SONY

Digital 4K Video Camera Recorder/Digital HD Video Camera Recorder   FDR-X3000/HDR-AS300/HDR-AS50

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[1] Read This First │ Identifying the parts
Identifying the parts (FDR-X3000/HDR-AS300)
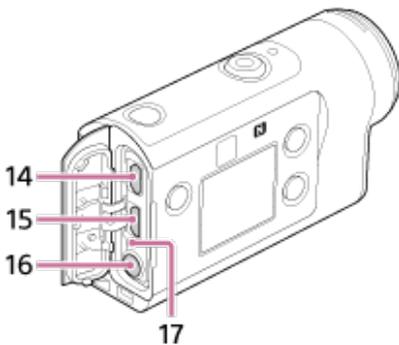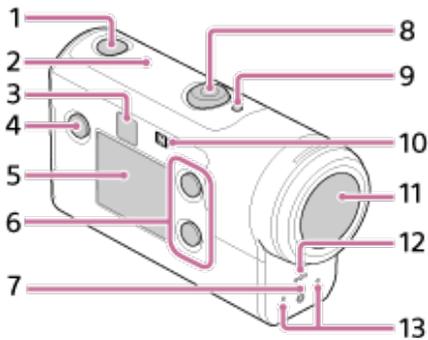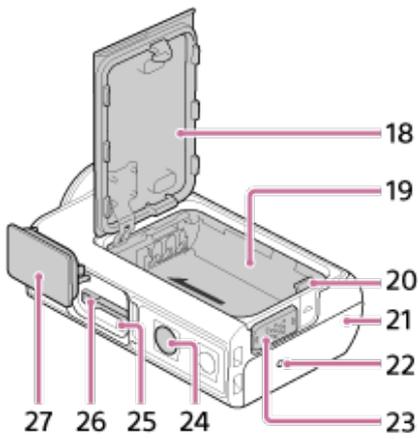
1. ⏻ (on/standby) button
2. GPS sensor
3. IR remote receiver (FDR-X3000)
4. MENU button
5. Display panel
6. UP button/DOWN button
7. REC lamp
8. REC (Movie/still image) button/ENTER (Menu execute) button
9. REC/LIVE lamp
10 🅝 (N Mark)
11 Lens
12 Speaker
13 Microphones
14 HDMI OUT jack
15 Multi/Micro USB terminal
16 Mic jack[*1]
17 CHG (Charge) lamp
18 Battery cover
19 Battery housing
20 Battery ejection lever
21 Connector cover (HDMI OUT jack, Multi/Micro USB Terminal/Mic jack)
22 REC lamp
23 Lock lever
24 Screw hole for tripod[*2]
25 Access lamp
26 Memory card insertion slot
27 Memory card cover

*1 When an external microphone (sold separately) is connected, audio cannot be recorded through the built-in microphone.
*2 The length of the corresponding tripod screw should be less than 5.5 mm (7/32 in.).

[2] Read This First │ Identifying the parts
Identifying the parts (HDR-AS50)
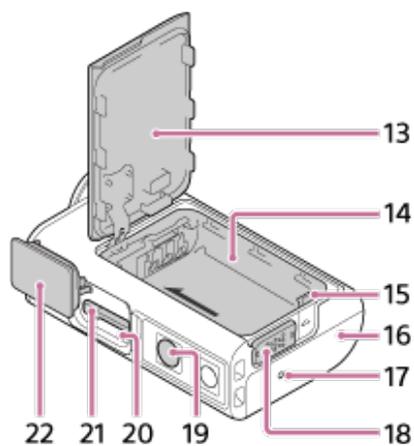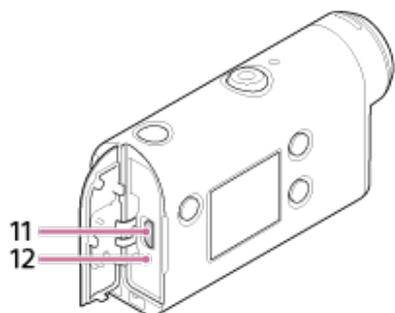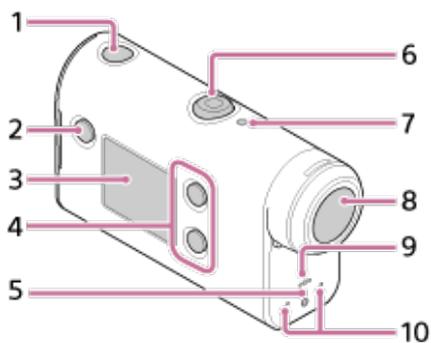
1. ⏻ (on/standby) button
2. MENU button
3. Display panel
4. UP button/DOWN button
5. REC lamp
6. REC (Movie/still image) button/ENTER (Menu execute) button
7. REC/LIVE lamp
8. Lens
9. Speaker
10. Microphones
11. Multi/Micro USB terminal
12. CHG (Charge) lamp
13. Battery cover
14. Battery housing
15. Battery ejection lever
16. Connector cover (Multi/Micro USB terminal)
17. REC lamp
18. Lock lever
19. Screw hole for tripod*
20. Access lamp
21. Memory card insertion slot
22. Memory card cover

* ▪ The length of the corresponding tripod screw should be less than 5.5 mm (7/32 in.).

Screen display

The indicators described below are displayed on the camera. This screen display is an example of when shooting movies.

Display icons at 1

- 📶 : Wi-Fi connection setting (single connection)
- 📶 : Wi-Fi connection setting (multi connection)
- 🅱 : Bluetooth is connected
- 🛰⊘ : Searching for GPS satellites to receive GPS signals. Location information cannot be received. (FDR-X3000/HDR-AS300)
- 🛰 : Recording location information available by triangulating (FDR-X3000/HDR-AS300)
- 🌡 : Temperature of the camera is increased
- 🔋 : Battery level indicator of camera
- ✈ : Airplane mode enabled

Display icons and value at 2

- MP4 : Movie format
- 30p : Frame rate during movie shooting
- 《🖐Act : SteadyShot
- 🕑300 : Time-lapse shot number
- 👤 : Streaming viewers
- Numbers of streaming viewers
- ▢ : Still image mode
- ⟳10s : Self-timer

Display items at 3

- 🎤OFF : Audio recording is set to OFF
- Recordable time, recording time, loop recording time
- Number of recordable still images, time-lapse shot number
- ON AIR: Streaming start
- Warning/Error message

Display icons at 4

- 🎞 : Movie mode
- 📷 : Photo mode
-

- ⊡ : Time-lapse capture mode
- 【LIVE】 : Live streaming mode
- ⊡ : Loop recording mode
- ⬦W : Angle setting
- ⊕x3.0 : Zoom ratio
- ▤ : UP button/DOWN button operation guide (zoom switching, shooting mode switching, invalid operation)

[4] Getting Started
Checking the bundled items

Make sure that you have following bundled items.
The number in parentheses indicates the quantity of that item bundled.

- Camera (1)

  The camera is set in the Underwater Housing. Open the cover of the case as illustrated below.
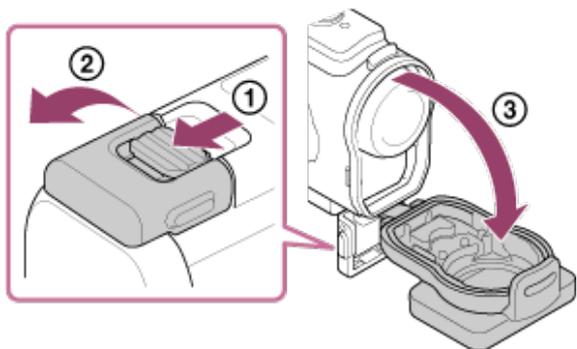
- Micro USB cable (1)
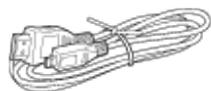
- Rechargeable battery pack (NP-BX1) (1)

- Underwater Housing (1)
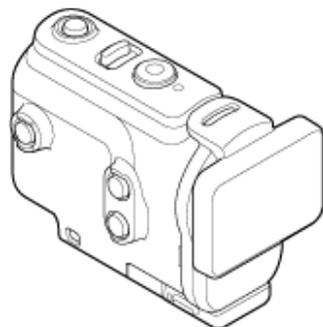
- Attachment Buckle (1)
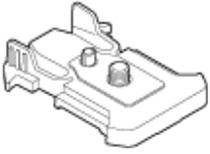
- Startup Guide (1)
- Reference Guide (1)

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[5] Getting Started
Inserting the battery pack

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1 **Slide down the lock lever to open the battery cover.**
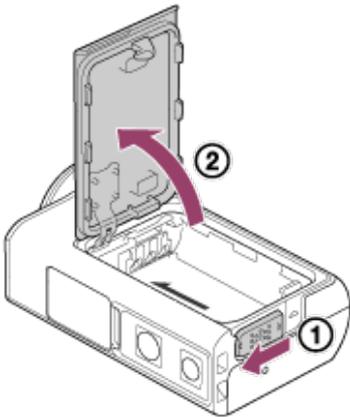
2 **Insert the battery pack.**
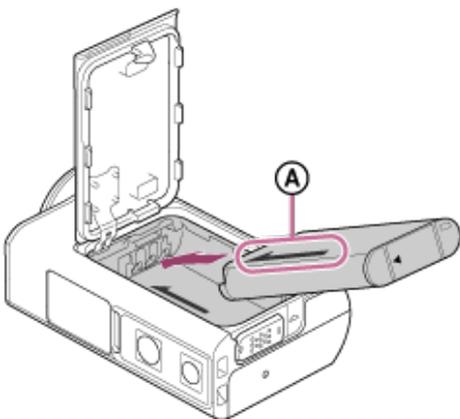
Ⓐ : Align the direction of the arrow on the camera and the battery pack.

3 **Close the battery cover and slide the lock lever up to lock.**

- Confirm that the yellow mark on the lock lever is not visible.
- Close the battery cover securely. Not doing so may cause a water leakage.

To remove the battery pack

Open the cover and slide the battery ejection lever, then remove the battery pack.

To set auto power off function

It is recommended that you set the camera to turn off automatically, in order to decrease the battery consumption.
Press the MENU button, then press the UP button or DOWN button to select the ⚙️📷 (Camera Settings) - AUTO OFF 60s (Auto power off) - time until the power is turned off, then press the REC/ENTER button.

The default setting is AUTO OFF 60s (60 seconds). Change the setting as necessary. For details, see "Auto power off".

[6] Getting Started
Charging the battery pack

1 **Turn off the power of the camera.**

- Charging is not possible when the camera is turned on.

2 **Open the connector cover, connect the camera to an activated computer with the micro USB cable (supplied).**

- The CHG (Charge) lamp lights in amber.
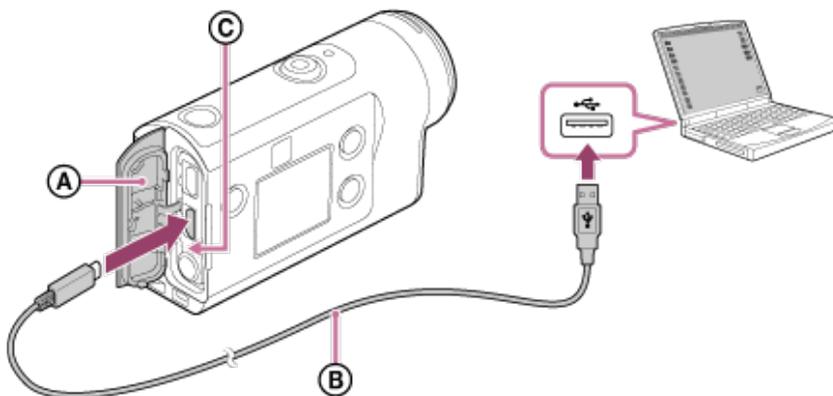
Ⓐ: Connector cover
Ⓑ: Micro USB cable
Ⓒ: CHG (Charge) lamp

3 **When charging is finished, disconnect the micro USB cable between the camera and the computer.**

- Charging is complete when the CHG (Charge) lamp turns off (full charge).

The time takes for charging

Supplied battery pack (NP-BX1)

- Via a computer: Approx. 265 minutes

* Time required to charge a fully depleted battery pack at a temperature of 25°C (77°F). Charging may take longer under certain circumstances or conditions.

Checking the remaining battery charge

A remaining charge indicator appears on the upper right of the display panel.

The displayed remaining charge indicator may not be correct under certain circumstances.

- It takes about one minute until the correct remaining charge indicator appears.

Note

- You can use only type X battery with this camera.
- Turn off the camera while charging the battery. The charging stops when you turn on the camera while charging.
- Do not apply force to the camera when you connect the camera to a computer. This may cause damage to the camera or the computer.
- When you connect the camera to a notebook computer that is not connected to an AC power source, the battery of the notebook computer may be depleted rapidly. Do not leave the camera connected to the computer for a long time.
- Charging the battery pack or the connection with customized or hand-built computers is not guaranteed. Depending on the type of USB device used, charging may not function properly.
- Operation with all computers is not assured.
- If you do not intend to use the camera for an extended period, charge the camera once every 6 to 12 months or remove the battery pack from the camera to maintain battery performance.
- Rapid charging is possible by using the AC adaptor (sold separately). To connect the AC adaptor, use the micro USB cable (supplied).

Inserting a memory card

1 **Open the memory card cover.**

2 **Insert the memory card until it clicks.**

- microSD card/microSDHC card/microSDXC card: Insert in the direction of Ⓐ.
- Memory Stick Micro (M2) media: Insert in the direction of Ⓑ.
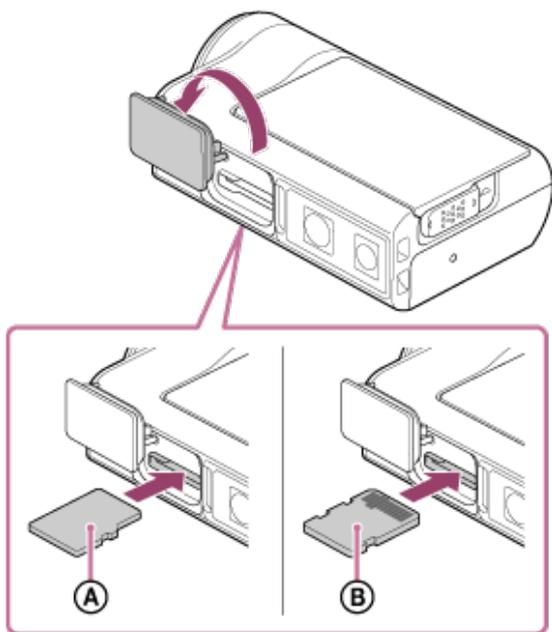
Ⓐ: Printed side
Ⓑ: Terminal side

3 **Close the memory card cover.**

To eject the memory card

Open the cover, then lightly push the memory card once.

Note

- Insert the memory card properly, confirming each side is facing the correct direction.
- Confirm the direction of the memory card. If you forcibly insert the memory card in the wrong direction, the memory card, memory card slot, or image data may be damaged.
- Format the memory card in the camera before use.

- Save important data on the memory card on other media such as a computer, before formatting the memory card.

- Do not insert anything other than the compliant size of memory card into the memory card slot. Otherwise, a malfunction may result.

- When inserting or ejecting the memory card, be careful to prevent the memory card from popping out and dropping.

[8] Getting Started | Inserting a memory card
The memory cards that can be used with the camera

The memory cards that can be used with the camera are listed below.

Memory card	MP4	XAVC S
Memory stick micro (M2)	✓ (Mark2 only)	—
microSD memory card	✓ *1	—
microSDHC memory card	✓ *1	✓ *2
microSDXC memory card	✓ *1	✓ *2

*1 SD speed class4: CLASS④ or faster, or UHS speed class1: [1] or faster.
*2 Memory card that satisfies all the conditions below.
    4 GB or more capacity.
    SD speed class10: CLASS⑩ or faster, or UHS speed class1 : [1] or faster.
    If you want to record more than 100 Mbps, UHS speed class 3: [3] is necessary. (FDR-X3000)

Note

- When you shoot long time with XAVC S or MP4 to the SDHC memory card, the file will be divided into 4 GB files. By using the Action Cam Movie Creator, you can unify the data and treat as 1 file.

- To playback the divided files with the camera, it will be played back continuously. (FDR-X3000/HDR-AS300)

- Operation with all memory cards is not assured. For details about memory cards other than cards manufactured by Sony, contact the individual makers.

- Confirm the direction of the memory card. If you forcibly insert the memory card in the wrong direction, the memory card, memory card slot, or image data maybe damaged.

- Format the memory card with the camera before use.

- Confirm that the connector cover and the battery pack/memory card cover are securely closed and any foreign matter is not stuck in the cover before use. Otherwise, it may result in water immersion.

Setting the date and time

Press the ⏻ (on/standby) button to turn on the camera for the first time, the setting for area/summer time/date and time will be displayed on the screen. Use the camera after setting the date and time.

1 **Press the UP button or DOWN button to select the setting, then press the REC/ENTER button.**

- The following items are displayed on the screen in order.

    - **GMT** : Area setting
    - ☀·OFF : Daylight saving time (summer time) setting
    - Year/Month/Day
    - Time setting

2 **When the date and time/area confirmation screen is displayed, press the REC/ENTER button.**

Hint

- The area is determined by the time difference in your area and Greenwich Mean Time (GMT). For the time difference, see "The list of time differences for world capitals".

- These settings can be performed on the camera settings. See "Date & time setting", "Area setting" and "Daylight saving time (summer time) setting".

Identifying the parts (Underwater Housing)
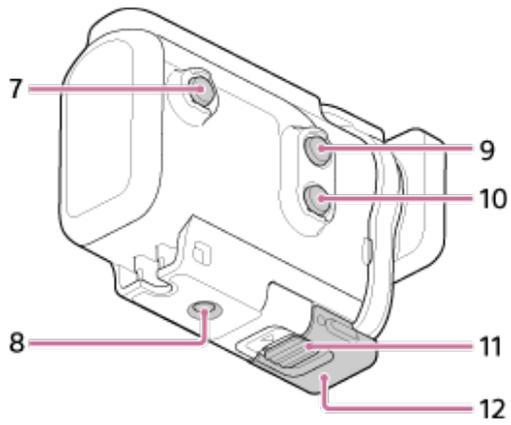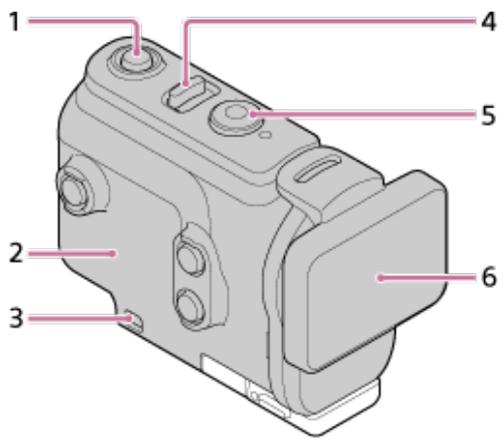
FDR-X3000/HDR-AS300
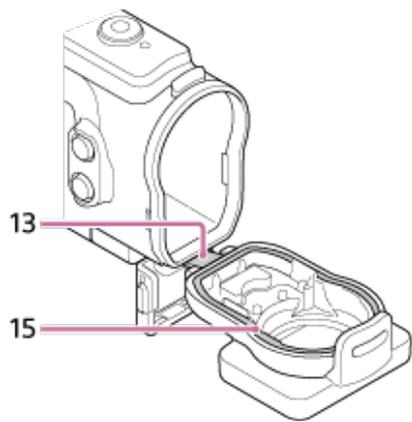
HDR-AS50
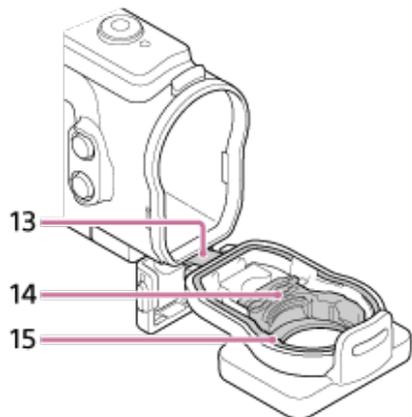
1. ⏻ (on/standby) button
2. Case body

3. Leash attachment hole
4. ⏻ (on/standby)/REC HOLD switch
5. REC (movie/still image) button/ENTER (menu execute) button
6. Case cover
7. MENU button
8. Tripod screw hole
9. UP button
10 DOWN button
11 Buckle lock
12 Buckle
13 Lead
14 Adaptor (HDR-AS50)
15 Waterproof packing

Using the Underwater Housing

By inserting the camera in the Underwater Housing, you can shoot images underwater up to a depth of 60 m (197 feet) for 30 minutes continuously.

1 **Slide the buckle lock in the direction of ① and hold it, then hold the circled parts and swing out the buckle in the direction of ②.**
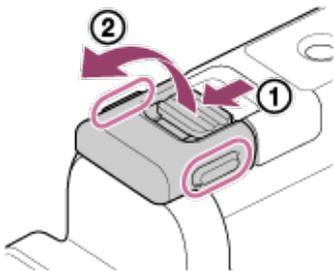
2 **Open the case cover.**
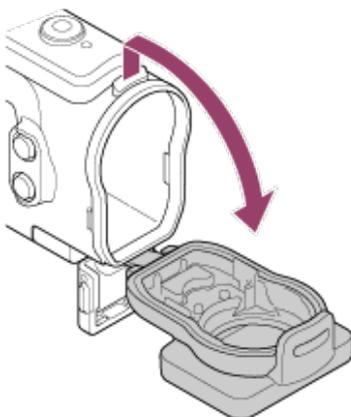
3 Insert the camera in the case body.
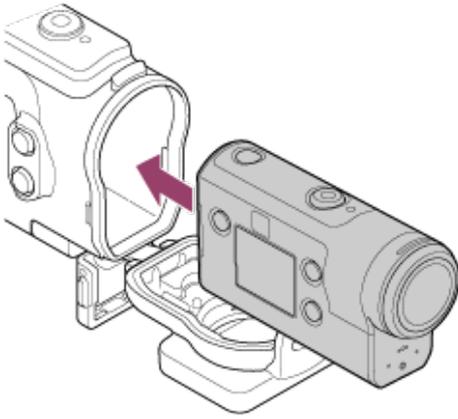
4 Insert the tab of the case body into the slot of the case cover.
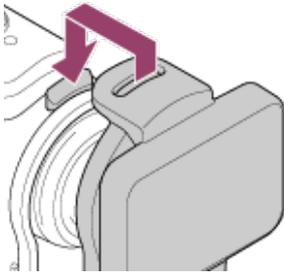
5 Hook the buckle over the tab on the lower part of the case cover ①, then close the buckle in the direction of ②.

