JVC

HD MEMORY CAMERA

GZ-HM320 U Detailed User Guide

GZ-HM300 U

Everio

LYT2211-002A

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Charging

- Refer to the operating instructions found in the animation on the Detailed User Guide.

Recording

- Refer to the operating instructions found in the animation on the Detailed User Guide.

Playback

- Refer to the operating instructions found in the animation on the Detailed User Guide.

Shooting Tips

Basic Way to Hold a Camcorder ~ Recording Stable Images ~

This is the standard way of shooting while standing up.
Be sure to master this basic technique in order to achieve stable images.

■ [Getting Ready]

① Open your feet to the width of your shoulders.
② Keep the elbow of your right arm, which is holding the camcorder, close to your side.
③ Hold the LCD monitor with your left hand and adjust the angle accordingly.

Extending Your Hands to Shoot ~ High-Angle Shooting ~

Extend your hand when your subject is being hidden behind a crowd of people.

■ [Getting Ready]

① Open your feet to the width of your shoulders.
② Extend your right hand and hold the camcorder over your head.
③ Hold the LCD monitor with your left hand and adjust the angle accordingly.

CAUTION:

- Use this way of shooting only as a last resort as it is difficult to achieve stable images.
- Set to the wide angle as much as possible as the image will be prone to camera shake.
- Be considerate. Do not inconvenience the people around you.

Squatting and Shooting at Eye Level

Staying low is a common position to take when shooting small children. By recording from the eye level of the child, you can capture all his cute expressions clearly.

■ [Getting Ready]

① Kneel down with your left knee while keeping your right foot on the ground.
② Place the elbow of your right arm, which is holding the camcorder, on your right knee.
③ Hold the LCD monitor with your left hand and adjust the angle accordingly.

Panning

- Refer to the operating instructions found in the animation on the Detailed User Guide.

Use this method to shoot a wide angle of view.

■ [Getting Ready]

① Shoot by rotating your body instead of moving your arms while keeping the basic way of holding a camcorder as stated above.
② Stand facing the direction where the rotation will stop.
③ Twist your upper body to the direction where recording will start.
④ Press the start button and record for 2 seconds, then slowly twist back your body to face the front.
Record for another 2 seconds while facing the front, then press the stop button.
(The 90 degrees rotation should take about 5 seconds, giving the feeling of a slow motion.)

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■ **Introducing the Various Shooting Techniques!**

Holiday Season/Christmas

Record the happy Christmas celebration with your family!

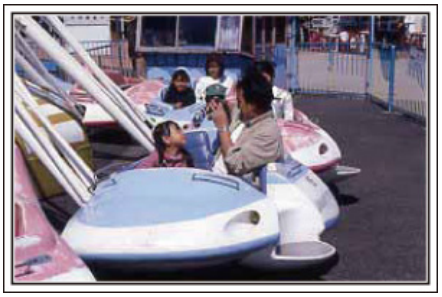
Wedding

Create an awesome wedding video for the bride and groom!

Travel

Capture all the good times of your domestic or overseas trips!

Amusement Park



Take more shots of the smiling faces of everyone in the family!

Holiday Season/Christmas

Record the happy Christmas celebration with your family!

Decorating the Tree and Preparing the Dinner

The decoration of tree and preparation of dinner are part of the joy of Christmas. Be sure to record these happy family times!

■ **Decorating the tree**

A tree is the most important thing to bring out the mood of Christmas. Simply the scene of all family members engaging in the decorating of a fir tree with various colorful ornaments is full of the feeling of happiness.

■ **Preparing the Dinner**

Record the scenes as everyone helps to prepare the feast of the night. You can film the mother who is cooking, the children who are helping, and of course, the process of making a cake!

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Recording the Christmas Party

After all preparations, it is finally the Christmas party itself.
Not only should you record the candle-blowing scene, but also the smiles of the family while being surrounded by good food, or even the father who is slightly drunk from champagne!

Finding the Presents

For children, the greatest joy of Christmas is receiving presents the next morning.
Their expression of delight when finding a present next to their pillow is a recording opportunity not to be missed. Get ready to shoot before the children wake up!

Wedding

Create an awesome wedding video for the bride and groom!

Discussing and Planning Before the Event

Before the day of the wedding reception, it is important to discuss with the bride and groom about various details such as the order of the ceremony and whether there are any entertainment programs or change of clothes.
By understanding the preferences of the bride and groom, you will be able to shoot more appropriately.

Finding the Right Angle to Capture Both Bride and Groom

The main characters of a wedding are of course the bride and groom. Record their expressions clearly during the toast, speech, entertainment programs, and other scenes.
Another recommendation is to capture the face shots of the guests, then pan towards the groom. Picture composition containing the crowd of guests only lacks fun, so be sure to pay attention to the shooting angle and size.

■ Composing the picture with the guests in front and the bride and groom at the back

Recording the Expressions and Comments of Guests

You can record comments from the guest by going around asking, "Please say a few words for the bride and groom".
This can be done at the guests' waiting room, when the bride and groom are changing, or during the entertainment programs.

■ Setting the shot from eye level to chest level

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Closing Up on the Bride's Face During the Thank You Speech

The climax of the event finally comes during the bride and groom's thank you speech and presentation of flowers. The touching words of appreciation from the bride and tears of joy from the parents are scenes that must not be missed.
Start by closing up on the bride's face using zoom. As the tears start to form in the bride's eyes, continue shooting for a little longer. Then, slowly zoom out to the wide angle to show the parents who are moved by the speech.

Advanced Operation with Two Camcorders

If video-editing is to be done, record using two camcorders so that a video with varying scenes can be created. You can try asking a close friend who has a camcorder at home.
Set the borrowed camcorder on a tripod to focus on taking close-up shots of the bride and groom. In this way, the other camcorder can be moved around to record other scenes, enabling an interesting video with changing scenes to be created through editing and compilation.
As most people own at least a digital camera nowadays, even if you are really unable to find an extra camcorder, inserting still pictures to the video at various points is also a good way to add variety. Do give it a try!

■ **<Camcorder 1>**
Closing up on the bride and groom all the time

■ **<Camcorder 2>**
Recording the congratulatory messages from friends at the same time

Travel

Capture all the good times of your domestic or overseas trips!

Bringing the Necessary Equipment

The necessary things to bring on a trip depends on your traveling purpose and the destination.
For overseas trips in particular, you have to think about what to bring in accordance to the local conditions.
Here are some suggestions for your consideration.

■ **Camcorder**

Think about how many hours of shooting you will usually perform in a day. Be sure to prepare enough recording medium especially for long overseas trips.
If you are recording in SD cards, get ready the sufficient number of cards, including some for backup.

■ **Battery Pack**

Prepare a battery pack that is ready for double the expected recording time in a day. For example, if you plan to record for 2 hours a day, prepare a battery pack that is ready for 4 hours (actual recording time).
For a day trip, you can prepare a battery with low capacity but for a long trip, do prepare a few batteries with high capacities.

■ **AC Adapter**

The JVC AC adapter supports voltages from 100 V to 240 V, and hence can be used anywhere in the world.
Bring along the adapter if you are traveling for a long time. Charge the battery pack while sleeping so that you can record with full battery power the next day.

■ **Power Plug Adapter**
(☞ P.17)

The shape of the power plug varies according to countries. Be sure to check the shape of the power plug beforehand, and bring the appropriate power plug adapter.

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■ Battery Charger

Recording cannot be performed when an AC adapter is connected to the camcorder for battery charging.
You can bring an additional battery charger to charge battery packs if you plan to use the camcorder for recording at night. You can also charge multiple battery packs by using both the battery charger and this camcorder at the same time.

■ Tripod

A tripod is an essential item to take stable images. Select an appropriate tripod in accordance to your purpose and style of traveling, such as a compact one to be used on a table or one that is at least 1 m tall.

Recording the Excitement Before Departure

It may be a little abrupt to start your travel video at the destination suddenly.
Record also the preparations prior to departure if it is a family trip, or the time when everyone is gathered at the meeting place if you are traveling with your friends.
For overseas trips, taking a shot of the signs and displays at the airport of the flight you are taking may be useful for future reference.

Using Pan at the Places of Interest

Tourists spots with beautiful scenery or historical sites are places that you would certainly want to record.
To capture the magnificence of a scene which cannot be fitted into a single frame, try the panning technique.
Refer to the "Shooting Tips" found in this website on how to use panning effectively.
In addition, you may also like to take a shot of the signs or monuments that can often be found at the tourist spots.

Showing Everyone Having a Good Time

When taking a video, it is rather dull to shoot only the scenery or historical sites.
Talk about your feelings while recording the breath-taking scenery of an attraction so that it will be an interesting scene to view later.

Amusement Park

Take more shots of the smiling faces of everyone in the family!

Taking Videos or Still Images According to the Attraction

You may choose to take videos all the time. However, you may want to take some still images too.
The following section explains the scenarios suitable for taking videos or still images.

■ Scenarios suitable for taking videos

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Scenarios with changes in body movement are suitable for taking videos. This includes situations where there are rapid changes in facial expressions or voices of surprise and delight.
*Some amusement parks do not allow passengers to perform any recording. Be sure to check beforehand.
[Examples]

- Merry-go-round, go kart, coffee cup, etc.

■ Scenarios suitable for taking still images (photos)

Scenarios with little movement of the subject are suitable for taking still images.
Try to take the still images from an angle such that the surroundings can be seen clearly.
[Examples]

- Carousal, ferris wheel, fun bicycle rides, etc.

Inducing Responses by Calling Out

Videos with no waving of hands nor laughter are not only dull when you view them later, but also put the capability of the audio-recording function of the camcorder to a waste.
When recording, induce more reactions by enthusiastically waving your hands or shouting out "Is it fun?" and the like.

Capturing the Best Moment in a Video as a Still Image

Shots with the eyes closed are often taken by accident. To reduce such mistakes, make use of the function to capture still images from videos. As videos are actually continuous recording of 60 still images within 1 minute, using this function allows you to select the best moment and save it as a still image.
"Capturing a Still Image in the Video during Playback" (☞ P.54)

Advanced Operation with Backlight Compensation

It is useful to make use of backlight compensation when the subject's face is in backlight or when the expression cannot be seen clearly. Increase the brightness of the whole image by setting “BACKLIGHT COMP.” if the faces appear too dark. Even the expressions of faces under shadows can be captured brightly and clearly.
"Setting Backlight Compensation" (☞ P.28)

■ <Without backlight compensation>

■ <With backlight compensation>

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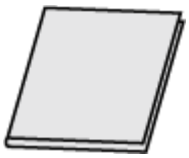
Verifying the Accessories

If any of the items are missing or defective, consult your JVC dealer or the nearest JVC service center.

Illustration	Description
	AC Adapter AP-V30U ● Connects to this unit to charge the battery pack. It can also be used when recording indoors or during playback.
	Battery Pack BN-VG114U ● Attaches to this unit to supply power.
	AV Cable ● Connects this unit to a TV to play back recorded images on the TV.
	USB Cable (A Type - Mini B Type) ● Connects this unit to a PC.
	CD-ROM ● For installing the provided software "Everio MediaBrowser" on a PC.
	Basic User Guide ● Read well and keep in a safe place where it can be accessed easily when necessary.
	Lens Cap ● Protects the lens.

NOTE:

- SD cards are sold separately.

"Types of Usable SD Card" (☞ P.13)

- When using the AC adapter overseas, please prepare a commercially available converter plug for the country or region of visit.

"Charging the Battery Pack Overseas" (☞ P.17)

Charging the Battery Pack

Charge the battery pack immediately after purchase and when the remaining battery power is low.
The battery pack is not charged at the time of purchase.

1 Attach the battery pack.

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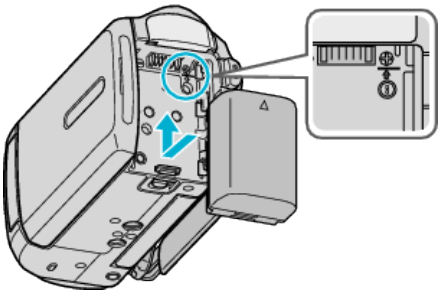
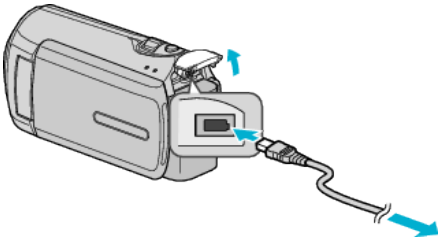
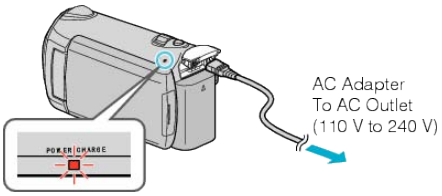


- Align the top of the battery with this unit, and slide in until the battery clicks into place.

2 Connect the AC adapter to the DC terminal.



3 Plug in the power.



- The charging lamp blinks when charging is in progress. It goes out when charging is finished.

CAUTION:

- If you use any other battery packs besides JVC battery packs, safety and performance can not be guaranteed.
- Charging time: Approx. 2 h 30 m (using supplied battery pack)
  The charging time is when the unit is used at 25°C.
  If the battery pack is charged outside the room temperature range of 10°C - 35°C, charging may take a longer time or it may not start. The recordable and playable time may also be shortened under some usage conditions such as at low temperature.

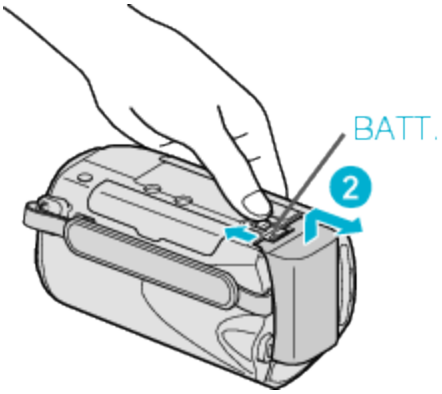
Rechargeable Batteries :

- When using the battery in a low temperature environment (10°C (50°F) or below), the operating time may be shortened, or it may not function properly. When using this unit outdoors in the winter weather, warm the battery, such as by placing it in the pocket, before attaching it. (Keep away from direct contact with a warm pack.)
- Do not expose the battery to excessive heat, such as direct sunlight or fire.
- If the battery pack is not to be used for a long time, use up the charge completely and detach it from this unit to prevent deterioration.
- After removing the battery, store it in a dry place between 15°C to 25°C (59°F to 77°F).
- Battery deterioration occurs when a battery pack is charged repeatedly. Replace the battery pack with a new one.

NOTE:

- You can connect this unit to the AC adapter to record for long hours indoors.
  (Battery charging begins when the LCD monitor is closed.)
- Please do not pull or bend the AC adapter plug and cable. This may damage the AC adapter.

Detaching the Battery Pack



Slide the battery release lever to detach the battery from this unit.

Approximate Battery Charging Time

Battery Pack	Charging Time	Actual Recording Time*	Continuous Recording Time*
BN-VG114U (Supplied)	2 h 30 m	45 m	1 h 20 m
BN-VG121U	3 h 30 m	1 h 10 m	2 h 05 m

*The above are values when “LCD BACKLIGHT” is set to “STANDARD”.

- When the battery life is reached, the recording time becomes shorter even if the battery pack is fully charged.
  (Replace the battery pack with a new one.)

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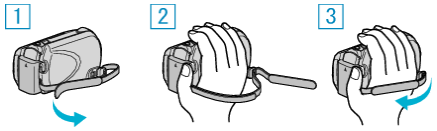
Grip Adjustment



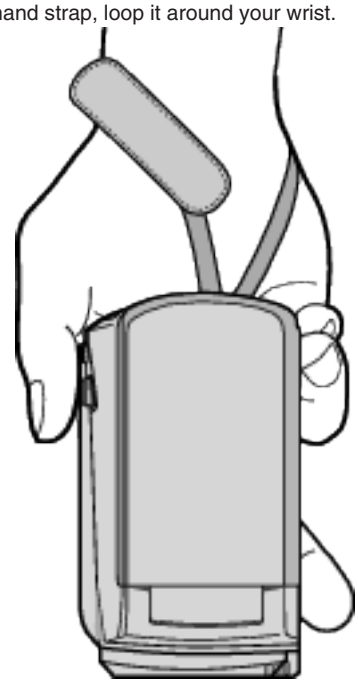
① Flip the grip belt over.
② Adjust the length of the belt.
③ Fasten the grip belt.

CAUTION:

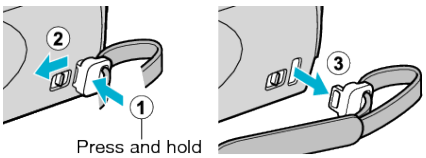
- Be sure to fasten the grip belt properly.
  If the belt is loose, this unit may drop and result in injuries or damages.

Using the Hand Strap

When using the hand strap, loop it around your wrist.

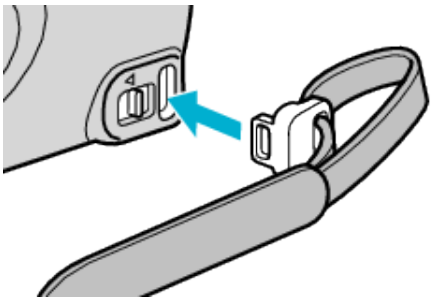


Removing the Strap



- While pressing [1], pull [2] and remove the strap.

Attaching the Strap

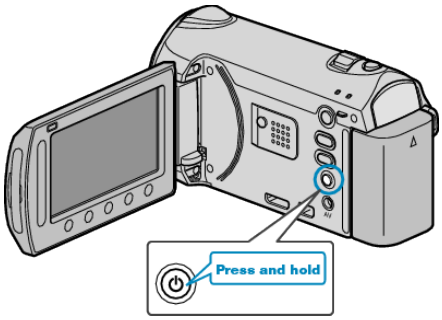


- Push in firmly until it clicks into place.

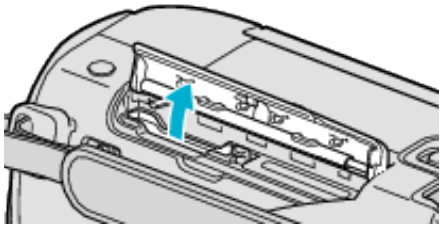
Inserting an SD Card (NAND/SD Models)

When a commercially available SD card is inserted, recordings can still be made to the card without stopping when the remaining recording time on the internal memory runs out.
"Types of Usable SD Card" (☞ P.13)

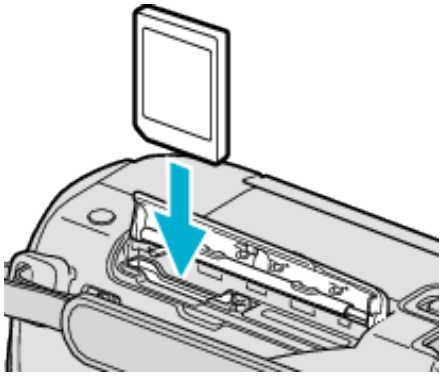
1 Press the power button for more than 2 seconds to turn off this unit.



2 Open the card slot cover.



3 Insert an SD card.



CAUTION:

- Make sure not to insert the card in the wrong direction.
  It may cause damage to the unit and card.
- Turn off the power of this unit before inserting or removing a card.

NOTE:

- Recording switches automatically from one media to another and vice versa after the card or memory space in the selected media is full.

"SEAMLESS RECORDING" (☞ P.81)

- To record to the card, it is necessary to adjust media settings.
  When no card is available, set media settings to “HDD” for recording.

"REC MEDIA FOR VIDEO (GZ-HM320)" (☞ P.106)
"REC MEDIA FOR IMAGE (GZ-HM320)" (☞ P.107)

- To use cards that have been used on other devices, it is necessary to format (initialize) the card using “FORMAT SD CARD” from media settings.

"FORMAT SD CARD" (☞ P.108)

Removing the Card

Push the card inward once, then pull it out straight.

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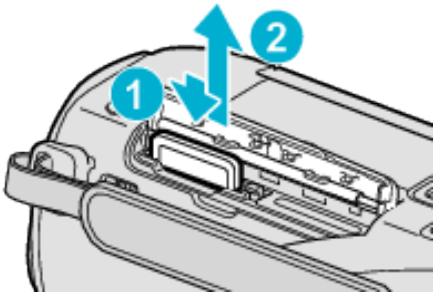


Types of Usable SD Card

The following SD cards can be used on this unit.

SDHC Card

- Use a Class 4 or higher compatible SDHC card (4 GB to 32 GB) for video recording.

SD Card

- This unit supports 256 MB to 2 GB SD cards.

Operations are confirmed on the SD cards from the following manufacturers.

- Panasonic
- TOSHIBA
- SanDisk
- ATP

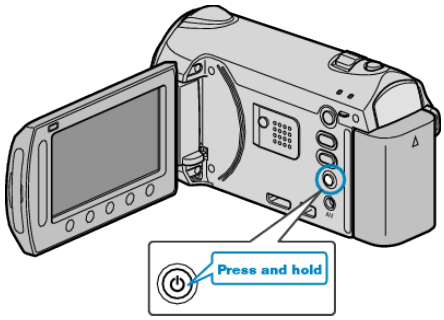
NOTE:

- Using SD cards (including SDHC cards) other than those specified above may result in recording failure or data loss.
- Class 4 and Class 6 are guaranteed to have a minimum transfer rate of 4 MB/s and 6 MB/s respectively during reading or writing of data.

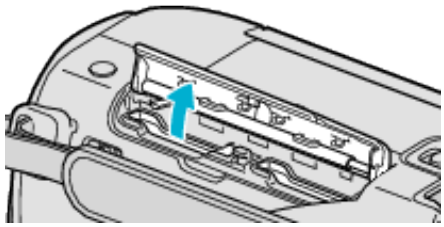
Inserting an SD Card (SD/SD Models)

Insert a commercially available SD card before recording.
This unit comes with two SD card slots. When two SD cards are inserted, recordings can be continued on the other card even if one card is full.
"Types of Usable SD Card" (☞ P.13)

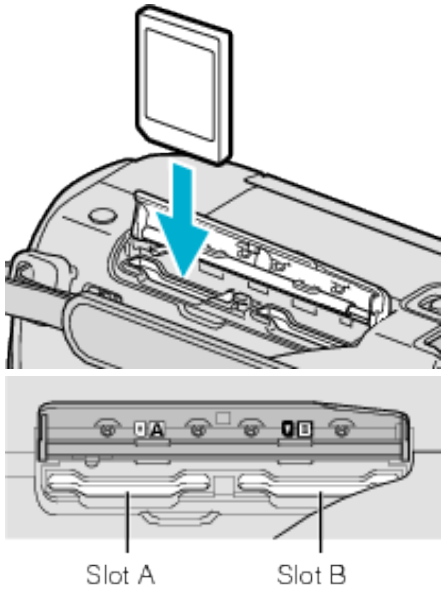
1 Press the power button for more than 2 seconds to turn off this unit.



2 Open the card slot cover.



3 Insert an SD card into slot A.



CAUTION:

- Make sure not to insert the card in the wrong direction. It may cause damage to the unit and card.
- Turn off the power of this unit before inserting or removing a card.

NOTE:

- Recording switches automatically from one media to another and vice versa after the card or memory space in the selected media is full.

"SEAMLESS RECORDING" (☞ P.81)

- To record to the card, it is necessary to adjust media settings. When no card is available, set media settings to “HDD” for recording.

"REC MEDIA FOR VIDEO (GZ-HM320)" (☞ P.106)
"REC MEDIA FOR IMAGE (GZ-HM320)" (☞ P.107)

- To use cards that have been used on other devices, it is necessary to format (initialize) the card using “FORMAT SD CARD” from media settings.

"FORMAT SD CARD" (☞ P.108)

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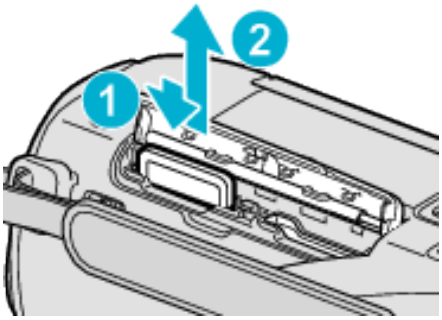
Removing the Card

Push the card inward once, then pull it out straight.



Types of Usable SD Card

The following SD cards can be used on this unit.

SDHC Card

- Use a Class 4 or higher compatible SDHC card (4 GB to 32 GB) for video recording.

SD Card

- This unit supports 256 MB to 2 GB SD cards.

Operations are confirmed on the SD cards from the following manufacturers.

- Panasonic
- TOSHIBA
- SanDisk
- ATP

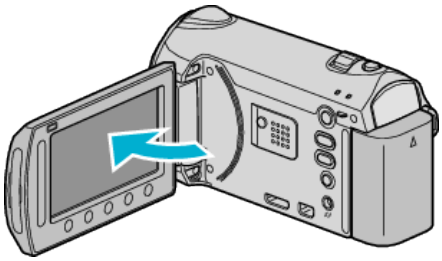
NOTE:

- Using SD cards (including SDHC cards) other than those specified above may result in recording failure or data loss.
- Class 4 and Class 6 are guaranteed to have a minimum transfer rate of 4 MB/s and 6 MB/s respectively during reading or writing of data.

Clock Setting

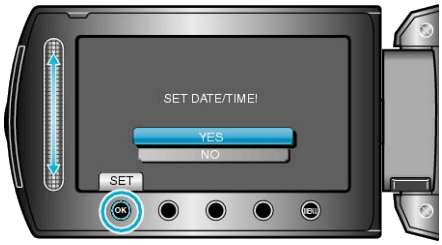
The “SET DATE/TIME!” screen appears when you turn on this unit for the first time after purchase, when it has not been used for a long time, or when the clock is not set yet.
Set the clock before recording.

1 Open the LCD monitor.



- This unit turns on.
- When the LCD monitor is closed, this unit turns off.

2 Select “YES” and touch ⓞⓚ.



3 Set the date and time.

- Use the slider to adjust the year, month, day, hour, and minute in order.
- Touch the operation buttons "←" / "→" to move the cursor.
- After setting the date and time, touch ⓞⓚ.

4 Select the region where you live and touch ⓞⓚ.

- The city name and time difference are displayed.
- Touch ⓞⓚ after the color of the selected region changes.

NOTE:

- The clock can be reset again later.

"Resetting the Clock" (☞ P.15)

- When using this unit overseas, you can set it to the local time for recording.

"Setting the Clock to Local Time when Traveling" (☞ P.17)

- You can turn on or off the clock display during playback mode.

"ON-SCREEN DISPLAY" (☞ P.91)

- The clock set style of this unit varies with the models.

"Clock Set Style" (☞ P.95)

- Touch the slider and buttons around the screen with your fingers.
- The slider and buttons do not function if you touch them with your fingernails or with gloves on.
- The displays on the screen do not work even if you touch them.

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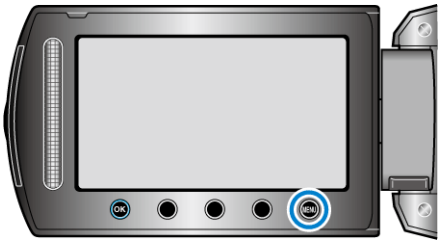
Resetting the Clock

Set the clock with “CLOCK ADJUST” from the menu.

1 Touch MENU to display the menu.



2 Select “CLOCK ADJUST” and touch OK.

3 Select “CLOCK SETTING” and touch OK.

4 Set the date and time.

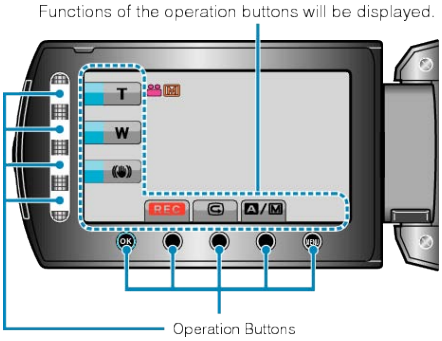
- Use the slider to adjust the year, month, day, hour, and minute in order.
- Touch the operation buttons "←" / "→" to move the cursor.
- After setting the date and time, touch OK.

5 Select the region where you live and touch OK.

- The city name and time difference are displayed.
- Touch OK after the color of the selected region changes.

Using the Operation Buttons

Functions of the operation buttons may be displayed on the screen according to the feature in use.



- To operate, touch the slider and buttons around the screen lightly with your fingers.

NOTE:

- "Touch" denotes the touching of the operation buttons lightly.
- The slider and buttons do not function if you touch them with your fingernails or with gloves on.
- The displays on the screen do not work even if you touch them.

Using the Slider

Slide the ball of your finger along the slider for smooth operations.
While the slider is being pressed, the cursor moves automatically.
Fine operations such as moving the cursor one by one can be performed by touching the slider.

- Refer to the operating instructions found in the animation on the Detailed User Guide.

NOTE:

- The slider and buttons do not function if you touch them with your fingernails or with gloves on.
- The displays on the screen do not work even if you touch them.

Holding this Unit

When holding this unit, keep your elbows close to your sides to prevent camera shake.

POINT

CAUTION:

- Be careful not to drop this unit during transportation.

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- Guardians should pay close attention when this unit is being used by children.

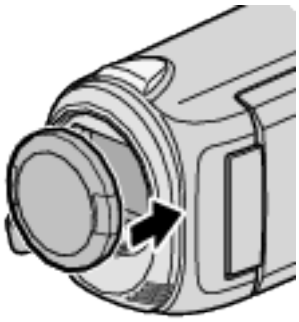
NOTE:

- If camera shake is excessive, use the digital image stabilizer.

"Reducing Camera Shake" (☞ P.21)

Attaching the Lens Cap

To protect the lens, attach the provided lens cap to this unit as shown in the illustration.

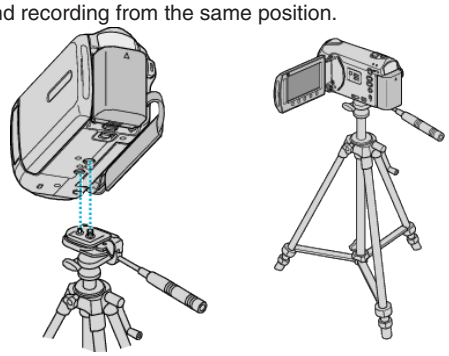


CAUTION:

- Please be careful not to lose the lens cap.

Tripod Mounting

This unit can be mounted on a tripod. This is useful for preventing camera shake and recording from the same position.



- To prevent this unit from falling off, check the tripod mounting screw holes and positioning holes on the unit carefully before mounting, and turn the screws until they are fastened firmly.

CAUTION:

- To prevent injuries or damages which may result if this unit falls off, read the instruction manual of the tripod to be used and make sure that it is securely attached.

NOTE:

- It is recommended to use the tripod when recording in conditions prone to camera shake (such as in dark places or when zoomed to the telephoto end).
- Set the digital image stabilizer to (OFF) when using a tripod for recording.

"Reducing Camera Shake" (☞ P.21)

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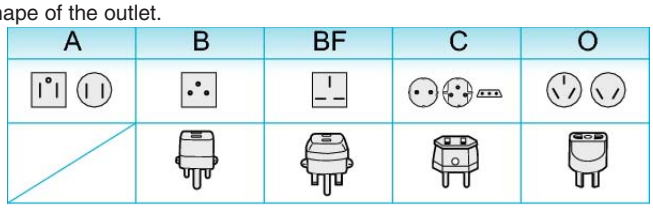
Using this Unit Overseas

The shape of the power outlet varies according to countries and regions. To charge the battery pack, you need a converter plug that matches the shape of the outlet.
"Charging the Battery Pack Overseas" (☞ P.17)
Change the date and time display to the local time by selecting your travel destination in “AREA SETTING” of “CLOCK ADJUST”.
"Setting the Clock to Local Time when Traveling" (☞ P.17)
When “ON” is selected in “SET FOR DAYLIGHT SAVING TIME” of “CLOCK ADJUST”, the time is set 1 hour ahead.
"Setting Daylight Saving Time" (☞ P.18)

Charging the Battery Pack Overseas

The shape of the power outlet varies according to countries and regions. To charge the battery pack, you need a converter plug that matches the shape of the outlet.



