# SONY

Interchangeable Lens Digital Camera

ILCE-6500 α6500

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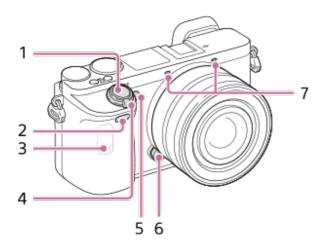
If you have problems

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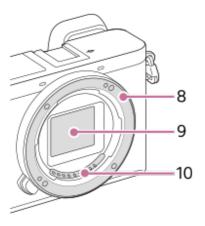
# Warning messages [456]

[1] Names of parts/Icons and indicators | Names of parts

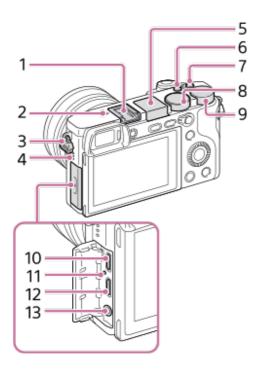
# **Identifying parts**



#### When the lens is removed



- 1. Shutter button
- 2. Remote sensor
- 3. Wi-Fi antenna (built-in)
- 4. ON/OFF (Power) switch
- 5. Self-timer lamp/AF illuminator
- 6. Lens release button
- 7. Microphone\*
- 8. Mount
- 9. Image sensor\*\*
- 10. Lens contacts\*\*
- \* Do not cover this part during movie recording. Doing so may cause noise or lower the volume.
- \*\* Do not touch this part directly.

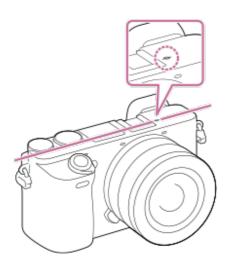


#### 1. Multi Interface Shoe\*

 Some accessories may not go in all the way and protrude backward from the Multi interface shoe. However, when the accessory reaches the front end of the shoe, the connection is completed.

### 2. Image sensor position mark

The image sensor is the sensor that converts light into an electric signal. The — mark shows the location of the image sensor. When you measure the exact distance between the camera and the subject, refer to the position of the horizontal line.
 The distance from the lens contact surface to the image sensor is about 18 mm (23/32 in.).



 If the subject is closer than the minimum shooting distance of the lens, the focus cannot be confirmed. Make sure you put enough distance between the subject and the camera.

#### 3. Hook for shoulder strap

Attach both ends of the strap onto the camera.



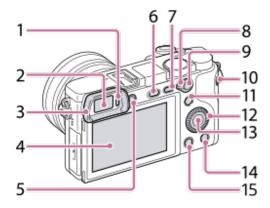
- 4. Speaker
- 5. Flash
  - Press the (Flash pop-up) button to use the flash. The flash does not pop up automatically.
  - When not using the flash, press it back into the camera body.
- **6. C2** button (Custom button 2)
- **7. C1** button (Custom button 1)
- 8. Mode dial

AUTO (Auto Mode) /P (Program Auto) / A (Aperture Priority) / S (Shutter Priority) / M (Manual Exposure) / 1/2 (Memory recall)/ | (Movie/S&Q Motion) / (Sweep Panorama) / SCN (Scene Selection)

- 9. Control dial
  - You can quickly adjust the settings for each shooting mode.
- 10. Multi/Micro USB Terminal\*
  - This terminal supports Micro USB-compatible devices.
- 11. Charge lamp
- 12. HDMI micro jack
- 13. (Microphone) jack
  - When an external microphone is connected, the internal microphone turns off automatically. When the external microphone is a plugin-power type, the power of the microphone is supplied by the camera.
- \* For details on compatible accessories for the multi interface shoe and the Multi/Micro USB Terminal, visit the Sony web site, or consult your Sony dealer or local authorized Sony service facility. You can also use accessories that are compatible with the accessory shoe. Operations with other manufacturers' accessories are not guaranteed.



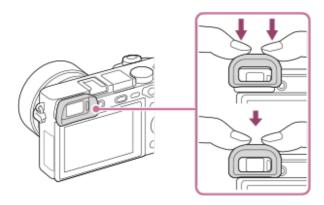




- 1. Eye sensor
- 2. Viewfinder
- 3. Eyepiece cup
  - Not attached to the camera at the factory. It is recommended that you attach the eyepiece cup when you intend to use the viewfinder.

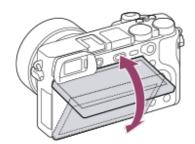
#### Attaching/removing the eyepiece cup

Match the eyepiece cup to the groove on the viewfinder and slide it into place.



To remove the eyepiece cup, grasp it on the left and right sides and lift it up.

- Remove the eyepiece cup when you attach an accessory (sold separately) to the Multi Interface Shoe.
- **4.** Monitor (For touch operation: Touch panel/Touch pad)
  - You can adjust the monitor to an easily viewable angle and shoot from any position.

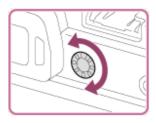


You may not be able to adjust the monitor angle depending on the type of a tripod you
use. In such a case, release the tripod screw once to adjust the monitor angle.

#### 5. Diopter-adjustment dial

-

Adjust the diopter-adjustment dial according to your eyesight until the display appears
clearly in the viewfinder. If it is hard to operate the diopter-adjustment dial, remove the
eyepiece cup before operating the dial.



- 6. **4** (Flash pop-up) button
- 7. MENU button
- 8. AF/MF/AEL switch lever
- **9.** For shooting: AF/MF button/AEL button

For viewing: (Enlarge) button

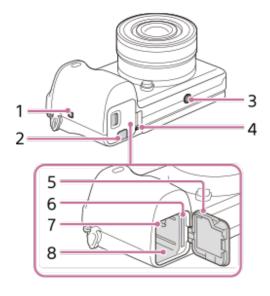
- 10. MOVIE (Movie) button
- 11. For shooting: Fn (Function) button

For viewing: 🛧 (Send to Smartphone) button

- You can display the screen for [Send to Smartphone] by pressing this button.
- 12. Control wheel
- 13. Center button
- **14.** For shooting: **C3** button (Custom button 3)

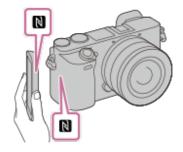
For viewing: 🗂 (Delete) button

15. Playback) button



# 1. (N mark)

 This mark indicates the touch point for connecting the camera and an NFC-enabled Smartphone.



 NFC (Near Field Communication) is an international standard of the short-range wireless communication technology.

#### 2. Connection plate cover

• Use this when using an AC-PW20 AC Adaptor (sold separately). Insert the connection plate into the battery compartment, and then pass the cord through the connection plate cover as shown below.



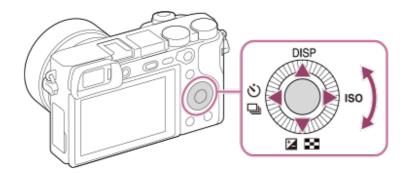
• Make sure that the cord is not pinched when you close the cover.

#### 3. 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.
- 4. Access lamp
- 5. Battery/memory card cover
- 6. Memory card slot
- 7. Battery lock lever
- 8. Battery insertion slot

[2] Names of parts/Icons and indicators | Basic operations

# Using the control wheel



 You can select setting items by turning or pressing the top/bottom/left/right side of the control wheel. Your selection is determined when you press the center of the control wheel.

The default settings for the top/bottom/left/right side and the center of the control wheel are as follows.

Top side: DISP (Display Setting)

Left side: Drive Mode ( 🐧 / 🖳 )

Right side: ISO Center: Eye AF

You can also assign the desired functions to the bottom/left/right side and the center of the control wheel.

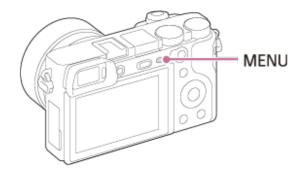
 During playback, you can display the next/previous image by pressing the right/left side of the control wheel or by turning the control wheel.

[3] Names of parts/Icons and indicators | Basic operations

# **Using MENU items**

You can change settings related to all the camera operations including shooting, playback, and operating method. You can also execute camera functions from the MENU.

1 Press the MENU button to display the menu items.



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.



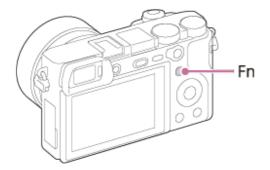
3 Select the desired setting value, and press the center to confirm your selection.

[4] Names of parts/Icons and indicators | Basic operations

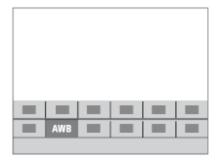
# Using the Fn (Function) button

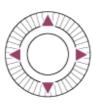
You can register frequently used functions to the Fn (Function) button and recall them while shooting. Up to 12 frequently used functions can be registered to the Fn (Function) button.

1 Press the DISP button repeatedly to display a screen mode other than [For viewfinder], and then press the Fn (Function) button.

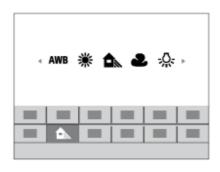


Select the desired function by pressing the top/bottom/left/right side of the control wheel.



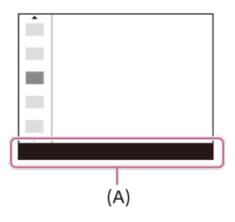


- 3 Select the desired setting by turning the control wheel, and press the center of the control wheel.
  - Some functions can be fine-tuned using the control dial.



# To adjust settings from the dedicated setting screens

Select the desired function in step 2, then press the center of the control wheel. The dedicated setting screen for the function will appear. Follow the operating guide (A) to adjust settings.



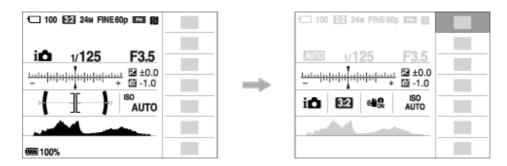
[5] Names of parts/Icons and indicators | Basic operations

How to use the Quick Navi screen

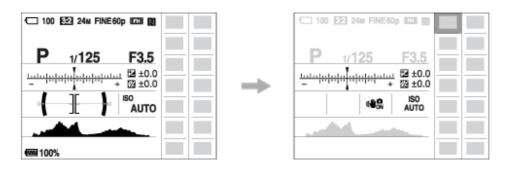
The Quick Navi screen is a function optimized for shooting with the viewfinder, that lets you control settings directly.

- MENU  $\rightarrow$  2 (Camera Settings2)  $\rightarrow$  [DISP Button]  $\rightarrow$  [Monitor]  $\rightarrow$  [For viewfinder], then select [Enter].
- Press the DISP on the control wheel to set the screen mode to [For viewfinder].
- 3 Press the Fn button to switch to the Quick Navi screen.
  - The displayed contents and their positions in the illustrations are just guidelines, and may differ from the actual displays.

#### Auto mode/Scene Selection mode



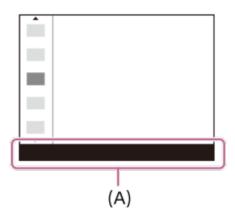
### P/A/S/M/Sweep Panorama mode



- Select the desired function by pressing the top/bottom/left/right side of the control wheel.
- 5 Turn the control wheel to select the desired setting.
  - Some functions can be fine-tuned using the control dial.

#### To adjust settings from the dedicated setting screens

Select the desired function in step 4, then press the center of the control wheel. The dedicated setting screen for the function will appear. Follow the operating guide (A) to adjust settings.



#### **Note**

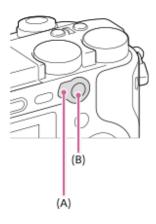
- Items that are gray on the Quick Navi screen are not adjustable.
- When using [Creative Style] or [Picture Profile], some of the setup tasks can be accomplished only on a designated screen.

[6] Names of parts/Icons and indicators | Basic operations

# Using the AF/MF/AEL switch lever

You can switch the function of the AF/MF/AEL button to AF/MF or AEL by changing the position of the AF/MF/AEL switch lever.

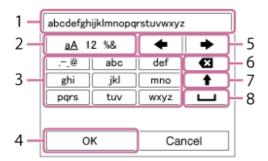
When you move the AF/MF/AEL switch lever **(A)** to the AF/MF position and press the button **(B)**, the focusing mode temporarily switches between auto and manual (AF/MF control). When you move the AF/MF/AEL switch lever to the AEL position and press the button, the exposure is locked (AE lock).



[7] Names of parts/Icons and indicators | Basic operations

# How to use the keyboard

When manual character entry is required, a keyboard is displayed on the screen.



Move the cursor on desired key using the control wheel, then press the center to enter.

#### 1. Input box

The characters you entered are displayed.

#### 2. Switch character types

Each time you press this key, the character type will switch between alphabet letters, numerals and symbols.

#### 3. Keyboard

Each time you press this key, the characters corresponding to that key will be displayed one-by-one in order.

### For example: If you want to enter "abd"

Press the key for "abc" once to display "a"  $\rightarrow$  select " $\rightarrow$ " ((5) Move cursor) and press the key for "abc" twice to display "b" → press the key for "def" once to display "d."

#### 4. Finalize

Finalizes the entered characters.

#### 5. Move cursor

Moves the cursor in the input box to the right or left.

#### 6. Delete

Deletes the character preceding the cursor.

Switches the next character to a capital or lowercase letter.

#### 8. 🗀

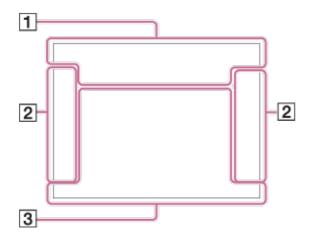
Enters a space.

To cancel input, select [Cancel].

# List of icons on the screen

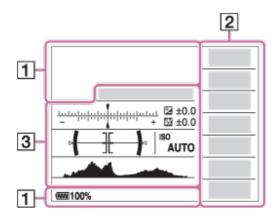
The displayed contents and their positions shown below are just a guideline, and may differ from the actual display.

### **Monitor mode**

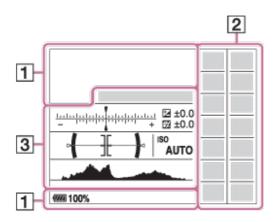


# Viewfinder mode

#### In Auto Mode or Scene Selection mode

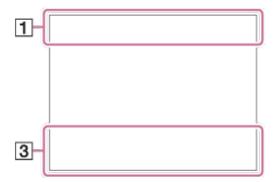


### P/A/S/M/Sweep Panorama mode

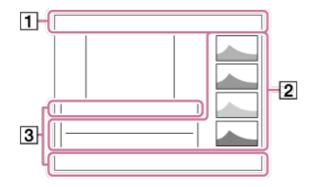


# For playback

**Basic information display** 



#### Histogram display



# 

**Shoot Mode** 

1 2 M M M M M M 4

Memory recall



Scene Recognition icons



Scene Selection

# 

Memory card status/Uploading status

100

Remaining number of recordable images

## 3:2 16:9

Aspect ratio of still images

24M / 20M / 12M / 10M / 6.0M / 5.1M

# **₩IDE STD**

Image size of still images

#### **RAW RAW+J X.FINE FINE STD**

Image quality of still images

120p 100p 60p 50p 60i 50i 30p 25p 24p

Frame rate of movies

# : 100 : : 60 : : 50 : : FX : : FH : : PS : : 1080: : 720 :

Record setting of movies

\* 8

Bluetooth connection available/Bluetooth connection unavailable

Remaining battery
Remaining battery warning
<b>₹</b>
USB power supply
4.
Flash charge in progress
NEON AE Illuminator
AF Illuminator
VIEW Setting Effect OFF
NFC is activated
<b>★</b>
Airplane Mode
<b>L</b> OFF
No audio recording of movies
Wind Noise Reduct.
((₩)¿+ ((₩) = ((₩) = ((₩) = ((₩) + ((₩) + (((((((((((((((((((((((((
SteadyShot Off/On, Camera shake warning
《學》章目 《學》 8mm 8mm
SteadyS. Focal Len. /Camera shake warning
<u>*</u> **
Obtaining location information/Location information cannot be obtained
Overheating warning
FULL ERROR
Database file full/Database file error
s <b>Q</b> c <b>Q</b> p <b>Q</b>
Smart Zoom/ Clear Image Zoom/Digital Zoom
MP4 PAVCHD DXAVCS DXAVCS
View Mode

100-0003

Folder number-File number

Оп Protect

XAVC S 4K XAVC S HD AVCHD MP4

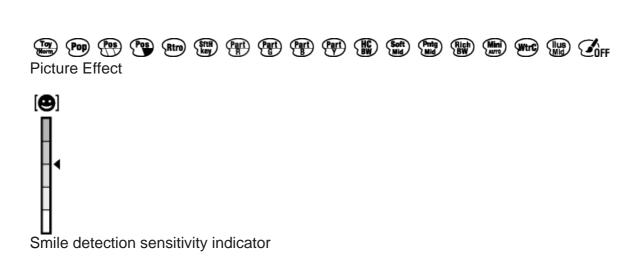
File format of movies

**DPOF** 

DPOF set



	Dual Video REC
	-PC-
	PC Remote
	Silent Shooting
	···
	Bright Monitoring
	©
	Copyright information writing on
	Assist 7 Assist 7 LS-Log2 LS-Log3
	Gamma Disp. Assist
	AUTO
	Auto object framing image
	120fps 60fps 30fps 15fps 8fps 4fps 100fps 50fps 25fps 12fps 6fps 3fps 2fps 1fps
	Frame rate for slow/quick motion shooting
	Writing data/Number of images left to write
	<b>b</b> ×
	Focus Cancel
	Lock-on AF OFF
	Spot Focus Performing Spot Focus
2	
۷.	Drive Mode
	ALITO \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$
	₹ <u>7</u> ±0.0
	Flash Comp.
	AF-S AF-A AF-C DMF MF Focus Mode
	Focus Area
	Metering Mode
	35mm
	Lens focal length
	AWB AWB魚 AWB魚 ※ 🏡 🏖 🌣 鴬-1 鴬 0 鴬+1 鴬+2  🕰 🖳 7500K A5 G5
	White Balance (Auto, Preset, Underwater Auto, Custom, Color temperature, Color filter)
	D-Range Optimizer/Auto HDR
	Std. Vivid Ntrl Clear Deep Light Port Land Sunset Night Autm B/W Sepia +3 +3 +3
	Creative Style/Contrast, saturation, and sharpness





Picture Profile

**©** 

Copyright information exists for image



Silent Shooting

FINDER FINDER FINDER FINDER 120fps 100fps 60fps 50fps

Finder Frame Rate

#### 3. Lock-on AF

Guide display for Center button Lock-on AF

Select Focus Point On/Off

Guide display for setting Focus Area

Focus Cancel

Guide display for setting Focus Cancel

-6--5--4--3--2--1--0--1--2--3--4+
Bracket indicator



Exposure compensation/Metered Manual

**STBY** 

Movie recording standby

**REC 1:00:12** 

Actual movie recording time (hours: minutes: seconds)

**Av** 

Control wheel function



Control dial function



Focus

1/250

Shutter speed

F3.5

Aperture Value

## ISO400 ISO AUTO

ISO sensitivity



**Exposure Setting Guide** 



AE lock/FEL lock



Shutter speed indicator



Aperture indicator



Histogram



Location information

90°44′55"N

233°44′55"W

Latitude/longitude information



Digital level gauge



Audio level



DRO/Auto HDR/Auto HDR image warning



Picture Effect error

2016-1-1

10:37AM

Date of recording

3/7

File number/Number of images in the view mode



 $\bigcirc$ 

Spot metering area

00:00:00:00

Time code (hour:minute:second:frame)

00 00 00 00

User Bit

# Switching the screen display (while shooting/during playback)

You can change the display contents on the screen.

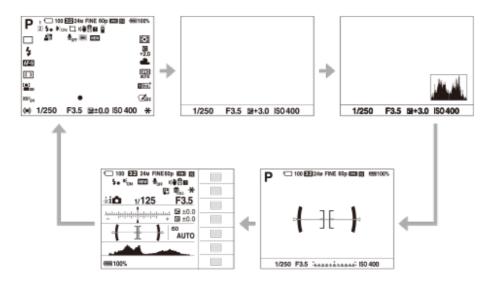


#### Press the DISP (Display Setting) button.

- To switch the information displayed on the viewfinder, press the DISP button while looking into the viewfinder.
- Each time you press the DISP button, the recording information display changes.
- The displayed contents and their position are just a guideline, and may differ from the actual display.

## **During shooting (Monitor)**

Display All Info.  $\rightarrow$  No Disp. Info.  $\rightarrow$  Histogram  $\rightarrow$  Level  $\rightarrow$  For viewfinder  $\rightarrow$  Display All Info.



## **During shooting (Viewfinder)**

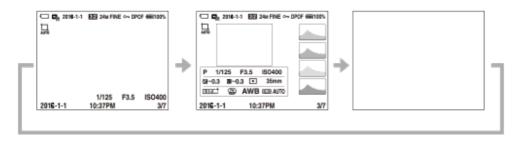
Level  $\rightarrow$  No Disp. Info.  $\rightarrow$  Histogram  $\rightarrow$  Level



## **During playback (Monitor/Viewfinder)**

Display Info.  $\rightarrow$  Histogram  $\rightarrow$  No Disp. Info.  $\rightarrow$  Display Info.

 If the image has flare or black defects, the corresponding section blinks on the histogram display (flare/black defects warning). The settings for playback are also applied in [Auto Review].



## Histogram display

A histogram shows the luminance distribution, displaying how many pixels there are by luminance. It shows darker toward the left and brighter toward the right.

The histogram changes depending on the exposure compensation.

