SONY

Digital Still Camera   DSC-RX100

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Charging the battery pack

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Confirming the operation method

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-

-

-

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-

-

-

-

Precautions/This product

Precautions

-

-

-

-

-

Cleaning this product

-

Number of recordable still images and recordable time of movies

-

-

Using this product abroad

-

-

Other information

- ZEISS lens [177]

- AVCHD format [178]

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If you have problems

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Messages

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[1] How to Use │ Before Use │ Names of parts
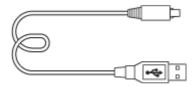
Checking the camera and the supplied items

The number in parentheses indicates the number of pieces.
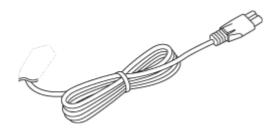
- Camera (1)
- NP-BX1 Rechargeable battery pack (1)

- Micro USB Cable (1)

- AC Adaptor (1)
- Power cord (mains lead) (1)* (supplied in some countries/regions)

  * Multiple power cords may be supplied with your camera. Use the appropriate one that matches your country/region.

- Wrist Strap (1)
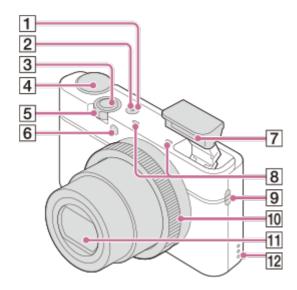
- Strap adapter (2)

- Instruction Manual (1)
- Reference Guide (1)
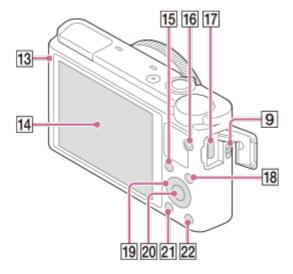
Identifying parts

1. ON/OFF (Power) button
2. Power/Charge lamp
3. Shutter button
4. Mode dial
5. For shooting: W/T (zoom) lever
   For viewing: � (Index) lever/Q (Playback zoom) lever
6. Self-timer lamp/Smile Shutter lamp/AF Illuminator
7. Flash
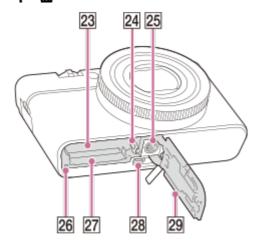
   - Do not cover the flash with your finger.
   - When using the flash, the flash pops up automatically. If not using the flash, press it down manually.

8. Microphone
9. Hook for strap
10. Control ring
11. Lens
12. Speaker

13. Light sensor
14. Monitor
15. Fn (Function) button
16. MOVIE (Movie) button

17. Micro USB connector
18. MENU button
19. Control wheel
20. Center button
21. ▶ (Playback) button
22. ?/🗑 (In-Camera Guide/Delete) button
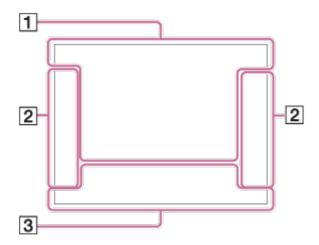
23. Battery insertion slot
24. Battery lock lever
25. Tripod socket hole

   - Use a tripod with a screw less than 5.5 mm (7/32 inches) long. Otherwise, you
     cannot firmly secure the camera, and damage to the camera may occur.

26. Access lamp
27. Memory card slot
28. HDMI micro jack
29. Battery/Memory card cover

[3] How to Use │ Before Use │ Icons and indicators
List of icons on the screen
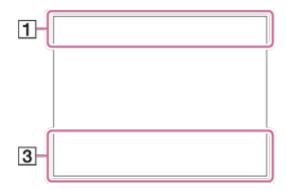
The displayed contents and their positions shown below are just a guideline, and may differ
from the actual display.

For shooting

For playback

1. ![icons] i📷 i📷⁺ P P* A S M ⅈ🎞 🎞P 🎞A 🎞S 🎞M ▭
   Shoot Mode

   1️⃣ 2 3
   Memory recall

   🔲 NO CARD 📶 📶OFF 📶↓↑ 📶⋮ 📶↑ 📶❗
   Memory card/Upload

   🌙 👤 🖼 👥 ⛰ 🌷 👤 🌊 🔆 🕯 🐾 🏃 🚶 🏃 🚶
   Scene Recognition icons

   🚫 🎇 🌷 ⛰ 🌅 🌙 🌃 ✋ 👤 ((👤)) 🐱 🍴 ✳ ɪꜱᴏ
   Scene Selection

   100
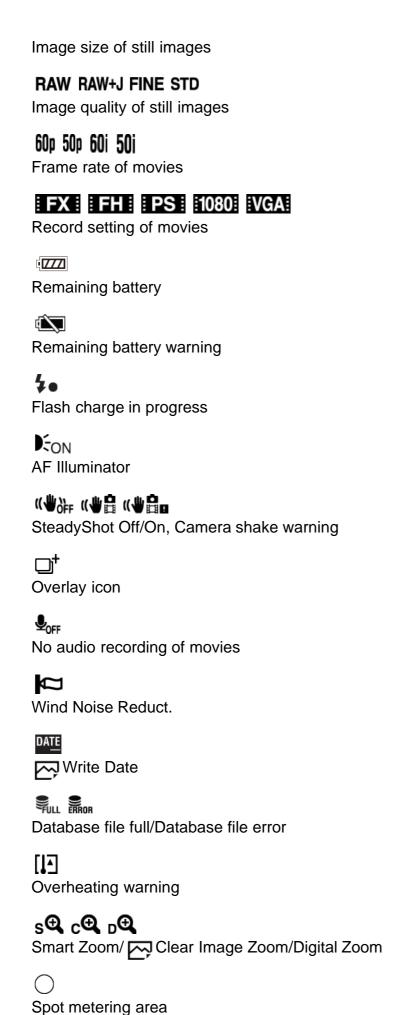
   Remaining number of recordable images

   3:2 **4:3** **16:9** **1:1**
   Aspect ratio of still images
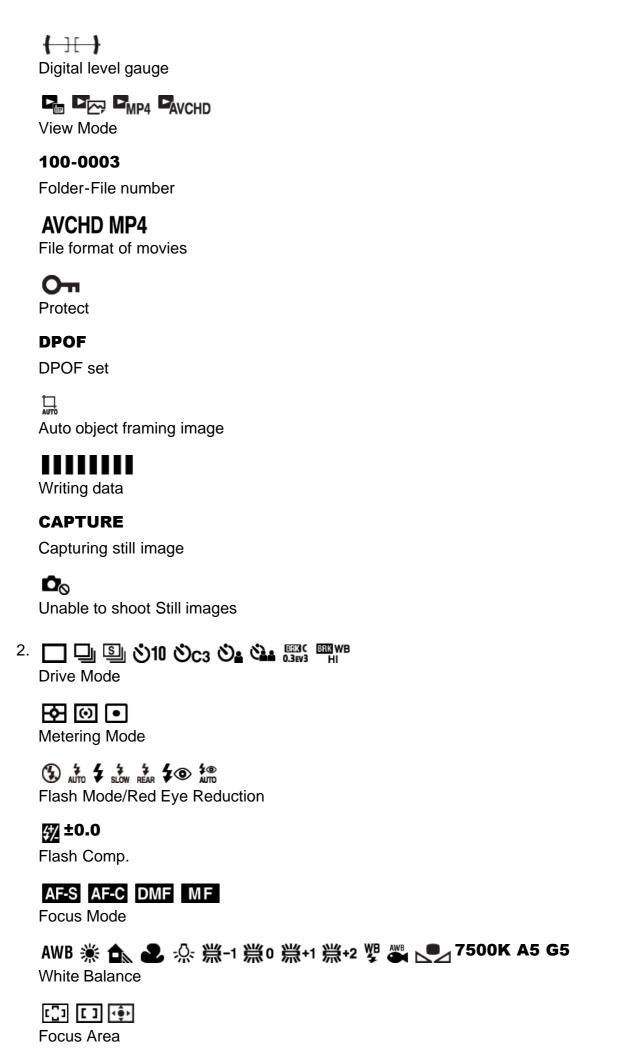
   20M / 18M / 17M / 13M / 10M / 7.5M / 6.5M / 5.0M / 4.2M / 3.7M / 3.2M / VGA

   ⬌ WIDE ⬌ STD

Image size of still images

RAW RAW+J FINE STD

Image quality of still images

60p 50p 60i 50i

Frame rate of movies

FX FH PS 1080 VGA

Record setting of movies

Remaining battery

Remaining battery warning

Flash charge in progress

AF Illuminator

SteadyShot Off/On, Camera shake warning

Overlay icon

No audio recording of movies

Wind Noise Reduct.

Write Date

Database file full/Database file error

Overheating warning

Smart Zoom/ Clear Image Zoom/Digital Zoom

Spot metering area

C:32:00

Self-diagnosis display

|⊢⊣|

Digital level gauge

▶ ▶ ▶MP4 ▶AVCHD

View Mode

100-0003

Folder-File number

AVCHD MP4

File format of movies

O⊓

Protect

DPOF

DPOF set

□AUTO

Auto object framing image

▌▌▌▌▌▌▌

Writing data

CAPTURE

Capturing still image

📷⊘

Unable to shoot Still images

2. **□ ⊒ Ⓢ ⟳10 ⟳C3 ⟳⎃ ⟳⎃⎃ BRK⎁C 0.3EV3 BRK⎁WB HI**

Drive Mode

⊞ ⊙ •

Metering Mode

⊘ ⚡AUTO ⚡ ⚡SLOW ⚡REAR ⚡⊙ ⚡⊙AUTO

Flash Mode/Red Eye Reduction

⚡± ±0.0

Flash Comp.

AF-S AF-C DMF MF

Focus Mode

AWB ☀ ⛅ ☁ ☼ ⚡-1 ⚡0 ⚡+1 ⚡+2 WB AWB ▦ 7500K A5 G5

White Balance

⟦⋯⟧ ⟦ ⟧ ⊡

Focus Area

D-R OFF **DRO AUTO** **HDR AUTO**

DRO/Auto HDR

OFF **LO** **MID** **HI**

Soft Skin Effect

Std. Vivid Port. Land. Sunset B/W **+3 +3 +3**

Creative Style/Contrast, Saturation, Sharpness

OFF **ON** **ON** **ON** **ON**

Smile/Face Detect.

Toy Norm Pop Pos Pos Rtro SftH key Part R Part G Part B Part Y HC BW Soft Mid Pntg Mid Rich BW Mini AUTO WtrC Ilus Mid OFF

Picture Effect

[☻]

Smile detection sensitivity indicator

3. **● Lock-on AF**
   ● Lock-on AF Cancel

Guide display for Lock-on AF

▼ Switch Av/Tv

Guide display for switching aperture value and shutter speed

REC 0:12

Recording time of the movie (m:s)

ZOOM

Control ring function

P*

Control wheel function

● (●) ( )

Focus

1/250

Shutter speed

F3.5

Aperture Value
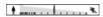
M.M. ±0.0

Metered Manual

±0.0

Exposure compensation

ISO400

ISO sensitivity

✱

AE lock

Shutter speed indicator

Aperture indicator

Histogram

Picture Effect error

Auto HDR image warning

2017-1-1
10:37AM

Date of recording
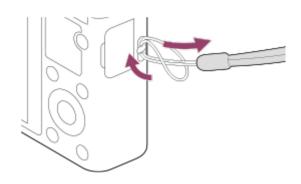
3/7

File number/Number of images in the view mode

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[4] How to Use │ Before Use │ Using the strap
Using the wrist strap

Attach the wrist strap and place your hand through the loop to prevent damage caused by dropping the product.

Using the shoulder strap (sold separately)

Attach the shoulder strap to prevent damage caused by dropping the product.

1. Attach the strap adaptors to the strap hooks on either side of the product.

2. Attach the shoulder strap (sold separately) to the strap adaptors.

In-Camera Guide

The [In-Camera Guide] displays descriptions of MENU items, Fn (Function) button, and settings, and if a function cannot be set, the reason why.

1. Press the MENU or Fn button.

2. Select the desired MENU item using up/down/left/right side on the control wheel.

3. Press the ? / 🗑 (In-Camera Guide/Delete) button.
   The operation guide for the MENU item you have selected in step 2 is displayed.

   - If you press the center button after selecting an item shown in gray, the reason the item cannot be set is displayed.

[7] How to Use │ Before Use │ Using guides

Shooting tips

The camera displays shooting tips for the selected shooting mode.

1. Press the ? / 🗑 (In-Camera Guide/Delete) button in one of the shooting modes.

2. Select a shooting tip by pressing the top/bottom of the control wheel, and then press the center button.
   The shooting tip will be displayed.

   - You can scroll using the top/bottom of the control wheel.
   - You can browse other shooting tips using the left/right side of the control wheel.

Hint
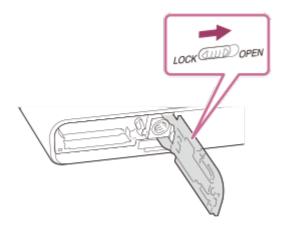
- You can display all the shooting tips by selecting MENU → 📷 (Camera Settings) → [Shooting Tip List]. Use [Shooting Tip List] when you want to review shooting tips that you have seen before.

[8] How to Use │ Preparing the camera │ Charging the battery pack
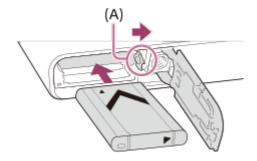
Inserting the battery pack into the camera

How to insert the battery pack into the camera
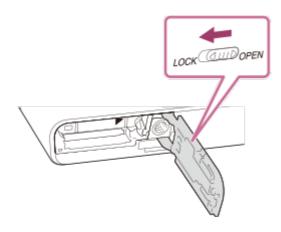
1. Open the battery/memory card cover.

2. Insert the battery pack while pressing the battery lock lever **(A)** with the tip of the battery until the battery locks into place.
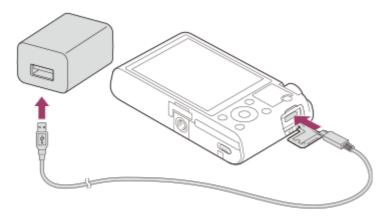
3. Close the cover.

Charging the battery pack while it is inserted in the camera

When using the camera for the first time, be sure to charge the battery pack. The charged battery pack will discharge little by little, even if you do not use it. To avoid missing a shooting opportunity, charge the battery pack before shooting.

1. Turn the power off.

2. Connect the camera with the battery pack inserted to the AC Adaptor (supplied) using the micro USB cable (supplied), and connect the AC Adaptor to the wall outlet (wall socket).

Charge lamp

Lit: Charging

Off: Charging finished

Flashing: Charging error or charging paused temporarily because the camera is not within the proper temperature range

- If the charge lamp lights up once and then immediately turns off, the battery pack is fully charged.

Charging time (Full charge)

The charging time is approximately 155 min. using the AC Adaptor (supplied).

- The charging time may differ depending on the remaining capacity of the battery pack or the charging conditions.
- The battery pack can be charged even when it is not fully depleted.
- The above charging time applies when charging a fully depleted battery pack (supplied) at a temperature of 25°C (77°F). Charging may take longer depending on the conditions of use and the environment.

Note

- If the charge lamp flashes when the battery pack is not fully charged, remove the battery pack or disconnect the USB cable from the camera and then re-insert it to recharge.
- 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 at an ambient temperature of between 10°C to 30°C (50ºF to 86ºF).
- Use a nearby wall outlet (wall socket) when using the supplied or recommended AC Adaptor/battery charger. If any malfunction occurs while using this product, 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.
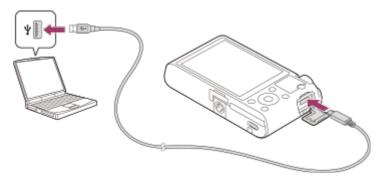
- When you use a completely new battery pack or a battery pack that has not been used for a long time, the charge lamp may flash quickly when the battery is charged. If this happens, remove the battery pack or disconnect the USB cable from the camera and then re-insert it to recharge.
- Do not continuously or repeatedly charge the battery pack without using it if it is already fully charged or close to fully charged. Doing so may cause a deterioration in battery performance.
- 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 cables (supplied) and AC Adaptors (supplied).

Charging by connecting to a computer

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

1. Turn off the product, and connect to the USB terminal of the computer.

Note

- Note the following points when charging via a computer:
  - If the product is connected to a laptop computer that is not connected to a power source, the laptop battery level decreases. Do not leave the product connected to a laptop computer for an extended period of time.
  - Do not turn on/off or restart the computer, or wake the computer from sleep mode when a USB connection has been established between the computer and the camera. Doing so may cause a malfunction. Before turning on/off or restarting the computer, or waking the computer from sleep mode, disconnect the camera from the computer.
  - Proper operation cannot be guaranteed on all types of computers.

- Charging cannot be guaranteed with a custom-built computer, modified computer, or a computer connected through a USB hub.
- The camera may not operate correctly when other USB devices are used at the same time.

Battery life and the number of images that can be recorded/played back using a battery pack

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Shooting (still images):
Battery life: approx. 165 min., Number of images: approx. 330
Viewing (still images):
Battery life: approx. 250 min., Number of images: approx. 5000
Shooting (movies):
Battery life: approx. 80 min.

Note

- 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 with the default settings under the following conditions:
  - Using the battery pack at an ambient temperature of 25°C (77°F).
  - Using Sony Memory Stick PRO Duo (Mark2) media (sold separately)
- The numbers for "Shooting (still images)" are 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 is turned on and off once every ten times.
  - The flash strobes once for every two times.
  - The zoom is switched alternately between the W and T ends.
- The number of minutes for movie shooting is based on the shooting under the following conditions:
  - The image quality is set to AVCHD 60i 17M (FH)/50i 17M (FH).
  - Battery life based on non-stop shooting until the limit (29 minutes) has been reached, and then continued by pressing the MOVIE (Movie) button again. Other functions, such as zooming, are not operated.

Supplying power from a wall outlet (wall socket)
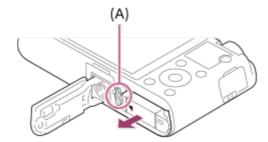
The camera can be supplied with power from the wall outlet (wall socket) by connecting to the AC Adaptor (supplied), using the micro USB cable (supplied). This way, you do not need to worry about draining the battery when shooting or playing back for extended periods of time. Shooting and playback are possible without a battery pack in the camera.

[13] How to Use │ Preparing the camera │ Charging the battery pack
Removing the battery pack

How to remove the battery pack

1. Make sure that the access lamp is not lit, and turn off the camera.

2. Open the battery/memory card cover.

3. Slide the battery lock lever **(A)** and remove the battery pack.
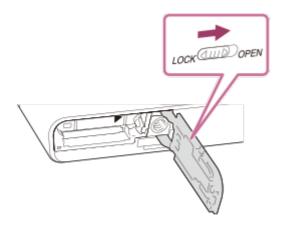
- Be careful not to drop the battery pack.

[14] How to Use │ Preparing the camera │ Inserting a memory card (sold separately)
Inserting a memory card
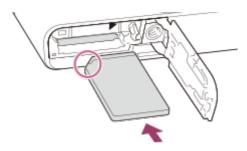
How to insert a memory card

1. Open the battery/memory card cover.
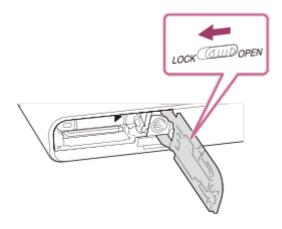
2. Insert the memory card.

- Ensure that the notched corner is facing in the correct direction.
- With the notched corner facing in the direction illustrated, insert the memory card until it clicks into place.

3. Close the cover.
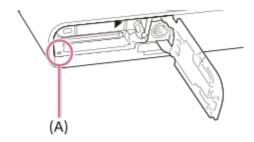
Hint

- When you use a memory card with this product for the first time, it is recommended that you format the card using the product for stable performance of the memory card.

[15] How to Use | Preparing the camera | Inserting a memory card (sold separately)

Removing the memory card
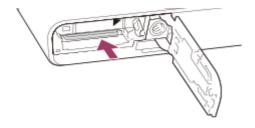
How to remove the memory card
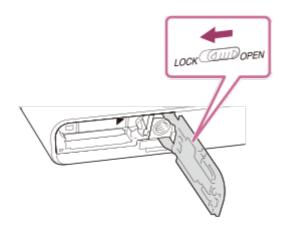
1. Open the battery/memory card cover.

2. Make sure that the access lamp **(A)** is not lit.

(A)

3. Push in on the memory card once to remove it.

4. Close the cover.

LOCK OPEN

Usable memory cards

You can use the following types of memory cards with this camera.
For movies, refer to "Memory cards that can be used for movie recording" on this page.

Usable Memory Stick media

- Memory Stick PRO Duo / Memory Stick PRO Duo (Mark2)

- Memory Stick PRO-HG Duo
- Memory Stick Micro (M2)
- Memory Stick Micro (M2) (Mark2)

*Memory Stick media with a capacity of up to 32 GB have been tested and proven to operate with this camera.

