

JVC

CAMCORDER

Detailed User Guide

GZ-N1

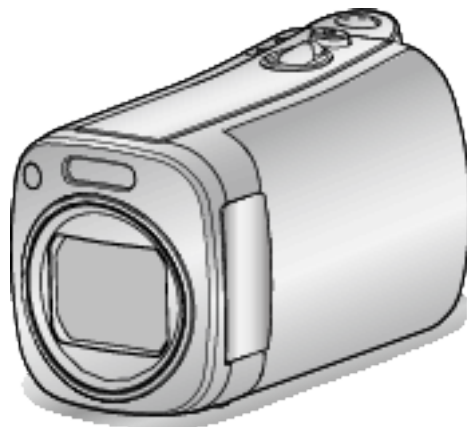


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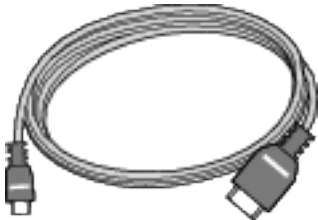

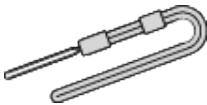
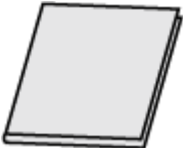
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Verifying the Accessories

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

Illustration	Description
	AC Adapter AC-V10M <ul style="list-style-type: none">Connects to this unit to charge the battery pack. It can also be used when recording or playing back videos indoors.
	Power Cord <ul style="list-style-type: none">Connect the power cord to the AC adapter.
	Battery Pack BN-VG109 <ul style="list-style-type: none">Attaches to this unit to supply power.
	HDMI Mini Cable <ul style="list-style-type: none">Connects this unit to a TV to play back recorded images on the TV in a better quality.
	USB Cable (Type A - Mini Type B) <ul style="list-style-type: none">Connects this unit to a computer.
	Hand Strap <ul style="list-style-type: none">Loop around your wrist when carrying the camera around.
	Read Me First <ul style="list-style-type: none">Before use, please read the “Read Me First” to ensure safe use of this product.

Memo :

- The provided software (application software) is built into this unit.

“Verifying System Requirements (Guideline)” (p. 88)

- SD cards are sold separately.

“Types of Usable SD Card” (p. 7)

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

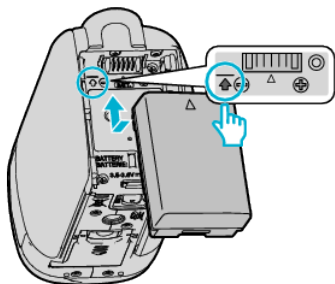
“Charging the Battery Pack Overseas” (p. 16)

Charging the Battery Pack

Charge the battery pack immediately after purchase and when the remaining battery power is low.

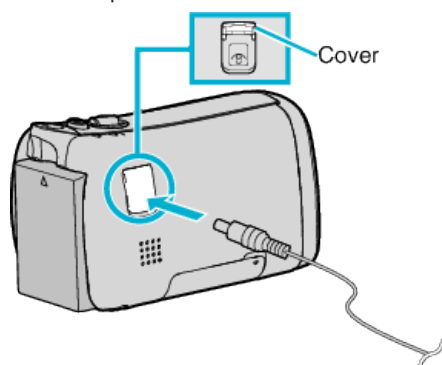
The battery pack is not charged at the time of purchase.

1 Attach the battery pack.

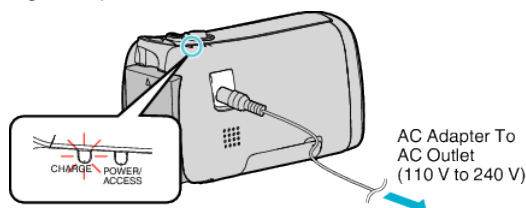


- Align the top of the battery with the mark on this unit, and slide in until the battery clicks into place.

2 Connect the AC adapter to the DC connector.



3 Plug in the power.



- The CHARGE lamp lights up when charging is in progress. It goes out when charging is finished. (If the CHARGE lamp is blinking, refer to the "Caution" below.)

Warning

- Make sure not to insert the battery pack in the wrong direction. It may cause damage to the unit and battery pack.

Caution :

Be sure to use JVC battery packs.

- If you use any other battery packs besides JVC battery packs, safety and performance cannot be guaranteed.

- Charging time: Approx. 2 h 20 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 to 35°C, charging may take a longer time or it may not start. The CHARGE lamp blinks slowly as a notification if charging does not start.

- If malfunctions (overvoltage, etc) occur, or if any battery manufactured other than JVC is attempted for battery charge, charging stops. In these cases, CHARGE lamp blinks quickly for notification.

Be sure to use the supplied AC adapter.

- If you use any other AC adapters besides the supplied AC adapter, malfunctions may occur.
- You can record or play back videos while the AC adapter is connected. (Battery charging cannot be performed during recording or playback.) Remove the battery when the unit is to be used for a long time. Performance of the battery may drop if it is left attached to the unit.

Rechargeable Batteries :

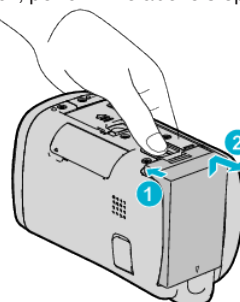
- When using the battery in a low temperature environment (10°C or below), the operating time may be shortened, or it may not function properly. When using this unit outdoors in the winter weather, warm the battery, such as by placing it in the pocket, before attaching it. (Keep away from direct contact with a warm pack.)
- Do not expose the battery to excessive heat, such as direct sunlight or fire.
- After removing the battery, store it in a dry place between 15°C to 25°C.
- Keep a 30 % battery level () if the battery pack is not to be used for a long period of time. In addition, fully charge and then fully discharge the battery pack every 6 months, then continue to store it at a 30 % battery level ().

Memo :

- You can connect this unit to the AC adapter to record for long hours indoors. (Battery charging begins when the LCD monitor is closed.)

Detaching the Battery Pack

To detach the battery pack, perform the above steps in reverse order.




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

Approximate Battery Charging Time (Using AC Adapter)

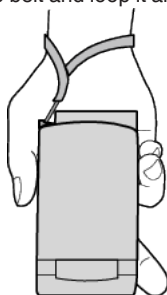
Battery Pack	Charging time
BN-VG109 (Supplied)	2 h 20 m
BN-VG119	3 h 30 m
BN-VG129	4 h 50 m
BN-VG138	6 h 10 m

- 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.)

* 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 to 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. "Approximate Recording Time (Using Battery)" ( p. 44)

Using the Hand Strap

- 1 Thread the thin cord loop of the strap through the strap mount on the camera.
- 2 Thread the other end of the strap through the thin cord loop and tighten the strap.
- 3 Adjust the length of the belt and loop it around your wrist.

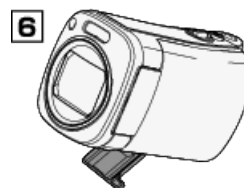


Using the Built-in Tilt Stand

You can use the stand to place the camera on the floor or table to shoot from a low angle or when taking a selfie.



- 1 Place your finger at the indent of the stand located at the bottom of this unit.
- 2 Move your finger in the direction of the arrow.
- The front edge of the stand lifts up.
- 3 Lift the stand upright.
- 4 Slide the stand in the direction of the arrow to the position indicated by the line in the figure.
- If the stand does not move, do not force it. Proceed to step 5.
- 5 Tilt the stand as shown in the figure.
- 6 Place the camera as shown in the figure.

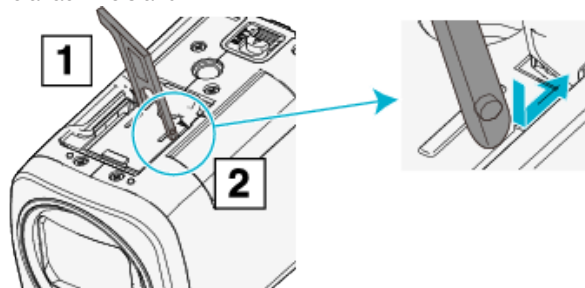


Storing the stand

Slide the edge of the stand towards the direction of the battery; align the marks on the camera and the stand to store the stand.

When the built-in tilt stand is removed

- 1 Attach the protrusion on one side of the stand as shown in the figure.
- 2 Push in the protrusion on the other side in the direction of the arrow to attach the stand.



Caution :

- To prevent the stand from damaging, it is designed to come off when the load applied exceeds a certain level.
- Reattach the stand immediately to avoid losing it or accidentally swallowing it.
- If you have lost the stand, consult your nearest JVC service center.

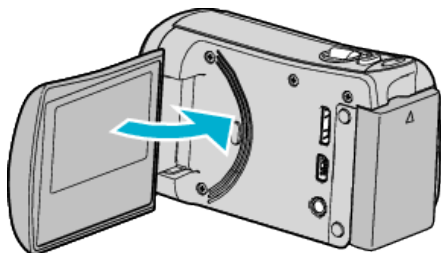
Inserting an SD Card

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 built-in memory runs out.

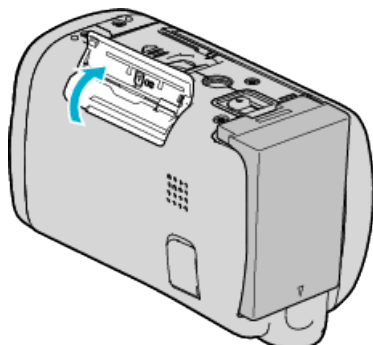
“Types of Usable SD Card” (p. 7)

“Approximate Video Recording Time” (p. 44)

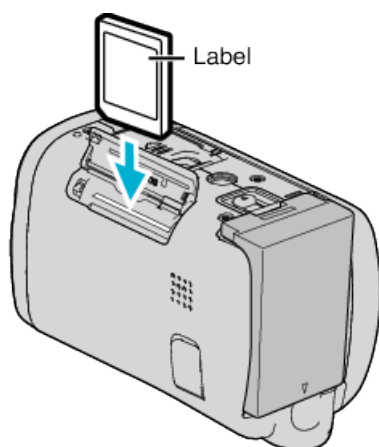
- 1 Close the LCD monitor.



- 2 Open the SD card cover.



- 3 Insert an SD card.



Warning

- Make sure not to insert the SD card in the wrong direction. It may cause damage to the unit and SD card.
- Turn off the power of this unit before inserting or removing an SD card.
- Do not touch the metal contact area when inserting the SD card.
- Do not use miniSD cards or microSD cards. It may cause damage to the unit and SD card.

Memo :

- When “SEAMLESS RECORDING” is set to “ON”, recordings can still be made to the SD card without stopping when the remaining recording time on the built-in memory runs out.

“SEAMLESS RECORDING” (p. 103)

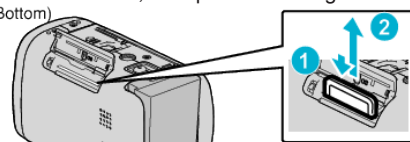
- Both videos and still images can be recorded on one SD card. It is recommended to confirm the video operation of the SD card before usage.
- To record to the SD card, it is necessary to perform media settings.
- To use SD cards that have been used on other devices, it is necessary to format (initialize) the SD card using “FORMAT SD CARD” from media settings.

“FORMAT SD CARD” (p. 113)

Removing the Card

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

(Bottom)



Types of Usable SD Card

The following SD cards can be used on this unit.

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

- Panasonic
- TOSHIBA
- SanDisk

SD Card



- This unit supports 256 MB to 2 GB SD cards.
- Use a Class 4 or higher compatible SD card (2 GB) for video recording.

SDHC Card



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

SDXC Card



- Use a Class 4 or higher compatible SDXC card (Max. 128 GB) for video recording.

Memo :

- Using SD cards (including SDHC/SDXC cards) other than those specified above may result in recording failure or data loss.
- This unit is not guaranteed to operate with all SD cards. Some SD cards may not work due to specification changes, etc.
- Do not use a miniSD card or microSD card (even if the card is inserted in an adapter). It may cause malfunction.
- To record videos with "VIDEO QUALITY" set to "UXP", use of a Class 6 or higher compliant SDHC/SDXC card is recommended.
- 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.
- You can also use a Class 10 compliant SDHC/SDXC card.
- Both videos and still images can be recorded on one SD card. It is recommended to confirm the video operation of the SD card before usage.
- To protect the data, do not touch the terminals of the SD card.
- UHS-I SDHC/SDXC cards can be used in the same manner as standard SDHC/SDXC cards.
UHS Speed Class is not supported.
- An SD card which is used for recording and/or editing on other devices may not be played back or edited on this unit.
- An SD card which is used for recording on this unit may not be used for playing back and/or editing on other devices.

When your computer cannot recognize the SDXC card

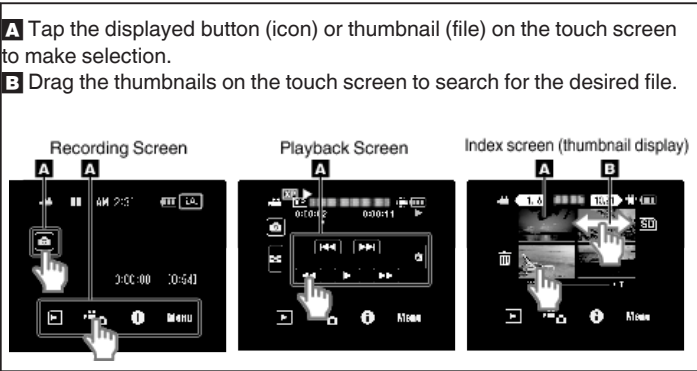
Confirm and update the OS of your computer.

Windows Vista	<ul style="list-style-type: none">• Make sure that the operating system version is SP1 or higher.• Download and install the updating program (KB975823) from the following URL. 32 bit version http://www.microsoft.com/downloads/details.aspx?displaylang=ja&FamilyID=2d1abe01-0942-4f8a-abb2-2ad529de00a1 http://www.microsoft.com/downloads/en/details.aspx?FamilyID=2d1abe01-0942-4f8a-abb2-2ad529de00a1 64 bit version http://www.microsoft.com/downloads/details.aspx?displaylang=ja&FamilyID=7d54c53f-017c-4ea5-ae08-34c3452ba315 http://www.microsoft.com/downloads/en/details.aspx?FamilyID=7d54c53f-017c-4ea5-ae08-34c3452ba315
Windows 7	<p>Download and install the updating program (KB976422) from the following URL.</p> <p>32 bit version</p> <p>http://www.microsoft.com/downloads/details.aspx?displaylang=ja&FamilyID=3ee91fc2-a9bc-4ee1-aca3-2a9aff5915ea</p> <p>http://www.microsoft.com/downloads/en/details.aspx?FamilyID=3ee91fc2-a9bc-4ee1-aca3-2a9aff5915ea</p> <p>64 bit version</p> <p>http://www.microsoft.com/downloads/details.aspx?displaylang=ja&FamilyID=73f766dd-7127-4445-b860-47084587155f</p> <p>http://www.microsoft.com/downloads/en/details.aspx?FamilyID=73f766dd-7127-4445-b860-47084587155f</p>
Mac OS X 10.4 Tiger / Mac OS X 10.5 Leopard	Not compatible.
Mac OS X 10.6 Snow Leopard	Update the OS version to 10.6.5 or later.

Using the Touch Screen

Icon operation buttons, thumbnails, and menu items are displayed on the touch screen according to the mode in use.

- There are two ways to operate the touch screen, namely "tap" and "drag". The following are some examples.



Memo :

- The touch screen of this unit is pressure-sensitive. When the touch screen does not respond smoothly, apply slightly more force to your fingertip.
- Tap the buttons (icons) on the touch screen accurately. The buttons may not respond if they are not tapped on the right area.
- Do not press or rub with excessive force.
- Do not operate the touch screen using an object with a sharp tip.
- Pressing two or more places at a time may cause a malfunction.
- Perform "TOUCH SCREEN ADJUST" if the reactive area of the screen is misaligned with the touched area. (Adjust by lightly tapping with a corner of an SD card, etc. Do not press with an object with a sharp tip or do not press hard.)

"Adjusting the Touch Panel" (p. 9)

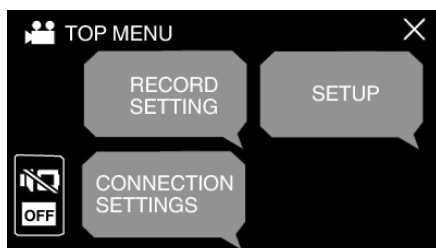
Adjusting the Touch Panel

Adjusts the response position of the buttons on the touch screen.

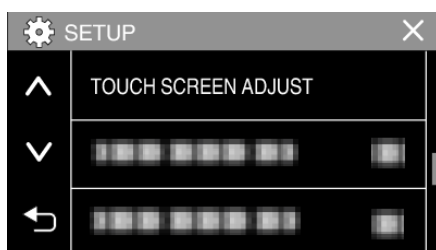
- 1 Tap the **Menu** button.



- 2 Tap "SETUP".

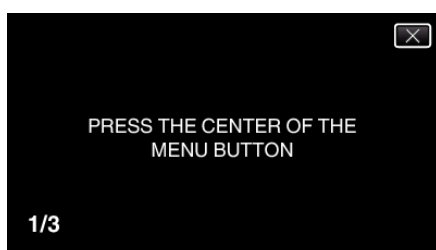


- 3 Tap "TOUCH SCREEN ADJUST".



- The touch screen adjustment screen appears.

- 4 Tap the center of the **Menu** button.

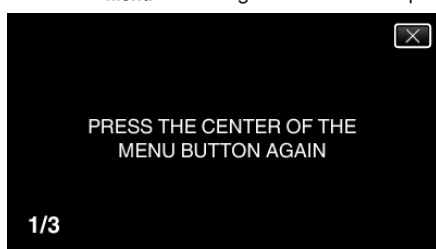


- 5 Tap "+".



- Keep tapping "+" as its position changes with every tap.
- If areas other than the "+" mark are tapped, errors will occur. Make sure to tap the "+" mark.

- 6 Tap the center of the **Menu** button again to confirm the position adjusted.

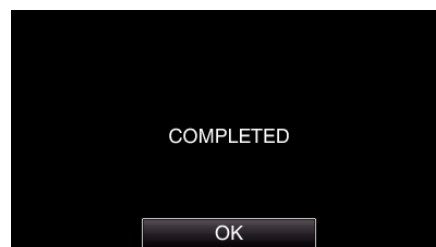


- 7 Tap "+".



- Keep tapping "+" as its position changes with every tap.

- 8 Tap "OK".



- Setting ends and returns to the menu screen.

Caution :

- Do not tap areas other than the center of the **Menu** button or the "+" mark during touch screen adjustment (step 4 - 7). Doing so may cause the touch screen to malfunction.

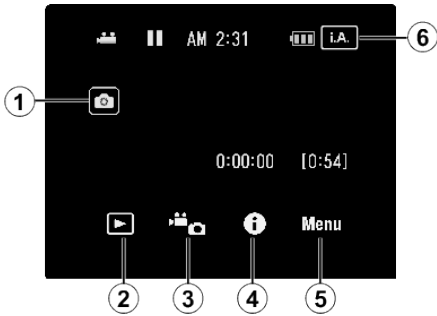
Memo :

- Adjust by lightly tapping with a corner of an SD card, etc.
- Do not press with an object with a sharp tip or do not press hard.

Names of Buttons and Functions on the LCD Monitor

The following screens are displayed during the video and still image modes, and operate as the touch screens.

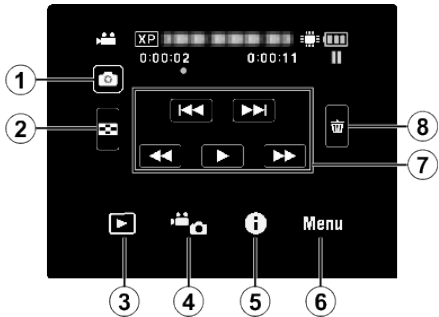
Recording Screen (Video/Still Image)



- 1 (Still Image Recording) Button
 - Saves one scene of the video being played back as a still image.
- 2 (Recording/Playback Mode) Button
- 3 (Video/Still Image) Button
 - Switches between video and still image modes.
- 4 (Information) Button
 - For checking the camera settings, remaining battery power, etc.
- 5 **Menu** (Menu) Button
 - “Operating the Menu” (p. 100)
- 6 Intelligent Auto/Manual Button
 - Switches the recording mode between **i.A.** Intelligent Auto and **M** Manual.

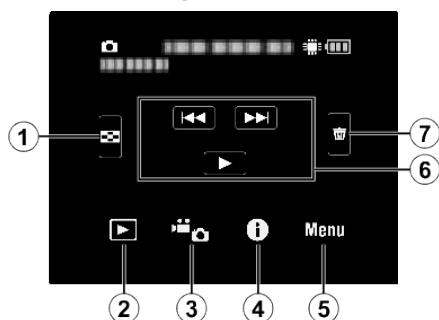
Information Button : _____
Pressing the Information button displays the camera settings → remaining battery power/media recording time → normal display repeatedly.

Playback Screen (Video)



- When this unit is not operated, the operation buttons on the LCD monitor disappear automatically. Tap on the screen to display the operation buttons again.
- 1 (Still Image Recording) Button
 - Saves one scene of the video being played back as a still image.
- 2 (Index Screen (Thumbnail Display)) Button
 - “Operation Buttons for Video Playback” (p. 46)
- 3 (Recording/Playback Mode) Button
- 4 (Video/Still Image) Button
 - Switches between video and still image modes.
- 5 (Information) Button
 - For checking the video information.
- 6 **Menu** (Menu) Button
 - “Operating the Menu” (p. 100)
- 7 **Operation Buttons**
 - “Operation Buttons for Video Playback” (p. 46)
- 8 (Delete) Button
 - “Deleting the Currently Displayed File” (p. 57)

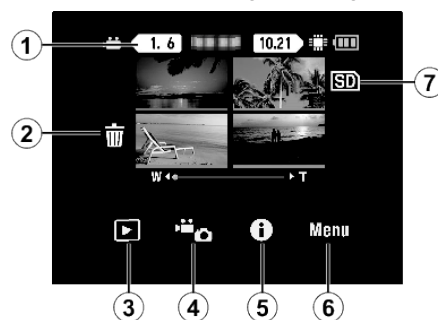
Playback Screen (Still Image)



- When this unit is not operated, the operation buttons on the LCD monitor disappear automatically. Tap on the screen to display the operation buttons again.

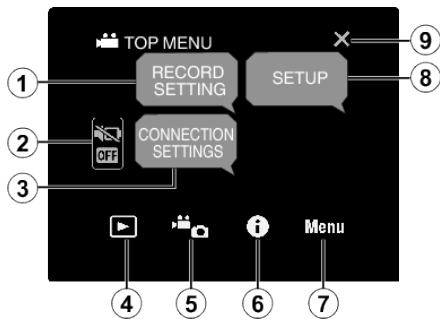
- 1** [Index Screen (Thumbnail Display)] Button
"Operation Buttons for Still Image Playback" (p. 52)
- 2** [Recording/Playback Mode] Button
- 3** [Video/Still Image] Button
 - Switches between video and still image modes.
- 4** [Information] Button
 - For checking information on the still image.
- 5** **Menu** (Menu) Button
"Operating the Menu" (p. 100)
- 6** Operation Buttons
"Operation Buttons for Still Image Playback" (p. 52)
- 7** [Delete] Button
"Deleting the Currently Displayed File" (p. 57)

Index Screen (Thumbnail Display) Display



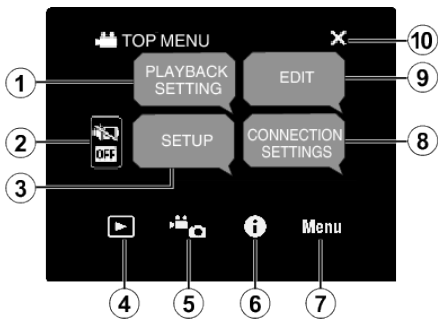
- 1** Date Button
"Operation Buttons for Video Playback" (p. 46)
"Operation Buttons for Still Image Playback" (p. 52)
- 2** Delete Button
"Deleting Selected Files" (p. 57)
"Deleting the Currently Displayed File" (p. 57)
- 3** [Recording/Playback Mode] Button
- 4** [Video/Still Image] Button
 - Switches between video and still image modes.
- 5** [Information] Button
 - Does not function on this screen.
- 6** **Menu** (Menu) Button
"Operating the Menu" (p. 100)
- 7** Playback Media Button
 - Switches between SD card and built-in memory.

Menu screen (recording mode)



- 1 RECORD SETTING Menu
"RECORD SETTING Menu (video)" (p. 101)
- 2 Silent Button
"Using the Silent Mode" (p. 19)
- 3 CONNECTION SETTINGS Menu
"CONNECTION SETTINGS (video/still image)" (p. 114)
- 4 (Recording/Playback Mode) Button
- 5 (Video/Still Image) Button
 - Switches between video and still image modes.
- 6 (Information) Button
 - Does not function on this screen.
- 7 Menu (Menu) Button
"Operating the Menu" (p. 100)
- 8 SETUP Menu
"SETUP (video/still image)" (p. 111)
- 9 Close Button
 - Exit the menu.

Menu screen (playback mode)



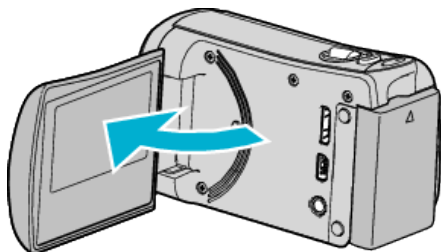
- 1 PLAYBACK SETTING Menu
"PLAYBACK SETTING Menu (video)" (p. 107)
"PLAYBACK SETTING Menu (still image)" (p. 109)
- 2 Silent Button
"Using the Silent Mode" (p. 19)
- 3 SETUP Menu
"SETUP (video/still image)" (p. 111)
- 4 (Recording/Playback Mode) Button
- 5 (Video/Still Image) Button
 - Switches between video and still image modes.
- 6 (Information) Button
 - Does not function on this screen.
- 7 Menu (Menu) Button
"Operating the Menu" (p. 100)
- 8 CONNECTION SETTINGS Menu
"CONNECTION SETTINGS (video/still image)" (p. 114)
- 9 EDIT Menu
"EDIT Menu (video)" (p. 108)
"EDIT Menu (still image)" (p. 110)
- 10 Close Button
 - Exit the menu.

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.

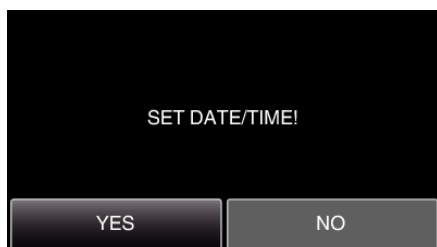
Set the clock before recording.

- 1 Open the LCD monitor.

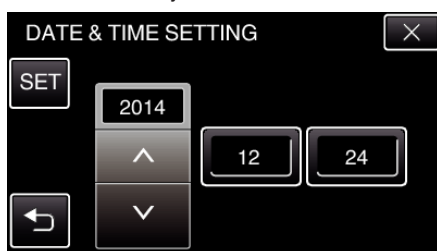


- The unit turns on.
- When the LCD monitor is closed, the unit turns off.

- 2 Tap “YES” when “SET DATE/TIME!” is displayed.



- 3 Set the year, month and day.



- When the year, month or day item is tapped, “^” and “v” will be displayed.
- Tap ^ or v to adjust the year, month and day.
- After setting, tap “SET”.

- 4 Setting the Time

- Set the hour and minute in the same way as in step 3.
- After setting, tap “SET”.

- 5 Select the region where you live and tap “SAVE”.



- Time difference between the selected city and the GMT (Greenwich Mean Time) is displayed.
- Tap < or > to select the city name.

Memo :

- The clock can be reset again later.

“Resetting the Clock” (p. 13)

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

“Setting the Clock to Local Time when Traveling” (p. 16)

- The clock is reset about one month after the battery is depleted. “SET DATE/TIME!” is displayed the next time you turn on this unit. Set the clock again after charging the battery.

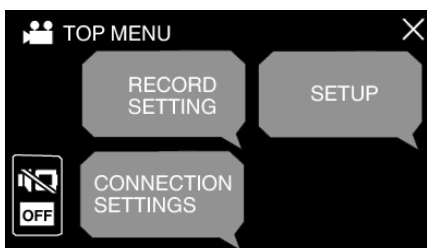
Resetting the Clock

Set the clock with “DATE & TIME” from the menu.

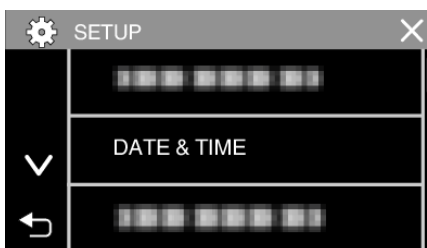
- 1 Tap the Menu button.



- 2 Tap “SETUP”.

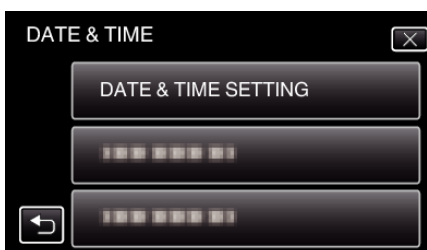


- 3 Tap “DATE & TIME”.

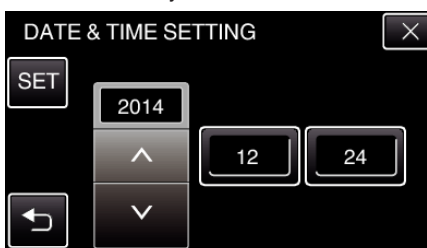


- Tap ^ or v to scroll the screen.

- 4 Tap “DATE & TIME SETTING”.



- 5 Set the year, month and day.

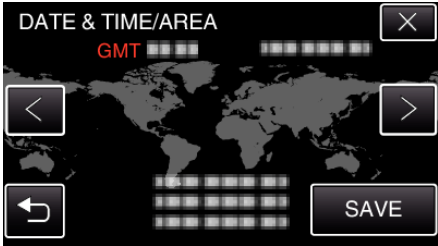


- When the year, month or day item is tapped, “^” and “v” will be displayed.
- Tap ^ or v to adjust the year, month and day.
- After setting, tap “SET”.

- 6 Setting the Time

- Set the hour and minute in the same way as in step 3.
- After setting, tap “SET”.

7 Select the region where you live and tap “SAVE”.



- Time difference between the selected city and the GMT (Greenwich Mean Time) is displayed.
- Tap < or > to select the city name.

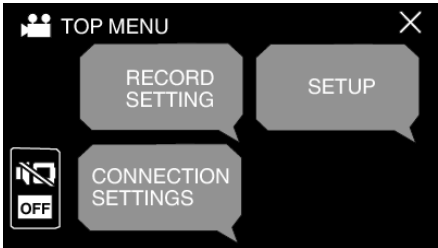
Changing the Display Language

The language on the display can be changed.

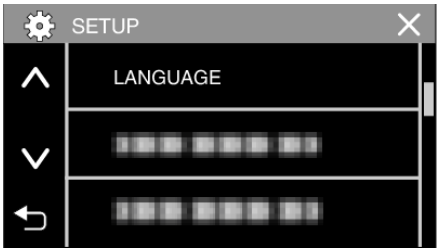
1 Tap the Menu button.



2 Tap “SETUP”.

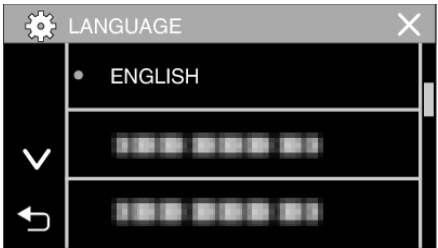


3 Tap “LANGUAGE”.



- Tap ^ or v to scroll the screen.

4 Tap to the desired language.



- Tap ^ or v to scroll the screen.

Memo :

- The languages supported are Japanese, English, French, Spanish, Portuguese, Chinese (Simplified), and Korean.

Holding this Unit

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



- Hold the LCD monitor with your left hand and adjust the angle accordingly. Holding the LCD monitor with your left hand helps to stabilize the camera for recording.

Caution :

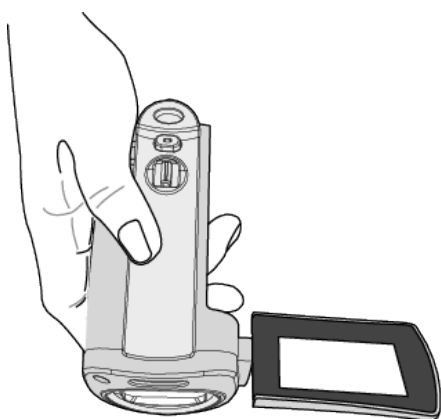
- Be careful not to drop this unit during transportation.
- Guardians should pay close attention when this unit is used by children.

Memo :

- If camera shake is excessive or if you are shooting in an unstable position, please use the image stabilizer function.

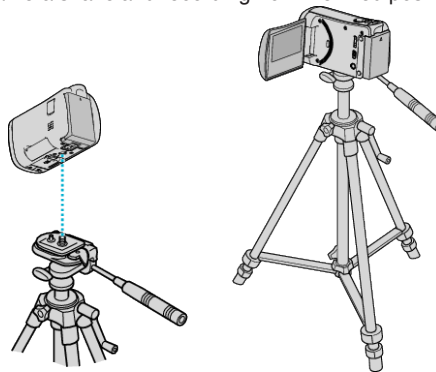
“Reducing Camera Shake” (p. 38)

- The following holding method is available when taking low-angle shots such as shots of a crawling baby.



Tripod Mounting

This unit can be mounted on a tripod (or monopod). This is useful for preventing camera shake and recording from the fixed 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 (or monopod) to be used and make sure that it is securely attached.

Memo :

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

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. 16)

Change the date and time display to the local time by selecting your travel destination in “AREA SETTING” of “DATE & TIME”.

“Setting the Clock to Local Time when Traveling” (p. 16)

When “ON” is selected in “DST SETTING” of “DATE & TIME”, the time is set 1 hour ahead.

“Setting Daylight Saving Time” (p. 17)

Charging the Battery Pack Overseas

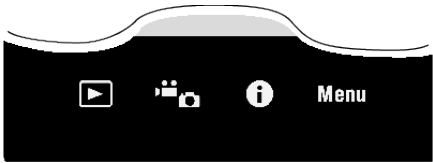
The shape of the power outlet varies according to countries and regions. To charge the battery pack, you need a converter plug that matches the shape of the outlet.

A	B	BF	C	O
North America	Europe	Oceania	Middle East	
United States A	Iceland C	Australia O	Israel C	
Canada A	Ireland C	Guam A	Iran C	
Mexico A	United Kingdom B,BF	Tahiti C	Kuwait B,C	
Asia	Italy C	Tonga O	Jordan B,BF	
Japan A	Austria C	New Zealand O		
India B,C,BF	Netherlands C	Fiji O	Africa	
Indonesia C	Canary Islands C		Algeria A,B,BF,C	
Singapore B,BF	Greece C	Latin	Egypt B,BF,C	
Sri Lanka B,C,BF	Switzerland C	Argentina O	Guinea C	
Thailand A,BF,C	Sweden C	Colombia A	Kenya B,C	
South Korea A,C	Spain A,C	Jamaica A	Zambia B,BF	
China A,B,BF,C,O	Denmark C	Chile B,C	Tanzania B,BF	
Nepal C	Germany C	Haiti A	Republic of South Africa B,C,BF	
Pakistan B,C	Norway C	Panama A	Mozambique C	
Bangladesh C	Hungary C	Bahamas A	Morocco C	
Philippines A,BF,O	Finland C	Puerto Rico A		
Vietnam A,C	France C	Brazil A,C		
Hong Kong Special Administrative Region B,BF	Belgium C	Venezuela A		
Macau Special Administrative Region B,C	Poland B,C	Peru A,C		
Malaysia B,BF,C	Portugal B,C			
	Romania C			

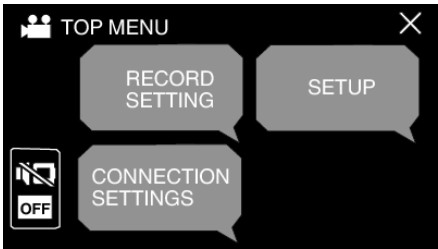
Setting the Clock to Local Time when Traveling

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

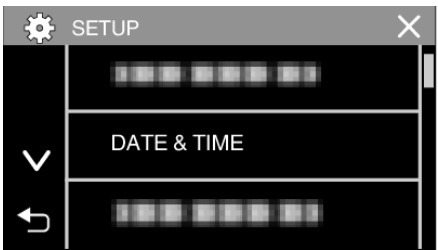
1 Tap the **Menu** button.



2 Tap “SETUP”.

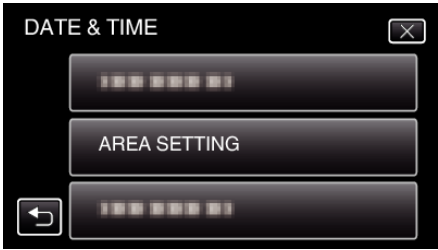


3 Tap “DATE & TIME”.

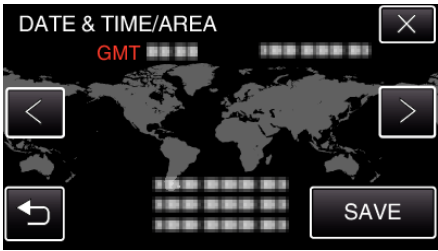


- Tap ^ or v to scroll the screen.

4 Tap “AREA SETTING”.



5 Select the area you are traveling to and tap “SAVE”.



- Time difference between the selected city and the GMT (Greenwich Mean Time) is displayed.
- Tap < or > to select the city name.

Memo :

- 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.

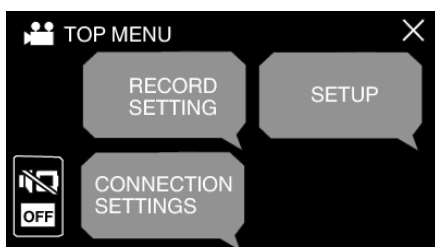
Setting Daylight Saving Time

When “ON” is selected in “DST SETTING” of “DATE & TIME”, the time is set 1 hour ahead.

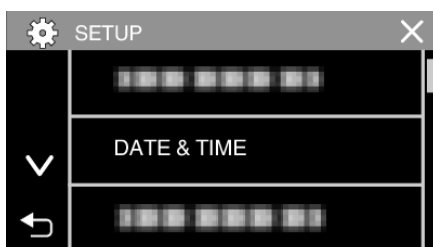
- 1 Tap the **Menu** button.



- 2 Tap “SETUP”.

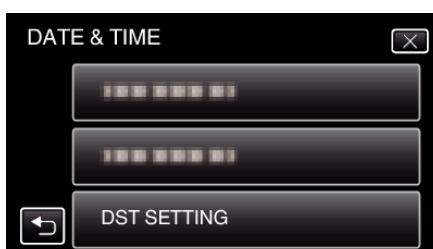


- 3 Tap “DATE & TIME”.

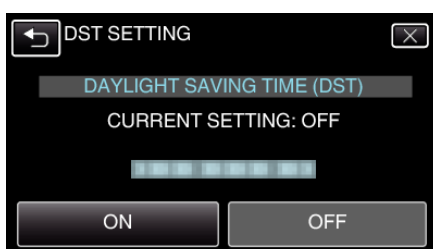


- Tap \wedge or \vee to scroll the screen.

- 4 Tap “DST SETTING”.



- 5 Tap “ON”.



Memo :

- 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

You can record for a longer time by using the optional battery pack.

Product Name	Description
Battery Pack <ul style="list-style-type: none"> • BN-VG109 (Supplied) • BN-VG119 • BN-VG129 • BN-VG138 	<ul style="list-style-type: none"> • Provides a longer recording time. It can also be used as a spare battery pack.
Battery Charger <ul style="list-style-type: none"> • AA-VG1 	<ul style="list-style-type: none"> • Enables the battery pack to be charged without using this unit.
HDMI Mini Cable <ul style="list-style-type: none"> • VX-HD310 • VX-HD315 	<ul style="list-style-type: none"> • Allows viewing in high picture quality when connected to a TV. • Transmits video, audio, and control signals between devices.
AV Cable <ul style="list-style-type: none"> • QAM1322-001 	<ul style="list-style-type: none"> • Connects to TV, DVD recorder, VCR, etc. “Connecting via the AV Connector” (p. 56) “Dubbing Files to a Disc by Connecting to a DVD Recorder” (p. 80) “Dubbing Files to a VHS Tape by Connecting to a VCR” (p. 81)

Memo :

- For details on the provided accessories, refer to “Verifying the Accessories”.