Peaks at the right and left ends of the histogram indicate that the image has flare and black defects, respectively. You cannot correct such defects using a computer after shooting. Perform exposure compensation before shooting as necessary.



(A): Pixel count(B): Contrast

#### **Note**

- The viewfinder display and the monitor display for shooting can be set separately. Look through the viewfinder to set the display settings for the viewfinder.
- [Histogram] is not displayed during panorama shooting.
- The information in the histogram display does not indicate the final photograph. It is information about image displayed on the screen. The final result depends on the aperture value, etc.
- The histogram display is extremely different between shooting and playback in the following cases:
  - When the flash is used
  - When shooting a low luminance subject such as a night scene
- In movie mode, [For viewfinder] cannot be displayed.

#### Hint

- The following are not displayed in the default settings.
  - Graphic Display
  - Display All Info. (when using the viewfinder)

To change the display modes, press MENU  $\rightarrow$  2 (Camera Settings2)  $\rightarrow$  [DISP Button] and change the setting.

[10] Names of parts/Icons and indicators | Icons and indicators

# **DISP Button (Monitor/Finder)**

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



The items marked with  $\checkmark$  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.:

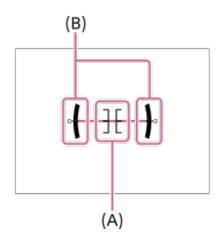
Does not show recording information.

#### Histogram:

Displays the luminance distribution graphically.

#### Level:

Indicates whether the product is level in both the front-back **(A)** and horizontal **(B)** directions. When the product is level in both directions, the indicator turns to green.



#### For viewfinder\*:

Displays information suited for shooting with the viewfinder.

\* This screen mode is available only in the setting for [Monitor].

#### Note

- If you tilt the product forward or backward by a large degree, the level error will be great.
- The product may have a margin of error of almost ±1° even when the inclination is corrected by the level.

## [11] Preparing the camera

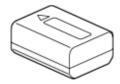
# Checking the camera and the supplied items

The number in parentheses indicates the number of pieces.

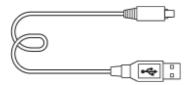
- Camera (1)
- Power cord (mains lead) (1)\* (supplied in some countries/regions)



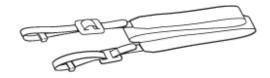
- \* Multiple power cords may be supplied with your camera. Use the appropriate one that matches your country/region.
- NP-FW50 Rechargeable battery pack (1)



Micro USB Cable (1)



- AC Adaptor (1)
- Shoulder strap (1)



Eyepiece cup (1)

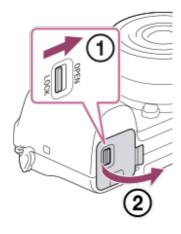


- Body cap (1) (attached to the camera)
- Shoe cap (1) (attached to the camera)
- Instruction Manual (1)
- Wi-Fi Connection/One-touch (NFC) Guide (1)

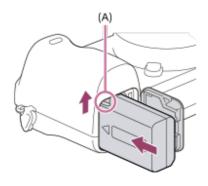
[12] Preparing the camera | Charging the battery pack

# Inserting/removing the battery pack

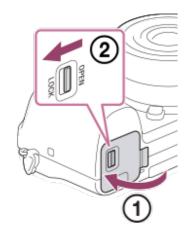
Open the battery/memory card cover.



Insert the battery pack while pressing the lock lever (A) with the tip of the battery until the battery locks into place.

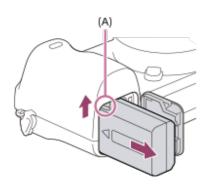


3 Close the cover.



## To remove the battery pack

Turn off the camera and press lock lever **(A)**, then remove the battery pack. Be careful not to drop the battery pack.

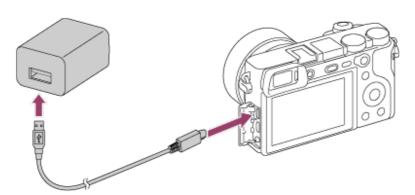


[13] Preparing the camera | Charging the battery pack

# Charging the battery pack while it is inserted in the camera

1 Turn the power off.

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 on the camera (orange)

Lit: Charging

Off: Charging finished

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

- Charging time (Full charge): The charging time is approximately 150 min.
- 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.
- The charge lamp turns off when charging is completed.
- If the charge lamp lights up and then immediately turns off, the battery pack is fully charged.

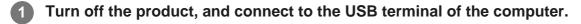
**Note** 

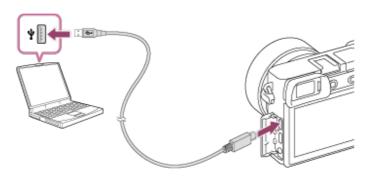
- If the charge lamp flashes when the battery pack is not fully charged, remove the battery pack or disconnect the USB cable from the camera and then re-insert it to recharge.
- If the charge lamp on the camera flashes when the AC Adaptor is connected to the wall outlet (wall socket), this indicates 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 (50°F to 86°F).
- 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).

[14] Preparing the camera | Charging the battery pack

# Charging by connecting to a computer

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





#### **Note**

- 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.

[15] Preparing the camera | Charging the battery pack

# Battery life and number of recordable images

		Battery life	Number of images
Shooting (still images)	Screen mode	-	Approx. 350
	Viewfinder mode	-	Approx. 310
Actual shooting (movies)	Screen mode	Approx. 70 min.	-
	Viewfinder mode	Approx. 65 min.	-
Continuous shooting (movies)	Screen mode	Approx. 105 min.	-
	Viewfinder mode	Approx. 105 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 under the following conditions:
  - Using the battery pack at an ambient temperature of 25°C (77°F).
  - Using a E PZ 16-50mm F3.5-5.6 OSS lens (sold separately)
  - Using a Sony SDXC memory card of UHS Speed Class 3 ([3]) (sold separately)
  - [Viewfinder Bright.]: [Manual][±0]

- [Monitor Brightness]: [Manual][±0]
- [Display Quality]: [Standard]
- The numbers for "Shooting (still images)" are based on the CIPA standard and shooting under the following conditions:

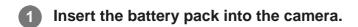
(CIPA: Camera & Imaging Products Association)

- DISP: [Display All Info.]
- Focus Mode: [Automatic AF]
- One picture is taken every 30 seconds.
- The flash strobes once for every two pictures.
- The power is turned on and off once every ten times.
- The number of minutes for movie shooting is based on the CIPA standard and shooting under the following conditions:
  - The image quality is set to XAVC S HD 60p 50M /50p 50M.
  - Actual shooting (movies): Battery life based on repeated shooting, zooming, shooting stand-by, turning on/off, etc.
  - Continuous shooting (movies): 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.

[16] Preparing the camera | Charging the battery pack

# Supplying power from a wall outlet (wall socket)

Use the supplied AC adaptor to shoot and play back images while power is supplied from a wall outlet (wall socket). This conserves the camera's battery power.



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

#### **Note**

- The camera will not activate if there is no remaining battery. Insert a sufficiently charged battery pack into the camera.
- If you use the camera while power is being supplied from a wall outlet (wall socket), make sure that the icon (☐ZZZ ♥) is displayed on the monitor.
- Do not remove the battery pack while power is supplied from a wall outlet (wall socket). If you
  remove the battery pack, the camera will be turned off.
- Do not remove the battery pack while the access lamp is lit. The data in the memory card may be damaged.

- As long as the power is on, the battery pack will not be charged even if the camera is connected to the AC Adaptor.
- Under certain conditions, power may be supplied from the battery pack supplementarily even if you
  are using the AC adaptor.
- Do not remove the Micro USB cable while power is supplied from a wall outlet (wall socket). Before
  you remove the Micro USB cable, turn off the camera.
- Depending on the camera and battery temperature, the continuous recording time may be shortened while power is supplied from a wall outlet (wall socket).
- When using a mobile charger as a power source, confirm that it is fully charged before use. Also, be careful of the remaining power on the mobile charger during use.

[17] Preparing the camera | Charging the battery pack

# Notes on the battery pack

## Notes on using the battery pack

- Be sure to use only battery packs specified for this product.
- The correct remaining battery indicator may not be displayed under some operating or environmental conditions.
- 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.

## 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.
- Do not charge battery packs except battery packs specified for this product. Doing so can result in leaks, overheating, explosions, electric shocks, burns, or injuries.
- 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 in an ambient temperature of between 10 °C and 30 °C (50 °F and 86 °F). The battery pack may not be effectively charged in 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.
- When charging is finished, disconnect the AC Adaptor from the wall outlet (wall socket) or disconnect the USB cable from the camera. Not doing so may result in a shorter battery life.

## 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 the remaining battery indicator does not appear on the screen, press the DISP (Display Setting) button to display it.

## **Charging time (Full charge)**

The charging time is approximately 150 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.
- 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.

## How to store the battery pack

To maintain the battery pack's function, charge the battery pack and then fully discharge it in the camera at least once a year before storing it. Store the battery in a cool, dry place after removing it from the camera.

## 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.

[18] Preparing the camera | Charging the battery pack

# Notes on 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).

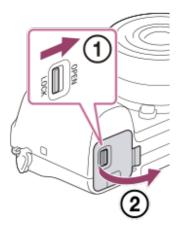
[19] Preparing the camera | Inserting a memory card (sold separately)

# Inserting/removing a memory card

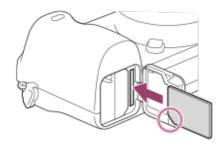
Explains how to insert a memory card (sold separately) to the product.

1

Open the battery/memory card cover.

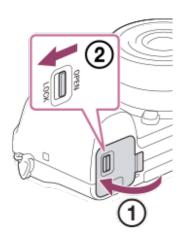


## 2 Insert the memory card.



With the notched corner facing in the direction illustrated, insert the memory card until
it clicks into place. Insert the memory card correctly. Not doing so may cause a
malfunction.

## Close the cover.

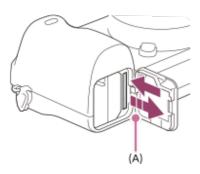


#### Hint

• When you use a memory card with the camera for the first time, it is recommended that you format the card on the camera for more stable performance of the memory card.

## To remove the memory card

Open the memory card cover and make sure that the access lamp (A) is not lit, then push in the memory card lightly once to remove it.



[20] Preparing the camera | Inserting a memory card (sold separately)

# Memory cards that can be used

You can use the following types of memory cards with this camera. The  $\checkmark$  mark indicates that these memory cards can be used for shooting still images or movies.

When using Memory Stick Micro media or microSD memory card with this camera, make sure to use with the appropriate adaptor.

Memory card	For still images	For movies		
		MP4	AVCHD	XAVC S
Memory Stick PRO Duo	<b>✓</b>	(Mark2 only)	(Mark2 only)	_
Memory Stick PRO-HG Duo	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b> *1
Memory Stick Micro (M2)	<b>✓</b>	(Mark2 only)	(Mark2 only)	_
SD memory card	<b>✓</b>	<b>✓</b> *2	<b>✓</b> *2	_
SDHC memory card	<b>✓</b>	<b>✓</b> *2	<b>✓</b> *2	<b>√</b> *3
SDXC memory card	<b>✓</b>	<b>✓</b> *2	<b>✓</b> *2	<b>√</b> *3
microSD memory card	<b>✓</b>	<b>✓</b> *2	<b>✓</b> *2	_
microSDHC memory card	<b>✓</b>	<b>✓</b> *2	<b>✓</b> *2	<b>√</b> *3
microSDXC memory card	<b>✓</b>	<b>✓</b> *2	<b>✓</b> *2	<b>√</b> *3

- \*1 Movies cannot be recorded in 100 Mbps or more.
- \*2 SD Speed Class 4 (CLASS 4) or faster, or UHS Speed Class U1 (1) or faster
- \*3 SD Speed Class10 (class(c)), or UHS Speed Class U1 (1) or faster When recording in 100 Mbps or more, UHS Speed Class U3 (13) is required.

#### **Note**

• When an SDHC memory card is used to record an XAVC S movie over extended periods of time, the recorded movies will be divided into files 4 GB in size. The divided files can be handled as a single file by importing them to a computer using PlayMemories Home.

[21] Preparing the camera | Inserting a memory card (sold separately)

# 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] using this camera.
- Do not remove the battery pack or the memory card, disconnect the USB cable, or turn the camera off while the access lamp is lit up. This may cause the data on the memory card to become damaged.
- Be sure to back up the data for protection.
- Not all memory cards are guaranteed to operate correctly.
- 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.)

- Do not expose the memory card to water.
- Do not strike, bend or drop the memory card.
- 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
- 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 touch the terminal section of the memory card with your hand or a metal object.
- Do not leave the memory card within the reach of small children. They might accidentally

swallow it.

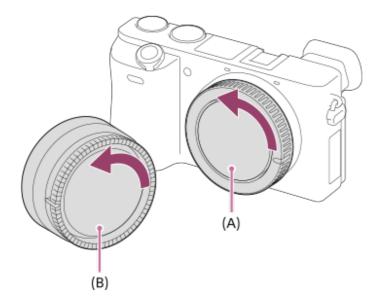
- Do not disassemble or modify the memory card.
- The memory card may be hot just after it has been used for a long time. Be careful when you handle it.
- Memory card formatted with a computer is not guaranteed to operate with the product.
   Format the memory card using this product.
- Data read/write speeds differ depending on the combination of the memory card and the equipment used.
- Do not press down hard when writing in the memo space on the memory card.
- Do not attach a label on the memory card itself nor on a memory card adaptor.
- If the write-protect switch or delete-protect switch of a memory card is set to the LOCK position, you cannot record or delete images. In this case, set the switch to the record position.
- To use a Memory Stick Micro media or microSD memory card with this product:
  - Be sure to insert the memory card into a dedicated adaptor. If you insert a memory card into the product without a memory card adaptor, you might not be able to remove it from the product.
  - 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.
- About Memory Stick PRO Duo media and Memory Stick PRO-HG Duo media:
  - This Memory Stick is equipped with MagicGate function. MagicGate is copyright protection technology that uses encryption technology.
     Data recording/playback that requires MagicGate functions cannot be performed with this product.
  - High-speed data transfer using a parallel interface is supported.

[22] Preparing the camera | Attaching a lens

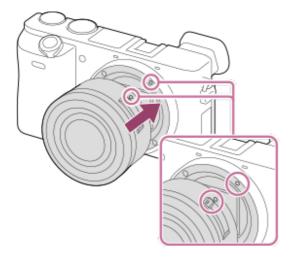
# Attaching/removing a lens

Turn off the camera before attaching or removing the lens.

1 Remove the body cap (A) from the camera and the rear lens cap (B) from the rear of the lens.



- When shooting, remove the front lens cap from the front of the lens.
- Mount the lens by aligning the two white index marks (mounting indexes) on the lens and camera.



- Hold the camera with the lens mount facing down to prevent dust and debris from entering the camera.
- While pushing the lens lightly toward the camera, turn the lens slowly in the direction of the arrow until it clicks into the locked position.

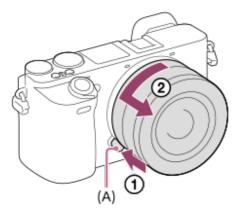


Be sure to hold the lens straight when attaching it.

### Removing the lens

Keep pressing the lens release button (A) and turn the lens in the direction of the arrow until it stops.

After removing the lens, attach the body cap to the camera and the lens caps to the front and rear of the lens to prevent dust and debris from entering the camera and lens.



#### Note

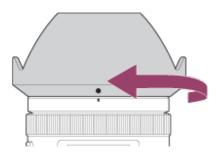
- When attaching/removing the lens, work quickly in a dust-free location.
- Do not press the lens release button when attaching a lens.
- Do not use force when attaching a lens.
- A Mount Adaptor (sold separately) is required to use an A-mount lens (sold separately). When using the Mount Adaptor, refer to the operating manual supplied with the Mount Adaptor.
- When you use a lens with a tripod socket, attach a tripod to the tripod socket of the lens to help balance the weight of the lens.
- When carrying the camera with a lens attached, hold both the camera and the lens firmly.
- Do not hold the part of the lens that is extended for zoom or focus adjustment.

# Attaching the lens hood

We recommend that you use the lens hood to prevent light outside the shooting frame from affecting the image.



Match the shape of the lens hood mounting part and lens head, and turn the lens hood clockwise until it clicks.



#### **Note**

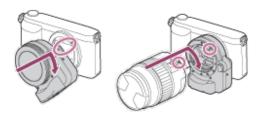
- Attach the lens hood properly. Otherwise, the lens hood may not have any effect or may be partially reflected in the image.
- When the lens hood is attached properly, the lens hood index (red line) matches the red index mark on the hood. (There may be no lens hood index on some lenses.)
- Remove the lens hood when using the flash as the lens hood blocks the flash light and may appear as a shadow on the image.
- To store the lens hood after shooting, attach the lens hood to the lens backward.

[24] Preparing the camera | Attaching accessories

# **Mount Adaptor**

Using a Mount Adaptor (sold separately), you can attach an A-mount lens (sold separately) to this product.

For details, refer to the operating instructions supplied with the Mount Adaptor.



#### **Note**

- When a setting other than [Continuous Shooting: Lo] is selected for [Cont. Shooting], the focus is locked during the first shot, even if [Focus Mode] is set to [Continuous AF].
- You may not be able to use the Mount Adaptor with certain lenses. Consult your Sony dealer or local authorized Sony service facility on compatible lenses.
- When shooting movies while using an LA-EA1 or LA-EA3 Mount Adaptor (both sold separately), the Auto Focus only works when the shutter button is pressed halfway down.
- You cannot use the AF illuminator when using an A-mount lens.
- The sound of the lens and the product in operation may be recorded during movie recording.
   You can turn the sound off by selecting MENU → 2 (Camera Settings2) → [Audio Recording] → [Off].
- It may take a long time or may be difficult for the product to focus, depending on the lens used or the subject.
- The light of the flash may be blocked by the lens attached.

[25] Preparing the camera | Attaching accessories

# LA-EA1/LA-EA3 Mount Adaptor

If you use the LA-EA1 Mount Adaptor (sold separately) or LA-EA3 Mount Adaptor (sold separately), the following functions are available.

#### Autofocus:

Available with SAM/SSM lens only

#### AF system:

Contrast AF/Phase Detection AF

#### AF/MF select:

Can be changed using the operating switch on the lens.

#### **Focus Mode:**

Single-shot AF/Continuous AF\*

- \* This setting is unavailable when [ AF System] is set to [Contrast AF].
  - When using a Mount Adaptor and the camera is set to movie mode, the Auto Focus only works when the shutter button is pressed halfway down.
  - When using a Mount Adaptor in movie mode, adjust the aperture manually.

#### Available focus area:

When the LA-EA1/LA-EA3 Mount Adaptor is mounted, the available focus areas are the same as for the available settings of this camera.

[Zone], [Expand Flexible Spot] or [Lock-on AF] cannot be selected when [ AF System] is set

to [Phase Detection AF]. **SteadyShot:** 

In-body

[26] Preparing the camera | Attaching accessories

## LA-EA2/LA-EA4 Mount Adaptor

If you use the LA-EA2 Mount Adaptor (sold separately) or LA-EA4 Mount Adaptor (sold separately), the following functions are available.

#### **Autofocus:**

Available

#### AF system:

Phase Detection AF, which is controlled by the dedicated AF sensor inside the Mount Adaptor **AF/MF select**:

Lenses that do not support DMF: Can be changed using the operating switch on the lens. Lenses that support DMF: Can be changed using the operating switch on the lens. When the switch on the lens is set to AF, you can use MENU to change the focusing method. Other lenses: Can be changed using MENU.

#### **Focus Mode:**

LA-EA2: Single-shot AF/Continuous AF/DMF\*

LA-EA4: Single-shot AF/Continuous AF/Automatic AF/DMF\*

- \* Only available when using lenses that support Direct Manual Focus.
  - Even if [Priority Set in AF-S] is set to [Balanced Emphasis], the camera will temporarily switch to [AF].
  - Even if [Priority Set in AF-C] is set to [Balanced Emphasis], the camera will temporarily switch to [Release].

Available focus area:

Wide/Center/Flexible Spot/Lock-on AF

**SteadyShot:** 

In-body

[27] Preparing the camera

# Setting language, date and time

The setting screen for language, date and time is displayed automatically when you turn on this

product for the first time, initialize this product or when the internal rechargeable backup battery has discharged.

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.
- 4 Select your desired geographic location, and then press the center.
- Select a setting item using the top/bottom 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 top/bottom/left/right sides, then press the center.
  - Midnight is indicated as 12:00 AM, and noon as 12:00 PM.
- Repeat steps 5 and 6 to set other items, then select [Enter] and press the center.

#### On maintaining the date and time

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.

To charge the internal rechargeable backup battery, insert a charged battery pack into the camera, and leave the product for 24 hours or more with the power off.

If the clock resets every time the battery pack is charged, the internal rechargeable backup battery may be worn out. Consult your service facility.

#### Hint

- To cancel the date and time setting procedure, press the MENU button.
- To set the date and time or geographic location again after the date and time setting is finished,

#### **Note**

- If the date and time setting is canceled halfway, the setting screen for the date and time appears every time you turn on the camera.
- This camera does not have a function for inserting the date on images. You can insert the date on images and then save and print them using PlayMemories Home (for Windows only).

[28] Preparing the camera

## **In-Camera Guide**

The [In-Camera Guide] displays descriptions of MENU items, Fn (Function) items, and settings. Assign the [In-Camera Guide] function to the desired key in advance using [Custom Key(Shoot.)].

