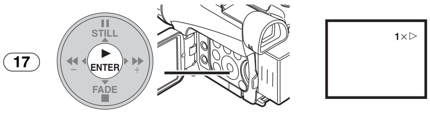
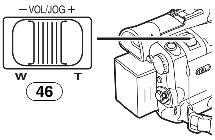
- The [1×▷] Indication appears.



2 Push the [−VOL/JOG+] Lever (46) to select a desired search speed.



The following 6 playback speeds are available for the Variable Speed Search Function in both the fast-forward and rewind directions:
1/5× (slow playback in SP Mode only), 1/3× (slow playback in LP Mode only), 1×, 2×, 5×, 10× and 20×.

- This function works by pressing the [VAR. SEARCH] and [T] or [W] Button on the Remote Controller. (*-8-*)

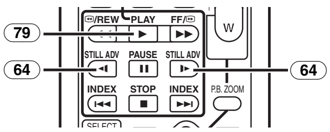
To Resume Normal Playback

Press the [▶] Button (17).

- During Cue or Review Playback, fast-moving images may show a noise like a mosaic.
- The sound is muted during search.

Slow Motion Playback

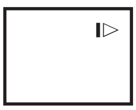
This Movie Camera can play back at a slow speed.



1 Press the [▶] Button (79).

2 Press the [◂I] Button or [I▸] Button (64) on the Remote Controller.

- The [◁I] or [I▷] Indication appears.



- When the [◂I] Button is pressed, Slow Motion Playback proceeds in the reverse direction. When the [I▸] Button is pressed, Slow Motion Playback proceeds in the forward direction.

Scenes recorded in the SP Mode are played back at approximately 1/5th of the normal speed.
Scenes recorded in the LP Mode are played back at approximately 1/3rd of the normal speed.

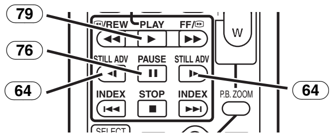
To Resume Normal Playback

Press the [▶] Button (79).

- If the Movie Camera is left in the Slow Playback Mode for more than 12 minutes, the Movie Camera switches to the Stop Mode to protect the video heads from excessive wear and tear.

Still Playback/Still Advance Playback

This Movie Camera is capable of still picture playback and frame-advance playback.



1 Press the [▶] Button (79).

2 Press the [II] Button (76).

- The playback image stops in the Still Playback Mode.

3 Press the [◂I] Button or [I▸] Button (64) on the Remote Controller.

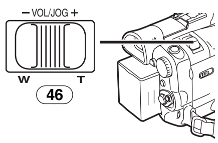
- With each press of the [◂I] Button, still pictures advance in the reverse direction. With each press of the [I▸] Button, still pictures advances in the forward direction. If one of the buttons continues to be pressed, still pictures advance continuously 1 frame at a time until the button is released.

To Resume Normal Playback

Press the [▶] Button (79).

■ Playback with Volume/Jog Lever

By pushing the [−VOL/JOG+] Lever (46) of the Movie Camera in the Still Playback Mode, still pictures can be advanced one frame at a time in the forward or backward direction.
If you keep pushing the Lever, still pictures advances continuously.



- If the Movie Camera is left in the Still Playback Mode for more than 6 minutes, the Movie Camera switches to the Stop Mode to protect the video heads from excessive wear and tear.

Index Search Functions

To facilitate searching for desired scenes, this Movie Camera automatically records index signals during recording, as explained in the following.

Photoshot Index Signal

These signals are automatically recorded when still pictures on a card is recorded to a tape.

Scene Index Signal

Scene Index Signals are automatically recorded when you start recording after inserting a Cassette.

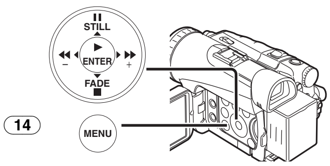
- If [SCENE INDEX] of [RECORDING] Sub-Menu on the [TAPE RECORDING MENU] is set to [2HOUR], an index signal is recorded when recording is restarted after an elapse of 2 hours or longer. If it is set to [DAY], an index signal is recorded when recording is restarted after the date has changed since the last recording. (While the index signal is being recorded, the [INDEX] Indication flashes for a few seconds.)

INDEX

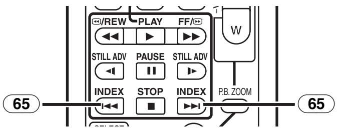
- If the Movie Camera is switched from the Tape Playback Mode to Tape Recording Mode or if the date and time is set before the start of recording, the index signal is not recorded.

Photoshot Index Search

1 Set [TAPE PLAYBACK MENU] >> [PLAYBACK] >> [SEARCH] >> [PHOTO].



2 Press the [▶▶|] Button or [|◀◀] Button 65 on the Remote Controller.



- With each press of the corresponding button, still pictures recorded in Photoshot Mode are searched.

Scene Index Search

1 Set [TAPE PLAYBACK MENU] >> [PLAYBACK] >> [SEARCH] >> [SCENE].

2 Press the [▶▶|] Button or [|◀◀] Button 65 on the Remote Controller.

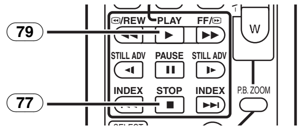
- When the corresponding button is pressed once, the [S 1] Indication appears, and searching for the subsequent scene marked with an index signal starts. Each time the button is pressed after the start of Scene Index Search, the indication changes, from [S 2] to [S 9], and the beginning of the scene corresponding to the selected number will be searched.

S 1

- Up to 9 scene numbers can be selected.

Continuous Index Search

If the [▶▶|] Button or the [|◀◀] Button 65 is pressed for 2 seconds or longer, search can be continued at several-second intervals. (To cancel, press the [▶] Button 79 or the [■] Button 77.)

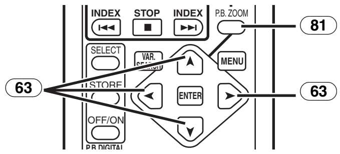


- For other notes concerning this item, see -60-.

Playback Zoom Function

A part of the image can be enlarged up to 10 times during playback.

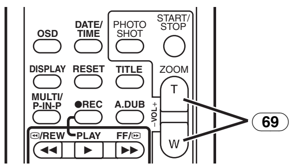
1 During playback, press the [P.B. ZOOM] Button 81 on the Remote Controller.



- The centre of the image is enlarged to approximately 2 times.

To Change the Zoom Magnification

2 Change the magnification by pressing the [W] Button or [T] Button 69 on the Remote Controller.



To Change the Enlarging Area of an Image

3 Press the Arrow Button (▲, ◄, ►, ▼) 63 on the Remote Controller that points to the area you want to enlarge.

To Cancel the Playback Zoom Function

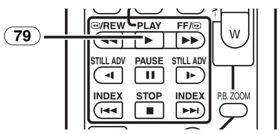
Press the [P.B. ZOOM] Button 81 on the Remote Controller.

- For other notes concerning this item, see *-60-*.

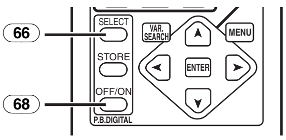
Playback Digital Effect Functions

During playback, special digital effects can be added to the recorded pictures. The same effects as those of Digital Effects 1 and 2, which are used during recording, are obtained.

1 Press the [►] Button 79.



2 Press the [SELECT] Button 66 on the Remote Controller to select a desired digital effect.



- When the [SELECT] Button is pressed repeatedly, the digital effect selection changes.
- The same setting can be done using [EFFECT SEL] Sub-Menu on the [TAPE PLAYBACK MENU].

To suspend Playback Digital Effect Temporarily

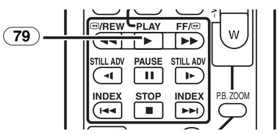
Press the [OFF/ON] Button 68 to suspend or restart the digital effect. When the digital effect is paused temporarily, the selected effect's indication flashes.

To Cancel the Digital Effect

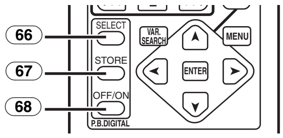
Press the [SELECT] Button 66 on the Remote Controller and clear the digital effect indication.

■ Wipe Mode and Mix Mode

1 Press the [►] Button 79.



2 Press the [SELECT] Button 66 on the Remote Controller and select [WIPE] or [MIX].



3 Press the [STORE] Button 67 at the moment you want to save as a still picture.
- The [WIPE] or [MIX] Indication appears, and the image is saved.

4 Press the [OFF/ON] Button 68 in the scene in which you want to use the Wipe or Mix effect.
- The scene changes as a result of the Wipe or Mix effect.

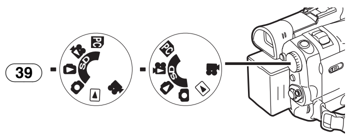
- The Wipe Function and Mix Function can be used only from the Remote Controller during playback.
- If the [OFF/ON] Button 68 is pressed while Wipe or Mix is carried out, the effect will stop temporarily at that point. Pressing the [OFF/ON] Button 68 again will bring back the effect.

- For other notes concerning this item, see *-61-*.

Playing Back a Card

It plays back files recorded on a Card.

1 Set the Mode Dial 39 to Picture Playback Mode or MPEG4 Playback Mode. (MPEG4 Playback Mode on NV-GS200 Model only)



2 Start Playback.

[PICTURE]:

►: Starting the Slide Show
►►: Playing back the next picture
◄◄: Playing back the previous picture
■: Stop the Slide Show
❚❚: Pause the Slide Show

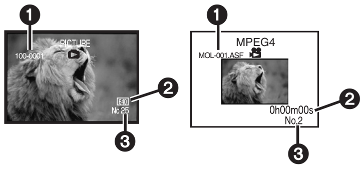
[MPEG4] (NV-GS200 only):

►: Playing back the File
►►: Selecting the next file (When you tap it during playback, you can search the next file, and when you keep pressing it, cue playback is activated.)
◄◄: Selecting the previous file (When you tap it during playback, you can search the beginning of the file, and when you keep pressing it, review playback is activated.)

∎: Stop playing back
❚❚: Pause playing back

When you select MPEG4 Playback Mode at Step 1 (NV-GS200 only)

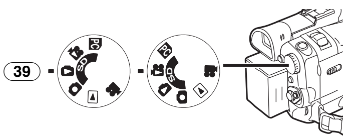
- File is numbered in hexadecimal.
- When the object is moving fast or zoom operation is performed, picture may appear to be still or causes mosaic-pattern noise, but this is not a malfunction.
- When you select MPEG4 Playback Mode at step 1, during playback, push the [−VOL/JOG+] Lever to display the volume indication until the volume Indication appears and adjust the volume. (*-36-*)



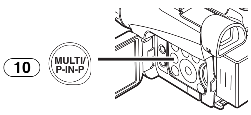
❶ Folder File Number (When the picture is played back)
File Name (When the MPEG4 data is played back) (NV-GS200 only)
❷ Picture Size (When the picture is played back) (*-54-*)
Playback time (When MPEG4 data is played back) (NV-GS200 only)
❸ File Number

To Select a Desired File and Playing Back

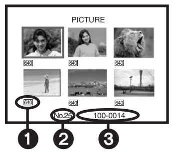
1 Set the Mode Dial (39) to Picture Playback Mode or MPEG4 Playback Mode. (MPEG4 Playback Mode on NV-GS200 Model only)



2 Press the [MULTI] Button (10).

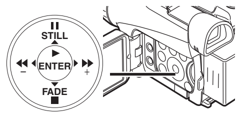


- The files recorded on the Card are displayed in Multi-Picture Mode.



❶ Picture Size (When Picture Playback Mode is selected at Step 1)
❷ File Number
❸ Folder File Number (When Picture Playback Mode is selected at Step 1)
File Name (When MPEG4 Playback Mode is selected at Step 1) (NV-GS200 only)

3 Press the [❚❚/∎/◀◀/▶▶] Button to select a desired file.



- The selected file is marked with a frame.

4 Press either the [ENTER] Button (17) or the [MULTI] Button (10).

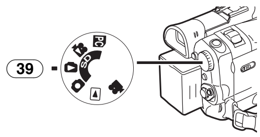
- The selected file is shown on the entire screen.

- For other notes concerning this item, see *-61-*.

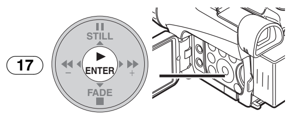
Slide Show

The recorded still pictures in the Card can be played back like a Slide Show.

1 Set the Mode Dial (39) to Picture Playback Mode.



2 Press the [▶] Button (17).



- The [SLIDE▷] Indication is displayed.

- Each of the pictures are played back for several seconds.

To Pause the Slide Show

Press the [❚❚] Button.

●The [SLIDE❚❚] Indication is displayed.

To Stop the Slide Show

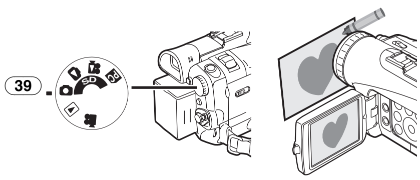
Press the [■] Button.

●For other notes concerning this item, see -61-.

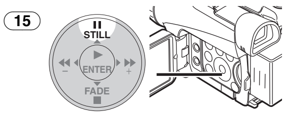
Creating a Title

You can create a title and record on a Card.

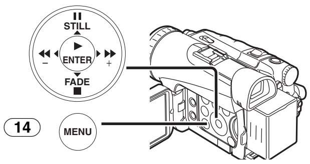
1 Recording Mode:
Set the Mode Dial (39) to Tape Recording Mode or Card Recording Mode.
Set the Lens to the image you want to use for creating a title.



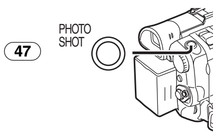
1 Tape Playback Mode:
Search for the image you want to use for creating a title and set the Movie Camera to the Still Playback Mode.



2 Set [CARD] >> [CREATE TITLE] >> [YES].



3 Press the [PHOTO SHOT] Button (47).

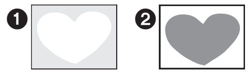


●The title is stored.

