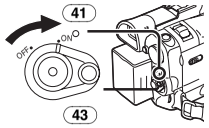
Playback Mode

Playing Back a Tape

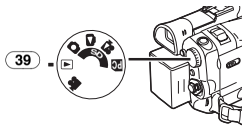
The recorded scene can be played back immediately after the recording.

1 Set the [OFF/ON] Switch (43) to [ON].

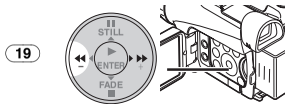
- The Power Lamp (41) lights up.



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



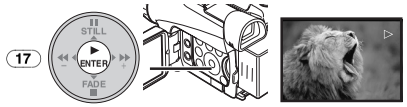
3 Press the [◄◄] Button (19) to rewind the tape.



- Rewind the tape to the point where you want to start playback.
- When the tape reaches the beginning, rewinding stops automatically.

4 Press the [►] Button (17) to start playback.

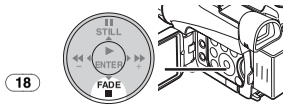
- The [▷] Indication appears.



- If a cassette recorded with a copyright protection signal is played back, the picture is distorted by mosaic-like patterns.

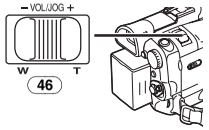
To Stop Playback

Press the [■] Button (18).



■ Adjusting the Sound Volume

To adjust the volume, push the [–VOL/JOG+] Lever (46) to display the [VOLUME] Indication. Push the [–VOL/JOG+] Lever towards [T] to increase the volume or push the [–VOL/JOG+] Lever towards [W] to decrease the volume. The [VOLUME] Indication goes off after the adjustment is finished.

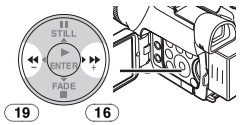


To adjust the volume with the Remote Controller, press the [T] or [W] Button to display the [VOLUME] Indication. Press the [T] Button to increase the volume or press the [W] Button to decrease the volume. The [VOLUME] Indication goes off after the adjustment is finished.

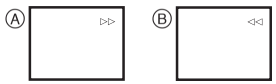
- The sound volume cannot be adjusted using the Remote Controller in Playback Zoom Mode. (*-38-*)
- For other notes concerning this item, see *-60-*.

Finding a Scene You Want to Play Back

■ Cue/Review Playback



If the [►►] Button (16) or [◄◄] Button (19) is pressed during Playback, it turns to Cue Playback Ⓐ or Review Playback Ⓑ.



- If the Button is held continuously, it turns to Cue Playback or Review Playback until you release it.

■ Variable Speed Search Function

The speed of Cue Playback or Review Playback can be varied.

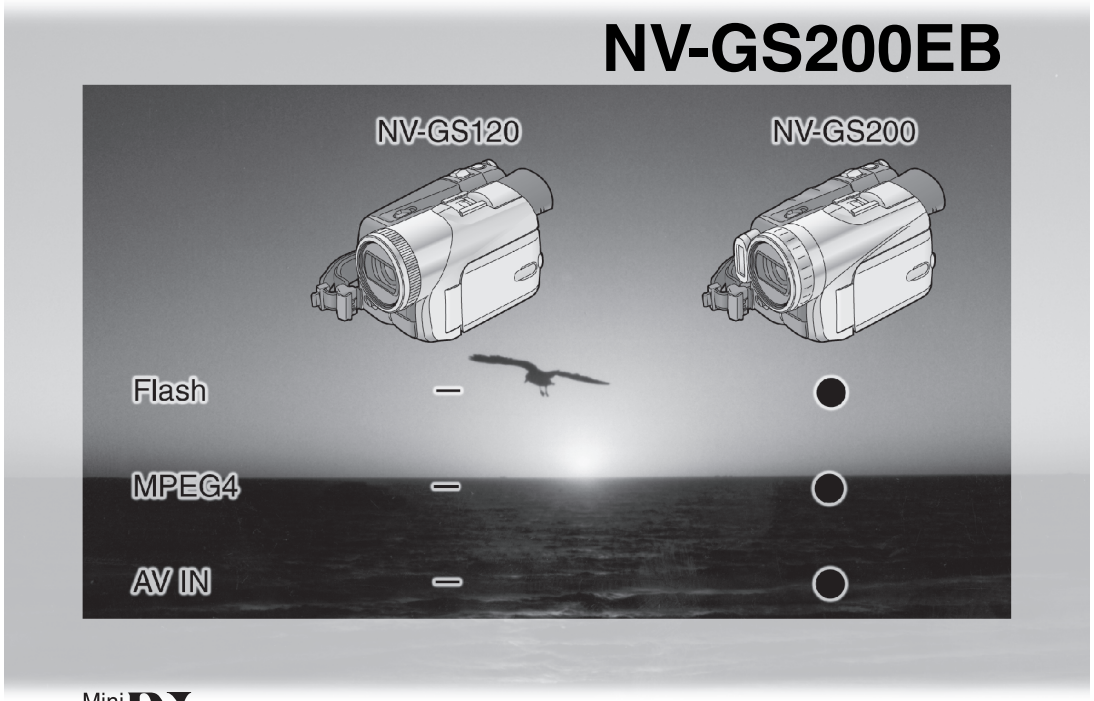
1 During playback, press the [►] Button (17).

Panasonic®

Operating Instructions

Digital Video Camera

Model No. **NV-GS120EB**
NV-GS200EB



Mini DV PAL
LEICA DICOMAR
SD MultiMediaCard™
CERTIFIED USB
PictBridge

Before use, please read these instructions completely.

Web Site: http://www.panasonic-europe.com

VQT0H94

5) Strobe Mode [STROBE]
- It records images with a stroboscopic effect.

6) Trailing Effect Mode [TRAIL]
- It records images with a trailing effect.

7) Mosaic Mode [MOSAIC]
- It produces a mosaic-like image.

8) Mirror Mode [MIRROR]
- The right half of an image becomes a mirror image of the left half.

9) Stretch Mode [STRETCH]
- The Picture is expanded horizontally.

10) Slim Mode [SLIM]
- The picture is expanded vertically.

Digital Effects 2 [EFFECT2]

11) NEGA

12) SEPIA

13) B/W

14) SOLARI

11) Negative Mode [NEGA]
- The colours of the recorded image are inverted as seen in a negative.

12) Sepia Mode [SEPIA]
- It records a scene with a brownish tint, like the colour of old pictures.

13) Black & White Mode [B/W]
- It records an image in black and white.

14) Solarisation Mode [SOLARI]
- It records an image with a painting-like effect.

