

## Digital Still Camera

### Instruction Manual



#### **“Help Guide” (Web manual)**

Refer to “Help Guide” for in-depth instructions on the many functions of the camera.

[http://rd1.sony.net/help/dsc/1710/h\\_zz/](http://rd1.sony.net/help/dsc/1710/h_zz/)

Cyber-shot

## Learning more about the camera (“Help Guide”)



“Help Guide” is an on-line manual. You can read the “Help Guide” on your computer or smartphone.

Refer to it for in-depth instructions on the many functions of the camera.

**URL:**

[http://rd1.sony.net/help/dsc/1710/h\\_zz/](http://rd1.sony.net/help/dsc/1710/h_zz/)



## Owner's Record

Record the model and serial number (which are located on the product) in the space provided below. Refer to these numbers whenever you call your Sony dealer regarding this product.

Model No. DSC-

Serial No. \_\_\_\_\_

## WARNING

**To reduce fire or shock hazard, do not expose the unit to rain or moisture.**

# IMPORTANT SAFETY INSTRUCTIONS -SAVE THESE INSTRUCTIONS DANGER TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, CAREFULLY FOLLOW THESE INSTRUCTIONS

If the shape of the plug does not fit the power outlet, use an attachment plug adaptor of the proper configuration for the power outlet.

## CAUTION

### Battery pack

If the battery pack is mishandled, the battery pack can burst, cause a fire or even chemical burns. Observe the following cautions.

- Do not disassemble.
- Do not crush and do not expose the battery pack to any shock or force such as hammering, dropping or stepping on it.
- Do not short circuit and do not allow metal objects to come into contact with the battery terminals.
- Do not expose to high temperature above 60°C (140°F) such as in direct sunlight or in a car parked in the sun.
- Do not incinerate or dispose of in fire.
- Do not handle damaged or leaking lithium ion batteries.
- Be sure to charge the battery pack using a genuine Sony battery charger or a device that can charge the battery pack.
- Keep the battery pack out of the reach of small children.
- Keep the battery pack dry.
- Replace only with the same or equivalent type recommended by Sony.
- Dispose of used battery packs promptly as described in the instructions.
- Do not expose to extremely low temperatures of -20°C (-4°F) or lower or extremely low pressures of 11.6 kPa or lower.

Use a nearby wall outlet (wall socket) when using the AC Adaptor/Battery Charger. If any malfunction occurs, disconnect the plug from the wall outlet (wall socket) immediately to disconnect from the power source.

If you use the product with a charge lamp, note that the product is not disconnected from the power source even when the lamp turns off.

## Notice

If static electricity or electromagnetism causes data transfer to discontinue midway (fail), restart the application or disconnect and connect the communication cable (USB, etc.) again.

This product has been tested and found compliant with the limits set out in the EMC regulation for using connection cables shorter than 3 meters (9.8 feet).

The electromagnetic fields at the specific frequencies may influence the picture and sound of this unit.

If this unit is subjected to intense extraneous noise, it may restart.

IEEE 802.11b/g/n	2.4GHz	<17.7dBm e.i.r.p.
Bluetooth	2.4GHz	<10dBm e.i.r.p.
NFC	13.56MHz	<60dBuA/m (10m)

## For Customers in the U.S.A. and Canada

### RECYCLING LITHIUM-ION BATTERIES

Lithium-Ion batteries are recyclable.

You can help preserve our environment by returning your used rechargeable batteries to the collection and recycling location nearest you.



For more information regarding recycling of rechargeable batteries, call toll free 1-800-822-8837, or visit <http://www.call2recycle.org/>

**Caution:** Do not handle damaged or leaking Lithium-Ion batteries.

The available scientific evidence does not show that any health problems are associated with using low power wireless devices. There is no proof, however, that these low power wireless devices are absolutely safe. Low power Wireless devices emit low levels of radio frequency energy (RF) in the microwave range while being used.

Whereas high levels of RF can produce health effects (by heating tissue), exposure of low-level RF that does not produce heating effects causes no known adverse health effects. Many studies of low-level RF exposures have not found any biological effects. Some studies have suggested that some biological effects might occur, but such findings have not been confirmed by additional research. This equipment has been tested and found to comply with FCC/IC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the IC radio frequency (RF) Exposure rules.

## For Customers in the U.S.A.

If you have any questions about this product, you may call:

Sony Customer Information Center  
1-800-222-SONY (7669).

The number below is for the FCC related matters only.

### Regulatory Information

#### Declaration of Conformity

Trade Name: SONY  
Model No.: WW620081  
Responsible Party: Sony Electronics Inc.  
Address: 16535 Via Esprillo,  
San Diego, CA 92127  
U.S.A.  
Telephone No.: 858-942-2230

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment must not be co-located or operated in conjunction with any other antenna or transmitter.

### CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

### Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## For Customers in Canada

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

CAN ICES-3 B/NMB-3 B

## For Customers in Europe

This product has been manufactured by or on behalf of Sony Corporation.  
EU Importer: Sony Europe Limited.  
Inquiries to the EU Importer or related to product compliance in Europe should be sent to the manufacturer's authorized representative, Sony Belgium, bijkantoor van Sony Europe Limited, Da Vincilaan 7-D1, 1935 Zaventem, Belgium.

Hereby, Sony Corporation, declares that this equipment is in compliance Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address:

<http://www.compliance.sony.de/>

## Disposal of waste batteries and electrical and electronic equipment (applicable in the European Union and other European countries with separate collection systems)



This symbol on the product, the battery or on the packaging indicates that the product and the battery shall not be treated as household waste. On

certain batteries this symbol might be used in combination with a chemical symbol. The chemical symbols for mercury (Hg) or lead (Pb) are added if the battery contains more than 0.0005% mercury or 0.004% lead. By ensuring these products and batteries are disposed of correctly, you will help prevent potentially negative consequences for the environment and human health which could otherwise be caused by inappropriate waste handling. The recycling of the materials will help to conserve natural resources.

In case of products that for safety, performance or data integrity reasons require a permanent connection with an incorporated battery, this battery should be replaced by qualified service staff only. To ensure that the battery and the electrical and electronic equipment will be treated properly, hand over these products at end-of-life to the applicable collection point for the recycling of electrical and electronic equipment. For all other batteries, please view the section on how to remove the battery from the product safely. Hand the battery over to the applicable collection point for the recycling of waste batteries.

For more detailed information about recycling of this product or battery, please contact your local Civic Office, your household waste disposal service or the shop where you purchased the product or battery.

## **For Customers in Singapore**

Complies with  
IMDA Standards  
DB00353

## **For Customers in U.A.E.**

**TRA**  
**REGISTERED No:**  
ER42682/15

**DEALER No:**  
DA0073692/11

## **For Customers in Malaysia**



## Checking the supplied items

The number in parentheses indicates the number of pieces.

- Camera (1)
- Rechargeable Battery Pack NP-BJ1 (1)
- Micro USB Cable (1)
- AC Adaptor (1)
- Power Cord (mains lead) (supplied in some countries/regions) (1)
- Wrist Strap (1)
- Memory card protector (1)
- Instruction Manual (this manual) (1)

### About language setting

Change the screen language before using the camera if necessary (page 21).

## About water-proof, dust-proof, and shock-proof performance of the camera

This camera has enhanced water-proof, dust-proof and shock-proof protection. Damage caused from misuse, abuse or failure to properly maintain the camera is not covered by the limited warranty.

- This camera is water-proof/dust-proof equivalent to IEC60529 IP68. The camera is operable up to a water depth of 10 m (33 ft.) for 60 minutes.
- Do not subject the camera to pressurized water, such as from a tap.
- Do not use in hot springs.
- Use the camera in the recommended operating water temperature range of 0°C to +40°C (32°F to 104°F).
- As for shock-proof performance, this product has passed our in-company testing, which conforms to MIL-STD 810G C1 Method 516.7-Shock (U.S. Department of Defense test method standard for shock), by dropping this product from a height of 2.0 m (6.5 ft.) above a 5 cm (2 inches) thick plywood board\*.

\* Depending on use conditions and circumstances, no guarantee is made regarding damage to, malfunction of, or the water-proof/dust-proof performance of this camera.

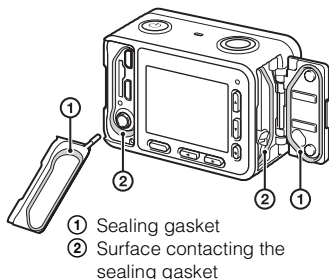
- As for shock-proof performance, there is no guarantee that the camera will not become scratched or dented.
- Sometimes water-proof/dust-proof performance is lost if the camera is subjected to a strong shock such as from being dropped. We recommend the camera be inspected at an authorized repair shop for a fee.