●To perform Photoshot again, select [RETURN].

4 Select [LUMINANCE] and press the [ENTER] Button (17), then press the [▶▶] Button (16) or [◀◀] Button (19) to adjust the title contrast and press the [ENTER] Button (17).

5 Press the [▶▶] Button (16) or [◀◀] Button (19) to adjust the colour and press the [ENTER] Button (17).



●The dark portion of the image is missing ❶, and the colours of the bright portion change in order of black, blue, green, cyan, red, magenta, yellow and white, after which the bright portion of the image is missing ❷ and the colours of the dark portion change in the above order.

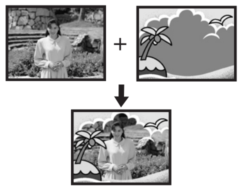
6 Select [RECORDING] and press the [ENTER] Button (17).

●The title is recorded on the Card.

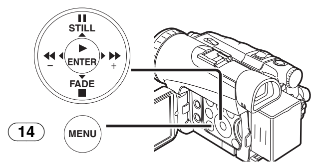
●For other notes concerning this item, see -61-.

Adding a Title

A title can be added to the picture. It is displayed in Tape/Card Recording Mode and Tape/Picture Playback Mode.



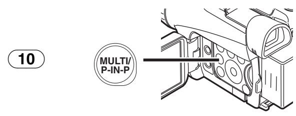
1 Set [DIGITAL] >> [TITLE IN] >> [ON].



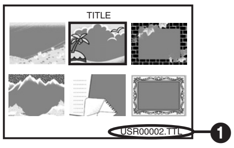
2 Press the [MENU] Button (14).

●The title is displayed.

3 Press the [MULTI] Button (10).

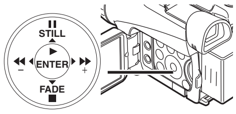


- A list of titles is displayed.



- File Name ❶

4 Press the [❚❚/■/◀◀/▶▶] Button to select a desired title.



- The selected title is marked with a frame.

5 Press the [ENTER] Button (17) or press the [MULTI] Button (10).
- The selected title is displayed.
- Recording and Photoshot Recording can be made with pictures that have titles.

- A title can be displayed also by pressing the [TITLE] Button on the Remote Controller.

To Clear the Title Display

Set [DIGITAL] >> [TITLE IN] >> [OFF].
Or press the [TITLE] Button (73) on the Remote Controller.

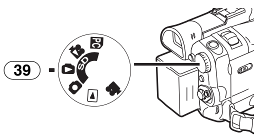
- For other notes concerning this item, see *-62-*.

Writing Printing Data on a Card

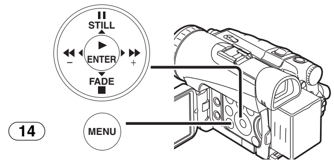
(DPOF Setting)

DPOF Setting Printing data (DPOF Settings), such as the number of images to be printed, can be written to the Card. “DPOF” means Digital Print Order Format.

1 Set the Mode Dial (39) to Picture Playback Mode.



2 Set [PICTURE PLAYBACK MENU] >> [EDITING] >> [DPOF SET] >> [YES] >> [VARIABLE].



- When all images are not printed, select [ALL 0].

3 Select a desired picture and press the [ENTER] Button (17).
- The selected picture is marked with a frame.
- The number of prints set by DPOF ❶ is displayed.

4 Press the [▶▶] Button (16) or [◀◀] Button (19) to select the number of pictures to be printed, and press the [ENTER] Button (17).
- [●] Indication ❷ is displayed in the picture set. (*-54-*)
- This is not the setting of the number of print for printing on PictBridge. (*-49-*)

5 Repeat Steps 3 and 4 and press the [MENU] Button (14) when the setup is completed.

To Verify DPOF Setting

Select [VERIFY] in Step 2. The pictures for which 1 or more print is set in DPOF are played back continuously.

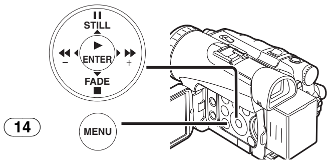
- For other notes concerning this item, see *-62-*.

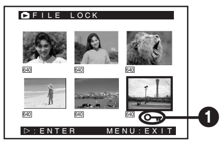
Protecting the Files on a Card

(Lock Setting)

Precious files recorded on a Card can be locked to prevent accidental erasure. (Even if files are locked, the files will be deleted if the Card is formatted.)

1 Set [PICTURE/MPEG4 PLAYBACK MENU] >> [EDITING] >> [FILE LOCK] >> [YES]. ([MPEG4 PLAYBACK MENU] on NV-GS200 Model only)





2 Select the file to be locked, and press the [ENTER] Button (17).
- The selected file is locked and the [O━π] Indication 1 appears. Repeat this procedure to lock 2 or more files.
- Press the [ENTER] Button (17) again to cancel.

- The SD Memory Card has a write protection switch. (*-62-*)

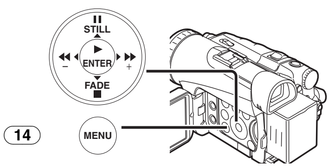
- For other notes concerning this item, see *-62-*.

Deleting the Files Recorded on a Card

Using the Movie Camera, you can delete the files recorded on a Card. After the file is deleted, it cannot be restored.

To Select and Delete Files or Titles

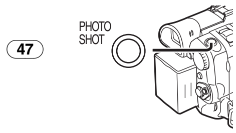
1 Set [PICTURE/MPEG4 PLAYBACK MENU] >> [DELETE] >> [FILE BY SEL] >> [YES]. ([MPEG4 PLAYBACK MENU] on NV-GS200 Model only)



- To erase a title in [PICTURE PLAYBACK MENU], select [TITLE BY SEL].

2 Select the file you wish to delete and press the [ENTER] Button (17).
- The selected picture is marked with a frame.
- To erase 2 files or more, repeat this step.

3 Press the [PHOTO SHOT] Button (47).

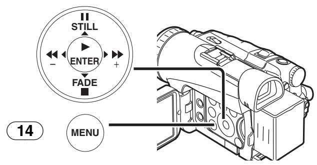


- A verification message appears.

4 Select [YES] and press the [ENTER] Button (17).
- The selected file is deleted from the Card.
- If [NO] is selected, the file selection is cancelled.

To Select and Delete All Files

1 Set [PICTURE/MPEG4 PLAYBACK MENU] >> [DELETE] >> [ALL FILES] >> [YES]. ([MPEG4 PLAYBACK MENU] on NV-GS200 Model only)



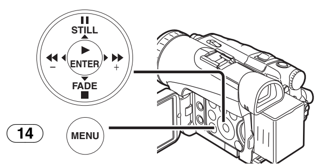
- A verification message appears.

2 Select [YES] and press the [ENTER] Button (17).
- All files of Picture/MPEG4 Playback Mode are erased.
- A locked file cannot be erased.
- If there are many files in a Card, it takes several minutes for deleting.

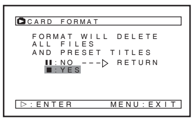
Formatting a Card

If a Card becomes unreadable by the Movie Camera, format it for reuse. Formatting erases all the data recorded on a Card.

1 Set [PICTURE/MPEG4 PLAYBACK MENU] >> [EDITING] >> [CARD FORMAT] >> [YES]. ([MPEG4 PLAYBACK MENU] on NV-GS200 Model only)



- A confirmation message appears, select [YES] and formatting will be carried out.



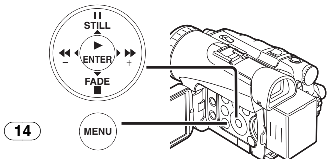
- When the formatting is completed, the screen becomes white.
- It may not be able to use the Card formatted by this Movie Camera on other unit. In this case, format the Card on the unit which will use the Card. Make sure that valuable pictures are stored on PC before proceeding.
- A Card formatted an other equipment (e.g. PC) might be unusable or it might take more time for recording. We recommend that you use this equipment to format the Card.

Enlarging a Movie Picture Size

(NV-GS200 only)

You can enlarge a Moving Picture to full screen size.

1 Set [MPEG4 PLAYBACK MENU] >> [DISPLAY] >> [SCREEN] >> [FULL].



Display specifications in playing back MPEG4 moving pictures

[NORMAL] display

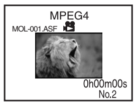
- Pictures equal to or smaller than QCIF (176×144) are expanded twice as large as the original size.
- Pictures larger than QCIF pictures (176×144) are displayed as large as the original size.

[FULL] screen display

- Pictures equal to or larger than QCIF (176×144) are displayed in full screen.
- Pictures smaller than QCIF pictures (176×144) are expanded about 3.6 times as large as the original size.
- When setting to [FULL], pictures may be shown in mosaic-like pattern depending on the file.

To Resume Normal Moving Picture Size

Set [MPEG4 PLAYBACK MENU] >> [DISPLAY] >> [SCREEN] >> [NORMAL].

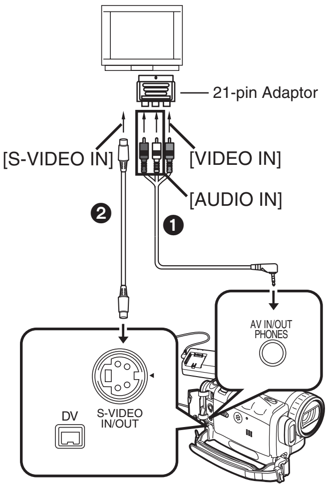


Playing Back on Your TV

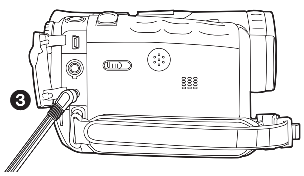
By connecting your Movie Camera with your TV, the recorded scenes can be viewed on your TV screen.

- Before connecting them, turn off the power of both the Movie Camera and TV.

1 Connect the [AV IN/OUT] Socket of the Movie Camera and the Video and Audio Input Sockets of the TV.



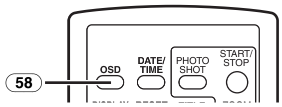
- Connect to the TV with the AV Cable ❶, make a connection with the TV. If the TV has an S-Video Socket, connect the S-Video Cable ❷, too.
- Plug the AV Cable as shown ❸ so that the cord hangs down.



- When plugging the pin plug of the AV cable into the [AV IN/OUT] Socket, plug it in as far as it goes.

To Make the Indications Appear on the TV Screen

Press the [OSD] Button (58) on the Remote Controller.



- If your TV is not equipped with AV Input Sockets, the 21-pin Adaptor (purchase separately) is necessary. Consult your dealer.

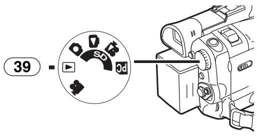
- For other notes concerning this item, see *-62-*.

Editing Mode

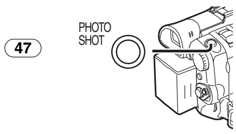
Recording from a Tape onto a Card

Still pictures or moving pictures can be recorded on the Memory Card from scenes that have already been recorded on a cassette. (moving pictures on NV-GS200 Model only)

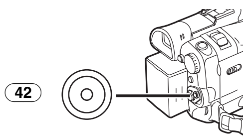
1 Set the Mode Dial (39) to Tape Playback Mode.



2 Still Picture:
Start playback and set the Movie Camera to Still Playback Mode at the scene you wish to record, and press the [PHOTO SHOT] Button (47).



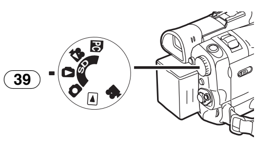
Moving Picture (NV-GS200 only):
Start playback and press the Recording Start/Stop Button (42) at the desired scene.



Recording Pictures from a Card onto a Tape

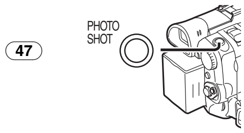
Card Images can be recorded to the Tape.

1 Set the Mode Dial (39) to Picture Playback Mode.



2 Display the first picture.

3 Press the [PHOTO SHOT] Button (47).



- During the copying, the following Indication appears.

- It takes a few seconds to record a picture to the Tape.
- When recording to tape, select the tape position before recording. The picture will be recorded to the tape position when the [PHOTO SHOT] Button is pressed at Step 3.
- Photoshot index signals are automatically recorded.
- Moving Picture (MPEG4) cannot be recorded from a Card to tape. (NV-GS200 only)

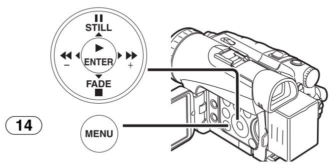
- For other notes concerning this item, see *-62-*.

Audio Dubbing

You can add music or narration to the recorded Cassette.

- If the tape recorded in the [16bit] Mode is dubbed with the Audio Dubbing function, the original sound is erased. (If you wish to preserve the original sound, use the [12bit] Mode when recording.)
- Audio Dubbing cannot be performed on a recording made in LP Mode. (*-20-*)

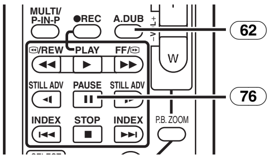
1 Set [TAPE PLAYBACK MENU] >> [AV IN/OUT] >> [AV JACK] >> [IN/OUT]. (NV-GS200 only)



2 Continuing the aforesaid setup, select [A.DUB INPUT] >> [MIC] or [AV IN]. (NV-GS200 only)

- Set to [AV IN] when external device is used, and to [MIC] when an external or built-in microphone is used.

3 **Press the [❚❚] Button (76) on the Remote Controller where you want to add new sound.**



4 **Press the [A.DUB] Button (62) on the Remote Controller.**

5 **To start Audio Dubbing, press the [❚❚] Button (76) on the Remote Controller.**

To Cancel Audio Dubbing

Press the [❚❚] Button (76) on the Remote Controller.

The Movie Camera is in the Still Playback Mode again.

To Play Back the Sound Recorded by 12bit Audio Dubbing

Set [TAPE PLAYBACK MENU] >> [PLAYBACK] >> [12bit AUDIO] >> [ST2] or [MIX].