To Select a Desired Digital Effect

Set [TAPE RECORDING MENU] >> [DIGITAL] >> [EFFECT1] or [EFFECT2] >> a desired Digital Effect.

To Cancel the Digital Effect

Set [TAPE RECORDING MENU] >> [DIGITAL] >> [EFFECT1] or [EFFECT2] >> [OFF].
- If the Movie Camera is turned off, the [EFFECT2] settings are cancelled.

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

■ Multi-Picture Mode

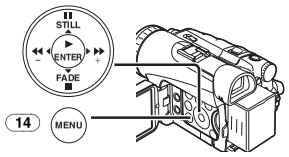
Strobe Multi-Picture Mode:

You can capture and record 9 consecutive small still pictures.

Manual Multi-Picture Mode:

You can manually capture and record 9 small still pictures.

1 Set [TAPE RECORDING MENU] >> [DIGITAL] >> [EFFECT1] >> [MULTI].



2 Set [TAPE RECORDING MENU] >> [DIGITAL] >> [MULTI MODE] >> [STROBE] or [MANUAL].

3 Press the [MULTI] Button (10).

- If [MANUAL] is selected, press the [MULTI] Button at each scene you want to capture.

Deleting All the Captured Multi-Pictures

While 9 multi-pictures are displayed, press the [MULTI] Button.
- If [MANUAL] has been selected, press the [MULTI] Button after 9 pictures are displayed.

To Display the Multi-Pictures Again

Press the [MULTI] Button for 1 second or longer.

To Delete Multi-Pictures One by One

(When pictures were captured in [MANUAL])

When the [MULTI] Button is pressed for 1 second or longer while the still pictures are displayed, the pictures captured last is deleted continuously.
- After still pictures are deleted one by one, they cannot be displayed again.

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

■ Picture-in-Picture Mode

You can display a sub-screen (still picture) inside the screen.

Operating Instructions
- These Operating Instructions apply to models NV-GS200 and NV-GS120.
- The illustrations used in these Operating Instructions show model NV-GS200, however, parts of the explanation refer to different models.
- Depending on the model, some functions are not available.

- Windows is a trademark or registered trademark of Microsoft Corporation U.S.A.
- SD Logo is a trademark.
- Leica is a registered trademark of Leica microsystems IR GmbH and Dicomar is a registered trademark of Leica Camera AG.
- All other company and product names in the operating instructions are trademarks of their respective corporations.

Files recorded on a MultiMediaCard or SD Memory Card

It may not be possible to play back the files on this Movie Camera recorded on and created by other equipment or vice versa. For this reason, check the compatibility of the equipment in advance.
- Keep the Memory Card out of reach of children to prevent swallowing.
- MPEG4 moving pictures recorded in [SUPERFINE] cannot be recorded in the MultiMediaCard. (NV-GS200 only)

Pages for reference

Pages for reference are indicated by dashes either side of a number, for example: *-00-*

Use only the recommended accessories.

■ WARNING

To prevent electric shock, do not remove the cover (or back); there are no user serviceable parts inside. (NV-GS200 only)
Do not remove the cover (or back); there are no user serviceable parts inside. (NV-GS120 only)
Refer servicing to qualified service personnel.

■ Carefully observe copyright laws.

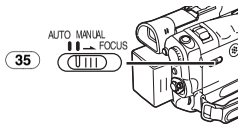
Recording of pre-recorded tapes or discs or other published or broadcast material for purposes other than your own private use may infringe copyright laws. Even for the purpose of private use, recording of certain material may be restricted.
- The Movie Camera uses copyright-protected technologies and is protected by the patented technologies and intellectual properties of Japan and the U.S. To use these copyright-protected technologies, authorization of the Macrovision Company is required. It is prohibited to disassemble or modify the Movie Camera.

Manual Iris Adjustment

(F Number)

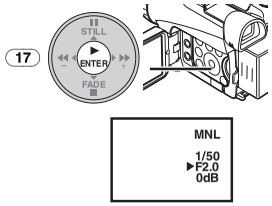
You can use this function when the screen is too bright or too dark.

1 Set the [AUTO/MANUAL/FOCUS] Switch (35) to [MANUAL].



- The [MNL] Indication appears.

2 Press the [ENTER] Button (17) until the Iris Indication appears.



3 Press the [▶▶] Button (16) or [◀◀] Button (19) to adjust the iris.

Range of Iris Adjustment

CLOSE (Closed), F16, ..., F2.0,
OPEN (Opened) 0dB, ..., 18dB

When a value closer to [CLOSE] is selected, the image becomes darker.

When a value closer to [18dB] is selected, the image becomes brighter.

The value to which dB is attached indicates a Gain-up value. If this value is too large, the quality of the image deteriorates.

To Resume Automatic Adjustment

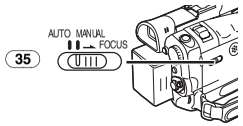
Set the [AUTO/MANUAL/FOCUS] Switch to [AUTO].

- For other notes concerning this item, see *-59-*.

Manual Focus Adjustment

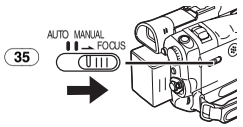
Focus can be adjusted manually for recording in a situation where auto focus may not function well.

1 Set the [AUTO/MANUAL/FOCUS] Switch (35) to [MANUAL].

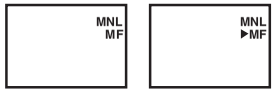


- The [MNL] Indication appears.

2 Slide the [AUTO/MANUAL/FOCUS] Switch (35) to [FOCUS].

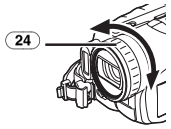


- The [MF] Indication (Manual Focus Mode) appears. (NV-GS200)
- The [▶MF] Indication (Manual Focus Mode) appears. (NV-GS120)

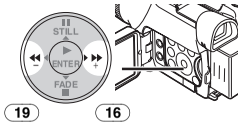


NV-GS200 **NV-GS120**

3 (NV-GS200)
Turn the Focus Ring (24) to adjust the focus.



(NV-GS120)
Press the [▶▶] Button (16) or [◀◀] Button (19) to adjust the focus.



- If you keep pressing the [▶▶] Button or [◀◀] Button, the speed of adjusting becomes faster.

To Resume Automatic Adjustment

Set the [AUTO/MANUAL/FOCUS] Switch to [AUTO] or [FOCUS].