 • Make sure the buckle and buckle lock are firmly locked. (If you do not lock it securely, water may leak, or the camera may fall out.)

OK

OPEN ▼

OPEN ▼
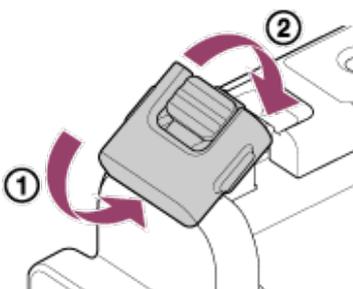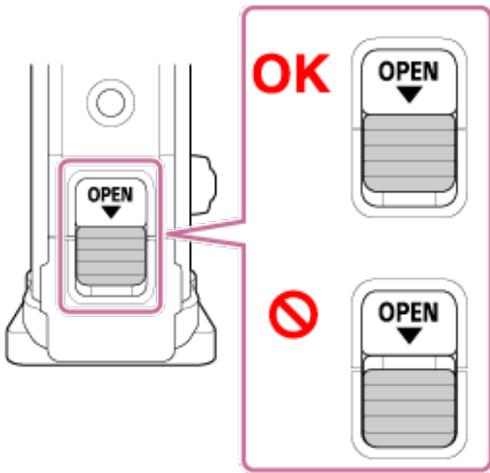
Note

- You cannot operate the ⏻ (on/standby) button and REC/ENTER button when the REC HOLD switch is set to the lock position. Release the lock in the direction of the arrow below, before operation.
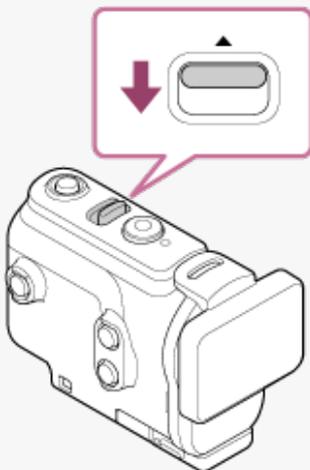
- When using FDR-X3000/HDR-AS300 with the Underwater Housing supplied with HDR-AS50, detach the adaptor (Ⓐ) from the Underwater Housing.
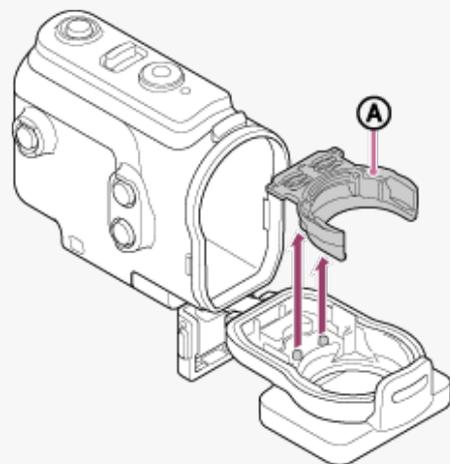
- When using HDR-AS50, be sure that the adaptor is attached to the Underwater Housing. If the adaptor is not attached, the images that you shoot may be affected.

- You can record audio while the camera is in the Underwater Housing, but the sound level is reduced.

- Thread a suitable cord through the leash attachment hole of the Underwater Housing, then attach the cord

to an item you intend to use with the camera.

On waterproof performance of the Underwater Housing

- When the camera is inserted in the supplied Underwater Housing, the camera can shoot up to a water depth of 60 m (197 feet) for 30 minutes continuously.
- The waterproof performance is based on the testing standards of our company.
- Do not subject the Underwater Housing to pressurized water, such as from a tap.
- Do not use the Underwater Housing in hot springs.
- Use the Underwater Housing in water that is less than 40°C (194°F).
- Sometimes waterproof performance is lost if the Underwater Housing is subjected to a strong shock such as from being dropped. We recommend the Underwater Housing be inspected at an authorized repair shop (chargeable).
- Waterproof performance in all situations is not guaranteed.

Anti-fog sheet (AKA-AF1 (sold separately))

- Insert the anti-fog sheet indoors with low humidity.
- Insert the anti-fog sheet in the camera a couple of hours before shooting.
- If you do not use the anti-fog sheet, place it in a bag and keep the top sealed.
- By drying the anti-fog sheet sufficiently, you can use it approximately 200 times repeatedly.

Note

- When inserting the anti-fog sheet (AKA-AF1), place the camera into the Underwater Housing, then place the anti-fog sheet in the gap on the bottom of the camera and the Underwater Housing.

  If you place the anti-fog sheet before placing the camera, the anti-fog sheet may be sandwiched and make it difficult to take out the camera.
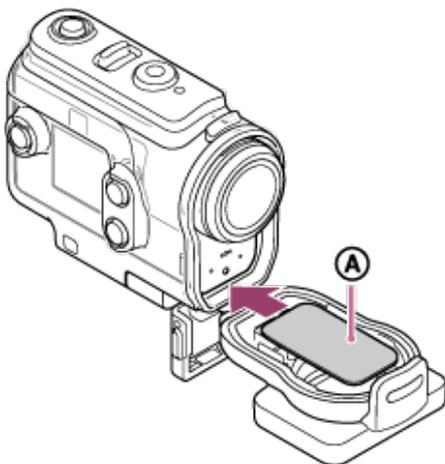
Ⓐ: Anti-fog sheet

Notes on use for the Underwater Housing

- Do not throw the Underwater Housing into the water.
- Avoid using the Underwater Housing under the following situations. In these situations moisture condensation or water leakage may occur and damage the camera.
  In a very hot or humid place
  In water hotter than +40°C (104°F)
  At temperatures lower than −10°C (14°F)
- Do not leave the Underwater Housing under direct sunlight or in a very hot and humid place for a long period of time. If you cannot avoid leaving the Underwater Housing under direct sunlight, be sure to cover the Underwater Housing with a towel or other protection.
- When the camera overheats, it may be automatically turned off or recording may malfunction. To use the camera again, leave it in the cool place for a while to cool down.
- If sun oil is on the Underwater Housing, be sure to wash it off thoroughly using lukewarm water. If the Underwater Housing is left with sun oil on its body, the surface of the Underwater Housing may become discolored or damaged (such as cracks on the surface).

Water leakage

In the unlikely event that a malfunction of the Underwater Housing causes damage due to water leakage, Sony does not guarantee against damages to the equipment contained in it (camera, battery pack, etc.) and the recorded contents, nor expenses entailed in the photography.

Waterproof packing

The camera uses an waterproof packing to maintain its water resistance. The waterproof packing maintenance is very important. Failure to do waterproof packing maintenance according to the instructions may lead to water leaks and cause the camera to sink.

Inspecting the waterproof packing

- Carefully check that there is any dirt, sand, hair, dust, salt, threads, etc., on the waterproof packing. If found, be sure to wipe off with a soft cloth.
- Lightly run your fingertip around the waterproof packing to check for any invisible dirt.
- Be careful not to leave any cloth fibers on the waterproof packing after wiping it.
- Check the waterproof packing for cracks, skewing, distortion, fine splitting, scratches, embedded sand, etc.
- Inspect the waterproof packing contact surface on the case body in the same way.

How to check for water leaks

Before installing the camera, always close the Underwater Housing and immerse it in water to make sure no water leaks in.

When finding a malfunction of Underwater Housing

If a malfunction is found by inspection of the waterproof packing or check for water leaks, stop using the camera immediately and take it to the nearest Sony dealer.

Maintenance

- After recording in a location with a sea breeze, wash the camera thoroughly in fresh water with the buckle fastened to remove salt and sand, then wipe with a soft dry cloth. It is recommended that you submerge the Underwater Housing in fresh water for about 30 minutes. If it is left with salt on it, metal portions may be damaged or rust may form and cause water leakage.
- If sun oil is on the Underwater Housing, be sure to wash it off thoroughly using lukewarm water.
- Wipe the inside of the Underwater Housing with a soft dry cloth. Do not wash it with water.

Be sure to perform the above maintenance each time you use the Underwater Housing. Do not use any type of solvent such as alcohol, benzine or thinner for cleaning, as this might damage the surface finish of the Underwater Housing.

When storing the Underwater Housing

- To prevent deterioration of the waterproof packing, store the Underwater Housing in a cool, well-ventilated location. Do not fasten the buckle.
- Prevent dust from collecting on the waterproof packing.
- Avoid storing the Underwater Housing in a cold, very hot or humid place, or together with naphthalene or camphor, as these conditions might damage the Underwater Housing.

Using the attachment buckle

The attachment buckle is used for fixing the camera or Underwater Housing to an optional accessory you intend to use.

The procedure for fixing the attachment buckle to the Underwater Housing is explained here.

1 **Align the tripod screw hole in the bottom of the Underwater Housing with the tripod screw of the attachment buckle, and fix firmly with the tripod screw.**
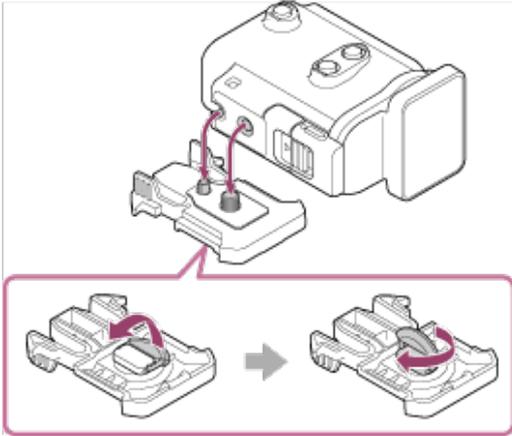
2 **Attach the attachment buckle to the accessory by sliding it until it clicks into place.**
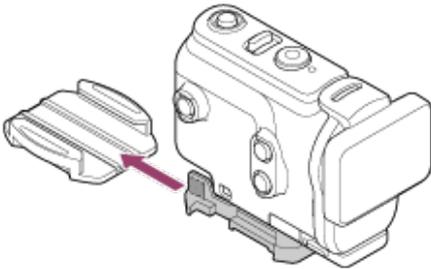
To detach the attachment buckle from the accessory

Press and hold the circled parts of the attachment buckle to unlock, then slide it in the opposite direction of step 2.
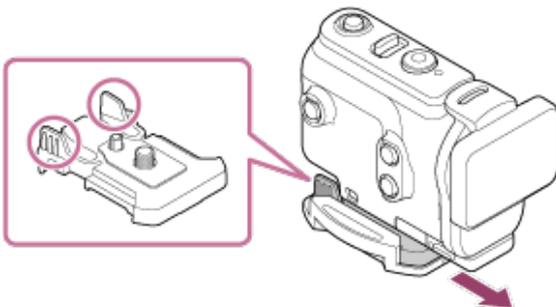
Example of optional accessory attachment

Universal head mount kit
BLT-UHM1
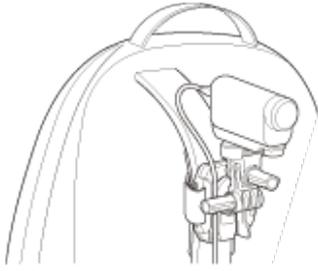
Backpack Mount
VCT-BPM1

Note

- Thread a suitable leash through the leash attachment hole of the Underwater Housing, then attach the leash to an item you intend to use with the camera.

- Before use, confirm that the screw on the attachment buckle is not loose.

[19] Getting Started | Using accessories
Notes on using the adhesive mount (sold separately)

The adhesive mount is used for fixing the camera to an item you intend to use. The adhesive mount is general term for the attachment buckle, flat adhesive mount, and curved adhesive mount.

- Press firmly on the adhesive portion.
- The adhesive strength is greatest 24 hours after the item has been attached.
- The flat adhesive mount and curved adhesive mount cannot be used again once they are detached from the location surface.
- When detaching, peel off slowly. If peeled off forcibly, the surface on which the mount is fixed might be damaged.
- Before attaching, check the surface of the item to be used. If it is dirty, or dust, moisture or oily substances are attached, adhesive strength may be impaired and the item could detach with slight impact.
- Use the appropriate adhesive mount (flat or curved) for the surface where the camera will be located. If the mount is not suitable for the surface, it may detach by slight impact.
- Before use, confirm that the screw hole on the attachment buckle is not loose, and the flat or curved adhesive mount is securely attached to the surface.

[20] Shooting | Shooting movies and still images
Shooting movies (Movie mode)

Record movies.

1 **Press the ⏻ (on/standby) button to turn on the power.**

2 **Press the MENU button.**

3 **Press the UP button or DOWN button to select 🎬 * (shooting mode) - 🎞 (Movie mode), then press the REC/ENTER button.**

    *   The icon of the current selected shooting mode is displayed.

4 **Press the REC/ENTER button to start shooting.**

To stop shooting

Press the REC/ENTER button during shooting.

Hint

- While the one touch recording is set to ON, if you press the REC/ENTER button when the power is turned off, shooting starts in the previously selected shooting mode.

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[21] Shooting │ Shooting movies and still images
Shooting still images (Photo mode)

Record still images.

1 **Press the ⏻ (on/standby) button to turn on the power.**

2 **Press the MENU button.**

3 **Press the UP button or DOWN button to select 🎬 * (shooting mode) - 📷 (Photo mode), then press the REC/ENTER button.**

4 **Press the REC/ENTER button to shoot.**

---

[22] Shooting │ Shooting movies and still images
Time-lapse capture mode

The camera records still images at regular intervals and stops shooting when it reaches the set number.

1 **Press the ⏻ (on/standby) button to turn on the power.**

2 **Press the MENU button.**

3 **Press the UP button or DOWN button to select ᴹᴼᴰᴱ * (shooting mode) - 🕑 (Time-lapse capture mode), then press the REC/ENTER button.**

   *   The icon of the current selected shooting mode is displayed.

4 **Press the REC/ENTER button to start shooting.**

To stop shooting

- Shooting stops when the number set in the "Time-lapse shot number" has finished.
- If you select 🖼:∞ in the "Time-lapse shot number", press the REC/ENTER button during shooting.

Hint

- To change the image size, see "Time-lapse capture image size."

- To change the shooting interval, see "Time-lapse shooting interval."

- To change the shot number, see "Time-lapse shot number."

- When the Time-lapse shot number is set to 🖼:∞, the shooting continues until you press REC/ENTER button to stop shooting.

- The still pictures you shot can be downloaded to the computer using "Action Cam Movie Creator" and you can create a time-lapse movie. You can also create a time-lapse movie by downloading the still pictures to a smartphone, etc., using the smartphone/tablet application "Action Cam App".

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[23] Shooting │ Shooting movies and still images
Loop recording mode

The loop recording mode keeps recording according to the set time. The camera continuously keeps shooting in the shooting time set by the loop recording time.

1 **Press the ⏻ (on/standby) button to turn on the power.**

2 **Press the MENU button.**

3 **Press the UP button or DOWN button to select [MODE] * (shooting mode) - [⟳] (Loop recording mode), then press the REC/ENTER button.**

   *   The icon of the current selected shooting mode is displayed.

4 **Press the REC/ENTER button to start shooting.**

To stop shooting

Press the REC/ENTER button during shooting.

Hint

- The movies and still images shot before starting loop recording cannot be deleted.

- On the recording media life and the write time
   - If you keep long time recording at a high bit rate in the loop recording mode, the memory card life may be shorter significantly.
     If you lower the recording bit rate in long recording, you may minimize bad effects on the memory card life.
   - If you record movies for a long time in the loop recording mode, data fragmentation may occar in the memory card. The camera may take time to write data and automatically stop recording.
     Formatting a memory card may improve the recording conditions.
     Also, you may minimize bad effects of the data fragmentation by formatting a memory card in advance to increase the free space of memory.

- Loop recording cannot be started if the free space of the media could not secured. In that case, a warning [05-04] appears on the screen.

Using the zoom

When the digital zoom is set to ON, the camera can zoom up to 3 times for shooting. Regardless the angle setting, you can always enlarge up to 3 times. The image quality will deteriorate due to digital processing.

- The zoom cannot be operated with the camera during movie shooting, loop recording, live streaming, or time-lapse capture.
Operate the zoom from a smartphone connected to the camera or the Live-View Remote.

1 **Be sure that ⊕⬛ is displayed on the screen and the digital zoom is set to ON.**

If ⊕⬛ is not displayed, check "Zoom setting".

2 **Press the UP button or DOWN button to change the zoom magnification.**
- UP button: Telephoto
- DOWN button: Wide angle

A beep will be heard if it is set to ON.

Note
- When the camera is multi connected to the Live-View Remote, pressing the UP button or DOWN button controls the following operations.
  - Operation with the camera
    When ⊕:ON , changes the zoom magnification
    When ⊕:OFF , switches the shooting mode
  - Operation with the Live-View Remote
    Switches the live view screen of the connected camera

- When zoom is used, the angle of view will be changed.

  Before shooting, check the angle of view on PlayMemories Mobile, then start shooting.

Notes on long-time recording

Describes long-time recording.

- When you continue to shoot for a long time, the temperature of the camera rises. If the temperature reaches above a certain level, shooting stops automatically.
Leave the camera for 10 minutes or longer to allow the temperature inside the camera to decrease to a safe level.
- Under high ambient temperatures, the temperature of the camera rises quickly.
- When the temperature of the camera rises, the image quality may deteriorate. It is recommended that you wait until the temperature of the camera drops before continuing to shoot.
- Camera body may get warm with use - this is normal.

[26] Changing the Settings │ List of setting items
List of setting items

The items that can be set differ depending on the shooting mode.

Items you can set in 📼 * (Shooting modes)

- 📼 : Movie mode
- 📷 : Photo mode
- ⏱ : Time-lapse capture mode
- [LIVE] : Live streaming mode
- 🔁 : Loop recording mode

* The icon of current selected shooting mode is displayed.

Items you can set in 📼 / 📷 / ⏱ / [LIVE] / 🔁 (Shooting settings)

Setting items	📼	📷	⏱	[LIVE]	🔁
1080 30p HQ Image quality setting	✓	–	–	–	✓
MP4 Movie format	✓	–	–	–	✓
⏱HD Time-lapse capture image size	–	–	✓	–	–
🔁 5 min Loop recording time	–	–	–	–	✓
☐ Still image mode switching	–	✓	–	–	–

🔲 **10f 1s** (FDR-X3000/HDR-AS300) Still image shooting interval	–	✓	–	–	–
🔲 **8f 1s** (HDR-AS50) Still image shooting interval	–	✓	–	–	–
⏱ **OFF** Self-timer	–	✓	–	–	–
⏲ **1s** Time-lapse shooting interval	–	–	✓	–	–
🔲 **300** Time-lapse shot number	–	–	✓	–	–
〰 **Act** (FDR-X3000/HDR-AS300) SteadyShot (Movie)	✓	–	–	✓	✓
〰 **ON** (HDR-AS50) SteadyShot (Movie)	✓	–	–	✓	✓
〰 **ON** (FDR-X3000/HDR-AS300) SteadyShot (Still)	–	✓	–	–	–
⌵ **W** Angle setting	✓	✓	✓	✓	✓
🔍 **OFF** Zoom setting	✓	✓	✓	✓	✓
⌐ **,OFF** Flip	✓	✓	✓	✓	✓
🗎 **± 0.0** AE shift	✓	✓	✓	✓	✓
AE-T Time-lapse AE mode	–	–	✓	–	–
SCN **N** Scene	✓	✓	✓	✓	✓
AWB White balance	✓	✓	✓	✓	✓

Vivid⁺ Color mode	✓	–	–	✓	✓
🎤 ON Audio recording setting	✓	–	–	✓	✓
🎤 OFF Wind noise reduction	✓	–	–	✓	✓

Items you can set in ⚙️📷 (Camera Settings)

- ✈ OFF : Airplane mode
- 📶 ON : Wi-Fi connection setting
- 📶ʜɪ OFF : Wi-Fi Hi power setting*
- 🅱 ON : Bluetooth setting
- 🖥···⏻📷 : Bluetooth remote controller power setting
- ✖ ON : GPS log (FDR-X3000/HDR-AS300)
- FORMAT : Format
- TC/UB : Time code/user bit (FDR-X3000)
- 📡 OFF : IR remote (FDR-X3000)
- HDMI : HDMI settings (FDR-X3000/HDR-AS300)
- 🎵 BGM : Back ground music*
- 🔌 USB ON : USB power supply
- 🎵 ON : Beep
- 🎵)) : Beep volume
- 🚨 3 : Lamp setting
- REC OFF : One touch recording
- AUTO OFF 60s : Auto power off
- NTSC ➡ PAL : Switching NTSC/PAL
- 🕐 : Date & time setting
- 🕐 GMT : Area setting
- ☀ OFF : Daylight saving time (summer time) setting
- Ver. : Version
- RESET : Resetting the settings

* This setting is only available in some countries and regions.