Usable SD cards

- SD memory card
- SDHC memory card
- SDXC memory card
- microSD memory card
- microSDHC memory card
- microSDXC memory card

*SD cards with a capacity of up to 256 GB have been tested and proven to operate with this camera.

Memory cards that can be used for movie recording

- Memory Stick PRO Duo (Mark2)
- Memory Stick PRO-HG Duo
- Memory Stick Micro (M2) (Mark2)
- SD memory card / microSD memory card (SD Speed Class 4 or faster)
- SDHC memory card / microSDHC memory card (SD Speed Class 4 or faster)
- SDXC memory card / microSDXC memory card (SD Speed Class 4 or faster)

Note

- Not all memory cards are guaranteed to operate correctly.
- When you use a memory card with the camera for the first time, it is recommended that you format the card on the camera before use for more stable performance of the memory card.
  Note that formatting erases all data on the memory card permanently, and is irreversible. Save valuable data on a computer, etc.
- Images recorded on an SDXC memory card cannot be imported to or played on computers or AV devices that are not compatible with exFAT when connected using a micro USB cable. Make sure that the device is compatible with exFAT before connecting it to the camera. If you connect your camera to an incompatible device, you may be prompted to format the card. Never format the card in response to this prompt, as doing so will erase all data on the card. (exFAT is the file system used on SDXC memory cards.)
- This camera does not support UHS-I high-speed transferring.

Setting language, date and time
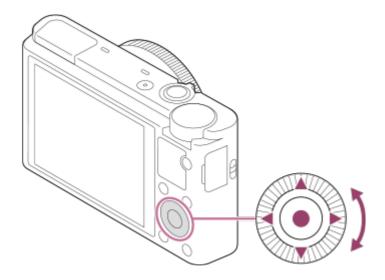
When you turn on the camera for the first time or after you have initialized the functions, the setting screen for language, date and time will appear.

1. Turn on the camera.
   The language setting screen will appear and then setting screen for date and time will appear.

2. Select your language, and then press the center of the control wheel.

3. Check that [Enter] is selected on the screen, then press the center on the control wheel.

4. Select your desired geographic location, and then press the center of the control wheel.

5. Select a setting item using the up/down side of the control wheel or by turning the control wheel, then press the center.

6. Set [Daylight Savings], [Date/Time], and [Date Format] using the up/down/left/right sides, then press the center.
   - Midnight is indicated as 12:00 AM, and noon as 12:00 PM.

7. Repeat steps 5 and 6 to set other items, then select [Enter] and press the center.
   - To cancel the date and time setting procedure, press the MENU button.

Note

- If the date and time setting is cancelled halfway, the setting screen for the date and time appears every time you turn on the camera.

Using the control wheel

You can select setting items by turning or pressing the top/bottom/right/left side of the control wheel. Your selection is determined when you press the center of the control wheel.
The DISP (Display Setting), ☑ 🄰 (Exposure Comp./Photo Creativity), ⟳ / ⧠ (Drive Mode), ⚡ (Flash Mode) functions are assigned to the top/bottom/left/right sides of the control wheel. You can assign functions to the left/right sides of the control wheel or to the center button.

During playback, you can display the next/previous image by pressing the right/left side of the control wheel or by turning the control wheel.

[19] How to Use │ Confirming the operation method │ Confirming the operation method
Using the control ring

By turning the control ring **(A)**, you can change the desired settings instantly for various shooting modes.
You can also allocate frequently used functions to the control ring by selecting MENU → ⚙ (Custom Settings) → [Custom Key Settings] → [Control Ring].

(A)

Icons and function names are displayed on the screen as follows.
Ex.
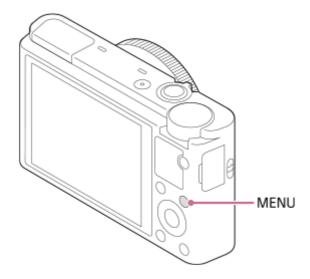
ZOOM : Adjust zoom by turning the control ring.

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[20] How to Use │ Confirming the operation method │ Confirming the operation method
Using MENU items

In this section, you learn how to change settings related to all camera operations and execute camera functions including shooting, playback, and operation methods.

1. Press MENU button to display the MENU items.

2. Select the desired setting item by pressing the up/down/left/right side on the control wheel or by turning the control wheel, and then press the center of the control wheel.

   - Select an icon at the top of the screen and press the left/right side of the control wheel to move to another MENU item.
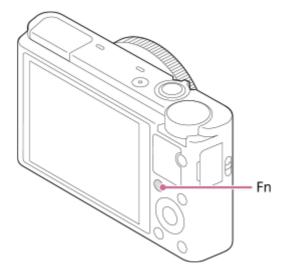
3. Select the desired setting value, and press the center to confirm.

Using the Fn (Function) button

You can register frequently used functions to the Fn (function) button and recall them while shooting. Up to 12 frequently used functions can be registered to the Fn (Function) button.
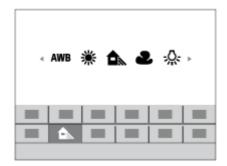
1. Press the Fn button in shooting mode.

2. Select a function to be registered by pressing the up/down/left/right side of the control wheel.
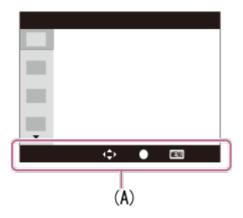
3. Set the desired setting by turning the control wheel.
   - Some functions can be fine-tuned using the control ring.

Performing settings on the dedicated screen

Select the desired function in step 2, then press the center of the control wheel. The

dedicated setting screen for the function appears. Follow the operating guide **(A)** to perform the settings.

(A)

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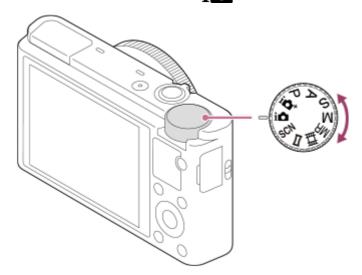
[22] How to Use │ Shooting │ Shooting still images/movies
Shooting still images
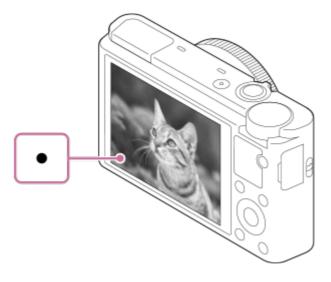
Shoots still images.

1. Set the shooting mode to ![icon](Intelligent Auto) (Intelligent Auto).

2. Hold the camera steady, with your arms against your body, and compose your shot.

3. Press the shutter button halfway down to focus.
   When the image is in focus, a beep sounds and the focus indicator (●) lights.

- The shortest shooting distance is approximately 5 cm (0.16 ft) (W), 55 cm (1.8 ft) (T) (from the lens).

4. Press the shutter button fully down.

Focus indicator

● lights:
Image is in the focus.

● flashes:
The focusing has failed.

((●)) lights:
Image is in the focus. The focused position will change to suit the motion of the subject.

(( )) lights:
The focusing is in progress.
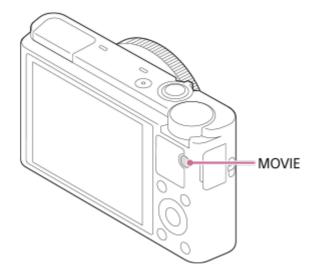
Hint

- When the product cannot focus automatically, the focus indicator flashes and the beep does not sound. Either recompose the shot or change the focus setting. When [Continuous AF] is set, the beep does not sound when focus is achieved.
- Focusing may be difficult in the following situations:

  - It is dark and the subject is distant.
  - The contrast of the subject is poor.
  - The subject is seen through glass.
  - The subject is moving quickly.
  - There is reflective light or shiny surfaces.
  - There is a flashing light.
  - The subject is backlit.
  - The subjects in the focus area have different focal distances.

[23] How to Use │ Shooting │ Shooting still images/movies

Shooting movies

You can record movies by pressing the MOVIE (Movie) button.

1. Press the MOVIE button to start recording.

2. Press the MOVIE button again to stop recording.
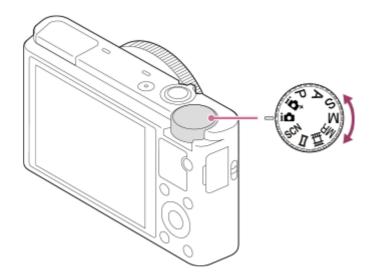
Note

- To adjust the shutter speed and aperture value to the desired settings, set the shooting mode to ▓ (Movie).
- If you use a function such as zoom while shooting a movie, the noise of the lens operating will be recorded. The sound of the MOVIE button operating may also be recorded when you press the MOVIE button to stop recording.
- For the continuous shooting time of a movie recording, refer to "Recordable time of movies." When movie recording is finished, you can restart recording by pressing the MOVIE button again. Recording may stop to protect the product, depending on the temperature of the product or the battery.

[24] How to Use | Shooting | Selecting a shooting mode
List of mode dial functions

You can select the desired shooting mode by turning the mode dial.

Available functions

i⌂ (Intelligent Auto):

Allows you to shoot with automatic scene recognition.

i⌂⁺ (Superior Auto):

Allows you to shoot with automatic scene recognition. This mode takes clear images of dark or backlit scenes.

P (Program Auto):

Allows you to shoot with the exposure adjusted automatically (both the shutter speed and the aperture value (F value)). Also you can select various settings using the menu.

A (Aperture Priority):

Allows you to adjust the aperture and shoot when you want to blur the background, etc.

S (Shutter Priority):

Allows you to shoot fast-moving subjects etc., by manually adjusting the shutter speed.

M (Manual Exposure):

Allows you to shoot still images with the desired exposure by adjusting the exposure (both the shutter speed and the aperture value (F value)).

MR (Memory recall):

Allows you to shoot an image after recalling often-used modes or numeric settings registered in advance.

▦ (Movie):

Allows you to change the setting for movie recording.

▭ (Sweep Panorama):

Allows you to shoot a panoramic image by compositing the images.

SCN (Scene Selection):

Allows you to shoot with preset settings according to the scene.

---

[25] How to Use │ Shooting │ Selecting a shooting mode

Intelligent Auto

The camera shoots with automatic scene recognition.

1. Set the mode dial to ![icon](Intelligent Auto) (Intelligent Auto).

2. Point the camera to the subject.
   When the camera recognized the scene, the icon for the recognized scene appears on the screen.

3. Adjust the focus and shoot the image.

Note

- The product will not recognize the scene when you shoot images with zoom functions other than optical zoom.
- The product may not properly recognize the scene under certain shooting conditions.

---
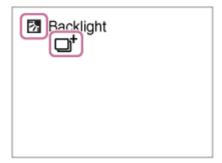
[26] How to Use │ Shooting │ Selecting a shooting mode
Superior Auto

The camera shoots with automatic scene recognition. This mode takes clear images of dark or backlit scenes.
For low-lit or backlit scenes, if necessary the camera may shoot multiple images and create a composite image, etc., to record higher quality images than in Intelligent Auto mode.

1. Set the mode dial to ![icon](Superior Auto) (Superior Auto).

2. Point the camera to the subject.
   When the camera recognizes a scene, the scene recognition icon appears on the screen. If necessary, (overlay icon) may appear.

3. Adjust the focus and shoot the image.

Note

- When the product is used to create composite images, the recording process takes longer than usual.
- The product will not recognize the scene when you use zoom functions other than optical zoom.
- The product may not properly recognize a scene under some shooting conditions.
- When [⟡ Quality] is set to [RAW] or [RAW & JPEG], the product cannot create a composite image.

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[27] How to Use | Shooting | Selecting a shooting mode
About Scene Recognition

Scene Recognition operates in [Intelligent Auto] mode and [Superior Auto] mode.
This function allows the product to automatically recognize the shooting conditions and shoot the image.

Scene Recognition:

When the product recognizes certain scenes, the following icons and guides are displayed on the first line:

- 👥 (Portrait)
- 🍼 (Infant)
- 🌙 (Night Portrait)
- 🌙 (Night Scene)
- 🖼 (Backlight Portrait)
- 🖼 (Backlight)
- 🔺 (Landscape)
- 🌷 (Macro)
- 💡 (Spotlight)
- 🕯 (Low Light)

When the product recognizes certain conditions, the following icons are displayed on the second line:

- 🎥 (Tripod)
- 🚶 (Walk)*
- 🏃 (Move)
- 🏃 (Move (Bright))
- 🏃 (Move (Dark))

*The condition 🚶 (Walk) is recognized only when [🎬 SteadyShot] is set to [Active].

Note

- When [Smile/Face Detect.] is set to [Off], the [Portrait], [Backlight Portrait], [Night Portrait] and [Infant] scenes are not recognized.

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[28] How to Use │ Shooting │ Selecting a shooting mode
The advantages of automatic shooting

This camera is equipped with the following three automatic shooting modes: [Intelligent Auto], [Superior Auto], and [Program Auto].

📷 (Intelligent Auto):
Allows you to shoot with automatic scene recognition.

📷⁺ (Superior Auto):
Allows you to shoot with automatic scene recognition. This mode takes clear images of dark or backlit scenes.

P (Program Auto):
Allows you to adjust various shooting settings such as white balance or ISO value, etc.

- Aperture value and shutter speed are automatically set by the camera.

Hint

- In [Superior Auto] mode and when the ⬚⁺ (overlay icon) is displayed, be sure not to move the camera before the multiple shots are recorded.
- In [Program Auto] mode, you can change the combination of shutter speed and aperture value while maintaining the correct exposure by turning the control wheel. This function is called "Program Shift" (**P***).

Note

- In [Superior Auto] mode, the recording process takes longer, since the product creates a composite image. In this case, the ⬚⁺ (overlay icon) is displayed and the shutter sound is heard multiple times, but only one image is recorded.
- For [Intelligent Auto] and [Superior Auto] mode, most of the functions are set

automatically, and you cannot adjust the settings on your own.

[29] How to Use │ Shooting │ Selecting a shooting mode
Program Auto

Allows you to shoot with the exposure adjusted automatically (both the shutter speed and the aperture value).
You can set shooting functions such as [ISO].

1. Set the mode dial to P (Program Auto).

2. Set the shooting functions to your desired settings.

3. Adjust the focus and shoot the subject.

Program Shift

You can change the shutter speed and aperture (F-value) combination by rotating the control wheel, without changing the appropriate exposure that is set by this product. This function is available when [Flash Mode] is set to [Flash Off].

- "P" on the screen changes to "P*" when you turn the control wheel.
- To cancel program shift, set the shooting mode to other than [Program Auto], or turn off the camera.

Note

- According to the brightness of the environment, the program shift may not be used.
- Set the shooting mode to another one than "P" or turn off the power to cancel the setting you made.
- When the brightness changes, the aperture (F-value) and shutter speed also change while maintaining the shift amount.
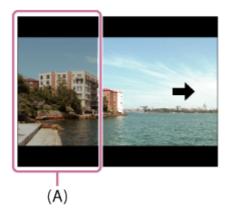
[30] How to Use │ Shooting │ Selecting a shooting mode
Sweep Panorama
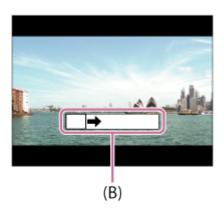
Allows you to create a single panoramic image from multiple images shot while panning the camera.

1. Set the mode dial to ▭ (Sweep Panorama).

2. Point the camera at the subject.

3. While pressing the shutter button halfway down, aim the camera at one end of the desired panoramic composition.

(A)

(A) This part will not be shot.

4. Press the shutter button fully down.

5. Pan the camera to the end of the guide in the direction of the arrow on the monitor.

(B)

(B) Guidance bar

- If the entire angle of the panoramic shot is not achieved within the set time, a gray area occurs in the composite image. If this happens, move the product faster to record the full panoramic image.
- When [Wide] is selected for [Panorama: Size], the entire angle of the panoramic shot may

not be achieved within the given time. If this happens, try shooting after changing [Panorama: Size] to [Standard].

- Since several images are stitched together, the stitched part may not be recorded smoothly in some cases.
- The images may be blurred in dark scenes.
- When a light source such as a fluorescent light flickers, the brightness and color of a stitched image may not be consistent.
- When the whole angle of panoramic shooting and the AE/AF locked angle are very different in brightness and focus, the shooting may not be successful. If this happens, change AE/AF locked angle and shoot again.
- The following situations are not suited for shooting Sweep Panorama:
  – Moving subjects.
  – Subjects that are too close to the product.
  – Subjects with continuously similar patterns, such as the sky, beach, or a lawn.
  – Subjects with constant change such as waves or water falls.
  – Subjects with brightness widely different from its surroundings such as the sun or a light bulb.
- The Sweep Panorama shooting may be interrupted in the following situations.
  – When the camera is panned too fast or too slow.
  – The subject is too blurry.

Hint

- You can turn the control wheel on the shooting screen to select the shooting direction.

[31] How to Use │ Shooting │ Selecting a shooting mode
Scene Selection

Allows you to shoot with preset settings according to the scene.

1. Set the mode dial to SCN (Scene Selection).

2. Turn the control wheel to select the desired setting.
   - When [Mode Dial Guide] is set to [On], you can select the desired settings after you have changed the position of the mode dial.

Menu item details

Portrait:
Blurs background and sharpens the subject. Accentuates the skin tones softly.

⚐ Sports Action:

Shoots a moving subject at a fast shutter speed so that the subject looks as if it is standing still. The product shoots images continuously while the shutter button is pressed.

❀ Macro:

Shoots close-ups of the subjects, such as flowers, insects, food, or small items.

▲▲ Landscape:

Shoots the entire range of a scenery in sharp focus with vivid colors.

⊜ Sunset:

Shoots the red of the sunset beautifully.

☽ Night Scene:

Shoots night scenes without losing the dark atmosphere.

☽✋ Hand-held Twilight:

Shoots night scenes with less noise and blur without using a tripod. A burst of shots are taken, and image processing is applied to reduce subject blur, camera-shake, and noise.

👤☽ Night Portrait:

Shoots night scene portraits using the flash.

((👤)) Anti Motion Blur:

Allows you to shoot indoor shots without using the flash and reduces subject blur. The product shoots burst images and combines them to create the image, reducing subject blur and noise.

🐱 Pet:

Allows you to shoot images of your pet with the best settings.

🍴 Gourmet:

Allows you to shoot food arrangements in delicious and bright colors.

⚙ Fireworks:

Allows you to shoot images of fireworks in all their splendor.

High Sensitivity:

Allows you to shoot still images even in dark locations without using the flash, and reduces subject blur. Also allows you to shoot dark movie scenes more brightly.

Note

- Under the following settings, the shutter speed is slower, so use of a tripod is recommended to prevent the image from blurring:
  - [Night Scene]
  - [Night Portrait]
  - [Fireworks]
- In the [Hand-held Twilight] or [Anti Motion Blur] mode, the shutter clicks 4 times and an image is recorded.
- If you select [Hand-held Twilight] or [Anti Motion Blur] with [RAW] or [RAW & JPEG], the image quality becomes [Fine] temporarily.
- Reducing blur is less effective even in [Hand-held Twilight] or [Anti Motion Blur] when shooting the following subjects:
  - Subjects with erratic movement.
  - Subjects that are too close to the product.
  - Subjects with continuously similar patterns, such as the sky, a beach, or a lawn.
  - Subjects with constant change such as waves or water falls.
- In the case of [Hand-held Twilight] or [Anti Motion Blur], block noise may occur when using a light source that flickers, such as fluorescent lighting.
- The minimum distance that you can come close to a subject does not change even if you select [Macro]. For the minimum in-focus range, refer to the minimum distance of the lens attached to the product.

Hint

- To change the scene, rotate the control wheel on the shooting screen and select a new scene.

Shutter Priority

You can express the movement of a moving subject in various ways by adjusting the shutter speed, for example, at the instant of the movement with high speed shutter, or as a trailing image with low speed shutter. The shutter speed can be changed while recording movies.

1. Set the mode dial to S (Shutter Priority).

2. Select the desired value by turning the control wheel.

3. Adjust the focus and shoot the subject.
   The aperture is automatically adjusted to obtain proper exposure.

Note

- If proper exposure cannot be obtained after setup, the aperture value on the shooting screen blinks. Although you can shoot as it is, resetting is recommended.
- Use a tripod to prevent blurring when you use a slow shutter speed.
- The SteadyShot warning indicator does not appear in shutter speed priority mode.
- When the shutter speed is 1/3 second(s) or longer, noise reduction will be done after shooting for the same amount of time that the shutter was open. However, you cannot shoot any more while noise reduction is in progress.
- The brightness of the image on the monitor may differ from the actual image being shot.

Hint

- When a faster shutter speed is used, moving subjects, such as a running person, cars, or sea spray come out as if they are frozen in their movements. When a slower shutter speed is used, a trailing image of the movement of the subject is captured to create a more natural and dynamic image.

Aperture Priority

You can shoot by adjusting the aperture and changing the range in focus, or by defocusing the background. The aperture value can be changed while recording movies.