North America	
United States	A
Canada	A
Mexico	A

Asia	
India	B,C,BF
Indonesia	C
Singapore	B,BF
Sri Lanka	B,C,BF
Thailand	A,BF,C
South Korea	A,C
China	A,B,BF,C,O
Nepal	C
Pakistan	B,C
Bangladesh	C
Philippines	A,BF,O
Vietnam	A,C
Hong Kong Special Administrative Region	B,BF
Macau Special Administrative Region	B,C
Malaysia	B,BF,C

Europe	
Iceland	C
Ireland	C
United Kingdom	B,BF
Italy	C
Austria	C
Netherlands	C
Canary Islands	C
Greece	C
Switzerland	C
Sweden	C
Spain	A,C
Denmark	C
Germany	C
Norway	C
Hungary	C
Finland	C
France	C
Belgium	C
Poland	B,C
Portugal	B,C
Romania	C

Oceania	
Australia	O
Guam	A
Tahiti	C
Tonga	O
New Zealand	O
Fiji	O

Latin	
Argentina	BF,C,O
Colombia	A
Jamaica	A
Chile	B,C
Haiti	A
Panama	A
Bahamas	A
Puerto Rico	A
Brazil	A,C
Venezuela	A
Peru	A,C

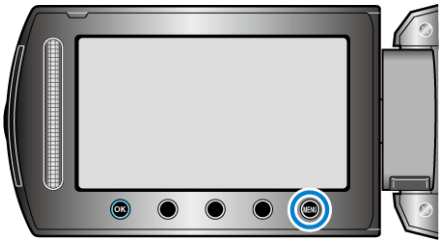
Tyuukintou	
Israel	C
Iran	C
Kuwait	B,C
Jordan	B,BF

Africa	
Algeria	A,B,BF,C
Egypt	B,BF,C
Guinea	C
Kenya	B,C
Zambia	B,BF
Tanzania	B,BF
Republic of South Africa	B,C,BF
Mozambique	C
Morocco	C

Setting the Clock to Local Time when Traveling

Change the date and time display to the local time by selecting your travel destination in “AREA SETTING” of “CLOCK ADJUST”.
Restore the region settings after you returned from the trip.

1 Touch MENU to display the menu.



2 Select “CLOCK ADJUST” and touch OK.

3 Select “AREA SETTING” and touch OK.

4 Select the area you are traveling to and touch OK.

- The city name and time difference are displayed.

NOTE:

- Setting “AREA SETTING” changes the clock time such that time difference is accounted for.
  After returning to your country, re-select the region that was set initially to restore the original clock settings.

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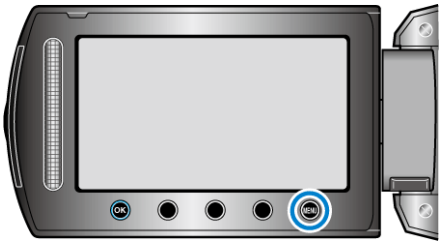
Setting Daylight Saving Time

When “ON” is selected in “SET FOR DAYLIGHT SAVING TIME” of “CLOCK ADJUST”, the time is set 1 hour ahead.

1 Touch MENU to display the menu.



2 Select “CLOCK ADJUST” and touch OK.

3 Select “SET FOR DAYLIGHT SAVING TIME” and touch OK.

4 Set daylight saving time and touch OK.

NOTE:

- What is daylight saving time?
  Daylight saving time is the system of setting the clock 1 hour ahead for a fixed period in summer.
  It is used mainly in the Western countries.
- Restore the daylight saving time settings after you returned from the trip.

Optional Accessories

Product Name	Description
Battery Pack • BN-VG114U • BN-VG121U	• Provides a longer recording time than the battery pack that comes with this unit. It can also be used as a spare battery pack.
Battery Charger • AA-VG1U	• Enables the battery pack to be charged without using this unit.
DVD Writer • CU-VD3U	• Enables the images recorded on this unit to be copied to a DVD without using a PC.
DVD Writer • CU-VD50U	• Creates DVDs and functions as an external DVD drive when connected to a PC. In addition, created DVDs can be played back by connecting the CU-VD50U to a TV.
Component Cable • QAM1266-001	• For viewing in high picture quality.
USB Cable • QAM0852-001	• Connects this unit to a BD writer or a recommended USB external hard disk drive (see table below).

NOTE:

- For more information, refer to the catalog.
- BN-VG114U is the same battery pack that comes with this unit.

Approximate Recording Time (Using Battery)

Battery Pack	Actual Recording Time	Continuous Recording Time
BN-VG114U (Supplied)	45 m	1 h 20 m
BN-VG121U	1 h 10 m	2 h 05 m

*The above are values when “LCD BACKLIGHT” is set to “STANDARD”.

- The actual recording time may be shorter if zooming is used or if recording is stopped repeatedly.
  (It is recommended to prepare battery packs ready for three times the expected recording time.)
- When the battery life is reached, the recording time becomes shorter even if the battery pack is fully charged.
  (Replace the battery pack with a new one.)

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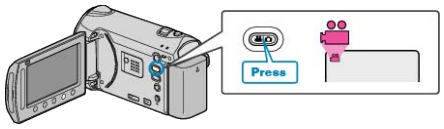
Taking Videos in Auto Mode

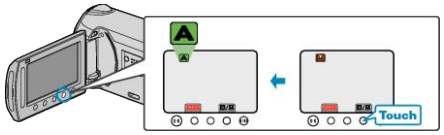
You can record without worrying about the setting details by using the auto mode.

1 Open the LCD monitor and select the video mode.
(Open the lens cover.)



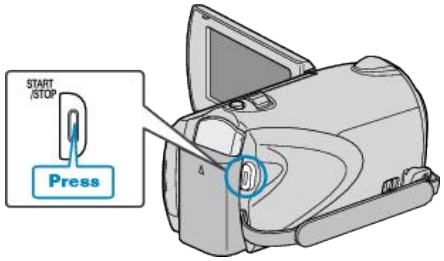
- The video mode icon appears.

2 Check if the recording mode is Auto.



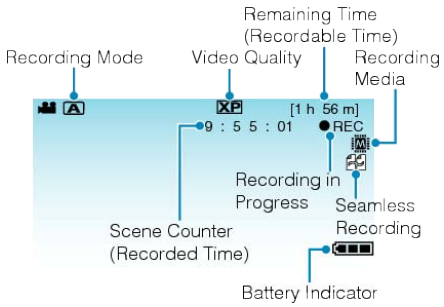
- If the mode is Manual, touch the A/M button.
The mode changes between Auto and Manual with every touch.

3 Start recording.



- Press again to stop.

Indications During Video Recording



Display Icon	Description
Recording Mode	Press the A/M button to switch the recording mode between A (Auto) and M (Manual).
Video Quality	Displays the icon of the “VIDEO QUALITY” setting selected in the recording menu. "VIDEO QUALITY" (☞ P.79)
Remaining Time (Recordable Time)	Displays the remaining time for video recording.
●REC **Recording in Progress**	Appears when video recording is in progress.
●II **Record-Standby**	Appears when video recording is paused.
Scene Counter (Recorded Time)	Displays the elapsed time of the video that is currently being recorded.
Recording Media	Displays the icon of the media where videos are recorded to. The recording media can be changed. "REC MEDIA FOR VIDEO (GZ-HM320)" (☞ P.106)
Battery Indicator	Displays the approximate remaining battery power. Details of the battery power can be displayed by pressing the INFO button ⏻. "Remaining Recording Time/Battery Power" (☞ P.34)

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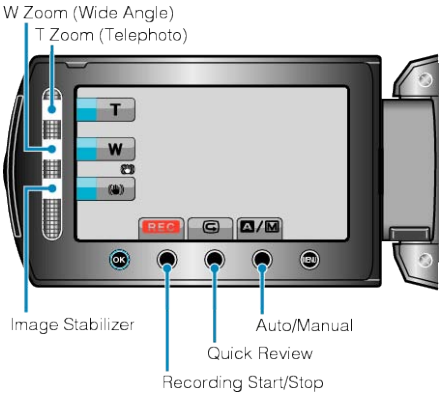
Operation Buttons for Video Recording



Operation Button	Description
T/W Zoom	Allows the same functions as the zoom lever to be performed. Camera shake that often occurs when using the zoom lever can be minimized. "Zooming" (☞ P.21)
Image Stabilizer	Sets whether to reduce camera shake. "Reducing Camera Shake" (☞ P.21)
Recording Start/Stop	Functions as the START/STOP button.
Quick Review	Enables the most recently captured video to be viewed. "Checking the Captured Image Immediately (Quick Review)" (☞ P.21)
Auto/Manual	Switches the recording mode between Auto and Manual.

NOTE:

- The slider operation button cannot be used when the LCD monitor is flipped.
- The zoom appears when the slider is touched.

Useful Settings for Recording

- Videos can be found easily during playback by categorizing them when recording.

"Registering Files to Events" (☞ P.79)

- When “QUICK RESTART” is set to “ON”, this unit turns on immediately if you open the LCD monitor within 5 minutes after the power is turned off by closing the monitor.

"QUICK RESTART" (☞ P.101)

- When “AUTO POWER OFF” is set to “ON”, this unit turns itself off automatically to conserve power when it is not operated for 5 minutes. (only when using the battery pack)

"AUTO POWER OFF" (☞ P.99)

- When “FACE PRIORITY AE/AF” is set to “ON” (default setting), this unit detects faces and automatically adjusts its brightness and focus to record the faces more clearly.

"FACE PRIORITY AE/AF" (☞ P.79)

- If the remaining space on the recording media runs out while “SEAMLESS RECORDING” is set to “ON”, recording continues after switching to another recording media.

"SEAMLESS RECORDING" (☞ P.81)

CAUTION:

- Do not expose the lens to direct sunlight.
- Do not use this unit in the rain, snow, or places with high humidity like the bathroom.
- Do not use this unit in places subject to excessive humidity or dust, as well as places exposed to steam or smoke directly.
- The access lamp lights up when video recording is in progress. Do not remove the battery pack, AC adapter, or SD card when the lamp is lighted.
- Make a backup of important recorded data.
  It is recommended to copy your important recorded data to a DVD or other recording media for storage. JVC will not be responsible for any lost data.

NOTE:

- Before recording an important scene, it is recommended to conduct a trial recording.
- Check the remaining recording time in the media before you start shooting. If there is not enough space, move (copy) the data to a PC or disc.
- Do not forget to make copies after recording!
- Recording stops automatically as it cannot be performed for 12 or more consecutive hours according to specifications. To ensure continuous recording, set “SEAMLESS RECORDING” to “ON” before you start recording.

"SEAMLESS RECORDING" (☞ P.81)

- For long recordings, the file is split into two or more files if the size exceeds 4 GB.
- You can connect this unit to the AC adapter to record for long hours indoors.

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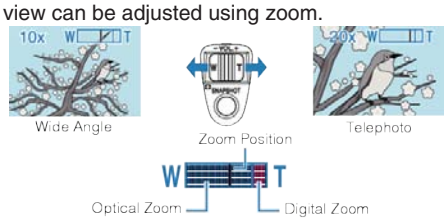
Zooming

The angle of view can be adjusted using zoom.



- Use the W end (wide angle end) to shoot a wider field of view.
- Use the T end (telephoto end) to magnify the subject for shooting.

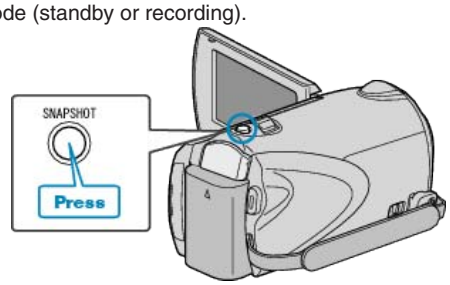
NOTE:

- When digital zoom is used, the image becomes grainy as it is digitally enlarged.
- The zoom ratio range can be changed.

"Changing the Zoom Ratio Range" (☞ P.80)

Capturing Still Images During Video Recording

Still images can be captured by pressing the SNAPSHOT button while in the video mode (standby or recording).



- "PHOTO" lights up on the screen when a still image is being captured.

- The still images captured during video recording are saved to the destination set in media settings.

"REC MEDIA FOR IMAGE (GZ-HM320)" (☞ P.107)

NOTE:

- The picture quality varies with the “IMAGE QUALITY” setting.

"Changing Still Image Picture Quality" (☞ P.85)

Reducing Camera Shake

When the digital image stabilizer is turned on, camera shake during recording can be effectively reduced.

- The setting of the image stabilizer switches with every touch.

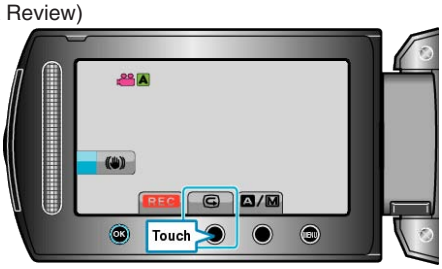
Display	Setting
(Image stabilizer 1)	Reduces camera shake under normal shooting conditions.
(Image stabilizer 2)	Reduces camera shake more effectively when shooting bright scenes on the wide angle end. *Only on the wide angle end (approx. 5x)
(OFF)	Deactivates image stabilizer.

NOTE:

- It is recommended to switch off this mode when using a tripod and recording a subject with little movement.
- Complete stabilization may not be possible if camera shake is excessive.
- This setting is effective for video recording only.

Checking the Captured Image Immediately

You can check the most recently captured images while in the recording mode. (Quick Review)



NOTE:

- You can also delete the image after checking.
- Quick Review can no longer recall the most recently captured image once the power is turned off.
  Use the playback mode to check the image in this case.

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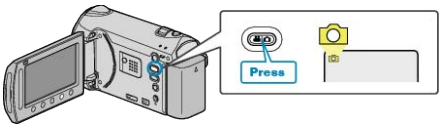
Taking Still Images in Auto Mode

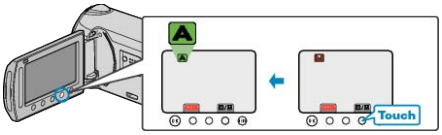
You can record without worrying about the setting details by using the auto mode.

1 Open the LCD monitor and select the still image mode.
(Open the lens cover.)



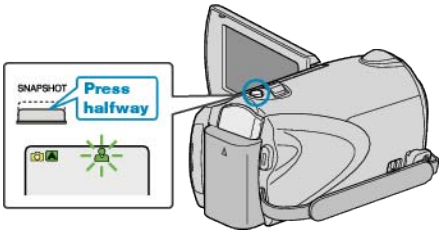
- The still image mode icon appears.

2 Check if the recording mode is Auto.



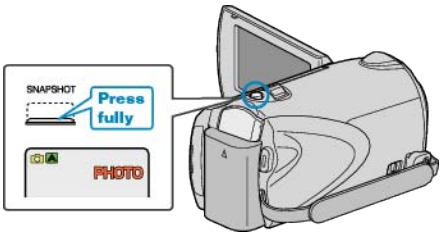
- If the mode is Manual, touch the A/M button.
The mode changes between Auto and Manual with every touch.

3 Set the focus on the subject.



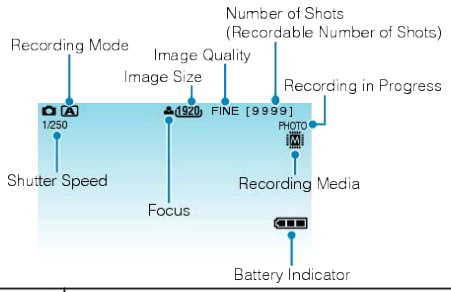
- When focused, the focus icon lights up in green.

4 Take a still image.



- PHOTO lights up when a still image is being captured.

Indications During Still Image Recording



Display Icon	Description
Recording Mode	Press the A/M button to switch the recording mode between A (Auto) and M (Manual).
Image Size	Displays the icon of the image size. "IMAGE SIZE" (☞ P.85)
Image Quality	Displays the icon of the “IMAGE QUALITY” setting selected in the recording menu. "IMAGE QUALITY" (☞ P.85)
Number of Shots (Recordable Number of Shots)	Displays the remaining number of shots for still image recording.
Shutter Speed	Displays the shutter speed.
Focus	Lights up in green when focused.
Recording in Progress	Appears when a still image is being captured.
Recording Media	Displays the icon of the media where still images are recorded to. The recording media can be changed. "REC MEDIA FOR IMAGE (GZ-HM320)" (☞ P.107)
Battery Indicator	Displays the approximate remaining battery power. Details of the battery power can be displayed by pressing the INFO button ⏻. "Remaining Recording Time/Battery Power" (☞ P.34)

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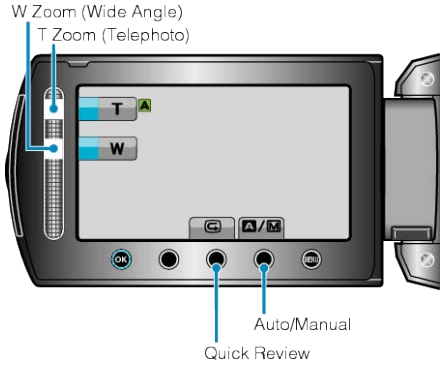
Operation Buttons for Still Image Recording



Operation Button	Description
T/W Zoom	Functions as the zoom lever. "Zooming" (☞ P.23)
Quick Review	Enables the most recently captured still image to be viewed. "Checking the Captured Image Immediately" (☞ P.23)
Auto/Manual	Switches the recording mode between Auto and Manual.

NOTE:

- The slider operation button cannot be used when the LCD monitor is flipped.
- The zoom appears when the slider is touched.

Useful Settings for Recording

- When “QUICK RESTART” is set to “ON”, this unit turns on immediately if you open the LCD monitor within 5 minutes after the power is turned off by closing the monitor.

"QUICK RESTART" (☞ P.101)

- When “AUTO POWER OFF” is set to “ON”, this unit turns itself off automatically to conserve power when it is not operated for 5 minutes. (only when using the battery pack)

"AUTO POWER OFF" (☞ P.99)

- When “FACE PRIORITY AE/AF” is set to “ON” (default setting), this unit detects faces and automatically adjusts its brightness and focus to record the faces more clearly.

"FACE PRIORITY AE/AF" (☞ P.83)

- The image resolution can be changed.

"IMAGE SIZE" (☞ P.85)

CAUTION:

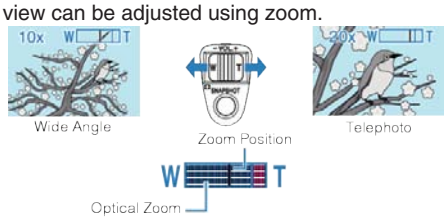
- Do not expose the lens to direct sunlight.
- Do not use this unit in the rain, snow, or places with high humidity like the bathroom.
- Do not use this unit in places subject to excessive humidity or dust, as well as places exposed to steam or smoke directly.
- The access lamp lights up when video recording is in progress. Do not remove the battery pack, AC adapter, or SD card when the lamp is lighted.

NOTE:

- Before recording an important scene, it is recommended to conduct a trial recording.
- The digital image stabilizer does not work when recording still images.

Zooming

The angle of view can be adjusted using zoom.



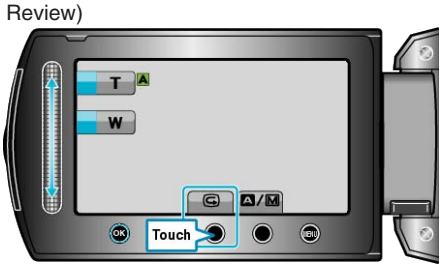
- Use the W end (wide angle end) to shoot a wider field of view.
- Use the T end (telephoto end) to magnify the subject for shooting.

NOTE:

- Digital zoom is not available in the still image recording mode.

Checking the Captured Image Immediately

You can check the most recently captured images while in the recording mode. (Quick Review)



NOTE:

- You can also delete the image after checking.
- Quick Review can no longer recall the most recently captured image once the power is turned off.
  Use the playback mode to check the image in this case.

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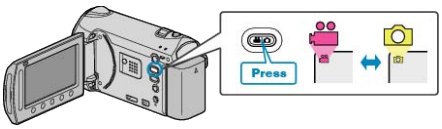
Manual Recording

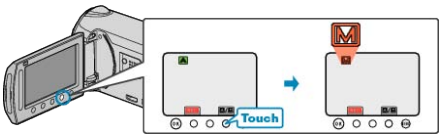
You can adjust settings, such as brightness, by using the manual mode. Manual recording can be set for both video and still image modes.

1 Select video or still image mode.



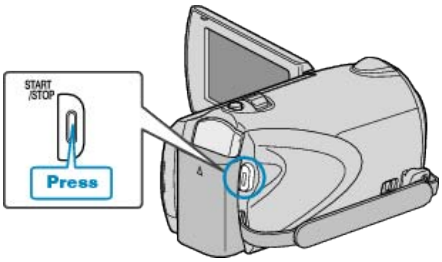
- The video or still image mode icon appears.

2 Select the Manual recording mode.



- The mode changes between Auto and Manual with every touch.

3 Start recording.



- Press again to stop.

NOTE:

- The manual settings are displayed only in the manual mode.

Manual Recording Menu

The following items can be set.

Name	Description
SCENE SELECT	• Recordings that suit the shooting conditions can be performed easily. "Scene Selection" (☞ P.25)
FOCUS	• Use manual focus if the subject is not focused automatically. "Adjusting Focus Manually" (☞ P.26)
FOCUS ASSIST	• Use this for adjusting the focus more precisely. "Using Focus Assist" (☞ P.26)
BRIGHTNESS ADJUST	• Overall brightness on the screen can be adjusted. • Use this when recording in a dark or bright location. "Adjusting Brightness" (☞ P.27)
WHITE BALANCE	• Overall color on the screen can be adjusted. • Use this when the color on the screen appears differently from the actual color. "Setting White Balance" (☞ P.27)
BACKLIGHT COMP.	• Corrects the image when the subject appears dark due to backlight. • Use this when shooting against the light. "Setting Backlight Compensation" (☞ P.28)
METERING AREA/ TYPE	• Brightness of a specified area can be set as the standard. "Setting Metering Area" (☞ P.28)
EFFECT	• Images that look like old photographs or black-and-white movies can be taken. "Recording with Effects" (☞ P.29)
TELE MACRO	• Use this to take close-up (macro) shots of the subject. "Taking Close-up Shots" (☞ P.29)

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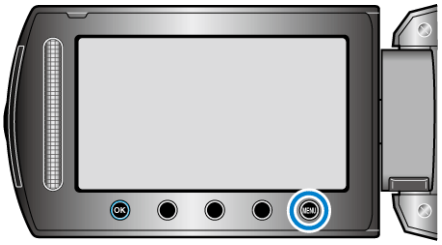
Scene Selection

Common scenes that are often encountered can be recorded with the most suitable settings.

1 Touch MENU to display the menu.



2 Select “MANUAL SETTING” and touch OK.

3 Select “SCENE SELECT” and touch OK.

4 Select the scene and touch OK.

Setting	Effect
NIGHT EYE	Increases gain and brightens the scene automatically when the surrounding is dark. To prevent camera shake, use a tripod. OFF ON
SPOTLIGHT	Prevents the human subject from appearing too bright under light. OFF ON

*The image is only an impression.

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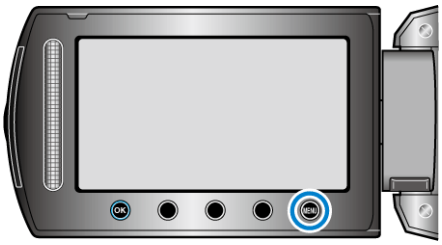
Adjusting Focus Manually

Set this when the focus is not clear in “AUTO” or when manual focusing is desired.

1 Touch (MENU) to display the menu.



2 Select “MANUAL SETTING” and touch (OK).

3 Select “FOCUS” and touch (OK).

4 Select “MANUAL” and touch (OK).

5 Adjust the focus with the slider.

- Slide upward to focus on a distant subject.
- Slide downward to focus on a near subject.

6 Touch (OK) to confirm.

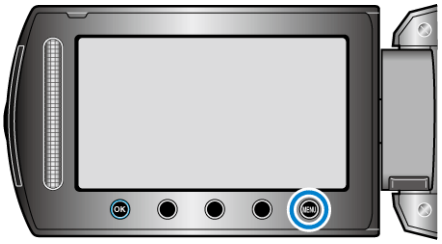
NOTE:

- A subject that is focused at the telephoto (T) end remains in focus when it is zoomed out to the wide angle (W) end.

Using Focus Assist

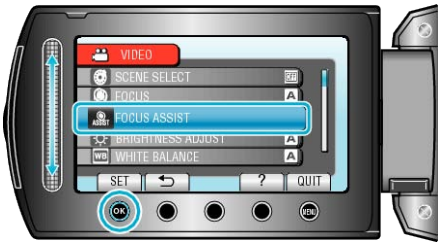
Focused subject is outlined in color for more precise focus.

1 Touch (MENU) to display the menu.



2 Select “MANUAL SETTING” and touch (OK).

3 Select “FOCUS ASSIST” and touch (OK).



4 Adjust the focus with the slider.

5 Touch (OK) to confirm.

NOTE:

- The image becomes black and white while the outline of the focused object is displayed in the selected color. Change outline color if it becomes difficult to see.

"FOCUS ASSIST COLOR" (☞ P.96)

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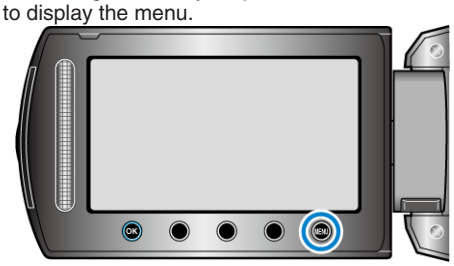
Adjusting Brightness

You can adjust the brightness to your preferred level.

1 Touch MENU to display the menu.



2 Select “MANUAL SETTING” and touch OK.

3 Select “BRIGHTNESS ADJUST” and touch OK.

4 Select “MANUAL” and touch OK.

5 Select the brightness value with the slider.

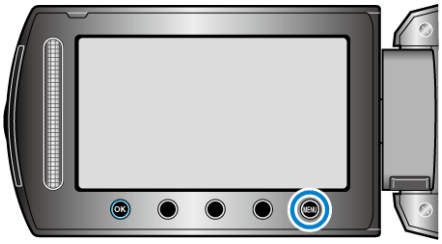
- Compensation range during video recording: -6 to +6
- Compensation range during still image recording: -2.0 to +2.0
- Slide upward to increase the brightness.
- Slide downward to decrease the brightness.

6 Touch OK to confirm.

Setting White Balance

You can set the color tone to suit the light source.

1 Touch MENU to display the menu.



2 Select “MANUAL SETTING” and touch OK.

3 Select “WHITE BALANCE” and touch OK.

4 Select the desired setting and touch OK.

Setting	Details
AUTO	Adjusts automatically to the natural colors.
MWB	Use this when the problem of unnatural colors is not resolved.
FINE	Set this when shooting outdoors on a sunny day.
CLOUD	Set this when shooting on a cloudy day or inside a shade.
HALOGEN	Set this when shooting under illumination such as a video light.

Using MWB

1 Hold a sheet of plain white paper in front of the lens so that the white paper fills the screen.

2 Select “MWB” and keep touching OK.

- The cursor blinks.

3 Release OK after the menu disappears.

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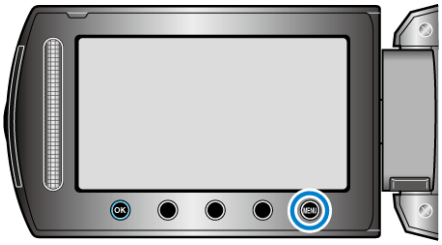
Setting Backlight Compensation

You can correct the image when the subject appears too dark due to backlight.

1 Touch MENU to display the menu.



2 Select “MANUAL SETTING” and touch OK.

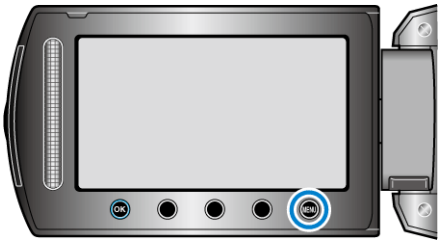
3 Select “BACKLIGHT COMP.” and touch OK.

4 Select “ON” and touch OK.

Setting Metering Area

You can set the brightness of a specified area as the standard.

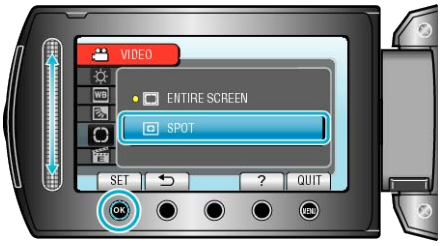
1 Touch MENU to display the menu.



2 Select “MANUAL SETTING” and touch OK.

3 Select “METERING AREA/ TYPE” and touch OK.

4 Select “SPOT” and touch OK.



- When “SPOT” is selected, select the position of the spot frame by touching the operation buttons "←"/"→".
  After selecting, touch OK to confirm.

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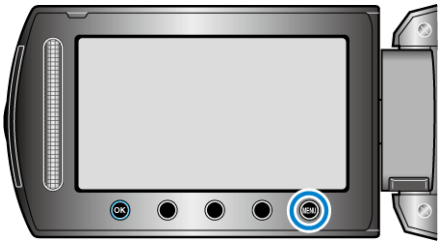
Recording with Effects

You can add various effects to videos and still images to create a different atmosphere from the usual recording.

*The image is only an impression.

1 Touch MENU to display the menu.



2 Select “MANUAL SETTING” and touch OK.

3 Select “EFFECT” and touch OK.

4 Select the effect and touch OK.

Setting	Details
OFF	No effect.
SEPIA	Gives images a brownish tint like old photographs.
BLACK & WHITE	Records in black and white like old TV images.
CLASSIC FILM	Skips frames to give images of the effect of an old movie. • This can only be set in the video mode.
STROBE	Enables the image to look like a series of consecutive snapshots by skipping frames. • This can only be set in the video mode.

NOTE:

- Settings can be adjusted separately for videos and still images.

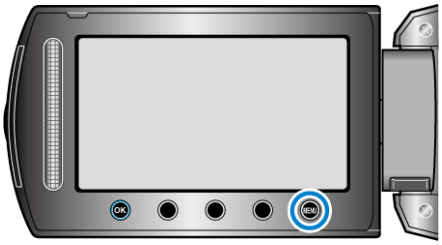
Video	SEPIA / BLACK & WHITE / CLASSIC FILM / STROBE
Still Image	SEPIA / BLACK & WHITE

Taking Close-up Shots

You can take close-up shots of an object using the tele macro function.

*The image is only an impression.

1 Touch MENU to display the menu.



2 Select “MANUAL SETTING” and touch OK.

3 Select “TELE MACRO” and touch OK.

4 Select “ON” and touch OK.

Setting	Details
OFF	Enables close-up shots up to 1 m at the telephoto (T) end. Enables close-up shots up to 5 cm at the wide angle (W) end.
ON	Enables close-up shots up to 50 cm at the telephoto (T) end. Enables close-up shots up to 5 cm at the wide angle (W) end.

Warning
• When you are not taking close-up shots, set TELE MACRO to OFF. Otherwise, the image may be blur.

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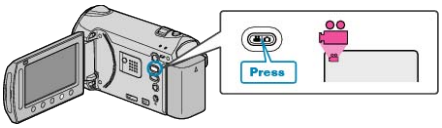
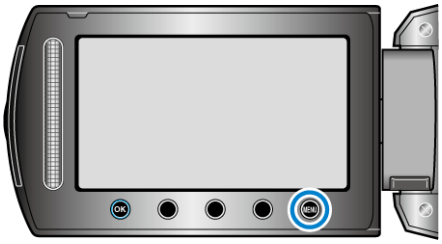
Registering Files to Events Before Recording

Videos can be found easily during playback by categorizing them when recording.

1 Select video mode.



2 Touch MENU to display the menu.



3 Select “REGISTER EVENT” and touch OK.

4 Select the event type and touch OK.

Event Type
BABY & KIDS
ATHLETIC EVENT
RECREATION
EVENT
SPORTS
TRAVEL
PARTY
WEDDING
PET
BUSINESS

- An icon appears on the screen and the video is recorded under the selected event.
  (Videos will continue to be recorded to the same event until a change is made.)

NOTE:

- To cancel event registration, touch “CANCEL” in step 4.

- The registered event can be changed again later.