How to set the setting items

You can set items using the following 4 buttons on the camera.
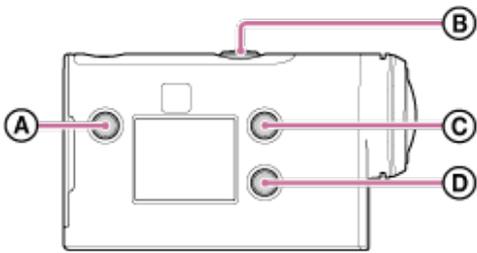
- **Ⓐ:** MENU button

  Displays the menu

- **Ⓑ:** REC/ENTER button

  Executes the menu

- **Ⓒ:** UP button

  Goes to the previous menu

- **Ⓓ:** DOWN button

  Goes to the next menu

1 **Press the ⏻ (on/standby) button to turn on the power.**

To power off, press the ⏻ (on/standby) button again.

2 **Press the MENU button.**

3 **Press the UP button or DOWN button to select the icon of the item, then press the REC/ENTER button.**

To retry, press ↩, then press the REC/ENTER button.

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[28] Changing the Settings │ Shooting settings
Image quality setting

You can set the image resolution and frame rate for shooting movies and loop recording. Image qualities that can be set depend on the "Movie format" setting.

1 **Press the MENU button.**

2 Press the UP button or DOWN button to select / ![icon] (Shooting settings) - $^{1080\,30p}_{HQ}$ (Image quality setting) - setting value, then press the REC/ENTER button.

> **Hint**
>
> - Setting value
>
>   The display changes according to NTSC/PAL switching setting.
>   When NTSC is selected, left side of / is displayed. When PAL is selected, right side of / is displayed.
>   (Example) 1080 60p PS (NTSC)/1080 50p PS (PAL)

When movie format is set to MP4 (recording in MP4)

- **1080 60p PS / 1080 50p PS**

  Recorded image: Highest resolution (smooth image recorded at 2× frame rate)
  Resolution: 1920×1080
  Imaging frame rate[1]: 60p/50p
  Playback frame rate[1]: 60p/50p

- **1080 30p HQ / 1080 25p HQ**

  Recorded image: Highest resolution
  Resolution: 1920×1080
  Imaging frame rate[1]: 30p/25p
  Playback frame rate[1]: 30p/25p

- **720 30p STD / 720 25p STD**

  Recorded image: High resolution
  Resolution: 1280×720
  Imaging frame rate[1]: 30p/25p
  Playback frame rate[1]: 30p/25p

- **720 120p HS / 720 100p HS** [2,4]

  Recorded image: High speed recording (smooth image recorded at 4× frame rate) [3]
  Resolution: 1280×720
  Imaging frame rate[1]: 120p/100p
  Playback frame rate[1]: 120p/100p[5]

- **480 240p HS / 480 200p HS** [4] (FDR-X3000/HDR-AS300)

  Recorded image: High speed recording (smooth image recorded at 8× frame rate) [3]
  Resolution: 800×480
  Imaging frame rate[1]: 240p/200p
  Playback frame rate[1]: 240p/200p[5]

When movie format is set to HD (recording in XAVC S)

- **1080 60p 50M / 1080 50p 50M**

  Recorded image: XAVC S 50 Mbps
  Resolution: 1920×1080
  Imaging frame rate[1]: 60p/50p

Playback frame rate[1]: 60p/50p

- ### 1080 30p 50M / 1080 25p 50M

  Recorded image: XAVC S 50 Mbps
  Resolution: 1920×1080
  Imaging frame rate[1]: 30p/25p
  Playback frame rate[1]: 30p/25p

- ### 1080 24p 50M (only when switching NTSC/PAL is set to NTSC)

  Recorded image: XAVC S 50 Mbps
  Resolution: 1920×1080
  Imaging frame rate: 24p
  Playback frame rate: 24p

- ### 720 240p 100M / 720 200p 100M [4] (FDR-X3000)

  Recorded image: XAVC S 100 Mbps High speed recording [3]
  Resolution: 1280×720
  Imaging frame rate[1]: 240p/200p
  Playback frame rate[1]: 240p/200p [5]

- ### 720 240p 60M / 720 200p 60M [4] (FDR-X3000)

  Recorded image: XAVC S 60 Mbps High speed recording [3]
  Resolution: 1280×720
  Imaging frame rate[1]: 240p/200p
  Playback frame rate[1]: 240p/200p [5]

- ### 1080 120p 100M / 1080 100p 100M [4] (FDR-X3000)

  Recorded image: XAVC S 100 Mbps High speed recording [3]
  Resolution: 1920×1080
  Imaging frame rate[1]: 120p/100p
  Playback frame rate[1]: 120p/100p [5]

- ### 1080 120p 60M / 1080 100p 60M [4] (FDR-X3000)

  Recorded image: XAVC S 60 Mbps High speed recording [3]
  Resolution: 1920×1080
  Imaging frame rate[1]: 120p/100p
  Playback frame rate[1]: 120p/100p [5]

When movie format is set to 4K (recording in XAVC S) (FDR-X3000)

- ### 2160 30p 100M / 2160 25p 100M [4]

  Recorded image: XAVC S 100 Mbps
  Resolution: 3840×2160
  Imaging frame rate[1]: 30p/25p
  Playback frame rate[1]: 30p/25p

- ### 2160 30p 60M / 2160 25p 60M [4]

Recorded image: XAVC S 60 Mbps
Resolution: 3840×2160
Imaging frame rate[*1]: 30p/25p
Playback frame rate[*1]: 30p/25p

- **2160 24p 100M** [*4] **(only when switching NTSC/PAL is set to NTSC)**

    Recorded image: XAVC S 100 Mbps
    Resolution: 3840×2160
    Imaging frame rate: 24p
    Playback frame rate: 24p

- **2160 24p 60M** [*4] **(only when switching NTSC/PAL is set to NTSC)**

    Recorded image: XAVC S 60 Mbps
    Resolution: 3840×2160
    Imaging frame rate: 24p
    Playback frame rate: 24p

[*1] Frame rate depends on the NTSC/PAL setting.
[*2] SteadyShot is disabled. (HDR-AS50)
[*3] Action Cam Movie Creator allows you to specify the smooth slow-motion playback section for editing.
[*4] The angle of view is fixed to ⌣W .
[*5] Depending on your device and software, images will play at the standard speed of 60p/50p.

Note

- Continuous movie shooting time is approximately 13 hours.

- When you play images recorded in high speed, the frame rate will be 60p/50p, and playback will be standard speed.

Movie format

Select the movie format for shooting movies or loop recording.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select** ▣ / ▣ **(Shooting settings) -** [MP4]
(Movie format) - setting value, then press the REC/ENTER button.

- [4K] : Records a 4K (XAVC S) movie (FDR-X3000).

Select the desired image quality from the image quality setting.

- $\boxed{\text{HD}}$: Records a HD (XAVC S) movie.

  Select the desired image quality from the image quality setting.

- $\boxed{\text{MP4}}$: Records an MP4 movie.

  Select this format if you want to transfer to your smartphone or upload to a website.

Time-lapse capture image size

You can set the image size of still images shot during time-lapse capture.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select ⚙ (Time-lapse capture mode setting) - ⚙ (Time-lapse capture image size) - setting value, then press the REC/ENTER button.**

- ⚙ (Shoots still images in 4K (3840 x 2160) (image size 8.3 M))
- ⚙ (Shoots still images in HD (1920 x 1080) (image size 2.1 M))

Loop recording time

Set the time range (media area) for loop recording. The range can be set after setting the camera to the loop recording mode.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select ⚙ (Loop recording mode setting) - ⚙ 5 min (Loop recording time) - setting value, then press the REC/ENTER button.**

- ⚙ :5 min (Sets the loop recording time to 5 minutes. The size of created movie is 1 minute per file.)

- ⟳:20min (Sets the loop recording time to 20 minutes. The size of created movie is 5 minutes per file.)
- ⟳:60min (Sets the loop recording time to 60 minutes. The size of created movie is 15 minutes per file.)
- ⟳:120min (Sets the loop recording time to 120 minutes. The size of created movie is 15 minutes per file.)
- ⟳:∞min (Keeps recording continuously up to the limit of free space of a memory. The size of created movie is 15 minutes per file.)

Hint

- When loop recording time is set to 5 minutes
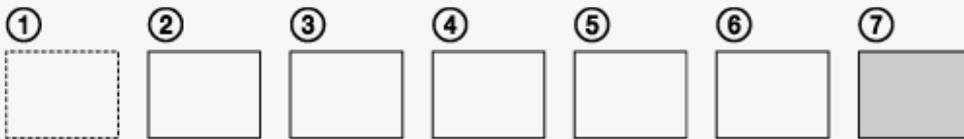
      — The movie files of one minute per file are created in order.
      — When the recording time exceeds five minutes, the sixth movie file (⑥) is created.

      Before creating the seventh file (⑦), the camera deletes the first movie file (①) and keeps recording.

- Estimated shooting time necessary for loop recording (free space of a memory)
      — Addition to the set loop recording time, you need estimated shooting time (free space of a memory) for 2 files.
      (Example) ⟳:20min is set

      20 min. + 5 min. + 5 min. = 30 min. or more is needed.

*   You can check the estimated shooting time by setting the shooting mode to "Movie mode."
*   Even you have a free space of a memory card according above estimated time, a warning [05-04] may display on the screen due to image quality setting or movie format setting.
    In this case, increase more free space of a memory card or change the image quality setting or movie format setting.

[32] Changing the Settings | Shooting settings
Still image mode switching

You can set the mode for still image recording.

1   **Press the MENU button.**

2   **Press the UP button or DOWN button to select 🎞️ (Photo mode setting) - ☐ (Still image mode switching) - setting value, then press the REC/ENTER button.**

- ☐ (Single shooting. Shoots a single still image.)
Image size

FDR-X3000/HDR-AS300: 12.0 M (Angle setting: ⌄W) /6.1 M (Angle setting: ⌄M) /3. 0 M (Angle setting: ⌄N)
HDR-AS50: 11. 9 M (Angle setting: ⌄W)/7. 0 M (Angle setting: ⌄N)

- ▦ (Burst shooting. Shoots at the interval set in the ▦10f 1s (FDR-X3000/HDR-AS300)/ ▦8f 1s (HDR-AS50) (Still image shooting interval).)
  Image size
  FDR-X3000/HDR-AS300: 12.0 M (Angle setting: ⌄W) /6.1 M (Angle setting: ⌄M) /3.0 M (Angle setting: ⌄N)
  HDR-AS50: 11.9 M (Angle setting: ⌄W)/7.0 M (Angle setting: ⌄N)

- ● (Motion Shot LE. Generates a still image from the still images continuously shot at the interval set in the ▦10f 1s (FDR-X3000/HDR-AS300)/ ▦8f 1s (HDR-AS50) (Still image shooting interval).)
  Image size
  FDR-X3000/HDR-AS300: 2.1 M
  HDR-AS50: 3.0 M

To shoot successfully in Motion Shot LE mode

Try the following shooting methods.

- Stabilize the camera to prevent camera shake.
- Use the remote control function with a smartphone or Live-View Remote, or the self-timer function to prevent camera shake for better results.
- Make sure that the moving objects are not too large or too many.
- Shoot in a bright location and avoid changes in brightness.

To shoot successfully in burst shooting mode

Try the following shooting methods.

- Stabilize the camera to prevent camera shake.
- Use the remote control function with a smartphone or Live-View Remote, or the self-timer function to prevent camera shake for better results.

Note

- If automatic generation in Motion Shot LE mode fails, [05-06] is displayed on the display panel. Depending on the display timing of [05-06], the image may not be saved.

- After shooting with Burst Shooting or Motion Shot LE mode, there is a processing time during which the next operation cannot be operated.

- Only one still image can be transferred to the smartphone.

  (In burst shooting mode, the last still image can be transferred. In Motion Shot LE mode, the generated image can be transferred.)

[33] Changing the Settings ┃ Shooting settings

Still image shooting interval

You can select the continuous shooting setting for using burst shooting or Motion Shot LE.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select ⚙📷 (Photo mode setting) - 📷 10f 1s (FDR-X3000/HDR-AS300)/ 📷 8f 1s (HDR-AS50) (Still image shooting interval) - setting value, then press the REC/ENTER button.**

- 📷:10f 1s (Records a total of 10 still images in 1 second at a speed of 10 still images per second) (FDR-X3000/HDR-AS300)

  Suitable for shooting fast-moving objects.

- 📷:8f 1s (Records a total of 10 still images in 1.25 seconds at a speed of 8 still images per second) (HDR-AS50)

  Suitable for shooting fast-moving objects.

- 📷:5f 2s (Records a total of 10 still images in 2 seconds at a speed of 5 still images per second)

  Suitable for action shots of objects.

- 📷:2f 5s (Records a total of 10 still images in 5 seconds at a speed of 2 still images per second)

  Suitable for shooting slow-moving objects.

Note

- "10f1s" (FDR-X3000/HDR-AS300), "8f1s" (HDR-AS50), "5f2s", and "2f5s" are estimates of the maximum speed. The maximum speed may not be reached depending on the shooting conditions.

[34] Changing the Settings │ Shooting settings
Self-timer

You can use self-timer when shooting still images.

1 **Press the MENU button.**

2 Press the UP button or DOWN button to select 🔄 (Photo mode setting) - 🕐OFF (Self-timer) - setting item, then press the REC/ENTER button.

- 🕐:OFF (Does not use self-timer)
- 🕐:2s (Sets the self-timer to 2-second)
- 🕐:10s (Sets the self-timer to 10-second)

Note

- You cannot use self-timer when recording movies.
- The self-timer function is enabled until it is cancelled. Set the self-timer to 🕐:OFF after you finish using it.

[35] Changing the Settings │ Shooting settings
Time-lapse shooting interval

You can set the interval of the time-lapse shooting.

1 Press the MENU button.

2 Press the UP button or DOWN button to select 🔄 (Time-lapse capture mode setting) - 🕐 1s (Time-lapse shooting interval) - setting value, then press the REC/ENTER button.

- 🕐:1s (Continues to record still images at about 1-second intervals)
- 🕐:2s (Continues to record still images at about 2-second intervals)
- 🕐:5s (Continues to record still images at about 5-second intervals)
- 🕐:10s (Continues to record still images at about 10-second intervals)
- 🕐:30s (Continues to record still images at about 30-second intervals)
- 🕐:60s (Continues to record still images at about 60-second intervals)

Note

- The first photo is recorded immediately when recording starts, without waiting for the completion of the set interval. The second and subsequent still images are recorded at the set intervals.
- Depending on your shooting condition, the speed may not reach the set speed.

Time-lapse shot number

You can set the number of still images shot during time-lapse capture.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select ⚙ (Time-lapse capture mode setting) - 📷300 (Time-lapse shot number) - setting value, then press the REC/ENTER button.**

- 📷:300 (Shoots 300 still images)
- 📷:600 (Shoots 600 still images)
- 📷:900 (Shoots 900 still images)
- 📷:∞ (Continue to shoot still images until you stop shooting)

Hint

- The maximum number of continuous shots is 40,000.

SteadyShot (Movie)

You can activate the camera-shake reduction when shooting movies. This function is available in Movie mode, Live streaming mode, and Loop recording mode.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select 🎬 / 📺 / 🔁 (Shooting settings) - 〰Act (FDR-X3000/HDR-AS300)/ 〰ON (HDR-AS50) (SteadyShot (Movie)) - setting value, then press the REC/ENTER button.**

- FDR-X3000/HDR-AS300
  〰:Act (Uses all-encompassing SteadyShot function when shooting movies)
  〰:Std (Uses SteadyShot function when shooting movies)
  〰:OFF (Does not use SteadyShot function when shooting movies)

- HDR-AS50

  ((👋:ON (Uses SteadyShot function when shooting movies)

  ((👋:OFF (Does not use SteadyShot function when shooting movies)

Note

- This function is not available when the image quality setting mode is set to the high speed recording quality (frame rate is more than 120p) (HDR-AS50) .

[38] Changing the Settings │ Shooting settings

SteadyShot (Still) (FDR-X3000/HDR-AS300)

You can activate the camera-shake reduction while shooting still images. This function is available in Photo mode.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select 📷 (Photo mode setting) - ((👋 ON (SteadyShot (Still)) - setting value, then press the REC/ENTER button.**

- ((👋:ON (Uses SteadyShot function when shooting still images.)
- ((👋:OFF (Does not use SteadyShot function when shooting still images.)

[39] Changing the Settings │ Shooting settings

Angle setting

You can configure the angle of view of the camera for shooting.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select 📹 / 📷 / ⏱ / 📺 / ⤴ (Shooting settings) - ◇w (Angle setting) - setting value, then press the REC/ENTER button.**

- ⌄W : Wide (Records with a wide angle of view)
- ⌄M : Medium (Records with a standard angle of view (FDR-X3000/HDR-AS300))
- ⌄N : Narrow (Records with a narrow angle of view)

Note

- When shooting with high speed (frame rate is more than 120p), the angle of view is fixed to ⌄W .

- When Time-lapse capture image size is 🔄4K , the angle of view is fixed to ⌄W .

- When SteadyShot (Movie) is 🖐ON , the angle of view is fixed to ⌄N . (HDR-AS50)

- When the movie format is 4K , the angle of view is fixed to ⌄W . (FDR-X3000)

[40] Changing the Settings │ Shooting settings
Zoom setting

You can set whether to use the digital zoom.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select 🎥 / 📷 / 🔄 / LIVE / 🔁 (Shooting settings) - ⊕OFF (Zoom setting) - setting value, then press the REC/ENTER button.**

- ⊕:ON (Uses the digital zoom function)
- ⊕:OFF (Do not use the digital zoom function)

[41] Changing the Settings │ Shooting settings
Flip

You can record the image upside down. This function is useful when the camera is attached upside down.

1 **Press the MENU button.**

2 Press the UP button or DOWN button to select 🎞️ / 📷 / ⏱️ / 📺LIVE / 🔁 (Shooting settings) - 🎬,OFF (Flip) - setting value, then press the REC/ENTER button.

- 🎬,:ON (Flips the image vertically and swaps the left and right sound channels)
- 🎬,:OFF (Does not flip the image)

AE shift

You can adjust the exposure according to your preference.

1 Press the MENU button.

2 Press the UP button or DOWN button to select 🎞️ / 📷 / ⏱️ / 📺LIVE / 🔁 (Shooting settings) - ±0.0 (AE shift) - setting value, then press the REC/ENTER button.

- :±0.0 (Does not use the AE shift)
- :+0.3 (Uses the AE shift (Set +0.3EV for example))

Time-lapse AE mode

Set the adjustment method of automatic exposure (AE) during time-lapse capture.

1 Press the MENU button.

2 Press the UP button or DOWN button to select ⏱️ (Time-lapse capture mode setting) - AE-T (Time-lapse AE mode) - setting value, then press the REC/ENTER button.

- AE-T (Adjusts the exposure for each shot. Smoothly follows changes in brightness)
- AE-L (Sets a fixed exposure when shooting starts)

Scene

You can select suitable image quality according to the shooting scene.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select 📹 / 📷 / 🔄 / 📺 / 🔁 (Shooting settings) - SCN N (Scene) - setting value, then press the REC/ENTER button.**

- SCN : N (Shoots images in the standard quality)
- SCN : 🐟 (Shoots images in an image quality suitable for underwater shooting)

Note

- If you select SCN : 🐟 , you cannot set the white balance.
- Use the supplied Underwater Housing for underwater shooting.

White balance

You can adjust the color balance to the recording environment.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select 📹 / 📷 / 🔄 / 📺 / 🔁 (Shooting settings) - AWB (White balance) - setting value, then press the REC/ENTER button.**

- AWB (Adjusts the white balance automatically so that the colors appear natural)
- WB K (Adjusts for the color temperature of the light source (from 2500K to 9900K))
- WB ↙ (Uses the setting acquired from ↙ SET)
- ↙ SET (Acquires the base white color for shooting under the light source)[*]

*   Place a white reference object under the same lighting conditions as the subject and press the REC/ENTER button.

Note

- If scene is set to **SCN :** ◖◀ , you cannot set the white balance.

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[46] Changing the Settings | Shooting settings
Color mode

You can change the image color tone for movie shooting/loop recording/Live streaming.

1   **Press the MENU button.**

2   **Press the UP button or DOWN button to select** 📷🔁 / 📷🎞 / 📷🔴LIVE **(Shooting settings) -** Vivid↕ **(Color mode) - setting value, then press the REC/ENTER button.**

- Ntrl↕ (Records in natural colors)
- Vivid↕ (Records in vivid colors)

Note

- If you shoot with Ntrl↕ , the image contrast may appear low. This is not a malfunction.

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[47] Changing the Settings | Shooting settings
Audio recording setting

You can turn the audio recording setting ON/OFF.

1   **Press the MENU button.**

2 Press the UP button or DOWN button to select ▤ / ▤ / ▤ (Shooting settings) -
 🎤 ON (Audio recording setting) - setting value, then press the REC/ENTER button.

- 🎤:ON (Records sound when shooting a movie)
- 🎤:OFF (Does not record sound when shooting a movie)

Wind noise reduction

This function automatically cuts low-range wind noise while recording audio using the built-in microphone.

1 Press the MENU button.

2 Press the UP button or DOWN button to select ▤ / ▤ / ▤ (Shooting settings) -
 🎤OFF (Wind noise reduction) - setting value, then press the REC/ENTER button.

- 🎤:ON (Cuts low-range to reduce wind noise)
- 🎤:OFF (Does not reduce wind noise)

Note

- This function does not activate while an external microphone is connected to the camera (FDR-X3000/HDR-AS300).

Airplane mode

When you are in an airplane or other restricted areas, you can set the camera to temporarily disable all functions related to the wireless applications such as Wi-Fi/Bluetooth GPS, etc. If you set airplane mode to ON, an airplane mark will be displayed on the display panel.

1 Press the MENU button.

2 Press the UP button or DOWN button to select ⚙📷 (Camera Settings) - ✈OFF (Airplane mode) - setting value, then press the REC/ENTER button.

- ✈:ON (The Wi-Fi/Bluetooth/GPS function* is disabled. Select this when you are on board an airplane)
- ✈:OFF (The Wi-Fi/Bluetooth/GPS function* is enabled)

  * The GPS function is only for FDR-X3000/HDR-AS300.