ST1: It plays back only the original sound.

ST2: It plays back only the sound added by Audio Dubbing.

MIX: It plays back both the original sound and the sound added by Audio Dubbing simultaneously.

To Dub Audio While Listening to a Pre-recorded Sound

When pausing the audio dubbing, set the [12bit AUDIO] on the [PLAYBACK] Sub-Menu to [ST2] and you can check the pre-recorded sound. When a microphone is used for audio dubbing, use headphones to listen to the pre-recorded sound while dubbing the audio. (When using headphones, set [AV JACK] to [OUT/PHONES].) When the line input is used, you can dub audio while listening to the pre-recorded sound from the speaker.

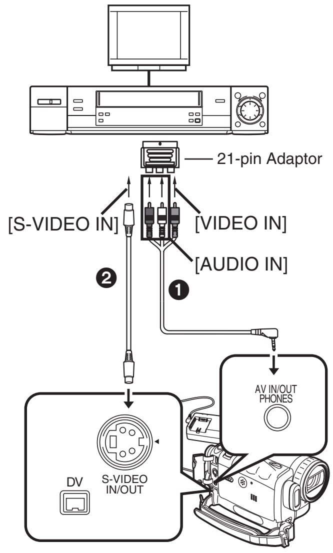
(The line input is on NV-GS200 Model only.)

- For other notes concerning this item, see -62-.

Copying on an S-VHS (or a VHS) Cassette

(Dubbing)

After connecting the Movie Camera and the VCR as illustrated, start the following procedures.



❶ AV Cable

❷ S-Video Cable

- If your TV is not equipped with AV Input Sockets, the 21-pin Adaptor (purchase separately) is necessary. Consult your dealer.
- Be sure to press the [OSD] Button (-8-) on the Remote Controller prior to copying so that no indications are visible. Otherwise, the displayed tape counter and function indications are also copied.

Movie Camera:

1 **Insert the recorded Cassette.**

VCR:

2 **Insert an unrecorded Cassette with an erasure prevention tab.**
- If various setups (such as external input, tape speed, etc.) are required, please refer to the operating instructions of your VCR.

Movie Camera:

3 **Press the [▶] Button to start playback.**

VCR:

4 **Start recording.**

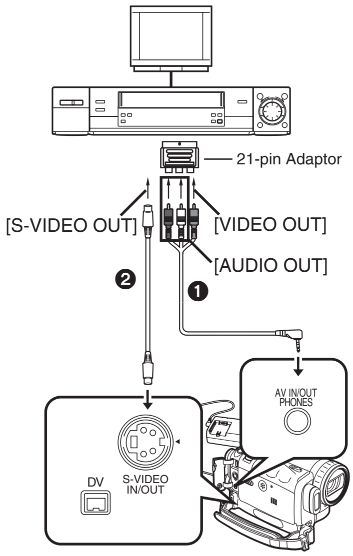
5 **Press the Pause or Stop Button to stop recording.**

Movie Camera:

6 **Press the [■] Button to stop playback.**

Recording the Contents of Other Equipment

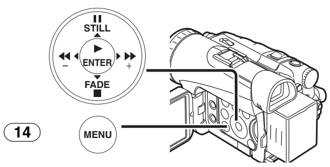
(NV-GS200 only)
After connecting the Movie Camera and the other equipment as illustrated, start the following procedures.



❶ AV Cable
❷ S-Video Cable
≥If your TV is not equipped with AV Output Sockets, the 21-pin Adaptor (purchase separately) is necessary. Consult your dealer.

Movie Camera:

1 Set [TAPE PLAYBACK MENU] >> [AV IN/OUT] >> [AV JACK] >> [IN/OUT].



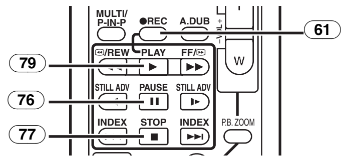
2 Insert an unrecorded Cassette.

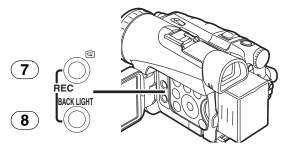
Other Equipment:

3 Insert a recorded Cassette and start playback.

Movie Camera:

4 While pressing the [●REC] Button (61), press the [▶] Button (79) on the Remote Controller.
Or while pressing the [REC] Button (7), press the [BACK LIGHT] Button (8) on the Movie Camera.





≥When recording on a card, press the [PHOTO SHOT] Button or the Recording Start/Stop Button.

5 Press the [❚❚] Button (76) or [■] Button (77) to stop recording.

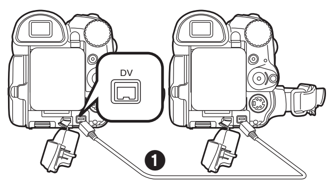
Other Equipment:

6 Press the Stop Button to stop playback.

≥For other notes concerning this item, see *-62-*.

Using the DV Cable for Recording

(Digital Dubbing)
By connecting this Movie Camera to other digital video equipment that has a DV Input/Output Terminal with a DV Cable VW-CD1E (optional) ❶, dubbing can be done in the digital format.

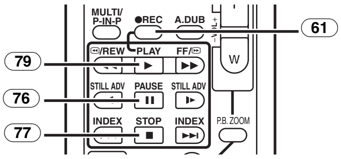


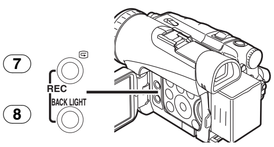
Player/Recorder:

1 Insert the Cassette and set to Tape Playback Mode.

Player:

2 Press the [▶] Button (79) to start playback.





Recorder:

3 While pressing the [●REC] Button (61), press the [▶] Button (79) on the Remote Controller.
Or while pressing the [REC] Button (7), press the [BACK LIGHT] Button (8) on the Movie Camera.
- ≥Recording starts.

To Stop Dubbing

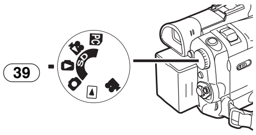
Press the [❚❚] Button (76) or the [■] Button (77).

- ≥For other notes concerning this item, see *-63-*.

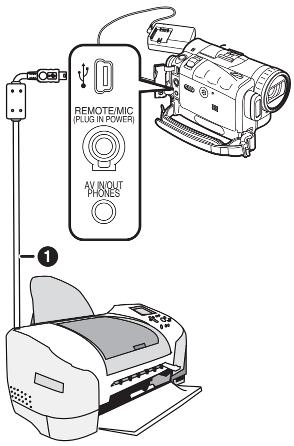
Printing pictures with directly connecting to the printer (PictBridge)

After connecting the Movie Camera and the printer compatible with PictBridge, start the following procedures.
- ≥To print pictures with directly connecting the Movie Camera to the printer, prepare the printer compatible with PictBridge. (Also read the operating instructions of the printer.)
- ≥You cannot print images which cannot be played on the Movie Camera.
- ≥Check the settings about the paper size, quality of print, etc. on the printer.
- ≥We recommend using the AC Adapter as the power source.

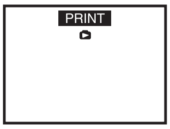
1 Set the Mode Dial (39) to Picture Playback Mode.



2 Connect the printer with the supplied USB Cable.



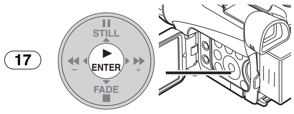
❶ USB Cable



- ≥The [PRINT] Indication appears on the screen of the Movie Camera.
  Highlighted: Printable
  Blinking: Printer is being recognized.

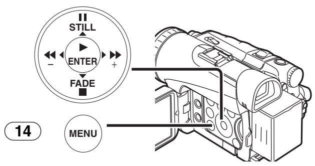
- ≥The [PRINT] Indication does not appear when the card is not inserted in the Movie Camera. (You cannot print pictures.)
- ≥When the [PRINT] Indication keeps blinking (more than about 1 minute), the Movie Camera and the printer are not connected properly. Connect the cable again or check the printer.
- ≥When the Movie Camera and the printer is connected in the Tape Recording/Playback Mode, the [WEB 🎥] or the [WEB ▶] Indication may appear on the LCD Monitor. However, images cannot be printed.

3 Select the desired picture and press the [ENTER] Button (17).



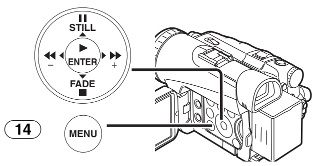
- ≥Images cannot be printed when they are displayed in Multi-screen.

4 When printing with date:
Set [PICTURE PLAYBACK MENU] >> [PRINT] >> [DATE] >> [ON].



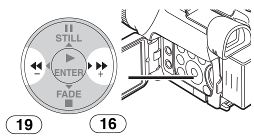
- You cannot set date printing when the printer does not support it.
- Proceed to the next step if you do not need date printing.

5 Set [PICTURE PLAYBACK MENU] >> [PRINT] >> [THIS PICTURE] >> a desired paper size.



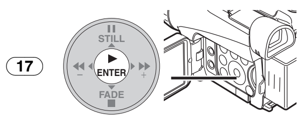
- You cannot set the paper size which is not supported on the printer.

6 Press the [▶▶] Button (16) or [◀◀] Button (19) to select a desired number of prints.



- You can set the number of prints up to 9.

7 Press the [ENTER] Button (17).



When you stop printing halfway

Press the [■] Button (18).

- Do not operate as follows during printing. Pictures cannot be printed properly.
  - Disconnecting the USB cable
  - Removing the Card
  - Switching the operation mode

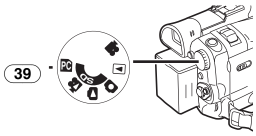
With a PC

USB Connection Kit

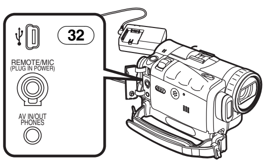
Using the supplied USB Connection Kit, you can import still pictures onto your personal computer.
- ≥Do not connect the USB Cable until the USB driver is installed.

1 Install the supplied USB driver.

2 Set the Mode Dial (39) to PC Mode.



3 Connect the supplied USB Cable to [ψ] Socket (32).
- ≥PC connection mode is activated.



- ≥The USB Connection Kit can be used with Windows98 Second Edition/Me/XP.
- ≥Use AC Adaptor as power source for the Movie Camera. (The Card or its contents may be destroyed if battery power is lost while transmitting data.)
- ≥Mode cannot be changed in PC connection mode by operating Mode Dial.
- ≥For more details on the operating environment, installation, connections, and procedures, please refer to USB Connection Kit's operating instructions.
- ≥To disconnect the USB Cable safely, double-click the [ ] Icon in the task tray and follow the instructions on the screen.

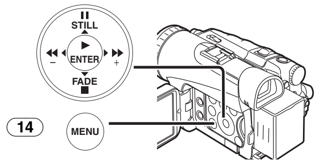
Using as a Web Camera or with DV STUDIO

If the Movie Camera is connected to your Personal Computer, you can send video and sound from the Movie Camera to other parties via the network.
- ≥Do not connect the USB Cable until the USB driver or Web Camera driver is installed.

1 Install the supplied USB driver or Web Camera driver.

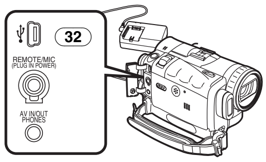
2 Set the Mode Dial to Tape Recording Mode or Tape Playback Mode.

3 When using as a Web Camera:
Set [CAMERA] or [PLAYBACK] >> [USB FUNCTION] >> [WEB CAMERA].
When using with DV STUDIO:
Set [CAMERA] or [PLAYBACK] >> [USB FUNCTION] >> [DV STUDIO].



- ≥It enters WEB CAMERA Mode or DV STUDIO Mode.

4 Connect the supplied USB Cable to [ψ] Socket (32).



5 Start the Windows Messenger or DV STUDIO.
- ≥When using as a web camera, it is not possible to record on a tape or a card or display a title.
- ≥You cannot output the video input from the DV terminal to the display of the PC.
- ≥For more details on the operating environment, installation, connections, and procedures, please refer to USB Connection Kit's operating instructions.

Using a Card in a Personal Computer

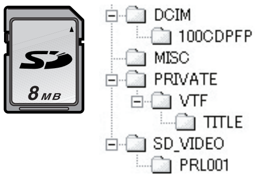
When using Card Data recorded with this Movie Camera, please note the following points.
- ≥To erase pictures that you recorded on the Card by using the Movie Camera, be sure to erase them on the Movie Camera, not on the computer.
- ≥Using the optional DV Editing Software (Motion DV STUDIO) for Windows (VW-DTM40/41), a variety of visual effects can be added and titles can be created.
- ≥You may not be able to properly play back or search the images on the Movie Camera after editing the recorded data or changing the image data on a personal computer.
- ≥The image data files recorded on the Card with this Movie Camera conform to the DCF (Design rule for Camera File system) stipulated by JEITA (Japan Electronics and Information Technology Industries Association).

- Moving Picture format (MPEG4) that can be played back on this device is ASF. (Depending on the file, it may not be able to be played back even if it is in ASF format.) (NV-GS200 only)

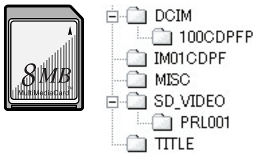
Folder Configuration when the Card is used with a PC

- When a Card with data recorded on it is inserted into a personal computer, folders will be displayed as in the figure.

SD Memory Card:



MultiMediaCard:



[100CDPFP]: The images (IMGA0001.JPG, etc.) in this folder are recorded in the JPEG format.

[MISC]: Files in which DPOF Data has been set to the image can be found here.

[TITLE]: This contains the data of the preset titles (PRE00001.TTL) and original titles (USR00001.TTL, etc.).

[PRL001] (NV-GS200 only): MPEG4 moving picture is recorded in ASF format (MOL001.ASF etc.). It can be played back with Windows Media Player (ver.6.4 and later). Because of its small size, this File is well suited for transmitting data through telephone lines etc.. To play back moving pictures with Windows Media Player, select a file and double click. Necessary software is automatically downloaded and starts playing back. (Internet connection is required.) To play back with Mac OS, Windows Media Player for Macintosh is required.

