Cautions for use

About this unit

The unit and the SD card become warm
during use. This is not a malfunction.

**Keep the High Definition Video Camera
as far away as possible from
electromagnetic equipment (such as
microwave ovens, TVs, video games
etc.).**

● If you use the High Definition Video
Camera on top of or near a TV, the
pictures and sound on the High Definition
Video Camera may be disrupted by
electromagnetic wave radiation.

● Do not use the High Definition Video
Camera near cell phones because doing
so may result in noise adversely affecting
the pictures and sound.

● Recorded data may be damaged, or
pictures may be distorted, by strong
magnetic fields created by speakers or
large motors.

● Electromagnetic wave radiation generated
by microprocessors may adversely affect
the High Definition Video Camera,
disturbing the pictures and sound.

● If the High Definition Video Camera is
adversely affected by electromagnetic
equipment and stops functioning properly,
turn the High Definition Video Camera off
and remove the battery or disconnect AC
adaptor. Then reinsert the battery or
reconnect AC adaptor and turn the High
Definition Video Camera on.

**Do not use the High Definition Video
Camera near radio transmitters or high-
voltage lines.**

● If you record near radio transmitters or
high-voltage lines, the recorded pictures
and sound may be adversely affected.

**Make sure to use the supplied cords and
cables. If you use optional accessories,
use the cords and the cables supplied
with them.
Do not extend the cords and the cables.**

**Do not spray insecticides or volatile
chemicals onto the unit.**

● If the unit is sprayed with such chemicals,
its body may be marred and the surface
finish may peel off.

● Do not leave rubber or plastic products in
contact with the unit for a long time.

**When you use the unit in a sandy or
dusty place such as a beach, do not let
sand or fine dust get into the body and
terminals of the unit.
Also, keep the unit away from sea water.**

● Sand or dust may damage the unit. (Care
should be taken when inserting and
removing a card.)

● If sea water splashes onto the unit, wipe
off the water with a well wrung cloth. Then
wipe the unit again with a dry cloth.

**When carrying the unit, do not drop or
bump it.**

● A strong impact can break the unit's
casing, causing it to malfunction.

Cleaning

● Before cleaning, detach the battery or pull
the AC cable from the AC outlet, and then
wipe the unit with a soft, dry cloth.

● If the unit is very dirty, dip a cloth in water
and squeeze firmly, and then wipe the unit
with the damp cloth. Next, dry the unit with
a dry cloth.

● Use of benzine, paint thinner, alcohol, or
dishwashing liquid may alter the camera
body or peel the surface finish. Do not use
these solvents.

● When using a chemical dust cloth, follow
the instructions that came with the cloth.

Do not use the unit for surveillance purposes or other business uses.

● This unit was designed for consumer intermittent use. It was not intended for continuous use, or for any industrial or commercial application resulting in prolonged use.

● In certain situations, continuous use could cause the unit to overheat and cause a malfunction. Such use is strongly discouraged.

When you are not going to use the unit for an extended time

● When storing the unit in a cupboard or cabinet, it is recommended that you place a desiccant (silica gel) in with it.

When disposing of or giving away this unit, note that:

● Formatting and deletion simply change the file management information and cannot be used to completely erase the data in built-in memory or HDD of this unit. The data can be recovered using commercially available software or the like.

● We recommend that you physically format the built-in memory or HDD before disposing of or giving away this unit.
HDC-TM700
To physically format the built-in memory, connect the unit via the AC adaptor, select [FORMAT MEDIA] → [Built-inMemory] from the menu, and then press and hold the delete button on the screen below for about 3 seconds. When the built-in memory data deletion screen appears, select [YES], and then follow the on-screen instructions.

HDC-HS700
To physically format the HDD, connect the unit via the AC adaptor, select [FORMAT MEDIA] → [HDD] from the menu, and then press and hold the delete button on the screen below for about 3 seconds. When the HDD data deletion screen appears, select [YES], and then follow the on-screen instructions.

● Please look after the data in your built-in memory or HDD carefully. Panasonic will not be held responsible in the unlikely case that private data is divulged.

About the battery

The battery used in this unit is a rechargeable lithium-ion battery. It is susceptible to humidity and temperature and the effect increases the more the temperature rises or falls. In cold areas, the full charge indication may not appear or the low battery indication may appear about 5 minutes after starting use. At high temperatures, the protection function may be triggered, making it impossible to use the unit.

Be sure to detach the battery after use.

● If the battery is left attached, a minute amount of current continues to flow even if the unit's power is off. Keeping the unit in this state may result in over discharge of the battery. This may result in you not being able to use the battery even after it is charged.

● The battery should be stored in the vinyl bag so metal does not come into contact with the terminals.

● The battery should be stored in a cool place free from humidity, with as constant

temperature as possible. (Recommended temperature: 15 °C to 25 °C (59 °F to 77 °F), Recommended humidity: 40% to 60%)

● Extremely high temperatures or low temperatures will shorten the life of the battery.
● If the battery is kept in high-temperature, high-humidity, or oily-smoky places, the terminals may rust and cause malfunctions.
● To store the battery for a long period of time, we recommend you charge it once every year and store it again after you have completely used up the charged capacity.
● Dust and other matter attached to the battery terminals should be removed.

Prepare spare batteries when going out for recording.

● Prepare batteries enough to last for 3 to 4 times the period you are planning to record for. Cold places such as a ski resort can shorten recording time.

If you drop the battery accidentally, check to see if the terminals are damaged.

● Attaching a battery with damaged terminals can damage the unit or AC adaptor.

Do not throw an old battery into fire.

● Heating a battery or throwing it into a fire may result in an explosion.

