Use this manual if you encounter any problems, or have any questions about the camcorder.
# Operation Search

## Operation Search

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Selecting a topic to display

The following illustrations take Internet Explorer 7 as an example.

1. Click a title in the side bar on the left of the browser window. A list of topic titles appears in the right pane.
2. Click a topic title in the list.

Descriptions appear in the right pane.
Changing the font size
Change the font size by changing the setting of your web browser. For how to change the font size setting, refer to the Help of your web browser.

Searching a topic by keyword
Enter the keyword in the search window, then click the [Search] button.

Returning to a previous page
Use the back button of your web browser or the breadcrumb trail navigation (A) to return to a page you previously viewed.
Printing out a page
Click the [Print] button to print out a page you are viewing.

Marks and notations used in this User Guide
In this User Guide, the sequence of operations is shown by arrows (→) (A). Operate the camcorder in the order indicated.
• Icons in the operating procedure sentences appear when the camcorder is in its default settings.
• The default setting is indicated by ✓.
Models and illustrations used in this User Guide

Models described in this User Guide

The model name is shown in this User Guide when there is a difference in specification between models. Confirm the model name on the bottom of your camcorder. Difference of each model are as follows.

<table>
<thead>
<tr>
<th>Model</th>
<th>Capacity of internal memory</th>
<th>GPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDR-GW77</td>
<td>16 GB</td>
<td></td>
</tr>
<tr>
<td>HDR-GW77V</td>
<td>16 GB</td>
<td>✔</td>
</tr>
</tbody>
</table>

Illustrations and on-screen displays used in this User Guide

- The example images used in this User Guide for illustration purposes are captured using a digital still camera, and therefore may appear different from images and screen indicators that actually appear on your camcorder.
- And, the illustrations of your camcorder and its screen indication are exaggerated or simplified for understandability.
Parts and controls

1. GPS antenna (HDR-GW77V)
2. Built-in microphone
3. Flash
4. Lens (G lens)
5. Loop for the Wrist strap

LCD screen/Touch panel

If you rotate the LCD panel 180 degrees, you can close the LCD panel with the LCD screen facing out. This is convenient during playback operations.
1 MODE button
2 PHOTO button
3 START/STOP button
4 (Movie)/ (Photo) lamp
5 W (Wide) zoom button
6 T (Telephoto) zoom button

1 Memory card access lamp
While the lamp is lit or flashing, the camcorder is reading or writing data.
2 Memory card slot
3 CHG (charge) lamp
4 (USB) jack
5 HDMI OUT jack
6 Tripod receptacle
Attach a tripod (sold separately: the length of the screw must be less than 5.5 mm (7/32 in.))
7 Speaker
8 Cover lock lever
9 Battery slot
10 Battery release lever
Screen indicators

- **Left** 1
- **Center** 2
- **Right** 3
- **Bottom** 4

The following indicators appear when you change the settings. Check also for the indicators that appear during recording or playing.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>MENU</td>
<td>MENU button</td>
</tr>
<tr>
<td></td>
<td>Self-timer recording</td>
</tr>
<tr>
<td></td>
<td>GPS triangulating status</td>
</tr>
<tr>
<td></td>
<td>[Airplane Mode] set to [On]</td>
</tr>
<tr>
<td>4:3</td>
<td>Wide Mode</td>
</tr>
<tr>
<td></td>
<td>Fader</td>
</tr>
<tr>
<td></td>
<td>[Face Detection] set to [Off]</td>
</tr>
<tr>
<td></td>
<td>[Smile Shutter] set to [Off]</td>
</tr>
<tr>
<td></td>
<td>Manual focus</td>
</tr>
<tr>
<td></td>
<td>Scene Selection</td>
</tr>
<tr>
<td></td>
<td>White Balance</td>
</tr>
<tr>
<td></td>
<td>SteadyShot off</td>
</tr>
<tr>
<td></td>
<td>Tele Macro</td>
</tr>
<tr>
<td></td>
<td>x.v.Color</td>
</tr>
</tbody>
</table>
### Destination

Intelligent Auto (face detection/scene detection/camera-shake detection)

### Center

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Slideshow Set</td>
</tr>
<tr>
<td></td>
<td>Warning</td>
</tr>
<tr>
<td></td>
<td>Playback mode</td>
</tr>
</tbody>
</table>

### Right

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>60i</td>
<td>Recording image quality (HD/STD), frame rate (60p/60i) and recording mode (PS/FX/FH/HQ/LP)</td>
</tr>
<tr>
<td></td>
<td>Recording/playback/editing media</td>
</tr>
<tr>
<td>0:00:00</td>
<td>Counter (hour:minute:second)</td>
</tr>
<tr>
<td>00min</td>
<td>Estimated recording remaining time</td>
</tr>
<tr>
<td>20.4M</td>
<td>Photo size</td>
</tr>
<tr>
<td></td>
<td>Playback folder</td>
</tr>
<tr>
<td>100/112</td>
<td>Current playing movie or photo/Number of total recorded movies or photos</td>
</tr>
<tr>
<td></td>
<td>Touch pad deactivated</td>
</tr>
</tbody>
</table>

### Bottom

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micref Level low</td>
<td></td>
</tr>
<tr>
<td>Wind Noise Reduct.</td>
<td></td>
</tr>
<tr>
<td>Blt-in Zoom Mic</td>
<td></td>
</tr>
<tr>
<td>Low Lux</td>
<td></td>
</tr>
<tr>
<td>Spot Meter/Fcs/Spot Meter/Exposure</td>
<td></td>
</tr>
<tr>
<td>Intelligent Auto</td>
<td></td>
</tr>
<tr>
<td>Data file name</td>
<td></td>
</tr>
<tr>
<td>Protect</td>
<td></td>
</tr>
<tr>
<td>Flash/Red Eye Reduction</td>
<td></td>
</tr>
</tbody>
</table>
Indicators and their positions are approximate and may differ from what you actually see.

Some indicators may not appear, depending on your camcorder model.
This camcorder is equipped to be water-proof, dust-proof and shock-proof. Damage caused from misuse, abuse or failure to properly maintain the camcorder is not covered by the limited warranty.

- This camcorder is water-proof/dust-proof equivalent to IEC60529 IP58. The camcorder is operable up to a water depth of 5 m (16 feet) for 60 minutes.
- Do not subject the camcorder to pressurized water, such as from a tap.
- Do not use in hot springs.
- Use the camcorder in the recommended operating water temperature range of 0 °C to 40 °C (32 °F to 104 °F).
- Meeting MIL-STD 810F Method 516.5-Shock standards, this product has passed the required tests when dropped from a height of 1.5 m (4 feet) above a 5 cm (2 in.)-thick plywood board (with the LCD screen closed, facing toward the camcorder body)*.
  * Depending on use conditions and circumstances, no guarantee is made regarding damage to, malfunction of, or the water-proof performance of this camcorder.
- As for dust-proof/shock-proof performance, there is no guarantee that the camcorder will not become scratched or dented.
- Sometimes water-proof performance is lost if the camcorder is subjected to a strong shock such as from being dropped. We recommend the camcorder be inspected at an authorized repair shop for a fee.
- Accessories supplied do not meet water-proof, dust-proof, and shock-proof specifications.
Notes before using the camcorder under/near water

- Make sure that no foreign matter such as sand, hair, or dirt gets inside the battery/memory card/jack cover. Even a small amount of foreign matter may lead to water entering the camcorder.
- Confirm that the sealing gasket and its mating surfaces have not become scratched. Even a small scratch may lead to water entering the camcorder. If the sealing gasket or its mating surfaces become scratched, take the camcorder to an authorized repair shop to have the sealing gasket replaced for a fee.

1. Sealing gasket
2. The sealing surfaces of the sealing gasket

- If dirt or sand gets on the sealing gasket or its mating surfaces, wipe the area clean with a soft cloth that will not leave behind any fibers. Prevent the sealing gasket from becoming scratched by touching it while charging a battery or using a cable.
- Do not open/close the battery/memory card/jack cover with wet or sandy hands or near water. There is a risk this will lead to sand or water getting inside. Before opening the cover, perform the procedure described in “Cleaning after using the camcorder under/near water”.
- Open the battery/memory card/jack cover with the camcorder completely dry.
- Always confirm that the battery/memory card/jack cover has been securely locked.
Notes on using the camcorder under/near water

- The touch panel may be activated by water splashes on the screen icons.
- The touch panel cannot be operated underwater. Use the buttons of the camcorder to perform shooting operations.
- Do not subject the camcorder to shock such as from jumping into water.
- Do not open and close the battery/memory card/jack cover while under/near water.
- This camcorder sinks in water. Place your hand through the Wrist strap to prevent the camcorder from sinking.
- Faint, white, circular spots may appear in under-water flash photos due to reflections off of floating objects. This is not a malfunction.
- Select (Underwater) in Scene Selection to shoot underwater with less distortion.
- If water drops or other foreign matter is present on the lens, you will not be able to record clear images.
Cleaning after using the camcorder under/near water

- Always clean the camcorder with water after use within 60 minutes, and do not open the battery/memory card/jack cover before cleaning is finished. Sand or water may get inside places where it cannot be seen. If not rinsed, water-proof performance will be degraded.
- Allow the camcorder to sit in pure water poured into a cleaning bowl for about 5 minutes. Then, gently shake the camcorder, press each button inside the water to clean away any salt, sand or other matter lodged around the buttons.

- After rinsing, wipe away water drops with a soft cloth. Allow the camcorder to dry completely in a shady location with good ventilation. Do not blow dry with a hair dryer as there is a risk of deformation and/or degraded water-proof performance.
- Wipe away water drops or dust on the battery/memory card/jack cover with a soft dry cloth.
- This camcorder is constructed to drain water. Water will drain from openings around the zoom buttons, etc. After removing from water, place the camcorder on a dry cloth for a while to allow water to drain.
- Bubbles may appear when the camcorder is placed under water. This is not a malfunction.
- The camcorder body may become discolored if it comes in contact with sunscreen or suntan oil. If the camcorder does come in contact with sunscreen or suntan oil, quickly wipe it clean.
- Do not allow the camcorder to sit with salt water inside or on the surface. This may lead to corrosion or discoloration, and degradation of water-proof performance.
- Iron sands may adhere to the frame around the LCD screen. If iron sands adhere to the camcorder, gently wipe them off with a soft cloth so that you will not scrape the camcorder case or the LCD screen.
- To maintain the water-proof performance, we recommend that once a year you take the camcorder to your dealer, or to an authorized repair shop, to have the sealing gasket of the battery/memory card/jack cover replaced for a fee.
About the message displayed on the screen

The following message will appear on the LCD screen of the camcorder after you replace or charge the battery, or you set [Scene Selection] to [Beach], [Underwater], or [Snow].

This does not indicate a malfunction of the camcorder.
It displays a message that you should confirm before use to maintain the waterproof performances.
Touch the area the message is displayed in order to erase the message.
Supplied items

▼ To attach the Wrist strap

The numbers in ( ) are the supplied quantity.

1 Camcorder (1)
2 AC Adaptor (1)
3 Power cord (mains lead) (1)
4 HDMI cable (1)
5 USB cable (micro USB cable) (1)
6 Wrist strap (1)
7 Rechargeable battery pack NP-BG1/battery case (1)
8 “Operating Guide” (1)

Notes
- The “PlayMemories Home” (Lite Version) software and “PlayMemories Home” Help Guide are pre-installed in this camcorder.
- “Expanded Feature” of the “PlayMemories Home” software can be downloaded from the web.

To attach the Wrist strap

A: Loop for the Wrist strap
Charging the battery pack using the AC Adaptor

- Charging time
- To remove the battery pack
- On the power supply
- To check the remaining battery power

1. Close the LCD screen.

2. Open the battery/memory card/jack cover.

3. Insert the battery.

4. Connect the AC Adaptor (①), the power cord (mains lead) (②) and the USB cable (③) to your camcorder and the wall outlet (wall socket) (④).
• The CHG (charge) lamp (5) turns on.
• The CHG (charge) lamp turns off when the battery pack is fully charged. Disconnect the USB cable from the USB jack of your camcorder.

5. Close the battery/memory card/jack cover.

• Flip the battery/memory card/jack cover back (1), then slide (2) and close the cover firmly until the yellow mark of the cover lock lever is hidden.

Notes
• You cannot insert any battery pack other than an NP-BG1 (supplied) or NP-FG1 (sold separately) into your camcorder.
• You cannot use a Sony CP-AH2R, CP-AL, or AC-UP100 portable power supply device (sold separately) to charge camcorder.
• In the default setting, the LCD screen turns dark if you do not operate the camcorder for about 1 minute, and the power turns off if you do not operate the camcorder for 2 minutes, to save battery power ([Power Save]).

Charging time
Approximately 140 minutes required when you fully charge a fully discharged battery pack with AC Adaptor.
• The charging times shown in the table above are measured when charging the camcorder at a temperature of 25 °C (77 °F). It is recommended that you charge the battery in a temperature range of 10 °C to 30 °C (50 °F to 86 °F).

To remove the battery pack
1. Close the LCD screen, then slide down and open the battery/memory card/jack cover while sliding and holding the cover lock lever.
2. Slide the battery release lever (1) and remove the battery pack (2).
Make sure that the battery does not fall out.

**On the power supply**

You can connect the USB cable to an AC Adaptor that is connected to a wall outlet (wall socket) so that the power can be supplied to the camcorder.

You can also connect your camcorder to a computer using the USB cable, so that the power will be supplied from the computer, then you do not have to worry about the amount of power remaining in the battery while copying images from the camcorder, etc.

- Insert the battery into the camcorder before connecting it to a power supply either by connecting the camcorder to the AC Adaptor or the computer.
- The recording mode can be selected only when the camcorder is connected to the AC Adaptor or a computer which is compatible with a 1,500 mA standard power supply.
- When you connect the camcorder to a computer using the USB cable during playback, the USB connection screen appears. It will turn to the Playback screen if you touch (View Images).

**To check the remaining battery power**

An icon indicating the remaining battery power is displayed.

<table>
<thead>
<tr>
<th>High</th>
<th>Low</th>
<th>Empty</th>
</tr>
</thead>
</table>

- It will take approximately 1 minute to display the correct remaining battery power.
- The remaining battery power may not be displayed correctly depending on ambient conditions and the environment in which you are using your camcorder.
- Your camcorder cannot display the remaining battery life in minutes using the “InfoLITHIUM” battery.

**Related topics**

- Expected time of recording and playback with each battery pack
- Using your camcorder abroad
- [Power Save]
Charging the battery pack using your computer

1. Close the LCD screen.

2. Open the battery/memory card/jack cover.

- To open the battery/memory card/jack cover, slide and hold the cover lock lever (①), then slide the cover down slightly (②) and flip it open (③).

3. Connect the camcorder to a running computer using the USB cable (①).

②: To the wall outlet (wall socket)
### Charging time

Approximately 200 minutes required when you fully charge a fully discharged battery pack with your computer.

- The charging times shown in the table above are measured when charging the camcorder at a temperature of 25 °C (77 °F). It is recommended that you charge the battery in a temperature range of 10 °C to 30 °C (50 °F to 86 °F).

### To remove the battery pack

1. Close the LCD screen, then slide down and open the battery/memory card/jack cover while sliding and holding the cover lock lever.

2. Slide the battery release lever (①) and remove the battery pack (②).

- Make sure that the battery does not fall out.

### On the power supply

You can connect the USB cable to an AC Adaptor that is connected to a wall outlet (wall socket) so that the power can be supplied to the camcorder.

You can also connect your camcorder to a computer using the USB cable, so that the power will be supplied from the computer, then you do not have to worry about the amount of power remaining in the battery while copying images from the camcorder, etc.

- Insert the battery into the camcorder before connecting it to a power supply either by connecting the camcorder to the AC Adaptor or the computer.

- The recording mode can be selected only when the camcorder is connected to the AC Adaptor or a computer which is compatible with a 1,500 mA standard power supply.

- When you connect the camcorder to a computer using the USB cable during playback, the USB connection screen appears. It will turn to the Playback screen if you touch "View Images" (View Images).

### To check the remaining battery power

An icon indicating the remaining battery power is displayed.

- It will take approximately 1 minute to display the correct remaining battery power.

- The remaining battery power may not be displayed correctly depending on ambient conditions and the environment in which you are using your camcorder.

- Your camcorder cannot display the remaining battery life in minutes using the "InfoLITHIUM" battery.

### Related topics

- Charging the battery pack using the AC Adaptor
Charging the battery pack abroad

You can charge the battery pack in any countries/regions using the AC Adaptor supplied with your camcorder within the AC 100 V – 240 V, 50 Hz/60 Hz range.

**Notes**
- Do not use an electronic voltage transformer.

**Related topics**
- Charging the battery pack using the AC Adaptor
- Charging the battery pack using your computer
Turning the power on, and setting the date and time

To change the language setting
To turn off the power
To adjust the angle of the LCD screen

1. Open the LCD screen of your camcorder and turn the power on.

2. Select the desired language, then select [Next].

3. Select the desired geographical area with ← →, then select [Next].

4. Set [Daylight Savings] or [Summer Time], select the date format and the date and time.
   - If you set [Daylight Savings] or [Summer Time] to [On], the clock advances 1 hour.
   - When you select the date and time, select one of the items and adjust the value with ↑ ↓.
   - When you select [OK], the date and time setting operation is complete.
To change the language setting
You can change the on-screen displays to show messages in a specified language.
Select \[MENU\] \([\text{Setup}]\) \([\text{\(\uparrow\) General Settings}]\) \([\text{Language Setting}]\) \(\rightarrow\) a desired language.

To turn off the power
Close the LCD screen.

To adjust the angle of the LCD screen
First open the LCD panel 90 degrees to the camcorder (①), and then adjust the angle (②).

