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.

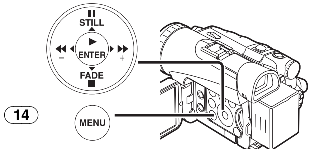
- If [SCENE INDEX] of [RECORDING] Sub-Menu on the [TAPE RECORDING MENU] is set to [2HOUR], an index signal is recorded when recording is restarted after an elapse of 2 hours or longer. If it is set to [DAY], an index signal is recorded when recording is restarted after the date has changed since the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

INDEX

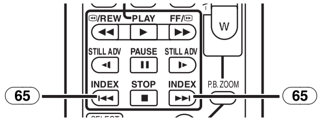
- If the Movie Camera is switched from the Tape Playback Mode to Tape Recording Mode or if the date and time is set before the start of recording, the index signal is not recorded.

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.

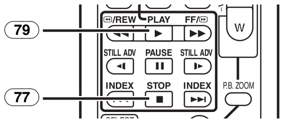
- When the corresponding button is pressed once, the [S 1] Indication appears, and searching for the subsequent scene marked with an index signal starts. Each time the button is pressed after the start of Scene Index Search, the indication changes, from [S 2] to [S 9], and the beginning of the scene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

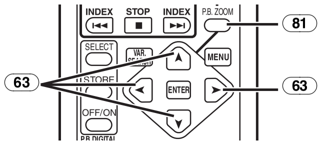


- For other notes concerning this item, see -60-.

Playback Zoom Function

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

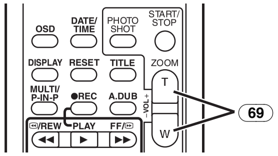
1 During playback, press the [P.B. ZOOM] Button (81) on the Remote Controller.



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

To Change the Zoom Magnification

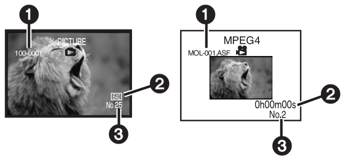
2 Change the magnification by pressing the [W] Button or [T] Button (69) on the Remote Controller.



■: Stop playing back
❚❚: Pause playing back

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

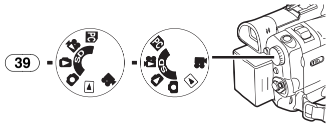
- File is numbered in hexadecimal.
- When the object is moving fast or zoom operation is performed, picture may appear to be still or causes mosaic-pattern noise, but this is not a malfunction.
- When you select MPEG4 Playback Mode at step 1, during playback, push the [−VOL/JOG+] Lever to display the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



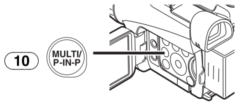
❶ Folder File Number (When the picture is played back)
File Name (When the MPEG4 data is played back) (NV-GS200 only)
❷ Picture Size (When the picture is played back) (*-54-*)
Playback time (When MPEG4 data is played back) (NV-GS200 only)
❸ File Number

To Select a Desired File and Playing Back

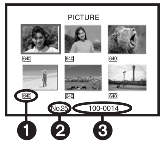
1 Set the Mode Dial (39) to Picture Playback Mode or MPEG4 Playback Mode. (MPEG4 Playback Mode on NV-GS200 Model only)



2 Press the [MULTI] Button (10).

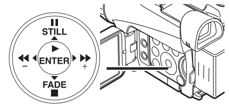


- The files recorded on the Card are displayed in Multi-Picture Mode.



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).

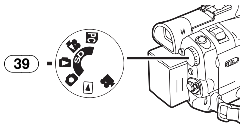
- The selected file is shown on the entire screen.

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

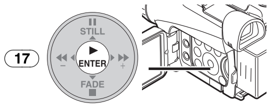
Slide Show

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).

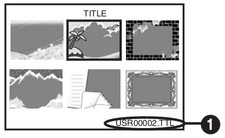


- The [SLIDE▷] Indication is displayed.

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

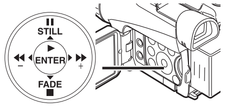
Index

- 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.