If the operating time is very short even after the battery has been recharged, the battery has worn out. Please purchase a new battery.

About the AC adaptor

● If the temperature of the battery is extremely high or extremely low, charging may take time or the battery may not be charged.
● If the charging lamp keeps flashing, make sure that the terminals of the battery or the AC adaptor are not exposed to dirt, foreign objects or dust, then reconnect them properly.
Disconnect the AC cable from the AC outlet when you remove dirt, foreign objects or dust on the terminals of the battery or the AC adaptor.
If the charging lamp is still flashing, the temperature of the battery may be extremely high or extremely low or something may be wrong with the battery or AC adaptor. Contact consumer support. (➔ 161, 162)
● If you use the AC adaptor near a radio, radio reception may be disturbed. Keep the AC adaptor 1 m (3.3 feet) or more away from the radio.
● When using the AC adaptor, it may generate whirring sounds. However, this is normal.
● After use, be sure to disconnect the AC adaptor. (If it is left connected, a minute amount of current is consumed.)
● Always keep the electrodes of the AC adaptor and battery clean.

About the SD card

When disposing of or giving away the SD card, note that:

● Formatting and deletion of this unit or computer only changes the file management information and does not completely delete the data in the SD card.

● It is recommended that the SD card is physically destroyed or the SD card is physically formatted using this unit when disposing of or giving away the SD card. To physically format the SD card, connect the unit via the AC adaptor, select [FORMAT MEDIA] → [SD CARD] from the menu, and then press and hold the delete button on the screen below for about 3 seconds. When the SD card data deletion screen appears, select [YES], and then follow the on-screen instructions.

● The customer is responsible for the management of the data in the SD card.

LCD monitor/viewfinder

● When the LCD monitor gets dirty, wipe it with a soft cloth such as eye glass cleaner.

● Do not touch the LCD monitor with your finger nails, or rub or press with strong force.

● It may become hard to see or hard to recognize the touch when the LCD protection sheet is affixed.

● In a place with drastic temperature changes, condensation may form on the LCD monitor. Wipe it with a soft cloth such as eye glass cleaner.

● When the unit has become very cold, for example due to storage in a cold area, its LCD monitor will be slightly darker than usual immediately after the power is turned on. The normal brightness will be restored when the unit's internal temperature rises.

Extremely high precision technology is employed to produce the LCD Monitor screen featuring a total of approximately 230,000 dots. The result is more than 99.99% effective dots with a mere 0.01% of the dots inactive or always lit. However, this is not a malfunction and does not affect the recorded picture.

Extremely high precision technology is employed to produce the viewfinder screen featuring a total of approximately 123,000 dots. The result is more than 99.99% effective dots with a mere 0.01% of the dots inactive or always lit. However, this is not a malfunction and does not affect the recorded picture.

About personal information

After you have set up the face recognition function, personal information will be held in this unit and included in recorded images.
● When the unit is serviced, or given away/ disposed of, the personal information should be deleted in the interests of protecting personal information. (➜ 97)

Indemnity
● Information, including personal information, may be changed or lost as a result of mistaken operation, static electricity effects, accident, breakage, repair or other handling.
It should be noted before use that Panasonic does not accept any responsibility for direct or indirect problems which occur as the result of the change to or loss of the information including personal information.

About condensation

When condensation forms on the unit, the lens will cloud up and the unit may not work properly. Make every effort to ensure that condensation does not form. If it does form, take the actions described below.

Causes of condensation

Condensation takes place when the ambient temperature or humidity is changed as follows.
● When this unit is brought inside from the cold (e.g. a ski slope) to a warm room.
● When this unit is moved from an air-conditioned car to outside.
● When a cold room has been warmed up quickly.
● When cool wind from an air conditioner is directly blown onto this unit.
● After rain showers.
● When this unit is in a very humid place where the air is thick with steam. (e.g. a heated swimming pool)

Helpful hint
If, for example, you have used this unit for recording on a ski slope and are taking it into a heated room, place the unit inside a plastic bag, remove as much of the air from inside the bag as possible, then seal the bag. Leave the unit for about an hour in the room so the temperature of the unit is close to the ambient temperature of the room, then use it.

About copyright

■ **Carefully observe copyright laws**

Whatever you have recorded and created can be used for your personal entertainment only. Under copyright laws, other materials cannot be used without obtaining permission from the holders of the copyrights.

■ **Licenses**
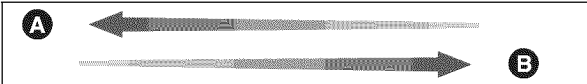
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● HDAVI Control™ is a trademark of Panasonic Corporation.
● "x.v.Color" is trademark.
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● AMD Athlon™ is a trademark of the Advanced Micro Devices, Inc.
● iMovie and Mac are trademarks of Apple Inc., registered in the U.S. and other countries.
● PowerPC is a trademark of International Business Machines Corporation.
● Other names of systems and products mentioned in these instructions are usually the registered trademarks or trademarks of the manufacturers who developed the system or product concerned.

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

Recording modes/approximate recordable time

● SD cards are only mentioned with their main memory size.