Notes
- The recording date, time and condition, and coordinates (HDR-GW77V) are recorded automatically on the recording media. They are not displayed during recording. However, you can check them as \([\text{Data Code}]\) during playback. To display them, select \[MENU\] \([\text{Setup}]\) \([\text{\(\uparrow\) Playback Settings}]\) \(\rightarrow\) \([\text{Data Code}]\) \(\rightarrow\) \([\text{Date/Time}]\).
- Once the clock is set, the clock time is automatically adjusted with \([\text{Auto Clock ADJ }]\) and \([\text{Auto Area ADJ}]\) set to \([\text{On}]\). The clock may not be adjusted to the correct time automatically, depending on the country/region selected for your camcorder. In this case, set \([\text{Auto Clock ADJ }]\) and \([\text{Auto Area ADJ}]\) to \([\text{Off}]\) (HDR-GW77V).

Related topics
To set the date and time again: [Date & Time Setting]

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Selecting a recording medium

The recording media that can be used are displayed on the screen of your camcorder as following icons.

<table>
<thead>
<tr>
<th>Default recording medium</th>
<th>Alternative recording medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal memory</td>
<td>Memory card</td>
</tr>
</tbody>
</table>

You can select a recording medium from the menu.

1. Select MENU → [Setup] → [Media Settings] → [Media Select] → the desired medium.

Notes
- You cannot select a different recording medium for movies and for photos.

Related topics
- Screen indicators during recording
- Expected recording time of movies
- Expected number of recordable photos
### Inserting a memory card

#### Types of memory card you can use with your camcorder

- **A**: “Memory Stick Micro” (M2) media: Insert the memory card in the direction shown in figure A until it clicks.
- **B**: microSD memory card: Insert the memory card in the direction shown in figure B until it clicks.
  - The [Preparing image database file. Please wait.] screen appears if you insert a new memory card. Wait until the screen disappears.
  - Insert the card squarely in the correct direction, otherwise it will not be recognized by the camcorder.

#### To eject the memory card

1. Open the battery/memory card/jack cover, and insert the memory card until it clicks.

![Access lamp](image)

#### Types of memory card you can use with your camcorder

<table>
<thead>
<tr>
<th>SD Speed</th>
<th>Capacity (operation verified)</th>
<th>Described in this manual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 4 or faster</td>
<td>Up to 32 GB</td>
<td>microSD card</td>
</tr>
</tbody>
</table>

- Operation with all memory cards is not assured.

**Notes**
- The camcorder is guaranteed to operate within the temperature range of 0 °C to 40 °C (32 °F to 104 °F).
104 °F) but the guaranteed operation temperature range may differ depending on each type of memory card. See the operating instruction of the memory card for details.

**To eject the memory card**

Open the cover and lightly push the memory card in once.

**Notes**

- To ensure stable operation of the memory card, it is recommended to format the memory card with your camcorder before the first use. Formatting the memory card will erase all the data stored on it and the data will be irrecoverable. Save your important data on your PC, etc.
- If [Failed to create a new Image Database File. It may be possible that there is not enough free space.] is displayed, format the memory card.
- Confirm the direction of the memory card. If you forcibly insert the memory card in the wrong direction, the memory card, memory card slot, or image data may be damaged.
- Do not insert any memory card other than those that fit into the memory card slot. If you do, it may cause a malfunction.
- When inserting or ejecting the memory card, be careful so that the memory card does not pop out and drop.
Recording movies

To record clear images

To display items on the LCD screen

In the default setting, movies and photos are recorded on the internal memory. Movies are recorded with high definition image quality (HD).

1. Open the LCD screen and press MODE to turn on the (Movie) lamp.

2. Press START/STOP to start recording.

To stop recording, press START/STOP again.

You can record photos during movie recording by pressing PHOTO (Dual Capture).

To record clear images

When the lens is dirty or dusty, clean the surface of the lens.

To display items on the LCD screen

Items on the LCD screen disappear if you do not operate the camcorder for a few seconds after you turn the camcorder on or switch between the movie recording and photo shooting modes. Touch anywhere except the buttons on the LCD screen to display information on icons with functions convenient for recording.
**Notes**

- If you close the LCD screen while recording movies, the camcorder stops recording.
- Do not touch the built-in microphone while recording.
- The maximum continuous recordable time of movies is about 13 hours.
- When a movie file exceeds 2 GB, the next movie file is created automatically.
- The flash does not work while the 🎥 (Movie) lamp is lit.
- When [Frame Rate] is set to [60p], you cannot record photos during movie recording.
- The following states will be indicated if data is still being written onto the recording media after recording has finished. During this time, do not apply shock or vibration to the camcorder, or remove the battery or AC Adaptor.
  - Access lamp is lit or flashing
  - The media icon in the upper right of the LCD screen is flashing
- The LCD screen of your camcorder can display recording images across the entire screen (full pixel display). However, this may cause slight trimming of the top, bottom, right, and left edges of images when played back on a TV which is not compatible with full pixel display. It is recommended you record images with [Guide Frame] set to [On] and using the outer frame of [Guide Frame] as a guide.

**Related topics**

- Expected recording time of movies
- [Media Select]
- To display items on the LCD screen all the time: [Display Setting]
- Recordable time, remaining capacity: [Media Info]
- Zooming
- Screen indicators during recording

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Shooting photos

In the default setting, movies and photos are recorded on the internal memory.

1. Open the LCD screen and press MODE to turn on the (Photo) lamp.

![Image showing how to turn on the (Photo) lamp]

2. Press PHOTO lightly to adjust the focus, then press it fully.

![Image showing how to adjust focus and press PHOTO]

- When the focus is adjusted properly, AE/AF lock indicator appears on the LCD screen.

**Notes**
- The flash does not work while the (Movie) lamp is lit.

**Related topics**
- Screen indicators during recording
- Zooming
- Expected number of recordable photos
- [Flash]
- To change the image size: [Image Size]
Screen indicators during recording

Described here are icons for both movie recording and photo recording modes.

1. Zoom button (W: Wide/T: Telephoto), START/STOP button (in movie recording mode), PHOTO button (in photo recording mode)
2. MENU button
3. Status detected by Intelligent Auto
4. Recording status ([STBY]/[REC])
5. AE/AF (automatic exposure/automatic focus) lock
6. Touch pad deactivated (Underwater)
7. GPS triangulating status*
8. Tracking focus
9. Zoom, Remaining battery
10. Counter (hour: minute: second), Capturing a photo, Recording/playback/editing media
11. Tracking focus cancel button
12. Intelligent Auto button
13. Approximate number of recordable photos, Aspect ratio (16:9 or 4:3), and photo size (L/M/S)
14. Estimated recording remaining time, Recording image quality (HD/STD), Frame rate (60p/60i) and recording mode (PS/FX/FH/HQ/LP)
15. View Images button
16. My Button (you can assign your favorite functions to icons displayed in this area)

* HDR-GW77V

Related topics
Setting up menu items
Intelligent Auto
Using the GPS function (HDR-GW77V)
Recording the selected subject clearly (Face Priority)
[My Button]
To record in mirror mode

1. Open the LCD panel 90 degrees to the camcorder (①), then rotate it 270 degrees to the lens side (②).
   A mirror-image of the subject appears on the LCD screen, but the image will be normal when recorded.

   ● Using [Self-portrait 1 Person] or [Self-portrait 2 People] of the [Self-Timer] setting will reduce camera shake when shooting photos in mirror mode.

Related topics
[Self-Timer]
Zooming

1. Press and hold the power zoom button (W or T) to magnify or reduce the size of the image.

**W** (Wide angle): Wider range of view

**T** (Telephoto): Close view

- You can magnify images up to 17 times (Extended Zoom) the original size with the power zoom button.
- You can switch the zoom speed between high and low, by changing the pressure on the power zoom button.

**Notes**

- Be sure to keep your finger on the power zoom buttons. If you move your finger off the power zoom button, the operation sound of the power zoom button may also be recorded.
- You cannot change the zoom speed with the button on the LCD screen.
- The minimum possible distance between camcorder and subject while maintaining sharp focus is about 1 cm (about 13/32 in.) for wide angle and about 80 cm (about 31 1/2 in.) for telephoto.
- You can magnify images up to 10 times using optical zooming in the following cases:
  - When [SteadyShot] is set to other than [Active]
  - When the (Photo) is lit.

**Related topics**

Further zooming: [Digital Zoom]
Intelligent Auto

To record images brighter than that of when using the Intelligent Auto function

Your camcorder records movies after selecting the most suitable setting for the subjects or the situation automatically. ([On] is the default setting.)

1. Select [ ] → [On] → [ ] at the right bottom of the recording screen of movies or photos.

2. Point the camcorder toward the subject and start recording.
   The icons that correspond to the conditions detected are displayed.

   Face detection: [ (Portrait), [ (Baby)
   Scene detection: [ (Backlight), [ (Landscape), [ (Night Scene), [ (Spotlight), [ (Low light), [ (Macro), [ (Underwater)
   Camera-shake detection: [ (Walk), [ (Tripod)

To cancel the Intelligent Auto function, select [ ] → [Off].

To record images brighter than that of when using the Intelligent Auto function

Select [ ] → [Camera/Mic] → [ Manual Settings] → [Low Lux].

Notes

- The camcorder may not detect the expected scene or subject, depending on the recording conditions.
Recording the selected subject clearly (Face Priority)

To record subjects other than people (Tracking focus)

Your camcorder can track a face you select and adjust the focus, exposure, and skin tone of the face automatically.

1. Touch one of the faces targeted.

A: You can release the selection.

Notes
- The subject you touched may not be detected, depending on the surrounding brightness or hairstyle of the subject.
- Make sure to set the [Face Detection] setting to other than [Off] ([Auto] is the default setting).

To record subjects other than people (Tracking focus)

Touch the subject you want to record.
Your camcorder adjusts the focus automatically.
Using the GPS function (HDR-GW77V)

- If you do not want to record location information
- To obtain a map of the current location (triangulating priority mode)
- To check the triangulating status
- On the satellite map and triangulating gauge
- How to check the GPS satellite icons/triangulating gauge
- If data on your current location cannot be obtained
- Hints for better reception

The following features are available if you use the GPS (Global Positioning System) function.
- Recording location information on movies or photos ([On] is the default setting.)
- Playing movies and photos by searching for them from a map (Map View)
- Displaying a map of your current location

GPS triangulating status

A: Number of dots changes while the camcorder is searching for the satellites.
B: Triangulating meters appear when the satellites are found.

When the camcorder cannot triangulate

A: The camcorder does not have location information.
B: The camcorder displays the location information that was previously obtained.

| If you do not want to record location information |
| Select [MENU] → [Setup] → [General Settings] → [GPS Setting] → [Off]. |
Notes
- It may take a while before the camcorder starts triangulating.
- Use the GPS function outdoors and in open areas, as the radio signals can best be received in such areas.
- The map always displays the north at the top.

To obtain a map of the current location (triangulating priority mode)
This feature is useful for checking a map of your current location while traveling. As the camcorder turns other functions off to search for satellites, obtaining triangulating information can take priority.

1. Select \[Setup\] → [General Settings] → [Your Location].

A: A marker that indicates your current location

Notes
- If you select a certain point on the screen, the map shows an area with that point at the center. Select \[\] to move your current location back to the center again.
- If the camcorder cannot acquire current location information, the triangulating information appears.
- If the camcorder cannot obtain current location information, a marker which indicates the location last acquired is displayed on a map. If the location information that was previously obtained is invalid, the marker does not appear.

To check the triangulating status
The camcorder displays the status of the GPS signal reception when you are unable to obtain the triangulating information.

1. Touch \[\] on [Your Location] screen.

A: Satellite map
B: Satellite icons
C: Triangulating gauge
D: Information for the location that was previously obtained.

On the satellite map and triangulating gauge
The center of the satellite map shows your current location. You can check the direction (north/south/east/west) of the satellites with the satellite icons (●) that appear on the satellite map.
When the camcorder succeeds in triangulating your location, the triangulating gauge turns to green.

### How to check the GPS satellite icons/triangulating gauge

The color of the GPS satellite icons and the triangulating gauge change according to the current status of triangulation.

<table>
<thead>
<tr>
<th>GPS satellite icons/triangulating gauge</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>●● (black)</td>
<td>No signal, but orbit information for the satellite is available.</td>
</tr>
<tr>
<td>● (gray)</td>
<td>Part of the satellite orbit information has been obtained.</td>
</tr>
<tr>
<td>● (brown)</td>
<td>About a half of the satellite orbit information has been obtained.</td>
</tr>
<tr>
<td>● (ocher)</td>
<td>Most of the satellite orbit information has been obtained.</td>
</tr>
<tr>
<td>○● (green)</td>
<td>Triangulating is completed and the satellite is currently being used.</td>
</tr>
</tbody>
</table>

### If data on your current location cannot be obtained

A display that allows you to triangulate the location again appears. In this case, follow the instructions that appears on the LCD screen.

### Hints for better reception

- Use the GPS function outdoors and in open areas.
  For details on locations or situations where radio signals cannot be received, see "About GPS (HDR-GW77V)."
- Direct the GPS antenna toward the sky. Do not place your hand on the GPS antenna.

- Select [Your Location] in the menu to use the triangulating priority mode.
- Use GPS Assist Data. If you import GPS Assist Data from your computer to your camcorder using the built-in "PlayMemories Home" software, the time it takes the camcorder to acquire your location information can be shortened. Connect the camcorder to a computer that is connected to the Internet. The GPS Assist Data will be updated automatically.

### Notes

- In the following situations, the current location of the camcorder shown on the map may be different from the actual location. The margin of error can be as wide as several hundred meters.
  - When the camcorder receives GPS signals that have been reflected off the surrounding buildings
  - When the GPS signal is too weak
- The GPS Assist Data may not function in the following cases:
  - When the GPS Assist Data are not updated for about 30 days or more
  - When the date and time of the camcorder are not correctly set
  - When the camcorder is moved for a long distance
- If you are using a Mac, you cannot import GPS Assist Data.
Related topics
Locations or situations where radio signals cannot be received: About GPS (HDR-GW77V)

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Playing movies and photos from the Event View screen

You can search for recorded images by date and time of recording (Event view).

1. Open the LCD screen and select (View Images) on the LCD screen to enter the playback mode.

![Image of camcorder with LCD screen opened showing View Images]

- You can display the Event View when the LCD screen is folded with the reverse (screen) side facing out.

2. Select \( \leftrightarrow \) to move the desired event to the center (1) and then select it (2).

![Image of Event View screen with events]

- The camcorder displays recorded images as an event automatically, based on the date and time.

3. Select the image.

![Image of selected image]

- The camcorder plays from the selected image to the last image in the event.

4. Select the appropriate buttons on the LCD screen for various playback operations.
Some buttons described above may not appear, depending on the image being played back.

As you repeat selecting ‾‾‾ or ‾‾‾ during playback, movies are played as fast as about 5 times
about 10 times → about 30 times → about 60 times.

Select ‾‾‾ during pause to play movies slowly.

To repeat Slideshow, select ➤ ➤ [Slideshow Set] when ➤ is selected with the Switch Image
Type button.

### Screen display on the Event View screen

1: To the MENU screen  
2: Event name  
3: To the previous event  
4: Change to the movie/photo recording mode  
5: To play back short movies (Highlight Playback)  
6: Remaining battery  
7: To the Map View screen*  
8: Events  
9: To the next event  
10: Time-line bar  
11: Change Event Scale button  
* HDR-GW77V
Reduced-size images which enable you to view many images at the same time on an index screen are called “thumbnails.”

**To play back images with other devices**

- You may not be able to play back normally images recorded on your camcorder with other devices. Also, you may not be able to play back images recorded on other devices with your camcorder.
- Standard definition image quality (STD) movies recorded on SD memory cards cannot be played on AV equipment of other manufacturers.

**Notes**

- To prevent your image data from being lost, save all your recorded images on external media periodically.

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Playing movies and photos from a map (HDR-GW77V)

You can search for recorded images by location of recording (Map View).

1. Open the LCD screen and select (View Images) on the LCD screen to enter the playback mode.

2. Switch to the Map View by touching [Map View].

3. Select the recording location.
   - Touch the direction on the map in which you want the map to be scrolled. Keep touching that point to scroll the map continuously.
   - If you change the map scale using the power zoom button, the clusters of thumbnails will change as well.

4. Select the desired image.
5. Select the appropriate buttons on the LCD screen for various playback operations.

<table>
<thead>
<tr>
<th></th>
<th>Volume</th>
<th>Previous/Next</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Delete</td>
<td>Fast-reverse/fast-forward</td>
</tr>
<tr>
<td></td>
<td>Context</td>
<td>Play/Pause</td>
</tr>
<tr>
<td></td>
<td>Stop</td>
<td>Play/stop slide show</td>
</tr>
</tbody>
</table>

- Some buttons described above may not appear, depending on the image being played back.
- As you repeat selecting [ ] during playback, movies are played as fast as about 5 times → about 10 times → about 30 times → about 60 times.
- Select [ ] during pause to play movies slowly.
- To repeat Slideshow, select [ ] [Slideshow Set] when [ ] is selected with the Switch Image Type button.

### When you use the map data for the first time

A message appears asking you to confirm whether you agree with the terms of the license agreement of the map data. You can use the map data by touching [Yes] on the screen after agreeing to the terms of the license agreement. (For details on the license agreement, refer to the “Operating Guide” supplied with your camcorder.)

You cannot use the map data if you touch [No]. However, when you try to use the map data for the second time, the same message will appear on the screen, and you can use the map data by touching [Yes].

### Screen display on the Map View
To the MENU screen
2: To the movie recording display
3: To the Event View screen
4: To play back short movies

1: To the Map View
2: Previous/next
3: To the movie recording display
4: Switch Image Type button

**To play back images with other devices**

- You may not be able to play back normally images recorded on your camcorder with other devices. Also, you may not be able to play back images recorded on other devices with your camcorder.
- Standard definition image quality (STD) movies recorded on SD memory cards cannot be played on AV equipment of other manufacturers.
Dividing a movie

1. Select [Divide] on the movie playback screen.

2. Select the point where you want to divide the movie into scenes using \( \text{Play/Stop} \), and then select [OK].

A: Returns to the beginning of the selected movie
B: Adjusts the dividing point with more precision

Notes
- A slight difference may occur from the point where you select and the actual dividing point, as your camcorder selects the dividing point based on about half-second increments.
- Some basic editing operations can be done on the camcorder. If you want to do advanced editing operations, use the built-in “PlayMemories Home” software.
- Do not remove the battery pack or the AC Adaptor from your camcorder while dividing the images. It may damage the recording media.
- Do not eject the memory card while dividing images from the memory card.
- If you divide movies that are included in saved scenarios, the scenarios will also be deleted.