Before Use

■ Sales and Support Information

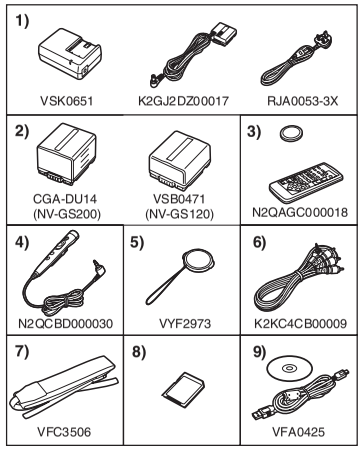
Customer Care Centre
- For UK customers: 08705 357357
- For Republic of Ireland customers: 01 289 8333
- Visit our website for product information
- E-mail: customer.care@panasonic.co.uk

Technical Support for AV Software
- For callers in UK: 08701 505610
- For callers in ROI: 0044 8701 505610

Direct Sales at Panasonic UK
- Order accessory and consumable items for your product with ease and confidence by phoning our Customer Care Centre Monday–Friday 9:00am– 5:30pm. (Excluding public holidays).
- Or go on line through our Internet Accessory ordering application at www.panasonic.co.uk.
- Most major credit and debit cards accepted.
- All enquiries transactions and distribution facilities are provided directly by Panasonic UK Ltd.
- It couldn't be simpler!
- Also available through our Internet is direct shopping for a wide range of finished products, take a browse on our website for further details.

Standard Accessories

Illustrated are accessories supplied with the Movie Camera.



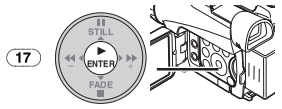
1) AC Adaptor, DC Input Lead and AC Mains Lead *-10-*
2) Battery Pack *-10-*
3) Remote Controller and Button-Type Battery *-9-*
4) Free Style Remote Controller with Mic *-8-*
5) Lens Cap and Lens Cap Cord *-12-*
6) AV Cable *-44-*
7) Shoulder Strap *-12-*
8) SD Memory Card *-13-*
9) USB Connection Kit (USB Cable and CD-ROM) *-51-*

Optional Accessories

1) AC Adaptor (VW-AD10B)
2) Battery Pack (Lithium/CGA-DU07/680mAh)
3) Battery Pack (Lithium/CGA-DU14/1360mAh)
4) Battery Pack (Lithium/CGA-DU21/2040mAh)
5) Wide Conversion Lens (VW-LW3707M3E)
6) Tele Conversion Lens (VW-LT3714M2E)
7) ND Filter (VW-LND37E)
8) MC Protector (VW-LMC37E)
9) Stereo Microphone (VW-VMS2E)
10) Video DC Light (VW-LDC10E)
11) Video DC Light (VW-LDH3E)
12) Light Bulb for Video DC Light (VZ-LL10E)
13) Light Bulb for Video DC Light (VW-LL3E)
14) Stereo Zoom Microphone (VW-VMH3E)
15) Shoe Adaptor (VW-SK11E)
16) Video Flash (VW-FLH3E)
17) Tripod (VW-CT45E)
18) Snow & Rain Jacket (VW-SJGS200E)
19) DV Cable (VW-CD1E)
20) DV Editing Software with DV Interface Board (VW-DTM41E)
21) DV Editing Software (VW-DTM40E)
22) SD Memory Card Application Software (VW-SWA1E)
    - "TitleStudio" software for title creation, and "SD-Jukebox" software for recording music are included. (However, this Movie Camera cannot play back music.)
23) SD Memory Card (RP-SD032/ RP-SD064/RP-SD128/RP-SDH256/ RP-SDH512)
24) PC Card Adaptor for SD Memory Card (BN-SDABPE)
25) USB Reader Writer for SD Memory Card (BN-SDCAPE)

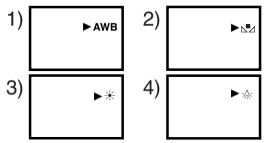
- Some optional accessories may not be available in some countries.

2 Press the [ENTER] Button (17).



- The [AWB] Indication appears.

3 Press the [▶▶] Button (16) or [◀◀] Button (19) to select a desired White Balance Mode.



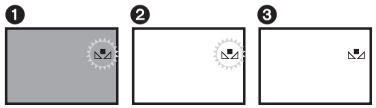
1) Automatic White Balance Adjustment [AWB]
2) The white balance setting that was previously set manually [▪◿]
3) Outdoor Mode [☀]
4) Indoor Mode (recording under incandescent lamp) [☼]

To Resume Automatic Adjustment

Press the [▶▶] Button (16) or [◀◀] Button (19) until the [AWB] Indication appears. Or, set the [AUTO/MANUAL/FOCUS] Switch to [AUTO].

■ About Black Balance Adjustment

Black Balance Adjustment is one of the functions of the 3CCD system. It automatically adjusts the hue of black color in the picture. When the Black Balance Adjustment is activated, the screen becomes dark for a moment.

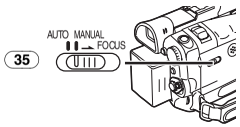


❶Adjusting the Black Balance (Blinking)
❷Adjusting the White Balance (Blinking)
❸Adjustment is completed. (Lighting)

Adjusting White Balance Manually

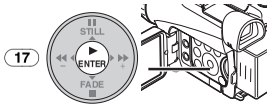
White Balance Adjustment recognizes the colour of light and adjust so that the white colour will become pure white. The Movie Camera determines the hue of light that comes through the Lens and White Balance Sensor, thereby judging the recording condition, and selects the closest hue setting. This function is called Automatic White Balance Adjustment.
For light outside the functional Auto White Balance Adjustment range, use the Manual White Balance Adjustment Mode.

1 Set the [AUTO/MANUAL/FOCUS] Switch (35) to [MANUAL].



- The [MNL] Indication appears.

2 Press the [ENTER] Button (17).



- The [AWB] Indication appears.

3 Press the [▶▶] Button (16) or [◀◀] Button (19) until the [▪◿] Indication is displayed.

4 Point the Movie Camera at a full-screen white subject.

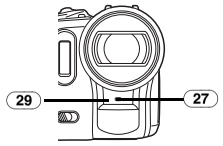
5 Keep pressing [ENTER] Button (17) until the [▪◿] Indication stops flashing.

To Resume Automatic Adjustment

Press the [▶▶] Button (16) or [◀◀] Button (19) until the [AWB] Indication is displayed. Or, set the [AUTO/MANUAL/FOCUS] Switch to [AUTO].

■ About White Balance Sensor

The White Balance Sensor (29) determines the nature of the light source during recording.

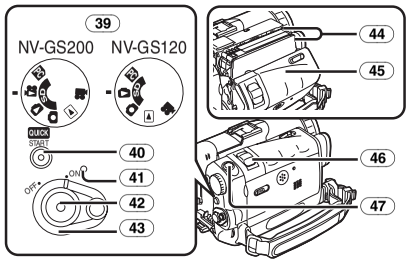


- Do not cover the White Balance Sensor with your hand during recording because White Balance will not function normally.
- The red light from the Recording Lamp (27) will be reflected off your hand or object, possibly causing the White Balance sensor to operate incorrectly and changing the colouring.