Recording mode		1080/60p	HA	HG	HX	HE
Picture size		1920×1080	1920×1080	1920×1080	1920×1080	1920×1080
SD card	4 GB	19 min	30 min	40 min	1 h	1 h 30 min
	8 GB	40 min	1 h	1 h 20 min	2 h	3 h 20 min
	16 GB	1 h 20 min	2 h	2 h 40 min	4 h 10 min	6 h 40 min
	32 GB	2 h 40 min	4 h 10 min	5 h 30 min	8 h 20 min	13 h 40 min
	48 GB	4 h	6 h 20 min	8 h 10 min	12 h 30 min	20 h 20 min
	64 GB	5 h 20 min	8 h 30 min	11 h	16 h 50 min	27 h 30 min
[HDC-TM700] Built-in memory	32 GB	2 h 40 min	4 h 10 min	5 h 30 min	8 h 20 min	13 h 40 min
[HDC-HS700] HDD	240 GB	20 h	31 h 40 min	41 h	62 h 30 min	102 h

Ⓐ Favors image quality
Ⓑ Favors recording time

● The default setting is HG Mode.
● Maximum continuously recordable time for one scene: 12 hours
● The recording is paused once when the recording time for one scene exceeds 12 hours, and the recording will automatically resume after a few seconds.
● If a recording with a lot of action is recorded, the recording time is reduced.
● The recordable time may be reduced if recording of short scene is repeated.
● Use time in the row of 4 GB in above table as a guideline for the time that can be copied onto one DVD disc (4.7 GB).

Number of recordable pictures

● SD cards are only mentioned with their main memory size.
(In Still Picture Recording Mode)

Aspect ratio		4:3						
Picture size		12.2M 4032×3024		7.7M 3200×2400		4.9M 2560×1920		0.3M 640×480	
Picture quality		▪▪▪	▪▪	▪▪▪	▪▪	▪▪▪	▪▪	▪▪▪	▪▪
SD card	512 MB	70	110	110	180	180	290	3600	6100
	1 GB	140	220	220	360	360	580	7400	12000
	2 GB	300	450	450	740	740	1200	15000	25000
	4 GB	610	940	940	1500	1500	2400	30000	50000
	8 GB	1200	1900	1900	3000	3000	4800	60500	102000
	16 GB	2500	3900	3900	6200	6200	9700	122000	205000
	24 GB	3600	5800	5800	9100	9100	14000	179000	301000
	32 GB	5000	7900	7900	12500	12500	19500	246000	414000
	48 GB	7200	11000	11000	18000	18000	28000	364000	613000
	64 GB	10000	15800	15800	25000	25000	39000	492000	829000
(HDC-TM700) Built-in memory	32 GB	5000	7900	7900	12500	12500	19500	246000	414000
HDC-HS700 HDD	240 GB	37000	58000	58000	93000	93000	146000	899100	899100

Aspect ratio		3:2					
Picture size		14.2M 4608×3072		8.6M 3600×2400		5.5M 2880×1920	
Picture quality		▪▪▪	▪▪	▪▪▪	▪▪	▪▪▪	▪▪
SD card	512 MB	60	90	100	160	160	250
	1 GB	120	180	200	320	320	500
	2 GB	240	390	400	650	650	1000
	4 GB	500	800	850	1300	1300	2000
	8 GB	1000	1600	1700	2700	2700	4200
	16 GB	2100	3300	3400	5500	5500	8500
	24 GB	3100	4900	5100	8100	8100	12700
	32 GB	4200	6700	7000	11000	11000	17500
	48 GB	6200	9800	10000	16000	16000	25000
	64 GB	8400	13400	14000	22000	22000	35000
(HDC-TM700) Built-in memory	32 GB	4200	6700	7000	11000	11000	17500
HDC-HS700 HDD	240 GB	32000	50000	50000	83000	83000	130000

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Aspect ratio		16:9				
Picture size		13.3м 4864×2736		8.3м 3840×2160		5.3м 3072×1728
Picture quality						
	512 MB	65	100	100	160	160	270
	1 GB	130	200	200	320	320	540
	2 GB	270	400	400	700	700	1100
	4 GB	550	850	850	1420	1420	2200
SD card	**8 GB**	1100	1700	1700	2800	2800	4500
	16 GB	2200	3400	3400	5600	5600	9000
	24 GB	3300	5100	5100	8400	8400	13000
	32 GB	4500	7000	7000	11500	11500	18200
	48 GB	6600	10000	10000	17000	17000	26000
	64 GB	9000	14000	14000	23000	23000	36400
(HDC-TM700) **Built-in memory**	**32 GB**	4500	7000	7000	11500	11500	18200
HDC-HS700 **HDD**	**240 GB**	34000	54000	54000	86000	86000	136000

(In Motion Picture Recording Mode)

Aspect ratio		16:9				
Picture size		13.3м 4864×2736		8.3м 3840×2160		2.1м 1920×1080
Picture quality						
	512 MB	65	100	100	160	440	690
	1 GB	130	200	200	320	900	1400
	2 GB	270	400	400	700	1800	2800
	4 GB	550	850	850	1420	3600	5600
SD card	**8 GB**	1100	1700	1700	2800	7300	11000
	16 GB	2200	3400	3400	5600	14000	23000
	24 GB	3300	5100	5100	8400	21000	34000
	32 GB	4500	7000	7000	11500	29000	46000
	48 GB	6600	10000	10000	17000	44000	69000
	64 GB	9000	14000	14000	23000	59000	93000
(HDC-TM700) **Built-in memory**	**32 GB**	4500	7000	7000	11500	29000	46000
HDC-HS700 **HDD**	**240 GB**	34000	54000	54000	86000	221000	348000

- The numbers shown in the table are approximations.
- **The number of recordable pictures depends on whether ▓▓ and ▂▂ are used together and on the subject being recorded.**
- Maximum number of recordable pictures that can be displayed is 99999.
  If the number of recordable pictures exceeds 99999, the number will not change when the picture is taken until the number of recordable pictures gets less than 99999.
- The memory capacity indicated on the label of an SD card is the total of the capacity for copyright protection and management and the capacity which can be used on the unit, a PC etc.
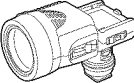
Specifications