Related topics
[Delete]
Capturing a photo from a movie

- On recording date and time of captured photos

1. Select [Photo Capture] that appears on the playback screen of a movie.

2. Select the point where you want to capture a photo using \(\text{\textarrowleft}/\text{\textarrowright}\), and then select \(\text{OK}\).

   A: Returns to the beginning of the selected movie
   B: Adjusts the capturing point with more precision

If the movie was recorded with one of the following image quality levels, the image size will be set as shown below.
- High definition image quality (HD): 2.1 M (16:9)
- Wide aspect ratio (16:9) with standard definition image quality (STD): 0.2 M (16:9)
- 4:3 aspect ratio with standard definition image quality (STD): 0.3 M (4:3)

- On recording date and time of captured photos

- The recording date and time of captured photos is the same as the recording date and time of the movies.
- If the movie you are capturing from has no data code, the recording date and time of the photo will be the date and time you captured from the movie.
Enjoying a digest of your movies (Highlight Playback)

- Enhancing the Highlight Playback experience
- To change the settings for Highlight Playback

You can enjoy a digest of high definition image quality (HD) movies and photos, similar to a short movie.

1. Select (View Images) on the LCD screen to enter the playback mode.
2. Display the desired event at the center of the Event View, and select [Highlight].

![Highlight Playback interface]

The camcorder starts Highlight Playback.

A: Volume adjustment  
B: Context  
C: To stop  
D: Previous  
E: To pause  
F: Next

Enhancing the Highlight Playback experience

You can replay or save Highlight Playback scenes by selecting (Context) on the screen after a Highlight Playback has finished or while playing a Highlight Playback scene.

To change the settings for Highlight Playback

You can change the Highlight Playback settings by selecting [Highlight Setting] on the screen after Highlight Playback has finished.

You can also change the setting by selecting [Highlight Setting] while the camcorder is playing highlight scenes.

- [Playback Range]: You can set the playback range (starting and ending date) of the Highlight Playback.
- [Theme]: You can select a theme for Highlight Playback.
- [Music]: You can select music.
- [Audio mix]: The original sound is played back with the music.
• [Length]: You can set the length of the Highlight Playback segment.
• [Highlight Point]: You can set the points in a movie or photo that will be used in a Highlight Playback. Play the desired movie, and select [ ] → [OK]. Or play the desired photo and select [OK].
  
  appears on the movie or photo that is used in a Highlight Playback.
  
  To erase the points, select [ ] → [Clear All Points].

**Notes**

• Highlight Playback scenes will change each time you select a Highlight Playback.
• The [Playback Range] setting is cleared when the Highlight Playback stops.
• After the music file is transferred to the camcorder, if you cannot play the music, the music file may be damaged. Delete the music file by selecting [ ] → [Setup] → [Playback Settings] → [Empty Music], then transfer the music file again. You can restore the music data recorded on your camcorder at the default using “Music Transfer.” For operating instructions, see “Music Transfer” help.
• If the Highlight Playback function was started from the Map View, [Highlight Point] cannot be set. However, if the Highlight Playback function was started from the Event View screen and you set the [Highlight Point], the point can take effect on the Map View also (HDR-GW77V).
• When you connect the camcorder to an external device, such as a TV, and watch Highlight Playback, these images do not appear on the LCD screen of the camcorder.
To play back a saved scenario

You can save your favorite Highlight Playback as a “Scenario” with high definition image quality (HD). Up to 8 scenarios can be saved and these scenarios can be played on the camcorder only.

1. Select [Replay] on the screen after a Highlight Playback has finished.
2. When the Highlight Playback starts again, select \[Scenario Save\].

To play back a saved scenario

1. Select \[MENU\] → [Playback Function] → [Scenario], select the desired scenario, and then select \[OK\].

To erase a saved scenario, select \[Erase\]/[Erase All] while playing the scenario.

Notes

- When you connect the camcorder to an external device, such as a TV, and watch Highlight Scenario, these images do not appear on the LCD screen of the camcorder.
Converting Highlight Playback scenes or Highlight Scenarios to standard definition image quality (STD) (Highlight Movie)

To play back a Highlight Movie

You can convert the data format of Highlight Playback or Highlight Scenarios to standard definition image quality (STD) and save them as a “Highlight Movie.” Highlight movies can be uploaded to the Web.

1. Select [Save and Share] on the screen after Highlight Playback or Highlight Scenario playback has finished.

2. Select the desired operation when the item has been saved.

   A: Selecting [Share] allows you to upload the Highlight movie to the Web using the built-in “PlayMemories Home” software. [Details]
   B: Your camcorder plays the Highlight Movie saved.

To play back a Highlight Movie

1. Select MENU → [Playback Function] → [Highlight Movie] and select the desired Highlight Movie.
   • To erase Highlight Movie, select while the Highlight Movie is playing.
Connecting the camcorder to a TV

---

**On an HDMI cable**

Use the HDMI cable to connect the camcorder to a TV which has an HDMI input jack.

1. Switch the input on the TV to HDMI IN.
2. Connect the HDMI cable (1) to the HDMI OUT jack (2) on the camcorder and to the HDMI IN jack (3) on the TV.
3. Play a movie or a photo on the camcorder.

---

**On an HDMI cable**

- Use an HDMI cable with the HDMI logo.
- Use an HDMI mini connector on one end (for the camcorder), and a plug suitable for connecting your TV on the other end.
- Copyright-protected images are not output from the HDMI OUT jack of your camcorder.
- Some TVs may not function correctly (e.g., no sound or image) with this connection.
- Do not connect the camcorder HDMI OUT jack to an external device HDMI OUT jack, as malfunction may result.
- HDMI (High Definition Multimedia Interface) is an interface to send both video/audio signals. The HDMI OUT jack outputs high quality images and digital audio.

**Notes**

- Refer to the instruction manuals of the TV as well.
- Connect the camcorder to the wall outlet (wall socket) using the supplied AC Adaptor and the USB cable. [Details]
- When movies are recorded with standard image quality (STD), they are played back in standard definition image quality (STD) even on a high definition TV.
Using “BRAVIA” Sync

You can operate your camcorder with the remote commander of your TV by connecting your camcorder to a “BRAVIA” Sync compatible TV launched in 2008 or later with the HDMI cable. You can operate the menu of your camcorder by pressing the SYNC MENU button of the remote commander of your TV. You can display the camcorder screens such as Event View, play selected movies or display selected photos by pressing up/down/left/right/enter buttons of the remote commander of your TV.

**Notes**
- Set [CTRL FOR HDMI] to [On].
- Also set your TV accordingly. Refer to the instruction manual of the TV for details.
- The operation of “BRAVIA” Sync differs according to each model of BRAVIA. Refer to the instruction manual of your TV for details.
- If you turn off the TV, your camcorder is turned off simultaneously.
Starting the “PlayMemories Home” software

1. Double-click the “PlayMemories Home” icon on the computer screen. The “PlayMemories Home” software starts up.

2. Double-click the “PlayMemories Home” Help Guide short-cut icon on the computer screen to see how to use “PlayMemories Home.”

If the icon is not displayed on the computer screen, click [Start] → [All Programs] → [PlayMemories Home] → the desired item.
Setting up menu items

To find a menu item quickly

When you cannot select a menu item

The camcorder has various menu items under each of 6 menu categories.
- Shooting Mode (Items for selecting a shooting mode)
- Camera/Mic (Items for customized shooting)
- Image Quality/Size (Items for setting up image quality or size)
- Playback Function (Items for playback)
- Edit/Copy (Items for editing images such as copy or protect)
- Setup (Other setup items)

1. Select **MENU**.

2. Select a category.

3. Select your desired menu item.

Notes
- Select 
  to finish setting the menu or to return to the previous screen.

To find a menu item quickly

The [Camera/Mic] and [Setup] menus have sub-categories. Select the sub-category icon so that the
LCD screen displays the list of menus in the sub-category selected.

A: Sub-category icons

When you cannot select a menu item

Grayed out menu items or settings are not available. When you select the grayed out menu item, your camcorder displays the reason why you cannot select the menu item or the instruction of under which condition you can set the menu item.
Movie

You can select the movie recording mode.

1. **MENU** → [Shooting Mode] → [Movie].
Photo

You can select the photo shooting mode.

1. **MENU** → [Shooting Mode] → [Photo].
Smth Slw REC (Smooth slow rec)

△ To change the timing at which the camcorder starts recording

The camcorder records approximately 3-second-long fast actions or motions as an approximately 12-second-long slow-motion movie.

1. **MENU** → [Shooting Mode] → [Smth Slw REC].

2. Press the START/STOP button.
   
   [Recording...] disappears when recording is finished.

To change the timing at which the camcorder starts recording

Select [ ]]/[ ] to make the setting.

- [3sec After] (default setting)
  The camcorder records a movie of approximately 3 seconds after the START/STOP button is pressed.
- [3sec Before]
  The camcorder records a movie of approximately 3 seconds before the START/STOP button is pressed.

**Notes**

- You cannot record sound.
- Image quality is not as good as that of normal recording.
- [REC Mode] will be set to [Standard] automatically.
Golf Shot

Timing that the camcorder starts recording
To check your form using self-timer

Divides 2 seconds of fast movement into frames which are then recorded as a movie and photos. You can view a series of movement when playing back, which is convenient in cases such as checking golf swing or tennis form.

1. \( \text{[Menu]} \rightarrow \text{[Shooting Mode]} \rightarrow \text{[Golf Shot]} \).

Timing that the camcorder starts recording

If the moment when the largest sound in 1 second after the START/STOP button is pressed has been detected, the camcorder assumes the moment as the sound of a club hitting the ball. When the sound of a club hitting the ball is detected, the recording time period is automatically adjusted according to at that moment.

- A: The sound of a club hitting the ball*
- B: The point when you press START/STOP
- C: The camcorder records images in this 2 seconds period.

* The camcorder sets the point when the loudest sound in the past 1 second is detected, as the sound of a club hitting the ball.

To check your form using self-timer

Select \( \text{[On]} \).
The camcorder starts countdown of the timer after you press the START/STOP button. The point when the count reaches 0 is assumed as the moment of impact and motion before and after 0 is recorded.

**Notes**

- If the camcorder cannot detect the sound of a club hitting the ball, the camcorder automatically sets the impact point at 0.5 second before the START/STOP button has been pressed, and records a movie in the time period between 1.5 seconds before the impact point to 0.5 second after the impact point.
- The size of photos becomes 1,920 × 1,080.
- You cannot record sound.
- Image quality is not as good as that of normal recording.
- **[REC Mode]** will be set to **[Standard]** automatically.
- The image recorded may be noisy when your camcorder has failed to analyze the shot properly because there may be movement in background of the [Golf Shot] recording screen. It is recommended that you record images under stable conditions (for example, using a tripod).
iSweep Panorama

To select the image size of the photo taken by iSweep Panorama

Tips on shooting panoramic photos

You can make a panoramic photo by taking multiple photos as you sweep the camcorder and combining them into one.

1. **MENU** → [Shooting Mode] → [iSweep Panorama].

2. Align the camcorder with the end of the subject to be shot and press PHOTO.

A: This part will not be recorded.
- You can select the direction in which you move the camcorder by touching \( \text{方向} \) on the LCD screen.

3. Sweep the camcorder to the end point of the guide (B), following the indication on the screen.

B: Guide
- You can play the panoramic photos using the built-in “PlayMemories Home” software.

To select the image size of the photo taken by iSweep Panorama

Select \( \text{尺寸} \) before you start shooting.
- [Standard] (the default setting)
  Horizontal: 4,912 × 1,080
  Vertical: 3,424 × 1,920
- [Wide]
  Horizontal: 7,152 × 1,080
  Vertical: 4,912 × 1,920

**Tips on shooting panoramic photos**

Sweep the camcorder around you at slow and steady speed (about 5 seconds for 180 degrees). A message will alert you if the speed is too high or too low. It is recommended that you practice the sweeping movement in advance before you take a panoramic photo.

- For taking a good panoramic photo, it is also important to keep sufficient distance between the subject and the background or to shoot in bright places such as outdoors.
White Balance

You can adjust the color balance to the recording environment.

1. \[ \text{MENU} \rightarrow \text{[Camera/Mic]} \rightarrow \text{[Manual Settings]} \rightarrow \text{[White Balance]} \].

2. Select the desired setting.

<table>
<thead>
<tr>
<th>White Balance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Auto)</td>
<td>The white balance is adjusted automatically.</td>
</tr>
<tr>
<td></td>
<td>If you have changed the battery pack while [Auto] was selected, or taken your camcorder outdoors after inside use (or vice versa), aim your camcorder at a nearby white object for about 10 seconds for better color balance adjustment.</td>
</tr>
<tr>
<td>(Outdoor)</td>
<td>The white balance is appropriately adjusted for the following recording conditions:</td>
</tr>
<tr>
<td></td>
<td>• Outdoors</td>
</tr>
<tr>
<td></td>
<td>• Night views, neon signs and fireworks</td>
</tr>
<tr>
<td></td>
<td>• Sunrise or sunset</td>
</tr>
<tr>
<td></td>
<td>• Under daylight fluorescent lamps</td>
</tr>
<tr>
<td>(Indoor)</td>
<td>The white balance is appropriately adjusted for the following recording conditions:</td>
</tr>
<tr>
<td></td>
<td>• Indoors</td>
</tr>
<tr>
<td></td>
<td>• At party scenes or studios where the lighting conditions change quickly</td>
</tr>
<tr>
<td></td>
<td>• Under video lamps in a studio, or under sodium lamps or incandescent-like color lamps</td>
</tr>
<tr>
<td>(One Push)</td>
<td>The white balance will be adjusted according to the ambient light.</td>
</tr>
<tr>
<td>1</td>
<td>Select [ ].</td>
</tr>
<tr>
<td>2</td>
<td>Keep framing white object such as a piece of paper, to fill the screen under the same lightning conditions as you will shoot the subject.</td>
</tr>
<tr>
<td>3</td>
<td>Select [SET].</td>
</tr>
<tr>
<td></td>
<td>If the lighting conditions changed by bringing your camcorder outdoors from inside the house, or vice versa, you need to redo the [One Push] procedure to readjust the white balance.</td>
</tr>
</tbody>
</table>

Notes
Set [White Balance] to [Auto] or adjust the color in [One Push] under white or cool white fluorescent lamps.

While you are recording a movie, (One Push) cannot be set.

If you set [White Balance], [Scene Selection] is set to [Auto].
Spot Meter/Fcs (Spot meter/focus)

Brightness and focus can be adjusted for the selected subject automatically.

1. **MENU** → [Camera/Mic] → [Manual Settings] → [Spot Meter/Fcs].

2. Touch the subject of which you want to adjust the brightness and focus.
   - To adjust the brightness and focus automatically, touch [Auto].

**Notes**
- [Exposure] and [Focus] are automatically set to [Manual].

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Spot Meter (Flexible spot meter)

Exposure can be adjusted and set for the selected subject automatically. This function is useful when there is strong contrast between the subject and the background, such as subjects in the spotlight on stage.

1.  

2.  

Notes

- [Exposure] is automatically set to [Manual].
Spot Focus

Focus can be adjusted automatically for the subject selected.

1. MENU → [Camera/Mic] → [Manual Settings] → [Spot Focus].

2. Touch the subject of which you want to adjust the focus.
   - To adjust the focus automatically, touch [Auto].

Notes
- [Focus] is automatically set to [Manual].
Exposure

You can fix the brightness of a picture manually. Adjust the brightness when the subject is too bright or too dark.

1. \[\text{MENU}\] \[\rightarrow\] [Camera/Mic] \[\rightarrow\] [\(\text{Manual Settings}\)] \[\rightarrow\] [Exposure].

2. Select the desired item.

<table>
<thead>
<tr>
<th>Auto</th>
<th>The exposure is adjusted automatically.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual</td>
<td>Select (+) if the subject is white or the backlight is bright, or select (-) if the subject is black or the light is dim.</td>
</tr>
</tbody>
</table>
Focus

To adjust the focus

On focal distance information

You can adjust the focus manually. You can select this function also when you want to focus on a certain subject intentionally.

1. \( \text{MENU} \rightarrow \{\text{Camera/Mic}\} \rightarrow \{\text{Manual Settings}\} \rightarrow \{\text{Focus}\} \).

2. Select the desired item.

<table>
<thead>
<tr>
<th>Auto</th>
<th>The focus is adjusted automatically.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual</td>
<td>Adjust the focus using ( \rightarrow ) (nearby subject) or ( \rightarrow ) (distant subject).</td>
</tr>
<tr>
<td></td>
<td>( \rightarrow ) appears when the focus cannot be adjusted any closer, and ( \rightarrow ) appears when the focus cannot be adjusted farther away.</td>
</tr>
</tbody>
</table>

To adjust the focus

It is easier to focus on the subject by pressing the T (telephoto) zoom button to adjust the focus, then pressing W (wide angle) to adjust the zoom for recording. When you want to record a subject at close range, press the W (wide angle) zoom button, then adjust the focus.

On focal distance information

Your camcorder displays the focal distance information for a few seconds when the focus mode is switched from automatic to manual or when you set the focus manually. You can use this information as a guide when the subject is dark and focus adjustment is difficult.

Notes

- When you set [Focus] to [Manual], \( \rightarrow \) appears.
- The minimum possible distance between camcorder and subject while maintaining sharp focus is...
about 1 cm (about 13/32 in.) for wide angle and about 80 cm (about 31 1/2 in.) for telephoto.
Low Lux

You can record bright color images, even in dim light.