- When connecting the Free Style Remote Controller with Mic to this socket and the [TALK] Button is pressed, the built-in microphone does not operate. *-22-*
- When connecting the pin plug of the Free Style Remote Controller with Mic to this socket, plug it in as far as it goes.
- A compatible plug-in powered microphone can be used.
- The microphone may make noises depending on the type of it. In this case, we recommend using the battery for the Movie Camera.

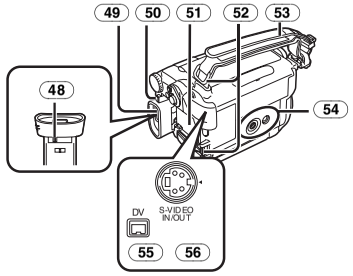
(34) **Audio-Video Input/Output Socket [AV IN/OUT] (Input function on NV-GS200 Model only)** *-44-*
Headphone Socket [PHONES]
- Connecting an AV Cable to this socket activates the Movie Camera's built-in speaker, but connecting a headphone, etc. deactivates it.
- When connecting the pin plug of the AV Cable to this socket, plug it in as far as it goes.
- When using headphones, set [AV JACK] of the [AV IN/OUT] (NV-GS200 only) or [INITIAL] Sub-Menu to [OUT/PHONES]. If you set [AV JACK] to [OUT], you may hear noises on the right.

(35) **Mode Selector Switch [AUTO/MANUAL/FOCUS]** *-21-, -29-, -32-*
(36) **Reset Button [RESET]** *-55-*
(37) **Speaker** *-36-*
(38) **Cassette Eject Lever [OPEN/EJECT]** *-13-*



(39) **Mode Dial** *-14-*
(40) **Quick Start Recording Button [QUICK START]** *-25-*
Quick Start Recording Lamp *-25-*
(41) **Power Lamp** *-14-, -21-, -36-*
(42) **Recording Start/Stop Button** *-21-, -24-*
(43) **Power Switch [OFF/ON]** *-14-, -21-, -36-, -63-*
(44) **Cassette Holder**
(45) **Cassette Compartment Cover** *-13-*

(46) **Zoom Lever [W/T]** *-25-*
Volume/Jog Lever [−VOL/JOG+] *-36-, -37-*
(47) **Photoshot Button [PHOTO SHOT]** *-22-, -46-*



(48) **Eyepiece Corrector Knob** *-14-*
(49) **Viewfinder** *-14-, -66-*

> Due to limitations in LCD production technology, there may be some tiny bright or dark spots on the Viewfinder screen. However, this is not a malfunction and does not affect the recorded picture.

(50) **Battery Eject Button [PUSH BATT]** *-10-*
(51) **Battery Holder**
(52) **Shoulder Strap Holders** *-12-*
(53) **Grip Belt (One-touch Free Style Grip Belt)** *-11-*
(54) **Tripod Receptacle**
- Used for mounting the Movie Camera on an optional tripod.

(55) **DV Terminal [DV]** *-48-*
- Connect this to the digital video equipment.

(56) **S-Video Input/Output Socket [S-VIDEO IN/OUT] (Input function on NV-GS200 Model only)** *-44-*

- The [] Indication flashes and then is displayed.
- The entire screen becomes brighter.

To Resume Normal Recording
Press the [BACK LIGHT] Button.

- For other notes concerning this item, see *-58-*.

Night View Functions

Colour Night View Function
This function allows you to record colour images brightly in a dark place without using the Video Flash.

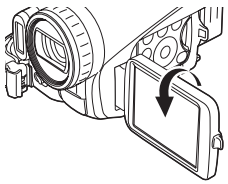
1 Press the [COLOUR NIGHT VIEW] Button (11) until the [C.NIGHT VIEW] Indication appears.

0 Lux Night View Function
Using the LCD Monitor light, a dark scene of almost 0 lux can be recorded.

1 Press the [COLOUR NIGHT VIEW] Button (11) until the [0LUX NIGHT VIEW] Indication appears.

- The [REVERSE THE LCD MONITOR] Indication appears.

2 Rotate the LCD Monitor frontward (to the lens side).



- The screen becomes white and the Viewfinder turns on.
- The available range of the LCD Monitor light is within approximately 1.2 metre.

To Cancel the Night View Functions
Press the [COLOUR NIGHT VIEW] Button repeatedly until neither the [C.NIGHT VIEW] Indication nor the [0LUX NIGHT VIEW] Indication appears.

- For other notes concerning this item, see *-58-*.

Soft Skin Function

This enables you to record skin colours in a softer tone. In order to get the best result, avoid background colours similar to the skin colour of the subject. Otherwise, this may result in a softer background lacking in detail.

1 Press the [SOFT SKIN] Button (12).

- The [SOFT SKIN] Indication appears.

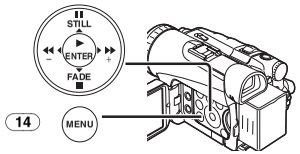
- To obtain the best effect, we recommend to take the bust shot, so that the upper part from the breast of the subject can be framed in the screen.

To Cancel the Soft Skin Function
Press the [SOFT SKIN] Button.

Wind Noise Reduction Function

This function reduces the sound of wind hitting the microphone when recording.

1 Set [TAPE RECORDING MENU] or [CARD RECORDING MENU] >> [RECORDING] >> [WIND CUT] >> [ON].



- The [WIND CUT] Indication appears.

(88) **Clip**

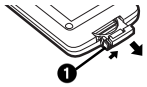
- **Insert the plug securely into the [REMOTE] Socket as far as it will goes. A loose connection will spoil normal operation.**

The Remote Controller

■ Inserting a Button-type Battery

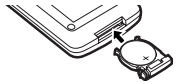
Before using the Remote Controller, insert the supplied button-type battery.

1 While pressing the Stopper ❶, pull out the Battery Holder.



2 Insert the button-type battery with the (+) marking facing upward.

3 Insert the Battery Holder into the Remote Controller.

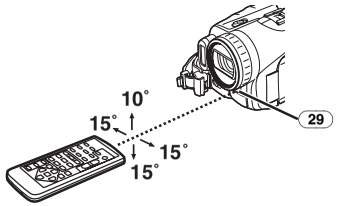


- When the button-type battery is exhausted, replace it with a new CR2025 battery. (A battery is normally expected to last about 1 year. However, it depends on operation frequency.)
- Make sure to match the poles correctly when inserting the battery.