1. Set the mode dial to A (Aperture Priority).

2. Select the desired value by turning the control wheel.

- Smaller F-value: The subject is in focus, but objects in front of and beyond the subject are blurred.
  Larger F-value: The subject and its foreground and background are all in focus.

3. Adjust the focus and shoot the subject.
   The shutter speed is automatically adjusted to obtain proper exposure.

Hint

- Smaller F-value (opening the aperture) narrows the range that is in focus. This allows you to put the subject in sharp focus and blur objects in front of and beyond the subject (depth of field becomes shallower). Larger F-value (narrowing down the aperture) widens the range that is in focus. This allows you to shoot the depth of the scenery (depth of field becomes deeper).

Note

- If proper exposure cannot be obtained after setup, the shutter speed on the shooting screen blinks. Although you can shoot as it is, resetting is recommended.
- The brightness of the image on the screen may differ from the actual image being shot.

[34] How to Use │ Shooting │ Selecting a shooting mode
Manual Exposure

You can shoot with the desired exposure setting by adjusting both the shutter speed and aperture. The shutter speed and the aperture value can be changed while recording movies.

1. Set the mode dial to M (Manual Exposure).

2. Press the bottom side of the control wheel to select the shutter speed or aperture value, then turn the control wheel to select a value.
   When [ISO] is set to other than [ISO AUTO], use MM (Metered Manual) to check the exposure value.
   Toward +: Images become brighter.
   Toward -: Images become darker.
   0: Appropriate exposure analyzed by the product.

3. Adjust the focus and shoot the subject.

Note

- When [ISO] is set to [ISO AUTO], the ISO value automatically changes to achieve the

appropriate exposure using the aperture value and shutter speed you have set. If the aperture value and shutter speed you have set are not suitable for appropriate exposure, the ISO value indicator will blink.

- The Metered Manual indicator does not appear when [ISO] is set to [ISO AUTO].
- When the amount of ambient light exceeds the metering range of the Metered Manual, the Metered Manual indicator flashes.
- The SteadyShot warning indicator does not appear in manual exposure mode.
- The brightness of the image on the monitor may differ from the actual image being shot.

Hint

- When [AEL toggle] is assigned to the center button in [Custom Key Settings], you can change the shutter speed and aperture (F-value) combination without changing the set exposure value by pressing the center button and then turning the control ring or the control wheel (Manual shift).

BULB

You can shoot a trailing image of the movement of a subject with long exposure.
BULB is suitable for shooting trails of light, such as fireworks.

1. Set the mode dial to M (Manual Exposure).

2. Press the bottom side of the control wheel to select the shutter speed, then turn the control wheel counterclockwise until [BULB] is indicated.

3. Press the bottom side of the control wheel to select the aperture value (F-value), and turn the control wheel to set the value.

4. Press the shutter button halfway down to adjust the focus.

5. Press and hold the shutter button for the duration of the shooting.
   As long as the shutter button is pressed, the shutter remains open.

Hint

- Images shot in [BULB] mode tend to be blurry. We recommend that you use a tripod.

Note

- The longer the exposure time, the more noise will be visible on the image.
- After shooting, noise reduction will be done for the same amount of time that the shutter was open. However, you cannot shoot any more while noise reduction is in progress.

- You cannot set the shutter speed to [BULB] in the following situations:
  - When the [Smile Shutter] function is activated.
  - When the [Auto HDR] function is activated.
  - When [Picture Effect] is set to [HDR Painting] or [Rich-tone Mono.].
  - When the [Multi Frame NR] function is activated.
  - When the [Drive Mode] function is set to the following modes:
    - [Cont. Shooting]
    - [Spd Priority Cont.]
    - [Self-timer(Cont)]
    - [Cont. Bracket]

If you use the above functions when the shutter speed is set to [BULB], the shutter speed is temporarily set to 30 seconds.

[36] How to Use │ Shooting │ Selecting a shooting mode
Memory recall

Allows you to shoot an image after recalling often-used modes or camera settings registered in advance.

1. Set the mode dial to MR (Memory recall).

2. Press the left/right side of the control wheel or turn the control wheel to select the desired number, then press the center.
   - You can also recall registered modes or settings by selecting MENU → (Camera Settings) → [Memory recall].

Note
- Register shooting settings in advance by [Memory].
- If you set [Memory recall] after completing the shooting settings, the registered settings are given priority and the original settings may become invalid. Check the indicators on the screen before shooting.

[37] How to Use │ Shooting │ Selecting a shooting mode
Movie

You can adjust the shutter speed or aperture value to your desired settings for recording

movies. You can also check the image angle before shooting.

1. Set the mode dial to ▉▉ (Movie).

2. MENU → ⬤ (Camera Settings) → [Movie] → desired setting.
   - When [Mode Dial Guide] is set to [On], you can select the desired settings after you have changed the position of the mode dial.

3. Press the MOVIE (movie) button to start recording.
   - Press the MOVIE button again to stop recording.

Menu item details

▉▉P **Program Auto:**
Allows you to shoot with the exposure adjusted automatically (both the shutter speed and the aperture value).

▉▉A **Aperture Priority:**
Allows you to shoot after adjusting the aperture value manually.

▉▉S **Shutter Priority:**
Allows you to shoot after adjusting the shutter speed manually.

▉▉M **Manual Exposure:**
Allows you to shoot after adjusting the exposure (both the shutter speed and the aperture value) manually.

[38] How to Use │ Using shooting functions │ Using the zoom
Zoom

Enlarge images using the W/T (zoom) lever when shooting.
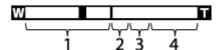
1. Enlarge images with the W/T (zoom) lever when shooting.
   - Move the W/T (zoom) lever to the T side to zoom in and to the W side to zoom out.

Hint

- When you select other than [Optical zoom only] for [Zoom Setting], you can exceed the zoom range of the optical zoom to zoom images.
- You can assign the zoom function to the control ring.

The zoom features available with this product

The zoom feature of the product provides a higher magnification zoom by combining various zoom features. The icon displayed on the screen changes, according to the selected zoom feature.

1. **Optical zoom range**

   Images are magnified within the optical zoom range of this product.
2. **Smart Zoom range** ($_S$⊕)

   Zoom images without causing the original quality to deteriorate by partially cropping an image (only when the image size is [M], [S] or [VGA]).
3. **Clear Image Zoom range** ($_C$⊕)

   Zoom images using an image process with less deterioration. Set [Zoom Setting] to [On:ClearImage Zoom] or [On:Digital Zoom] first.
4. **Digital Zoom range** ($_D$⊕)

   You can magnify images using an image process. When you select [On:Digital Zoom] for [Zoom Setting], you can use this zoom function.

Note

- The default setting for the [Zoom Setting] is [Optical zoom only].
- The default setting for [⤳ Image Size] is [L]. To use the smart zoom change [⤳ Image Size] to [M], [S] or [VGA].
- Zoom functions other than the optical zoom are not available when shooting in the following situations:
  – When shooting mode is set to [Sweep Panorama]
  – When [⤳ Quality] is set to [RAW] or [RAW & JPEG]
  – When [Smile/Face Detect.] is set to [Smile Shutter]
  – When [Drive Mode] is set to [Self-portrait: One Person] or [Self-portrait: Two People]
- You cannot use the Smart Zoom function with movies.
- When you use a zoom function other than the optical zoom, [Metering Mode] fixed to [Multi].
- When using a zoom function other than the optical zoom, the following functions are not available.
  – [Smile/Face Detect.]
  – Lock-on AF
  – [⤳ Auto Obj. Framing]

Zoom Setting

You can select the zoom setting of the product.

1. MENU → ⚙ (Custom Settings) → [Zoom Setting] → desired setting.

Menu item details

Optical zoom only:

Optical zoom is activated. You can use the Smart Zoom function if you set [🖼 Image Size] to [M], [S] or [VGA].

On:ClearImage Zoom:

Even if the zoom range of the optical zoom is exceeded, the product magnifies images within the range in which image quality does not deteriorate significantly.

On:Digital Zoom:

When the zoom range of the Clear Image Zoom is exceeded, the product magnifies images to the largest scale. However, the image quality will deteriorate.

Note

- Set [Optical zoom only] if you want to magnify images within the range in which image quality does not deteriorate.

About zoom scale

The zoom scale that is used in combination with the zoom of the lens changes according to the selected image size.

When [🖼 Aspect Ratio] is [3:2]

[Zoom Setting] : [Optical zoom only] (including smart zoom)

[🖼 Image Size] : L -, M 1.4×, S 2×

[Zoom Setting] : [On:ClearImage Zoom]

[🖼 Image Size] : L 2×, M 2.8×, S 4×

[Zoom Setting] : [On:Digital Zoom]

[🖼 Image Size] : L 4×, M 5.6×, S 8×
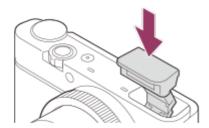
Using flash

In dark environments, use the flash to light up the subject while shooting and to prevent camera-shake. When shooting against the sun, use the flash to lighten the image of the backlit subject.

1. MENU → ⬛ (Camera Settings) → [Flash Mode] → desired setting.

2. Press the shutter button fully down.

When you do not use the flash

When not using the flash, press it back into the camera body.

Hint

- When using the flash, the flash pops up automatically. Do not cover the flash with your fingers.
- If you do not need the flash, set [Flash Mode] to [Flash Off] beforehand. The flash will not pop up automatically.

Note

- When shooting with the flash and the zoom is set to W, the shadow of the lens may appear on the screen, depending on the shooting conditions. If this happens, shoot away from the subject or set the zoom to T and shoot with the flash again.
- When using flash to shoot pictures of yourself, be careful not to look directly at the light, because the flash will go off at a close distance.

Flash Mode

You can set the flash mode.

1. MENU → 📷 (Camera Settings) → [Flash Mode] → desired setting.
   - You can also set the flash mode by pressing the ⚡ (Flash Mode) on the control wheel.

Menu item details

⚡ Flash Off:
The flash does not operate.

⚡ Autoflash:
The flash works in dark environments or when shooting towards bright light.

⚡ Fill-flash:
The flash works every time you trigger the shutter.

⚡ Slow Sync.:
The flash works every time you trigger the shutter. Slow sync shooting allows you to shoot a clear image of both the subject and the background by slowing the shutter speed.

⚡ Rear Sync.:
The flash works right before the exposure is completed every time you trigger the shutter. Rear sync shooting allows you to shoot a natural image of the trail of a moving subject such as a moving car or a walking person.

Note

- The default setting depends on the shooting mode.
- Available flash mode depends on the shooting mode.

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[44] How to Use │ Using shooting functions │ Using the flash
Flash Comp.

Adjusts the amount of flash light in a range of –2.0 EV to +2.0 EV.
Flash compensation changes the amount of flash light only. Exposure compensation changes the amount of flash light along with the change of the shutter speed and aperture.

1. MENU → 📷 (Camera Settings) → [Flash Comp.] → desired setting.
   Selecting higher values (+ side) makes the flash level higher, and lower values (– side) makes the flash level lower.
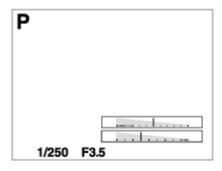
- [Flash Comp.] does not work when the shooting mode is set to the following modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Sweep Panorama]
  - [Scene Selection]
- The higher flash effect may not be visible due to the limited amount of flash light available, if the subject is outside the maximum range of the flash. If the subject is very close, the lower flash effect may not be visible.

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[45] How to Use │ Using shooting functions │ Selecting a screen display mode

Switching the screen display (Shooting)
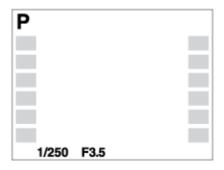
You can change the display contents on the screen.

1. Press the DISP (Display Setting) button.
   Each time you press the DISP button, the recording information display changes.
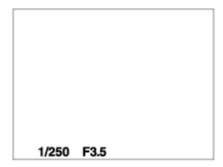
   Graphic Display
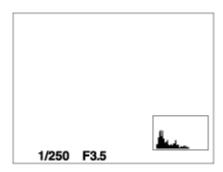
   Display All Info.

   No Disp. Info.

```
┌─────────────────────────┐
│                         │
│                         │
│                         │
│                         │
│                         │
│  1/250   F3.5           │
└─────────────────────────┘
```

Histogram

```
┌─────────────────────────┐
│                         │
│                         │
│                         │
│              ┌────────┐ │
│              │  ▄▅▃▂  │ │
│  1/250   F3.5 └────────┘ │
└─────────────────────────┘
```

Level

```
┌─────────────────────────┐
│                         │
│                         │
│      ⊢─⊣[─]⊢─⊣           │
│                         │
│  1/250   F3.5           │
└─────────────────────────┘
```
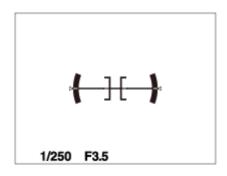
Some display modes are not available in the default settings.
To change the display modes, press MENU → ✿ (Custom Settings) → [DISP Button] and change the setting.

Note

- Histogram is not displayed during panorama shooting.

Hint

- To hide the grid lines displayed during still image shooting, select MENU → ✿ (Custom Settings) → [Grid Line] → [Off].

---

[46] How to Use │ Using shooting functions │ Selecting a screen display mode

DISP Button

Allows you to set the screen display modes that can be selected for the monitor using (Display Setting) in shooting mode.

DISP

1. MENU → ⚙ (Custom Settings) → [DISP Button] → desired setting → [Enter].
   The items marked with ✓✓ are available.

Menu item details

Graphic Display:
Shows basic shooting information. Graphically shows the shutter speed and aperture value.

Display All Info.:
Shows recording information.

No Disp. Info.:
Does not show recording information.

Histogram:
Displays the luminance distribution graphically.

Level:
Indicates whether the product is level in both the horizontal and front-back directions. When the product is level in both directions, the indicator turns to green.

Image Size (still image)

The larger the image size, the more detail will be reproduced when the image is printed on large-format paper. The smaller the image size, the more images can be recorded.

1. MENU → 📷 (Camera Settings) → [🖼 Image Size] → desired setting.

Menu item details

Image size when [🖼 Aspect Ratio] is 3:2
L: 20M
5472×3648 pixels
M: 10M
3888×2592 pixels
S: 5.0M
2736×1824 pixels

Image size when [🖼 Aspect Ratio] is 4:3
L: 18M

4864×3648 pixels

M: 10M

3648×2736 pixels

S: 5.0M

2592×1944 pixels

VGA

640×480 pixels

Image size when [⬚ Aspect Ratio] is 16:9

L: 17M

5472×3080 pixels

M: 7.5M

3648×2056 pixels

S: 4.2M

2720×1528 pixels

Image size when [⬚ Aspect Ratio] is 1:1

L: 13M

3648×3648 pixels

M: 6.5M

2544×2544 pixels

S: 3.7M

1920×1920 pixels

Note

- When [⬚ Quality] is set to [RAW] or [RAW & JPEG], the image size for RAW images corresponds to [L].

---

[48] How to Use │ Using shooting functions │ Selecting still image size/image quality

Aspect Ratio (still image)

Sets the aspect ratio of still images.

1. MENU → 📷 (Camera Settings) → [⬚ Aspect Ratio] → desired setting.

Menu item details

3:2:

Suitable for standard prints.

4:3:

For shooting in a size suitable for viewing on a computer.

16:9:

For viewing on a high-definition TV.

1:1:

For shooting in composition as a medium format camera.

Quality (still image)

Selects the compression format of still images.

1. MENU → (Camera Settings) → [Quality] → desired setting.

Menu item details

RAW:

File format: RAW (Records using the RAW compression format.)
Digital processing is not performed on this file format. Select this format to process images on a computer for professional purposes.

- The image size is fixed to the maximum size. The image size is not displayed on the screen.

RAW & JPEG:

File format: RAW (Records using the RAW compression format.) + JPEG
A RAW image and a JPEG image are created at the same time. This is suitable when you need 2 image files, a JPEG for viewing, and a RAW for editing.
The JPEG image quality is set to [Fine].

Fine:

File format: JPEG
The image is compressed in the JPEG format when recorded.

Standard:

File format: JPEG
The image is compressed in the JPEG format when recorded. Since the compression rate of [Standard] is higher than that of [Fine], the file size of [Standard] is smaller than that of [Fine]. This will allow more files to be recorded on 1 memory card, but the image quality will be lower.

About RAW images

- To open a RAW image file recorded with this camera, the software Image Data Converter is needed. With Image Data Converter, you can open a RAW image file, then convert it

into a popular image format such as JPEG or TIFF, or readjust the white balance, saturation or contrast of the image.

- You cannot apply [Auto HDR] or [Picture Effect] functions with RAW images.

Note

- If you do not intend to edit the images on your computer, we recommend that you record in JPEG format.
- You cannot add DPOF (print order) registration marks to RAW images.

---

[50] How to Use │ Using shooting functions │ Selecting still image size/image quality
Panorama: Size

Sets the image size when shooting panoramic images. The image size varies depending on the [Panorama: Direction] setting.

1. MENU → 📷 (Camera Settings) → [Panorama: Size] → desired setting.

Menu item details

When [Panorama: Direction] is [Up] or [Down]
Standard: 3872×2160
Wide: 5536×2160

When [Panorama: Direction] is [Left] or [Right]
Standard: 8192×1856
Wide: 12416×1856

---

[51] How to Use │ Using shooting functions │ Selecting still image size/image quality
Panorama: Direction

Sets the direction to pan the camera when shooting panoramic images.

1. MENU → 📷 (Camera Settings) → [Panorama: Direction] → desired setting.

Menu item details

Right:
Pan the camera from the left to the right.

Left:

Pan the camera from the right to the left.

Up:

Pan the camera from the bottom to the top.

Down:

Pan the camera from the top to the bottom.

---

[52] How to Use │ Using shooting functions │ Adjusting the focus

Focus Mode

Selects the focus method to suit the movement of the subject.

1. MENU → ▣ (Camera Settings) → [Focus Mode] → desired setting.

Menu item details

AF-S (Single-shot AF):

The product locks the focus when the focus adjustment is achieved. Use [Single-shot AF] when the subject is motionless.

AF-C (Continuous AF):

The product continues to focus while the shutter button is pressed and held halfway down. Use this when the subject is in motion.

DMF (Direct Manual Focus):

Allows you to use manual focus and auto focus in combination.

MF (Manual Focus):

Adjusts the focus manually. If you cannot focus on the intended subject using auto focus, use manual focus.

Note

- If the subject is too close, the image may show any dust or fingerprints on the lens. Wipe the lens with a soft cloth, etc.
- When [Focus Mode] is set to [Continuous AF], the beep does not sound when focus is achieved.

Hint

- If you shoot movies when [Focus Mode] is set to [Single-shot AF] or [DMF], the [Focus Mode] will automatically change to AF-C (Continuous AF) and then continue to focus.

---

[53] How to Use │ Using shooting functions │ Adjusting the focus

Focus Area

Selects the focusing area. Use this function when it is difficult to get the proper focus in auto focus mode.

1. MENU → ■ (Camera Settings) → [Focus Area] → desired setting.

Menu item details

⌗ Wide:
Focuses automatically on a subject in all ranges of the image.
When you press the shutter button halfway down in still image shooting mode, a green frame is displayed around the area that is in focus.

⌗ Center:
Focuses automatically on a subject in the center of the image. When used together with the AF lock function, you can compose the image you want.

⌗ Flexible Spot:
Allows you to move the focusing frame to the desired point on the screen and focus on an extremely small subject in a narrow area.

Hint

- When shooting in [Single-shot AF], if you cannot focus on the subject by setting the [Focus Area] to [Wide], change the setting to [Center] and position the subject within the focusing frame. Press the shutter button halfway down to lock the focus, and return to the original composition to shoot images with the focus locked (Focus Lock).

Note

- A dotted square may appear around the whole screen in the clear image zoom, digital zoom, or smart zoom range in order to focus using the entire frame.
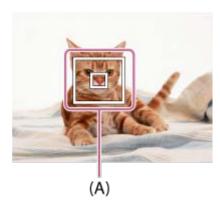
[54] How to Use | Using shooting functions | Adjusting the focus

Center Lock-on AF

When you press the center button, the camera detects the subject positioned in the center of the screen and continues to track the subject.

1. MENU → ■ (Camera Settings) → [Center Lock-on AF] → [On].

2. Align the target frame (A) over the subject and press the center of the control wheel. Press the center again to stop tracking.

   - If the camera loses track of the subject, it can detect when the subject reappears on the monitor and resume tracking.

(A)

3. Press the shutter button fully down to shoot the image.

Note

- [Center Lock-on AF] may not function very well in the following situations:
  - The subject is moving too quickly.
  - The subject is too small, or too large.
  - The contrast between the subject and the background is poor.
  - It is dark.
  - The ambient light changes.
- Lock-on AF does not work in the following situations:
  - In [Sweep Panorama] mode
  - When [Scene Selection] is set to [Hand-held Twilight] or [Anti Motion Blur]
  - When shooting in Manual Focus mode
  - When using the digital zoom
- The camera may not be able to resume tracking for a while after it loses the track of the subject.