“Verifying the Accessories” (p. 4)

Approximate Recording Time (Using Battery)

Battery Pack	Actual recording time	Continuous recording time (Maximum Recording Time)
BN-VG109 (Supplied)	40 m	1 h
BN-VG119	1 h 10 m	2 h 10 m
BN-VG129	1 h 50 m	3 h 20 m
BN-VG138	2 h 25 m	4 h 25 m

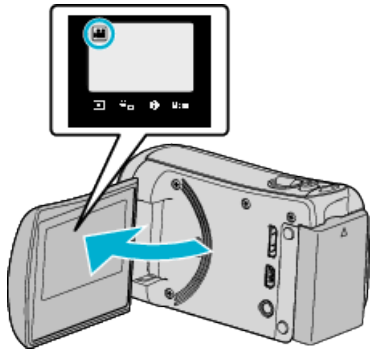
- The above are values when “LIGHT” is set to “OFF” and “MONITOR BRIGHTNESS” is set to “3” (standard).
- The actual recording time is an estimate in case that such operations as zooming is used or recording is stopped repeatedly. It may be shorter in the actual usage.
(It is recommended to prepare battery 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.)

Taking Videos in Auto Mode

You can record without worrying about the setting details by using the Intelligent Auto mode. Settings such as exposure and focus will be adjusted automatically to suit the shooting conditions.

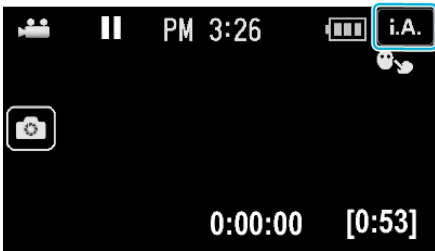
- In case of specific shooting scenes such as person etc., its icon is displayed on the screen.
- Before recording an important scene, it is recommended to conduct a trial recording.

1 Open the LCD monitor.



- Check if the recording mode is .
- If this unit is in the still image mode , tap the (video/still image) button on the touch screen to switch to the video mode .

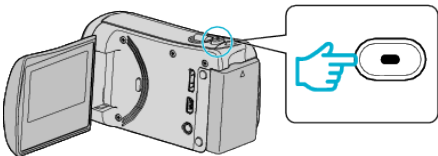
2 Check if the recording mode is **i.A.** Intelligent Auto.



- If the mode is **M** Manual, tap **M** on the recording screen to display the mode switching screen.
Tap **i.A.** to switch the recording mode to Intelligent Auto.

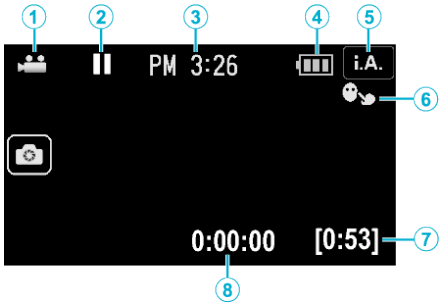


3 Press the START/STOP button to start recording.



- Press again to stop.

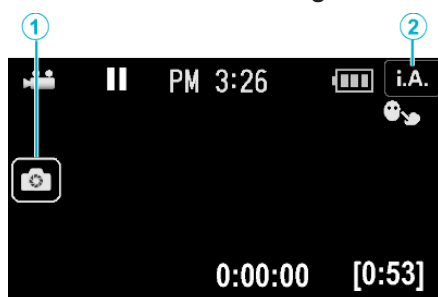
Indications for Video Recording



	Display Icon	Description
①	Video/Still Image Recording Mode	Displays the icon of the recording mode during shooting.
②	Recording/Pause Mode	During recording: ●, pause mode:
③	Time	Displays the current time. "Clock Setting" (p. 13)
④	Battery Indicator	Displays the approximate remaining battery power during use. "Checking the Remaining Recording Time" (p. 43)
⑤	Recording Mode	Displays the current recording mode of i.A. (Intelligent Auto) or M (Manual). Current shooting mode is displayed.
⑥	TOUCH PRIORITY AE/AF	Displays the setting of "TOUCH PRIORITY AE/AF". By default, it is set to "FACE TRACKING". "Capturing Subjects Clearly (TOUCH PRIORITY AE/AF)" (p. 31)
⑦	Remaining Recording Time	Displays the remaining time for video recording. "Checking the Remaining Recording Time" (p. 43)
⑧	Scene Counter (Recorded Time)	Displays the elapsed time of the video that is currently being recorded.

- Memo :**
- Scenes can be detected according to the shooting conditions and automatically adjusted in Intelligent Auto mode.
 - Multiple scenes may be detected depending on the recording conditions.
 - Some functions may not work properly depending on the shooting conditions.

Operation Buttons for Video Recording



	Operation Buttons	Description
①	Still Image Recording	Tap this button to record a still image during video recording.
②	Recording Mode i.A.	Switches the recording mode.

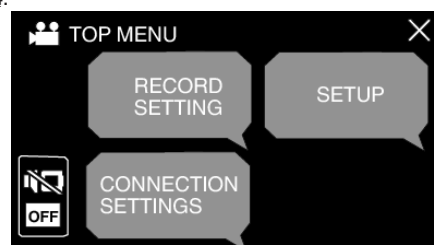
Using the Silent Mode

When the Silent mode is used, the LCD monitor darkens and operation sounds will not be output. Use this mode to record quietly in dark places such as during a performance.

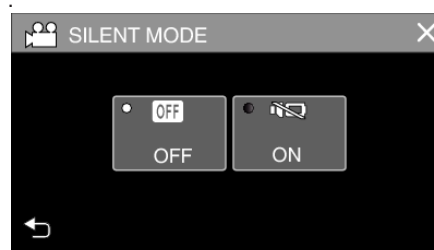
- appears when “SILENT MODE” is set to “ON”.
- To mute only the operating sound, set “OPERATION SOUND” in the menu to “OFF” instead of using the silent mode.

Operating procedure

- 1 Tap the **Menu** button.
- 2 Tap .



- 3 Tap “ON”.



Useful Settings for Recording

- 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.
“AUTO POWER OFF” (ⓘ p. 112)
- When “TOUCH PRIORITY AE/AF” is set to “FACE TRACKING”, this unit detects faces and automatically adjusts its brightness and focus to record the faces more clearly.
“Capturing Subjects Clearly (TOUCH PRIORITY AE/AF)” (ⓘ p. 31)
- If the remaining space on the built-in memory runs out while “SEAMLESS RECORDING” is set to “ON”, recording continues after switching to the SD card.
- When “DATE/TIME RECORDING” is used, the date and time can be recorded together with the video.
“Recording Videos with Date and Time” (ⓘ p. 42)

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.
- While this unit may be used with the LCD monitor reversed and closed, the temperature rises more easily. Leave the LCD monitor open when using this unit for long periods of time, or in places exposed to direct sunlight or high temperatures.
- The power may turn off to protect the circuit if the temperature of this unit rises too much.
- If the temperature of this unit rises during recording, ● changes color to yellow as a notification.
- Do not remove the battery pack, AC adapter, or SD card when the POWER/ACCESS lamp is lighted. The recorded data may become unreadable.
- This unit is a microcomputer-controlled device. Electrostatic discharge, external noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such a case, turn off the power after closing the monitor screen, then remove the AC adapter and battery. This unit will be reset.
- Disclaimer


Recording

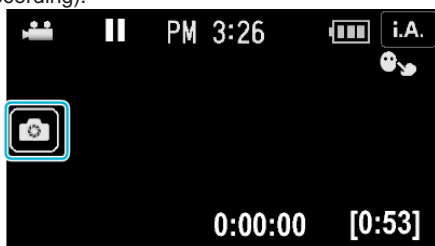
- We shall not be held responsible for loss of recorded contents when recording videos/audio or playback cannot be operated due to malfunctions in this unit, provided parts, or SD card.
- Once deleted, recorded contents (data), including data loss due to malfunctions in this unit, cannot be restored. Please be forewarned.
- JVC will not be responsible for any lost data.
- In order for quality improvement, defective recording medium is subject to be analyzed. Therefore, it may not be returned.

Memo :

- Check the remaining recording time in the media before you start shooting. If there is not enough space, move (copy) the data to a computer or disc.
- When there are many files in the media, it may take time for them to be displayed on the playback screen. Wait for a while as the POWER/ACCESS lamp blinks, indicating normal operation.
- 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. (It may take some time to resume recording.)
- Up to 4GB per video file can be recorded. File recorded using long recordings that exceeds 4GB is split and recorded into several video files.
- You can connect this unit to the AC adapter to record for long hours indoors.
- Depending on the subject and shooting conditions, recording may not be performed properly even in the Intelligent Auto mode.
- Depending on the shooting conditions, the four corners of the screen may appear dark, but this is not a malfunction. In this case, change the shooting conditions by moving the zoom lever, etc.

Capturing Still Images During Video Recording

Still images can be captured by tapping the  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 "REC MEDIA FOR IMAGE".

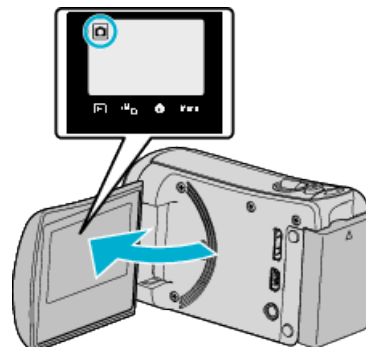
Memo :





- The size of the still image that is captured in the video mode is 1,920 x 1,080.
- Operation is invalid under the following conditions:
 - when menu is being displayed
 - when remaining recording time or battery power is being displayed
 - when any functions in "TIME-LAPSE RECORDING", "RECORDING EFFECT" or "DATE/TIME RECORDING" is set

Taking Still Images in Auto Mode

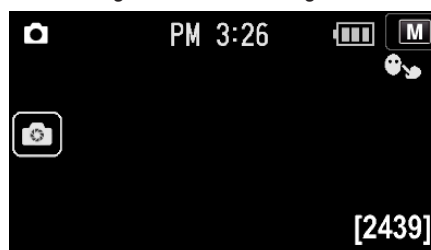
You can record without worrying about the setting details by using the Intelligent Auto mode.

- 1 Open the LCD monitor.

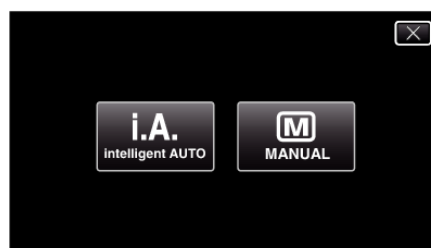


- Check if the recording mode is .
- If this unit is in the video mode , tap the  (video/still image) button on the touch screen to switch to the still image mode .

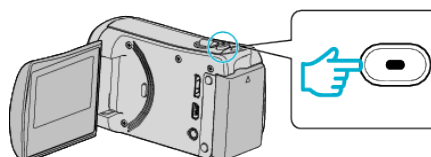
- 2 Check if the recording mode is **i.A.** Intelligent Auto.



- If the mode is **M** Manual, tap **M** on the recording screen to display the mode switching screen. Tap **i.A.** to switch the recording mode to Intelligent Auto.



- 3 Press the START/STOP button.




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


Memo :

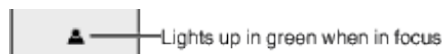
- Depending on the subject and shooting conditions, recording may not be performed properly even in the Intelligent Auto mode.

Memo :

You can also use the  button on the touch screen to record.

- You can adjust the focus by using the .

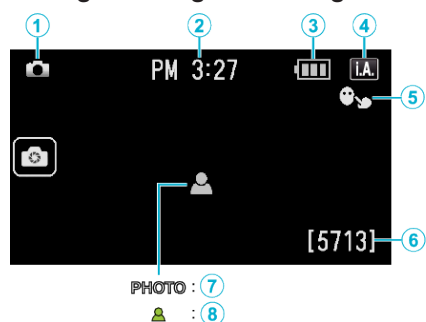
- 1 Press and hold the  button on the touch screen until the focus is adjusted.



- 2 Remove your finger from the button to release the shutter.

Available only when "SHUTTER MODE" is set to "RECORD ONE SHOT".

Indications During Still Image Recording

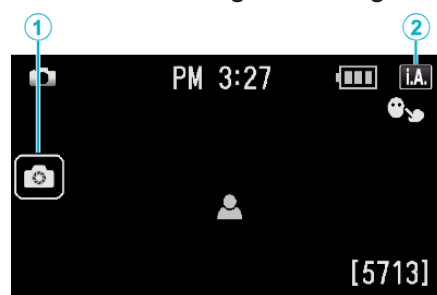


	Display Icon	Description
①	Video/Still Image Recording Mode	Displays the icon of the recording mode during shooting.
②	Time	Displays the current time. "Clock Setting" (p. 13)
③	Battery Indicator	Displays the approximate remaining battery power during use. "Checking the Remaining Recording Time" (p. 43)
④	Recording Mode	Displays the current recording mode of i.A. (Intelligent Auto) or M (Manual).
⑤	TOUCH PRIORITY AE/AF	Displays the setting of "TOUCH PRIORITY AE/AF". By default, it is set to "FACE TRACKING". "Capturing Subjects Clearly (TOUCH PRIORITY AE/AF)" (p. 31)
⑥	Remaining Number of Shots	Displays the remaining number of shots for still image recording. "Approximate Number of Still Images (Unit: Number of Shots)" (p. 44)
⑦	Recording in Progress	"PHOTO" appears when a still image is being captured.
⑧	Focus	Lights up in green when focused.

Memo :

- Scenes can be detected according to the shooting conditions and automatically adjusted in Intelligent Auto mode.
- Multiple scenes may be detected depending on the recording conditions.
- Some functions may not work properly depending on the shooting conditions.


Operation Buttons for Still Image Recording



	Operation Buttons	Description
①	Still Image Recording	Functions as the (recording) button. Tap and hold to adjust the focus.
②	Recording Mode i.A./M	Switches the recording mode.


Using the Silent Mode

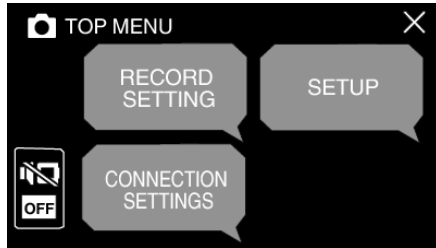
When the Silent mode is used, the LCD monitor darkens and operation sounds will not be output. Use this mode to record quietly in dark places such as during a performance.

-  appears when "SILENT MODE" is set to "ON".
- The light is disabled when "SILENT MODE" is set to "ON".
- To mute only the operating sound, set "OPERATION SOUND" in the menu to "OFF" instead of using the silent mode.

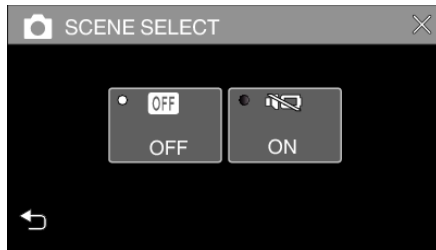
"OPERATION SOUND" (p. 112)

Operating procedure

- 1 Tap the **Menu** button.
- 2 Tap .



- 3 Tap "ON".



Useful Settings for Recording

- 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.

"AUTO POWER OFF" (p. 112)

- When "TOUCH PRIORITY AE/AF" is set to "FACE TRACKING", this unit detects faces and automatically adjusts its brightness and focus to record the faces more clearly.

"Capturing Subjects Clearly (TOUCH PRIORITY AE/AF)" (p. 31)

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.
- While this unit may be used with the LCD monitor reversed and closed, the temperature rises more easily. Leave the LCD monitor open when using this unit for long periods of time, or in places exposed to direct sunlight or high temperatures.
- The power may turn off to protect the circuit if the temperature of this unit rises too much.
- Do not remove the AC adapter or SD card when the POWER/ACCESS lamp is lighted. The recorded data may become unreadable.
- This unit is a microcomputer-controlled device. Electrostatic discharge, external noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such a case, turn off the power after closing the monitor screen, then remove the AC adapter. This unit will be reset.

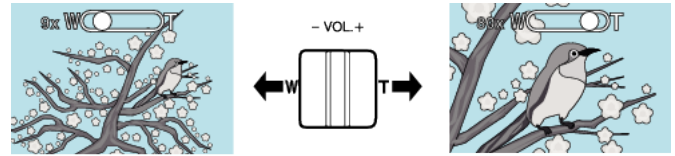
Memo :

- Before recording an important scene, it is recommended to conduct a trial recording.
- Depending on the shooting conditions, the four corners of the screen may appear dark, but this is not a malfunction. In this case, change the shooting conditions by moving the zoom lever, etc.

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.



W (Wide Angle End)

T (Telephoto End)

- The following zoom options are available:

- Optical Zoom (1 - 10x)
- Dynamic Zoom (11 - 22x)
- Digital Zoom (23 - 200x)

Memo :

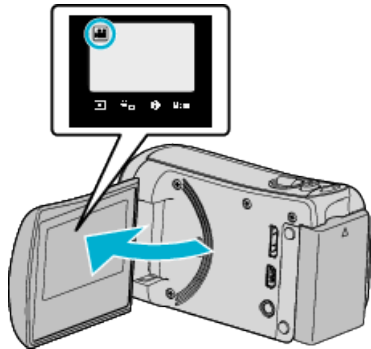
- When digital zoom is used, the image becomes grainy as it is digitally enlarged.
- The zoom ratio range can be changed.

"ZOOM" (p. 103)

Manual Recording

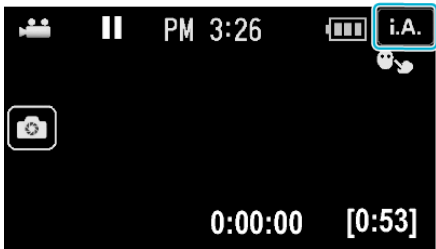
You can adjust settings, such as brightness, by using the manual mode. Manual recording can be set for both video and still image modes.

1 Open the LCD monitor.

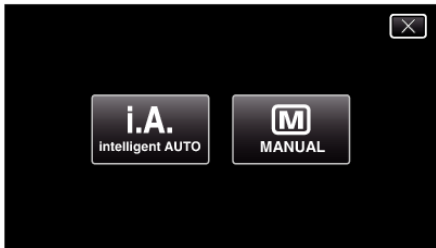


- Set the recording mode to either video or still image.
- To switch the mode between video and still image, tap (video/still image) on the touch screen to display the mode switching screen. Tap or to switch the mode to video or still image respectively.

2 Select the Manual recording mode.



- If the mode is **i.A.**, Intelligent Auto, tap **i.A.** on the recording screen to display the mode switching screen. Tap to switch the recording mode to Manual.

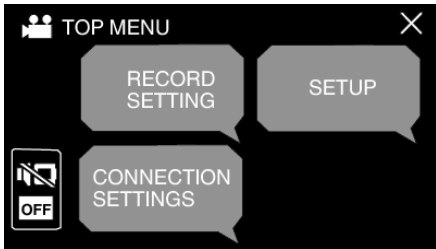


3 Tap the **Menu** button.



- The top menu appears.

4 Tap "RECORD SETTING".



5 Tap the item to set manually.



- For details on the various manual settings, refer to "Manual Recording Menu".

Manual Recording Menu

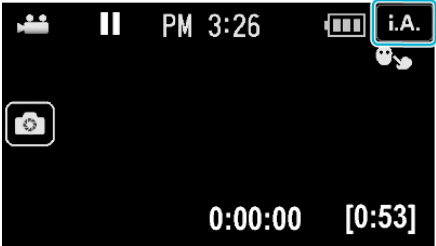
The following items can be set.

Name	Description
FOCUS	<ul style="list-style-type: none">• Use manual focus if the subject is not focused automatically. "Adjusting Focus Manually (FOCUS)" (p. 24)
BRIGHTNESS ADJUST	<ul style="list-style-type: none">• Overall brightness on the screen can be adjusted.• Use this when recording in a dark or bright location. "Adjusting Brightness" (p. 25)
BACKLIGHT COMP.	<ul style="list-style-type: none">• Corrects the image when the subject appears dark due to backlight.• Use this when shooting against the light. "Setting Backlight Compensation" (p. 26)
WHITE BALANCE	<ul style="list-style-type: none">• 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)
TELE MACRO	<ul style="list-style-type: none">• Use this to take close-up (macro) shots of the subject. "Taking Close-up Shots (TELE MACRO)" (p. 28)

Adjusting Focus Manually (FOCUS)

Set this when the focus is not clear in Intelligent Auto or when manual focusing is desired.

1 Select the Manual recording mode.



- If the mode is **i.A.**, Intelligent Auto, tap **i.A.** on the recording screen to display the mode switching screen.

Tap **M** to switch the recording mode to Manual.

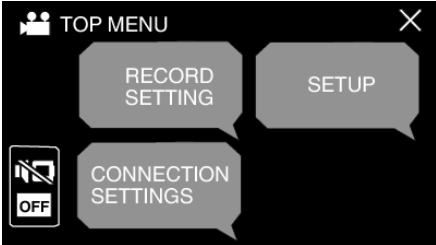


2 Tap the **Menu** button.



- The top menu appears.

3 Tap “RECORD SETTING”.

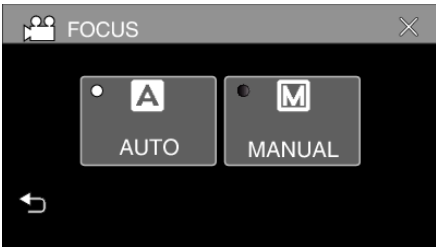


4 Tap “FOCUS”.



- Tap **X** to exit the menu.
- Tap **←** to return to the previous screen.

5 Tap “MANUAL”.

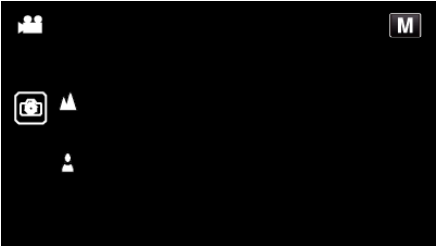


6 Adjust the focus.



- Tap **▲** to focus on a distant subject.
If **▲** appears blinking, focus cannot be set any further.
- Tap **●** to focus on a near subject.
If **●** appears blinking, focus cannot be set any nearer.

7 Tap “SET” to confirm.

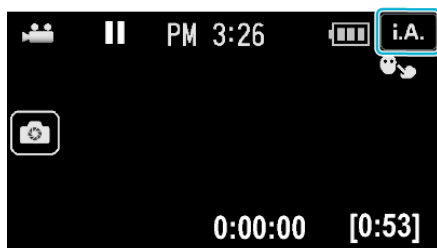


- When focus is confirmed, the focusing frame disappears and **▲** and **●** are displayed.

Adjusting Brightness

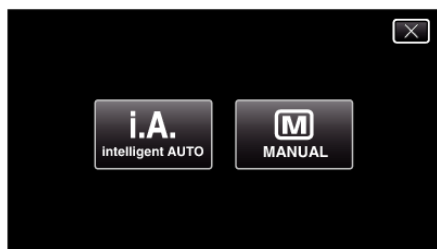
You can adjust the brightness to your preferred level.

- 1 Select the Manual recording mode.



- If the mode is **i.A.**, Intelligent Auto, tap **i.A.** on the recording screen to display the mode switching screen.

Tap **M** to switch the recording mode to Manual.

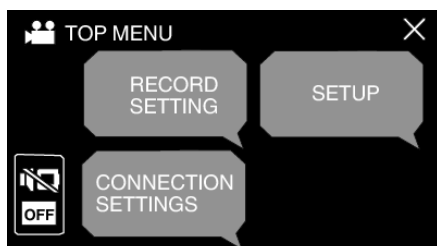


- 2 Tap the **Menu** button.



- The top menu appears.

- 3 Tap "RECORD SETTING".

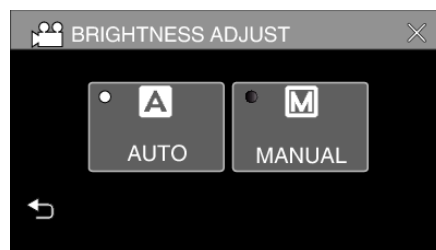


- 4 Tap "BRIGHTNESS ADJUST".

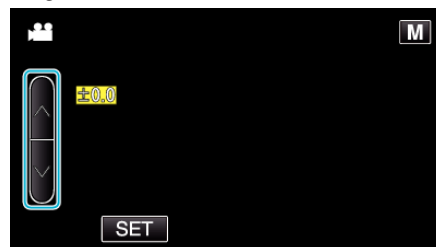


- Tap **X** to exit the menu.
- Tap **↶** to return to the previous screen.

- 5 Tap "MANUAL".

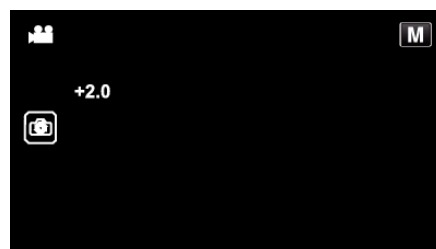


- 6 Adjust the brightness value.



- Compensation range: -2.0 to +2.0
- Tap **^** to increase the brightness.
- Tap **v** to decrease the brightness.

- 7 Tap "SET" to confirm.



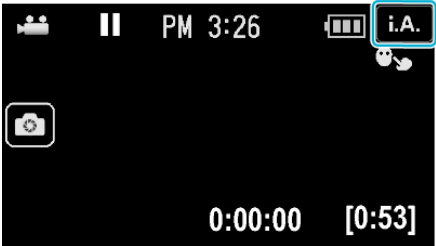
Memo :

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

Setting Backlight Compensation

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

1 Select the Manual recording mode.



- If the mode is **i.A.**, Intelligent Auto, tap **i.A.** on the recording screen to display the mode switching screen.
Tap **M** to switch the recording mode to Manual.

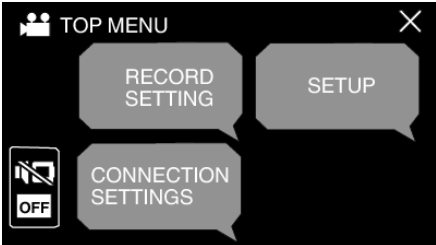


2 Tap the **Menu** button.



- The top menu appears.

3 Tap “RECORD SETTING”.

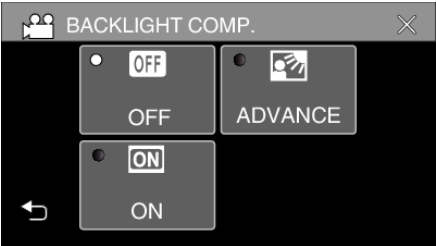



4 Tap “BACKLIGHT COMP.”.



- Tap **×** to exit the menu.
- Tap **↶** to return to the previous screen.

5 Tap “ON” or “ADVANCE”.



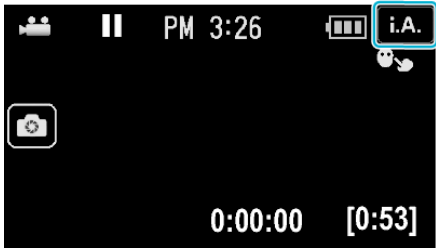
- “ADVANCE” is designed to perform more effective backlight compensation. Choose this when the backlight compensation is not adjusted appropriately by “ON”.
- After setting, the backlight icon  appears.

Setting	Details
OFF	Backlight compensation is disabled.
ON	Backlight compensation is enabled.
ADVANCE	Should be selected for a better backlight compensation effect.

Setting White Balance

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

1 Select the Manual recording mode.



- If the mode is **i.A.** Intelligent Auto, tap **i.A.** on the recording screen to display the mode switching screen.
Tap **M** to switch the recording mode to Manual.

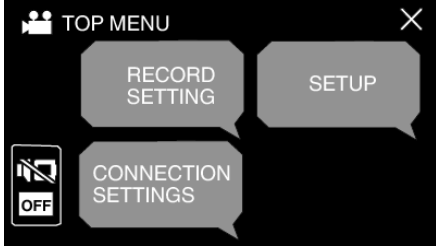


2 Tap the **Menu** button.



- The top menu appears.

3 Tap “RECORD SETTING”.

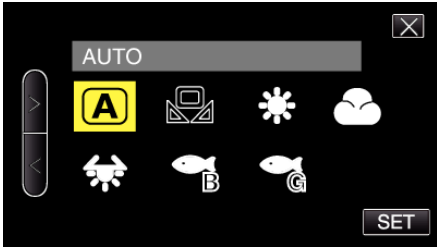


4 Tap “WHITE BALANCE”.



- Tap **X** to exit the menu.
- Tap **↶** to return to the previous screen.

5 Tap the appropriate shooting environment.



- Select the item by using **<** or **>**, then tap “SET”. (Tap the icon directly to select.)
- The White Balance icon appears on the screen upon completing the setting.

Setting	Details
A 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.
MARINE:BLUE	Set this when shooting the sea at deep water area (water appears blue) using a commercially available waterproof case.
MARINE:GREEN	Set this when shooting the sea at shallow water area (water appears green) using a commercially available waterproof case.

Using MWB

- 1 Hold a sheet of plain white paper in front of the lens so that the white paper fills the screen.
- 2 Point the cursor to “MWB”, tap and hold “SET” or the “MWB” icon.
- 3 Release your touch after the menu disappears and lights up.

Memo : _____
• The setting will not change if “MWB” is being tapped too fast (less than 1 second).

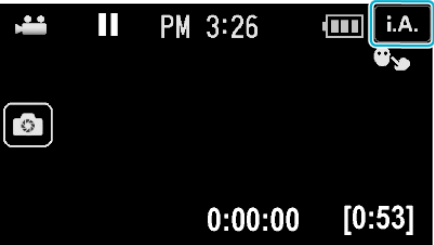
Taking Close-up Shots (TELE MACRO)

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



*The image is only an impression.

1 Select the Manual recording mode.



- If the mode is **i.A.** Intelligent Auto, tap **i.A.** on the recording screen to display the mode switching screen. Tap **M** to switch the recording mode to Manual.

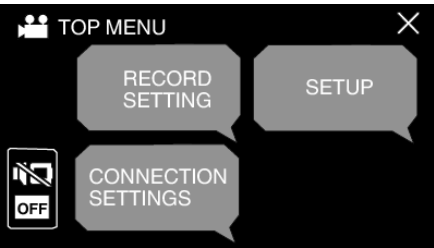


2 Tap the **Menu** button.



- The top menu appears.

3 Tap “RECORD SETTING”.



4 Tap **>**.

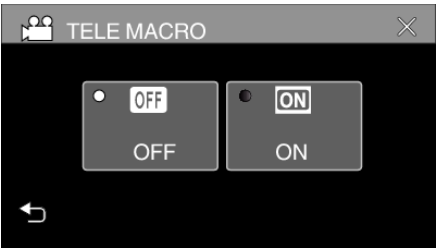



5 Tap “TELE MACRO”.



- Tap **×** to exit the menu.
- Tap **↶** to return to the previous screen.

6 Tap “ON”.



- After setting, the tele macro icon  appears on the information screen.
“Checking the Camera Settings” (p. 43)

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 60 cm at the telephoto (T) end. Enables close-up shots up to 5 cm at the wide angle (W) end.

Caution :

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

Recording with Effects

You can add and record various effects to videos or still images. Once setting is done, you can easily record images that are suitable for each image.

Type of Effect	Description of Effect
GRAINY MONOCHROME	Captures film-like monochrome images by increasing the contrast of mid-level brightness and emphasizing the rough grainy feel on the image. “Recording Images Like an Old Black and White Photo (GRAINY MONOCHROME)” (p. 29)
FOOD	Captures food images such that the food looks appetizing even under fluorescent lighting in homes by changing the colors to warm-colors and deepening the colors. “Recording Food Images (FOOD)” (p. 30)
BABY	Captures a soft and gentle image by lightening the skin tone while retaining the reddish hue, enhancing the skin beautifying effect as well as smoothing the appearance of the skin. “Recording Images of a Baby (BABY)” (p. 30)

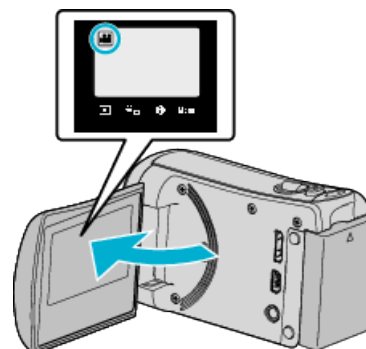
Caution :

- Depending on the shooting environment and subject, you may not achieve the shooting effect as intended.

Recording Images Like an Old Black and White Photo (GRAINY MONOCHROME)

Captures film-like monochrome images by increasing the contrast of mid-level brightness and emphasizing the rough grainy feel on the image.

- 1 Open the LCD monitor.



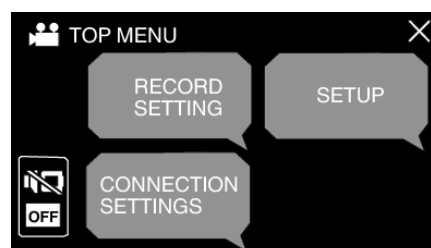
- Set the recording mode to either video or still image.
- To switch the mode between video and still image, tap (video/still image) on the touch screen to display the mode switching screen. Tap or to switch the mode to video or still image respectively.

- 2 Tap the **Menu** button.



- The top menu appears.

- 3 Tap “RECORD SETTING”.

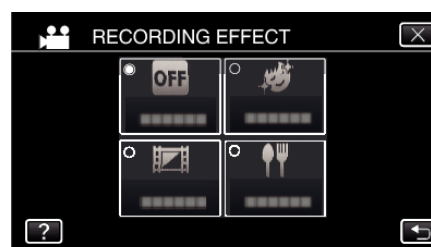


- 4 Tap >.

- 5 Tap “RECORDING EFFECT”.

- Tap X to exit the menu.
- Tap ↶ to return to the previous screen.

- 6 Tap “GRAINY MONOCHROME”.



- Tap X to exit the menu.
- Tap ↶ to return to the previous screen.

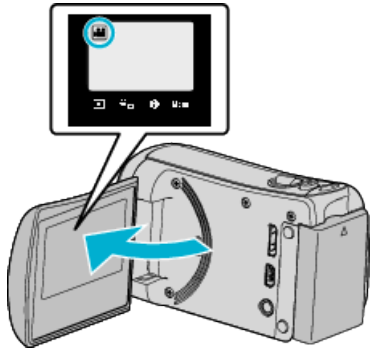
- 7 Start recording.

- To cancel this setting, tap “OFF” in step 6.

Recording Food Images (FOOD)

Captures food images such that the food looks appetizing even under fluorescent lighting in homes by changing the colors to warm-colors and deepening the colors.

1 Open the LCD monitor.



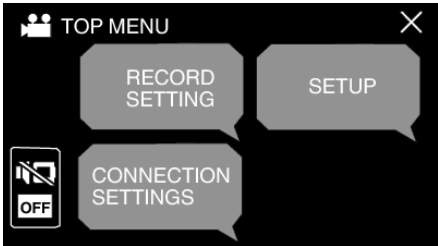
- Set the recording mode to either video or still image.
- To switch the mode between video and still image, tap (video/still image) on the touch screen to display the mode switching screen. Tap or to switch the mode to video or still image respectively.

2 Tap the **Menu** button.



- The top menu appears.

3 Tap “RECORD SETTING”.

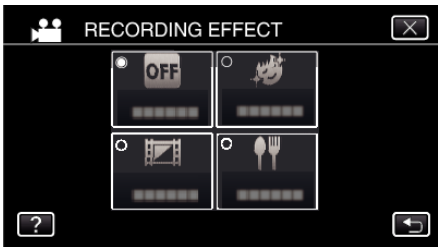


4 Tap >.

5 Tap “RECORDING EFFECT”.

- Tap X to exit the menu.
- Tap ↶ to return to the previous screen.

6 Tap “FOOD”.

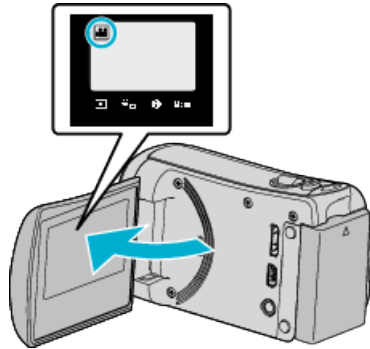


- Tap X to exit the menu.
 - Tap ↶ to return to the previous screen.
- 7 Start recording.
- To cancel this setting, tap “OFF” in step 6.

Recording Images of a Baby (BABY)

Captures a soft and gentle image by lightening the skin tone while retaining the reddish hue, enhancing the skin beautifying effect as well as smoothing the appearance of the skin.

1 Open the LCD monitor.



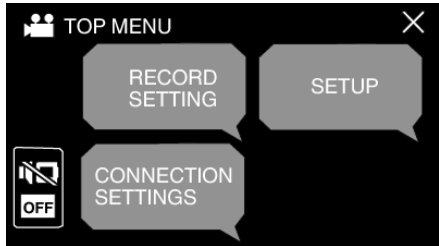
- Set the recording mode to either video or still image.
- To switch the mode between video and still image, tap (video/still image) on the touch screen to display the mode switching screen. Tap or to switch the mode to video or still image respectively.

2 Tap the **Menu** button.



- The top menu appears.

3 Tap “RECORD SETTING”.

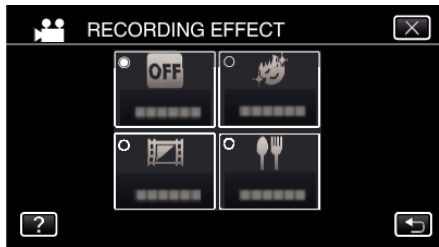


4 Tap >.

5 Tap “RECORDING EFFECT”.

- Tap X to exit the menu.
- Tap ↶ to return to the previous screen.

6 Tap “BABY”.

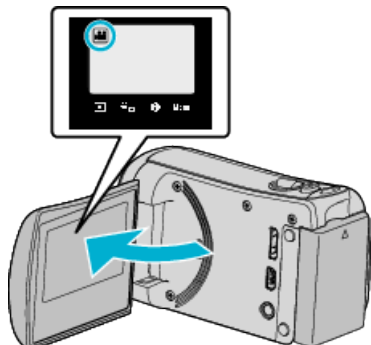


- Tap X to exit the menu.
 - Tap ↶ to return to the previous screen.
- 7 Start recording.
- To cancel this setting, tap “OFF” in step 6.

Capturing Subjects Clearly (TOUCH PRIORITY AE/AF)

“TOUCH PRIORITY AE/AF” is a function that adjusts focus and brightness based on a tapped position. By registering the face of a person beforehand, you can enable tracking of the person even without specific selection during recording. This function is available for both videos and still images.

1 Open the LCD monitor.



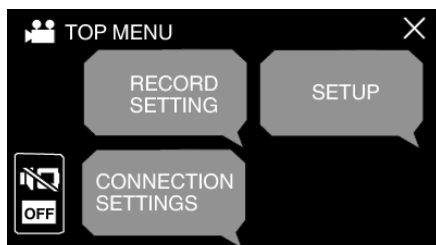
- Set the recording mode to either video or still image.
- To switch the mode between video and still image, tap (video/still image) on the touch screen to display the mode switching screen. Tap or to switch the mode to video or still image respectively.

2 Tap the **Menu** button.

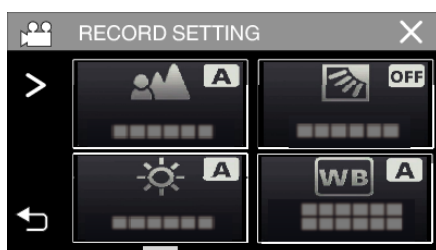


- The top menu appears.

3 Tap “RECORD SETTING”.



4 Tap >.



5 Tap “TOUCH PRIORITY AE/AF”.

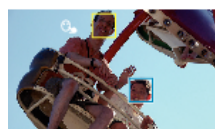


- Tap **X** to exit the menu.
- Tap to return to the previous screen.

6 Tap the desired setting.



FACE TRACKING



COLOR TRACKING



AREA SELECT



- Focus and brightness will be adjusted automatically based on the tapped position (face/color/area). A blue frame appears around the selected subject (face/color), while a white frame appears around the selected area.
- To reset, tap the desired position (face/color/area) again.
- To cancel “FACE TRACKING” or “COLOR TRACKING”, tap the blue frame.
- To cancel “AREA SELECT”, tap the white frame.