High Definition Video Camera
Information for your safety

Power source:	DC 9.3 V (When using AC adaptor)
	DC 7.2 V (When using battery)
Power consumption:	Recording:
	(HDC-TM700)
	6.0 W
	HDC-HS700
	6.3 W

Signal system	1080/60p, 1080/60i
Recording format	1080/60p: Original format HA/HG/HX/HE: AVCHD format compliant
Image sensor	1/4.1″ 3MOS image sensor Total: 3050 K×3 Effective pixels: Motion picture:　2530 K×3 (16:9) Still picture:　　2320 K×3 (4:3), 2630 K×3 (3:2), 　　　　　　　　2530 K×3 (16:9)
Lens	Auto Iris, F1.5 to F2.8 Focal length: 3.45 mm to 41.4 mm Macro (Full range AF) 35 mm equivalent: Motion picture:　35 mm to 420 mm (16:9) Still picture:　　38.8 mm to 466 mm (4:3) 　　　　　　　　35.7 mm to 428 mm (3:2) 　　　　　　　　35 mm to 420 mm (16:9) Minimum focus distance: Normal:　　　　Approx. 4 cm (1.6″) (Wide)/Approx. 1.2 m 　　　　　　　　(3.9 feet) (Tele) Tele macro:　　Approx. 70 cm (28″) (Tele) Intelligent auto Macro: 　　　　　　　　Approx. 1 cm (0.4″) (Wide)/Approx. 70 cm 　　　　　　　　(28″) (Tele)
Filter diameter	46 mm
Zoom	12× Optical Zoom, 18× i.Zoom, 30×/700× Digital Zoom

Monitor	3″ wide LCD monitor (Approx. 230 K dots)
Viewfinder	0.27″ wide EVF (Approx. 123 K dots)
Microphone	5.1 channel surround microphone (with a zoom microphone/ focus microphone function)
Speaker	1 round speaker, dynamic type
White balance adjustment	Auto tracking white balance system
Standard illumination	1,400 lx
Minimum required illumination	Approx. 1.6 lx (1/30 in Low light mode) Approx. 1 lx with the Color night rec function
AV multi connector video output level	Component video out put level: Y: 1.0 Vp-p, 75 Ω Pb: 0.7 Vp-p, 75 Ω Pr: 0.7 Vp-p, 75 Ω AV video output level: 1.0 Vp-p, 75 Ω, NTSC system
HDMI mini connector video output level	HDMI™ (x.v.Color™) 1080p/1080i/480p
AV multi connector audio output level (Line)	316 mV, 600 Ω, 2 ch
Headphone output	77 mV, 32 Ω (Stereo mini jack)
HDMI mini connector audio output level	Dolby Digital/Linear PCM
MIC input	−70 dBV (Mic sensitivity −50 dB equivalent, 0 dB=1 V/Pa, 1 kHz) (Stereo mini jack)

USB	SD card	Read/Write (No copyright protection support)
	Built-in memory (HDC-TM700)	Read only
	HDD (HDC-HS700)	Read only
		Hi-Speed USB (USB 2.0), USB terminal Type Mini AB USB host function (for DVD burner)
Flash		Available range: Approx. 1.0 m to 2.5 m (3.3 feet to 8.2 feet)

Dimensions	HDC-TM700	66 mm (W)×69 mm (H)×138 mm (D) [2.59 ″ (W)×2.71 ″ (H)×5.43 ″ (D)] (excluding projecting parts)
	HDC-HS700	65 mm (W)×69 mm (H)×138 mm (D) [2.55 ″ (W)×2.71 ″ (H)×5.43 ″ (D)] (excluding projecting parts)
Mass (Weight)	HDC-TM700	Approx. 380 g (Approx. 0.84 lbs.) [without battery (supplied)]
	HDC-HS700	Approx. 450 g (Approx. 0.99 lbs.) [without battery (supplied)]
Mass (Weight) in operation	HDC-TM700	Approx. 440 g (Approx. 0.97 lbs.) [with battery (supplied)]
	HDC-HS700	Approx. 510 g (Approx. 1.12 lbs.) [with battery (supplied)]
Operating temperature		0 °C to 40 °C (32 °F to 104 °F)
Operating humidity		10% to 80%
Battery operation time		See page 24

Motion pictures

Recording media	SD card	SD Memory Card (FAT12 and FAT16 system compliant) SDHC Memory Card (FAT32 system compliant) SDXC Memory Card (exFAT system compliant) Refer to page 27 for details on SD cards usable in this unit.
	Built-in memory	HDC-TM700	32 GB
	HDD	HDC-HS700	240 GB
Compression		MPEG-4 AVC/H.264
Recording mode and transfer rate		1080/60p: Approx. 28 Mbps (VBR) HA: Approx. 17 Mbps (VBR) HG: Approx. 13 Mbps (VBR) HX: Approx. 9 Mbps (VBR) HE: Approx. 5 Mbps (VBR) Refer to page 147 for the recordable time.
Picture size		1080/60p: 1920×1080/60p HA/HG/HX/HE: 1920×1080/60i
Audio compression		Dolby Digital/5.1 ch (built-in microphone), 2 ch (built-in microphone/external microphone)

Still pictures

Recording media	SD card	SD Memory Card (FAT12 and FAT16 system compliant) SDHC Memory Card (FAT32 system compliant) SDXC Memory Card (exFAT system compliant) Refer to page 27 for details on SD cards usable in this unit.
	Built-in memory	[HDC-TM700] 32 GB
	HDD	**HDC-HS700** 240 GB
Compression		JPEG (Design rule for Camera File system, based on Exif 2.2 standard), DPOF corresponding
Picture size		Picture aspect [4:3]: 4032×3024/3200×2400/2560×1920/640×480 Picture aspect [3:2]: 4608×3072/3600×2400/2880×1920 Picture aspect [16:9]: 4864×2736/3840×2160/3072×1728/1920×1080 Refer to page 148 for the number of recordable pictures.