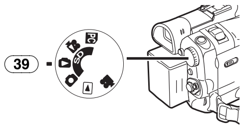
- For other notes concerning this item, see *-62-*.

Writing Printing Data on a Card

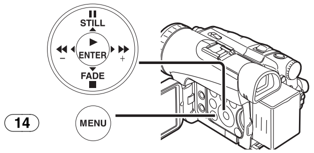
(DPOF Setting)

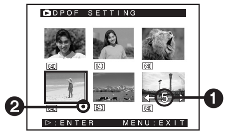
DPOF Setting Printing data (DPOF Settings), such as the number of images to be printed, can be written to the Card. “DPOF” means Digital Print Order Format.

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-*.

Frame rate:
approximately 6 fps

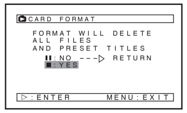
AC Adaptor
Information for your safety

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.

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

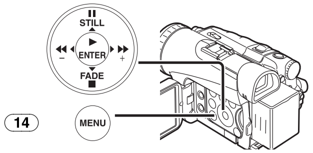


- When the formatting is completed, the screen becomes white.
- It may not be able to use the Card formatted by this Movie Camera on other unit. In this case, format the Card on the unit which will use the Card. Make sure that valuable pictures are stored on PC before proceeding.
- A Card formatted an 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].

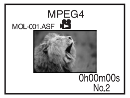


Display specifications in playing back MPEG4 moving pictures

[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.

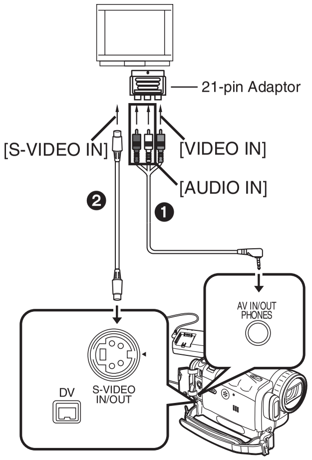
To Resume Normal Moving Picture Size
Set [MPEG4 PLAYBACK MENU] >> [DISPLAY] >> [SCREEN] >> [NORMAL].



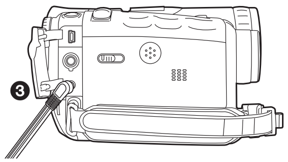
Playing Back on Your TV

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.

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

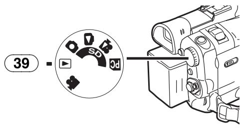
1 Set [DISPLAY] >> [C.DISPLAY] >> [MEMORY].
2 Reset the Tape Counter to zero at the position where you want to stop editing.
3 Play back the still picture where you want to start audio dubbing.
4 Start audio dubbing. (*-46-*)
- Audio dubbing automatically stops at the position where the counter was set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

Editing Mode

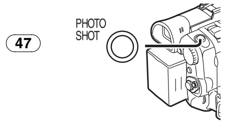
Recording from a Tape onto a Card

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)

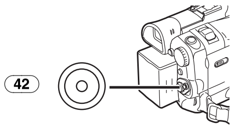
1 Set the Mode Dial (39) to Tape Playback Mode.



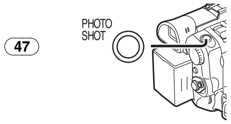
2 Still Picture:
Start playback and set the Movie Camera to Still Playback Mode at the scene you wish to record, and press the [PHOTO SHOT] Button (47).



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



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



- During the copying, the following Indication appears.

NOW RECORDING

- 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)

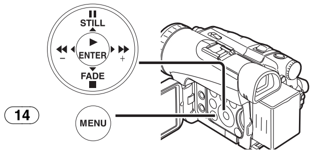
- For other notes concerning this item, see *-62-*.

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)

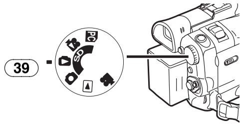


2 Continuing the aforesaid setup, select [A.DUB INPUT] >> [MIC] or [AV IN]. (NV-GS200 only)
- Set to [AV IN] when external device is used, and to [MIC] when an external or built-in microphone is used.