1. **MENU** → [Camera/Mic] → [Manual Settings] → [Low Lux].

2. Select the desired item.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>Off</td>
</tr>
<tr>
<td></td>
<td>The Low Lux function is not used.</td>
</tr>
<tr>
<td>✓</td>
<td>On (î)</td>
</tr>
<tr>
<td></td>
<td>The Low Lux function is used.</td>
</tr>
</tbody>
</table>
Scene Selection

You can record images effectively in various situations.

1. **MENU** → [Camera/Mic] → [Camera Settings] → [Scene Selection].

2. Select the desired item.

<table>
<thead>
<tr>
<th>Scene Selection</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Auto] (Auto)</td>
<td>Adjusts image quality automatically.</td>
</tr>
<tr>
<td>![Night Scene] (Night Scene)*1</td>
<td>Maintains the darkening atmosphere of the distant surroundings in night scenes.</td>
</tr>
<tr>
<td>![Night Portrait] (Night Portrait)</td>
<td>Enables to take photos of people and background using a flash.</td>
</tr>
<tr>
<td>![Sunrise&amp;Sunset] (Sunrise&amp;Sunset)*1</td>
<td>Reproduces the atmosphere of scenes such as sunsets or sunrises.</td>
</tr>
<tr>
<td>![Fireworks] (Fireworks)*1</td>
<td>Takes spectacular shots of fireworks.</td>
</tr>
<tr>
<td>![Landscape] (Landscape)*1</td>
<td>Shoots distant subjects clearly. This setting also prevents your camcorder from focusing on glass or metal mesh in windows.</td>
</tr>
</tbody>
</table>
between the camcorder and the subject.

### (Portrait)
Brings out the subject such as people or flowers while creating a soft background.

### (Spotlight)
Prevents people’s faces from appearing excessively white when subjects are lit by strong light.

### (Beach)
Takes the vivid blue of the ocean or a lake.

### (Underwater)
Takes a vivid picture underwater.

### (Snow)
Takes bright pictures of a white landscape.

*1 Adjusted to focus on subjects farther away only.
*2 Adjusted not to focus on subjects a short distance away.

### Notes
- Even if you set [Night Portrait], the setting changes to [Auto] when the (Movie) lamp is lit.
- If you set [Scene Selection], the [White Balance] setting is canceled.
### Fader

You can record a transition with the following effects adding to the interval between scenes. Select the desired effect in [STBY] (to fading in) or [REC] (to fading out) mode.

1. **MENU** → [Camera/Mic] → [Camera Settings] → [Fader].

2. Select the desired item.

<table>
<thead>
<tr>
<th>Effect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
<td>Does not use an effect.</td>
</tr>
<tr>
<td><strong>White Fader</strong></td>
<td>Fades in/out with the white effect.</td>
</tr>
<tr>
<td></td>
<td>Out → In</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Effect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Black Fader</strong></td>
<td>Fades in/out with the black effect.</td>
</tr>
<tr>
<td></td>
<td>Out → In</td>
</tr>
</tbody>
</table>

**Notes**

- When you press START/STOP, the setting is cleared.
Self-Timer

Press PHOTO to start the count down. A photo is recorded after about 10 seconds. Using [Self-portrait 1 Person] or [Self-portrait 2 People] will alleviate the camera shake that occurs when you press the PHOTO when shooting a photo.

1. MENU → [Camera/Mic] → [Camera Settings] → [Self-Timer].

2. Select the desired item.

- **Off**: Cancels the self-timer.
- **10sec (10)**: Sets the self-timer to a 10-second delay. Pressing the PHOTO button starts the countdown.
- **2sec (2)**: Sets the self-timer to a 2-second delay. Pressing the PHOTO button starts the countdown.
- **Self-portrait 1 Person (1)**: When the camcorder detects a face, a beep sounds, and the shutter operates 2 seconds later.
- **Self-portrait 2 People (2)**: When the camcorder detects two faces, a beep sounds, and the shutter operates 2 seconds later.
Tele Macro

You can blur out backgrounds and the subject stands out clearer. This is useful to shoot small subjects, such as flowers or insects.

1.  

2.  Select the desired item.

<table>
<thead>
<tr>
<th>Off</th>
<th>Cancels Tele Macro. (Tele Macro is also canceled when you press the W zoom button.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>On</td>
<td>The zoom moves to the top of the T (telephoto) side automatically and allows recording subjects at close range down to about 38 cm (15 in.).</td>
</tr>
</tbody>
</table>

Notes

- When recording a distant subject, focusing may be difficult and can take some time.
- Adjust the focus manually when it is hard to focus automatically.

Related topics

Zooming
Focus

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**SteadyShot (movie)**

You can compensate for camera shake.
Set [SteadyShot] to [Off] when using a tripod (sold separately), then the image becomes natural.

1. MENU → [Camera/Mic] → [Camera Settings] → [SteadyShot].

2. Select the desired item.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active</strong></td>
<td>Provides a more powerful SteadyShot effect.</td>
</tr>
<tr>
<td><strong>Standard</strong></td>
<td>Provides a SteadyShot effect, performing wide-angle recording under relatively stable recording conditions.</td>
</tr>
<tr>
<td><strong>Off</strong></td>
<td>The SteadyShot function is not used.</td>
</tr>
</tbody>
</table>

**Notes**
- If you change the setting, the imaging field will also change accordingly.
- You can zoom images up to 10 times, unless [SteadyShot] is set to [Active].
SteadyShot (photo)

You can compensate for camera shake.
Set [SteadyShot] to [Off] when using a tripod (sold separately), then the image becomes natural.

1. **MENU** → [Camera/Mic] → [Camera Settings] → [SteadyShot].

2. Select the desired item.

<table>
<thead>
<tr>
<th>On</th>
<th>The SteadyShot function is used.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off (Off)</td>
<td>The SteadyShot function is not used.</td>
</tr>
</tbody>
</table>
Digital Zoom

You can select the maximum zoom level. Note that the image quality decreases when you use the digital zoom.

1. **MENU** → [Camera/Mic] → [Camera Settings] → [Digital Zoom].

2. Select the desired item.

<table>
<thead>
<tr>
<th>Off</th>
<th>Does not use the digital zoom.</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
<td>Up to 120 X zoom is performed digitally.</td>
</tr>
</tbody>
</table>

A: The zooming zone appears when you select [120 X].
Auto Back Light

Your camcorder adjusts the exposure for backlit subjects automatically.

1. Press [MENU] → [Camera/Mic] → [Camera Settings] → [Auto Back Light].

2. Select the desired item.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>On</strong></td>
<td>The exposure for backlit subjects is adjusted automatically.</td>
</tr>
<tr>
<td><strong>Off</strong></td>
<td>Does not adjust the exposure for backlit subjects.</td>
</tr>
</tbody>
</table>
Face Detection

▼ Recording conditions for better face detection performance

You can set the camcorder to detect a face automatically. Your camcorder adjusts the focus/color/exposure automatically for the face of the selected subject.

1. **[MENU]** → [Camera/Mic] → [Face] → [Face Detection].

2. Select the desired item.

<table>
<thead>
<tr>
<th>Auto</th>
<th>Detects faces without distinction between adults and children.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Priority (♂️)</td>
<td>Gives faces of adults priority.</td>
</tr>
<tr>
<td>Off (♂️)</td>
<td>Does not detect faces.</td>
</tr>
</tbody>
</table>

Recording conditions for better face detection performance

- Shoot in a sufficiently bright place.
- The subject is not wearing glasses, a hat or mask.
- The subject faces directly towards the camcorder.

Notes

- Faces may not be detected depending on recording conditions, subject conditions, and the setting of your camcorder.

Related topics

- Recording the selected subject clearly (Face Priority)
- Smile Shutter
Smile Shutter

The shutter is released automatically when the camcorder detects a smile. If you do not want to take photos automatically, select [Off].

A: The camcorder is detecting a face.
B: The camcorder is detecting a smile (orange).

1. MENU → [Camera/Mic] → [Face] → [Smile Shutter].

2. Select the desired item.

<table>
<thead>
<tr>
<th>Dual Capture</th>
<th>Always On</th>
<th>Off (Off)</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Only during movie recording, the shutter is released automatically, when the camcorder detects a smile.</td>
<td>The shutter is released when the camcorder detects a smile whenever the camcorder is in recording mode.</td>
<td>Smiles are not detected, so photos are not recorded automatically.</td>
</tr>
</tbody>
</table>

Notes
- When the frame rate and the recording mode are set to [60i]/[Highest Quality $\text{FX}$] or [60p]/[60p Quality $\text{FS}$], you cannot use the Smile Shutter function while recording movies.
- Smiles may not be detected depending on recording conditions, subject conditions, and the setting of your camcorder.

Related topics
[Smile Sensitivity]
Smile Sensitivity

Sets the smile detection sensitivity for using the Smile Shutter function.

1. MENU → [Camera/Mic] → [Face] → [Smile Sensitivity].

2. Select the desired item.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Big Smile</strong></td>
<td>Detects a big smile.</td>
</tr>
<tr>
<td><strong>Normal Smile</strong></td>
<td>Detects a normal smile.</td>
</tr>
<tr>
<td><strong>Slight Smile</strong></td>
<td>Detects even a slight smile.</td>
</tr>
</tbody>
</table>
Flash

If white circular spots appear on photos

You can select the flash setting when you record photos using the built-in flash, or an external flash (sold separately) that is compatible with your camcorder.

1. Select the desired item.

<table>
<thead>
<tr>
<th>Auto</th>
<th>Automatically flashes when there is insufficient ambient light.</th>
</tr>
</thead>
<tbody>
<tr>
<td>On (ź)</td>
<td>Always uses the flash regardless of the surrounding brightness.</td>
</tr>
<tr>
<td>Off (§)</td>
<td>Records without flash.</td>
</tr>
</tbody>
</table>

Notes

- The recommended distance to the subject when using the built-in flash is approximately 0.3 m to 2.5 m (1 foot to 8 feet).
- Remove any dust from the surface of the flash before using it. The heat of flash emission may cause dirt on the flash surface to emit smoke or to scorch the surface. If dirt or dust adhere to the surface of the flash use a soft cloth to clean it.
- The flash does not flash while the (Movie) lamp is lit.
Flash Level

You can select the brightness of the flash light.
You can set this function when you record photos using the built-in flash.

1. \[\text{MENU} \rightarrow \text{[Camera/Mic]} \rightarrow \text{[\$ Flash]} \rightarrow \text{[Flash Level]}\].

2. Select the desired item.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High ($+)</strong></td>
<td>Makes the flash level higher.</td>
</tr>
<tr>
<td><strong>Normal ($)</strong></td>
<td>Normal flash level</td>
</tr>
<tr>
<td><strong>Low ($–)</strong></td>
<td>Makes the flash level lower.</td>
</tr>
</tbody>
</table>
## Red Eye Reduction

You can prevent redeye by activating the pre-flash before the flash flashes. You can set this function when you record photos using the built-in flash.

1. **MENU** → [Camera/Mic] → [Flash] → [Red Eye Reduction].

2. Select the desired item.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Off</strong></td>
<td>Does not use Red Eye Reduction to prevent redeye.</td>
</tr>
<tr>
<td><strong>On (◉)</strong></td>
<td>Uses Red Eye Reduction to prevent redeye.</td>
</tr>
</tbody>
</table>

### Notes
- The redeye reduction may not produce the desired effect due to individual differences and other conditions.
- The redeye function does not work with automatic recording by [Smile Shutter].
Blt-in Zoom Mic

You can record a movie with vivid sound appropriate to the zoom position.

1. MENU → [Camera/Mic] → [Microphone] → [Blt-in Zoom Mic].

2. Select the desired item.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Off</strong></td>
<td>The microphone does not record sound following zooming in or out.</td>
</tr>
<tr>
<td>**On (,last)</td>
<td>The microphone records sound following zooming in or out.</td>
</tr>
</tbody>
</table>
Wind Noise Reduct.

Your camcorder records a movie with less wind noise input from the built-in microphone.

1. [MENU] → [Camera/Mic] → [Microphone] → [Wind Noise Reduct.].

2. Select the desired item.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Off" /></td>
<td><img src="image" alt="On" /></td>
</tr>
<tr>
<td>Off</td>
<td>On</td>
</tr>
</tbody>
</table>
Micref Level (Microphone reference level)

You can select the microphone level for recording sound.

1.  MENU → [Camera/Mic] → [Microphone] → [Micref Level].

2. Select the desired item.

| Normal    | Records various ambient sounds, converting them into the appropriate level. |
| Low       | Records ambient sound faithfully. Select [Low] when you want to record an exciting and powerful sound in a concert hall, etc. (This setting is not suitable for recording conversations.) |
My Button

You can assign functions that you frequently use when recording to one of the My Buttons.

1. **[MENU]** → [Camera/Mic] → [Shooting Assist] → [My Button].

2. Select the menu item that you want to assign to a My Button using ▲▼.

3. Select one of the My Buttons to which the menu item will be assigned.

4. Select **OK**.

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Guide Frame

You can display the frame and check that the subject is horizontal or vertical. Positioning the subject at the cross point of the guide frame makes a balanced composition. The frame is not recorded.

1.  

   [MENU]  
   [Camera/Mic]  
   [Shooting Assist]  
   [Guide Frame].

2. Select the desired item.

   - **Off**
     - Does not display the guide frame.
   - **On**
     - Displays the guide frame.

Notes

- The outer frame of [Guide Frame] shows the display area of a TV which is not compatible with full pixel display.
Display Setting

You can set the duration of displaying the icons or indicators on the LCD screen while recording.

1. 

2. Select the desired item.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Auto</strong></td>
<td>Displays for about 3 seconds. The rec &amp; zoom buttons on the LCD screen is displayed.</td>
</tr>
<tr>
<td><strong>On</strong></td>
<td>Always displays. The rec &amp; zoom buttons on the LCD screen is not displayed.</td>
</tr>
</tbody>
</table>

**Notes**

- You cannot change the setting of the icons or indicators on the LCD screen while in the playback mode.
RECORDING MODE

Recording mode and the media devices to which the images can be copied

On image quality

You can switch the recording mode to select the movie quality when recording high definition image quality (HD) movies. The recording time of the recording media is changed depending on the recording mode.

1. Press [MENU] → [Image Quality/Size] → [REC Mode].

2. Select the desired recording mode.

* appears on a medium icon if a movie recorded with the selected recording mode cannot be copied on that medium.

Recording mode and the media devices to which the images can be copied

<table>
<thead>
<tr>
<th>Types of media</th>
<th>PS*</th>
<th>FX</th>
<th>FH/HQ/LP</th>
</tr>
</thead>
<tbody>
<tr>
<td>On this camcorder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal recording media</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Memory card</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>On external devices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blu-ray discs</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>AVCHD recording discs</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
</tbody>
</table>

* You can use this recording mode when the [Frame Rate] is set to [60p].

On image quality

The image quality and the bit-rate for each recording mode can be set as follows. "M," such as in “24M,”
means "Mbps."

**For high definition image quality (HD):**
- [60p Quality PS]: 1920 × 1080/60p quality, AVC HD 28M (PS)*1
- [Highest Quality FX]: 1920 × 1080i quality, AVC HD 24M (FX)
- [High Quality FH]: 1920 × 1080/60i quality, AVC HD 17M (FH)
- [Standard HQ]: 1440 × 1080/60i quality, AVC HD 9M (HQ)*2
- [Long Time LP]: 1440 × 1080/60i quality, AVC HD 5M (LP)

*1 You can select this setting when [Frame Rate] is set to [60p].
*2 The default setting

**For standard definition image quality (STD):**
- [Standard HQ]: Standard quality, Standard STD 9M (HQ)*1

*1 Standard image quality (STD) is fixed to this value.

**Related topics**
- **Frame Rate**
- Recording standard definition image quality (STD) movie: [HD/STD Setting]
### Frame Rate

You can select the frame rate to be used to record high definition image quality (HD) movies. Using [60i] is recommended for standard recording. Set [Frame Rate] first, before setting [REC Mode].

1. `MENU` → [Image Quality/Size] → [Frame Rate].

2. Select the desired frame rate.

#### 60i
- For ordinary recording, this frame rate is recommended.

#### 60p
- You can record movies with a volume of data twice that of 60i with this setting, and this will allow you to enjoy clear images. When you play a movie recorded with this setting on a TV, the TV must be compatible with 60p movie playback and you have to set [HDMI Resolution] to [1080p/480p]. If the TV is not compatible with 60p movie playback, the movie will be output as a 60i movie.

**Notes**
- The media that the recorded images can be saved on will depend on the recording mode that has been set during recording.

**Related topics**

REC Mode
HD/STD Setting

You can select the image quality of movies.

1. MENU → [Image Quality/Size] → [HD/STD Setting].

2. Select the desired item.

<table>
<thead>
<tr>
<th></th>
<th>HD/STD Quality</th>
<th>HD Quality</th>
<th>Records movies in High definition image quality (HD).</th>
</tr>
</thead>
<tbody>
<tr>
<td>STD Quality</td>
<td>Records movies in standard definition image quality (STD). This setting is highly-compatible with other playback devices.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes
- When you play or edit movies, only movies with the selected image quality will be displayed on your camcorder.
Wide Mode

When recording standard definition image quality (STD) movies, you can select the horizontal to vertical ratio.

1. [MENU] → [Image Quality/Size] → [Wide Mode].

2. Select the desired item.

| 16:9 WIDE | Records movies to the full screen on a 16:9 (wide) TV screen. |
| 4:3 | Records movies to the full screen on a 4:3 TV screen. |
x.v.Color

You can capture wider range of colors. Various colors such as the brilliant color of flowers and turquoise blue of the sea can be more faithfully reproduced. Refer to the instruction manuals of the TV.