AC adaptor
Information for your safety
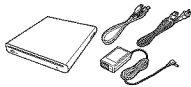
Power source:	AC 110 V to 240 V, 50/60 Hz
Power consumption:	19 W
DC output:	DC 9.3 V, 1.2 A (Unit operation)
	DC 8.4 V, 0.65 A (Battery charging)

Dimensions	92 mm (W)×33 mm (H)×61 mm (D)
	[3.6 ″ (W)×1.3 ″ (H)×2.4 ″ (D)]
Mass (Weight)	Approx. 115 g (Approx. 0.25 lbs.)

Specifications may change without prior notice.

Optional accessories

Accessory No.	Figure	Description
VW-AD21PP-K[*1]		AC adaptor with AC Cable and DC Cables
VW-VBG130[*2]		Rechargeable Lithium Ion Battery Pack
VW-VBG260[*2]		Rechargeable Lithium Ion Battery Pack
VW-VBG6[*2]		Rechargeable Lithium Ion Battery Pack ● The battery pack holder kit/ VW-VH04 (optional) is necessary.
VW-VH04		Battery pack holder kit
RP-CDHM15 RP-CDHM30		HDMI mini cable
VW-W4607H		Wide conversion lens
VW-WE08H[*3]		Wide end conversion lens
VW-LF46N[*4]		Filter kit
VW-LDC103PP		Video DC Light
VZ-LL10PP		Light bulb for video DC light

Accessory No.	Figure	Description
VW-SK12PP		Shoe adaptor
RP-SDP16GU1K RP-SDP12GU1K RP-SDP08GU1K RP-SDP04GU1K RP-SDP02GU1K		Class 4 16 GB SDHC Memory Card Class 4 12 GB SDHC Memory Card Class 4 8 GB SDHC Memory Card Class 4 4 GB SDHC Memory Card Class 4 2 GB SD Memory Card
RP-SDW64GU1K RP-SDW48GU1K RP-SDW32GU1K RP-SDW16GU1K RP-SDW08GU1K RP-SDW04GU1K RP-SDW02GU1K		Class 10 64 GB SDXC Memory Card Class 10 48 GB SDXC Memory Card Class 10 32 GB SDHC Memory Card Class 10 16 GB SDHC Memory Card Class 10 8 GB SDHC Memory Card Class 10 4 GB SDHC Memory Card Class 6 2 GB SD Memory Card
VW-BN2		DVD burner

*1 The supplied DC cables cannot be used on this unit.

*2 Please refer to page 24, concerning the battery charging time and available recording time.

*3 When using the VW-WE08H, set the zoom to W (wide) side. The focus will be slightly out when it is set to T (tele) side, so remove the VW-WE08H when recording set to T (tele) side.

*4 When using the VW-LF46N, remove the lens hood (supplied) and set to the flash setting to ⊛ (OFF).

NOTE:

Accessories and/or model numbers may vary by country. Please consult your local dealer.

Product numbers correct as of Feb. 2010. These may be subject to change.

■ Attaching the battery pack holder kit

To use the VW-VBG6 for this unit, the battery pack holder kit/VW-VH04 (optional) is required.
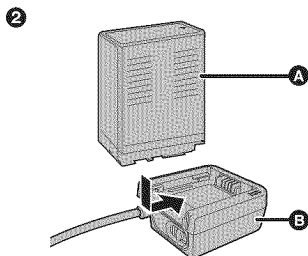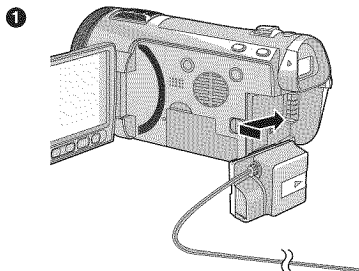
1 VW-VBG6
2 VW-VH04

1 Insert the DC cable into this unit.
2 Insert the battery in the battery holder.

● Do not let the DC cable get caught in between the LCD monitor when closed.

■ Attaching the optional accessories on the shoe adaptor/accessory shoe

(HDC-TM700)

The video DC light/VW-LDC103PP (optional) etc. can be mounted on the shoe adaptor (supplied).

1 Open the shoe adaptor cover.
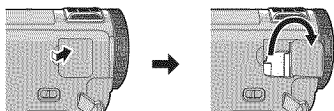
2 Attach the shoe adaptor to this unit.
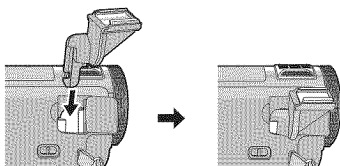
3 Attach the video DC light to this unit.
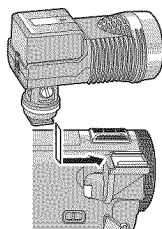
● When removing the shoe adaptor, slide the SHOE ADAPTOR RELEASE lever, and remove the shoe adaptor while sliding the lever.