Setting	Details
OFF	Deactivates the function.
FACE TRACKING	appears on the screen. Recording is performed while tracking and automatically adjusting the tapped face (subject) with appropriate focus and brightness. In addition, a blue frame appears around the tapped face (subject). (When the face of a person is registered, it becomes the main subject and the blue frame appears even without specific selection.)
COLOR TRACKING	appears on the screen. Recording is performed while tracking and automatically adjusting the tapped color (subject) with appropriate focus. In addition, a blue frame appears around the tapped color (subject).
AREA SELECT	appears on the screen. Recording is performed while automatically adjusting the tapped area (fixed position) with appropriate focus and brightness. In addition, a white frame appears around the tapped area. AREA SELECT in TOUCH PRIORITY AE/AF is only available within the optical zoom range. (unavailable when digital zoom is being used)

Memo :

- When "TOUCH PRIORITY AE/AF" is set, "FOCUS" will be set to "AUTO" automatically.
- Tap the selected position (face/color/area) again to cancel the setting. (Setting remains for registered faces.)
- Tap on an unselected position (face/color/area) to reset.
- If the camera loses track of a subject, tap the subject again.
- Settings are canceled when zoom operation is performed. ("AREA SELECT" only)
- When "FACE TRACKING" is set after face registration, the blue frame appears around the face with the highest priority registered.
- When recording registered faces using "FACE TRACKING", focus and brightness will be adjusted automatically even without specific selection. In addition, registered faces may be tracked back again even if they are lost. Therefore, it is recommended to register the faces that are often being recorded by this camera beforehand.

"Registering Human Face Personal Authentication Information"

(p. 34)

- When "COLOR TRACKING" is set, the targeted subject (color) may change if similar colors are detected. In this case, tap the subject again. The targeted subject (color) may also be tracked back again if it appears in the center of the screen within a specific time.

Caution :

- Subjects near the sides of the LCD monitor may not respond or be recognized when tapped. In this case, move the subject to the center and tap again.
- "FACE TRACKING" may not work properly depending on the shooting conditions (distance, angle, brightness, etc.) and the subject (direction of face, etc.). It is also particularly difficult to detect faces in backlight.
- "COLOR TRACKING" may not function properly in the following cases:
 - when recording subjects with no contrast
 - when recording subjects that are moving at high speed
 - when recording in a dark place
 - when the surrounding brightness changes
- "AREA SELECT" is not available while the digital zoom is in use.
- When "FACE TRACKING" is set, the subject may be lost if the camera is moved vertically or horizontally very fast. For unregistered faces, they cannot be tracked back again. To track back the subject, tap on it again. For registered faces, focus and brightness will be adjusted automatically even without specific selection. In addition, registered faces may be tracked back again even if they are lost. Therefore, it is recommended to register the faces that are often being recorded by this camera beforehand.

"Registering Human Face Personal Authentication Information"

(p. 34)

Capturing Smiles Automatically (SMILE SHOT)

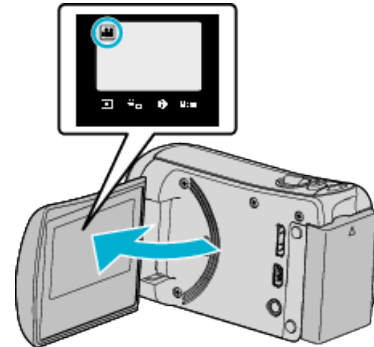
"SMILE SHOT" automatically captures a still image upon detection of a smile.

This function is available for both videos and still images.

Set "TOUCH PRIORITY AE/AF" to "FACE TRACKING" before selecting "SMILE SHOT".

"Capturing Subjects Clearly (TOUCH PRIORITY AE/AF)" (p. 31)

- 1 Open the LCD monitor.



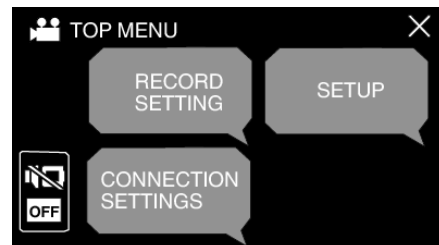
- Set the recording mode to either video or still image.
- To switch the mode between video and still image, tap (video/still image) on the touch screen to display the mode switching screen. Tap or to switch the mode to video or still image respectively.

- 2 Tap the Menu button.

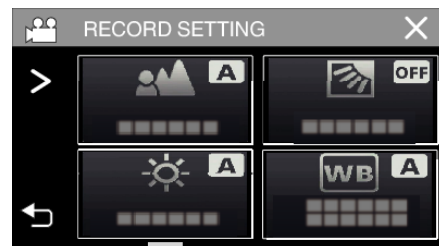


- The top menu appears.

- 3 Tap "RECORD SETTING".



- 4 Tap >.



- 5 Tap "SMILE SHOT".

- Tap X to exit the menu.
- Tap to return to the previous screen.

6 Tap "ON".



- Tap X to exit the menu as the previous screen appears.

7 Point the camera toward the human subject.

- A still image is automatically captured when smiles are detected.



- PHOTO lights up when a still image is being captured.
- You can display the smile level (%) together with the frame by setting "SMILE% DISPLAY" in the menu to "ON" before recording.

"Setting SMILE% DISPLAY" (p. 35)

Memo :

- The camera is able to detect up to 8 faces. Smile levels (%) will be displayed for up to 3 of the largest faces displayed on the screen.
- This function may not work properly depending on the shooting conditions (distance, angle, brightness, etc.) and the subject (direction of face, smile level, etc.). It is also difficult to detect a smile in backlight.
- After a smile is detected and captured, it takes time before the next recording may be performed.
- Operation is invalid under the following conditions:
 - when menu is being displayed
 - when remaining recording time or battery power is being displayed
 - when any functions in "TIME-LAPSE RECORDING" or "DATE/TIME RECORDING" is set

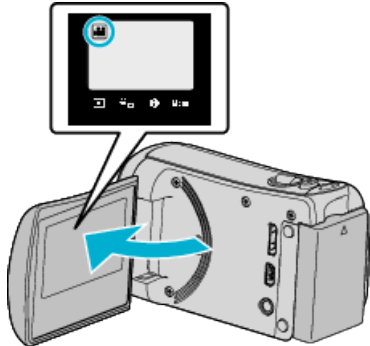
Caution :

- If appropriate results cannot be obtained, record with "SMILE SHOT" set to "OFF".

Registering Human Face Personal Authentication Information

By registering the face of a person beforehand, focus and brightness can be adjusted automatically by the face tracking function. Up to 4 faces together with priority levels can be registered.
It is recommended to register the faces that are often being recorded by this camera beforehand.

1 Open the LCD monitor.



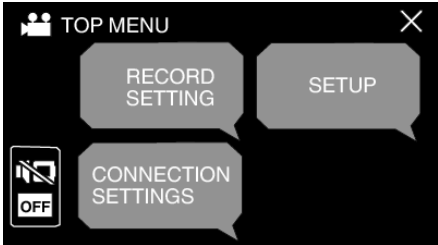
- Set the recording mode to either video or still image.
- To switch the mode between video and still image, tap (video/still image) on the touch screen to display the mode switching screen. Tap or to switch the mode to video or still image respectively.

2 Tap the Menu button.

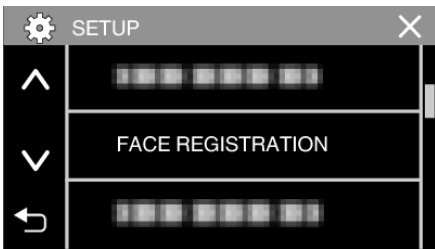


- The top menu appears.

3 Tap "SETUP".

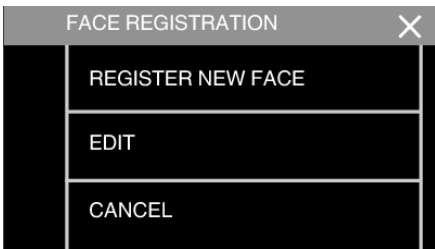


4 Tap "FACE REGISTRATION".

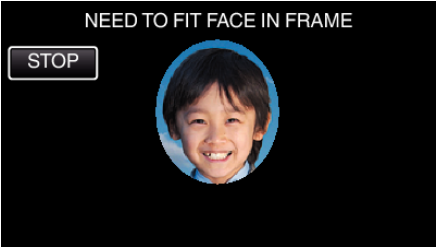


- Tap X to exit the menu.
- Tap ↶ to return to the previous screen.

5 Tap "REGISTER NEW FACE".

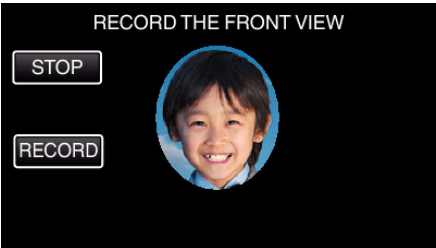


6 Point the camera toward the human subject.



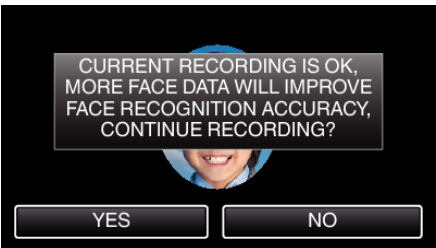
- Information is collected before face registration recording. The frame appears blinking while information is being collected.
- Adjust to fit the face within the frame while it is blinking. The frame stops blinking and lights up after information collection is complete.
- To cancel the registration, tap "STOP". When "CANCEL FACE RECOGNITION?" appears, tap "YES" to return to the normal recording mode.

7 Tap "RECORD" and record the face from the front.



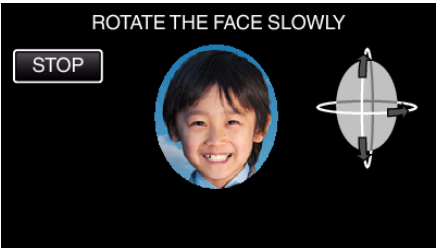
- A face is captured to be used on the face registration index screen.
- Other than tapping "RECORD", you can also record by pressing the recording button on the camera.
- A sound can be heard when recording is complete.
- To cancel the registration, tap "STOP". When "CANCEL FACE RECOGNITION?" appears, tap "YES" to return to the normal recording mode.

8 Tap "YES" to continue recording.



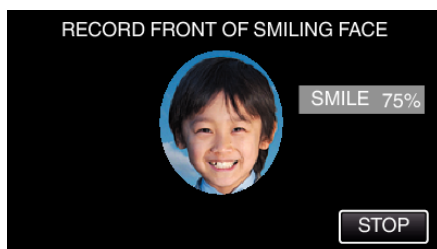
- To proceed to collect face information in the four directions of up, down, left, and right, tap "YES". It is recommended to continue recording to increase the accuracy of face recognition.
- To end face registration recording, tap "NO". Go to step 11.

9 Rotate the face slowly in four directions to register the face information.



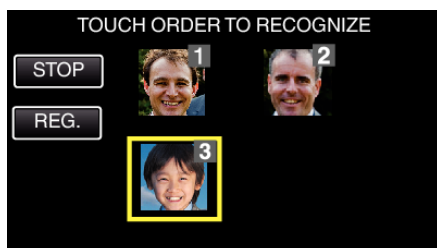
- Rotate the face slowly while looking at the camera. A sound can be heard when recording is complete for each direction. (4 times in total) Repeat the step until recording (registration) is complete for all directions.
- Registration of the four directions may fail depending on the shooting environment. In this case, tap "STOP" to cancel recording, then tap "NO" and go to step 11.
- If the face cannot be properly recognized during recording, register the face again.

10 Face the camera with a smiling face.

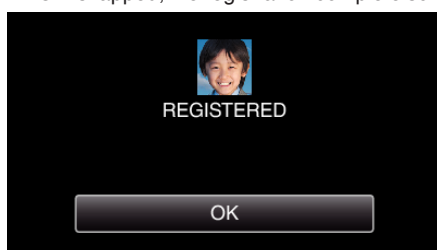


- Recording starts automatically. Using the smile % display as a reference, smile such that the value is as high as possible.
- A sound can be heard when recording is complete.
- To cancel recording of smiling face, tap "STOP", then tap "NO".

11 Tap the desired priority level, then tap "REG.".



- Upon registration, the last number is assigned as the priority level. During face detection, the subject with the highest priority (lowest number) will be detected.
- You can change the priority level of a subject by tapping on the number.
Example: To change the priority level of number 3 to number 1, tap number 1. The priority level of the registered subject becomes number 1, while the priority levels of the original number 1 and the ones below drop by one place. (In this example, the original number 1 becomes number 2, and the original number 2 becomes number 3.)
- When "REG." is tapped, the registration complete screen appears.



- Tap "OK" to complete the registration.
- You can edit registered face information in "EDIT".
"Editing the Registered Face Information" (p. 36)

Memo :

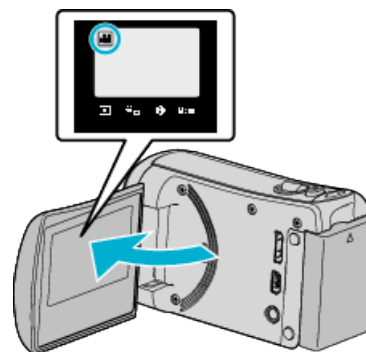
- Faces may not be registered correctly in the following cases:
 - when the face appears either too small or too large compared to the frame
 - when it is too dark or too bright
 - when the face appears horizontal or slanted
 - when a part of the face is hidden
 - when there are multiple faces within the frame
- To increase the accuracy of face recognition, fit only one face within the frame and register in a bright environment.
- Faces may not be recognized correctly depending on the shooting conditions and environment. In this case, register the face again.
- Faces may not be recognized correctly during recording if the face recognition level is low. In this case, register the face again.
- Face tracking may not work properly depending on the registered faces, shooting conditions (distance, angle, brightness, etc.), and expressions.
- Face tracking may not work properly for people with similar facial features, such as siblings, parents, children, etc.

Setting SMILE% DISPLAY

"SMILE% DISPLAY" allows you to set the items to display when faces are detected.
This item is only displayed when "TOUCH PRIORITY AE/AF" is set to "FACE TRACKING".

"Capturing Subjects Clearly (TOUCH PRIORITY AE/AF)" (p. 31)

1 Open the LCD monitor.

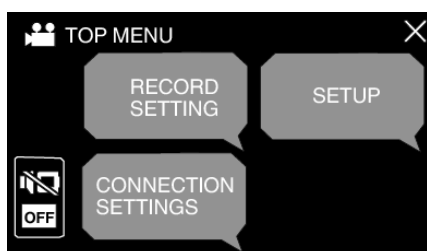


- Set the recording mode to either video or still image.
- To switch the mode between video and still image, tap (video/still image) on the touch screen to display the mode switching screen. Tap or to switch the mode to video or still image respectively.

2 Tap the Menu button.



3 Tap "RECORD SETTING".

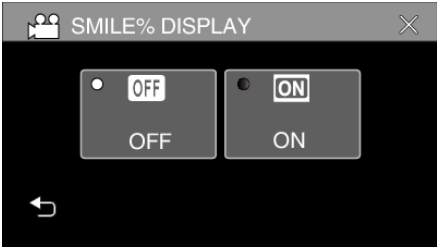


4 Tap >.



5 Tap "SMILE% DISPLAY".

6 Tap the desired setting.



Setting	Details
OFF	Displays only the frames when faces are detected.
ON	Displays the frames, names, and smile levels (%) when faces are detected. Displays the frames and smile levels (%) when faces are detected.

- Frame: Appears around detected faces.
- Smile level: Appears in value (0 % - 100 %) for detected smiles.



Memo :

- The camera is able to detect up to 8 faces. Smile levels (%) will be displayed for up to 3 of the largest faces displayed on the screen.
- Some faces may not be detected depending on the shooting environment.
- You can register personal authentication information like face and priority level of person before recording.

Editing the Registered Face Information

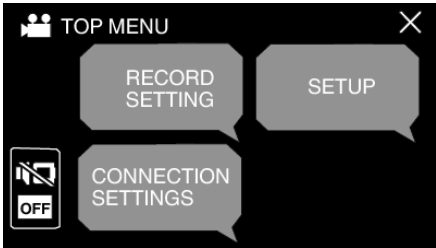
You can change the priority level that is registered.

1 Tap the **Menu** button.

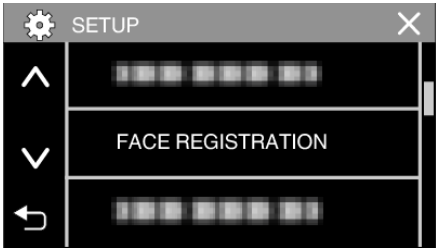


- The top menu appears.

2 Tap “SETUP”.

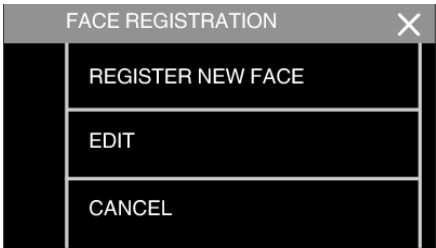


3 Tap “FACE REGISTRATION”.

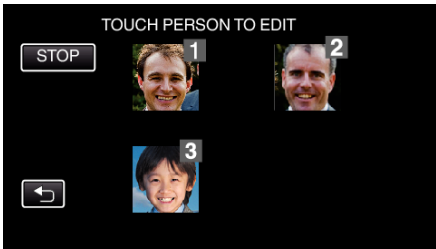


- Tap X to exit the menu.
- Tap ↶ to return to the previous screen.

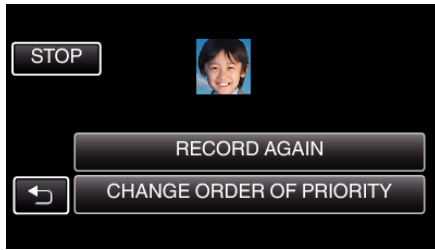
4 Tap “EDIT”.



5 Tap the person to edit.



6 Tap the item to edit.



- If you select “CHANGE ORDER OF PRIORITY”, proceed to step 11 in ““Registering Human Face Personal Authentication Information” (p. 35)”.

“Registering Human Face Personal Authentication Information” (p. 34)

Canceling (Deleting) the Registered Face Information

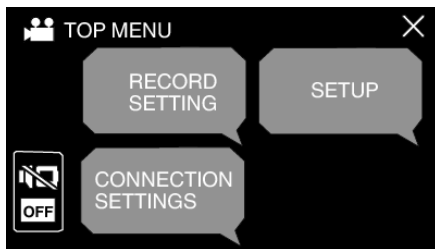
You can cancel (delete) the face information that is registered.

1 Tap the **Menu** button.

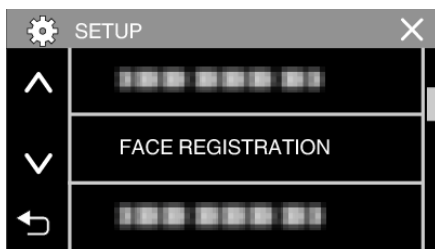


- The top menu appears.

2 Tap “SETUP”.

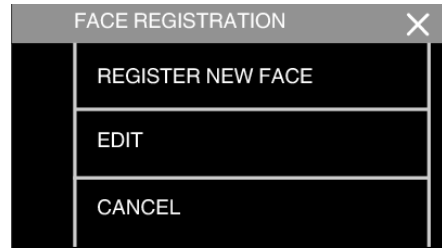


3 Tap “FACE REGISTRATION”.

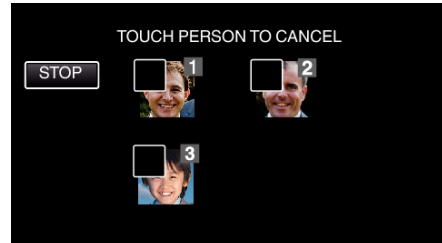


- Tap X to exit the menu.
- Tap ↶ to return to the previous screen.

4 Tap “CANCEL”.

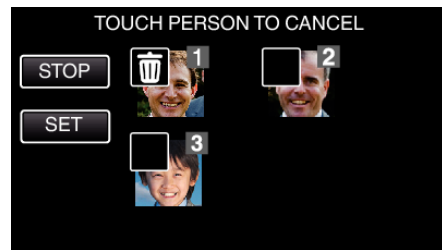


5 Tap the person to cancel registration of.

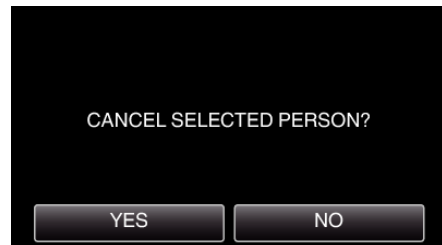


- 🗑 appears on the selected person.
- To remove 🗑 from a person, tap on the person again.

6 Tap “SET”.



7 Tap “YES”.



- Tap “YES” to delete the face information of the selected person.
- Tap “NO” to return to the previous screen.
- Tap “OK” when the deletion complete screen appears.

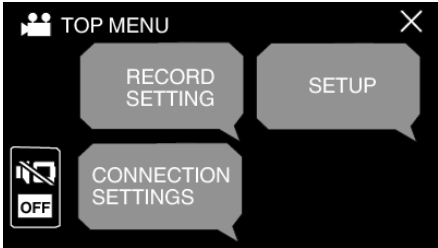
Reducing Camera Shake

When the image stabilizer is set, camera shake during video recording can be effectively reduced.

1 Tap the **Menu** button.



2 Tap “RECORD SETTING”.



3 Tap >.



4 Tap “OIS”.



- Tap **×** to exit the menu.
- Tap ↶ to return to the previous screen.

5 Tap the desired setting.



Setting	Details
OFF	Deactivates image stabilizer.
ON	Reduces camera shake under normal shooting conditions.
ON (AIS)	Reduces camera shake more effectively when shooting bright scenes on the wide angle end. Only on the wide angle end (approx. 5x).
ON (ENH. AIS)	The area of correction in the enhanced AIS mode is greater than that in the AIS mode. Camera shake can be reduced more effectively even when recording is performed by zooming from wide angle to telephoto, or moving together with the subject.

Memo :

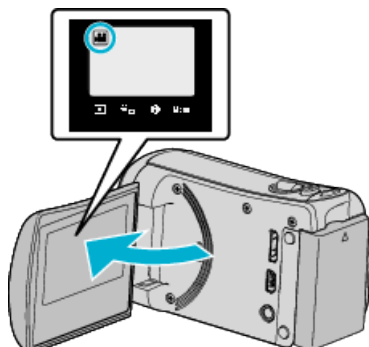
- It is recommended to set the image stabilizer to “OFF” when shooting a subject of little movement with the unit on a tripod.
- Complete stabilization may not be possible if camera shake is excessive.
- This setting is effective for video recording only.
- When AIS is set to “ON”, the angle of view becomes narrower. In the enhanced AIS mode, the angle of view becomes even narrower than “ON (AIS)”.

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 Open the LCD monitor.



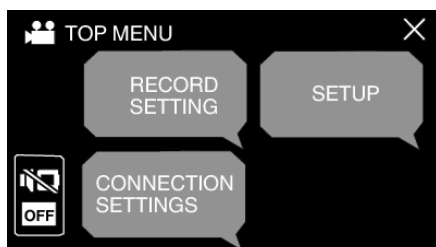
- Check if the recording mode is .
- If this unit is in the still image mode , tap the (video/still image) button on the touch screen to display the mode switching screen. Tap to switch the mode to video.

- 2 Tap the **Menu** button.



- The top menu appears.

- 3 Tap "RECORD SETTING".



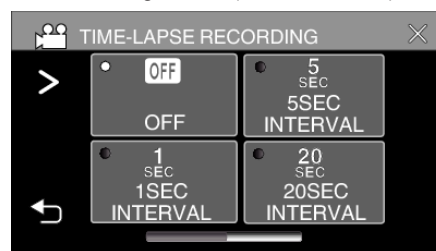
- 4 Tap >.



- 5 Tap "TIME-LAPSE RECORDING".

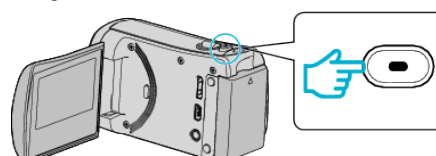
- Tap X to exit the menu.
- Tap ↶ to return to the previous screen.

- 6 Tap to select a recording interval (1 to 80 seconds).



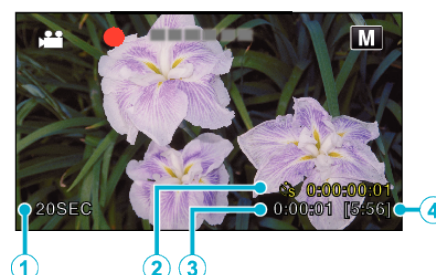
- The greater the number of seconds, the longer the recording interval.
- Tap X to exit the menu.
- Tap ↶ to return to the previous screen.

- 7 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.
- Settings of Time-Lapse recording are not saved when the power is turned off.

Indications During Time-Lapse Recording



	Display	Description
①	Recording interval	Displays the recording interval that is set.
②	Recorded Time	Displays the actual recorded time of the video. Recorded time increases in units of frames.
③	Actual Elapsed Time	Displays the actual elapsed time after recording starts.
④	Remaining Recording Time	Remaining time left to record with the currently selected video quality.

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.
5SEC INTERVAL	Takes a frame at 5-second intervals. Recorded videos will be played back at 150 times speed.
20SEC INTERVAL	Takes a frame at 20-second intervals. Recorded videos will be played back at 600 times speed.
80SEC INTERVAL	Takes a frame at 80-second intervals. Recorded videos will be played back at 2 400 times speed.

Caution :

- During the time-lapse recording, video quality is set to XP mode.
- Audio cannot be recorded during time-lapse recording.
- When recording is stopped with the recorded time less than “0:00:00:17”, the video will not be saved.
- Zooming, simultaneous still image recording, and image stabilizer are not available in time-lapse recording.
- Seamless recording is disabled in time-lapse recording.

Memo :

- Settings of time-lapse recording are reset when the power is turned off. To start time-lapse recording again, it is necessary to make the selection once more.
- 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. 15)

Using the Self-timer

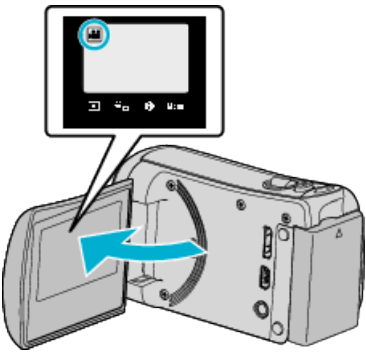
You can record video or still image using the self-timer. This is useful when recording a video to include yourself in the video. The 10-second self-timer is a convenient function for taking group photos. The 2-second self-timer is useful for preventing camera shake caused by pressing the shutter button.





Memo :

When shooting a photo using the self-timer function, use of a tripod is recommended.
“Tripod Mounting” (p. 15)

Using the Self-timer in Video Mode

- 1 Open the LCD monitor.



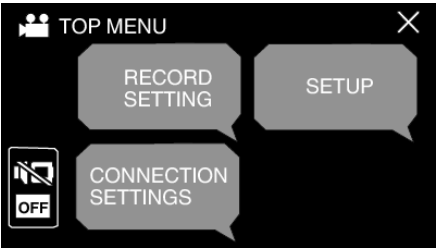
- Check if the recording mode is .
- If this unit is in the still image mode , tap the  (video/still image) button on the touch screen to display the mode switching screen. Tap  to switch the mode to video.

- 2 Tap the Menu button.



- The top menu appears.

- 3 Tap “RECORD SETTING”.



- 4 Tap >.

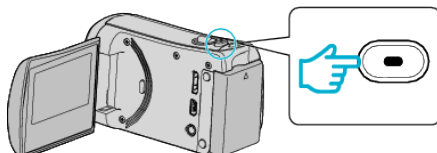


- 5 Tap “SELF-TIMER”.
- Tap X to exit the menu.
 - Tap ↶ to return to the previous screen.

6 Tap "ON".



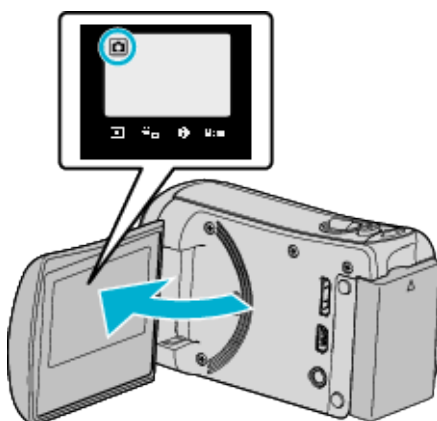
7 Press the  (recording) button.






- The countdown to recording appears and recording will start after 5 seconds.
- To stop the self-timer, press the recording button again.

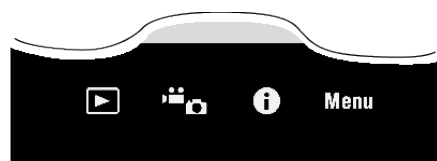
■ Using the Self-timer in Still Image Mode

1 Open the LCD monitor.



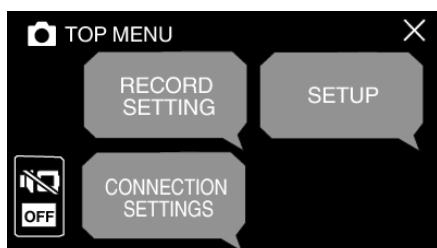
- Check if the recording mode is .
- If this unit is in the video mode , tap the video/still image button on the touch screen to display the mode switching screen. Tap  to switch the mode to still image.

2 Tap the **Menu** button.

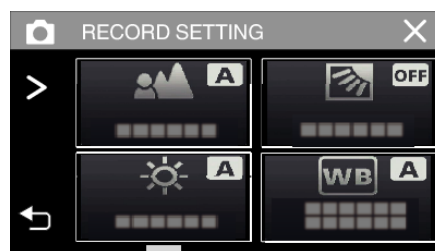


- The top menu appears.


3 Tap "RECORD SETTING".



4 Tap >.



5 Tap "SELF-TIMER".

- Tap X to exit the menu.
- Tap  to return to the previous screen.

6 Tap "2SEC" or "10SEC".



7 Set the focus on the subject.

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

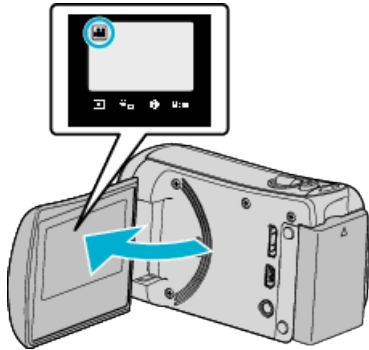
8 Take a still image.

- A timer appears and countdown to shooting starts.
- To stop the self-timer, press the recording button again.

Recording Videos with Date and Time

You can record videos together with the date and time. Set this when you want to save the file with date and time display. (The date and time cannot be deleted after recording.)

- 1 Open the LCD monitor.



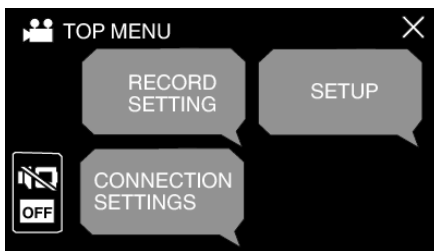
- Check if the recording mode is .
- If this unit is in the still image mode , tap the (video/still image) button on the touch screen to display the mode switching screen. Tap to switch the mode to video.

- 2 Tap the **Menu** button.



- The top menu appears.

- 3 Tap "RECORD SETTING".



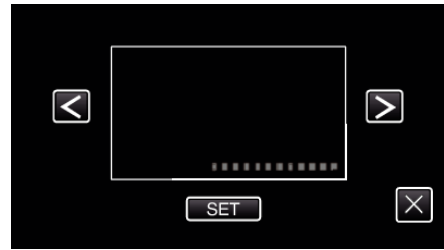
- 4 Tap >.



- 5 Tap "DATE/TIME RECORDING".

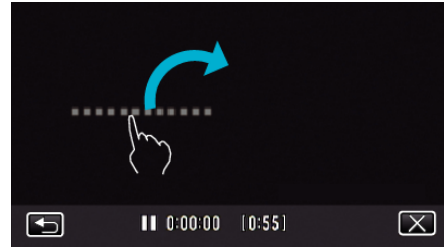
- Tap X to exit the menu.
- Tap to return to the previous screen.

- 6 Select the type of clock with < or >, and tap "SET".



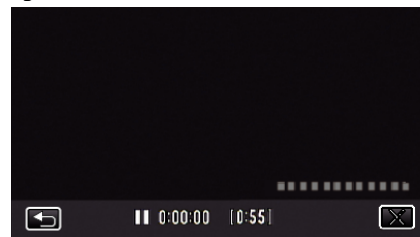
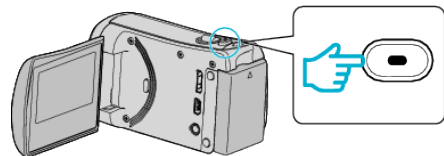
- When "SET" is tapped, the precaution for date/time recording appears.
- Tap X to exit the menu.

- 7 Adjust the display position of the date and time display with a finger mark by touching it with your finger and dragging it.



- Move the date and time display while touching it with your finger and tracing it on a screen.

- 8 Press the (recording) button to start recording.



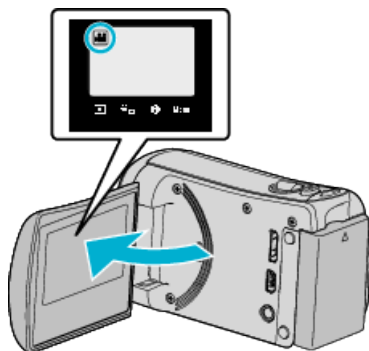
- Press the START/STOP button again to stop recording.
- Tap to return to the screen for selecting the types of clock.
- Tap X to exit "DATE/TIME RECORDING".
(To perform operations other than recording, tap X to cancel the "DATE/TIME RECORDING" first.)

Caution :

- The date and time cannot be deleted after recording.

Checking the Camera Settings

- 1 Open the LCD monitor.



- Check if the recording mode is .
 - If this unit is in the still image mode , tap the (video/still image) button on the touch screen to display the mode switching screen. Tap to switch the mode to video.
- 2 Tap the (information) button.



- 3 Display the camera settings.



- To exit the display, tap X.

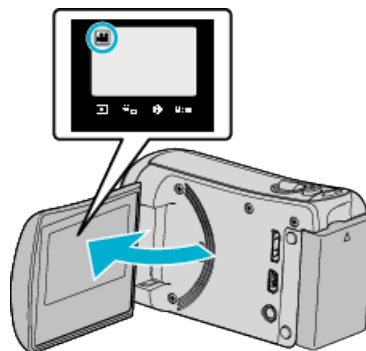
Memo :

- The camera settings are also displayed in the still image mode .



Checking the Remaining Recording Time

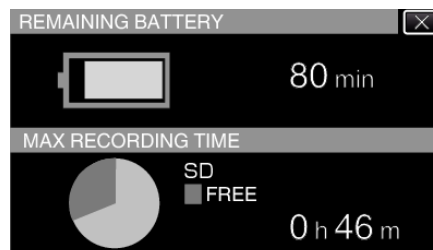
- 1 Open the LCD monitor.



- Check if the recording mode is .
 - If this unit is in the still image mode , tap the (video/still image) button on the touch screen to display the mode switching screen. Tap to switch the mode to video.
- 2 Tap the (information) button twice.



- 3 Display the remaining recording time.



- To exit the display, tap X.

Recording

Approximate Video Recording Time

Picture quality	Built-in memory
	8GB
UXP	35 m
XP	50 m
EP	3 h

Picture quality	SDHC/SDXC card					
	4GB	8GB	16GB	32GB	64GB	128GB
UXP	20 m	40 m	1 h 20 m	2 h 40 m	5 h 40 m	11 h 30 m
XP	30 m	1 h	1 h 50 m	3 h 50 m	8 h 10 m	16 h 20 m
EP	1 h 40 m	3 h 30 m	7 h	14 h	28 h 50 m	57 h 50 m

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

Image size	Built-in memory	SDHC/SDXC card				
	8GB	4GB	8GB	16GB	32GB	64GB
4096x3072(12M)(4:3)	900	500	1000	2000	4100	8500
2528x1896(4.7M)(4:3)	2400	1300	2700	5400	9999	9999
1824x1368(2.4M)(4:3)	4700	2600	5300	9999	9999	9999
1920x1080(2M)(16:9)	5600	3100	6400	9999	9999	9999
640x480(0.3M)(4:3)	9999	9999	9999	9999	9999	9999

- Still images that are captured during video recording or video playback are saved at a size of 1920 x 1080.

Approximate Recording Time (Using Battery)

Battery Pack	Actual recording time	Continuous recording time (Maximum Recording Time)
BN-VG109 (Supplied)	40 m	1 h
BN-VG119	1 h 10 m	2 h 10 m
BN-VG129	1 h 50 m	3 h 20 m
BN-VG138	2 h 25 m	4 h 25 m

- The above are values when “LIGHT” is set to “OFF” and “MONITOR BRIGHTNESS” is set to “3” (standard).
- The actual recording time is an estimate in case that such operations as zooming is used or recording is stopped repeatedly. It may be shorter in the actual usage. (It is recommended to prepare battery packs ready for three times the expected recording time.)
- Recording time may differ depending on the shooting environment and usage.
- 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.)

Playing Back Videos

The followings are the types of playback that can be performed by this unit.

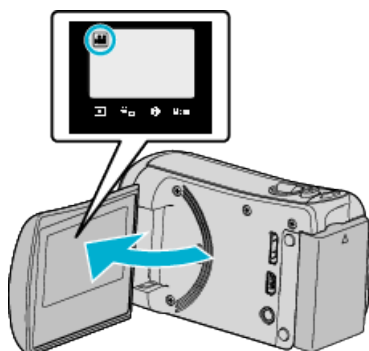
Item	Description
Normal Playback	Plays back the recorded videos.
DIGEST PLAYBACK	From the recorded video, scenes with a smile detected and scenes with a person whose face is registered are extracted and pieced together for a digest playback. When "AUTO" is selected, recorded video is digested in the pre-set length of time. Start playback from "DIGEST PLAYBACK" in the "PLAYBACK SETTING" menu.
PLAYBACK PLAYLIST	Plays back the playlists that you have created. Start the playback from "PLAYBACK PLAYLIST" in the "PLAYBACK SETTING" menu.
PLAYBACK OTHER FILE	Videos with defective management information can be played back. Start playback from "PLAYBACK OTHER FILE" in the "PLAYBACK SETTING" menu.

Caution :

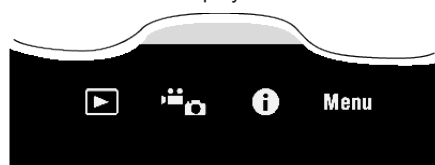
- Make a backup of important recorded data.
It is recommended to copy your important recorded data to a DVD or other recording media for storage.
- This unit is a microcomputer-controlled device. Electrostatic discharge, external noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such a case, turn off the power, then remove the AC adapter and battery pack. This unit will be reset.
- Disclaimer
 - We shall not be held responsible for loss of recorded contents when recording videos/audio or playback cannot be operated due to malfunctions in this unit, provided parts, or SD card.
 - Once deleted, recorded contents (data), including data loss due to malfunctions in this unit, cannot be restored. Please be forewarned.
 - JVC will not be responsible for any lost data.
 - In order for quality improvement, defective recording medium is subject to be analyzed. Therefore, it may not be returned.

Switching to the video playback screen

- 1 Open the LCD monitor.



- Check if the recording mode is .
 - If this unit is in the still image mode , tap the (video/still image) button on the touch screen to display the mode switching screen.
Tap to switch the mode to video.
- 2 Tap the button to select the playback mode.



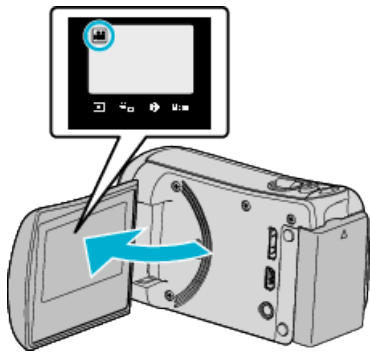
- 3 The video playback screen is displayed.








Normal Playback

Plays back the recorded videos.

1 Open the LCD monitor.







- Check if the recording mode is .
- If this unit is in the still image mode , tap the  (video/still image) button on the touch screen to display the mode switching screen. Tap  to switch the mode to video.

2 Tap the  button to select the playback mode.



3 Tap on the file to start playback.



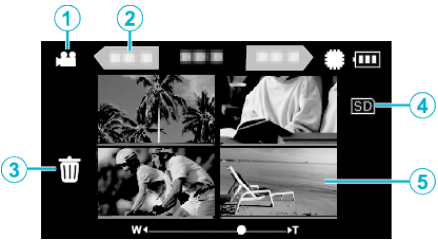
- Tap  to select the media for playback and change the index screen (thumbnail display).
- Tap  to pause.
- Tap  to return to the index screen.
-  appears on the last image played back.
- Lines in different colors are displayed under the thumbnail display to distinguish the recording date.
- You can use the zoom key to go to the next or previous page of the index screen.



Caution :

- While this unit may be used with the LCD monitor reversed and closed, the temperature rises more easily. Do not use this unit with the LCD monitor reversed and closed for long periods of time, or in places exposed to direct sunlight or high temperatures.
- The power may turn off to protect the circuit if the temperature of this unit rises too much.