---

[55] How to Use │ Using shooting functions │ Adjusting the focus

Focus-lock

Shoots images with the focus locked on the desired subject in auto focus mode.

1. MENU → ![camera icon] (Camera Settings) → [Focus Mode] → [Single-shot AF].

2. Place the subject within the AF area and press the shutter button halfway down. The focus is locked.
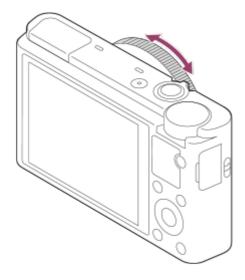
3. Keep pressing the shutter button halfway down, and place the subject back in the original position to re-compose the shot.

4. Press the shutter button down fully to take the picture.

Manual Focus

When it is difficult to get the proper focus in autofocus mode, you can adjust the focus manually. The setting applies to both still images and movies.

1. MENU → ▣ (Camera Settings) → [Focus Mode] → [Manual Focus].

2. Rotate the control ring to achieve sharp focus.

3. Press the shutter button fully down to take the picture.

Note

- If you re-select the [Focus Mode], any focus distance that you set manually will be canceled.

Direct manual focus (DMF)

You can make fine adjustments manually after the focus is locked.
You can quickly focus on a subject rather than using the manual focus from the beginning.
This is convenient in cases such as macro shooting.

1. MENU → ▣ (Camera Settings) → [Focus Mode] → [DMF].

2. Press the shutter button halfway down to focus automatically.

3. Keep the shutter button halfway down, rotate the control ring to achieve a sharper focus.

4. Press the shutter button fully down to shoot an image.

[58] How to Use | Using shooting functions | Adjusting the focus
MF Assist (still image)

Enlarges the image on the screen automatically to make manual focusing easier. This works in Manual Focus or Direct Manual Focus shooting.

1. MENU → ⚙ (Custom Settings) → [⤳ MF Assist] → [On].

2. Turn the control ring to adjust the focus.
   - The image is enlarged. You can magnify images further by pressing the center of the control wheel.

Note

- You cannot use [⟋ MF Assist] when shooting movies.

Hint

- You can set how long the image is to be shown magnified by selecting MENU → ⚙ (Custom Settings) → [Focus Magnif. Time].

---

[59] How to Use │ Using shooting functions │ Adjusting the focus
Focus Magnifier

You can check the focus by enlarging the image before shooting.

1. MENU → 📷 (Camera Settings) → [Focus Magnifier].

2. Press the center of the control wheel to enlarge the image and select the position you want to enlarge using up/down/left/right side of the control wheel.

   - Each time you press the center, the magnification scale will switch.

3. Confirm the focus.

4. Press the shutter button fully down to shoot the image.

Hint

- You can adjust the focus while an image is magnified. The [Focus Magnifier] function will be canceled when the shutter button is pressed halfway.
- You can record images while an image is enlarged, but the product records a full-display image.
- The [Focus Magnifier] function will be canceled after shooting.
- You can set how long the image is to be shown magnified by selecting MENU → ⚙ (Custom Settings) → [Focus Magnif. Time].

---

[60] How to Use │ Using shooting functions │ Adjusting the focus
Focus Magnif. Time

Set the duration for which an image is to be magnified using the [⟋ MF Assist] or [Focus Magnifier] function.

1. MENU → ✿ (Custom Settings) → [Focus Magnif. Time] → desired setting.

Menu item details

2 Sec:
Magnifies the images for 2 seconds.

5 Sec:
Magnifies the images for 5 seconds.

No Limit:
Magnifies the images until you press the shutter button.

---

[61] How to Use │ Using shooting functions │ Adjusting the focus
Peaking Level

Enhances the outline of in-focus ranges using a specific color in Manual Focus or Direct Manual Focus shooting. This function allows you to confirm the focus easily. The setting applies to both still images and movies.

1. MENU → ✿ (Custom Settings) → [Peaking Level] → desired setting.

Menu item details

High:
Sets the peaking level to high.

Mid:
Sets the peaking level to middle.

Low:
Sets the peaking level to low.

Off:
Does not use the peaking function.

Note

- Since the product determines that sharp areas are in focus, the effect of peaking differs, depending on the subject and shooting conditions.
- The outline of in-focus ranges is not enhanced when the product is connected using an HDMI cable.

Peaking Color

Sets the color used for the peaking function in Manual Focus or Direct Manual Focus shooting. The setting applies to both still images and movies.

1. MENU → ✿ (Custom Settings) → [Peaking Color] → desired setting.

Menu item details

Red:
Enhances outlines in red.
Yellow:
Enhances outlines in yellow.
White:
Enhances outlines in white.

AF/MF control

You can easily switch the focusing mode from auto to manual and vice versa while shooting without changing your holding position. The setting applies to both still images and movies.

1. MENU → ✿ (Custom Settings) → [Custom Key Settings] → button to be assigned → [AF/MF Ctrl Toggle].

During auto focus:
When you press the button to which [AF/MF Ctrl Toggle] is assigned, the focusing mode temporarily switches to manual.
During manual focus:
When you press the button to which [AF/MF Ctrl Toggle] is assigned, the focusing mode temporarily switches to auto, and the focus is locked.

AF Illuminator (still image)

The AF illuminator supplies fill light to focus more easily on a subject in dark surroundings. The red AF illuminator allows the product to focus easily when the shutter button is pressed halfway, until the focus is locked.

1. MENU → (Camera Settings) → [AF Illuminator] → desired setting.

Menu item details

Auto:

Uses the AF illuminator.

Off:

Does not use the AF illuminator.

Note

- You cannot use [AF Illuminator] in the following situations:
  - In movie mode
  - In [Sweep Panorama] mode
  - When [Focus Mode] is set to [Continuous AF].
  - When [Scene Selection] is set to the following modes:
    - [Landscape]
    - [Sports Action]
    - [Night Scene]
    - [Pet]
    - [Fireworks]
- The AF illuminator emits a very bright light. Although there is no health hazard, do not look directly into the AF illuminator at close range.

[65] How to Use │ Using shooting functions │ Adjusting the exposure
Exposure Comp.

Based on the exposure value set by auto exposure, you can make the entire image brighter or darker if you adjust [Exposure Comp.] to the plus side or minus side, respectively (exposure compensation). Normally, exposure is set automatically (auto exposure).

1. / (Exposure Comp.) on the control wheel → press the left/right side of the control wheel or turn the control wheel, and select the desired exposure range.
   - When using [Intelligent Auto] or [Superior Auto], you can display the settings screen for [Photo Creativity] by pressing / .

- You can adjust the exposure in a range of –3.0 EV to +3.0 EV.

Note

- You can adjust the exposure in a range of –2.0 EV to +2.0 EV for movies.
- If you shoot a subject in extremely bright or dark conditions, or when you use the flash, you may not be able to get a satisfactory effect.
- When you use [Manual Exposure], you can compensate for the exposure only when [ISO] is set to [ISO AUTO].

[66] How to Use │ Using shooting functions │ Adjusting the exposure
Metering Mode

Selects the metering mode that sets which part of the screen to measure for determining the exposure.

1. MENU → (Camera Settings) → [Metering Mode] → desired setting.

Menu item details

Multi:
Measures light on each area after dividing the total area into multiple areas and determines the proper exposure of the entire screen (Multi-pattern metering).

Center:
Measures the average brightness of the entire screen, while emphasizing the central area of the screen (Center-weighted metering).

Spot:
Measures only the central area (Spot metering). This function is useful when the subject is backlit or when there is strong contrast between the subject and the background.

Note

- The setting is fixed to [Multi] in the following shooting modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
  - Zoom functions other than optical zoom

[67] How to Use │ Using shooting functions │ Adjusting the exposure

AE lock

When the contrast between the subject and background is high, such as when shooting a backlit subject or a subject near a window, meter the light at a spot where the subject appears to have the appropriate brightness and lock the exposure before shooting. To reduce the brightness of the subject, meter the light at a spot brighter than the subject and lock the exposure of the entire screen. To make the subject brighter, meter the light at a spot darker than the subject and lock the exposure of the entire screen.

1. MENU → ✿ (Custom Settings) → [Custom Key Settings], then assign the [AEL toggle] to the desired key.

2. Adjust the focus on the spot at which the exposure is adjusted.

3. Press the button to which the [AEL toggle] function is assigned.
   The exposure is locked, and ✳ (AE lock) lights up.

4. Focus on the subject again and press the shutter button.

   - To cancel the exposure lock, press the button to which the [AEL toggle] function is assigned.

[68] How to Use │ Using shooting functions │ Selecting a drive mode (Continuous shooting/Self-timer)
Drive Mode

You can set the drive mode, such as continuous or self-timer shooting.

1. MENU → 📷 (Camera Settings) → [Drive Mode] → desired setting.
   - You can also set the drive mode by pressing ⟳/☐ (Drive Mode) button of the control wheel.

Menu item details

☐ **Single Shooting:**
Shoots one still image. Normal shooting mode.

☐ **Cont. Shooting:**
Shoots images continuously while you press and hold down the shutter button.

☐ **Spd Priority Cont.:**

Shoots images continuously at high speed while you press and hold down the shutter button.

⟳ Self-timer:

Shoots an image using the self-timer after a designated number of seconds have elapsed since the shutter button was pressed.

⟳▲ Self-portrait:

When the product detects the number of faces you have selected, a beep will sound and the shooting starts after two seconds.

⟳C Self-timer(Cont):

Shoots a designated number of images using the self-timer after 10 seconds have elapsed since the shutter button was pressed.

BRKC Cont. Bracket:

Shoots images while holding the shutter button down, each with different degrees of brightness.

BRKWB WB bracket:

Shoots a total of three images, each with different color tones according to the selected settings for white balance, color temperature and color filter.

Note

- When the shooting mode is set to [Scene Selection] and [Sports Action] is selected, [Single Shooting] cannot be performed.

---

[69] How to Use │ Using shooting functions │ Selecting a drive mode (Continuous shooting/Self-timer)

Cont. Shooting

Shoots images continuously while you press and hold down the shutter button.

1. MENU→ 📷 (Camera Settings) → [Drive Mode] → [Cont. Shooting].

Note

- Continuous shooting is unavailable in the following situations:
  - The shooting mode has been set to [Sweep Panorama].
  - The shooting mode is set to [Scene Selection] and a scene other than [Sports Action] is selected.
  - The [Picture Effect] is set to [Soft Focus], [HDR Painting], [Rich-tone Mono.], [Miniature], [Watercolor], or [Illustration].
  - The [DRO/Auto HDR] is set to [Auto HDR].
  - [ISO] is set to [Multi Frame NR].
  - [Smile Shutter] is being used.

Hint

- To hold the focus and exposure during burst, change the following settings.

  - Set [Focus Mode] to [Continuous AF].

---

[70] How to Use │ Using shooting functions │ Selecting a drive mode (Continuous shooting/Self-timer)

Spd Priority Cont.

The product continues to shoot as long as the shutter button is pressed. You can continuously shoot at a rate faster than that of [Cont. Shooting].

1. MENU→ ![camera icon] (Camera Settings) → [Drive Mode] → [Spd Priority Cont.].

Note

- Between continuous shooting frames, an image of each frame is immediately displayed.
- Continuous shooting is unavailable in the following situations:

  - The shooting mode has been set to [Sweep Panorama].
  - The shooting mode is set to [Scene Selection] and a scene other than [Sports Action] is selected.
  - The [Picture Effect] is set to [Soft Focus], [HDR Painting], [Rich-tone Mono.], [Miniature], [Watercolor], or [Illustration].
  - The [DRO/Auto HDR] is set to [Auto HDR].
  - [ISO] is set to [Multi Frame NR].
  - [Smile Shutter] is being used.

Hint

- The focus and exposure is fixed for the first shot.

---

[71] How to Use │ Using shooting functions │ Selecting a drive mode (Continuous shooting/Self-timer)

Self-timer

Shoots an image using the self-timer after a designated number of seconds have elapsed since the shutter button was pressed.

1. MENU → ![camera icon] (Camera Settings) → [Drive Mode] → [Self-timer].

2. Select the desired mode using the right/left side of the control wheel.

Menu item details

⏱10 Self-timer: 10 Sec:

Sets the 10-second delay self-timer.

When you press the shutter button, the self-timer lamp flashes, a beep sounds, and the shutter operates after 10 seconds. To cancel the self-timer, press the shutter button again.

⏱2 Self-timer: 2 Sec:

Sets the 2-second delay self-timer. This reduces the camera-shake caused by pressing the shutter button.

Hint

- Press the ⏱ / ☐ button of the control wheel and select ☐ (Single Shooting) to cancel the self-timer.

Note

- The self-timer is unavailable in the following situations:
  - The shooting mode is set to [Sweep Panorama].
  - [Sports Action], [Hand-held Twilight] or [Anti Motion Blur] in [Scene Selection]
  - [Picture Effect] is set to [Soft Focus], [HDR Painting], [Rich-tone Mono.], [Miniature], [Watercolor] or [Illustration]
  - [DRO/Auto HDR] is set to [Auto HDR]
  - [ISO] is set to [Multi Frame NR]
  - [Smile Shutter]

[72] How to Use │ Using shooting functions │ Selecting a drive mode (Continuous shooting/Self-timer)

Self-portrait

Images are shot automatically when the camera detects people's faces.

1. MENU → 📷 (Camera Settings) → [Drive Mode] → [Self-portrait].

2. Select the desired number of people using the left/right side of the control wheel.

3. Point the lens at yourself.
   When the camera detects the specified number of faces, it beeps and then shoots an image 2 seconds later.

Hint

- You can also shoot an image by pressing the shutter button during this operation.

[73] How to Use │ Using shooting functions │ Selecting a drive mode (Continuous shooting/Self-timer)

Self-timer(Cont)

Shoots a designated number of images using the self-timer after 10 seconds have elapsed since the shutter button was pressed. You can choose the best from multiple shots.

1. MENU → ■ (Camera Settings) → [Drive Mode] → [Self-timer(Cont)].

2. Select the desired mode using the right/left side of the control wheel.

Menu item details

Self-timer(Cont.): 10 Sec. 3 Img.:
Shoots three frames in succession 10 seconds after you press the shutter button.
When you press the shutter button, the self-timer lamp flashes, a beep sounds, and the shutter operates after 10 seconds.

Self-timer(Cont.): 10 Sec. 5 Img.:
Shoots five frames in succession 10 seconds after you press the shutter button.
When you press the shutter button, the self-timer lamp flashes, a beep sounds, and the shutter operates after 10 seconds.

Hint

- Press the shutter button again to stop the self-timer countdown.
- Press the ☾ / ⊒ button of the control wheel and select ☐ (Single Shooting) to cancel the self-timer.

[74] How to Use │ Using shooting functions │ Selecting a drive mode (Continuous shooting/Self-timer)

Cont. Bracket

Shoots multiple images while automatically shifting the exposure from base to darker and then to lighter. Press and hold down the shutter button until the bracket recording is completed.
You can select an image that suits your intention, after recording.

1. MENU→ (Camera Settings) → [Drive Mode] → [Cont. Bracket].

2. Select the desired mode using the right/left side of the control wheel.

Menu item details

![BRK C 0.3EV3 icon] Cont. Bracket: 0.3EV 3 Image:

This setting shoots three images continuously with an exposure value shifted by plus or minus 0.3 EV.

![BRK C 0.7EV3 icon] Cont. Bracket: 0.7EV 3 Image:

This setting shoots three images continuously with an exposure value shifted by plus or minus 0.7 EV.

Note

- The last shot is shown on the Auto Review.
- When [ISO AUTO] is selected in [Manual Exposure] mode, the exposure is changed by adjusting the ISO value. If a setting other than [ISO AUTO] is selected, the exposure is changed by adjusting the shutter speed.
- When you adjust the exposure, the exposure is shifted based on the compensated value.
- Bracket shooting is unavailable in the following situations:

  – The shooting mode is set to [Intelligent Auto], [Superior Auto], [Scene Selection], or [Sweep Panorama].

[75] How to Use │ Using shooting functions │ Selecting a drive mode (Continuous shooting/Self-timer)

WB bracket

Shoots three images, each with different color tones according to the selected settings of white balance, color temperature and color filter.

1. MENU → (Camera Settings) → [Drive Mode] → [WB bracket].

2. Select the desired mode using the right/left side of the control wheel.

Menu item details

![BRK WB Lo icon] White Balance Bracket: Lo:

Records a series of three images with small changes in the white balance.

![BRK WB HI icon] White Balance Bracket: Hi:

Records a series of three images with large changes in the white balance.

Note

- The last shot is shown on the Auto Review.

ISO

Sensitivity to light is expressed by the ISO number (recommended exposure index). The larger the number, the higher the sensitivity.

1. MENU → ![camera] (Camera Settings) → [ISO] → desired setting.

Menu item details

Multi Frame NR:

Combines continuous shots to create an image with less noise. Select the desired ISO number from [ISO AUTO] or ISO 200 – 25600.

ISO AUTO:

Sets the ISO sensitivity automatically.

ISO 80 – ISO 6400:

Sets the ISO sensitivity manually. Selecting a larger number increases the ISO sensitivity.

Note

- [ISO AUTO] is selected when using the following functions:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
  - [Sweep Panorama]
- When [ISO] is set to a value lower than ISO 125, the range for recordable subject brightness (dynamic range) may decrease.
- The higher the ISO value, the more noise will appear on the images.
- The available ISO settings differ between shooting still images and movies.
- When shooting movies, ISO values between ISO 125 and ISO 3200 are available. If the ISO value is set to larger value than ISO 3200, the setting is automatically switched to ISO 3200. When you finished the movie recording, the ISO value returns to the original setting.
- When shooting movies, ISO values between ISO 125 and ISO 3200 are available. If the ISO value is set to a value smaller than ISO 125, the setting is automatically switched to ISO 125. When you finish recording the movie, the ISO value returns to the original

setting.

- When you use [Multi Frame NR], it takes some time for the product to perform the overlay processing of images.

Hint

- You can change the automatically set ISO sensitivity range for the [ISO AUTO] mode. Select [ISO AUTO] and press the right side of the control wheel, and set the desired values for [ISO AUTO Maximum] and [ISO AUTO Minimum]. The values for [ISO AUTO Maximum] and [ISO AUTO Minimum] are also applied when shooting in [ISO AUTO] mode under [Multi Frame NR].

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[77] How to Use │ Using shooting functions │ Selecting the ISO sensitivity
Multi Frame NR

The product automatically shoots multiple images continuously, combines them, reduces the noise, and records them as one image. The image recorded is one combined image.

1. MENU → ![camera icon] (Camera Settings) → [ISO] → [Multi Frame NR].

2. Press the right side of the control wheel to display the setting screen, then select a desired value using the top/bottom side of the control wheel.

Note

- When [![icon] Quality] is set to [RAW] or [RAW & JPEG], this function cannot be used.
- The flash, [D-Range Opt.], and [Auto HDR] cannot be used.
- When [Picture Effect] is set to something other than [Off], you cannot set [Multi Frame NR].

Hint

- You can change the automatically set range of ISO sensitivity in the [ISO AUTO] mode under [Multi Frame NR]. Select [ISO AUTO] under [ISO] and press the right side of the control wheel, and set the desired values for [ISO AUTO Maximum] and [ISO AUTO Minimum]. The values for [ISO AUTO Maximum] and [ISO AUTO Minimum] are also applied when shooting in [ISO AUTO] mode under [Multi Frame NR].

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[78] How to Use │ Using shooting functions │ Correcting the brightness or contrast
D-Range Opt. (DRO)

By dividing the image into small areas, the product analyzes the contrast of light and shadow between the subject and the background, and creates an image with the optimal brightness and gradation.

1. MENU → ▣ (Camera Settings) → [DRO/Auto HDR] → [D-Range Opt.].

2. Select the desired setting using the left/right side of the control wheel.

Menu item details

▣ D-Range Optimizer: Auto:

Corrects the brightness automatically.

▣ D-Range Optimizer: Lv1 — D-Range Optimizer: Lv5:

Optimizes the gradation of a recorded image for each divided area. Select the optimization level from Lv1 (weak) to Lv5 (strong).

Note

- [DRO/Auto HDR] is fixed to [Off] when the shooting mode is set to [Sweep Panorama], or when [Multi Frame NR] or [Picture Effect] is set to other than [Off].
- [DRO/Auto HDR] is fixed to [Off] when the following modes are selected in [Scene Selection].

  – [Sunset]
  – [Night Scene]
  – [Night Portrait]
  – [Hand-held Twilight]
  – [Anti Motion Blur]
  – [Fireworks]

  The setting is fixed to [D-Range Optimizer: Auto] when [Scene Selection] modes other than the above modes are selected.

- When shooting with [D-Range Opt.], the image may be noisy. Select the proper level by checking the recorded image, especially when you enhance the effect.

[79] How to Use │ Using shooting functions │ Correcting the brightness or contrast
Auto HDR

Widens the range (gradation) so that you can record from bright parts to dark parts with correct brightness (HDR: High Dynamic Range). One image with proper exposure and one overlaid image are recorded.