WARNING
"THE LITHIUM BATTERY IS A CRITICAL COMPONENT (TYPE NUMBER CR2025 MANUFACTURED BY PANASONIC).
IT MUST NEVER BE SUBJECTED TO EXCESSIVE HEAT OR DISCHARGE. IT MUST THEREFORE ONLY BE FITTED IN EQUIPMENT DESIGNED SPECIFICALLY FOR ITS USE.
REPLACEMENT BATTERIES MUST BE OF THE SAME TYPE AND MANUFACTURER. THEY MUST BE FITTED IN THE SAME MANNER AND LOCATION AS THE ORIGINAL BATTERY, WITH THE CORRECT POLARITY CONNECTIONS OBSERVED.
DO NOT ATTEMPT TO RE-CHARGE THE OLD BATTERY OR RE-USE IT FOR ANY OTHER PURPOSE. IT SHOULD BE DISPOSED OF IN WASTE PRODUCTS DESTINED FOR BURIAL RATHER THAN INCINERATION."

■ Using the Remote Controller

1 Direct the Remote Controller at the Remote Control Sensor (29) of the Movie Camera and press an appropriate button.



- Distance from the Movie Camera: Within approximately 5 metres
- Angle: Within approximately 10° in the upward, and 15° in the downward and horizontal directions from the central axis

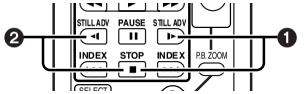
- The above operating ranges are for indoor use. Outdoors or under strong light, the Movie Camera may not operate properly even within the above ranges.
- Within a 1-metre range, you can also use the Remote Controller on the LCD Monitor side of the Movie Camera.

Selecting Remote Controller Modes
When 2 Movie Cameras are used simultaneously, they can be operated individually by selecting different Remote Controller Modes.

- If the Remote Controller Mode of the Movie Camera and that of the Remote Controller do not match, [REMOTE] Indication is displayed.

Setup on the Movie Camera:
Set [REMOTE] on the [INITIAL] Sub-Menu to the desired Remote Controller Mode. (*-17-*)

Setup on the Remote Controller:



[VCR1]:
Press the [▶] Button and [■] Button simultaneously. ❶
[VCR2]:
Press the [◀] Button and [■] Button simultaneously. ❷

- When the battery in the Remote Controller is replaced, the mode is automatically reset to [VCR1] Mode.

- Zoom Magnification Indication is displayed for a few seconds.

To Take Close-up Shots of Small Subjects

(Macro Close-up Function)

When the zoom magnification is 1×, the Movie Camera can focus on a subject that is as close as approximately 4 cm from the Lens. Small subjects like insects can be recorded with this function.

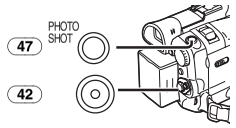
To Use the Tele-Macro Function

With the zoom magnification of 10×, the Movie Camera can bring the subject into focus as close as approximately 40 cm from the Lens. Focusing only on the subject and displaying the background out of focus makes the picture more impressive.

1 Press the [TELE MACRO] Button (13).

- The zoom magnification is fixed at 10× and the subject can be focused on as close as approximately 40 cm.
- The [T.MACRO] Indication appears.

2 Press the Recording Start/Stop Button (42) or the [PHOTO SHOT] Button (47).



To Cancel the Tele-Macro Function

Press the [TELE MACRO] Button.

To Use the Zoom Microphone Function

Along with the zoomings operation, the microphone's directional angle and sensitivity are varied for recording sounds.

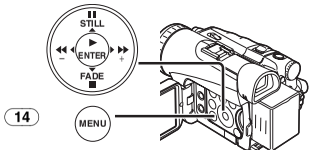
- Set [TAPE RECORDING MENU] >> [RECORDING] >> [ZOOM MIC] >> [ON]. (The [Z.MIC] Indication is displayed.)

- For other notes concerning this item, see -58-.

Digital Zoom Function

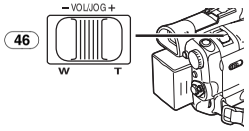
This function is useful when you want to record close-up shots of subjects located beyond a normal zoom range of 1× to 10× magnification. With the Digital Zoom Function, you can select a magnification from 20× up to 500×.

1 Set [TAPE RECORDING MENU] >> [CAMERA] >> [D.ZOOM] >> [20×] or [500×].



- 20×: Digital zooming to 20×
- 500×: Digital zooming to 500×

2 Push the [W/T] Lever (46) towards [W] or towards [T] to zoom in or out.



To Cancel the Digital Zoom Function

Set [TAPE RECORDING MENU] >> [CAMERA] >> [D.ZOOM] >> [OFF].

- For other notes concerning this item, see -58-.

Image Stabilizer Function

If the Movie Camera is shaken while recording, the camera shake in the image can be corrected.

- If the Movie Camera shakes too much, the images may not be stabilized.

Charging Time and Available Recording Time

NV-GS200

CGA-DU14	Ⓐ	2h45min.
	Ⓑ	2h30min.(2h10min.)
	Ⓒ	1h15min.(1h5min.)
CGA-DU21	Ⓐ	3h55min.
	Ⓑ	3h45min.(3h15min.)
	Ⓒ	1h55min.(1h40min.)
CGA-DU07	Ⓐ	1h30min.
	Ⓑ	1h15min.(1h5min.)
	Ⓒ	40min.(35min.)

NV-GS120

VSB0471	Ⓐ	2h10min.
	Ⓑ	2h25min.(2h5min.)
	Ⓒ	1h15min.(1h5min.)
CGA-DU14	Ⓐ	2h45min.
	Ⓑ	3h.(2h40min.)
	Ⓒ	1h30min.(1h20min.)
CGA-DU21	Ⓐ	3h55min.
	Ⓑ	4h30min.(4h.)
	Ⓒ	2h15min.(2h.)
CGA-DU07	Ⓐ	1h30min.
	Ⓑ	1h30min.(1h20min.)
	Ⓒ	45min.(40min.)

Ⓐ Charging Time
Ⓑ Maximum Continuous Recording Time
Ⓒ Intermittent Recording Time
(Intermittent Recording Time is the available recording time with repeated recording and stopping actions.)
"1h10min." indicates 1 hour and 10 minutes.