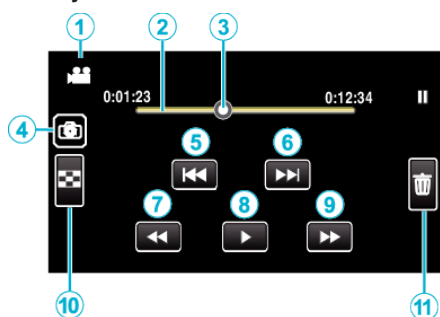
Operation Buttons for Video Playback

During Index Screen Display



	Display	Description
①	Video/Still Image Recording Mode	Displays the recording mode icon.
②	Date	Moves to the previous/next date
③		Displays the index screen (thumbnail display) to perform deletion
④		Switches between the index screen of the built-in memory and SD card
⑤	Thumbnail (File)	Tap on thumbnail - Starts playback Drag to right - Scrolls to the right to show the previous index screen (thumbnail display) Drag to left - Scrolls to the left to show the next index screen (thumbnail display) Images with the same underlined color indicates the same recording date.

During Video Playback



- When this unit is not operated, the operation buttons on the touch screen disappear automatically. Tap on the screen to display the operation buttons again.

	Display	Description
①	Video/Still Image Recording Mode	Displays the recording mode icon.
②	Timeline Bar	Tap on a random position - Moves to the tapped position Drag playback point to the left or right - Starts playback from the new position Tap on a random position - Moves to the tapped position
③	Pointer	Displays the current estimated playback position within the scene
④	Still Image Recording Button	Saves one scene of the video being played back as a still image. • Displayed while playback is paused.
⑤	⏮	Returns to the beginning of the scene Returns to the previous scene if tapped at the beginning of a scene. • Allows the same functions as the zoom lever to be performs while pausing playback.
⑥	⏭	Advances to the next scene
⑦	⏪	Reverse search (speed increases with each tap)
⑦	⏮	Reverse slow-motion / Press and hold to start reverse slow playback
⑧	▶ / ⏸	Playback/pause
⑨	⏩	Forward search (speed increases with each tap)
⑨	⏭	Forward slow-motion / Press and hold to start slow playback
⑩	⏹	Stop (returns to index screen)
⑪	🗑	Deletes the currently displayed video.

Memo :

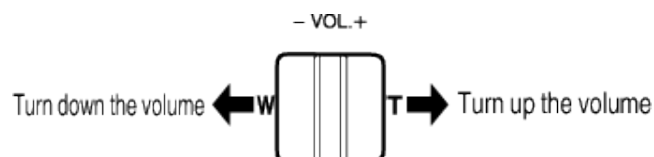
- Tap or drag on the operation area of the touch screen.
- The recording date and time can be displayed on the screen during playback.

(p. 107)

- Displays the approximate remaining battery power during use.

Adjusting the Volume of Videos

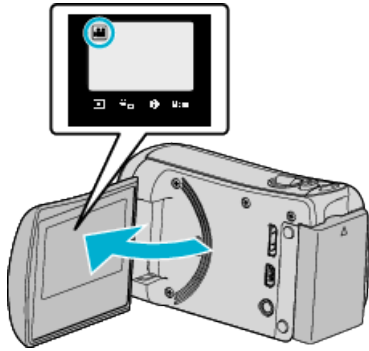
You can use the zoom/volume lever to control the volume.



Checking the Recording Date and Other Information

You can see the recording information of the recorded videos.

- 1 Open the LCD monitor.



- Tap the (video/still image) button on the touch screen to switch to the mode switching screen, and select either video or still image .

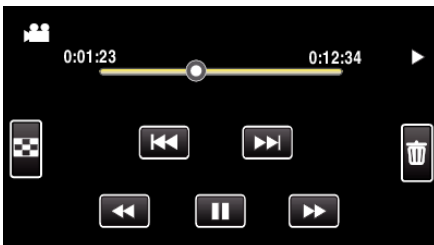
- 2 Tap the button to select the playback mode.



- 3 Tap on the file to start playback.



- 4 Tap to pause.

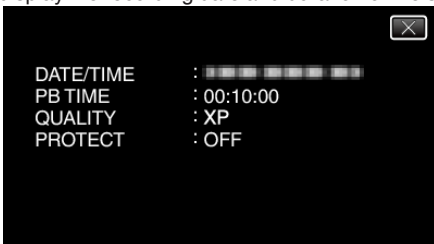


- 5 Tap the Information button.



- Tap to exit the menu.

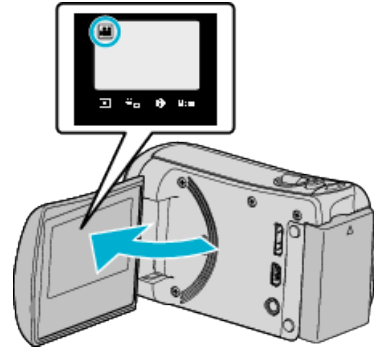
You can display the recording date and duration of the selected file.



DIGEST PLAYBACK

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

- 1 Open the LCD monitor.



- Check if the recording mode is .
- If this unit is in the still image mode , tap the (video/still image) button on the touch screen to switch to the video mode .

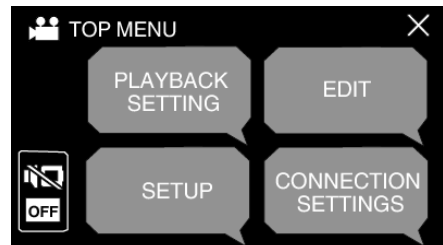
- 2 Tap the button to select the playback mode.



- 3 Tap the button.



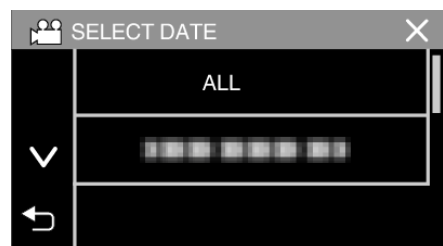
- 4 Tap "PLAYBACK SETTING".



- 5 Tap "DIGEST PLAYBACK".



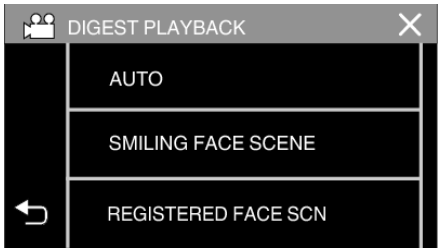
- 6 Tap to select a date for Digest Playback.



- After selecting a date, tap "NEXT".

- When “ALL” is tapped, Digest Playback will be performed for all the dates.
- Tap X to exit the menu.
- Tap ↩ to return to the previous screen.

7 Tap to select a scene for Digest Playback.



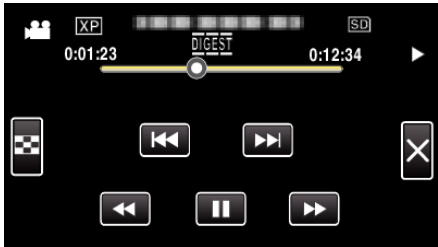
- Error message is displayed if no scene is found. Select another scene, or tap “AUTO”.

8 Select the Digest Playback time
(Only when “AUTO” is selected in Step 7)



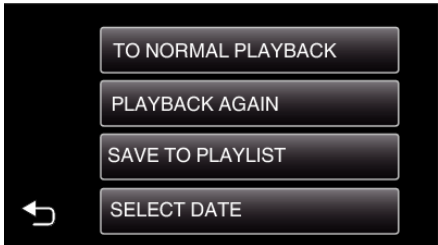
- The time display of Digest Playback varies according to the recording time.
- When it takes time (more than 2 seconds) for “DIGEST PLAYBACK” to start after selecting Digest Playback time, a progress status will be displayed.
- The Digest Playback time is only a guide.

9 Digest Playback starts.



- Tap || to pause.
- Tap [checkered flag] to return to the index screen.
- Tap “X” to return to the normal playback screen.
- Operations During Video Playback
“Operation Buttons for Video Playback” (p. 46)

10 Digest playback stops automatically, or display the next screen by tapping “MENU”.



- TO NORMAL PLAYBACK: start normal playback.
- PLAYBACK AGAIN: start the digest playback again.
- SAVE TO PLAYLIST: save the digest playback images to the playlist.
(Digest (Digest Playback) icon appears.)
“PLAYBACK PLAYLIST” (p. 50)
- SELECT DATE: return to step 6.

Types of Digest Playback

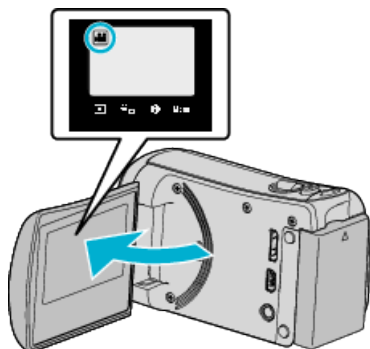
Select the types of Digest Playback from the following. When “AUTO” is selected, playback is performed by shortening the video to the pre-set length of time.

Item	Details
AUTO	Playback is performed by shortening the video to the pre-set length of time. Depending on the recording time of the video, playback time can be selected from: 1 minute, 3 minutes, 5 minutes, 10 minutes, 15 minutes, 30 minutes, 45 minutes and 60 minutes. All the recorded parts (recording time is less than 1 minute) are played back.
SMILING FACE SCENE	Plays back the scenes with detected smiles as a digest.
REGISTERED FACE SCN	Plays back the scenes mainly with a person whose face is registered “Registering Human Face Personal Authentication Information” (p. 34)

PLAYBACK PLAYLIST

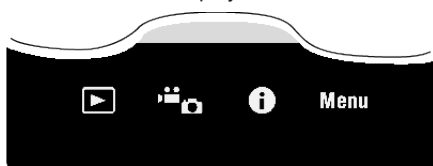
Plays back the playlists that you have created.

- 1 Open the LCD monitor.



- Check if the recording mode is .
- If this unit is in the still image mode , tap the (video/still image) button on the touch screen to switch to the video mode .

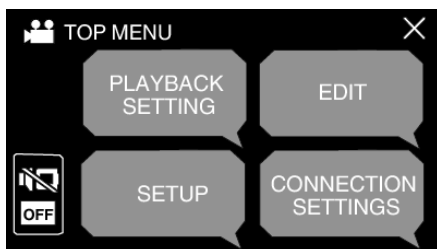
- 2 Tap the button to select the playback mode.



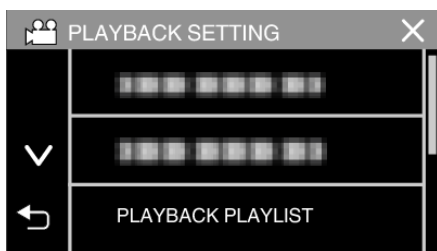
- 3 Tap the **Menu** button.



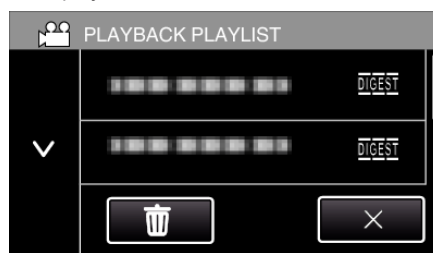
- 4 Tap "PLAYBACK SETTING".



- 5 Tap "PLAYBACK PLAYLIST".



- 6 Tap to select a playlist.

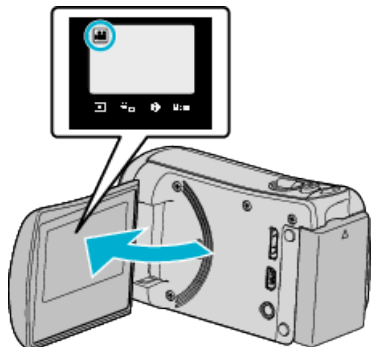






- Playback of the playlist starts.
- "Operation Buttons for Video Playback" (p. 46)
- Tap to return to the index screen.
- Playlists with a **DIGEST** (Digest Playback) icon are the playlists created during Digest Playback.


PLAYBACK OTHER FILE

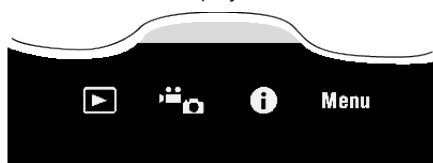
The management information of a video may be damaged if recording is not performed correctly, such as turning off the power in the middle of recording. You can perform the following operations to play back the videos with defective management information.

- 1 Open the LCD monitor.



- Check if the recording mode is .
- If this unit is in the still image mode , tap the  (video/still image) button on the touch screen to switch to the video mode .

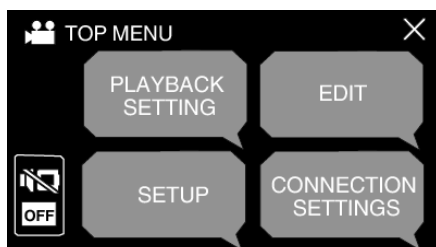
- 2 Tap the  button to select the playback mode.



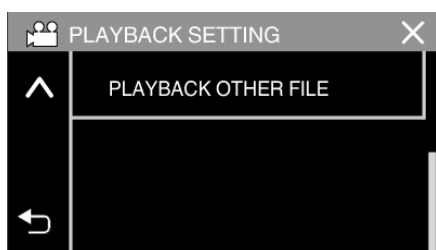
- 3 Tap the **Menu** button.



- 4 Tap "PLAYBACK SETTING".



- 5 Tap "PLAYBACK OTHER FILE".



- 6 Tap on the file to start playback.



"Operation Buttons for Video Playback" (p. 46)

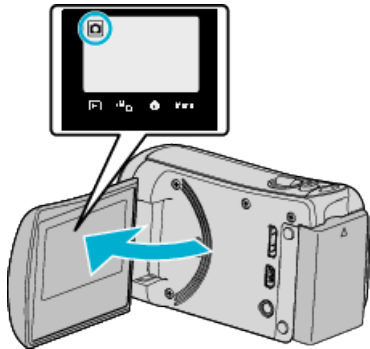
Memo :





- 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.


Playing Back Still Images

You can select and play back the recorded still images from an index screen (thumbnail display).

1 Open the LCD monitor.






- Check if the recording mode is .
- If this unit is in the video mode , tap the  (video/still image) button on the touch screen to switch to the still image mode .

2 Tap the  button to select the playback mode.



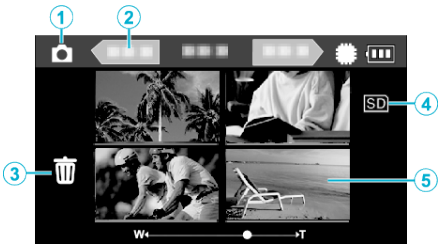
3 Tap on the file to start playback.






- Tap  to select the media for playback and change the index screen (thumbnail display).
- Tap  to return to the index screen.
-  appears on the last image played back.
- Lines in different colors are displayed under the thumbnail display to distinguish the recording date.

Operation Buttons for Still Image Playback

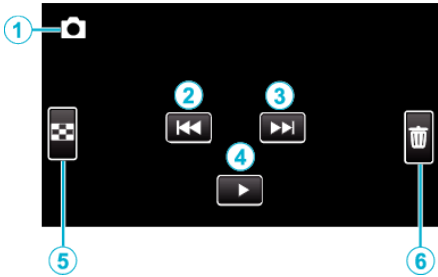
During Index Screen Display



- Still images that are recorded continuously will be grouped together. Only the first recorded file (still image) is shown and the group is displayed with a green frame.

	Display	Description
①	Still Image Recording Mode 	Displays the still image recording mode icon.
②	Date	Moves to the previous/next date
③		Displays the index screen (thumbnail display) to perform deletion
④		Switches between the index screen of the built-in memory and SD card
⑤	File (Still Image)	Tap on thumbnail - Starts playback Drag to right - Scrolls to the right to show the previous index screen (thumbnail display) Drag to left - Scrolls to the left to show the next index screen (thumbnail display)

During Still Image Playback



- When this unit is not operated, the operation buttons on the touch screen disappear automatically. Tap on the screen to display the operation buttons again.

	Display	Description
①	Still Image Recording Mode [camera icon]	Displays the still image recording mode icon.
②	[left arrow icon]	Returns to the previous still image <ul style="list-style-type: none">• You can perform the same operation with the zoom lever.
③	[right arrow icon]	Advances to the next still image <ul style="list-style-type: none">• You can perform the same operation with the zoom lever.
④	[play/pause icon]	Starts/pauses slideshow
⑤	[checkerboard icon]	Returns to index screen
⑥	[trash icon]	Deletes the currently displayed still image.
-	[left arrow icon]	Starts reverse playback. <ul style="list-style-type: none">• Displayed during slideshow playback.

Memo : _____

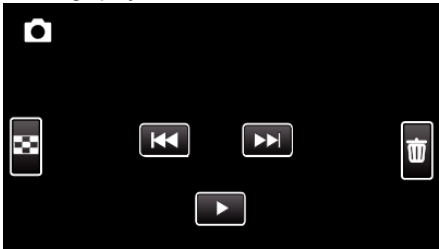
- Tap or drag on the operation area of the touch screen.

Caution : _____

- This unit is a microcomputer-controlled device. Electrostatic discharge, external noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such a case, turn off the power after closing the monitor screen, then remove the AC adapter. This unit will be reset.

Slideshow Playback

Still images can be played back in a slideshow.
Tap ► during still image playback to start the slideshow.



“Operation Buttons for Still Image Playback” (📖 p. 52)

Memo : _____

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

“SLIDE SHOW EFFECTS ” (📖 p. 109)

Connecting to and Viewing on TV

You can connect this unit to a TV for playback. The image quality on TV varies with the type of TV and the connecting cable. 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. 54)

“Connecting via the AV Connector” (p. 56)

- To display the date and time on TV, set both “DISPLAY DATE/TIME” and “DISPLAY ON TV” to “ON”.

“DISPLAY DATE/TIME” (p. 107)

“DISPLAY ON TV” (p. 114)

Unnatural Displays on TV

Trouble	Action
Images do not appear on the TV properly.	<ul style="list-style-type: none">• Disconnect the cable and connect again.• Turn off and on this unit again.• Images may not appear properly when the remaining battery power is low. Use an AC adapter.
Images are projected vertically on the TV.	<ul style="list-style-type: none">• Set “VIDEO OUTPUT” in the “CONNECTION SETTINGS” menu to “4:3”. “VIDEO OUTPUT” (p. 114)
Images are projected horizontally on the TV.	<ul style="list-style-type: none">• Adjust the TV’s screen accordingly.
The color of images looks strange.	<ul style="list-style-type: none">• Adjust the TV’s screen accordingly.
HDMI-CEC functions do not work properly, and the TV does not work in conjunction with this unit.	<ul style="list-style-type: none">• 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. 114)
The language on the display changed.	<ul style="list-style-type: none">• It may occur when you connect this unit to a TV with different language setting using an HDMI mini cable.

Caution :

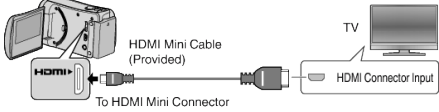
- Do not remove the recording medium or perform any other operation (such as turning off the power) while accessing files. Also, be sure to use the provided AC adapter, as the data on the recording medium may be corrupted if the battery becomes exhausted during operation. If the data on the recording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

Connecting via the HDMI Mini Connector

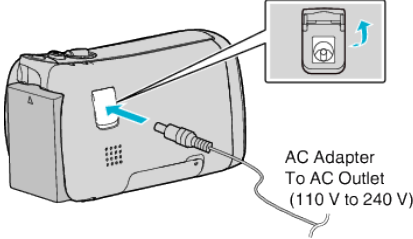
If you are using an HDTV, you can play back in HD quality by connecting to the HDMI mini connector.

- Use a High Speed HDMI mini cable as the HDMI mini cable when not using the provided one.
- Refer also to the instruction manual of the TV in use.

1 Connect to a TV.



2 Connect the AC adapter to this unit.



- The unit turns on automatically.

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



4 Play back a file.



“Playing Back Videos” (p. 45)

“Playing Back Still Images” (p. 52)

Memo :

- Change the settings in “HDMI OUTPUT” according to the connection.
“HDMI OUTPUT ” (p. 114)
- When connected to the TV via the HDMI mini cable, images and sounds may not be output 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.
- For questions about the TV or method of connection, contact your TV's manufacturer.

Operating in Conjunction with TV via HDMI

Connecting this unit to an HDMI-CEC enabled TV using the HDMI mini cable allows linked operations with the TV to be performed.

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

Memo :

- 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. 114)

Preparations

- Connect an HDMI mini cable between this unit and the TV.
“Connecting via the HDMI Mini Connector” (p. 54)
- Turn on the TV and set the HDMI-CEC related setting to “ON”. (For details, refer to the instruction manual of the TV.)
- Set “HDMI CONTROL” in the CONNECTION SETTINGS menu to “ON”.
“HDMI CONTROL ” (p. 114)

Operation Method 1

- 1 Turn on this unit.
- 2 Select the playback mode.
- 3 Connect the HDMI mini 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.

Memo :

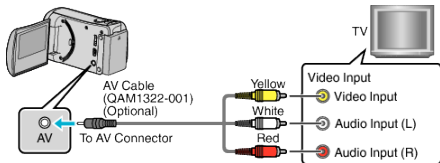
- Depending on the TV connected, the display language of this unit will automatically switch to the language that is selected for the TV when this unit is turned on.
(This is applicable only if this unit supports the language selected for the TV.) To use this unit with a language that differs from the display language of the TV, set “HDMI CONTROL” to “OFF”.
- 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”.
- If HDMI-CEC does not work properly, turn off and on this unit again.

Connecting via the AV Connector

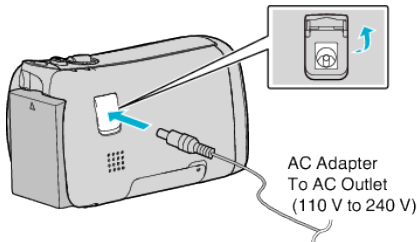
To playback videos on TV, connect the AV cable (optional: QAM1322-001) to the AV terminal of this unit.

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

1 Connect to a TV.



2 Connect the AC adapter to this unit.



- The unit turns on automatically.

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



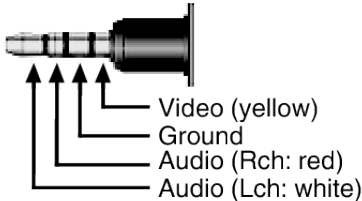
4 Play back a file.



“Playing Back Videos” (p. 45)
“Playing Back Still Images” (p. 52)

Memo :

- For questions about the TV or method of connection, contact your TV's manufacturer.
 - AV cable (Optional: QAM1322-001)
- Wiring specifications (for video/audio) of the 4-pole mini plug are described in the following.
For purchasing, consult your nearest JVC service center.
<http://www3.jvckenwood.com/support/hrepair.html>



Playing Back a DVD or Blu-ray Disc Created on this Unit

DVDs or Blu-ray discs created using the backup function on this unit can be played back on TV using an optional DVD writer (DVDs only) with playback function (CU-VD50) or a normal DVD or Blu-ray disc player. DVDs can also be played back on this unit by connecting the optional DVD writer with playback function.

“Playing Back with a BD Writer (External Blu-ray Drive)” (p. 71)
“Playing Back with a DVD Writer” (p. 78)

- For details on how to play back on a normal DVD or Blu-ray disc player, refer to the instruction manual of the player.

Playback Device	DVD (AVCHD format)	Blu-ray Disc
DVD writer connected to this unit	✓	-
BD writer (external Blu-ray drive) connected to this unit	✓	✓
DVD player/ DVD Recorder	✓*	-
Blu-ray player/ Blu-ray Recorder	✓*	✓
DVD writer with playback function (CU-VD50)	✓	-

*Only for AVCHD compatible devices

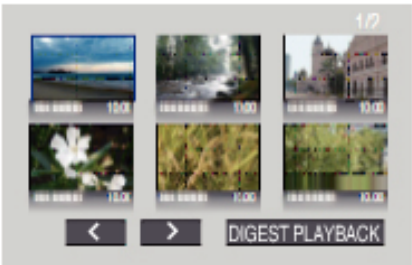
Caution :

- DVDs that are created in AVCHD format cannot be played back on DVD players with standard quality. You may not be able to remove the disc from the player.

Digest Playback on a Blu-ray or DVD Player

You can play back a few seconds from each scene of the recorded videos in the created disc.

- 1 Load the created disc on a player.
- 2 Select “DIGEST PLAYBACK” on the TV.
 - The digest is played back continuously.



(The screen does not appear on this unit.)

Memo :

- To normal playback/To index menu
 - 1) Press the top menu button on the remote control of the player during digest playback.
 - 2) Select the desired item.
- “DIGEST PLAYBACK” menu is not available when the disc is created using the provided Everio MediaBrowser 4 software.
- Digest Playback is not available when playing back by connecting this unit to a DVD writer or external Blu-ray drive.

Deleting Unwanted Files

Delete unwanted videos and still images when the space in the recording media is running out.

Doing so frees up more space in the recording media.

“Deleting the Currently Displayed File” (p. 57)

“Deleting Selected Files” (p. 57)

Memo :

- 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. 58)

- Be sure to back up important files on a computer.

“Backing Up All Files” (p. 93)

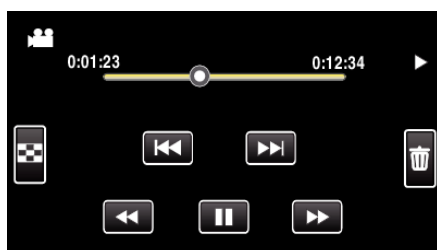
Deleting the Currently Displayed File

Deletes the currently displayed file.

Caution :

- Deleted files cannot be restored.



- 1 Tap .



- While the video mode is shown in the image, the same operations apply for the still image mode.

- 2 Tap “YES”.



- Tap  /  to select the previous or next file.
- When no file remains, the screen returns to the index screen.

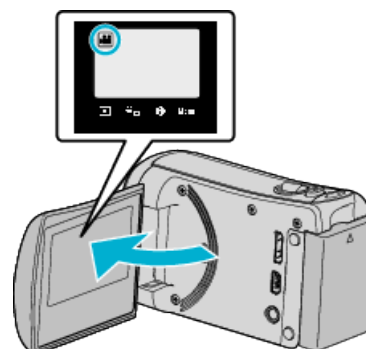
Deleting Selected Files








Deletes the selected files.


Caution :

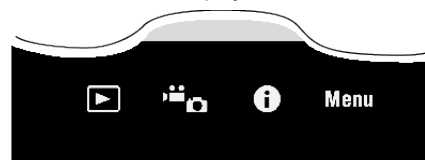
- Deleted files cannot be restored.

- 1 Open the LCD monitor.



- Tap  or  to select the video or still image mode.
- Tap the  (video/still image) button on the touch screen to display the mode switching screen.
Tap  to switch to the video mode .
- Tap  to switch to the still image mode .

- 2 Tap the  button to select the playback mode.



- While the video mode is shown in the image, the same operations apply for the still image mode.

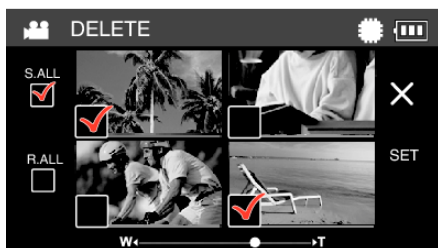
- 3 Tap .



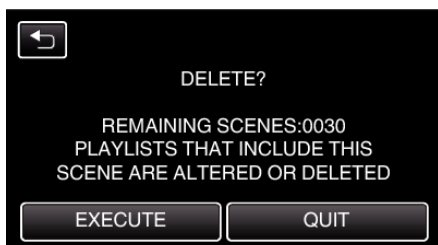
- 4 Tap on the files to delete.



- ✓ appears on the selected files.
To remove ✓ from a file, tap on the file again.
- Tap “S.ALL” to select all files.
- Tap “R.ALL” to release all selections.



6 Tap “EXECUTE” to confirm the deletion.



- After deleting is complete, tap “OK”.
- To cancel the deletion, tap “QUIT”.

Prevent important videos/still images from being deleted accidentally by protecting them.

“Protecting/Releasing Protection of the Currently Displayed File”

(☞ p. 58)

“Protecting/Releasing Protection of Selected Files” (👉 p. 59)

Caution :

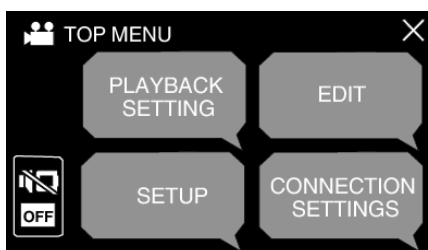
- When the recording media is formatted, even the protected files will be deleted.

Protects or releases protection of the currently displayed file.

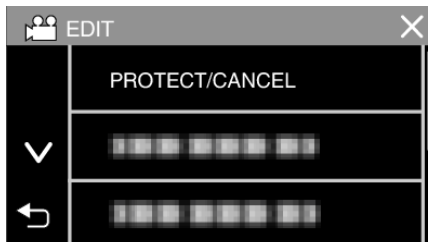
- 1 Tap the **Menu** button.



2 Tap “EDIT”.



3 Tap “PROTECT/CANCEL”.



4 Tap “YES”.

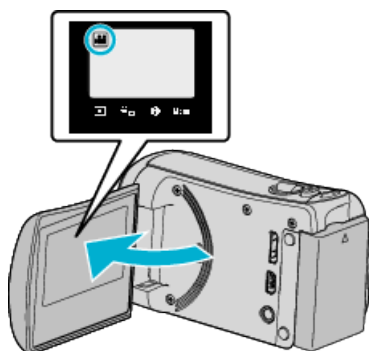


- Tap **⏮ / ⏭** to select the previous or next file.
- After setting, tap “OK”.

Protecting/Releasing Protection of Selected Files

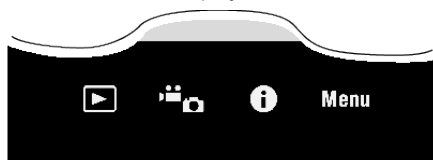
Protects or releases protection of the selected files.

- 1 Open the LCD monitor.



- Tap or to select the video or still image mode.
- Tap the (video/still image) button on the touch screen to display the mode switching screen.
Tap to switch to the video mode .
- Tap to switch to the still image mode .

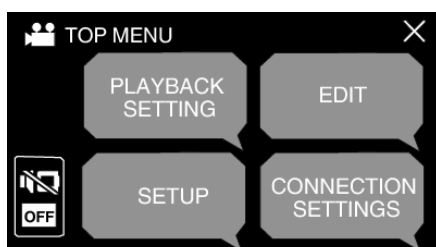
- 2 Tap the button to select the playback mode.



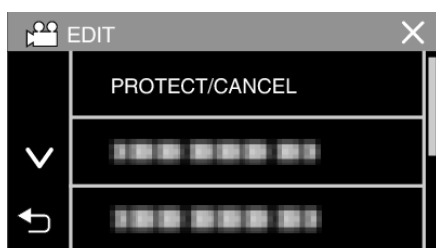
- 3 Tap the **Menu** button.



- 4 Tap "EDIT".



- 5 Tap "PROTECT/CANCEL".



- 6 Tap on the files to protect or release protection of.



- appears on the selected files.
To remove from a file, tap on the file again.
- and are displayed on the files that are already protected.
To release protection of a file, tap on the file such that is removed.
- Tap "S.ALL" to select all files.
- Tap "R.ALL" to release all selections.

- 7 Tap "SET".

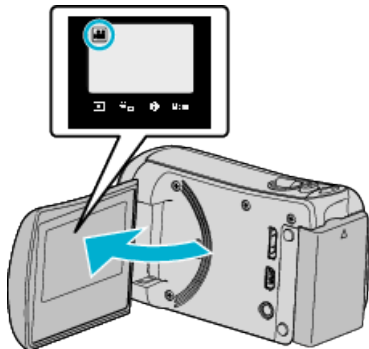


- Protect marks appear on the selected files.
Protect marks disappear from the deselected files.

Capturing a Still Image in the Video During Playback

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

- 1 Open the LCD monitor.



- Check if the recording mode is .
- If this unit is in the still image mode , tap the (video/still image) button on the touch screen to switch to the video mode .

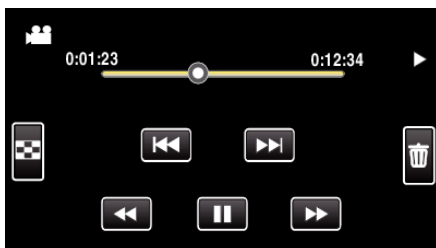
- 2 Tap the button to select the playback mode.



- 3 Tap on the desired video.

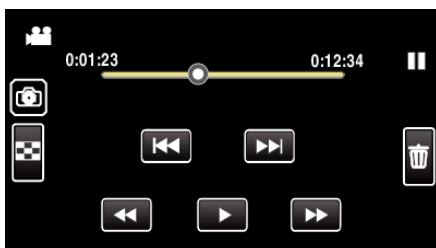


- 4 Tap pause at the desired scene during playback.



- After pausing the video, you can fine-tune the point to capture by tapping forward slow-motion and reverse slow-motion .

- 5 Tap the button.



- You can also press the (recording) button on the camera to record still images.

Memo :

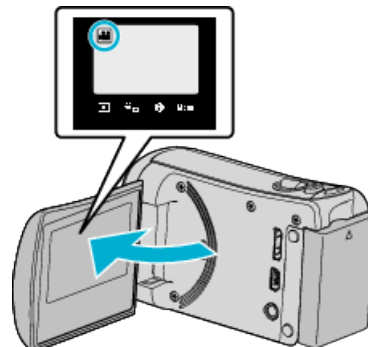
- Still images are captured with a size of 1920x1080.
- Captured still images are stored in the media where the video is being played back from.

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.

"SEAMLESS RECORDING" (p. 103)

- 1 Open the LCD monitor.



- Check if the recording mode is .
- If this unit is in the still image mode , tap the (video/still image) button on the touch screen to switch to the video mode .

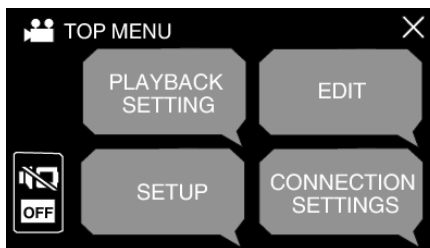
- 2 Tap the button to select the playback mode.



- 3 Tap the **Menu** button.



- 4 Tap "EDIT".



- 5 Tap "SEAMLESS REC CTRL".

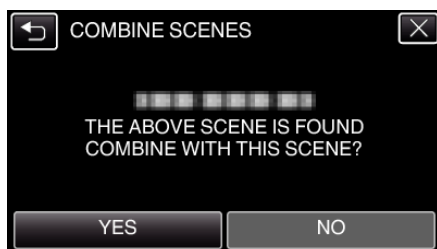


- 6 Tap "COMBINE SCENES".

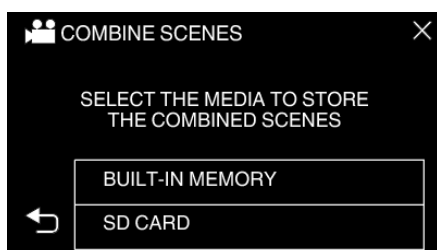


- This unit starts a search to detect seamless videos. Combining cannot be performed if no seamless videos are found.

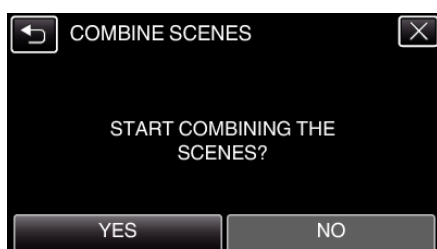
- 7 Tap "YES".



- 8 Tap the media to store to.



- 9 Tap "YES".



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

Memo :

- Seamless videos cannot be combined if there is not enough free space in the built-in memory or SD card. Check the amount of remaining free space before combining.

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.

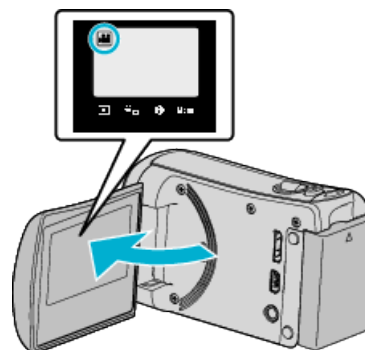
To delete the combination information of seamless videos, select "DEL COMBINED SCENES" in step 6.

Capturing a Required Part in the Video (TRIMMING)

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

- The original video remains in its existing location.

- 1 Open the LCD monitor.



- Check if the recording mode is .
- If this unit is in the still image mode , tap the (video/still image) button on the touch screen to switch to the video mode .

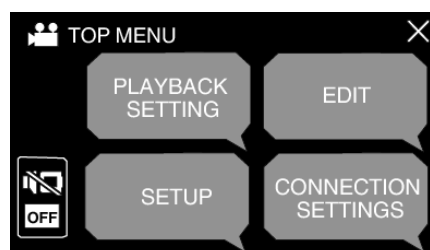
- 2 Tap the button to select the playback mode.



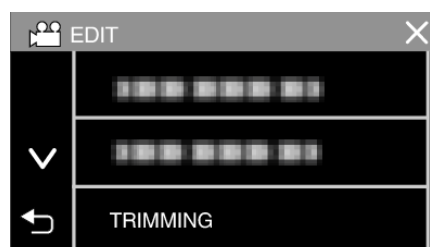
- 3 Tap the Menu button.



- 4 Tap "EDIT".



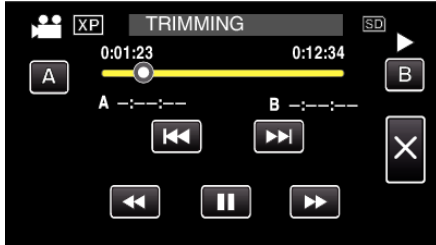
- 5 Tap "TRIMMING".



6 Tap the video to edit.

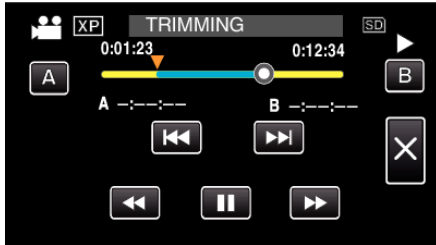


7 Tap **||** to pause playback at the desired start point, then tap "A".



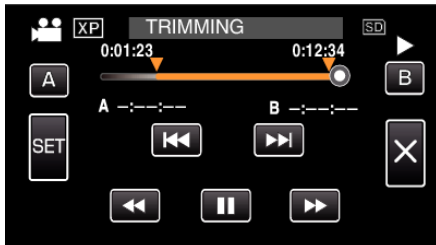
- When "A" is tapped, the start point is set.
- After setting the start point, tap **▶** to continue playback.

8 Tap **||** to pause playback at the desired end point, then tap "B".



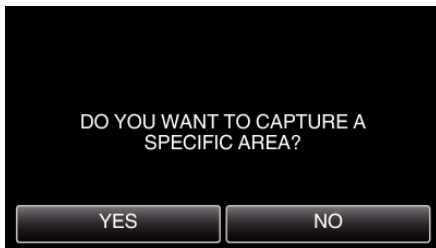
- When "B" is tapped, the end point is set.
- To reset the start or end point, tap "A" or "B" at the desired scene (position).

9 Tap "SET".



- When "SET" is tapped, the trimming area is confirmed.

10 Tap "YES".



- After copying, tap "OK".
- When copying finishes, the copied file is added to the index screen.

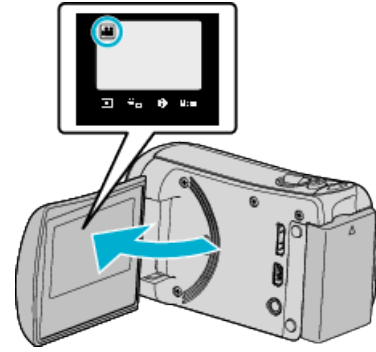
Memo :

- The division point may deviate slightly from the selected scene.

Deleting Playlists

Delete the playlists that you have created.

1 Open the LCD monitor.



- Check if the recording mode is **📹**.
- If the mode is **📷** still image, tap **📷** on the recording screen to display the mode switching screen. Tap **📹** to switch the mode to video.

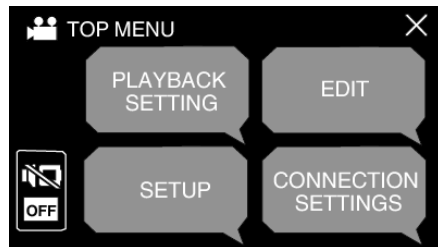
2 Tap the **▶** button to select the playback mode.