1. MENU → [Image Quality/Size] → [x.v.Color].

2. Select the desired item.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Off</strong></td>
<td>Records in ordinary color range.</td>
</tr>
<tr>
<td><strong>On (COLOR)</strong></td>
<td>Select this setting if the recorded movies will be played back on an x.v.Color-compliant TV.</td>
</tr>
</tbody>
</table>

**Notes**

- If the movie recorded with this function [On] is played back on a non-x.v.Color-compliant TV, the color may not be reproduced correctly.
Image Size

You can select a size for the photos you are going to shot.

1. \[\text{MENU}\] → [Image Quality/Size] → [Image Size].

2. Select the desired item.

![Image Size]?

Notes

- The image size selected with this setting takes effect for photos taken by the Dual Capture function [Details].

Related topics

Expected number of recordable photos

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Event View

You can display the Event View screen.

1. MENU → [Playback Function] → [Event View].

Related topics
Playing movies and photos from the Event View screen
Map View (HDR-GW77V)

You can display the Map View screen.

1. 

Related topics

Playing movies and photos from a map (HDR-GW77V)
Highlight Movie

You can view the Highlight Movie you have saved.

1. \[MENU\] → [Playback Function] → [Highlight Movie].

2. Select the desired Highlight Movie.

Related topics

Converting Highlight Playback scenes or Highlight Scenarios to standard definition image quality (STD) (Highlight Movie)
Scenario

You can view Highlight Scenario that you have saved.

1. MENU → [Playback Function] → [Scenario].

2. Select the desired scenario.

Related topics

Saving Highlight Playback in high definition image quality (HD) (Scenario Save)
Delete

To delete a part of a movie

1. **MENU** → [Edit/Copy] → [Delete].

2. Select the desired setting ([Multiple Images] or [All In Event]).

**Multiple Images**
Select the type of image you want to delete, add check marks ✓ to the desired images, and then select **OK** → **OK**.

**All In Event**
You can delete all images in the selected date at one time. Select the date you want to delete using **zł** / **zł**, and then select **OK** → **OK**.

To delete a part of a movie

You can divide a movie and delete it.

**Notes**
- You cannot restore images once they are deleted. Save important movies and photos in advance.
- Do not remove the battery pack or the AC Adaptor from your camcorder while deleting the images. It may damage the recording media.
- Do not eject the memory card while deleting images from the memory card.
- If you delete movies/photos that are included in saved scenarios, the scenarios will also be deleted.
Related topics
Release protection: [Protect]
[Format]
To divide a movie: Dividing a movie
Protect

To remove the protection of an event

Protect movies and photos to avoid deleting them by mistake. \(\text{○} \) will be displayed on the protected images.

1. \(\text{MENU} \rightarrow [\text{Edit/Copy}] \rightarrow [\text{Protect}].\)

2. Select the desired setting ([Multiple Images] or [Set All In Event]).

**Multiple Images**
Select the type of image you want to protect, add check marks \(\checkmark\) to the desired images, and then select \(\text{OK} \rightarrow \text{OK}\).

- You can select multiple images.
- Select the image with \(\checkmark\) so that the \(\checkmark\) mark disappears and you can remove the protection.

**Set All In Event**
You can protect all images in the selected date at one time.
Select the date you want to protect using \(\uparrow\), \(\downarrow\), and then select \(\text{OK} \rightarrow \text{OK}\).
- You cannot select multiple dates.

To remove the protection of an event

You can remove the protection from all images in the selected date at one time.
In step 2 above, select [Remove All In Event], select the date you want to remove the protection using
and then select OK → OK.
Copy

You can copy images back and forth between the internal recording medium of your camcorder and the memory card. The original copy of the image will not be deleted after the copy operation has been completed. Select the source and the destination for the images to be copied after you select [Copy].

1. Touch (View Images).
2. MENU → [Edit/Copy] → [Copy].
3. Select the desired setting ([Multiple Images] or [All In Event]).

**Multiple Images**
Select the type of image you want to copy, add check marks ✓ to the desired images, and then select OK → OK.

- You can select multiple images.

**All In Event**
You can copy all images in the selected date at one time. Select the type of images you want to copy, select the date you want to copy using ▼, and then select OK → OK.

- You cannot select multiple dates.

**Notes**
- When you record an image on the memory card for the first time, create the image database file by selecting MENU → [Setup] → [Media Settings] → [Repair Img. DB F.] → [Memory Card].
- Connect your camcorder to the wall outlet (wall socket) using the supplied AC Adaptor to prevent your camcorder from running out of power during copy.
Related topics
Checking the image copied: [Media Select]
Media Select

You can select the recording medium on which the images will be saved.

1. MENU \(\rightarrow\) [Setup] \(\rightarrow\) [Media Settings] \(\rightarrow\) [Media Select].

2. Select the desired recording medium.
Media Info

You can check the remaining recordable time for movies and the approximate free and used media space of the recording media.

1. **MENU** → [Setup] → [Media Settings] → [Media Info].

2. Select the recording medium that you want to view the information.

**Note**
- Since there is a management file area, the used space may not displayed as 0 % even if you perform [Format]. [Details]

**Related topics**
[Media Select]
Format

To prevent data on the internal recording media from being recovered

Formatting deletes all the movies and photos to recover recordable free space.

1. 

2. Select the recording medium that you want to format, and then select [OK].

Notes

- Connect your camcorder to the wall outlet (wall socket) using the supplied AC Adaptor for this operation. [Details]
- To avoid the loss of important images, you should save them before formatting the recording media.
- Protected movies and photos will also be deleted.
- Make sure not to do the following while [Executing...] is displayed.
  - Open/Cloase the LCD screen.
  - Operate buttons on the camcorder.
  - Eject the memory card from your camcorder.
  - Disconnect the AC Adaptor.

To prevent data on the internal recording media from being recovered

When you dispose of or transfer the camcorder, it is recommended that you perform [Empty] to prevent the leakage of your personal data.

When the internal recording media is selected on the [Format] screen, select [Empty].

- Use the supplied AC Adaptor to supply power when you perform [Empty].
- To avoid the loss of important images, they should be saved on a computer or other devices before performing [Empty].
- Disconnect all cables except the AC Adaptor. Do not disconnect the AC Adaptor during the operation.
- While deleting data, do not apply any vibrations or shocks to your camcorder.
- You can check the time that the camcorder will take to delete data on the LCD screen.
- If you stop performing [Empty] while [Executing...] appears, be sure to complete the operation by performing [Format] or [Empty] when you use the camcorder next time.
Repair Img. DB F.

The camcorder may be able to repair the damaged database file using this menu item.

1.  MENU ➔ [Setup] ➔ [Media Settings] ➔ [Repair Img. DB F.].

2.  Select the recording medium that you want to repair, and then select OK.

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**File Number**

You can select the way to assign file number of photos.

1.  
   - Press [MENU] → [Setup] → [Media Settings] → [File Number].

2.  
   - Select the desired item.

| Series    | Assigns file numbers of photos in sequence.  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The file number becomes larger each time you record a photo. Even if the memory card is replaced with another one, the file number is assigned in sequence.</td>
</tr>
</tbody>
</table>

| Reset     | Assigns file numbers in sequence, following the largest file number existing on the recording medium.  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>When the memory card is replaced with another one, the file number is assigned for each memory card.</td>
</tr>
</tbody>
</table>
**Data Code**

During playback, your camcorder displays the information recorded automatically at the time of recording. You can check the following information.

1. **[MENU] → [Setup] → [Playback Settings] → [Data Code].**

2. Select the desired item.

<table>
<thead>
<tr>
<th>Off</th>
<th>Data code is not displayed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date/Time</td>
<td>Displays the date and time.</td>
</tr>
<tr>
<td>Camera Data</td>
<td>Displays camera setting data.</td>
</tr>
<tr>
<td>Coordinates*</td>
<td>Displays coordinates.</td>
</tr>
</tbody>
</table>

* HDR-GW77V

**Date/Time**

1. Date
2. Time

**Camera Data**

Movie
Photo

3 SteadyShot off
4 White Balance
5 Shutter Speed
6 IRIS (Aperture value)
7 Gain
8 Brightness
9 Exposure
10 Flash

Coordinates (HDR-GW77V)

11 Latitude
12 Longitude

Notes
- The data code is displayed on the TV screen if you connect your camcorder to a TV.
- Depending on the recording media condition, [-- -- --] may appear.
Volume

You can adjust the volume of playback sound.

1. \( \text{MENU} \rightarrow \text{[Setup]} \rightarrow \text{[Playback Settings]} \rightarrow \text{[Volume]} \).

2. Adjust the volume using \( \text{[Volume]} \).
Download Music

You can transfer music files from audio CDs or MP3 files to your camcorder by connecting the camcorder to a computer. To transfer music files, use “Music Transfer.”

1. [MENU] → [Setup] → [Playback Settings] → [Download Music].

2. Follow the instructions that appear on the display. For details, refer to “Music Transfer” Help.
Empty Music

You can delete all music files stored on the camcorder.

1. **MENU** → [Setup] → [Playback Settings] → [Empty Music].

2. Select [OK] or [Cancel].

**Notes**
- If you delete music files using [Empty Music], the music data recorded on your camcorder at the factory will be deleted as well.
TV Type

You need to convert the signal depending on the TV connected when playing back movies and photos. The recorded movies and photos are played back as following illustrations.

1. \textbf{MENU} \rightarrow [Setup] \rightarrow [\blacksquare\text{Connection}] \rightarrow [TV Type].

2. Select the desired item.

<table>
<thead>
<tr>
<th>16:9</th>
<th>4:3</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="16:9 example" /></td>
<td><img src="image2" alt="4:3 example" /></td>
</tr>
<tr>
<td>Select this to view your movies on a 16:9 (wide) TV.</td>
<td>Select this to view your movies and photos on a 4:3 standard TV.</td>
</tr>
<tr>
<td>Movies and photos recorded in 16:9 (wide) mode</td>
<td>Movies and photos recorded in 4:3 mode</td>
</tr>
</tbody>
</table>

Notes
- Horizontal to vertical ratio of high definition image quality (HD) movies is 16:9.
### HDMI Resolution

Select the output image resolution when connecting your camcorder to a TV with an HDMI cable.

1. **MENU** → [Setup] → [Connection] → [HDMI Resolution].

2. Select the desired item.

<table>
<thead>
<tr>
<th><strong>Auto</strong></th>
<th>Normal setting (outputs the signal according to the TV automatically).</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1080p/480p</strong></td>
<td>Outputs high definition image quality (HD) movies with a 1080p signal and standard image quality (STD) movies with a 480p signal. Select this setting when you watch movies that have been recorded with [Frame Rate] set to [60p], on the 60p compliant TV.</td>
</tr>
<tr>
<td><strong>1080i/480i</strong></td>
<td>Outputs high definition image quality (HD) movies with a 1080i signal and standard image quality (STD) movies with a 480i signal.</td>
</tr>
<tr>
<td><strong>720p/480p</strong></td>
<td>Outputs high definition image quality (HD) movies with a 720p signal and standard image quality (STD) movies with a 480p signal.</td>
</tr>
<tr>
<td><strong>480p</strong></td>
<td>Outputs the 480p signal.</td>
</tr>
<tr>
<td><strong>480i</strong></td>
<td>Outputs the 480i signal.</td>
</tr>
</tbody>
</table>

**Notes**

- When [Frame Rate] is set to [60p] and [HDMI Resolution] is set to [720p/480p] or [480p], HDMI signals cannot be output during recording.
CTRL FOR HDMI (Control for HDMI)

When connecting your camcorder to a “BRAVIA” Sync compatible TV with a HDMI cable, you can play back movies on your camcorder by aiming the TV’s Remote Commander at the TV. [Details]

1. **[MENU]** → [Setup] → [Connection] → [CTRL FOR HDMI].

2. Select the desired item.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>On</strong></td>
<td>Operates your camcorder using the TV’s Remote Commander.</td>
</tr>
<tr>
<td><strong>Off</strong></td>
<td>Does not operate your camcorder using the TV’s Remote Commander.</td>
</tr>
</tbody>
</table>

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USB Connect

Select this item when [USB Select] does not appear on the LCD screen even when you connect the camcorder to an external device with the USB Cable.

1. `[MENU] → [Setup] → [Connection] → [USB Connect].`
USB Connect Setting

You can set the USB transfer mode for connecting the camcorder to a computer or other USB device.

1. **MENU** → [Setup] → [Connection] → [USB Connect Setting].

2. Select the desired item.

- **Auto**
  The camcorder automatically selects the USB transfer mode depending on the connected device.

- **MTP**
  This is a USB transfer mode compatible with certain types of computers.

- **Mass Storage**
  This is a USB transfer mode compatible with many types of USB devices.

**Notes**
- When you connect the camcorder to other devices using the [MTP] mode, movies that have been recorded with the same image quality as the one currently selected (selected with the [Recording]/[Setting] menu) can only be displayed on the connected device.
- When the camcorder is connected to an external device in the [MTP] mode, movie files will be displayed with the recorded date, however, some information, such as area information, included in the movie files cannot be displayed on the connected device. To import images from the camcorder to your computer, use the built-in “PlayMemories Home” software.
- If the “Device Stage” window does not open when you connect the camcorder to a computer equipped with Windows 7, set [USB Connect Setting] to [Auto].

* “Device Stage” is a menu of Windows 7, that is used to manage devices (camcorder, camera, etc.) that are connected to the computer.
USB Power Supply

Set whether to use the USB power supplied function when the camcorder is connected to a computer or a USB device using the USB cable.

1. [MENU] → [Setup] → [Connection] → [USB Power Supply].

2. Select the desired item.

<table>
<thead>
<tr>
<th>On</th>
<th>Power is supplied when connected using the USB cable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
<td>Disables USB power supplied function even if you connect the camcorder to a device such as a computer using a USB cable.</td>
</tr>
</tbody>
</table>

**Notes**
- If you changed this setting while the USB cable was connected to the camcorder, disconnect the USB cable and connect it again.
- The setting of [USB Power Supply] is effective only when the camcorder is connected to a USB device that is compatible with the 500 mA power supply standard.
- Only the playback functions are available while the camcorder is connected to a USB device that is compatible with the 500 mA power supply standard.
USB LUN Setting

Improves compatibility with external devices by limiting the functions of the USB connection.

1. **MENU** → [Setup] → [Connection] → [USB LUN Setting].

2. Select the desired item.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi</td>
<td>Use this setting for ordinary operations.</td>
</tr>
<tr>
<td>Single</td>
<td>Try this setting only if you cannot connect to an external device.</td>
</tr>
</tbody>
</table>

**Notes**
- When you install the built-in "PlayMemories Home" software on your computer, set [USB LUN Setting] to [Multi].
Disc Burn

Movies and photos recorded on your camcorder can be saved on a disc with one touch.

1. Press [MENU] → [Setup] → [Connection] → [Disc Burn].

2. Follow the instructions that appear on the screen.

Notes
- You cannot perform [Disc Burn] when the camcorder is connected to a computer.
Beep

You can turn on or off the operation sound.

1. Press [MENU] → [Setup] → [General Settings] → [Beep].

2. Select the desired item.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>On</strong></td>
<td>A melody sounds when you start recording or operate your camcorder.</td>
</tr>
<tr>
<td><strong>Off</strong></td>
<td>Cancels the melody.</td>
</tr>
</tbody>
</table>

**Notes**
- Even if [Beep] is set to [On], the melody does not sound when you are:
  - recording with [Smth Slw REC]
  - recording with [Golf Shot]
  - playing a movie
**LCD Brightness**

You can adjust the brightness of the LCD screen.

1. `MENU` → [Setup] → [General Settings] → [LCD Brightness].

2. Select the desired item.

<table>
<thead>
<tr>
<th>Normal</th>
<th>Normal setting (normal brightness).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bright</td>
<td>Select this when the LCD screen is not bright enough. This adjustment does not affect the recorded images in any way.</td>
</tr>
</tbody>
</table>
Your Location (HDR-GW77V)

You can display your current location.

1. [MENU] → [Setup] → [General Settings] → [Your Location].

Your current location appears on the Map View screen.

Related topics

Using the GPS function (HDR-GW77V)
Airplane Mode

You can deactivate all GPS related settings temporarily when you are on board an airplane.

1. **MENU** → [Setup] → [General Settings] → [Airplane Mode].

2. Select the desired item.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Off</strong></td>
<td>Normal setting.</td>
</tr>
<tr>
<td><strong>On (✈)</strong></td>
<td>Use this setting when you are on board an airplane.</td>
</tr>
</tbody>
</table>
GPS Setting (HDR-GW77V)

You can select whether the camcorder receives or does not receive GPS signals.

1. \[MENU\] \[Setup\] \[\ General Settings\] \[GPS Setting\].

2. Select the desired item.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
</table>
| On       | Receives GPS signals.  
The location information will not be recorded until triangulating is finished successfully. |
| Off      | Does not receive GPS signals.  
The location information that has previously been recorded will be invalid. |
Language Setting

You can select the language to be used on the LCD screen.
The camcorder offers [ENG[SIMP]] (simplified English) for when you cannot find your native tongue among the options.

1. \[\text{MENU}\] \rightarrow [Setup] \rightarrow [\text{General Settings}] \rightarrow [Language Setting].

2. Select the desired language.
Power Save

You can change the settings for the backlight of the LCD screen and the power status of the camcorder.

1. **MENU** → [Setup] → [General Settings] → [Power Save].

2. Select the desired item.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard</strong></td>
<td>The backlight of the LCD screen turns dark automatically if you do not attempt to operate your camcorder for more than about 1 minute. The camcorder turns off automatically if you do not attempt to operate your camcorder for more than about 2 minutes.</td>
</tr>
<tr>
<td><strong>Max</strong></td>
<td>The brightness of the LCD screen is adjusted to the surrounding brightness automatically. The backlight of the LCD screen turns dark automatically if you do not attempt to operate your camcorder for more than about 15 seconds. The camcorder turns off automatically if you do not attempt to operate your camcorder for more than about 1 minute.</td>
</tr>
<tr>
<td><strong>Off</strong></td>
<td>The backlight of the LCD screen is always on brightly. The camcorder does not turn off automatically.</td>
</tr>
</tbody>
</table>
Initialize

Initializes the settings to their default settings. Even if you use this function, all movies and photos are retained.