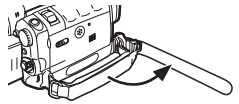
- Battery CGA-DU14 is supplied. (NV-GS200 only)
- Battery VSB0471 is supplied. (NV-GS120 only)
- The times shown in the table are approximate times. The numbers indicate the recording time when the Viewfinder is used. The numbers in parentheses indicate the recording time when the LCD Monitor is used. In actual use, the available recording time may be shorter.
- The times shown in the table are for continuous recording at a temperature of 25°C and humidity of 60%. If the Battery is charged at a higher or lower temperature, the charging time may be longer.
- We recommend the Battery Pack VSB0471 (NV-GS120 only), CGA-DU14 and CGA-DU21 for long time recording (2 hours or more for continuous recording, 1 hour or more for intermittent recording).
- In the following cases, the available recording time becomes shorter.
  - You use both of Viewfinder and LCD Monitor simultaneously when using the 0 Lux Night View function, rotating the LCD Monitor frontward to record yourself
  - When you set [EVF ON/AUTO] to [ON].
  - When you use the Movie Camera with lighting the LCD Monitor up by pressing the [POWER LCD] Button.
  - When you use accessories applicable to the Smart Accessory Shoe (Stereo Zoom Microphone, Video DC Light, etc.).

The One-touch Free Style Grip Belt

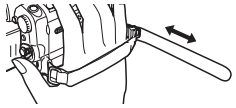
To Use as a Grip Belt

Adjust the length of the Grip Belt to the size of your hand.

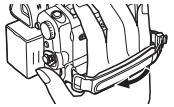
1 Detach the end of the Grip Belt.



2 Adjust the length of the Grip Belt to the size of your hand.

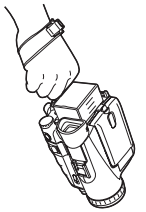


3 Reattach the Grip Belt.



To Use as a Hand Strap

Using the Grip Belt as the hand strap makes it easier to handle and carry a Movie Camera. It is more convenient to use with the Free Style Remote Controller with Mic.

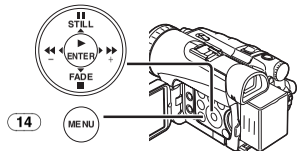


When the picture size is 640×480:
[FINE] (high image quality):
approximately 44 pictures
[NORMAL] (normal image quality):
approximately 85 pictures
[ECONOMY] (low image quality):
approximately 180 pictures
- These figures vary depending on the subject being photographed.

■ Continuous Photoshot

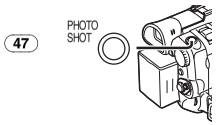
The still pictures can be recorded on a Card at a regular intervals.
- Available only with [640×480] picture size.

1 Set [CARD RECORDING MENU] >> [CARD] >> [BURST MODE] >> [ON].



- The [▣] Indication appears.

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



- When [ON] is selected, the still pictures can be recorded in approximately 0.5 second intervals until the [PHOTO SHOT] Button is released or 10 pictures are recorded. When the shutter speed is set to 1/25 manually, still pictures can be recorded at approximately 0.7 second intervals. (In the case of NV-GS200, you cannot use the Continuous Photoshot function if the shutter speed is set to 1/4, 1/6 or 1/12.)

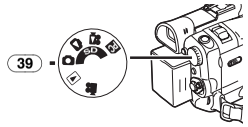
- For other notes concerning this item, see *-56-*.

Recording a Moving Picture on a Card (MPEG4)

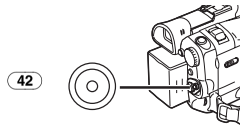
(NV-GS200 only)
You can record moving pictures on a Card. The recorded data can also be played back on Windows Media Player (ver.6.4 and later).

- When the Mode Dial (39) is set to Card Recording Mode, you cannot record to the Tape.

1 Set the Mode Dial (39) to Card Recording Mode.



2 Press the Recording Start/Stop Button (42).



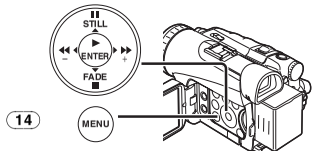
- It takes 1 to 2 seconds to start recording.
- During recording the [MPEG4] Indication is lit in red.

3 Press the Recording Start/Stop Button (42) again to pause the recording.

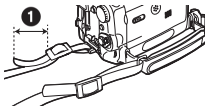
- The maximum continuous recording times are approximately 120 minutes.
  The Movie Camera will automatically stop recording when the relevant time listed above has elapsed.
- When Remaining Time Indication becomes [R:0h00m], this Indication flashes in red. Recording may not be started.
- The picture size of the moving picture (MPEG4) is set to be:
  [SUPERFINE]: 320×240
  [FINE]: 320×240
  [NORMAL]: 176×144
  [ECONOMY]: 176×144
- When attaching to e-mail, we recommend the file size to be less than 1 MB.
  [SUPERFINE]: approximately 8 seconds
  [FINE]: approximately 15 seconds
  [NORMAL]: approximately 20 seconds
  [ECONOMY]: approximately 1 minute

Selecting the Quality of MPEG4 Recording images

1 Set [CARD RECORDING MENU] >> [CARD] >> [MPEG4 MODE] >> a desired image quality.

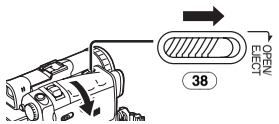


- Attach the other end of the Shoulder Strap to the other Shoulder Strap Holder in the same way.

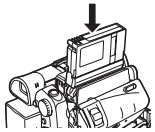


Inserting a Cassette

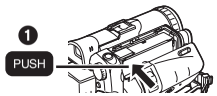
1 Slide the [OPEN/EJECT] Lever (38) toward the front and pull down to open the Cassette Compartment Cover.



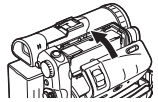
2 Insert a Cassette.



3 Close the Cassette Holder by pressing the [PUSH] mark ❶.

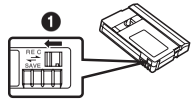


4 Close the Cassette Compartment Cover.



■ Accidental Erasure Prevention

Opening the accidental erasure prevention slider ❶ on the cassette (by sliding it to the [SAVE] arrow direction) prevents recording. To enable recording, close the accidental erasure prevention slider (by sliding it to the [REC] arrow direction).



- For other notes concerning this item, see *-56-*.

Using a Card

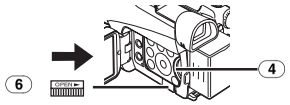
A Card can be used to record pictures.

■ Caution before inserting/removing a Card

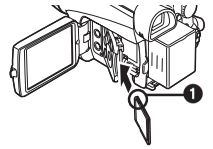
Be sure to turn off the Movie Camera.
- Otherwise, the Movie Camera may not function properly or it may cause the loss of recorded data in a Card.