SHOE
ADAPTOR
RELEASE
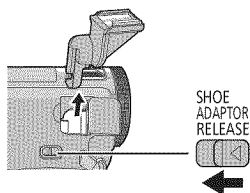
HDC-HS700
The video DC light/VW-LDC103PP (optional) etc. can be mounted the accessory shoe.
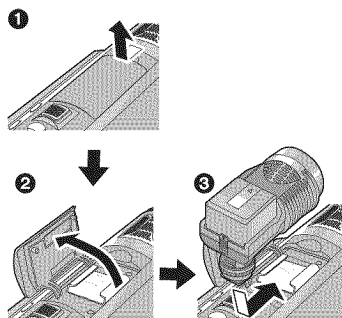
■ **Attaching the conversion lens/ filter kit**

Attach the wide conversion lens (VW-W4607H; optional), the wide end conversion lens (VW-WE08H; optional), ND filter or MC protector of the Filter kit (VW-LF46N; optional) in front of the lens.
● It is not possible to attach it to the front of the lens hood. (➜ 33)
● You will not be able to use the flash. Set the flash setting to ⑤ (OFF). (➜ 61)

Be careful about the following.

When 2 lens accessories, such as the ND filter and wide conversion lens, are fitted and the zoom lever is pressed toward the W side, the 4 corners of an image will be darkened. (Vignetting)

Attaching the lens cap (Included in the Filter Kit (VW-LF46N; optional))

When the filter kit (VW-LF46N; optional) is used, protect the lens surface while the unit is not used with the lens cap supplied with the filter kit.

Accessory Order Form (For USA and Puerto Rico Customers)

Please photocopy this form when placing an order.

1. Model # _____

2. Items Ordered

Accessory #	Description	Price Each	Quantity	Total Price

Subtotal	
Your State & Local Sales Tax	
Shipping & Handling	6.95
Total Enclosed	

3. Method of payment (check one)

☐ Check of Money Order enclosed (NO C.O.D.SHIPMENTS)

☐ VISA   Credit Card # _____

☐ MasterCard   Expiration Date _____

☐ Discover   Customer Signature _____

Make Check or Money Order Payable to: PANASONIC ACCESSORIES

(Please do not send cash)

4. Shipping information (UPS delivery requires complete street address)

Ship To:
Mr.
Mrs.
Ms._____

    First   Last   Phone#:

                                Day   (   ) _____

    Street Address

                                Night   (   ) _____

    City   State   Zip

> TO OBTAIN ANY OF OUR ACCESSORIES YOU CAN DO ANY OF
> THE FOLLOWING:
> VISIT YOUR LOCAL PANASONIC DEALER
> OR
> CALL PANASONIC'S ACCESSORY ORDER LINE AT 1-800-332-5368
> [6 AM-6 PM M-F, PACIFIC TIME]
> OR
> MAIL THIS ORDER TO: PANASONIC SERVICE AND TECHNOLOGY COMPANY ACCESSORY ORDER OFFICE
> 20421 84th Avenue South Kent, WA. 98032

In CANADA, please contact your local Panasonic dealer for more information on Accessories.

Limited Warranty
(ONLY FOR U.S.A. AND PUERTO RICO)

Panasonic Consumer Electronics Company,
Division of Panasonic Corporation of North America
One Panasonic Way, Secaucus, New Jersey 07094

Panasonic Camcorder Products
Limited Warranty

Limited Warranty Coverage (For USA and Puerto Rico Only)
If your product does not work properly because of a defect in materials or workmanship, Panasonic Consumer Electronics Company (referred to as "the warrantor") will, for the length of the period indicated on the chart below, which starts with the date of original purchase ("warranty period"), at its option either (a) repair your product with new or refurbished parts, (b) replace it with a new or a refurbished equivalent value product, or (c) refund your purchase price. The decision to repair, replace or refund will be made by the warrantor.

Product or Part Name	Parts	Labor
Camcorder	1 year	90 days
Rechargeable Batteries (defective exchange)	10 days	Not Applicable
SD Memory Cards (defective exchange)	90 days	Not Applicable

During the "Labor" warranty period there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. This Limited Warranty excludes both parts and labor for non-rechargeable batteries, antennas, and cosmetic parts (cabinet). This warranty only applies to products purchased and serviced in the United States or Puerto Rico. This warranty is extended only to the original purchaser of a new product which was not sold "as is".

Carry-In or Mail-In Service
To find a service center please visit http://www.panasonic.com/help or call 1-800-211-PANA (7262).

When shipping the unit, carefully pack, include all accessories, and send it prepaid, adequately insured and preferably in the original carton. If Lithium Ion batteries are shipped by air the package must be labeled "Contains Lithium Ion Battery (No lithium metal)". Damaged batteries are prohibited from shipment by US Mail. Batteries must be securely packed in a manner to prevent short-circuiting and a package cannot contain more than 3 Lithium Ion batteries. Include a letter detailing the complaint, a return address and provide a daytime phone number where you can be reached. A valid registered receipt is required under the Limited Warranty.

IF REPAIR IS NEEDED DURING THE WARRANTY PERIOD, THE PURCHASER WILL BE REQUIRED TO FURNISH A SALES RECEIPT/PROOF OF PURCHASE INDICATING DATE OF PURCHASE, AMOUNT PAID AND PLACE OF PURCHASE. CUSTOMER WILL BE CHARGED FOR THE REPAIR OF ANY UNIT RECEIVED WITHOUT SUCH PROOF OF PURCHASE.

Limited Warranty Limits And Exclusions
This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, introduction of sand, humidity or liquids, commercial use such as hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than a Factory Service Center or other Authorized Servicer, or damage that is attributable to acts of God.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE".

THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY.

(As examples, this excludes damages for lost time, travel to and from the servicer, loss of or damage to media or images, data or other memory or recorded content. The items listed are not exclusive, but for illustration only.)

ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the exclusions may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state. If a problem with this product develops during or after the warranty period, you may contact your dealer or Service Center. If the problem is not handled to your satisfaction, then write to the warrantor's Consumer Affairs Department at the addresses listed for the warrantor.

PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY.