- [DCIM], [IM01CDPF], [PRIVATE], [VTF], [SD_VIDEO], etc. are necessary items in the folder structure. ([SD_VIDEO] on NV-GS200 Model only) They have nothing to do with actual operations.
- In the Card Recording Mode, the Movie Camera automatically saves file numbers (IMGA0001.JPG, etc.) along with the images. The file numbers are recorded with each image as a consecutive number.
- When using the software without indication function, indication data, such as date, are not displayed. Depending on the software in use, the date and the time may not be displayed correctly.
- The memory capacity indicated on the SD Memory Card label corresponds to the total amount of the capacity to protect and manage the copyright and of the capacity available as a conventional memory for a Movie Camera, Personal Computer or others.
  Capacity that can be used as conventional memory:
  8 MB Card: about 6,800,000 bytes

The supplied SD Memory Card contains Preset title so the actual capacity may be smaller.

- When you play back MPEG4 moving picture files (ASF format) recorded for 3 or more minutes with this Movie Camera on Windows Media Player, these files may be stopped. In this case, click [Windows Media Update] on the installation screen or [WMP9QFEInst.exe] in [WMP9QFE] folder on the CD-ROM and follow the messages to update Windows Media Player. (This update is effective when you play back these files with Windows Media Player and the playback is stopped about 3 or 4 minutes later.) (NV-GS200 only)

Others

Indications

Various functions and the Movie Camera status are shown on the screen.

:	Remaining Battery Power

- When the battery power becomes low, the Indication changes. When the battery is discharged completely, the ( ) Indication flashes.

R0:45:	Remaining Tape Time

- Remaining tape time is indicated in minutes. (When it reaches less than 3 minutes, the indication starts flashing.)

:	Tape Recording Mode *-21-*
:	Tape Playback Mode *-36-*
:	Card Recording Mode *-23-*
:	Picture Playback Mode *-39-*
:	MPEG4 Playback Mode (NV-GS200 only) *-39-*
PC :	PC Mode *-51-*
CINEMA:	Cinema Mode *-29-*
D.ZOOM:	Digital Zoom *-26-*
MULTI:	Multi Mode *-33-*
P-IN-P:	P-IN-P Mode *-33-*
WIPE:	Wipe Mode *-33-*
MIX:	Mix Mode *-33-*
STROBE:	Strobe Mode *-34-*
TRAIL:	Trailing Effect Mode *-34-*
MOSAIC:	Mosaic Mode *-34-*
MIRROR:	Mirror Mode *-34-*
STRETCH:	Stretch Mode *-34-*
SLIM:	Slim Mode *-34-*
NEGA:	Negative Mode *-34-*
SEPIA:	Sepia Mode *-34-*
B/W:	Black & White Mode *-34-*
SOLARI:	Solarisation Mode *-34-*
(PB) ZOOM:	Playback Zoom *-38-*
SP:	Standard Play Mode (Recording Speed Mode) *-20-*
LP:	Long Play Mode (Recording Speed Mode) *-20-*
INDEX:	Index signal recording *-38-*
S 1:	Search Number *-38-*
5×:	Zoom Magnification Indication *-26-*
AUTO:	Automatic Mode *-21-*
MNL:	Manual Mode *-29-*
:	Image Stabilizer *-27-*
MIC, AV IN:	Audio Dubbing Input Display *-46-*
12 bit, 16 bit:	Audio Recording Mode *-20-*
MF:	Manual Focus *-32-*
:	Back Light Mode *-28-*
:	Sports Mode (Programme AE) *-29-*
:	Portrait Mode (Programme AE) *-29-*
:	Low Light Mode (Programme AE) *-29-*
:	Spotlight Mode (Programme AE) *-29-*
:	Surf & Snow Mode (Programme AE) *-29-*
REC:	Recording *-21-*
PAUSE:	Recording Pause *-21-*
:	Self-Timer Recording *-25-*
:	When connecting the Free Style Remote Controller with Mic to [REMOTE] Socket and the [TALK] Button is pressed, this indication appears. *-22-*
:	External microphone supporting the Smart Accessory Shoe *-6-*
LOW CUT:	External microphone supporting the Smart Accessory Shoe (LOW CUT) *-17-*
▷:	Playback *-36-*
❚❚:	Still Playback *-37-*
▷▷:	Fast-forward/Cue Playback *-36-*
◁◁:	Rewind/Review Playback *-36-*
◁❚, ❚▷:	Slow Motion Playback *-37-*
◁❚❚, ❚❚▷:	Still Advance Playback *-37-*
❘◁◁, ▷▷❘:	Index Search *-38-*
CHK:	Recording Check *-21-*
A.DUB ▷:	Audio Dubbing *-46-*
A.DUB ❚❚:	Audio Dubbing Pause *-46-*
BLANK:	Blank Search *-22-*
R ▷:	Repeat Playback *-60-*
2× ▷▷:	Variable Speed Search *-37-*
1/500:	When you adjust shutter speed manually, this indication appears. *-31-*
SLIDE▷:	Slide Show Playback *-40-*
SLIDE❚❚:	Slide Show Playback Pause *-41-*
F2.4:	When you adjust the F Number manually, this indication appears. *-32-*
:	White Balance Adjustment Mode *-30-*
:	Outdoor Mode *-30-*
:	Indoor Mode (recording under incandescent lamp) *-30-*
C.NIGHT VIEW:	Colour Night View Function *-28-*
0LUX NIGHT VIEW:	0 Lux Night View Function *-28-*
Z.MIC:	Zoom Microphone *-26-*
WIND CUT:	Wind Noise Reduction *-28-*
P:	Progressive Photoshot Mode *-22-*
T.MACRO :	Tele Macro *-26-*
SOFT SKIN :	Soft Skin Mode *-28-*
PICTURE:	Picture *-39-*
TITLE:	Title picture *-41-*

MPEG4:	Moving Picture (MPEG4) (NV-GS200 only) -40-
WEB 🎥:	WEB CAMERA Mode (recording) -51-
WEB ▶:	WEB CAMERA Mode (playback) -51-
PRINT (Highlighted):	PictBridge Mode -49-
0h00m00s:	Recording time of MPEG4 (NV-GS200 only)
VOLUME:	Volume adjustment -36-
15:30:45:	Date/Time Indication
N (F, E):	Photoshot Picture Quality (during Photoshot recording) [F] means Fine, [N] means Normal and [E] means Economy. -23-
E, N, F, SF:	MPEG4 Picture Quality (NV-GS200 only) -25-
0:	Remaining Number of Photoshot pictures
R:0h00m:	Remaining time of MPEG4 (NV-GS200 only)
⧉:	Continuous Photoshot Recording -24-
O‑π:	Lock Setting -43-
● (White):	DPOF Setting completed (set to 1 or more picture) -42-
1760:	[1760×1320] Image size (NV-GS200 only)
1520:	[1520×1152] Image size (NV-GS120 only)
640:	[640×480] Image size

- For images not recorded with this Movie Camera, the size display is determined as follows according to the number of horizontal pixels.

640:	640 or more, less than 800 (The size is not displayed at under 640 pixels.)
SVGA:	800 or more, less than 1024
XGA:	1024 or more, less than 1280
SXGA:	1280 or more, less than 1600
UXGA:	1600 or more, less than 2048
QXGA:	2048 or more
PICTURE (Cyan):	Photoshot Mode
PICTURE (Red):	While Photoshot recording is activated
PICTURE (Green):	While the card is being read
PICTURE (Red):	No Card (Still Picture Mode)
MPEG4 (Cyan):	Moving Picture (MPEG4) Recording Mode (NV-GS200 only)
MPEG4 (Red):	While Moving Picture (MPEG4) recording is activated (NV-GS200 only)
ϟ:	Video Flash turned on -33-
ϟ+:	Video Flash (setting to [+]) (NV-GS200 only) -33-
ϟ−:	Video Flash (setting to [−]) (NV-GS200 only) -33-
👁:	Red Eye Reduction -33-

■ To Change the Counter Display Mode

By changing [C.DISPLAY] on the [DISPLAY] Sub-Menu, you can change the Counter Display Mode to Tape Counter Indication [COUNTER] (0:00.00), Memory Counter Indication [MEMORY] (M0:00.00), and Time Code Indication [TIMECODE] (0h00m00s00f). (-17-) By repeatedly pressing the [DISPLAY] Button on the Remote Controller, you can change the Counter Display Mode.

■ To Display Date/Time Indication

To display Date/Time Indication, set the appropriate Date/Time in [DATE/TIME] on the [DISPLAY] Sub-Menu. (-17-)
You can also press the [DATE/TIME] Button of the Remote Controller repeatedly to display or change the Date/Time Indication.

■ To Change the Display Mode

By changing [DISPLAY] on the [DISPLAY] Sub-Menu, you can change the Display Mode to All Function Display [ALL] and Minimum Display [OFF]. (-17-)

■ Progressive Photoshot

You cannot use the Progressive Photoshot Function in the following cases.

When using Tape Recording Mode
- Digital Effect Modes in [EFFECT1]
- Digital Zoom [D.ZOOM]
- 1/750 s or faster shutter speed
- When brightness is insufficient
- When the Night View Function is ON
- When the Portrait Mode is used

When using Card Recording Mode
- When brightness is insufficient
- When the Night View Function is ON

Initializing the Modes

You can change the Menu settings back to the shipping condition.

1 Set [TAPE RECORDING MENU] or [CARD RECORDING MENU] >> [INITIAL] >> [INITIAL SET] >> [YES].
- The initializing takes a little while.
- After the initializing is completed, the [COMPLETED] Indication appears.

- Initializing will not erase the clock setting (-20-) that has been adjusted.

Warning/Alarm Indications

If any one of the following indications lights up or flashes, please check the condition of the Movie Camera.

DEW (DEW DETECT/EJECT TAPE):
Condensation has occurred. *-64-*

(CHECK REC TAB/TAPE NOT INSERTED):
You are attempting to record pictures on a Tape with setting the accidental erasure prevention slider to [SAVE].
You are attempting Audio dubbing or Digital dubbing on a Tape with setting the accidental erasure previntion slider to [SAVE].
No Cassette is inserted. *-13-*

(LOW BATTERY):
The Battery is low. Recharge it. *-10-*

: The built-in battery is low. *-20-*

(NEED HEAD CLEANING):
The video heads are dirty. *-64-*

END (TAPE END):
The Tape came to the end during recording.

REMOTE (CHECK REMOTE MODE):
Wrong Remote Controller Mode has been selected. *-9-*

UNPLAYABLE TAPE (OTHER FORMAT):
You are attempting to play back a tape section that has been recorded with a different TV system.

UNABLE TO A. DUB (LP RECORDED):
Because the original recording was done in LP Mode, audio dubbing cannot be performed.

INCOMPATIBLE TAPE:
This cassette is incompatible.

PUSH THE RESET SWITCH:
An irregularity in the mechanism has been detected. Press the [RESET] Button (*-7-*). This may solve the problem.

CARD FULL:
Card does not have sufficient memory remaining.
Select Picture/MPEG4 Playback Mode and delete unnecessary files. (MPEG4 Playback Mode on NV-GS200 only)

NO CARD:
Card is not inserted.

NO DATA:
There is no recorded files in the Card.

UNPLAYABLE CARD:
You are attempting to play back a data which is not compatible with this Movie Camera.

CARD ERROR:
This Card is not compatible with this Movie Camera.

COPY INHIBITED:
Because the medium is protected by a copy guard, images cannot be recorded correctly.

INCORRECT OPERATION:
The Recording Start/Stop Button is pressed without connecting the USB cable to the PC in Picture Playback Mode.

CHECK CARD (NV-GS200 only):
You are attempting to record MPEG4 moving pictures recorded in [SUPERFINE] on MultiMediaCard. Use SD Memory Card.

CAN NOT USE USB
CHANGE MODE:
The USB cable is connected to the Movie Camera in Card Recording Mode or MPEG4 Playback Mode. (MPEG4 Playback Mode on NV-GS200 Model only)

CAN NOT OPERATE:
You are attempting to record pictures on a Card with connecting the USB cable to the Movie Camera in Tape Recording/Playback Mode.

UNABLE TO WRITE
(MULTI RECORDING):
The [PHOTO SHOT] Button is pressed when you are recording pictures on a Tape with setting the Digital Effect [MULTI] of [EFFECT1].

UNABLE TO WRITE
(MPEG4 RECORDING) (NV-GS200 only):
The [PHOTO SHOT] Button is pressed when you are recording MPEG4 moving pictures.
You are attempting to record on a tape when MPEG4 Recording from external input signals is in progress.

UNABLE TO WRITE:
The Recording Start/Stop Button is pressed when you are recording still pictures on the Card.
The [PHOTO SHOT] Button is pressed when you are recording on a Tape with insering a Title.

CASSETTE DOOR OPENED:
Close the Cassette Compartment Cover before recording.

NO TITLE:
Titles are not recorded.

UNABLE TO INSERT TITLE:
You are attempting to do Title In Function when MPEG4 Recording is in progress or Continuous Photoshot Function is set. (MPEG4 Recording on NV-GS200 Model only)

UNABLE TO WRITE
(WIDE MODE):
You are attempting to record pictures of S1 signal (with aspect ratio 16:9) by pressing the [PHOTO SHOT] Button.
FILE LOCKED:
You are attempting to erase protected files.
CARD LOCKED:
The write protection switch on the SD Memory Card is set to [LOCK].
DISCONNECT USB CABLE:
You are attempting to turn the Mode Dial or turn the Movie Camera off in PC Mode with connecting the USB cable to the Movie Camera.
PRINTER ERROR:
Check the connected printer.
THERE IS NO INK:
There is no ink. Check the connected printer.
THERE IS NO PAPER:
There is no paper. Check the connected printer.

Notes and Hints

Concerning the Power Supply
- When the Movie Camera is used for a long time, the Camera body becomes warm, but this is not a malfunction.
- If the [CHARGE] Lamp does not light up although the Battery is attached to the AC Adaptor, detach the Battery and reattach it.