■ Inserting a Card

1 Slide the [OPEN] Lever (6) to open the Card Slot Cover (4).



2 While holding the Memory Card with its cut corner on top ❶, insert it into the Card Slot.

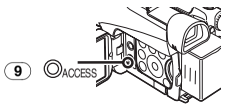


3 Close the Card Slot Cover (4) securely.

Removing the Card

Open the Card Slot Cover and then pull the Card straight out.
- After removing the Card, close the Card Slot Cover.

■ [ACCESS] Lamp (9)

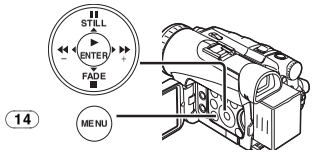


While the Movie Camera is accessing the Card (reading, recording, playback or erasing), the [ACCESS] Lamp lights up.
- While the [ACCESS] Lamp is on, never attempt to open the Card Slot Cover, to pull out the Card, to turn off the Movie Camera. Such actions will damage the Card, and recorded data, and cause the Movie Camera to malfunction.

■ Finding the End of Recording (Blank Search Function)

The Blank Search Function aids you to locate the end of the recording on the Cassette quickly.

1 Set [TAPE RECORDING MENU] or [TAPE PLAYBACK MENU] >> [INITIAL] >> [BLANK SEARCH] >> [YES].



- The [BLANK] Indication appears during the Blank Search.
- Approximately 1 second before the last recorded scene, the Movie Camera switches to the Recording Pause Mode or the Still Playback Mode.
- If there is no blank left on the Cassette, the Movie Camera stops at the end of the tape.

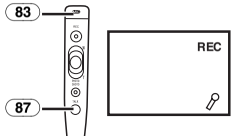
To Cancel Blank Search Before Completion

Press the [■] Button.

■ To Add a Sound while Recording

With the supplied Free Style Remote Controller with Mic connected to the [REMOTE] Socket (33), you can add a narration while recording is in progress.

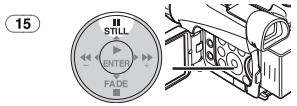
While the [TALK] Button (87) is pressed, the [🎤] Indication is displayed and the sound is recorded from [MIC] (83).



- While the [TALK] Button is pressed, the built-in microphone does not operate.

■ Digital Still Picture

When the [STILL] Button (15) is pressed, images become still pictures. When the button is pressed again, the Digital Still Picture Mode is cancelled.



- We recommend that you press the [STILL] Button first at the position where you wish to record the still picture so as to enter the Digital Still Picture Mode and then press the [PHOTO SHOT] Button.

■ Progressive Photoshot

When the [P] Indication is displayed, Progressive Photoshot Function works.

You can record still pictures as frame still pictures with higher quality by this function.

- The Progressive Photoshot Function may not be activated depending on the function you use. (*-54-*)
- To record still pictures with higher quality, we recommend setting to the Card Recording Mode. (To activate the progressive function regardless of the function you use)
- When you record the tape and the card simultaneously, the progressive function is not activated.

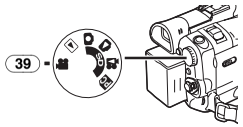
Recording a Still Picture on a Card (Photoshot)

Still pictures can be recorded on the Memory Card from the Movie Camera.

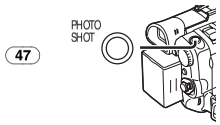
The size of images that are recorded using this Movie Camera is approximately 2.3 million pixels (NV-GS200)/1.7 million pixels (NV-GS120), and recording of images with a size that is larger than a million pixels is called mega-pixel still-picture recording. Compared to images of normal recording, images that are created by mega-pixel still-picture recording can be printed out clear.

When the Tape Recording Mode:

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



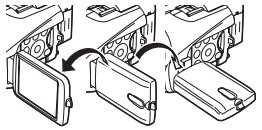
2 Press the [PHOTO SHOT] Button (47) fully.



- The size of the recorded picture is [640×480].
- To record still pictures with higher quality, we recommend recording in Card Recording Mode.

2 Adjust the LCD Monitor angle according to the desired recording angle.

- The LCD Monitor can rotate a maximum of 180° ❶ from the vertical position upwards and a maximum of 90° ❷ to the downward direction. Forcefully rotating the LCD Monitor beyond these ranges will damage the Movie Camera. You cannot rotate the LCD Monitor when it is opened 120° angle. Therefore, do not rotate it forcibly.



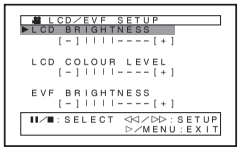
Closing the LCD Monitor

Push the LCD Monitor until it is securely locked.

- Make sure the Card Slot Cover is closed.

■ Adjusting Brightness and Colour Level

When [LCD/EVF SET] on the [LCD/EVF] Sub-Menu is set to [YES], the following items are displayed.



LCD Brightness [LCD BRIGHTNESS]

Adjusts the brightness of the image on the LCD screen.

LCD Colour Level [LCD COLOUR LEVEL]

Adjusts the colour saturation of the image on the LCD screen.

Brightness of the Viewfinder [EVF BRIGHTNESS]

Adjusts the brightness of the image in the Viewfinder.

To Adjust

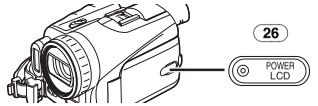
Press the [❚❚/■] Button and select the item to be adjusted, and then press the [◀◀/▶▶] Button to raise or lower the number of vertical bars in the Bar Indication.

- A larger number of vertical bars indicates stronger brightness or colour saturation.

To Increase the Brightness of the Entire LCD Monitor

Press the [POWER LCD] Button.

When you press the [POWER LCD] Button, the LCD monitor becomes bright about twice as much as usual.



The [POWER LCD] Lamp (26) lights up.

- When turning the power on with using AC Adaptor, [POWER LCD] function is automatically effective.

To Resume Normal Brightness

Press the [POWER LCD] Button again.

To Change the Picture Quality of the LCD Monitor (NV-GS200 only)

Set the [LCD AI] on the [LCD/EVF] Sub-Menu to [ON] or [OFF].

[ON]: The screen image becomes clear and vivid. (The effect varies according to the recording scene.)

- When Power LCD Lamp lights up, [LCD AI] is automatically set to [ON]. You cannot change this setting. (NV-GS200 only)
- These adjustments do not affect the recorded images.

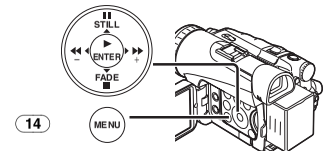
- For other notes concerning this item, see *-66-*.

Using the Menu Screen

To facilitate the selection of a desired function or setup, this Movie Camera displays various function setups on Menus.