1. MENU → ![camera icon] (Camera Settings) → [DRO/Auto HDR] → [Auto HDR].

2. Select the desired setting using the left/right side of the control wheel.

Menu item details

![HDR AUTO icon] Auto HDR: Exposure Diff. Auto:
Corrects the exposure difference automatically.

![HDR 1.0EV icon] Auto HDR: Exposure Diff. 1.0EV — Auto HDR: Exposure Diff. 6.0EV:
Sets the exposure difference, based on the contrast of the subject. Select the optimal level between 1.0 EV (weak) and 6.0 EV (strong).
For example, if you set the exposure value to 2.0 EV, three images will be composed with the following exposure levels: −1.0 EV, correct exposure and +1.0 EV.

Note

- [Auto HDR] is not available when the [![icon] Quality] is [RAW] or [RAW & JPEG].
- [Auto HDR] is not available in the following shooting modes.
  - [Intelligent Auto]
  - [Superior Auto]
  - [Sweep Panorama]
  - [Scene Selection]
- When [Multi Frame NR] is selected, you cannot select [Auto HDR].
- When [Picture Effect] is set to something other than [Off], you cannot select [Auto HDR].
- You cannot start the next shot until the capture process is completed after you shoot.
- You may not obtain the desired effect depending on the luminance difference of a subject and the shooting conditions.
- When the flash is used, this function has little effect.
- When the contrast of the scene is low or when product shake or subject blur occurs, you may not obtain good HDR images. ![HDR icon] ![! icon] will be displayed over the recorded image to inform you when the camera detects image blurring. Change the composition or re-shoot the image carefully to avoid image blur, as needed.

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[80] How to Use │ Using shooting functions │ Adjusting color tones
White Balance

Adjusts the color tones according to the ambient light conditions. Use this feature when the color tones of the image did not come out as you expected, or when you want to change the color tones on purpose for photographic expression.

1. MENU → ![camera icon] (Camera Settings) → [White Balance] → desired setting.

Menu item details

AWB Auto:

The product automatically detects the light source and adjusts the color tones.

☀ Daylight:

The color tones are adjusted for the daylight.

⌂ Shade:

The color tones are adjusted for shadiness.

☁ Cloudy:

The color temperature is adjusted for a cloudy sky.

☼ Incandescent:

The color temperature is adjusted for places under an incandescent lamp, or under bright lighting, such as in a photo studio.

-1 Fluor.: Warm White:

The color temperature is adjusted for warm white fluorescent lighting.

0 Fluor.: Cool White:

The color temperature is adjusted for white fluorescent lighting.

+1 Fluor.: Day White:

The color temperature is adjusted for neutral white fluorescent lighting.

+2 Fluor.: Daylight:

The color temperature is adjusted for daylight fluorescent lighting.

WB Flash:

The color temperature is adjusted for flash light.

C.Temp./Filter:

Adjusts the color tones depending on the light source. Achieves the effect of CC (Color Compensation) filters for photography.

Custom 1/Custom 2/Custom 3:

Uses the white balance setting saved in [Custom Setup].

SET Custom Setup:

Memorizes the basic white color under the light conditions for the shooting environment. Select a memorized custom white balance number.

Hint

- You can use the right side of the control wheel to display the fine adjustment screen and perform fine adjustments of the color tones as required.
- In [C.Temp./Filter], you can use the right button to display the color temperature setting screen and perform a setting. When you press the right button again, the fine adjustment screen appears to allow you perform fine adjustments as required.

Note

- [White Balance] is fixed to [Auto] in the following situations:

  – [Intelligent Auto]
  – [Superior Auto]
  – [Scene Selection]

[81] How to Use | Using shooting functions | Adjusting color tones

Capturing a basic white color in [Custom Setup] mode

In a scene where the ambient light consists of multiple types of light sources, it is recommended to use the custom white balance in order to accurately reproduce the whiteness.

1. MENU → ⬛ (Camera Settings) → [White Balance] → [Custom Setup].

2. Hold the product so that the white area fully covers the circle located in the center, and then press the center of the control wheel.
   The calibrated values (Color Temperature and Color Filter) are displayed.

3. Select a registration number using the right/left button.
   The monitor returns to the recording information display while retaining the memorized custom white balance setting.

Note

- The message [Custom WB Error] indicates that the value is higher than the expected range, when the flash is used on a subject with too bright colors in the frame. If you register this value, the ⬛ indicator turns orange on the recording information display. You can shoot at this point, but it is recommended that you set the white balance again to get a more accurate white balance value.

[82] How to Use | Using shooting functions | Selecting an effect mode

Picture Effect

Select the desired effect filter to achieve more impressive and artistic images.

1. MENU → ⬛ (Camera Settings) → [Picture Effect] → desired setting.

Menu item details

Off:

Disables the [Picture Effect] function.

Toy Camera:

Creates a soft image with shaded corners and reduced sharpness.

Pop Color:

Creates a vivid look by emphasizing color tones.

Posterization:

Creates a high contrast, abstract look by heavily emphasizing primary colors, or in black and white.

Retro Photo:

Creates the look of an aged photo with sepia color tones and faded contrast.

Soft High-key:

Creates an image with the indicated atmosphere: bright, transparent, ethereal, tender, soft.

Partial Color:

Creates an image which retains a specific color, but converts others to black and white.

High Contrast Mono.:

Creates a high-contrast image in black and white.

Soft Focus:

Creates an image filled with a soft lighting effect.

HDR Painting:

Creates the look of a painting, enhancing the colors and details.

Rich-tone Mono.:

Creates an image in black and white with rich gradation and reproduction of details.

Miniature:

Creates an image which enhances the subject vividly, with the background defocused considerably. This effect may often be found in pictures of miniature models.

Watercolor:

Creates an image with ink bleed and blurring effects as if painted using watercolors.

Illustration:

Creates an illustration-like image by emphasizing the outlines.

Hint

- You can perform detailed settings for the following [Picture Effect] modes using the left/right side of the control wheel.

- [Toy Camera]
- [Posterization]
- [Partial Color]
- [Soft Focus]
- [HDR Painting]
- [Miniature]
- [Illustration]

Note

- When you use a zoom function other than the optical zoom, setting the zoom scale larger makes [Toy Camera] less effective.
- When [Partial Color] is selected, images may not retain the selected color, depending on the subject or shooting conditions.
- You cannot check the following effects on the shooting screen, because the product processes the image after the shot. Also, you cannot shoot another image until image processing is finished. You cannot use these effects with movies.

    - [Soft Focus]
    - [HDR Painting]
    - [Rich-tone Mono.]
    - [Miniature]
    - [Watercolor]
    - [Illustration]

- In the case of [HDR Painting] and [Rich-tone Mono.], the shutter is released three times for one shot. Be careful about the following:

    - Use this function when the subject is motionless or does not flash light.
    - Do not change the composition before shooting.

    When the contrast of the scene is low or when significant camera-shake or subject blur has occurred, you may not be able to obtain good HDR images. If the product detects such a situation, / appear on the recorded image to inform you of this situation. If necessary, change the composition or otherwise adjust the settings, be careful of blurring, and shoot again.

- [Picture Effect] cannot be set when the shooting mode is set to [Intelligent Auto], [Superior Auto], [Scene Selection] or [Sweep Panorama].
- [Picture Effect] cannot be set when [Quality] is set to [RAW] or [RAW & JPEG].

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[83] How to Use │ Using shooting functions │ Selecting an effect mode

Creative Style

Allows you to select the desired image processing. You can adjust exposure (shutter speed and aperture) as you like with [Creative Style], unlike with [Scene Selection] where the product adjusts the exposure.

1. MENU → ☐ (Camera Settings) → [Creative Style] → desired setting.

Menu item details

Std.↑ Standard:

For shooting various scenes with rich gradation and beautiful colors.

Vivid↑ Vivid:

The saturation and contrast are heightened for shooting striking images of colorful scenes and subjects such as flowers, spring greenery, blue sky, or ocean views.

Port.↑ Portrait:

For capturing skin in a soft tone, ideally suited for shooting portraits.

Land.↑ Landscape:

The saturation, contrast, and sharpness are heightened for shooting vivid and crisp scenery. Distant landscapes also stand out more.

Sunset↑ Sunset:

For shooting the beautiful red of the setting sun.

B/W↑ Black & White:

For shooting images in black and white monotone.

To set [Contrast], [Saturation] and [Sharpness]

[Contrast], [Saturation], and [Sharpness] can be adjusted for each image style preset such as [Standard] and [Landscape]. Select an item to be set by pressing the right/left side of the control wheel, then set the value using the top/bottom side of the control wheel.

◑ Contrast:

The higher the value selected, the more the difference of light and shadow is accentuated, and the bigger the effect on the image.

⊛ Saturation:

The higher the value selected, the more vivid the color. When a lower value is selected, the color of the image is restrained and subdued.

▥ Sharpness:

Adjusts the sharpness. The higher the value selected, the more the contours are accentuated, and the lower the value selected, the more the contours are softened.

Note

- [Standard] is selected when using the following functions:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
  - [Picture Effect] is set to other than [Off].
- When [Creative Style] is set to [Black & White], [Saturation] cannot be adjusted.

File Format (movie)

Selects the movie file format.

1. MENU → 📷 (Camera Settings) → [🎞 File Format] → desired setting.

Menu item details

AVCHD:
Records HD movies in AVCHD format. This file format is suitable for high-definition TV.
Audio: Dolby Digital
MP4:
Records mp4 (AVC) movies. This format is suitable for playback on smartphones or tablets, web uploads, email attachments, etc.
Audio: AAC

Hint

- You can save images to a computer or copy them to a disc compatible with your playback device using the software PlayMemories Home.

Note

- When [🎞 File Format] is set to [AVCHD], the file size of movies is limited to approx. 2 GB. If the movie file size reaches approx. 2 GB during recording, a new movie file will be created automatically.
- When [🎞 File Format] is set to [MP4], the file size of movies is limited to approx. 4 GB. If the movie file size reaches approx. 4 GB during recording, recording will stop automatically.

Record Setting (movie)

Selects the image size, frame rate, and image quality for movie recording. The higher the bit-rate, the higher the image quality.

1. MENU → 📷 (Camera Settings) → [🎞 Record Setting] → desired setting.

When [▣ File Format] is set to [AVCHD]

60i/50i: Movies are recorded at approximately 60 fields/sec (for 1080 60i-compatible devices) or 50 fields/sec (for 1080 50i-compatible devices), in interlaced mode, with Dolby Digital audio, in AVCHD format.
60p/50p: Movies are recorded at approximately 60 frames/sec (for 1080 60i-compatible devices) or 50 frames/sec (for 1080 50i-compatible devices), in progressive mode, with Dolby Digital audio, in AVCHD format.

When [▣ File Format] is set to [MP4]

Movies shot are recorded in MPEG-4 format, at approximately 60 frames/sec (for 1080 60i-compatible devices), approximately 50 frames/sec (for 1080 50i-compatible devices), approximately 30 frames/sec (for 1080 60i-compatible devices) or approximately 25 frames/sec (for 1080 50i-compatible devices), in progressive mode, with AAC audio, MP4 format.

Menu item details

When [▣ File Format] is set to [AVCHD]

60i 24M(FX)/50i 24M(FX):

Records the movies in 1920 × 1080 (60i/50i).
Bit-rate: 24 Mbps (Max.)

60i 17M(FH)/50i 17M(FH):

Records the movies in 1920 × 1080 (60i/50i).
Bit-rate: Approx. 17 Mbps (Avg.)

60p 28M(PS)/50p 28M(PS):

Records the movies in 1920 × 1080 (60p/50p).
Bit-rate: 28 Mbps (Max.)

When [▣ File Format] is set to [MP4]

1440×1080 12M:

Records the movies in 1440×1080.
Bit-rate: Approx. 12 Mbps (Avg.)

VGA 3M:

Records movies in the VGA size.
Bit-rate: Approx. 3 Mbps (Avg.)

Note

- 60p/50p movies can be played back only on compatible devices.
- Movies recorded with the [60p 28M(PS)]/[50p 28M(PS)]/[60i 24M(FX)]/[50i 24M(FX)] setting in [▣ Record Setting] are converted by PlayMemories Home in order to create an AVCHD recording disc. This conversion can take a long time. Also, you cannot create
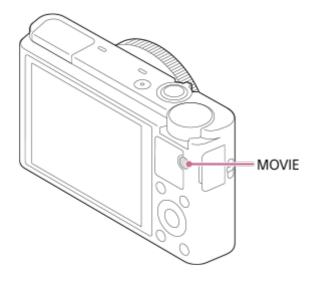
a disc in the original image quality. If you want to keep the original image quality, store your movies on a Blu-ray Disc.

Capturing still images while recording movies (Dual Rec)

You can capture still images while recording movies without stopping recording. Use Dual Rec when you want to record both movies and still images at the same time.

1. Press the MOVIE button to start recording the movie.

2. Press the shutter button to capture a still image.

   - If you press the shutter button halfway down, the remaining number of still images you can shoot will be displayed on the screen.
   - While shooting still images, the message [CAPTURE] is displayed on the screen.

3. Press the MOVIE button again to finish recording the movie.

Hint

- The image size of the still images can be selected from MENU → ![camera icon] (Camera Settings)→[Img. Size(Dual Rec)].

Note

- Dual Rec may be unavailable depending on the recording setting or mode setting.
- Depending on the memory card you use, it may take a while to record a still image.
- The shutter button sound may be recorded.
- You cannot use the flash while using Dual Rec.

Img. Size(Dual Rec)

Selects the size of still images to be shot while recording movies.

1. MENU → 📷 (Camera Settings) → [Img. Size(Dual Rec)] → desired setting.

Menu item details

When [🎞 Record Setting] is set to other than [VGA 3M]

L: 17M/S: 4.2M

When [🎞 Record Setting] is set to [VGA 3M]

L: 13M/S: 3.2M

SteadyShot (movie)

Sets [🎞 SteadyShot] effect when shooting movies. If you set the [🎞 SteadyShot] effect to [Off] when using a tripod (sold separately), a natural image is produced.

1. MENU→ 📷 (Camera Settings) → [🎞 SteadyShot] → desired setting.

Menu item details

Active:

Provides a more powerful SteadyShot effect.

Standard:

Reduces camera shake under stable movie shooting conditions.

Off:

Does not use [🎞 SteadyShot].

Note

- If you change the setting for [🎞 SteadyShot], the angle of view will change.

Audio Recording

Sets whether to record sounds when shooting movies.

1. MENU → ■ (Camera Settings) → [Audio Recording] → desired setting.

Menu item details

On:
Records sound (stereo).
Off:
Does not record sound.

Note

- The noise of the lens and the product in operation will also be recorded, when [On] is selected.

Wind Noise Reduct.

Sets whether or not to reduce wind noise during movie recording.

1. MENU → ■ (Camera Settings) → [Wind Noise Reduct.] → desired setting.

Menu item details

On:
Reduces wind noise.
Off:
Does not reduce wind noise.

Note

- Setting this item to [On] where wind is not blowing sufficiently hard may cause normal sound to be recorded with too low volume.

MOVIE Button

Sets whether or not to activate the MOVIE button.

1. MENU → ✿ (Custom Settings) → [MOVIE Button] → desired setting.

Menu item details

Always:
Starts movie recording when you press the MOVIE button in any mode.
Movie Mode Only:
Starts movie recording when you press the MOVIE button only if the shooting mode is set to [Movie] mode.

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Memory

Allows you to register up to 3 often-used modes or product settings in the product. You can recall the settings using just the mode dial.

1. Set the product to the setting you want to register.

2. MENU → 📷 (Camera Settings) → [Memory] → desired number.

Items that can be registered

- Shooting mode
- Aperture (F number)
- Shutter speed
- 📷 Camera Settings
- Optical zoom scale

To recall registered settings

Set the mode dial to MR, then press the right/left side of the control wheel or turn the control wheel to select the desired memory number.

To change registered settings

Change the setting to the desired one and re-register the setting to the same mode number.

Note

- Program Shift cannot be registered.

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Function Menu Set.

You can assign the functions to be called up when you press the Fn (Function) button.

1. MENU → ✿ (Custom Settings) → [Function Menu Set.] → set a function to the desired location.

The functions that can be assigned are displayed on the setup item selection screen.

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[94] How to Use │ Using shooting functions │ Customizing the shooting functions for convenient use

Custom Key Settings

Assigning functions to the desired keys allows you to speed up operations by pressing the appropriate key when the shooting information screen is displayed to execute an assigned function.

1. MENU → ✿ (Custom Settings) → [Custom Key Settings] → set a function to the desired key.

Examples of functions that can only be assigned with custom keys

Standard:

Depending on the options selected in [Focus Area] or [Center Lock-on AF], the available functions varies when pressing the key.

- When you press the key while [Focus Area] is set to [Flexible Spot], you can change the position of the focusing frame by pressing the top/bottom/right/left side of the control wheel.
- When you press the key when the [Focus Area] is set to [Wide] or [Center] and [Center Lock-on AF] is [On], [Center Lock-on AF] will activate.

- Some functions cannot be assigned to certain keys.

Function of the control ring

Once you assign a function to the control ring, you can perform that function by simply turning the control ring when the shooting information screen is displayed.

1. MENU → ✿ (Custom Settings) → [Custom Key Settings] → [Control Ring] → desired setting.

- When [Focus Mode] is set to [DMF] or [Manual Focus], you cannot recall the assigned function. You can use the control ring to adjust the focus manually.
- When [Photo Creativity] is used, you cannot recall the assigned function.

Function of the Center button

Once you assign a function to the center button, you can perform that function by simply pressing the center button when the shooting information screen is displayed.

1. MENU → ✿ (Custom Settings) → [Custom Key Settings] → [Center Button] → desired setting.

The functions that can be assigned are displayed on the setup item selection screen.

Function of the Left button

Once you assign a function to the left button, you can perform that function by simply pressing the left button when the shooting information screen is displayed.

1. MENU → � (Custom Settings) → [Custom Key Settings] → [Left Button] → desired setting.

The functions that can be assigned are displayed on the setup item selection screen.

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Function of the Right button

Once you assign a function to the right button, you can perform that function by simply pressing the right button when the shooting information screen is displayed.

1. MENU → � (Custom Settings) → [Custom Key Settings] → [Right Button] → desired setting.

The functions that can be assigned are displayed on the setup item selection screen.

[99] How to Use │ Using shooting functions │ Setting the other functions of this product

Photo Creativity

[Photo Creativity] is a mode that allows you to operate the camera intuitively with a different screen display. When the shooting mode is set to ¡📷 (Intelligent Auto) or ¡📷+ (Superior Auto), you can change the settings easily and shoot images.

1. Set the shooting mode to ¡📷 (Intelligent Auto) or ¡📷+ (Superior Auto).

2. Press 📷✦ (Photo Creativity) on the control wheel.

3. Select the item to be changed using the control wheel.

   📷(Bkground Defocus):
   Adjusts the blurring of the background.

   ▌(Brightness):

Adjusts brightness.

▌(Color):

Adjusts color.

▌(Vividness):

Adjusts vividness.

(Picture Effect):

You can select a desired effect and shoot images with the specific texture.

4. Select the desired settings.

   - You can use some settings together by repeating steps 3 and 4.

   - To reset the changed settings to the default settings, press the 🗑 (Delete) button. ▲👤(Bkground Defocus), ▌(Brightness), ▌(Color) and ▌(Vividness) are set to [AUTO], and (Picture Effect) is set to OFF .

5. For shooting still images: Press the shutter button.
   When recording movies: Press the MOVIE button to start recording.

Note

- When [⟳ Quality] is set to [RAW] or [RAW & JPEG], you cannot use [Photo Creativity].
- When you record movies using the [Photo Creativity] function, you can change the ▲👤 (Bkground Defocus) settings only.
- If you switch the shooting mode to [Intelligent Auto] mode or [Superior Auto] mode, or turn off the product, the settings you have changed revert to the default settings.
- When the shooting mode is set to [Superior Auto], and you use [Photo Creativity], the product does not perform the overlay processing of images.

Smile/Face Detect.

Detects the faces of your subjects and adjusts the focus, exposure, flash settings and performs image processing automatically.

1. MENU → 📷 (Camera Settings) → [Smile/Face Detect.] → desired setting.

Menu item details

Off:

Does not use the Face Detection function.

On (Regist. Faces):

Detects the registered face with higher priority using [Face Registration].

On:
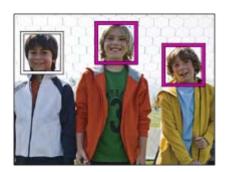
Detects a face without giving higher priority to the registered face.

Smile Shutter:

Automatically detects and shoots a smile.

Face Detection frame

- When the product detects a face, the gray face detection frame appears. When the product determines that autofocus is enabled, the face detection frame turns white. When you press the shutter button halfway down, the frame turns green.
- In case you have registered the priority order for each face using [Face Registration], the product automatically selects the first prioritized face and the face detection frame over that face turns white. The face detection frames of other registered faces turn reddish-purple.