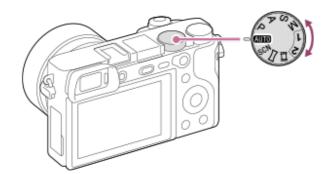
- MENU → 2 (Camera Settings2) → [Custom Key(Shoot.)] → desired key, then assign the [In-Camera Guide] function to the key.
  - The [In-Camera Guide] function cannot be assigned to some keys.
- Select the MENU or Fn item of which you want to see descriptions, then press the button to which the [In-Camera Guide] function is assigned.

The descriptions of the item are displayed.

[29] Shooting

# **Shooting still images**

Select the desired shooting mode by turning the mode dial.



- Adjust the monitor angle, and hold the camera. Or look through the viewfinder and hold the camera.
- When a zoom lens is mounted, enlarge images by rotating the zoom ring.
- 4 Press the shutter button halfway down to focus.

When the image is in focus, a beep sounds and the indicator (such as 

) lights up.



5 Press the shutter button fully down.

## To shoot images with the focus locked on the desired subject (Focus-lock)

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

- 1.  $MENU \rightarrow 1$  (Camera Settings1)  $\rightarrow$  [Focus Mode]  $\rightarrow$  [Single-shot AF] or [Automatic AF].
- 2. Place the subject within the AF area and press the shutter button halfway down.



The focus is locked.

- If it is difficult to focus on the desired subject, set [Focus Area] to [Center] or [Flexible Spot].
- **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.

#### 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. In [Continuous AF] mode, (ights up and the beep indicating that the focus has been achieved does not sound.

#### **Note**

 When the subject is moving, you cannot lock the focus even if [Focus Mode] has been set to [Automatic AF].

[30] Shooting | Focusing

## **Focus Mode**

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



 $\textbf{MENU} \rightarrow \textbf{ mat} \textbf{ 1 (Camera Settings1)} \rightarrow \textbf{ [Focus Mode]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

## AF-S (Single-shot AF):

The product locks the focus once focusing is complete. Use this when the subject is motionless.

## AF-A (Automatic AF):

[Single-shot AF] and [Continuous AF] are switched according to the movement of the subject. When the shutter button is pressed halfway down, the product locks the focus when it determines that the subject is motionless, or continues to focus when the subject is in motion. During continuous shooting, the product automatically shoots with Continuous AF from the second shot.

## 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. In [Continuous AF] mode, there is no beep when the camera focuses.

#### DMF (DMF):

You can make fine adjustments manually after the focus is locked, letting you focus on a subject more quickly than when using the manual focus from the beginning. This is convenient in situations such as macro shooting.

## MF (Manual Focus):

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

#### **Focus indicator**



The subject is in focus and the focus is locked.



The subject is not in focus.



The subject is in focus. The focus will be adjusted continuously according to the movements of the subject.

**()** (lit):

Focusing is in progress.

## Subjects on which it is difficult to focus using auto focus

- Dark and distant subjects
- Subjects with poor contrast
- Subjects seen through glass
- Fast-moving subjects
- Reflective light or shiny surfaces
- Flashing light
- Back-lit subjects
- Continuously repetitive patterns, such as the facades of buildings
- Subjects in the focusing area with different focal distances

#### **Note**

[Automatic AF] is available only when you are using a lens that supports phase detection AF.

- When [Continuous AF] or [Automatic AF] is set, the angle of view may change little by little while focusing. This does not affect the actual recorded images.
- Only [Continuous AF] and [Manual Focus] are available in the movie shooting mode.

#### Hint

 In [Continuous AF] mode, you can lock the focus by pressing and holding the button that has been assigned the [Focus Hold] function.

[31] Shooting | Auto focus

## **Focus Area**

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



MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Focus Area]  $\rightarrow$  desired setting.

#### Menu item details

## Wide:

Focuses on a subject covering the whole range of the screen automatically. When you press the shutter button halfway down in the still image shooting mode, a green frame is displayed around the area that is in focus.

## Zone:

Select a zone on the monitor on which to focus, and the product will automatically select a focus area.

## [] Center:

Focuses automatically on a subject in the center of the image. Use together with the focus-lock function to create the composition you want.

## Flexible Spot :

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

## ্রি‡়া Expand Flexible Spot :

If the product cannot focus on a single selected point, it uses focus points around the flexible spot as a secondary priority area for focusing.

## டி டி மி மி Lock-on AF :

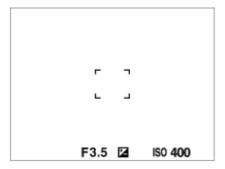
When the shutter button is pressed and held halfway down, the product tracks the subject within the selected autofocus area. This setting is available only when the focus mode is set to [Continuous AF]. Point the cursor at [Lock-on AF] on the [Focus Area] setting screen, and then adjust the desired area to start tracking using the left/right sides of the control wheel. You can

also move the tracking start area to the desired point by designating the area as a flexible spot or expand flexible spot.

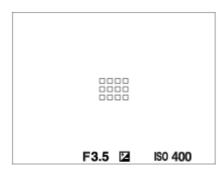
#### List of focus range finder frames

The focus range finder frame differs as follows depending on the shooting mode.

#### When focusing on a larger area

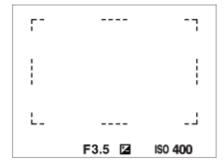


#### When focusing on a smaller area



- When [Focus Area] is set to [Wide] or [Zone] and you aim at a moving subject, the focus
  range finder frame for "When focusing on a smaller area" may be displayed.
- When you attach an A-mount lens with a Mount Adaptor (LA-EA1 or LA-EA3) (sold separately) and [ AF System] is set to [Phase Detection AF], the focus range finder frame for "When focusing on a smaller area" may be displayed.

#### When focus is achieved automatically based on the whole range of the monitor



When you use a zoom function other than the optical zoom, the [Focus Area] setting is
disabled and the focus area frame is shown by the dotted line. The AF operates with priority
on and around the center area.

#### To move the focus area

 When [Focus Area] is set to [Zone], [Flexible Spot] or [Expand Flexible Spot], if pressing the button to which [Focus Standard] is assigned, you can shoot while moving the focus area

- using the top/bottom/left/right sides of the control wheel. To change the shooting settings using the control wheel, press the button to which [Focus Standard] is assigned.
- You can move the focusing frame quickly by touching and dragging it on the monitor. Set [Touch Operation] to other than [Off] beforehand.

#### **Note**

- [Focus Area] is locked to [Wide] in the following situations:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
  - During Smile Shutter mode
- The focus area may not light up during continuous shooting or when the shutter button is pressed all the way down at once.
- When the mode dial is set to [ (Movie/S&Q Motion) or during movie shooting, [Lock-on AF] cannot be selected as the [Focus Area].
- When [Focus Area] is set to [Wide] or [Zone], the size of the AF range finder frame may be automatically adjusted according to the subject and the composition as follows:
  - When focusing on a wider area such as a landscape: A larger AF range finder frame is displayed.
  - When focusing on a smaller area such as flowers or small items: A smaller AF range finder frame is displayed.
- You cannot perform functions assigned to the top/bottom/left/right sides of the control wheel or the custom button 3 while moving the focusing frame.

[32] Shooting | Auto focus

## Phase detection AF

When there are phase detection AF points within the auto focus area, the product uses the combined autofocus of the phase detection AF and contrast AF.

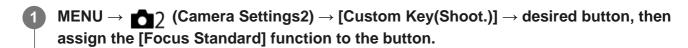
#### **Note**

- When the F-value is greater than F11, you cannot use the Phase Detection AF. Only Contrast AF is available.
- Phase detection AF is available only when an applicable lens is attached. If you use a lens that does not support focal plane phase detection AF, you cannot use [Automatic AF], [ AF Track Sens] or [ AF drive speed].
  - Also, even if you use a previously purchased applicable lens, the phase detection AF might not function unless you update the lens.

[33] Shooting | Auto focus

## **Focus Standard**

If you assign [Focus Standard] to the desired custom key, you can recall useful functions such as moving the focusing frame quickly, etc., depending on the focus area settings.



- 2 Press the key to which [Focus Standard] is assigned.
  - What you can do by pressing the key varies depending on the settings for [Focus Area] and [Center Lock-on AF].

## When [Focus Area] is set to [Zone], [Flexible Spot] or [Expand Flexible Spot]:

You can move the position of the focus area using the top/bottom/left/right sides of the control wheel.

#### When [Focus Area] is set to [Wide] or [Center]:

- When [Center Lock-on AF] is set to [On], [Center Lock-on AF] is activated by pressing the key. The camera detects the subject positioned in the center of the screen and starts tracking by pressing the center of the control wheel.
- When [Center Lock-on AF] is set to [Off], the camera focuses on the center point.

#### **Note**

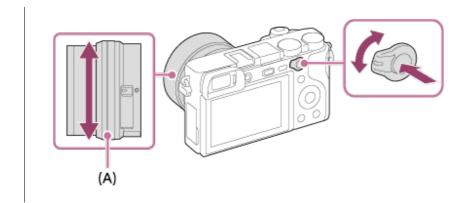
You cannot set the [Focus Standard] function to [Left Button], [Right Button] or [Down Button].

[34] Shooting | Auto focus

## **AF/MF** control

You can easily switch the focusing mode from auto to manual and vice versa while shooting without changing your holding position.

Switch the AF/MF/AEL switch lever to the AF/MF position, then press the AF/MF button.



#### **During auto focus:**

Temporarily switches the focusing mode to manual. Adjust the focus by turning the focus ring **(A)** while holding down the AF/MF button.

#### **During manual focus:**

Temporarily switches the focusing mode to auto while the AF/MF button is held down, and locks the focus.

#### Hint

• If you select [AF/MF Ctrl Toggle] in [AF/MF Button] under [Custom Key(Shoot.)], the focusing mode remains switched even if you remove your finger from the button.

#### **Note**

 You cannot set the [AF/MF Control Hold] function to [Left Button], [Right Button] or [Down Button] of the control wheel.

[35] Shooting | Auto focus

# AF w/ shutter (still image)

Selects whether to focus automatically when you press the shutter button halfway down. Select [Off] to adjust the focus and the exposure separately.



 $\textbf{MENU} \rightarrow \ \ \, \textbf{1}(\textbf{Camera Settings1}) \rightarrow \ \ \, \textbf{[} \ \ \, \textbf{AF w/ shutter]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

#### On:

The auto focus operates when you press the shutter button halfway down.

#### Off:

The auto focus does not operate even if you press the shutter button halfway down.

## Useful method to micro-adjust the focus

When an A-mount lens is attached, activating the auto focus function with a button other than the shutter button lets you focus more precisely in combination with manual focusing.

- 1. Set [ AF w/ shutter] to [Off].
- 2. MENU  $\rightarrow$  2 (Camera Settings2)  $\rightarrow$  [Custom Key(Shoot.)]  $\rightarrow$  assign the [AF On] and [Focus Magnifier] functions to the desired keys.
- 3. Set [ \( \opi \) Eye-Start AF] to [Off] to avoid auto focusing when you look through the viewfinder.
- 4. Press the key to which the [AF On] function is assigned.
- **5.** Press the key to which the [Focus Magnifier] function is assigned, and then rotate the focus ring for micro-adjustments of the focus.
- 6. Press the shutter button fully down to shoot the image.

[36] Shooting | Auto focus

# AF On

You can focus using any button instead of pressing the shutter button halfway down. The settings for [Focus Mode] will be applied.

- MENU→ 2 (Camera Settings2)→[Custom Key(Shoot.)]→desired key, then assign the [AF On] function to the key.
- Press the key to which you have assigned the [AF On] function while auto-focus shooting.

#### Hint

- Set [ AF w/ shutter] to [Off] when you do not want to perform auto focusing using the shutter button.
- Set [ AF w/ shutter], [ Pre-AF], and [ Eye-Start AF] to [Off] to focus at a specific shooting distance predicting the position of the subject.

The camera focuses on the subject's eyes while you keep the button pressed.

- MENU → 

  (Camera Settings2) → [Custom Key(Shoot.)] → desired key, then assign the [Eye AF] function to the key.
- Point the camera at a person's face, and press the button to which you have assigned the [Eye AF] function.
- 3 Press the shutter button while pressing the button.

#### Hint

• When the camera focuses on the eyes, a detection frame is displayed over the eyes. If the focus mode is set to [Single-shot AF], the frame will disappear after a period of time.

#### Note

- The camera may not be able to focus on the eyes depending on the circumstances, such as when no
  eyes can be detected within the auto focus area. In such cases, the camera detects a face and
  focuses on the face.
- If the camera cannot detect a person's face, you cannot use [Eye AF].
- Depending on the circumstances, you cannot use [Eye AF] such as when [Focus Mode] is set to [Manual Focus].
- The [Eye AF] function may not function very well in the following situations:
  - When the person is wearing sunglasses.
  - When the front hair covers the person's eyes.
  - In low-light or back-lit conditions.
  - When the eyes are closed.
  - When the person is in the shade.
  - When the person is out of focus.
  - When the person is moving too much.
- If the person is moving too much, the detection frame may not display correctly over their eyes.

[38] Shooting | Auto focus

AF in Focus Mag. (still image)

You can focus on the subject more accurately using auto-focus by magnifying the area where you want to focus. While the magnified image is displayed, you can focus on a smaller area than the flexible spot.

- **2** MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Focus Magnifier].
- Magnify the image by pressing the center of the control wheel, and then adjust the position using top/bottom/right/left of the control wheel.
  - The magnification scale changes each time you press the center.
- Press the shutter button halfway down to focus.
  - The focus will be achieved at point of + in the center of the screen.
- 5 Press the shutter button all the way down to shoot.
  - The [ AF in Focus Mag.] function is canceled after shooting.

#### Hint

- Use of a tripod is recommended to accurately identify the location you want to magnify.
- You can check the auto-focusing result by magnifying the displayed image. If you want to readjust
  the focus position, adjust the focus area on the magnified screen and then press the shutter button
  halfway down.

#### **Note**

- The edges of the screen may be unfocused.
- The exposure and white balance cannot be adjusted while the displayed image is being magnified.
- [ AF in Focus Mag.] is unavailable in the following situations:
  - In [Sweep Panorama] mode
  - During movie shooting
  - When [Focus Mode] is set to [Continuous AF].
  - When [Focus Mode] is set to [Automatic AF] and the shooting mode is set to other than P/A/S/M.
  - When [Focus Mode] is set to [Automatic AF] and [Drive Mode] is set to [Cont. Shooting].
  - When using a Mount Adaptor (sold separately).

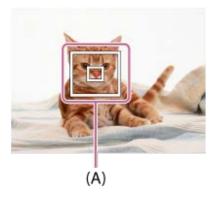
- While the displayed image is being magnified, the following functions are unavailable:
  - [Eye AF]
  - [Center Lock-on AF]
  - [ Eye-Start AF]
  - [**⋈** Pre-AF]
  - [Smile/Face Detect.]
  - [ Auto Obj. Framing]

[39] Shooting | Auto focus

# **Center Lock-on AF**

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

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



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

### Hint

• You can select the subject to be tracked by touch operation when shooting using the monitor. Set [Touch Operation] to other than [Off].

- The [Center Lock-on AF] function 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:
  - [Sweep Panorama]
  - When [Scene Selection] is set to [Hand-held Twilight] or [Anti Motion Blur].
  - When shooting in Manual Focus mode.
  - When using the digital zoom
  - When [ Record Setting] is set to [120p]/[100p].

[40] Shooting | Auto focus

# Pre-AF (still image)

The product automatically adjusts focus before you press the shutter button halfway down.



 $\textbf{MENU} \rightarrow \ \ \, \textbf{1} \ \, (\textbf{Camera Settings1}) \rightarrow \ \ \, \textbf{[} \ \ \, \textbf{Pre-AF]} \rightarrow \textbf{desired setting.}$ 

### Menu item details

On:

Adjusts focus before you press the shutter button halfway down.

Off-

Does not adjust focus before you press the shutter button halfway down.

### **Note**

[Moreover Pre-AF] is available only when an E-mount lens is mounted.

[41] Shooting | Auto focus

# **Eye-Start AF (still image)**

Sets whether or not to use autofocus when you look through an Electronic Viewfinder.



 $MENU \rightarrow$ 

(Camera Settings1) → [

Eye-Start AF] → desired setting.



### Menu item details

On:

Auto focusing starts when you look through the Electronic Viewfinder.

Off:

Auto focusing does not start when you look through the Electronic Viewfinder.

#### Hint

• [ Eye-Start AF] is available when an A-mount lens and a Mount Adaptor (LA-EA2, LA-EA4) (sold separately) are attached.

[42] Shooting | Auto focus

# **Priority Set in AF-S**

Sets whether to release the shutter even if the subject is not in focus when [Focus Mode] is set to [Single-shot AF], [DMF] or [Automatic AF] and the subject is remaining still.



 $\textbf{MENU} \rightarrow \textbf{ 1}(\textbf{Camera Settings1}) \rightarrow \textbf{[Priority Set in AF-S]} \rightarrow \textbf{desired setting.}$ 

### Menu item details

AF:

Prioritizes focusing. The shutter will not be released until the subject is in focus.

Release:

Prioritizes the shutter's release. The shutter will be released even if the subject is out of focus.

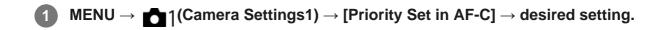
### **Balanced Emphasis:**

Shoots with a balanced emphasis on both focusing and shutter release.

[43] Shooting | Auto focus

# **Priority Set in AF-C**

Sets whether to release the shutter even if the subject is not in focus when the continuous AF is activated and the subject is in motion.



### Menu item details

AF:

Prioritizes focusing. The shutter will not be released until the subject is in focus.

Release:

Prioritizes the shutter's release. The shutter will be released even if the subject is out of focus.

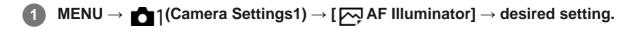
### **Balanced Emphasis:**

Shoots with a balanced emphasis on both focusing and shutter release.

[44] Shooting | Auto focus

# **AF Illuminator (still image)**

The AF illuminator supplies fill light to focus more easily on a subject in dark surroundings. In the time between pressing the shutter button halfway down and locking the focus, the red AF illuminator lights up to allow the camera to focus easily.



### Menu item details

### Auto:

The AF illuminator lights up automatically in dark surroundings.

Off:

Does not use the AF illuminator.

- You cannot use [ AF Illuminator] in the following situations:
  - In movie mode
  - Sweep Panorama
  - When [ Focus Mode] is set to [Continuous AF] or [Automatic AF] and the subject is moving (when the focus indicator ( ) lights up).
  - When [Focus Magnifier] is activated.
  - When [Scene Selection] is set to the following modes:
    - [Landscape]
    - [Sports Action]
    - [Night Scene]
  - When a Mount Adaptor is attached.
- 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.

[45] Shooting | Auto focus

### **AF Area Auto Clear**

Sets whether the focus area should be displayed all the time or should disappear automatically shortly after focus is achieved.



MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [AF Area Auto Clear]  $\rightarrow$  desired setting.

### Menu item details

On:

The focus area disappears automatically shortly after focus is achieved.

Off:

The focus area is displayed all the time.

[46] Shooting | Auto focus

# Disp. cont. AF area

You can set whether or not to display the area that is in focus when [Focus Area] is set to [Wide] or [Zone], in [Continuous AF] mode.



MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Disp. cont. AF area]  $\rightarrow$  desired setting.

### Menu item details

On:

Displays the focus area that is in focus.

Off:

Does not display the focus area that is in focus.

- When [Focus Area] is set to one of the following, the frames in the area that is in focus turn green:
  - [Center]
  - [Flexible Spot]
  - [Expand Flexible Spot]

When an A-mount lens and a Mount Adaptor (LA-EA1/LA-EA3) (sold separately) are mounted on the camera and [ AF System] is set to [Phase Detection AF], [Disp. cont. AF area] is always turned on regardless of the [Focus Area] settings.

[47] Shooting | Auto focus

# AF Micro Adj.

Allows you to adjust and register an autofocused position for each lens, when using an A-mount lens with the Mount Adaptor LA-EA2 or LA-EA4 (sold separately).

In general use, you do not need to adjust the autofocused position using this function. Use this function only when adjustments are needed for certain focal lengths. Note that the auto focus function may not be performed at a proper position when using this adjustment.

- **1** MENU  $\rightarrow$  **1** (Camera Settings1)  $\rightarrow$  select [AF Micro Adj.].
- Select [AF Adjustment Set.]  $\rightarrow$  [On].
- [amount] → desired value.
  - The larger the value you select, the farther the autofocused position will be from the product. The smaller the value you select, the closer the autofocused position will be to the product.

### Hint

 It is recommended that you adjust the position under actual shooting conditions. Set [Focus Area] to [Flexible Spot] and use a bright subject with high contrast when you adjust.

- When you attach a lens for which you have already registered a value, the registered value appears on the screen. [±0] appears for lenses for which a value has not yet been registered.
- If [-] is displayed as the value, then a total of 30 lenses have been registered and no new lens can be
  registered. To register a new lens, attach a lens for which the registration can be erased, and set its
  value to [±0], or reset the values of all the lenses using [Clear].
- The [AF Micro Adj.] supports Sony, Minolta, or Konica-Minolta lenses. If you perform [AF Micro Adj.] with lenses other than the supported lenses, the registered settings for the supported lenses may be affected. Do not perform [AF Micro Adj.] with an unsupported lens.

 You cannot set [AF Micro Adj.] individually for a Sony, Minolta, and Konica-Minolta lens of the same specification.

[48] Shooting | Auto focus

# AF System (still image)

Sets the focus detection system (Phase Detection AF/Contrast AF) when you attach an Amount lens using an LA-EA1/LA-EA3 Mount Adaptor (sold separately).