Customer Services Directory (United States and Puerto Rico)

Obtain Product Information and Operating Assistance; locate your nearest Dealer or Service Center; purchase Parts and Accessories; or make Customer Service and Literature requests by visiting our Web Site at:

http://www.panasonic.com/help

or, contact us via the web at:

http://www.panasonic.com/contactinfo

You may also contact us directly at:
1-800-211-PANA (7262)
Monday-Friday 9am-9pm, Saturday-Sunday 10am-7pm EST

For hearing or speech impaired TTY users, TTY: 1-877-833-8855

Accessory Purchases (United States and Puerto Rico)

Purchase Parts, Accessories and Instruction Books online for all Panasonic Products by visiting our Web Site at:
http://www.pstc.panasonic.com
Or, send your request by E-mail to:
npcparts@us.panasonic.com
You may also contact us directly at:
1-800-332-5368 (Phone) 1-800-237-9080 (Fax Only)
(Monday-Friday 9am-9pm EST)
Panasonic Service and Technology Company
20421 84th Avenue South, Kent, WA 98032
(We accept Visa, MasterCard, Discover Card, American Express, and Personal Checks)

For hearing or speech impaired TTY users, TTY: 1-866-605-1277

As of November 2009

Warranty (For Canadian Customers)

Panasonic Canada Inc.
5770 Ambler Drive, Mississauga, Ontario L4W 2T3

PANASONIC PRODUCT – LIMITED WARRANTY

Panasonic Canada Inc. warrants this product to be free from defects in material and workmanship under normal use and for a period as stated below from the date of original purchase agrees to, at its option either (a) repair your product with new or refurbished parts, (b) replace it with a new or a refurbished equivalent value product, or (c) refund your purchase price. The decision to repair, replace or refund will be made by Panasonic Canada Inc.

Camcorder Products - One (1) year, parts and labour

This warranty is given only to the original purchaser, or the person for whom it was purchased as a gift, of a Panasonic brand product mentioned above sold by an authorized Panasonic dealer in Canada and purchased and used in Canada, which product was not sold "as is", and which product was delivered to you in new condition in the original packaging.

IN ORDER TO BE ELIGIBLE TO RECEIVE WARRANTY SERVICE HEREUNDER, A PURCHASE RECEIPT OR OTHER PROOF OF DATE OF ORIGINAL PURCHASE, SHOWING <u>AMOUNT PAID AND PLACE OF PURCHASE</u> IS REQUIRED

<u>LIMITATIONS AND EXCLUSIONS</u>

This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by Panasonic Canada Inc., or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, improper batteries, power line surge, lightning damage, modification, introduction of sand, humidity or liquids, commercial use such as hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than a Authorized Servicer, or damage that is attributable to acts of God.

Dry cell batteries are also excluded from coverage under this warranty. Rechargeable batteries are warranted for ninety (90) days from date of original purchase.

THIS EXPRESS, LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL PANASONIC CANADA INC. BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT OR ARISING OUT OF ANY BREACH OF ANY EXPRESS OR IMPLIED WARRANTY. (As examples, this warranty excludes damages for lost time, travel to and from the Authorized Servicer, loss of or damage to media or images, data or other memory or recorded content. This list of items is not exhaustive, but for illustration only.)

In certain instances, some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or the exclusion of implied warranties, so the above limitations and exclusions may not be applicable. This warranty gives you specific legal rights and you may have other rights which vary depending on your province or territory.

<u>WARRANTY SERVICE</u>

For product operation and information assistance, please contact:

Our Customer Care Centre: Telephone: 1-800-995-8649
Fax #: (905) 238-2360
Email link: "Camcorder Concierge → Contact us → email" on
https://concierge.panasonic.ca

For defective product exchange within the warranty period, please contact the original dealer or our Customer Care Centre.

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Spanish Quick Use Guide/Guía española para el uso rápido

■ Carga de la batería
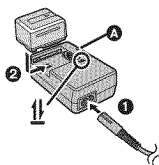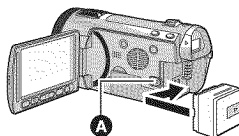
Luz indicadora de carga [CHARGE] Ⓐ

Encendida:
Carga en curso
Apagada:
Carga completada

❶ Conecte el cable de CA al adaptador de CA y a la toma de CA.
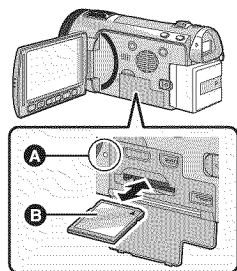❷ Inserte la batería en el adaptador de CA alineando las flechas.

■ Insertar la batería

Meta la batería insertándola en la dirección señalada en la figura.

Ⓐ Introduzca la batería hasta que haga clic y se cierre.

■ Insertar/extraer una tarjeta SD

Testigo de acceso [ACCESS] Ⓐ
● Cuando el dispositivo accede a la tarjeta SD o a la memoria integrada, se enciende el testigo de acceso.

1) Abra la pantalla LCD.
● Verificar que la lámpara de acceso se haya apagado.
2) Abra la tapa de la tarjeta SD/terminal e introduzca (retire) la tarjeta SD en (desde) la ranura correspondiente.
● Oriente el lado de la etiqueta Ⓑ en la dirección mostrada en la ilustración e introdúzcalo hasta el fondo.
● Presione el centro de la tarjeta SD, luego sáquela recta.
3) Cierre de forma segura la tapa de la tarjeta SD/terminal.
● Ciérrelo firmemente hasta que haga clic.