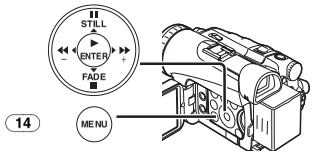
- When operating the menu with the Viewfinder, set [LCD/EVF] >> [EVF ON/AUTO] >> [ON] or rotate the LCD monitor by 180°.

1 Press the [MENU] Button (14).

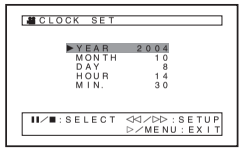


Setting Date and Time

Since the internal clock of the Movie Camera has a slight imprecision, make sure to check the time before recording.



1 Set [TAPE RECORDING MENU] or [CARD RECORDING MENU] >> [INITIAL] >> [CLOCK SET] >> [YES].



2 Press the [❚❚/■] Button to select [YEAR], [MONTH], [DAY], [HOUR] or [MIN.] and press the [◀◀/▶▶] Button to set it to the desired value.

- Year will cycle in the order shown below. 2000, 2001, ..., 2089, 2000, ...

3 Press the [MENU] Button (14) to finish setting the date and time.

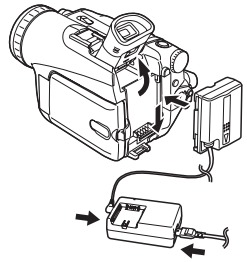
- The clock operation starts from [00] second.

- If the built-in battery is weak, the [ ] or [--] Indication flashes. In this case, charge the built-in battery.
- The clock uses the 24-hour system.

Internal Lithium Battery Recharge

The internal lithium battery sustains the operation of the clock. When the [ ] or [--] Indication flashes, the internal lithium battery is near exhaustion.

1 Connect the AC Adaptor to the Movie Camera with the power turned off and then connect to the AC Mains socket.



- After charging for 4 hours, the built-in lithium battery can power the clock for approximately 3 months.

WARNING
THE LITHIUM BATTERY IN THIS EQUIPMENT MUST ONLY BE REPLACED BY QUALIFIED PERSONNEL. WHEN NECESSARY, CONTACT YOUR LOCAL PANASONIC SUPPLIER.

LP Mode

A desired recording speed can be selected with [REC SPEED] on the [RECORDING] Sub-Menu.
If LP Mode is selected, the recording time becomes 1.5 times longer than that of SP Mode.
Although the image quality does not decrease with the LP Mode recording, mosaic-pattern noise may appear on a playback image, or some normal functions may be restricted.

- The contents that are recorded in LP Mode are not completely compatible with other equipment.
- Audio dubbing is not possible with LP Mode. (*-46-*)

Audio Recording Mode

The sound quality of the recorded sound can be selected with [AUDIO REC] on the [RECORDING] Sub-Menu.
High sound-quality recording is possible with “16 bit 48 kHz 2 track” Mode. With the “12 bit 32 kHz 4 track” Mode, the original sound can be recorded on 2 tracks in stereo, while the other 2 tracks can be used for Audio Dubbing.

4) [RECORDING]
Recording Setup Sub-Menu
[REC SPEED]
Recording Speed Mode *-20-*
[AUDIO REC]
Audio Recording Mode *-20-*
[SCENE INDEX]
Scene Index Mode *-38-*
[WIND CUT]
Wind Noise Reduction *-28-*
[ZOOM MIC]
Zoom Microphone *-26-*
[CINEMA]
Cinema-like Format Recording *-29-*
[H.SHOE MIC]
Hot Shoe Microphone

- This function reduces the low sound to avoid a wind noise when using the Stereo Zoom Microphone (VW-VMH3E; optional).

5) [DISPLAY]
Display Setup Sub-Menu
[DISPLAY]
Display Mode *-54-*
[DATE/TIME]
Date and Time Indication *-54-*
[C.DISPLAY]
Counter Display Mode *-54-*
[C.RESET]
Counter Reset *-69-*

- It resets the counter to zero. However, it cannot reset the Time Code.

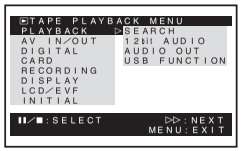
6) [LCD/EVF]
LCD/EVF Setup Sub-Menu
[LCD AI] (NV-GS200 only)
Intelligent LCD Monitor *-15-*
[LCD/EVF SET]
LCD and Viewfinder Adjustment *-15-*
[SELF REC]
Recording Yourself *-25-*
[EVF ON/AUTO]
Using the Viewfinder *-14-*
7) [INITIAL]
Initial Setup Sub-Menu
[BLANK SEARCH]
Blank Search *-22-*
[DEMO MODE]
Demonstration Mode

- If no operation takes place for approximately 10 minutes after the AC Adaptor is connected to the Movie Camera and the [OFF/ON] Switch is turned to [ON] without inserting a Cassette or a Card, the Movie Camera is automatically set to Demonstration Mode for introducing its functions. If any button is pressed or operated, the Demonstration Mode is cancelled. The Demonstration Mode can be started by setting [DEMO MODE] to [ON] and by exiting the Menu. To terminate the Demonstration Mode, insert a Cassette or set the [DEMO MODE] to [OFF].

[AV JACK]
AV Socket *-68-*
[REMOTE]
Remote Controller Mode *-9-*
[REC LAMP]
Recording Lamp *-21-*
[BEEP SOUND]
Beep Sound *-56-*
[CLOCK SET]
Date and Time Setting *-20-*
[INITIAL SET]
Initial Setting Mode *-54-*

■ ▶ [TAPE PLAYBACK MENU]

Tape Playback Mode



1) [PLAYBACK]
Playback Functions Sub-Menu
[SEARCH]
Index Search Mode *-38-*
[12bit AUDIO]
Audio Selector *-47-*
[AUDIO OUT]
Audio Output Mode *-60-*
[USB FUNCTION]
USB Functions Mode *-51-*
2) [AV IN/OUT] (NV-GS200 only)
Audio-Video Input/Output Setup Sub-Menu
[AV JACK]
AV Socket *-46-*
[A.DUB INPUT]
Audio Dubbing Input *-46-*
[DV OUT]
Analog-Digital Conversion Output *-63-*
3) [DIGITAL]
Playback Digital Setup Sub-Menu
[EFFECT ON]
Digital Effect On/Off *-39-*
[EFFECT SEL]
Digital Effect Selection *-39-*
[TITLE IN]
Adding a Title *-41-*
4) [CARD]
Card Setup Sub-Menu
[PICT QUALITY]
Picture Quality *-23-*
[MPEG4 MODE] (NV-GS200 only)
MPEG4 Picture Quality *-24-*
[CREATE TITLE]
Title Creation *-41-*