### Menu item details

### **Phase Detection AF:**

Focuses with Phase Detection AF. The focusing speed is very fast.

### **Contrast AF:**

Always focuses with Contrast AF. The focusing speed is slower. Use when you cannot focus with [Phase Detection AF].

#### **Note**

- When [ AF System] is set to [Contrast AF], AF-C (Continuous AF) under [Focus Mode] is unavailable.
- The following functions are unavailable when [ AF System] is set to [Phase Detection AF]:
  - [Zone], [Expand Flexible Spot], and [Lock-on AF] in [Focus Area]
  - [Eye AF]
- When [ AF System] is set to [Phase Detection AF], even if [Priority Set in AF-S] is set to [Balanced Emphasis], the camera will temporarily switch to [AF].

[49] Shooting | Manual focus

## **Manual Focus**

When it is difficult to focus properly in the autofocus mode, you can adjust the focus manually.



 $MENU \rightarrow 1$  (Camera Settings1)  $\rightarrow$  [Focus Mode]  $\rightarrow$  [Manual Focus].

Rotate the focusing ring to achieve sharp focus.



- When you rotate the focusing ring, the focus distance is displayed on the screen.
   The focus distance may not be displayed when the Mount Adaptor (sold separately) is attached.
- 3 Press the shutter button fully down to shoot an image.

#### **Note**

• When you use the viewfinder, adjust the diopter level to obtain the correct focus on the viewfinder.

[50] Shooting | Manual focus

# **Direct manual focus (DMF)**

You can make fine adjustments manually after performing auto focusing, letting you focus on a subject more quickly than when using the manual focus from the beginning. This is convenient in situations such as macro shooting.

- 1 MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Focus Mode]  $\rightarrow$  [DMF].
- Press the shutter button halfway down to focus automatically.
- 3 Keep the shutter button pressed halfway down, and then rotate the focusing ring to achieve a sharper focus.



- When you rotate the focusing ring, the focus distance is displayed on the screen.
   The focus distance may not be displayed when the Mount Adaptor (sold separately) is attached.
- Press the shutter button fully down to shoot an image.

[51] Shooting | Manual focus

# **Focus Magnifier**

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

Unlike with [MF Assist], you can magnify the image without operating the focus ring.

- **1** MENU  $\rightarrow$  **1** (Camera Settings1)  $\rightarrow$  [Focus Magnifier].
- Press the center of the control wheel to enlarge the image and select the position you want to enlarge using top/bottom/left/right side of the control wheel.
  - Each time you press the center, the magnification scale will change.
- 3 Confirm the focus.
  - When the focus mode is [Manual Focus], you can adjust the focus while an image is magnified. The [Focus Magnifier] function will be canceled when the shutter button is pressed halfway.
  - When the shutter button is pressed halfway down while an image is magnified during the auto-focusing, different functions are performed depending on the [ AF in Focus Mag.] setting.
    - When [ AF in Focus Mag.] is set to [On]: Auto-focusing is performed again.

- When [ AF in Focus Mag.] is set to [Off]: The [Focus Magnifier] function is canceled.
- 4 Press the shutter button fully down to shoot the image.

### To use the focus magnifier function by touch operation

You can adjust the focus on the magnified image touching the monitor. Set [Touch Operation] to other than [Off] beforehand. When the focus mode is [Manual Focus], you can perform [Focus Magnifier] by double-tapping the area to focus on while shooting with the monitor. While shooting with the viewfinder, a frame is displayed in the center of the monitor by double-tapping and you can move the frame by dragging it. The image is magnified by pressing the center of the control wheel.

### Hint

- While using the focus magnifier function, you can move the magnified area by dragging it on the touch panel.
- To end the focus magnifier function, double-tap again. When [AF in Focus Mag.] is set to [Off], the focus magnifier function is ended by pressing the shutter button halfway down.

[52] Shooting | Manual 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  $\rightarrow$  **1** (Camera Settings1)  $\rightarrow$  [  $\longrightarrow$  MF Assist]  $\rightarrow$  [On].
- Turn the focus 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. Use the [Focus Magnifier] function instead.
- [ MF Assist] is not available when a Mount Adaptor is attached. Use the [Focus Magnifier] function instead.

#### Hint

You can set how long the image is to be shown magnified by selecting MENU → 1(Camera Settings1) → [Focus Magnif. Time].

[53] Shooting | Manual focus

# **Focus Magnif. Time**

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



 $\textbf{MENU} \rightarrow \ \ \, \textbf{1} \ \, \textbf{(Camera Settings1)} \rightarrow \textbf{[Focus Magnif. Time]} \rightarrow \textbf{desired setting.}$ 

### 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.

[54] Shooting | Manual focus

# **Peaking Level**

Enhances the outline of in-focus ranges using a specific color in Manual Focus or Direct Manual Focus shooting.





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 recognizes sharp areas as in focus, the effect of peaking differs, depending on the subject and lens.
- The outline of in-focus ranges is not enhanced when the product is connected using an HDMI cable.

[55] Shooting | Manual focus

# **Peaking Color**

Sets the color used for the peaking function in Manual Focus or Direct Manual Focus shooting.



 $\textbf{MENU} \rightarrow \textbf{ } \textbf{1} (\textbf{Camera Settings1}) \rightarrow \textbf{[Peaking Color]} \rightarrow \textbf{desired setting}.$ 

### Menu item details

Red:

Enhances outlines in red.

Yellow:

Enhances outlines in yellow.

White:

Enhances outlines in white.

[56] Shooting | Selecting a drive mode (Continuous shooting/Self-timer)

### **Drive Mode**

Select the appropriate mode for the subject, such as single shooting, continuous shooting or bracketing shooting.
1 Select ♂/☐ (Drive Mode) on the control wheel → desired setting.
<ul> <li>You can also set the drive mode by selecting MENU →</li></ul>
Menu item details
Single Shooting:
Normal shooting mode.
Cont. Shooting:
Shoots images continuously 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.
Shoots a designated number of images using the self-timer after a designated number of
seconds have elapsed since the shutter button was pressed.
BRIC Cont. Bracket:
Shoots images while holding the shutter button down, each with different degrees of brightness.
BRKS Single Bracket:
Shoots a specified number of images, one by one, each with a different degree 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.
BRK DRO DRO Bracket:
Shoots a total of three images, each at a different degree of D-Range Optimizer.
Note
<ul> <li>When the shooting mode is set to [Scene Selection] and [Sports Action] is selected, [Single Shooting] cannot be performed.</li> </ul>
[57] Shooting   Selecting a drive mode (Continuous shooting/Self-timer)

[57] Shooting | Selecting a drive mode (Continuous shooting/Self-timer)

# **Cont. Shooting**

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

You can also set the continuous shooting by selecting MENU→ 1 (Camera Settings1) → [Drive Mode].

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

### Menu item details

### Continuous Shooting: Hi+:

Images are shot continuously at the maximum speed while you press and hold down the shutter button.

□<sub>Hi</sub> Continuous Shooting: Hi / □<sub>IMD</sub> Continuous Shooting: Mid/ □<sub>ILo</sub> Continuous Shooting: Lo:

Subjects are easier to track because the subject is displayed in real-time on the monitor or viewfinder during shooting.

### Hint

- To continuously adjust the focus and exposure during continuous shooting, set as follows:
  - [Focus Mode]: [Continuous AF]
  - [ AEL w/ shutter]: [Off] or [Auto]

#### **Note**

- The shooting speed during continuous shooting becomes slower when [e-Front Curtain Shut.] is set to [Off] in [Continuous Shooting: Hi], [Continuous Shooting: Mid] or [Continuous Shooting: Lo] mode.
- The subject is not displayed in real-time on the monitor or viewfinder when shooting in [Continuous Shooting: Hi+] mode.
- Continuous shooting is unavailable in the following situations:
  - The shooting mode is set to [Sweep Panorama].
  - The shooting mode is set to [Scene Selection] and a scene other than [Sports Action] is selected.
  - [Picture Effect] is set to one of the following: [Soft Focus] [HDR Painting] [Rich-tone Mono.][Miniature] [Watercolor] [Illustration]
  - [DRO/Auto HDR] is set to [Auto HDR].
  - [ISO] is set to [Multi Frame NR].
  - [Smile Shutter] is being used.

[58] Shooting | 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. Use the 5-second/10-second self-timer when you are going to be in the picture, and use the 2-second self-timer to reduce camera-shake caused by pressing the shutter button.

- Press ♦ / □ (Drive Mode) of the control wheel → [Self-timer].
  - You can also set the drive mode by selecting MENU→ 1 (Camera Settings1) → [Drive Mode].
- 2 Select the desired mode using the right/left side of the control wheel.
- 3 Adjust the focus and shoot the image.

The self-timer lamp flashes, a beep sounds, and a picture is taken after the designated number of seconds have elapsed.

### Menu item details

Sets the number of seconds in which the picture is taken after the shutter button is pressed.

ბე Self-timer: 10 Sec ბე Self-timer: 5 Sec ბე Self-timer: 2 Sec

### Hint

- Press the shutter button again or press \( \forall / \subsection \) on the control wheel to stop the count of the self-timer.
- Press ♦/ ☐ on the control wheel and select ☐ (Single Shooting) to cancel the self-timer.
- Set [Audio signals] to [Off] to mute the beep sound during self-timer counting.
- To use the self-timer in bracket mode, select bracket mode under drive mode, then select MENU →
   1 (Camera Settings1) → [Bracket Settings] → [Selftimer during Brkt].

- The self-timer is unavailable in the following situations:
  - The shooting mode is set to [Sweep Panorama].
  - [Sports Action] under [Scene Selection]
  - [Smile Shutter]

[59] Shooting | Selecting a drive mode (Continuous shooting/Self-timer)

# Self-timer(Cont)

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

- - You can also set the drive mode by selecting MENU→ 1 (Camera Settings1) → [Drive Mode].
- Select the desired mode using the right/left side of the control wheel.
- Adjust the focus and shoot the image.

The self-timer lamp flashes, a beep sounds, and a picture is taken after the designated number of seconds have elapsed. The designated number of pictures are taken continuously.

### Menu item details

For example, three images are shot when 10 seconds have elapsed after the shutter button is pressed when [Self-timer(Cont.): 10 Sec. 3 Img.] is selected.

```
\mathfrak{S}_{10s}^{G} Self-timer(Cont.): 10 Sec. 3 Img.
```

 $^{\text{C5}}_{\text{10s}}$  Self-timer(Cont.): 10 Sec. 5 Img.

ర్రక్తి Self-timer(Cont.): 5 Sec. 3 Img.

ర్రక్త్ Self-timer(Cont.): 5 Sec. 5 Img.

 $\mathfrak{S}_{2s}^{G}$  Self-timer(Cont.): 2 Sec. 3 Img.

ర్మ్హ్ Self-timer(Cont.): 2 Sec. 5 lmg.

#### Hint

- Press the shutter button again or press \( \forall / \subsection \) on the control wheel to stop the count of the self-timer.
- Press ♦/ ☐ on the control wheel and select ☐ (Single Shooting) to cancel the self-timer.

### Cont. Bracket

Shoots multiple images while automatically shifting the exposure from base to darker and then to lighter. You can select an image that suits your purpose after recording.

- - You can also set the drive mode by selecting MENU→ 1 (Camera Settings1) → [Drive Mode].
- 2 Select the desired mode using the right/left side of the control wheel.
- 3 Adjust the focus and shoot the image.
  - The base exposure is set at the first shot.
  - Keep pressing and holding the shutter button until bracket shooting is finished.

### Menu item details

For example, the camera shoots a total of three images continuously with an exposure value shifted by plus or minus 0.3 EV when [Cont. Bracket: 0.3EV 3 Image] is selected.

- 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:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
  - [Sweep Panorama]
- When the flash is used, the product performs flash bracket shooting, which shifts the amount of flash light even if [Cont. Bracket] is selected. Press the shutter button for each image.

[61] Shooting | Selecting a drive mode (Continuous shooting/Self-timer)

# **Single Bracket**

Shoots multiple images while automatically shifting the exposure from base to darker and then to lighter. You can select the image that suits your purpose after recording. If pictures are taken one by one by pressing the shutter button each time, you can adjust the focus or the composition for each shot.

- - You can also set the drive mode by selecting MENU → 1 (Camera Settings1) → [Drive Mode].
- Select the desired mode using the right/left side of the control wheel.
- Adjust the focus and shoot the image.
  - Press the shutter button for each image.

#### Menu item details

For example, the camera shoots a total of three images in a row with an exposure value shifted by plus or minus 0.3 EV when [Single Bracket: 0.3EV 3 Image] is selected.

#### **Note**

- 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:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
  - [Sweep Panorama]

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# Indicator during bracket shooting

### Viewfinder

Ambient light\* bracketing 3 images shifted by 0.3 EV steps Exposure compensation ±0.0 EV



### Monitor (Display All Info. or Histogram)

Ambient light\* bracketing 3 images shifted by 0.3 EV steps Exposure compensation ±0.0 EV



Flash bracketing 3 images shifted by 0.7 EV steps Flash compensation -1.0 EV

### Monitor (For viewfinder)

Ambient light\* bracketing (upper indicator) 3 images shifted by 0.3 EV steps Exposure compensation ±0.0 EV

Flash bracketing (lower indicator) 3 images shifted by 0.7 EV steps Flash compensation -1.0 EV

\* Ambient light: A generic term for non-flash light including natural light, electric bulb and fluorescent lighting.

Whereas the flash light blinks for a moment, ambient light is constant, so this kind of light is called "ambient light."

- During bracket shooting, guides equal to the number of images to be shot are displayed over/under the bracket indicator.
- When you start single bracket shooting, the guides will disappear one by one as the camera records images.

[63] Shooting | Selecting a drive mode (Continuous shooting/Self-timer)

### **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.

- - You can also set the drive mode by selecting MENU→ 1 (Camera Settings1) → [Drive Mode].
- 2 Select the desired mode using the right/left side of the control wheel.
- 3 Adjust the focus and shoot the image.

### Menu item details

### WB White Balance Bracket: Lo:

Records a series of three images with small changes in the white balance (within the range of 10MK<sup>-1\*</sup>).

# **WB White Balance Bracket: Hi:**

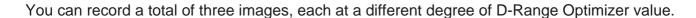
Records a series of three images with large changes in the white balance (within the range of 20MK<sup>-1\*</sup>).

\* MK<sup>-1</sup> is the unit that indicates the capability of color temperature conversion filters and indicates the same value as "mired."

### **Note**

The last shot is shown on the auto review.

### **DRO Bracket**



- - You can also set the drive mode by selecting MENU→ 1 (Camera Settings1) → [Drive Mode].
- 2 Select the desired mode using the right/left side of the control wheel.
- 3 Adjust the focus and shoot the image.

### Menu item details

## BRO Bracket: Lo:

Records a series of three images with small changes in the D-Range Optimizer value (Lv 1, Lv 2, and Lv 3).

### DRO Bracket: Hi:

Records a series of three images with large changes in the D-Range Optimizer value (Lv 1, Lv 3, and Lv 5).

#### Note

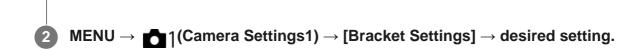
The last shot is shown on the auto review.

[65] Shooting | Selecting a drive mode (Continuous shooting/Self-timer)

# **Bracket Settings**

You can set the self-timer in bracket shooting mode, and the shooting order for exposure bracketing and white balance bracketing.

- - You can also set the drive mode by selecting MENU → 1 (Camera Settings1) → [Drive Mode].



### Menu item details

### **Selftimer during Brkt:**

Sets whether to use the self-timer during bracket shooting. Also sets the number of seconds until the shutter is released if using the self-timer.

(OFF/2 Sec/5 Sec/10 Sec)

### **Bracket order:**

Sets the order of exposure bracketing and white balance bracketing.

$$(0 \rightarrow - \rightarrow +/- \rightarrow 0 \rightarrow +)$$

[66] Shooting | Using touch functions

# **Touch Operation**

Sets whether or not to activate touch operations on the monitor.

Touch operations when shooting with the monitor are referred to as "touch panel operations," and touch operations when shooting with the viewfinder are referred to as "touch pad operations."



 $MENU \rightarrow$  (Setup)  $\rightarrow$  [Touch Operation]  $\rightarrow$  desired setting.

### Menu item details

### Touch Panel+Pad:

Activates both the touch panel operations when shooting with the monitor and touch pad operations when shooting with the viewfinder.

### **Touch Panel Only:**

Activates only the touch panel operations when shooting with the monitor.

### **Touch Pad Only:**

Activates only the touch pad operations when shooting with the viewfinder.

#### Off:

Deactivates all touch operations.

#### **Note**

 Touch pad operations cannot be used with applications downloaded from PlayMemories Camera Apps. [67] Shooting | Using touch functions

### **Touch Focus**

You can select a subject on which to focus using touch operations in the still image and movie recording modes.

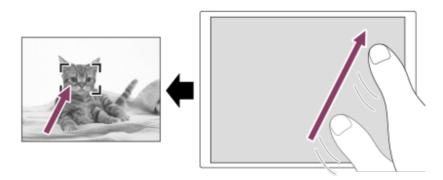


 $\textbf{MENU} \rightarrow \begin{tabular}{ll} \blacksquare \end{tabular} \textbf{(Setup)} \rightarrow \textbf{[Touch Operation]} \rightarrow \textbf{Desired setting other than [Off]}.$ 

### Specifying the position where you want to focus in the still image mode

You can focus on the desired position by touching the monitor.

- 1. Select a [Focus Area] other than [Flexible Spot].
- 2. MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Center Lock-on AF]  $\rightarrow$  [Off].
- 3. Touch the monitor.
  - When shooting with the monitor, touch the subject to focus.
  - When shooting with the viewfinder, you can move the position of the focus by touching and dragging on the monitor while looking through the viewfinder.



- When the shutter button is pressed halfway down, the camera focuses on the focusing frame. Press the shutter button all the way down to shoot images.
- To cancel focusing with touch operations, touch by or press the center of the control wheel if shooting with the monitor, and press the center of the control wheel if shooting with the viewfinder.

# Specifying the position where you want to focus in the movie recording mode (spot focus)

The camera will focus on the touched subject. Spot focus is not available when shooting with the viewfinder.

- 1. Select a [Focus Area] other than [Flexible Spot].
- 2. MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Center Lock-on AF]  $\rightarrow$  [Off].
- 3. Touch the subject on which you want to focus before or during recording.
  - When you touch the subject, the focus mode temporarily switches to manual focus and the focus can be adjusted using the focus ring.

To cancel spot focus, touch by or press the center of the control wheel.

#### Hint

- In addition to the touch focus function, touch operations such as the following are also available.
  - When [Focus Area] is set to [Flexible Spot] or [Expand Flexible Spot], the focusing frame can be moved using touch operations.
  - When the [Focus Mode] is set to [Manual Focus], the focus magnifier can be used by double-tapping the monitor.

These touch operations can also be used in applications downloaded from PlayMemories Camera Apps.

#### **Note**

- The touch focus function is not available in the following situations:
  - When the shooting mode is set to [Sweep Panorama].
  - When [Focus Mode] is set to [Manual Focus].
  - When using the digital zoom
  - When using the LA-EA2 or LA-EA4
  - When using the LA-EA1 or LA-EA3, and the shooting mode is set to Movie
- The touch focus function cannot be used with applications downloaded from PlayMemories Camera Apps.

[68] Shooting | Using touch functions

### **Touch Pad Area Set.**

Sets the area to be used for touch pad operations when shooting with the viewfinder. You can prevent unintentional operations caused by your nose, etc. touching the monitor.



 $MENU \rightarrow$  (Setup)  $\rightarrow$  [Touch Pad Area Set.]  $\rightarrow$  desired setting.

### Menu item details

#### Whole Screen:

Uses the entire monitor as the touch pad.

### Right 1/2 Area:

Uses only the right half of the monitor as the touch pad.

### Right 1/4 Area:

Uses only the right quarter of the monitor as the touch pad.

[69] Shooting | Using touch functions

# **Touch Pad (vertical)**

Sets whether or not to activate touch pad operations when shooting with the viewfinder in the vertical position. You can prevent unintentional operations caused by your nose, etc. touching the monitor.



 $\textbf{MENU} \rightarrow \clubsuit \textbf{ (Setup)} \rightarrow \textbf{[Touch Pad (vertical)]} \rightarrow \textbf{desired setting.}$ 

### Menu item details

On:

Activates touch pad operations.

Off:

Deactivates touch pad operations.

[70] Shooting | Selecting still image size/image quality

# 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.



 $\textbf{MENU} \rightarrow \textbf{m} \textbf{1} \text{ (Camera Settings1)} \rightarrow \textbf{[} \textbf{\colored Size]} \rightarrow \textbf{desired setting.}$ 

### Menu item details

When [MASpect Ratio] is set to [3:2]

L: 24M 6000×4000 pixels

M: 12M 4240×2832 pixels

S: 6.0M 3008×2000 pixels

When [ Aspect Ratio] is set to [16:9]

L: 20M 6000×3376 pixels

M: 10M 4240×2400 pixels

S: 5.1M 3008×1688 pixels

### **Note**

When [ Quality] is set to [RAW] or [RAW & JPEG], the image size for RAW images corresponds to "L." [71] Shooting | Selecting still image size/image quality

# **Aspect Ratio (still image)**



1 MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [ $\nearrow$  Aspect Ratio]  $\rightarrow$  desired setting.

### Menu item details

3:2:

Suitable for standard prints.

For viewing on a high-definition TV.

[72] Shooting | Selecting still image size/image quality

# **Quality (still image)**



**1** MENU  $\rightarrow$  **1** (Camera Settings1)  $\rightarrow$  [ $\nearrow$  Quality]  $\rightarrow$  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].