"Changing the Event of the Currently Displayed File" (☞ P.50)
"Changing the Event of the Selected Files" (☞ P.51)

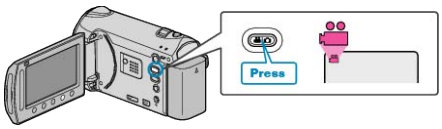
Taking Videos in YouTube™ Format

You can share your enjoyable memories with family and friends easily by posting your videos on the video sharing website YouTube™.
Through upload shooting, videos that are suitable for uploading to YouTube™ (within 10 minutes) may be taken directly.

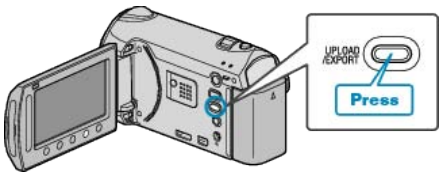
NOTE:

For more information on YouTube™, please visit the following website.
http://www.youtube.com/

1 Select video mode.

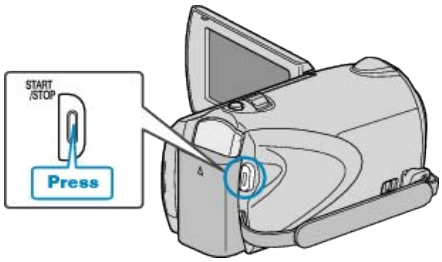


2 Press the UPLOAD button and switch on the function.



- The mode switches between ON and OFF with every press.

3 Start recording.



- Press again to stop.
- The maximum recording length of a video in upload mode is 10 minutes.
  Recording stops automatically after 10 minutes.

NOTE:

- Upload recording can only be performed for up to 10 minutes, the time limit of YouTube™.
- Changing videos to the file format for uploading cannot be performed on this unit.
  To upload video files, refer to "Uploading Videos" below.
- The upload recording icon disappears when recording stops.
  To record another video in upload mode, perform the settings again.

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Uploading Videos

You can upload your videos to YouTube™ using the provided software "Everio MediaBrowser".
Install the software on your PC and connect this unit to the PC.

- For details on how to use the software, refer to the help file.

"Installing the Provided Software" (☞ P.70)
"Connecting this Unit to PC" (☞ P.70)

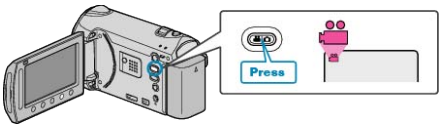
Trouble with Uploading Videos

- Check if you have created an account with YouTube™.
  (You need a YouTube™ account to upload files to YouTube™.)
- Refer to "Q&A", "Latest Information", "Download Information", etc. in "Click for Latest Product Info" in the help file of the provided software "Everio MediaBrowser".

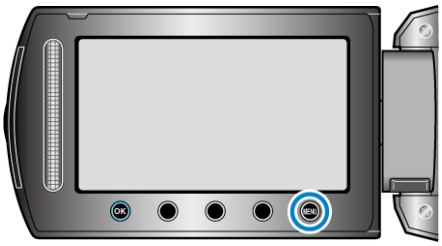
Recording at Intervals (TIME-LAPSE RECORDING)

This function enables the changes of a scene that occur slowly over a long period to be shown within a short time by taking frames of it at a certain interval.
This is useful for making observations such as the opening of a flower bud.

1 Select video mode.



2 Touch MENU to display the menu.

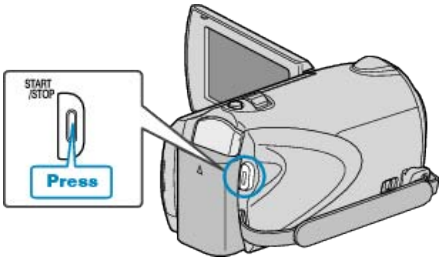


3 Select “TIME-LAPSE RECORDING” and touch OK.

4 Select a recording interval (1 to 80 seconds) and touch OK.

- The greater the number of seconds, the longer the recording interval.

5 Start recording.



- A frame is taken at intervals of the selected period.
- When the recording interval is set to “20SEC INTERVAL” or higher, this unit switches to the power-saving mode between recordings.
  At the next point to record, the power-saving mode will be turned off and recording will start automatically.
- Press the START/STOP button again to stop recording.

Indications During Time-Lapse Recording

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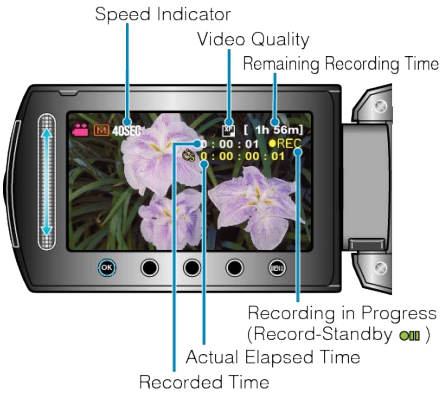

Display	Description
Speed Indicator	Displays the recording interval that is set.
Video Quality	Displays the icon of the video quality that is set.
Remaining Recording Time	Remaining time left to record with the currently selected video quality.
Recording in Progress	Appears when video recording is in progress. When in the power-saving mode, it blinks.
Record-Standby	Appears when video recording is paused.
Actual Elapsed Time	Displays the actual elapsed time after recording starts.
Recorded Time	Displays the actual recorded time of the video. Recorded time increases in units of frames.

Time-Lapse Setting

The greater the number of seconds, the longer the recording interval.

Setting	Details
OFF	Deactivates the function.
1SEC INTERVAL	Takes a frame at 1-second intervals. Recorded videos will be played back at 30 times speed.
2SEC INTERVAL	Takes a frame at 2-second intervals. Recorded videos will be played back at 60 times speed.
5SEC INTERVAL	Takes a frame at 5-second intervals. Recorded videos will be played back at 150 times speed.
10SEC INTERVAL	Takes a frame at 10-second intervals. Recorded videos will be played back at 300 times speed.
20SEC INTERVAL	Takes a frame at 20-second intervals. Recorded videos will be played back at 600 times speed.
40SEC INTERVAL	Takes a frame at 40-second intervals. Recorded videos will be played back at 1 200 times speed.
80SEC INTERVAL	Takes a frame at 80-second intervals. Recorded videos will be played back at 2 400 times speed.

CAUTION:

- Audio cannot be recorded during time-lapse recording.
- Zooming, simultaneous still image recording, and image stabilizer are not available in time-lapse recording.
- When recording is stopped with the recorded time less than "0:00:00:17", the video will not be saved.
- Image quality cannot be changed after time-lapse shooting is selected. Set it before selecting time-lapse shooting.

NOTE:

- Settings of time-lapse recording are saved even when the power is turned off.
  When the power is turned on, "TIME LAPSE" appears on the screen.
- Recording stops automatically 99 hours after it is started.
- Make use of a tripod and AC adapter for time-lapse recordings with long intervals.
  It is also recommended to fix the focus and white balance manually.

"Tripod Mounting" (☞ P.16)
"Adjusting Focus Manually" (☞ P.26)
"Setting White Balance" (☞ P.27)

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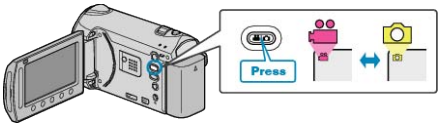
Recording Automatically by Sensing Movements (AUTO REC)

This function enables the unit to record automatically by sensing the changes in subject's movement (brightness) within the red frame displayed on the LCD monitor. (AUTO REC)
It can be set for both video and still image modes.

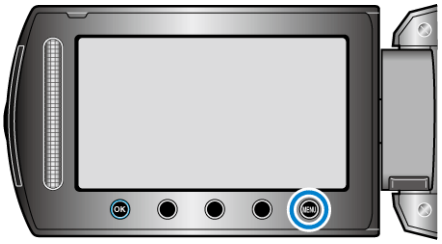
1 Select video or still image mode.



2 Compose the picture according to the subject.

- Adjust the angle of view with the zoom, etc.
  Zoom operation will not be available once AUTO REC starts.

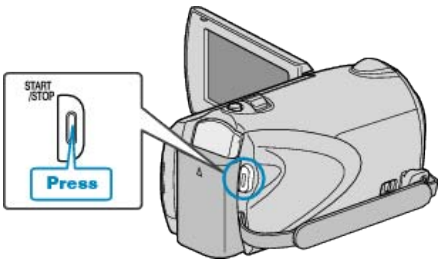
3 Touch MENU to display the menu.



4 Select “AUTO REC” and touch OK.

5 Select “ON” and touch OK.

6 Recording starts automatically when the subject within the red frame moves.



- A red frame appears 2 seconds after the menu display disappears.
- For video recording, recording continues while there are still movements of the subject (changes in brightness) within the red frame. When there are no more movements of the subject (changes in brightness) within the red frame, recording will stop in 5 seconds.
- To stop video recording manually, press the START/STOP button. However, as the AUTO REC setting remains at ON even after the video recording is stopped, recording starts again when movements of the subject (changes in brightness) are detected within the red frame. To cancel AUTO REC, set it to “OFF”.

CAUTION:

- The only manual recording setting available is “TELE MACRO”. The rest are all set to “AUTO”.
- Digital zoom, image stabilizer, self-timer, and continuous shooting are not available after AUTO REC is set.
- AUTO REC cannot be used together with TIME-LAPSE RECORDING. When both are set, priority is given to TIME-LAPSE RECORDING.
- The auto power off and power-saving modes are not available after AUTO REC is set.

NOTE:

- Recording stops when there are no changes for 5 seconds during video recording.
- Recording may not start when the movements of the subject within the red frame are too fast or the changes in brightness are too small.
- Recording may not start when the change in brightness is too small.
- Recording may start due to changes in brightness even if there is no movement of the subject within the red frame.
- The performance of AUTO REC is affected by its sensitivity to the surrounding brightness. The function may not work with certain environments.
- While zooming, recording cannot be started.

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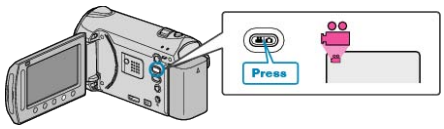
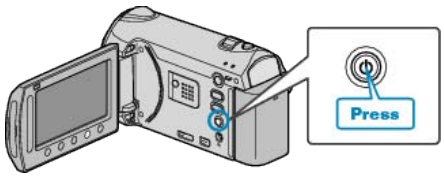
Remaining Recording Time/Battery Power

You can check the remaining video recording time on the internal memory and SD card as well as the remaining battery power.

1 Select video mode.



2 Press ⏻.



- Press once to display the remaining recording time of the selected media for video recording. Go to step 3.
- Press twice to display the remaining recording time of the other media. Go to step 4.
- Press thrice to display the remaining battery power. Go to step 5.

3 Display the remaining recording time of the selected media for video recording.

- To set/change this media as the recording media, touch ⓞ.
- To change the video quality, select video quality with the slider and touch ⓞ.
- To display the remaining battery power, touch the ";" button.
- To display the remaining recording time of the other media, press the INFO button ⏻ once.
- To exit the display, touch the ⓜ button.

4 Display the remaining recording time of the other media.

- To set/change this media as the recording media, touch ⓞ.
- To change the video quality, select video quality with the slider and touch ⓞ.
- To display the remaining battery power, touch the ";" button.
- To exit the display, touch the ⓜ button.

5 Display the remaining battery power.

- To exit the display, press the INFO button ⏻ or touch the ⓜ button.

NOTE:

- The remaining battery power will not be displayed when the AC adapter is connected.

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Approximate Video Recording Time

Quality	Built-in Memory 8 GB	SD Card/ SDHC Card 4 GB	SD Card/ SDHC Card 8 GB	SD Card/ SDHC Card 16 GB	SD Card/ SDHC Card 32 GB
UXP	40 m	20 m	40 m	1 h 20 m	2 h 40 m
XP	1 h	30 m	1 h	2 h	4 h
SP	1 h 25 m	44 m	1 h 28 m	2 h 56 m	5 h 52 m
EP	3 h 35 m	1 h 50 m	3 h 40 m	7 h 20 m	14 h 40 m

- Built-in memory applies to GZ-HM320 only.
- The actual recording time may shorten depending on the shooting environment.

Approximate Number of Still Images (Unit: Number of Shots)

Image Size	Quality	Built-in Memory 8 GB	SD Card 256 MB	SD Card 512 MB	SD Card 1 GB	SD Card 2 GB	SD/SDHC Card 4 GB	SD/SDHC Card 8 GB
1920x1080 (16:9)	FINE	8260	260	510	1030	2100	4140	8330
1920x1080 (16:9)	STANDARD	9999	410	810	1620	3210	6310	9999
1440x1080 (4:3)	FINE	9999	340	680	1360	2770	5450	9999
1440x1080 (4:3)	STANDARD	9999	540	1070	2140	4360	8570	9999
640x480 (4:3)	FINE	9999	1690	3330	6670	9999	9999	9999
640x480 (4:3)	STANDARD	9999	3050	5990	9999	9999	9999	9999

- Up to 9999 still images may be recorded on the SD cards with at least 16 GB capacity (regardless of image size and quality).

Approximate Recording Time (Using Battery)

Battery Pack	Charging Time	Actual Recording Time	Continuous Recording Time
BN-VG114U	2 h 30 m	1 h	1 h 45 m
BN-VG121U	3 h 30 m	1 h 30 m	2 h 40 m

- The above are values when “LCD BACKLIGHT” is set to “STANDARD”.
- The actual recording time may be shorter if zooming is used or if recording is stopped repeatedly. (It is recommended to prepare battery packs ready for three times the expected recording time.)
- When the battery life is reached, the recording time becomes shorter even if the battery pack is fully charged. (Replace the battery pack with a new one.)

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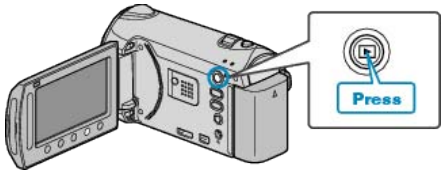
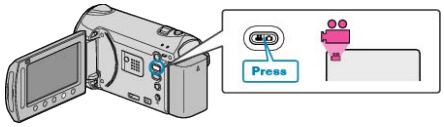
Playing Back Videos

You can select and play back the recorded videos from an index screen (thumbnail display).
The contents of the saving destination selected in “REC MEDIA FOR VIDEO” are displayed on the index screen.
"REC MEDIA FOR VIDEO (GZ-HM320)" (☞ P.106)

1 Select the playback mode.



2 Select video mode.



3 Select the desired video and touch ⓞ.

- If the cursor stops at a thumbnail display of a video in which faces are detected, the faces are panned in and played back for a while.
- Touch ■ to stop playback.

Operation Buttons for Video Playback

<During Index Screen Display>

<During Playback>

During Index Screen Display

Display	Description
▶	Starts playback of the selected file.
DIGEST	You can play back a digest of the recorded videos.
🔍	You can search for a specific file by the recording date or registered category (event).
🗑	Deletes the selected file.
▲/▼	Press and hold to move the pages of the index screen.

During Video Playback

Display	Description
▶/❚❚	Playback/pause
■	Stop (returns to thumbnail display)
▶▶|	Advances to the next video
|◀◀	Returns to the beginning of the scene
▶▶	Forward search
◀◀	Reverse search
❚▶	Forward slow-motion
◀❚	Reverse slow-motion

NOTE:

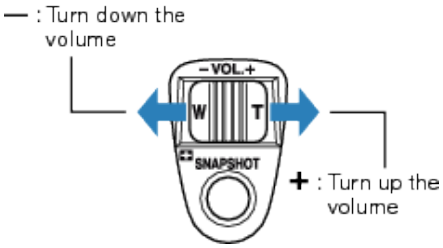
- Touch the slider and buttons around the screen with your fingers.
- The slider and buttons do not function if you touch them with your fingernails or with gloves on.
- The displays on the screen do not work even if you touch them.
- You can search for a specific file by the recording date or registered category (event).
  This is useful when searching from a large number of files.

"Group Search" (☞ P.40)
"Search Date" (☞ P.40)
"Search Event" (☞ P.41)

CAUTION:

- Make a backup of important recorded data.
  It is recommended to copy your important recorded data to a DVD or other recording media for storage. JVC will not be responsible for any lost data.

Adjusting the Volume of Videos



Checking the Recording Date and Other Information

You can display the recording date and duration of the selected file.

Increasing/Decreasing the Number to Display on the Index Screen.

Operate the zoom lever when the index screen is displayed (thumbnail display) to change the number of files on the screen in the following order: 6 files → 12 files → 3 files.

- Information of the files also appear when 3 files are displayed.

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Checking the Content of Videos Quickly

You can play back a digest of the recorded videos (Digest Playback).
This is useful for checking the content of the videos quickly.

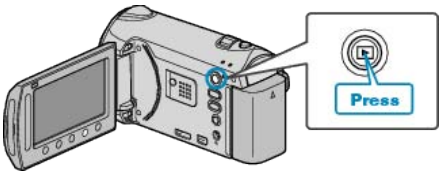
Operation Buttons for Digest Playback

Display	Description
▶/❚❚	Playback/pause
■	Stop (returns to thumbnail display)
▶ NORM	Returns to normal playback.
▶▶❙	Advances to the next video
❙◀◀	Returns to the beginning of the scene
▶▶	Forward search
◀◀	Reverse search
❙▶	Forward slow-motion
◀❙	Reverse slow-motion

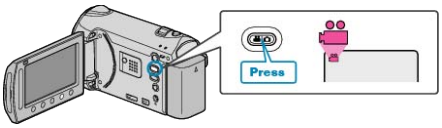
Playing a Video with Defective Management Information

Plays videos with defective management information.

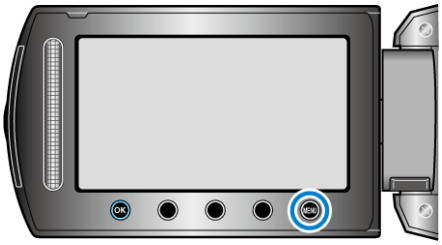
1 Select the playback mode.



2 Select video mode.



3 Touch MENU to display the menu.



4 Select “PLAYBACK OTHER FILE” and touch OK.

5 Select the desired video and touch OK.

"Operation Buttons for Video Playback" (☞ P.36)

NOTE:

- An MTS file is created in the EXTMOV folder when management information is corrupted.
- Depending on the condition of the damaged file, playback might fail or may not run smoothly.

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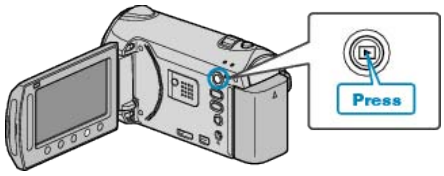
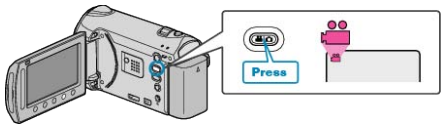
Playback with Special Effects

You can add effects to the beginning and end of recorded videos.

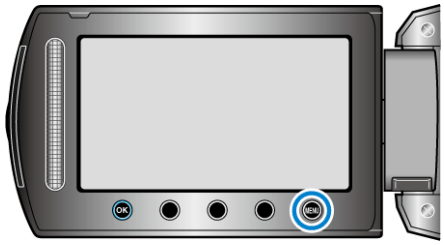
1 Select the playback mode.



2 Select video mode.



3 Touch MENU to display the menu.



4 Select “WIPE/FADER” and touch OK.

5 Select a desired effect and touch OK.

6 Select the desired video and touch OK.

Setting	Details
OFF	Turns off the effect.
FADER-WHITE	Fades in or out with a white screen.
FADER-BLACK	Fades in or out with a black screen.
WIPE-SLIDE	Wipes in from right to left, or wipes out in the opposite way.
WIPE-DOOR	Wipes in as the two halves of a black screen which open to the left and right revealing the scene, or wipes out in the opposite way.
WIPE-SCROLL	Wipes in from the bottom to the top of a black screen, or wipes out in the opposite way.
WIPE-SHUTTER	Wipes in from the center of a black screen toward the top and bottom, or wipes out in the opposite way.

NOTE:

- The effect will not be applied to a recorded video less than 7 seconds.

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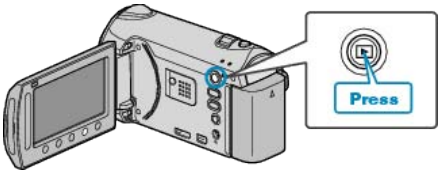
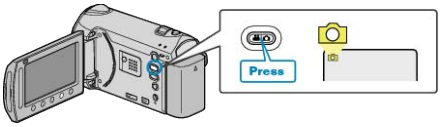
Playing Back Still Images

You can select and play back the recorded still images from an index screen (thumbnail display).
The contents of the saving destination selected in “REC MEDIA FOR IMAGE” are displayed on the index screen.
"REC MEDIA FOR IMAGE (GZ-HM320)" (☞ P.107)

1 Select the playback mode.



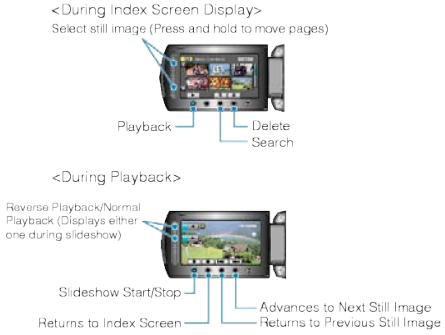
2 Select still image mode.



3 Select a still image and touch ⓞ to start playback.

- Touch ■ to stop playback.

Operation Buttons for Still Image Playback



During Index Screen Display

Display	Description
▶	Starts playback of the selected file.
🔍	You can search for a specific file by the recording date.
🗑	Deletes the selected file.
▲/▼	Press and hold to move the pages of the index screen.

During Still Image Playback

Display	Description
▶/❚❚	Start/pause slideshow
■	Stop (returns to thumbnail display)
▶▶|	Advances to the next still image
|◀◀	Returns to the previous still image
◀	Plays back in reverse order during a slideshow.
▶	Plays back in normal ascending order during a slideshow.

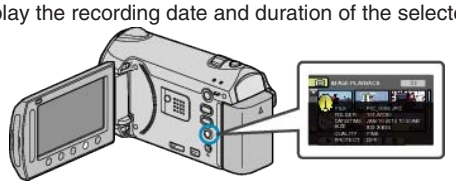
NOTE:

- Touch the slider and buttons around the screen with your fingers.
- The slider and buttons do not function if you touch them with your fingernails or with gloves on.
- The displays on the screen do not work even if you touch them.
- You can search for a specific file by the recording date.
  This is useful when searching from a large number of files.

"Search Date" (☞ P.40)

Checking the Recording Date and Other Information

You can display the recording date and duration of the selected file.



Increasing/Decreasing the Number to Display on the Index Screen.

Operate the zoom lever when the index screen is displayed (thumbnail display) to change the number of files on the screen in the following order: 6 files → 12 files → 3 files.

- Information of the files also appear when 3 files are displayed.

Slideshow Playback

Still images can be played back in a slideshow.
Start the slideshow by pressing the play button during still image playback.

"Operation Buttons for Still Image Playback" (☞ P.39)

NOTE:

- Effects can be added to the transitions in slideshow playback.

"SLIDE SHOW EFFECTS" (☞ P.93)

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Searching for a Specific Video/Still Image

When there is a large number of recorded videos and still images, it is difficult to look for the desired file from the index screen.
Use the search function to find the file you want.

- For videos, you can search by “GROUP”, “SEARCH DATE”, or “SEARCH EVENT”.
- For still images, you can search by “SEARCH DATE”.

"To search by groups with similar recording dates" (☞ P.40)
"To search by recording dates" (☞ P.40)
"To search by events and recording dates" (☞ P.41)

Group Search

You can search and play videos which are automatically grouped according to similar recording dates.

- The contents of the saving destination selected in “REC MEDIA FOR VIDEO” are searched.

1 Display the search function.

- You can also display the search menu by selecting “SEARCH” on the playback menu.

2 Select “GROUP” and touch ⓞ.

3 Select from the index screen (thumbnails) and touch ⓞ to start playback.

- The video starts playing.
- Touch ■ to stop playback.

NOTE:

- Touch “DIGEST” to play back a few seconds from each video, allowing you to check the contents of many videos in a short time.
- Groups are created automatically according to recording dates.
- The group may change when the recording is continued.
- Select “DELETE” from the playback menu to delete unwanted files.

"Deleting Unwanted Files" (☞ P.44)

Search Date

You can search and play videos or still images according to recording dates.

- The contents of the saving destination selected in “REC MEDIA FOR VIDEO” or “REC MEDIA FOR IMAGE” are searched.
- Still images can only be searched by “SEARCH DATE”.

1 Display the search function.

- You can also display the search menu by selecting “SEARCH” on the playback menu. For still images, select “SEARCH DATE” on the menu.
- Searching can be performed in both the video and still image modes.
  *The image shows the video mode.

2 Select “SEARCH DATE” and touch ⓞ.

3 Select a recording date and touch ⓞ.

- The starting day of the week on the calendar switches between Sunday and Monday with every touch of the [SwithTime] button.

4 Select the desired video or still image and touch ⓞ to start playback.

- You can select videos in the video mode and still images in the still image mode.
- Only the videos recorded on the selected date are displayed.

Deleting Files of a Selected Date :
Select “DELETE” from the playback menu to delete unwanted files.
"Deleting Unwanted Files" (☞ P.44)

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Search Event

You can search and play videos according to events and recording dates.

- The contents of the saving destination selected in “REC MEDIA FOR VIDEO” are searched.
- Events that are not registered will not appear.

"Registering Files to Events" (☞ P.79)

1 Display the search function.

- You can also display the search menu by selecting “SEARCH” on the playback menu.

2 Select “SEARCH EVENT” and touch ⓞ.

3 Select the event type and touch ⓞ.

4 Select a recording date and touch ⓞ.

- The starting day of the week on the calendar switches between Sunday and Monday with every touch of the [SwithTime] button.
- Only the videos recorded on the selected date are displayed.

5 Select the desired file and touch ⓞ to start playback.

Deleting Files of a Selected Date：

Select “DELETE” from the playback menu to delete unwanted files.

"Deleting Unwanted Files" (☞ P.44)

Connecting to and Viewing on TV

You can output images from the HDMI connector, COMPONENT connector, or AV connector. Select the connector that best suits your TV.

- Refer also to the instruction manual of the TV in use.

"Connecting via the HDMI Mini Connector" (☞ P.42)
"Connecting via the Component Connector" (☞ P.43)
"Connecting via the AV Connector" (☞ P.43)

NOTE:

- To play back with date/time display, set “DISPLAY ON TV” in the connection settings menu to “ON”. Set “ON-SCREEN DISPLAY” in the playback menu to “DISPLAY ALL” or “DISPLAY DATE ONLY”.

"DISPLAY ON TV" (☞ P.103)
"ON-SCREEN DISPLAY" (☞ P.91)

- For questions about the TV or method of connection, contact your TV's manufacturer.

Unnatural Displays on TV

Trouble	Action
Images do not appear on the TV properly.	• Disconnect the cable and connect again. • Turn off and on this unit again. • When connected via the component connector, check if the setting of “COMPONENT OUTPUT” in the connection settings menu suits the connected TV. (Set to “1080i” by default)
Images are projected vertically on the TV.	• Set “VIDEO OUTPUT” in the connection settings menu to “4:3”. "VIDEO OUTPUT" (☞ P.103)
Images are projected horizontally on the TV.	• Adjust the TV's screen accordingly.
The color of images looks strange.	• If the video was recorded with “x.v.Color” set to “ON”, set the x.v.Color setting of the TV to on. • Adjust the TV's screen accordingly.
HDMI-CEC functions do not work properly, and the TV does not work in conjunction with this unit.	• TVs may operate differently depending on the specifications, even if they are HDMI-CEC compliant. Therefore, the HDMI-CEC functions of this unit cannot be guaranteed to operate in combination with all the TVs. In such cases, set “HDMI CONTROL” to “OFF”. "HDMI CONTROL" (☞ P.105)
The language on the display changed.	• It may occur when you connect this unit to a TV with different language setting using an HDMI mini cable.

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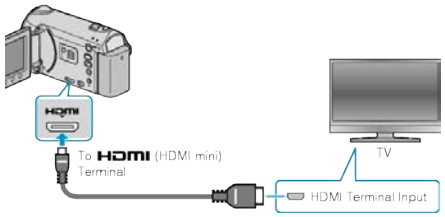
Connecting via the HDMI Mini Connector

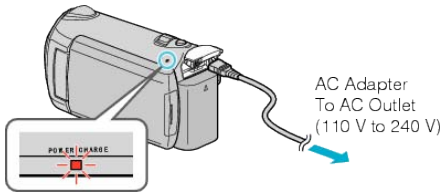
We recommend using the Category 2 HDMI cable (High Speed cable).

1 Connect to the TV.



- Press and hold the power button ⏻ for 2 seconds or more to turn off the power.

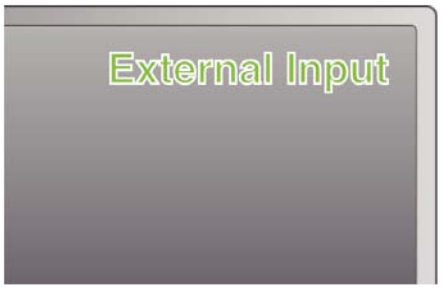
2 Connect the AC adapter to this unit.



- Set “ON-SCREEN DISPLAY” in the menu to “DISPLAY ALL” or “DISPLAY DATE ONLY”.

"ON-SCREEN DISPLAY" (☞ P.91)

3 Press the external input button on the TV to switch to the input from this unit via the connected terminal.



4 Play back a file.

"Playing Back Videos" (☞ P.36)
"Playing Back Still Images" (☞ P.39)

NOTE:

- Change the settings in “HDMI OUTPUT” according to the connection.

"HDMI OUTPUT" (☞ P.104)

- When connecting to the HDMI mini cable, the image or sound may not appear on the TV properly depending on the TV connected. In such cases, perform the following operations.
  1) Disconnect the HDMI mini cable and connect it again.
  2) Turn off and on this unit again.
- Connecting this unit to an HDMI-CEC-enabled TV using the HDMI cable allows you to utilize the following convenient functions.

"Operating in Conjunction with TV via HDMI" (☞ P.42)

Operating in Conjunction with TV via HDMI

Connecting this unit to an HDMI-CEC-enabled TV using the HDMI cable allows you to utilize the following convenient functions.

- HDMI-CEC (Consumer Electronics Control) is an industry standard that enables interoperability between HDMI-CEC compliant devices that are connected via HDMI cables.

NOTE:

- Not all HDMI-control devices comply with the HDMI-CEC standard. The HDMI control function of this unit will not work when connected to these devices.
- This unit is not guaranteed to operate with all HDMI-CEC-enabled devices.
- Depending on the specifications of each HDMI-CEC-enabled device, some functions may not work with this unit. (For details, refer to the instruction manual of your TV.)
- Unintended operations may occur with some connected devices. In these cases, set “HDMI CONTROL” to “OFF”.

"HDMI CONTROL" (☞ P.105)

Preparations

- Connect an HDMI cable between this unit and the TV.
- Turn on the TV and set the HDMI-CEC related setting to “ON”. (For details, refer to the instruction manual of the TV.)
- Turn on this unit and set “HDMI CONTROL” to “ON”.

"HDMI CONTROL" (☞ P.105)

Operation Method 1

1 Turn on this unit.

2 Select the playback mode.

3 Connect the HDMI cable.

- TV turns on automatically and switches to HDMI input mode when this unit is turned on.

Operation Method 2

1 Turn off the TV.

- This unit turns off automatically.

NOTE:

- Depending on the TV connected, the display language of this unit will automatically switch to the language that is selected for the TV when this unit is turned on.
  (This is applicable only if this unit supports the language selected for the TV.) To use this unit with a language that differs from the display language of the TV, set “HDMI CONTROL” to “OFF”.

"HDMI CONTROL" (☞ P.105)

- The display language of the TV will not switch automatically, even if the display language of this unit is changed.
- These functions may not work correctly when devices such as amplifier and selector are connected. Set “HDMI CONTROL” to “OFF”.

"HDMI CONTROL" (☞ P.105)

- If HDMI-CEC does not work properly, turn off and on this unit again.