- Accessories supplied do not meet water-proof, dust-proof, and shock-proof specifications.

### Notes before using the camera under/near water

- Make sure that no foreign matter such as sand, hair, or dirt gets inside the battery cover or memory card/connector cover. Even a small amount of foreign matter may lead to water entering the camera.
- Confirm that the sealing gasket and its mating surfaces have not become scratched. Even a small scratch may lead to water entering the camera. If the sealing gasket or its mating surfaces become scratched, take the camera to an authorized repair shop to have the sealing gasket replaced for a fee.
- If dirt or sand gets on the sealing gasket or its mating surfaces, wipe the area clean with a soft cloth that will not leave behind any fibers. Prevent the sealing gasket from becoming scratched by touching it while charging a battery or using a cable.
- Do not open/close the battery cover or memory card/connector cover with wet or sandy hands or near water. There is a risk this will lead to sand or water getting inside. Before opening the cover, perform the procedure described in “Cleaning after using the camera under/near water.”
- Open the battery cover or memory card/connector cover with the camera completely dry.
- Always confirm that the battery cover or memory card/connector cover has been securely locked.



### Notes on using the camera under/near water

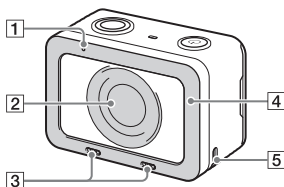
- Do not subject the camera to shock such as from jumping into water.
- Do not open and close the battery cover or memory card/connector cover while under/near water.
- This camera sinks in water. When using, place your hand through a strap, etc. to prevent the camera from sinking.
- The water-proof/dust-proof performance is not ensured when the battery cover or memory card/connector cover is open.

## **Cleaning after using the camera under/near water**

- Always clean the camera with water after use within 60 minutes, and do not open the battery cover or memory card/connector cover before cleaning is finished. Sand or water may get inside places where it cannot be seen. If not rinsed, water-proof performance will be degraded.
- Allow the camera to sit in pure water poured into a cleaning bowl for about 5 minutes. Then, gently shake the camera, press each button inside the water, to clean away any salt, sand or other matter lodged around the buttons.
- After rinsing, wipe away water drops with a soft cloth. Allow the camera to dry completely in a shady location with good ventilation. Do not blow dry with a hair dryer as there is a risk of deformation and/or degraded water-proof performance.
- Wipe water drops or dust off the battery cover and memory card/connector cover with a soft, dry cloth.
- After removing the camera from water, leave it with the lens-side down on a dry cloth for a while to allow the water to drain.  
If even after you have allowed water to drain, audio cannot be recorded or is recorded at a low volume, there may still be water inside the internal microphone (page 11). Let water drain from the camera completely before use.
- Bubbles may appear when the camera is placed under water. This is not a malfunction.
- The camera body may become discolored if it comes in contact with sunscreen or suntan oil. In addition, the sealing gasket may deteriorate if it comes in contact with sunscreen or suntan oil. If the camera does come in contact with sunscreen or suntan oil, quickly wipe it clean.
- Do not allow the camera to sit with salt water inside or on the surface. This may lead to corrosion or discoloration, and degradation of water-proof performance.
- To maintain the water-proof performance, we recommend that once a year you take the camera to your dealer, or to an authorized repair shop, to have the sealing gasket of the battery cover or memory card/connector cover replaced for a fee.
- The surface of the monitor may dent at depths of around 10 m (33 ft.) due to water pressure. This is not a malfunction.

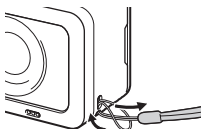


## Identifying parts



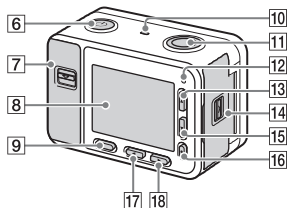
- 1** Recording lamp
- 2** Lens
- 3** Internal microphones\*<sup>1</sup>
- 4** Lens protector\*<sup>2</sup>
- 5** Hook for strap

To avoid dropping the camera, attach the wrist strap and place your hand through the strap when performing hand-held shooting.



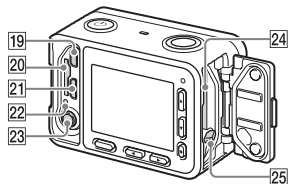
\*<sup>1</sup> Do not cover this part during movie recording. Doing so may cause noise or lower the volume.


\*<sup>2</sup> You can replace this part with an optional accessory (sold separately).



- 6** ⏻ (On/Standby) button
- 7** Memory card/connector cover
- 8** Monitor
- 9** MENU button
- 10** Speaker
- 11** SHUTTER/MOVIE button
- 12** Recording lamp
- 13** Up button/DISP (Display switching) button
- 14** Battery cover
- 15** Down button/▶ (Playback) button
- 16** ● (Enter) button/Custom key
- 17** Left button/Custom key
- 18** Right button/Fn (Function) button

## When the covers are open

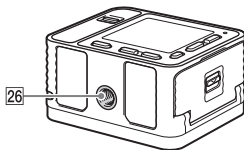


- 19** HDMI micro jack
- 20** Memory card slot
- 21** Multi/Micro USB Terminal\*<sup>3</sup>
- 22** Access lamp/charge lamp
- 23**  Microphone jack

When an external microphone is connected, the internal microphone is turned off automatically. When the external microphone is a plug-in-power type, the power of the microphone is supplied by the camera.

- 24** Battery insertion slot
- 25** Battery lock lever

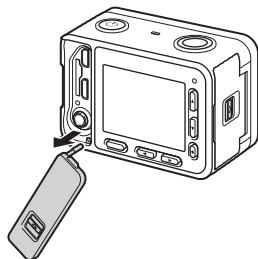
\*<sup>3</sup> For details on compatible accessories for the Multi/Micro USB Terminal, visit the Sony website, or consult your Sony dealer or local authorized Sony service facility.



- 26** Tripod socket hole  
Use a tripod with a screw 5.5 mm (7/32 inches) or shorter in length.

### **To use the camera with the memory card/connector cover detached**

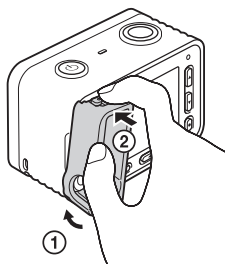
You can detach the memory card/connector cover in order to use the camera with an HDMI cable, micro USB cable, or external microphone connected to the camera.



To reattach the memory card/connector cover, insert it into the camera.

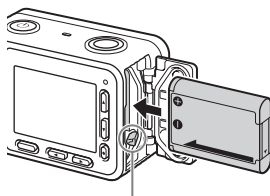
### **Memory card protector**

Attach the memory card protector when you use the camera with an HDMI cable, micro USB cable, or external microphone connected. The memory card protector prevents memory card access errors when the memory card is accidentally loosened due to vibration or shock, etc.



To remove the memory card protector, pull it out while pressing the holding parts on the top and the bottom of the protector.

## Inserting the battery pack



Battery lock lever

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**1** Open the cover.

**2** Insert the battery pack.

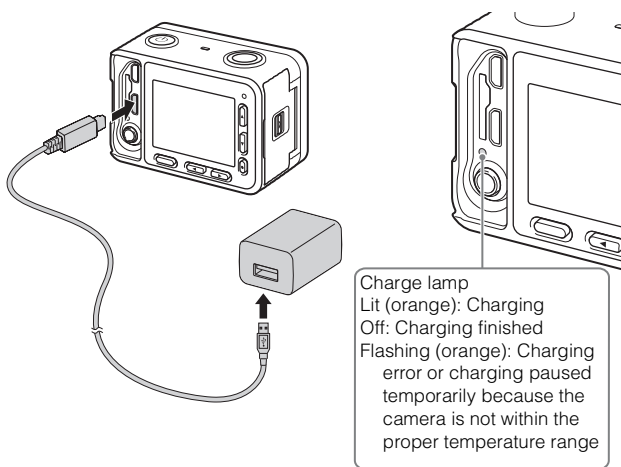
- While pressing the battery lock lever, insert the battery pack as illustrated. Make sure that the battery lock lever locks after insertion.
- Closing the cover with the battery inserted incorrectly may damage the camera.