### Extra fine:

File format: JPEG

The image is compressed in the JPEG format and recorded using a higher quality than with [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 one 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.
- RAW images recorded with this camera have a resolution of 14 bits per pixel. However, resolution is limited to 12 bits in the following shooting modes:
  - [

     Long Exposure NR]
  - [BULB]
  - Continuous shooting (including continuous shooting in [Superior Auto] mode)
  - [ Silent Shooting]

#### 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.

[73] Shooting | 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

 $\textbf{MENU} \rightarrow \textbf{ } \textbf{1} \text{ (Camera Settings1)} \rightarrow \textbf{[Panorama: Size]} \rightarrow \textbf{desired setting.}$ 

### Menu item details

When [Panorama: Direction] is set to [Up] or [Down]

Standard: 3872×2160

Wide: 5536×2160

When [Panorama: Direction] is set to [Left] or [Right]

**Standard:** 8192×1856 **Wide:** 12416×1856

[74] Shooting | Selecting still image size/image quality

**Panorama: Direction** 

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



MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Panorama: Direction]  $\rightarrow$  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.

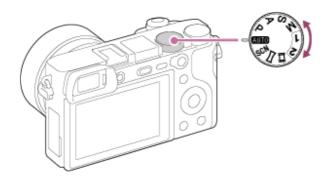
Down:

Pan the camera from the top to the bottom.

[75] Shooting | Selecting a shooting mode

# List of mode dial function

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



### **Available functions**

### **AUTO** (Auto Mode):

Allows you to shoot still images of any subject under any condition with good results by setting the values determined appropriate by the product.

### 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)).

### 1/2(Memory recall):

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

### | (Movie/S&Q Motion):

Allows you to change the exposure mode for movie recording and slow-motion/quick-motion 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.

[76] Shooting | Selecting a shooting mode

# **Intelligent Auto**

The camera shoots with automatic scene recognition.



Turn the mode dial to AUTO (Auto Mode).

- **2** MENU→ 1 (Camera Settings1)→[Auto Mode]→[Intelligent Auto].
- Point the camera at the subject.
  When the camera recognized the scene, the icon for the recognized scene appears on the



screen.

4 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.

[77] 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 AUTO (Auto Mode).
- **2** MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Auto Mode]  $\rightarrow$  [Superior Auto].

3 Point the camera to the subject.

When the camera recognizes a scene, scene recognition icon appears on the screen. If necessary, appropriate shooting function for the recognized scene and the number of times the shutter is released also appear.



4 Adjust the focus and shoot the image.

When the camera shoots multiple images, it automatically chooses and saves the appropriate image. You can also save all the images by setting the [S. Auto Img. Extract.].

### **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.

[78] Shooting | Selecting a shooting mode

# S. Auto Img. Extract.

Sets whether or not to save all the images that were shot continuously in [Superior Auto].

**1** MENU  $\rightarrow$  **1** (Camera Settings1)  $\rightarrow$  [S. Auto Img. Extract.]  $\rightarrow$  desired setting.

### Menu item details

Auto:

Saves one appropriate image selected by the product.

#### Off:

Saves all of the images.

#### **Note**

- Even if you set [S. Auto Img. Extract.] to [Off] with [Hand-held Twilight] selected as the scene recognition mode, one combined image is saved.
- When the Auto Framing function is activated, two images are saved even if you set [S. Auto Img. Extract.] to [Auto].
- When [ Quality] is set to [RAW] or [RAW & JPEG], the shooting function will be limited.

[79] Shooting | Selecting a shooting mode

# Switching the auto mode (Auto Mode)

Switch the auto mode between [Intelligent Auto] and [Superior Auto].



**MENU**  $\rightarrow$  **1**(Camera Settings1)  $\rightarrow$  [Auto Mode]  $\rightarrow$  desired setting.

### Menu item details

# intelligent Auto:

Shoots using automatic scene recognition.

# i + Superior Auto:

Shoots automatically while reducing blurring and noise.

[80] 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)
- Am (Backlight Portrait)
- Landscape)
- Macro)
- (Spotlight)
- (Low Light)
- Night Scene using a tripod)
- → → (Hand-held Twilight)

### Image processing

[Cont. Shooting]/[Slow Sync.]/[Auto HDR]/[Daylight Sync.]/[Slow Shutter]/[Hand-held Twilight]

#### **Note**

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

[81] Shooting | Selecting a shooting mode

# The advantages of automatic shooting

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

#### Note

• In [Superior Auto] mode, the recording process takes longer, since the product creates a composite

image. In this case, 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.

[82] 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.
- Adjust the focus and shoot the subject.

### **Program Shift**

When you are not using a flash, you can change the shutter speed and aperture (F-value) combination without changing the appropriate exposure set by the camera.

Turn the control dial to select the aperture value and shutter speed combination with the shutter button pressed halfway down, to adjust exposure.

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

- 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.

[83] Shooting | Selecting a shooting mode

# **Aperture Priority**

You can shoot by adjusting the aperture and changing the range in focus, or by defocusing the background.

- 1 Set the mode dial to A (Aperture Priority).
- 2 Select the desired value by turning the control dial.
  - 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.
  - If the aperture value you have set is not suitable for appropriate exposure, the shutter speed on the shooting screen will blink. If this happens, change the aperture value.
- 3 Adjust the focus and shoot the subject.

The shutter speed is automatically adjusted to obtain proper exposure.

#### **Note**

The brightness of the image on the screen may differ from the actual image being shot.

[84] Shooting | Selecting a shooting mode

# **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.

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

- 2 Select the desired value by turning the control dial.
  - If proper exposure cannot be obtained after setup, the aperture value on the shooting screen blinks. If this happens, change the shutter speed.
- 3 Adjust the focus and shoot the subject.

The aperture is automatically adjusted to obtain proper exposure.

#### Hint

- Use a tripod to prevent blurring when you use a slow shutter speed.
- When you shoot indoor sports scenes, set the ISO sensitivity to a higher value.

#### **Note**

- The SteadyShot warning indicator does not appear in shutter speed priority mode.
- When [ Long Exposure NR] is set to [On] and the shutter speed is 1 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 screen may differ from the actual image being shot.

[85] Shooting | Selecting a shooting mode

# **Manual Exposure**

You can shoot with the desired exposure setting by adjusting both the shutter speed and aperture.

- 1 Set the mode dial to M (Manual Exposure).
- 2 Select the desired shutter speed by turning the control wheel. Select the desired aperture value by turning the control dial.
  - You can switch the functions of the control dial and the control wheel using MENU →
     (Camera Settings2) → [Dial/Wheel Setup].
  - You can also set [ISO] to [ISO AUTO] in manual exposure mode. The ISO value automatically changes to achieve the appropriate exposure using the aperture value

- and shutter speed you have set.
- When [ISO] is set to [ISO AUTO], the ISO value indicator will blink if the ISO value you
  have set is not suitable for appropriate exposure. If this happens, change the shutter
  speed or aperture 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.
- \* Indicates under/over for appropriate exposure. It is displayed using a numerical value on the monitor and with a metering indicator on the viewfinder.
- 3 Adjust the focus and shoot the subject.

#### Hint

 By setting the AF/MF/AEL switch lever to AEL and rotating the control dial while pressing the AEL button, you can change the shutter speed and aperture (F-value) combination without changing the set exposure value. (Manual shift)

#### **Note**

- 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 screen may differ from the actual image being shot.

[86] Shooting | Selecting a shooting mode

# **Bulb shooting**

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

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

2 Turn the control wheel counterclockwise until [BULB] is indicated.

- Set the aperture value (F-value) by turning the control dial.
- Press the shutter button halfway down to focus.
- 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

- When shooting fireworks, etc., focus at infinity in manual focus mode. If you use a lens whose infinity point is unclear, adjust the focus on the fireworks in the area you want to focus on in advance.
- In order to perform bulb shooting without causing the image quality to deteriorate, we recommend that you start shooting while the camera is cool.
- Images shot in [BULB] mode tend to be blurry. We recommend that you use a tripod or a remote commander (sold separately) that has a shutter button lock function. Use a remote commander supporting connection via multi/micro USB jack.

#### **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:
  - [Smile Shutter]
  - [Auto HDR]
  - [Picture Effect] is set to [HDR Painting] or [Rich-tone Mono.].
  - [Multi Frame NR]
  - When [Drive Mode] is set to the following:
    - [Cont. Shooting]
    - [Self-timer(Cont)]
    - [Cont. Bracket]
  - [ Silent Shooting]

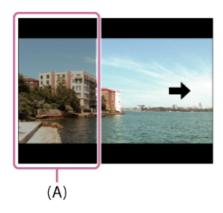
If you use the above functions when the shutter speed is set to [BULB], the shutter speed is temporarily set to 30 seconds.

# **Sweep Panorama**

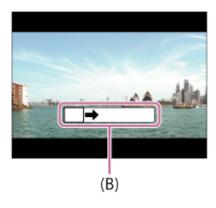
Allows you to create a single panoramic image from multiple images shot while panning the camera.



- 1 Set the mode dial to (Sweep Panorama).
- Point the camera at the subject.
- While pressing the shutter button halfway down, aim the camera at one end of the desired panoramic composition.
  - You can change the shooting direction prior to shooting using the control dial.



- (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) 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.
- Continuous shooting is performed during shooting Sweep Panorama and the shutter sound keeps beeping until shooting is finished.
- The following functions are not available with Sweep Panorama:
  - Smile/Face Detect.
  - Auto Obj. Framing
  - DRO/Auto HDR
  - Picture Effect
  - Picture Profile
  - Soft Skin Effect

- Long Exposure NR
- ┌── High ISO NR
- Lock-on AF
- Other zoom functions than the optical zoom
- Drive Mode
- Bright Monitoring
- The values of the settings for some functions are fixed with Sweep Panorama, as follows:
  - [ISO] is fixed to [ISO AUTO].
  - [Focus Area] is fixed to [Wide].
  - [Flash Mode] is fixed to [Flash Off].

[88] Shooting | Selecting a shooting mode

# **Scene Selection**

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

Set the mode dial to SCN (Scene Selection).

Turn the control dial to select the desired setting.

#### 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.

The flash does not pop up automatically. Pop up the flash manually before shooting.



# ((🏝)) 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.



#### 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]
- 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 dial on the shooting screen and select a new scene.

[89] Shooting | Selecting a shooting mode

# Recall (Camera Settings1/Camera Settings2)

Allows you to shoot an image after recalling often-used modes or camera settings registered with [ 1/ 2 Memory] in advance.



Set the mode dial to 1, 2 (Memory recall).

- Press the center of the control wheel to confirm.
  - You can also recall registered modes or settings by selecting MENU → 1 (Camera Settings1) → [ 1/ 2 Recall].

#### Hint

- To recall settings registered to the memory card, set the mode dial to 1 or 2, then select the desired number by pressing the left/right side of the control wheel.
- Settings registered to a memory card using another camera of the same model name can be recalled with this camera.

#### **Note**

If you set [ 1/12] 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.

[90] Shooting | Selecting a shooting mode

# Movie/S&Q Motion

You can select the exposure mode for movie shooting or slow-motion/quick-motion shooting. You can change the setting and playback speed for slow-motion/quick-motion shooting with [ S&Q Settings].

- 1 Turn the mode dial to [1] (Movie/S&Q Motion).
- **2** MENU → **2** (Camera Settings2) → [Movie/S&Q Motion] → desired setting.
- 3 Press the MOVIE (movie) button to start recording.
  - Press the MOVIE (movie) button again to stop recording.

#### Menu item details

Program Auto / ROP Program Auto:

Allows you to shoot with the exposure adjusted automatically (both the shutter speed and the

aperture value).
Aperture Priority / Seo A Aperture Priority:
Allows you to shoot after adjusting the aperture value manually.
Shutter Priority / Stos Shutter Priority:
Allows you to shoot after adjusting the shutter speed manually.
⊞ <sub>M</sub> Manual Exposure / ⋒ <sub>M</sub> Manual Exposure:

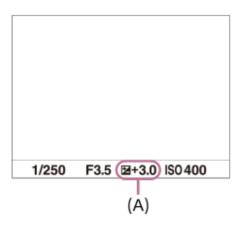
Allows you to shoot after adjusting the exposure (both the shutter speed and the aperture value) manually.

[91] Shooting | Adjusting the exposure modes/metering modes

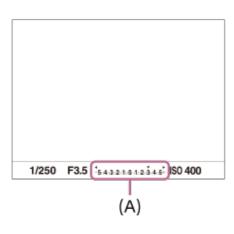
# **Exposure Comp.**

Normally, exposure is set automatically (auto exposure). 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).

- (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.
  - You can also select MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Exposure Comp.].
  - You can adjust the exposure in a range of -5.0 EV to + 5.0 EV.
  - You can check the exposure value you set on the shooting screen (A).
     Monitor



Viewfinder



#### **Note**

- You cannot perform the exposure compensation in the following shooting modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
- When using [Manual Exposure], you can perform the exposure compensation only when [ISO] is set to [ISO AUTO].
- Only a value between -3.0 EV and + 3.0 EV with the equivalent image brightness appears on the screen when shooting. If you set an exposure beyond this range, the image brightness on the screen does not show the effect, but it will be reflected in the recorded image.
- 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.

[92] Shooting | Adjusting the exposure modes/metering modes

# **Dial/Wheel Ev Comp**

You can adjust the exposure compensation using the control dial or the control wheel.



 $\textbf{MENU} \rightarrow \textbf{max} \ \ \, \textbf{(Camera Settings2)} \rightarrow \textbf{[Dial/Wheel Ev Comp]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

#### Off:

Does not assign the exposure compensation function to the control dial or control wheel.

### Wheel:

Assigns the exposure compensation function to the control wheel.



Assigns the exposure compensation function to the control dial.

#### **Note**

- If you assign the exposure compensation function to the control dial, the function that was originally assigned can be managed using the control wheel, and vice versa.
- When the shooting mode is set to [Manual Exposure] and ISO is set to [ISO AUTO], [Dial/Wheel Ev Comp] is disabled.

[93] Shooting | Adjusting the exposure modes/metering modes

# **Exposure Set. Guide**

You can set whether to display a guide when you change the exposure.



MENU  $\rightarrow$  (Camera Settings2)  $\rightarrow$  [Exposure Set. Guide]  $\rightarrow$  desired setting.

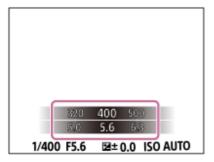
#### Menu item details

Off:

Does not display the guide.

On:

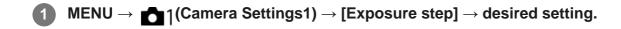
Displays the guide.



[94] Shooting | Adjusting the exposure modes/metering modes

# **Exposure step**

You can set the setting range for the shutter speed, aperture, and exposure compensation values.



# Menu item details 0.3EV/0.5EV

[95] Shooting | Adjusting the exposure modes/metering modes

# **Metering Mode**

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

**1** MENU  $\rightarrow$  **1** (Camera Settings1)  $\rightarrow$  [Metering Mode]  $\rightarrow$  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 mode is suitable for measuring light on a specified part of the entire screen. The size of the metering circle can be selected from [Spot: Standard] and [Spot: Large]. The position of the metering circle depends the setting for [Spot Metering Point].

# Entire Screen Avg.:

Measures the average brightness of the entire screen. The exposure will be stable even if the composition or the position of the subject changes.

# Highlight:

Measures the brightness while emphasizing the highlighted area on the screen. This mode is suitable for shooting the subject while avoiding overexposure.

#### Hint

- When [Spot] is selected and [Focus Area] is set to either [Flexible Spot] or [Expand Flexible Spot]
  while [Spot Metering Point] is set to [Focus Point Link], the spot metering point can be coordinated
  with the focus area.
- When [Metering Mode] is set to [Highlight] and the [D-Range Opt.] or [Auto HDR] function is
  activated, the brightness and the contrast will be corrected automatically by dividing the image into
  small areas and analyzing the contrast of light and shadow. Make settings based on the shooting

circumstances.

#### **Note**

- [Metering Mode] is locked to [Multi] in the following shooting modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
  - Other zoom functions than the optical zoom
- In [Highlight] mode, the subject may be dark if a brighter part exists on the screen.

[96] Shooting | Adjusting the exposure modes/metering modes

# **Spot Metering Point**

Sets whether to coordinate the spot metering position with the focus area when [Focus Area] is set to [Flexible Spot] or [Expand Flexible Spot].



#### Menu item details

#### Center:

The spot metering position does not coordinate with the focus area, but always meters brightness at the center.

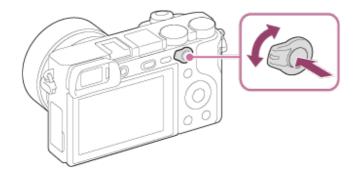
### **Focus Point Link:**

The spot metering position coordinates with the focus area.

- When [Focus Area] is set to other than [Flexible Spot] or [Expand Flexible Spot], the spot metering position is locked to the center.
- When [Focus Area] is set to [Lock-on AF: Flexible Spot] or [Lock-on AF:Expand Flexible Spot], the spot metering position coordinates to the Lock-on AF start position, but does not coordinate with the tracking of the subject.

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.

- Adjust the focus on the spot at which the exposure is adjusted.
- Switch the AF/MF/AEL switch lever to the AEL position, then press the AEL button.



The exposure is locked, and \* (AE lock) is displayed.

- 3 Keep pressing the AEL button and focus on the subject again, then shoot the picture.
  - Keep holding the AEL button down while taking a shot if you want to continue shooting with the fixed exposure. Release the button to reset the exposure.

#### Hint

• If you select the MENU → 12 (Camera Settings2) → [Custom Key(Shoot.)] → [AEL Button] → [AEL toggle], you can lock the exposure without holding down the button.

#### **Note**

• [ • AEL hold] and [ • AEL toggle] are not available when using zoom functions other than optical zoom.

# **AEL w/ shutter (still image)**

Sets whether to fix the exposure when you press the shutter button halfway down. Select [Off] to adjust the focus and the exposure separately.

1

MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [  $\nearrow$  AEL w/ shutter]  $\rightarrow$  desired setting.

#### Menu item details

#### Auto:

Fixes the exposure after adjusting the focus automatically when you press the shutter button halfway down when [Focus Mode] is set to [Single-shot AF]. When [Focus Mode] is set to [Automatic AF], and the product determines that the subject is moving, or you shoot burst images, the fixed exposure is cancelled.

#### On:

Fixes the exposure when you press the shutter button halfway down.

#### Off:

Does not fix the exposure when you press the shutter button halfway down. Use this mode when you want to adjust focus and exposure separately.

The product keeps adjusting the exposure while shooting in [Cont. Shooting] mode.

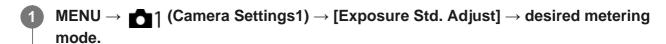
#### **Note**

• Operation using the AEL button is prioritized over the [MAEL w/ shutter] settings.

[99] Shooting | Adjusting the exposure modes/metering modes

# **Exposure Std. Adjust**

Adjusts this camera's standard for the correct exposure value for each metering mode.



- 2 Select the desired value as the metering standard.
  - You can set a value from -1 EV to +1 EV in 1/6 EV increments.

#### **Metering Mode**

The set standard value will be applied when you select the corresponding metering mode in  $MENU \rightarrow 1$  (Camera Settings1)  $\rightarrow$  [Metering Mode].

Multi/ Center/ Spot/ Entire Screen Avg./ Highlight

#### **Note**

- The exposure compensation will not be affected when [Exposure Std. Adjust] is changed.
- The exposure value will be locked according to the value set for [ Spot] during using spot AEL.
- The standard value for M.M (Metered Manual) will be changed according to the value set in [Exposure Std. Adjust].
- The value set in [Exposure Std. Adjust] is recorded in Exif data separately from the exposure compensation value. The amount of exposure standard value will not be added to the exposure compensation value.
- If you set [Exposure Std. Adjust] during bracketing shooting, the number of shots for the bracketing will be reset.

[100] Shooting | Adjusting the exposure modes/metering modes

# **Exp.comp.set**

Sets whether to apply the exposure compensation value to control both flash light and ambient light, or just ambient light.

U IVII

 $\textbf{MENU} \rightarrow \textbf{ } \textbf{1} (\textbf{Camera Settings1}) \rightarrow \textbf{[Exp.comp.set]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

#### Ambient&flash:

Applies the exposure compensation value to control both flash light and ambient light.

#### **Ambient only:**

Applies the exposure compensation value to control ambient light only.

[101] Shooting | Adjusting the exposure modes/metering modes

# Zebra

The zebra pattern will appear over part of an image if the brightness level of that part meets the

IRE level that you set. Use this zebra pattern as a guide to adjust the brightness.

1

MENU  $\rightarrow$  (Camera Settings2)  $\rightarrow$  [Zebra]  $\rightarrow$  desired setting.

#### Menu item details

Off:

Does not display the zebra pattern.

#### 70/75/80/85/90/95/100/100+/Custom1/Custom2:

Adjusts the brightness level.

#### Hint

- You can register values to check the correct exposure or overexposure as well as the brightness level for [Zebra]. The settings for correct exposure confirmation and overexposure confirmation are registered to [Custom1] and [Custom2] respectively in the default settings.
- To check the correct exposure, set a standard value and the range for the brightness level. The zebra pattern will appear on areas that fall within the range you set.
- To check the overexposure, set a minimum value for the brightness level. The zebra pattern will
  appear over areas with a brightness level equal to or higher than the value you set.

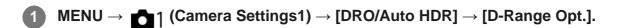
#### **Note**

The zebra pattern is not displayed during HDMI connection.