CAUTION:

- Do not remove the recording medium or perform any other operation (such as turning off the power) while accessing files. Also, be sure to use the provided AC adapter, as the data on the recording medium may be corrupted if the battery becomes exhausted during operation. If the data on the recording medium becomes corrupted, format the recording medium to use the medium again.

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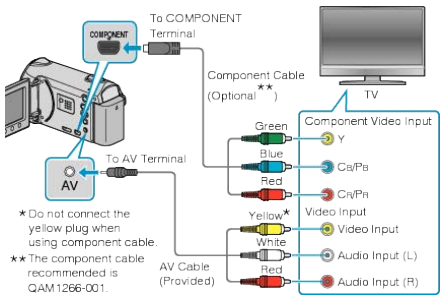
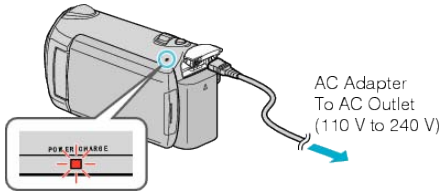
Connecting via the Component Connector

1 Connect to the TV.

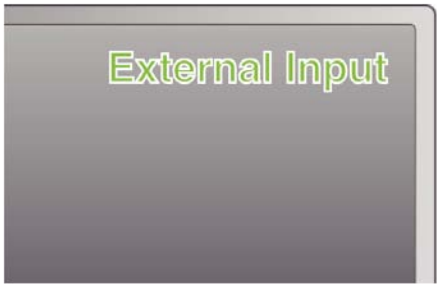


- Press and hold the power button ⏻ for 2 seconds or more to turn off the power.

2 Connect the AC adapter to this unit.



3 Press the external input button on the TV to switch to the input from this unit via the connected terminal.



4 Play back a file.

"Playing Back Videos" (☞ P.36)
"Playing Back Still Images" (☞ P.39)

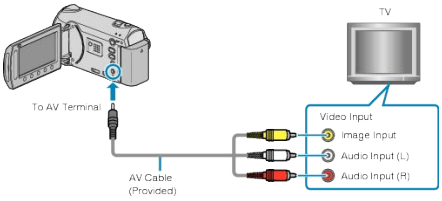
NOTE:

- Change the settings in “COMPONENT OUTPUT” according to the connection.

"COMPONENT OUTPUT" (☞ P.104)

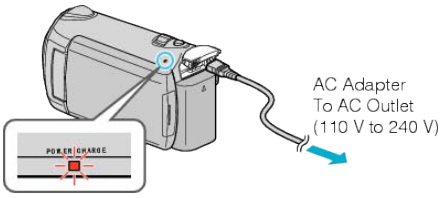
Connecting via the AV Connector

1 Connect to the TV.

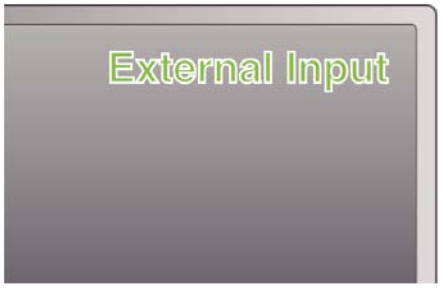


- Press and hold the power button ⏻ for 2 seconds or more to turn off the power.

2 Connect the AC adapter to this unit.



3 Press the external input button on the TV to switch to the input from this unit via the connected terminal.



4 Play back a file.

"Playing Back Videos" (☞ P.36)
"Playing Back Still Images" (☞ P.39)

NOTE:

- Change the settings in “VIDEO OUTPUT” to suit the screen size of your TV.

"VIDEO OUTPUT" (☞ P.103)

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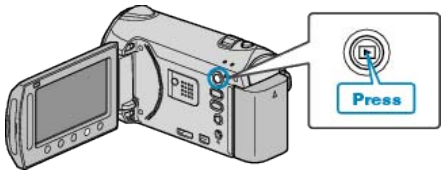
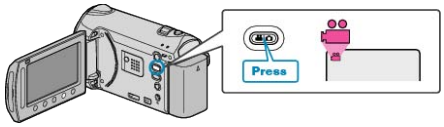
Playing Back Playlists

Play back the playlists that you have created.

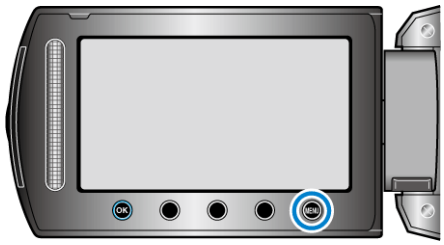
1 Select the playback mode.



2 Select video mode.



3 Touch (MENU) to display the menu.



4 Select “PLAYBACK PLAYLIST” and touch (OK).

5 Select the desired playlist and touch (OK) to start playback.

"Operation Buttons for Playback" (☞ P.36)

- Touch “CHECK” to check the content of the selected playlist.
- To exit the playback, touch (MENU).

Creating Playlists :

"Creating Playlists from the Recorded Videos" (☞ P.57)
"Adding Title Screens to Playlists" (☞ P.63)

Deleting Unwanted Files

Delete unwanted videos and still images when the space in the recording media is running out.
The capacity of the recording media can be restored after deleting the files.

"Deleting the Currently Displayed File" (☞ P.44)
"Deleting Selected Files" (☞ P.45)
"Deleting All Files" (☞ P.46)

NOTE:

- Deleted files cannot be restored.
- When files in a playlist are deleted, the playlist changes.
- Files that are protected cannot be deleted.
  Release protection before deleting the file.

"Protecting Files" (☞ P.47)

- Back up all wanted files to your PC.

"Backing Up All Files" (☞ P.70)

CAUTION:

- Do not remove the recording medium or turn off the power while accessing files.
- Use the provided AC adapter.
- If the data on the recording medium becomes corrupted, reformat the medium again.

"FORMAT BUILT-IN MEM. (GZ-HM320)" (☞ P.107)
"FORMAT SD CARD" (☞ P.108)

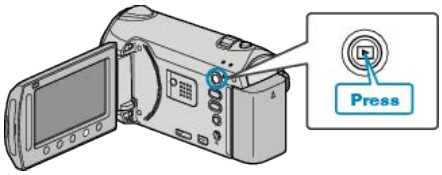
Deleting the Currently Displayed File

Deletes the currently displayed file.

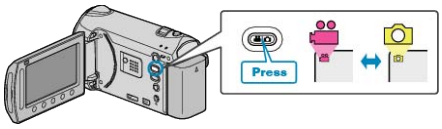
CAUTION:

- Deleted files cannot be restored.

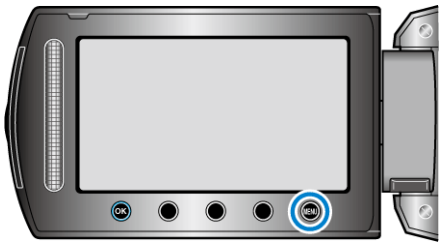
1 Select the playback mode.



2 Select video or still image mode.



3 Touch (MENU) to display the menu.



4 Select “DELETE” and touch (OK).

5 Select “CURRENT” and touch (OK).

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6 Check that it is the file to delete, select “YES” and touch ⓞ.

- The file to delete appears on this screen.
- Touch the operation buttons "←" / "→" to select the previous or next file.
- After deleting, touch ⓜ.

NOTE:

- When files in a playlist are deleted, the playlist changes.
- Files that are protected cannot be deleted.
  Release protection before deleting the file.

"Protecting Files" (☞ P.47)

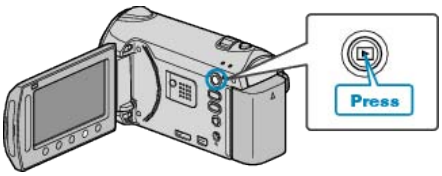
Deleting Selected Files

Deletes the selected files.

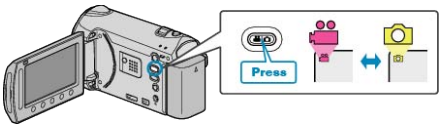
CAUTION:

- Deleted files cannot be restored.

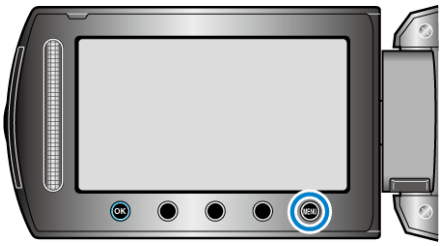
1 Select the playback mode.



2 Select video or still image mode.



3 Touch ⓜ to display the menu.



4 Select “DELETE” and touch ⓞ.

5 Select “FILE SELECT” and touch ⓞ.

6 Select the desired file and touch ⓞ.

7 After selecting all the files to delete, touch “EXEC”.

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- A delete mark appears on the selected file.
  To remove the delete mark, touch ⓞⓚ again.
- Touch “CHECK” to check the selected file.

8 Select “YES” and touch ⓞⓚ.

- After deleting, touch ⓞⓚ.

NOTE:

- When files in a playlist are deleted, the playlist changes.
- Files that are protected cannot be deleted.
  Release protection before deleting the file.

"Protecting Files" (☞ P.47)

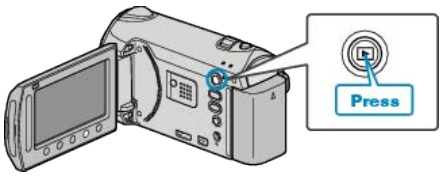
Deleting All Files

Deletes all files.

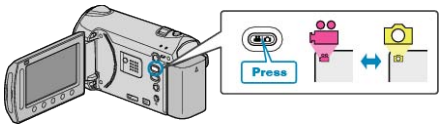
CAUTION:

- Deleted files cannot be restored.

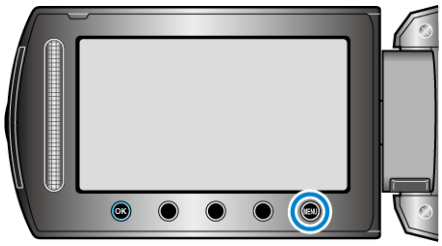
1 Select the playback mode.



2 Select video or still image mode.



3 Touch ⓜⓔⓝⓤ to display the menu.



4 Select “DELETE” and touch ⓞⓚ.

5 Select “DELETE ALL” and touch ⓞⓚ.

6 Select “YES” and touch ⓞⓚ.

- After deleting, touch ⓞⓚ.

NOTE:

- When files in a playlist are deleted, the playlist changes.
- Files that are protected cannot be deleted.
  Release protection before deleting the file.

"Protecting Files" (☞ P.47)

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Protecting Files

Prevent important videos/still images from being deleted accidently by protecting them.
"Protecting the Currently Displayed File" (☞ P.47)
"Protecting Selected Files" (☞ P.48)
"Protecting All Files" (☞ P.49)
"Releasing Protection of All Files" (☞ P.49)

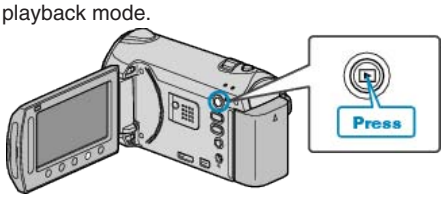
CAUTION:

- When the recording media is formatted, even the protected files will be deleted.

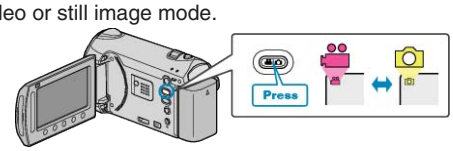
Protecting the Currently Displayed File

Protects or releases protection of the currently displayed file.

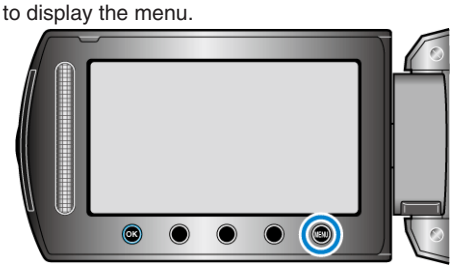
1 Select the playback mode.



2 Select video or still image mode.



3 Touch (MENU) to display the menu.



4 Select “EDIT” and touch (OK).

5 Select “PROTECT/CANCEL” and touch (OK).

6 Select “CURRENT” and touch (OK).

7 Check that it is the file to protect or release protection of, select “YES” and touch (OK).

- The file to protect or release protection of appears on this screen.
- Touch the operation buttons "←" / "→" to select the previous or next file.
- After setting, touch (OK).
- To exit the screen, touch (MENU).

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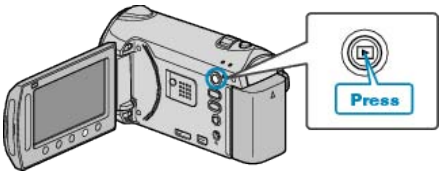
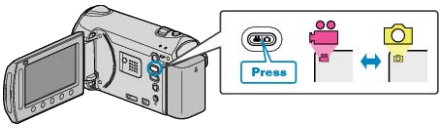
Protecting Selected Files

Protects or releases protection of the selected files.

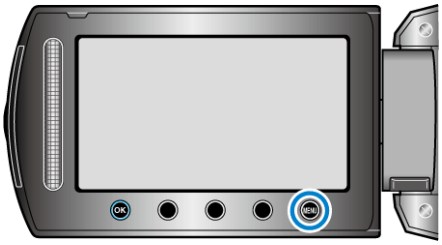
1 Select the playback mode.



2 Select video or still image mode.



3 Touch (MENU) to display the menu.



4 Select “EDIT” and touch (OK).

5 Select “PROTECT/CANCEL” and touch (OK).

6 Select “FILE SELECT” and touch (OK).

7 Select the desired file and touch (OK).

- A mark appears on the selected file.
  To remove the mark, touch (OK) again.
- Touch “CHECK” to check the selected file.

8 After selecting all the files to protect or release protection of, touch (MENU).

9 Select “YES” and touch (OK).

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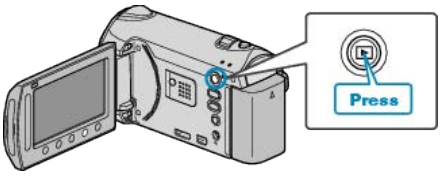
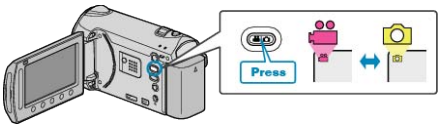
Protecting All Files

Protects all files.

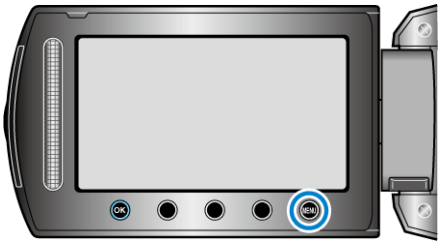
1 Select the playback mode.



2 Select video or still image mode.



3 Touch (MENU) to display the menu.



4 Select “EDIT” and touch (OK).

5 Select “PROTECT/CANCEL” and touch (OK).

6 Select “PROTECT ALL” and touch (OK).

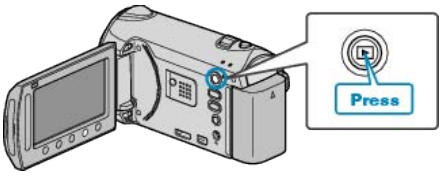
7 Select “YES” and touch (OK).

- After setting, touch (OK).

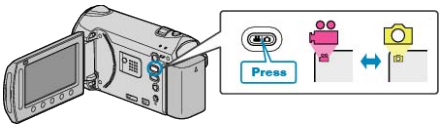
Releasing Protection of All Files

Releases protection of all files.

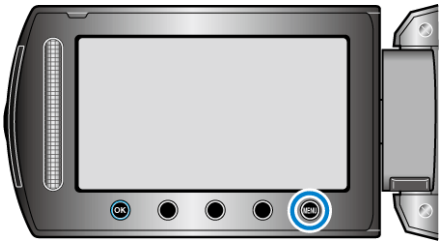
1 Select the playback mode.



2 Select video or still image mode.



3 Touch (MENU) to display the menu.



4 Select “EDIT” and touch (OK).

5 Select “PROTECT/CANCEL” and touch (OK).

6 Select “CANCEL ALL” and touch (OK).

7 Select “YES” and touch (OK).

- After setting, touch (OK).

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Changing Event Registration of Videos

Find your recorded videos for playback easily by registering them to suitable items from the list of various events.
"Changing the Event of the Currently Displayed File" (☞ P.50)
"Changing the Event of the Selected Files" (☞ P.51)

NOTE:

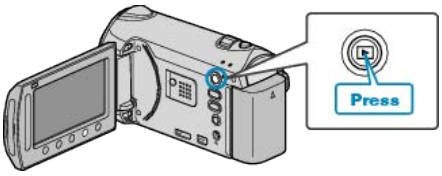
- You can also register files to events before recording if the content has been decided.

"Registering Files to Events Before Recording" (☞ P.30)

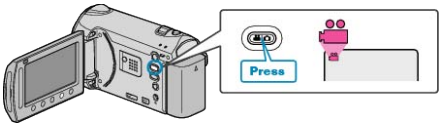
Changing the Event of the Currently Displayed File

Checks and changes the event of the currently displayed file.

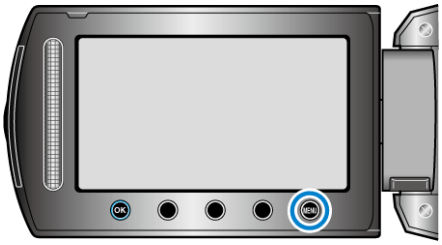
1 Select the playback mode.



2 Select video mode.



3 Touch (MENU) to display the menu.



4 Select “EDIT” and touch (OK).

5 Select “CHANGE EVENT REG.” and touch (OK).

6 Select “CURRENT” and touch (OK).

7 Select the file you want to register and touch (OK).

- The file to register appears on this screen.
- Touch the operation buttons "←" / "→" to select the previous or next file.

8 Select a new event and touch (OK).

- You can cancel the registered event by touching “CANCEL”.
- After setting, touch (OK).
- To exit the screen, touch (MENU).

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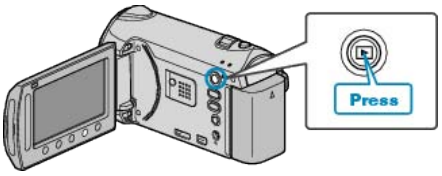
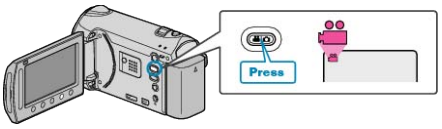
Changing the Event of the Selected Files

Changes the event of multiple files by specifying a range.

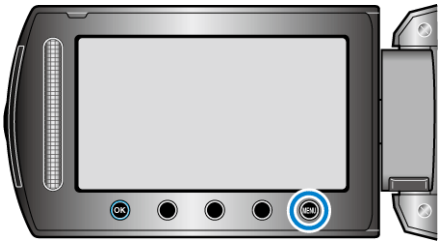
1 Select the playback mode.



2 Select video mode.



3 Touch (MENU) to display the menu.



4 Select “EDIT” and touch (OK).

5 Select “CHANGE EVENT REG.” and touch (OK).

6 Select “TO RESET RANGE” and touch (OK).

7 Select the first file of the range and touch (OK).

- Touch “CHECK” to check the selected file.

8 Select the last file of the range and touch (OK).

- Touch “CHECK” to check the selected file.

9 Select a new event and touch (OK).

- You can cancel the registered event by touching “CANCEL”.
- After setting, touch (OK).
- To exit the screen, touch (MENU).

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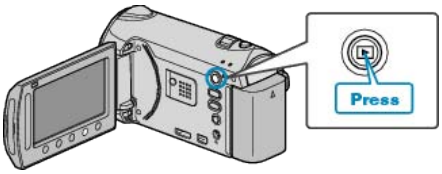
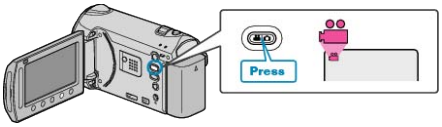
Dividing Files

You can divide a selected video into two.

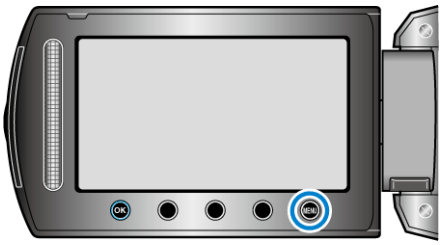
1 Select the playback mode.



2 Select video mode.



3 Touch MENU to display the menu.



4 Select “EDIT” and touch OK.

5 Select “DIVIDE” and touch OK.

6 Select the desired file and touch OK.

- Playback of the selected video starts.

7 Touch OK to pause playback, then touch “SET” at the point you want to divide the file.

- The actual division point may differ slightly from the point that is set.

8 Select “DIVIDE HERE” and touch OK.

- To select the division point again, select “CANCEL”.
- After dividing, touch OK.

NOTE:

- When playing back the divided file, the recording date of the division point is displayed.
- You cannot divide the files with the upload or export setting turned on.

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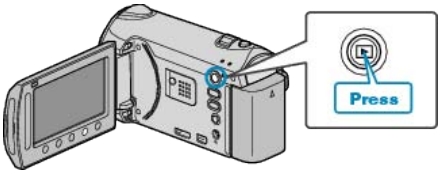
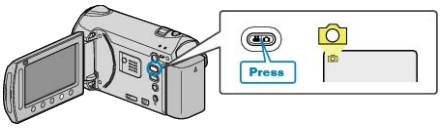
Face Detection Zoom

You can enlarge the part including a face in a still image and save it as a new file.

1 Select the playback mode.



2 Select still image mode.



3 Select the desired still image and touch ⓞ.

4 Touch 🙍.

- Faces are detected.

5 Select the face to zoom and touch ⓞ.

- The face that is highlighted in red is zoomed in.

6 Touch ⓞ repeatedly to change the zoom ratio.

- To adjust/change zoom area, touch the slider.

7 Touch “SAVE”.

- Zoom images are saved in 16:9 aspect regardless of the original aspect.

8 Select “YES” and touch ⓞ.

- After saving, touch ⓞ.

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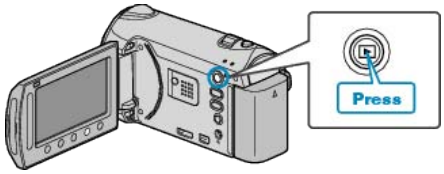
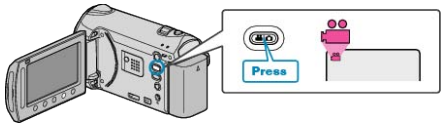
Capturing a Still Image in the Video during Playback

You can capture still images of the scenes you like in the recorded videos.

1 Select the playback mode.



2 Select video mode.

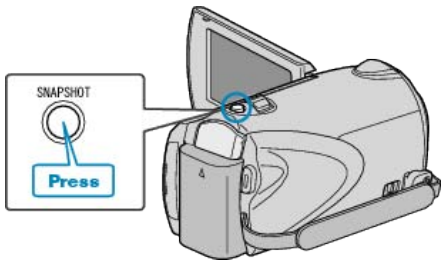


3 Select the desired video and touch OK.

4 Touch pause at the desired scene during playback.

- After pausing the video, you can fine-tune the point to capture by using the forward slow-motion ❙▶ and reverse slow-motion ◀❙ operation buttons.

5 Capture a still image.



NOTE:

- The picture quality varies with the “IMAGE QUALITY” setting.

"IMAGE QUALITY" (☞ P.85)

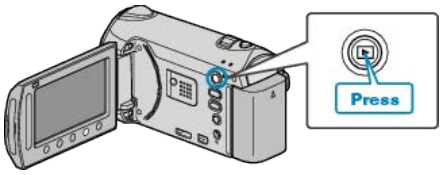
- Captured still images are stored in the media specified in “REC MEDIA FOR IMAGE”.

"REC MEDIA FOR IMAGE (GZ-HM320)" (☞ P.107)

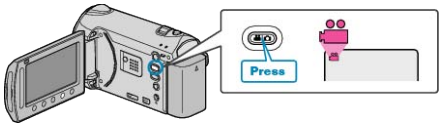
Capturing a Required Part in the Video

Select the required part of a video and save it as a new video file.

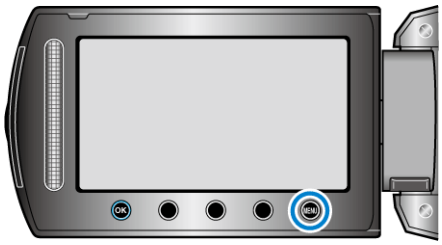
1 Select the playback mode.



2 Select video mode.



3 Touch MENU to display the menu.



4 Select “EDIT” and touch OK.

5 Select “TRIMMING” and touch OK.

6 Select the desired video and touch OK.

- Playback of the selected video starts.

7 Touch OK to pause playback, then touch “SET” to set the start point.

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- Touch ⓞ to resume playback.

"Playing Back Videos" (☞ P.36)

8 Touch ⓞ to pause playback, then touch “SET” to set the point to stop copying.

- To reset the start point, touch CANCEL.

9 Select “CAPTURE TRIMMED FILE” and touch ⓞ.

- To set the start/end point again, select “RESET AREA”.

10 Select “YES” and touch ⓞ.

- After copying, touch ⓞ.
- When copying finishes, the copied file is added to the index screen.

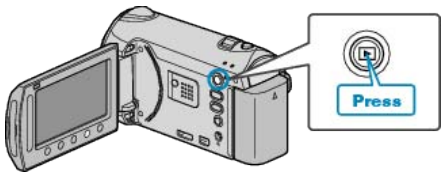
NOTE:

- According to the AVCHD standard, videos are split into units of approximately 0.5 second.
  As such, the division point may not be accurate.

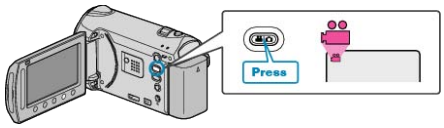
Capturing Videos for Uploading to YouTube™

Capture and copy a part of a recorded video (maximum 10 minutes) for uploading to YouTube™, and save it as a YouTube™ video.
When capturing videos for YouTube™, the duration cannot be longer than 10 minutes.

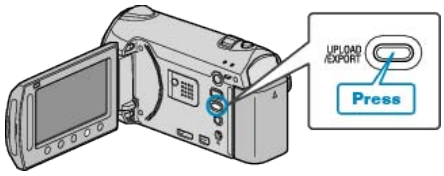
1 Select the playback mode.



2 Select video mode.



3 Press the UPLOAD button.



4 Select the desired video and touch ⓞ.

5 Select “TRIM” and touch ⓞ.

- When trimming is not necessary, select “DO NOT TRIM” and touch ⓞ to complete the setting.

- If the selected video is more than 10 minutes, trimming is necessary.

6 Touch ⓞ to pause playback, then touch “SET” to set the start point to copy.

- Resume playback after setting the start point.

"Playing Back Videos" (☞ P.36)

7 Touch ⓞ to pause playback, then touch “SET” to set the point to stop copying.

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- To reset the start point, touch “CANCEL”.

8 Select “CAPTURE TRIMMED FILE” and touch ⓞ.

- To set the start/end point again, select “RESET AREA”.

9 Select “YES” and touch ⓞ.

- When copying finishes, the copied file is added to the index screen.
- After copying, touch ⓞ.
- To exit the screen, touch ⓜ, select “YES” and touch ⓞ.

NOTE:

- According to the AVCHD standard, videos are split into units of approximately 0.5 second.
  As such, the division point may not be accurate.
- You can take videos in YouTube™ format by setting upload shooting before recording.

"Taking Videos in YouTube™ Format" (☞ P.30)

Uploading Videos to YouTube™

You can upload your videos to YouTube™ using the provided software "Everio MediaBrowser". Install the software on your PC and connect this unit to the PC.

- For details on how to use the software, refer to the help file.

"Installing the Provided Software" (☞ P.70)
"Copying to Windows PC" (☞ P.70)

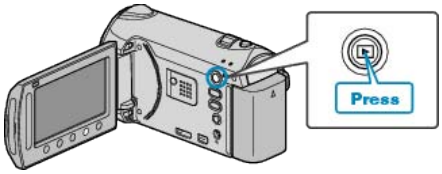
Trouble with Uploading Videos :

- Check if you have created an account with YouTube™. (You need a YouTube™ account to upload files to YouTube™.)
- Refer to "Q&A", "Latest Information", "Download Information", etc. in "Click for Latest Product Info" in the help file of the provided software "Everio MediaBrowser".

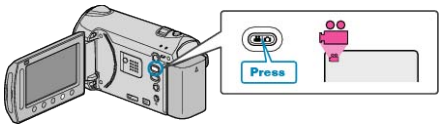
Creating a Playlist with Title (GZ-HM320)

Create a playlist simply by selecting a recording date and a title screen from the list.

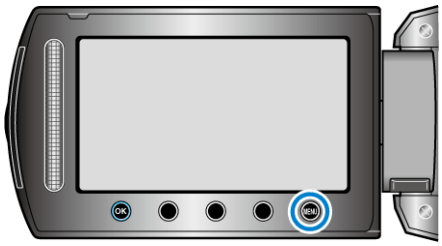
1 Select the playback mode.



2 Select video mode.



3 Touch ⓜ to display the menu.



4 Select “PICTURE TITLE” and touch ⓞ.

5 Select a title and touch ⓞ.

- Touch “CHECK” to check the title.

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6 Select the desired recording date and touch ⓞ.

- Touch “CHECK” to check the selected video.
- After setting, touch ⓞ.

Picture Title
A Great Memory
Happy Anniversary
Business
Celebration
Congratulations
Graduation
Happy Birthday
Happy Father's Day
Happy Mother's Day
Holiday
Happy New Year!
Happy Valentine's Day
Our Baby
Our Family
Sight Seeing
Vacation
School Memories
Season's Greetings
Sports
Wedding

NOTE:

- Play back the DVD created from a playlist with title on a DVD player. The title will not be played back if you connect this unit to a DVD writer (optional).
- To add a title to a playlist that is already created, refer to the following.

"Adding Title Screens to Playlists" (☞ P.63)

Creating Playlists from the Recorded Videos

A list created by selecting your favorite videos from the recorded ones is called a playlist.
By creating a playlist, you can play back only your favorite videos in the order you like.
The original video file remains even when it is registered to a playlist.

- To create a new playlist

"Creating Playlists with Selected Files" (☞ P.57)
"Creating Playlists by Group" (☞ P.58)
"Creating Playlists by Date" (☞ P.59)
"Creating Playlists by Event" (☞ P.60)

- To edit or delete a created playlist

"Editing Playlists" (☞ P.61)
"Deleting Playlists" (☞ P.62)
"Adding Title Screens to Playlists" (☞ P.63)

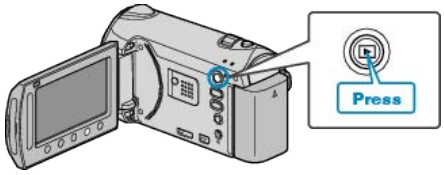
NOTE:

- When a video file is deleted or moved, the same file will be removed from the playlist.
- The playlist will not be affected when a registered video file is divided. However, if any one of the divided video files is deleted or moved, the original file will be removed from the playlist.
- A maximum of 99 playlists can be created.

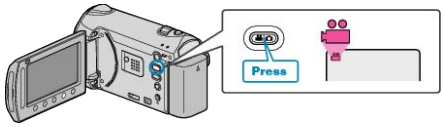
Creating Playlists with Selected Files

Create a playlist by arranging the files one by one.

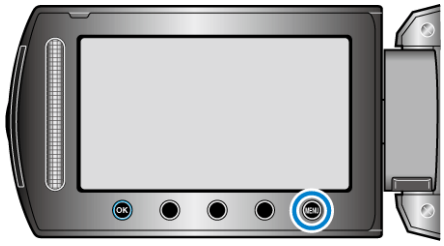
1 Select the playback mode.



2 Select video mode.



3 Touch ⓜ to display the menu.



4 Select “EDIT PLAYLIST” and touch ⓞ.

5 Select “NEW LIST” and touch ⓞ.

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6 Select “CREATE FROM SCENE” and touch ⓞ.

7 Select the file to add to playlist and touch ⓞ.

- Touch “CHECK” to check the selected video.

8 Select the insertion point and touch ⓞ.

- The selected videos are added to the playlist on the right.
- To delete a video from the playlist, touch "→" to select the video and touch ⓞ.
- Repeat steps 7-8 and arrange the videos in the playlist.