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[50] Changing the Settings ｜ Camera settings
Wi-Fi connection setting

You can operate the camera by using compatible devices (Live-View Remote, smartphone, etc.) connected to the camera via Wi-Fi.

1 Press the MENU button.

2 Press the UP button or DOWN button to select ⚙📷 (Camera Settings) - 🔝ON (Wi-Fi connection setting) - setting value, then press the REC/ENTER button.

- 🔝:ON (Operates a single camera with the compatible device)
- 🔝:OFF (Does not operate a camera with the compatible device)
- 🔝:📷 (Operates multiple cameras with the compatible device)

3 Select a shooting mode (🎞 / 📷 / ⏱ / 🔁).

4 Connect the camera to the compatible device via Wi-Fi.

5 Operate the camera with the compatible device.

Note
- Battery consumption is quicker when you operate the camera with the compatible device.
-

The camera should only be connected to the devices described in "Using the camera connected to other devices via Wi-Fi" via Wi-Fi, and should not be connected to other Wi-Fi access points. If you choose to connect the camera to other Wi-Fi access points, you do so at your own risk. In such cases, the camera may be subject to unauthorized access, and any communication could be intercepted.

[51] Changing the Settings │ Camera settings
Wi-Fi Hi power setting

When you switch the Wi-Fi power setting, the communication distance between the camera and a Live-View Remote[*] connected via Wi-Fi can be extended by about two times, so you can operate the camera with the Live-View Remote from a distance.
This setting is only available in some countries and regions.

[*] When using RM-LVR3.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select ⚙📷 (Camera Settings) - 📶ᴴᴵOFF (Wi-Fi Hi power setting) - setting value, then press the REC/ENTER button.**

- 📶ᴴᴵ:ON (High power mode. The communication distance is longer than in standard mode)
- 📶ᴴᴵ:OFF (Standard mode)

Note

- When set to ON, depending on the physical environment and the distance between the camera and the Live-View Remote, you may not be able to use the Live-View Remote to turn the camera on/off. In such cases, operate the Live-View Remote closer to the camera until 🔵 on the screen changes to 🔵. Depending on the physical environment and connected device, the communication distance will be changed.

- When the Wi-Fi Hi power setting is set to ON, the battery is consumed faster than when set to OFF.

- The Wi-Fi icon may not be displayed on the screen immediately after switching the Wi-Fi Hi power setting, but the icon of the switched setting will be displayed after a moment.

- This function cannot be used when the Wi-Fi setting is OFF or when airplane mode is ON.

[52] Changing the Settings │ Camera settings
Bluetooth setting

When the camera and corresponding devices have Wi-Fi connections, the camera can communicate with the corresponding devices via Bluetooth. The mutual registration process that allows the devices (the camera and corresponding device) to communicate with each other via Bluetooth is called "pairing." Once pairing is complete, these devices can automatically communicate via Bluetooth when they are connected again.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select 📷 (Camera Settings) - 🅱 ON (Bluetooth setting) - setting value, then press the REC/ENTER button.**

- 🅱:ON (Bluetooth communication enabled. 🅱 or 🅱 is displayed on the screen.)
- 🅱:OFF (No Bluetooth communication. Bluetooth icon does not appear on the screen.)

Pairing with the smartphone
Perform the following operations with the camera and a smartphone that is connected via Wi-Fi.
For connecting the camera to your smartphone, see "Connecting to your smartphone".

1. Turn on the Bluetooth setting on the smartphone.
2. Start PlayMemories Mobile application on the smartphone.
3. Use the application to turn on the remote power function of the camera.
4. Use the application to select the camera to be connected.
5. On the application screen that appears, allow pairing for the selected camera.
6. Check the screen to be displayed and the sound prompting the pairing setting permission of the selected camera, then press the REC/ENTER button on the camera.

After pairing is complete, a sound is heard.

Hint

- The default Bluetooth setting for the camera is ON. When the Live-View Remote (RM-LVR3) is connected to Wi-Fi for the first time, Bluetooth pairing with the camera is automatically completed, and the 🅱 icon displayed on the camera screen switches to 🅱 .

Note

- When Airplane mode is ON, the Bluetooth icon does not appear on the screen, and Bluetooth communications are disabled, even if the Bluetooth setting is ON.

- The camera can be paired with up to 15 Bluetooth devices. If a 16th device is paired with the camera, the pairing information of the first registered device is deleted.

- When the camera is communicating via Bluetooth, another device cannot be paired.

- When the camera is initialized, the pairing information is also reset. To pair again, the pairing information of the connected compatible device should also be deleted.

- When pairing is performed while shooting with the camera, a sound will not be heard.

Bluetooth remote controller power setting

A device that has already been paired with the camera is able to turn the camera on and off.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select** ⚙️ **(Camera Settings) -** 📱⋯⏻📷
(Bluetooth remote controller power setting) - setting value, then press the
REC/ENTER button.

- 📱⋯⏻📷 (Ability to turn the camera on/off with a corresponding device is enabled.)
- 📱⋌⏻📷 (Ability to turn the camera on/off with a corresponding device is disabled.)

To enable this function, it is necessary to turn on the above setting and the Bluetooth setting of both
the camera and the corresponding device in advance.
For setting and operating the Live-View Remote (RM-LVR3), refer to "Bluetooth remote controller
power setting" in the help guide of the Live-View Remote.
http://rd1.sony.net/help/cam/1650/h_zz/

For setting up and operating a smartphone, see below. Also, check the latest information and function
information of the PlayMemories Mobile as well.
http://www.sony.net/pmm/

Bluetooth remote controller power setting for smartphones

Perform the following operations with the camera and a smartphone that is connected via Wi-Fi.
For connecting the camera to your smartphone, see "Connecting to your smartphone".

1. Turn on the Bluetooth setting on the smartphone.
2. Start PlayMemories Mobile application on the smartphone.
3. Use the application to turn on the remote power function of the camera.
4. Use the application to select the camera to be connected.
5. On the application screen that appears, allow pairing for the selected camera.
6. Check the screen to be displayed and the sound prompting the pairing setting permission of the
   selected camera, then press the REC/ENTER button on the camera.

After pairing complete a sound is heard and power operation of the camera is enabled.

Operating the power of the camera with a smartphone

To turn the camera on/off, start PlayMemories Mobile and tap [Camera Remote Power ON/OFF].

Hint
- If the camera and Live-View Remote "RM-LVR3" are connected, the power of the camera is turned on when
  the power of the Live-View Remote is turned on. When the camera has a multi connection with a Live-View
  Remote "RM-LVR3", up to five cameras can be turned on simultaneously when the Live-View Remote is
  turned on.

Note

● This function cannot be used when the airplane mode is ON.

● Even if camera is turned off, the corresponding device will remain on.

● Even if the camera is turned off, battery will consume when this function is turned on. After use, remove the battery from the camera for storage.

[54] Changing the Settings │ Camera settings
GPS log (FDR-X3000/HDR-AS300)

You can record the location information and the movement speed while recording movies using the camera's GPS function.
Action Cam Movie Creator allows you to import movies recorded with GPS log to your computer and view them with a map showing movement speed and tracking actions.
You can also record the location information and show the shooting location on the map when shooting still images.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select** 🔋 **(Camera Settings) -** ✖ ON **(GPS log) - setting value, then press the REC/ENTER button.**

● ✖:ON (Records movies with the GPS log or still images with location information)
● ✖:OFF (Does not use the GPS log function)

Checking triangulating status

The indicator changes according to the strength of GPS signal reception when GPS is activated.

● **No indicator (The GPS log functions is off):** The GPS log is set to OFF or an error occurred.
● ✖ **(Searching/Difficult):** Your camera is searching for GPS satellites. (It may take several minutes to start triangulating.)
● ✖ **(Triangulating):** Your camera is receiving a GPS signal. (Your camera can record location information.)

About GPS assist data

The time for the GPS acquiring location information can be shortened by taking in GPS assist data. If connection via Internet is made using the software, Action Cam Movie Creator, the GPS assist data can be updated automatically.

● If the Date & time Setting of the camera is not set, or set time is shifted greatly, the time for the GPS acquiring location information cannot be shortened.

- If the term of validity of GPS assist data has run out, the time for the GPS acquiring location information cannot be shortened.

Using the support tool
You can also update the GPS assist data by inserting a memory card into the computer. Display the camera setting's screen of Action Cam Movie Creator, select "Update GPS Assist Data" - the desired memory card drive to be installed on your computer, and then update the GPS assist data. If you insert this memory card into the camera, the GPS assist data will be reflected on the camera.

Note

- During takeoff and landing of an airplane, set airplane mode to ON.

- Use GPS in accordance with the regulations of the place or situation.

- It may take from several tens of seconds to several minutes to record the location information when you use the GPS for the first time or use it again after long intervals. Triangulating time can be shortened by taking in GPS assist data.

- Do not cover the GPS sensor with your finger when searching for GPS satellites or when triangulating. This decreases the sensitivity of the GPS sensor and triangulation may fail.

- Sony does not collect location information and routing information.

- To display location information and routing information as a map on a computer, Sony provides data of location information and routing information to Google Inc.

- Although the camera does not have the function to delete log files, you can delete them by formatting the media.

- The maximum number of log files that can be recorded is 256/day. When the maximum number of recorded log files is reached, you can continue to shoot images, but cannot record log files.

[55] Changing the Settings │ Camera settings
Format

Formatting is the process of deleting all images in the memory card, and restoring the memory card to its initial state.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select ⚙️📷 (Camera Settings) - 🗂️FORMAT (Format), then press the REC/ENTER button.**

Formatting starts when you select **OK** , then press the REC/ENTER button. The progress bar appears.
Formatting cancels when you select ↩️ , then press the REC/ENTER button.
The formatting completes when a screen with check mark is displayed. Press the REC/ENTER button to return to the previous MENU.

Note

- Save important images before formatting. The protected data is also initialized.

- Do not perform any of the following operations while formatting.
  - Press a button.
  - Eject the memory card.
  - Connect/disconnect a cable.
  - Insert/remove the battery pack.

[56] Changing the Settings │ Camera settings
Time code/user bit (FDR-X3000)

About time code

Time code is a useful function for advanced image editing, which records hours/minutes/seconds/frames on the image data.

About user bit

User bit is a function that can record information (8-digit hexadecimal numbers) such as date/time/scene number. This function is useful for editing movies created using two or more cameras.

Note

- When the image quality setting is MP4, the time code/user bit is not available.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select ⚙📷 (Camera Settings) - TC/UB (Time code/user bit) - setting item, then press the REC/ENTER button.**

The set items and details are as follows.

DISP (Displays the time code/user bit)

- **TC** : Displays the time code.
- **U-BIT** : Displays the user bit.
- **OFF** : Does not display the time code/user bit.

TC PRESET (Sets the time code)
1. Press the UP button or DOWN button to select 2-digit numbers, then press the REC/ENTER button.

2. Repeat step 1 until you set four 2-digit numbers, then return to the previous MENU.

- The time code can be selected within the following range.
  - When selecting 30p or 60p
    00:00:00:00 - 23:59:59:29

  - When selecting 25p or 50p
    00:00:00:00 - 23:59:59:24

  - When selecting 24p, you can set the last 2 time code digits of the frames in multiples of 4, between 0 and 23.

TC RESET (Resets the time code)

- Reset is executed when you select **OK** , then press REC/ENTER button.

TC FORMAT (Selects the time code recording method)

- **DF** : Records the time code in drop frame.
- **NDF** : Records the time code in non-drop frame.[*]

[*] In the following situations, the time code is fixed to **NDF** .
When the image quality is set to 24p.
When the NTSC/PAL switching is set to **PAL ➜ NTSC** .

TC RUN (Sets the time code count up format)

- **REC RUN** : The time code advances only while recording XAVC S movies. It is recorded sequentially from the time code on the image recorded last time.
- **FREE RUN** : The time code advances sequentially, regardless of the operation of the camera.

TC MAKE (Sets the time code to be recorded)

- **PRESET** : The newly set-up time code is recorded on recording media.
- **REGEN** : The last time code of the previous recording is read out from the recording media and the new time code is recorded sequentially from the last time code.

UB PRESET (Sets the user bit)
1. Press the UP button or DOWN button to select 2-digit numbers, then press the REC/ENTER button.
2. Repeat step 1 until you set four 2-digit numbers, then return to the previous MENU.

- The user bit can be selected within the following range.
  00 00 00 00 - FF FF FF FF

UB PRESET (Initializes the user bit)

- Reset is executed when you select **OK** , then press REC/ENTER button.

UB T.REC (Sets the recording time of the user bit)

- **ON** : Records the time as a user bit.
- **OFF** : Does not record the time as a user bit.

IR remote (FDR-X3000)

You can start/stop recording and initialize the time code using the infrared remote control (sold separately).

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select ⚙ (Camera Settings) - 📡 OFF (IR remote) - setting value, then press the REC/ENTER button.**

- 📡:ON (Allows you to operate the camera using the infrared remote control)
- 📡:OFF (Prevents operation of the camera using the infrared remote control)

Note

- The remote commander & IR receiver kit RMT-VP1K and RMT-845 (sold separately) are required to use this function.

  Purchase a RMT-845 at a Sony service center.

- You can operate only the following settings using the RMT-845 (sold separately). Other settings are inoperable.
  − Initialize the time code.
    When initializing the setting, the REC lamp blinks in blue for about 5 seconds.
  − Start/stop recording.

HDMI settings (FDR-X3000/HDR-AS300)

Set the HDMI output signal.

1 **Press the MENU button.**

2 Press the UP button or DOWN button to select 📷 (Camera Settings) - **HDMI** (HDMI settings) - setting item, then press the REC/ENTER button.

The set items and details are as follows.

RESOL : Sets the output resolution of the HDMI signal.

- **AUTO** : Sets the HDMI resolution signal automatically.
- **2160p** (FDR-X3000): Sets the HDMI resolution signal to 2160p.
- **1080p** : Sets the HDMI resolution signal to 1080p.
- **1080i** : Sets the HDMI resolution signal to 1080i.
- **720p** : Sets the HDMI resolution signal to 720p.

60/24p : Sets the output HDMI signal frame rate.

- **60p** : Output HDMI signal is 60p.
- **24p** : Output HDMI signal is 24p.

* Available only when in movie mode (not available when playback).
* This setting is disabled when image quality setting is set to a setting other than 1080 24p.
* This setting is disabled when the HDMI resolution is set to a setting other than 1080.

TC/UB OUT : Sends the time code or the user bit information to a device connected with HDMI (FDR-X3000).

- **ON** : Sends the time code or user bit information.
- **OFF** : Does not send the time code or user bit information.

* Unavailable when movie format is set to MP4.

REC CTRL : Controls the recording on a device connected with HDMI (FDR-X3000).

- **ON** : Controls the recording on the device.
- **OFF** : Does not control the recording on the device.

* Unavailable when movie format is set to MP4.

Note

- Available for external recorders/players compatible with **REC CTRL** .
- When **TC/UB OUT** is **OFF** , **REC CTRL** is set to **OFF** .
- Depending on the settings and the condition of an external recorder/player, it may not work properly, even when **REC CTRL** for the camera is set to **ON** . Confirm that it works before using it with the camera.

USB power supply

When connecting the camera to a computer or USB device with the micro USB cable (supplied), the camera receives power from the connected device.

- The USB power supply can be available by selecting ON from the following operation.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select ⚙🎥 (Camera Settings) - 🔌ON (USB power supply) - setting value, then press the REC/ENTER button.**

- 🔌:ON (Power received when connected by the micro USB cable)
- 🔌:OFF (No power received when connected by the micro USB cable)

Using the camera with an external power supply

The camera is compatible with the following external power supply.

- External power supply of 1.5 A
  FDR-X3000/HDR-AS300: Battery power consumption is lessened during shooting/playback
  HDR-AS50: Receives USB power from the connected device

Note

- If you change the USB power supply setting while the micro USB cable is connected, disconnect the cable, then reconnect.

- If you turn on the camera while charging the battery pack, charging stops and power is supplied to the camera from the device connected via USB.

- You can shoot and play back images using a USB power supply. However, the battery pack is not charged simultaneously.

- When using the camera with an external power supply, check that the icon (🔌) indicating that USB power is being supplied is displayed on the screen.

- While USB power is being supplied, the continuous movie shooting time may be shortened due to the camera heating up.

- Even if the AC adaptor is connected to the camera, the battery will not be charged if the camera is turned on.

- Do not remove the battery while the access lamp is lit. The data in the memory card might be corrupted.

FDR-X3000/HDR-AS300

- To shoot/play back while receiving external power, insert the charged battery into the camera.

- Do not remove the battery from the camera when using the camera while receiving external power.

Beep

You can set the audible notification of operations ON/OFF.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select ♪☐ (Camera Settings) - ♪ON (Beep) - setting value, then press the REC/ENTER button.**

- ♪:ON (All operation sounds are enabled)
- ♪:LIMIT (Operation sounds are emitted for the following operations only)

  – Power turned on
  – Recording started
  – Recording stopped
  – Shutter pressed
  – A disabled operation was selected or an error occurred
  – Established Wi-Fi connection
  – Power turned off (FDR-X3000/HDR-AS300)

- ♪:OFF (All operation sounds are disabled)

Beep volume

You can set the beep volume when operating the camera.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to set ♪☐ (Camera Settings) - ♪)) (Beep volume) - setting value, then press the REC/ENTER button.**

- ♪)) (Loud beep volume)
- ♪)) (Soft beep volume)

Hint

- When Beep is set to OFF, this function cannot be set.

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[62] Changing the Settings │ Camera settings
Lamp setting

To prevent the lamp light from reflecting off of the subject, you can limit the number of REC lamps that turn on when recording.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to set (Camera Settings) - 3 (Lamp setting) - setting value, then press the REC/ENTER button.**

- :3 (All of the REC lamps light up)
- :1 (Only the REC lamp of connector cover lights up)
- :OFF (The REC lamps do not light up)

> **Hint**
> - Change the lamp setting for the camera if objects such as glass may be reflected on the shooting direction.

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[63] Changing the Settings │ Camera settings
One touch recording

Press the REC/ENTER button of the camera while the camera is turned off, and the camera will turn on and start recording.
This function is available when the shooting mode is movie, time-lapse capture, loop recording, or live streaming.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to set (Camera Settings) - OFF (One touch recording) - setting value, then press the REC/ENTER button.**

- :ON (One touch recording enabled)

- 🎬:OFF (One touch recording disabled)

Note

- With One touch recording, the recording will start in the shooting mode that was set immediately before the power was turned off.

Auto power off

You can change the setting of the auto power off function.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select 📷 (Camera Settings) - AUTO OFF 60s (Auto power off) - setting value, then press the REC/ENTER button.**

- AUTO OFF : 20s (Turns the power off after about 20 seconds)
- AUTO OFF : 60s (Turns the power off after about 60 seconds)
- AUTO OFF : OFF (Does not turn off automatically)

Note

- Auto power off is not available in the following situations.
  - When recording data to media
  - When shooting movies, or shooting in time-lapse capture mode
  - During movie playback
  - When Wi-Fi connection is being established, Wi-Fi remote control is connected, an image is being uploaded to a smartphone, or live streaming
  - HDMI connection is being made. (FDR-X3000/HDR-AS300)
  - Supplying power from a connected USB device
  - Connecting a mass storage device
  - IR remote is set to ON. (FDR-X3000)

- In the following cases, even if you have selected AUTO OFF : 20s or AUTO OFF : 60s in the auto power off function, the time that elapses before the power turns off will be extended.
  - While adjusting the menus.
  - While playing back still images

Switching NTSC/PAL

You can select the NTSC/PAL setting, depending on the TV system of the country or region where you use the camera.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select ⚙📷 (Camera Settings) - NTSC ➔ PAL / PAL ➔ NTSC (Switching NTSC/PAL), then press the REC/ENTER button.**

NTSC ➔ PAL (Switches the camera from NTSC to PAL)
PAL ➔ NTSC (Switches the camera from PAL to NTSC)

- When you try to change the current setting, the confirmation screen appears. Go to step 3.

3 **Press the UP button or DOWN button to select OK , then press the REC/ENTER button.**

- When the setting change is completed, the camera restarts automatically.

Date & time setting

You can set the year/month/day.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select ⚙📷 (Camera Settings) - 🕐 (Date & time setting), then press the REC/ENTER button.**

- The year/month/day setting screen will be displayed.

3 **Set the year/month/day.**

Press the UP button or DOWN button to set the year, then press the REC/ENTER button. The cursor moves to month so, repeat the same operation to set the month and day.

- The time setting screen appears.

4 **Set the time by repeating the same procedure as step 3.**

5 **Press the REC/ENTER button.**

- The time is set and the display returns to the previous menu.

Note

- Select 0:00 for midnight, 12:00 for noon.

- When the GPS log is set to ON, the camera automatically adjusts the date and time during shooting mode. (FDR-X3000/HDR-AS300)

- The display order of year/month/day cannot be changed.

[67] Changing the Settings | Camera settings
Area setting

You can adjust the clock on the camera to match the time in your area without stopping the clock. The area is determined by the time difference from Greenwich Mean Time (GMT). See "The list of time differences for world capitals".

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to set ⚙📷 (Camera Settings) - 🕐 GMT (Area setting) - time difference, then press the REC/ENTER button.**

3 **Confirm the time on the displayed screen, then press the REC/ENTER button.**

[68] Changing the Settings │ Camera settings
Daylight saving time (summer time) setting

Sets whether to reflect daylight saving time (summer time) in the date and time settings.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select ⚙️ (Camera Settings) - ☀:OFF (Daylight saving time (summer time) setting) - setting value, then press the REC/ENTER button.**

- ☀:ON (Sets the Daylight Saving Time (summer time))
- ☀:OFF (Does not set the Daylight Saving Time (summer time))

[69] Changing the Settings │ Camera settings
Version

The software version of the camera can be displayed.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select ⚙️ (Camera Settings) - Ver. (Version), then press the REC/ENTER button.**

[70] Changing the Settings │ Camera settings

Resetting the settings

You can reset the settings to their defaults.