[102] Shooting | Correcting brightness and 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.



Select the desired setting using the left/right sides 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**

- In the following situations, [D-Range Opt.] is fixed to [Off]:
  - The shooting mode is set to [Sweep Panorama].
  - Multi Frame NR
  - When [Picture Effect] is set to other than [Off]
  - When [Picture Profile] 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]

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

- When [ Record Setting] is set to [120p 100M], [100p 100M], [120p 60M] or [100p 60M], [DRO/Auto HDR] will be set to [Off].
- 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.

[103] Shooting | Correcting brightness and contrast

# **Auto HDR**

Shoots three images using different exposures and combines the images with correct exposure, the bright parts of an underexposed image, and the dark parts of an overexposed image to create images with a greater range of gradation (High Dynamic Range). One image with proper exposure and one overlaid image are recorded.

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

#### Menu item details

Auto HDR: Exposure Diff. Auto:

Corrects the brightness automatically.

### 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 optimization level from 1.0EV (weak) to 6.0EV (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.

#### Hint

- 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.

#### **Note**

- This function is not available when the [ Quality] is [RAW] or [RAW & JPEG].
- [Auto HDR] is not available in the following shooting modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Sweep Panorama]
  - [Scene Selection]
- [Auto HDR] is not available in the following situations:
  - When [Multi Frame NR] is selected.
  - When [Picture Effect] is set to other than [Off].
  - When [Picture Profile] is set to other than [Off].
- 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. 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.

[104] Shooting | Selecting the ISO sensitivity

# ISO

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

1

ISO (ISO) on the control wheel  $\rightarrow$  select desired setting.

#### Menu item details

#### Multi Frame NR:

Combines continuous shots to create an image with less noise. Press the right side to display the setting screen, then select a desired value using the top/bottom sides of the control wheel. Select the desired ISO number from ISO AUTO or ISO 100 – ISO 51200.

#### **ISO AUTO:**

Sets the ISO sensitivity automatically.

#### ISO 100 - ISO 51200:

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

#### **Note**

- When [ Quality] is set to [RAW] or [RAW & JPEG], [Multi Frame NR] cannot be selected.
- When [Multi Frame NR] is selected, the flash, [D-Range Opt.], or [Auto HDR] cannot be used.
- When [Picture Profile] is set to other than [Off], [Multi Frame NR] cannot be selected.
- When [Picture Effect] is set to other than [Off], [Multi Frame NR] cannot be selected.
- [ISO AUTO] is selected when using the following functions:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
  - [Sweep Panorama]
- The higher the ISO value, the more noise will appear on the images.
- The available ISO settings will differ depending on whether you are shooting still images, shooting movies, or shooting slow-motion/quick-motion movies.
- When shooting movies, ISO values between 100 and 25600 are available. If the ISO value is set to a value larger than 25600, the setting is automatically switched to 25600. 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.
- When you select [ISO AUTO] with the shooting mode set to [P], [A], [S] or [M], the ISO sensitivity will be automatically adjusted within the set range.

#### Hint

- You can change the range of ISO sensitivity that is set automatically in [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 are also applied when shooting in [ISO AUTO]
  mode under [Multi Frame NR].
- You can set the effect level for noise reduction by selecting [NR Effect] under [Multi Frame NR].

#### [105] Shooting | Selecting the ISO sensitivity

### ISO AUTO Min. SS

If you select [ISO AUTO] or [ISO AUTO] under [Multi Frame NR] when the shooting mode is P (Program Auto) or A (Aperture Priority), you can set the shutter speed at which the ISO sensitivity starts changing.

This function is effective for shooting moving subjects. You can minimize subject blurring while also preventing camera shake.



 $MENU \rightarrow 1$  (Camera Settings1)  $\rightarrow$  [ISO AUTO Min. SS]  $\rightarrow$  desired setting.

#### Menu item details

#### FASTER (Faster)/FAST (Fast):

The ISO sensitivity will start to change at shutter speeds faster than [Standard], so you can prevent camera shake and subject blurring.

#### STD (Standard):

The camera automatically sets the shutter speed based on the focal length of the lens.

### SLOW (Slow)/SLOWER (Slower):

The ISO sensitivity will start to change at shutter speeds slower than [Standard], so you can shoot images with less noise.

#### 1/4000 — 30":

The ISO sensitivity starts to change at the shutter speed you have set.

#### Hint

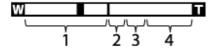
• The difference in shutter speed at which ISO sensitivity starts to change between [Faster], [Fast], [Standard], [Slow], and [Slower] is 1 EV.

- If the exposure is insufficient even when the ISO sensitivity is set to [ISO AUTO Maximum] in [ISO AUTO], in order to shoot with an appropriate exposure, the shutter speed will be slower than the speed set in [ISO AUTO Min. SS].
- In the following situations, the shutter speed may not function as set:
  - When using the flash to shoot bright scenes. (The maximum shutter speed is limited to the flashsyncing speed of 1/160 seconds.)
  - When using the flash to shoot dark scenes with the [Flash Mode] set to [Fill-flash] or [Wireless].
     (The minimum shutter speed is limited to the speed automatically determined by the camera.)

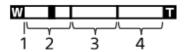
# The zoom features available with this product

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.

When a power zoom lens is mounted:



When a lens other than a power zoom lens is mounted:



### 1. Optical zoom range

Zoom images in the zoom range of a lens.

When a power zoom lens is mounted, the zoom bar of the optical zoom range is displayed. When a lens other than a power zoom lens is mounted, the zoom slider is fixed at the left end of the zoom bar while the zoom position is in the optical zoom range (displayed as x1.0).

# 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] or [S]).

# 3. Clear Image Zoom range (c♠)

Zoom images using an image process with less deterioration. When you set [Zoom Setting] to [On:ClearImage Zoom] or [On:Digital Zoom], you can use this zoom function.

# 4. Digital Zoom range ( p♠)

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

- The default setting for the [Zoom Setting] is [Optical zoom only].
- The default setting for the [ Image Size] is [L]. To use the smart zoom, change [ Image Size] to [M] or [S].
- Zoom functions other than the optical zoom are not available when shooting in the following situations:
  - The shooting mode is set to [Sweep Panorama].
  - [ Quality] is set to [RAW] or [RAW & JPEG].
  - [ Record Setting] is set to [120p]/[100p].
  - During slow-motion/quick-motion shooting

- You cannot use the Smart Zoom function with movies.
- When a power zoom lens is mounted, you cannot use [Zoom] under MENU. If you enlarge image past the optical zoom range, the product automatically switches to another [Zoom] function than the optical zoom.
- When you use a zoom function other than the optical zoom, [Metering Mode] is 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
- To use another zoom function than the optical zoom for movies, assign [Zoom] to the desired button using [Custom Key(Shoot.)].

[107] Shooting | Using the zoom

# Clear Image Zoom/Digital Zoom (Zoom)

When you use a zoom function other than the optical zoom, you can exceed the zoom range of the optical zoom.

- MENU  $\rightarrow$  2 (Camera Settings2)  $\rightarrow$  [Zoom Setting]  $\rightarrow$  [On:ClearImage Zoom] or [On:Digital Zoom].
- When a power zoom lens is mounted, move the zoom lever or the zoom ring of the zoom lens to enlarge subjects.
  - When you exceed the zoom range of the optical zoom, the camera automatically switches to another zoom than the optical zoom.
- When a lens other than a power zoom lens is mounted, select MENU → ↑ (Camera Settings2) → [Zoom] → desired value.

Press the center of the control wheel to exit.

You can also assign the [Zoom] function to the desired button by selecting MENU →
 (Camera Settings2) → [Custom Key(Shoot.)].

[108] Shooting | Using the zoom

# **Zoom Setting**

You can select the zoom setting of the product.



MENU  $\rightarrow$  (Camera Settings2)  $\rightarrow$  [Zoom Setting]  $\rightarrow$  desired setting.

#### Menu item details

#### **Optical zoom only:**

#### On:ClearImage Zoom:

Select this setting to use Clear Image Zoom. Even if the zoom range exceeds the optical zoom, 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.

[109] Shooting | Using the zoom

# 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]

[A] Image	Zoom Setting		
Size	Optical zoom only (including smart zoom)	On:ClearImage Zoom	On:Digital Zoom
L: 24M	-	Approx. 2×	Approx. 4×

M: 12M	Approx. 1.4x	Approx. 2.8×	Approx. 5.7×
S: 6.0M	Approx. 2×	Approx. 4×	Approx. 8x

[110] Shooting | Using the zoom

# **Zoom Ring Rotate**

Assigns zoom in (T) or zoom out (W) functions to the zoom ring rotation direction. Available only with power zoom lenses that support this function.



### Menu item details

### Left(W)/Right(T):

Assigns zoom out (W) function to left-handed rotation and zoom-in (T) function to right-handed rotation.

### Right(W)/Left(T):

Assigns zoom in (T) function to left-handed rotation and zoom-out (W) function to right-handed rotation.

[111] Shooting | White balance

# **White Balance**

Corrects the tone effect of the ambient light condition to record a neutral white subject in white. Use this function 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.



 $\textbf{MENU} \rightarrow \ \ \, \textbf{1} \ \, \textbf{(Camera Settings1)} \rightarrow \textbf{[White Balance]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

product adjusts the color tones to suit to the selected light source (preset white balance). When you select [Auto], the product automatically detects the light source and adjusts the color tones.

### 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 display the fine adjustment screen and perform fine adjustments of the color tones as required by pressing the right side of the control wheel.
- If the color tones do not come out as you expected in the selected settings, perform [WB bracket] shooting.
- AWB or AWB is displayed only when [Priority Set in AWB] is set to [Ambience] or [White].

#### Note

- [White Balance] is fixed to [Auto] in the following shooting modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
- If you use a mercury lamp or a sodium lamp as a light source, the accurate white balance will not be
  obtained because of the characteristics of the light. It is recommended to shoot images using a flash
  or select [Custom Setup].

[112] Shooting | White balance

# **Priority Set in AWB**

Selects which tone to prioritize when shooting under lighting conditions such as incandescent light when [White Balance] is set to [Auto].



MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Priority Set in AWB]  $\rightarrow$  desired setting.

#### Menu item details

# AWB Standard:

Shoots with standard auto white balance. The camera automatically adjusts the color tones.

# AWBO Ambience:

Prioritizes the color tone of the light source. This is suitable when you want to produce a warm atmosphere.

# AWB White:

Prioritizes a reproduction of white color when the color temperature of the light source is low.

[113] Shooting | White balance

# 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. You can register 3 settings.

- Hold the product so that the white area fully covers the circle located in the center of the screen, and then press the center of the control wheel.

After the shutter sound beeps, the calibrated values (Color Temperature and Color Filter) are displayed.

3 Select a registration number using the left/right sides of the control wheel, and then press the center.

The monitor returns to the recording information display while retaining the memorized custom white balance setting.

 The registered custom white balance setting will remain memorized until overwritten by the another setting.

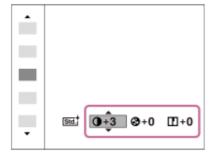
- The message [Custom WB Error] indicates that the value is in the unexpected range, for example when the subject is too vivid. You can register the setting at this point, but it is recommended that you set the white balance again. When an error value is set, the indicator turns orange on the recording information display. The indicator will be displayed in white when the set value is in the expected range.
- If you use a flash when capturing a shot, the custom white balance will be registered with the flash light. Shoot images with a flash when recalling a setting registered with the flash.

[114] Shooting | Selecting an effect mode

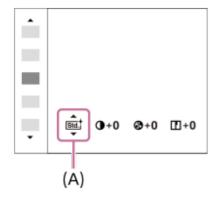
# **Creative Style**

Allows you to set the desired image processing and finely adjust contrast, saturation and sharpness for each image style. You can adjust exposure (shutter speed and aperture) as you like with this function, unlike with [Scene Selection], where the product adjusts the exposure.

- Select the desired style or [Style Box] using the top/bottom sides of the control wheel.
- To adjust (Contrast), (Saturation) and (Sharpness), select the desired item using the right/left sides, and then select the value using the top/bottom sides.



- When selecting [Style Box], move to the right side using the right side of the control wheel, and then select the desired style.
  - You can call up the same style with slightly different settings.



(A): Displayed only when Style Box is selected

#### 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.

### Ntri Neutral:

The saturation and sharpness are lowered for shooting images in subdued tones. This is also suitable for capturing image material to be modified with a computer.

### Clear Clear:

For shooting images in clear tones with limpid colors in highlight, suitable for capturing radiant light.

### Deep:

For shooting images with deep and dense colors, suitable for capturing the solid presence of the subject.

# Light Light:

For shooting images with bright and simple colors, suitable for capturing a refreshingly light ambience.

### Port.† Portrait:

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

# Landscape:

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

### Sunset:

For shooting the beautiful red of the setting sun.

# Night Scene:

The contrast is lowered for reproducing night scenes.

#### Autumn leaves:

For shooting autumn scenes, vividly highlighting the reds and yellows of changing leaves.

### B/W Black & White:

For shooting images in black and white monotone.

# Sepia Sepia:

For shooting images in sepia monotone.

### TStd.† Registering preferred settings (Style Box):

Select the six style box (the boxes with numbers on the left side ( 15td.)) to register preferred settings. Then select the desired settings using the right button.

You can call up the same style with slightly different settings.

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

[Contrast], [Saturation], and [Sharpness] can be adjusted for each image style preset such as [Standard] and [Landscape], and for each [Style Box] to which you can register preferred settings.

Select an item to be set by pressing the right/left sides of the control wheel, then set the value using the top/bottom sides 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**

- [Creative Style] is fixed to [Standard] in the following situations:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
  - [Picture Effect] is set to other than [Off].
  - [Picture Profile] is set to other than [Off].
- When this function is set to [Black & White] or [Sepia], [Saturation] cannot be adjusted.

[115] Shooting | Selecting an effect mode

# **Picture Effect**

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

#### 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.

### (Rtro) 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.

### (艦) High Contrast Mono.:

Creates a high-contrast image in black and white.

### (Soft 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.

# (Wtrc) Watercolor:

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

# (Ilustration:

Creates an illustration-like image by emphasizing the outlines.

#### Hint

You can perform detailed settings for some items using the left/right sides of the control wheel.

- 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 during 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. Change the composition or re-shoot the image carefully to avoid image blur, as needed.

- This function is not available in the following shooting modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
  - [Sweep Panorama]
- When [ Quality] is set to [RAW] or [RAW & JPEG], this function is not available.

[116] Shooting | Selecting an effect mode

# Soft Skin Effect (still image)

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



#### Menu item details



Does not use the [ Soft Skin Effect] function.



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**

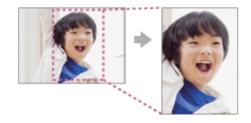
[ Soft Skin Effect] is not available when [ Quality] is [RAW].

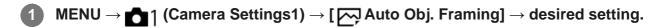
• [ Soft Skin Effect] is not available for RAW images when the [ Quality] is [RAW & JPEG].

[117] Shooting | Selecting an effect mode

# 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.





#### Menu item details

#### Off:

Does not trim images.

#### Auto:

Automatically trims images into an appropriate composition.

- [ Auto Obj. Framing] is not available when the shooting mode is set to [Sweep Panorama], [Movie], or [Movie/S&Q Motion], or when [Scene Selection] is set to [Hand-held Twilight], [Sports Action], or [Anti Motion Blur].
- The trimmed image may not be the best possible composition, depending on the shooting conditions.
- [MAND Auto Obj. Framing] cannot be set when [MAND Quality] is set to [RAW] or [RAW & JPEG].
- [ Auto Obj. Framing] is not available in the following situations.
  - [Drive Mode] is set to [Cont. Shooting], [Self-timer(Cont)], [Cont. Bracket], [Single Bracket], [WB bracket], or [DRO Bracket].
  - The ISO sensitivity is set to [Multi Frame NR].
  - [DRO/Auto HDR] is set to [Auto HDR].
  - Other zoom functions than the optical zoom
  - When shooting in Manual Focus mode
  - [Picture Effect] is set to [Soft Focus], [HDR Painting], [Rich-tone Mono.], [Miniature], [Watercolor], or [Illustration].

[118] Shooting | Selecting an effect mode

# **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.



#### 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.

[119] Shooting | Shutter settings

# Release w/o Lens

Sets whether or not the shutter can be released when no lens is attached.



#### Menu item details

#### **Enable:**

Releases the shutter when no lens is attached. Select [Enable] when attaching the product to

an astronomical telescope, etc.

#### Disable:

Does not release the shutter when a lens is not attached.

#### **Note**

Correct metering cannot be achieved when you use lenses that do not provide a lens contact, such
as the lens of an astronomical telescope. In such cases, adjust the exposure manually by checking it
on the recorded image.

[120] Shooting | Shutter settings

# Release w/o Card

Sets whether the shutter can be released when no memory card has been inserted.



MENU  $\rightarrow$  (Camera Settings2)  $\rightarrow$  [Release w/o Card]  $\rightarrow$  desired setting.

#### Menu item details

#### **Enable:**

Releases the shutter even if no memory card has been inserted.

#### Disable:

Does not release the shutter when no memory card has been inserted.

#### **Note**

- When no memory card has been inserted, the images shot will not be saved.
- The default setting is [Enable]. It is recommended that you select [Disable] prior to actual shooting.

[121] Shooting | Shutter settings

# **Silent Shooting (still image)**

You can shoot images without the shutter sound.

#### Menu item details

#### On:

You can shoot images without the shutter sound.

#### Off:

[ Silent Shooting] is deactivated.

- Use the [ Silent Shooting] function on your own responsibility, while taking sufficient consideration to the privacy and portrait rights of the subject.
- Even if [ Silent Shooting] is set to [On], it will not be completely silent.
- Even if [ Silent Shooting] is set to [On], the operating sound of the aperture and focus will sound.
- When shooting still images using the [ Silent Shooting] function with low ISO sensitivity, if you point the camera at a very bright light source, high intensity areas on the monitor may be recorded in darker tones.
- When the power is turned off, the shutter sound may beep in rare occasions. This is not a malfunction.
- Image distortion caused by the movement of the subject or the camera may occur.
- If you shoot images under instantaneous lightning or flickering lights, such as the flash light from other cameras or fluorescent lighting, a striping effect may occur on the image.
- If you want to turn off the beep that sounds when the subject is in focus or the self-timer operates, set [Audio signals] to [Off].
- Even if [ Silent Shooting] is set to [On], the shutter sound may beep under the following circumstances:
  - [White Balance] is set to [Custom Setup]
  - [Face Registration]
- You cannot select [ Silent Shooting] when the mode dial is set to other than P/A/S/M.
- When [ Silent Shooting] is set to [On], the following functions are not available:
  - Flash shooting
  - Auto HDR
  - Picture Effect
  - Picture Profile
  - ─ Long Exposure NR
  - e-Front Curtain Shut.
  - S. Auto Img. Extract.
  - BULB shooting
  - Multi Frame NR
- When [ Silent Shooting] is set to [On], only [Continuous Shooting: Lo] is available for [Cont. Shooting].
- After you turn the camera on, the time in which you can start recording is extended by approximately 0.5 seconds.

[122] Shooting | Shutter settings

## e-Front Curtain Shut.

The electronic front curtain shutter function shortens the time lag between shutter releases.



 $\textbf{MENU} \rightarrow \textbf{ } 2 \text{ (Camera Settings2)} \rightarrow \textbf{[e-Front Curtain Shut.]} \rightarrow \textbf{desired setting.}$ 

## Menu item details

On:

Uses the electronic front curtain shutter function.

Off:

Does not use the electronic front curtain shutter function.

#### **Note**

- When you shoot at high shutter speeds with a large diameter lens attached, the ghosting of a blurred area may occur, depending on the subject or shooting conditions. In such cases, set this function to [Off].
- When a lens made by another manufacturer (including a Minolta/Konica-Minolta lens) is used, set this function to [Off]. If you set this function to [On], the correct exposure will not be set or the image brightness will be uneven.
- When you shoot at high shutter speeds, the image brightness may become uneven depending on the shooting environment. In such cases, set [e-Front Curtain Shut.] to [Off].

[123] Shooting | Reducing blur

# **SteadyShot**

Sets whether or not to use the SteadyShot function.



 $\textbf{MENU} \rightarrow \ \ \, \textbf{ Camera Settings2)} \rightarrow \textbf{[SteadyShot]} \rightarrow \textbf{desired setting.}$ 

## Menu item details

On:

Uses [SteadyShot].

#### Off:

Does not use [SteadyShot].

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

[124] Shooting | Reducing blur

# **SteadyShot Settings**

You can shoot with an appropriate SteadyShot setting for the attached lens.

- 1 MENU  $\rightarrow$  2 (Camera Settings2)  $\rightarrow$  [SteadyShot]  $\rightarrow$  [On].
- (2) [SteadyShot Settings] → [SteadyShot Adjust.] → desired setting.

### Menu item details

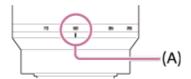
### Auto:

Performs the SteadyShot function automatically according to the information obtained from the attached lens.

### Manual:

Performs the SteadyShot function according to the focal-length set using [SteadyS. Focal Len.]. (8mm-1000mm)

Check the focal-length index (A) and set the focal-length.



#### **Note**

- The SteadyShot function may not work optimally when the power has just been turned on, right after you point the camera towards a subject, or when the shutter button has been pressed all the way down without stopping halfway.
- When using a tripod, make sure to turn off the SteadyShot function because this can cause any malfunction when shooting.
- [SteadyShot Settings] will be unavailable when MENU→ 2 (Camera Settings2)→[SteadyShot] is set to [Off].
- When the camera cannot obtain focal length information from the lens, the SteadyShot function does not work correctly. Set [SteadyShot Adjust.] to [Manual] and set [SteadyS. Focal Len.] to match the lens you are using. The current set value of the SteadyShot focal length will display to the side of ((♣)).