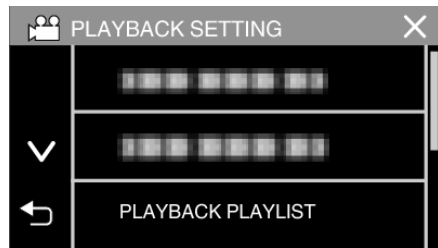
3 Tap the **Menu** button.



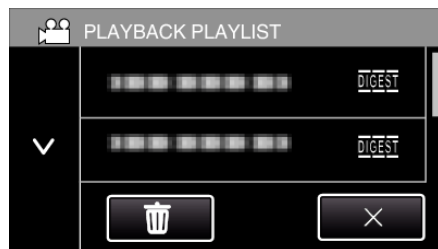
4 Tap "PLAYBACK SETTING".



5 Tap "PLAYBACK PLAYLIST".

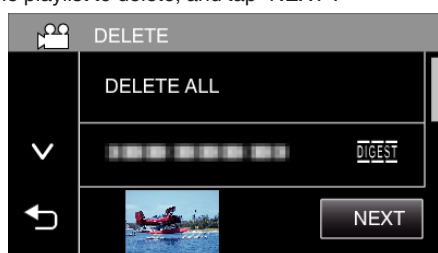


6 Tap **🗑**.



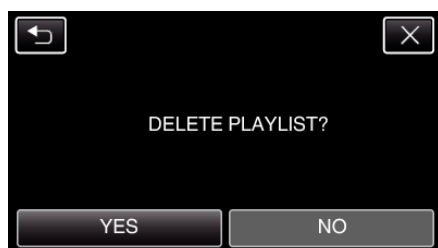
- The DELETE screen appears.

- 7 Tap on the playlist to delete, and tap "NEXT".



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

- 8 Tap "YES" to confirm the deletion.



- After deleting, tap "OK".
- After deleting is complete, the screen returns to the delete playlist selection screen.

Memo :

- Tap X on each screen to exit the menu.

Creating Discs with a BD Writer (External Blu-ray Drive)

*The JVC external Blu-ray drive is known as "BD writer".

You can copy the recorded files to discs or play back the created discs using an optional BD writer (external Blu-ray drive).

Compatible BD Writers (External Blu-ray Drives)

- JVC (BD writer)
 - CU-BD50
 - I-O DATA
 - BRD-U8S
 - BRD-U8DM
- (As of November 2013)

Creating Discs with a BD Writer (External Blu-ray Drive)

■ Preparing a BD Writer (External Blu-ray Drive)

"Preparing a BD Writer (External Blu-ray Drive)" (p. 64)

■ Copying to Discs

"Copying All Files" (p. 64)

"Copying Selected Playlists" (p. 66)

"Copying Selected Files" (p. 68)

Select and copy the desired videos or still images individually.

■ Other Operations

"Playing Back with a BD Writer (External Blu-ray Drive)" (p. 71)

Memo :

- Discs in the DVD-Video format cannot be created.
- The recordable time on the disc varies according to the way of recording.
- When there are many files to back up, it may take time for the backup to be completed. Wait for a while as the POWER/ACCESS lamp blinks, indicating normal operation.
- Date and time information as saved as subtitles in the created discs.

Preparing a BD Writer (External Blu-ray Drive)

Memo :

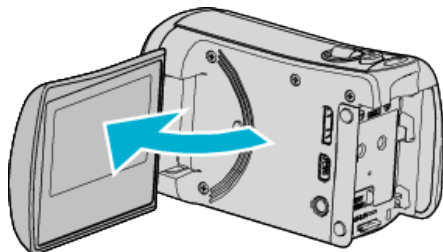
- When connecting this unit to the BD writer (external Blu ray drive), use the provided Mini-A (male) - B (male) USB conversion cable.
- To use the USB cable provided with the BD writer (external Blu-ray drive), purchase the following USB conversion cable.

(Part number: QAM0852-001) * Mini-A (Male) – A (Female)

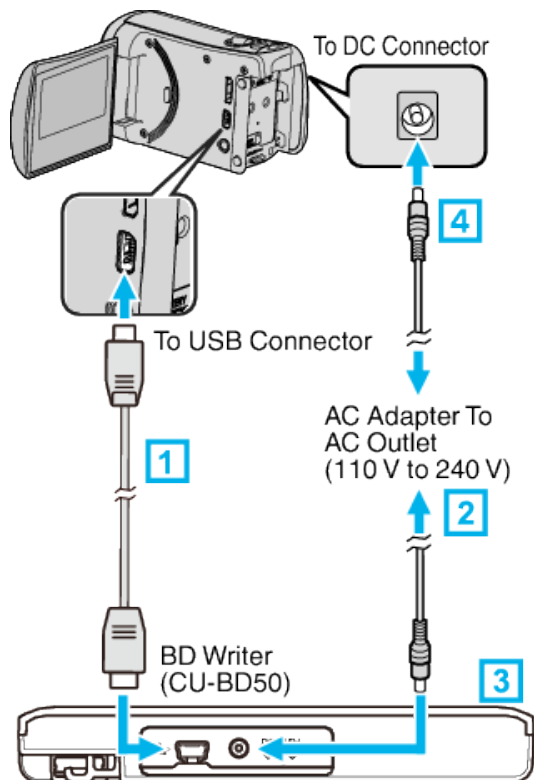
*Consult your nearest service center.

<http://www3.jvckenwood.com/support/hrepair.html>

- 1 Remove the AC adapter and battery pack from this unit.
- 2 Open the LCD monitor.



- 3 Connect the USB cable and the AC adapter.



- 1 Connect the USB cable of the BD writer (external Blu-ray drive) to this unit.

- The USB cable provided with this unit cannot be used.

- 2 Connect the AC adapter of the BD writer (external Blu-ray drive).

- 3 Turn on the BD writer (external Blu-ray drive).

- 4 Connect the AC adapter to this unit.

- This unit powers on automatically when the AC adapter is connected.
- This unit turns on and the “BACK-UP” menu appears.
- While the USB cable is connected, the “BACK-UP” menu is displayed.
- Refer also to the instruction manual of the BD writer (external Blu-ray drive).

Creating a Disc

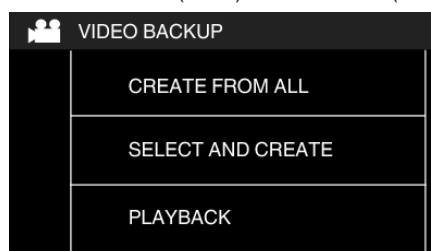
Creating a Disc

- 1 Preparing a BD Writer (External Blu-ray Drive)
 - Insert a new disc into the BD writer (external Blu-ray drive).
- 2 Copy files to the disc with the following methods.
 - “Copying All Files” (p. 64)
 - “Copying Selected Playlists” (p. 66)
 - “Copying Selected Files” (p. 68)

Copying All Files

All videos or still images recorded on this unit will be copied. You can also select and copy only the videos or still images that have never been copied.

- 1 Select video or still image mode.
- 2 Tap “CREATE FROM ALL” (video) or “SAVE ALL” (still image).



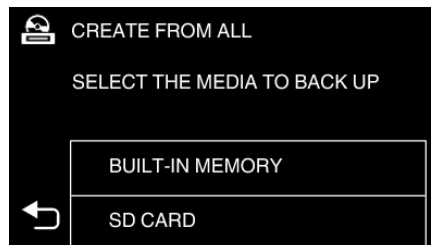
- While the video mode is shown in the image, the same operations apply for the still image mode.

- 3 Tap “Blu-ray DISC” or “DVD(AVCHD)”.

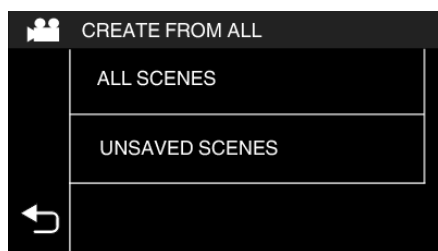


- The media changes to the tapped item. Select the appropriate setting according to the disc.
- Selecting “Blu-ray DISC” enables you to save videos in a Blu-ray disc in the high definition quality.
- Selecting “DVD(AVCHD)” enables you to save videos in a DVD in the high definition quality.

- 4 Tap the media you would like to make a backup.



- 5 Tap the desired method.



- **“ALL SCENES” (video)/“ALL IMAGES” (still image):**

All videos or still images in this unit are copied.

- **“UNSAVED SCENES” (video)/“UNSAVED IMAGES” (still image):**

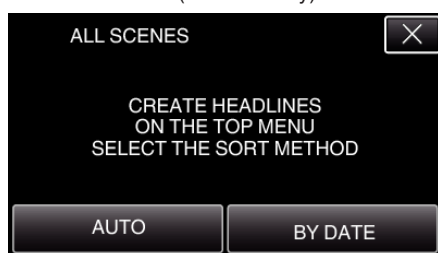
Videos or still images that have never been copied are automatically selected and copied.

- 6 Tap “EXECUTE”.



- The number of discs required to copy the files is displayed. Prepare the discs accordingly.

- 7 Tap “AUTO” or “BY DATE”. (👤 mode only)



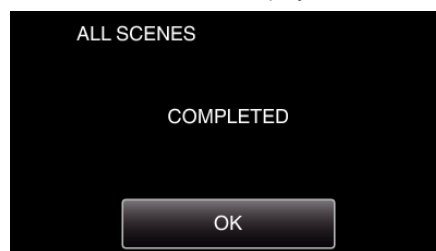
- When “AUTO” is selected, videos with similar recording dates are displayed in groups.
- When “BY DATE” is selected, videos are displayed according to recording dates.

- 8 Tap “EXECUTE”.



- When “INSERT THE NEXT DISC TO CREATE OR PRESS STOP TO EXIT” appears, change the disc.

- 9 Tap “OK” when “COMPLETED” is displayed.



- 10 Turn off the BD writer (external Blu-ray drive), then remove the USB cable.

Caution :

- Do not turn off the power or remove the USB cable until copying is complete.
- Files that are not on the index screen during playback cannot be copied. Special files cannot be copied either.
- All DVDs will be finalized automatically. While files cannot be added to the DVD-R/DVD-RW later, files can still be added to the BD-R/BD-RE.
- If the created BD-R/BD-RE is played back on a Blu-ray recorder, your Blu-ray recorder may disable additional recording on the BD-R/BD-RE. In this case, files cannot be added to the disc.
- DVDs that are created in “DVD(AVCHD)” format are playable only on AVCHD compatible devices.
- Videos recorded in “UXP” video quality cannot be copied to DVDs (AVCHD format). Copy to a BD.

Memo :

- To check the created disc, refer to ““Playing Back with a BD Writer (External Blu-ray Drive)” (📖 p. 71) ”.

“Playing Back with a BD Writer (External Blu-ray Drive)” (📖 p. 71)

Copying Selected Playlists

Arrange and copy the created playlists in the order you like.

- 1 Select video mode.
- 2 Tap "SELECT AND CREATE".

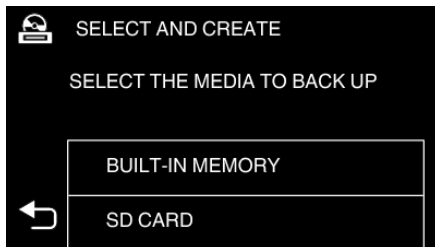


- 3 Tap "Blu-ray DISC" or "DVD(AVCHD)".

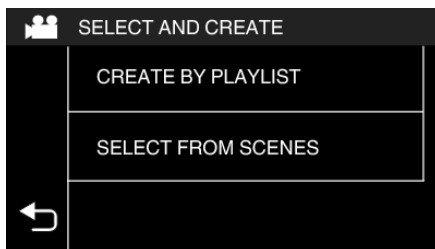


- The media changes to the tapped item. Select the appropriate setting according to the disc.
- Selecting "Blu-ray DISC" enables you to save videos in a Blu-ray disc in the high definition quality.
- Selecting "DVD(AVCHD)" enables you to save videos in a DVD in the high definition quality.

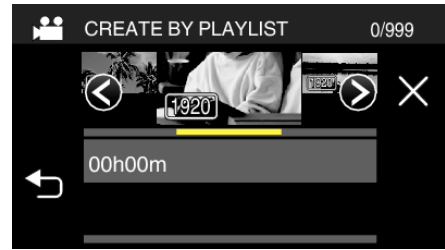
- 4 Tap the media you would like to make a backup.



- 5 Tap "CREATE BY PLAYLIST".

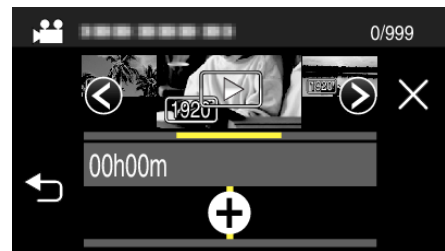


- 6 Tap on the playlist to copy to disc.



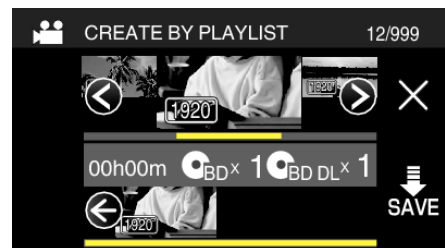
- ► appears on the selected playlist (upper row). Tap ◀ to deselect.
- Tap on the selected playlist again to check the content of the playlist. After checking, tap ◀.
- Tap <> to display the previous/next playlist.

- 7 Tap ⊕ to insert a playlist.

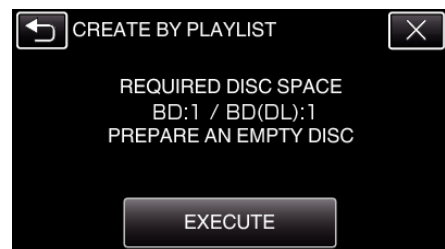


- Repeat steps 6-7 and arrange the playlists.
- To change the position of a playlist (lower row), select the insertion point with ◀/➡ after step 6 and tap ⊕.
- ► appears when the inserted playlist is selected. Tap ◀ to deselect.
- Tap on the selected playlist again to check the content of the playlist. After checking, tap ◀.
- To delete a video in the playlist (lower row), tap the video, then tap ⊖.

- 8 After arranging, tap ⏴.



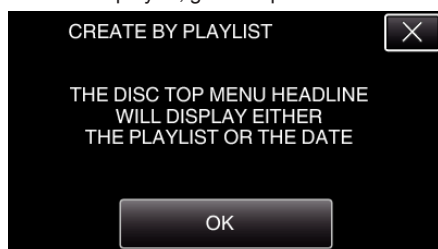
- 9 Tap "EXECUTE".



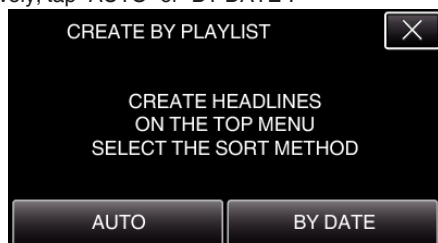
- The number of discs required to copy the files is displayed. Prepare the discs accordingly.
- Tap "CHECK" to check the content.

10 Tap "OK".

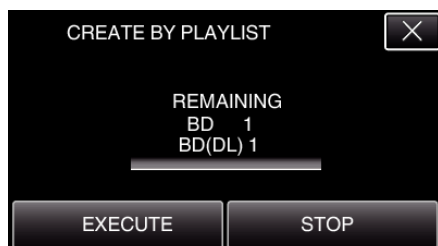
- If step 10 is not displayed, go to step 11.



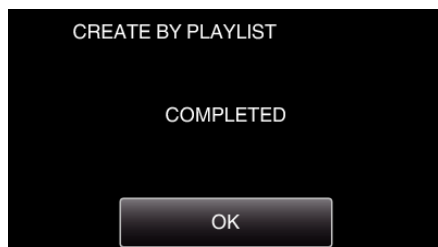
Alternatively, tap "AUTO" or "BY DATE".



- When "AUTO" is selected, videos with similar recording dates are displayed in groups.
- When "BY DATE" is selected, videos are displayed according to recording dates.

11 Tap "EXECUTE".

- When "INSERT THE NEXT DISC TO CREATE OR PRESS STOP TO EXIT" appears, change the disc.

12 Tap "OK" when "COMPLETED" is displayed.**13** Turn off the BD writer (external Blu-ray drive), then remove the USB cable.**Caution :**

- Do not turn off the power or remove the USB cable until copying is complete.
- Files that are not on the index screen during playback cannot be copied. Special files cannot be copied either.
- All DVDs will be finalized automatically. While files cannot be added to the DVD-R/DVD-RW later, files can still be added to the BD-R/BD-RE.
- If the created BD-R/BD-RE is played back on a Blu-ray recorder, your Blu-ray recorder may disable additional recording on the BD-R/BD-RE. In this case, files cannot be added to the disc.
- DVDs that are created in "DVD(AVCHD)" format are playable only on AVCHD compatible devices.
- Videos recorded in "UXP" video quality cannot be copied to DVDs (AVCHD format). Copy to a BD.

Memo :

- A list of playlists is displayed on the top menu of the created DVD.
- To check the created disc, refer to "“Playing Back with a BD Writer (External Blu-ray Drive)” (p. 71)".

"Playing Back with a BD Writer (External Blu-ray Drive)" (p. 71)

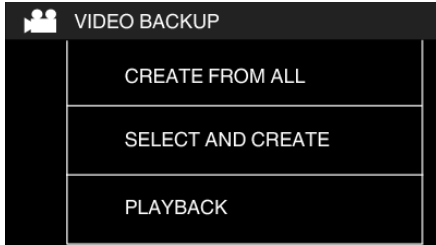
Copying Selected Files

Select and copy the desired videos or still images individually. There are 2 ways to select images.

- Selecting Files One by One
- Specify a "FROM HERE" to "UNTIL HERE" range.

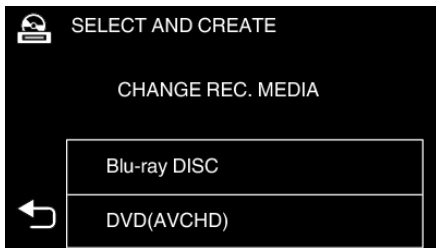
■ Copying Selected Files One by One

- 1 Select video or still image mode.
- 2 Tap "SELECT AND CREATE" (video) or "SELECT AND SAVE" (still image).



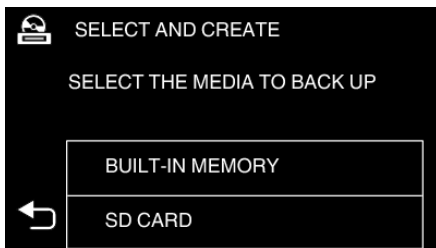
- While the video mode is shown in the image, the same operations apply for the still image mode.

- 3 Tap "Blu-ray DISC" or "DVD(AVCHD)".

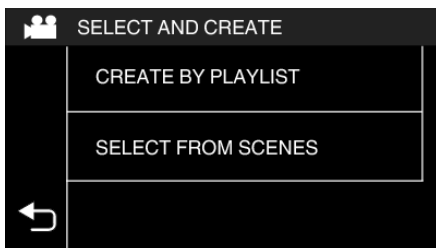


- The media changes to the tapped item. Select the appropriate setting according to the disc.
- Selecting "Blu-ray DISC" enables you to save videos in a Blu-ray disc in the high definition quality.
- Selecting "DVD(AVCHD)" enables you to save videos in a DVD in the high definition quality.

- 4 Tap the media you would like to make a backup.



- 5 Tap "SELECT FROM SCENES" (video) or "SELECT FROM IMAGES" (still image).



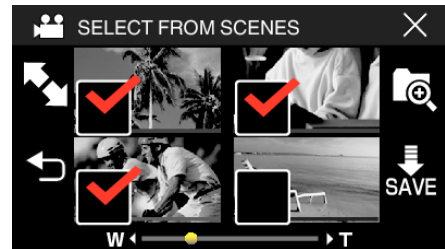
- While the video mode is shown in the image, the same operations apply for the still image mode.

- 6 Tap on the videos or still images to copy.



- ✓ appears on the selected files. To remove ✓ from a file, tap on the file again.
- Tap [magnifying glass icon] to check the file. After checking, tap [checkmark icon].

- 7 After selecting all the files, tap [save icon].



- 8 Tap "EXECUTE".



- The number of discs required to copy the files is displayed. Prepare the discs accordingly.

- 9 Tap "AUTO" or "BY DATE". (m mode only)



- When "AUTO" is selected, videos with similar recording dates are displayed in groups.
- When "BY DATE" is selected, videos are displayed according to recording dates.

- 10 Tap "EXECUTE".



- When "INSERT THE NEXT DISC TO CREATE OR PRESS STOP TO EXIT" appears, change the disc.

11 Tap "OK" when "COMPLETED" is displayed.



12 Turn off the BD writer (external Blu-ray drive), then remove the USB cable.

Caution :

- Do not turn off the power or remove the USB cable until copying is complete.
- Files that are not on the index screen during playback cannot be copied. Special files cannot be copied either.
- All DVDs will be finalized automatically.
While files cannot be added to the DVD-R/DVD-RW later, files can still be added to the BD-R/BD-RE.
- If the created BD-R/BD-RE is played back on a Blu-ray recorder, your Blu-ray recorder may disable additional recording on the BD-R/BD-RE. In this case, files cannot be added to the disc.
- DVDs that are created in "DVD(AVCHD)" format are playable only on AVCHD compatible devices.
- Videos recorded in "UXP" video quality cannot be copied to DVDs (AVCHD format). Copy to a BD.

Memo :

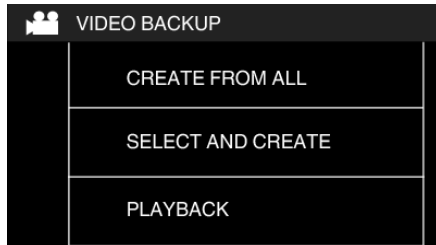
- To check the created disc, refer to "Playing Back with a BD Writer (External Blu-ray Drive)" (p. 71).

"Playing Back with a BD Writer (External Blu-ray Drive)" (p. 71)

Specify the range to copy the files.

1 Select video or still image mode.

2 Tap "SELECT AND CREATE" (video) or "SELECT AND SAVE" (still image).



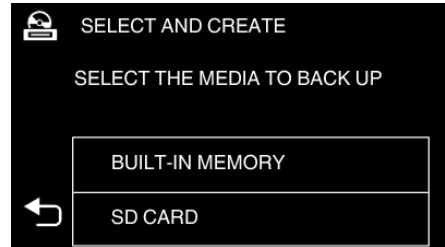
- While the video mode is shown in the image, the same operations apply for the still image mode.

3 Tap "Blu-ray DISC" or "DVD(AVCHD)".

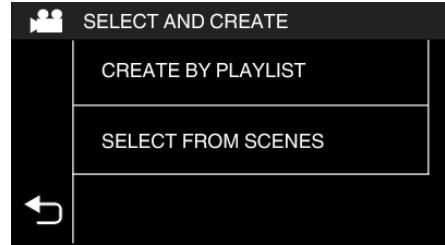


- The media changes to the tapped item. Select the appropriate setting according to the disc.
- Selecting "Blu-ray DISC" enables you to save videos in a Blu-ray disc in the high definition quality.
- Selecting "DVD(AVCHD)" enables you to save videos in a DVD in the high definition quality.

4 Tap the media you would like to make a backup.



5 Tap "SELECT FROM SCENES" (video) or "SELECT FROM IMAGES" (still image).

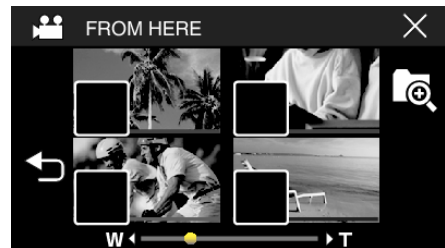


- While the video mode is shown in the image, the same operations apply for the still image mode.

6 Tap

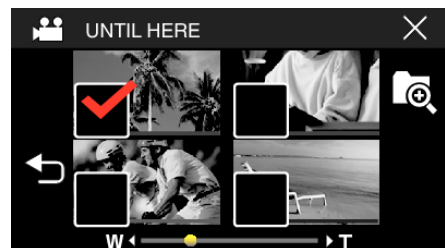


7 Tap the first image (thumbnail) of the range to be copied.



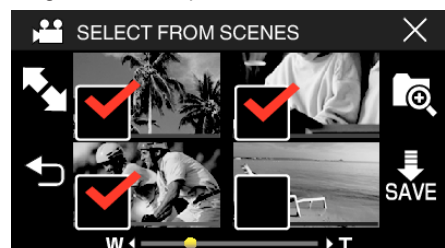
- ✓ is added to all the files to be copied when is tapped.
- Tap to return to step 6.
- To cancel the operation, tap X.

8 Tap the last image (thumbnail) of the range to be copied.



- If there are images you don't want to copy, tap the image (thumbnail) to remove ✓.

9 After selecting all the files, tap



10 Tap “EXECUTE”.



- The number of discs required to copy the files is displayed. Prepare the discs accordingly.

11 Tap “AUTO” or “BY DATE”. (📺 mode only)



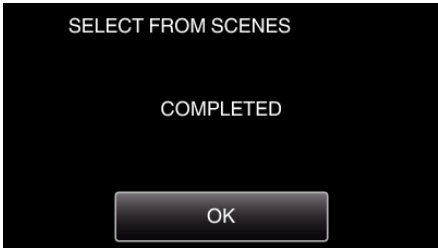
- When “AUTO” is selected, videos with similar recording dates are displayed in groups.
- When “BY DATE” is selected, videos are displayed according to recording dates.

12 Tap “EXECUTE”.



- When “INSERT THE NEXT DISC TO CREATE OR PRESS STOP TO EXIT” appears, change the disc.

13 Tap “OK” when “COMPLETED” is displayed.



14 Turn off the BD writer (external Blu-ray drive), then remove the USB cable.

Caution :

- Do not turn off the power or remove the USB cable until copying is complete.
- Files that are not on the index screen during playback cannot be copied. Special files cannot be copied either.
- All DVDs will be finalized automatically. While files cannot be added to the DVD-R/DVD-RW later, files can still be added to the BD-R/BD-RE.
- If the created BD-R/BD-RE is played back on a Blu-ray recorder, your Blu-ray recorder may disable additional recording on the BD-R/BD-RE. In this case, files cannot be added to the disc.
- DVDs that are created in “DVD(AVCHD)” format are playable only on AVCHD compatible devices.
- Videos recorded in “UXP” video quality cannot be copied to DVDs (AVCHD format). Copy to a BD.

Memo :

- To check the created disc, refer to ““Playing Back with a BD Writer (External Blu-ray Drive)” (📖 p. 71) ”.

“Playing Back with a BD Writer (External Blu-ray Drive)” (📖 p. 71)

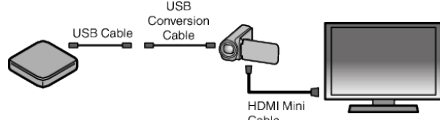
Playing Back with a BD Writer (External Blu-ray Drive)

You can play back the Blu-ray discs created on this unit.

“Preparing a BD Writer (External Blu-ray Drive)” (p. 64)

1 Connect this unit to the BD writer and TV.

(If this unit is not connected to a TV, images can be played back on the LCD monitor of this unit.)

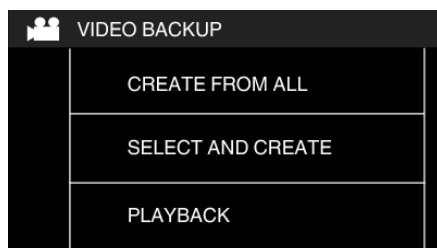


“Preparing a BD Writer (External Blu-ray Drive)” (p. 64)

“Connecting to and Viewing on TV” (p. 54)

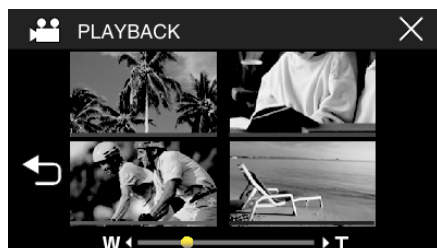
- Insert a disc to play back into the BD writer.

2 Tap “PLAYBACK” in the “BACK-UP” menu.



- An index screen (thumbnail display) of the videos in the disc appears.
- Tap the icon to switch between the video and still image modes.

3 Tap on the file to start playback.



- For details on video playback, refer to “Operation Buttons for Video Playback” (p. 46).

“Operation Buttons for Video Playback” (p. 46)

- To exit playback, stop playback and close the LCD monitor to turn off this unit. Then, disconnect the USB cable.

Memo :

- To play back the recorded image on TV, connect this unit via the HDMI mini cable or the AV cord while this unit is connected to the BD writer (external Blu-ray drives).

“Connecting via the HDMI Mini Connector” (p. 54)

“Connecting via the AV Connector” (p. 56)

Creating Discs with a DVD Writer

You can copy the recorded files to discs or play back the created discs using an optional DVD writer.

Compatible DVD Writers

Product Name	Description
DVD Writer • CU-VD3	<ul style="list-style-type: none"> • Enables the images recorded on this unit to be copied to a DVD without using a PC. http://www3.jvckenwood.com/dvmain/acc/cu-vd3.html
DVD Writer • CU-VD50	<ul style="list-style-type: none"> • 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-VD50 to a TV. http://www3.jvckenwood.com/dvmain/acc/cu-vd50.html

Memo :

- The production for CU-VD3 and CU-VD50 DVD writer has ended. For details on the stock availability, consult your nearest JVC dealer.

Creating Discs with a DVD Writer

■ Preparing a DVD Writer

“Preparing a DVD Writer (CU-VD3)” (p. 72)

“Preparing a DVD Writer (CU-VD50)” (p. 72)

■ Copying to Discs

“Copying All Files” (p. 73)

“Copying Selected Playlists” (p. 74)

“Copying Selected Files” (p. 76)

■ Other Operations

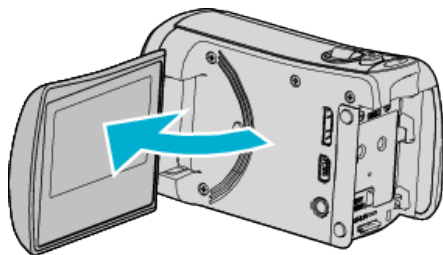
“Playing Back with a DVD Writer” (p. 78)

Memo :

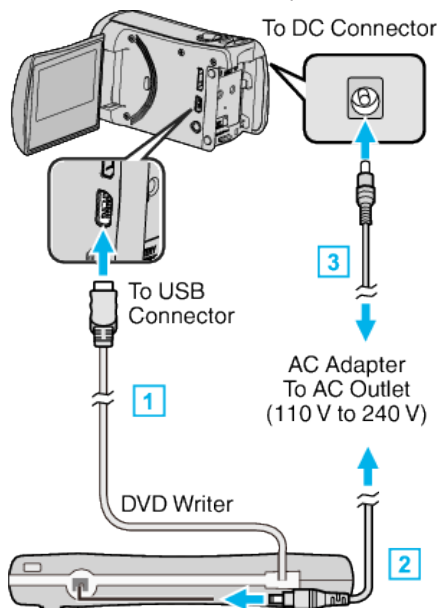
- Discs created on this unit are saved in the AVCHD format. Play back on an AVCHD compatible device (such as Blu-ray recorder).
- Images recorded in UXP mode cannot be copied to a DVD writer.
- When there are many files to back up, it may take time for the backup to be completed. Wait for a while as the POWER/ACCESS lamp blinks, indicating normal operation.
- Date and time information as saved as subtitles in the created discs.

Preparing a DVD Writer (CU-VD3)

- 1 Remove the AC adapter and battery pack from this unit.
- 2 Open the LCD monitor.



- 3 Connect the USB cable and the AC adapter.



1 Connect the USB cable of the DVD writer to this unit.

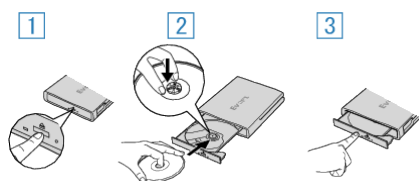
2 Connect the AC adapter of the DVD writer.

- Turn on the DVD writer.

3 Connect the AC adapter to this unit.

- This unit powers on automatically when the AC adapter is connected.
- This unit turns on and the "BACK-UP" menu appears.
- While the USB cable is connected, the "BACK-UP" menu is displayed.
- Refer also to the instruction manual of the DVD writer.

- 4 Insert a new disc.



1 Press the eject button to open the disc tray.

2 Pull out the tray completely and load a new disc properly.

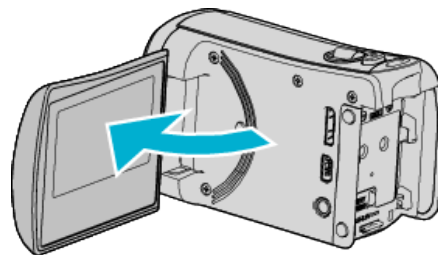
3 Push the disc tray in until it clicks into place.

Caution :

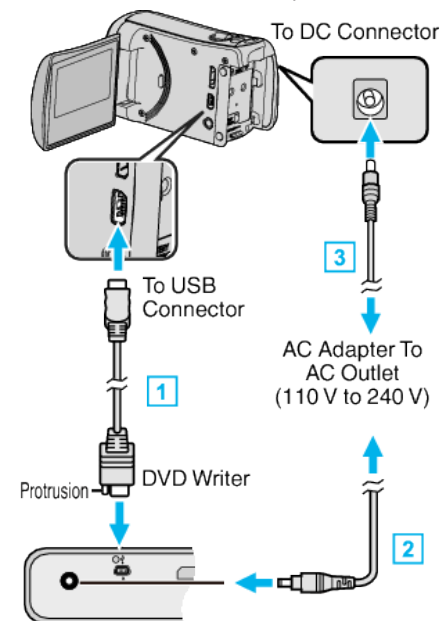
- Be sure to turn off the power when connecting the devices. Otherwise, electric shocks or malfunctions may occur.

Preparing a DVD Writer (CU-VD50)

- 1 Remove the AC adapter and battery pack from this unit.
- 2 Open the LCD monitor.



- 3 Connect the USB cable and the AC adapter.



1 Connect the USB cable provided with the DVD writer.

2 Connect the AC adapter of the DVD writer.

- Turn on the DVD writer.

3 Connect the AC adapter to this unit.

- This unit powers on automatically when the AC adapter is connected.
- This unit turns on and the "BACK-UP" menu appears.
- While the USB cable is connected, the "BACK-UP" menu is displayed.
- Refer also to the instruction manual of the DVD writer.

- 4 Insert a new disc.



1 Press the eject button.

2 Pull out the disc tray.

3 Pull out the tray completely and load a new disc properly.

4 Push the disc tray in until it clicks into place.

Caution :

- Be sure to turn off the power when connecting the devices. Otherwise, electric shocks or malfunctions may occur.

Memo :

- All buttons on the DVD writer CU-VD50, other than the power and eject buttons, will not work when connected to this unit.

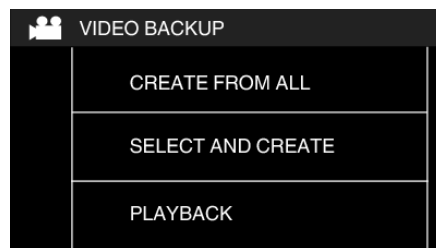
Creating a Disc

- 1 Prepare a DVD writer.
 - Insert a new disc into the DVD writer.
 “Preparing a DVD Writer (CU-VD3)” (p. 72)
 “Preparing a DVD Writer (CU-VD50)” (p. 72)
- 2 Copy files to the disc with the following methods.
 - “Copying All Files” (p. 73)
 - “Copying Selected Playlists” (p. 74)
 - “Copying Selected Files” (p. 76)

Copying All Files

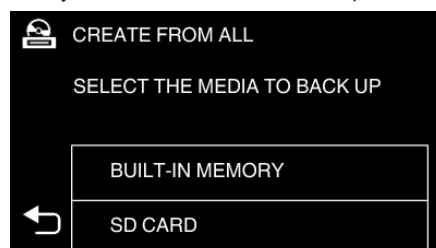
All videos or still images recorded on this unit will be copied. You can also select and copy only the videos or still images that have never been copied.

- 1 Select video or still image mode.
- 2 Tap “CREATE FROM ALL” (video) or “SAVE ALL” (still image).

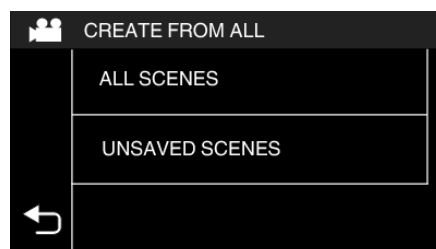


- While the video mode is shown in the image, the same operations apply for the still image mode.

- 3 Tap the media you would like to make a backup.



- 4 Tap the desired method.



- While the video mode is shown in the image, the same operations apply for the still image mode.

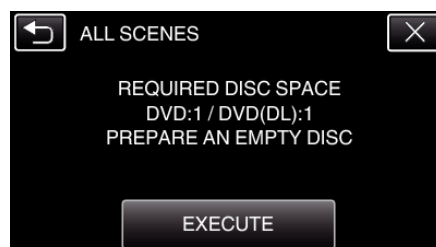
- **“ALL SCENES” (video)/“ALL IMAGES” (still image):**

All videos or still images in this unit are copied.

- **“UNSAVED SCENES” (video)/“UNSAVED IMAGES” (still image):**

Videos or still images that have never been copied are automatically selected and copied.

- 5 Tap “EXECUTE”.



- The number of discs required to copy the files is displayed. Prepare the discs accordingly.

- 6 Tap "AUTO" or "BY DATE". (👤 mode only)



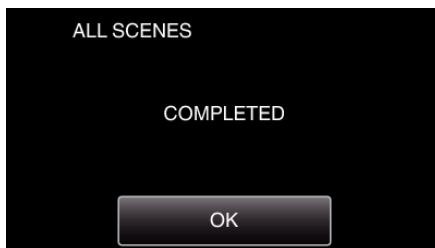
- When "AUTO" is selected, videos with similar recording dates are displayed in groups.
- When "BY DATE" is selected, videos are displayed according to recording dates.

- 7 Tap "EXECUTE".



- When "INSERT THE NEXT DISC TO CREATE OR PRESS STOP TO EXIT" appears, change the disc.

- 8 Tap "OK" when "COMPLETED" is displayed.



- 9 Turn off the DVD writer, then remove the USB cable.

Caution :

- Do not turn off the power or remove the USB cable until copying is complete.
- Files that are not on the index screen during playback cannot be copied. Special files cannot be copied either.
- All DVDs will be finalized automatically. Files cannot be added to the DVD-R/DVD-RW later.

Memo :

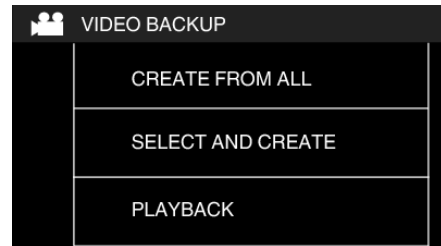
- To check the created disc, refer to "“Playing Back with a DVD Writer” (p. 78)".

"Playing Back with a DVD Writer" (p. 78)

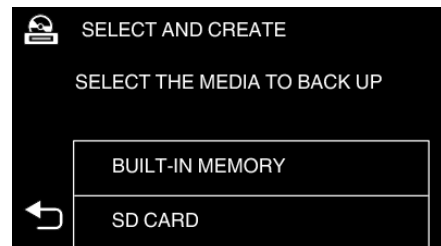
Copying Selected Playlists

Arrange and copy the created playlists in the order you like.

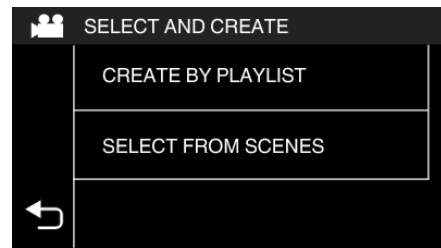
- 1 Select video mode.
- 2 Tap "SELECT AND CREATE".



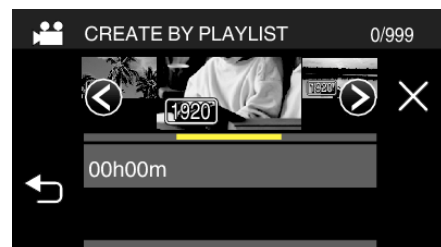
- 3 Tap the media you would like to make a backup.



- 4 Tap "CREATE BY PLAYLIST".

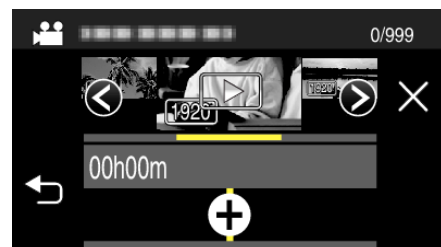


- 5 Tap on the playlist to copy to disc.