Tips for capturing smiles more effectively

- Do not cover the eyes with front hair and keep the eyes narrowed.
- Do not obscure the face by a hat, masks, sunglasses, etc.
- Try to orient the face in front of the product and be as level as possible.
- Give a clear smile with an open mouth. The smile is easier to be detected when the teeth are shown.
- If you press the shutter button during Smile Shutter, the product shoots the image. After shooting, the product returns to Smile Shutter mode.

Hint

- When the [Smile/Face Detect.] is set to [Smile Shutter], you can select the Smile Detection Sensitivity from [On: Slight Smile], [On: Normal Smile] and [On: Big Smile].

Note

- You cannot use the Face Detection function with the following functions:
  - Zoom functions other than the optical zoom
  - [Sweep Panorama]
  - [Picture Effect] is set to [Posterization].
  - When using the [Focus Magnifier] function.
  - [Scene Selection] is set to [Landscape], [Night Scene] or [Sunset].

- Up to eight faces of your subjects can be detected.
- The product may not detect faces at all or may accidentally detect other objects as faces in some conditions.
- If the product cannot detect a face, set the Smile Detection Sensitivity.
- If you track a face using [Lock-on AF] while executing Smile Shutter function, Smile Detection is performed only for that face.

[101] How to Use │ Using shooting functions │ Setting the other functions of this product
Soft Skin Effect (still image)

Sets the effect used for shooting the skin smoothly in the Face Detection function.

1. MENU → ▣ (Camera Settings) → [▱ Soft Skin Effect] → desired setting.

Menu item details

Off:
Does not use the [▱ Soft Skin Effect] function.
On:
Uses the [▱ Soft Skin Effect].

Hint

- When [▱ Soft Skin Effect] is set to [On], you can select the effect level. Select the effect level by pressing the right/left side of the control wheel.

Note

- [▱ Soft Skin Effect] is not available when [▱ Quality] is [RAW].
- [▱ Soft Skin Effect] is not available for RAW images when the [▱ Quality] is [RAW & JPEG].

[102] How to Use │ Using shooting functions │ Setting the other functions of this product
Face Registration (New Registration)

If you register faces in advance, the product can detect the registered face as a priority when [Smile/Face Detect.] is set to [On (Regist. Faces)].

1. MENU → ⚙ (Custom Settings) → [Face Registration] → [New Registration].

2. Align the guide frame with the face to be registered, and press the shutter button.

3. When a confirmation message appears, select [Enter].

Note

- Up to eight faces can be registered.
- Shoot the face from the front in a brightly lit place. The face may not be registered correctly if it is obscured by a hat, a mask, sunglasses, etc.

---

[103] How to Use │ Using shooting functions │ Setting the other functions of this product
Face Registration (Order Exchanging)

When multiple faces are registered to be given priority, the face registered first will be given priority. You can change the priority order.

1. MENU → ✿ (Custom Settings) → [Face Registration] → [Order Exchanging].

2. Select a face to change the order of priority.

3. Select the destination.

---

[104] How to Use │ Using shooting functions │ Setting the other functions of this product
Face Registration (Delete)

Deletes a registered face.

1. MENU → ✿ (Custom Settings) → [Face Registration] → [Delete].
   If you select [Delete All], you can delete all registered faces.

Note

- Even if you execute [Delete], the data for registered face will remain in the product. To delete the data for registered faces from the product, select [Delete All].

Red Eye Reduction

When using the flash, it is fired two or more times before shooting to reduce the red-eye phenomenon.

1. MENU → (Camera Settings) → [Red Eye Reduction] → desired setting.

Menu item details

On:
The flash is always fired to reduce the red-eye phenomenon.
Off:
Does not use Red Eye Reduction.

Note

- Red Eye Reduction may not produce the desired effects. It depends on individual differences and conditions, such as distance to the subject, or whether the subject looks at the pre-strobe or not.

Auto Obj. Framing (still image)

When this product detects and shoots faces, macro shooting subjects or subjects that are tracked by [Lock-on AF], the product automatically trims the image into an appropriate composition, and then saves it. Both the original and the trimmed images are saved. The trimmed image is recorded in the same size as the original image size.

1. MENU → (Camera Settings) → [Auto Obj. Framing] → desired setting.

Menu item details

Off:

Does not trim images.

Auto:

Automatically trims images into an appropriate composition.

Note

- The trimmed image may not be the best possible composition, depending on the shooting conditions.
- [![icon] Auto Obj. Framing] cannot be set when using zoom functions other than the optical zoom.
- [![icon] Auto Obj. Framing] cannot be set when [![icon] Quality] is set to [RAW] or [RAW & JPEG].

---

[107] How to Use │ Using shooting functions │ Setting the other functions of this product

SteadyShot (still image)

Sets whether or not to use the SteadyShot function.

1. MENU → ![icon] (Camera Settings) → [![icon] SteadyShot] → desired setting.

Menu item details

On:

Uses [![icon] SteadyShot].

Off:

Does not use [![icon] SteadyShot].

We recommend that you set the camera to [Off] when using a tripod.

---

[108] How to Use │ Using shooting functions │ Setting the other functions of this product

Long Exposure NR (still image)

When you set the shutter speed to 1/3 second(s) or longer (long exposure shooting), noise reduction is turned on for the duration that the shutter is open. With the function turned on, the grainy noise typical of long exposures is reduced.

1. MENU → ![icon] (Camera Settings) → [![icon] Long Exposure NR] → desired setting.

Menu item details

On:

Activates noise reduction for the same duration that the shutter is open. When noise reduction is in progress, a message appears and you cannot take another picture. Select this to prioritize the image quality.

Off:

Does not activate noise reduction. Select this to prioritize the timing of shooting.

Note

- Noise reduction may not be activated even if [⤴ Long Exposure NR] is set to [On] in the following situations:
  - The shooting mode is set to [Sweep Panorama].
  - [Drive Mode] is set to [Cont. Shooting], [Spd Priority Cont.] or [Cont. Bracket].
  - The shooting mode is set to [Scene Selection] and [Sports Action], [Hand-held Twilight] or [Anti Motion Blur] is selected.
  - The ISO sensitivity is set to [Multi Frame NR].
- You cannot set [⤴ Long Exposure NR] to [Off] when the shooting mode is set to [Intelligent Auto], [Superior Auto] or [Scene Selection] (excluding [Sports Action], [Hand-held Twilight], and [Anti Motion Blur]).
- Depending on the shooting conditions, the camera may not perform noise reduction, even if the shutter speed is 1/3 second(s) or longer.

---

[109] How to Use | Using shooting functions | Setting the other functions of this product

High ISO NR (still image)

When shooting with high ISO sensitivity, the product reduces noise that becomes more noticeable when the product sensitivity is high. A message may be displayed during noise reduction processing; you cannot shoot another image until the message disappears.

1. MENU → 📷 (Camera Settings) → [⤴ High ISO NR] → desired setting.

Menu item details

High:

Activates high ISO noise reduction strongly.

Normal:

Activates high ISO noise reduction normally.

Low:

Activates high ISO noise reduction moderately.

Note

- [![icon] High ISO NR] is locked to [Normal]:
  - When the shooting mode is set to [Intelligent Auto], [Superior Auto], [Scene Selection] or [Sweep Panorama].
- [![icon] High ISO NR] is not available when [![icon] Quality] is [RAW].
- [![icon] High ISO NR] does not work for RAW images when the [![icon] Quality] is [RAW & JPEG].

[110] How to Use | Using shooting functions | Setting the other functions of this product
Write Date (still image)

Sets whether to record a shooting date on the still image.

1. MENU → ![icon] (Custom Settings) → [![icon] Write Date] → desired setting.

Menu item details

On:

Records a shooting date.

Off:

Does not record a shooting date.

Note

- If you shoot images with the date once, you cannot delete the date from the images later.
- The dates are doubly printed if you set the product to print dates when printing the images using PCs or printers.
- The recorded time of the image cannot be superimposed on the image.
- [![icon] Write Date] cannot be set when [![icon] Quality] is set to [RAW] or [RAW & JPEG].

[111] How to Use | Using shooting functions | Setting the other functions of this product
Shooting Tip List

Displays all shooting tips installed on this camera.

1. MENU → (Camera Settings) → [Shooting Tip List] .
   Select a desired item from [Table of contents] and display it.

Color Space (still image)

The way colors are represented using combinations of numbers or the range of color reproduction is called "color space." You can change the color space depending on the purpose of the image.

1. MENU → (Camera Settings) → [![icon] Color Space] → desired setting.

Menu item details

sRGB:

This is the standard color space of the digital camera. Use [sRGB] in normal shooting, such as when you intend to print out the images without any modification.

AdobeRGB:

This color space has a wide range of color reproduction. When a large part of the subject is vivid green or red, Adobe RGB is effective. The file name of the recorded image starts with "_."

Note

- [AdobeRGB] is for applications or printers that support color management and DCF2.0 option color space. Images may not be printed or viewed in the correct colors if you use applications or printers that do not support Adobe RGB.
- When displaying images that were recorded with [AdobeRGB] on non-Adobe RGB-compliant devices, the images will be displayed with low saturation.

Grid Line

Sets whether the grid line is displayed or not. The grid line will help you to adjust the composition of images.

1. MENU → ✿ (Custom Settings) → [Grid Line] → desired setting.

Menu item details

Rule of 3rds Grid:
Place main subjects close to one of the grid lines that divide the image into thirds for a well-balanced composition.

Square Grid:
Square grids make it easier to confirm the horizontal level of your composition. This is suitable to determine the quality of the composition when shooting landscape, close-up, or duplicated images.

Diag. + Square Grid:
Place a subject on the diagonal line to express an uplifting and powerful feeling.

Off:
Does not display the grid line.

---

[114] How to Use │ Using shooting functions │ Setting the other functions of this product

Auto Review

You can check the recorded image on the screen right after the shooting. You can also set the display time for Auto Review.

1. MENU → ✿ (Custom Settings) → [Auto Review] → desired setting.

Menu item details

10 Sec/5 Sec/2 Sec:
Displays the recorded image on the screen right after shooting for the selected duration of time. If you perform a magnifying operation during Auto Review, you can check that image using the magnified scale.

Off:
Does not display the Auto Review.

Note

- When the product is enlarging an image using image processing, it may temporarily display the original image prior to enlarging and then display the enlarged image.
- The DISP (Display Setting) settings are applied for the Auto Review display.

Playing back images

Plays back the recorded images.

1. Press the ▶ (Playback) button to switch to the playback mode.

2. Select the image with the control wheel.

Hint

- You can rotate the image by pressing the Fn (Function) button. Press the Fn (Function) button and then the center button to rotate the image counter-clockwise. The image rotates each time you press the center. Once you have rotated an image, it remains rotated even after the product is turned off.
- The product creates an image database file on a memory card to record and play back images. An image that is not registered in the image database file may not be played back correctly. To play back images shot using other devices, register those images to the image database file using MENU → [Setup] → [Recover Image DB].

Note

- You cannot rotate the movies.
- You may not be able to rotate images shot using other products.
- When viewing rotated images on a computer, the images may be displayed in their original orientation depending on the software.

Playback zoom

Enlarges the image being played back.

1. Display the image you want to enlarge, and slide the W/T (zoom) lever to the T side.
   - Slide the W/T (zoom) lever to the W side to adjust the zoom scale.

2. Select the portion you want to enlarge by pressing the top/bottom/right/left side of the control wheel.

3. Press the MENU button, or the center of the control wheel to exit the playback zoom.

- You can also enlarge an image being played back using MENU.

- You cannot enlarge movies.

---

[117] How to Use │ Viewing │ Viewing still images

Image Index

You can display multiple images at the same time in playback mode.

1. Slide the W/T (zoom) lever to the W side while the image is being played back.
   To change the number of images to be displayed
   MENU → ▶ (Playback) → [Image Index] → desired setting.

Menu item details

9 Images/25 Images

To return to single-image playback

Select the desired image and press the center of the control wheel.

To display a desired image quickly

Select the bar on the left of the image index screen using the control wheel, then press the top/bottom side of the control wheel. While the bar is being selected, you can display the calendar screen or folder selection screen by pressing the center. In addition, you can switch View Mode by selecting an icon.

---

[118] How to Use │ Viewing │ Viewing still images

Switching the screen display (during playback)

Switches the screen display.

1. Press the DISP (Display Setting) button.

   - The screen display switches in the order "Display Info. → Histogram → No Disp. Info. → Display Info." each time you press the DISP button.

- The DISP (Display Setting) settings are applied for the Auto Review display.

Note

- The histogram is not displayed in the following situations:
  - During movie playback
  - During scrolling playback of panoramic images
  - During slideshows
  - During Folder View (MP4)
  - During AVCHD View

[119] How to Use | Viewing | Deleting images
Deleting a displayed image

You can delete an image displayed.

1. Display the image you want to delete.

2. Press the 🗑 (Delete) button.

3. Select [Delete] using the control wheel.

[120] How to Use | Viewing | Deleting images
Deleting multiple selected images

You can delete multiple selected images.

1. MENU → ▶ (Playback) → [Delete] → desired setting.

Menu item details

Multiple Img.:
Deletes the selected images.
(1) Select the images to be deleted, then press the center of the control wheel. The ✓ mark is displayed in the check box. To cancel the selection, press the center again to remove the ✓ mark.

(2) To delete other images, repeat step (1).

(3) Select MENU → [OK].

All in this Folder:

Deletes all images in the selected folder.

All with this date:

Deletes all images in the selected date range.

Hint

- Perform [Format] to delete all images, including protected images.

Note

- The menu items that can be selected differ depending on the [View Mode] setting.

Playing back movies

Plays back the recorded movies.

1. Press the ▶ (playback) button to switch to playback mode.

2. Select a movie to play back using the control wheel, and then press the center to play back the movie.

Available operations during movie playback

You can perform slow playback and sound volume adjustment, etc. by pressing the bottom side of the control wheel.

- ▶ : Playback
- ❙❙ : Pause
- ▶▶ : Fast-forward
- ◀◀ : Fast-rewind
- ❙▶ : Forward slow playback
- ◀❙ : Reverse slow playback
- ▶▶❙ : Next movie file
- ❙◀◀ : Previous movie file
- ❙❙▶ : Displays the next frame
- ◀❙❙ : Displays the previous frame
- ◀)) : Sound volume adjustment
- ↩ : Closes the operation panel

- "Forward slow playback," "Reverse slow playback," "Displays the next frame" and "Displays the previous frame" are available during pause.

---

[122] How to Use │ Viewing │ Viewing panoramic images
Playing back panoramic images

The product automatically scrolls a panoramic image from end to end.

1. Press the ▶ (playback) button to switch to playback mode.

2. Select a panoramic image to play back using the control wheel, and then press the center to play back the image.

  - To pause playback, press the center again.
  - To return to the display of the entire image, press the MENU button.

- Panoramic images shot using other products may be displayed in a different size from the actual size, or may not scroll correctly.

---

[123] How to Use │ Viewing │ Printing
Specify Printing

You can specify in advance on the memory card which still images you want to print out later.

The **DPOF** (print order) icon will appear on the specified images. DPOF refers to "Digital Print Order Format."

1. MENU → ▶ (Playback) → [Specify Printing] → desired setting.

Menu item details

Multiple Img.:
Selects images to order printing.
(1) Select an image and press the center of the control wheel. The ✔ mark is displayed in the check box. To cancel the selection, press the center again to remove the ✔ mark.
(2) Repeat step (1) to print other images.
(3) Select MENU → [OK].

Cancel All:
Clears all DPOF marks.

Print Setting:
Sets whether to print the date on images registered with DPOF marks.

Note

- You cannot add the DPOF mark to the following files:
  - Movies
  - RAW images

View Mode

Sets the View Mode (image display method).

1. MENU → ▶ (Playback) → [View Mode] → desired setting.

Menu item details

▶ Date View:
Displays the images by date.

▶ Folder View(Still):
Displays only still images.

▶MP4 Folder View(MP4):
Displays only MP4-format movies.

▶AVCHD AVCHD View:
Displays only AVCHD-format movies.

Display Rotation

Selects the orientation when playing back recorded still images.

1. MENU → ▶ (Playback) → [Display Rotation] → desired setting.

Menu item details

Auto:
When you rotate the camera, the displayed image rotates automatically detecting the orientation of the camera.

Manual:
A portrait image is displayed as a vertical image. If you have set the image orientation using the [Rotate] function, the image will be displayed accordingly.

Off:
Always displays in landscape orientation.

[126] How to Use │ Viewing │ Using viewing functions
Slide Show

Automatically plays back images continuously.

1. MENU → ▶ (Playback) → [Slide Show] → desired setting.

2. Select [Enter].

Menu item details

Repeat:
Select [On], in which images are played back in a continuous loop, or [Off], in which the product exits the slideshow when all the images are played back once.
Interval:
Select the display interval for images from among [1 Sec], [3 Sec], [5 Sec], [10 Sec] or [30 Sec].

To quit the slideshow in the middle of playback

Press the MENU button to quit the slideshow. You cannot pause the slideshow.

Hint

- You can activate a slideshow only when [View Mode] is set to [Date View] or [Folder View(Still)].

Protect

Protects recorded images against accidental erasure. The ⊶ mark is displayed on protected images.

1. MENU → ▶ (Playback) → [Protect] → desired setting.

Menu item details

Multiple Img.:
Applies or cancels the protection of the selected multiple images.
(1) Select the image to be protected, then press the center of the control wheel. The ✓ mark is displayed in the check box. To cancel the selection, press the center again to remove the ✓ mark.
(2) To protect other images, repeat step (1).
(3) Select MENU → [OK].

All in this Folder:
Protects all images in the selected folder.

All with this date:
Protects all images in the selected date range.

Cancel All in this Folder:
Cancels the protection of all images in the selected folder.

Cancel All with this date:
Cancels the protection of all images in the selected date range.

Note
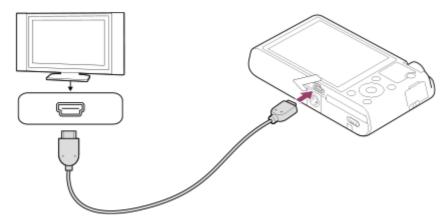
- The menu items that can be selected differ depending on the [View Mode] setting.

Viewing images on an HD TV

To view images stored on this product using a TV, an HDMI cable (sold separately) and an HD TV equipped with an HDMI jack are required.

1. Turn off both this product and the TV.

2. Connect the HDMI micro terminal of this product to the HDMI jack of the TV using an HDMI cable (sold separately).

3. Turn on the TV and switch the input.

4. Turn on this product.
   Images shot with the product appear on the TV screen.

Hint

- This product is compatible with the PhotoTV HD standard. If you connect Sony PhotoTV HD-compatible devices using an HDMI cable (sold separately), the TV is set to the image quality suitable for viewing still images, and a whole new world of photos can be enjoyed in breathtaking high quality.
- You can connect this product to Sony PhotoTV HD-compatible devices with a USB terminal using the supplied micro USB cable.
- The PhotoTV HD allows for a highly-detailed, photo-like expression of subtle textures and colors.
- For details, refer to the operating instructions supplied with the compatible TV.

Note
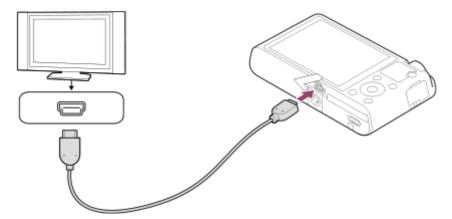
- Do not connect this product and another device using the output terminals of both. Doing so may cause a malfunction.
- Some devices may not work properly when connected to this product. For example, they may not output video or audio.
- Use an HDMI cable with the HDMI logo or a genuine Sony cable.
- Use an HDMI cable that is compatible with the HDMI micro terminal of the product and the HDMI jack of the TV.
- If images do not appear on the TV screen properly, select [1080i] or [1080p] using (Setup) → [HDMI Settings] → [HDMI Resolution] according to the TV to be connected.

Viewing images on a "BRAVIA" Sync-compatible TV

By connecting this product to a TV that supports "BRAVIA" Sync using an HDMI cable (sold separately), you can operate this product's playback functions with the TV remote control.

1. Turn off both this product and the TV.

2. Connect the HDMI micro terminal of the product to the HDMI jack of the TV using an HDMI cable (sold separately).

3. Turn on the TV and switch the input.

4. Turn on this product.

5. MENU → 🧰 (Setup) → [HDMI Settings] → [CTRL FOR HDMI] → [On].

6. Press the SYNC MENU button on the TV remote control, and select the desired mode.

Note

- If the product is not in playback mode, press the ▶ (Playback) button.
- Only TVs that support "BRAVIA" Sync can provide SYNC MENU operations. For details, refer to the operating instructions supplied with the TV.
- If the product performs unwanted operations in response to the TV remote control when the product is connected to another manufacturer's TV using an HDMI connection, select MENU → 🧰 (Setup) → [HDMI Settings] → [CTRL FOR HDMI] → [Off].