■ Encender/apagar el dispositivo

Encender y apagar el dispositivo con el botón de alimentación
Pulse el botón de alimentación para encender el dispositivo.
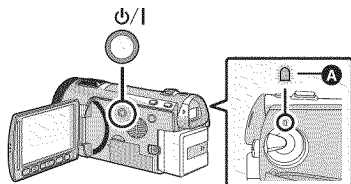
Ⓐ El indicador de estado se ilumina.
● Para apagar la unidad, mantenga pulsado el botón de alimentación hasta que el indicador de estado se apague.

Cómo encender y apagar la unidad con el monitor LCD/visor
Al abrir el monitor LCD o extender el visor se enciende el dispositivo. Al cerrar el monitor LCD/visor se apaga.

Para encender el dispositivo
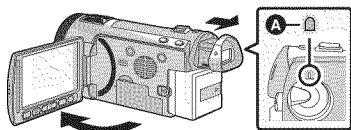
A El indicador de estado se ilumina.

Para apagar el dispositivo
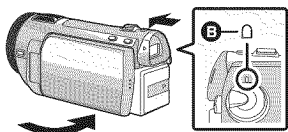
B El indicador de estado se apaga.

■ Selección del modo

Utilizando el selector de modo, cambie el modo a ![], **O** o ![] .
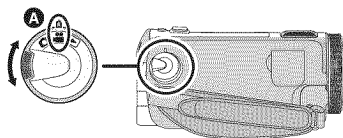
● Alinee con la marca **A**.

![]	**Modo de grabación de películas (➜ 35)**
O	**Modo de grabación de fotografías (➜ 37)**
![]	**Modo de reproducción (➜ 41, 86)**

■ Cómo usar la pantalla táctil

Puede actuar directamente tocando el monitor LCD (pantalla táctil) con el dedo. Es más sencillo utilizar el lápiz electrónico (suministrado) para operaciones detalladas o bien si es difícil de actuar con los dedos.

Toque y suelte la pantalla táctil para seleccionar el icono o la imagen.
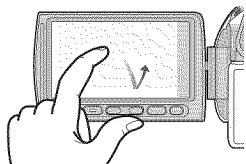
■ Selección del idioma

1) Pulse el botón MENU, luego toque [CONFIGURAR] → [LANGUAGE].
2) Toque [Español].

■ Seleccionar un medio para grabar

1) Cambie el modo a ![] o a **O** .
2) Seleccione el menú.

(MENU) : **[SELEC MEDIO]**

3) Toque el medio para grabar las películas o fotografías.
● Toque [VÍDEO/TARJETA SD] o [IMAGEN/ TARJETA SD] para grabar en la tarjeta SD.
(HDC-TM700)
Toque [VÍDEO/MEM INTERNA] o [IMAGEN/MEM INTERNA] para grabar en la memoria integrada.
(HDC-HS700)
Toque [VÍDEO/DISCO DURO] o [IMAGEN/ DISCO DURO] para grabar en la HDD.
● El medio se selecciona de forma separada para las películas o fotografías y se resalta en amarillo.
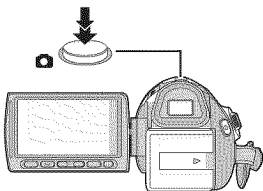4) Toque [ENTRAR].

■ Grabación de películas

1) Cambie el modo a ![] .
2) Abra el monitor LCD o extienda el visor.
3) Pulse el botón de inicio/parada de grabación para iniciar la grabación.
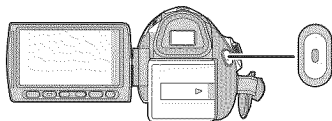
● Cuando comienza a grabar, ‖ cambia a ● .

■ **Grabación de películas**

1) Cambie el modo a 🎥 .
2) Abra el monitor LCD o extienda el visor.
3) Para tomar una imagen pulse el botón
   🎥 a tope.

■ **Reproducción de película/ fotografía**

1) Cambie el modo a ▶ .
2) Toque el icono de selección del modo
   de reproducción ⒶA.

3) Toque el medio deseado para
   reproducir las películas o fotografías.

● Toque [VÍDEO/TARJETA SD] o [IMAGEN/
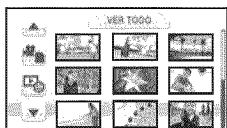TARJETA SD] para reproducir la tarjeta
SD.
(HDC-TM700)
Toque [VÍDEO/MEM INTERNA] o
[IMAGEN/MEM INTERNA] para
reproducir la memoria integrada.
(HDC-HS700)
Toque [VÍDEO/DISCO DURO] o
[IMAGEN/DISCO DURO] para reproducir
la HDD.

4) Toque la escena o la fotografía que
   desea reproducir.

● Puede visualizarse la página siguiente
(anterior) tocando ▲ / ▼ .

5) Seleccione la operación de reproducción
   tocando el icono de operación.

Ⓐ Icono de funcionamiento

(Reproducción de películas)

▶/II: **Reproducción/Pausa**

◀◀: **Rebobinado (durante la
reproducción)**

▶▶: **Avance rápido (durante la
reproducción)**

■: **Detener la reproducción y
visualizar las miniaturas.**

▶: **Visualiza la barra de
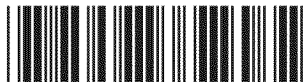reproducción directa. (➜ 87)**

(Reproducción de fotografías)

▶/II: **Iniciar o hacer una pausa en la
presentación de diapositivas
(reproducción de las fotografías
que contiene en orden numérico).**

◀II: **Reproducción de la imagen
anterior.**

II▶: **Reproducción de la siguiente
imagen.**

■: **Detener la reproducción y
visualizar las miniaturas.**

● Toque 🔳 / 🔳 para visualizar/no
visualizar el icono de funcionamiento.

P

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