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### Notes

- When closing the cover, make sure that the yellow mark under the slide lock is hidden and the cover is tightly closed. If foreign matter such as grains of sand is caught inside the cover, it may damage the sealing gasket and cause water penetration (page 8).

## Charging the battery pack



- 1 Connect the camera to the AC Adaptor (supplied), using the micro USB cable (supplied).
- 2 Connect the AC Adaptor to the wall outlet (wall socket).  
The charge lamp lights orange, and charging starts.
  - Turn off the camera while charging the battery.
  - You can charge the battery pack even when it is partially charged.
  - When the charge lamp flashes and charging is not finished, remove and re-insert the battery pack.
  - For some countries/regions, connect the power cord (mains lead) to the AC Adaptor, and connect the AC Adaptor to the wall outlet (wall socket).

## Notes

- If the charge lamp on the camera flashes when the AC Adaptor is connected to the wall outlet (wall socket), this indicates that charging is temporarily stopped because the temperature is outside the recommended range. When the temperature gets back within the appropriate range, the charging resumes. We recommend charging the battery pack in an ambient temperature of between 10°C to 30°C (50°F to 86°F).
- The battery pack may not be effectively charged if the terminal section of the battery is dirty. In this case, wipe any dust off lightly using a soft cloth or a cotton swab to clean the terminal section of the battery.
- When charging is finished, disconnect the AC Adaptor from the wall outlet (wall socket).
- Be sure to use only genuine Sony brand battery packs, micro USB cable (supplied) and AC Adaptor (supplied).

## ■ Charging time (Full charge)

The charging time is approximately 135 min. using the AC Adaptor (supplied). The charge lamp lights up and then turns off immediately when the battery pack is fully charged.

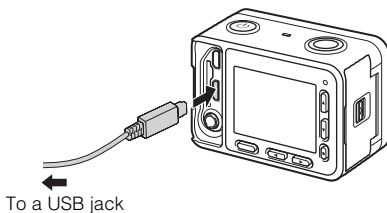
## Notes

- The above charging time applies when charging a fully depleted battery pack at a temperature of 25°C (77°F). Charging may take longer depending on conditions of use and circumstances.



## ■ Charging by connecting to a computer

The battery pack can be charged by connecting the camera to a computer using a micro USB cable. Connect the camera to the computer with the camera turned off.



### Notes

- If the camera is connected to a laptop computer that is not connected to a power source, the laptop battery level decreases. Do not charge for an extended period of time.
- Do not turn on/off or restart the computer, or wake the computer to resume from sleep mode when a USB connection has been established between the computer and the camera. That may cause the camera to malfunction. Before turning on/off, or restarting the computer or waking the computer from sleep mode, disconnect the camera and the computer.
- No guarantees are made for charging using a custom-built computer or a modified computer.

## ■ Battery life and number of recordable images

	Battery life	Number of images
Shooting (still images)	—	Approx. 240
Actual shooting (movies)	Approx. 35 min.	—
Continuous shooting (movies)	Approx. 60 min.	—



## Notes

- The above estimates for battery life and number of recordable images apply when the battery pack has been fully charged. The battery life and number of images may decrease depending on the conditions of use.
- The battery life and number of recordable images are estimates based on shooting under the following conditions:
  - Using the battery pack at an ambient temperature of 25°C (77°F).
  - Using a Sony microSDXC memory card (sold separately)
- The number for “Shooting (still images)” is based on the CIPA standard and shooting under the following conditions:  
(CIPA: Camera & Imaging Products Association)
  - One picture is taken every 30 seconds.
  - The power turns on and off once every ten times.
- The number of minutes for movie shooting is based on the CIPA standard and shooting under the following conditions:
  - The image quality is set to XAVC S HD 60p 50M/50p 50M.
  - [Auto Pwr OFF Temp.]: [High]  
(For restrictions due to high temperatures, refer to page 45.)
  - Actual shooting (movies): Battery life based on repeatedly shooting, shooting stand-by, turning on/off, etc.

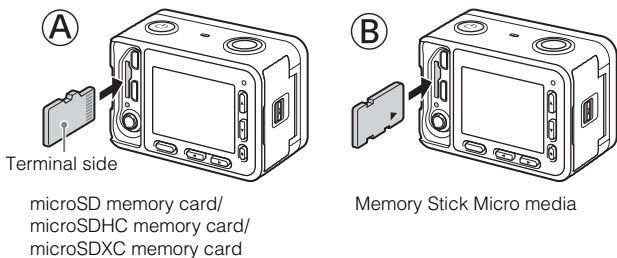
## ■ Supplying power

Connect the camera to a wall outlet (wall socket) using the micro USB cable (supplied) and the AC adaptor (supplied).

## Notes

- Before you shoot or play back images with power supplied from a wall outlet (wall socket), insert a charged battery pack into the camera.
- If you use the camera while power is being supplied from a wall outlet (wall socket), make sure that the icon (/) displays on the monitor.
- Do not remove the battery pack or the micro USB cable while the access lamp (page 12) is lit up. The data on the memory card may be damaged.
- As long as the power is on, the battery pack will not be charged even if the camera is connected to the AC Adaptor.
- While power is being supplied via USB connection, the temperature inside the camera will rise and the continuous recording time may be shortened.
- When using a mobile charger as a power source, confirm that it is fully charged before use. Also, be careful of the remaining power on the mobile charger during use.

## Inserting a memory card (sold separately)



**1** Open the cover.

**2** Insert the memory card.

- For microSD/microSDHC/microSDXC cards: Insert a memory card with the card facing as illustrated in Figure (A).
- For Memory Stick Micro media: Insert a memory card with the card facing as illustrated in Figure (B).

**3** Close the cover.

### Notes

- When closing the cover, make sure that the yellow mark under the slide lock is hidden and the cover is tightly closed. If foreign matter such as grains of sand is caught inside the cover, it may damage the sealing gasket and cause water penetration (page 8).

## Memory cards that can be used

Memory card	For still images	For movies		
		MP4	AVCHD	XAVC S
Memory Stick Micro (M2)	✓	✓ (Mark2 only)	✓ (Mark2 only)	—
microSD memory card	✓	✓ <sup>*1</sup>	✓ <sup>*1</sup>	—
microSDHC memory card	✓	✓ <sup>*1</sup>	✓ <sup>*1</sup>	✓ <sup>*2</sup>
microSDXC memory card	✓	✓ <sup>*1</sup>	✓ <sup>*1</sup>	✓ <sup>*2</sup>

<sup>\*1</sup> SD Speed Class 4 ( **CLASS 4** ) or faster, or UHS Speed Class 1 ( **U1** ) or faster

<sup>\*2</sup> SD Speed Class 10 ( **CLASS 10** ), or UHS Speed Class 1 ( **U1** ) or faster

- For details on the number of recordable still images and recordable duration of movies, refer to pages 43 to 44. Check the tables to select a memory card with the desired capacity.

### Notes

- When a microSDHC memory card is used to record XAVC S or MP4 movies over extended periods of time, the recorded movies will be divided into files of 4 GB. The divided files can be integrated into a single file using PlayMemories Home.
- Not all memory cards are guaranteed to operate correctly. For memory cards produced by manufacturers other than Sony, consult the manufacturers of the products.

## To remove the memory card/battery pack

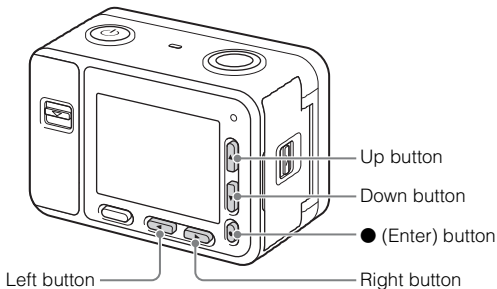
Memory card: Push the memory card in once to eject the memory card.

Battery pack: Make sure that the camera is turned off, then slide the battery lock lever. Be sure not to drop the battery pack.

### Notes

- Never remove the memory card/battery pack when the access lamp (page 12) is lit. This may cause damage to data in the memory card.

## Setting the language and the clock



Select items: Up button/down button/left button/right button

Set the numeric value of date and time: Up button/down button

Set: ● (Enter) button

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### 1 Press the (On/Standby) button.

Language setting screen is displayed when you turn on the camera for the first time.

- It may take time for the power to turn on and allow operation.

### 2 Select a desired language, then press the ● (Enter) button.

Date & Time setting screen is displayed.