1. **MENU** → [Setup] → [General Settings] → [Initialize].
2. Touch **OK** to initialize all settings.
## Demo Mode

Sets playback of the demonstration movie about the functions of the camcorder. No operation is attempted within a certain period with the movie recording mode or the Event View mode set, a demonstration movie starts playing.

1. **MENU** → [Setup] → [General Settings] → [Demo Mode].

2. Select the desired item.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>On</strong></td>
<td>The demonstration appears. You can set the interval after which a demonstration begins to play when there has been no operation attempted for the specified period of time.</td>
<td></td>
</tr>
<tr>
<td><strong>Off</strong></td>
<td>The demonstration does not appear.</td>
<td></td>
</tr>
</tbody>
</table>

### Notes
- A movie you have recorded will be registered as the demonstration movie if it satisfies all of the following conditions.
  - The movie is protected.
  - The movie is the one that was recorded first.
  - The movie is saved on the internal recording media.
  - The movie is recorded with high definition image quality (HD).
- When you operate your camcorder, the demonstration playback will be suspended. (It appears again if no operation is attempted for more than the specified period of time you set in [Demo Mode].)
Date & Time Setting

1. **MENU** → [Setup] → [Clock Settings] → [Date & Time Setting].

2. Select the desired item ([Date & Time Format], [Daylight Savings]/[Summer Time], or [Date & Time]).

**Date & Time Format**
You can select one from 4 types of date and time format.

**Daylight Savings/Summer Time**
You can change this setting without stopping the clock.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Off</strong></td>
<td>Does not set the summertime.</td>
</tr>
<tr>
<td><strong>On</strong></td>
<td>Sets the summertime. The clock is set to move the time forward 1 hour.</td>
</tr>
</tbody>
</table>

**Date & Time**
You can set the clock.
Area Setting

You can adjust a time difference without stopping the clock. Select your local area when using the camcorder in other time zones.

1. [MENU] → [Setup] → [Clock Settings] → [Area Setting].

2. Select the desired item.

   **For HDR-GW77**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>Home</td>
</tr>
<tr>
<td></td>
<td>Select this item when you are going to use the camcorder in the area where you are living.</td>
</tr>
<tr>
<td></td>
<td>Destination (⿰)</td>
</tr>
<tr>
<td></td>
<td>Select this item when you want to use the camcorder with the area setting set to another place.</td>
</tr>
</tbody>
</table>

   **For HDR-GW77V**

   Set the area.

Related topics

World time difference
Auto Clock ADJ (HDR-GW77V)

The camcorder can maintain accurate time automatically by acquiring time information from the GPS system.

1. [MENU] → [Setup] → [Clock Settings] → [Auto Clock ADJ].

2. Select the desired item.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>On</strong></td>
<td>Maintains accurate time automatically.</td>
</tr>
<tr>
<td><strong>Off</strong></td>
<td>Does not maintain accurate time using the GPS system.</td>
</tr>
</tbody>
</table>

**Notes**

- You must set the date and time on your camcorder before use. [Details]
- There may be discrepancies of a few seconds even if [Auto Clock ADJ] is activated.
- This function automatically adjusts the clock when the camcorder receives GPS signals and finishes triangulating successfully while the power is on. Once the clock is adjusted, it will not be adjusted until the next time you turn the camcorder on again.
- The clock may not be adjusted to the correct time automatically using the GPS system, depending on the country/region selected for your camcorder. In this case, set [Auto Clock ADJ] to [Off].
Auto Area ADJ (HDR-GW77V)

The camcorder can compensate for time differences automatically by acquiring location information from the GPS system.

1. **MENU** → [Setup] → [Clock Settings] → [Auto Area ADJ].

2. Select the desired item.

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>On</td>
<td>Compensates for time differences automatically.</td>
</tr>
<tr>
<td>Off</td>
<td>Does not compensate for time differences automatically.</td>
</tr>
</tbody>
</table>

**Notes**

- You must set the date and time on your camcorder before use. [Details]
- The camcorder may not compensate for the time difference automatically, depending on the country/region selected for your camcorder. In this case, set [Auto Area ADJ] to [Off].
If you have problems

If you run into any problems using your camcorder, follow the steps below.

1. Check the items under “Troubleshooting”, and inspect your camcorder.
   If a code such as "C:(or E:)  □  □ : □  □ " appears on the screen, see "Self-diagnosis display/Warning indicators".

2. Disconnect the power source, attach the power source again after about 1 minute, and turn the camcorder on.

3. Touch [Setup] → [General Settings] → [Initialize]. [Details]
   - If you execute this function, all settings, including the clock setting, are reset.

4. Contact your Sony dealer or local authorized Sony service facility.
   - During repair, we may check a minimum amount of data stored on the internal memory in order to investigate the problem. However, your Sony dealer will neither copy nor retain your data.
   - Additional information on this product and answers to frequently asked questions can be found at our Customer Support Website.
     http://www.sony.net/
Overall operations

The power does not turn on.

- Attach a charged battery pack to the camcorder. [Details]
- The plug of the AC Adaptor has been disconnected from the wall outlet (wall socket). Connect it to the wall outlet (wall socket). [Details]

The camcorder does not operate even when the power is set to on.

- It takes a few seconds for your camcorder to be ready to shoot after the power is turned on. This is not a malfunction.
- Disconnect the AC Adaptor from the wall outlet (wall socket) or remove the battery pack, then reconnect the AC Adaptor or insert the battery pack again after about 1 minute. If the functions still do not work, touch \[Setup\] \[General Settings\] \[Initialize\]. (If you execute this function, all settings, including the clock setting, are reset. [Details])

The menu settings have been changed automatically.

- While Intelligent Auto is active, some menu settings related to image quality will be changed automatically.
- The following menu items return to the default settings when you switch between movie recording and photo recording and playback modes.
  - [Fader]
  - [Self-Timer]
  - [Tele Macro]

The camcorder gets warm.

- Your camcorder may become warm during operation. This is not a malfunction.

A rattling noise is heard when the camcorder is shaken.

- If no noise is heard when the camcorder is turned on and is in the movie/photo recording mode, the noise is produced by the movement of the internal lens. This is not a malfunction.

Intelligent Auto is canceled.

- The Intelligent Auto setting is canceled if you change the following settings:
  - [Smth Slw REC]
  - [Golf Shot]
  - [White Balance]
  - [Spot Meter/Fcs]
  - [Spot Meter]
  - [Spot Focus]
  - [Exposure]
  - [Focus]
- [Low Lux]
- [Scene Selection]
- [Tele Macro]
- [SteadyShot]
- [SteadyShot]
- [Auto Back Light]
- [Face Detection]
Batteries/power sources

The power abruptly turns off.

- Use the AC Adaptor.
- In the default setting, when about 2 minutes have elapsed while you do not operate your camcorder, the camcorder is automatically turned off. Change the setting of [Power Save], or turn on the power again. [Details]
- Charge the battery pack. [Details]

The CHG (charge) lamp does not light while the battery pack is being charged.

- Close the LCD screen. [Details]
- Attach the battery pack to the camcorder correctly. [Details]
- Connect the power cord (mains lead) to the wall outlet (wall socket) properly.
- The battery charge is completed. [Details]

The CHG (charge) lamp flashes while the battery pack is being charged.

- When the battery is being charged using the USB Cable, disconnect the USB Cable and connect it again.
- If the temperature of the battery pack is too high or too low, you may not be able to charge it. [Details]
- Attach the battery pack to the camcorder correctly. If the problem persists, disconnect the AC Adaptor from the wall outlet (wall socket) and contact your Sony dealer. The battery pack may be damaged. [Details]

The remaining battery time indicator does not indicate the correct time.

- The ambient temperature is too high or too low. This is not a malfunction.
- The battery pack has not been charged enough. Fully charge the battery again. If the problem persists, replace the battery pack with a new one. [Details]
- The indicated time may not be correct depending on the environment of use.

The battery pack is quickly discharged.

- The ambient temperature is too high or low. This is not a malfunction.
- The battery pack has not been charged enough. Fully charge the battery again. If the problem persists, replace the battery pack with a new one. [Details]
**LCD screen**

**Menu items are grayed out.**
- You cannot select grayed items in the current recording/playback situation.
- There are some functions you cannot activate simultaneously.

**The buttons do not appear on the touch panel.**
- Touch the LCD screen lightly.
- The icons disappear from the screen and the touch panel does not respond when you use the camcorder underwater.

**The buttons on the touch panel do not work correctly or do not work at all.**
- The touch panel cannot be operated underwater. Make settings before using the camcorder underwater.

**The buttons on the touch panel quickly disappear.**
- If you set [Display Setting] to [On], the buttons do not disappear from the touch panel while in recording mode. [Details]

**The backlight of the LCD screen turns off if you do not attempt to operate your camcorder for a while.**
- In the default setting, the backlight of the LCD screen turns dark automatically if you do not attempt to operate your camcorder for more than about 1 minute ([Power Save]). [Details]
Memory card

Operations using the memory card cannot be performed.
- If you use the memory card formatted on a computer, format it again on your camcorder. [Details]

Images stored on the memory card cannot be deleted.
- The maximum number of images that you can delete on the index screen at one time is 100.
- You cannot delete the protected images.

The data file name is not indicated correctly or flashes.
- The file is damaged.
- The file format is not supported by your camcorder. [Details]
Recording

Refer also to "Memory card".

Pressing START/STOP or PHOTO does not record images.
- The playback screen is displayed. Press MODE to turn on the \(<\rangle\) (Movie) or \(\square\) (Photo) lamp. [Details]
- Your camcorder is recording the image you have just shot on the recording media. You cannot make new recording during this period. [Details]
- The recording media is full. Delete unnecessary images. [Details]
- Total number of movie scenes or photos exceeds the recordable capacity of your camcorder. Delete unnecessary images. [Details]

Photos cannot be recorded.
- You cannot record photos together with:
  - [Smth Slw REC]
  - [Golf Shot]
  - [Fader]
- The camcorder cannot shoot photos while it is in the movie recording mode, depending on the [REC Mode] or [Frame Rate] selected.

The access lamp remains lit or flashing even if recording was stopped.
- Your camcorder is recording the scene you have just shot on the memory card.

The imaging field looks different.
- The imaging field may look different depending on the condition of your camcorder. This is not a malfunction.

The flash does not work.
- You cannot record with the built-in flash while the \(<\rangle\) (Movie) lamp is on.
- Even if auto flash or \(\circ\) (Auto redeye reduction) is selected, you cannot use the flash with:
  - [Spot Meter/Fcs]
  - [Spot Meter]
  - [Manual] in [Exposure]
  - [Night Scene], [Sunrise&Sunset], [Fireworks], [Landscape], [Spotlight], [Beach], [Underwater] or [Snow] in [Scene Selection]

The actual recording time for movies is less than the expected recording time of the recording media.
• Depending on the recording conditions, the time available for recording may be shorter, for example when recording a fast moving object, etc.

The camcorder stops operating.
• If you keep applying vibration on the camcorder, recording may stop.

There is a time difference between the point when START/STOP is pressed and the point that the recording movie is started or stopped actually.
• On your camcorder, there may be a slight time difference between the point where you press START/STOP and the actual point that recording movie starts/stops. This is not a malfunction.

The horizontal to vertical ratio of the movie (16:9 (wide)/4:3) cannot be changed.
• The horizontal to vertical ratio of high definition image quality (HD) movies is 16:9 (wide).

The auto focus does not function.
• Set [Focus] to [Auto]. [Details]
• The recording conditions are not suitable for auto focus. Adjust the focus manually. [Details]

SteadyShot does not function.
• Set [SteadyShot] to [Active] or [Standard], [SteadyShot] to [On]. [Details] [Details]
• Even if [SteadyShot] is set to [Active] or [Standard], [SteadyShot] to [On], your camcorder may not be able to compensate for excessive vibrations.

Images cannot be recorded or played back correctly.
• If you record and delete images repeatedly for a long time, the files on the recording media may become fragmented and images cannot be recorded or played back correctly. After backing up the images on other media, format the recording media on your camcorder. [Details]

The subjects passing by the screen very fast appear crooked.
• This is called the focal plane phenomenon. This is not a malfunction. Because of the way the image device (CMOS sensor) reads out image signals, the subjects passing by the lens rapidly might appear crooked depending on the recording conditions.

Horizontal stripes appear on the images.
• This occurs when recording images under a fluorescent lamp, sodium lamp, or mercury lamp. This is not a malfunction.

Black bands appear when you record a TV screen or computer screen.
• Set [SteadyShot] to an option except for [Active]. [Details]

LCD brightness cannot be set.
• You cannot set LCD brightness when:
  – The LCD panel is closed on your camcorder with the LCD screen facing out.
  – The power is supplied from the AC Adaptor.
Photos are recorded automatically.

- In the default setting, photos are recorded automatically when the camcorder detects a smile.
  [Details]


**Playback**

**Images cannot be played back.**
- Select the type of recording media you want to play back. [Details]
- Select the image quality of the movie you want to play back. [Details]
- Images recorded on other devices may not be played back. This is not a malfunction.

**Photos cannot be played back.**
- Photos cannot be played back if you have modified files or folders, or have edited the data on a computer. (The file name flashes in that case.) This is not a malfunction.

**The movie freezes.**
- Photos which were recorded while recording a movie are played back. In the default setting, movies and photos are played back continuously.

⚠️ is indicated on a thumbnail.
- This may appear on an image recorded on other devices, edited on a computer, etc.
- You removed the AC Adaptor or the battery pack while the recording media icon at the top right corner of the screen flashes, or before the access lamp is turned off after recording. This may damage your image data and ⚠️ is displayed.

✔️ is indicated on a thumbnail.
- The image data base file may be damaged.
- Check the data base file by selecting [Setup] → Media Settings → Repair Img. DB F. the recording medium. If it still appears, delete the image with ✔️. [Details]

**No sound or only a quiet sound is heard during playback.**
- Turn up the volume. [Details] [Details]
- When you record sound with [Micref Level] set to [Low], the recorded sound may be difficult to hear. [Details]
- Sounds cannot be recorded while shooting with [Smth Slw REC] or [Golf Shot].

**A movie is played back automatically.**
- Movies play automatically as a demonstration movie when the filmed movie fulfills a certain condition on your camcorder. This is not a malfunction. [Details]
Playing back images stored on memory card on other devices

Images cannot be played back or the memory card is not recognized.

- The playback device does not support playing back memory cards. [Details] [Details]
Editing movies/photos on your camcorder

Unable to edit.
- Unable to edit because of the condition of the image.
- You cannot edit the files based on Map View. (HDR-GW77V)

A movie cannot be divided.
- A movie that is too short cannot be divided.
- Release the protection, and then divide.
Playing back images on the TV

Neither image nor sound is played on the connected TV.

- No sound is played while the recording mode is selected. Touch \[ \] on the LCD screen to select the playback mode.
- Images are not output from the HDMI OUT jack, if copyright protection signals are recorded in the images.

The top, bottom, right, and left edges of images are trimmed slightly on a connected TV.

- The LCD screen of your camcorder can display recording images across the entire screen (full pixel display). However, this may cause slight trimming of the top, bottom, right, and left edges of images when played back on a TV which is not compatible with full pixel display.
- It is recommended you record images using the outer frame of [Guide Frame] as a guide. [Details]

The images being played back do not appear on the LCD screen when you connect the camcorder to a TV and play back images.

- Highlight Playback or a scenario will not appear on the LCD screen of the camcorder while it is connected to a TV and play back images.
Copying/Connecting to other devices

Images are not copied correctly.

- You cannot copy images using the HDMI cable.
Connecting to a computer

“PlayMemories Home” cannot be installed.
● Check the computer environment or installation procedure required to install “PlayMemories Home.”

“PlayMemories Home” does not work correctly.
● Quit “PlayMemories Home” and restart your computer.

The camcorder is not recognized by the computer.
● Disconnect devices from the USB jack of the computer other than the keyboard, mouse, and your camcorder.
● Disconnect the USB Cable from the computer and your camcorder, and restart the computer, then connect the computer and your camcorder again in the correct order.
Self-diagnosis display

If indicators appear on the LCD screen, check the following.
If the problem persists even after you have tried to fix a couple of times, contact your Sony dealer or local authorized Sony service facility. In this case, when you contact them, give them all the numbers of the error code beginning with C or E.

You may hear a melody when some warning indicators appear on the screen.

C:(or E:) □ □ : □ □ (Self-diagnosis display)

C:06: □ □
- The battery pack temperature is high. Change the battery pack or place it in a cool place.

C:13: □ □ / C:32: □ □
- Remove the power source. Reconnect it and operate your camcorder again.

E: □ □ : □ □
- Follow the steps from 2 on "If you have problems".

(Battery level warning)

- The battery pack is nearly used up.

(Warning indicator pertaining to battery pack temperature)

- The battery pack temperature is high. Change the battery pack or place it in a cool place.

(Warning indicator pertaining to memory card)

Slow flashing
- Free spaces for recording images are running out. For the type of memory card you can use with your camcorder, see “Types of memory card you can use with your camcorder”.
- No memory card is inserted. [Details]

Fast flashing
- There are not enough free spaces for recording images. After storing the images on other media, delete unnecessary images, or format the memory card. [Details] [Details]
- The image data base file may be damaged.
  Check the data base file by selecting MENU → [Setup] → [Media Settings] → [Repair Img.]
DB F.] the recording medium.

- The memory card is damaged.

*Warning indicators pertaining to memory card formatting*

- The memory card is damaged.
- The memory card is not formatted correctly. [Details]

*Warning indicator pertaining to incompatible memory card*

- Incompatible memory card is inserted. [Details]

*Warning indicator pertaining to the write-protect of the memory card*

- Access to the memory card was restricted on another device.

*Warning indicator pertaining to the flash*

- There is something wrong with the flash.

*Warning indicator pertaining to camera-shake warning*

- The amount of lights is not sufficient, so camera-shake easily occurs. Use the flash.
- The camcorder is unsteady, so camera-shake easily occurs. Hold the camcorder steady with both hands and record the image. However, note that the camera-shake warning indicator does not disappear.