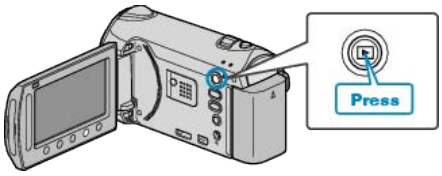
9 After arranging, touch ⓜ.

10 Select “SAVE AND THEN QUIT” and touch ⓞ.

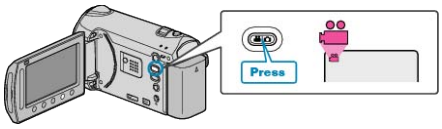
Creating Playlists by Group

Create a playlist by arranging multiple files according to group.

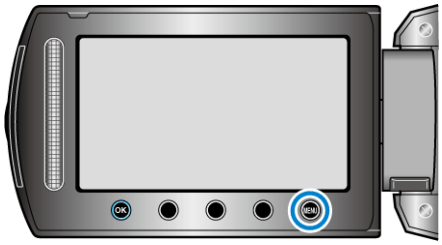
1 Select the playback mode.



2 Select video mode.



3 Touch ⓜ to display the menu.



4 Select “EDIT PLAYLIST” and touch ⓞ.

5 Select “NEW LIST” and touch ⓞ.

6 Select “CREATE BY GROUP” and touch ⓞ.

7 Select the group to add to playlist and touch ⓞ.

- Touch “CHECK” to check the selected video.

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8 Select the insertion point and touch ⓞ.

- The selected videos are added to the playlist on the right.
- To delete a video from the playlist, touch "→" to select the video and touch ⓞ.
- Repeat steps 7-8 and arrange the videos in the playlist.

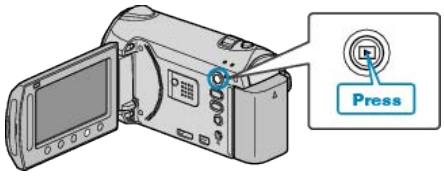
9 After arranging, touch ⓜ.

10 Select “SAVE AND THEN QUIT” and touch ⓞ.

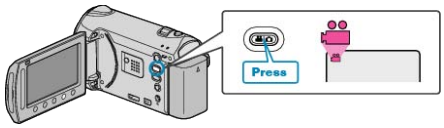
Creating Playlists by Date

Create a playlist by arranging multiple files according to recording date.

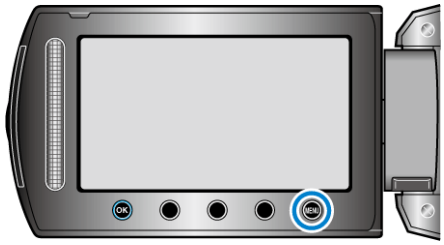
1 Select the playback mode.



2 Select video mode.



3 Touch ⓜ to display the menu.



4 Select “EDIT PLAYLIST” and touch ⓞ.

5 Select “NEW LIST” and touch ⓞ.

6 Select “CREATE BY DATE” and touch ⓞ.

7 Select the recording date to add to playlist and touch ⓞ.

- Touch “CHECK” to check the selected video.

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8 Select the insertion point and touch ⓞ.

- The selected videos are added to the playlist on the right.
- To delete a video from the playlist, touch "→" to select the video and touch ⓞ.
- Repeat steps 7-8 and arrange the videos in the playlist.

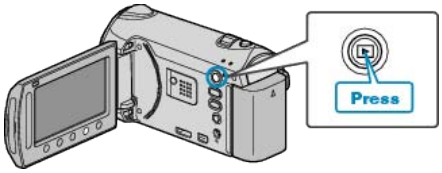
9 After arranging, touch ⓜ.

10 Select “SAVE AND THEN QUIT” and touch ⓞ.

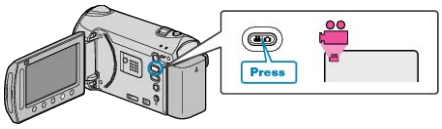
Creating Playlists by Event

Create a playlist by arranging multiple files according to events and recording dates.

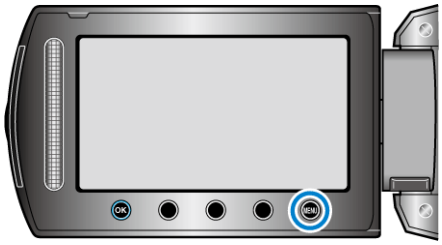
1 Select the playback mode.



2 Select video mode.



3 Touch ⓜ to display the menu.



4 Select “EDIT PLAYLIST” and touch ⓞ.

5 Select “NEW LIST” and touch ⓞ.

6 Select “CREATE BY EVENT” and touch ⓞ.

7 Select an event and touch ⓞ.

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8 Select the recording date to add to playlist and touch ⓞ.

- Touch “CHECK” to check the selected video.

9 Select the insertion point and touch ⓞ.

- The selected videos are added to the playlist on the right.
- To delete a video from the playlist, touch "→" to select the video and touch ⓞ.
- Repeat steps 8-9 and arrange the videos in the playlist.

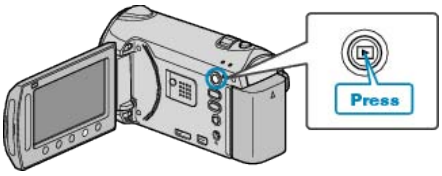
10 After arranging, touch ⓜ.

11 Select “SAVE AND THEN QUIT” and touch ⓞ.

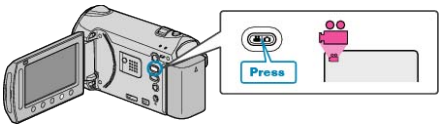
Editing Playlists

You can change the content of a created playlist.

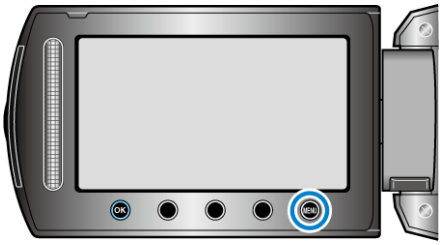
1 Select the playback mode.



2 Select video mode.



3 Touch ⓜ to display the menu.



4 Select “EDIT PLAYLIST” and touch ⓞ.

5 Select “EDIT” and touch ⓞ.

6 Select the playlist you want to edit and touch ⓞ.

7 Select the file to add to playlist and touch ⓞ.

- Touch “CHECK” to check the selected video.

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8 Select the insertion point and touch ⓞ.

- The selected videos are added to the playlist on the right.
- To delete a video from the playlist, touch "→" to select the video and touch ⓞ.
- Repeat steps 7-8 and arrange the videos in the playlist.

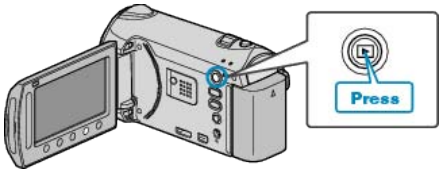
9 After arranging, touch ⓜ.

10 Select “SAVE AND THEN QUIT” and touch ⓞ.

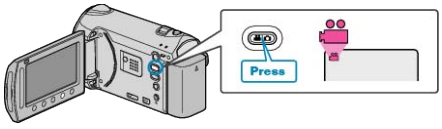
Deleting Playlists

Delete the playlists that you have created.

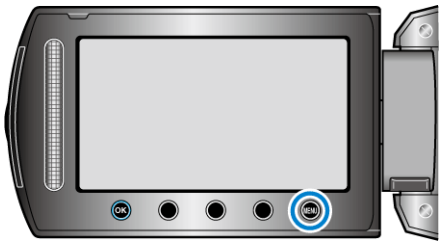
1 Select the playback mode.



2 Select video mode.



3 Touch ⓜ to display the menu.



4 Select “EDIT PLAYLIST” and touch ⓞ.

5 Select “DELETE” and touch ⓞ.

6 Select the playlist you want to delete and touch ⓞ.

- All created playlists will be deleted when “DELETE ALL” is selected.

7 Select “YES” and touch ⓞ.

- After deleting, touch ⓞ.
- To exit the screen, touch ⓜ.

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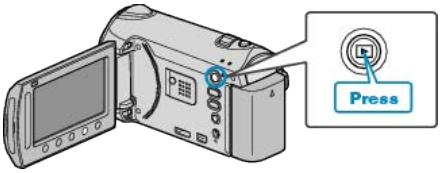
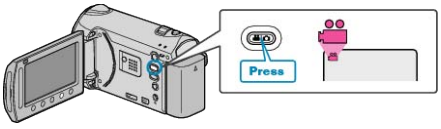
Adding Title Screens to Playlists

Add a title screen to a created playlist.

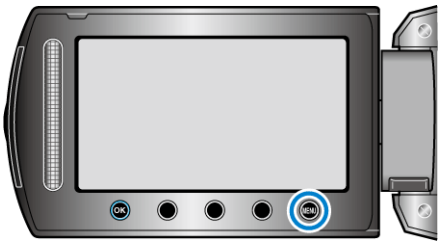
1 Select the playback mode.



2 Select video mode.



3 Touch MENU to display the menu.



4 Select “EDIT PLAYLIST” and touch OK.

5 Select “SET TITLE” and touch OK.

6 Select the desired playlist and touch OK.

- Touch “CHECK” to check the content of the selected playlist.

7 Select a title and touch OK.

- Touch “CHECK” to check the title.
- To delete the title, select "NO TITLE".
- After setting, touch OK.
- To exit the screen, touch MENU.

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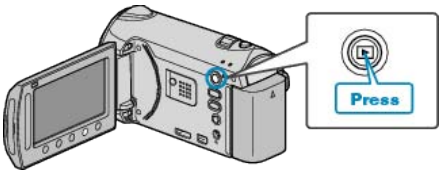
Combining Videos Recorded by Seamless Recording

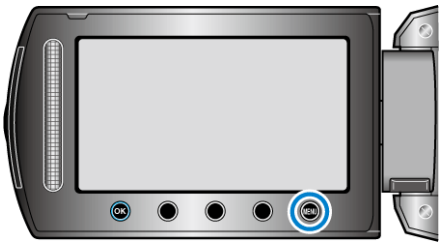
Videos that are recorded on two separate media and with “SEAMLESS RECORDING” in the video recording menu enabled can be combined into a single video.

1 Select the playback mode.



2 Select video mode.

3 Touch MENU to display the menu.

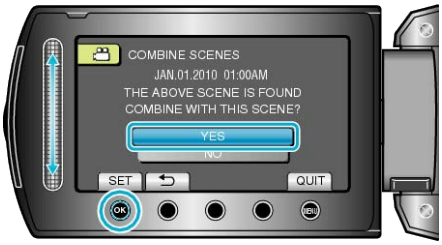


4 Select “SEAMLESS REC CTRL” and touch OK.

5 Select “COMBINE SCENES” and touch OK.

- This unit starts a search to detect seamless videos. Combining cannot be performed if no seamless videos are found.
- When “DEL SCENE COMBI INFO” is selected, the recorded seamless videos can no longer be combined. marks are removed from the files.

6 Select “YES” and touch OK.



7 Select the media to store the combined video and touch OK.

8 Select “YES” and touch OK.

- Combining of the videos starts.
- After videos are combined, touch OK.

How to Enable Seamless Video Recording Again

To start seamless recording again after the previous session is complete, it is necessary to combine seamless videos, or delete the combination information of the seamless videos.
To delete the combination information of seamless videos, select “DEL SCENE COMBI INFO” in step 5.

NOTE:

- The scene and scene combination information from the media that is not selected as the media in which the combined file is saved may be deleted.
- Scenes from seamless recording can no longer be combined if the files are divided, deleted, trimmed, or moved.

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Copying Files to Card

You can copy videos and still images from the built-in memory or SD card to another media.
Copying still images to SD cards makes it convenient to bring them to the shop for printing (developing).
"Copying All Files" (☞ P.65)
"Copying Selected Files" (☞ P.66)

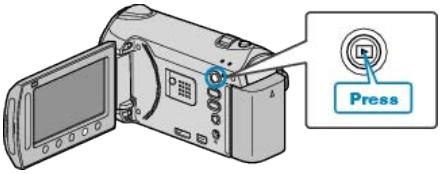
CAUTION:

- Make sure that there is enough space left in the destination medium.

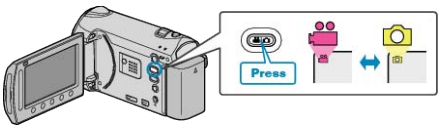
Copying All Files

Copies all videos and still images to another media.

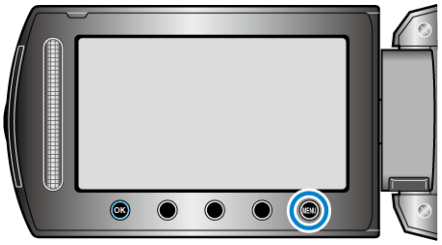
1 Select the playback mode.



2 Select video or still image mode.



3 Touch MENU to display the menu.



4 Select “EDIT” and touch OK.

5 Select “COPY” and touch OK.

6 Select the direction of copying and touch OK.

- The direction of copying varies with the model.

7 Select “COPY ALL” and touch OK.

8 Select “YES” and touch OK.

- Copying starts.
- After copying, touch OK.

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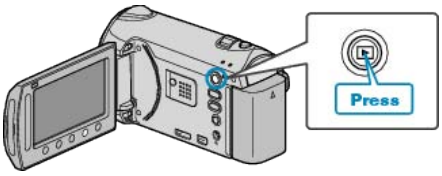
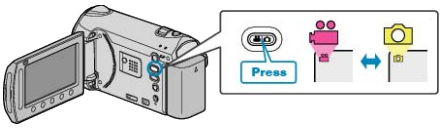
Copying Selected Files

Copies selected videos and still images to another media.

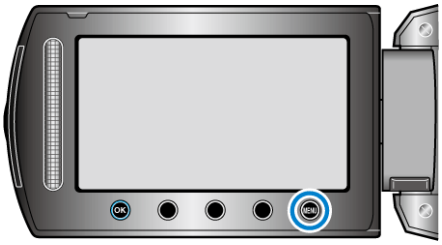
1 Select the playback mode.



2 Select video or still image mode.



3 Touch MENU to display the menu.



4 Select “EDIT” and touch OK.

5 Select “COPY” and touch OK.

6 Select the direction of copying and touch OK.

- The direction of copying varies with the model.

7 Select “SELECT AND COPY” and touch OK.

8 Select the desired file and touch OK.

- A check mark appears on the selected file.
  To remove the check mark, touch OK again.

9 After selecting all the files to copy, touch “EXEC”.

10 Select “YES” and touch OK.

- Copying starts.
- After copying, touch OK.

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Moving Files

You can move videos and still images from the built-in memory or SD card to another media.
Files that are moved will be deleted from the original media.
Moving still images to SD cards makes it convenient to bring them to the shop for printing (developing).
"Moving All Files" (☞ P.67)
"Moving Selected Files" (☞ P.68)

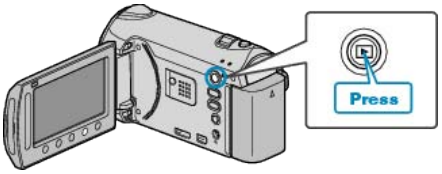
CAUTION:

- Make sure that there is enough space left in the destination medium.

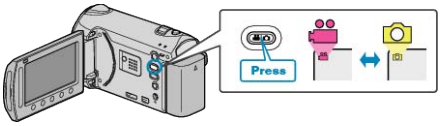
Moving All Files

Moves all videos and still images to another media.
Files that are moved will be deleted from the original media.
Files with a protect mark will not be deleted from the original media.

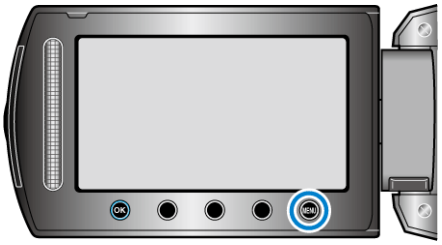
1 Select the playback mode.



2 Select video or still image mode.



3 Touch MENU to display the menu.



4 Select “EDIT” and touch OK.

5 Select “MOVE” and touch OK.

6 Select the direction of moving and touch OK.

- The direction of moving varies with the model.

7 Select “MOVE ALL” and touch OK.

8 Select “YES” and touch OK.

- Moving of files starts.
- After moving, touch OK.

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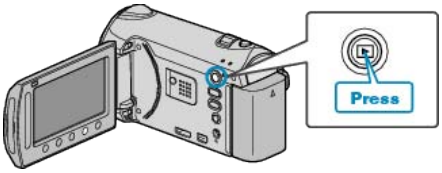
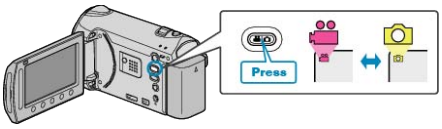
Moving Selected Files

Moves selected videos and still images to another media.
Files that are moved will be deleted from the original media.

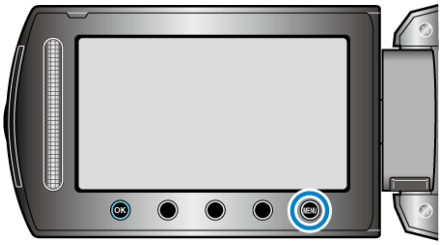
1 Select the playback mode.



2 Select video or still image mode.



3 Touch MENU to display the menu.



4 Select “EDIT” and touch OK.

5 Select “MOVE” and touch OK.

6 Select the direction of moving and touch OK.

- The direction of moving varies with the model.

7 Select “SELECT AND MOVE” and touch OK.

8 Select the desired file and touch OK.

- A check mark appears on the selected file.
  To remove the check mark, touch OK again.

9 After selecting all the files to move, touch EXEC.

10 Select “YES” and touch OK.

- Moving of files starts.
- After moving, touch OK.

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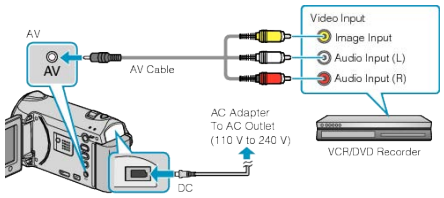
Dubbing Files to a DVD Recorder or VCR

You can dub videos by connecting to a DVD recorder or VCR.

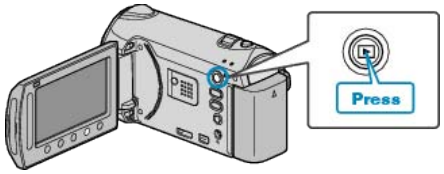
- Refer also to the instruction manuals of the TV, DVD recorder, VCR, etc.

1 Connect to a VCR/DVD recorder.



- Press and hold the power ⏻ button for 2 seconds or more to turn off the power.

2 Select the playback mode.



- Press and hold the power ⏻ button for 2 seconds or more to turn on the unit.

3 Prepare the TV/VCR for recording.

- Switch to a compatible external input.
- Insert a DVD-R or video tape.

4 Prepare this unit for playback.

- Set “VIDEO OUTPUT” in the connection settings menu to the aspect ratio (4:3 or 16:9) of the connecting TV.

"VIDEO OUTPUT" (☞ P.103)

- To include the date during dubbing, set “DISPLAY ON TV” in the connection settings menu to “ON”.
  Set “ON-SCREEN DISPLAY” in the playback menu to “DISPLAY DATE ONLY”.

"DISPLAY ON TV" (☞ P.103)
"ON-SCREEN DISPLAY" (☞ P.91)

5 Start recording.

- Start playback on this unit and press the record button on the VCR/DVD recorder.

"Playing Back Videos" (☞ P.36)
"Playing Back Playlists" (☞ P.44)

- After playback is complete, stop the recording.

NOTE:

- When there are many videos to dub, you can create a playlist in advance and play it back so that all your favorite videos can be dubbed at once.

"Creating Playlists with Selected Files" (☞ P.57)
"Playing Back Playlists" (☞ P.44)

CAUTION:

- Dubbing cannot be performed by connecting this unit to a Blu-ray recorder with a USB cable.
  Connect and dub using the supplied AV cable.

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Copying to Windows PC

You can copy files to a PC using the provided software.
DVDs can also be created using the PC's DVD drive.
If the provided software is not installed, this unit will be recognized as an external storage when connected.

NOTE:

- To record to discs, a recordable DVD drive is required for the PC in use.
- Still images cannot be recorded to discs using the provided software.

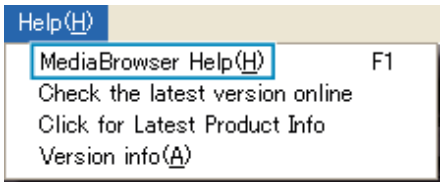
Trouble with Using the Provided Software Everio MediaBrowser

Consult the customer service center below.

- Pixela User Support Center

Telephone	USA and Canada (English): +1-800-458-4029 (toll-free) Europe (UK, Germany, France, and Spain) (English/German/French/Spanish): +800-1532-4865 (toll-free) Other Countries in Europe (English/German/French/Spanish): +44-1489-564-764 Asia (Philippines) (English): +63-2-438-0090 China (Chinese): 10800-163-0014 (toll-free)
Homepage	http://www.pixela.co.jp/oem/jvc/e/index.html

- For details on how to upload to Youtube™, refer to “MediaBrowser Help” in the “Help” menu of Everio MediaBrowser.



Verifying System Requirements (Guideline)

Right-click on “Computer” (or “My Computer”) in the “Start” menu and select “Properties” to check the following items.

Windows Vista / Windows 7

- Refer to the operating instructions found in the animation on the Detailed User Guide.

Windows XP

- Refer to the operating instructions found in the animation on the Detailed User Guide.

	Windows Vista / Windows 7	Windows XP
OS	Windows Vista 32/64-bit Home Basic or Home Premium (Pre-installed versions only)Service Pack 2 Windows 7 32/64-bit Home Premium (Pre-installed versions only)	Windows XP Home Edition or Professional (Pre-installed versions only)Service Pack 3
CPU	Intel Core Duo CPU 1.66 GHz or higher Intel Core 2 Duo CPU 2.13 GHz or higher recommended	Intel Core Duo CPU 1.66 GHz or higher Intel Core 2 Duo CPU 2.13 GHz or higher recommended
RAM	At least 2 GB	At least 1 GB

NOTE:

- If your PC does not meet the above system requirements, operations of the provided software cannot be guaranteed.

"Backing Up Files Without Using Provided Software" (☞ P.75)

- For more information, contact your PC's manufacturer.

Installing the Provided Software

You can display the recorded images in calendar format and perform simple editing using the provided software.

Windows Vista / Windows 7

- Refer to the operating instructions found in the animation on the Detailed User Guide.

Windows XP

- Refer to the operating instructions found in the animation on the Detailed User Guide.

Backing Up All Files

Before making backup, make sure that enough free space is left in the PC's hard disk (HDD).

1 Connect the USB cable and AC adapter.

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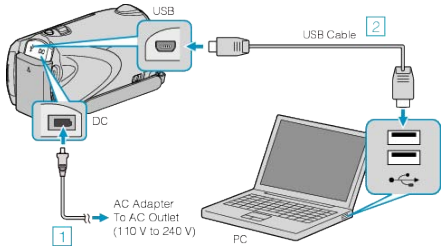
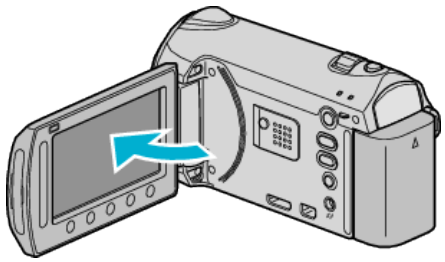


① Connect the AC adapter to this unit.
② Connect using the provided USB cable.

2 Open the LCD monitor.

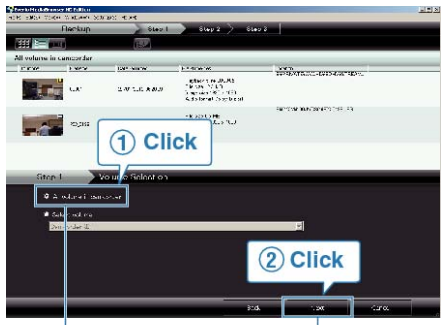


- The USB MENU appears.

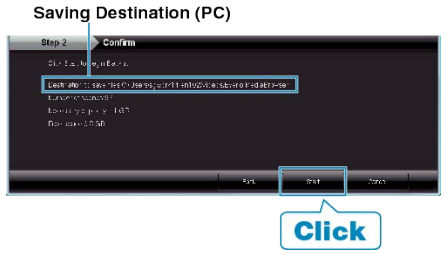
3 Select “BACK UP” and touch ⓞ.

- The provided software Everio MediaBrowser starts up on the PC. The subsequent operations are to be performed on the PC.

4 Select the volume.

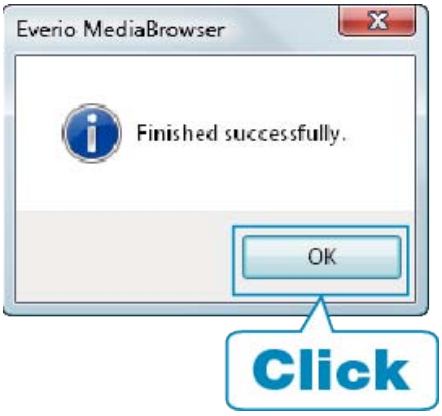


5 Start backup.



- Backup starts.

6 After backup is complete, click “OK”.



NOTE:

- Before making backup, load the SD card in which the videos and still images are stored on this unit.
- If you encounter any problems with the provided software Everio MediaBrowser, please consult the "Pixela User Support Center".

"Trouble with Using the Provided Software Everio MediaBrowser" (☞ P.70)

- Delete unwanted videos before making backup. It takes time to back up many videos.

"Deleting Unwanted Files" (☞ P.44)

Disconnecting this Unit from PC

1 Click “Safely Remove Hardware”.

2 Click “Safely Remove USB Mass Storage Device”.

3 (For Windows Vista/Windows 7) Click “OK”.

4 Disconnect the USB cable and close the LCD monitor.

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Organizing Files

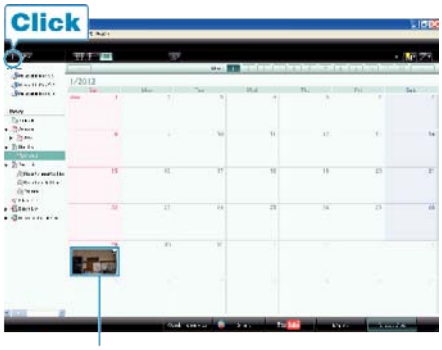
After backing up your files, organize them by adding labels such as "Family Trip" or "Athletic Meet".
This is useful not only for creating discs, but for viewing the files too.

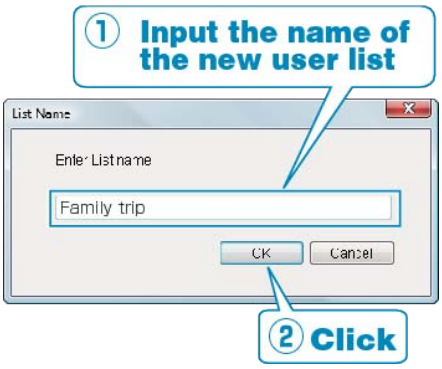
1 Double-click on the Everio MediaBrowser icon.

- The provided software starts up.

2 Display the month of the files to organize.

3 Create a user list.



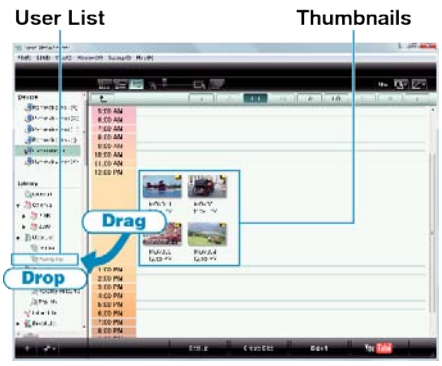


- A new user list is added to the user list library.

4 Click on the recording day.

- The thumbnails of the files recorded on the day are displayed.

5 Register files to the created user list.



Identifying Video or Still Image：

- You can select files using the "SELECT" menu on the top right of the screen.
- Check the video/still image icon on the top right corner of the thumbnail.

NOTE:

- If you encounter any problems with the provided software Everio MediaBrowser, please consult the "Pixela User Support Center".

"Trouble with Using the Provided Software Everio MediaBrowser" (☞ P.70)

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Recording Videos to Discs

Copy the files that are arranged using the user list to DVDs.

1 Insert a new disc into the PC's recordable DVD drive.

2 Select the desired user list.

3 Select the disc type.

4 Select the method of file selection.

- If you select “Select all files displayed”, only the displayed videos are copied to the disc.
  Proceed to step 6.
- If you select “Select files individually”, proceed to step 5.

5 (When “Select files individually” is selected) Select the files to copy to disc in order.

6 Set the top menu of the disc.

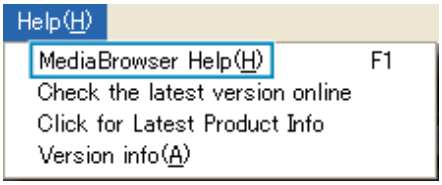
- Set the title and menu background.

7 Copying to disc starts.

- After copying, click “OK”.

NOTE:

- The following types of discs can be used on the provided software Everio MediaBrowser.
  DVD-R
  DVD-R DL
  DVD-RW
  DVD+R
  DVD+R DL
  DVD+RW
  BD
- Everio MediaBrowser supports 3 disc formats: DVD-Video, AVCHD, and BD.
- When copying videos recorded in UXP recording mode to create an AVCHD disc, the videos need to be converted to XP recording mode before copying. Therefore, it may take a longer time than copying videos recorded in other modes.
- Use Everio MediaBrowser Player to play back the disc. Refer to the help file of the provided Everio MediaBrowser software to operate.
- To view the help file of Everio MediaBrowser, select “Help” from the Everio MediaBrowser's menu bar or press F1 on the keyboard.



- If you encounter any problems with the provided software Everio MediaBrowser, please consult the "Pixela User Support Center".

"Trouble with Using the Provided Software Everio MediaBrowser" (☞ P.70)

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CAUTION:

- Operate this equipment according to the operating procedures described in this manual.
- Use only the provided CD-ROM. Never use any other CD-ROM to run this software.
- Do not attempt to modify this software.
- Changes or modifications not approved by JVC could void user's authority to operate the equipment.

How to handle a CD-ROM：

- Take care not to soil or scratch the mirror surface (opposite to the printed surface). Do not write anything or put a sticker on either the front or back surface. If the CD-ROM gets dirty, gently wipe it with a soft cloth outward from the center hole.
- Do not use conventional disc cleaners or cleaning spray.
- Do not bend the CD-ROM or touch its mirror surface.
- Do not store your CD-ROM in a dusty, hot or humid environment. Keep it away from direct sunlight.

You can find the latest information (in English) on the provided software program at our world wide web server at
http://www.jvc-victor.co.jp/english/global-e.html

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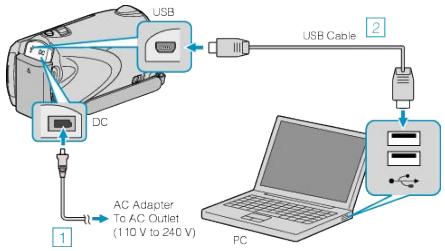
Backing Up Files Without Using Provided Software

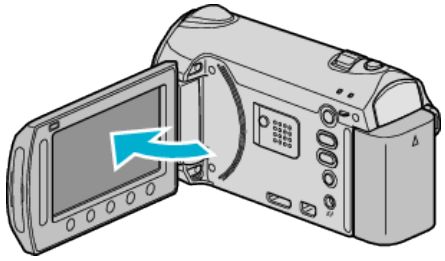
Copy the files to a PC using the following method.

1 Connect the USB cable and AC adapter.



① Connect the AC adapter to this unit.
② Connect using the provided USB cable.

2 Open the LCD monitor.



- The USB MENU appears.

3 Select “PLAYBACK ON PC” and touch ⓞⓚ.

- Close the Everio MediaBrowser program, if it starts.
- The subsequent operations are to be performed on the PC.