1 | **Press the MENU button.**

2 | **Press the UP button or DOWN button to select** 🔧 **(Camera Settings) -** RESET **(Resetting the settings), then press the REC/ENTER button.**

3 | **Select** OK **, then press the REC/ENTER button.**

- To cancel resetting, select ↩, then press the REC/ENTER button.
- The camera automatically restarts when resetting is complete.

Note

- When you reset the settings, the Bluetooth pairing information will also be reset. To reconnect, delete the pairing information on the connected device before connecting.

[71] Viewing
Viewing images on a TV (FDR-X3000/HDR-AS300)

Connect the camera to a TV which has an HDMI terminal using a micro HDMI cable (sold separately). Refer also to the instruction manuals of the TV.

1 | **Turn off both the camera and the TV.**

2 | **Open the connector cover and connect the camera to the TV with the micro HDMI cable (sold separately).**

3 | **Turn on the TV and set the input of the TV to [HDMI input].**

1

4 Press the ⏻ (on/standby) button on the camera to turn on.

5 Press the MENU button.

6 Press the UP button or DOWN button to select ➡ ▶ (playback on TV) - desired format of movie/image to view.

- Select the settings below.
    - MP4 : MP4 movies
    - ⌇ : Still images
    - XAVCS 4K30p : XAVC S 4K (30p) movie (XAVCS 4K30p is displayed when NTSC is selected and XAVCS 4K25p is displayed when PAL is selected.) (FDR-X3000)
    - XAVCS 4K24p : XAVC S 4K (24p) movie (XAVCS 4K24p is only displayed when NTSC is selected.) (FDR-X3000)
    - XAVCS HD : XAVC S HD movie

7 Press the REC/ENTER button.

- Playback starts.
- Playback pauses when you press the REC/ENTER button again.

To control a content being played back

- Fast-rewind/fast-forward (movies only): Press the UP button or DOWN button. During the fast-rewind/fast-forward, each time you press the button, the speed changes in 4 levels.
- Pause (movies only): Press the REC/ENTER button.

  If you press the UP button or DOWN button during pause, rewind or forward can be performed. If you press and hold the UP button or DOWN button during pause, slow rewind or slow forward can be performed.

- Starting a slideshow (still images only): Press the REC/ENTER button.
- Ending playback: Press the MENU button, then select MODE * (shooting mode) to switch to the shooting mode.

* The icon of the current selected shooting mode is displayed.

To adjust the volume

1. Press the MENU button during the playback or pause.
2. Press the UP button or DOWN button to select ⚙▶ - 🔊 , then press the REC/ENTER button to display the volume controller.
3. Press the UP button or DOWN button to increase or decrease the volume.

Notes on playing back on other devices

Movies recorded using the camera may not play back normally on devices other than the camera.

Also, movies recorded on other devices may not play back properly on the camera.

Viewing using the Live-View Remote

Play back images recorded with the camera using the Live-View Remote.
The procedure below explains how to play back movies using the Live-View Remote "RM-LVR3". The display differs depending on the Live-View Remote you are using.

1 **Press the MENU button on the remote control while the camera is in shooting mode.**

2 **Press the UP button or DOWN button on the remote control to select ➜ ▶ (playback using the remote control), then press the REC/ENTER button of the remote control.**

3 **Select the desired image by pressing the UP button or DOWN button.**

4 **Press the REC/ENTER button of the remote control to start playback.**

Press the REC/ENTER button again to pause playback.

Returning to the shooting mode

To return to shooting mode, perform either operation.

- Press the MENU button on the Live-View Remote to select ➜ ◼ (shooting mode), then press the REC/ENTER button of the remote control.
- Press the REC/ENTER button on the camera.

Note

- Audio cannot be played back.

- The image frame rate displayed on the LCD screen when using the remote control for playback will change according to the Wi-Fi communication status of the camera and remote control. This frame rate is different from the one used when shooting.

Hint

- You can fast-forward by pressing the UP button of the remote control and fast-rewind by pressing the

DOWN button.

Delete

Unwanted images in the memory card are deleted by using a smartphone installed with PlayMemories Mobile or the Live-View Remote.
Refer to the instruction manual on the website for how to operate PlayMemories Mobile or the Live-View Remote.

Note

- If you want to delete all images in the memory card, format the memory card in the camera.

[74] Create your movie │ Highlight Movie Maker
Creating the highlight movie

The camera detects characteristic scenes from the movies shot with the camera and creates the movie composed of them (highlight movie) automatically. You can copy highlight movies with your smartphone. By operating your smartphone, you can start the highlight movie creation and make the creation settings.

1 **Open the PlayMemories Mobile of your smartphone and connect to the camera via Wi-Fi.**

Refer to "Connecting to your smartphone" to connect the camera to your smartphone.

2 **Select "Highlight Movie Maker" in "In-Camera Application Setting" from the "Settings" of the PlayMemories Mobile.**
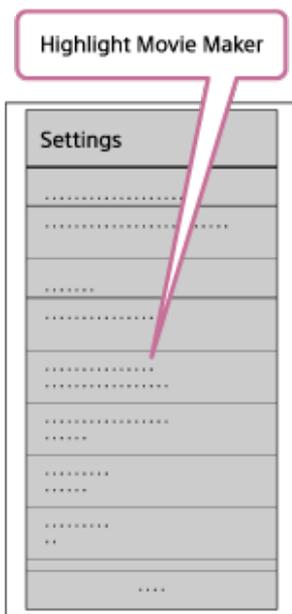
3 Press the ✂ icon to select a content format that you want to add in a highlight movie.
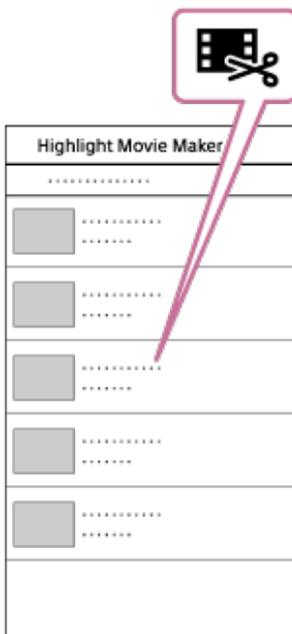
4 Select a movie that you want to add in a highlight movie from the date or the content list, then press the "Next" button.

The highlight movie creation starts.

- You cannot select MP4 and XAVC S contents at the same time.
- You can select up to 100 movies by date or file.
- If you disconnect Wi-Fi connection of the camera and your smartphone while creating the highlight movie, the camera continues to create movie.
- Press the REC/ENTER button of the camera to finish creating the highlight movie.

Next
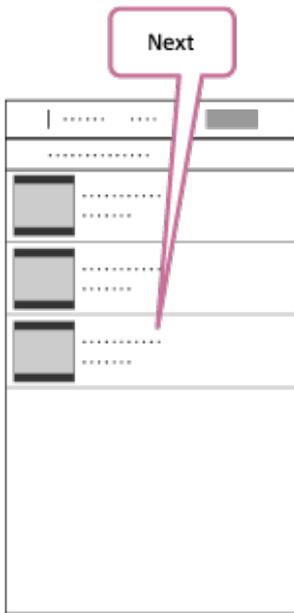
Hint

- Use the "Settings" menu in advance to change the movie length, BGM[*] and the audio mix.

[*] This setting is only available in some countries and regions.

5 **After creating the highlight movie, you can "Copy" it to your smartphone.**

Copy
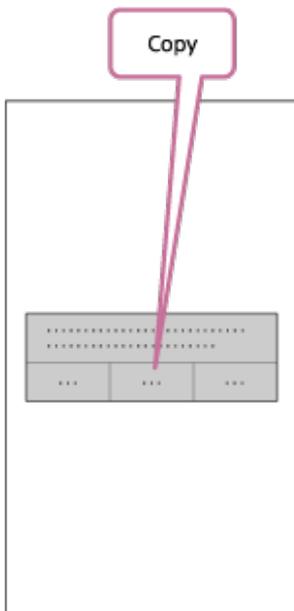
Hint

- Use the movie player application of a smartphone to play the copied highlight movie.

Note

- Update PlayMemories Mobile to the latest firmware version in advance.

- The created highlight movie's format is MP4.

- The following contents are not compatible with the highlight movie.
  - XAVC S 4K (FDR-X3000)
  - XAVC S HD 24p
  - High speed recording

- The operation methods and display screens for the application are subject to change without notice by future.

- See more details about "PlayMemories Mobile" from the following website.
  (http://www.sony.net/pmm/)

- Background music preinstalled on this product have officially been contracted between Sony and licensors. Movies containing the said background music are allowed for private use, duplication, distribution, or public transmission only when the said movies are intended for nonprofit purposes and without receiving any kind of consideration from the person to whom the said movies are presented to.

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[75] Create your movie | Highlight Movie Maker

Importing the BGM

By default, the camera includes eight songs that you can use as background music while playing back a highlight movie.
When you use the Action Cam Movie Creator connecting the camera with your computer, you can replace the background music of the camera with the music of your computer.
Install the Action Cam Movie Creator to your computer in advance.

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select the** ⚙ (Camera Settings) - 🎵 BGM **(Back ground music) -** 🎵DL **, then press the REC/ENTER button.**

3 **Connect the camera to the computer with the supplied micro USB cable.**

The Music Transfer of Action Cam Movie Creator starts automatically.

4 **Use the Music Transfer of Action Cam Movie Creator to replace the BGM.**

To preview the BGM

Refer to the following website for how to preview the pre-installed background music in the camera.
http://guide.d-imaging.sony.co.jp/mt_bgm/index.html

To delete all BGM

1. Press the MENU button.
2. Press the UP button or DOWN button to select the ⚙️📷 (Camera Settings) - 🎵BGM (Back ground music) - 🎵FORMAT (format), then press the REC/ENTER button.
OK appears when delete finishes.

Hint

- If the camera and the Action Cam Movie Creator cannot be connected, execute the procedure in "To delete all BGM."

Note

- This setting is only available in some countries and regions.

- Background music preinstalled on this product have officially been contracted between Sony and licensors. Movies containing the said background music are allowed for private use, duplication, distribution, or public transmission only when the said movies are intended for nonprofit purposes and without receiving any kind of consideration from the person to whom the said movies are presented to.

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[76] Stream real-time movie to a movie streaming site │ Live Streaming with your camera (Real time movie streaming)
Live Streaming

You can deliver movies in real-time via video sharing websites such as Ustream by using a Wi-Fi router or smartphone that can tether the camera. You can also send messages to your registered SNS to announce that you have started Live Streaming of video[*].

[*]   Registration to a video streaming site or SNS is required.
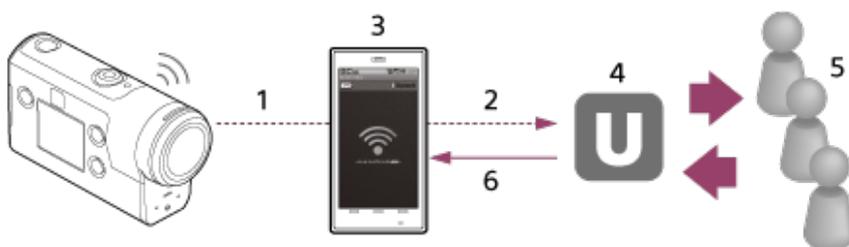
1. Wi-Fi
2. 3G/LTE
3. Tethering mode
4. Ustream
5. Viewers
6. Comments from viewers

The following settings must be configured for live streaming.

Set the following distribution settings in the live streaming settings of the camera:

- User registration to Ustream
- A smartphone (capable of tethering) or a Wi-Fi network environment

*   For more information about smartphone tethering settings or Wi-Fi network settings, refer to the operating instructions supplied with the smartphone or network service. For further details about the network environment, contact your network service provider.
Live Streaming feature is dependent upon the Third Party Internet Provider's service and terms in your region. The feature may not be available due to your region's broadband and internet service restriction.

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[77] Stream real-time movie to a movie streaming site │ Live Streaming with your camera (Real time movie streaming)
Preparing for Live Streaming

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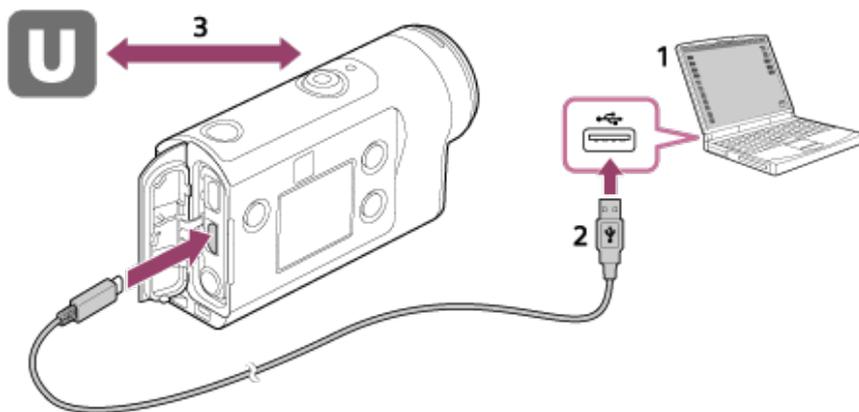
1. Before you start live streaming, get Ustream account and install the computer-exclusive application, "Action Cam Movie Creator."

   Download "Action Cam Movie Creator" from the following website.
   http://www.sony.net/acmc/

2. Connect the camera to your computer with supplied micro USB cable.
3. Configure the network settings, register an account at a video distribution site and configure the SNS settings on "Camera Settings for Live Streaming" of the Action Cam Movie Creator's camera settings.

   Refer to the following website for how to operate the Action Cam Movie Creator.
   http://www.sony.net/guide/nst/

What you can set on Camera Settings for Live Streaming

Network settings
   You can set the Wi-Fi network to which your camera connects to.
   Network SSID, password, security mode

Streaming settings
   You can set the streaming method.
   Streaming site, channel, image quality and the saving settings of the streaming site

Title and description of streaming video

SNS settings

By configuring this setting, you can post a comment through social network services when starting streaming video.

Connection settings for network services

Comments you post

About Ustream

Ustream is a video sharing site through which you can stream and view videos with the Live Streaming function of the camera. For details of Ustream, see the following site.
http://www.ustream.tv/

Note

- Your personal information (information required when logging in to the SNS) is set in the camera.

  If you dispose or give away the camera, press the MENU button, then press the UP button or DOWN button to select 📷 (Camera Settings) - RESET (Resetting the settings) - OK and delete the settings.

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[78] Stream real-time movie to a movie streaming site │ Live Streaming with your camera (Real time movie streaming)

Performing Live Streaming

You can start Live Streaming after the preparation is complete. When Live Streaming for the first time, it is recommended that you rehearse streaming in a prepared environment after setting up with a computer in advance.

Hint

- When ⏱ is set to ON, the time code and user bit will be embedded to the video streaming. (FDR-X3000)

1 **Press the MENU button.**

2 **Press the UP button or DOWN button to select the ▯ * (shooting mode) - LIVE (Live streaming mode), then press the REC/ENTER button.**

   * The icon of the current selected shooting mode is displayed.

3 **Press the REC/ENTER button to start streaming.**

The REC lamp of the top of the camera lights up in blue.

Display during Live Streaming
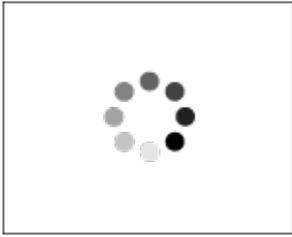
Preparing to connect to the network distribution site
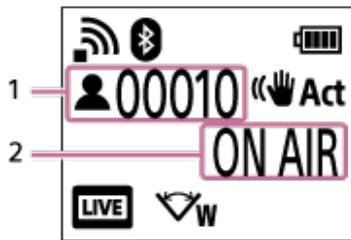
1 There is an audience. The number displayed is viewers.
2 Starts streaming

Note

- There may be time lag of 10 - 20 seconds between the start of Live Streaming on your camera and video streaming on the video streaming site.

- You can record movies that are being live distributed in the memory card of the camera. When the memory card is already inserted, movies are recorded at the same time as the distribution[*].

- When the capacity of the memory card is full, only the movie recording will stop without stopping the distribution. Only movie distributions will be performed when no memory card is inserted.

[*] Simultaneously recorded movies are processed on MP4/HQ mode.

REC/LIVE lamp indicator during Live Streaming

If you select Live Streaming mode, you can see the streaming status for Live Streaming with the REC/LIVE lamp on the camera.

1: REC/LIVE lamp
○ OFF: Before distribution
◐ Lights up in blue: Distributing
☀ Blinks in blue: Distributing (There is an audience)
☀ Blinks in red: Distribution error

To stop the live distribution

Press the REC/ENTER button again.

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[79] Stream real-time movie to a movie streaming site │ Live Streaming with your camera (Real time movie streaming)
# Restrictions

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Notification of the restriction when using live streaming.

Restrictions for Ustream

- There are some restrictions for video streaming on Ustream. For details, see the Ustream site.

GPS and Wi-Fi functions during Live Streaming

- The GPS function is disabled automatically during Live Streaming (FDR-X3000/HDR-AS300).
- You cannot monitor images using a smartphone or the Live-View Remote during Live Streaming.

Network connection

- Use a smartphone capable of tethering or Wi-Fi router for Live Streaming. However, proper operation with all smartphones or Wi-Fi routers is not guaranteed. Public wireless LANs cannot be used as connections for Live Streaming.

Simultaneous Live Streaming with multiple cameras

- You cannot live stream videos simultaneously using the same account on more than one camera. You need to connect using another account.

Effects due to wireless communication conditions

- When connected using the tethering function of a smartphone or via a Wi-Fi router, images and sounds may be interrupted, or the communication may be cut off due to wireless communication conditions.

Connection for Live Streaming

- The communication time you can use for Live Streaming is limited according to the contract of your smartphone or Wi-Fi router. Confirm it in advance.

Continuous streaming time

- Continuous Live Streaming using the camera is limited to about 13 hours.

Restrictions of network connections

- In some countries or regions, you cannot connect to Live Streaming sites. Use this function in accordance with the laws of that country or region.

Preparation for connecting to your smartphone

Installing the application on your smartphone

Install the PlayMemories Mobile on your smartphone. Update PlayMemories Mobile to the latest version if you have already installed it on your smartphone.
For the latest information details about the functions of PlayMemories Mobile, refer to the website below.
http://www.sony.net/pmm/

Search for PlayMemories Mobile on Google Play, then install it.

Search for PlayMemories Mobile on App Store, then install it.

If the password is lost

1. Connect the camera to a computer with the micro USB cable (supplied).
2. Turn on the camera.
3. Display [Compute] - [PMHOME] - [INFO] - [WIFI_INF.TXT] on your computer, then check the user ID and password.

Note

- Google play may not be supported depending on country or region. In this case, search for "PlayMemories Mobile" on the internet then install it.

- An NFC-enabled smartphone or tablet is required for using One-touch functions (NFC) (FDR-X3000/HDR-AS300).

- The Wi-Fi and Bluetooth functions described here are not guaranteed to work with all smartphones and tablets.

Sample smartphone screen display
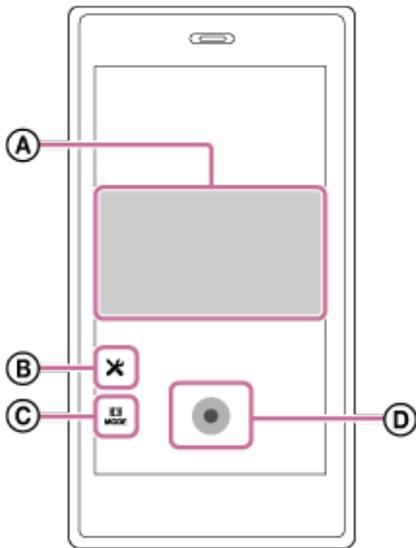
(A): Features of the Wi-Fi remote control function

- To check the field of view before and while recording
- To monitor images while recording

(B): Various settings

(C): Shooting mode settings

- [Movie mode]
- [Photo mode]
- [Time-lapse capture mode]
- [Loop recording mode]

(D): Start/stop recording

Note

- When Airplane mode is set to ON, the Wi-Fi and Bluetooth functions are not available.

- Depending on local electrical interference or the smartphone's capabilities, the live view images may not be displayed smoothly.

[82] Using the camera connected to other devices via Wi-Fi │ Connecting to your smartphone

Using One-touch Functions to Connect to an NFC-enabled Android Smartphone (FDR-X3000/HDR-AS300)

Perform preparation for connecting to your smartphone before connecting.

1 **Set the camera's Wi-Fi connection setting to ON.**

2 Touch the ▣ (N mark) on the smartphone to the ▣ (N mark) on the camera.

- Cancel the sleep and screen lock function of the smartphone beforehand.
- Continue touching without moving until PlayMemories Mobile starts (1-2 seconds).
- Touch the ▣ (N Mark) of the smartphone to the ▣ (N Mark) of the camera. If there is no ▣ (N Mark) on the smartphone, refer to the instruction manual of the smartphone for the touch area.
- If the camera and the smartphone cannot be connected by NFC, see "Connecting a smartphone to Wi-Fi via QR Code (Android device)" and connect them.

About NFC

NFC is a technology for short-range wireless communication between various devices, such as a mobile phones and IC tags. Data communication is achieved simply by touching devices together at a specific point.
NFC (Near Field Communication) is an international standard of the short-range wireless communication technology.

Note

- When Airplane mode is set to ON, the Wi-Fi and Bluetooth functions are not available.

- Depending on local electrical interference or the smartphone's capabilities, the live view images may not be displayed smoothly.

- When operating multiple cameras with a connected device, the NFC One-touch function is not available.

[83] Using the camera connected to other devices via Wi-Fi │ Connecting to your smartphone
Connecting a smartphone to Wi-Fi via QR Code (Android device)

Perform preparation for connecting to your smartphone before connecting.