Recording Pictures from a Card onto a Tape

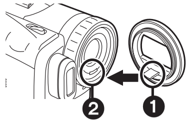
Card Images can be recorded to the Tape.

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



2 Display the first picture.

- 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-*)

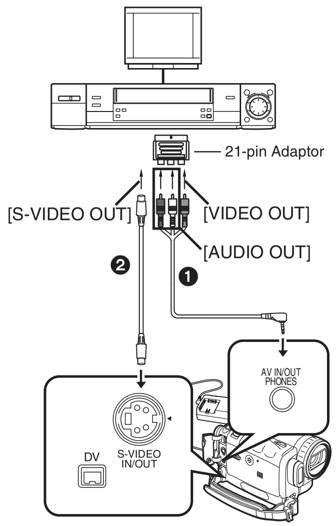
Indications

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.

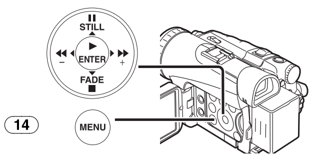
Recording the Contents of Other Equipment

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



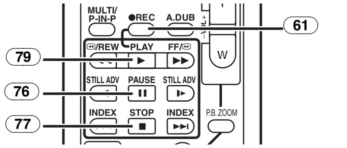
❶ AV Cable
❷ S-Video Cable
- If your TV is not equipped with AV Output Sockets, the 21-pin Adaptor (purchase separately) is necessary. Consult your dealer.

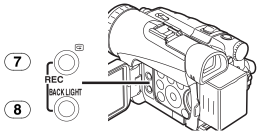
Movie Camera:
1 Set [TAPE PLAYBACK MENU] >> [AV IN/OUT] >> [AV JACK] >> [IN/OUT].



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.





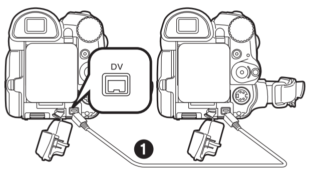
- When recording on a card, press the [PHOTO SHOT] Button or the Recording Start/Stop Button.

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.

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

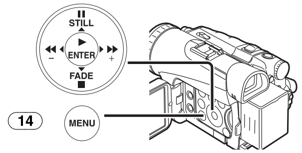
Before storing the Movie Camera, take the Cassette out and detach the Battery.
Store all the components in a dry place with a relatively stable temperature.
(Recommended Temperature: 15 to 25°C, Recommended Humidity: 40 to 60%)

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.

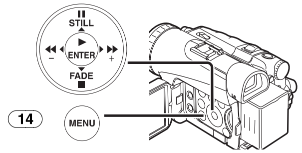
Cassette
- Before storing it, rewind the tape to the beginning. If the Cassette is left for more than 6 months with the tape stopped midway, the tape sags (although it depends on the storage condition). Be sure to rewind to the beginning.

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



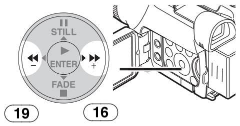
- You cannot set date printing when the printer does not support it.
- Proceed to the next step if you do not need date printing.

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



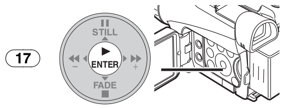
- You cannot set the paper size which is not supported on the printer.

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

- 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.

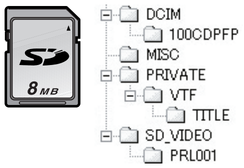
Do not use benzine, thinner or alcohol for cleaning the Movie Camera.
- The camera body may be deformed and the surface finish may peel off.

- 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)

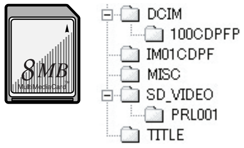
Folder Configuration when the Card is used with a PC

- 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)

- 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.

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.

- 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 [ϟ], [ϟ+] or [ϟ−] Indication flashes in yellow.)

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.)