4 Select "Computer" (Windows Vista) / "My Computer" (Windows XP) from the start menu, then click on the EVERIO_MEM or EVERIO_SD icon.

- The folder opens.

5 Copy the files to any folder in the PC (desktop, etc).

CAUTION:

- When the folders or files are deleted/moved/renamed in the computer, they cannot be played back on this unit anymore.

NOTE:

- To edit the files, use a software that supports MTS/JPEG files.
- When removing this unit from the PC, drag and drop the "EVERIO_MEM" or "EVERIO_SD" icon on the desktop to the trash bin.
- The above operations on PC may vary with the system used.

Disconnecting this Unit from PC

1 Click “Safely Remove Hardware”.

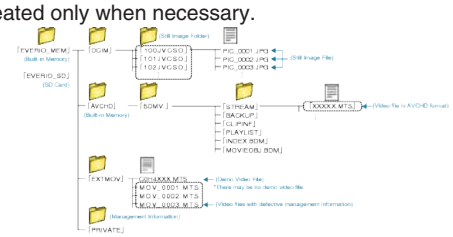
2 Click “Safely Remove USB Mass Storage Device”.

3 (For Windows Vista/Windows 7) Click “OK”.

4 Disconnect the USB cable and close the LCD monitor.

List of Files and Folders

Folders and files are created in the built-in memory and SD card as shown below.
They are created only when necessary.



CAUTION:

- When the folders or files are deleted/moved/renamed in the computer, they cannot be played back on this unit anymore.

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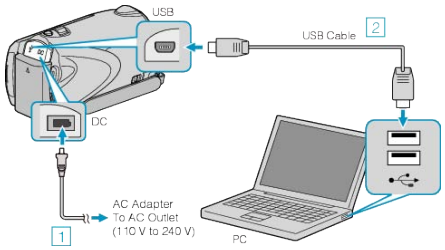
Copying to Mac Computer

Copy the files to a Mac computer using the following method.

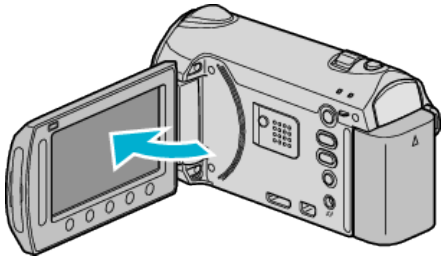
1 Connect the USB cable and the AC adapter.



① Connect the AC adapter to this unit.
② Connect using the provided USB cable.

- The provided software is not required for this process.

2 Open the LCD monitor.



- The USB MENU appears.

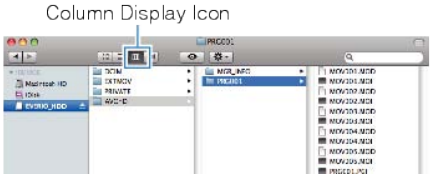
3 Select “PLAYBACK ON PC” and touch ⓞⓚ.

- The subsequent operations are to be performed on the PC.

4 Click on the "EVERIO_MEM" or "EVERIO_SD" icon on the desktop.

- The folder opens.

5 Click on the column display icon.



- Search the folder with the desired files.

6 Copy the files to any folder in the PC (desktop, etc).

CAUTION:

- When the folders or files are deleted/moved/renamed in the computer, they cannot be played back on this unit anymore.
- MTS files that are copied to a Mac computer cannot be imported to iMovie.
  To use MTS files with iMovie, import the files using iMovie.

NOTE:

- To edit the files, use a software that supports MTS/JPEG files.
- When removing this unit from the computer, drag and drop the "EVERIO_MEM" or "EVERIO_SD" icon on the desktop to the trash bin.

iMovie and iPhoto

You can import files from this unit to a computer using Apple's iMovie'08, '09 (video) or iPhoto (still image).
To verify the system requirements, select "About This Mac" from the Apple menu. You can determine the operating system version, processor and amount of memory.

- For the latest information on iMovie or iPhoto, refer to the Apple website.
- For details on how to use iMovie or iPhoto, refer to the help file of the respective software.
- There is no guarantee that the operations will work with all computer environments.

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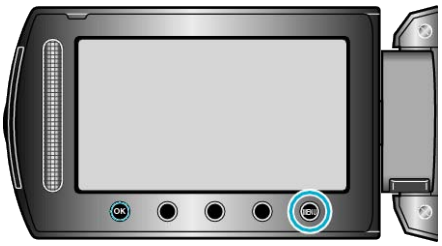
Operating the Menu

Use the slider and operation buttons to set the menu.

- The menu differs according to the mode in use.

1 Touch MENU to display the menu.

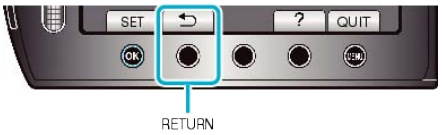


2 Select the desired menu and touch OK.

3 Select the desired setting and touch OK.

NOTE:

- To close the menu, touch MENU.
- To return to the previous screen, touch ⮌.



- To display the help file, touch ?.

Returning All Settings to Default：

- Set using “FACTORY PRESET” in the camera settings menu.

"FACTORY PRESET" （☞ P.102）

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Recording Menu (Video)

You can adjust various settings, such as brightness and white balance, to suit the subject or purpose. You can also change settings such as picture quality and gain.

Setting	Details
MANUAL SETTING	Recording settings can be adjusted manually. ● They are displayed only when recording in the manual mode. "Manual Settings Menu" (☞ P.87)
FACE PRIORITY AE/AF	Detects faces and adjusts the brightness and focus automatically. "FACE PRIORITY AE/AF" (☞ P.79)
REGISTER EVENT	Categorizes your videos according to events (such as "Travel", "Athletic Event") by registering the file before recording. "Registering Files to Events Before Recording" (☞ P.30)
VIDEO QUALITY	Sets the video quality. "VIDEO QUALITY" (☞ P.79)
ZOOM	Sets the maximum zoom ratio. "ZOOM" (☞ P.80)
GAIN UP	Makes the subject appear bright automatically when recording in dark places. "GAIN UP" (☞ P.80)
TIME-LAPSE RECORDING	Enables the changes of a scene that occur slowly over a long period to be shown within a short time by taking frames of it at a certain interval. "Recording at Intervals (TIME-LAPSE RECORDING)" (☞ P.31)
AUTO REC	Enables the unit to start or stop recording automatically by sensing the changes in brightness within the red frame displayed on the LCD monitor. "Recording Automatically by Sensing Movements (AUTO REC)" (☞ P.33)
SEAMLESS RECORDING	Automatically switches to a different media and continues recording when the remaining space on the current recording media runs out. For example, when the remaining space on the SD card runs out during recording, the recording continues on the built-in memory without stopping. "SEAMLESS RECORDING" (☞ P.81)
x.v.Color	Records with "x.v.Color". "x.v.Color" (☞ P.81)
WIND CUT	Reduces the noise caused by wind. "WIND CUT" (☞ P.82)

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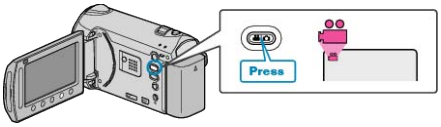
FACE PRIORITY AE/AF

Detects faces and adjusts the brightness and focus automatically.

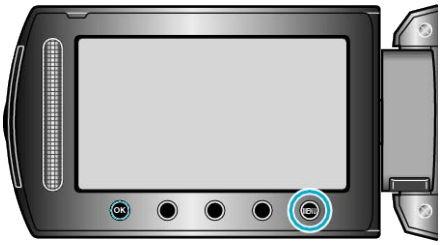
Setting	Details
OFF	Deactivates the function.
ON	Activates the function.

Displaying the Item

1 Select video mode.



2 Touch MENU to display the menu.



3 Select “FACE PRIORITY AE/AF” and touch OK.

CAUTION:

- When “FACE PRIORITY AE/AF” is set to “ON”, the following settings will change.
  - ・ If “SCENE SELECT” is set to “SPOTLIGHT”, it will be switched to “OFF”.
  - ・ If “FOCUS” is set to “MANUAL”, it will be switched to “AUTO”.
  - ・ If “BACKLIGHT COMP.” is set to “ON”, it will be switched to “OFF”.
  - ・ If “METERING AREA/ TYPE” is set to “SPOT”, it will be switched to “ENTIRE SCREEN”.
- When the following settings are made, “FACE PRIORITY AE/AF” will switch to “OFF”.
  - ・ When “SCENE SELECT” is set to “SPOTLIGHT”
  - ・ When “FOCUS” is set to “MANUAL”
  - ・ When “FOCUS ASSIST” is selected
  - ・ When “BACKLIGHT COMP.” is set to “ON”
  - ・ When “METERING AREA/ TYPE” is set to “SPOT”

NOTE:

- Depending on the condition, faces may not be detected.

REGISTER EVENT

Categorizes your videos according to events (such as "Travel", "Athletic Event") by registering the file before recording.
Operating Details
"Registering Files to Events Before Recording" (☞ P.30)

VIDEO QUALITY

Sets the video quality.

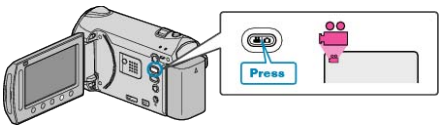
Setting	Details
UXP	Enables recording in the best picture quality. • Applies to BDs only. Videos taken in high-definition quality cannot be saved to DVDs.
XP	Enables recording in high picture quality.
SP	Enables recording in standard quality.
EP	Enables long recordings.

NOTE:

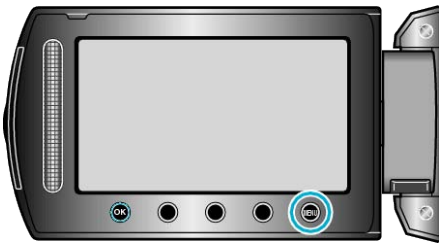
- Set to UXP or XP mode when recording fast-moving scenes or scenes with extreme change of brightness to avoid noise.

Displaying the Item

1 Select video mode.



2 Touch MENU to display the menu.



3 Select “VIDEO QUALITY” and touch OK.

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ZOOM

Sets the maximum zoom ratio.

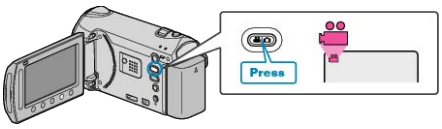
Setting	Details
20x/OPTICAL	Enables zooming up to 20x.
80x/DIGITAL	Enables zooming up to 80x.
200x/DIGITAL	Enables zooming up to 200x.

NOTE:

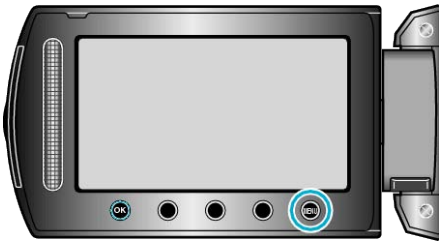
- When digital zoom is used, the image becomes grainy as it is digitally enlarged.

Displaying the Item

1 Select video mode.



2 Touch (MENU) to display the menu.



3 Select “ZOOM” and touch (OK).

GAIN UP

Makes the subject appear bright automatically when recording in dark places.

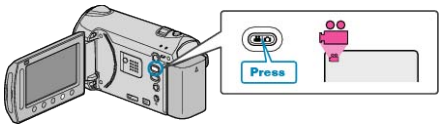
Setting	Details
OFF	Deactivates the function.
AGC	Electrically brightens the scene when it is dark.
AUTO	Automatically brightens the scene when it is dark.

NOTE:

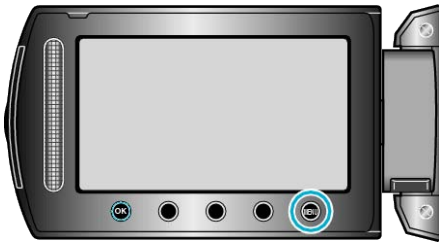
- Although “AUTO” brightens the scene more than “AGC”, movements of the subject may become unnatural.
- Setting can be adjusted separately for still images.

Displaying the Item

1 Select video mode.



2 Touch (MENU) to display the menu.



3 Select “GAIN UP” and touch (OK).

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TIME-LAPSE RECORDING

This function enables the changes of a scene that occur slowly over a long period to be shown within a short time by taking frames of it at a certain interval.
This is useful for making observations such as the opening of a flower bud.
Operating Details
"Recording at Intervals (TIME-LAPSE RECORDING)" (☞ P.31)

AUTO REC

Records automatically by sensing the changes in brightness.
Operating Details
"Recording Automatically by Sensing Movements (AUTO REC)" (☞ P.33)

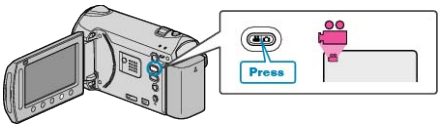
SEAMLESS RECORDING

This function enables an ongoing video recording that has reached its media's maximum capacity to be recorded continuously without frame loss by automatically switching the recording to another media. It is also possible for the scenes to be merged into one of the media once the recording is complete.

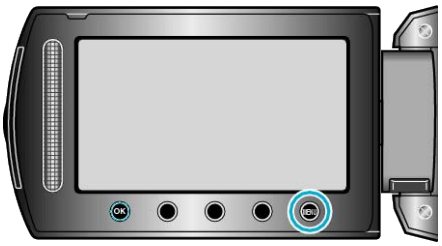
Setting	Details
OFF	Does not switch recording media automatically.
ON	Switches recording media automatically.

Displaying the Item

1 Select video mode.



2 Touch MENU to display the menu.



3 Select “SEAMLESS RECORDING” and touch OK.

4 Select “ON” and touch OK.

Warning

- Auto switching of media cannot be performed when a write protected memory card, an unformatted media, or an incompatible media is used.
- The function does not work when there is less than 1 minute of recording time left in the other media.

NOTE:

- Seamless recording allows the unit to automatically switch to another media if the targeted media for recording is unavailable or has less than 1 second of recording time left.
- Once a seamless recording is complete, the function is automatically disabled. Combine the recorded scenes or delete the scene combination information to reactivate it.
- Seamless videos that are recorded on two separate media can be combined into a single video.

"Combining Videos Recorded by Seamless Recording" (☞ P.64)

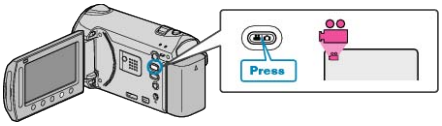
x.v.Color

Records with "x.v.Color".

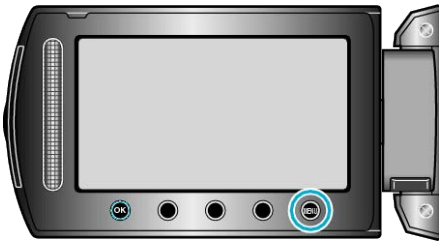
Setting	Details
OFF	Deactivates the function.
ON	Activates the function.

Displaying the Item

1 Select video mode.



2 Touch MENU to display the menu.



3 Select “x.v.Color” and touch OK.

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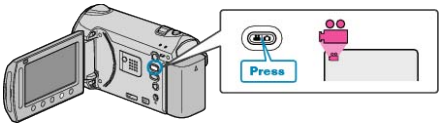
WIND CUT

Reduces the noise caused by wind.

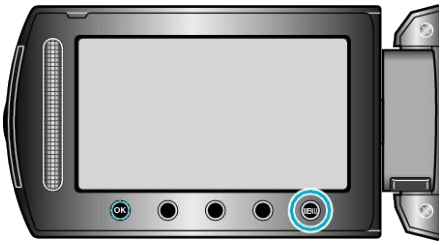
Setting	Details
OFF	Deactivates the function.
ON	Activates the function.

Displaying the Item

1 Select video mode.



2 Touch MENU to display the menu.



3 Select “WIND CUT” and touch OK.

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Recording Menu (Still Image)

You can adjust various settings, such as brightness and white balance, to suit the subject or purpose. You can also change settings such as picture quality and gain.

Setting	Details
MANUAL SETTING	Recording settings can be adjusted manually. ● They are displayed only when recording in the manual mode. "Manual Settings Menu" (☞ P.87)
FACE PRIORITY AE/ AF	Detects faces and adjusts the brightness and focus automatically. "FACE PRIORITY AE/AF" (☞ P.83)
SELF-TIMER	Use this when taking a group photo. "SELF-TIMER" (☞ P.83)
SHUTTER MODE	Continuous shooting settings can be adjusted. "SHUTTER MODE" (☞ P.84)
IMAGE SIZE	Sets the image size (number of pixels) for still images. "IMAGE SIZE" (☞ P.85)
IMAGE QUALITY	Sets the image quality. "IMAGE QUALITY" (☞ P.85)
GAIN UP	Makes the subject appear bright automatically when recording in dark places. "GAIN UP" (☞ P.86)
AUTO REC	Enables the unit to record still images automatically by sensing the changes in brightness within the red frame displayed on the LCD monitor. "Recording Automatically by Sensing Movements (AUTO REC)" (☞ P.33)

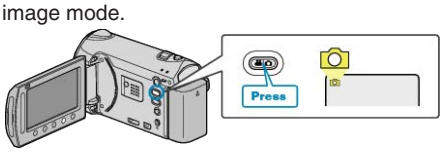
FACE PRIORITY AE/AF

Detects faces and adjusts the brightness and focus automatically.

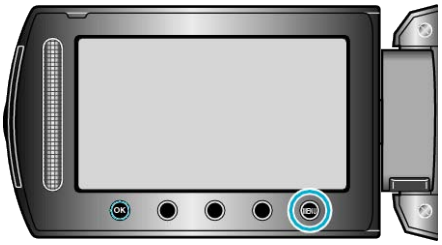
Setting	Details
OFF	Deactivates the function.
ON	Activates the function.

Displaying the Item

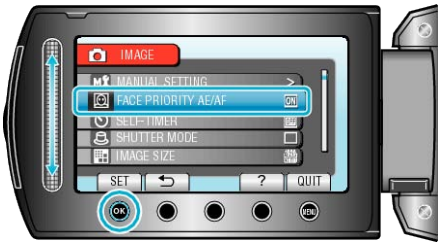
1 Select still image mode.



2 Touch MENU to display the menu.



3 Select “FACE PRIORITY AE/AF” and touch OK.



CAUTION:

- When “FACE PRIORITY AE/AF” is set to “ON”, the following settings will change.
  - ・ If “SCENE SELECT” is set to “SPOTLIGHT”, it will be switched to “OFF”.
  - ・ If “FOCUS” is set to “MANUAL”, it will be switched to “AUTO”.
  - ・ If “BACKLIGHT COMP.” is set to “ON”, it will be switched to “OFF”.
  - ・ If “METERING AREA/ TYPE” is set to “SPOT”, it will be switched to “ENTIRE SCREEN”.
- When the following settings are made, “FACE PRIORITY AE/AF” will switch to “OFF”.
  - ・ When “SCENE SELECT” is set to “SPOTLIGHT”
  - ・ When “FOCUS” is set to “MANUAL”
  - ・ When “FOCUS ASSIST” is selected
  - ・ When “BACKLIGHT COMP.” is set to “ON”
  - ・ When “METERING AREA/ TYPE” is set to “SPOT”

NOTE:

- You cannot activate “FACE PRIORITY AE/AF” if “SELF-TIMER” is set to “FACE DETECTION”.
- Depending on the condition, faces may not be detected.

SELF-TIMER

Use this when taking a group photo.

Setting	Details
OFF	Deactivates the self-timer.
2SEC	Starts recording 2 seconds after the SNAPSHOT button is pressed.
10SEC	Starts recording 10 seconds after the SNAPSHOT button is pressed. This setting is suitable for taking group photos.
FACE DE-TEC-TION	Detects faces when the SNAPSHOT button is pressed. Recording starts 3 seconds after the face of the photographer is detected. (1) Faces are detected (2) Face of photographer is detected

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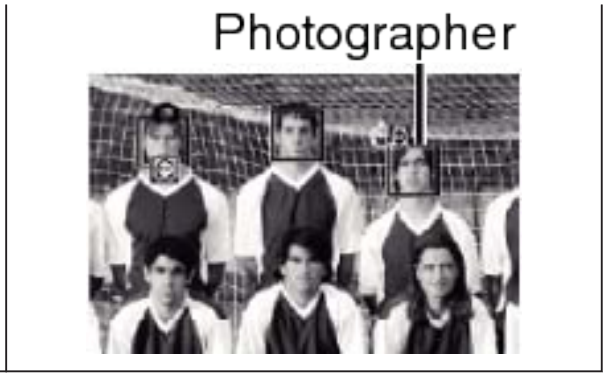
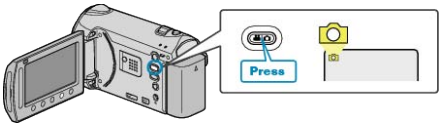
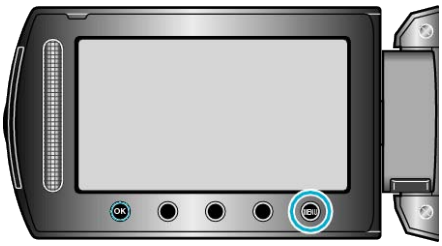


Displaying the Item

1 Select still image mode.



2 Touch MENU to display the menu.



3 Select “SELF-TIMER” and touch OK.

SHUTTER MODE

Continuous shooting settings can be adjusted.

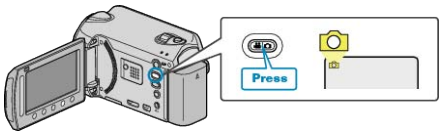
Setting	Details
RECORD ONE SHOT	Records one still image.
CONTINUOUS SHOOTING	Records still images continuously while the SNAPSHOT button is pressed.

NOTE:

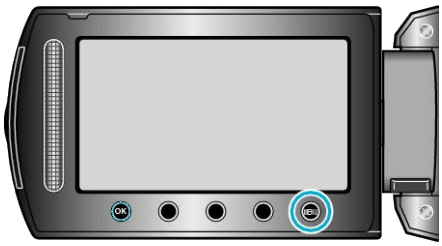
- Up to 3 images can be captured in 1 second during continuous shooting.
- Some SD cards may not support continuous shooting.
- The continuous shooting speed will drop if this function is used repeatedly.

Displaying the Item

1 Select still image mode.



2 Touch MENU to display the menu.



3 Select “SHUTTER MODE” and touch OK.

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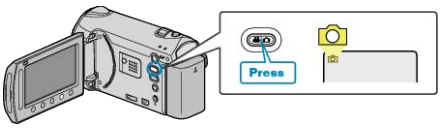
IMAGE SIZE

Sets the image size (number of pixels) for still images.

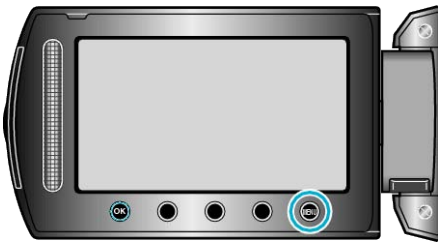
Setting	Details
1920X1080(2M)	Takes still images in the size of 1920X1080 with aspect ratio 16:9.
1440X1080(1.5M)	Takes still images in the size of 1440X1080 with aspect ratio 4:3.
640X480(0.3M)	Takes still images in the size of 640X480 with aspect ratio 4:3.

Displaying the Item

1 Select still image mode.



2 Touch MENU to display the menu.



3 Select “IMAGE SIZE” and touch OK.

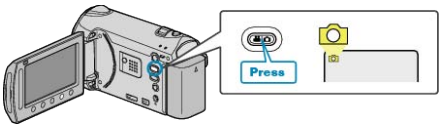
IMAGE QUALITY

Sets the image quality.

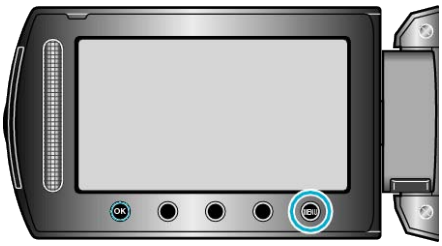
Setting	Details
FINE	Enables recording in high picture quality, but number of recordable images becomes lesser.
STANDARD	Enables recording in standard quality.

Displaying the Item

1 Select still image mode.



2 Touch MENU to display the menu.



3 Select “IMAGE QUALITY” and touch OK.

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GAIN UP

Makes the subject appear bright automatically when recording in dark places.

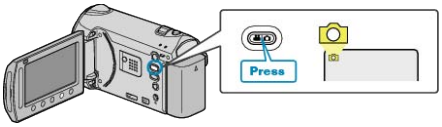
Setting	Details
OFF	Deactivates the function.
AGC	Electrically brightens the scene when it is dark.

NOTE:

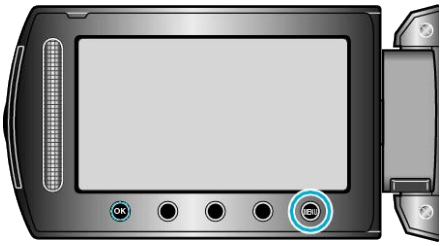
- Setting can be adjusted separately for videos.

Displaying the Item

1 Select still image mode.



2 Touch (MENU) to display the menu.



3 Select “GAIN UP” and touch (OK).

AUTO REC

Records automatically by sensing the changes in brightness.
Operating Details
"Recording Automatically by Sensing Movements (AUTO REC)" (☞ P.33)

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Manual Settings Menu

Recording settings can be adjusted manually.

NOTE:

- They are displayed only when recording in the manual mode.

Setting	Details
SCENE SELECT	Settings to suit the shooting condition can be selected. "Scene Selection" (☞ P.25)
FOCUS	Focus can be adjusted manually. "Adjusting Focus Manually" (☞ P.26)
FOCUS ASSIST	Focused subject is outlined in color for more precise focus. "Using Focus Assist" (☞ P.26)
BRIGHTNESS ADJUST	Adjusts the overall brightness of the screen. "Adjusting Brightness" (☞ P.27)
WHITE BALANCE	Adjusts the color according to the light source. "Setting White Balance" (☞ P.27)
BACKLIGHT COMP.	Corrects the image when the subject appears dark due to backlight. "Setting Backlight Compensation" (☞ P.28)
METERING AREA/ TYPE	Enables you to adjust the brightness in the desired area. "Setting Metering Area" (☞ P.28)
EFFECT	Records videos or still images with special effects such as sepia or black and white. "Recording with Effects" (☞ P.29)
TELE MACRO	Enables close-up shots when using the telephoto (T) end of the zoom. "Taking Close-up Shots" (☞ P.29)

SCENE SELECT

Settings to suit the shooting condition can be selected.
Operating Details
"Scene Selection" (☞ P.25)

FOCUS

Focus can be adjusted automatically or manually.
Operating Details
"Adjusting Focus Manually" (☞ P.26)

FOCUS ASSIST

Focused subject is outlined in color for more precise focus.
Operating Details
"Using Focus Assist" (☞ P.26)

BRIGHTNESS ADJUST

Adjusts the overall brightness of the screen.
Operating Details
"Adjusting Brightness" (☞ P.27)

WHITE BALANCE

Adjusts the color according to the light source.
Operating Details
"Setting White Balance" (☞ P.27)

BACKLIGHT COMP.

Corrects the image when the subject appears dark due to backlight.
Operating Details
"Setting Backlight Compensation" (☞ P.28)

METERING AREA/TYPE

Enables you to adjust the brightness in the desired area.
Operating Details
"Setting Metering Area" (☞ P.28)

EFFECT

Records videos or still images with special effects such as sepia or black and white.
Operating Details
"Recording with Effects" (☞ P.29)

TELE MACRO

Enables close-up shots when using the telephoto (T) end of the zoom.
Operating Details
"Taking Close-up Shots" (☞ P.29)

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Playback Menu (Video)

You can delete or look for specific videos.

Setting	Details
DELETE	Deletes unwanted videos. "Deleting the Currently Displayed File" (☞ P.44) "Deleting Selected Files" (☞ P.45) "Deleting All Files" (☞ P.46)
PICTURE TITLE (GZ-HM320)	Create a playlist simply by selecting a recording date and a title screen from the list. "Creating a Playlist with Title (GZ-HM320)" (☞ P.56)
SEARCH	Refines the index screen of videos according to group, recording date, or event. "Group Search" (☞ P.40) "Search Date" (☞ P.40) "Search Event" (☞ P.41)
PLAYBACK PLAYLIST	Play back the playlists that you have created. "Playing Back Playlists" (☞ P.44)
EDIT PLAYLIST	Creates or edits a playlist. "Creating Playlists from the Recorded Videos" (☞ P.57)
PLAYBACK OTHER FILE	Plays videos with defective management information. "Playing a Video with Defective Management Information" (☞ P.37)
EDIT	• COPY Copies files to another media. "Copying All Files" (☞ P.65) "Copying Selected Files" (☞ P.66) • MOVE Moves files to another media. "Moving All Files" (☞ P.67) "Moving Selected Files" (☞ P.68) • PROTECT/CANCEL Protects files from being deleted accidently. "Protecting the Currently Displayed File" (☞ P.47) "Protecting Selected Files" (☞ P.48) "Protecting All Files" (☞ P.49) "Releasing Protection of All Files" (☞ P.49) • DIVIDE Divides a selected video into two. "Dividing Files" (☞ P.52) • TRIMMING Select the required part of a video and save it as a new video file. "Capturing a Required Part in the Video" (☞ P.54) • CHANGE EVENT REG. Changes the event that is registered. "Changing the Event of the Currently Displayed File" (☞ P.50) "Changing the Event of the Selected Files" (☞ P.51)
SEAMLESS REC CTRL	Videos that are recorded on two separate media and with “SEAMLESS RECORDING” in the video recording menu enabled can be combined into a single video. "Combining Videos Recorded by Seamless Recording" (☞ P.64)
WIPE/FADER	Adds effects at the beginning and end of recorded videos. "Playback with Special Effects" (☞ P.38)
ON-SCREEN DISPLAY	Sets whether to show on-screen displays such as icons during playback. "ON-SCREEN DISPLAY" (☞ P.91)

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DELETE

Deletes unwanted videos.
Operating Details
"Deleting the Currently Displayed File" (☞ P.44)
"Deleting Selected Files" (☞ P.45)
"Deleting All Files" (☞ P.46)

PICTURE TITLE (GZ-HM320)

Create a playlist simply by selecting a recording date and a title screen from the list.
Operating Details
"Creating a Playlist with Title (GZ-HM320)" (☞ P.56)

SEARCH

Refines the index screen of videos according to group, recording date, or event.
Operating Details
"Group Search" (☞ P.40)
"Search Date" (☞ P.40)
"Search Event" (☞ P.41)

PLAYBACK PLAYLIST

Play back the playlists that you have created.
Operating Details
"Playing Back Playlists" (☞ P.44)

EDIT PLAYLIST

A list in which your favorite videos are arranged is called a playlist.
By creating a playlist, you can play back only your favorite videos in the order you like.
The original video file remains even when it is registered to a playlist.
Operating Details
"Creating Playlists from the Recorded Videos" (☞ P.57)

PLAYBACK OTHER FILE

Plays videos with defective management information.
Operating Details
"Playing a Video with Defective Management Information" (☞ P.37)

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EDIT

You can perform operations such as copying or protecting videos.

Setting	Details
COPY	Copies files to another media. "Copying All Files" (☞ P.65) "Copying Selected Files" (☞ P.66)
MOVE	Moves files to another media. "Moving All Files" (☞ P.67) "Moving Selected Files" (☞ P.68)
PROTECT/CANCEL	Protects files from being deleted accidently. "Protecting the Currently Displayed File" (☞ P.47) "Protecting Selected Files" (☞ P.48) "Protecting All Files" (☞ P.49) "Releasing Protection of All Files" (☞ P.49)
DIVIDE	Divides a selected video into two. "Dividing Files" (☞ P.52)
TRIMMING	Select the required part of a video and save it as a new video file. "Capturing a Required Part in the Video" (☞ P.54)
CHANGE EVENT REG.	Changes the event that is registered. "Changing the Event of the Currently Displayed File" (☞ P.50) "Changing the Event of the Selected Files" (☞ P.51)

COPY

Copies files to another media.
Operating Details
"Copying All Files" (☞ P.65)
"Copying Selected Files" (☞ P.66)

MOVE

Moves files to another media.
Operating Details
"Moving All Files" (☞ P.67)
"Moving Selected Files" (☞ P.68)

PROTECT/CANCEL

Protects files from being deleted accidently.
Operating Details
"Protecting the Currently Displayed File" (☞ P.47)
"Protecting Selected Files" (☞ P.48)
"Protecting All Files" (☞ P.49)
"Releasing Protection of All Files" (☞ P.49)

DIVIDE

Divides a selected video into two.
Operating Details
"Dividing Files" (☞ P.52)

TRIMMING

Select the required part of a video and save it as a new video file.
Operating Details
"Capturing a Required Part in the Video" (☞ P.54)

CHANGE EVENT REG.