Inserting/Removing the Cassette
- In the case of using a previously recorded Cassette, you can use the Blank Search Function to find the position where you want to continue recording.
- If a new Cassette is inserted, rewind to the beginning of the tape before starting recording.
- When inserting the cassette, make sure it faces in the right direction and then push it in until it stops.
- When the Cassette Holder is in action, do not touch anything except the [PUSH] mark.
- When closing the Cassette Compartment Cover, do not get anything caught in the cover, such as a cable of an optional stereo microphone.

Alarm Sounds
When [BEEP SOUND] on the [INITIAL] Sub-Menu on the [TAPE RECORDING MENU] is set to [ON], confirmation/alarm beeps are issued as follows.

1 Beep
- When you start recording
- When you switch the [OFF/ON] Switch from [OFF] to [ON]

2 Beeps
- When you pause recording

2 Beeps for 4 times
- If you operate a wrong operation before or during recording

Recording Check
- For Recording Check, the recording speed mode (SP/LP) must be the same as the mode used for the recording. If different, playback images will be distorted.

Recording on a Card
- Pictures with wide-screen format signals cannot be copied.
- When the colour of the screen changes or blurs, adjust the shutter speed manually to 1/50 or 1/100.

Photoshot
- The sound cannot be recorded.
- The file format supported by this Movie Camera is JPEG. (Not all the JPEG formatted files will be played back.)
- If [NORMAL] or [ECONOMY] is selected for recording, mosaic-pattern noise may appear on a playback image depending on the image content.
- It may not be possible to play back a mega-pixel still-picture recorded by this Movie Camera with another movie camera.
- When there is a contrasty object ahead or behind the subject in the focus area, the subject may not be focused. In this case, move the contrasty object out of the focus area. (NV-GS200 only)

To record still pictures clearly
- When zooming to the subject with magnification of ×4 to ×10 or higher, it is difficult to reduce slight jitters by holding the Movie Camera with hand. We recommend decreasing the zoom magnification and approaching to the subject when recording.
- When recording still pictures, hold the Movie Camera firmly with your hands and keep arms stationally to your side not to shake the Movie Camera.
- You can record stable pictures without jitters using a tripod and the remote controller.

About the Shutter Chance Mark (NV-GS200 only)
- The Shutter Chance Mark does not appear in manual focus mode.
- When the subject is not easily focused, focus on the subject manually.
- You can record still pictures on the Card even if the Shutter Chance Mark does not appear. However, images may be recorded without being focused.

- The Shutter Chance Mark does not appear or becomes difficult to be displayed in the following cases.
  - When the zoom magnification is high.
  - When the Movie Camera is shaken.
  - When the subject is moving.
  - When the subject stands against the light source.
  - When close subjects and far subjects are included in the scene.
  - When the scene is dark.
  - When there is a bright part in the scene.
  - When the scene is filled with only horizontal lines.
  - When the scene lacks for contrast.

Continuous Photoshot

- One more still picture may be recorded after you release the [PHOTO SHOT] Button.
- The Continuous Photoshot and Title Function cannot be used simultaneously.
- When the [SELF TIMER] is set to [ON], the Movie Camera records the maximum number of pictures recordable depending on the [BURST MODE] setting.
- When using the card formatted by other equipment, intervals of recording pictures may become large.
- If recording or erasing pictures is repeated many time, intervals of recording pictures may become large. In this case, back up your important data on PC, and format your card by this Movie Camera.
- Intervals of recording pictures may become large depending on the card. We recommend using Panasonic SD Memory Card.
- When the [PICTURE SIZE] is set to [1760×1320] (NV-GS200)/[1520×1152] (NV-GS120), the Continuous Photoshot cannot be used.

Recording Moving Pictures (MPEG4) (NV-GS200 only)

- The following functions are disabled:
  - Self-timer *-25-*
- If you record a subject illuminated with strong light or a highly reflective subject, vertical lines of light may appear.
- The sound is recorded in the monaural that is mixed [L] and [R] of the stereo sound.
- When playing back the MPEG4 moving picture recorded by this Movie Camera with other equipment, black bars may appear at the top and bottom of screen.
- MPEG4 moving pictures recorded in [SUPERFINE] cannot be recorded in the MultiMediaCard.
- If you record wide images as MPEG4 moving pictures when using line input or DV input, the wide images are recorded in Longwise style.
- MPEG4 moving pictures may not be recorded on the card formatted by other equipment (e.g. PC).

Quick Start

- During the Quick Start Standby Mode, a minute amount of electricity is consumed.
- When the Movie Camera is left in the Recording Pause Mode for 6 minutes, it will be turned into the Quick Start Standby Mode. To turn the Movie Camera on again, set the [OFF/ON] Switch to [OFF] and then set it to [ON] again. (The Quick Start Mode will be restored.)
- This Function is not activated in the following cases:
  - A tape and a card is not inserted, while the Tape Recording Mode is set.
  - A Card is not inserted, while the Card Recording Mode is set.
- When you rotate the Mode dial or remove the battery, the Quick Start Recording Lamp is turned off and the Quick Start Mode is canceled. However, if the Movie Camera is turned on and the Tape/Card Recording Mode is set, the Lamp turns on and the Quick Start Mode is restored.
- If the [QUICK START] Button is pressed and held for approximately 2 seconds during the Quick Start Standby Mode, the Lamp will go off and the Movie Camera will completely be turned off.
- If the Movie Camera is not operated for approximately 30 minutes when the Quick Start Recording Lamp lights, the Lamp will go off and the Movie Camera will completely be turned off.
- In the Automatic White Balance Mode, the colour may be recorded unnaturally at the beginning of the recording.
- The zoom magnification differs from when it is in the Quick Start Standby Mode and when the recording starts.

Self-timer Recording

- When [BEEP SOUND] on the [INITIAL] Sub-Menu is set to [ON], the beep sound will be emitted along with the Recording Lamp flashing in the Self-timer Standby Mode.
- By operating the [OFF/ON] Switch, Recording Start/Stop Button or Mode Dial, the Self-timer Standby Mode is cancelled. (In the case of NV-GS120, the Self-timer Standby Mode is not cancelled even if you press the Recording Start/Stop Button in the Card Recording Mode.)

Zoom In/Out Functions
- When you are zooming on a faraway subject, a sharper focus is achieved if the recording subject is 1.2 metres or further from the Movie Camera.

Tele-Macro Function
- The Tele-Macro Function cannot be started during recording.
- When the [D.ZOOM] is set to [20×] or [500×], the Tele-Macro Function with the magnification greater than 10× is available.
- If a sharper focus cannot be achieved, adjust the focus manually.

In the following cases, the Tele-Macro Function is cancelled.
- The zoom magnification becomes lower than 10×.
- Setting the [OFF/ON] Switch to [OFF].

Zoom Microphone Function
- The Zoom Microphone Function may not work effectively if the surrounding noise is too loud.
- It does not work with an external microphone.

Digital Zoom Functions
- As the magnification of digital zoom increases, the quality of image may deteriorate.
- White balance cannot be set in the digital zoom range.

Image Stabilizer Function
- The Image Stabilizer Function does not operate in a dimly lit place. In this case, the [ ] Indication flashes.
- Under fluorescent lighting, image brightness may change or colours may not look natural.
- After-images may appear.
- When a tripod is used, it is recommended that you turn the Image Stabilizer off.
- Within the digital zoom range, or when recording with a conversion lens attached, the Image Stabilizer Function may not work effectively.

Backlight Compensation Function
- When setting the Iris manually, the Backlight Compensation Function does not work.
- By operating the [OFF/ON] Switch, the Backlight Compensation Function is cancelled.

Night View Functions
- In a bright place, such as outdoors, the recorded picture may become whitish.
- In a dark place, the recorded picture is presented in a time-lapse-like manner.
- Adjust the Focus manually.
- The Progressive Photoshot Function is automatically turned off.
- In the Card Recording Mode, using the Night View Functions are not possible.
- When using the Night View Function, you cannot use the Built-in Video Flash. (NV-GS200 only)
- White Balance cannot be set.
- The shutter speed cannot be adjusted.
- The Image Stabilizer, Programme AE or Digital Effect Modes in [EFFECT1] cannot be set.
- When recording with the Night View Function, it is recommended that you use the tripod.
- The Night View Function makes the signal charging time of CCD up to 25 times longer than usual, so that the dark scenes that are invisible to the naked eyes can be recorded brightly. For this reason, a bright dots may be seen, but this is not a malfunction.
- The Image Stabilizer Function does not work. In this case, the [ ] Indication flashes.
- The Soft Skin Function and the Backlight Compensation Function cannot be changed.

Wind Noise Reduction Function
- It does not work with the microphone on the Free Style Remote Controller with Mic nor an external microphone.
- When it is set to [ON], directivity of microphone is regulated depending on the strength of wind to reduce wind noise.

Cinema Function
- Using the Cinema Mode does not widen the recording angle.
- If you play back tape recorded in Cinema Mode on a wide-screen (16:9) format TV, playback size is automatically adjusted to fit the TV screen format. Please refer to the TV's operating instructions for details.
- When images are displayed on a TV screen, the Date/Time Indication may be erased in some cases.
- Depending on the TV, the picture quality may be deteriorated.
- The Cinema Mode is cancelled when a Title is displayed.
- The Cinema Mode and the Title Creation cannot be used simultaneously.
- Using the Cinema Mode deactivates [MULTI] and [P-IN-P] of [EFFECT1].
- Depending on the software in use, the imported Cinema picture may not be displayed correctly.

Programme AE
- If any of the Programme AE Modes are selected, you cannot adjust the shutter speed (*-31-*) or iris (*-32-*).
- Using the Night View Function cancells any of the Programme AE Mode.

Sports Mode
- During normal playback, the image movement may not look smooth.

- Because the colour and brightness of the playback image may change, avoid recording under fluorescent light, mercury light or sodium light.
- If you record a subject illuminated with strong light or a highly reflective subject, vertical lines of light may appear.
- If the light is insufficient, the [ ] Indication flashes.

Sports Mode/Portrait Mode

- If you record a still picture in Progressive Photoshot Mode, the brightness and hue of the recorded still picture may become unstable.
- If this mode is used for indoor recording, playback images may flicker.

Low Light Mode

- Extremely dark scenes may not be able to be made brighter to a satisfactory degree.

Spotlight Mode

- With this mode, recorded images may become extremely dark.
- If the recording subject is extremely bright, its recorded image may becomes whitish.

Surf & Snow Mode

- If the recording subject is extremely bright, its recorded image may turn out to be whitish.

White Balance

In the following cases, you cannot change White Balance:

- When you set [EFFECT2] to [SEPIA] or to [B/W].
- When you set the Zoom to 10× or higher
- During Digital Still Picture Mode
- When you display a Menu
- When you use the Night View Mode

In the following cases, the [ ] Indication flashes:

- The flashing indicates that the previously adjusted White Balance setting is still kept. This setting will be kept until White Balance is adjusted again.
- You may not be able to achieve correct White Balance Adjustment manually under weak illumination.

Manual Shutter Speed Adjustment

- You may see vertical lines of light in the playback image of a brightly shining subject or highly reflective subject.
- During normal playback, movement in the images may not look smooth.
- Because the colour and brightness of the playback image may become unstable, avoid recording under fluorescent light, mercury light or sodium light.
- If you are using Night View Mode (-28-) or Programme AE Mode (-29-), you cannot adjust the shutter speed.

Card Slow Shutter Mode (NV-GS200 only)

- The subject may not be focused in dark scenes with less luminance or scenes with less contrast.
- Buttons cannot be activated except the [OFF/ON] Switch, the Mode Dial and the [AUTO/MANUAL/FOCUS] Switch while the Movie Camera is focusing on the subject.
- When you take picture of people with night views, you can achieve adequate brightness for both people and the background in the picture by using the flash in the Card Slow Shutter Mode.

Manual Iris Adjustment

- Depending on zoom magnification, there are iris values that will not be displayed.
- If you are using Night View Mode (-28-) or Programme AE Mode (-29-), you cannot adjust the iris.
- If you attempt to adjust the Shutter Speed after setting the Iris, the value set for the Iris will be cancelled.

Using the Built-in Video Flash (NV-GS200 only)

- The available range of the Video Flash is approximately 1 to 2.5 metres in a dark places. Picture will appear dark when they are recorded by using the Video Flash at distances greater than 2.5 metres.
- Object of recording may appear dark if Video Flash is lighted in front of white background.
- Using the Video Flash fixes the shutter speed of 1/750 s or faster to 1/500.
- In the following cases, using the Video Flash is not possible:
  - Demo Mode -17-
  - Multi-Picture Mode -34-
  - Continuous Photoshot Function -24-
  - Night View Function -28-
  - MPEG4 Recording -24-
- The picture may become out of focus in a dark place. In this case, adjust the focus manually.
- Tele Conversion Lens (VW-LT3714M2E; optional) or Wide Conversion Lens (VW-LW3707M3E; optional) can block flash light and may cause vignetting effect.
- The Movie Camera, even when its Video Flash has been turned off, automatically determines whether the flash light is necessary or not by detecting the ambient brightness. (If it determines that the flash light is necessary, the [ ], [+] or [−] Indication flashes in yellow.)

- When the [ϟ], [ϟ+] or [ϟ−] Indication is displayed, the Video Flash can be lighted. (When flashing in white, the Video Flash is charging.)
- Charging the Video Flash takes 4 seconds maximum after lighting.
- When the [P-IN-P] Button is pressed or Title is created, Video Flash is also lighted.
- When the [FLASH] on the [CAMERA] Sub-Menu is set to [AUTO] and the Shutter Speed, Iris or Gain is adjusted, the Indication (either [ϟ], [ϟ+] or [ϟ−]) may disappear and the Video Flash may not be lighted.