1 Press the MENU button on the camera.

2 Press the UP button or DOWN button to select 🔧 (Camera Settings) - 📶ON (Wi-Fi connection setting) - 📶:ON , then press the REC/ENTER button.

3 Select the shooting mode (🎥 / 📷 / ⏱ / 🔁).

4 Start PlayMemories Mobile on the smartphone.
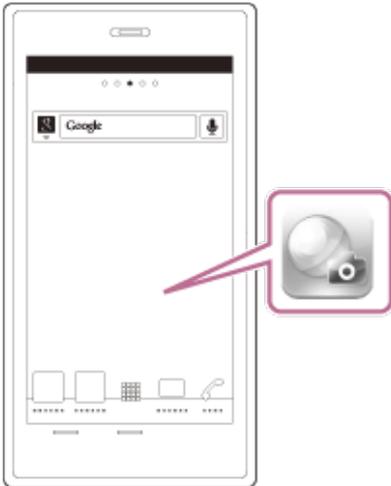
5 Select [Scan QR Code of the Camera] on the PlayMemories Mobile.
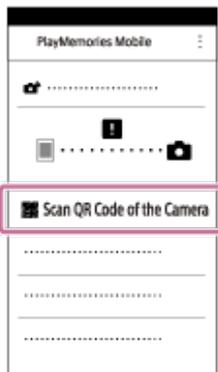
6 Select [OK] (Select [OK] again when a message is displayed.)

7 Scan the QR Code that is printed on a sticker attached to the rear of the camera's battery cover.
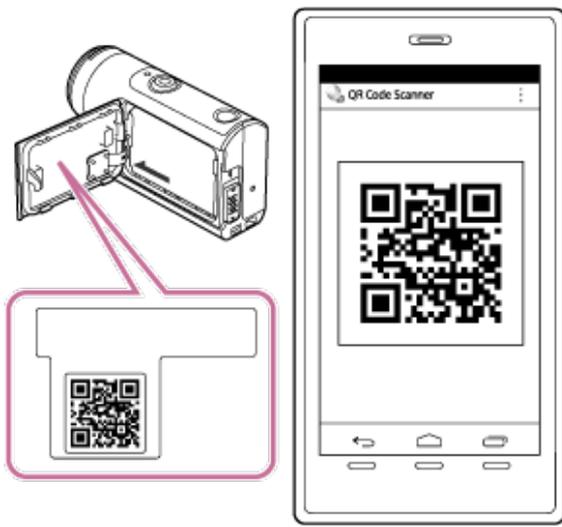
8 When [Connect with the camera?] is displayed on the smartphone, select [OK].

Note

- When Airplane mode is set to ON, the Wi-Fi function is not available.

- Depending on local electrical interference or the smartphone's capabilities, the live view images may not be displayed smoothly.

- When operating multiple cameras with a connected device, you cannot connect a smartphone to Wi-Fi via QR Code.

[84] Using the camera connected to other devices via Wi-Fi │ Connecting to your smartphone
Performing the Wi-Fi setting on a smartphone via QR Code (iPhone/iPad)

Perform preparation for connecting to your smartphone before connecting.

1 Press the MENU button on the camera.

2 Press the UP button or DOWN button to select (Camera Settings) - ON (Wi-Fi connection setting) - :ON , then press the REC/ENTER button.

Select the shooting mode (/   /   /   ).

3   🎞 📷 ⏱ ↪

4 **Start PlayMemories Mobile on the smartphone.**
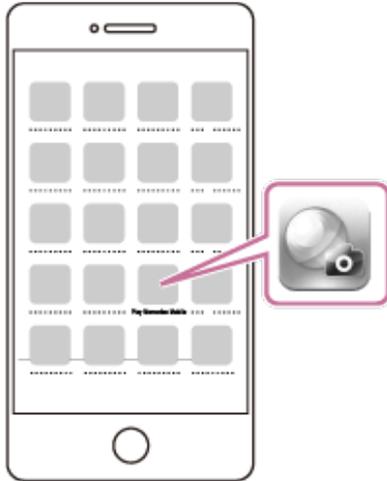
5 **Select [Scan QR Code of the Camera] on the PlayMemories Mobile.**
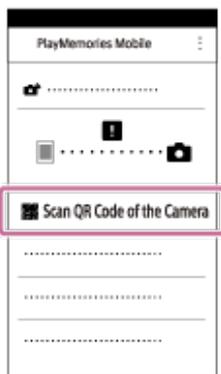
6 **Select [OK] (Select [OK] again when a message is displayed.)**
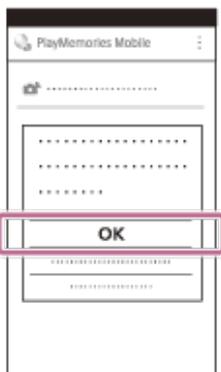
7 **Scan the QR Code that is printed on a sticker attached to the rear of the camera's battery cover.**
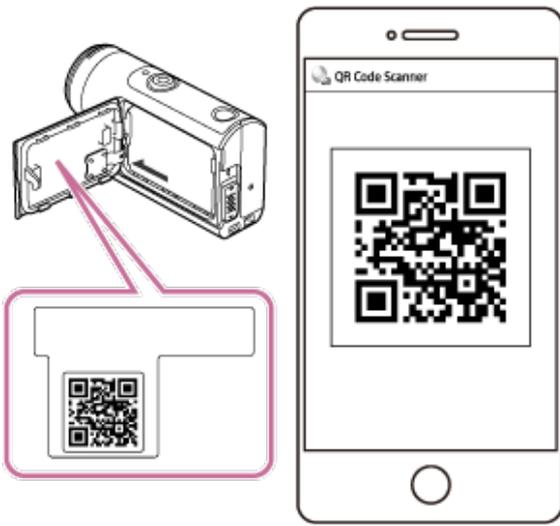
8 According to the instruction on the screen, complete the installation of profile (setting information).

9 On the Home screen, select the [Settings] - [Wi-Fi].
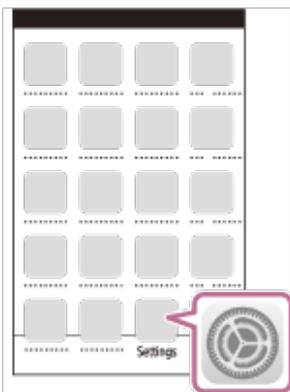
10 Select the SSID that is printed on a sticker attached to the rear of the camera's battery cover.
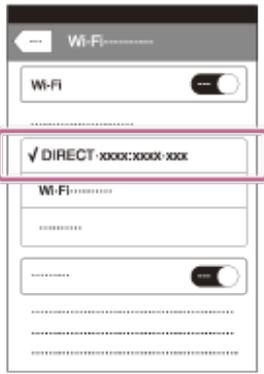
11 **Return to the Home screen, then start PlayMemories Mobile.**
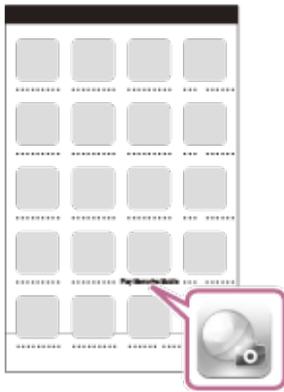
Note

- When Airplane mode is set to ON, the Wi-Fi function is not available.

- Depending on local electrical interference or the smartphone's capabilities, the live view images may not be displayed smoothly.

- When operating multiple cameras with a connected device, you cannot set the Wi-Fi on a smartphone via QR Code.

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[85] Using the camera connected to other devices via Wi-Fi │ Connecting to your smartphone

Connecting to a smartphone using ID/password (Android device)

Perform preparation for connecting to your smartphone before connecting.

1 **Press the MENU button on the camera.**

2 Press the UP button or DOWN button to select ![icon](Camera Settings) - ![icon] ON (Wi-Fi connection setting) - ![icon] :ON , then press the REC/ENTER button.

3 Select the shooting mode (![icon] / ![icon] / ![icon] / ![icon]).

4 Start PlayMemories Mobile on the smartphone.
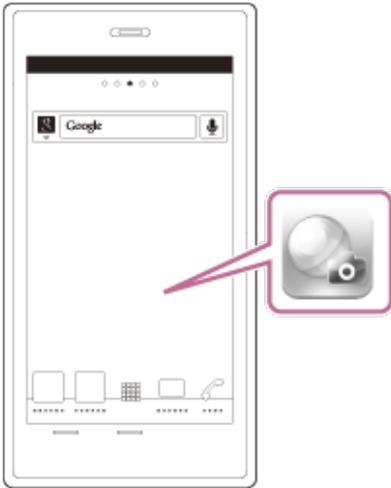
5 Select the SSID that is printed on a sticker attached to the rear of the camera's battery cover.
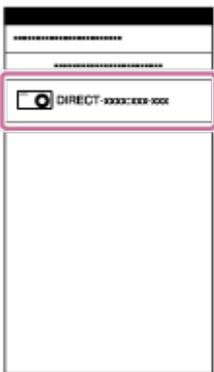
6 Enter the password printed on the sticker attached to the rear of the camera's battery cover (only for the first time).

Note

- When Airplane mode is set to ON, the Wi-Fi function is not available.

- Depending on local electrical interference or the smartphone's capabilities, the live view images may not be displayed smoothly.

[86] Using the camera connected to other devices via Wi-Fi │ Connecting to your smartphone

Connecting to a smartphone using ID/password (iPhone/iPad)

Perform preparation for connecting to your smartphone before connecting.

1 **Press the MENU button on the camera.**

2 **Press the UP button or DOWN button to select ⚙ (Camera Settings) - 🔝ON (Wi-Fi connection setting) - 🔝:ON , then press the REC/ENTER button.**

3 **Select the shooting mode (🎬 / 📷 / ⏱ / ⏩).**

4 **In the Home screen on the smartphone, select [Settings] — [Wi-Fi].**
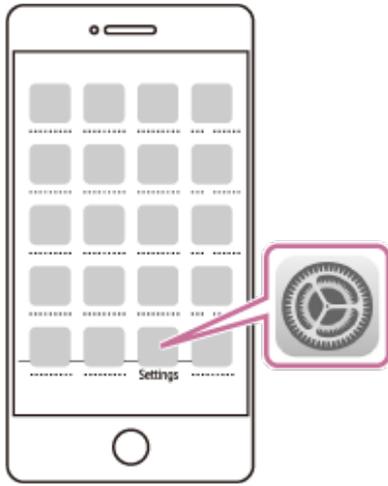
5 Select the SSID that is printed on a sticker attached to the rear of the camera's battery cover.
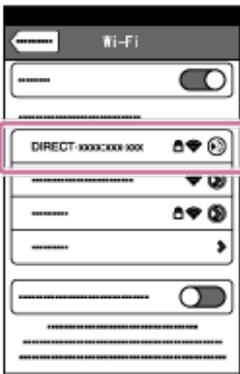
**6** Enter the password printed on the sticker attached to the rear of the camera's battery cover (only for the first time).

7 Confirm that the SSID that is printed on a sticker attached to the rear of the camera's battery cover is connected.
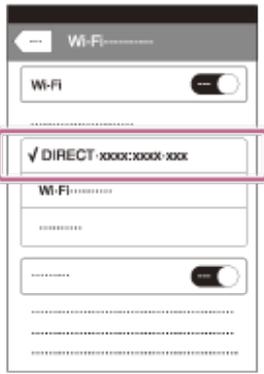
8 **Return to the Home screen, then start PlayMemories Mobile.**
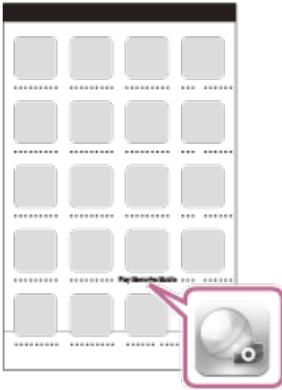
Note

- When Airplane mode is set to ON, the Wi-Fi function is not available.

- Depending on local electrical interference or the smartphone's capabilities, the live view images may not be displayed smoothly.

[87] Using the camera connected to other devices via Wi-Fi │ Connecting to the Live-View Remote

Connecting a single camera to Live-View Remote (Single connection)

This section explains how to connect to Live-View Remote "RM-LVR3". If you are using other Live-View Remote, see Help Guide of the relevant remote control.

1 **Turn on the Live-View Remote.**

For details, refer to "Connecting the remote control to a single camera via Wi-Fi" in the Help Guide of the Live-View Remote (RM-LVR3).
http://rd1.sony.net/help/cam/1650/h_zz/

2 Set the connection mode of the camera.

Press the MENU button, then press the UP button or DOWN button to select 🔘📷 (Camera Settings) - 📶ON (Wi-Fi connection setting) - 📶:ON , then press the REC/ENTER button.

3 Select the SSID that is printed on the sticker attached to the rear of the camera's battery cover with the Live-View Remote.

The connection beep sounds, then 📷┈┈📱 is displayed on the display panel.

4 Press the UP button or DOWN button to select OK , then press the REC/ENTER button.

Note

- When Beep is set to OFF, the connection beep does not sound.

- If the connection does not complete, congestion of the radio wave might be the cause. Retry the connection by changing the place.

Connecting multiple cameras to Live-View Remote (Multi connection)

This section explains how to connect to Live-View Remote "RM-LVR3". If you are using other Live-View Remote, see Help Guide of the relevant remote control.

1 Turn on the Live-View Remote.

For details, refer to "Connecting the remote control to multiple cameras via Wi-Fi" in the Help Guide of the Live-View Remote (RM-LVR3).
http://rd1.sony.net/help/cam/1650/h_zz/

2 Set the camera.

-

When you connect the camera to Live-View Remote for the first time
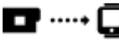
Press the MENU button, then press the UP button or DOWN button to select ⚙️📷 (Camera Settings) - 📶ON (Wi-Fi connection setting) - 📶:📷 (multi connection) - **NEW** , then press the REC/ENTER button.
When the connection beep sounds and 📷 ·····▸ 📱 is displayed on the display panel, register the camera using the Live-View Remote.
📷 ◂····· 📱 appears on the display panel of the camera when connecting finishes. Press the REC/ENTER button.
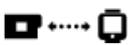
- When you connect the camera to Live-View Remote since second time

Press the MENU button, then press the UP button or DOWN button to select ⚙️📷 (Camera Settings) - 📶ON (Wi-Fi connection setting) - 📶:📷 (multi connection) - 📷 ·····▸ 📱 , then press the REC/ENTER button.

3 **If you will continue to connect multiple cameras, repeat from step 2.**

Note

- When Beep is set to OFF, the connection beep does not sound.

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[89] Using the camera connected to other devices via Wi-Fi │ Connecting to Handycam
Connecting a single camera to Handycam (Single connection)

You can operate the camera using a Handycam that supports the multi camera control function.

1 **Turn on the Handycam.**

For details, refer to "Connecting this product to one camera with Multi Camera Control (Single Connection)" in the Help Guide of the Handycam.
Example: Help Guide of FDR-AX40/AX53/AX55/AXP55
http://rd1.sony.net/help/cam/1630/h_zz/

2 **Set the connection mode of the camera.**

Press the MENU button, then press the UP button or DOWN button to select ⚙️📷 (Camera Settings) - 📶ON (Wi-Fi connection setting) - 📶:ON , then press the REC/ENTER button.

3 **Select the SSID that is printed on the sticker attached to the rear of the camera's battery cover with the Handycam.**

The connection beep sounds, then ![icon] is displayed on the display panel.

4 **Press the REC/ENTER button.**

Note

- When Beep is set to OFF, the connection beep does not sound.

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[90] Using the camera connected to other devices via Wi-Fi │ Connecting to Handycam

Connecting multiple cameras to Handycam (Multi connection)

You can operate the camera using a Handycam that supports the multi camera control function.

1 **Turn on the Handycam.**

For details, refer to "Connecting this product to more than one camera with Multi Camera Control (Multi Connection)" in the Help Guide of the Handycam.
Example: Help Guide of FDR-AX40/AX53/AX55/AXP55
http://rd1.sony.net/help/cam/1630/h_zz/

2 **Set the connection mode of the camera.**

- When you connect the camera to Handycam for the first time

  Press the MENU button, then press the UP button or DOWN button to select ![icon] (Camera Settings) - ![icon]ON (Wi-Fi connection setting) - ![icon] (multi connection) - **NEW**, then press the REC/ENTER button.
  When the connection beep sounds and ![icon] is displayed on the display panel of the camera, register the camera using the Handycam.
  ![icon] appears on the display panel of the camera when connecting finishes.

- When you connect the camera to Handycam since second time

  Press the MENU button, then press the UP button or DOWN button to select ![icon] (Camera Settings) - ![icon]ON (Wi-Fi connection setting) - ![icon] (multi connection) - ![icon], then press

the REC/ENTER button.

3 **If you will continue to connect multiple cameras, repeat from step 2.**

Note

- When Beep is set to OFF, the connection beep does not sound.

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[91] Editing images imported to your computer │ Using the Action Cam Movie Creator
Useful functions of Action Cam Movie Creator

Action Cam Movie Creator^{TM} allows you to import movies to your computer and edit images, to use them in various ways.

Visit the following URL to install the software.
http://www.sony.net/acmc/
Action Cam Movie Creator, which can import movies and edit movies and PlayMemories Home, which can playback, will be installed simultaneously.
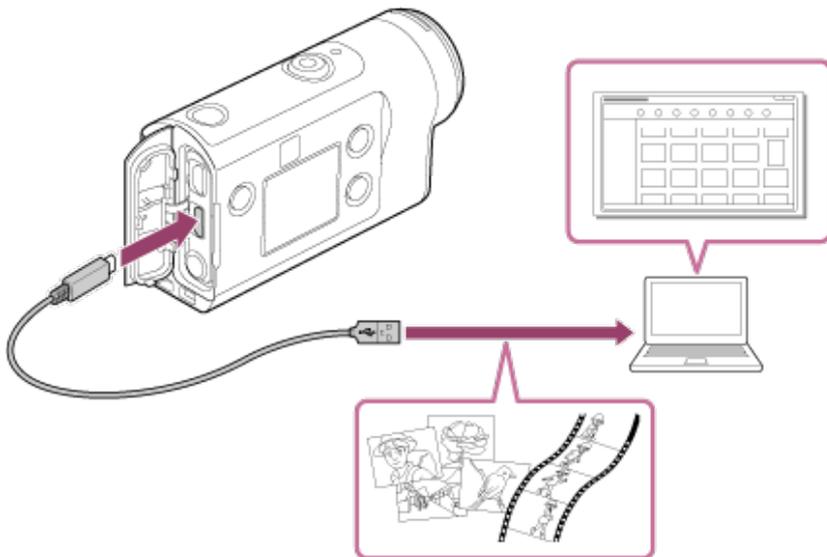
Useful functions of Action Cam Movie Creator

- Importing movies and still images
- Editing movies (for FDR-X3000/HDR-AS300 movies, tracking information and movement speed are displayed)

Useful functions of PlayMemories Home

- Playing back movies and still images

Note

- When you import movies to your computer, use Action Cam Movie Creator. If you import using another method, GPS information is not imported from FDR-X3000/HDR-AS300.

- Use the micro USB cable (supplied) when connecting the camera to your computer.

Installing Action Cam Movie Creator on your computer

Install Action Cam Movie Creator on your computer. Follow the steps below.

1 **Turn on the computer.**

- Log on as an Administrator.
- Close all applications running on the computer before installing the software.

2 **Visit the following URL with the Internet browser of the computer and install Action Cam Movie Creator.**

- http://www.sony.net/acmc/
- When installation is complete, Action Cam Movie Creator starts up.

3 **Connect the camera to the computer with the supplied micro USB cable.**

- New function may be added to Action Cam Movie Creator. Even if Action Cam Movie Creator is already installed on your computer, connect the camera to your computer.
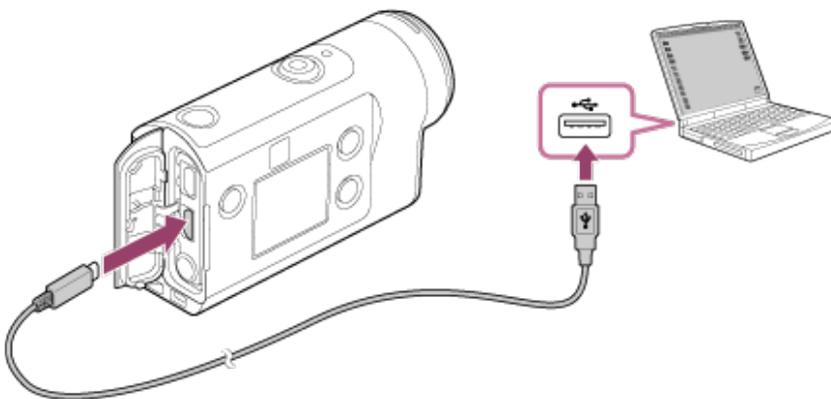
Note

- Do not disconnect the micro USB cable (supplied) from the camera while the computer screen indicates that the camera is being operated or accessed. Doing so may cause data corruption.

- To disconnect the computer from the camera, click ⌃ on the task tray then click 📇 (Icon to remove). If you are using Windows Vista, click 📇 on the task tray.

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[93] Editing images imported to your smartphone/tablet │ Using the Action Cam App
Useful functions of Action Cam App

With Action Cam App for smartphone/tablet, you can capture the movie taken with your smartphone, and you can edit the movie with a simple operation.
You can also add effects such as multi-view and variable speed playback, you can also create a time-lapse movie.

For the latest information details about the functions of Action Cam App, see the website below.
http://www.sony.net/acap/

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[94] Editing images imported to your smartphone/tablet │ Using the Action Cam App
Installing Action Cam App

Install Action Cam App compatible to your smartphone/tablet.
For latest information and function information on Action Cam App, see the following website.
http://www.sony.net/acap/

Search for Action Cam App on Google play, then install it.