Changes the event that is registered.
Operating Details
"Changing the Event of the Currently Displayed File" (☞ P.50)
"Changing the Event of the Selected Files" (☞ P.51)

SEAMLESS REC CTRL

Videos that are recorded on two separate media and with “SEAMLESS RECORDING” in the video recording menu enabled can be combined into a single video.
Operating Details
"Combining Videos Recorded by Seamless Recording" (☞ P.64)

WIPE/FADER

Adds effects at the beginning and end of recorded videos.
Operating Details
"Playback with Special Effects" (☞ P.38)

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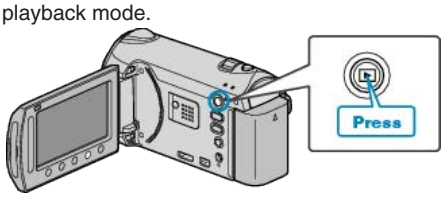
ON-SCREEN DISPLAY

Sets whether to show on-screen displays such as icons during playback.

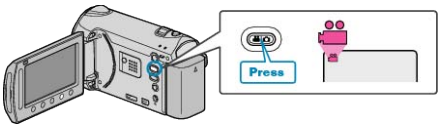
Setting	Details
OFF	No display at all.
DISPLAY ALL	Displays everything.
DISPLAY DATE ONLY	Displays the date only.

Displaying the Item

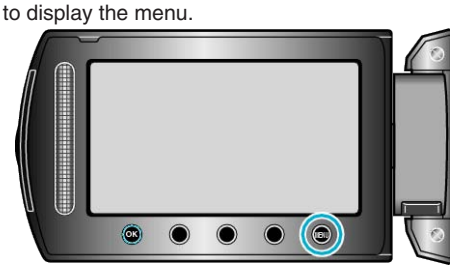
1 Select the playback mode.



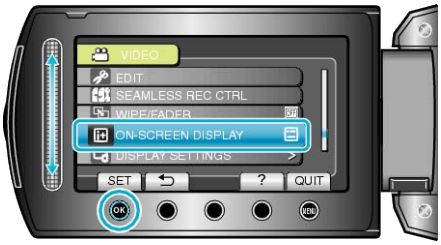
2 Select video mode.



3 Touch MENU to display the menu.



4 Select “ON-SCREEN DISPLAY” and touch OK.



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Playback Menu (Still Image)

You can delete or look for specific still images.

Setting	Details
DELETE	Deletes unwanted still images. "Deleting the Currently Displayed File" (☞ P.44) "Deleting Selected Files" (☞ P.45) "Deleting All Files" (☞ P.46)
SEARCH DATE	You can search and play still images according to recording dates. "Search Date" (☞ P.40)
EDIT	• COPY Copies files to another media. "Copying All Files" (☞ P.65) "Copying Selected Files" (☞ P.66) • MOVE Moves files to another media. "Moving All Files" (☞ P.67) "Moving Selected Files" (☞ P.68) • PROTECT/CANCEL Protects files from being deleted accidently. "Protecting the Currently Displayed File" (☞ P.47) "Protecting Selected Files" (☞ P.48) "Protecting All Files" (☞ P.49) "Releasing Protection of All Files" (☞ P.49)
SLIDE SHOW EFFECTS	Effects can be added to the transitions in slideshow playback. "SLIDE SHOW EFFECTS" (☞ P.93)
ON-SCREEN DISPLAY	Sets whether to show on-screen displays such as icons during playback. "ON-SCREEN DISPLAY" (☞ P.93)

DELETE

Deletes unwanted still images.
Operating Details
"Deleting the Currently Displayed File" (☞ P.44)
"Deleting Selected Files" (☞ P.45)
"Deleting All Files" (☞ P.46)

SEARCH DATE

You can search and play still images according to recording dates.
Operating Details
"Search Date" (☞ P.40)

EDIT

You can perform operations such as copying or protecting still images.

Setting	Details
COPY	Copies files to another media. "Copying All Files" (☞ P.65) "Copying Selected Files" (☞ P.66)
MOVE	Moves files to another media. "Moving All Files" (☞ P.67) "Moving Selected Files" (☞ P.68)
PROTECT/CANCEL	Protects files from being deleted accidently. "Protecting the Currently Displayed File" (☞ P.47) "Protecting Selected Files" (☞ P.48) "Protecting All Files" (☞ P.49) "Releasing Protection of All Files" (☞ P.49)

COPY

Copies files to another media.
Operating Details
"Copying All Files" (☞ P.65)
"Copying Selected Files" (☞ P.66)

MOVE

Moves files to another media.
Operating Details
"Moving All Files" (☞ P.67)
"Moving Selected Files" (☞ P.68)

PROTECT/CANCEL

Protects files from being deleted accidently.
Operating Details
"Protecting the Currently Displayed File" (☞ P.47)
"Protecting Selected Files" (☞ P.48)
"Protecting All Files" (☞ P.49)
"Releasing Protection of All Files" (☞ P.49)

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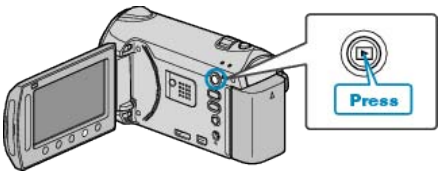
SLIDE SHOW EFFECTS

Effects can be added to the transitions in slideshow playback.

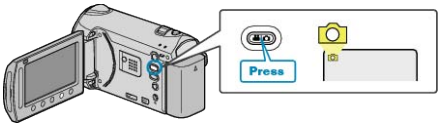
Setting	Details
SLIDE	Switches the screen by sliding in from right to left.
BLINDS	Switches the screen by dividing into vertical strips.
CHECKER-BOARD	Switches the screen by changing through a checkered pattern.
RANDOM	Switches the screen with a random effect from “SLIDE”, “BLINDS”, and “CHECKERBOARD”.

Displaying the Item

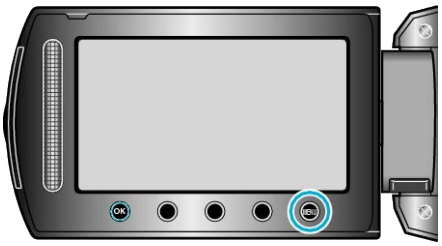
1 Select the playback mode.



2 Select still image mode.



3 Touch (MENU) to display the menu.



4 Select “SLIDE SHOW EFFECTS” and touch (OK).

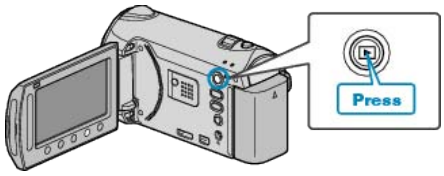
ON-SCREEN DISPLAY

Sets whether to show on-screen displays such as icons during playback.

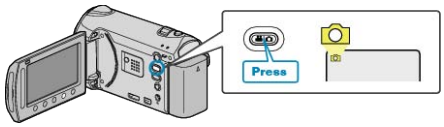
Setting	Details
OFF	No display at all.
DISPLAY ALL	Displays everything.
DISPLAY DATE ONLY	Displays the date only.

Displaying the Item

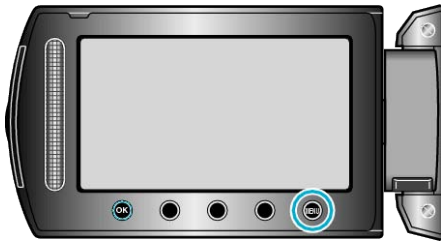
1 Select the playback mode.



2 Select still image mode.



3 Touch (MENU) to display the menu.



4 Select “ON-SCREEN DISPLAY” and touch (OK).

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Display Settings Menu

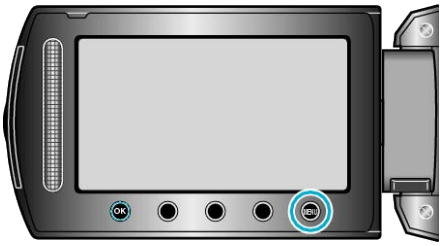
You can adjust various display settings such as the LCD monitor's brightness, etc.

Setting	Details
LANGUAGE	The language on the display can be changed. "LANGUAGE" (☞ P.94)
DATE DISPLAY STYLE	Sets the order of year, month, day and the time display format (24H/12H). "DATE DISPLAY STYLE" (☞ P.94)
MONITOR BRIGHTNESS	Sets the brightness of the LCD monitor. "MONITOR BRIGHTNESS" (☞ P.95)
LCD BACKLIGHT	Sets the brightness of the backlight of the monitor. "LCD BACKLIGHT" (☞ P.96)
FOCUS ASSIST COLOR	Sets the color of the outline of a focused object when Focus Assist is used. "FOCUS ASSIST COLOR" (☞ P.96)

LANGUAGE

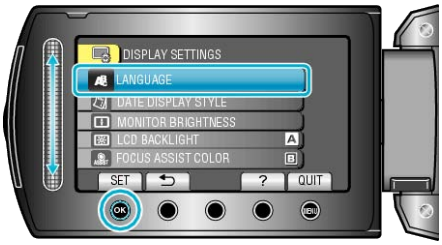
The language on the display can be changed.

1 Touch MENU to display the menu.



2 Select “DISPLAY SETTINGS” and touch OK.

3 Select “LANGUAGE” and touch OK.

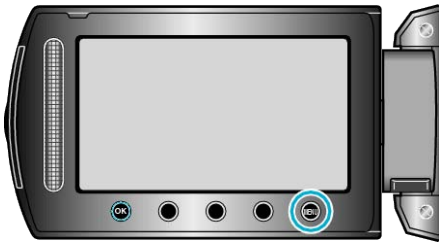


4 Select the desired language and touch OK.

DATE DISPLAY STYLE

Sets the order of year, month, day and the time display format (24H/12H).

1 Touch MENU to display the menu.



2 Select “DISPLAY SETTINGS” and touch OK.

3 Select “DATE DISPLAY STYLE” and touch OK.

4 Set the style of date and time display.

- For date display, set to any format from “month.day.year”, “year.month.day”, and “day.month.year”.
- For time display, set to any format from “12h” and “24h”.
- Touch the operation buttons "←" / "→" to move the cursor.
- After setting, touch OK.

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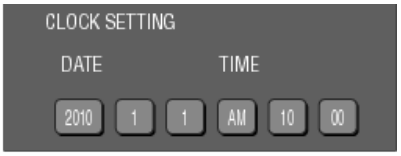
Clock Set Style

The clock set style of this unit varies with the models.

A



B

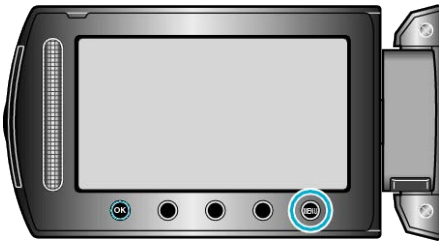
C

- The order of "Year, Month, Day, Time" changes according to the date display style.

MONITOR BRIGHTNESS

Sets the brightness of the LCD monitor.

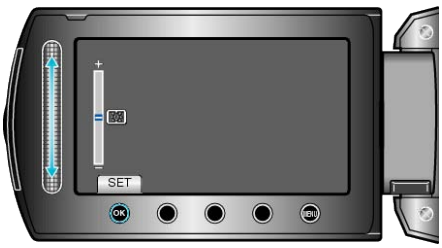
1 Touch MENU to display the menu.



2 Select “DISPLAY SETTINGS” and touch OK.

3 Select “MONITOR BRIGHTNESS” and touch OK.

4 Adjust the brightness of the monitor.



- Slide upward to increase the brightness.
- Slide downward to decrease the brightness.
- After setting, touch OK.

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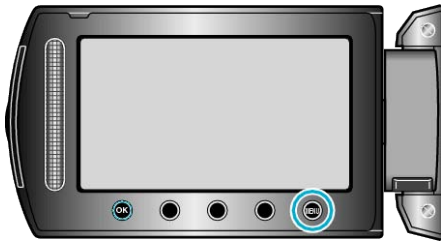
LCD BACKLIGHT

Sets the brightness of the backlight of the monitor.

Setting	Details
BRIGHTER	Brightens the backlight of the monitor regardless of the surrounding conditions.
STANDARD	Helps to save battery life when selected.
AUTO	Sets the brightness automatically to “BRIGHTER” when using outdoors and to “STANDARD” when using indoors.

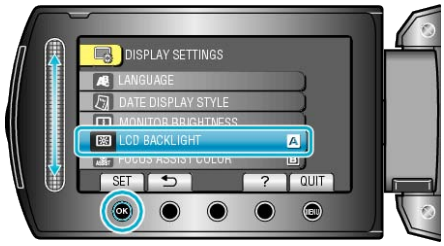
Displaying the Item

1 Touch MENU to display the menu.



2 Select “DISPLAY SETTINGS” and touch OK.

3 Select “LCD BACKLIGHT” and touch OK.



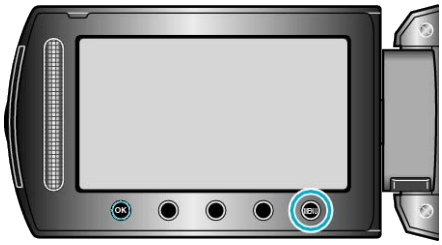
FOCUS ASSIST COLOR

Sets the color of the outline of a focused object when Focus Assist is used.

Setting	Details
RED	Outlines the focused object in red.
GREEN	Outlines the focused object in green.
BLUE	Outlines the focused object in blue.

Displaying the Item

1 Touch MENU to display the menu.



2 Select “DISPLAY SETTINGS” and touch OK.

3 Select “FOCUS ASSIST COLOR” and touch OK.

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CLOCK ADJUST

Resets the current time or sets to the local time when using this unit overseas.

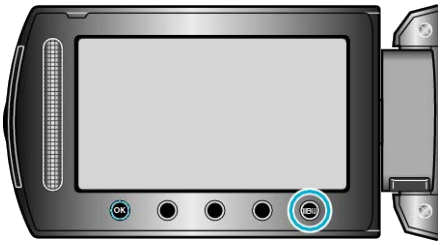
Setting	Details
CLOCK SETTING	Resets the current time or changes the settings. "Resetting the Clock" (☞ P.15)
AREA SETTING	Sets to the local time when using this unit overseas simply by selecting the destination. "Setting the Clock to Local Time when Traveling" (☞ P.17)
SET FOR DAYLIGHT SAVING TIME	Sets whether daylight saving time is observed at the travel destination. "Setting Daylight Saving Time" (☞ P.18)

NOTE:

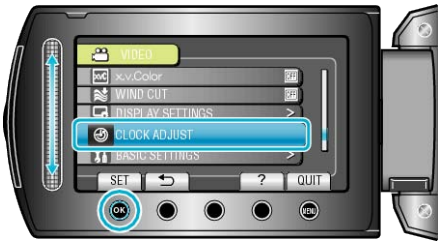
- Daylight saving time is the system of setting the clock 1 hour ahead for a fixed period in summer.
  It is used mainly in the Western countries.

Changing the Setting

1 Touch MENU to display the menu.



2 Select “CLOCK ADJUST” and touch OK.



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Basic Settings Menu

You can adjust various camera settings such as operation sound, etc.

Setting	Details
DEMO MODE	Introduces the special features of this unit in digest form. "DEMO MODE" (☞ P.99)
AUTO POWER OFF	Prevents the situation of forgetting to turn off the power when this is set. "AUTO POWER OFF" (☞ P.99)
OPERATION SOUND	Turns on or off the operation sound. "OPERATION SOUND" (☞ P.100)
RECORD BUTTON	Displays the REC button on the LCD monitor and enables it to be used as the START/STOP button. "RECORD BUTTON" (☞ P.100)
QUICK RESTART	Reduces the power consumption within 5 minutes after the LCD monitor is closed to 1/3 of that used during recording. "QUICK RESTART" (☞ P.101)
UPDATE	Updates the functions of this unit to the latest version. "UPDATE" (☞ P.101)
FACTORY PRESET	Returns all the settings to their default values. "FACTORY PRESET" (☞ P.102)

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DEMO MODE

Starts playback of the demo mode which introduces the features of this unit.

Setting	Details
OFF	Deactivates the function.
ON	Plays a demonstration of the special features of this unit.

Displaying Demo Mode

① Remove the battery pack and SD card.
② Connect the AC adapter.
③ Open the LCD monitor and turn on the power.

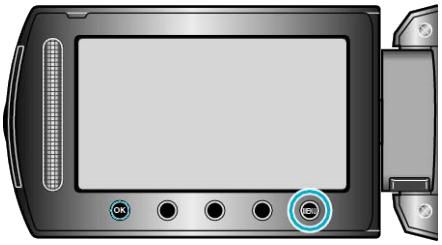
- Demonstration starts playing after 3 minutes.
- To stop playback, touch ⓞⓚ.

NOTE:

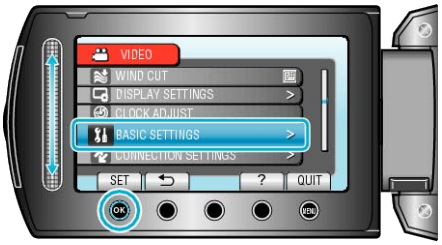
- This mode is not available in the playback mode.

Displaying the Item

1 Touch ⓜⓔⓝⓤ to display the menu.



2 Select “BASIC SETTINGS” and touch ⓞⓚ.



3 Select “DEMO MODE” and touch ⓞⓚ.

AUTO POWER OFF

Prevents the situation of forgetting to turn off the power when this is set.

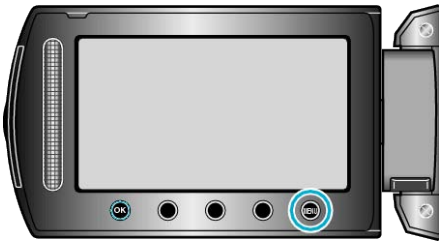
Setting	Details
OFF	Power is not turned off even if this unit is not operated for 5 minutes.
ON	Turns off the power automatically if this unit is not operated for 5 minutes.

NOTE:

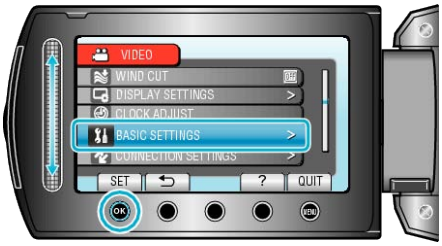
- When using battery, power is turned off automatically if this unit is not operated for 5 minutes.
- When using the AC adapter, this unit goes into standby mode.

Displaying the Item

1 Touch ⓜⓔⓝⓤ to display the menu.



2 Select “BASIC SETTINGS” and touch ⓞⓚ.



3 Select “AUTO POWER OFF” and touch ⓞⓚ.

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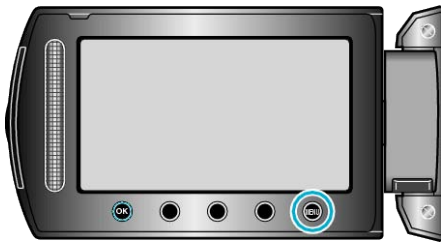
OPERATION SOUND

Turns on or off the operation sound.

Setting	Details
OFF	Turns off the operation sound.
ON	Turns on the operation sound.

Displaying the Item

1 Touch MENU to display the menu.



2 Select “BASIC SETTINGS” and touch OK.

3 Select “OPERATION SOUND” and touch OK.

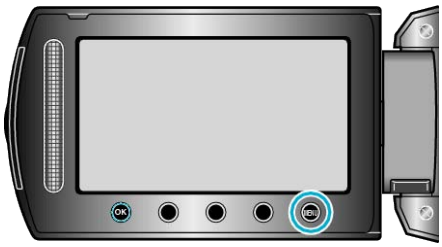
RECORD BUTTON

Displays the "REC" button on the LCD monitor and enables it to be used as the START/STOP button.

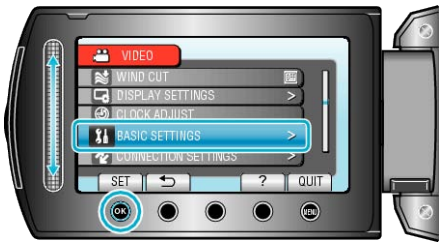
Setting	Details
OFF	No display.
ON	Displays the REC button on the LCD monitor.

Displaying the Item

1 Touch MENU to display the menu.



2 Select “BASIC SETTINGS” and touch OK.



3 Select “RECORD BUTTON” and touch OK.

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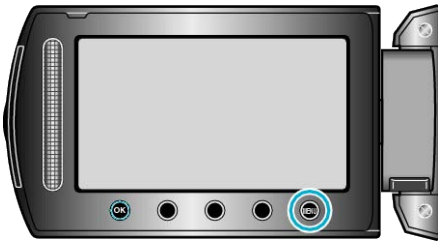
QUICK RESTART

Enables recording to be performed immediately when the LCD monitor is opened.

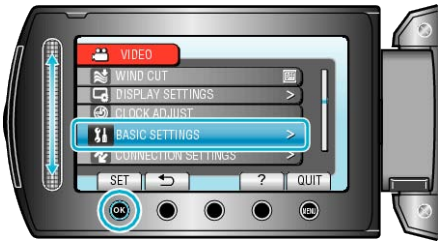
Setting	Details
OFF	Deactivates the function.
ON	Enables the power to turn on quickly when the LCD monitor is opened again within 5 minutes.

Displaying the Item

1 Touch MENU to display the menu.



2 Select “BASIC SETTINGS” and touch OK.



3 Select “QUICK RESTART” and touch OK.

- The power consumption within 5 minutes after the LCD monitor is closed is reduced to 1/3 of that used during recording.

UPDATE

Updates the functions of this unit to the latest version.
For details, refer to the JVC homepage.
(When no program to update the software of this unit is available, nothing will be provided on the homepage.)

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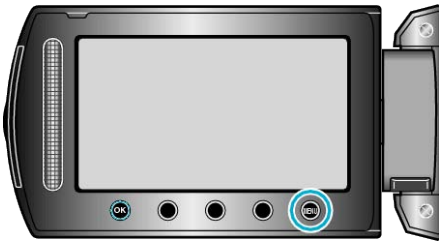
FACTORY PRESET

Returns all the settings to their default values.

1 Touch MENU to display the menu.



2 Select “BASIC SETTINGS” and touch OK.

3 Select “FACTORY PRESET” and touch OK.

4 Select “YES” and touch OK.

- All settings return to their default values.

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Connection Settings Menu

You can adjust various settings for connecting to a TV or DVD recorder.

Setting	Details
DISPLAY ON TV	Displays icons and date/time on a TV screen. "DISPLAY ON TV" (☞ P.103)
VIDEO OUTPUT	Sets the aspect ratio (16:9 or 4:3) according to the connecting TV. "VIDEO OUTPUT" (☞ P.103)
COMPONENT OUTPUT	Sets the definition of the video output from the COMPONENT connector. "COMPONENT OUTPUT" (☞ P.104)
HDMI OUTPUT	Sets the definition of the video output from the HDMI mini connector. "HDMI OUTPUT" (☞ P.104)
HDMI CONTROL	Sets the linked operations ON/OFF when the TV and this unit are connected using the HDMI mini connector. "HDMI CONTROL" (☞ P.105)

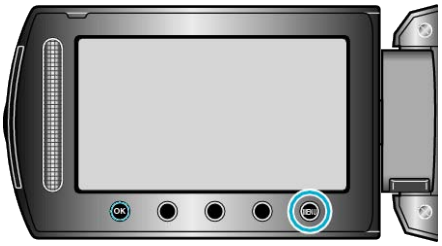
DISPLAY ON TV

Displays icons and date/time on a TV screen.

Setting	Details
OFF	Does not display icons and date/time on TV.
ON	Displays icons and date/time on TV.

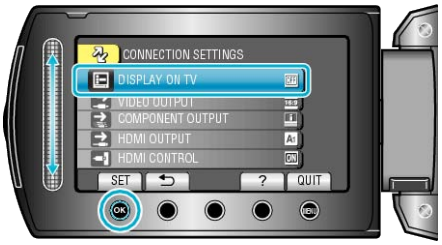
Displaying the Item

1 Touch MENU to display the menu.



2 Select “CONNECTION SETTINGS” and touch OK.

3 Select “DISPLAY ON TV” and touch OK.



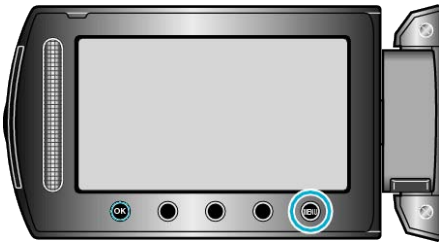
VIDEO OUTPUT

Sets the aspect ratio (16:9 or 4:3) according to the connecting TV.

Setting	Details
16:9	Select this when connecting to a widescreen TV (16:9).
4:3	Select this when connecting to a conventional TV (4:3).

Displaying the Item

1 Touch MENU to display the menu.



2 Select “CONNECTION SETTINGS” and touch OK.

3 Select “VIDEO OUTPUT” and touch OK.

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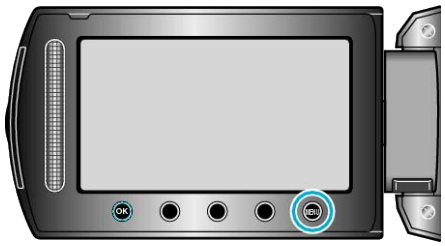
COMPONENT OUTPUT

Sets the definition of the video output from the COMPONENT connector.

Setting	Details
480i	Outputs at 480i or 480p.
1080i	Outputs at 1080i or 720p.

Displaying the Item

1 Touch MENU to display the menu.



2 Select “CONNECTION SETTINGS” and touch OK.

3 Select “COMPONENT OUTPUT” and touch OK.

HDMI OUTPUT

Sets the definition of the video output from the HDMI mini connector.

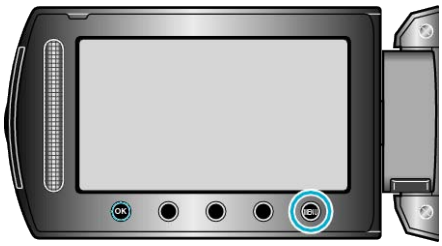
Setting	Details
AUTO 1	It is recommended to select “AUTO 1” usually.
AUTO 2	Select this when the video is not output in “AUTO 1” correctly.
480p	Select this when the video is not output in “AUTO 2” correctly.

NOTE:

- "1080P" will be displayed on the LCD monitor if a 1080p compatible TV is connected to this unit in playback mode.

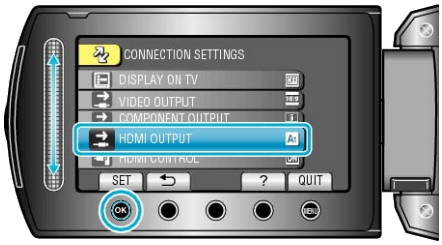
Displaying the Item

1 Touch MENU to display the menu.



2 Select “CONNECTION SETTINGS” and touch OK.

3 Select “HDMI OUTPUT” and touch OK.



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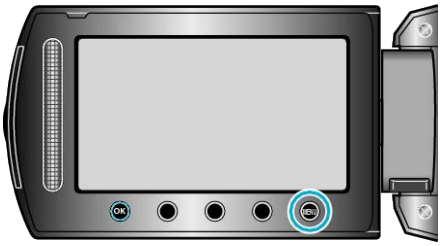
HDMI CONTROL

Sets the linked operations ON/OFF when the TV and this unit are connected using the HDMI mini connector.

Setting	Details
OFF	Turns off linked operations.
ON	Turns on linked operations.

Displaying the Item

1 Touch MENU to display the menu.



2 Select “CONNECTION SETTINGS” and touch OK.

3 Select “HDMI CONTROL” and touch OK.

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Media Settings Menu

You can perform various settings for the recording media.

Setting	Details
REC MEDIA FOR VIDEO	Sets the recording/playback media of videos. "REC MEDIA FOR VIDEO (GZ-HM320)" (☞ P.106)
VIDEO SLOT SELECTION	Sets the recording/playback SD slot of videos. "VIDEO SLOT SELECTION (GZ-HM300)" (☞ P.106)
REC MEDIA FOR IMAGE	Sets the recording/playback media of still images. "REC MEDIA FOR IMAGE (GZ-HM320)" (☞ P.107)
IMAGE SLOT SELECTION	Sets the recording/playback SD slot of still images. "IMAGE SLOT SELECTION (GZ-HM300)" (☞ P.107)
FORMAT BUILT-IN MEM.	Deletes all files on the built-in memory. "FORMAT BUILT-IN MEM. (GZ-HM320)" (☞ P.107)
FORMAT SD CARD	Deletes all files on the SD card. "FORMAT SD CARD" (☞ P.108)
ERASE ALL DATA	Execute this process when disposing of this unit or passing it to another person. "ERASE ALL DATA (GZ-HM320)" (☞ P.108)

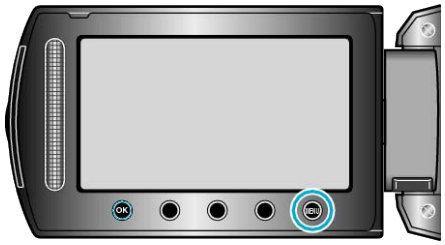
REC MEDIA FOR VIDEO (GZ-HM320)

Sets the recording/playback media of videos.

Setting	Details
HDD	Records videos to this unit's HDD.
SD	Records videos to the SD card.

Displaying the Item

1 Touch MENU to display the menu.



2 Select “MEDIA SETTINGS” and touch OK.

3 Select “REC MEDIA FOR VIDEO”, and touch OK.

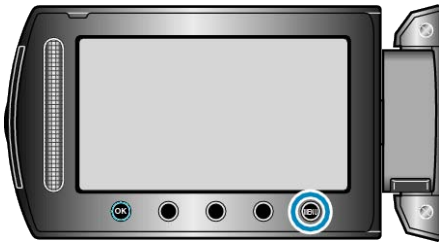
VIDEO SLOT SELECTION (GZ-HM300)

Sets the recording/playback media of videos.

Setting	Details
SLOT A	Records videos to the SD card in slot A.
SLOT B	Records videos to the SD card in slot B.

Displaying the Item

1 Touch MENU to display the menu.



2 Select “MEDIA SETTINGS” and touch OK.

3 Select “VIDEO SLOT SELECTION” and touch OK.

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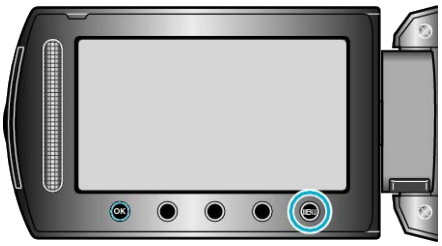
REC MEDIA FOR IMAGE (GZ-HM320)

Sets the recording/playback media of still images.

Setting	Details
HDD	Records still images to this unit's HDD.
SD	Records still images to the SD card.

Displaying the Item

1 Touch MENU to display the menu.



2 Select “MEDIA SETTINGS” and touch OK.

3 Select “REC MEDIA FOR IMAGE” and touch OK.

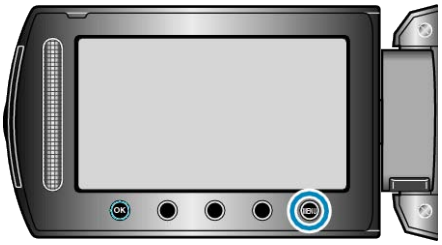
IMAGE SLOT SELECTION (GZ-HM300)

Sets the recording/playback media of still images.

Setting	Details
SLOT A	Records still images to the SD card in slot A.
SLOT B	Records still images to the SD card in slot B.