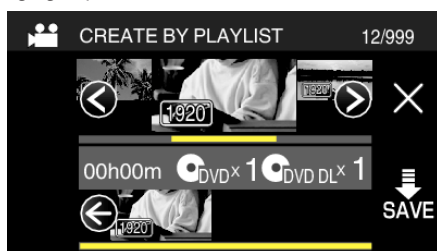
- ▶ appears on the selected playlist (upper row). Tap ↵ to deselect.
- Tap on the selected playlist again to check the content of the playlist. After checking, tap ↵.
- Tap </> to display the previous/next playlist.

- 6 Tap ⊕ to insert a playlist.

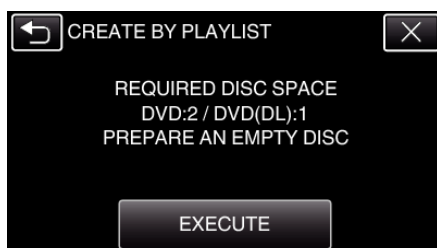



- Repeat steps 5-6 and arrange the playlists.
- To change the position of a playlist (lower row), select the insertion point with ←/→ after step 5 and tap ⊕.
- ▶ appears when the inserted playlist is selected. Tap ↵ to deselect.
- Tap on the selected playlist again to check the content of the playlist. After checking, tap ↵.
- To delete a video in the playlist (lower row), tap the video, then tap ⊖.

- 7 After arranging, tap .



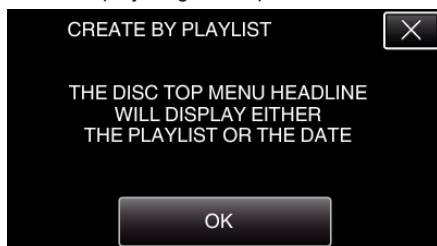
- 8 Tap "EXECUTE".



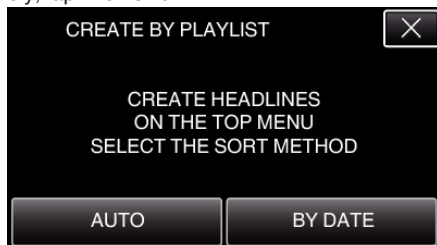
- The number of discs required to copy the files is displayed. Prepare the discs accordingly.
- Tap "CHECK" to check the content. After checking, tap .

- 9 Tap "OK".

- If step 9 is not displayed, go to step 10.

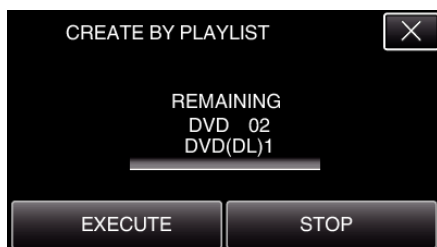


Alternatively, tap "AUTO" or "BY DATE".



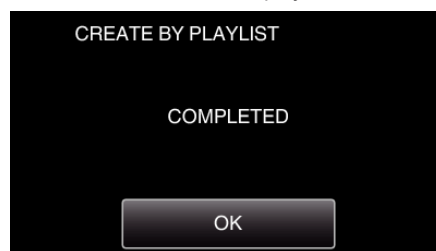
- When "AUTO" is selected, videos with similar recording dates are displayed in groups.
- When "BY DATE" is selected, videos are displayed according to recording dates.

- 10 Tap "EXECUTE".



- When "INSERT THE NEXT DISC TO CREATE OR PRESS STOP TO EXIT" appears, change the disc.

- 11 Tap "OK" when "COMPLETED" is displayed.



- 12 Turn off the DVD writer, then remove the USB cable.

Caution :

- Do not turn off the power or remove the USB cable until copying is complete.
- Files that are not on the index screen during playback cannot be copied. Special files cannot be copied either.
- All DVDs will be finalized automatically. Files cannot be added to the DVD-R/DVD-RW later.

Memo :

- A list of playlists is displayed on the top menu of the created DVD.
- To check the created disc, refer to "Playing Back with a DVD Writer" (p. 78).

"Playing Back with a DVD Writer" (p. 78)

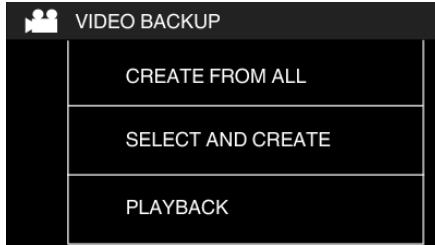
Copying Selected Files

Select and copy the desired videos or still images individually. There are 2 ways to select images.

- Selecting Files One by One
- Specify a "FROM HERE" to "UNTIL HERE" range.

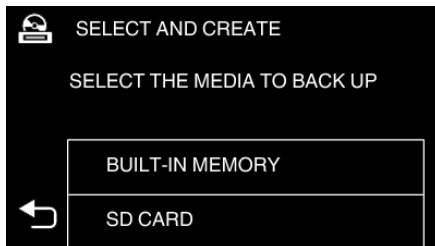
■ Copying Selected Files One by One

- 1 Select video or still image mode.
- 2 Tap "SELECT AND CREATE" (video) or "SELECT AND SAVE" (still image).

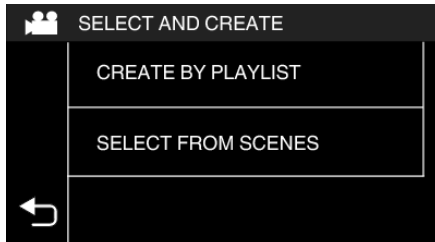


- While the video mode is shown in the image, the same operations apply for the still image mode.

- 3 Tap the media you would like to make a backup.



- 4 Tap "SELECT FROM SCENES" (video) or "SELECT FROM IMAGES" (still image).



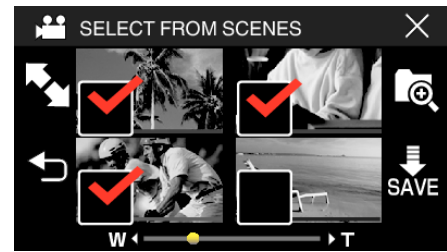
- While the video mode is shown in the image, the same operations apply for the still image mode.

- 5 Tap on the videos or still images to copy.



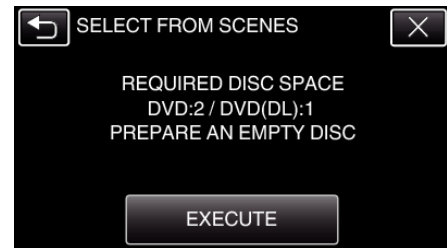
- ✓ appears on the selected files.
To remove ✓ from a file, tap on the file again.
- Tap [magnifying glass icon] to check the file.
After checking, tap [back arrow icon].
- While the video mode is shown in the image, the same operations apply for the still image mode.

- 6 After selecting all the files, tap [save icon].



- While the video mode is shown in the image, the same operations apply for the still image mode.

- 7 Tap "EXECUTE".



- The number of discs required to copy the files is displayed. Prepare the discs accordingly.

- 8 Tap "AUTO" or "BY DATE". (m mode only)



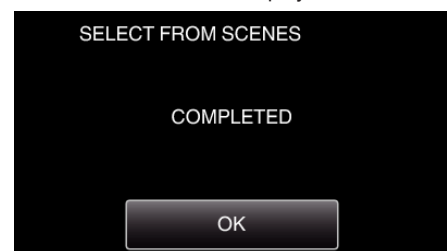
- When "AUTO" is selected, videos with similar recording dates are displayed in groups.
- When "BY DATE" is selected, videos are displayed according to recording dates.

- 9 Tap "EXECUTE".



- When "INSERT THE NEXT DISC TO CREATE OR PRESS STOP TO EXIT" appears, change the disc.

- 10 Tap "OK" when "COMPLETED" is displayed.



- 11 Turn off the DVD writer, then remove the USB cable.

Caution :

- Do not turn off the power or remove the USB cable until copying is complete.
- Files that are not on the index screen during playback cannot be copied. Special files cannot be copied either.
- All DVDs will be finalized automatically. Files cannot be added to the DVD-R/DVD-RW later.

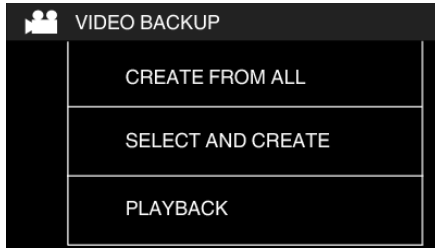
Memo :

- To check the created disc, refer to ““Playing Back with a DVD Writer” (p. 78)”.

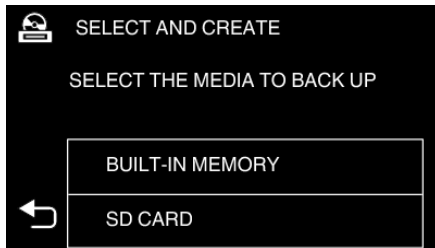
“Playing Back with a DVD Writer” (p. 78)

Specify the range to copy the files.

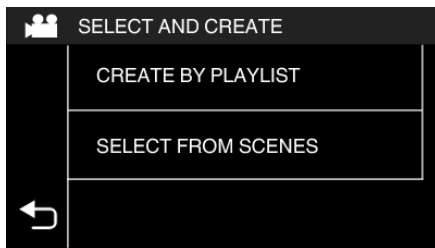
- 1 Select video mode.
- 2 Tap “SELECT AND CREATE”.



- 3 Tap the media you would like to make a backup.

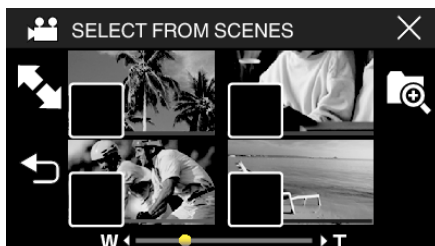


- 4 Tap “SELECT FROM SCENES” (video) or “SELECT FROM IMAGES” (still image).

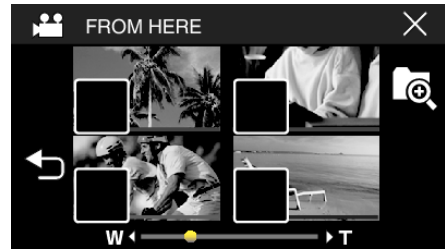




- While the video mode is shown in the image, the same operations apply for the still image mode.

- 5 Tap .

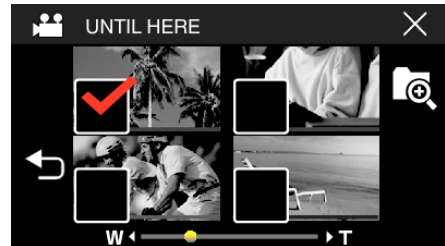


- 6 Tap the first image (thumbnail) of the range to be copied.




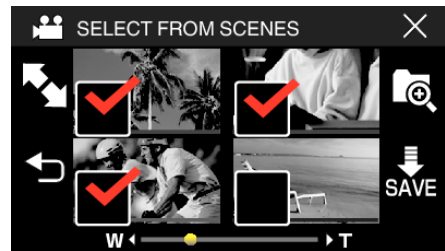
- ✓ is added to all the files to be copied when  is tapped.
- Tap  to return to step 6.
- To cancel the operation, tap X.

- 7 Tap the last image (thumbnail) of the range to be copied.



- If there are images you don't want to copy, tap the image (thumbnail) to remove ✓.

- 8 After selecting all the files, tap .

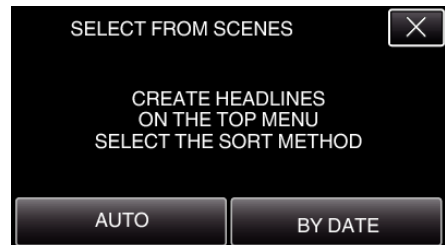


- 9 Tap “EXECUTE”.



- The number of discs required to copy the files is displayed. Prepare the discs accordingly.

- 10 Tap “AUTO” or “BY DATE”. (mode only)



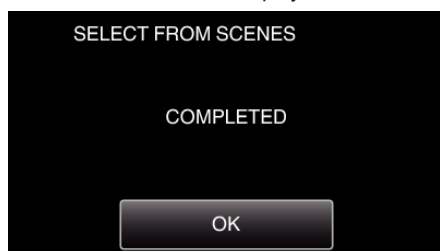
- When “AUTO” is selected, videos with similar recording dates are displayed in groups.
- When “BY DATE” is selected, videos are displayed according to recording dates.

11 Tap "EXECUTE".



- When "INSERT THE NEXT DISC TO CREATE OR PRESS STOP TO EXIT" appears, change the disc.

12 Tap "OK" when "COMPLETED" is displayed.



13 Turn off the DVD writer, then remove the USB cable.

Caution :

- Do not turn off the power or remove the USB cable until copying is complete.
- Files that are not on the index screen during playback cannot be copied. Special files cannot be copied either.
- All DVDs will be finalized automatically. Files cannot be added to the DVD-R/DVD-RW later.

Memo :

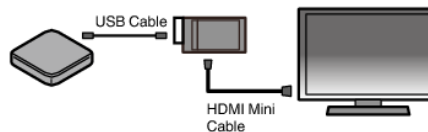
- To check the created disc, refer to "Playing Back with a DVD Writer" (p. 78).

"Playing Back with a DVD Writer" (p. 78)

Playing Back with a DVD Writer

You can play back the DVDs created on this unit.

- 1 Connect this unit to the DVD writer and TV.
(If this unit is not connected to a TV, images can be played back on the LCD monitor of this unit.)



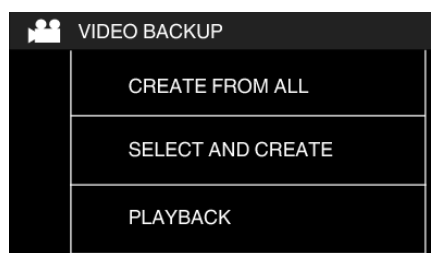
"Preparing a DVD Writer (CU-VD3)" (p. 72)

"Preparing a DVD Writer (CU-VD50)" (p. 72)

"Connecting to and Viewing on TV" (p. 54)

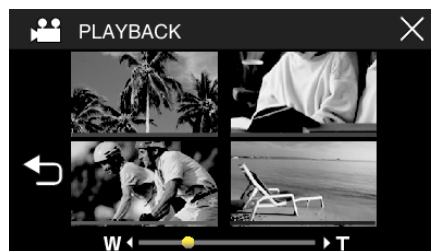
- Insert the DVD to play back into the DVD writer.

- 2 Tap "PLAYBACK" in the "BACK-UP" menu.



- An index screen (thumbnail display) of the videos in the disc appears.
- Tap the icon to switch between the video and still image modes.

- 3 Tap on the file to start playback.



- Tap "⏮" to return to the "BACK-UP" menu.
- For details on video playback, refer to "Operation Buttons for Video Playback" (p. 46).

"Operation Buttons for Video Playback" (p. 46)

- To exit playback, stop playback and close the LCD monitor to turn off this unit. Then, disconnect the USB cable.

Memo :

- To play back the recorded image on TV, connect this unit via the HDMI mini cable or the AV Cord while this unit is connected to the DVD writer.

"Connecting via the HDMI Mini Connector" (p. 54)

"Connecting via the AV Connector" (p. 56)

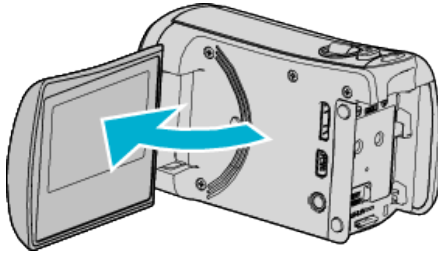
Dubbing Files to a Disc by Connecting to a Blu-ray Recorder

You can dub videos in the high definition quality by connecting an AVCHD-compliant Blu-ray recorder to this unit via a USB cable. For details on creating the disc, refer to the instruction manual of your Blu-ray recorder.

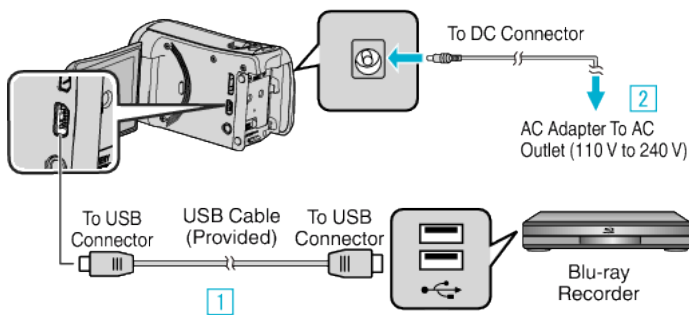
Memo :

- Refer to the following website for the firmware update.
<http://www3.jvckenwood.com/dvmain/support/download/>
- Blu-ray recorder without confirmed operation or recommendation may cause unexpected malfunction. Refer to the following website.
<http://www3.jvckenwood.com/support/qa/cam.html>

- 1 Remove the AC adapter and battery pack from this unit.
- 2 Open the LCD monitor.

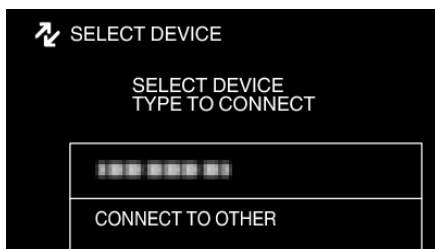


- 3 Connect to a Blu-ray recorder.

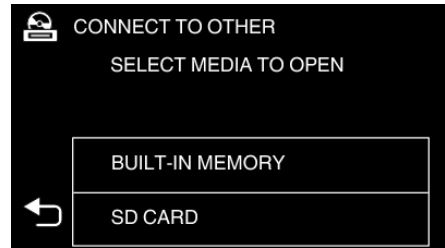


- 1 Connect using the provided USB cable.
- 2 Connect the AC adapter to this unit.
 - This unit powers on automatically when the AC adapter is connected, and the "SELECT DEVICE" screen is displayed.
 - Be sure to use the supplied AC adapter.

- 4 Tap "CONNECT TO OTHER".



- 5 Tap the desired media.



- The following screen is displayed after the camera operation is completed.



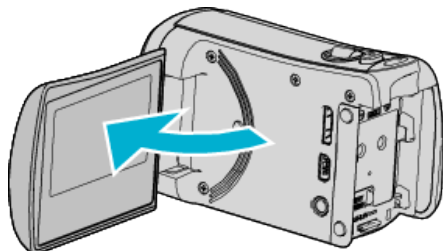
- Operations are to be performed on the Blu-ray recorder after the screen switches.
- 6 Perform dubbing on the Blu-ray recorder.
 - Refer also to the instruction manual of the Blu-ray recorder.
 - After dubbing is complete, disconnect the USB cable. Operations cannot be performed on this unit until the USB cable is disconnected.

Dubbing Files to a Disc by Connecting to a DVD Recorder

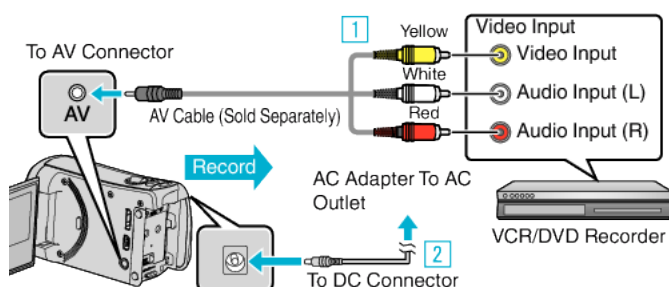
You can dub videos in standard quality by connecting to a DVD recorder.

- Refer also to the instruction manuals of the TV and DVD recorder.

- 1 Remove the AC adapter and battery pack from this unit.
- 2 Open the LCD monitor.



- 3 Connect to a DVD recorder.



- 1 Connect using the optional AV cable.
- 2 Connect the AC adapter to this unit.
- 3 Connect the adapter cable and AC adapter to this unit.
 - This unit powers on automatically when the AC adapter is connected.
 - Be sure to use the supplied AC adapter.

- 4 Tap the button to select the playback mode.



- 5 Prepare the TV/DVD recorder for recording.

- Switch to a compatible external input.
- Insert a disc (DVD-R, etc.) into the DVD recorder.

- 6 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. 114)

- 7 Start recording.

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

"Playing Back Videos" (p. 45)

- After playback is complete, stop the recording.

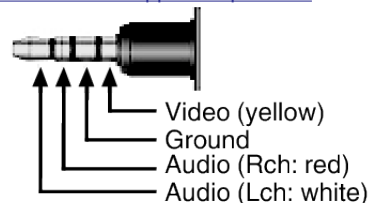
Memo :

- AV cable (Optional: QAM1322-001)

Wiring specifications (for video/audio) of the 4-pole mini plug are described in the following.

For purchasing, consult your nearest JVC service center.

<http://www3.jvckenwood.com/support/hrepair.html>



Memo :

- 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.

"PLAYBACK PLAYLIST" (p. 50)

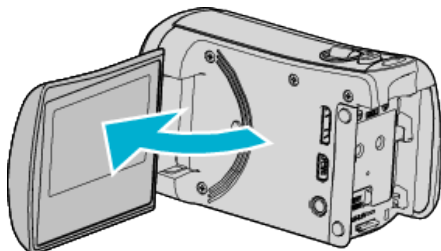
- To include the recording date and time during dubbing, set "DISPLAY DATE/TIME" in the "PLAYBACK SETTING" menu to "ON". Or, set "DISPLAY ON TV" in the "CONNECTION SETTINGS" menu to "ON".

Dubbing Files to a VHS Tape by Connecting to a VCR

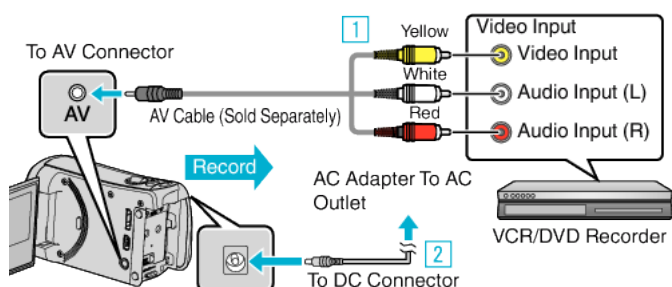
You can dub videos in standard quality by connecting to a VCR.

- Refer also to the instruction manuals of the TV and VCR.

- 1 Remove the AC adapter and battery pack from this unit.
- 2 Open the LCD monitor.



- 3 Connect to a VCR/DVD recorder.



- 1 Connect using the optional AV cable.
- 2 Connect the AC adapter to this unit.
 - This unit powers on automatically when the AC adapter is connected.
 - Be sure to use the supplied AC adapter.
- 4 Tap the button to select the playback mode.



- 5 Prepare the TV/VCR for recording.
 - Switch to a compatible external input.
 - Insert a video tape.
- 6 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. 114)
- 7 Start recording.
 - Start playback on this unit and press the record button on the recorder.
 "Playing Back Videos" (p. 45)
 - After playback is complete, stop the recording.

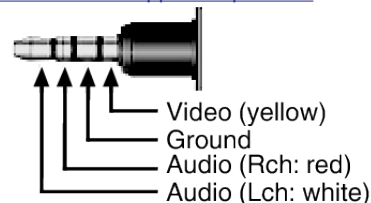
Memo :

- AV cable (Optional: QAM1322-001)

Wiring specifications (for video/audio) of the 4-pole mini plug are described in the following.

For purchasing, consult your nearest JVC service center.

<http://www3.jvckenwood.com/support/hrepair.html>



Memo :

- 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.

"PLAYBACK PLAYLIST" (p. 50)

- To include the recording date and time during dubbing, set "DISPLAY DATE/TIME" in the "PLAYBACK SETTING" menu to "ON". Or, set "DISPLAY ON TV" in the "CONNECTION SETTINGS" menu to "ON".

Using a USB External Hard Disk Drive

You can copy video and still image files to a USB external hard disk drive from this unit. You can also play the files in the USB external hard disk drive on this unit.

- Refer also to the instruction manual of the external hard disk drive.

Compatible External Hard Disk Drives

Use HDJ-U series or HDCA-U/HDCA-UT series from I-O DATA. (As of November 2013)

Memo :

Before purchasing, check the compatible devices on the I-O DATA website.

- I-O DATA:

<http://www.iodata.jp/fun/digital/tv/taiou/everio/index2.htm>

- USB external hard disk drives up to 2 TB can be used.

Copying and Playback with a USB External Hard Disk Drive

"Preparing a USB External Hard Disk Drive" (p. 82)

"Copying All Files" (p. 83)

"Playing Back Files in the USB External Hard Disk Drive" (p. 84)

"Deleting Folders in the USB External Hard Disk Drive" (p. 84)

Importing Files from the USB External Hard Disk Drive

"Importing Files from the USB External Hard Disk Drive" (p. 85)

Memo :

- Format the USB external hard disk drive when connecting it to this unit for the first time. (All data will be deleted.)

"Formatting the USB External Hard Disk Drive" (p. 85)

- Refer to the help file of the provided Everio MediaBrowser 4 software when you use the PC to operate the data in the USB external hard disk drive directly copied from this unit.
- USB external hard disk drives with the capacity over 2 TB cannot be used.
- Copying may take time. (For example, saving 1 hour video in XP mode takes about 20 minutes.)
- When there are many files to back up, it may take time for the backup to be completed. Wait for a while as the POWER/ACCESS lamp blinks, indicating normal operation.
- Sound or video may be interrupted during playback.

Caution :

- Do not connect a USB hub between this unit and the USB external hard disk drive.
- Disconnect the USB external hard disk drive when using other USB devices such as DVD writer, external Blu-ray drive, or another USB external hard disk drive.
- Avoid the following operations during copying and playing back. - Turning off the unit or the USB external hard disk drive. - Disconnecting the USB cable.
- Do not format the USB external hard disk drive using the PC. If you did, format again using this unit. (All the data in the USB external hard disk drive will be erased.)
- Avoid the following operations using the PC. - Deleting files or folders in the USB external hard disk drive. - Moving files or folders in the USB external hard disk drive. - Changing the name of files or folders in the USB external hard disk drive. These operations make the data impossible to be played back on this unit.
- When you use the PC to edit the data in the USB external hard disk drive, copy the data to the PC before editing. Editing the data in the USB external hard disk drive directly from the PC makes the data impossible to be played back on this unit.

Preparing a USB External Hard Disk Drive

Memo :

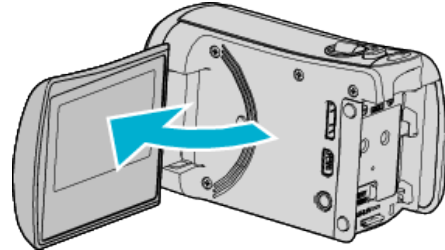
- When connecting to the external hard disk drive, use a USB cable (commercially available) indicated below. The USB cable provided with this unit cannot be used.

I-O DATA: USB-MAB/100 Mini-A (Male) – B (Male)

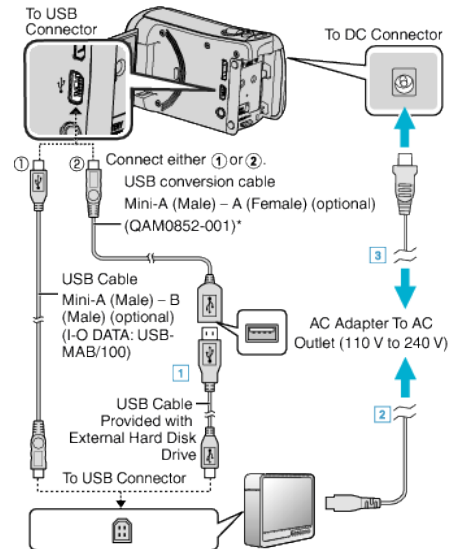
- To use the USB cable provided with the USB external hard disk drive, purchase the following USB conversion cable (sold separately).

<http://www3.jvckenwood.com/support/hrepair.html>

- 1 Remove the AC adapter and battery pack from this unit.
- 2 Open the LCD monitor.



- 3 Connect the USB cable and the AC adapter.



*Consult your nearest service center.

- 1 Connect the USB cable with the USB external hard disk drive.
 - 2 Connect the AC adapter of the USB external hard disk drive.
- Turn on the external hard disk drive.
 - 3 Connect the AC adapter to this unit.
 - This unit powers on automatically when the AC adapter is connected.
 - This unit turns on and the "BACK-UP" menu appears.
 - While the USB cable is connected, the "BACK-UP" menu is displayed.
 - Refer also to the instruction manual of the external hard disk drive.

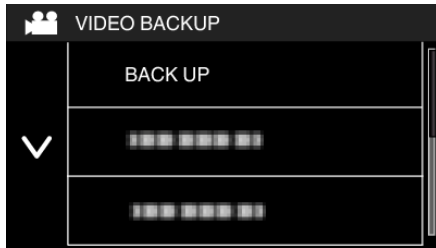
Caution :

- Be sure to turn off the power when connecting the devices. Otherwise, electric shocks or malfunctions may occur.
- Do not connect a USB hub between this unit and the USB external hard disk drive.

Copying All Files

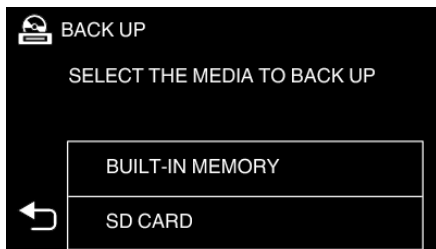
All videos or still images recorded on this unit will be copied.
You can also select and copy only the videos or still images that have never been copied.

- 1 Select video or still image mode.
- 2 Tap "BACK UP".

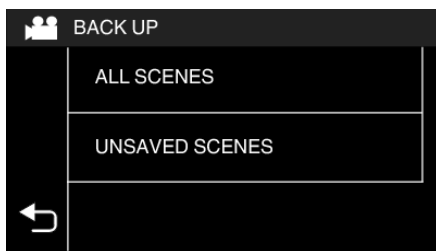


- While the video mode is shown in the image, the same operations apply for the still image mode.

- 3 Tap the media you would like to make a backup.



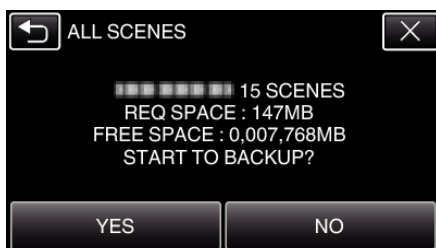
- 4 Tap the desired method.



- **"ALL SCENES" (video)/"ALL IMAGES" (still image):**
All videos or still images in this unit are copied.
- **"UNSAVED SCENES" (video)/"UNSAVED IMAGES" (still image):**

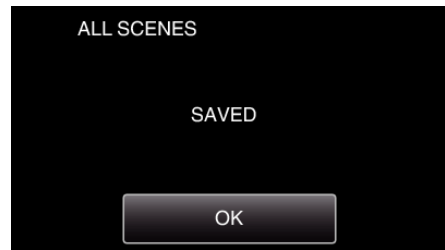
Videos or still images that have never been copied are automatically selected and copied.

- 5 Check that there is sufficient remaining space on the hard disk drive and tap "YES".



- Backup starts when "YES" is tapped.

- 6 Tap "OK" when "COMPLETED" is displayed.



- 7 Turn off the USB external hard disk drive, then remove the USB cable.

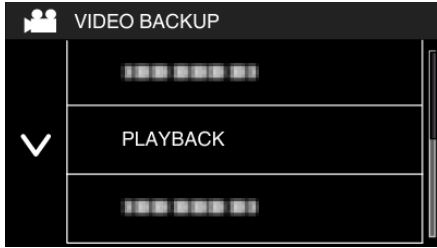
Caution :

- Do not turn off the power or remove the USB cable until copying is complete.
- Files that are not on the index screen during playback cannot be copied. Special files cannot be copied either.
- Copying may take time. (For example, saving 1 hour video in XP mode takes about 20 minutes.)

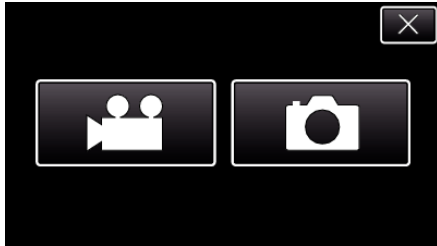
Playing Back Files in the USB External Hard Disk Drive

Videos or still images saved in an external hard disk drive can be played back on this unit.

- 1 Tap "PLAYBACK".

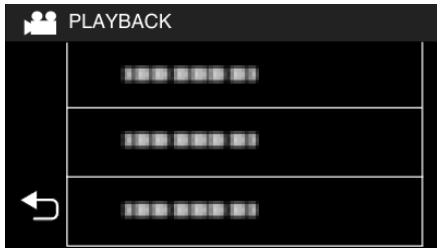


- 2 Select video or still image mode.



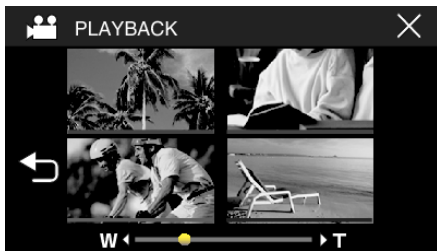
- If step 2 is not displayed, go to step 3.
- If the backup files of video or still image are not made, these icons won't be displayed.

- 3 Tap on the folder to play back.



- Tap "←" to return to the "BACK-UP" menu.

- 4 Tap on the file to play back.



- Tap "←" to return to the folder index screen.
- For details on video playback, refer to "Operation Buttons for Video Playback" (p. 46).
- "Operation Buttons for Video Playback" (p. 46)
- To exit playback, stop playback and close the LCD monitor to turn off this unit. Then, disconnect the USB cable.

Memo :

- Sound or video may be interrupted during playback.

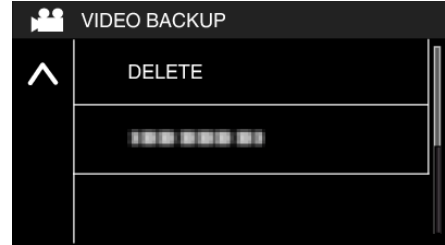
Deleting Folders in the USB External Hard Disk Drive

Files that are copied to the external hard disk drive can be deleted.

Caution :

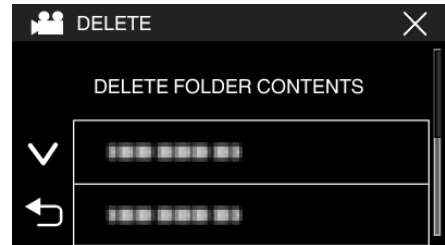
- Deleted files cannot be restored.
 - Be sure to back up important files on a PC.
- "Backing Up All Files" (p. 93)

- 1 Select video or still image mode.
- 2 Tap "DELETE".

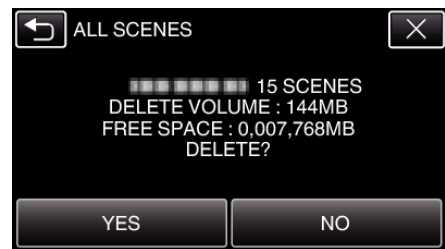


- While the video mode is shown in the image, the same operations apply for the still image mode.

- 3 Tap on the folder to delete.



- 4 Tap "YES".



- After deleting, tap "OK".

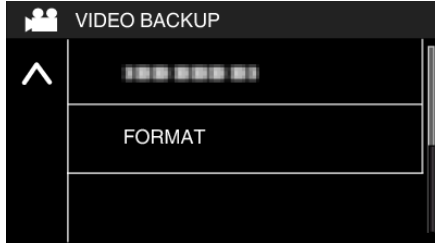
Formatting the USB External Hard Disk Drive

All files on the external hard disk drive can be deleted.

Caution :

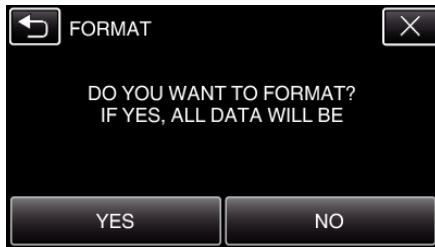
- All data on the external hard disk drive will be deleted when it is formatted. Copy all files on the external hard disk drive to a computer before formatting.

- 1 Select video or still image mode.
- 2 Tap "FORMAT".



- While the video mode is shown in the image, the same operations apply for the still image mode.

- 3 Tap "YES".



- After formatting, tap "OK".

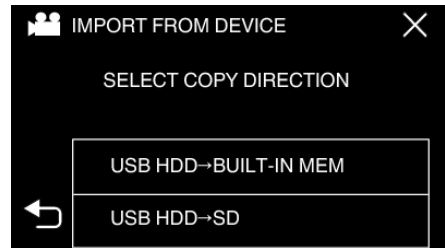
Importing Files from the USB External Hard Disk Drive

You can copy video files from a USB external hard disk drive to the built-in memory of this unit or an SD card.

- 1 Select video mode.
- 2 Tap "IMPORT FROM DEVICE" in "BACK-UP".



- 3 Tap "USB HDD→BUILT-IN MEM" or "USB HDD→SD".



- Files will be imported to the selected media.

- 4 Tap on the folder to import.

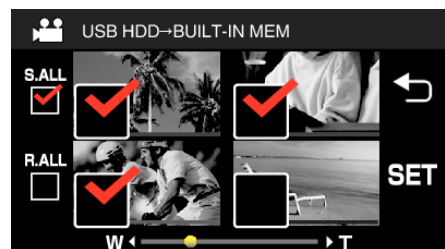


- 5 Tap on the files to import.



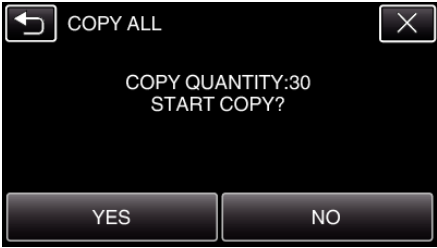
- ✓ appears on the selected files. To remove ✓ from a file, tap on the file again.
- Tap "S.ALL" to select all files.
- Tap "R.ALL" to release all selections.

- 6 Tap "SET".



- "SET" is deactivated when no file is selected.

7 Tap “YES”.



- Importing starts when “YES” is tapped.
- To cancel importing of files, tap “STOP”, then tap “YES”.

8 After importing, tap “OK”.



9 Turn off the USB external hard disk drive, then remove the USB cable.

Memo :

- Files that are saved to the USB external hard disk drive from other devices cannot be copied to this unit.

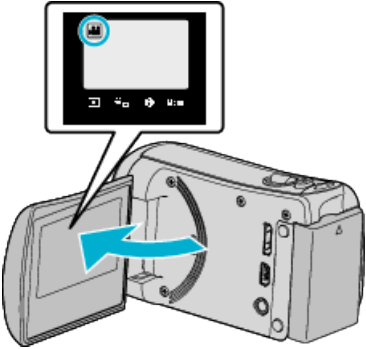
Copying Files to an SD Card

You can copy videos and still images from the built-in memory to SD card. Copying still images to cards makes it convenient to bring them to the shop for printing (developing).

Caution :

- Make sure that there is enough space left in the destination medium.
- Videos in the SD card cannot be copied to the built-in memory.

1 Open the LCD monitor.



- Tap the (video/still image) button on the touch screen to switch to the mode switching screen, and select either video or still image .

2 Tap the button to select the playback mode.

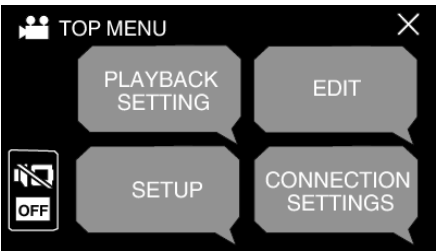


- The mode changes between recording and playback with every tap.

3 Tap the **Menu** button.



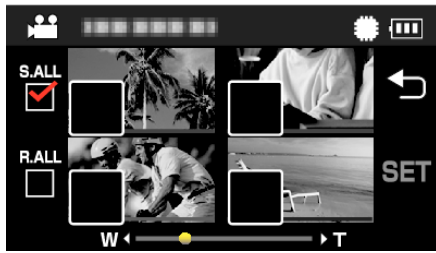
4 Tap “EDIT”.



5 Tap “COPY”.

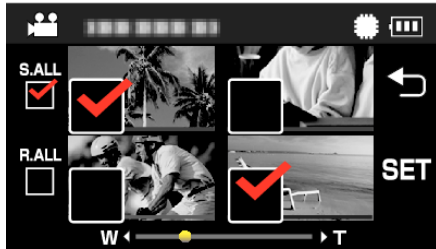


6 Tap on the files to copy.



- ✓ appears on the selected files.
To remove ✓ from a file, tap on the file again.
- Tap “S.ALL” to select all files.
- Tap “R.ALL” to release all selections.

7 Tap “SET”.



- “SET” is deactivated when no file is selected.

8 Tap “YES”.



- Copying starts.
- After copying, tap “OK”.