Monitor Brightness

You can adjust the brightness of the screen.

1. MENU → (Setup) → [Monitor Brightness] → desired setting.

Menu item details

Auto:
Adjusts the brightness automatically.
Manual:
Adjusts the brightness within the range of –2 to +2.
Sunny Weather:
Sets the brightness appropriately for shooting outdoors.

Note

- The [Sunny Weather] setting is too bright for shooting indoors. Set [Monitor Brightness] to [Auto] or [Manual] for indoor shooting.
- Do not cover the light sensor with your hand, etc., when [Monitor Brightness] is set to [Auto] .

[131] How to Use │ Changing settings │ Setup menu
Volume Settings

Sets the sound volume for movie playback.

1. MENU → (Setup) → [Volume Settings] → desired setting.

Adjusting the volume during playback

Press the bottom of the control wheel while playing back movies to display the operation panel, then adjust the volume. You can adjust the volume while listening to the actual sound.

[132] How to Use │ Changing settings │ Setup menu
Audio signals

Selects whether the product produces a sound or not.

1. MENU → 🧰 (Setup) → [Audio signals] → desired setting.

Menu item details

On:

Sounds are produced for example when the focus is achieved by pressing the shutter button halfway down.

Off:

Sounds are not produced.

Note

- If [Focus Mode] is set to [Continuous AF], the camera will not beep when it focuses on a subject.

Upload Settings(Eye-Fi)

Sets whether to use the upload function when using an Eye-Fi card (commercially available). This item appears when an Eye-Fi card is inserted into the product's memory card slot.

1. MENU → 🧰 (Setup) → [Upload Settings] → desired setting.

2. Set your Wi-Fi network or destination on the Eye-Fi card.
   For details, refer to the manual supplied with the Eye-Fi card.

3. Insert the Eye-Fi card you have set up into the product, and shoot still images.
   Images are transferred to your computer, etc., automatically via the Wi-Fi network.

Menu item details

On:

Enables the upload function.

Off:

Disables the upload function.

Communication status screen display

📶 : Standby. No images are to be sent.

📶 : Upload standby

📶 : Connecting

📶 : Uploading

![Error icon] : Error

Note

- Eye-Fi cards are only sold in certain countries/regions.
- For more information on Eye-Fi cards, please contact the manufacturer or vendor directly.
- Eye-Fi cards can be used only in the countries/regions where they were purchased. Use Eye-Fi cards in accordance with the law of the countries/regions where you purchased the card.
- Eye-Fi cards are equipped with a wireless LAN function. Do not insert an Eye-Fi card into the product in locations in which their use is prohibited, such as on an airplane. When an Eye-Fi card is inserted into the product, set [Upload Settings] to [Off]. When the upload function is set to [Off], the ![OFF icon] indicator will be displayed on the product.
- Power save mode will not function during uploading.
- If ![error icon] (error) is displayed, remove the memory card and reinsert it, or turn the product off and then on again. If the indicator appears again, the Eye-Fi card may be damaged.
- Wireless LAN communication may be influenced by other communication devices. If the communication status is poor, move closer to the access point to be connected.
- This product does not support Eye-Fi "Endless Memory Mode." Before using an Eye-Fi card, be sure that "Endless Memory Mode" is turned off.

---

[134] How to Use | Changing settings | Setup menu
Mode Dial Guide

You can display the description of a shooting mode when you turn the mode dial and change the settings available for that shooting mode.

1. MENU → ![Setup icon] (Setup) → [Mode Dial Guide] → desired setting.

Menu item details

On:
Displays the Mode Dial Guide.
Off:
Does not display the Mode Dial Guide.

---

[135] How to Use | Changing settings | Setup menu
Pwr Save Start Time

You can set the time by which the power goes off automatically.

1. MENU → 🧰 (Setup) → [Pwr Save Start Time] → desired setting.

Menu item details

30 Min/5 Min/2 Min/1 Min

Note

- The power save function is not activated when power is being supplied via USB, when playing back slideshows, when recording movies, or when connected to a computer or TV.

---

[136] How to Use │ Changing settings │ Setup menu
Demo Mode

The [Demo Mode] function displays the movies recorded on the memory card automatically (demonstration), when the camera has not been operated for a certain time. Normally select [Off].

1. MENU → 🧰 (Setup) → [Demo Mode] → desired setting.

Menu item details

On:
The movie playback demonstration starts automatically if the product is not operated for about one minute. Only protected AVCHD movies are played back.
Set the view mode to [AVCHD View], and protect the movie file with the oldest recorded date and time.
Off:
Does not show the demonstration.

Note

- Even if [On] is selected, the product does not start a demonstration if there is no movie file on the memory card.
- When [On] is selected, the product does not switch to power save mode.

---

[137] How to Use │ Changing settings │ Setup menu

HDMI Resolution

When you connect the product to a High Definition (HD) TV with HDMI terminals using an HDMI cable (sold separately), you can select HDMI Resolution to output images to the TV.

1. MENU → (Setup) → [HDMI Settings] → [HDMI Resolution] → desired setting.

Menu item details

Auto:
The product automatically recognizes an HD TV and sets the output resolution.
1080p:
Outputs signals in HD picture quality (1080p).
1080i:
Outputs signals in HD picture quality (1080i).

Note

- If the images are not displayed properly using the [Auto] setting, select either [1080i] or [1080p], based on which TV is to be connected.

[138] How to Use │ Changing settings │ Setup menu
CTRL FOR HDMI

When connecting this product to a "BRAVIA" Sync-compatible TV using an HDMI cable (sold separately), you can operate this product by aiming the TV remote control at the TV.

1. MENU → (Setup) → [HDMI Settings] → [CTRL FOR HDMI] → desired setting.

Menu item details

On:
You can operate this product with a TV's remote control.
Off:
You cannot operate this product with a TV's remote control.

Note

- [CTRL FOR HDMI] is available only with a "BRAVIA" Sync-compatible TV.

USB Connection

Selects the appropriate USB connection method for each computer or USB device connected to this product.

1. MENU → （Setup) → [USB Connection] → desired setting.

Menu item details

Auto:
Establishes a Mass Storage or MTP connection automatically, depending on the computer or other USB devices to be connected. Windows 7 or Windows 8 computers are connected in MTP, and their unique functions are enabled for use.

Mass Storage:
Establishes a Mass Storage connection between this product, a computer, and other USB devices.

MTP:
Establishes an MTP connection between this product, a computer, and other USB devices. Windows 7 or Windows 8 computers are connected in MTP, and their unique functions are enabled for use.

Note

- It may take some time to make the connection between this product and a computer when [USB Connection] is set to [Auto].
- If Device Stage* is not displayed with Windows 7 or Windows 8, set [USB Connection] to [Auto].

* Device Stage is a menu screen used to manage connected devices, such as a camera (Function of Windows 7 or Windows 8).

USB LUN Setting

Enhances compatibility by limiting of USB connection functions.

1. MENU → （Setup) → [USB LUN Setting] → desired setting.

Menu item details

Multi:

Normally, use [Multi].

Single:

Set [USB LUN Setting] to [Single] only if you cannot make a connection.

USB Power Supply

Sets whether to supply power via the micro USB cable when the product is connected to a computer or an USB device.

1. MENU → (Setup) → [USB Power Supply] → desired setting.

Menu item details

On:

Power is supplied to the product via a micro USB cable when the product is connected to a computer, etc.

Off:

Power is not supplied to the product via a micro USB cable when the product is connected to a computer, etc. If you use the supplied AC Adaptor, power will be supplied even when [Off] is selected.

Language

Selects the language to be used in the menu items, warnings and messages.

1. MENU → (Setup) → [A Language] → desired language.

Date/Time Setup

Sets the date and time again.

1. MENU → (Setup) → [Date/Time Setup] → desired setting.

Menu item details

Daylight Savings:
Selects Daylight Savings [On]/[Off].
Date/Time:
Sets the date and time.
Date Format:
Selects the date and time display format.

---

[144] How to Use | Changing settings | Setup menu
Area Setting

Sets the area where you are using the product.

1. MENU → (Setup) → [Area Setting] → desired area.

---

[145] How to Use | Changing settings | Setup menu
Format

Formats (initializes) the memory card. When you use a memory card with this product for the first time, it is recommended that you format the card using the product for stable performance of the memory card. Note that formatting permanently erases all data on the memory card, and is unrecoverable. Save valuable data on a computer, etc.

1. MENU → (Setup) → [Format].

Note

- Formatting permanently erases all data including even protected images.

File Number

Selects how to assign file numbers to recorded still images and MP4 movies.

1. MENU → 🧰 (Setup) → [File Number] → desired setting.

Menu item details

Series:
The product will assign numbers to files sequentially up to "9999" without resetting.

Reset:
The product resets numbers when a file is recorded in a new folder and assigns numbers to files starting with "0001."
(When the recording folder contains a file, a number one higher than the largest number is assigned.)

Select REC Folder

You can change the folder on the memory card where still images and MP4 movies are to be recorded.

1. MENU → 🧰 (Setup) → [Select REC Folder] → desired folder.

New Folder

Creates a new folder on the memory card for recording still images and MP4 movies. A new folder is created with a folder number one greater than the largest folder number currently used. Images are recorded in the newly created folder. A folder for still images and a folder for MP4 movies that have the same number are created at the same time.

1. MENU → 🧰 (Setup) → [New Folder].

- When you insert a memory card that was used with other equipment into this product and shoot images, a new folder may be automatically created.
- Up to 4,000 images in total can be stored in one folder. When the folder capacity is exceeded, a new folder may be automatically created.

[149] How to Use │ Changing settings │ Setup menu
Recover Image DB

If image files were processed on a computer, problems may occur in the image database file. In such cases, the images on the memory card will not be played back on this product. If these problems happen, repair the file using [Recover Image DB].

1. MENU → (Setup) → [Recover Image DB] → [Enter].

- Use a sufficiently charged battery pack. Low battery power during repairing can cause damage to data.

[150] How to Use │ Changing settings │ Setup menu
Display Media Info.

Displays the recordable time of movies and the number of recordable still images for the inserted memory card.

1. MENU → (Setup) → [Display Media Info.].

[151] How to Use │ Changing settings │ Setup menu
Version

Displays the version of this product's software.

1. MENU → ⬚ (Setup) → [Version].

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[152] How to Use │ Changing settings │ Setup menu
Setting Reset

Resets the product to the default settings. Even if you perform [Setting Reset], the recorded images are retained.

1. MENU → ⬚ (Setup) → [Setting Reset] → desired setting.

Menu item details

Camera Settings Reset:
Initializes the main shooting settings to the default settings.
Initialize:
Initializes all the settings to the default settings.

Note

- Be sure not to eject the battery pack while resetting.

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[153] How to Use │ Using a computer │ Recommended computer environment
Recommended computer environment

You can confirm the operating computer environment of the software from the following URL:
http://www.sony.net/pcenv/

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[154] How to Use │ Using a computer │ Using the software
PlayMemories Home

With PlayMemories Home, you can do the following:

- You can import images shot with this product to your computer.
- You can play back the images imported to your computer.
- You can share your images using PlayMemories Online.
- You can edit movies such as by cutting or merging.
- You can add various effects such as BGM and subtitles to movies.
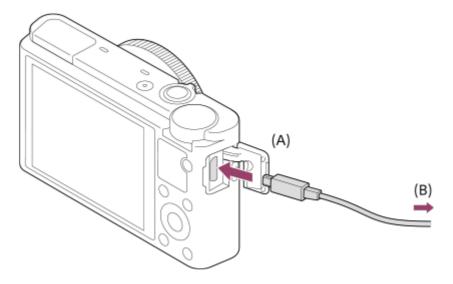
Also for Windows, you can do the following:

- You can organize images on the computer on a calendar by shooting date to view them.
- You can edit and correct images, such as by trimming and resizing.
- You can upload images to a network service. (An internet connection is required.)
- For other details, please refer to the Help of PlayMemories Home.

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[155] How to Use │ Using a computer │ Using the software
Installing PlayMemories Home

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1. Using your computer's Internet browser, go to the URL below and download PlayMemories Home by following the on-screen instructions.
   http://www.sony.net/pm/
   - An internet connection is required.
   - For detailed instructions, visit the PlayMemories Home support page.
     http://www.sony.co.jp/pmh-se/

2. Connect the product to your computer using the micro USB cable (supplied), then turn the product on.
   - New functions may be added to PlayMemories Home. Even if PlayMemories Home has already been installed on your computer, connect this product and your computer again.
   - Do not remove the micro USB cable (supplied) from the camera while the camera is in operation or the access screen is displayed. Doing so may damage the data.

A: To the micro USB connector
B: To the USB jack of the computer

Note

- Log on as Administrator.
- It may be necessary to restart your computer. When the restart confirmation message appears, restart the computer following the instructions on the screen.
- DirectX may be installed depending on your computer's system environment.

Hint

- For details on PlayMemories Home, refer to the Help of PlayMemories Home or the PlayMemories Home support page (http://www.sony.co.jp/pmh-se/) (English only).

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[156] How to Use │ Using a computer │ Using the software
Software for Mac computers

For details on software for Mac computers, access the following URL:
http://www.sony.co.jp/imsoft/Mac/

Note

- The software that can be used varies depending on the region.

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[157] How to Use │ Using a computer │ Using the software
Image Data Converter

With Image Data Converter, you can do the following:

- You can play back and edit images recorded in RAW format with various corrections, such as tone curve and sharpness.
- You can adjust images with white balance, exposure, and [Creative Style], etc.
- You can save the still images displayed and edited on a computer.
  You can either save the still image as RAW format or save it in the general file format.
- You can display and compare the RAW images and JPEG images recorded by this product.
- You can rank images in five grades.
- You can apply color labels.

[158] How to Use │ Using a computer │ Using the software
Installing Image Data Converter

1. Download and install the software by accessing the following URL.
   Windows:
   http://www.sony.co.jp/imsoft/Win/
   Mac:
   http://www.sony.co.jp/imsoft/Mac/

Note

- Log on as Administrator.

[159] How to Use │ Using a computer │ Using the software
Accessing Image Data Converter Guide

Windows:
[Start] → [All Programs] → [Image Data Converter] → [Help] → [Image Data Converter].

- For Windows 8, start [Image Data Converter], and select [Help] from the menu bar → [Image Data Converter Guide].

Mac:
Finder → [Applications] → [Image Data Converter] → [Image Data Converter], and select [Help] from the menu bar → [Image Data Converter Guide].
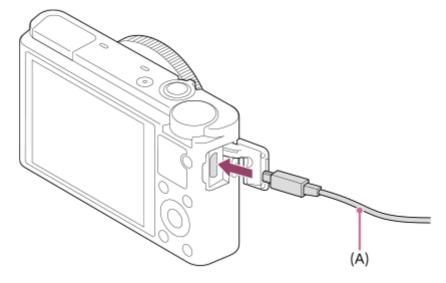
Hint

- For details on operation, you can also refer to the Image Data Converter support page (English only).
  http://www.sony.co.jp/ids-se/

Connecting the product to a computer

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1. Insert a sufficiently charged battery pack into the product.

2. Turn on the product and the computer.

3. Check from (Setup) that [USB Connection] is set to [Mass Storage].

4. Connect the product and your computer using the micro USB cable (supplied) **(A)** .

- If you connect the product to your computer using the micro USB cable when [USB Power Supply] is set to [On], power is supplied from your computer. (Default setting: [On])

Importing images to the computer

PlayMemories Home allows you to easily import images. For details on PlayMemories Home functions, see the Help of PlayMemories Home.

Importing images to the computer without using PlayMemories Home (For Windows)

When the AutoPlay Wizard appears after making a USB connection between this product and a computer, click [Open folder to view files] → [OK] → [DCIM] or [MP_ROOT]. Then copy the desired images to the computer.

- If Device Stage appears on a Windows 7 or Windows 8 computer, double-click [Browse Files] → media icon → folder in which the images you want to import are stored.

Importing images to the computer without using PlayMemories Home (For Mac)

Connect the product to your Mac computer. Double-click the newly recognized icon on the desktop → the folder in which the image you want to import is stored. Then drag and drop the image file on to the hard disk icon.

Note

- Do not edit or otherwise process AVCHD movie files/folders from the connected computer. Movie files may be damaged or become unplayable. Do not delete or copy AVCHD movies on the memory card from the computer. Sony is not held liable for consequences resulting from such operations via the computer.

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[162] How to Use │ Using a computer │ Connecting this product and a computer
Disconnecting the product from the computer

Disconnects the USB connection between this product and the computer.
Perform the procedures from step 1 to 2 below before performing the following operations:

- Disconnecting the USB cable.
- Removing a memory card.
- Turning off the product.

1. Click 📤 (Safely remove USB Mass Storage Device) on the taskbar.

2. Click the displayed message.

Note

- For Mac computers, drag and drop the icon of the memory card or the drive icon in the "Trash" icon. The product is disconnected from the computer.
- For Windows 7/Windows 8 computers, the disconnect icon may not appear. In that case, you can skip steps 1 and 2 above.
- Do not remove a micro USB cable from this product while the access lamp is illuminated.

The data may be damaged.

Selecting a disc to be created

You can create a disc that can be played back on other devices from a movie recorded on this camera.

What devices can play back the disc depends on the disc type. Select a disc type suitable for the playback devices you will be using.

Depending on the movie type, the movie format may be converted when creating a disc.

High-definition image quality (HD) (Blu-ray Disc)

High-definition image quality (HD) movies can be recorded on a Blu-ray Disc, creating a high-definition image quality (HD) disc. A Blu-ray Disc enables you to record longer-duration high-definition image quality (HD) movies than DVD discs.

Writable movie formats: AVCHD, MP4 (AVC)

Players: Blu-ray Disc playback devices (Sony Blu-ray Disc players, PlayStation 3, etc.)

High-definition image quality (HD) (AVCHD recording disc)

High-definition image quality (HD) movies can be recorded on DVD media such as DVD-R discs, creating a high-definition image quality (HD) disc.

Writable movie formats: AVCHD, MP4 (AVC)

Players: AVCHD format playback devices (Sony Blu-ray Disc players, PlayStation 3, etc.)

You cannot play these kinds of discs on ordinary DVD players.

Standard definition image quality (STD)

Standard definition image quality (STD) movies converted from high-definition image quality (HD) movies can be recorded on DVD media such as DVD-R discs, creating a standard image quality (STD) disc.

Writable movie format: AVCHD

Players: Ordinary DVD playback devices (DVD players, computers that can play back DVD discs, etc.)

- You can use the following types of 12 cm discs with PlayMemories Home.
  BD-R*/ DVD-R/DVD+R/DVD+R DL: Non-rewritable
  BD-RE*/DVD-RW/DVD+RW: Rewritable

  *Additional recording is not possible.
- Always maintain your "PlayStation 3" to use the latest version of the "PlayStation 3" system software.

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[164] How to Use │ Using a computer │ Creating a movie disc

Creating Blu-ray Discs from high-definition image quality movies

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You can create Blu-ray Discs that can be played back on Blu-ray Disc playback devices (such as Sony Blu-ray Disc players or the PlayStation 3, etc.).

A. How to create using a computer

With a Windows computer, you can copy movies imported to the computer and create Blu-ray Discs using PlayMemories Home.
Your computer must be able to create Blu-ray Discs.
When you create a Blu-ray Disc for the first time, connect your camera to the computer using a USB cable. The necessary software is automatically added to your computer. (An internet connection is needed.)
For details on how to create a disc using PlayMemories Home, refer to the Help guide for PlayMemories Home.

B. How to create using a device other than a computer

You can also create Blu-ray Discs using a Blu-ray recorder, etc.
For details, refer to the device's operating instructions.

Note

- When creating Blu-ray discs using PlayMemories Home from movies recorded in the MP4 movie format, the image quality is converted to 1920×1080 (60i/50i) and it is not possible to create discs with the original image quality. To record movies with the original image quality, copy movies to a computer or an external medium.
- To create a Blu-ray Disc from movies recorded in the AVCHD movie format with [🎞 Record Setting] set to [60p 28M(PS)]/[50p 28M(PS)], you need to use a device that is compliant with AVCHD format Ver. 2.0. The created Blu-ray Disc can be played back only on a device that is compliant with AVCHD format Ver. 2.0.

Creating DVD discs (AVCHD recording discs) from high-definition image quality movies

You can create DVD discs (AVCHD recording discs) that can be played back on AVCHD-compatible playback devices (such as Sony Blu-ray Disc players or the PlayStation 3, etc.).

A. How to create using a computer
With a Windows computer, you can copy movies imported to the computer and create DVD discs (AVCHD recording discs) using PlayMemories Home.
Your computer must be able to create DVD discs (AVCHD recording discs).
When you create a DVD disc for the first time, connect your camera to the computer using a USB cable. The necessary software is automatically added to your computer. (An internet connection is needed.)
For details on how to create a disc using PlayMemories Home, refer to the Help guide for PlayMemories Home.

B. How to create using a device other than a computer
You can also create DVD discs (AVCHD recording discs) using a Blu-ray recorder, etc.
For details, refer to the device's operating instructions.