*Warning indicator pertaining to photo recording*

- The recording media is full.
- Photos cannot be recorded during processing. Wait for a while, then record.
- When [REC Mode] is set to [Highest Quality] or [60p Quality], you cannot capture photos while recording movies.
If messages appear on the screen, follow the instructions.

**Warning Indicators**

### Cannot recognize the internal memory. Format and use again.
- The internal recording medium of the camcorder is set differently from the default format. Performing [Format] may enable you to use your camcorder. This will delete all data in the internal recording medium. [Details]

### Data error.
- An error occurred during reading or writing the internal recording media of the camcorder.
- If the message is preceded by a GPS indicator, there may be some trouble with the GPS receiver. Turn on your camcorder again (HDR-GW77V).
- This may occur when you keep applying shock on the camcorder.
- Movies recorded on other devices may not be played back.

### The Image Database File is damaged. Do you want to create a new file?
#### HD movie management information is damaged. Create new information?
- The management file is damaged. When you select [Yes], a new management file is created. The old recorded images on the media cannot be played back (Image files are not damaged). If you execute [Repair Img. DB F.] after creating new information, playing back the old recorded images may become possible. If it does not work, copy the image using the built-in “PlayMemories Home” software.

### There is no Image Database File
#### Movies cannot be recorded or played Create a new file?
- You cannot record or play back movies because no movie management information exists. If you select [Yes], new management information is created and you can record or play back movies.

### Inconsistencies found in image database file. Do you want to repair the image database file?
#### The Image Database File is damaged. Do you want to repair the Image Database File?
- You cannot record or play back movies because no movie management information exists. If you select [OK], new management information is created and you can record or play back movies.

### Inconsistencies found in the image database file. Back up and recover. Recover, then import using the included PC software.
- Since the database information of high definition image quality (HD) movies has been damaged,
there are inconsistencies between the information in the database and the information in the file. Select [OK] to back up the high definition image quality (HD) movies and repair the database file. You cannot see the backed-up movies on the camcorder. By connecting the camcorder to a computer after repairing the database, you can import backed-up high definition image quality (HD) movies to the computer using the built-in “PlayMemories Home” software installed on the computer. However, it is not guaranteed that all movies can be imported to the computer.

**Buffer overflow. Writing to the media was not completed in time.**

- You have performed recording and erasing operations repeatedly, or a memory card that has been formatted by other device is used. Copy and take data backup to other device (such as a computer), and then format the memory card on the camcorder. [Details]
- The size of the inserted memory card is not sufficient for copying the movie(s). Use the recommended memory card. [Details]

**Recovering data.**

- Your camcorder tries to recover data automatically if the data writing was not performed properly.

**Cannot recover data.**

- Writing data onto the media of the camcorder has failed. Attempts were made to recover the data, but they were unsuccessful.

**Reinsert the memory card.**

- Reinsert the memory card a few times. If even then the indicator flashes, the memory card could be damaged. Try with another memory card.

**Cannot recognize this memory card. Format and use again.**

- Format the memory card. Note that if you format the memory card, all the recorded movies and photos are deleted. [Details]

**Still picture folder is full. Cannot record still pictures.**

- You cannot create folders exceeding 999MSDCF. You cannot create or delete created folders using your camcorder.
- Format the memory card, or delete folders using your computer. [Details]

**This memory card may not be able to record or play movies. This memory card may not be able to record or play images correctly.**

- Use a memory card recommended for your camcorder. [Details]

**Do not eject the memory card during writing. Data may be damaged.**

- Reinsert the memory card.

**Other**

**Maximum number of images already selected.**

-
● You can select only 100 images at one time for:
  - Deleting movies/photos
  - Protecting movies/photos, or releasing the protection
  - Copying movies/photos

**Data protected.**

● You tried to delete protected data. Release the protection of the data.
About the AVCHD format

What is the AVCHD format?
The AVCHD format is a high definition digital video camera format used to record a high definition (HD) signal using efficient data compression coding technology. The MPEG-4 AVC/H.264 format is adopted to compress video data, and the Dolby Digital or Linear PCM system is used to compress audio data. The MPEG-4 AVC/H.264 format is capable of compressing images at higher efficiency than that of the conventional image compressing format.

As the AVCHD format uses a compression coding technology, the picture may be disturbed in scenes where picture, field angles or brightness, etc. change drastically, but this is not a malfunction.

Recording and playback on your camcorder
Based on the AVCHD format, your camcorder records and plays with the high definition image quality (HD).
In addition to high definition image quality (HD), your camcorder is capable of recording a standard definition (STD) signal in the conventional MPEG-2 format.
About GPS (HDR-GW77V)

The GPS (Global Positioning System) is a system that calculates geographical location from highly accurate US space satellites. This system allows you to pinpoint your exact location on the earth. The GPS satellites are located in 6 orbits, approximately 20,000 km above the earth. The GPS system consists of 24 or more GPS satellites. A GPS receiver receives radio signals from the satellites, and calculates the current location of the receiver based on the orbital information (almanac data) and travel time of the signals, etc.

Determining a location is called "triangulating." A GPS receiver can determine the location's latitude and longitude by receiving signals from 3 or more satellites.

- As the positions of GPS satellites vary constantly, it may take longer to determine the location or the receiver may not be able to determine the location at all, depending on the location and time you use the camcorder.
- "GPS" is a system for determining geographic location by triangulating radio signals from GPS satellites. Avoid using the camcorder in places where radio signals are blocked or reflected, such as a shadowy place surrounded by buildings or trees, etc. Use the camcorder in open sky environments.
- You may not be able to record location information at locations or in situations where radio signals from the GPS satellites do not reach the camcorder as follows.
  - In tunnels, indoors or under the shade of buildings.
  - Between tall buildings or at narrow streets surrounded by buildings.
  - In underground locations, locations surrounded by dense trees, under an elevated bridge, or in locations where magnetic fields are generated, such as near high voltage cables.
  - Near devices that generate radio signals of the same frequency band as the camcorder: near 1.5 GHz band mobile telephones, etc.

On triangulating errors

- Error caused by the position of GPS satellites
  The camcorder automatically triangulates your current location when the camcorder receives radio signals from 3 or more GPS satellites. The triangulating error allowed by the GPS satellites is about 10 m (33 feet). Depending on the environment of the location, the triangulating error can be greater. In this case, your actual location may not match the location on the map based on the GPS information. Meanwhile, the GPS satellites are controlled by the United States Department of Defense, and the degree of accuracy may be changed intentionally.

- Error during the triangulating process
  The camcorder acquires location information periodically during triangulating. There is a slight time difference between when the location information is acquired and when the location information is recorded on an image, therefore, the actual recording location may not match exactly the location on the map based on the GPS information.

On the restriction of use of GPS

- Use GPS in accordance with the regulations of the situation, the countries/regions of use.

On the map data

- The camcorder contains map data for the following countries/regions. Europe, Japan, North America, Oceania, etc.
- Built-in map is powered by companies as follows; Map of Japan by Zenrin Co., Ltd., other areas by NAVTEQ.
- The map data included is as of the date of production of this manual.
- GPS maps will appear in 2-dimensional graphics except for certain landmarks in Japan, which will appear in 3D.
- The map always displays the north at the top.
- You cannot change the language on the map.
• You cannot update the map data.
• The scale of the map is 100 feet to 6,000 miles.

**On the geographic coordinate system**
• The “WGS-84” geographic coordinate system is used.

**On copyright**
• The map data of the camcorder is copyrighted. Unauthorized copying or other usage of the map data may be contrary to the copyright laws.

**On the navigation function**
• The camcorder does not have a navigation function that uses GPS.
About the memory card

- A memory card formatted by a computer (Windows OS/Mac OS) does not have guaranteed compatibility with your camcorder.
- Data read/write speed may vary depending on the combination of the memory card and memory card compliant product you use.
- Damaged or lost data may occur in the following cases (the data will not be compensated for):
  - If you eject the memory card, or turn off your camcorder while your camcorder is reading or writing image files on the memory card (while the access lamp is lit or flashing)
  - If you use the memory card near magnets or magnetic fields
  - It is recommended that you make a back-up of important data on the hard disk of a computer.
- Do not attach a label or the like on memory card or memory card adaptor.
- Do not touch, or allow metallic objects to come into contact with the terminals.
- Do not bend, drop or apply strong force to the memory card.
- Do not disassemble or modify the memory card.
- Do not let the memory card get wet.
- Keep the memory card out of the reach of small children. There is danger that a child might swallow it.
- Do not insert anything other than the compliant size of memory card into the memory card slot. Doing so may cause a malfunction.
- Do not use or keep the memory card in the following locations:
  - Places subject to extremely high temperature, such as a car parked outside in the summer
  - Places under direct sunlight
  - Places with extremely high humidity or subject to corrosive gases

On image data compatibility

- Image data files recorded on memory card by your camcorder conform to the “Design rule for Camera File system” universal standard established by the JEITA (Japan Electronics and Information Technology Industries Association).
- On your camcorder, you cannot play back photos recorded on other devices (DCR-TRV900 or DSC-D700/D770) that do not conform to the universal standard. (These models are not sold in some regions.)
- If you cannot use memory cards that have been used with another device, format it with your camcorder. Note that formatting erases all information on the memory card. [Details]
- You may not be able to play back images with your camcorder:
  - When playing back image data modified on your computer
  - When playing back image data recorded with other devices

About the “Memory Stick” media

<table>
<thead>
<tr>
<th>Types of “Memory Stick” media</th>
<th>Recording/Playback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory Stick Micro media</td>
<td>—</td>
</tr>
<tr>
<td>Memory Stick Micro (Mark2) media</td>
<td>✓</td>
</tr>
</tbody>
</table>

- This product cannot record or play data that uses “MagicGate” technology. “MagicGate” is a copyright protection technology that records and transfers the contents in an encrypted format.
About the battery pack

To charge the battery pack

- Be sure to charge the battery pack before you start using your camcorder.
- We recommend that you charge the battery pack in an ambient temperature range of 10 °C to 30 °C (50 °F to 86 °F) until the CHG (charge) lamp turns off. If you charge the battery pack outside of this temperature range, you may not be able to charge it efficiently.
- The CHG (charge) lamp flashes during charging under the following conditions.
  - The battery pack is not attached correctly.
  - The battery pack is damaged.
  - The temperature of the battery pack is low.
  - The temperature of the battery pack is high.
  - Remove the battery pack from your camcorder and put it in a warm place.
  - Remove the battery pack from your camcorder and put it in a cool place.

To use the battery pack effectively

- Battery pack performance decreases when the ambient temperature is 10 °C (50 °F) or below, and the length of time you can use the battery pack becomes shorter. In that case, put the battery pack in a pocket to warm it up, and install it on your camcorder right before you start taking shots to use the battery pack for a longer time.
- Frequent playback, fast forward or reverse operation wears out the battery pack faster.
- Be sure to close the LCD screen when not recording or playing back on your camcorder. The battery pack is also consumed when your camcorder is in recording standby or playback pause.
- Have spare battery packs ready for 2 or 3 times the expected recording time, and make trial recordings before making the actual recording.
- Do not expose the battery pack to water. The battery pack is not water resistant.
- You may not be able to turn on the camcorder or the battery pack may not be effectively charged if the terminal section of the battery is dirty. In this case, wipe any dust off lightly using a soft cloth or a cotton swab to clean the battery.

About the remaining battery time indicator

- When the power goes off even though the remaining battery indicator indicates that the battery pack has enough power to operate, charge the battery pack fully again. Remaining battery indicator will be indicated correctly. Note, however, that the battery indication will not be restored if it is used in high temperatures for a long time, or if left in a fully charged state, or when the battery pack is frequently used.

About storage of the battery pack

- If the battery pack is not used for a long time, fully charge the battery pack and use it up on your camcorder once a year to maintain proper function. To store the battery pack, remove it from your camcorder and put it in a dry, cool place.
- To discharge the battery pack on your camcorder completely, select [Setup] → [Power Save] → [Off], and leave your camcorder in recording standby until the power goes off. [Details]
- To prevent staining the terminal, short-circuiting, etc., be sure to use a supplied battery case when carrying or storing.

About battery life

- Battery capacity decreases over time and through repeated use. If decreased usage time between charges becomes significant, it is probably time to replace it with a new one.
- Each battery’s life is governed by storage, operating and environmental conditions.
About x.v.Color

- x.v.Color is a more familiar term for the xvYCC standard proposed by Sony, and is a trademark of Sony.
- xvYCC is an international standard for color space in video. This standard can express a wider color range than the currently used broadcast standard.
About the AC Adaptor

- Use the nearby wall outlet (wall socket) when using the AC Adaptor. Disconnect the AC Adaptor from the wall outlet (wall socket) immediately if any malfunction occurs while using your camcorder.
- Do not use the AC Adaptor placed in a narrow space, such as between a wall and furniture.
- Do not short-circuit the USB connector of the USB cable while which is connected to the AC Adaptor or battery terminal with any metallic objects. This may cause a malfunction.
On use and care

About language setting

• The on-screen displays in each local language are used for illustrating the operating procedures. Change the screen language before using the camcorder if necessary.

On recording

• Before starting to record, test the recording function to make sure the image and sound are recorded without any problems.
• Compensation for the contents of recordings cannot be provided, even if recording or playback is not possible due to a malfunction of the camcorder, recording media, etc.
• TV color systems differ depending on the country/region. To view your recordings on a TV, you need a NTSC system-based TV.
• Television programs, films, video tapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the copyright laws.

Notes on use

• Do not do any of the following. Otherwise, the recording media may be damaged, recorded images may be impossible to play back or may be lost, or other malfunctions could occur.
  – ejecting the memory card when the access lamp is lit or flashing
  – removing the battery pack or AC Adaptor from the camcorder, or applying mechanical shock or vibration to the camcorder when the (Movie)/ (Photo) lamps or the access lamp are lit or flashing
• When the camcorder is connected to other devices through a USB connection and the power of the camcorder is turned on, do not close the LCD panel. The image data that has been recorded may be lost.
• Use the camcorder in accordance with local regulations. The GPS function of the camcorder is activated when [GPS Setting] is set to [On] even if the camcorder is not turned on. During takeoff and landing of an airplane, set [Airplane Mode] to [On] (HDR-GW77V).
LCD Panel

- The LCD screen is manufactured using extremely high-precision technology, so over 99.99% of the pixels are operational for effective use. However, there may be some tiny black points and/or bright points (white, red, blue, or green in color) that appear constantly on the LCD screen. These points are normal results of the manufacturing process and do not affect the recording in any way.

A: White, red, blue or green points  
B: Black points

About this User Guide and illustrations

- Design and specifications of your camcorder and accessories are subject to change without notice.
- In this User Guide, the internal memory of the camcorder and the memory card are called "recording media."
- In this User Guide, the DVD disc recorded with high definition image quality (HD) is called AVCHD recording disc.

On use and care

- Do not hold the camcorder by the following parts:

<table>
<thead>
<tr>
<th>LCD Screen</th>
<th>Battery/memory card/jack cover</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="No symbol" /></td>
<td><img src="image" alt="No symbol" /></td>
</tr>
</tbody>
</table>

- Do not aim at the sun. Doing so might cause your camcorder to malfunction. Take images of the sun only in low light conditions, such as at dusk.
- Do not use or store the camcorder and accessories in the following locations:
  - Anywhere extremely hot, cold or humid. Never leave them exposed to temperatures above 60 °C (140 °F), such as under direct sunlight, near heaters or in a car parked in the sun. They may malfunction or become deformed.
  - Near strong magnetic fields or mechanical vibration. The camcorder may malfunction.
  - Near strong radio waves or radiation. The camcorder may not be able to record properly.
  - Near tuner devices such as TVs or radio. Noise may occur.
  - On a sandy beach or anywhere dusty. If sand or dust gets in your camcorder, it may malfunction. Sometimes this malfunction cannot be repaired.
  - Near windows or outdoors, where the LCD screen, or the lens may be exposed to direct sunlight. This damages the LCD screen.
- Operate your camcorder on DC 3.6 V (battery pack) or DC 5.0 V (USB jack).
- For DC or AC operation, use the accessories recommended in these operating instructions.
- Do not let your camcorder get wet, for example, from rain or sea water. If your camcorder gets wet, it may malfunction. Sometimes this malfunction cannot be repaired.
• If any solid object or liquid gets inside the casing, unplug your camcorder and have it checked by a Sony dealer before operating it any further.
• Avoid rough handling, disassembling, modifying, physical shock, or impact such as hammering, dropping or stepping on the product. Be particularly careful of the lens.
• Keep the LCD screen closed when you are not using your camcorder.
• Do not wrap your camcorder with a towel, for example, and operate it. Doing so might cause heat to build up inside.
• When disconnecting the power cord (mains lead), pull it by the plug and not the cord.
• Do not damage the power cord (mains lead) such as by placing anything heavy on it.
• Do not use a deformed or damaged battery pack.
• Keep metal contacts clean.
• If the battery electrolytic liquid has leaked:
  – Consult your local authorized Sony service facility.
  – Wash off any liquid that may have contacted your skin.
  – If any liquid gets in your eyes, wash with plenty of water and consult a doctor.

### When not using your camcorder for a long time

• To keep your camcorder in optimum state for a long time, turn it on and let it run by recording and playing back images about once a month.
• Use up the battery pack completely before storing it.

### Note on the camcorder/battery pack temperature

• When the temperature of the camcorder or battery pack becomes extremely high or extremely low, you may not be able to record or play back on the camcorder, due to the protection features of the camcorder being activated in such situations. In this case, an indicator appears on the LCD screen.

### Notes on charging

• Operation with all computers is not assured.
• If you connect the camcorder to a laptop computer that is not connected to a power source, the battery of the laptop computer will continue to use up its charge. Do not leave the camcorder connected to a computer in this manner.
• Charging with a personally assembled computer, with a converted computer, or through a USB hub are not guaranteed. The camcorder may not function correctly depending on the USB device which is used with the computer.
• While the camcorder is connected to your computer, do not turn on, restart, wake up from sleep mode, or shut down the computer. These operations may cause the you attempt one of camcorder to malfunction. Disconnect the camcorder from the computer before these operations.