### 3 When the message [Set Area/Date/Time.] is displayed, select [Enter] and press the ● (Enter) button.

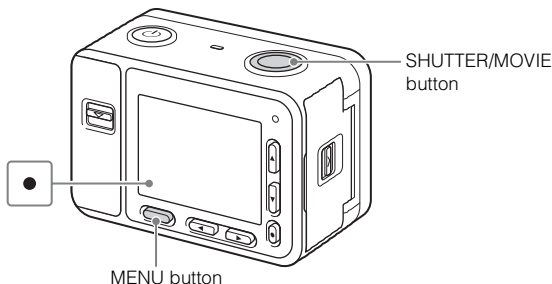
### 4 Select a desired geographic location by following the on-screen instructions, then press the ● (Enter) button.

### 5 Set [Daylight Savings], [Date/Time] and [Date Format], then press the ● (Enter) button.

- When setting [Date/Time], midnight is 12:00 AM, and noon is 12:00 PM.

### 6 Check that [Enter] is selected, then press the ● (Enter) button.

## Shooting still images/movies



### Shooting still images

- 1 Select MENU → 1 (Camera Settings1) → [Shoot Mode] → [Intelligent Auto].
- 2 Press the SHUTTER/MOVIE button halfway down to focus.  
When the image is in focus, a beep sounds and the focus indicator (●) lights.
- 3 Press the SHUTTER/MOVIE button fully down to shoot an image.

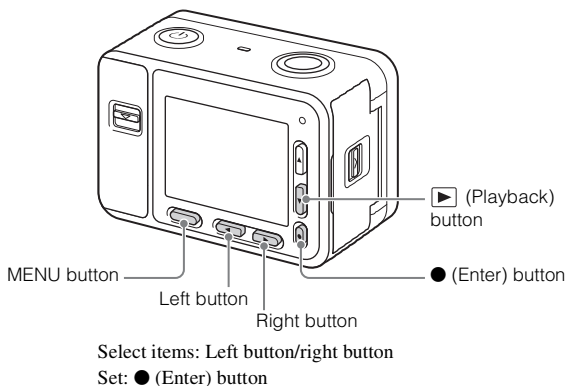
### Shooting movies

- 1 Select MENU → 1 (Camera Settings1) → [Shoot Mode] → (Intelligent Auto).
- 2 Press the SHUTTER/MOVIE button to start recording.
  - Focusing is not necessary in regular movie shooting. When shooting subjects at close distances of approximately 50 cm to 1 m (1.7 ft. to 3.3 ft.) from the camera, set [NEAR Mode in PF] to [On] (page 26).
- 3 Press the SHUTTER/MOVIE button again to stop recording.

## Notes

- The monitor turns off after approximately one minute without any operations by the user during movie recording (default setting). To turn on the monitor again, press either the MENU button, any of the up/down/left/right buttons, or the **●** (Enter) button. If you set MENU → **2** (Camera Settings2) → [Mon. Off dur REC] to [Off], the monitor will not turn off during movie recording (page 27).
- Sound from camera operations is recorded during movie recording. The sound of the SHUTTER/MOVIE button operating may be recorded when movie recording is finished.
- Recording may stop to protect the camera depending on the ambient temperature.
- When shooting under water, shoot with a faster shutter speed. Refer to the “Help Guide” (page 2) for details on settings for underwater shooting.

## Viewing images



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**1** Press the **▶** (Playback) button.

---


### ■ Selecting next/previous image

Select an image by pressing left button or right button. Press the **●** (Enter) button to view movies.

## ■ Deleting an image

- ① Press the  (Playback) button to switch to the playback mode.
- ② Select MENU →  (Playback) → [Delete].
- ③ Select images to delete on the screen, and then press the  (Enter) button.

## ■ Returning to shooting images

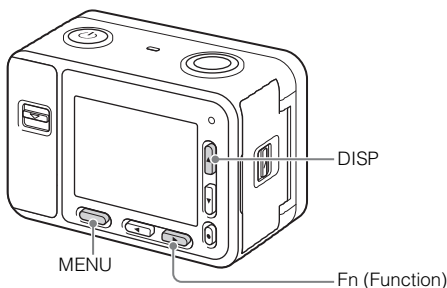
Select MENU →  (Playback) → [Shoot./PB Selector] to return to the shooting mode.

- You can also go back to the shooting mode by pressing the SHUTTER/ MOVIE button halfway down.

### Notes

- If you try to play back images right after continuous shooting, the monitor may display an icon indicating that data is being written/the number of images left to write. During writing, some functions are not available.

## Introduction of other functions



## ■ DISP (Display switching) button

Allows you to change the screen display.












## ■ Fn (Function) button


Allows you to register 12 functions and recall those functions when shooting.

- ① Press the Fn (Function) button.
- ② Select the desired function by pressing the up/down/left/right button, then press the **●** (Enter) button.
- ③ Select a setting following the operating guide and then press the **●** (Enter) button.

## ■ Menu Items









### 1 (Camera Settings1)


Quality/Image Size	
 Quality	Sets the image quality for still images.
 Image Size	Selects the size of still images.
 Aspect Ratio	Selects the aspect ratio for still images.
 High ISO NR	Sets noise reduction processing for high-sensitivity shooting.
 Color Space	Changes the range of reproducible colors.
Shoot Mode/Drive	
Shoot Mode	Sets the shooting mode.
Drive Mode	Sets the drive mode, such as for continuous shooting.
Bracket Settings	Sets self-timer shooting in bracket mode, shooting order for exposure bracketing, and white balance bracketing.
 1/  2 Recall	Selects a setting registered in advance when the [Shoot Mode] is set to [Memory recall].
 1/  2 Memory	Registers the desired modes or camera settings.
AF	
Focus Mode	Selects the focus method.
Focus Area	Selects the area of focus.
<b>●</b> button Lock-on AF	Sets the function to track a subject when pressing the <b>●</b> (Enter) button in the shooting screen.
AF Area Auto Clear	Sets whether the focus area should be displayed all the time or disappear shortly after the focus is achieved.

NEAR Mode in PF	Sets the camera to focus at short distances when [Focus Mode] is set to [Preset Focus].
Set Focus	Adjusts the focus when the camera is in the manual focus mode.
<b>Exposure</b>	
Shutter Speed	Sets the shutter speed.
Exposure Comp.	Compensates for the brightness of the entire image.
ISO	Sets the ISO sensitivity.
ISO AUTO Min. SS	Sets the slowest shutter speed at which ISO sensitivity will start to change in [ISO AUTO] mode.
Metering Mode	Selects the method for measuring brightness.
 AEL w/ shutter	Sets whether to perform AEL when the SHUTTER/ MOVIE button is half pressed. This is useful when you want to adjust the focus and exposure separately.
<b>Color/WB/Img. Processing</b>	
White Balance	Adjusts color tones of an image.
DRO/Auto HDR	Compensates automatically for brightness and contrast.
Creative Style	Selects the desired image processing. You can also adjust contrast, saturation and sharpness.
Picture Effect	Selects the desired effect filter to achieve a more impressive and artistic expression.
Picture Profile	Changes settings such as color and tone.
<b>Focus Assist</b>	
Focus Magnif. Time	Sets the length of time the image will be shown in an enlarged form.
MF Assist	Displays an enlarged image when focusing manually.
Peaking Level	Enhances the outline of in-focus ranges with a specific color when focusing manually.
Peaking Color	Sets the color used for the peaking function.
<b>Face Detection/Shoot Assist</b>	
Face Detection	Selects to detect faces and adjust various settings automatically.

Face Registration	Registers or changes the person to be given priority in the focus.
-------------------	--


## 2 (Camera Settings2)

Movie	
 Exposure Mode	Selects the exposure mode during High Frame Rate shooting to suit your subject or effect.
 File Format	Selects the movie file format.
 Record Setting	Selects a frame-rate and bit-rate for the movie.
 HFR Settings	Sets the High Frame Rate shooting settings.
Dual Video REC	Sets whether to simultaneously record an XAVC S movie and MP4 movie or an AVCHD movie and MP4 movie.
 Auto Slow Shut.	Sets the function that automatically adjusts the shutter speed following the brightness of the environment in movie mode.
Audio Recording	Sets whether to record audio when shooting a movie.
Audio Rec Level	Adjusts the audio recording level.
Audio Level Display	Sets whether to display the audio level on the monitor.
Wind Noise Reduct.	Reduces wind noise during movie recording.
 Marker Display	Sets whether to display the marker on the monitor when recording movies.
 Marker Settings	Sets the marker displayed on the monitor when recording movies.
 Mon. Off dur REC	Sets whether to turn off the monitor automatically after approximately one minute without any operations by the user when recording movies.
REC Lamp	Turn off the recording lamp when recording movies so that light from the lamp will not be reflected on the subject.
Shutter	
Release w/o Card	Sets whether to release the shutter when a memory card is not inserted.