- When using an SEL16F28 lens (sold separately) with a teleconverter, etc., set [SteadyShot Adjust.] to [Manual] and set the focal length.
- When you set [SteadyShot] to [On]/[Off], the SteadyShot settings of the camera and lens switch at the same time.
- If a lens equipped with a SteadyShot switch is attached, the settings can only be changed using that switch on the lens. You cannot switch the settings using the camera.

[125] Shooting | Lens compensation

# Lens Comp.: Shading Comp.

Compensates for the shaded corners of the screen, caused by certain lens characteristics.



MENU  $\rightarrow$  [Camera Settings1)  $\rightarrow$  [Lens Comp.]  $\rightarrow$  [Shading Comp.]  $\rightarrow$  desired setting.

### Menu item details

#### Auto:

Compensates for darker corners of the screen automatically.

### Off:

Does not compensate for darker corners of the screen.

### **Note**

- This function is only available when using an automatic compensation compliant lens.
- The amount of light around the edges may not be corrected, depending on the lens type.

[126] Shooting | Lens compensation

# Lens Comp.: Chro. Aber. Comp.

Reduces the color deviation at the corners of the screen, caused by certain lens characteristics.

MENU → ↑ 1 (Camera Settings1) → [Lens Comp.] → [Chro. Aber. Comp.] → desired setting.

## Menu item details

Auto:

Reduces the color deviation automatically.

Off:

Does not compensate for the color deviation.

#### **Note**

• This function is only available when using an automatic compensation compliant lens.

[127] Shooting | Lens compensation

# Lens Comp.: Distortion Comp.

Compensates for the distortion of the screen, caused by certain lens characteristics.



MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Lens Comp.]  $\rightarrow$  [Distortion Comp.]  $\rightarrow$  desired setting.

## Menu item details

### Auto:

Compensates for distortion of the screen automatically.

Off

Does not compensate for distortion of the screen.

#### **Note**

- This function is only available when using an automatic compensation compliant lens.
- Depending on the attached lens, [Distortion Comp.] is fixed to [Auto], and you cannot select [Off].

[128] Shooting | Noise reduction

# Long Exposure NR (still image)

When you set the shutter speed to 1 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.

### 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.

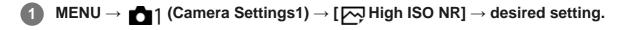
#### **Note**

- 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] 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].
- [ Long Exposure NR] cannot be set to [Off] in the following shooting modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
- Depending on the shooting conditions, the camera may not perform noise reduction, even if the shutter speed is 1 second(s) or longer.

[129] Shooting | Noise reduction

# 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.



## Menu item details

### Normal:

Activates high ISO noise reduction normally.

Low:

Activates high ISO noise reduction moderately.

#### Off:

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

#### Note

- [Migh ISO NR] is not available in the following shooting modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
  - [Sweep Panorama]
- When [ Quality] is set to [RAW], this function is not available.
- [ High ISO NR] does not work for RAW images when the [ Quality] is [RAW & JPEG].

[130] Shooting | Face detection

## Smile/Face Detect.

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



MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Smile/Face Detect.]  $\rightarrow$  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].

## [⊉]<sub>ON</sub> On:

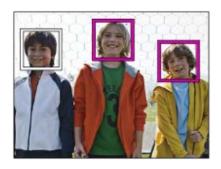
Detects a face without giving higher priority to the registered face.

## 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:
  - Other zoom functions 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], [Sunset].
  - [ Record Setting] is set to [120p]/[100p].
- Up to 8 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.

[131] Shooting | Face detection

**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)].

- 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.

[132] Shooting | Face detection

# **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  $\rightarrow$  **1** (Camera Settings1)  $\rightarrow$  [Face Registration]  $\rightarrow$  [Order Exchanging].
- Select a face to change the order of priority.
- 3 Select the destination.

[133] Shooting | Face detection

# **Face Registration (Delete)**

Deletes a registered face.



 $\textbf{MENU} \rightarrow \ \ \, \textbf{1} \ \, \textbf{(Camera Settings1)} \rightarrow \textbf{[Face Registration]} \rightarrow \textbf{[Delete]}.$ 

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].

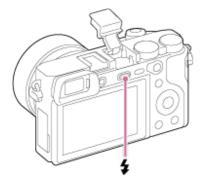
[134] Shooting | Using the flash

# **Using flash**

In dark environments, use the flash to light up the subject while shooting. Also use the flash to prevent camera-shake.



Press the **4** (Flash pop-up) button to pop up the flash.



- Press the shutter button fully down.
  - The available flash modes depend on the shooting mode and function.

## When you do not use the flash

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

### **Note**

The light of the flash may be blocked if the lens hood is attached and the lower part of a recorded

image may be shaded. Remove the lens hood.

- When using the flash, stand 1 m or more away from the subject.
- If you fire the flash before the flash unit pops up entirely, it may cause malfunction.
- You cannot use the flash when recording movies. (You can use an LED light when using a flash (sold separately) with a LED light.)
- When an external flash (sold separately) is attached to the Multi Interface Shoe, the state of the
  external flash has priority over the flash setting of this product. You cannot use the internal flash of
  this product.
- Before attaching/removing an accessory such as a flash to/from the Multi Interface Shoe, turn off the
  product first. When attaching an accessory, make sure that the accessory is fixed securely to the
  product.
- Do not use the Multi Interface Shoe with a commercially available flash that applies voltage of 250 V or more or has the reverse polarity of the camera. Doing so may cause a malfunction.
- 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.
- The light of the flash may be blocked, depending on the lens.
- The corners of a recorded image may be shaded, depending on the lens.
- For details on compatible accessories for the Multi Interface Shoe, visit the Sony website, or consult your Sony dealer or local authorized Sony service facility.

[135] Shooting Using the flash

# **Red Eye Reduction**

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



 $\textbf{MENU} \rightarrow \textbf{ } 1 (\textbf{Camera Settings1}) \rightarrow [\textbf{Red Eye Reduction}] \rightarrow \textbf{desired setting}.$ 

## 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. [136] Shooting | Using the flash

## Flash Mode

You can set the flash mode.



 $MENU \rightarrow 1$  (Camera Settings1)  $\rightarrow$  [Flash Mode]  $\rightarrow$  desired setting.

## 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.

# FREAR 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.

## Wireless:

Using a wireless flash creates a shading effect that gives the subject a more 3D appearance than when using the camera's flash.

This mode is effective when you attach a remote control-compatible external flash (sold separately) to the product, and shoot with a wireless flash (sold separately), placed away from the product.

#### **Note**

- The default setting depends on the shooting mode.
- Some [Flash Mode] settings are not available, depending on the shooting mode.
- The [Wireless] setting cannot be used with the camera's built-in flash.

# Flash Comp.

Adjusts the amount of flash light in a range of -3.0 EV to +3.0 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.



 Selecting higher values (+ side) makes the flash level higher, and lower values (- side) makes the flash level lower.

#### **Note**

- [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 (+ side) 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 (- side) may not be visible.

[138] Shooting | Using the flash

## **FEL lock**

The flash level is automatically adjusted so that the subject gets the optimum exposure during normal flash shooting. You can also set the flash level in advance.

FEL: Flash Exposure Level

- MENU → 

  (Camera Settings2) → [Custom Key(Shoot.)] → desired button, then assign the [FEL Lock toggle] function to the button.
- Center the subject on which FEL is to be locked, and adjust the focus.



- Press the button to which [FEL Lock toggle] is registered, and set the flash amount.
  - A pre-flash flashes.
  - The \$\( \subseteq \) (FEL lock) lights up.
- 4 Adjust the composition and shoot the image.



 When you want to release the FEL lock, press the button to which the [FEL Lock toggle] is registered again.

## Flashes that support FEL lock

- HVL-F60M, HVL-F43M and HVL-F32M can be used as clip-ons, off-camera connected by a cable, and for wireless flash shooting (controller/remote).
- HVL-F20M can be used as a clip-on, off-camera connected with a cable, and for wireless flash shooting (controller).

### **Note**

- The FEL lock cannot be set when a flash is not attached.
- If a flash that does not support the FEL lock is attached, an error message is displayed.
- When both AE and FEL lock are fixed, ¼ lights up.

## Hint

By setting [FEL Lock hold], you can hold the setting while the button is pressed down. Also, by

setting [FEL Lock/AEL hold] and [FEL Lock/AEL tggle.], you can shoot images with the AE locked in the following situations.

- When [Flash Mode] is set to [Flash Off] or [Autoflash].
- When the flash cannot go off.

[139] Shooting | Using the flash

# Wireless flash shooting

There are two ways to use the wireless flash. One way uses a light signal and the other uses a radio signal to communicate with the flash. The flash attached to the camera must be the controller in light signal flash shooting and a Wireless Radio Commander (sold separately) is required for radio signal wireless flash shooting. For details on how to set each method, refer to the instruction manual of the flash or the Wireless Radio Commander.

- Remove the shoe cap from the camera, and then attach the flash or the Wireless Radio Commander.
  - In light signal wireless flash shooting, set the attached flash as the controller.
- **2** MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Flash Mode]  $\rightarrow$  [Wireless].
- 3 Set up an off-camera flash that is set to wireless mode, or that is attached to the Wireless Radio Receiver (sold separately).
  - Press the AEL button on the camera to perform a test flashing.

## Setting of the AEL button

We recommend that you set MENU  $\rightarrow$   $\bigcirc$  (Camera Settings2)  $\rightarrow$  [Custom Key(Shoot.)]  $\rightarrow$  [AEL Button] to [AEL hold] when performing wireless flash shooting.

#### **Note**

- The off-camera flash may emit light after receiving a light signal from a flash used as the controller of another camera. If this occurs, change the channel of your flash. For details on how to change the channel, refer to the instruction manual for the flash.
- Two flashes (a controller and an off-camera flash) are required for light signal wireless flash shooting.

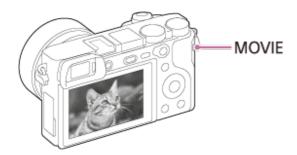
HVL-F20M can only be used as the controller.

## [140] Recording movies

# **Shooting movies**

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

- 1 Press the MOVIE button to start recording.
  - Since the [MOVIE Button] is set to [Always] in the default setting, movie recording can be started from any shooting mode.



Press the MOVIE button again to stop recording.

### Hint

- You can assign the start/stop movie recording function to a preferred key. MENU → 2 (Camera Settings2) → [Custom Key(Shoot.)] → set the function to the preferred key.
- When you want to specify the area to be focused on, set the area using [Focus Area].
- To keep the focus on a face, arrange the composition so that the focus area frame and face detection frame overlap, or set the [Focus Area] to [Wide].
- You can focus quickly while shooting movies by pressing the shutter button halfway down. (The sound of auto focus operation may be recorded in some cases.)
- To adjust the shutter speed and aperture value to the desired settings, set the shooting mode to (Movie/S&Q Motion).
- The following settings for still image shooting are applied to the movie shooting:
  - White Balance
  - Creative Style
  - Metering Mode
  - Smile/Face Detect.

- D-Range Opt.
- Lens Comp.
- You can change the settings for ISO sensitivity, exposure compensation, and focus area while shooting movies.
- While shooting movies, the recorded image can be output without the shooting information display by setting [HDMI Info. Display] to [Off].

#### Note

- The sound of the lens and the product in operation may be recorded during movie recording.
   You can turn the sound off by selecting MENU → 2 (Camera Settings2) → [Audio Recording] → [Off].
- When shooting, the sound of the shoulder strap hooks (triangular hook) could be recorded, depending on the situation used.
- To prevent the operating sound of the zoom ring from being recorded during movie recording when a
  power zoom lens is used, we recommend recording movies using the zoom lever. When you move
  the zoom lever, place your finger lightly on the lever and operate it without flicking.
- The temperature of the camera tends to rise when shooting movies continuously, and you may feel that the camera is hot. This is not a malfunction. Also, [Internal temp. high. Allow it to cool.] may appear. In such cases, turn the camera off and wait until the camera is ready to shoot again.
- When the icon appears, the temperature of the camera is too high.
- For the continuous shooting time of a movie recording, refer to "Recordable movie times." 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.
- When the mode dial is set to [Movie/S&Q Motion) or when shooting movies, you cannot select [Lock-on AF] for [Focus Area].
- In [Program Auto] mode when shooting movies, the aperture value and the shutter speed will be set automatically and cannot be changed. For that reason, the shutter speed may become fast in a bright environment, and the motion of the subject may not record smoothly. By changing the exposure mode and adjusting the aperture value and the shutter speed, the motion of the subject can be recorded smoothly.
- When ISO sensitivity is set to [Multi Frame NR], [ISO AUTO] will be set temporarily.
- In movie shooting mode, the following settings cannot be set in [Picture Effect]. When a movie recording starts, [Off] will be set temporarily.
  - Soft Focus
  - HDR Painting
  - Rich-tone Mono.
  - Miniature
  - Watercolor
  - Illustration
- If you point the camera at an extremely strong light source while shooting a movie at low ISO sensitivity, the highlighted area in the image may be recorded as a black area.
- If the display mode of the monitor is set to [For viewfinder], the display mode will switch to [Display All Info.] when movie shooting starts.

 Use PlayMemories Home when importing XAVC S movies, AVCHD movies, and MP4 movies to a computer.

[141] Recording movies

# Movie recording formats

The following movie recording formats are available with this camera.

### What is XAVC S?

Records movies in high definition such as 4K by converting them into MP4 movies using the MPEG-4 AVC/H.264 codec. MPEG-4 AVC/H.264 is capable of compressing images with higher efficiency. You can record high-quality images while reducing the amount of data.

## **XAVC S/AVCHD recording format**

#### XAVC S 4K:

Bit-rate: Approx. 100 Mbps or approx. 60 Mbps Records movies in 4K resolution (3840×2160).

### **XAVC S HD:**

Bit-rate: Approx. 100 Mbps, approx. 60 Mbps, or approx. 50 Mbps

Records movies in crisper quality than AVCHD with larger amounts of data.

#### **AVCHD:**

Bit-rate: Approx. 28 Mbps (maximum), approx. 24 Mbps (maximum) or approx. 17 Mbps (average)

The AVCHD format has a high degree of compatibility with storage devices other than computers.

Bit rate is the amount of data processed within a given period of time.

[142] Recording movies

# **File Format (movie)**

Selects the movie file format.



 $\textbf{MENU} \rightarrow \textbf{ 12} \text{ (Camera Settings2)} \rightarrow \textbf{ [} \textbf{ [} \textbf{ File Format]} \rightarrow \textbf{desired setting.}$ 

#### XAVC S 4K:

Records 4K movies in the XAVC S format. This format supports a high bit rate.

Audio: LPCM

- One of the following kinds of memory card is needed to record movies with [ File Format] set to [XAVC S 4K]:
  - Memory Stick PRO-HG Duo
    - Movies cannot be recorded in 100 Mbps or more.
  - SDHC / SDXC / microSDHC / microSDXC memory card (SD Speed Class 10, or UHS Speed Class U1 or faster)
    - UHS Speed Class U3 is required to record at 100 Mbps or more.
- [HDMI Info. Display] temporarily switches to [Off] when [ File Format] is set to [XAVC S 4K].
- Images will not appear on the monitor of the camera if you record movies while the camera is connected to an HDMI device with [ File Format] set to [XAVC S 4K].
- [Smile/Face Detect.] and [Center Lock-on AF] are temporarily set to [Off] when the camera is connected to an HDMI device with [ File Format] set to [XAVC S 4K].
- [Smile/Face Detect.], [Center Lock-on AF] and [ REC Control] are temporarily set to [Off] when [ File Format] is set to [XAVC S 4K] and [Dual Video REC] is set to [On]. Even if the camera is connected to an HDMI device, images will not be displayed on that device while movie recording is in progress.

## **XAVC S HD:**

Records HD movies in the XAVC S format. This format supports a high bit rate.

Audio: LPCM

- One of the following kinds of memory card is needed to record movies with [ File Format] set to [XAVC S HD]:
  - Memory Stick PRO-HG Duo
    - Movies cannot be recorded in 100 Mbps or more.
  - SDHC / SDXC / microSDHC / microSDXC memory card (SD Speed Class10, or UHS Speed Class U1 or faster)
    - UHS Speed Class U3 is required to record at 100 Mbps or more.

### **AVCHD:**

Records HD movies in the 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

## **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.

## [143] Recording movies

# **Record Setting (movie)**

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



MENU  $\rightarrow$  (Camera Settings2)  $\rightarrow$  [ Record Setting]  $\rightarrow$  desired setting.

## Menu item details

## When [File Format] is set to [XAVC S 4K]

Records high-definition movies by converting them into the MP4 file format using the MPEG-4 AVC/H.264 codec.

Frame Rate	Bit-rate		
Frame Nate	60 Mbps	100 Mbps	
30p/25p	30p 60M/25p 60M Super	30p 100M/25p 100M Super 35mm	
24p	24p 60M Super *	24p 100M Super *	

<sup>\*</sup> Only when [NTSC/PAL Selector] is set to NTSC

## When [ File Format] is set to [XAVC S HD]

Records high-definition movies by converting them into the MP4 file format using the MPEG-4 AVC/H.264 codec.

Frame Rate	Bit-rate		
Frame Nate	50 Mbps	60 Mbps	100 Mbps

120p/100p	_	120p 60M/100p 60M	120p 100M/100p 100M
60p/50p	60p 50M Super /50p 50M Super 35mm	_	_
30p/25p	30p 50M Super /25p 50M Super 35mm	_	_
24p	24p 50M Super * 35mm	_	_

<sup>\*</sup> Only when [NTSC/PAL Selector] is set to NTSC

## 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 and in the AVCHD format.

24p/25p: Movies are recorded at approximately 24 frames/sec (for 1080 60i-compatible devices) or 25 frames/sec (for 1080 50i-compatible devices), in progressive mode with Dolby Digital audio and in the 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 and in the AVCHD format.

Frame	Bit-rate		
Rate	17 Mbps	24 Mbps	28 Mbps
60i/50i	60i 17M(FH) Super /50i 17M(FH) Super 35mm	60i 24M(FX) Super /50i 24M(FX) Super 35mm	_
60p/50p	_	_	60p 28M(PS) Super /50p 28M(PS) Super 35mm
24p/25p	24p 17M(FH) Super /25p 17M(FH) Super 35mm	24p 24M(FX) Super /25p 24M(FX) Super 35mm	_

## When [File Format] is set to [MP4]

Movies are recorded in the 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 and in the MP4 format.

Frame Bit-rate			
Rate	6 Mbps	16 Mbps	28 Mbps
60p/50p	_	_	1080/60p 28M Super 35mm /1080/50p 28M Super 35mm

## Note

30p/25p

- Movies recorded with the [60p 28M(PS) Super ]/[50p 28M(PS) Super ]/[60i 24M(FX) Super ]/[50i 24M(FX) Super ]/[24p 24M(FX) Super ]/[25p 24M(FX) Super ]/[25p 24M(FX) Super ]/[24p 24M(FX) Super ]/[25p 24M(FX) Super ]/[25p
- To play back 60p/50p/24p/25p movies on a TV, the TV must be compatible with the 60p/50p/24p/25p format. If the TV is not compatible with the 60p/50p/24p/25p format, 60p/50p/24p/25p movies will be output as 60i/50i movies.
- [120p]/[100p] cannot be selected for the following settings.
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
- The angle of view will be narrower under the following conditions:
  - When [☐ File Format] is set to [XAVC S HD] and [☐ Record Setting] is set to [120p]/[100p]
  - When [ File Format] is set to [XAVC S 4K] and [ Record Setting] is set to [30p]/[25p]
  - During slow-motion/quick-motion shooting

## [144] Recording movies

# **S&Q Settings**

You can record a moment that cannot be captured by the naked eye (slow-motion recording), or record a long-term phenomenon into a compressed movie (quick-motion recording). For example, you can record an intense sports scene, the moment when a bird starts to fly, a blooming flower, and a changing view of clouds or a starry sky. Sound will not be recorded.

- 1 Set the mode dial to [1] (Movie/S&Q Motion).
- Select MENU $\rightarrow$  2 (Camera Settings2) $\rightarrow$ [Movie/S&Q Motion] $\rightarrow$  and select the desired setting of slow-motion/quick-motion (S&Q) (S&Q Program Auto, S&Q Aperture Priority, S&Q Shutter Priority, or S&Q Manual Exposure).
- 3 Select MENU→ 2 (Camera Settings2)→[ S&Q Settings] and select the desired

## settings for [ S&O Record Setting] and [ S&O Frame Rate].



## Press the MOVIE (movie) button to start recording.

Press the MOVIE button again to stop recording.

## Menu item details

## S&Q Record Setting:

Selects the frame rate of the movie.

# S&Q Frame Rate:

Selects the shooting frame rate.