### When the camcorder is connected to a computer or accessories

• Do not try to format the recording media of the camcorder using a computer. If you do so, your camcorder may not operate correctly.
• When connecting the camcorder to another device with communication cables, be sure to insert the connector plug in the correct way. Pushing the plug forcibly into the terminal will damage the terminal and may result in a malfunction of the camcorder.
• When the camcorder is connected to other devices through a USB connection and the power of the camcorder is turned on, do not close the LCD panel. The image data that has been recorded may be lost.

### Notes on optional accessories

• We recommend using genuine Sony accessories.
• Genuine Sony accessories may not be available in some countries/regions.

### LCD screen

•
- Do not apply excessive pressure on the LCD screen, as it may cause uneven color and other damage.
- If your camcorder is used in a cold place, a residual image may appear on the LCD screen. This is not a malfunction.
- While using your camcorder, the back of the LCD screen may heat up. This is not a malfunction.

### On handling the casing

- If the casing is soiled, clean the camcorder body with a soft cloth lightly moistened with water, and then wipe the casing with a dry soft cloth.
- Avoid the following to avoid damage to the finish:
  - Using chemicals such as thinner, benzine, alcohol, chemical cloths, repellent, insecticide and sunscreen
  - Handling the camcorder with above substances on your hands
  - Leaving the casing in contact with rubber or vinyl objects for a long period of time

### On handling the LCD screen and the light-emitting part of flash

- If fingerprints or dust make the LCD screen or the light-emitting part of flash dirty, it is recommended that you use a soft cloth to clean it.

### About care and storage of the lens

- Wipe the surface of the lens clean with a soft cloth in the following instances:
  - When there are fingerprints on the lens surface
  - In hot or humid locations
  - When the lens is exposed to salty air such as at the seaside
- Store in a well-ventilated location subject to little dirt or dust.
- To prevent mold, periodically clean the lens as described above.

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On moisture condensation

If your camcorder is brought directly from a cold place to a warm place, moisture may condense inside your camcorder. This may cause a malfunction to your camcorder.

- If moisture condensation has occurred
  Leave your camcorder for about 1 hour without turning it on.

- Note on moisture condensation
  Moisture may condense when you bring your camcorder from a cold place into a warm place (or vice versa) or when you use your camcorder in a humid place as follows:
  - You bring your camcorder from a ski slope into a place warmed up by a heating device.
  - You bring your camcorder from an air conditioned car or room into a hot place outside.
  - You use your camcorder after a squall or a rain.
  - You use your camcorder in a hot and humid place.

- How to prevent moisture condensation
  When you bring your camcorder from a cold place into a warm place, put your camcorder in a plastic bag and seal it tightly. Remove the bag when the air temperature inside the plastic bag has reached the surrounding temperature (after about 1 hour).
On charging the pre-installed rechargeable battery

Your camcorder has a pre-installed rechargeable battery to retain the date, time, and other settings even when the LCD screen is closed. The pre-installed rechargeable battery is always charged while your camcorder is connected to the wall outlet (wall socket) via the AC Adaptor or while the battery pack is attached. The rechargeable battery will be fully discharged in about 3 months if you do not use your camcorder at all. Use your camcorder after charging the pre-installed rechargeable battery. However, even if the pre-installed rechargeable battery is not charged, the camcorder operation will not be affected as long as you are not recording the date.

How to charge the pre-installed rechargeable battery

Connect your camcorder to a wall outlet (wall socket) using the supplied AC Adaptor, and leave it with the LCD screen closed for more than 24 hours.
Notes on disposal/transfer of the camcorder

Note on disposal/transfer of the camcorder

Even if you delete all movies and still images, or perform [Format], data on the internal recording media may not be completely erased. When you transfer the camcorder, it is recommended that you perform [Empty] to prevent the recovery of your data. Also, when you dispose of the camcorder, it is recommended that you destroy the actual body of the camcorder. [Details]

Note on disposal/transfer of the memory card

Even if you delete data in the memory card or format the memory card on your camcorder or a computer, you may not delete data from the memory card completely. When you give the memory card to somebody, it is recommended that you delete data completely using data deletion software on a computer. Also, when you dispose of the memory card, it is recommended that you destroy the actual body of the memory card.
Charging time

Approximate time (min.) required when you fully charge a fully discharged battery pack.

<table>
<thead>
<tr>
<th>Battery pack</th>
<th>Charging time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AC Adaptor</td>
</tr>
<tr>
<td>NP-BG1 (supplied)</td>
<td>140</td>
</tr>
<tr>
<td>NP-FG1</td>
<td>140</td>
</tr>
</tbody>
</table>

- The charging times shown in the table above are measured when charging the camcorder at a temperature of 25 °C (77 °F). It is recommended that you charge the battery in a temperature range of 10 °C to 30 °C (50 °F to 86 °F).
Expected time of recording and playback with each battery pack

### Recording time

Approximate time available when you use a fully charged battery pack.

<table>
<thead>
<tr>
<th>Battery pack</th>
<th>Continuous recording time</th>
<th>Typical recording time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HD</td>
<td>STD</td>
</tr>
<tr>
<td>Image quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NP-BG1 (supplied)</td>
<td>90</td>
<td>100</td>
</tr>
<tr>
<td>NP-FG1</td>
<td>90</td>
<td>100</td>
</tr>
</tbody>
</table>

- Each recording time is measured when the camcorder is recording high definition image quality (HD) movies with [REC Mode] set to [Standard HD].
- Typical recording time shows the time when you repeat recording start/stop, switching the MODE lamp, and zooming.
- Times measured when using the camcorder at 25 °C (77 °F). 10 °C to 30 °C (50 °F to 86 °F) is recommended.
- The recording and playback time will be shorter when you use your camcorder in low temperatures.
- The recording and playback time will be shorter depending on the conditions under which you use your camcorder.

### Playing time

Approximate time available when you use a fully charged battery pack.

<table>
<thead>
<tr>
<th>Battery pack</th>
<th>HD</th>
<th>STD</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP-BG1 (supplied)</td>
<td>185</td>
<td>185</td>
</tr>
<tr>
<td>NP-FG1</td>
<td>185</td>
<td>185</td>
</tr>
</tbody>
</table>
## Expected recording time of movies

### Internal recording media

**HDR-GW77V**

**High definition image quality (HD) in h (hour) and min (minute)**

<table>
<thead>
<tr>
<th>Recording mode</th>
<th>Recording time</th>
</tr>
</thead>
<tbody>
<tr>
<td>[60p Quality FS]</td>
<td>1 h (1 h)</td>
</tr>
<tr>
<td>[Highest Quality FX]</td>
<td>1 h 15 min (1 h 15 min)</td>
</tr>
<tr>
<td>[High Quality FH]</td>
<td>1 h 40 min (1 h 40 min)</td>
</tr>
<tr>
<td>[Standard HQ]</td>
<td>3 h (2 h 15 min)</td>
</tr>
<tr>
<td>[Long Time LP]</td>
<td>5 h 15 min (4 h 20 min)</td>
</tr>
</tbody>
</table>

**Standard definition image quality (STD) in h (hour) and min (minute)**

<table>
<thead>
<tr>
<th>Recording mode</th>
<th>Recording time</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Standard HQ]</td>
<td>3 h 10 min (2 h 55 min)</td>
</tr>
</tbody>
</table>

### HDR-GW77

**High definition image quality (HD) in h (hour) and min (minute)**

<table>
<thead>
<tr>
<th>Recording mode</th>
<th>Recording time</th>
</tr>
</thead>
<tbody>
<tr>
<td>[60p Quality FS]</td>
<td>1 h 15 min (1 h 15 min)</td>
</tr>
<tr>
<td>[Highest Quality FX]</td>
<td>1 h 30 min (1 h 30 min)</td>
</tr>
<tr>
<td>[High Quality FH]</td>
<td>2 h 5 min (2 h 5 min)</td>
</tr>
<tr>
<td>[Standard HQ]</td>
<td>3 h 45 min (2 h 50 min)</td>
</tr>
<tr>
<td>[Long Time LP]</td>
<td>6 h 30 min (5 h 20 min)</td>
</tr>
</tbody>
</table>

**Standard definition image quality (STD) in h (hour) and min (minute)**
You can record movies of a maximum of 3,999 scenes with high definition image quality (HD), and 9,999 scenes with standard definition image quality (STD).

The maximum continuous recording time of movies is approximately 13 hours.

Your camcorder uses the VBR (Variable Bit Rate) format to automatically adjust image quality to suit the recording scene. This technology causes fluctuations in the recording time of the media. Movies containing quickly moving and complex images are recorded at a higher bit-rate, and this reduces the overall recording time.

**Notes**
- The number in ( ) is the minimum recordable time.

## Memory card

### High definition image quality (HD)

(UNIT: minute)

<table>
<thead>
<tr>
<th>Recording mode</th>
<th>2 GB</th>
<th>4 GB</th>
<th>8 GB</th>
<th>16 GB</th>
<th>32 GB</th>
</tr>
</thead>
<tbody>
<tr>
<td>[60p Quality]</td>
<td>9 (9)</td>
<td>15 (15)</td>
<td>35 (35)</td>
<td>75 (75)</td>
<td>150 (150)</td>
</tr>
<tr>
<td>[Highest Quality]</td>
<td>10 (10)</td>
<td>20 (20)</td>
<td>40 (40)</td>
<td>90 (90)</td>
<td>180 (180)</td>
</tr>
<tr>
<td>[High Quality]</td>
<td>10 (10)</td>
<td>25 (25)</td>
<td>60 (60)</td>
<td>120 (120)</td>
<td>245 (245)</td>
</tr>
<tr>
<td>[Standard]</td>
<td>25 (15)</td>
<td>50 (40)</td>
<td>105 (80)</td>
<td>215 (165)</td>
<td>440 (330)</td>
</tr>
<tr>
<td>[Long Time]</td>
<td>45 (35)</td>
<td>90 (75)</td>
<td>185 (155)</td>
<td>380 (310)</td>
<td>770 (630)</td>
</tr>
</tbody>
</table>

### Standard definition image quality (STD)

(UNIT: minute)

<table>
<thead>
<tr>
<th>Recording mode</th>
<th>2 GB</th>
<th>4 GB</th>
<th>8 GB</th>
<th>16 GB</th>
<th>32 GB</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Standard]</td>
<td>25 (25)</td>
<td>55 (50)</td>
<td>110 (100)</td>
<td>225 (210)</td>
<td>460 (420)</td>
</tr>
</tbody>
</table>

- When using a Sony memory card.

**Notes**
- The recordable time may vary depending on the recording and subject conditions and [REC Mode] and [Frame Rate]. [Details] [Details]
- The number in ( ) is the minimum recordable time.
Expected number of recordable photos

Internal recording media
You can record the maximum 40,000 photos.

Memory card

<table>
<thead>
<tr>
<th>Size</th>
<th>Images</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 GB</td>
<td>230</td>
</tr>
<tr>
<td>4 GB</td>
<td>465</td>
</tr>
<tr>
<td>8 GB</td>
<td>940</td>
</tr>
<tr>
<td>16 GB</td>
<td>1850</td>
</tr>
<tr>
<td>32 GB</td>
<td>3800</td>
</tr>
</tbody>
</table>

- When using a Sony memory card.
- The number of recordable photos of memory card shown is for the maximum image size of your camcorder. The actual number of recordable photos is displayed on the LCD screen during recording. [Details]
- The number of recordable photos of memory card may vary depending on the recording conditions.

Notes
- The unique pixel array of Sony’s ClearVid and the image processing system of Sony’s BIONZ allows still image resolution equivalent to the sizes described.
Bit-rate and recording pixels

The following list shows the bit-rate, pixels and aspect ratio of each recording mode for movies (movie + audio, etc.).

- High definition image quality (HD):
  - PS: Max. 28 Mbps 1,920 × 1,080 pixels/16:9
  - FX: Max. 24 Mbps 1,920 × 1,080 pixels/16:9
  - FH: Approx. 17 Mbps (average) 1,920 × 1,080 pixels/16:9
  - HQ: Approx. 9 Mbps (average) 1,440 × 1,080 pixels/16:9
  - LP: Approx. 5 Mbps (average) 1,440 × 1,080 pixels/16:9

- Standard definition image quality (STD):
  - HQ: Approx. 9 Mbps (average) 720 × 480 pixels/16:9, 4:3

The photo recording pixels and the aspect ratio:

- Photo recording mode, Dual capture:
  - 6,016 × 3,384 dots/16:9
  - 4,512 × 3,384 dots/4:3
  - 4,224 × 2,376 dots/16:9
  - 2,592 × 1,944 dots/4:3
  - 1,920 × 1,080 dots/16:9
  - 640 × 480 dots/4:3

- iSweep Panorama:
  - 4,912 × 1,080 dots/[Standard], horizontal
  - 3,424 × 1,920 dots/[Standard], vertical
  - 7,152 × 1,080 dots/[Wide], horizontal
  - 4,912 × 1,920 dots/[Wide], vertical

- Capturing a photo from a movie:
  - 1,920 × 1,080 dots/16:9
  - 640 × 360 dots/16:9
  - 640 × 480 dots/4:3
Using your camcorder abroad

Power supply
You can use your camcorder in any countries/regions using the AC Adaptor supplied with your camcorder within the AC 100 V to 240 V, 50 Hz/60 Hz range.

Viewing on TV
In countries/regions where 1080/60i is supported, you can view the movies with the same high definition image quality (HD) as that of the recorded movies. You must use a NTSC-system TV (or monitor) equipped with an HDMI jack. An HDMI cable must be connected.

On TV color systems

<table>
<thead>
<tr>
<th>System</th>
<th>Used in</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTSC</td>
<td>Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Guyana, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the USA, Venezuela, etc.</td>
</tr>
<tr>
<td>PAL</td>
<td>Australia, Austria, Belgium, China, Czech Republic, Denmark, Finland, Germany, Holland, Hong Kong, Hungary, Italy, Kuwait, Malaysia, New Zealand, Norway, Poland, Portugal, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Thailand, United Kingdom, etc.</td>
</tr>
<tr>
<td>PAL-M</td>
<td>Brazil</td>
</tr>
<tr>
<td>PAL-N</td>
<td>Argentina, Paraguay, Uruguay</td>
</tr>
<tr>
<td>SECAM</td>
<td>Bulgaria, France, Guiana, Iran, Iraq, Monaco, Russia, Ukraine, etc.</td>
</tr>
</tbody>
</table>

Setting to the local time
You can easily set the clock to the local time by setting a time difference when using your camcorder abroad. Select [Setup] → [Clock Settings] → [Date & Time Setting] → [Daylight Savings] or [Summer Time], and [Setup] → [Clock Settings] → [Area Setting]. [Details]

HDR-GW77V
When [Auto Clock ADJ] and [Auto Area ADJ] are set to [On], the clock is set to the local time automatically by the GPS function. [Details] [Details]

World time difference

<table>
<thead>
<tr>
<th>Time-zone differences</th>
<th>Area setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>GMT</td>
<td>Lisbon, London</td>
</tr>
<tr>
<td>+01:00</td>
<td>Berlin, Paris</td>
</tr>
<tr>
<td>+02:00</td>
<td>Helsinki, Cairo, Istanbul</td>
</tr>
<tr>
<td>+03:00</td>
<td>Nairobi</td>
</tr>
<tr>
<td>+03:30</td>
<td>Tehran</td>
</tr>
<tr>
<td>+04:00</td>
<td>Moscow, Abu Dhabi, Baku</td>
</tr>
<tr>
<td>Time</td>
<td>City</td>
</tr>
<tr>
<td>-------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>+04:30</td>
<td>Kabul</td>
</tr>
<tr>
<td>+05:00</td>
<td>Karachi, Islamabad</td>
</tr>
<tr>
<td>+05:30</td>
<td>Calcutta, New Delhi</td>
</tr>
<tr>
<td>+06:00</td>
<td>Almaty, Dhaka</td>
</tr>
<tr>
<td>+06:30</td>
<td>Yangon</td>
</tr>
<tr>
<td>+07:00</td>
<td>Bangkok, Jakarta</td>
</tr>
<tr>
<td>+08:00</td>
<td>Hong Kong, Singapore, Beijing</td>
</tr>
<tr>
<td>+09:00</td>
<td>Tokyo, Seoul</td>
</tr>
<tr>
<td>+09:30</td>
<td>Adelaide, Darwin</td>
</tr>
<tr>
<td>+10:00</td>
<td>Melbourne, Sydney</td>
</tr>
<tr>
<td>+11:00</td>
<td>Solomon Is</td>
</tr>
<tr>
<td>+12:00</td>
<td>Fiji, Wellington, Eniwetok, Kwajalein</td>
</tr>
<tr>
<td>–11:00</td>
<td>Samoa</td>
</tr>
<tr>
<td>–10:00</td>
<td>Hawaii</td>
</tr>
<tr>
<td>–09:00</td>
<td>Alaska</td>
</tr>
<tr>
<td>–08:00</td>
<td>Los Angeles, Tijuana</td>
</tr>
<tr>
<td>–07:00</td>
<td>Denver, Arizona</td>
</tr>
<tr>
<td>–06:00</td>
<td>Chicago, Mexico City</td>
</tr>
<tr>
<td>–05:00</td>
<td>New York, Bogota</td>
</tr>
<tr>
<td>–04:00</td>
<td>Santiago</td>
</tr>
<tr>
<td>–03:30</td>
<td>St. John's</td>
</tr>
<tr>
<td>–03:00</td>
<td>Brasilia, Montevideo</td>
</tr>
<tr>
<td>–02:00</td>
<td>Fernando de Noronha</td>
</tr>
<tr>
<td>–01:00</td>
<td>Azores, Cape Verde Is.</td>
</tr>
</tbody>
</table>
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