Display/Auto Review	
Zebra	Displays stripes to adjust brightness.
Grid Line	Sets a grid line display to enable alignment to a structural outline.
Live View Display	Sets whether or not to reflect settings such as exposure compensation in screen display.
Auto Review	Sets auto review to display the captured image after shooting.
Custom Operation	
Custom Key(Shoot.)	Assigning functions to the various keys allows you to perform operations more quickly by pressing the keys when shooting images.
Function Menu Set.	Customizes the functions displayed when the Fn (Function) button is pressed.
MOVIE Button	Sets whether to activate the [MOVIE] function whenever the button to which [MOVIE] has been assigned using [Custom Key(Shoot.)] is pressed.
Audio signals	Sets the operating sound of the camera.
 Write Date	Sets whether to record a shooting date on the still image.

## (Network)

Send to Smartphone	Transfers images to display on a smartphone.
Send to Computer	Backs up images by transferring them to a computer connected to a network.
View on TV	You can view images on a network-enabled TV.
Ctrl w/ Smartphone	You can shoot still images/movies using a smartphone as the remote controller for the camera. Still images/movies shot via remote control can be saved to the smartphone.
Airplane Mode	You can set this device to not perform wireless communications.
Wi-Fi Settings	Allows you to register your access point and check or change the Wi-Fi connection information.



Bluetooth Settings	Controls the settings for connecting the camera with a smartphone via a Bluetooth connection.
 Remote Power Set.	Sets the function that lets the camera be turned on/off from a smartphone via a Bluetooth connection.
Edit Device Name	You can change the device name under Wi-Fi Direct, etc.
Reset Network Set.	Resets all network settings.

## (Playback)

Shoot./PB Selector	Switches between the shooting mode and playback mode.
Delete	Deletes an image.
View Mode	Sets the way in which images are grouped for playback.
Image Index	Displays multiple images at the same time.
Slide Show	Shows a slide show.
Rotate	Rotates the image.
 Enlarge Image	Enlarges the playback images.
 Enlarge Initial Pos.	Sets the initial position when enlarging an image during playback.
4K Still Image PB	Outputs 4K still images to a 4K compatible TV connected via HDMI.
Protect	Protects the images.
Specify Printing	Adds a print order mark to a still image.

## (Setup)

Monitor Brightness	Sets the monitor brightness.
Gamma Disp. Assist	Converts an S-Log image to an ITU709-equivalent image and displays it on the monitor.
Volume Settings	Sets the volume for movie playback.
Tile Menu	Sets whether to display the tile menu every time you press the MENU button.

Pwr Save Start Time	Sets the length of time until the camera turns off automatically.
Auto Pwr OFF Temp.	Sets the camera temperature at which the camera turns off automatically during shooting. When shooting in hand-held mode, set to [Standard].
Flip	Sets whether or not to record images upside down. When [On] is selected, audio is also recorded with the left and right reversed. The functions of the up/down buttons and left/right buttons are also reversed.
NTSC/PAL Selector	By changing the TV format of the device, shooting in a different movie format is possible.
Demo Mode	Sets demonstration playback of a movie to on or off.
TC/UB Settings	Sets the time code (TC) and user bit (UB).
HDMI Settings	Sets the HDMI settings.
 HDMI 4K Output	Sets the HDMI output when the movie mode is selected, and when connecting with 4K compatible devices, such as recorders.
USB Connection	Sets the USB connection method.
USB LUN Setting	Enhances compatibility by limiting the functions of the USB connection. Set to [Multi] in normal conditions and to [Single] only when the connection between the camera and a computer or AV component cannot be established.
USB Power Supply	Sets whether to supply power via USB connection when the camera is connected to a computer or USB device using a micro USB cable.
PC Remote Settings	Sets the PC remote shooting settings.
 Language	Selects the language.
Date/Time Setup	Sets date and time, and daylight savings.
Area Setting	Sets the location of use.
Copyright Info	Sets copyright information for still images.
Format	Formats the memory card.
File Number	Sets the method used to assign file numbers to still images and movies.

Set File Name	Changes the first 3 characters of the file name for still images.
Select REC Folder	Changes the selected folder for storing still images and movies (MP4).
New Folder	Creates a new folder for storing still images and movies (MP4).
Folder Name	Sets the folder format for still images.
Recover Image DB	Recovers the image database file and enables recording and playback.
Display Media Info.	Displays the remaining recording time of movies and the recordable number of still images on the memory card.
Version	Displays the camera software version.
Setting Reset	Restores settings to their defaults.

## Using software

Installing the following software to your computer will make your camera experience more convenient.

- PlayMemories Home: Imports images to your computer and lets you use them in different ways (page 33).
- Image Data Converter: Displays RAW images and processes them.
- Remote Camera Control: Controls a camera connected to your computer via a USB cable.

You can download and install these software to your computer from the following URLs.

- 
- 1 Using the Internet browser on your computer, go to one of the following URLs, and then follow the instructions on the screen to download the desired software.

Windows:

<http://www.sony.co.jp/imsoft/Win/>


Mac:

<http://www.sony.co.jp/imsoft/Mac/>

- An Internet connection is required.
- For details on operation, refer to the support page or Help page of the software.

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### Notes

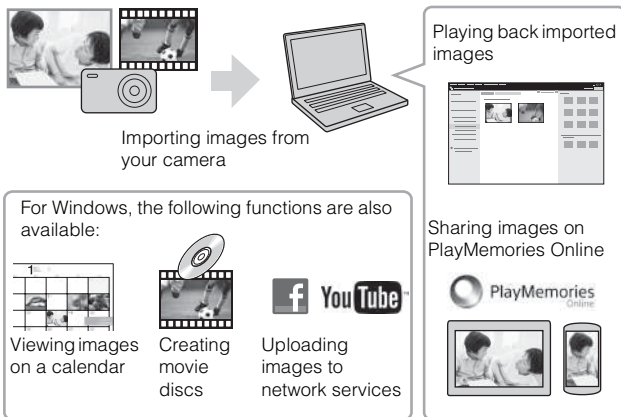
- When using Remote Camera Control, select MENU →  (Setup) → [USB Connection] → [PC Remote] and then connect the camera to your computer.




## Importing images to your computer and using them (PlayMemories Home)

The software PlayMemories Home allows you to import still images and movies to your computer and use them. PlayMemories Home is required for importing XAVC S movies and AVCHD movies to your computer.

<http://www.sony.net/pm/>



### Notes

- An Internet connection is required to use PlayMemories Online or other network services. PlayMemories Online or other network services may not be available in some countries or regions.
- If the software PMB (Picture Motion Browser), supplied with models released before 2011, has already been installed on your computer, PlayMemories Home will overwrite it during the installation. Use PlayMemories Home, the successor software of PMB.
- New functions may be installed in PlayMemories Home. Connect the camera to your computer even if PlayMemories Home is already installed on your computer.
- Do not disconnect the micro USB cable (supplied) from the camera while the operating screen or the accessing screen is displayed. Doing so may damage the data.
- To disconnect the camera from the computer, click  on the taskbar, then click [Eject DSC-RX0].

## Using the Wi-Fi/Bluetooth functions

You can perform the following operations using the camera's Wi-Fi and Bluetooth functions.

- Using the smartphone as a remote control for the camera (page 35).
- Turning the camera on/off from a smartphone (page 41).
- Transferring images from the camera to a smartphone (page 42).
- Saving images to a computer (For details, refer to "Help Guide" (page 2)).
- Transferring images from the camera to a TV and viewing them on the TV (For details, refer to "Help Guide" (page 2)).

### ■ Install the application PlayMemories Mobile on your smartphone

If you install PlayMemories Mobile on your smartphone or tablet computer, you can perform the following operations:

- Using the smartphone as a remote control for the camera (page 35).
- Turning the camera on/off from a smartphone (page 41).
- Easily transferring images recorded with your camera to the smartphone (page 42).

For the latest information on PlayMemories Mobile and details on functions, refer to the following URL.