Red Eye Reduction Function

- Even if the [RED EYE] is set to [ON], you still may get red eyes phenomenon depending on the recording condition.
- This function cannot be set without attaching Video Flash VW-FLH3E (optional) or other accessories. (NV-GS120 only)

Using the Video Flash VW-FLH3E (optional)

- When using the Video Flash VW-FLH3E (optional), [ϟ] Indication appears.
- Using the Video Flash outdoors or with backlight or other bright conditions may result in white blotches (colour blotches) on the pictures. In this case, either adjust the iris manually or use the Backlight Compensation Function.
- The available range is approximately 1 to 4 metres.
- The Video Flash VW-FLH3E (optional) and the Built-in Video Flash cannot be used simultaneously. (NV-GS200 only)
- When using the Video Flash VW-FLH3E (optional), the shutter speed, the iris and the white balance become fixed.

Digital Effect Functions

- If you have set [EFFECT2] to [B/W] or [SEPIA], changing the selected White Balance Mode is not possible. (*-29-*)
- Setting the Cinema Mode cancels the Picture-in-Picture Mode and the Multi-Picture Mode.
- During the Digital Still Picture Mode, the Digital Effect Functions cannot be set.

In the following cases, using the [EFFECT1] on the [DIGITAL] Sub-Menu is not possible.

- When the Night View Mode is set (*-28-*)

In the following cases, using the Digital Effect Function is not possible.

- Title In

Picture-in-Picture Mode

- If Mode Dial is operated, the smaller picture disappears.
- Titles cannot be inserted into the smaller picture.

Multi-Picture Mode

- If the [MULTI] Button is pressed while self-recording Mirror Mode (*-25-*) is used, the still picture is displayed from the upper right corner of the screen, but, in reality, the picture is recorded from the upper left corner as usual.
- The quality of Multi images deteriorates slightly.
- The top and bottom of the Multi pictures will be cut off slightly.

Wipe Mode and Mix Mode

If the following operation is carried out, stored images will be erased, and Wipe and Mix Functions cannot be used.

- Set other item of Digital Effect
- Operate the [OFF/ON] switch or Mode Dial
- Insert or eject a cassette

Playing Back

Repeat Playback

If you continue to press the [▶] Button for 5 seconds or longer, the Movie Camera switches to Repeat Playback Mode, and the [R ▷] Indication appears. (To cancel Repeat Playback Mode, set the [OFF/ON] Switch to [OFF].)

Listening to Playback Sound through Headphones

If you want to use the headphones to listen to the playback sound, set [AV JACK] to [OUT/PHONES] and connect the headphones to the [PHONES] Socket (*-7-*) on the Movie Camera. In this case, no sound (including warning and shutter sounds) will be reproduced through the built-in speaker of the Movie Camera.

Choosing Sound during Playback

You can select the sound by using the [AUDIO OUT] setting on the [PLAYBACK] Sub-Menu.

STEREO:	Stereo Sound (main sound and sub sound)
L:	Left channel sound (main sound)
R:	Right channel sound (sub sound)

- If you dub a tape recorded at the [12bit] selected as the [AUDIO REC] on the [RECORDING] Sub-Menu, playback sound becomes stereo sound regardless of the [AUDIO OUT] setting if [12bit AUDIO] is set to [MIX].

Index Search Functions

- Index Search may not be possible at the beginning of the tape.
- Scene Index Search may not function properly if the interval between 2 scene index signals is less than 1 minute.

Playback Zoom Function

- You cannot adjust the sound volume with the Remote Controller in Playback Zoom Mode.

- If you turn off the Movie Camera power or if you operate the Mode Dial, Playback Zoom Mode is automatically cancelled.
- Even if Playback Zoom Functions are being used, images that are output from the DV Terminal (-7-) are not enlarged.
- As you enlarge an image, the quality of the image deteriorates.
- During a Playback Zoom, the Variable Speed Search Function cannot be changed with the Remote Controller.

Playback Digital Effect Functions

- Signals of images to which digital effects are added during playback cannot be output from the DV Terminal (-7-).
- You cannot use the Wipe or Mix Function while playing back the non-recorded portion of tape.

Playing Back a Card

- If a blank (nothing recorded) Card is played, the screen becomes white.
- If you attempt to play back a file recorded in a different format or a file data is defective, the whole display becomes bluish and the [UNPLAYABLE CARD] Indication may appear as warning.
- When playing back a picture recorded on other equipment, its size and that of this Movie Camera may appear differently.
- When playing back a picture recorded on other equipment, the picture may not be played back or the quality of pictures may be deteriorated.
- When playing back a nonstandardized file, the Folder File Number may not be displayed.
- In the following cases, black bars may appear, depending on the playback device.
  - When playing back a mega-pixel still-picture with this Movie Camera and recording it onto a tape
  - Changing the picture size to 640×480 with DV STUDIO
- The file format supported by this Movie Camera is ASF. (Not all the ASF formatted files will be played back.) (NV-GS200 only)
- When you set [SCREEN] on the [DISPLAY] Sub-Menu to [NORMAL] in playing back MPEG4 moving pictures, they are displayed smaller. This is not a malfunction. (NV-GS200 only)
- Moving pictures are kept still during Cue/Review playback. Only the counter number increases or decreases. (NV-GS200 only)
- MPEG4 data cannot perform Slow Motion Playback (forward direction and reverse direction), Still Advance Playback (forward direction and reverse direction) or Playback with Zoom Lever. (NV-GS200 only)
- If you try to play back on other Panasonic cameras an MPEG4-recorded image for which the [MPEG4 MODE] was set to a mode other than [ECONOMY], this image will not be displayed, and the indication [PLEASE RE-OPERATE AFTER PUSHING RESET BUTTON], etc., may appear. This is not a malfunction. (NV-GS200 only)
- For the MPEG4 moving pictures recorded on other equipment, [UNPLAYABLE CARD] Indication may be displayed when they are played back. If the [▶] Button is pressed in this case, [▷] will be displayed for a few seconds and the next image will be displayed. (NV-GS200 only)
- The MPEG4 data cannot be output from the DV Terminal. (NV-GS200 only)
- When playing back a MPEG4 data recorded on other equipment, a part of the playback elapsed time may be indicated as [--] or the date and time display is different from it when recorded. (NV-GS200 only)
- If you attempt to play back a file recorded on other equipment, the [UNPLAYABLE CARD] Indication may appear and the playback may not be possible. Or during playback, the [UNPLAYABLE CARD] Indication may appear, the playback picture may be presented in a time-lapse-like manner, or the picture and the sound may not synchronize.

Slide Show

- It may take playback time longer than usual time depending on the picture.

Creating a Title

- When setting to MPEG4 Playback Mode, Title Creation Function is not possible. (NV-GS200 only)
- Regardless of the [PICTURE SIZE] setting, the size of the created pictures is [640×480].
- If the [PICTURE SIZE] is set to [1760×1320] (NV-GS200)/[1520×1152] (NV-GS120) and Mode Dial is set to [ ], title cannot be created.
- Even if the contrast of the Title is adjusted, the portions where there is little difference between light and dark and where the boundary between light and dark is unclear may not appear.
- The Title may not appear well if something small is used for it.
- If titles are created, the number of images that can be recorded on a Card decreases.
- If the number of images that can be recorded on a Card is small, you may not be able to create a title.

Adding a Title

- When setting to MPEG4 Playback Mode, Title In Function is not possible. (NV-GS200 only)
- Original titles are added after the preset titles.
- The Title In Function and Digital Effects cannot be used simultaneously.
- The Title In Function and Continuous Photoshot cannot be used simultaneously.
- When a title is displayed in Tape Playback Mode, the title is not output from the DV Terminal.
- The Multi-Picture Mode cannot be used once the title is inserted.
- A full-coloured title made on other equipment cannot be played back or added to the picture with this Movie Camera.
- A title with size of other than 640×480 cannot be displayed.
- When recording MPEG4 moving pictures is in progress, Title in Function cannot be used. (NV-GS200 only)
- When the title is displayed on the Multi-screen, the recording and the playback cannot be performed.
- During external input or DV input, you cannot use Title In Function or display titles on the Multi screen. Select the desired titles to display them on the screen before connecting the cable to the Movie Camera.

DPOF

- Perform the DPOF Settings with your own Movie Camera in use.
- Verifying the DPOF Settings may take a little time. Wait until the [ACCESS] Lamp goes out.

Lock Setting

- The Lock Setting carried out by this Movie Camera is only effective for this Movie Camera.
- The SD Memory Card has a write protection switch on it. If the switch is moved to the [LOCK] side, you cannot write to or format the Card. If it is moved back, you can.
- The MPEG4 data recorded by another Movie Camera may not be able to cancel the lock setting. (NV-GS200 only)

Playing Back on Your TV

- Depending on your TV, nothing may be shown even if you correctly connect the Movie Camera with your TV. In this case, set [AV JACK] on the [AV IN/OUT] or [INITIAL] Sub-Menu to [OUT].
- If you set [AV JACK] on the [AV IN/OUT] Sub-Menu to [IN/OUT], nothing will be shown on the TV screen except during playback. (NV-GS200 only)
- Picture size may be displayed differently when playing back a Cinema picture on a wide-screen TV with Playback Digital Effect.
- We recommend you to set [SCREEN] on the [DISPLAY] Sub-Menu to [NORMAL] when playing back MPEG4 on TV. (NV-GS200 only)

Recording Pictures from a Card onto a Tape

- When recording the Card Image on a Tape, its size is transformed into 720×576 according to the DV format.
- If you attempt to record a still picture with a large image size on a Tape, there may be a reduction in the quality of the image.
- The MPEG4 data cannot be recorded on a Tape. (NV-GS200 only)

Audio Dubbing

- The blank section of a tape cannot be dubbed.
- Sounds sent through the DV Terminal cannot be dubbed.
- If a tape has a non-recorded portion when the tape is dubbed, images and sounds may be disturbed when this portion of the tape is played back.
- If you set the tape counter back to 0 at the position where you want to stop Audio Dubbing so as to make it possible to use the Memory Stop Function (*-69-*), Audio Dubbing is terminated automatically when the tape reaches this position.
- In the case of importing data recorded with Audio Dubbing to a PC using the PC's software, only the original sound (ST1) may be imported, depending on the software.

Recording the Contents of Other Equipment

- You cannot record on a tape when MPEG4 recording from external input signals is in progress. (NV-GS200 only)
- You cannot record on a card when recording on a tape from external input signals is in progress.

Recording to a Card

If you set the Mode Dial to Card Recording Mode, you can use the Photoshot function for external input signals.

- Black streaks may appear at the 4 edges of the image.

Analog-Digital Conversion (NV-GS200 only)

- When the Movie Camera is connected with other digital video equipment through its DV Terminal, images recorded in analog form from other external equipment can be output to the digital video equipment through the DV Terminal.

- To DV-output analog video signals sent from other equipment, set [DV OUT] on the [AV IN/OUT] Sub-Menu to [ON]. (Normally, keep the [DV OUT] set to [OFF]. If it is set to [ON], the quality of the image may be disturbed.)
- When using AV Cable and DV Cable (optional) at the same time, detach the Grip Belt first for easy connecting.

Using the DV Cable for Recording (Digital Dubbing)

- Regardless of the setting, digital dubbing is carried out automatically in the same audio recording mode as that of the playback Cassette.
- The images on the recorded monitor may be disturbed, but it does not affect the recorded images.
- Even if Playback Digital Effects, Playback Zoom, or Playback Title In have been used, these effects are not output from the DV Terminal.
- Even if you use device equipped with DV Terminals (such as IEEE1394), you may not be able to perform Digital Dubbing in some cases.
- Date or other information to be displayed cannot be displayed if the software of the connected equipment does not support the display function.
- You cannot record on a tape when MPEG4 recording from external input signals is in progress. (NV-GS200 only)
- You cannot record on a card when recording on a tape from external input signals is in progress.
- Disconnect the USB Cable since input signals from external input terminal cannot be recorded with connecting the USB Cable.

Cautions for Use

After Use

1. **Take out the Cassette. (*-13-*)**
2. **Set the [OFF/ON] Switch to [OFF].**
3. **Take out the Card. (*-13-*)**
4. **Detach the power supply and retract the Viewfinder or the LCD Monitor. (*-10-*, *-14-*)**
5. **To protect the Lens, attach the supplied Lens Cap.**

Cautions for Use

When you use your Movie Camera on a rainy or snowy day or on a beach, make sure that no water enters the Movie Camera.

- Water may cause the Movie Camera or Cassette to malfunction. (Irreparable failure may occur.)
- If sea water splashes onto the Movie Camera, wet a soft cloth with tap water, wring it well, and use it to wipe the camera body carefully. Then, wipe it again thoroughly with a soft dry cloth.

Keep the Movie Camera away from magnetized equipment (such as a microwave oven, TV, video game equipment, etc.).

- If you use the Movie Camera on or near a TV, images or sounds may be disturbed due to electromagnetic wave radiation.
- Do not use near cell phone because doing so may cause noise to adversely affect the picture and sound.
- Recordings on the tape may be damaged, or images may be distorted, by strong magnetic fields created by speakers or large motors.
- Electromagnetic wave radiation generated by a microprocessor may adversely affect the Movie Camera, causing the disturbance of images and sounds.
- If the Movie Camera is affected by magnetically charged equipment and does not function properly, turn off the Movie Camera power and detach the Battery or AC Adaptor and then connect the Battery or AC Adaptor again. Thereafter, turn on the Movie Camera power.

Do not use your Movie Camera near radio transmitters or high-voltage cables.

- If you record pictures near radio transmitters or high-voltage cables, recorded images or sounds may be adversely affected.

Do not use this Movie Camera for surveillance purposes or other business use.

- If you use the Movie Camera for a long period of time, the internal temperature increases and, consequently, this may cause malfunction.
- This Movie Camera is not intended for business use.

When you use your Movie Camera on a beach or similar place, do not let sand or fine dust get into the Movie Camera.

- Sand or dust may damage the Movie Camera or Cassette. (Care should be taken when inserting and removing the Cassette.)

Do not spray insecticides or volatile chemicals onto the Movie Camera.

- If the Movie Camera is sprayed with such chemicals, the camera body may be deformed and the surface finish may peel off.
- Do not keep rubber or plastic products in contact with the Movie Camera for a long period of time.