Copying to Windows PC

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

- Memo :**
- To record to discs, a recordable DVD or Blu-ray drive is required for the computer in use.
 - To create DVD-Video discs using the provided software, it is necessary to install the additional software (software for creating DVD-Video).
For details, refer to the Pixela homepage.
<http://www.pixela.co.jp/oem/jvc/mediabrowser/e/>
 - Backing up of files using other softwares is not supported.

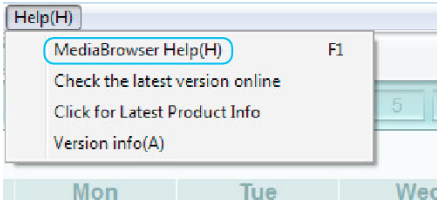
Trouble with Using the Provided Software Everio MediaBrowser 4

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):+800-1532-4865 (toll-free) Other Countries in Europe (English):+44-1489-564-764 Asia (Philippines) (English): +63-2-438-0090
Homepage	http://www.pixela.co.jp/oem/jvc/mediabrowser/e/

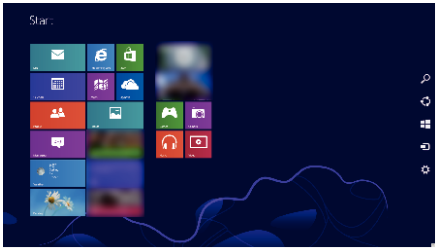
- For details on how to use the software, refer to “MediaBrowser Help” in the “Help” menu of Everio MediaBrowser 4.



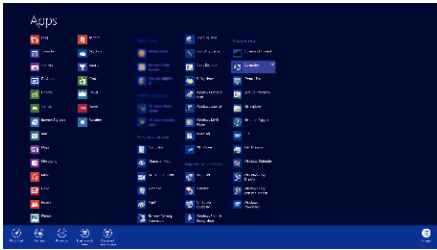
Verifying System Requirements (Guideline)

Windows 8/Windows 8.1

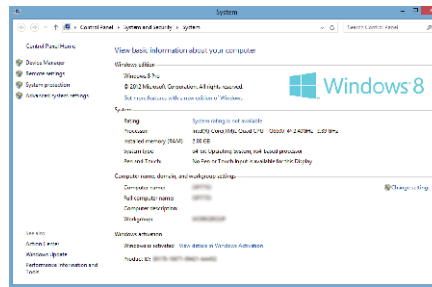
- 1 Display “Apps”.
- (For Windows 8) Click the “Search” charm.
(For Windows 8.1) Click ①.



- 2 Right-click “Computer” or “PC” in the “Windows System Tool” menu to select the checkbox.



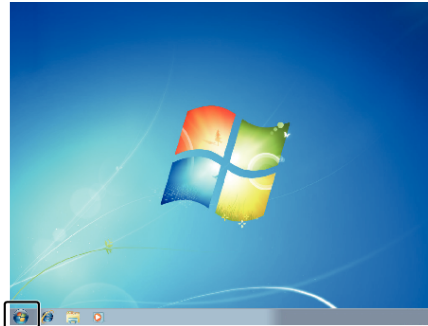
- 3 Click “Properties” on the bottom bar to display.



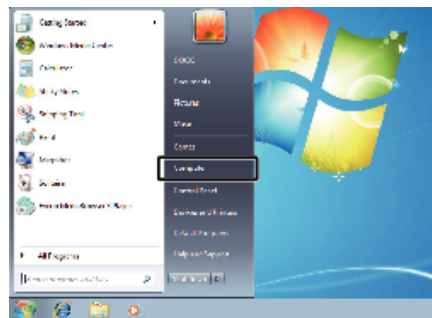
- If a “Computer” icon is shown on desktop, right-click the icon and select “Properties” in the menu to display your computer information.

Windows Vista/Windows 7

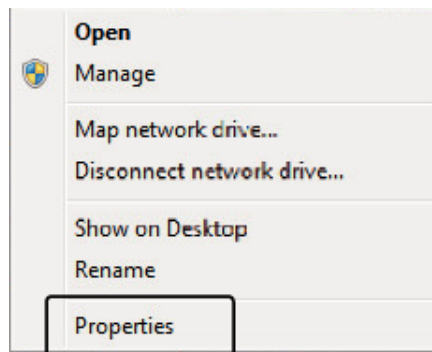
- 1 Click the start button.



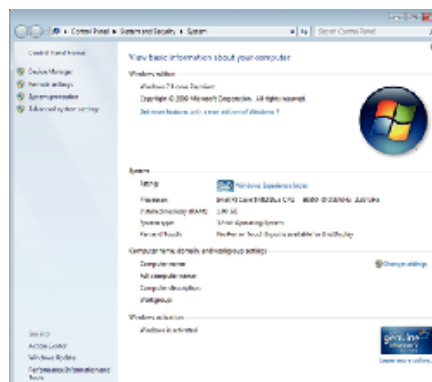
- ## 2 Right-click Computer.



- 3** Click “Properties”.



- 4** Check the items with the table below.



	Windows 8/Windows 8.1	Windows Vista/Windows 7
OS	Windows 8 64-bit Windows 8 or Windows 8 Pro (Pre-installed versions, desktop mode only) Windows8.1 64-bit Windows8.1 or Windows8.1 Pro (Pre-installed versions, desktop mode only)	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) Service Pack 1
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 2 GB
Video editing	Intel Core i7, CPU 2.53 GHz or higher recommended	Intel Core i7, CPU 2.53 GHz or higher recommended

■ Other requirements

Display: 1024×768 pixels or above (1280×1024 pixels or above recommended)
Graphic: Intel G965 or higher recommended

Memo : _____

- If your PC does not meet the above system requirements, operations of the provided software cannot be guaranteed.
- For more information, contact your PC's manufacturer.

Installing the Provided Software (Built-in)

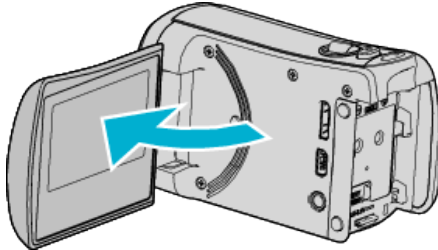
You can display the recorded images in calendar format and perform editing using the provided software.

Preparations

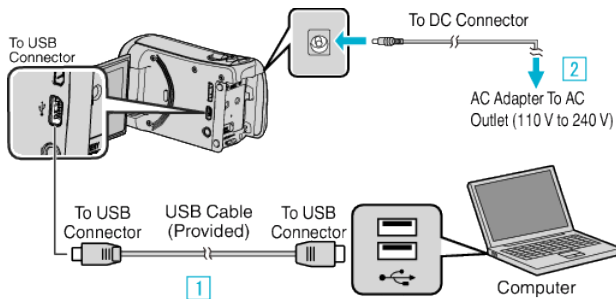
Connect this unit to a computer with a USB cable.

■ Windows 8/Windows 8.1

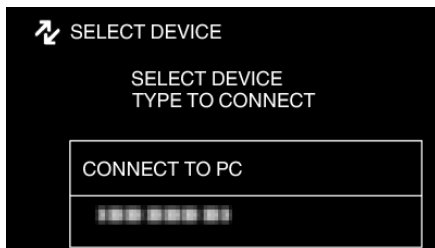
- 1 Remove the AC adapter and battery pack from this unit.
- 2 Open the LCD monitor.



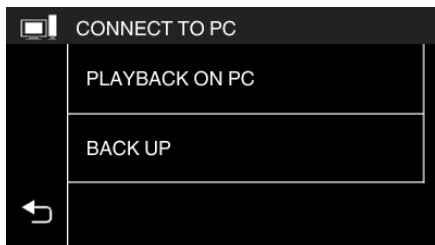
- 3 Connect the USB cable and the AC adapter.



- 1 Connect using the provided USB cable.
 - 2 Connect the AC adapter to this unit.
- This unit powers on automatically when the AC adapter is connected.
 - Be sure to use the supplied AC adapter.
 - 3 The "SELECT DEVICE" menu appears.
- 4 Tap "CONNECT TO PC".



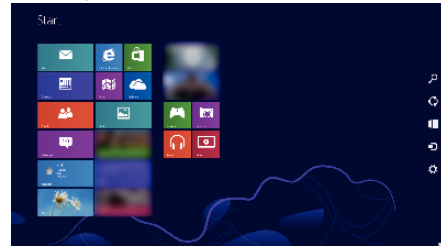
- 5 Tap "PLAYBACK ON PC".



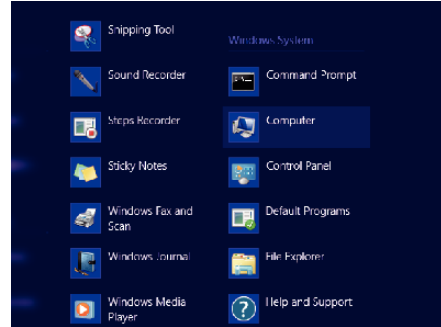
- Tap X to exit the menu.
- Tap ↶ to return to the previous screen.
- "Everio Software Setup" appears on the computer. Operations are to be performed on the computer after the screen switches.

- 6 Perform the following operations on your computer.

- 1 Display "Apps".
(For Windows 8) Click the "Search" charm.
(For Windows 8.1) Click ①.

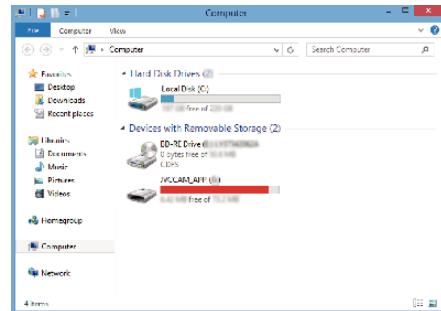


- 2 Click "Computer" or "PC" in the "Windows System Tool" menu.

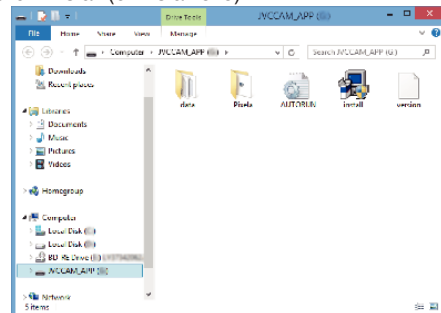


- If a "Computer" icon is shown on desktop, double-click the icon to open "Computer".

- 3 Double-click the "JVCCAM_APP" icon in "Devices with Removable Storage".



- 4 Double-click "install (or Install.exe)".



- 5 Click "Yes" on the User Account Control screen.

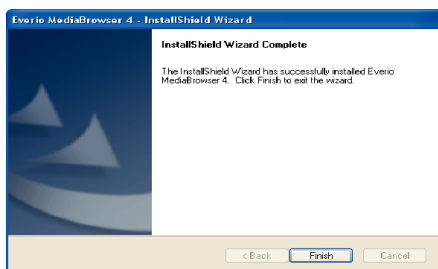
- "Software Setup" appears after a while.

- 7 Click "Everio MediaBrowser 4".



- Follow the on-screen instructions to finish the installation.

- 8 Click "Finish".



- 9 Click "Quit".



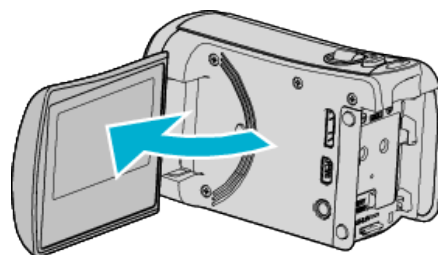
- Installation is complete, and two icons are created on the desktop.

- 10 Remove this unit from your PC.

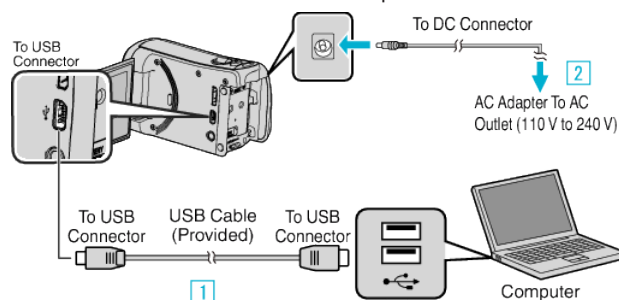
"Disconnecting this Unit from Computer" (p. 94)

Windows Vista/Windows 7

- 1 Remove the AC adapter and battery pack from this unit.
- 2 Open the LCD monitor.



- 3 Connect the USB cable and the AC adapter.



- 1 Connect using the provided USB cable.

- 2 Connect the AC adapter to this unit.

- This unit powers on automatically when the AC adapter is connected.

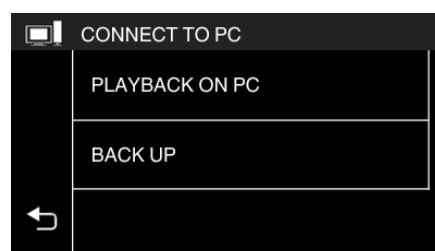
- Be sure to use the supplied AC adapter.

- 3 The "SELECT DEVICE" menu appears.

- 4 Tap "CONNECT TO PC".



- 5 Tap "PLAYBACK ON PC".

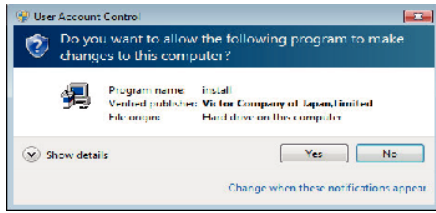


- Tap X to exit the menu.
- Tap ↶ to return to the previous screen.
- "Everio Software Setup" appears on the computer. Operations are to be performed on the computer after the screen switches.

6 Perform the following operations on your computer.

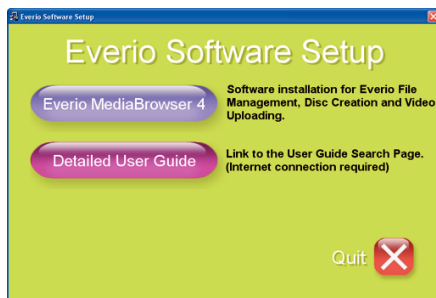
- 1 Click "Open folder to view files" on the auto play dialog box, and then double-click "install.exe".
- 2 Click "Yes" on the User Account Control screen.

*Windows 7



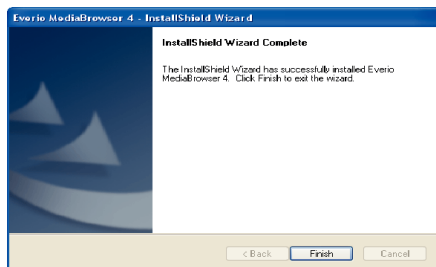
- In case of Windows Vista, click "Allow" (continue).
- "Software Setup" appears after a while.
- If it doesn't appear, double-click "JVCCAM_APP" in "Computer" or "My Computer", then double-click "install.exe".

7 Click "Everio MediaBrowser 4".



- Follow the on-screen instructions to finish the installation.

8 Click "Finish".



9 Click "Quit".



- Installation is complete, and two icons are created on the desktop.

10 Remove this unit from your PC.

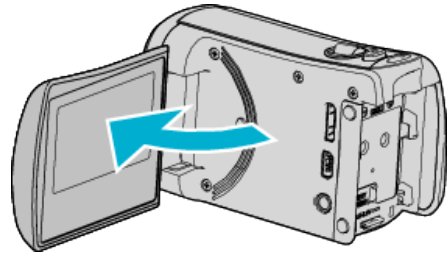
Memo :

- If "Everio Software Setup" doesn't appear, double-click "JVCCAM_APP" in "My Computer" or "Computer", then double-click "install (or Install.exe)".
- If the auto play dialog box appears, select "Open folder to view files" and click "OK". Then, click "install (or Install.exe)" in the folder.

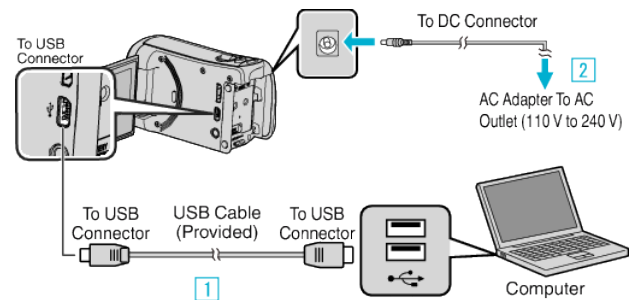
Backing Up All Files

Before making backup, make sure that enough free space is left in the computer's hard disk (HDD). Backup will not start if there is not enough free space.

- 1 Remove the AC adapter and battery pack from this unit.
- 2 Open the LCD monitor.



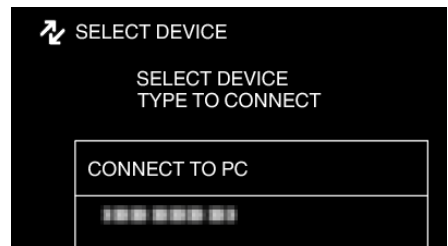
3 Connect the USB cable and the AC adapter.



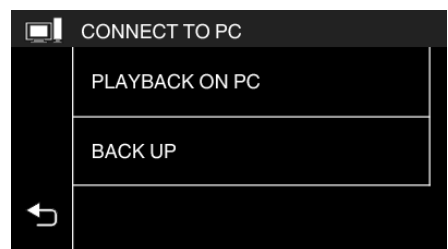
- 1 Connect using the provided USB cable.
- 2 Connect the AC adapter to this unit.

- This unit powers on automatically when the AC adapter is connected.
- Be sure to use the supplied AC adapter.
- 3 The "SELECT DEVICE" menu appears.

4 Tap "CONNECT TO PC".

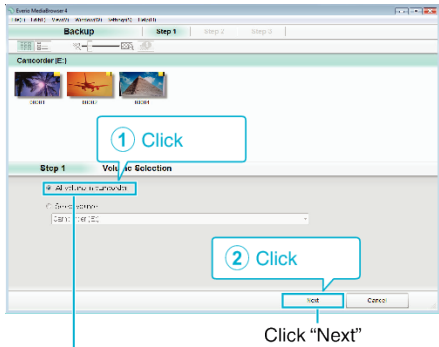


5 Tap "BACK UP".



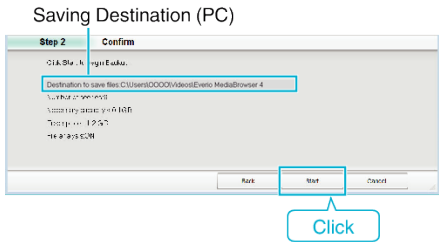
- Tap X to exit the menu.
- Tap ⏮ to return to the previous screen.
- The provided software Everio MediaBrowser 4 starts up on the computer. The subsequent operations are to be performed on the computer.

6 Select the source of the image file.



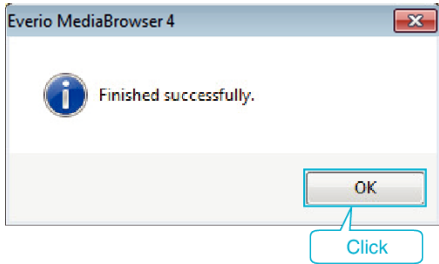
Click "All volume in camcorder"

7 Start backup.



- Backup starts.

8 After backup is complete, click "OK".



9 Remove this unit from your PC.

Memo :

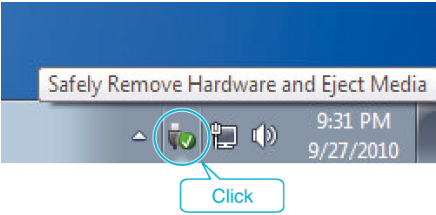
- Before making backup, load the SD card in which the videos and still images are stored on this unit.
- If you encounter any problems with the provided software Everio MediaBrowser 4, please consult the "Pixela User Support Center".

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

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

"Deleting Unwanted Files" (p. 57)

Disconnecting this Unit from Computer



(Windows 7/Windows 8/Windows 8.1)

- 1 Click "Safely Remove Hardware and Eject Media".
 - 2 Click all "JVCCAM~".
 - 3 Disconnect the USB cable and close the LCD monitor.
- (Windows Vista)

- 1 Click "Safely Remove Hardware and Eject Media".
- 2 Click "Safely Remove USB Mass Storage Device".
- 3 Click "OK".
- 4 Disconnect the USB cable and close the LCD monitor.

Organizing Files

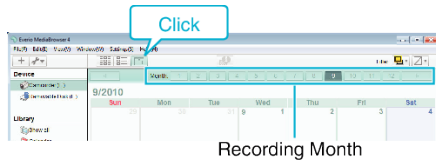
After backing up your files, organize them by adding labels such as “Family Trip” or “Athletic Meet”. This is useful not only for creating discs, but for viewing the files too.

1 Double-click on the Everio MediaBrowser 4 icon.

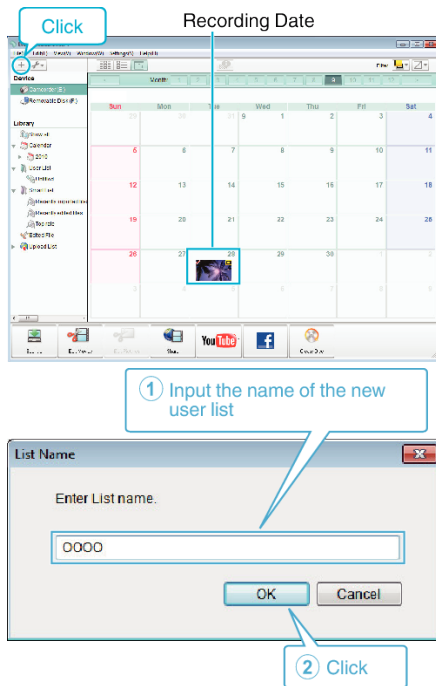
- The provided software starts up.



2 Display the month of the files to organize.



3 Create a user list.



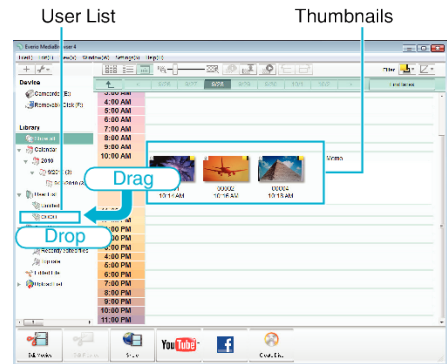
- A new user list is added to the user list library.

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.



Memo :

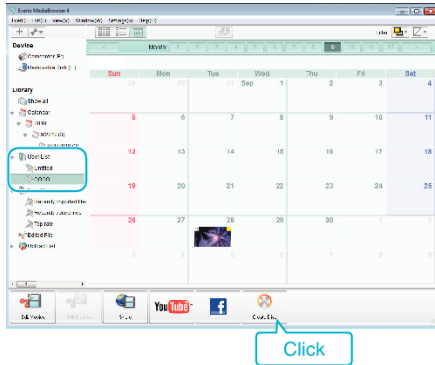
- If you encounter any problems with the provided software Everio MediaBrowser 4, please consult the “Pixela User Support Center”.

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

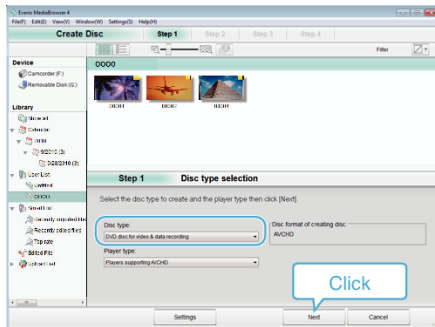
Recording Videos to Discs

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

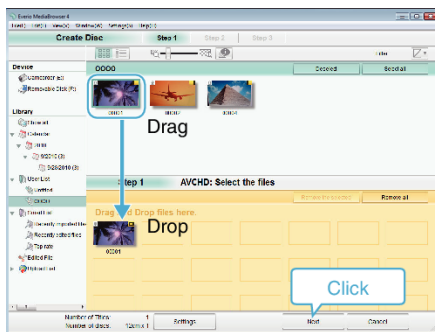
- 1 Insert a new disc into the PC's recordable DVD drive.
- 2 Select the desired user list.



- 3 Select the disc type.

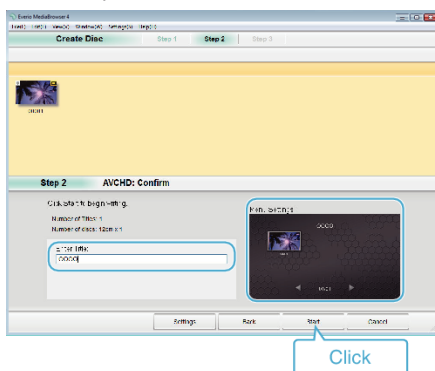


- 4 Select the files to copy to disc in order.



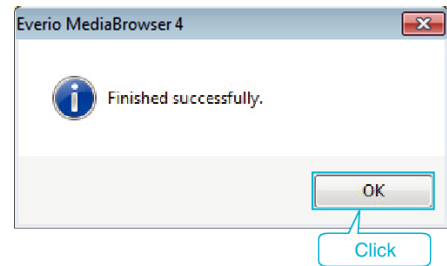
- Click "Settings" to select the disc type.
- Click "Select all" to select all the displayed files.
- After selecting, click "Next".

- 5 Set the title of the top menu of the disc.



- Click "Settings" to select the menu background.
- After setting, click "Start".

- 6 After copying is complete, click "OK".



Memo :

- The following types of discs can be used on the provided software Everio MediaBrowser 4.
DVD-R
DVD-R DL
DVD-RW
DVD+R
DVD+R DL
DVD+RW
- The following formats are supported by the provided software Everio MediaBrowser 4.
AVCHD
DVD-Video*

* To create DVD-Video discs using the provided software, it is necessary to install the additional software (software for creating DVD-Video). For details, refer to the Pixela homepage.

<http://www.pixela.co.jp/oem/jvc/mediabrowser/e/>

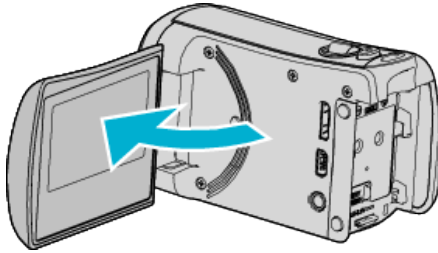
- Use commercially-available software to create a Blu-ray disc.
- Use Everio MediaBrowser 4 Player to play back an AVCHD disc. Refer to the help file of the provided Everio MediaBrowser 4 software to operate.
- When copying videos recorded in UXP recording mode to create an AVCHD disc, the videos need to be converted to XP recording mode before copying. Therefore, it may take a longer time than copying videos recorded in other modes.
- To view the help file of Everio MediaBrowser 4, select "Help" from the Everio MediaBrowser 4's menu bar or press F1 on the keyboard.
- If you encounter any problems with the provided software Everio MediaBrowser 4, please consult the "Pixela User Support Center".

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

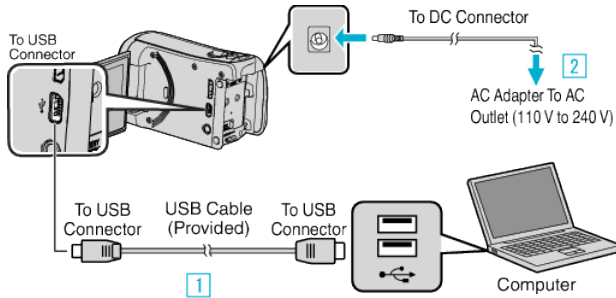
Backing Up Files Without Using Provided Software

Copy the files to a computer using the following method.

- 1 Remove the AC adapter and battery pack from this unit.
- 2 Open the LCD monitor.



- 3 Connect the USB cable and the AC adapter.



1 Connect using the provided USB cable.

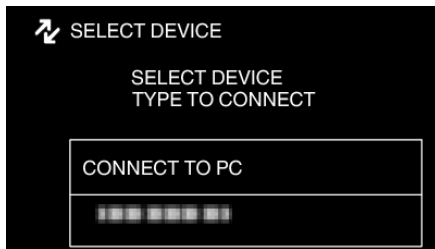
2 Connect the AC adapter to this unit.

- This unit powers on automatically when the AC adapter is connected.

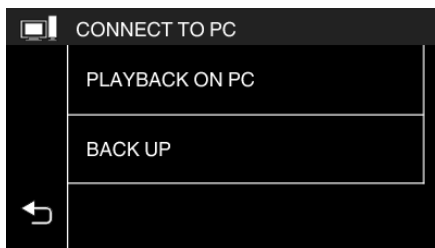
- Be sure to use the supplied AC adapter.

3 The "SELECT DEVICE" menu appears.

- 4 Tap "CONNECT TO PC".



- 5 Tap "PLAYBACK ON PC".



- Tap X to exit the menu.
- Tap ↶ to return to the previous screen.
- Close the Everio MediaBrowser 4 program, if it starts.
- The following screen is displayed after the camera operation is completed.



- Operations are to be performed on the computer after the screen switches.

- 6 (Windows 8)
Click the "Search" charm to display Apps, click "Computer" or "PC" under "Windows System Tool", and click the "JVCCAM_MEM" or "JVCCAM_SD" icon.
(Windows 8.1)
Click ⓘ to display Apps, click "Computer" or "PC" under "Windows System Tool", and click the "JVCCAM_MEM" or "JVCCAM_SD" icon.
(Windows 7/Windows Vista)
Select "Computer" from the "Start" menu, then click on the "JVCCAM_MEM" or "JVCCAM_SD" icon.
 - Open the folder with the desired files.

"List of Files and Folders" (p. 98)

- 7 Copy the files to any folder in the computer (desktop, etc).

- 8 Remove this unit from your PC.

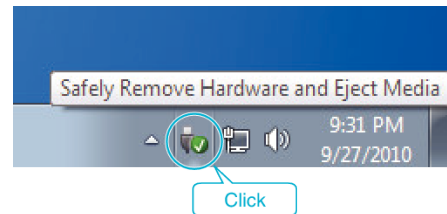
Caution :

- When the camera and PC are connected by a USB cable, recorded media are read-only.

Memo :

- To edit/view the files, use a software that supports AVCHD (video)/JPEG (still image) files.
- The above operations on computer may vary with the system used.

Disconnecting this Unit from Computer



(Windows 7/Windows 8/Windows 8.1)

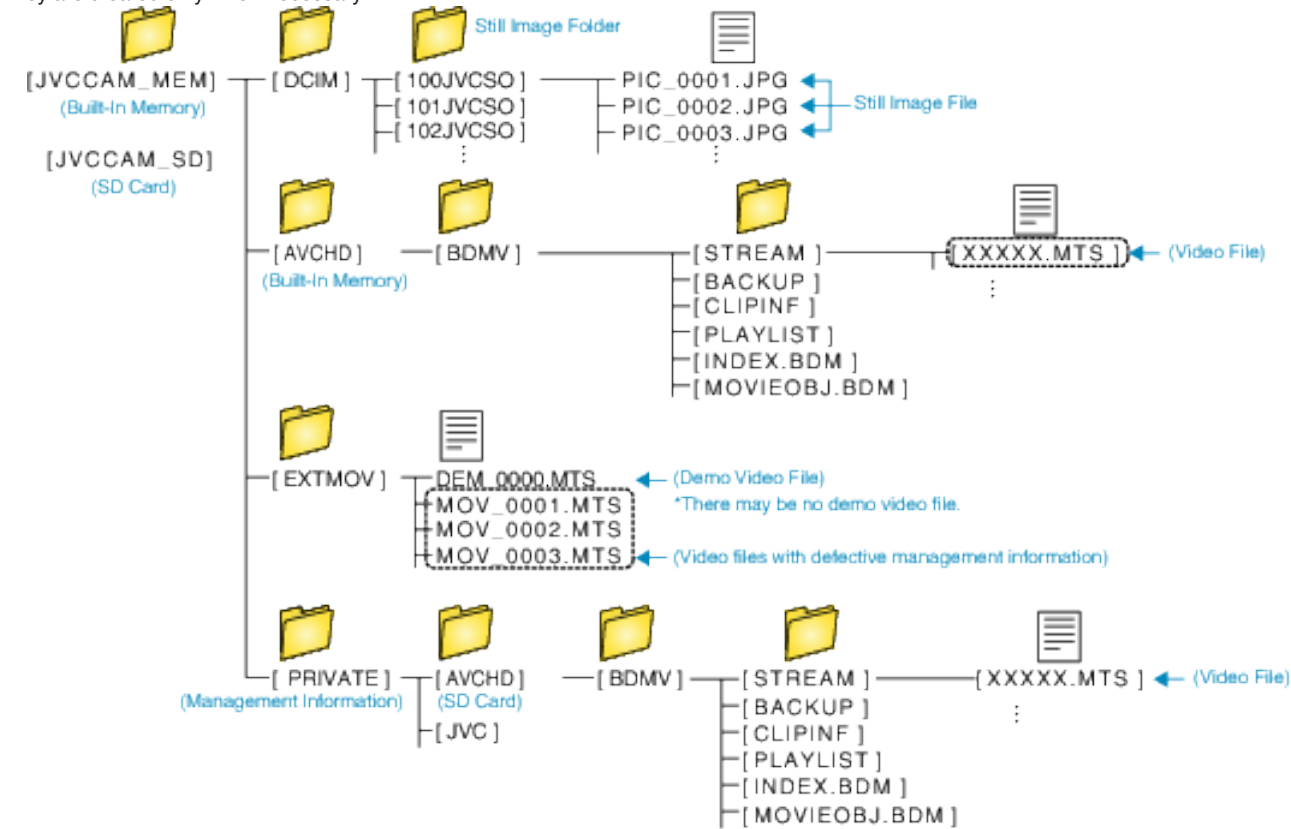
- 1 Click "Safely Remove Hardware and Eject Media".
- 2 Click all "JVCCAM~".
- 3 Disconnect the USB cable and close the LCD monitor.

(Windows Vista)

- 1 Click "Safely Remove Hardware and Eject Media".
- 2 Click "Safely Remove USB Mass Storage Device".
- 3 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.



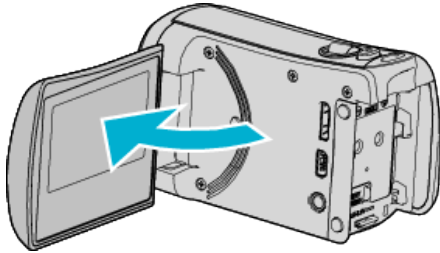
Caution :

- When the camera and PC are connected by an USB cable, recorded media are read-only.

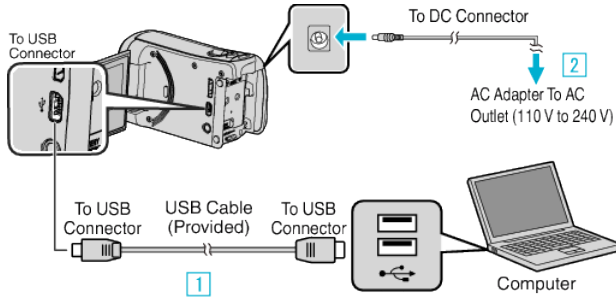
Copying to Mac Computer

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

- 1 Remove the AC adapter and battery pack from this unit.
- 2 Open the LCD monitor.



- 3 Connect the USB cable and the AC adapter.

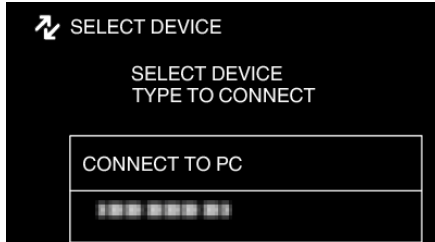


1 Connect using the provided USB cable.

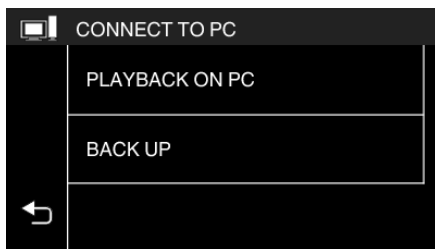
2 Connect the AC adapter to this unit.

- This unit powers on automatically when the AC adapter is connected.
- Be sure to use the supplied AC adapter.
- 3 The "SELECT DEVICE" menu appears.

- 4 Tap "CONNECT TO PC".



- 5 Tap "PLAYBACK ON PC".



- Tap X to exit the menu.
- Tap ⏮ to return to the previous screen.
- The following screen is displayed after the camera operation is completed.



- The "JVCCAM_MEM" or "JVCCAM_SD" icon appears on the desktop.

- 6 Start iMovie.

- The subsequent operations are to be performed on the Mac computer.

Caution :

- When the camera and PC are connected by an USB cable, recorded media are read-only.
- 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.

Memo :

- To edit/view the files, use a software that supports AVCHD (video)/JPEG (still image) files.
- When removing this unit from the computer, drag and drop the "JVCCAM_MEM" or "JVCCAM_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'11 Version 10 (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 softwares.
- There is no guarantee that the operations will work with all computer environments.

Operating the Menu

The following menu is available on this unit.

- TOP MENU: Menu that contains all the items specific to the video recording, still image recording, video playback, and still image playback modes respectively.

Operating the Top Menu

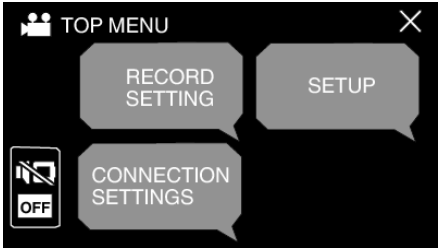
You can configure various settings using the menu.

- 1 Tap the **Menu** button.



- The top menu appears.
- The menu differs according to the mode in use.

- 2 Tap the desired menu.



- 3 Tap the desired setting.



Memo : _____

- To display the previous/next menu
Tap < or >.
- To exit the screen
Tap X (quit).

RECORD SETTING Menu (video)

FOCUS

Focus can be adjusted manually.

“Adjusting Focus Manually (FOCUS)” (p. 24)

*Displayed only in the manual recording mode.

BRIGHTNESS ADJUST

Adjusts the overall brightness of the screen.

“Adjusting Brightness” (p. 25)

*Displayed only in the manual recording mode.

BACKLIGHT COMP.

Corrects the image when the subject appears dark due to backlight.

“Setting Backlight Compensation” (p. 26)

*Displayed only in the manual recording mode.

WHITE BALANCE

Adjusts the color according to the light source.

“Setting White Balance” (p. 27)

*Displayed only in the manual recording mode.

TELE MACRO

Enables close-up shots when using the telephoto (T) end of the zoom.

“Taking Close-up Shots (TELE MACRO)” (p. 28)

*Displayed only in the manual recording mode.

TOUCH PRIORITY AE/AF

Automatically adjusts focus and brightness based on the subjects' faces or selected area.

“Capturing Subjects Clearly (TOUCH PRIORITY AE/AF)” (p. 31)

LIGHT

Turns on/off the light.

Setting	Details
OFF	Does not light up.
AUTO	Lights up automatically when the surrounding is dark.
ON	Lights up at all times.

DIS

Camera shake during video recording can be effectively reduced.

“Reducing Camera Shake” (p. 38)

GAIN UP

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

Setting	Details
OFF	Deactivates the function.
ON	Electrically brightens the scene when it is dark.
AUTO SLOW-SHUTTER	Slows down the shutter speed to brighten the scene when it is dark.

Memo :

- Although “AUTO SLOW-SHUTTER” brightens the scene more than “ON”, movements of the subject may become unnatural.

WIND CUT

Reduces the noise caused by wind.

Setting	Details
OFF	Deactivates the function.
ON	Activates the function.
AUTO	Activate the function automatically.

SELF-TIMER

Use this function when you wish to include the photographer in the picture or video.

“Using the Self-timer in Video Mode” (📖 p. 40)

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.

“Recording at Intervals (TIME-LAPSE RECORDING)” (📖 p. 39)

RECORDING EFFECT

You can add and record various effects to the images. Once setting is done, you can easily record images that are suitable for each image.

■ GRAINY MONOCHROME

Captures film-like monochrome images by increasing the contrast of mid-level brightness and emphasizing the rough grainy feel on the image.

“Recording Images Like an Old Black and White Photo (GRAINY MONOCHROME)” (📖 p. 29)

■ FOOD

Captures food images such that the food looks appetizing even under fluorescent lighting in homes by changing the colors to warm-colors and deepening the colors.

“Recording Food Images (FOOD)” (📖 p. 30)

■ BABY

Captures a soft and gentle image by lightening the skin tone while retaining the reddish hue, enhancing the skin beautifying effect as well as smoothing the appearance of the skin.

“Recording Images of a Baby (BABY)” (📖 p. 30)

DATE/TIME RECORDING

You can record videos together with the date and time.


Set this when you want to save the file with date and time display.

(The date and time cannot be deleted after recording.)

“Recording Videos with Date and Time” (📖 p. 42)

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  button on the LCD screen is tapped.