<http://www.sony.net/pmm/>

#### Notes

- If PlayMemories Mobile is already installed on your smartphone, be sure to update it to the latest version.
- The Wi-Fi and Bluetooth functions described in this instruction manual may not work properly on some smartphones.
- You cannot use this camera's Wi-Fi functions by connecting to a public wireless LAN.
- Depending on future version upgrades, the operational procedures or screen displays are subject to change without notice.

## Controlling the camera from a smartphone

You can control the camera by connecting it with a smartphone using Wi-Fi or Bluetooth communication.

### **Wi-Fi: Single connection (page 35)**

You can control the camera from a smartphone.

### **Wi-Fi: Multiple connections (page 38)**

You can control multiple cameras from a smartphone.




### **Bluetooth connection (page 41)**

You can turn the camera on/off from a smartphone.

## ■ Controlling the camera from a smartphone via Wi-Fi (Single connection)

By connecting a smartphone with the camera via Wi-Fi, you can shoot images while checking the composition or settings on the screen of the smartphone.



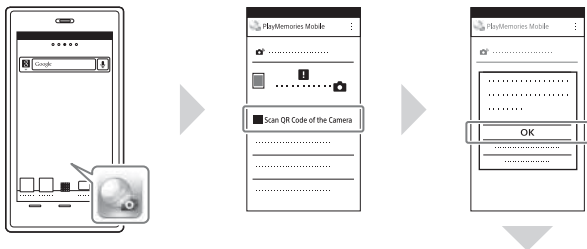
- 1 Select MENU →  (Network) → [Ctrl w/ Smartphone] and set as follows.
  - [Ctrl w/ Smartphone]: [On]
  - [ Connection Type]: [Single]
- 2 Select [ Connection Info.] under [Ctrl w/ Smartphone].  
The QR Code and SSID for a single connection will be displayed.

### 3 Scan the QR Code on the monitor of the camera with PlayMemories Mobile (installed on your smartphone) to connect.

Launch PlayMemories Mobile on your smartphone.

Select [Scan QR Code of the Camera].

Select [OK] on the smartphone screen. When a message is displayed, select [OK] again.



- If you have activated the passcode lock function for your iPhone/iPad, you will need to enter the passcode. Enter the passcode that you set for your iPhone/iPad.

Scan the QR Code.



## Android

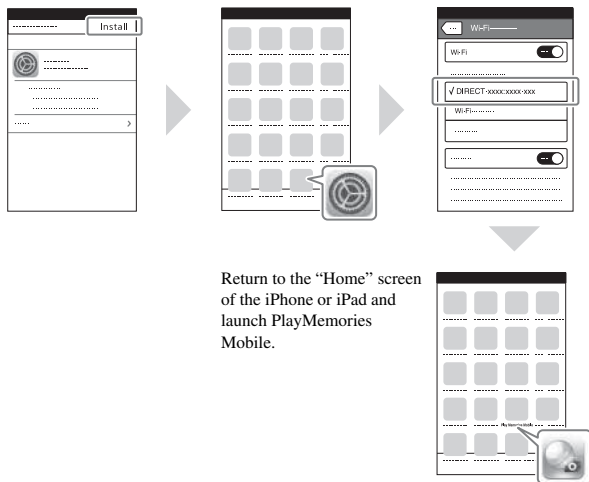
Confirm the message [Connect with the camera?] displayed on the smartphone screen and select [OK].

## iPhone/iPad

Select [OK], then complete the installation by following the instructions on the screen.

Select [Settings] on the “Home” screen → [Wi-Fi]


Select this product’s SSID (DIRECT-xxxxx).



Return to the “Home” screen of the iPhone or iPad and launch PlayMemories Mobile.

## 4 Control the camera using the smartphone.

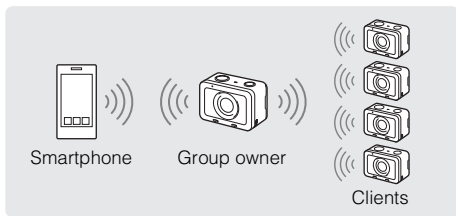
- Once the QR Code has been read, this camera’s SSID (DIRECT-xxxxx) and password are registered to the smartphone. This enables you to easily connect the smartphone to the product via Wi-Fi at a later date by selecting the SSID.
- If you cannot connect your device to the camera by following the procedure above, turn the smartphone off and on again and then retry the same procedure. Alternatively select MENU → (Network) → [Reset Network Set.] on the camera.
- If you cannot connect your device to this product using the QR Code, refer to “Help Guide” (page 2).

- The communication distance depends on the communication environment and devices to be connected.
- Wi-Fi connections are not available under water.
- Live view images may not be displayed smoothly on the screen of the smartphone depending on the surrounding radio wave condition or smartphone performance.
- When [Ctrl w/ Smartphone] is set to [On], the camera's battery is drained more quickly. Set it to [Off] when you are not using the [Ctrl w/ Smartphone] function.
- If you have performed [SSID/PW Reset] or [Edit Device Name] on the camera, you will be unable to establish a Wi-Fi connection by scanning a previously scanned QR Code. In this case, display a new QR Code by selecting [ Connection Info.] and rescan it.


## ■ Controlling multiple cameras from a smartphone via Wi-Fi (Multiple connections)


With PlayMemories Mobile, you can use a smartphone to control multiple cameras. You can control up to five cameras simultaneously.

With multiple connections, one of the cameras is set as the “group owner” and connected to the smartphone via Wi-Fi. Each of the other cameras is set as a “client” and connected to the group owner via Wi-Fi. Clients communicate with the smartphone through the group owner.

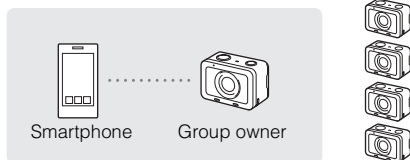


- Only the DSC-RX0 can be connected as the group owner or client.

**1** On the camera that you want to connect as the group owner, select MENU →  (Network) → [Ctrl w/ Smartphone] and set as follows.

- [Ctrl w/ Smartphone]: [On]
- [ Connection Type]: [Multi (Group Owner)]

## 2 Connect the smartphone and the group owner.



Connect the group owner to the smartphone by performing the following procedure.

- ① On the group owner, select [ Connection Info.] under [Ctrl w/ Smartphone].

The QR Code and SSID for multiple connections will be displayed.

- ② Scan the QR Code on the monitor of the group owner with PlayMemories Mobile (installed on your smartphone) to connect.

- Follow the step 3 under “Controlling the camera from a smartphone via Wi-Fi (Single connection)” (page 36) to connect the camera to the smartphone.

- Once the camera is connected as the group owner, is displayed in white on the shooting screen of the camera.

## 3 On a camera that you want to connect as a client, select MENU → (Network) → [Ctrl w/ Smartphone] and set as follows.

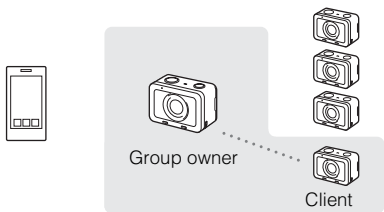
- [Ctrl w/ Smartphone]: [On]
- [ Connection Type]: [Multi (Client)]

If the camera has been connected as a client before, the camera will connect to the previous group owner automatically.

If you are connecting the camera as a client for the first time, or if the camera cannot be connected to the previous group owner, you need to set the access point.

Perform the following procedure.

## 4 Connect the group owner and the client (only for the first time).



Connect the client to the group owner by performing the following procedure.

- ① On the client, perform [WPS Push].
- ② On the group owner, select MENU → (Network) → [Ctrl w/ Smartphone] → [WPS Push].
  - While the MENU screen is displayed, the smartphone and the group owner or client will be disconnected temporarily. The connection will be reestablished automatically when you return to the shooting screen.
- ③ When the client detects the SSID of the group owner, select [OK].
  - Once the camera is connected as a client, is displayed in white on the shooting screen of the camera.
  - If you want to add more clients, repeat steps 3 and 4.
  - When you have finished connecting all the clients, return the group owner to the shooting screen.

- 
- When establishing multiple connections for the second time or later, you can establish connections with the same settings as the last time by setting the same camera as the group owner. If you want to change the group owner camera, you need to reconnect the smartphone with the group owner and the group owner with the clients.
  - By selecting MENU → (Network) → [Ctrl w/ Smartphone] → [Access Point (Client)] on a client, you can check and change the group owner for multiple connections.