Do not use benzine, thinner or alcohol for cleaning the Movie Camera.

- The camera body may be deformed and the surface finish may peel off.

- Before cleaning, detach the Battery or pull out the AC Mains Lead from the AC mains socket.
- Wipe the Movie Camera with a soft dry cloth. To remove stubborn stains, wipe with a cloth that is soaked in a detergent diluted with water and afterwards finish wiping with a dry cloth.
- For storing or transporting the Movie Camera, place it in a bag or case lined with soft pads so as to prevent the coating on the camera body from being worn.

After use, be sure to take the Cassette out and detach the Battery from the Movie Camera or pull out the AC Mains Lead from AC mains socket.

- If the Cassette is left in the Movie Camera, the tape sags and deteriorates.
- If the Battery is left on the Movie Camera for a long time, the voltage drops excessively, and the Battery will not function even after it is recharged.

About AC Adaptor

- If the temperature of the Battery is extremely high or extremely low, the [CHARGE] Lamp may continue flashing, and the Battery may not be charged. After the temperature of the Battery has decreased or increased sufficiently, charging starts automatically. If the [CHARGE] Lamp continues to flash even after the Battery temperature has decreased or increased sufficiently, the Battery or AC Adaptor may be faulty. In this case, please contact a dealer.
- If the Battery is warm, charging takes a longer time than normal.
- If you use the AC Adaptor near a radio, radio reception may be disturbed. Keep the AC Adaptor 1 metre or more away from radio.
- When using the AC Adaptor, it may generate whirring sounds. However, this is normal.
- After use, be sure to pull out the AC Mains Lead from the AC mains socket. (If they are left connected, a minute amount of current is consumed.)
- Keep the electrodes of the AC Adaptor and Battery always clean.

Condensation

If you turn the Movie Camera on when condensation occurs on the head or the tape, Condensation Indication [DEW] (yellow or red) blinks on the Viewfinder or the LCD monitor and the messages [DEW DETECT] or [EJECT TAPE] (only when the tape is inserted) appear. In this case, follow the procedure below.

Blink in yellow:
Dews are slightly adhering on the head or the tape.

Blink in red:
Dews are adhere on the head or the tape.

1. **Remove the tape if it is inserted.**
   - It takes about 20 seconds to open the Cassette Holder. This is not a malfunction.
2. **Leave the Movie Camera with the Cassette Compartment Cover closed to cool or warm it to the ambient temperature.**

When [DEW] blinks in yellow
- You cannot use the Tape Recording/ Playback Mode. Leave the Movie Camera for about 30 minutes.
- However, you can use the Card Recording Mode or Picture/MPEG4 Playback Mode when the cassette is not inserted. (MPEG4 Playback Mode on NV-GS200 Model only)

When [DEW] blinks in red
- The Power Indicator Lamp blinks for about 1 minute and then the Movie Camera automatically turns off. Leave it for about 2 to 3 hours.

3. **Turn the Movie Camera on again, set it to the Tape Recording/Playback Mode and then check if the condensation indication disappears.**

Especially in cold districts, dews may be frozen. In this case, it may take more time before the condensation indication disappears.

Watch for Condensation even before the Condensation Indication is displayed.
- The condensation indication may not appear depending on circumstances. When condensation occurs on the lens or the Movie Camera, it also may occur on the head and the tape. Do not open the Cassette Compartment Cover.

When the Lens is Fogged:
Set the [OFF/ON] Switch to [OFF] and leave the Movie Camera in this condition for about 1 hour. When the lens temperature becomes close to the ambient temperature, the fogging disappears naturally.

Video Head Clogging and Care

If the heads (the parts that make contact with the tape) are dirty, mosaic-pattern noise may appear on the playback image, or the screen as a whole becomes black. If the heads are extremely dirty, recording performance deteriorates, and, in the worst case, the Movie Camera cannot record at all.

Causes of Dirty Heads
- Large quantity of dust in the air
- High-temperature and high-humidity environment
- Damaged tape
- Long operating hours

Using Mini-DV Format Digital Video Head Cleaner

1. **Insert the Head Cleaner into the Movie Camera in the same manner as a Video Cassette.**
2. **Press the [▶] Button, and approximately 20 seconds later, press the [■] Button. (Do not rewind the tape.)**
3. **Take out the Head Cleaner. Insert a Video Cassette and start recording. Then, play the tape back to check the recorded image.**
4. **If the image is not still clear, repeat Steps 1 to 3. (Do not use the Head Cleaner for 3 times or more consecutively.)**

Notes:
- Do not rewind every time you use the Head Cleaner. Rewind only when the tape reaches the end, and then use it again from the beginning in the same manner as before.
- If the heads become dirty soon after cleaning, the tape may be damaged. In this case, immediately stop using that Cassette.
- Do not clean the heads excessively. (Excessive cleaning may cause excessive wear of the heads. If the heads are worn, images cannot be played back even after the heads are cleaned.)
- If the dirty heads cannot be cleaned with the Head Cleaner, the Movie Camera needs to be cleaned at a service centre. Please consult a dealer.
- Video Head Cleaners can be purchased from service centres.
- Head cleaning due to dirty heads is not considered a malfunction of the product. It is not covered by the warranty.

Periodical Check-up

To maintain the highest image quality, we recommend replacement of worn parts, such as heads, etc., after approximately 1000 hours of use. (This, however, depends on operating conditions, such as temperature, humidity, dust, etc.)

■ Optimal Use of the Battery

Battery Characteristics

This Battery is a rechargeable lithium ion battery. Its ability to generate power is based upon the chemical reaction that takes place inside it. This reaction is susceptible to the surrounding temperature and humidity, and, if the temperature is too high or too low, the operating time of the Battery becomes shorter. If the Battery is used in an extremely cold environment, the Battery may operate only for about 5 minutes. If the Battery becomes extremely hot, a protective function may operate, and the Battery may become unusable for a while.

Be Sure to Detach the Battery after Use

Be sure to detach the Battery from the Movie Camera. (If it is left attached to the Movie Camera, a minute amount of current is consumed even when the Movie Camera power is off.) If the Battery is left attached to the Movie Camera for a long time, over-discharge takes place. The Battery may become unusable after it is charged.

Disposing of an Unusable Battery
- The Battery has a limited life.
- Do not throw the Battery into fire because it may cause an explosion.

Always Keep the Terminals of the Battery Clean

Prevent the terminals from getting clogged with dirt, dust, or other substances.
If you drop the Battery accidentally, check to see if the Battery body and terminals are deformed. Attaching a deformed Battery to the Movie Camera or AC Adaptor may damage the Movie Camera or AC Adaptor.

■ Cautions for Storage

Before storing the Movie Camera, take the Cassette out and detach the Battery.

Store all the components in a dry place with a relatively stable temperature.
(Recommended Temperature: 15 to 25°C, Recommended Humidity: 40 to 60%)

Movie Camera
- Wrap it with a soft cloth to prevent dust from getting into the Camera.
- Do not leave the Movie Camera in places that expose it to high temperature.

Battery
- Extremely high temperatures or low temperatures will shorten the life of the Battery.
- If the Battery is kept in smoky or dusty places, the terminals may rust and cause malfunctions.
- **Do not allow the Battery terminals to come in contact with metal objects (such as necklaces, hairpins, etc.). This can result in a short circuit or heat generation and, if you touch the Battery in this condition, you may be badly burned.**
- Store the Battery in a completely discharged state. To store the Battery for a long period of time, we recommend you charge it once every year and store it again after you completely use up the charged capacity.

Cassette
- Before storing it, rewind the tape to the beginning. If the Cassette is left for more than 6 months with the tape stopped midway, the tape sags (although it depends on the storage condition). Be sure to rewind to the beginning.

- Store the Cassette in its case. Dust, direct sunlight (ultraviolet rays), or humidity may damage the tape. Dust contains hard mineral particles, and dusty Cassettes damage the heads of the Movie Camera and other components. Develop a habit of returning the Cassette back to its case.
- Once every half year, wind the tape to the end and then rewind it to the beginning. If the Cassette is left for 1 year or longer without winding or rewinding, temperature and humidity changes may cause the Cassette to deform due to swelling, shrinking, and so forth. The wound tape may stick to itself.
- Do not place a Cassette near highly magnetic substances or equipment.
- The surface of tape is covered with extremely minute magnetic particles, upon which signals are recorded. Magnetic necklaces, toys, etc., have magnetic force that is stronger than you may normally expect, and they may erase the contents of a recording or may cause noise in images and sounds.

Card

- When the Card is being read, do not remove the Card, turn off the power, or subject it to vibration or impact.
- Do not leave the Card in places where there is high temperature or direct sunlight, or where electromagnetic waves or static electricity are easily generated.
- Do not bend or drop the Card. The Card or the recorded content may be damaged.
- After use, be sure to remove the Card from the Movie Camera.
- After usage, store the supplied SD Memory Card in the enclosed bag.
- Do not touch the terminals on the back of the Card with your fingers. Do not allow dirt, dust or water to enter it.

LCD Monitor/Viewfinder/Lens Hood

LCD Monitor

- In a place with drastic temperature changes, condensation may form on the LCD Monitor. Wipe it with soft dry cloth.
- If your Movie Camera is extremely cold when you turn its power on, the image on the LCD Monitor is slightly darker than usual at first. However, as the internal temperature increases, it goes back to the normal brightness.

(NV-GS200)

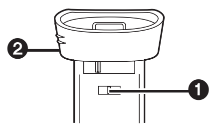
> Extremely high precision technology is employed to produce the LCD Monitor screen featuring a total of approximately 123,000 pixels. The result is more than 99.99% effective pixels with a mere 0.01% of the pixels inactive or always lit. However, this is not a malfunction and does not affect the recorded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

(NV-GS120)

> Extremely high precision technology is employed to produce the LCD Monitor screen featuring a total of approximately 113,000 pixels. The result is more than 99.99% effective pixels with a mere 0.01% of the pixels inactive or always lit. However, this is not a malfunction and does not affect the recorded picture.

Viewfinder

- Do not direct the Viewfinder or Lens to the sun. Internal components may be seriously damaged.
- To clean the inside of the Viewfinder, keep pressing ❶ and hold the Eyecup ❷ and pull it out.

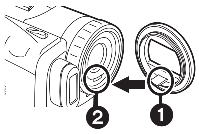


> Extremely high precision technology is employed to produce the Viewfinder screen featuring a total of approximately 123,000 pixels. The result is more than 99.99% effective pixels with a mere 0.01% of the pixels inactive or always lit. However, this is not a malfunction and does not affect the recorded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

Lens Hood

- Attach the MC Protector (VW-LMC37E; optional) or the ND Filter (VW-LND37E; optional) on the Lens Hood.
- Do not attach anything other than the MC Protector (VW-LMC37E; optional) or the ND Filter (VW-LND37E; optional) on the Lens Hood.

- When you wish to attach the Tele Conversion Lens (VW-LT3714M2E; optional) or Wide Conversion Lens (VW-LW3707M3E; optional), first of all, turn the Lens Hood counterclockwise and take it off. Then attach the conversion lens by turning it clockwise. When you attach the Lens Hood back, insert ❶ into the slot ❷ and turn it clockwise.



- If you push the [W/T] Lever toward [W] during recording with the filter and conversion lens attached together to the Movie Camera, 4 corners of the image may become dark (vignetting). For details, please refer to the operating instructions of your accessories.
- Be sure to keep the Lens Hood attached to the Movie Camera so as to shut out unnecessary light.

Before Requesting Repair (Problems and Solutions)

Power

1: The Movie Camera power cannot be turned on.
- Is the power source connected correctly? (*-10-*)

2: The Movie Camera power is turned off automatically.
- When the Recording Pause Mode continues for more than 6 minutes, the power is turned off automatically for tape protection and power conservation. (If the AC Adaptor is used, the power is turned off only when the tape is inserted in Tape Recording Mode.) When the tape is inserted in Tape Recording Mode and if the Recording Pause Mode continues for more than 6 minutes, the power is turned off automatically.
  To resume recording from this condition, turn off, then turn on the power again.

3: The Movie Camera power does not stay on long enough.
- Is the Battery low? Charge the Battery or attach a fully charged Battery. (*-10-*)
- Has condensation occurred? Wait until the Condensation Indication disappears. (*-64-*)

Battery

1: Battery runs down quickly.
- Is the Battery fully charged? Charge it with the AC Adaptor. (*-10-*)
- Are you using the Battery in an extremely cold place? In cold places, the operating time of the Battery becomes shorter. (*-65-*)
- Has the Battery worn out? If the operating time is still too short even after the Battery is fully charged, the Battery has worn out.

2: The Battery cannot be charged.
- If the DC Input Lead is connected to the AC Adaptor, charging cannot be performed. Disconnect the DC Input Lead.

Normal Recording

1: Recording does not start although power is supplied to the Movie Camera and the Cassette is correctly inserted.
- Is the accidental erasure prevention slider on the Cassette open? If it is open (set to [SAVE]), recording cannot be performed. (*-13-*)
- Is the tape wound to the end? Insert a new Cassette. (*-13-*)
- Is the Movie Camera power turned on? (*-21-*)
- Has condensation occurred? Wait until the Condensation Indication disappears. (*-64-*)

Other Recording

1: Auto Focus Function does not work.
- Is Manual Focus Mode selected? If Auto Focus Mode is selected, focus is automatically adjusted. (*-32-*)
- There are some recording subjects and recording surroundings for which the Auto Focus Function does not operate correctly. In this case, use the Manual Focus Mode to adjust the focus. (*-69-*)

Editing

1: Audio dubbing cannot be performed.
- Is the accidental erasure prevention slider on the Cassette open? If it is open (set to [SAVE]), recording cannot be performed. (*-13-*)
- Are you attempting to edit a tape portion that was recorded in LP Mode? LP Mode does not allow audio dubbing to operate. (*-20-*)

Indications

1: The Time Code becomes inaccurate.
- The Time Code Indication counter may not be constant in the reverse direction in Slow Motion Playback Mode, but this is not a malfunction.