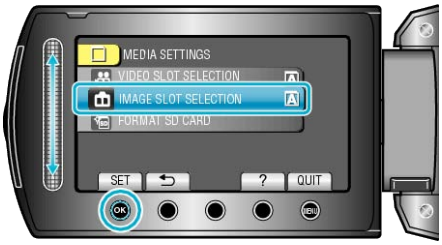
Displaying the Item

1 Touch MENU to display the menu.



2 Select “MEDIA SETTINGS” and touch OK.

3 Select “IMAGE SLOT SELECTION” and touch OK.



FORMAT BUILT-IN MEM. (GZ-HM320)

Deletes all files on the built-in memory.

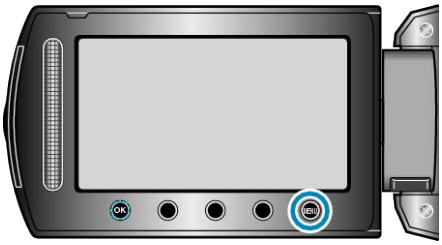
Setting	Details
FILE	Deletes all files on the built-in memory.
FILE + MANAGE-MENT NO	Deletes all files on the internal memory and resets the folder and file numbers to "1".

CAUTION:

- All data on the built-in memory will be deleted when it is formatted. Copy all files on the built-in memory to a PC before formatting.
- Make sure that the battery pack is fully charged or connect the AC adapter as the formatting process may take some time.

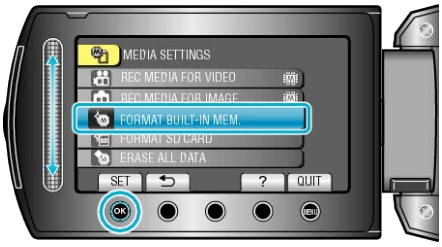
Displaying the Item

1 Touch MENU to display the menu.



2 Select “MEDIA SETTINGS” and touch OK.

3 Select “FORMAT BUILT-IN MEM.” and touch OK.



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FORMAT SD CARD

Deletes all files on the SD card.

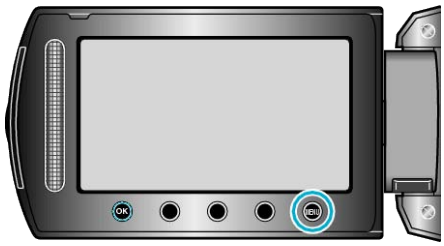
Setting	Details
FILE	Deletes all files on the SD card.
FILE + MANAGEMENT NO	Deletes all files on the SD card and resets the folder and file numbers to "1".

CAUTION:

- Not available for selection when no SD card is inserted.
- All data on the card will be deleted when it is formatted. Copy all files on the card to a PC before formatting.
- Make sure that the battery pack is fully charged or connect the AC adapter as the formatting process may take some time.
- Format a newly purchased SD card with this unit before use.

Displaying the Item

1 Touch MENU to display the menu.



2 Select “MEDIA SETTINGS” and touch OK.

3 Select “FORMAT SD CARD” and touch OK.

4 Select the setting and touch OK.

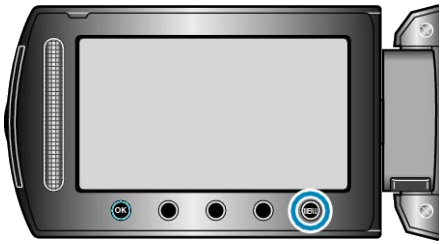
5 Select “YES” and touch OK.

- After formatting, touch OK.

ERASE ALL DATA (GZ-HM320)

Execute this process when disposing of this unit or passing it to another person.

1 Touch MENU to display the menu.



2 Select “MEDIA SETTINGS” and touch OK.

3 Select “ERASE ALL DATA” and touch OK.

4 Select “YES” and touch OK.

- After deleting the data, touch OK.

CAUTION:

- Connect the AC adapter as it may take some time to delete data.

NOTE:

- Repeat the process to make data restoration even more difficult.

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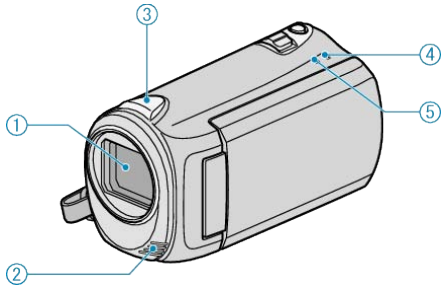


1 Lens

- Do not touch the lens and lens cover.
- Do not cover the lens with your fingers during video recording.

"Attaching the Lens Cap" (☞ P.16)

2 Stereo Microphone

- Do not cover the microphone with your fingers during video recording.

3 Camera Sensor

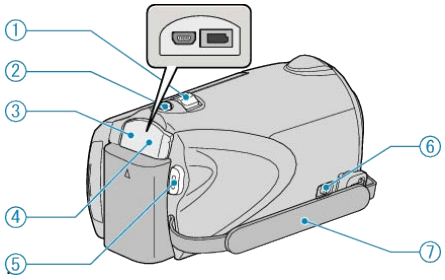
- Do not cover the sensor with your fingers during video recording.

4 POWER/CHARGE Lamp

- Lights up: Power "ON"
- Blinks: Charging in progress
- Goes out: Charging finished

5 ACCESS Lamp

- Recording or playback is in progress when the lamp lights up or blinks.
- Do not remove the battery pack, AC adapter, or SD card.



1 Zoom/Volume Lever

- During shooting: Adjusts the shooting range.
- During playback (index screen): Changes the number of images to display.
- During video playback: Adjusts the volume.

2 SNAPSHOT (Still image recording) Button

- Takes a still image.

3 USB Terminal

- Connects to PC using a USB cable.

4 DC Terminal

- Connects to an AC adapter to charge the battery.

5 START/STOP (Video recording) Button

- Starts/stops video recording.

6 Grip Belt Release Lever

- Allows the grip belt to be removed and used as a hand strap.

7 Grip Belt

- Pass your hand through the grip belt to hold this unit firmly.

"Holding this Unit" (☞ P.15)

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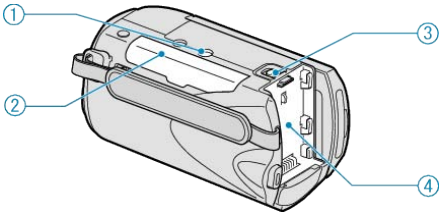


1 Tripod Mounting Hole

"Tripod Mounting" (☞ P.16)

2 SD Card Slot

- Insert an optional SD card.

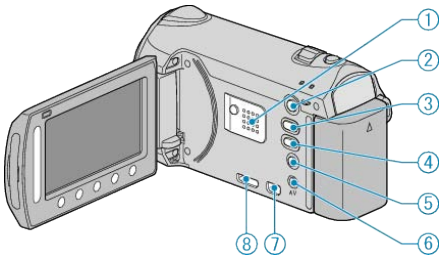
"Inserting an SD Card (NAND/SD Models)" (☞ P.12)
"Inserting an SD Card (SD/SD Models)" (☞ P.13)

3 Battery Release Lever

"Charging the Battery Pack" (☞ P.11)

4 Battery Mount

"Charging the Battery Pack" (☞ P.10)



1 Speaker

- Outputs audio sound during video playback.

2 ▶ (Play) Button

- Switches between the recording and playback modes.

3 🎥 / 📷 (Video/Still Image) Button

- Switches between video and still image.

4 UPLOAD Button

- Recording: Takes videos in YouTube™ format.
- Playback: Changes the video to YouTube™ format.

5 ⏻ (Power/Info) Button

- Recording: Displays the remaining time (for video only) and battery power.
- Playback: Displays file information such as recording date.
- Press and hold to turn the power on/off while the LCD monitor is opened.

6 AV Terminal

- Connects to a TV.

7 COMPONENT Terminal

- Connects to a TV.

8 HDMI Terminal

- Connects to an HDMI TV.

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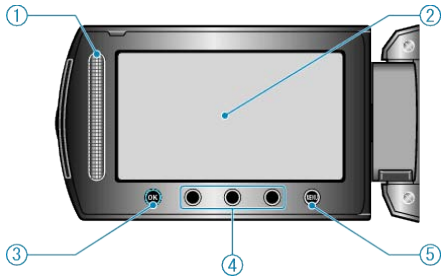


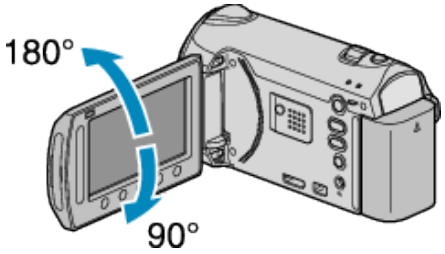
1 Slider
LASER TOUCH OPERATION

- Selects items or images from the menu or index screen.

"Using the Operation Buttons" (☞ P.15)

2 LCD Monitor

- Turns the power on/off by opening and closing.
- Enables self-portraits to be taken by rotating the monitor.



3 OK Button

- Confirms the selected item or image.

4 Operation Buttons

- Functions of the operation buttons may be displayed.

5 MENU Button

- Displays the settings menu.

CAUTION:

- Do not press against the surface with force or subject it to strong impact.
  Doing so may damage or break the screen.

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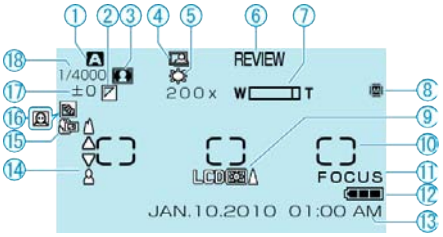


1 Recording Mode
"Taking Videos in Auto Mode" (☞ P.19)
"Manual Recording" (☞ P.24)

2 Effect
"EFFECT" (☞ P.87)

3 Scene Select
"SCENE SELECT" (☞ P.87)

4 Auto REC
"Recording Automatically by Sensing Movements (AUTO REC)" (☞ P.33)

5 White Balance
"WHITE BALANCE" (☞ P.87)

6 Quick Review
"Taking Videos in Auto Mode" (☞ P.19)
"Taking Still Images in Auto Mode" (☞ P.22)

7 Zoom
"ZOOM" (☞ P.80)

8 Media
"REC MEDIA FOR VIDEO (GZ-HM320)" (☞ P.106)
"REC MEDIA FOR IMAGE (GZ-HM320)" (☞ P.107)

9 Monitor Backlight
"LCD BACKLIGHT" (☞ P.96)

10 Metering Area "SPOT"
"METERING AREA/TYPE" (☞ P.87)

11 Focus Assist
"FOCUS ASSIST" (☞ P.87)

12 Battery Indicator
"Remaining Recording Time/Battery Power" (☞ P.34)

13 Date/Time
"Clock Setting" (☞ P.14)

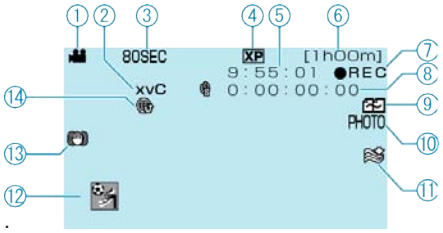
14 Focus
"FOCUS" (☞ P.87)

15 Tele Macro
"TELE MACRO" (☞ P.87)

16 Backlight Compensation
"BACKLIGHT COMP." (☞ P.87)
● : Face Priority AE/AF
"FACE PRIORITY AE/AF" (☞ P.79)

17 Brightness
"BRIGHTNESS ADJUST" (☞ P.87)

18 Shutter Speed



1 Video Mode
"🎥 / 📷 (Video/Still Image) Button" (☞ P.110)

2 x.v.Color
"x.v.Color" (☞ P.81)

3 Time-Lapse Recording
"Recording at Intervals (TIME-LAPSE RECORDING)" (☞ P.31)

4 Video Quality
"VIDEO QUALITY" (☞ P.79)

5 Scene Counter

6 Remaining Recording Time
"Taking Videos in Auto Mode" (☞ P.19)

7 Recording in Progress
"Taking Videos in Auto Mode" (☞ P.19)

8 Time-Lapse Recording Counter

9 Seamless Recording
"SEAMLESS RECORDING" (☞ P.81)

10 Still Image Recording
"Capturing Still Images During Video Recording" (☞ P.21)

11 Wind Cut
"WIND CUT" (☞ P.82)

12 Event Recording
"Registering Files to Events Before Recording" (☞ P.30)

13 Digital Image Stabilizer
"Reducing Camera Shake" (☞ P.21)

14 UPLOAD Recording
"Taking Videos in YouTube™ Format" (☞ P.30)

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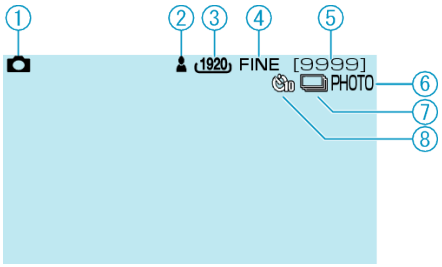


1 Still Image Mode
"🎥 / 📷 (Video/Still Image) Button" (☞ P.110)

2 Focus
"Taking Still Images in Auto Mode" (☞ P.22)

3 Image Size
"IMAGE SIZE" (☞ P.85)

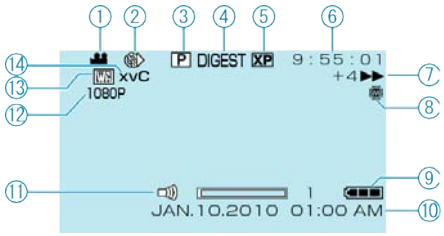
4 Image Quality
"IMAGE QUALITY" (☞ P.85)

5 Remaining Number of Shots
"Taking Still Images in Auto Mode" (☞ P.22)

6 Recording in Progress

7 Continuous Shooting
"SHUTTER MODE" (☞ P.84)

8 Self-Timer
"SELF-TIMER" (☞ P.83)



1 Video Mode
"🎥 / 📷 (Video/Still Image) Button" (☞ P.110)

2 Time-Lapse Recording
"TIME-LAPSE RECORDING" (☞ P.81)

3 Playlist Playback
"PLAYBACK PLAYLIST" (☞ P.89)

4 Digest Playback
"Checking the Content of Videos Quickly" (☞ P.37)

5 Video Quality
"VIDEO QUALITY" (☞ P.79)

6 Scene Counter

7 Operation Indicator
- The number on the left shows the speed of forward/reverse search.

"Playing Back Videos" (☞ P.36)

8 Media
"REC MEDIA FOR VIDEO (GZ-HM320)" (☞ P.106)

9 Battery Indicator
"Remaining Recording Time/Battery Power" (☞ P.34)

10 Date/Time

11 Speaker Volume Adjustment

12 Output with 1080p
"HDMI OUTPUT" (☞ P.104)

13 Wipe/Fader
"Playback with Special Effects" (☞ P.38)

14 x.v.Color
"x.v.Color" (☞ P.81)

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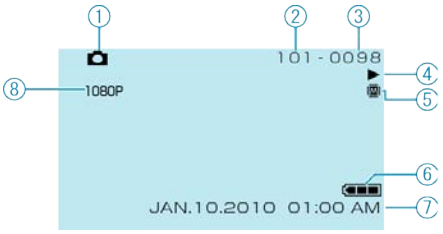

1 Still Image Mode
"🎥 / 📷 (Video/Still Image) Button" (☞ P.110)

2 Folder Number

3 File Number

4 Operation Indicator
"Playing Back Still Images" (☞ P.39)

5 Media
"REC MEDIA FOR IMAGE (GZ-HM320)" (☞ P.107)

6 Battery Indicator
"Remaining Recording Time/Battery Power" (☞ P.34)

7 Date/Time
"Clock Setting" (☞ P.14)

8 Output with 1080p
"HDMI OUTPUT" (☞ P.104)

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Recharge the battery pack.
"Charging the Battery Pack" (☞ P.10)
If the terminal of this unit or the battery pack is dirty, wipe it with a cotton swab or something similar.
If you use any other battery packs besides JVC battery packs, safety and performance can not be guaranteed. Be sure to use JVC battery packs.

Battery deterioration occurs when a battery pack is charged repeatedly. Replace the battery pack with a new one.
"Optional Accessories" (☞ P.18)

When the battery pack is fully charged, the lamp does not flash.
If the terminal of this unit or the battery pack is dirty, wipe it with a cotton swab or something similar.
Using a non-original battery pack may result in damage to this unit. Be sure to use an original battery pack.

Remaining battery power is not displayed when the AC adapter is connected.
If this unit is used for long periods of time in high or low temperatures, or if the battery pack is repeatedly charged, the amount of remaining battery may not be displayed correctly.

Check the START/STOP switch.
"Rear" (☞ P.109)
Set to the recording mode with the ▶ button.
"Interior" (☞ P.110)
Check the 🎥/📷 mode.

Recording stops automatically as it cannot be performed for 12 or more consecutive hours according to specifications. (It may take some time to resume recording.) To ensure continuous recording, set “SEAMLESS RECORDING” to “ON” before you start recording.
"SEAMLESS RECORDING" (☞ P.81)
Turn off the power, wait for a while, and start recording again. (This unit stops automatically to protect the circuit when the temperature rises.)
Insert a commercially available SD card, and set “REC MEDIA FOR VIDEO” and “REC MEDIA FOR IMAGE” in the media settings menu to “SD”. (There may be a malfunction with the HDD.)

The image stabilizer does not work when recording still images.

The continuous shooting speed will drop if this function is used repeatedly.
Continuous shooting speed may drop depending on the SD card or under certain recording conditions.

If you are recording in a dark place or a subject that has no contrast between dark and light, adjust the focus manually.
"Adjusting Focus Manually" (☞ P.26)
Wipe the lens with a lens cleaning cloth.
Cancel manual focus on the manual recording menu.
"Adjusting Focus Manually" (☞ P.26)
Use the Focus Assist function to adjust focus more precisely.
"FOCUS ASSIST" (☞ P.87)

Digital zoom is not available in the still image recording mode.
Zoom operation is not available in time-lapse shooting. (Simultaneous still image recording and image stabilizer are also not available.)
To use digital zoom, set “ZOOM” in the menu to "80x" or "200x".
"ZOOM" (☞ P.80)

Such a phenomenon occurs when shooting a subject illuminated by bright light. This is not a malfunction.

Set the “VIDEO QUALITY” to “UXP” or “XP” for recording.

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Make sure not to insert the card in the wrong direction.
"Inserting an SD Card (NAND/SD Models)" (☞ P.12)

To record to the card, it is necessary to perform media settings.
"REC MEDIA FOR VIDEO (GZ-HM320)" (☞ P.106)
To use cards that have been used on other devices, it is necessary to format (initialize) the card using “FORMAT SD CARD” from media settings.
"FORMAT SD CARD" (☞ P.108)

Sometimes playback is interrupted at the connecting section between two scenes. This is not a malfunction.

Cancel group display and date search functions.
"Searching for a Specific Video/Still Image" (☞ P.40)
Change the setting in “REC MEDIA FOR VIDEO” or “REC MEDIA FOR IMAGE”. (Files on other media are not displayed.)
"REC MEDIA FOR VIDEO (GZ-HM320)" (☞ P.106)
Select “PLAYBACK OTHER FILE” then search the videos on the index screen. (Video files that have damaged management information can be played back.)
"Playing a Video with Defective Management Information" (☞ P.37)

Set “ON-SCREEN DISPLAY” in the menu accordingly.
"ON-SCREEN DISPLAY" (☞ P.91)
Set “DISPLAY ON TV” in the menu to “ON”.
"DISPLAY ON TV" (☞ P.103)

Disconnect the cable and connect again.
Turn off and on this unit again.

Set “VIDEO OUTPUT” in the connection settings menu to “4:3”.
"VIDEO OUTPUT" (☞ P.103)
Adjust the TV's screen accordingly.

Files that are protected cannot be deleted. Release protection before deleting the file.
"Protecting Files" (☞ P.47)

The title will not be played back if you connect this unit to a DVD writer (optional).

The following functions cannot be used for a backup BD/DVD.
When playing back video
- Search index by date
- Wipe/fader effects
When playing back still image
- Slideshow effects

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Dubbing cannot be performed by connecting this unit to a Blu-ray recorder with a USB cable. Connect and dub using the supplied AV cable.
"Dubbing Files to a DVD Recorder or VCR" (☞ P.69)

While the USB cable is connected, the “CREATE DVD” menu is displayed.

Turn off the power of this unit and the DVD writer, or remove the AC adapter.

Connect the USB cable correctly.
"Backing Up All Files" (☞ P.70)
If the provided software Everio MediaBrowser is not installed, some functions may not work properly.
"Installing the Provided Software" (☞ P.70)
Before making backup, make sure that enough free space is left in the PC's hard disk (HDD).
Still images cannot be recorded to disk using the provided software.

To record to discs, a recordable DVD drive is required for the PC in use.

Copy the files to a Mac computer using the following method.
"Copying to Mac Computer" (☞ P.76)

Check if you have created an account with YouTube™. (You need a YouTube™ account to upload files to YouTube™.)
Upload recording can only be performed for up to 10 minutes, the time limit of YouTube™.
Changing videos to the file format for uploading cannot be performed on this unit.
Refer to "Q&A", "Latest Information", "Download Information", etc. in "Click for Latest Product Info" in the help file of the provided Everio MediaBrowser software.

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The LCD monitor may be difficult to see if used in bright areas such as under direct sunlight.

Change the direction of this unit to prevent the light source from coming into view. (A band or a ball of bright light may appear when there is a bright light source near this unit, but this is not a malfunction.)

Use backlight compensation when the background is bright and the subject is dark.
"Setting Backlight Compensation" (☞ P.28)
Use “GAIN UP” in the menu.
"GAIN UP" (☞ P.80)
Use “NIGHT EYE” in “SCENE SELECT” of the manual settings menu.
"Scene Selection" (☞ P.25)
Set “BRIGHTNESS ADJUST” in the manual settings menu to the "+" side.
"Adjusting Brightness" (☞ P.27)

Set the backlight compensation to off if it is being used.
"Setting Backlight Compensation" (☞ P.28)
Use “SPOTLIGHT” in “SCENE SELECT” of the manual settings menu.
"Scene Selection" (☞ P.25)
Set “BRIGHTNESS ADJUST” in the manual settings menu to the "-" side.
"Adjusting Brightness" (☞ P.27)

Set “WHITE BALANCE” in the manual settings menu to “MANUAL”. Select from “FINE”/“CLOUD”/“HALOGEN” according to the light source. Select “MWB” and adjust accordingly.
"Setting White Balance" (☞ P.27)
If the video was recorded with “x.v.Color” set to “ON”, set the x.v.Color setting of the TV to on.
"x.v.Color" (☞ P.81)
Set “EFFECT” to “OFF”.
"EFFECT" (☞ P.87)

Touch the slider and buttons around the screen with your fingers.
The slider and buttons do not function if you touch them with your fingernails or with gloves on.
The displays on the screen do not work even if you touch them.

It is recommended that you copy all videos and still images onto your computer, and erase the files from this unit. (If there are many recorded files on this unit, it takes time for the unit to respond.)

When digital zoom is used, the image becomes grainy as it is digitally enlarged.

This is not a malfunction. (This unit may become warm when used for a long time.)

The image or sound may not appear on the TV properly depending on the TV connected. In such cases, perform the following operations. (1) Disconnect the HDMI mini cable and connect it again. (2) Turn off and on this unit again.
"Connecting via the HDMI Mini Connector" (☞ P.42)

It may occur when you connect this unit to a TV with different language setting using an HDMI mini cable.
"Operating in Conjunction with TV via HDMI" (☞ P.42)

TVs may operate differently depending on the specifications, even if they are HDMI-CEC compliant. Therefore, the HDMI-CEC functions of this unit cannot be guaranteed to operate in combination with all the TVs. In such cases, set “HDMI CONTROL” to “OFF”.
"HDMI CONTROL" (☞ P.105)

It is recommended to copy your important recorded data to a DVD or other recording media for storage. JVC will not be responsible for any lost data.

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Connect the AC adapter, charge the battery pack for more than 24 hours, then set the clock. (If the message still appears, the clock battery is exhausted. Consult your nearest JVC dealer.)
"Clock Setting" (☞ P.14)

Reconnect the USB cable.
Turn off this unit and the devices connected to it, and turn them on again.
Reattach the battery pack.

Check the operating procedure, and perform once again.
"FORMAT BUILT-IN MEM. (GZ-HM320)" (☞ P.107)
Turn off this unit, and turn it on again.

Check the operating procedure, and perform once again.
"ERASE ALL DATA (GZ-HM320)" (☞ P.108)
Turn off this unit, and turn it on again.

Turn off this unit, and turn it on again.
Remove and re-insert the SD card after detaching the AC adapter and battery pack.
Remove any dirt from the SD card terminals.
If the above does not solve the problem, back up your files and execute "FORMAT SD CARD" in the media settings menu. (All data will be deleted.)
"FORMAT SD CARD" (☞ P.108)

Select "OK", then select "YES" on the "DO YOU WANT TO FORMAT?" screen.

Remove and re-insert the SD card.
"Inserting an SD Card (NAND/SD Models)" (☞ P.12)
Remove any dirt from the SD card terminals.
Insert the SD card before turning on the power.
Do not subject this unit to strong impact/vibrations.

Stop video recording before taking still images. (If the SD card is removed and inserted during video recording, still images cannot be recorded.)

Remove and re-insert the SD card.
"Inserting an SD Card (NAND/SD Models)" (☞ P.12)
Remove any dirt from the SD card terminals.
Insert the SD card before turning on the power.
Do not subject this unit to strong impact/vibrations.

Select "OK" to restore. (Videos that cannot be restored will not be displayed on the index screen, but you may be able to play them back using "PLAYBACK OTHER FILE" in the menu.)
"Playing a Video with Defective Management Information" (☞ P.37)

Use files recorded with this unit. (Files recorded with other devices may not be playable.)

Use files recorded with this unit. (Files recorded with other devices may not be playable.)

Switch off the "PROTECT/CANCEL" function in the "EDIT" menu.
"Protecting Files" (☞ P.47)

Turn on the power of the connected USB device.
Connect the AC adapter to the BD/DVD writer.

Delete files, or move files to a PC or other devices.
Replace the SD card with a new one.

(1) Move the files or folders to a PC or other device. (Back up your files.)
(2) Select "FILE + MANAGEMENT NO" in "FORMAT HDD" or "FORMAT SD CARD" of the media settings menu. (All data on the HDD or SD card will be deleted.)

(1) Move the files or folders to a PC or other device. (Back up your files.)
(2) Select "FILE + MANAGEMENT NO" in "FORMAT HDD" or "FORMAT SD CARD" of the media settings menu. (All data on the HDD or SD card will be deleted.)

(1) Move the files or folders to a PC or other device. (Back up your files.)
(2) Select "FILE + MANAGEMENT NO" in "FORMAT HDD" or "FORMAT SD CARD" of the media settings menu. (All data on the HDD or SD card will be deleted.)

(1) Move the files or folders to a PC or other device. (Back up your files.)
(2) Select "FILE + MANAGEMENT NO" in "FORMAT HDD" or "FORMAT SD CARD" of the media settings menu. (All data on the HDD or SD card will be deleted.)

Reduce the number of the playlist to 99 files or less. (Up to 99 playlists can be created.)

When creating a DVD, reduce the number of playlists to be saved.
Reduce the number of videos to add to the playlist to 999 files.
"Creating Playlists from the Recorded Videos" (☞ P.57)

Reduce the number of videos to add to the playlist to 999 files.
"Creating Playlists from the Recorded Videos" (☞ P.57)

Change the setting in "REC MEDIA FOR VIDEO" or "REC MEDIA FOR IMAGE", and check that files are not recorded to the other media.
"REC MEDIA FOR VIDEO (GZ-HM320)" (☞ P.106)

Set "REC MEDIA FOR VIDEO" to "SD", then record to a SD card.
"REC MEDIA FOR VIDEO (GZ-HM320)" (☞ P.106)
Turn off the unit, and turn it on again.
Protect the unit from vibration and shock.

Appears for 5 seconds after power is turned on, if the lens cap is attached or when it is dark.

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Perform regular maintenance of this unit to enable it to be used for a long time.

CAUTION:

- Be sure to detach the battery pack, AC adapter, and power plug before performing any maintenance.

Camcorder

- Wipe this unit with a dry, soft cloth to remove any dirt.
- When it is extremely dirty, soak the cloth in a solution of neutral detergent, wipe the body with it, and then use a clean cloth to remove the detergent.

CAUTION:

- Do not use benzene or thinner. Doing so may cause damage to the unit.
- When using a chemical cloth or cleaner, be sure to observe the warning labels and instructions of the product.
- Do not leave the device in contact with rubber or plastic products for a long time.

Lens/LCD Monitor

- Use a lens blower (commercially available) to remove any dust, and a cleaning cloth (commercially available) to wipe off any dirt.
  Mold may form if the lens is left dirty.

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Camera

Item	Details
Power supply	Using AC adapter: DC 5.2 V Using battery pack: DC 3.6 V
Power consumption	2.6 W (when “LCD BACKLIGHT” is set to “STANDARD”) 2.8 W (when “LCD BACKLIGHT” is set to “BRIGHTER”) Rated Current Consumption: 1A
Dimensions (mm)	52 x 62 x 110 (2-1/16" x 2-2/5" x 4-3/8") (W x H x D: excluding grip belt)
Mass	Approx. 215 g (0.47 lbs) (camera only) Approx. 255 g (0.56 lbs) (including supplied battery pack)
Operating environment	Allowable operating temperature: 0°C to 40°C (32°F to 104°F) Allowable storage temperature: -20°C to 50°C (–4°F to 122°F) Allowable operating humidity: 35 % to 80 %
Image pickup device	1/5.8" 1,370,000 pixels (progressive CMOS)
Recording area (Video)	(16:9) 750,000 to 1,090,000 pixels (optical zoom)
Recording area (Still Image)	(4:3) 560,000 to 820,000 pixels (16:9) 750,000 to 1,090,000 pixels
Lens	F1.8-3.5, f= 3.0mm to 60.0mm (35mm conversion: 46.4mm to 928mm)
Zoom (during video recording)	Optical zoom: Up to 20x Digital zoom: Up to 80x Digital zoom: Up to 200x
Zoom (during still image recording)	Optical zoom: Up to 20x
LCD monitor	2.7" wide, 12.3 megapixels, polysilicon color LCD
Recording media	GZ-HM320: Internal memory (8 GB) SD/SDHC card (commercially available)
Clock battery	Rechargeable battery

Connectors

Item	Details
HDMI	HDMI™ mini connector (V1.3 with x.v.Color™)
Component output	Y, Pb, Pr component output Y: 1.0 V (p-p), 75 Ω Pb/Pr: 0.7 V (p-p), 75 Ω
AV output	Video output: 1.0 V (p-p), 75 Ω Audio output: 300 mV (rms), 1 K Ω
USB	Mini USB type B, USB 2.0 compliant

Video

Item	Details
Recording/Playback format	AVCHD standard, Video: AVC/H.264, Audio: Dolby Digital (2ch)
Extension	.MTS
Signal system	NTSC standard
Image quality (Video)	UXP 1920 x 1080 pixels Average Approximate 24 Mbps XP 1920 x 1080 pixels Average Approximate 17 Mbps SP 1920 x 1080 pixels Average Approximate 12 Mbps EP 1920 x 1080 pixels Average Approximate 5 Mbps
Sound quality (Audio)	48 kHz, 256 kbps

Still Image

Item	Details
Format	JPEG standard
Extension	.JPG
Image size	1920 x 1080 1440 x 1080 640 x 480
Quality	FINE / STANDARD

AC Adapter (AP-V30U)

Item	Details
Power supply	AC 110 V to 240 V, 50 Hz/60 Hz
Output	DC 5.2 V, 1.8 A
Allowable operating temperature	0°C to 40°C (32°F to 104°F) (10°C to 35°C (50°F to 95°F) during charging)
Dimensions (mm)	78 x 34 x 46 (3-1/8" x 1-3/8" x 1-13/16") (W x H x D: excluding cord and AC plug)
Mass	Approx. 107 g (0.24 lbs)

Battery Pack (BN-VG114U)

Item	Details
Power voltage	3.6 V
Capacity	1400 mAh
Dimensions (mm)	31 x 21.5 x 43 (1-1/4" x 7/8" x 1-3/4") (W x H x D)
Mass	Approx. 40 g (0.09 lbs)

NOTE:

- Some features explained in this manual only apply to the specific model identified.
- The specifications and appearance of this product are subject to changes for further improvement without prior notice.

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