Note

- When creating DVD discs (AVCHD recording discs) using PlayMemories Home from movies recorded in the MP4 movie format, the image quality is converted to 1920×1080 (60i/50i) and it is not possible to create discs with the original image quality. To record movies with the original image quality, copy movies to a computer or an external medium.
- When creating AVCHD recording discs using PlayMemories Home from movies recorded in the AVCHD movie format with [▤ Record Setting] set to [60p 28M(PS)]/[50p 28M(PS)] or [60i 24M(FX)]/[50i 24M(FX)], the image quality is converted and it is not possible to create discs with the original image quality. Converting the image quality takes time. To record movies with the original image quality, use a Blu-ray Disc.

Creating DVD discs from standard image quality movies

You can create DVD discs that can be played back on ordinary DVD playback devices (DVD players, computers that can play back DVD discs, etc.).

A. How to create using a computer

With a Windows computer, you can copy movies imported to the computer and create DVD disc using PlayMemories Home.

Your computer must be able to create DVD discs.

When you create a DVD disc for the first time, connect your camera to the computer using a USB cable. Install the dedicated add-on software following the on-screen instructions. (An internet connection is needed.)

For details on how to create a disc using PlayMemories Home, refer to the Help for PlayMemories Home.

B. How to create using a device other than a computer

You can also create DVD discs using a Blu-ray recorder, HDD recorder, etc. For details, refer to the device's operating instructions.

Precautions

Backing up memory cards

Data may be corrupted in the following cases. Be sure to back up the data for protection.

- When the memory card is removed, the USB cable is disconnected, or the product is turned off in the middle of a read or write operation.
- When the memory card is used in locations subject to static electricity or electrical noise.

Creating an image database file

If you insert a memory card that does not contain an image database file into the product and turn on the power, the product automatically creates an image database file using some of the memory card's capacity. The process may take a long time and you cannot operate the product until the process is completed.

If a database file error occurs, export all images to your computer using PlayMemories Home, and then format the memory card using this product.

Do not use/store the product 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 strong magnetic place

- In sandy or dusty places
  Be careful not to let sand or dust get into the product. This may cause the product to malfunction, and in some cases this malfunction cannot be repaired.

On carrying

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

On operating temperatures

Your product is designed for use under the temperatures between 0°C and 40 °C (32 °F and 104 °F). Shooting in extremely cold or hot places that exceed this range is not recommended.

On moisture condensation

- If the product is brought directly from a cold to a warm location, moisture may condense inside or outside the product. This moisture condensation may cause a malfunction of the product.
- To prevent moisture condensation when you bring the product directly from a cold to a warm location, first put it in a plastic bag and seal it to prevent air from entering. Wait for about an hour until the temperature of the product has reached the ambient temperature.
- If moisture condensation occurs, turn off the product and wait about an hour for the moisture to evaporate. Note that if you attempt to shoot with moisture remaining inside the lens, you will be unable to record clear images.

On the functions available with the product

- This camera is compatible with 1080 60p or 1080 50p-format movies. Unlike traditional standard recording modes, which record using an interlacing method, this product records movies using a progressive method. This increases the resolution, and provides a smoother, more realistic image.

Notes for when on board an airplane

- When on board an airplane, turn off the product.

On image data compatibility

This product conforms with DCF (Design rule for Camera File system) universal standard established by JEITA (Japan Electronics and Information Technology Industries Association).

- Playback of images recorded with your product on other equipment and playback of images recorded or edited with other equipment on your product are not guaranteed.

Notes on playing movies on other devices

- Movies recorded by your camera may not be playable properly on other devices. Also, movies recorded by devices other than your camera may not be able to playback on your camera.
- Discs of AVCHD movies recorded by your camera can only be played back on devices supporting AVCHD format.
  DVD players and DVD recorders do not support AVCHD format, so they cannot playback AVCHD movie discs.
  Also, if a high definition image quality (HD) disc recorded with AVCHD format is inserted in either of DVD players or DVD recorders, the disc may be unable to eject from the device.
- Movies recorded in 1080 60p/1080 50p format can be played back only on 1080 60p/1080 50p supported devices.

On the monitor and lens

- The monitor is manufactured using extremely high-precision technology so over 99.99 % of the pixels are operational for effective use. However, there may be some tiny black points and/or bright points (white, red, blue or green in color) that constantly appear on the monitor. These points are normal in the manufacturing process and do not affect the images in any way.
- Exposing the monitor or lens to direct sunlight for long periods may cause a malfunction. Exercise caution when placing the product near a window or outdoors.
- 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 press against the monitor. The monitor may be discolored and that may cause a malfunction.
- Images may trail across on the monitor in a cold location. This is not a malfunction.
- If the monitor has drops of water or other liquids on it, wipe it with a soft cloth. If the monitor stays wet, the surface of the monitor may change or deteriorate. This may cause a malfunction.
- When the battery pack is discharged, the product may shut off while the lens is still extended. Insert a charged battery pack, then turn the product on again.
- Make sure not to bump the lens or subject it to force.
- When the lens is in operation, be careful not to catch your fingers or any other objects in the lens.
- Do not expose the camera to sunlight or shoot sunward for a long time. The internal mechanism may be damaged.
- Do not use the camera in areas where strong radio waves or radiation is being emitted. Recording and playback may not function correctly.

Notes on the flash

- Do not cover the flash with your fingers.
- Do not carry the product by the flash unit, or use excessive strength on it.

- If water, dust or sand get into the open flash unit, it may cause a malfunction.
- When pushing down the flash unit, be careful not to catch your fingers.

Notes on discarding or transferring this product to others

When discarding or transferring this product to others, make sure to perform the following operation to protect private information.

- Perform [Setting Reset] to reset all the settings.

On the internal rechargeable battery

This camera has an internal rechargeable battery for maintaining the date and time and other settings regardless of whether the power is on or off, or whether the battery pack is charged or discharged. This rechargeable battery is continually charged as long as you are using the product. However, if you use the product for only short periods, it gradually discharges. If you do not use the product at all for about 1 month(s) it becomes completely discharged. In this case, be sure to charge this rechargeable battery before using the product. However, even if this rechargeable battery is not charged, you can still use the product as long as you do not record the date and time.

Charging method of the internal rechargeable battery

Insert a charged battery pack into the product, or connect the product to a wall outlet (wall socket) using the AC Adaptor (supplied), and leave the product for 24 hours or more with the power off.

Notes on the battery pack

Charging the battery pack

- Charge the battery pack (supplied) before using the product for the first time.
- The charged battery pack will discharge little by little even if you do not use it. Charge the battery pack each time before you use the product so that you do not miss any opportunities to shoot images.
- You can charge the battery pack even if it is not completely discharged. You can use a

partially charged battery pack.

- If the charge lamp flashes when the battery pack is not fully charged, remove the battery pack or disconnect the USB cable from the camera and then reinsert it to recharge.
- We recommend charging the battery pack at an ambient temperature between 10°C and 30°C (50°F and 86°F). The battery pack may not charge normally at temperatures outside this range.
- When you connect this product and a laptop computer that is not connected to a power source, the laptop's battery charge may decrease. Do not charge this product using the laptop computer for too long.
- Do not turn on/restart a computer, wake a computer from sleep mode, or turn off a computer while this product is connected to the computer via USB cable. Doing so may cause a malfunction of this product. Disconnect the product and the computer before performing the above operations.
- We do not guarantee charging if you are using a self-built or modified computer.
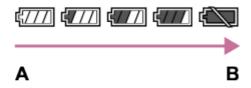
Charging time (Full charge)

The charging time is approximately 155 minutes using the AC adaptor (supplied). 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.

Effective use of the battery pack

- Battery performance decreases in low temperature environments. So in cold places, the operational time of the battery pack is shorter. To ensure longer battery pack use, we recommend putting the battery pack in your pocket close to your body to warm it up, and insert it in the product immediately before you start shooting. If there are any metal objects such as keys in your pocket, be careful of causing a short-circuit.
- The battery pack will run down quickly if you use the flash or continuous shooting function frequently, turn the power on/off frequently, or set the monitor very bright.
- We recommend preparing spare battery packs and taking trial shots before taking the actual shots.
- Do not expose the battery pack to water. The battery pack is not water-resistant.
- Do not leave the battery pack in extremely hot places, such as in a car or under direct sunlight.
- If the battery terminal is dirty, you may not be able to turn on the product or the battery pack may not be properly charged. In that case, clean the battery by lightly wiping off any dust using a soft cloth or a cotton swab.

Remaining battery indicator

- The remaining battery indicator appears on the screen.

A: Battery level high

B: Battery exhausted

- It takes about one minute for the correct remaining battery indicator to appear.
- The correct remaining battery indicator may not be displayed under some operating or environmental conditions.
- If you do not operate the product for a certain period of time while the power is on, the product turns off automatically (Auto power-off function).
- If the remaining battery time does not appear on the screen, press the DISP (Display Setting) button to display it.

How to store the battery pack

- To maintain the battery pack's function, charge the battery pack and then fully discharge it in the product at least once a year before storing it. Remove the battery pack from the camera and store the battery in a cool, dry place.
- To use the battery pack up, leave the product in slide show playback mode until the power goes off.
- 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 the battery pack.

On battery life

- The battery life is limited. If you use the same battery repeatedly, or use the same battery for a long period, the battery capacity decreases gradually. If the available time of the battery is shortened significantly, it is probably time to replace the battery pack with a new one.
- The battery life varies according to how the battery pack is stored and the operating conditions and environment in which each battery pack is used.

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[170] How to Use │ Precautions/This product │ Precautions

Charging the battery pack

- The supplied AC Adaptor is dedicated to this product. Do not connect with other electronic devices. Doing so may cause a malfunction.
- Make sure to use a genuine Sony AC Adaptor.
- If the product's charge lamp flashes while charging, remove the battery pack being

charged, and then insert the same battery pack firmly back into the product. If the charge lamp flashes again, this may indicate a faulty battery or that a battery pack other than the specified type has been inserted. Check that the battery pack is the specified type.
If the battery pack is the specified type, remove the battery pack, replace it with a new or different one and check that the newly inserted battery is charging correctly. If the newly inserted battery is charging correctly, the previously inserted battery may be faulty.

- If the charge lamp flashes even if the AC Adaptor is connected to the product and the wall outlet (wall socket), this indicates that charging has stopped temporarily and is on standby. Charging stops and enters standby status automatically when the temperature is outside of the recommended operating temperature. When the temperature returns to the appropriate range, charging resumes and the charge lamp lights up again. We recommend charging the battery pack in an ambient temperature of between 10°C to 30°C (50°F to 86°F).

[171] How to Use │ Precautions/This product │ Precautions
Notes on memory card

- If you repeatedly shoot and delete images for a long time, fragmentation of data in a file in the memory card may occur, and movie recording may be interrupted in the middle of shooting. If this happens, save your images to a computer or other storage location, then execute [Format].
- Memory card formatted with a computer is not guaranteed to operate with the product.
- Data read/write speeds differ depending on the combination of the memory card and the equipment used.
- We recommend backing up important data, such as to a hard disk of a computer.
- Do not attach a label on the memory card itself nor on a memory card adaptor.
- Do not touch the terminal section of the memory card with your hand or a metal object.
- Do not strike, bend or drop the memory card.
- Do not disassemble or modify the memory card.
- Do not expose the memory card to water.
- Do not leave the memory card within the reach of small children. They might accidentally swallow it.
- The memory card may be hot just after it has been used for a long time. Be careful when you handle it.
- Do not remove the battery pack or the memory card or turn the camera off while the access lamp is illuminated. This may cause the data on the memory card to become damaged.
- If the memory card is used near areas with strong magnetization, or used in locations subject to static electricity or electrical noise, the data on the memory card may become

damaged.

- Do not insert a memory card that does not fit the memory card slot. Doing so will cause a malfunction.
- Do not use or store the memory card under the following conditions:
  - High temperature locations such as in a car parked under the sun
  - Locations exposed to direct sunlight
  - Humid locations or locations with corrosive substances present
- To use a Memory Stick Micro media with this product, be sure to insert the Memory Stick Micro media into an M2 Adaptor as large as Duo size. If you insert a Memory Stick Micro media into the product without an M2 Adaptor as large as Duo size, you might not be able to remove it from the product.
- To use a microSD memory card with this product, be sure to insert the microSD memory card into a dedicated adaptor.
- When inserting a memory card into a memory card adaptor, be sure that the memory card is inserted in the correct direction and then insert it as far as it will go. If the card is not inserted properly, it may result in a malfunction.

[172] How to Use │ Precautions/This product │ Cleaning this product
On cleaning

Cleaning the lens and flash

Wipe the lens and flash with a soft cloth to remove fingerprints, dust, etc.

Cleaning the lens

- Do not use a cleaning solution containing organic solvents, such as thinner, or benzine.
- When cleaning the lens surface, remove dust with a commercially available blower. In case of dust that sticks to the surface, wipe it off with a soft cloth or tissue paper slightly moistened with lens cleaning solution. Wipe in a spiral pattern from the center to the outside. Do not spray lens cleaning solution directly onto the lens surface.

Cleaning the flash

Clean the flash surface before use. The heat of the flash emission may cause dirt on the flash surface to start smoking or burning. Wipe the flash surface with a soft cloth to remove dirt or dust, etc.

Cleaning the product surface

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

Cleaning the monitor

- If oil from your hand or hand cream, etc., remain on the monitor, the original coating may become easily removable. Wipe oil or hand cream off as soon as possible.
- If you wipe the monitor firmly using tissue paper, etc., the coating may be scratched.
- If the monitor becomes dirty with fingerprints or dust, gently remove the dust from the surface, and then clean the monitor using soft cloth, etc.

Number of still images

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

[🖼 Image Size]: [L: 20M]
When [🖼 Aspect Ratio] is set to [3:2]*
Standard
8 GB: 1200 images
16 GB: 2400 images
32 GB: 4800 images
64 GB: 9600 images
Fine
8 GB: 690 images
16 GB: 1400 images
32 GB: 2800 images
64 GB: 5500 images
RAW & JPEG
8 GB: 235 images
16 GB: 470 images
32 GB: 950 images
64 GB: 1900 images
RAW
8 GB: 355 images
16 GB: 710 images

32 GB: 1400 images
64 GB: 2850 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].)

Note

- Even if the number of remaining shootable images is greater than 9,999, the "9999" indicator appears.
- When an image shot with other products is played back on this product, the image may not appear in the actual image size.

Recordable time of movies

The table below shows the approximate maximum recording times which can be recorded on the memory card that is formatted with this product. These numbers are the total times of all movie files on the memory card. The recordable time may vary depending on the shooting conditions and the memory card.

(h (hour), m (minute))

[🎞 File Format]: [AVCHD]
60i 24M(FX)
50i 24M(FX)
8 GB: 40 m
32 GB: 3 h
64 GB: 6 h
60i 17M(FH)
50i 17M(FH)
8 GB: 1 h
32 GB: 4 h 5 m
64 GB: 8 h 15 m
60p 28M(PS)
50p 28M(PS)
8 GB: 35 m
32 GB: 2 h 30 m
64 GB: 5 h 5 m

[🎞 File Format]: [MP4]

1440×1080 12M

8 GB: 1 h 20 m

32 GB: 5 h 30 m

64 GB: 11 h 5 m

VGA 3M

8 GB: 4 h 55 m

32 GB: 20 h

64 GB: 40 h 10 m

When using the camera's default settings, continuous shooting is possible for approximately 29 minutes (max.) for each shooting at a temperature of approximately 25°C (77°F). (a product specification limit)

- The recordable time of movies varies because the product 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.

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[175] How to Use │ Precautions/This product │ Using this product abroad
Using the AC Adaptor/battery charger abroad

You can use the battery charger (sold separately) and the AC Adaptor (supplied) in any country or region where the power supply is within 100 V to 240 V AC and 50 Hz/60 Hz. Depending on the country/region, a converting plug adaptor may be needed to connect to a wall outlet (wall socket).

Note

- Do not use an electronic voltage transformer as doing so may cause a malfunction.

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[176] How to Use │ Precautions/This product │ Using this product abroad
On TV color systems

To view movies shot using this product on a television, the product and television must use the same color television system. Check the TV color system for the country or region where you are using the product.

- **NTSC system:**
  Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Jamaica,

Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

- **PAL system:**
  Australia, Austria, Belgium, China, Croatia, Czech Republic, Denmark, Finland, Germany, Holland, Hong Kong, Hungary, Indonesia, Italy, Kuwait, Malaysia, New Zealand, Norway, Poland, Portugal, Rumania, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Thailand, Turkey, United Kingdom, Viet Nam, etc.
- **PAL-M system:**
  Brazil
- **PAL-N system:**
  Argentina, Paraguay, Uruguay
- **SECAM system:**
  Bulgaria, France, Greece, Guiana, Iran, Iraq, Monaco, Russia, Ukraine, etc.

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[177] How to Use │ Precautions/This product │ Other information
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.

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[178] How to Use │ Precautions/This product │ Other information
AVCHD format

The AVCHD format was developed for high-definition digital video cameras when recording an HD (High-Definition) signal using high-efficiency compression coding technology. The MPEG-4 AVC/H.264 format is used to compress video data, and the Dolby Digital or Linear PCM system is used to compress audio data.
The MPEG-4 AVC/H.264 format is capable of compressing images at higher efficiency than that of the conventional image compressing format.

- As the AVCHD format uses compression coding technology, the picture may be unstable in scenes where the screen, angle of view, or brightness, etc. change drastically, but this is not a malfunction.

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[181] Troubleshooting │ If you have problems │ If you have problems
Troubleshooting

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

1. If a message such as "C/E:□□:□□" appears on the screen, refer to the self-diagnosis display.

2. Remove the battery pack, wait for about one minute, re-insert the battery pack, then turn on the power.

3. Initialize the settings.

4. Consult your dealer or local authorized service facility. Additional information on this product and answers to frequently asked questions can be found at our Customer Support Website.
   http://www.sony.net/

Self-diagnosis display

If a code starting with a letter of the alphabet appears, the self-diagnosis function on this product is working. The last two digits (indicated by □□) will differ depending on the state of this product.
If you cannot solve the problem even after trying the following corrective actions a few times, this product may need repair. Contact your Sony dealer or local authorized Sony service facility.

C:32:□□

- There is trouble with the product's hardware. Turn the power off and on again.

C:13:□□

- This product cannot read or write data on the memory card. Try turning off and on this product again, or taking out and inserting the memory card several times.
- An unformatted memory card is inserted. Format the memory card.
- The inserted memory card cannot be used with this product, or the data is damaged. Insert a new memory card.

E:61:□□

E:62:□□

E:91:□□

- A product malfunction has occurred. Initialize this product, then turn the power on again.

E:94:□□

- There is a malfunction when writing or deleting data. Repair is required. Contact your Sony dealer or local authorized Sony service facility. Be prepared to give all numbers in the error code beginning from the E.

Warning messages

Set Area/Date/Time.

- Set the area, date and time. If you have not used the product for a long time, charge the internal rechargeable backup battery.

Unable to use memory card. Format?

- The memory card was formatted on a computer and the file format was modified. Select [Enter], and then format the memory card. You can use the memory card again, however, all previous data in the memory card is erased. It may take some time to complete the format. If the message still appears, change the memory card.

Memory Card Error

- An incompatible memory card is inserted.
- Formatting has failed. Format the memory card again.

Unable to read memory card. Reinsert memory card.

- An incompatible memory card is inserted.
- The memory card is damaged.
- The terminal section of the memory card is dirty.

Memory card locked.

- You are using a memory card with a write-protect switch or a delete-protect switch with the switch set to the LOCK position. Set the switch to the record position.

This memory card may not be capable of recording and playing normally.

- An incompatible memory card is inserted.

Processing...

- When performing noise reduction, the reduction process takes place. You cannot do any further shooting during this reduction process.

Unable to display.

- Images recorded with other products or images modified with a computer may not be displayed.
- Processing on the computer such as deletion of the image files may cause inconsistencies in the image database files. Repair the image database files.

Unable to print.

- You tried to mark RAW images with a DPOF mark.

Internal temp. high. Allow it to cool.

- The product has become hot because you have been shooting continuously. Turn the power off. Cool the product and wait until the product is ready to shoot again.

[↥]

- You have been recording images for a long time, the product temperature has risen. Stop recording images until the product cools.

Recording is unavailable in this movie format.

- Set [▯ File Format] to [MP4].

▤FULL

- The number of images exceeds that for which date management in a database file by the product is possible.

▤ERROR

- Unable to register to the database file. Import all the images to a computer and recover the memory card.

Image DataBase File error

- There is something wrong in the Image Database File. Select [Setup] → [Recover Image DB].

System Error
Camera Error. Turn power off then on.

- Remove the battery pack, and then re-insert it. If the message appears frequently, consult your Sony dealer or local authorized Sony service facility.

Unable to magnify.
Unable to rotate image.

- Images recorded with other products may not be enlarged or rotated.

Cannot create more folders.

- A folder in the memory card has the first three digits "999." You cannot create any more folders on this camera.