2: The Remaining Tape Time Indication does not match the actual remaining tape time.
- If scenes of less than 15 seconds are continuously recorded, the remaining tape time cannot be displayed correctly.
- In some cases, the Remaining Tape Time Indication may show remaining tape time that is 2 to 3 minutes shorter than the actual remaining tape time.

Playback (Pictures)

1: Pictures cannot be played back even when the [▶] Button is pressed.
- Is the Mode Dial set to Playback Mode? If not, the playback function cannot be used. (*-36-*)

2: Mosaic-pattern noise appears on images during Cue, Review or Slow Motion Playback.
- This phenomenon is characteristic of digital video systems. It is not a malfunction.

3: Although the Movie Camera is correctly connected to a TV, playback images cannot be seen.
- Have you selected “Video Input” on the TV? Please read the operating instructions of your TV and select the channel that matches the input sockets used for the connection.
- Depending on your TV, nothing may be shown even if you correctly connect the movie camera with your TV. In this case, set [AV JACK] to [OUT].

4: Playback picture is not clear.
- Are the heads of the Movie Camera dirty? If the heads are dirty, playback image cannot be clear. (*-64-*)

5: Playing back or recording do not function, the screen has frozen or the indication has disappeared.
- Turn the Movie Camera off. If the Movie Camera is not turned off after operating the [OFF/ON] switch, press the [RESET] Button (*-7-*) first. And detach the Battery or AC Adaptor and then reattach it.

Playback (Sound)

1: Sound is not played back from the built-in speaker of the Movie Camera or the headphones.
- Is the volume too low? During playback, push the [−VOL/JOG+] Lever to display the [VOLUME] Indication and adjust the volume. (*-36-*)

2: Different sounds are reproduced at the same time.
- [12bit AUDIO] on the [PLAYBACK] Sub-Menu of the [TAPE PLAYBACK MENU] has been set to [MIX]. As a result, the original sound and sound that was recorded by audio dubbing are played back together. It is possible to reproduce the sounds separately. (*-47-*)

3: The original sound was erased when audio dubbing was performed.
- If you perform audio dubbing on a recording made in [16bit] Mode, the original sound will be erased. If you wish to preserve the original sound, be sure to select [12bit] Mode at the time of recording.

4: Sounds cannot be played back.
- Although a Cassette with no audio dubbing is being played, is [12bit AUDIO] on the [PLAYBACK] Sub-Menu of the [TAPE PLAYBACK MENU] set to [ST2]? To play back a Cassette with no audio dubbing, [12bit AUDIO] must be set to [ST1]. (*-47-*)
- Is the Variable Speed Search Function working? Press the [▶] Button to cancel the Variable Speed Search Function. (*-36-*)

Card

1: Recorded pictures are not clear.
- Is [PICT QUALITY] on the [CARD] Sub-Menu set to [NORMAL] or [ECONOMY]? If recording is done with it set to [NORMAL] or [ECONOMY], images with fine details may include a mosaic-like pattern. Set [PICT QUALITY] to [FINE]. (*-23-*)

2: Photoshot Playback images do not look normal.
- The picture may be damaged. In order to prevent the loss of image data, backing up on a Cassette or a personal computer is recommended. (*-46-*, *-51-*)

3: During Playback, [UNPLAYABLE CARD] is displayed.
- The image was either recorded in a different format, or data is damaged.

4: Even if a Card is formatted, it cannot be used.
- Either the Movie Camera or the Card may be damaged. Please consult a dealer.

Others

1: The Free Style Remote Controller with Mic does not operate correctly.
- If it is not plugged in tightly, it will not operate correctly.

2: The Movie Camera clatters when shaking it.
- It is a sound of the lens moving, not a malfunction.

3: When the USB Cable is disconnected, an error message will appear on PC.
- To disconnect the USB cable safely, double-click the [ ] icon in the task tray and follow the instructions on the screen. (*-51-*)

Explanation of Terms

■ Digital Video System

In a digital video system, images and sounds are converted into digital signals and recorded on a tape. This complete digital recording is capable of recording and playback with minimal image and sound deterioration.
In addition, it automatically records data, such as Time Code and Date/Time, as digital signals.

Compatibility with S-VHS or VHS Cassettes
Because this Movie Camera employs a digital system for recording image and sound data, it is not compatible with conventional S-VHS or VHS video equipment that employs an analog recording system.
The size and shape of the Cassettes are also different.

Compatibility with Output Signals
Because AV signal output from the AV signal output socket is analog (the same as conventional video systems), this Movie Camera can be connected with S-VHS or VHS video or a TV for playback.

Focus

Auto Focus Adjustment
The Auto Focus System automatically moves forward and backward the focusing lens inside the Movie Camera to bring the subject into focus so that the subject can be seen clearly.
However, the Auto Focus System does not function properly for the following subjects or under the following recording conditions.
Please use the Manual Focus Mode instead.

1) **Recording a subject whose one end is located closer to the Movie Camera and the other end farther away from it**
   - Because Auto Focus makes adjustments at the centre of an image, it may be impossible to focus on a subject that is located in both foreground and background.
2) **Recording a subject behind dirty or dusty glass**
   - Because the focus is on the dirty glass, the subject behind the glass will not be focused.
3) **Recording a subject in dark surroundings**
   - Because the light information that comes through the lens decreases considerably, the Movie Camera cannot focus correctly.
4) **Recording a subject that is surrounded by objects with glossy surfaces or by highly reflective objects**
   - Because the Movie Camera focuses on the objects with glossy surfaces or on highly reflective objects, the recording subject may become blurry.
5) **Recording a fast-moving subject**
   - Because the focus lens-inside moves mechanically, it cannot keep up with the fast-moving subject.
6) **Recording a subject with little contrast**
   - Because the Movie Camera achieves focus based upon the vertical lines of an image, a subject with little contrast, such as a white wall, may become blurry.

Time Code

Time Code signals are data that indicate time measured in hours, minutes, seconds, and frames (25 frames per second). If this data is included in a recording, an address is assigned to each image on the tape.

- The Time Code is automatically recorded as a part of the sub-code at each recording.
- When a new (previously unrecorded) Cassette is inserted, the Time Code automatically starts from zero. If a recorded Cassette is inserted, the Time Code picks up from the point where the last scene was recorded. (In this case, when the Cassette is inserted, the zero display [0h00m00s00f] may appear, but the Time Code starts from the previous value.)
- The Time Code cannot be reset to zero.
- Unless the Time Code is continuously recorded from the beginning of a tape, accurate editing may not be possible. To ensure that the Time Code will be recorded with no breaks, we recommend the use of the Blank Search Function (*-22-*) before recording a new scene.

Memory Stop Function

The Memory Stop Function is useful for the following operations.

Rewinding or fast-forwarding a tape to a desired position

1 **Set [DISPLAY] >> [C.DISPLAY] >> [MEMORY].**
2 **Reset the Tape Counter to zero at the tape position from which you want to play it back later. (*-8-*, *-17-*)**
3 **Start playback or recording.**
4 **After playback or recording has finished: Set the Movie Camera to Tape Playback Mode.**
5 **Rewind the tape.**
   - The tape automatically stops approximately at the position where the counter was set to zero.

Stopping editing automatically during audio dubbing

1 **Set [DISPLAY] >> [C.DISPLAY] >> [MEMORY].**
2 **Reset the Tape Counter to zero at the position where you want to stop editing.**
3 **Play back the still picture where you want to start audio dubbing.**
4 **Start audio dubbing. (*-46-*)**
   - Audio dubbing automatically stops at the position where the counter was set to zero.

Specifications

Specifications

Digital Video Camera
Information for your safety

Power Source:
DC 7.9/7.2 V
Power Consumption:
Recording
(NV-GS200)
3.9 W (When using Viewfinder)
4.4 W (When using LCD Monitor)
(NV-GS120)
3.1 W (When using Viewfinder)
3.6 W (When using LCD Monitor)

Recording Format:
Mini DV (Consumer-use Digital Video SD Format)
Tape Used:
6.35 mm digital video tape
Recording/Playback Time:
SP: 80 min.; LP: 120 min. (with DVM80)
Video
Recording System:
Digital Component
Television System:
CCIR: 625 lines, 50 fields PAL colour signal
Audio
Recording System:
PCM Digital Recording
16 bit (48 kHz/2ch), 12 bit (32 kHz/4ch)
Image Sensor:
1/6-inch 3CCD Image Sensor
(NV-GS200)
(Effective Pixels: moving picture/400 K×3, still picture/530 K×3, Total: 800 K×3)
(NV-GS120)
(Effective Pixels: 340 K×3, Total: 540 K×3)
Lens:
Auto Iris, F1.8, Focal Length; 2.45–24.5 mm, Macro (Full Range AF)
Filter Diameter:
37 mm
Zoom:
10:1 Power Zoom
Monitor:
2.5-inch LCD
Viewfinder:
Colour Electronic Viewfinder
Microphone:
Stereo (with a zoom function)
Speaker:
1 round speaker ∅ 20 mm
Standard Illumination:
1,400 lx
Minimum Required Illumination:
1 lx (Colour Night View Mode)
Video Output Level:
1.0 Vp-p, 75 ohm
S-Video Output Level:
Y Output: 1.0 Vp-p, 75 ohm
C Output: 0.3 Vp-p, 75 ohm
Audio Output Level (Line):
316 mV, 600 ohm
Video Input Level (NV-GS200 only):
1.0 Vp-p, 75 ohm
S-Video Input Level (NV-GS200 only):
Y Input: 1.0 Vp-p, 75 ohm
C Input: 0.3 Vp-p, 75 ohm
Audio Input Level (Line) (NV-GS200 only):
316 mV, 10 kohm or more
Mic Input:
Mic sensitivity –50 dB (0 dB=1 V/Pa, 1 kHz) (Stereo mini jack)
USB:
Card reader/writer function, USB 2.0 compliant (max. 12 Mbps)
No copyright protection support
PictBridge-compliant
Digital Interface:
DV Input/Output Terminal (IEEE1394, 4-pin)
Video Flash (NV-GS200 only):
GN 5.5
Dimensions:
Approx. 70 (W)×75 (H)×126 (D) mm
Weight:
(NV-GS200)
Approx. 470 g (without Battery, DV cassette and lens cap)
Approx. 570 g (with CGA-DU14, DVM60 and lens cap)
(NV-GS120)
Approx. 450 g (without Battery, DV cassette and lens cap)
Approx. 550 g (with VSB0471, DVM60 and lens cap)
Operating Temperature:
0°C–40°C
Operating Humidity:
10%–80%
Card Memory Functions
Recording Media:
MultiMediaCard (4 MB/8 MB/16 MB),
SD Memory Card (8 MB/16 MB/32 MB/64 MB/128 MB/256 MB/512 MB)
Still Picture Recording File Format:
JPEG (Design rule for Camera File system, based on Exif 2.2 standard), DPOF corresponding
Still Image Size:
Mega-Pixel Recording;
(NV-GS200) 1760×1320 (2.3 million pixels)
(NV-GS120) 1520×1152 (1.7 million pixels)
VGA Recording; 640×480
Video Compression (NV-GS200 only):
MPEG4
MPEG4 Image Size (NV-GS200 only):
SUPERFINE: 320×240 pixels (QVGA)
FINE: 320×240 pixels (QVGA)
NORMAL: 176×144 pixels (QCIF)
ECONOMY: 176×144 pixels (QCIF)
MPEG4 Transmission rate (NV-GS200 only):
SUPERFINE: approximately 1 Mbps, 12 fps
FINE: approximately 420 kbps, 12 fps
NORMAL: approximately 296 kbps, 12 fps
ECONOMY: approximately 100 kbps, 6 fps
WEB Camera
Compression:
Motion JPEG
Image Size:
320×240 pixels (QVGA)

Frame rate:
approximately 6 fps

AC Adaptor
Information for your safety

Power Source:
AC 110–240 V, 50/60 Hz
Power Consumption:
19 W
DC Output:
DC 7.9 V, 1.4 A (Movie Camera Operation)
DC 8.4 V, 0.65 A (Battery Charging)

Dimensions:
61 (W)×32 (H)×91 (D) mm
Weight:
Approx. 110 g

Weight and dimensions are approximate values.
Specifications may change without prior notice.

Maximum number of still pictures recordable on an SD Memory Card (optional)

PICTURE SIZE	640×480			1760×1320 (NV-GS200)			1520×1152 (NV-GS120)		
PICTURE QUALITY	FINE	NORMAL	ECONOMY	FINE	NORMAL	ECONOMY	FINE	NORMAL	ECONOMY
8 MB	45	95	190	4	7	11	5	10	13
16 MB	100	200	400	10	18	26	14	24	31
32 MB	220	440	880	25	41	58	33	55	69
64 MB	440	880	1760	53	88	121	71	115	144
128 MB	880	1760	3520	111	180	248	146	235	294
256 MB	1760	3520	7040	223	362	496	294	471	590
512 MB	3520	7040	14080	452	732	1003	595	953	1191

- These figures vary depending on the subject being photographed.

Maximum recording time of MPEG4 moving picture on an SD Memory Card (optional) (NV-GS200 only)

PICTURE SIZE	320×240 (QVGA)		176×144 (QCIF)	
MPEG4 MODE	SUPERFINE	FINE	NORMAL	ECONOMY
8 MB	1min.	2min.	3min.	8min.
16 MB	2min.	4min.	8min.	18min.
32 MB	4min.	10min.	17min.	37min.
64 MB	8min.	20min.	35min.	1h15min.
128 MB	17min.	42min.	1h10min.	2h30min.
256 MB	35min.	1h25min.	2h20min.	5h.
512 MB	1h10min.	2h50min.	4h40min.	10h10min.

- Maximum Continuous Recording Time: Approximately 120 minutes
- “1h10min.” indicates 1 hour and 10 minutes.
- The numbers shown in the table are approximations.
- These figures vary depending on the scene.

B

VQT0H94
F0204Re0(4000 Ⓐ)
C

Matsushita Electric Industrial Co., Ltd.
Web site: http://www.panasonic.co.jp/global/