Google play may not be supported depending on country or region.

Search for Action Cam App on App Store, then install it.

[95] Information │ Recordable time

Estimated duration of recording and playback for supplied battery pack

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

Recording time

FDR-X3000

- Image quality: 4K 30p

  Continuous recording time: 50 minutes (60 minutes)
  Typical recording time: 40 minutes (45 minutes)

- Image quality: HQ

  Continuous recording time: 125 minutes (135 minutes)
  Typical recording time: 80 minutes (85 minutes)

HDR-AS300

- Image quality: HQ

  Continuous recording time: 125 minutes (135 minutes)
  Typical recording time: 80 minutes (85 minutes)

HDR-AS50

- Image quality: HQ

  Continuous recording time: 165 minutes (195 minutes)
  Typical recording time: 110 minutes (130 minutes)

Playing time

FDR-X3000

- Image quality is 4K 30p: 90 minutes (100 minutes)
- Image quality is HQ: 170 minutes (195 minutes)

HDR-AS300

- Image quality is HQ: 170 minutes (195 minutes)

The time measured when using one fully charged battery pack
( ) indicates the recording duration when the Wi-Fi remote control is set to off, and for playing time, when the camera is connected to a TV by an HDMI cable (sold separately).
The recording time may be shorter, depending on the recording conditions.
The recording time may be longer when you set the Wi-Fi or GPS[*] setting to OFF.

- Shooting 4K movies and connecting to the Wi-Fi network requires a lot of electric power, so continuous movie shooting may cause overheating of the camera. To protect the camera, the power turns off automatically when overheating occurs.
- When you start shooting a movie after leaving the camera turned off for a while, the continuous movie shooting time (the time from the start to the end of shooting) shown below is available. The recordable time may be shorter, especially when you shoot 4K movies in a high temperature environment.

Continuous movie shooting time [*1]

Wi-Fi connection setting	Connection to Live-View Remote/smartphone	Movie format			
		FDR-X3000		HDR-AS300	HDR-AS50
		XAVC S 4K 2160 30p/25p 60M	MP4 1080 30p/25p HQ	MP4 1080 30p/25p HQ	MP4 1080 30p/25p HQ
ON	Connected	Approx. 25 minutes (*2)	Approx. 115 minutes	Approx. 115 minutes	Approx. 150 minutes
	Disconnected	Approx. 50 minutes	Approx. 125 minutes	Approx. 125 minutes	Approx. 165 minutes
OFF	-	Approx. 60 minutes	Approx. 135 minutes	Approx. 135 minutes	Approx. 195 minutes

- The continuous movie shooting time varies depending on the file format, image quality setting, network environment of Wi-Fi, and how the camera was used before recording. When you check the composition repeatedly with the camera powered on, overheating will occur and the recordable time will become shorter.
- Stop shooting movies when [🔺] is displayed on the screen.
- When the movie shooting is stopped because of overheating, leave the camera turned off to cool down for a while. You can start shooting after the camera temperature becomes lower.

*1   The time measured when using a fully charged battery pack, at a temperature of 25° (77°F) (without Underwater Housing.)
*2   When the camera overheats, it turns off automatically even if the battery is not worn out. If you have selected AUTO DISP OFF ON (Auto monitor off while shooting) on the Live-View Remote (RM-LVR3) and you do not operate the remote control for a certain period of time, the camera's Wi-Fi function turns OFF automatically (Bluetooth is still connected) to reduce battery consumption.

Estimated recording time of movies

XAVC S 4K (FDR-X3000)

Bit rate	Memory card	Average recording time
100 Mbps	64 GB	75 minutes
	128 GB	155 minutes
60 Mbps	64 GB	125 minutes
	128 GB	255 minutes

XAVC S HD (FDR-X3000)

Bit rate	Memory card	Average recording time
100 Mbps	64 GB	75 minutes
	128 GB	155 minutes
60 Mbps	64 GB	125 minutes
	128 GB	255 minutes
50 Mbps	64 GB	155 minutes
	128 GB	310 minutes

XAVC S HD (HDR-AS300/HDR-AS50)

Bit rate	Memory card	Average recording time
50 Mbps	64 GB	155 minutes
	128 GB	310 minutes

MP4 (FDR-X3000/HDR-AS300)

Image quality	Memory card	Average recording time
PS	8 GB	35 minutes
	16 GB	75 minutes
	32 GB	155 minutes

	64 GB	320 minutes
	128 GB	640 minutes
HQ	8 GB	60 minutes
	16 GB	120 minutes
	32 GB	250 minutes
	64 GB	505 minutes
	128 GB	1015 minutes
STD	8 GB	155 minutes
	16 GB	320 minutes
	32 GB	655 minutes
	64 GB	1320 minutes
	128 GB	2650 minutes
HS120/HS100*	8 GB	35 minutes
	16 GB	75 minutes
	32 GB	155 minutes
	64 GB	320 minutes
	128 GB	640 minutes
HS240/HS200*	8 GB	35 minutes
	16 GB	75 minutes
	32 GB	155 minutes
	64 GB	320 minutes
	128 GB	640 minutes

* A frame rate will be changed according to NTSC/PAL switching.

MP4 (HDR-AS50)

Image quality	Memory card	Average recording time
PS	8 GB	35 minutes
	16 GB	75 minutes
	32 GB	155 minutes
	64 GB	320 minutes
	128 GB	640 minutes

	8 GB	60 minutes
HQ	16 GB	120 minutes
	32 GB	250 minutes
	64 GB	505 minutes
	128 GB	1015 minutes
STD	8 GB	155 minutes
	16 GB	320 minutes
	32 GB	655 minutes
	64 GB	1320 minutes
	128 GB	2650 minutes
HS120/HS100*	8 GB	35 minutes
	16 GB	75 minutes
	32 GB	155 minutes
	64 GB	320 minutes
	128 GB	640 minutes

* A frame rate will be changed according to NTSC/PAL switching.

- When using a Sony memory card.

Note

- The recordable time may vary depending on the recording conditions, subjects, and the image quality setting.
- Continuous movie shooting time is approximately 13 hours.

[97] Information │ Recordable time
Estimated number of recordable still images

FDR-X3000/HDR-AS300

Number of pixels: 8.3M (Time-lapse capture) (16:9)

When using 8GB memory card: 2500 images
When using 16GB memory card: 5000 images

When using 32GB memory card: 10000 images
When using 64GB memory card: 20000 images
When using 128GB memory card: 40000 images

Number of pixels: 12.0M (Still images)

When using 8GB memory card: 1250 images
When using 16GB memory card: 2500 images
When using 32GB memory card: 5000 images
When using 64GB memory card: 9900 images
When using 128GB memory card: 20000 images

HDR-AS50

Number of pixels: 8.3M (Time-lapse capture) (16:9)

When using 8GB memory card: 2500 images
When using 16GB memory card: 5000 images
When using 32GB memory card: 10000 images
When using 64GB memory card: 20000 images
When using 128GB memory card: 40000 images

Number of pixels: 11.9M (Still images)

When using 8GB memory card: 1250 images
When using 16GB memory card: 2500 images
When using 32GB memory card: 5100 images
When using 64GB memory card: 10000 images
When using 128GB memory card: 20000 images

[98] Information │ Battery pack
On charging the battery pack

- Charge the battery pack before using the camera for the first time.
- We recommend charging the battery pack in an ambient temperature of between 10°C to 30°C (50°F to 86°F) until the CHG (Charge) lamp turns off. The battery pack may not be effectively charged in temperatures outside this range.
- The CHG (Charge) lamp may blink during charging in the following situation:
  Battery pack is not attached correctly.
  Battery pack is damaged.
  When the battery pack temperature is high or low.

[99] Information │ Battery pack
Effective use of the battery pack

- Battery pack performance decreases in low temperature surroundings (less than 10°C (50°F)). So in cold places, the operational time of the battery pack is shorter. We recommend the following to ensure longer battery pack use: Put the battery pack in a pocket close to your body to warm it up, and insert it in the camera immediately before you start shooting.
- The battery pack will run out quickly if you use the playback, fast-forward, and fast-rewind frequently.
- Turn off the camera every time you do not operate the camera. Battery pack is wearing out when the shooting is in standby.
- We recommend having spare battery packs handy for two times or three times the expected shooting time, and making trial shots before taking the actual shots.
- You may not be able to turn on the camera or the battery pack may not be effectively charged if the terminal section of the battery pack is dirty. In this case, wipe any dust with a soft cloth lightly to clean the battery pack.
- Do not expose the battery pack to water. The battery pack is not water-resistant.
- Even the power is turned off, battery will be consumed. Remove the battery before storing.

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[100] Information │ Battery pack
About the remaining battery charge

If the battery pack runs out so fast although the remaining charge indicator is high, fully charge the battery pack again. Remaining charge indicator will be displayed correctly. Note that it may not be displayed correctly in the following situations:

- Using the camera for a long time in high temperature
- Leaving the camera with fully charged battery pack
- Using a heavily used battery pack

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[101] Information │ Battery pack
How to store the battery pack

- To maintain the battery pack's function, fully charge the battery pack and then fully discharge it on the camera at least once a year while storing. Remove the battery pack from the camera and store it in a cool, dry place.
- To prevent staining the terminal, short-circuiting, etc., be sure to use a plastic bag to keep away from metal materials when carrying or storing.

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[102] Information │ Battery pack
On battery pack life

- The battery pack life is limited. Battery capacity decreases over time and through repeated use. If

decreased usage time between charges becomes significant, it is probably time to replace it with a new one.

- The battery pack life varies according to how the battery pack is stored or used.

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[103] Information │ Battery pack
To reduce the battery consumption

If the setting of the camera is as follows, you can reduce the consumption of the battery by about 20% to 30% during use, compared to use with the camera's initial settings.

- Wi-Fi connection setting : 📶:OFF
- Movie format: MP4
- Image quality setting: 720 30p STD / 720 25p STD
- Lamp setting: 🔦:OFF

Turn off the power of camera frequently while in shooting standby mode. This enables further reduction of battery consumption of the camera.
If you have selected AUTO DISP OFF ON (Auto monitor off while shooting) on the Live-View Remote (RM-LVR3) and you do not operate the remote control for a certain period of time, the camera's Wi-Fi function turns OFF automatically (Bluetooth is still connected) to reduce battery consumption.

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[104] Information │ Using the camera abroad
On TV color systems (FDR-X3000/HDR-AS300)

To view images shot by the camera on a TV, you need a TV (or monitor) with an HDMI jack and a micro HDMI cable (sold separately).
Depending on the TV system of the country and region where you will view recordings, be sure to set NTSC/PAL before shooting.

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[105] Information │ Using the camera abroad
Countries and regions where NTSC TV is used

Barbados, Bermuda, Bolivia, Canada, Chile, Columbia, Costa Rica, Cuba, Dominica, Ecuador, El Salvador, Guam, Guatemala, Guyana, Haiti, Honduras, Japan, Mexico, Micronesia, Myanmar, Nicaragua, Panama, Peru, Philippines, Puerto Rico, Republic of Korea, Saint Lucia, Samoa, Suriname, Taiwan, Trinidad and Tobago, United States of America, Venezuela etc.

Countries and regions where PAL TV is used

Australia, Austria, Argentina, Belgium, Bulgaria, Brazil, China, Croatia, Czech Republic, Denmark, Finland, France, French Guiana, Germany, Greece, Hong Kong, Hungary, Indonesia, Iran, Iraq, Italy, Kuwait, Malaysia, Monaco, Netherlands, New Zealand, Norway, Paraguay, Poland, Portugal, Romania, Russia, Singapore, Slovakia, Spain, Sweden, Switzerland, Thailand, Turkey, Ukraine, United Kingdom, Uruguay, Vietnam etc.

The list of time differences for world capitals

Time differences with the standard times of world cities (as of 2016).

City	Time difference
Lisbon	GMT
London	
Berlin	+01:00
Paris	
Helsinki	+02:00
Cairo	
Istanbul	
Moscow	+03:00
Nairobi	
Tehran	+03:30
Abu Dhabi	+04:00
Baku	
Kabul	+04:30
Karachi	+05:00
Islamabad	
Kolkata	+05:30

City	Offset
New Delhi	
Almaty	+06:00
Dhaka	
Yangon	+06:30
Bangkok	+07:00
Jakarta	
Hong Kong	+08:00
Singapore	
Beijing	
Tokyo	+09:00
Seoul	
Adelaide	+09:30
Darwin	
Melbourne	+10:00
Sydney	
New Caledonia	+11:00
Fiji	+12:00
Wellington	
Midway	-11:00
Hawaii	-10:00
Alaska	-09:00
San Francisco	-08:00
Tijuana	
Denver	-07:00
Arizona	
Chicago	-06:00
Mexico City	
New York	-05:00
Bogota	
Santiago	-04:00
St.John's	-03:30
Brasilia	

Montevideo	-03:00
Fernando de Noronha	-02:00
Azores	-01:00
Cape Verde Is.	

Do not use/store the camera in the following places

- In an extremely hot, cold or humid place

  In places such as in a car parked under the sun, the camera body may become deformed and this may cause a malfunction.

- Under direct sunlight or near a heater are not suitable places for storage.

  The camera body may become discolored or deformed, and this may cause a malfunction.

- In a location subject to strong vibration
- Near strong magnetic fields
- In sandy or dusty places

  Be careful not to let sand or dust get into the camera. This may cause the camera to malfunction, and in some cases may be irreparable.

On carrying

Do not sit down in a chair or other place with the camera in the back pocket of your trousers or skirt, as this may cause malfunction or damage the camera.

Care and storage of the lens

- Wipe the surface of the lens clean with a soft cloth in the following instances:
  When there are fingerprints on the lens surface.

In hot or humid locations
When the lens is exposed to salty air such as at the seaside.

- Store in a well-ventilated location subject to little dirt or dust.
- To prevent mold, periodically clean the lens as described above.

On cleaning

Clean the camera surface with a soft cloth slightly moistened with water, then wipe the surface with a dry cloth. Do not use any of the following as they may damage the finish or the casing.

- Chemical products such as thinner, benzine, alcohol, disposable cloths, insect repellent, sunscreen or insecticide, etc.
- Do not touch the camera with any of the above on your hand.
- Do not leave the camera in contact with rubber or vinyl for a long time.

On operating temperatures

The camera is designed for use in temperatures between −10°C and +40°C (14°F and 104°F).
Shooting in extremely cold or hot places that exceed this range is not recommended.

On moisture condensation

If the camera is brought directly from a cold to a warm location, moisture may condense inside or outside the camera. This moisture condensation may cause a malfunction of the camera.

If moisture condensation occurs

Turn off the camera and wait about 1 hour for the moisture to evaporate.

Note on moisture condensation

Moisture may condense when you bring the camera from a cold place into a warm place (or vice versa) or when you use the camera in a humid place as shown below.

- When you bring the camera from a ski slope into a warm place.
-

When you bring the camera from an air conditioned car or room into a hot place outside.
- When you use the camera after a squall or a shower.
- When you use the camera in a hot and humid place.

How to avoid moisture condensation

When you bring the camera from a cold place into a warm place, put the camera in a plastic bag and seal it tightly. Remove the bag when the air temperature inside the plastic bag has reached the ambient temperature (after about 1 hour).

[114] Information │ Precautions
Notes on optional accessories

Genuine Sony accessories may not be available in some countries/regions.

[115] Information │ Precautions
On using the camera in close proximity to vibrating motors and engines (FDR-X3000/HDR-AS300)

Distortion in image quality or out-of-focus may occur when used in close proximity to vibrating motors and engines.
In this case, Motor Vibration Absorber for X3000/AS300 "AKA-MVA" (accessory sold separately, available in autumn 2016) helps minimize distortion or out-of-focus.

[116] Information │ Precautions
Note on disposal/transfer of the memory card

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

On GPS (FDR-X3000/HDR-AS300)

- As the positions of GPS satellites vary constantly, it may take longer to determine the location or the receiver may not be able to determine the location at all, depending on the location and time you use the camera.
- GPS is a system that determines your position by receiving signals from satellites. Avoid using the GPS feature on the camera in places where radio signals are blocked or reflected, such as a shadowy place surrounded by buildings or trees, etc. Use the camera in open sky environments.
- You may not be able to record location information at locations or in situations where radio signals from the GPS satellites do not reach the camera as follows.
  In tunnels, indoors or under the shade of buildings
  Between tall buildings or at narrow streets surrounded by buildings
  In underground locations, locations surrounded by dense trees, under an elevated bridge, or in locations where magnetic fields are generated, such as near high voltage cables.
  Near devices that generate radio signals of the same frequency band as the camera: near 1.5 GHz band mobile telephones, etc.
- If you shoot images while the GPS log is set to ON and upload those images to the Internet, the shooting location may be visible to third parties. To prevent this, set the GPS log to OFF before shooting.

On GPS errors (FDR-X3000/HDR-AS300)

- If you move to another location right after turning the camera on, it may take a longer time for the camera to start triangulating, compared to when you stay in the same place.
- Error caused by the position of GPS satellites

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

- Error during the triangulating process

  The camera acquires location information periodically during triangulating. There is a slight time lag between when the location information is acquired and when the location information is recorded on an image, therefore, the actual recording location may not match the exact location on the map based on the GPS information.

On GPS use restriction (FDR-X3000/HDR-AS300)

Use GPS in accordance with the situation and regulations of the countries/regions where you use the camera.

Specifications

FDR-X3000

[System]

Video signal:

- UHDTV
- HDTV
- NTSC color, EIA standards
- PAL color, CCIR standards

Image sensor:

- 1/2.5 type (7.20 mm) Exmor R CMOS sensor
- Pixel Gross: Approx. 8.57 megapixels
- Effective pixels (movie): Approx. 8.18 megapixels (16:9) (SteadyShot is OFF and Angle setting is " W : wide")
- Effective pixels (still): Approx. 8.18 megapixels (16:9) (SteadyShot is OFF and Angle setting is " W : wide")
- Still image max pixels: Approx. 12.0 megapixels (16:9) (SteadyShot is OFF and Angle setting is " W : wide")
- Time-lapse capture mode pixels: Approx. 2.07 megapixels (16:9) HD (1920 × 1080), approx. 8.29 megapixels (16:9) 4K (3840 × 2160)

Lens:

- ZEISS Tessar Lens
- Aperture: F2.8
- Focal distance: f = 2.6 mm
- Focal length (35mm equivalent): f = 17 mm (Angle setting is " W : wide"), f = 23 mm (Angle setting is " M : medium"), f = 32 mm (Angle setting is " N : narrow") (SteadyShot is OFF)

Camera:

- Exposure control: Automatic exposure
- Minimum illumination: 6 lx (lux)
- Image stabilization: Optical and electronic SteadyShot image stabilization
- Minimum shooting distance: Approx. 50 cm (19 3/4 in.)

File format:

- Movies: MP4: MPEG-4 AVC/H.264, XAVC S: MPEG-4 AVC/H.264
- Audio: MPEG-4 AAC-LC 2ch (When recording MP4 movies), LPCM 2ch (When recording XAVC S movies)

- Still images: JPEG (DCF Ver. 2.0, Exif Ver. 2.3, MPF Baseline) compliant

Recording media:

- When recording MP4 movies:

  Memory Stick Micro (Mark2) media
  microSD/SDHC/SDXC card (Class4 or faster)

- When recording XAVC S (50 Mbps/60 Mbps) movies:

  microSDHC/SDXC card (Class10 or faster)

- When recording XAVC S (100 Mbps) movies:

  microSDHC/SDXC card (UHS-I U3 or faster)

[Input and Output connectors]

- Multi/Micro USB Terminal[*]: micro-B/USB2.0 Hi-Speed

  (Supports Micro USB compatible devices.)

* USB connection is only for output. (For customers in some countries/regions)

[Power]

Power requirements:

- Battery terminal input: 3.6 V (NP-BX1 (supplied))
- Multi/Micro USB Terminal: 5.0 V

Charging method:

- USB charging: DC 5.0 V, 500 mA/800 mA

Charging time:

- Via a computer

  NP-BX1 (supplied): Approx. 4 h 25 min.

Power supply method:

- USB power supply (1.5 A or more is recommended)

Power consumption:

- Approx. 2.0 W (when the image quality is "MP4 HQ 1920 × 1080 30p")

Battery:

- Rechargeable battery pack: NP-BX1 (supplied)

  Maximum output voltage: DC 4.2 V
  Output voltage: DC 3.6 V
  Maximum charge voltage: DC 4.2 V
  Maximum charge current: 1.89 A
  Capacity: 4.5 Wh (1240 mAh)
  Type: Li-ion

[General]

- Waterproof performance: Depth of water 60 m (197 feet), 30 minutes continuously (In use with the supplied Underwater Housing (MPK-UWH1))
- Splashproof performance: Equivalent to IPX4[*]
- Operating temperature: -10 °C to +40 °C (14 °F to 104 °F)
- Storage temperature: -20 °C to +60 °C (-4 °F to +140 °F)
- Dimensions: Approx. 29.4 mm × 47.0 mm × 83.0 mm (1 3/16 in. × 1 7/8 in. × 3 3/8 in.) (W/H/D, including protrusions and excluding the supplied Underwater Housing)
- Mass: Approx. 89 g (3.2 oz) (camera only)
- Mass (when shooting): Approx. 114 g (4.1 oz) (including NP-BX1 (supplied), excluding the supplied Underwater Housing)
- Microphone: Stereo
- Speaker: Monaural

[*] Splashproof performance is based on standard testing by Sony.