Memo :

- The size of the still image that is captured in the video mode is 1,920 x 1,080.
- Some SD cards may not support continuous shooting.
- The continuous shooting speed will drop if this function is used repeatedly.

SMILE SHOT

Automatically captures a still image upon detection of a smile.

“Capturing Smiles Automatically (SMILE SHOT)” (📖 p. 32)

SMILE% DISPLAY

Displays the smile levels (%) when faces are detected.


“Setting SMILE% DISPLAY” (📖 p. 35)

SEAMLESS RECORDING

Continues recording on the SD card without stopping when the remaining space on the built-in memory runs out.

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

Memo :

- Seamless recording cannot be performed if there is not enough free space in the SD card.
-  appears on the information screen if seamless recording cannot be performed. "Checking the Camera Settings" (p. 43)
- 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.

"Combining Videos Recorded by Seamless Recording" (p. 60)

VIDEO QUALITY

Sets the video quality.

Setting	Details
UXP	Enables recording in the best picture quality. <ul style="list-style-type: none"> Applies to Blu-ray discs only. Videos taken in high-definition quality cannot be saved to DVDs.
XP	Enables recording in high picture quality.
EP	Enables long recordings.

Memo :

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

ZOOM

Sets the maximum zoom ratio.

Setting	Details
10x OPTICAL	Enables recording with 1 - 10x optical zoom. Set this when digital zoom is not desired.
22(18)x DYNAMIC	Enables recording with 1 - 10x optical zoom and 11 - 22x dynamic zoom, when the image stabilizer is in normal mode or set to off. (Enables recording with 1 - 10x optical zoom and 11 - 18x dynamic zoom, when the image stabilizer is in active mode.)
84x DIGITAL	Enables recording with 1 - 10x optical zoom and 11 - 84x digital zoom.
200x DIGITAL	Enables recording with 1 - 10x optical zoom and 11 - 200x digital zoom.

Memo :

- When digital zoom is used, the image becomes grainy as it is digitally enlarged.
- The angle of view changes when the image stabilizer is turned on or off.

ZOOM MIC

Sets the zoom microphone.

Setting	Details
OFF	Deactivates the zoom microphone.
ON	Records audio sounds in the same direction as the zoom operation.

Memo :

- When "ON" is selected, the volume of the wide angle (W) end is lower than the telephoto (T) end.

MIC LEVEL SETTING

Sets the microphone level.

Setting	Details
+1	Increases the microphone input level.
0	The microphone input level is not changed.
-1	Decreases the microphone input level.

K2 TECHNOLOGY

Reduces the degradation of sound quality caused by digital signal processing, and records a sound quality close to the original.

Setting	Details
OFF	Deactivates K2 TECHNOLOGY.
ON	Activates K2 TECHNOLOGY.

RECORD SETTING Menu (still image)

FOCUS

Focus can be adjusted manually.

“Adjusting Focus Manually (FOCUS)” (p. 24)

*Displayed only in the manual recording mode.

BRIGHTNESS ADJUST

Adjusts the overall brightness of the screen.

“Adjusting Brightness” (p. 25)

*Displayed only in the manual recording mode.

BACKLIGHT COMP.

Corrects the image when the subject appears dark due to backlight.

“Setting Backlight Compensation” (p. 26)

*Displayed only in the manual recording mode.

WHITE BALANCE

Adjusts the color according to the light source.

“Setting White Balance” (p. 27)

*Displayed only in the manual recording mode.

TELE MACRO

Enables close-up shots when using the telephoto (T) end of the zoom.

“Taking Close-up Shots (TELE MACRO)” (p. 28)

*Displayed only in the manual recording mode.

TOUCH PRIORITY AE/AF

Automatically adjusts focus and brightness based on the subjects' faces or selected area.

“Capturing Subjects Clearly (TOUCH PRIORITY AE/AF)” (p. 31)

LIGHT

Turns on/off the light.

Setting	Details
OFF	Does not light up.
AUTO	Lights up automatically when the surrounding is dark.
ON	Lights up at all times.

SELF-TIMER

Use this when taking a group photo.

“Using the Self-timer” (p. 40)

GAIN UP

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

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

Memo :

- Setting can be adjusted separately for videos.

“GAIN UP (Video)” (p. 101)

RECORDING EFFECT

You can add and record various effects to the images. Once setting is done, you can easily record images that are suitable for each image.

■ GRAINY MONOCHROME

Captures film-like monochrome images by increasing the contrast of mid-level brightness and emphasizing the rough grainy feel on the image.
“Recording Images Like an Old Black and White Photo (GRAINY MONOCHROME)” (p. 29)

■ FOOD

Captures food images such that the food looks appetizing even under fluorescent lighting in homes by changing the colors to warm-colors and deepening the colors.

“Recording Food Images (FOOD)” (p. 30)

■ BABY

Captures a soft and gentle image by lightening the skin tone while retaining the reddish hue, enhancing the skin beautifying effect as well as smoothing the appearance of the skin.

“Recording Images of a Baby (BABY)” (p. 30)

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 START/STOP button is pressed.

Memo :

- Continuous shooting is not available when image size is set to 4096x3072(12M).
- Some SD cards may not support continuous shooting.
- The continuous shooting speed will drop if this function is used repeatedly.

SMILE SHOT

Automatically captures a still image upon detection of a smile.

“Capturing Smiles Automatically (SMILE SHOT)” (p. 32)

SMILE% DISPLAY

Displays the smile levels (%) when faces are detected.

“Setting SMILE% DISPLAY” (p. 35)

IMAGE SIZE

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

Setting	Details
1920X1080(2M)	Takes still images with aspect ratio 16:9. <ul style="list-style-type: none">• The sides of still images recorded in 16:9 aspect ratio may be cut off when printed.
4096x3072(12M) 2528X1896(4.7M) 1824X1368(2.4M) 640X480(0.3M)	Takes still images with aspect ratio 4:3.

*12 Megapixel Still Picture by Ultra Resolution Technology

PLAYBACK SETTING Menu (video)

DISPLAY DATE/TIME

Sets whether to display the recording date and time during video playback.

Setting	Details
OFF	Does not display the date and time during playback.
ON	Displays the date and time during playback.

DIGEST PLAYBACK

Plays back a digest of the recorded videos.

“DIGEST PLAYBACK” (F8 p. 48)

PLAYBACK PLAYLIST

Plays back the playlists that you have created.

“PLAYBACK PLAYLIST” (F8 p. 50)

PLAYBACK OTHER FILE

Plays videos with defective management information.

“PLAYBACK OTHER FILE” (F8 p. 51)

EDIT Menu (video)

PROTECT/CANCEL

Protects files from being deleted accidentally.

“Protecting/Releasing Protection of the Currently Displayed File” (🔍 p. 58)

“Protecting/Releasing Protection of Selected Files” (🔍 p. 59)

COPY

Copies files from the built-in memory to the SD card.

“Copying Files to an SD Card” (🔍 p. 86)

TRIMMING

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

The original video remains in its existing location.

“Capturing a Required Part in the Video (TRIMMING)” (🔍 p. 61)

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. 60)

PLAYBACK SETTING Menu (still image)**SLIDE SHOW EFFECTS**

Sets the transition effects 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.
CHECKERBOARD	Switches the screen by changing through a checkered pattern.
RANDOM	Switches the screen with a random effect from SLIDE, "BLINDS", and "CHECKERBOARD".

Memo :

- Slideshow effects are not available when playing back still images in external devices (such as USB external hard disk drives).

EDIT Menu (still image)

PROTECT/CANCEL

- Protects files from being deleted accidentally.
 - “Protecting/Releasing Protection of the Currently Displayed File” (🔍 p. 58)
 - “Protecting/Releasing Protection of Selected Files” (🔍 p. 59)
-

COPY

- Copies files from the built-in memory to the SD card.
- “Copying Files to an SD Card” (🔍 p. 86)

SETUP (video/still image)

DATE & TIME

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

“Clock Setting” (p. 13)

“Setting the Clock to Local Time when Traveling” (p. 16)

“Setting Daylight Saving Time” (p. 17)

DATE DISPLAY STYLE

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

Sorting Order	Time Display
month.day.year	12h
year.month.day	24h
day.month.year	-

LANGUAGE

The language on the display can be changed.

“Changing the Display Language” (p. 14)

FACE REGISTRATION (recording only)

Registers the faces of people who are often shot with this unit.

“Registering Human Face Personal Authentication Information” (p. 34)

MONITOR BRIGHTNESS

Sets the brightness of the LCD monitor.

Setting	Details
AUTO	Sets the brightness automatically to “4” when using outdoors and to “3” when using indoors.
4	Brightens the backlight of the monitor regardless of the surrounding conditions.
3	Sets to the standard brightness.
2	Darkens the backlight of the monitor regardless of the surrounding conditions.
1	Sets to dim brightness. Helps to save battery life when selected.

OPERATION SOUND

Turns on or off the operation sound.

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

AUTO POWER OFF

When no operation is made for 5 minutes, this function turns off this unit or sets this unit to standby mode when using the AC adapter in case you forgot to turn off the power.

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.

Memo :

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

DEMO MODE

Plays a demonstration of the special features of this unit.

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

Memo :

- This mode is not available in the playback mode.



TOUCH SCREEN ADJUST

Adjusts the response position of the buttons on the touch screen.

“Adjusting the Touch Panel” (p. 9)



REC MEDIA FOR VIDEO

Sets the recording/playback media of videos.

Setting	Details
 BUILT-IN MEMORY	Records videos to this unit's built-in memory.
 SD CARD	Records videos to the SD card.

REC MEDIA FOR IMAGE

Sets the recording/playback media of still images.

Setting	Details
 BUILT-IN MEMORY	Records still images to this unit's built-in memory.
 SD CARD	Records still images to the SD card.

FORMAT BUILT-IN MEM.

Deletes all files on the built-in memory.

Setting	Details
FILE	Deletes all files on the built-in memory.
FILE + MANAGEMENT NO	Deletes all files on the built-in memory and resets the folder and file numbers to "1". (File number of the AVCHD video file starts from "0".)

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 computer 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 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 SD card will be deleted when it is formatted.
Copy all files on the SD card to a computer before formatting.
- Make sure that the battery pack is fully charged or connect the AC adapter as the formatting process may take some time.

FACTORY PRESET

Returns all the settings to their default values.

FIRMWARE 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.)

<http://www3.jvckenwood.com/dvmain/support/download/index.html>

OPEN SOURCE LICENSES (recording only)

Displays the open source software licenses that are used in this unit.

CONNECTION SETTINGS (video/still image)

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.

VIDEO OUTPUT

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

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

HDMI OUTPUT

Sets the output from the HDMI connector of this unit when it is connected to a TV.

Setting	Details
AUTO	It is recommended to select "AUTO" usually.
576p	Select this when the video is not output in "AUTO" correctly.

HDMI CONTROL

Sets whether to link operations with an HDMI-CEC compliant TV.

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

USB CONNECTION MENU

This menu appears when this unit is connected to a computer using an USB cable.

PLAYBACK ON PC

- Displays videos recorded by this unit by using the Everio MediaBrowser 4.
“Installing the Provided Software (Built-in)” (📖 p. 91)
- Saves videos recorded by this unit on your computer without using the provided software.
“Backing Up Files Without Using Provided Software” (📖 p. 97)
“Copying to Mac Computer” (📖 p. 99)

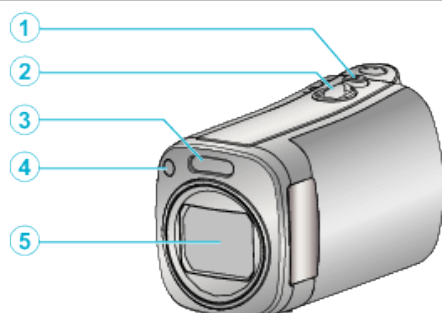
BACK UP

Backup videos recorded by this unit to your computer using the Everio MediaBrowser 4.
“Backing Up All Files” (📖 p. 93)

Memo :

- Before making backup, load the SD card in which the videos are stored on this unit.
 - After backing up your files using the provided software, they cannot be restored to this unit.
 - Delete unwanted videos before making backup.
It takes time to back up many videos.
- “Deleting Unwanted Files” (📖 p. 57)

Front



❶ **(Video/Still Image) Button**

❷ **Zoom/Volume Lever**

- During shooting: Adjusts the shooting range.
- During playback (index screen): Moves to the next or previous page.
- During video playback: Adjusts the volume.

❸ **Stereo Microphone**

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

❹ **Light**

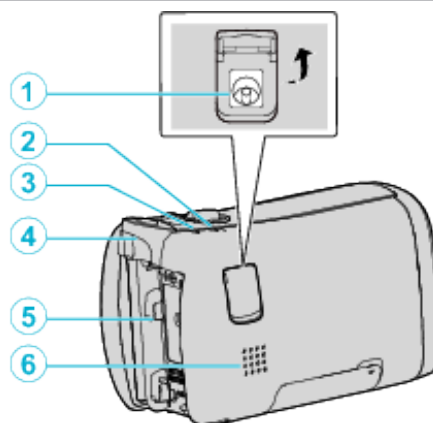
- Turn on the light when shooting in dark places.

“LIGHT” (☞ p. 101)

❺ **Lens**

- The lens is protected by a protective glass cover.
- If the lens is dirty, use a commercially available lens blower to remove any dust, and a commercially available cleaning cloth to wipe off any dirt.
- Do not cover the front of the lens with your fingers during recording.

Rear



❶ **DC Connector**

- Connects to an AC adapter to charge the battery.

❷ **POWER/ACCESS (Power/Access) Lamp**

- Lights up when the unit is turned on.
- Lights up/blinks during recording or playback.
Do not remove the AC adapter or SD card.

❸ **CHARGE (Charging) Lamp**

- Lights up: Charging in progress
- Goes out: Charging finished

“Charging the Battery Pack” (☞ p. 5)

❹ **Strap Mount**

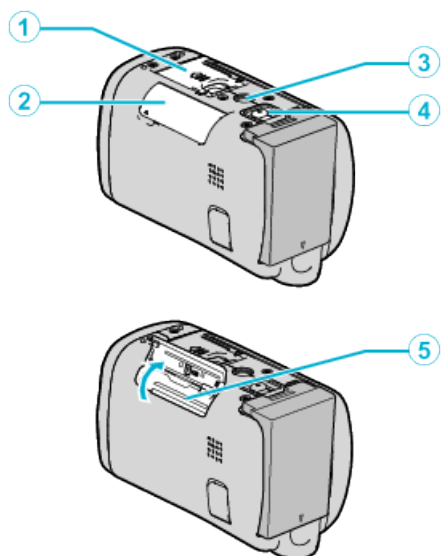
“Using the Hand Strap” (☞ p. 6)

❺ **Battery Mount**

“Charging the Battery Pack” (☞ p. 5)

❻ **Speaker**

Bottom



1 Built-in Tilt Stand

“Using the Built-in Tilt Stand” (p. 6)

2 SD Card Cover

3 Tripod Mounting Hole

“Tripod Mounting” (p. 15)

4 Battery Release Lever

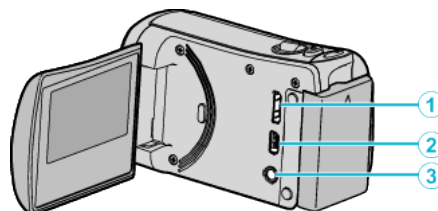
“Charging the Battery Pack” (p. 5)

5 SD Card Slot

- Insert an optional SD card.

“Inserting an SD Card” (p. 7)

Interior



1 HDMI mini connector

- Connects to TV using an HDMI mini cable.

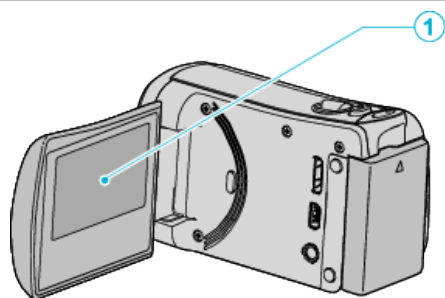
2 USB Connector

- Connects to computer using a USB cable.

3 AV Connector

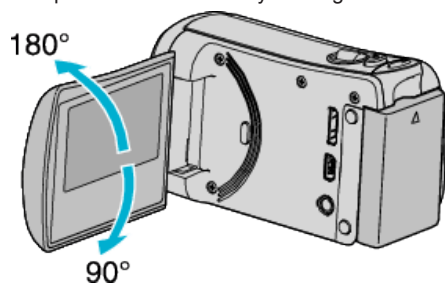
- Connects to the AV connector of a TV, etc.

LCD Monitor



① LCD Monitor

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



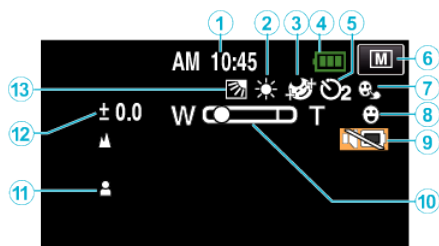
“Using the Touch Screen” (☞ p. 8)

“Names of Buttons and Functions on the LCD Monitor” (☞ p. 10)

Caution :

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

Common Recording Indications



1 Time

"Clock Setting" (p. 13)

2 WHITE BALANCE

"Setting White Balance" (p. 27)

3 Recording with Effects

"Recording with Effects" (p. 29)

4 Battery Indicator

"Checking the Remaining Recording Time" (p. 43)

5 Self-Timer

"Using the Self-timer" (p. 40)

6 Recording Mode

"Taking Videos in Auto Mode" (p. 18)

"Manual Recording" (p. 23)

7 TOUCH PRIORITY AE/AF

"Capturing Subjects Clearly (TOUCH PRIORITY AE/AF)" (p. 31)

8 SMILE SHOT

"Capturing Smiles Automatically (SMILE SHOT)" (p. 32)

9 SILENT MODE

"Using the Silent Mode" (p. 19)

"Using the Silent Mode" (p. 22)

10 Recording Zoom Lever

"Zooming" (p. 22)

11 Focus

"Adjusting Focus Manually (FOCUS)" (p. 24)

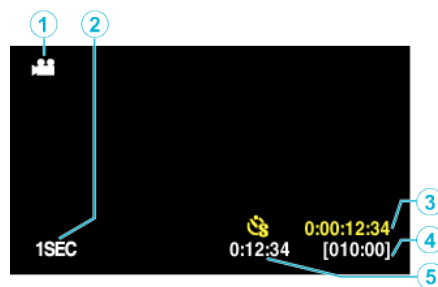
12 Brightness

"Adjusting Brightness" (p. 25)

13 Backlight Compensation

"Setting Backlight Compensation" (p. 26)

Video Recording



1 Video Mode

- Switches between video and still image modes.

2 TIME-LAPSE RECORDING(1SEC)

"Recording at Intervals (TIME-LAPSE RECORDING)" (p. 39)

3 Time-Lapse Recording Counter

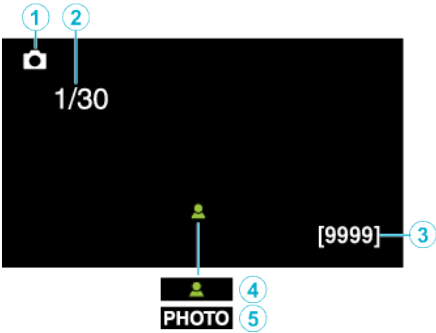
"Recording at Intervals (TIME-LAPSE RECORDING)" (p. 39)

4 Remaining Recording Time

"Checking the Remaining Recording Time" (p. 43)

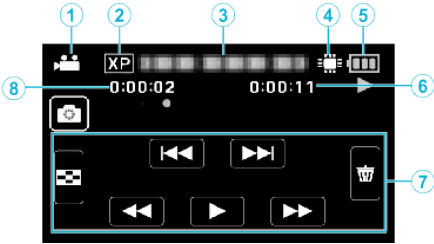
5 Scene Counter

Still Image Recording



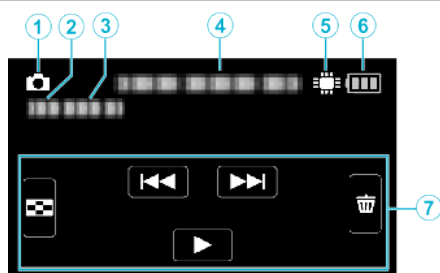
- 1 Still Image Mode
 - Switches between video and still image modes.
- 2 Shutter Speed
- 3 Remaining Number of Shots
 - “Checking the Remaining Recording Time” (p. 44)
- 4 Focus
- 5 Recording in Progress

Video Playback



- 1 Video Mode
 - Switches between video and still image modes.
- 2 Video Quality
 - “VIDEO QUALITY ” (p. 103)
- 3 Date/Time
 - Displays the recording date and time.
- 4 Recording media
 - “REC MEDIA FOR VIDEO ” (p. 112)
- 5 Battery Indicator
 - “Checking the Remaining Recording Time” (p. 43)
- 6 Playback Time
- 7 Operation Indicator
 - “Operation Buttons for Video Playback” (p. 46)
- 8 Scene Counter

Still Image Playback



1 Still Image Mode

- Switches between video and still image modes.

2 Folder Number

3 File Number

4 Date/Time

- Displays the recording date and time.

5 Recording media

“REC MEDIA FOR IMAGE ” (p. 113)

6 Battery Indicator

“Checking the Remaining Recording Time” (p. 43)

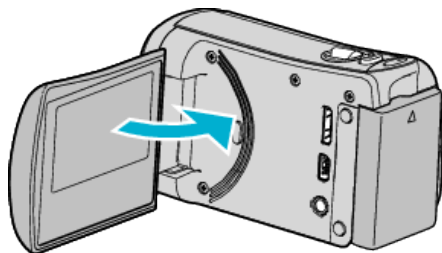
7 Operation Indicator

“Playback Screen (Still Image)” (p. 11)

When the unit is not working properly

Turning Off the Power

- 1 Close the LCD monitor.



- 2 Remove the AC adapter and battery pack from this unit, reattach them, open the LCD monitor and this unit powers on automatically. (Reset complete)

Battery Pack

Unable to turn on the power when using the battery pack.

Recharge the battery pack.

“Charging the Battery Pack” (p. 5)

Check whether the terminals are dirty.

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 cannot be guaranteed. Be sure to use JVC battery packs.

Short usage time even after charging.

Battery deterioration occurs when a battery pack is charged repeatedly.

Replace the battery pack with a new one.

“Optional Accessories” (p. 17)

Unable to charge the battery pack.

When the battery pack is fully charged, the lamp does not flash.

Check whether the terminals are dirty.

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 AC adapter may result in damage to this unit. Be sure to use an original AC adapter.

The remaining battery display is not correct.

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.

Recording

Recording cannot be performed.

When there are multiple light sources and depending on the shooting conditions, exposure and focus may not be adjusted correctly in the Intelligent Auto mode. In this case, adjust the settings manually.

“Adjusting Focus Manually (FOCUS)” (p. 24)

Recording stops automatically.

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.)

Turn off this unit, wait for a while, and turn it on again. (This unit stops automatically to protect the circuit when the temperature rises.)

The continuous shooting speed of still images is slow.

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.

The focus is not adjusted automatically.

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 (FOCUS)” (p. 24)

Wipe the lens with a lens cleaning cloth.

Cancel manual focus on the manual recording menu.

“Adjusting Focus Manually (FOCUS)” (p. 24)

Zoom does not work.

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

Zoom operation is not available in time-lapse recording. (Simultaneous still image recording and image stabilizer are also not available.)

To use digital zoom, set “ZOOM” in the menu accordingly.

“ZOOM” (p. 103)

Mosaic-type noise occurs when recording scenes with fast movements or extreme changes in brightness.

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

“VIDEO QUALITY” (p. 103)

SD Card

Cannot insert the SD card.

Make sure not to insert the SD card in the wrong direction.
“Inserting an SD Card” (p. 7)

Unable to copy to SD card.

Set “REC MEDIA FOR VIDEO”/“REC MEDIA FOR IMAGE” to SD card.

“REC MEDIA FOR VIDEO” (p. 112)

“REC MEDIA FOR IMAGE” (p. 113)

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

“FORMAT SD CARD” (p. 113)

Playback

Sound or video is interrupted.

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

There is no sound.

When the Silent mode is used, operation and playback sounds will not be output. Turn off the Silent mode.

“Using the Silent Mode” (p. 19)

Set “OPERATION SOUND” in the common menu to “ON”.

“OPERATION SOUND” (p. 112)

Audio sound is not recorded for videos taken in TIME-LAPSE RECORDING.

“Recording at Intervals (TIME-LAPSE RECORDING)” (p. 39)

The same image is displayed for a long time.

Use a high speed SD card (Class 4 or higher).

“Types of Usable SD Card” (p. 7)

Clean the terminals of the SD card with a dry cotton swab or something similar.

Execute “FORMAT SD CARD” in the “MEDIA SETTINGS” menu. (All data will be deleted.)

“FORMAT SD CARD” (p. 113)

The motion is choppy.

Use a high speed SD card (Class 4 or higher).

“Types of Usable SD Card” (p. 7)

Clean the terminals of the SD card with a dry cotton swab or something similar.

Execute “FORMAT SD CARD” in the “MEDIA SETTINGS” menu. (All data will be deleted.)

“FORMAT SD CARD” (p. 113)

Verify the system requirements of your PC when using Everio MediaBrowser 4 to play back.

“Verifying System Requirements (Guideline)” (p. 88)

Cannot find a recorded file.

Change the playback media by tapping  on the touch screen.

“Operation Buttons for Video Playback” (p. 46)

“Operation Buttons for Still Image Playback” (p. 52)

Select “PLAYBACK OTHER FILE” in the menu. (Video files that have damaged management information can be played back.)

“PLAYBACK OTHER FILE” (p. 51)

Images do not appear on the TV properly.

Disconnect the cable and connect again.

“Connecting via the HDMI Mini Connector” (p. 54)

Turn off and on this unit again.

Images are projected vertically on the TV.

Set “VIDEO OUTPUT” in the “MEDIA SETTINGS” menu to “4:3”.

“VIDEO OUTPUT” (p. 114)

Adjust the TV's screen accordingly.

The image displayed on TV is too small.

Set “VIDEO OUTPUT” in the “MEDIA SETTINGS” menu to “16:9”.

“VIDEO OUTPUT” (p. 114)

When connected to the TV via the HDMI mini cable, proper images and sounds are not output.

Images and sounds may not be output 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. 54)

Editing/Copying

Unable to delete file.

Files (videos/still images) that are protected cannot be deleted. Release protection before deleting the file.
 “Protecting Files” (p. 58)

Unable to copy to SD card.

If the SD card is write protected, set it to off.

Unable to create DVD with a DVD writer.

Connect the USB cable correctly.
 “Preparing a DVD Writer (CU-VD3)” (p. 72)
 “Preparing a DVD Writer (CU-VD50)” (p. 72)

Unable to create disc with a BD writer (external Blu-ray drive).

Connect the USB cable correctly.
 “Preparing a BD Writer (External Blu-ray Drive)” (p. 64)

BACK-UP menu does not disappear.

While the USB cable is connected, the “BACK UP” menu is displayed.

Unable to turn off the BACK-UP menu.

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

Unable to delete folder in USB external hard disk drive.

Delete the folder using a computer.
 (When files are added or folders moved/renamed with a computer, they cannot be deleted on this unit.)

Computer

Unable to copy files to the computer’s HDD.

If the provided software Everio MediaBrowser 4 is not installed, some functions may not work properly.
 “Installing the Provided Software (Built-in)” (p. 91)
 Before making backup, make sure that enough free space is left in the computer’s hard disk (HDD).

Unable to copy files to DVD or Blu-ray disc with a PC.

To record to discs, a recordable DVD or Blu-ray drive is required for the computer in use.

Cannot upload the file to YouTube.

Check if you have created an account with YouTube. (You need a YouTube account to upload files to YouTube.)
 Changing videos to the file format for uploading cannot be performed on this unit.
 Refer to the help file of the provided software Everio MediaBrowser 4

I am using a Mac computer.

Copy the files to a Mac computer using the following method.
 “Copying to Mac Computer” (p. 99)

The computer cannot recognize the SDXC card.

Confirm and update the OS of your computer.
 “When your computer cannot recognize the SDXC card” (p. 8)

Screen/Image

The LCD monitor is difficult to see.

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

Color and brightness of the screen changes and horizontal stripes and flickers appear on screen

For images recorded under lighting from fluorescent or mercury lamps, the color and brightness of the screen may change and horizontal stripes and flickers may appear on the screen, but this is not a malfunction.

Setting the image stabilizer to "OFF" or "ON" can reduce the horizontal stripes and flickers on the screen.

"Reducing Camera Shake" (📖 p. 38)

A band or a ball of bright light appears on the LCD monitor.

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.)

The recorded subject is too dark.

Use backlight compensation when the background is bright and the subject is dark.

"Setting Backlight Compensation" (📖 p. 26)

Use "GAIN UP" in the menu.

"GAIN UP" (📖 p. 101)

Set "BRIGHTNESS ADJUST" in the recording menu to the "+" side.

"Adjusting Brightness" (📖 p. 25)

The recorded subject is too bright.

Set the backlight compensation to "OFF" if it is being used.

"Setting Backlight Compensation" (📖 p. 26)

Set "BRIGHTNESS ADJUST" in the recording menu to the "-" side.

"Adjusting Brightness" (📖 p. 25)

The color looks strange. (Too bluish, too reddish, etc.)

Wait for a while until natural colors are achieved. (It may take some time for white balance to be adjusted.)

Set "WHITE BALANCE" in the recording menu to "MANUAL". Select from "FINE"/"CLOUD"/"HALOGEN" according to the light source. Select "MWB" and adjust accordingly.

"Setting White Balance" (📖 p. 27)

The color looks different.

Set "WHITE BALANCE" in the recording menu accordingly.

"Setting White Balance" (📖 p. 27)

There are bright or dark spots on the screen.

While the LCD monitor screen has more than 99.99% effective pixels, 0.01% of the pixels may be bright spots (red, blue, green) or dark spots. This is not a malfunction. The spots will not be recorded.

Other Problems

The buttons on the touch screen do not work.

Tap the buttons on the touch screen with your fingers.

The buttons may not respond if you touch them with your fingernails or with gloves on.

Save the recorded data before requesting service.

- 1 Connect to computer using a USB cable.
The "SELECT DEVICE" menu appears.
- 2 Press and hold the START/STOP button for more than 2 seconds.
The "PLAYBACK ON PC" appears.
- 3 Operations are to be performed on the computer after the screen switches.

The image is grainy.

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

This unit heats up.

This is not a malfunction. (This unit may become warm when used for a long time.) Stop using the unit if it gets too warm.

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.

"Operating in Conjunction with TV via HDMI" (📖 p. 55)

When connected to the TV via the HDMI mini cable, proper images and sounds are not output.

Images and sounds may not be output 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. 54)

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. 114)

The unit operates slowly when switching between video mode and still image mode, or when switching the power on or off.

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.)

This unit does not function properly and error messages appear.

This unit is a microcomputer-controlled device. Electrostatic discharge, external noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such a case, turn off the power after closing the monitor screen, then remove the AC adapter. This unit will be reset.

This unit is a microcomputer-controlled device. Electrostatic discharge, external noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such a case, turn off the power after closing the monitor screen, then remove the AC adapter and battery. This unit will be reset.

CHARGE lamp and POWER/ACCESS lamp are blinking and operation is disabled

After closing the LCD monitor, remove the AC adapter and/or the battery pack. Reattach the AC adapter and/or the battery pack, and turn on the power by opening the LCD monitor. If these operations won't solve the problem, contact your JVC dealer or the JVC service center.

The built-in tilt stand came off.

To prevent the stand from damaging, it is designed to come off when the load applied exceeds a certain level.

Disclaimer

- We shall not be held responsible for loss of recorded contents when recording videos/audio or playback cannot be operated due to malfunctions in this unit, provided parts, or SD card.
- Once deleted, recorded contents (data), including data loss due to malfunctions in this unit, cannot be restored. Please be forewarned.
- JVC will not be responsible for any lost data. Please be forewarned.
- In order for quality improvement, defective recording medium is subject to be analyzed. Therefore, it may not be returned.

Error Message?

SET DATE/TIME!

Connect the AC adapter, charge the battery for more than 24 hours and set the clock. (If the message still appears, the clock battery is exhausted. Consult your nearest JVC dealer.)
"Clock Setting" (🔍 p. 13)

COMMUNICATION ERROR

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

FORMAT ERROR!

Check the operating procedure, and perform once again.
"FORMAT BUILT-IN MEM." (🔍 p. 113)
Turn off and on this unit again.

ERROR IN BUILT-IN MEMORY!

Turn off and on this unit again.
If the above does not solve the problem, back up your files and execute "FORMAT BUILT-IN MEM." in the "MEDIA SETTINGS" menu. (All data will be deleted.)
"FORMAT BUILT-IN MEM." (🔍 p. 113)

MEMORY CARD ERROR!

Check that the card is supported by this unit.
"Types of Usable SD Card" (🔍 p. 7)
Turn off and on this unit again.
Remove the AC adapter and battery pack, then remove and re-insert the SD card.
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 "COMMON" menu. (All data will be deleted.)
"FORMAT SD CARD" (🔍 p. 113)

NOT FORMATTED

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

RECORDING FAILURE

Turn off and on this unit again.

CANNOT TAKE MORE STILL IMAGES AT THIS TIME

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

PLAYBACK FAILED

Remove and re-insert the SD card.
"Inserting an SD Card" (🔍 p. 7)
Remove any dirt from the SD card terminals.
Insert the SD card before turning on the power.
Do not subject this unit to any strong impact or vibration.

VIDEO MANAGEMENT FILE IS DAMAGED, RECOVERY IS REQUIRED TO RECORD/PLAYBACK, RECOVER?

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.)
"PLAYBACK OTHER FILE" (🔍 p. 51)

UNSUPPORTED SCENE!

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

UNSUPPORTED FILE!

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

THIS FILE IS PROTECTED

Switch off the “PROTECT/CANCEL” function in the “EDIT” menu.
“Protecting Files” (🔍 p. 58)

CHECK CARD'S WRITE PROTECTION SWITCH

Set the write protect switch of the SD card to off.

INSUFFICIENT AVAILABLE SPACE

Delete files, or move files to a computer or other devices.
Replace the SD card with a new one.
Seamless videos cannot be combined if there is not enough free space in the built-in memory or SD card. Check the amount of remaining free space before combining.

RECORDABLE MANAGEMENT CAPACITY LEVEL HAS BEEN REACHED

- 1 Move the files or folders to a computer or other device. (Back up your files.)
- 2 Select “FILE + MANAGEMENT NO” in “FORMAT BUILT-IN MEM.” or “FORMAT SD CARD” of the media settings menu. (All data on the built-in memory or SD card will be deleted.)
“FORMAT BUILT-IN MEM.” (🔍 p. 113)
“FORMAT SD CARD” (🔍 p. 113)

SCENE QUANTITY EXCEEDED LIMIT

- 1 Move the files or folders to a computer or other device. (Back up your files.)
- 2 Select “FILE + MANAGEMENT NO” in “FORMAT BUILT-IN MEM.” or “FORMAT SD CARD” of the media settings menu. (All data on the built-in memory or SD card will be deleted.)
“FORMAT BUILT-IN MEM.” (🔍 p. 113)
“FORMAT SD CARD” (🔍 p. 113)

NUMBER OF FOLDERS OVERFLOW

- 1 Move the files or folders to a computer or other device. (Back up your files.)
- 2 Select “FILE + MANAGEMENT NO” in “FORMAT BUILT-IN MEM.” or “FORMAT SD CARD” of the media settings menu. (All data on the built-in memory or SD card will be deleted.)
“FORMAT BUILT-IN MEM.” (🔍 p. 113)
“FORMAT SD CARD” (🔍 p. 113)

FILE QUANTITY LIMIT EXCEEDED

- 1 Move the files or folders to a computer or other device. (Back up your files.)
- 2 Select “FILE + MANAGEMENT NO” in “FORMAT BUILT-IN MEM.” or “FORMAT SD CARD” of the media settings menu. (All data on the built-in memory or SD card will be deleted.)
“FORMAT BUILT-IN MEM.” (🔍 p. 113)
“FORMAT SD CARD” (🔍 p. 113)

PLAYLIST QUANTITY EXCEEDS LIMIT

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

NO FILES

Change the setting of “REC MEDIA FOR IMAGE” or “REC MEDIA FOR VIDEO” in the “COMMON” menu, and check that files are not recorded to the other media.

“REC MEDIA FOR VIDEO” (🔍 p. 112)

“REC MEDIA FOR IMAGE” (🔍 p. 113)

RECORDING CANCELLED

Set “REC MEDIA FOR VIDEO” to “SD CARD”, then record to an SD card.

“REC MEDIA FOR VIDEO” (🔍 p. 112)

Turn off and on this unit again.

Protect the unit from vibration and shock.

CAMERA TEMPERATURE IS HIGH PLEASE TURN CAMERA OFF TO ALLOW IT TO COOL DOWN PLEASE WAIT

Turn off the power of this unit, let and it cool down before turning on the power again.

POWER IS OFF, OR USB DEVICE IS UNSUPPORTED

Turn on the power of the connected USB device.

Connect the AC adapter to the DVD writer or BD writer (external Blu-ray drive).

INSERT DISC

Open the tray of the DVD writer or BD writer (external Blu-ray drive), check and reset the DVD or Blu-ray disc, then close the tray.

Replace the disc in the DVD writer or BD writer (external Blu-ray drive).

CHANGE DISC

Open the tray of the DVD writer or BD writer (external Blu-ray drive), check and reset the DVD or Blu-ray disc, then close the tray.

Replace the disc in the DVD writer or BD writer (external Blu-ray drive).

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

Caution :

- Be sure to detach the 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 solvents such as benzene, thinner, or alcohol. 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.
- You can use a commercially available anti-reflection or protective film on the screen.
However, depending on the thickness of the film, operations on the touch screen may not be performed smoothly or the screen may darken slightly.

Camera

Item	Details
Power supply	Using AC adapter: DC 5.2 V Using battery pack: DC 3.6 V
Power consumption	2.8 W (MONITOR BRIGHTNESS: 3 (standard)) 2.9 W (MONITOR BRIGHTNESS: 4 (brighter)) Rated Current Consumption: 1 A
Dimensions (mm)	47 x 56 x 86 (W x H x D)
Mass	Approx. 150 g (camera only) Approx. 180 g (including supplied battery pack)
Operating environment	Allowable operating temperature: 0°C to 40°C Allowable storage temperature: -20°C to 50°C Allowable relative humidity: 35 % to 80 %
Image pickup device	1/2.3" 12,760,000 pixels (CMOS, back-illuminated)
Recording area (Video)	920,000 to 4,270,000 pixels (image stabilizer: off, dynamic zoom: ON)
Recording area (Still image)	3,240,000 to 4,790,000 pixels (4:3) 2,430,000 to 3,590,000 pixels (16:9)
Lens	F1.6 to F2.0, f= 3.33 mm to 33.3 mm Video 35 mm conversion: 29.4 mm to 633 mm Still Image 35 mm conversion: 29.4 mm to 294 mm (4:3) 35 mm conversion: 32.0 mm to 320 mm (16:9)
Lowest illumination	1 lux
Zoom (during video recording)	Optical zoom: Up to 10x Dynamic zoom: Up to 22x Digital zoom: Up to 200x
Zoom (during still image recording)	Optical zoom: Up to 10x
LCD monitor	LCD screen size: 1.8" wide (84,000 pixels) LCD panel element: 2.0" (112,000 pixels) LCD color
Recording media	Built-in memory (8 GB) SD/SDHC/SDXC card (commercially available) "Types of Usable SD Card" (p. 7)
Clock battery	Rechargeable battery

Connectors

Item	Details
HDMI output connector	HDMI mini connector
AV output connector	Video output: 1.0 V (p-p), 75 Ω Audio output: 300 mV (rms), 1 K Ω
USB connector	Mini USB Type AB, USB 2.0 compliant

Video

Item	Details
Recording/ Playback format	AVCHD standard Video: MPEG-4 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 EP 1920 x 1080 pixels Average approximate 4.8 Mbps
Sound quality (Audio)	48 kHz, 256 kbps

Still Image

Item	Details
Recording format	JPEG standard
Extension	.JPG
Image size	“Approximate Number of Still Images (Unit: Number of Shots)” (p. 44)

AC Adapter (AC-V10M)

Item	Details
Power supply	AC 110 V to 240 V, 50 Hz/60 Hz
Output	DC 5.2 V, 1 A
Allowable operating temperature	0°C to 40°C (10°C to 35°C during charging)
Dimensions (mm)	83 x 28 x 40 (W x H x D: excluding cord and AC plug)
Mass	Approx. 77 g

Battery Pack (BN-VG109)

Item	Details
Power voltage	3.6 V
Capacity	960 mAh
Dimensions (mm)	31 x 16.5 x 43 (W x H x D)
Mass	Approx. 28 g

Memo : _____

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