## Notes

- The communication distance depends on the communication environment and devices to be connected.
- Wi-Fi connections are not available under water.
- Live view images may not be displayed smoothly on the screen of the smartphone depending on the surrounding radio wave condition or smartphone performance.
- When [Ctrl w/ Smartphone] is set to [On], the camera's battery is drained more quickly. Set it to [Off] when you are not using the [Ctrl w/ Smartphone] function.
- If you have performed [SSID/PW Reset] or [Edit Device Name] on the group owner, you will be unable to establish a Wi-Fi connection between the group owner and a smartphone or clients that you previously connected with multiple connections. In this case, follow the steps 2 to 4 (page 39, 40) again to reestablish the connections between the smartphone and the group owner, and between the group owner and the clients.
- While you are operating MENU, the Wi-Fi function is temporarily deactivated. Thus, if you operate MENU on the group owner, all of the clients and the smartphone will be disconnected. The connection will be reestablished if you exit MENU within a certain period of time.
- When you set the cameras in place, position them so that the distance between the group owner and the farthest client is as short as possible.

## ■ Turning the camera on/off from a smartphone using the Bluetooth function

You can turn the camera on or off by operating a smartphone connected to the camera via the Bluetooth function.

For details, refer to the "Help Guide" (page 2).

## Notes

- When [Bluetooth Function] is set to [On], the camera's battery will drain gradually even if the camera is turned off. Set [Bluetooth Function] to [Off] when you are not using the Bluetooth function.

## Transferring images from the camera to a smartphone via Wi-Fi

You can transfer still images or MP4 format movies to a smartphone.

- You can only transfer images that are saved on the camera's memory card.

---

**1** Display an image to be transferred on the camera.

**2** Select MENU →  (Network)  
→ [Send to Smartphone] →  
[Select on This Device] →  
[This Image].



MENU button

**3** Connect the camera with a smartphone via Wi-Fi (page 35).

The image will be transferred from the camera to the smartphone.

- Transferred images are saved to a picture gallery/album on an Android or to an album on an iPhone/iPad.
-

## Number of still images and recordable time of movies

The number of still images and recordable time may vary depending on the shooting conditions and the memory card.



### ■ Still images

The table below shows the approximate number of images that can be recorded on a memory card formatted with this camera.

[ Image Size]: L: 15M

When [ Aspect Ratio] is set to [3:2]\*

Quality	Number of still images		
	8 GB	32 GB	128 GB
Standard	1450 images	6000 images	24000 images
Fine	880 images	3550 images	14000 images
Extra fine	660 images	2650 images	10500 images
RAW & JPEG	300 images	1200 images	4900 images
RAW	460 images	1850 images	7400 images

\* When the [ Aspect Ratio] is set to other than [3:2], you can record more pictures than shown above. (Except when [ Quality] is set to [RAW].)

#### Notes

- The numbers shown are when using a Sony memory card.

## **Movies**

The table below shows the approximate total recording times using a memory card formatted with this camera. The recording time for XAVC S and AVCHD movies is the recording time when shooting with [Dual Video REC] set to [Off].

File Format	Record Setting	Recordable time (h (hour), m (minute))		
		8 GB	32 GB	128 GB
XAVC S HD	120p 50M/100p 50M	15 m	1 h 15 m	5 h 10 m
	60p 50M/50p 50M	15 m	1 h 15 m	5 h 10 m
	30p 50M/25p 50M	15 m	1 h 15 m	5 h 10 m
	24p 50M*/ –	15 m	1 h 15 m	5 h 10 m
AVCHD	60i 24M(FX)/50i 24M(FX)	40 m	3 h	12 h 5 m
	60i 17M(FH)/50i 17M(FH)	55 m	4 h 5 m	16 h 35 m
	60p 28M(PS)/50p 28M(PS)	35 m	2 h 30 m	10 h 15 m
	24p 24M(FX)/25p 24M(FX)	40 m	3 h	12 h 5 m
	24p 17M(FH)/25p 17M(FH)	55 m	4 h 5 m	16 h 35 m
MP4	1920×1080 60p 28M/ 1920×1080 50p 28M	35 m	2 h 35 m	10 h 40 m
	1920×1080 30p 16M/ 1920×1080 25p 16M	1 h	4 h 10 m	16 h 55 m
	1280×720 30p 6M/ 1280×720 25p 6M	2 h 35 m	10 h 55 m	44 h 10 m

\* only when [NTSC/PAL Selector] is set to [NTSC].

### **Notes**

- The continuous recordable time for movies is approximately 13 hours at maximum.
- The recordable time of movies varies because the camera is equipped with VBR (Variable Bit-Rate), which automatically adjusts image quality depending on the shooting scene. When you record a fast-moving subject, the image is clearer but the recordable time is shorter because more memory is required for recording. The recordable time also varies depending on the shooting conditions, the subject or the image quality/size settings.
- The times shown are recordable times using a Sony memory card.

## Notes on continuous movie recording

- It requires a lot of power to perform high quality movie recording or continuous shooting. Therefore, if you continue to shoot, the temperature inside the camera will rise, especially that of the image sensor. In such cases, the camera will turn off automatically because the surface of the camera is heated to a high temperature or the high temperature affects the quality of the images or the internal mechanism of the camera.
- The duration of time available for continuous movie recording is as follows when the camera starts recording after the power of the camera has been turned off for a while. The following values indicate the continuous time from when the camera starts recording until the camera stops recording.

XAVC S HD (60p 50M/50p 50M)


[Auto Pwr OFF Temp.]: [Standard]

Ambient temperature	[Ctrl w/ Smartphone]: [Off]	[Ctrl w/ Smartphone]: [On]
20 °C (68 °F)	Approx. 45 min.	Approx. 20 min.
30 °C (86 °F)	Approx. 25 min.	Approx. 15 min.
40 °C (104 °F)	Approx. 25 min.	Approx. 15 min.

XAVC S HD (60p 50M/50p 50M)

[Auto Pwr OFF Temp.]: [High]

Ambient temperature	[Ctrl w/ Smartphone]: [Off]	[Ctrl w/ Smartphone]: [On]
20 °C (68 °F)	Approx. 60 min.	Approx. 50 min.
30 °C (86 °F)	Approx. 60 min.	Approx. 50 min.
40 °C (104 °F)	Approx. 25 min.	Approx. 20 min.

- The duration of time available for movie recording varies with the temperature, file format/record setting for movies, Wi-Fi network environment, or condition of the camera before you start recording. If you frequently recompose or shoot images after the power is turned on, the temperature inside the camera will rise and the recording time available will be shorter.
- When  is indicated, the temperature of the camera is too high.
- If the camera stops recording due to the temperature, leave it for some time with the power turned off. Start recording after the temperature inside the camera drops fully.
- If you observe the following points, you will be able to record movies for longer periods of time.
  - Keep the camera out of direct sunlight.
  - Turn the camera off when it is not being used.

## Notes on using the camera

### Functions built into this camera

- This camera is compatible with 1080 60p or 50p-format movies. Unlike standard recording modes up to now, which record in an interlacing method, this camera records using a progressive method. This increases the resolution, and provides a smoother, more realistic image. Movies recorded in 1080 60p/1080 50p format can be played back only on 1080 60p/1080 50p-supported devices.
- While aboard an airplane, set [Airplane Mode] to [On].

### On use and care

Avoid rough handling, disassembling, modifying, physical shock, or impact such as hammering, dropping, or stepping on the product. Be particularly careful of the lens.

### Notes on recording/playback

- Before you start recording, make a trial recording to make sure that the camera is working correctly.
- Do not directly expose the lens to beams such as laser beams. That may damage the image sensor and cause the camera to malfunction.
- Do not expose the camera to sunlight or shoot sunward for a long time. The internal mechanism may be damaged.
- If moisture condensation occurs, remove it before using the camera.
- Do not shake or strike the camera. It may cause a malfunction and you may not be able to record images. Furthermore, the recording media may become unusable or image data may be damaged.

### 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 in the sun, the camera body may become deformed and this may cause a malfunction.
- Storing under direct sunlight or near a heater  
The camera body may become discolored or deformed, and this may cause a malfunction.
- In a location subject to rocking vibration
- Near a location that generates strong radio waves, emits radiation or is strongly magnetic place. Otherwise, the camera may not properly record or play back images.

### 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.

## Notes on continuous shooting

During continuous shooting, the monitor may flash between the shooting screen and a black screen. If you keep watching the screen in this situation, you may experience uncomfortable symptoms such as feeling of unwellness. If you experience uncomfortable symptoms, stop using the camera, and consult your doctor as necessary.