[Wireless LAN]

- Corresponding standard: IEEE 802.11b/g/n
- Frequency: 2.4 GHz
- Supported security protocols: WPA-PSK/WPA2-PSK
- Configuration method: WPS (Wi-Fi Protected Setup)
- Access method: Infrastructure Mode
- NFC: NFC Forum Type 3 Tag compliant

[Bluetooth communication]

- Bluetooth standards Ver. 4.1 (Bluetooth® Smart device)
- Use frequency band: 2.4 GHz

HDR-AS300

[System]

Video signal:

- HDTV
- NTSC color, EIA standards
- PAL color, CCIR standards

Image sensor:

- 1/2.5 type (7.20 mm) Exmor R CMOS sensor
- Pixel Gross: Approx. 8.57 megapixels
- Effective pixels (movie): Approx. 8.18 megapixels (16:9) (SteadyShot is OFF and Angle setting is " ▽w : wide")
- Effective pixels (still): Approx. 8.18 megapixels (16:9) (SteadyShot is OFF and Angle setting is " ▽w : wide")
- Still image max pixels: Approx. 12.0 megapixels (16:9) (SteadyShot is OFF and Angle setting is " ▽w : wide")
- Time-lapse capture mode pixels: Approx. 2.07 megapixels (16:9) HD (1920 × 1080), approx. 8.29 megapixels (16:9) 4K (3840 × 2160)

Lens:

- ZEISS Tessar Lens
- Aperture: F2.8

- Focal distance: f = 2.6 mm
- Focal length (35mm equivalent): f = 17 mm (Angle setting is " W : wide"), f = 23 mm (Angle setting is " M : medium"), f = 32 mm (Angle setting is " N : narrow") (SteadyShot is set to OFF)

Camera:

- Exposure control: Automatic exposure
- Minimum illumination: 6 lx (lux)
- Image stabilization: Optical and electronic SteadyShot image stabilization
- Minimum shooting distance: Approx. 50 cm (19 3/4 in.)

File format:

- Movies: MP4: MPEG-4 AVC/H.264, XAVC S: MPEG-4 AVC/H.264
- Audio: MPEG-4 AAC-LC 2ch (When recording MP4 movies), LPCM 2ch (When recording XAVC S movies)
- Still images: JPEG (DCF Ver. 2.0, Exif Ver. 2.3, MPF Baseline) compliant

Recording media:

- When recording MP4 movies:

  Memory Stick Micro (Mark2) media
  microSD/SDHC/SDXC card (Class4 or faster)

- When recording XAVC S (50 Mbps) movies:

  microSDHC/SDXC card (Class10 or faster)

[Input and Output connectors]

- Multi/Micro USB Terminal[*]: micro-B/USB2.0 Hi-Speed

  (Supports Micro USB compatible devices.)

* USB connection is only for output. (For customers in some countries/regions)

[Power]

Power requirements:

- Battery terminal input: 3.6 V (NP-BX1 (supplied))
- Multi/Micro USB Terminal: 5.0 V

Charging method:

- USB charging: DC 5.0 V, 500 mA/800 mA

Charging time:

- Via a computer

  NP-BX1 (supplied): Approx. 4 h 25 min.

Power supply method:

- USB power supply (1.5 A or more is recommended)

Power consumption:

- Approx. 2.0 W (when the image quality is "MP4 HQ 1920 × 1080 30p")

Battery:

- Rechargeable battery pack: NP-BX1 (supplied)

  Maximum output voltage: DC 4.2 V
  Output voltage: DC 3.6 V
  Maximum charge voltage: DC 4.2 V
  Maximum charge current: 1.89 A
  Capacity: 4.5 Wh (1240 mAh)
  Type: Li-ion

[General]

- Waterproof performance: Depth of water 60 m (197 feet), 30 minutes continuously (In use with the supplied Underwater Housing (MPK-UWH1))
- Splashproof performance: Equivalent to IPX4[*]
- Operating temperature: -10 °C to +40 °C (14 °F to 104 °F)
- Storage temperature: -20 °C to +60 °C (-4 °F to +140 °F)
- Dimensions: Approx. 29.4 mm × 47.0 mm × 83.0 mm (1 3/16 in. × 1 7/8 in. × 3 3/8 in.) (W/H/D, including protrusions and excluding the supplied Underwater Housing)
- Mass: Approx. 84 g (3.0 oz) (camera only)
- Mass (when shooting): Approx. 109 g (3.9 oz) (including NP-BX1 (supplied), excluding the supplied Underwater Housing)
- Microphone: Stereo
- Speaker: Monaural

[*]   Splashproof performance is based on standard testing by Sony.

[Wireless LAN]

- Corresponding standard: IEEE 802.11b/g/n
- Frequency: 2.4 GHz
- Supported security protocols: WPA-PSK/WPA2-PSK
- Configuration method: WPS (Wi-Fi Protected Setup)
- Access method: Infrastructure Mode
- NFC: NFC Forum Type 3 Tag compliant

[Bluetooth communication]

- Bluetooth standards Ver. 4.1 (Bluetooth® Smart device)
- Use frequency band: 2.4 GHz

HDR-AS50

[System]

Video signal

- HDTV
- NTSC color, EIA standards
- PAL color, CCIR standards

Image sensor:

- 1/2.3 type (7.77 mm) Exmor R CMOS sensor

- Pixel Gross: Approx. 16.8 megapixels
- Effective pixels (movie): Approx. 11.1 megapixels (16:9) (SteadyShot is OFF and Angle setting is " ⌄W : wide")
- Effective pixels (still): Approx. 11.1 megapixels (16:9) (Angle setting is " ⌄W : wide")
- Still image max pixels: Approx. 11.9 megapixels (16:9) (Angle setting is " ⌄W : wide")
- Time-lapse capture mode pixels: Approx. 2.07 megapixels (16:9) HD (1920 × 1080), Approx. 8.29 megapixels (16:9) 4K (3840 × 2160)

Lens:

- ZEISS Tessar Lens
- Aperture: F2.8
- Focal distance: f = 2.8 mm
- Focal length (35mm equivalent): f = 18.4 mm (Angle setting is " ⌄W : wide"), f = 21.8 mm (Angle setting is " ⌄N : narrow")

Camera

- Exposure control: Automatic exposure
- Minimum illumination: 6 lx (lux)
- Image stabilization: Electronic SteadyShot image stabilization
- Minimum shooting distance: Approx. 30 cm (11 7/8 in.)

File format:

- Movies: MP4: MPEG-4 AVC/H.264, XAVC S: MPEG-4 AVC/H.264
- Audio: MPEG-4 AAC-LC 2ch (When recording MP4 movies), LPCM 2ch (When recording XAVC S movies)
- Still images: JPEG (DCF Ver. 2.0, Exif Ver. 2.3, MPF Baseline) compliant

Recording media:

- When recording MP4 movies:

  Memory Stick Micro (Mark2) media
  microSD/SDHC/SDXC card (Class4 or faster)

- When recording XAVC S (50 Mbps) movies:

  microSDHC/SDXC card (Class10 or faster)

[Input and Output connectors]

- Multi/Micro USB Terminal[*]: micro-B/USB2.0 Hi-Speed

  (Supports Micro USB compatible devices.)

* USB connection is only for output. (For customers in some countries/regions)

[Power]

Power requirements:

- Battery terminal input: 3.6 V (NP-BX1 (supplied))
- Multi/Micro USB Terminal: 5.0 V

Charging method:

- USB charging: DC 5.0 V, 500 mA/800 mA

Charging time:

- Via a computer

  NP-BX1 (supplied): Approx. 4 h 25 min.

Power supply method:

- USB power supply (1.5 A or more is recommended)

Power consumption:

- Approx. 1.6 W (when the image quality is "MP4 HQ 1920 × 1080 30p")

Battery:

- Rechargeable battery pack: NP-BX1 (supplied)

  Maximum output voltage: DC 4.2 V
  Output voltage: DC 3.6 V
  Maximum charge voltage: DC 4.2 V
  Maximum charge current: 1.89 A
  Capacity: 4.5 Wh (1240 mAh)
  Type: Li-ion

[General]

- Waterproof performance: Depth of water 60 m (197 feet), 30 minutes continuously (In use with the supplied Underwater Housing (MPK-UWH1)
- Operating temperature: -10°C to +40°C (14°F to 104°F)
- Storage temperature: -20°C to +60°C (-4°F to +140°F)
- Dimensions: Approx. 24.2 mm × 47.0 mm × 83.0 mm (31/32 in. × 1 7/8 in. × 3 3/8 in) (W/H/D, including protrusions and excluding the supplied Underwater Housing)
- Mass: Approx. 58 g (2.0 oz) (camera only)
- Mass (when shooting): Approx.83 g (2.9 oz) (including NP-BX1 (supplied), excluding the supplied Underwater Housing)
- Microphone: Stereo
- Speaker: Monaural

[Wireless LAN]

- Corresponding standard: IEEE 802.11b/g/n
- Frequency: 2.4 GHz
- Supported security protocols: WPA-PSK/WPA2-PSK
- Configuration method: WPS (Wi-Fi Protected Setup)
- Access method: Infrastructure Mode

[Bluetooth communication]

- Bluetooth standards Ver. 4.1 (Bluetooth® Smart device)
- Use frequency band: 2.4 GHz

Accessories

Underwater Housing (MPK-UWH1)

- Dimensions: Approx. 46.1 mm × 69.2 mm × 89.1 mm (1 7/8 in. × 2 3/4 in. × 3 5/8 in.) (W/H/D, including protrusions)
-

Mass: Approx. 81 g (2.8 oz) (FDR-X3000/HDR-AS300), Approx. 82 g (2.9 oz) (HDR-AS50, 81 g (2.8 oz.) when adaptor is not attached)

- Pressure-resistance: Shooting underwater at a depth of 60 m (197 feet) for 30 continuous minutes is possible.*

* When the camera is inserted.
Attachment Buckle:

- Dimensions: Approx. 47.0 mm × 14.0 mm × 58.5 mm (1 7/8 in. × 9/16 in. × 2 3/8 in.) (W/H/D, including protrusions)
- Mass: Approx. 15 g (0.5 oz)

Design and specifications are subject to change without notice.

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XAVC S

LITHIUM ION ▣

▣

micro **SD** **XC**

HƏMI

N

Bluetooth SMART

On GNU GPL/LGPL applied software

The software that is eligible for the following GNU General Public License (hereinafter referred to as "GPL") or GNU Lesser General Public License (hereinafter referred to as "LGPL") are included in the camera.
This informs you that you have a right to have access to, modify, and redistribute source code for these software programs under the conditions of the supplied GPL/LGPL.
Source code is provided on the web. Use the following URL to download it.
http://oss.sony.net/Products/Linux
We would prefer you do not contact us about the contents of source code.
Copies of the licenses (in English) are stored in the internal memory of your camera.
Establish a USB cable connection between the camera and a computer, and read the files in the "LICENSE" folder in "PMHOME."

List of Default Setting

The default setting of every setting item is as follows.

- Image quality setting
  Movie format is MP4: **1080 30p HQ** / **1080 25p HQ**
  Movie format is HD: **1080 60p 50M** / **1080 50p 50M**
  Movie format is 4K: **2160 30p 60M** / **2160 25p 60M** (FDR-X3000)
- Movie format: **MP4**
- Time-lapse capture image size: ⟳ 🔲HD
- Loop recording time: ⟲ :5 min
- Still image mode switching: 🔲
- Still image shooting interval: 🖵●:10f 1s (FDR-X3000/HDR-AS300)/ 🖵●:8f 1s (HDR-AS50)
- Self-timer: ⟳:OFF
- Time-lapse shooting interval: ⟳ :1s
- Time-lapse shot number: 🖵⟳:300
- SteadyShot (Movie): 〘〙:Act (FDR-X3000/HDR-AS300)/ 〘〙:ON (HDR-AS50)
- SteadyShot (Still): 〘〙:ON (FDR-X3000/HDR-AS300)
-

Angle setting: ⟷W
- Zoom setting: ⊕:OFF
- Flip: 'ㅁ,:OFF
- AE shift: ☒:±0.0
- Time-lapse AE mode: AE-T
- Scene: SCN:N
- White balance: AWB
- Color mode: Vivid↑
- Audio recording setting: 🎤:ON
- Wind noise reduction: 🎤:OFF
- Airplane mode: ✈:OFF
- Wi-Fi connection setting: 📶:ON
- Wi-Fi Hi power setting: 📶ᴴᴵ:OFF
- Bluetooth setting: ⓑ:ON
- Bluetooth remote controller power setting: ⬜⋯⏻⬛
- GPS log : 📡:ON (FDR-X3000/HDR-AS300)
- Time code/user bit (FDR-X3000)
    - **DISP** (Display): **OFF**
    - **TC FORMAT** (Display format): **DF**
    - **TC RUN** (Time code count up format): **REC RUN**
    - **TC MAKE** (Time code setting): **PRESET**
    - **UB T.REC** (User bit recording time setting): **OFF**
- IR remote : 📡:OFF (FDR-X3000)
- HDMI settings (FDR-X3000/HDR-AS300)
    - **RESOL** (HDMI resolution): **AUTO**
    - **60/24p** (Frame rate): **60p**
    - **TC/UB OUT** (Transmission of information to the connected device): **ON** (FDR-X3000)
    - **REC CTRL** (Recording control of the connected device): **ON** (FDR-X3000)
- USB power supply: 🔌:ON
- Beep: ♪:ON
- Beep volume: ♪))
- Lamp setting: 🚨:3
- One touch recording: REC:OFF
- Auto power off: AUTO OFF : 60s
- Switching NTSC/PAL: NTSC (depending on the regions)
- Daylight saving time (summer time) setting: ☀:OFF

[124] Troubleshooting
Troubleshooting

If you experience trouble with the camera, try the following solutions.

1 **Check the items of troubleshooting and inspect the camera.**

2 **Turn the power off the camera and then on again one minute later.**

3 **Consult your Sony dealer or local authorized Sony service facility by phone.**

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[125] Troubleshooting │ Battery pack and power
Cannot turn on the camera.

- Attach a charged battery pack.
- Make sure that the battery pack is inserted correctly.

---

[126] Troubleshooting │ Battery pack and power
The power turns off suddenly.

- Depending on the camera and battery temperature, the power may turn off automatically to protect the camera. In this case, a message is displayed on the display panel before the power turns off.
- If you do not operate the camera for a certain period of time while the power is on, the camera turns off automatically to prevent wearing down the battery pack. Turn the camera on again.
- If you have selected AUTO : OFF in the auto power off function, the power does not turn off automatically.

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[127] Troubleshooting │ Battery pack and power
Battery life is short.

- You are using the camera in an extremely hot or cold location, or the charging is insufficient. This is not a malfunction.
- If you have not used the camera for a prolonged period, the efficiency of the battery will be improved by repeatedly charging and discharging it.
- When usable battery life becomes half the usual time, even after charging the battery pack fully, the battery pack may need to be replaced. Consult your nearest Sony dealer.

Cannot charge the camera.

- Turn off the camera and make the USB connection.
- Disconnect the micro USB cable (supplied), and then reconnect it.
- Use the micro USB cable (supplied).
- Charge the battery pack in an ambient temperature of 10°C to 30°C (50°F to 86°F).
- Turn on the computer and connect the camera.
- Release the computer from sleep or hibernation status.
- Connect the camera directly to a computer using the micro USB cable (supplied).
- Connect the camera to a computer with the operating system that is supported by the camera.

The remaining charge indicator is incorrect.

- This phenomenon occurs when you use the camera in an extremely hot or cold location.
- A discrepancy arose between the remaining charge indicator and the actual remaining battery charge. Fully discharge the battery pack once, then charge it to correct the indication.
- Fully charge the battery pack again. If the problem persists, the battery pack is worn out. Replace the battery pack with a new one.

Operations using the memory card cannot be performed.

- If you use a memory card formatted on a computer, format it again on the camera.

Cannot record images.

- Check the free capacity of the memory card.

[132] Troubleshooting │ Shooting images
Cannot insert dates on images.

⬤ The camera does not have a feature for superimposing dates on images.

[133] Troubleshooting │ Viewing images
Cannot playback images.

⬤ The folder/file name of the camera has been changed by connecting to your computer.
⬤ Connect a micro HDMI cable (sold separately). (FDR-X3000/HDR-AS300)

[134] Troubleshooting │ Viewing images
The image does not appear on the TV. (FDR-X3000/HDR-AS300)

⬤ Check whether the connection is correct.

[135] Troubleshooting │ GPS
The camera is not receiving a GPS signal. (FDR-X3000/HDR-AS300)

⬤ Turn theGPS log to ON.
⬤ The camera may not be able to receive radio signals from GPS satellites because of obstructions.
⬤ To triangulate the location information correctly, bring the camera to an open area.

[136] Troubleshooting │ GPS
Excessive error in location information. (FDR-X3000/HDR-AS300)

- The margin of error can be up to several-hundred meters depending on surrounding buildings, weak GPS signals, etc.

[137] Troubleshooting │ GPS
It takes time to triangulate although the GPS assist data is taken in. (FDR-X3000/HDR-AS300)

- Date & time setting is not set, or set time is shifted greatly. Set the date and time correctly.
- The term of validity of GPS assist data has expired. Update GPS assist data.
- As the positions of GPS satellites vary constantly, it may take longer to determine the location or the receiver may not be able to determine the location at all, depending on the location and time you use the camera.
- GPS is a system for determining geographic location by triangulating radio signals from GPS satellites. Avoid using the camera in places where radio signals are blocked or reflected, such as a shadowy place surrounded by buildings or trees, etc. Use the camera in open sky environments.

[138] Troubleshooting │ GPS
The location information has not been recorded. (FDR-X3000/HDR-AS300)

- Use Action Cam Movie Creator to import the movies with GPS location information to your computer.

[139] Troubleshooting │ Computers
Your computer does not recognize the camera.

- When the battery level is low, charge the camera.
- Turn on the camera and connect to a computer.
- Use the micro USB cable (supplied).
- Disconnect the micro USB cable (supplied) from both the computer and the camera, and connect it again firmly.
- Disconnect all equipment other than the camera, the keyboard and the mouse from the USB connectors of your computer.
- Connect the camera directly to your computer without passing through a USB hub or other device.

[140] Troubleshooting | Computers
Cannot import images.

- Connect the camera and your computer correctly making a USB connection.

[141] Troubleshooting | Computers
Action Cam Movie Creator cannot be installed.

- Check the computer environment or installation procedure required to install Action Cam Movie Creator.

[142] Troubleshooting | Computers
Action Cam Movie Creator does not work correctly.

- Quit Action Cam Movie Creator and restart your computer.

[143] Troubleshooting | Computers
Cannot play back images on your computer.

- Consult the computer or software manufacturer.

[144] Troubleshooting | Wi-Fi
It takes too much time to transfer an image.

- Microwave ovens or other Bluetooth-enabled devices use the 2.4 GHz wavelength and could hinder the communication. If such devices are in the vicinity, move the camera away from those devices or shut those devices down.

The lens gets fogged.

- Moisture condensation has occurred. Turn off the camera and wait about an hour for the moisture to evaporate.

The camera becomes warm when you use it for a long time.

- This is normal.

The date or time is incorrect.

- Set the date and time again.

Warning indicators and error messages

Battery indicator (Remaining battery is low)
- When the battery level is low, ▭ is displayed. Charge the battery pack immediately.

05-05
- The battery necessary for shooting is not inserted.
- Insert the charged battery.

05-06
-

Failed in to synthesize the motion shot LE.

05-07

- Failed to shoot images.

06-01

- Failed to format the recording media.

06-02

- The memory card does not support XAVC S 100 Mbps movie recording.
- Use an microSDHC/SDXC memory card of Class10 or faster when shooting in XAVC S format.

06-04 (FDR-X3000)

- The memory card does not support XAVC S 100 Mbps movie recording.
- Use the memory card that supports UHS-I U3 standard when you are shooting in XAVC S 100 Mbps.

06-05

- Failed to recover the memory card.

06-06

- The memory card is not inserted properly
- The memory card is damaged.

06-09

- There is no memory card inserted.

07-02

- Failed to play.
- There is an abnormality in the recording media.

08-01

- Set the necessary settings for Ustream using "Camera Settings for Live Streaming" of the Action Cam Movie Creator's camera settings.

08-03

- The channel set by "Camera Settings for Live Streaming" of the Action Cam Movie Creator's camera settings is incorrect.
- This message also displays if other media starts streaming on the same channel while streaming from the camera is performed.
- Set the channel again.

08-04

- The total time of saved video on Ustream has reached the limit. Stop streaming video.

08-05

- The saving settings of video cannot be saved to Ustream because an error has occurred on the network.
- Some other network error has occurred.
- Confirm the setting of the access point or the security of the access point using "Camera Settings for Live Streaming" of the Action Cam Movie Creator's camera settings.

08-06

- Access point has been found but is not connected. Check the password of the access point and connect again.

08-07

- Access point cannot be found. Confirm the setting of the access point using "Camera Settings for Live Streaming" of the Action Cam Movie Creator's camera settings.

08-08

- Set the date and time again on your camera.

08-09

- An unknown error has occurred on Ustream, when using the Live Streaming function. Wait a moment and then try confirming the connection again.

10-02

- Turn the power off and then on again.

10-03

- The battery pack is delivering current exceeding the maximum discharge current (the proper operation of the camera is assured even when an external microphone, etc., is connected).
- A different battery pack is detected when the camera is powered on.
- Battery pack deterioration is detected.
- Battery charge is insufficient for operation.

10-04

- Unable to record images because the camera temperature has risen.

NO IMAGE

- The memory card does not contain playable images.

- Recovering the memory card.

- There is no remaining battery charge.

- The camera temperature has risen. The power may turn off automatically, or you may be unable to record images.

  Leave the camera in a cool location until the temperature goes down.

- If you record images for an extended period, the camera temperature rises. In this case, stop recording images.

FULL

- Remaining capacity of the memory card is insufficient for recording.

MAX

- The maximum number of files that can be recorded has been reached.

NO CARD

- There is no memory card inserted.

##

- The memory card is not inserted properly.
- The memory card is damaged.

(FDR-X3000/HDR-AS300)

- The camera is not connected to a TV when playback is started.

Twitter

- Twitter post error has occurred.
- Check the network or log in to Twitter again.

Facebook

- Facebook post error has occurred.
- Check the network or log in to Facebook again.