## ZEISS lens

The camera is equipped with a ZEISS lens which is capable of reproducing sharp images with excellent contrast. The lens for the camera has been produced under a quality assurance system certified by ZEISS in accordance with the quality standards of ZEISS in Germany.

## Notes on the monitor

The monitor is manufactured using extremely high-precision technology, and over 99.99% of the pixels are operational for effective use. However, some tiny black and/or bright dots (white, red, blue or green) may appear on the monitor. These dots are a normal result of the manufacturing process, and do not affect the recording.

## Sony accessories

Use only genuine Sony brand accessories, otherwise it may cause a malfunction. Sony brand accessories may not come to market for some countries or regions.

## Notes on recording for long periods of time

- Depending on the camera and battery temperature, you may be unable to record movies or the power may turn off automatically to protect the camera. A message will be displayed on the screen before the power turns off or you can no longer record movies. In this case, leave the power off and wait until the camera and battery temperature goes down. If you turn on the power without letting the camera and battery cool enough, the power may turn off again or you may be unable to record movies.
- 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.
- The surface of the camera may get warm. This is not a malfunction.
- If the same part of your skin touches the camera for a long period of time while using the camera, even if the camera does not feel hot to you, it may cause symptoms of a low-temperature burn such as redness or blistering. Pay special attention in the following situations and use a tripod, etc.
  - When using the camera in a high-temperature environment
  - When someone with poor circulation or impaired skin sensation uses the camera
  - When using the camera with the [Auto Pwr OFF Temp.] set to [High]

## Notes for when [Auto Pwr OFF Temp.] is set to [High]

If [Auto Pwr OFF Temp.] is set to [High], the camera may get hot due to the ability to record for a longer period of time than usual. Do not shoot while holding the camera in your hand when [Auto Pwr OFF Temp.] is set to [High]. Use a tripod, etc.



## On charging the battery

- If you charge a battery that has not been used for a long time, you may be unable to charge it to the proper capacity.  
This is due to the battery characteristics. Charge the battery again.
- Batteries which have not been used for more than a year may have become deteriorated.

## Warning on copyright

- Television programs, films, videotapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the provisions of the copyright laws.
- To prevent [Copyright Info] from being used illegally, leave [Set Photographer] and [Set Copyright] blank when you lend or transfer the camera.
- Sony bears no responsibility for any trouble or damage caused by unauthorized use of [Copyright Info].

## No guarantee in the case of damaged content or recording failures

Sony can provide no guarantees in the event of failure to record or loss or damage of recorded images or audio data due to a malfunction of the camera or recording media, etc. We recommend backing up important data.

## Cleaning the camera surface

Clean the camera surface with a soft cloth slightly moistened with water, then wipe the surface with a dry cloth. To prevent damage to the finish or casing:

- Do not expose the camera to chemical products such as thinner, benzine, alcohol, disposable cloths, insect repellent, sunscreen or insecticide.

## Maintaining the monitor

- Hand cream or moisturizer left on the monitor may dissolve its coating. If you get any on the monitor, wipe it off immediately.
- Wiping forcefully with tissue paper or other materials can damage the coating.
- If fingerprints or debris are stuck to the monitor, we recommend that you gently remove any debris and then wipe the monitor clean with a soft cloth.



## **Notes on wireless LAN**

We assume no responsibility whatsoever for any damage caused by unauthorized access to, or unauthorized use of, destinations loaded on the camera, resulting from loss or theft.

## **Notes on security when using wireless LAN products**

- Always make sure that you are using a secure wireless LAN to avoid hacking, access by malicious third parties, or other vulnerabilities.
- It is important that you set the security settings when using a wireless LAN.
- If a security problem arises because no security precautions are in place or due to any inevitable circumstances when using a wireless LAN, Sony bears no responsibility for the loss or damage.

## Notes on High Frame Rate shooting

### Playback speed

The playback speed will vary as below depending on the assigned [HFR Frame Rate] and [HFR Record Setting].

[HFR] Frame Rate	[HFR] Record Setting		
	24p 50M*	30p 50M/ 25p 50M	60p 50M/ 50p 50M
240fps/250fps	10 times slower	8 times slower/ 10 times slower	4 times slower/ 5 times slower
480fps/500fps	20 times slower	16 times slower/ 20 times slower	8 times slower/ 10 times slower
960fps/1000fps	40 times slower	32 times slower/ 40 times slower	16 times slower/ 20 times slower

\* only when [NTSC/PAL Selector] is set to [NTSC].

### [HFR] Priority Setting] and recordable duration

[HFR] Priority Setting	[HFR] Frame Rate	Effective pixel number read out from image sensor	Recordable duration
Quality Priority	240fps/250fps	1676 × 942	Approx. 2 seconds
	480fps/500fps	1676 × 566	
	960fps/1000fps	1136 × 384	
Shoot Time Priority	240fps/250fps	1676 × 566	Approx. 4 seconds
	480fps/500fps	1136 × 384	
	960fps/1000fps	800 × 270	

### Playback time

For example, if you shoot for approx. 4 seconds with [HFR Record Setting] set to [24p 50M]\*, [HFR Frame Rate] set to [960fps], and [HFR Priority Setting] set to [Shoot Time Priority], the playback speed will be 40 times slower and the playback time will be approx. 160 seconds (approx. 2 minutes and 40 seconds).

\* Only when [NTSC/PAL Selector] is set to NTSC.

### Notes

- Sound will not be recorded.
- The movie will be recorded in XAVC S HD format.

# Specifications

## Camera

### [System]

Image device: 13.2 mm × 8.8 mm

(1.0 type) CMOS sensor

Effective pixel number of camera:

Approx. 15.3 Megapixels

Total pixel number of camera:

Approx. 21.0 Megapixels

Lens: ZEISS Tessar T\* single focus lens

f = 7.7 mm (24 mm (35 mm film equivalent)), F4.0

While shooting movies (HD 16:9):  
24 mm

File format (Still images): JPEG (DCF,

Exif, MPF Baseline) compliant,

RAW (Sony ARW 2.3 Format),

DPOF compatible

File format (Movies):

XAVC S format (XAVC S format compliant):

Video: MPEG-4 AVC/H.264

Audio: LPCM 2ch (48 kHz 16 bit)

AVCHD format (AVCHD format

Ver. 2.0 compatible):

Video: MPEG-4 AVC/H.264

Audio: Dolby Digital 2ch,  
equipped with Dolby Digital Stereo Creator

- Manufactured under license from Dolby Laboratories.

Movies (MP4 format):

Video: MPEG-4 AVC/H.264

Audio: MPEG-4 AAC-LC 2ch

Recording media:

Memory Stick Micro media,  
microSD memory cards

### [Input/Output connectors]

HDMI connector: HDMI micro jack  
Multi/Micro USB Terminal\*:

USB communication

USB communication:

Hi-Speed USB (USB 2.0)

\* Supports Micro USB compatible device.

● (Microphone) terminal:

Ø 3.5 mm Stereo mini jack  
(supporting plug-in power)

### [Monitor]

LCD monitor: 3.8 cm (1.5 type)

Total number of dots: 230 400 dots

### [Power, general]

Model No. WW620081

Rated input:

3.7 V , 1.3 W

Operating temperature: 0 to 40 °C

(32 to 104 °F)

Storage temperature: -20 to 55 °C

(-4 to 131 °F)

Dimensions (Approx.):

59.0 × 40.5 × 29.8 mm (2 3/8 ×

1 5/8 × 1 3/16 inches) (W/H/D)

Mass (Approx.):

110 g (3.9 oz) (including battery pack, microSD card)

Microphone: Stereo

Speaker: Monaural

Exif Print: Compatible

PRINT Image Matching III:

Compatible

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## [Wireless LAN]

Supported standard: IEEE 802.11 b/g/n

Frequency: 2.4 GHz

Supported security protocols: WEP/  
WPA-PSK/WPA2-PSK

Configuration method: Wi-Fi Protected  
Setup™ (WPS) / manual

Access method: Infrastructure Mode


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## [Bluetooth communications]

Bluetooth standard Ver. 4.1


Frequency band: 2.4 GHz

## AC Adaptor AC-UUD12

Rated input: 100-240 V ,  
50/60 Hz, 0.2 A



Rated output: 5 V , 1.5 A

## Rechargeable Battery Pack NP-BJ1

Rated voltage: 3.7 V 

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