## Playback speed

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

## When [NTSC/PAL Selector] is set to NTSC

S&Q Frame Rate	S&O Record Setting		
Sau i rame ivate	24p	<b>30</b> p	60p
120fps	5 times slower	4 times slower	-
60fps	2.5 times slower	2 times slower	Normal playback speed
30fps	1.25 times slower	Normal playback speed	2 times quick
15fps	1.6 times quick	2 times quick	4 times quick
8fps	3 times quick	3.75 times quick	7.5 times quick
4fps	6 times quick	7.5 times quick	15 times quick
2fps	12 times quick	15 times quick	30 times quick
1fps	24 times quick	30 times quick	60 times quick

## When [NTSC/PAL Selector] is set to PAL

S&O Frame Rate	S&O Record Setting		
580 Hame Kate	25p	50p	
100fps	4 times slower	-	
50fps	2 times slower	Normal playback speed	
25fps	Normal playback speed	2 times quick	

12fps	2.08 times quick	4.16 times quick
6fps	4.16 times quick	8.3 times quick
3fps	8.3 times quick	16.6 times quick
2fps	12.5 times quick	25 times quick
1fps	25 times quick	50 times quick

• When [ S&O Frame Rate] is set to [120fps]/[100fps], you cannot set [ S&O Record Setting] to [60p]/[50p].

#### **Note**

- In slow-motion recording, the shutter speed becomes faster and you may not be able to obtain the
  proper exposure. If this happens, decrease the aperture value or adjust the ISO sensitivity to a
  higher value.
- For an estimation of recordable time, refer to "Recordable movie times."
- The bit-rate of a recorded movie varies depending on the settings for [ Sk0 Frame Rate] and [ Sk0 Record Setting].
- The movie will be recorded in XAVC S HD format.
- During slow-motion/quick-motion recording, the following functions are not available.
  - [Dual Video REC]
  - [TC Run] under [TC/UB Settings]
  - [ TC Output] under [HDMI Settings]
  - [ 4K Output Sel.]

[145] Recording movies

## **Dual Video REC**

Allows you to simultaneously record an XAVC S movie and an MP4 movie, or an AVCHD movie and an MP4 movie.



 $\textbf{MENU} \rightarrow \textbf{\ref{MENU}} \rightarrow \textbf{(Camera Settings2)} \rightarrow \textbf{[Dual Video REC]} \rightarrow \textbf{desired setting.}$ 

## Menu item details

#### On:

An XAVC S movie and an MP4 movie, or an AVCHD movie and an MP4 movie, are recorded

simultaneously.

Off:

The [Dual Video REC] function is not used.

#### Note

- When [☐ Record Setting] for an XAVC S movie is set to [60p]/[50p] or [120p]/[100p], [☐ Record Setting] for an AVCHD movie is set to [60p]/[50p], or [☐ File Format] is set to [MP4], [Dual Video REC] is set to [Off].
- If you select [Date View] in [View Mode] when playing back movies, XAVC S movies and MP4 movies, or AVCHD movies and MP4 movies are displayed side-by-side.

[146] Recording movies

# **Audio Recording**

Sets whether to record sounds when shooting movies. Select [Off] to avoid recording the sounds of the lens and the camera operating.



MENU  $\rightarrow$  (Camera Settings2)  $\rightarrow$  [Audio Recording]  $\rightarrow$  desired setting.

## Menu item details

On:

Records sound (stereo).

Off:

Does not record sound.

[147] Recording movies

# **Audio Level Display**

Sets whether to display the audio level on the screen.



 $\textbf{MENU} \rightarrow \textbf{mag} \textbf{) (Camera Settings2)} \rightarrow \textbf{[Audio Level Display]} \rightarrow \textbf{desired setting.}$ 

## Menu item details

On:

Displays the audio level.

#### Off:

Does not display the audio level.

#### Note

- The audio level is not displayed in the following situations:
  - When [Audio Recording] is set to [Off].
  - When DISP (Display Setting) is set to [No Disp. Info.].
  - During slow-motion/quick-motion shooting
- The audio level is also displayed while shooting stand-by in movie recording mode.

[148] Recording movies

## **Audio Rec Level**

You can adjust the audio recording level while checking the level meter.



2 Select the desired level using the right/left sides of the control wheel.

## Menu item details

+:

Turns up the audio recording level.

-:

Turns down the audio recording level.

#### Reset

Resets the audio recording level to the default setting.

#### Hint

When you record audio movies with loud volumes, set [Audio Rec Level] to a lower sound level. Doing so enables you to record more realistic audio. When you record audio movies with lower volumes, set [Audio Rec Level] to a greater sound level to make the sound easier to hear.

#### **Note**

- Regardless of the [Audio Rec Level] settings, the limiter always operates.
- [Audio Rec Level] is available only when the shooting mode is set to movie mode.
- [Audio Rec Level] is unavailable during slow-motion/quick-motion shooting.

 The [Audio Rec Level] settings are applied for both the internal microphone and the (microphone) terminal input.

[149] Recording movies

## Wind Noise Reduct.

Sets whether or not to reduce wind noise by cutting the low-range sound of the input audio from the built-in microphone.



### 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.
- When an external microphone (sold separately) is used, [On] does not function.

[150] Recording movies

## **Picture Profile**

Allows you to change the settings for the color, gradation, etc. For details on "Picture Profile," refer to http://helpguide.sony.net/di/pp/v1/en/index.html.

## Customizing the picture profile

You can customize the picture quality by adjusting picture profile items such as [Gamma] and [Detail]. When setting these parameters, connect the camera to a TV or monitor, and adjust them while observing the picture on the screen.





2 Move to the item index screen by pressing the right side of the control wheel.

3 Select the item to change using the top/bottom sides of the control wheel.

Select the desired value using the top/bottom sides of the control wheel and press in the center.

## Using the preset of the picture profile

The default settings [PP1] through [PP9] for movies have been set in advance in the camera based on various shooting conditions.

 $MENU \rightarrow 1$  (Camera Settings1)  $\rightarrow$  [Picture Profile]  $\rightarrow$  desired setting.

#### PP1:

Example setting using [Movie] gamma

#### PP2:

Example setting using [Still] gamma

### PP3:

Example setting of natural color tone using the [ITU709] gamma

#### PP4

Example setting of a color tone faithful to the ITU709 standard

### **PP5**:

Example setting using [Cine1] gamma

## PP6:

Example setting using [Cine2] gamma

### **PP7**:

Example setting using [S-Log2] gamma

### **PP8:**

Example setting using the [S-Log3] gamma and the [S-Gamut3.Cine] under [Color Mode].

#### PP9:

Example setting using the [S-Log3] gamma and the [S-Gamut3] under [Color Mode].

## Items of the picture profile

## **Black Level**

Sets the black level. (-15 to +15)

#### Gamma

Selects a gamma curve.

Movie: Standard gamma curve for movies

Still: Standard gamma curve for still images

Cine1: Softens the contrast in dark parts and emphasizes gradation in bright parts to produce a relaxed color movie. (equivalent to HG4609G33)

Cine2: Similar to [Cine1] but optimized for editing with up to 100% video signal. (equivalent to HG4600G30)

Cine3: Intensifies the contrast in light and shade more than [Cine1] and strengthens gradation in black.

Cine4: Strengthens the contrast in dark parts more than [Cine3]. The contrast in dark parts is lower and the contrast in bright parts is higher than for [Movie].

ITU709: Gamma curve that corresponds to ITU709.

ITU709(800%): Gamma curve for confirming scenes on the assumption of shooting using [S-Log2] or [S-Log3].

S-Log2: Gamma curve for [S-Log2]. This setting is based on the assumption that the picture will be processed after shooting.

S-Log3: Gamma curve for [S-Log3] with more similar features to film. This setting is based on the assumption that the picture will be processed after shooting.

#### **Black Gamma**

Corrects gamma in low intensity areas.

Range: Selects the correcting range. (Wide / Middle / Narrow)

Level: Sets the correcting level. (-7 (maximum black compression) to +7 (maximum black stretch))

### **Knee**

Sets knee point and slope for video signal compression to prevent over-exposure by limiting signals in high intensity areas of the subject to the dynamic range of your camera. When selecting [Still], [Cine1], [Cine2], [Cine3], [Cine4], [ITU709(800%)], [S-Log2], [S-Log3] in [Gamma], [Knee] is set to [Off] if [Mode] is set to [Auto]. To use functions in [Knee], set [Mode] to [Manual].

Mode: Selects auto/manual settings.

- Auto: The knee point and slope are set automatically.
- Manual: The knee point and slope are set manually.

Auto Set: Settings when [Auto] is selected for [Mode].

- Max Point: Sets the maximum point of the knee point. (90% to 100%)
- Sensitivity: Sets the sensitivity. (High / Mid / Low)

Manual Set: Settings when [Manual] is selected for [Mode].

- Point: Sets the knee point. (75% to 105%)
- Slope: Sets the knee slope. (-5 (gentle) to +5 (steep))

### **Color Mode**

Sets type and level of colors.

Movie: Suitable colors when [Gamma] is set to [Movie].

Still: Suitable colors when [Gamma] is set to [Still].

Cinema: Suitable colors when [Gamma] is set to [Cine1].

Pro: Similar color tones to the standard image quality of Sony professional cameras (when combined with ITU709 gamma)

ITU709 Matrix: Colors corresponding to ITU709 standard (when combined with ITU709 gamma)

Black & White: Sets the saturation to zero for shooting in black and white.

S-Gamut: Setting based on the assumption that the pictures will be processed after shooting. Used when [Gamma] is set to [S-Log2].

S-Gamut3.Cine: Setting based on the assumption that the pictures will be processed after shooting. Used when [Gamma] is set to [S-Log3]. This setting allows you to shoot in a color space that can easily be converted for digital cinema.

S-Gamut3: Setting based on the assumption that the pictures will be processed after shooting. Used when [Gamma] is set to [S-Log3]. This setting allows you to shoot in a wide color space.

#### Saturation

Sets the color saturation. (-32 to +32)

### **Color Phase**

Sets the color phase. (-7 to +7)

## **Color Depth**

Sets the color depth for each color phase. This function is more effective for chromatic colors and less effective for achromatic colors. The color looks deeper as you increase the setting value towards the positive side, and lighter as you decrease the value towards the negative side. This function is effective even if you set [Color Mode] to [Black & White].

- [R] -7 (light red) to +7 (deep red)
- [G] -7 (light green) to +7 (deep green)
- [B] -7 (light blue) to +7 (deep blue)
- [C] -7 (light cyan) to +7 (deep cyan)
- [M] -7 (light magenta) to +7 (deep magenta)
- [Y] -7 (light yellow) to +7 (deep yellow)

### **Detail**

Sets items for [Detail].

Level: Sets the [Detail] level. (-7 to +7)

Adjust: The following parameters can be selected manually.

- Mode: Selects auto/manual setting. (Auto (automatic optimization) / Manual (The details are set manually.))
- V/H Balance: Sets the vertical (V) and horizontal (H) balance of DETAIL. (-2 (off to the vertical (V) side) to +2 (off to the horizontal (H) side))
- B/W Balance: Selects the balance of the lower DETAIL (B) and the upper DETAIL (W).
   (Type1 (off to the lower DETAIL (B) side) to Type5 (off to the upper DETAIL (W) side))
- Limit: Sets the limit level of [Detail]. (0 (Low limit level: likely to be limited) to 7 (High limit

level: unlikely to be limited))

- Crispning: Sets the crispening level. (0 (shallow crispening level) to 7 (deep crispening level))
- Hi-Light Detail: Sets the [Detail] level in the high intensity areas. (0 to 4)

## To copy the settings to another picture profile number

You can copy the settings of the picture profile to another picture profile number.

 $MENU \rightarrow 1$  (Camera Settings1)  $\rightarrow$  [Picture Profile]  $\rightarrow$  [Copy].

## To Reset the picture profile to the default setting

You can reset the picture profile to the default setting. You cannot reset all picture profile settings at once.

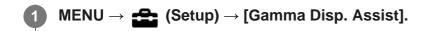
### Note

- Since the parameters are shared for movie and still images, adjust the value when you change the shooting mode.
- If you print RAW images with shooting settings, the following settings are not reflected:
  - Black Level
  - Black Gamma
  - Knee
  - Color Depth
- When the [ Record Setting] is [120p 100M]/[100p 100M] or [120p 60M]/[100p 60M], [Black Gamma] is fixed at "0" and cannot be adjusted.
- If you change [Gamma], the available ISO value range changes.
- There may be more noise in dark parts depending on the gamma settings. It may improve by setting the lens compensation to [Off].
- When using S-Log2 or S-Log3 gamma, the noise becomes more noticeable compared to when using other gammas. If the noise still is significant even after processing pictures, it may be improved by shooting with a brighter setting. However, the dynamic range becomes narrower accordingly when you shoot with a brighter setting. We recommend checking the picture in advance by test shooting when using S-Log2 or S-Log3.
- Setting [ITU709(800%)], [S-Log2] or [S-Log3] may cause an error in the white balance custom setup.
   In this case, perform custom setup with a gamma other than [ITU709(800%)], [S-Log2], or [S-Log3] first, and then reselect [ITU709(800%)], [S-Log2], or [S-Log3] gamma.
- Setting [ITU709(800%)], [S-Log2] or [S-Log3] disables the [Black Level] setting.
- If you set [Slope] to +5 in [Manual Set], [Knee] is set to [Off].
- S-Gamut, S-Gamut3.Cine, and S-Gamut3 are color spaces exclusive to Sony. However, this
  camera's S-Gamut setting does not support the whole S-Gamut color space; it is a setting to achieve
  a color reproduction equivalent to S-Gamut.

[151] Recording movies

# Gamma Disp. Assist

Movies with S-Log gamma are assumed to be processed after shooting in order to make use of the wide dynamic range. They are therefore displayed in low contrast during shooting and may be difficult to monitor, using [Gamma Disp. Assist], contrast equivalent to that of normal gamma can be reproduced. In addition, [Gamma Disp. Assist] can also be applied when playing back movies on the camera's monitor/viewfinder.



Select the desired setting using the top/bottom sides of the control wheel.

## Menu item details

Assist 7 Off:

Does not apply [Gamma Disp. Assist].

Assist 7 Auto:

Displays movies with an  $[S-Log2\rightarrow709(800\%)]$  effect when the gamma set in [Picture Profile] is [S-Log2], and with an  $[S-Log3\rightarrow709(800\%)]$  effect when the gamma is set to [S-Log3].

Assist 7 S-Log2 $\rightarrow$ 709(800%):

Displays movies with an S-Log2 gamma reproducing contrast equivalent to ITU709 (800%).

Assist 7 S-Log3 $\rightarrow$ 709(800%):

Displays movies with an S-Log3 gamma reproducing contrast equivalent to ITU709 (800%).

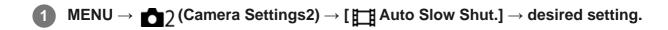
### Note

- When [Gamma Disp. Assist] is set to [Auto] during playback, the picture is displayed based on the current gamma setting in [Picture Profile] instead of auto-detecting the gamma value of the movie.
- [Gamma Disp. Assist] is not applied to movies when displayed on a TV or monitor connected to the camera.

[152] Recording movies

# **Auto Slow Shut. (movie)**

Sets whether or not to adjust the shutter speed automatically when recording movies if the subject is dark.



## Menu item details

#### On:

Uses Auto Slow Shutter. The shutter speed automatically slows when recording in dark locations. You can reduce noise in the movie by using a slow shutter speed when recording in dark locations.

### Off:

Does not use [ Auto Slow Shut.]. The recorded movie will be darker than when [On] is selected, but you can record movies with smoother motion and less object blur.

### **Note**

- [ Auto Slow Shut.] does not function in the following situations:
  - During slow-motion/quick-motion shooting
  - Es (Shutter Priority)
  - ─ **I** (Manual Exposure)
  - When [ISO] is set to other than [ISO AUTO]

[153] Recording movies

# AF drive speed (movie)

You can switch focusing speed when using autofocus in movie mode.



MENU  $\rightarrow$  (Camera Settings2)  $\rightarrow$  [ AF drive speed]  $\rightarrow$  desired setting.

## Menu item details

#### Fast:

Sets the AF drive speed to fast. This mode is suitable for shooting active scenes, such as sports.

## Normal:

Sets the AF drive speed to normal.

#### Slow:

Sets the AF drive speed to slow. With this mode, the focus switches smoothly when the subject to be focused is changed.

[154] Recording movies

# **AF Track Sens (movie)**

You can set the AF sensitivity in movie mode.



MENU  $\rightarrow$  2 (Camera Settings2)  $\rightarrow$  [ AF Track Sens] $\rightarrow$ desired setting.

### Menu item details

## Responsive:

Sets the AF sensitivity to high. This mode is useful when recording movies in which the subject is moving quickly.

#### Standard:

Sets the AF sensitivity to normal. This mode is useful when there are obstacles in front of the subject or in crowded places.

[155] Recording movies

# TC/UB Settings

The time code (TC) and the user bit (UB) information can be recorded as data attached to movies.



 $\textbf{MENU} \rightarrow \begin{tabular}{ll} \blacksquare \end{tabular} \textbf{(Setup)} \rightarrow \begin{tabular}{ll} \blacksquare \en$ 

## Menu item details

## TC/UB Disp. Setting:

Sets the display for the counter, time code, and user bit.

### TC Preset:

Sets the time code.

#### **UB Preset:**

Sets the user bit.

### TC Format:

Sets the recording method for the time code. (Only when [NTSC/PAL Selector] is set to NTSC.)

## TC Run:

Sets the count up format for the time code.

## TC Make:

Sets the recording format for the time code on the recording medium.

#### **UB Time Rec:**

Sets whether or not to record the time as a user bit.

## How to set the time code (TC Preset)

- 2. Turn the control wheel and select the first two digits.
  - The time code can be set between the following range.

When [60i] is selected: 00:00:00:00 to 23:59:59:29

\* When [24p] is selected, you can select the last two digits of the time code in multiples of four from 0 to 23 frames.

When [50i] is selected: 00:00:00:00 to 23:59:59:24

Set the other digits following the same procedure as in step 2, then press in the center of the control wheel.

### How to reset the time code

- 1.  $MENU \rightarrow \bigoplus$  (Setup)  $\rightarrow$  [TC/UB Settings]  $\rightarrow$  [TC Preset].
- 2. Press the im (Delete) button to reset the time code (00:00:00:00).

You can also reset the time code (00:00:00:00) using the RMT-VP1K remote commander (sold separately).

## How to set the user bit (UB Preset)

- 1.  $MENU \rightarrow \bigoplus$  (Setup)  $\rightarrow$  [TC/UB Settings]  $\rightarrow$  [UB Preset].
- 2. Turn the control wheel and select the first two digits.
- 3. Set the other digits following the same procedure as in step 2, then press in the center of the control wheel.

### How to reset the user bit

- 2. Press the (Delete) button to reset the user bit (00 00 00 00).

# How to select the recording method for the time code (TC Format\*1)

1. MENU  $\rightarrow$  (Setup)  $\rightarrow$  [TC/UB Settings]  $\rightarrow$  [TC Format].

## DF:

Records the time code in Drop Frame\*2 format.

#### NDF:

Records the time code in Non-Drop Frame format.

- \*1 Only when [NTSC/PAL Selector] is set to NTSC.
- \*2 The time code is based on 30 frames per second. However, a gap between the actual time and the time code will occur during extended periods of recording as the frame frequency of the NTSC image signal is approximately 29.97 frames per second. Drop frame corrects this gap to make the time code and actual time equal. In drop frame, the first 2 frame numbers are removed every minute except for every tenth minute. The time code without this correction is called non-drop frame.
  - The setting is fixed to [NDF] when recording in 4K/24p or 1080/24p.

## How to select the count up format for the time code (TC Run)

1. MENU  $\rightarrow$   $\blacksquare$  (Setup)  $\rightarrow$  [TC/UB Settings]  $\rightarrow$  [TC Run].

#### Rec Run:

Sets the stepping mode for the time code to advance only while recording. The time code is recorded sequentially from the last time code of the previous recording.

### Free Run:

Sets the stepping mode for the time code to advance anytime, regardless of the camera operation.

- The time code may not be recorded sequentially in the following situations even when the time code advances in [Rec Run] mode.
  - When the recording format is changed.
  - When the recording medium is removed.

## How to select how the time code is recorded (TC Make)

1.  $MENU \rightarrow \bigoplus$  (Setup)  $\rightarrow$  [TC/UB Settings]  $\rightarrow$  [TC Make].

### **Preset:**

Records the newly set time code on the recording medium.

## Regenerate:

Reads the last time code for the previous recording from the recording medium and records the new time code consecutively from the last time code. The time code advances in [Rec Run] mode regardless of the [TC Run] setting.

[156] Recording movies

# TC/UB Disp. Switch

Allows you to display the time code (TC) and user bit (UB) of a movie by pressing the key to which [TC/UB Disp. Switch] function has been assigned.

## Press the key to which [TC/UB Disp. Switch] is assigned.

 Each time you press the key, the monitor display will switch from the movie recording time counter → time code (TC) → user bit (UB), in that order. [157] Recording movies

## **MOVIE Button**

Sets whether or not to activate the MOVIE (Movie) button.



## 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/S&Q Motion] mode.

[158] Recording movies

# **Marker Display (movie)**

Sets whether or not to display markers set using [ Marker Settings] on the monitor or the viewfinder while shooting movies.



## Menu item details

On:

Markers are displayed. The markers are not recorded.

Off:

No marker is displayed.

#### **Note**

- The markers are displayed when the mode dial is set to [1] (Movie/S&Q Motion) or when shooting movies.
- You cannot display markers when using [Focus Magnifier].
- The markers are displayed on the monitor or viewfinder. (You cannot output the markers.)

[159] Recording movies

## **Marker Settings (movie)**

Sets the markers to be displayed while shooting movies.



 $\textbf{MENU} \rightarrow \textbf{m} \ \textbf{)} \ (\textbf{Camera Settings2}) \rightarrow \textbf{[marker Settings]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

#### Center:

Sets whether or not to display the center marker in the center of the shooting screen. [Off]/[On]

#### Aspect:

Sets the aspect marker display.

[Off]/[4:3]/[13:9]/[14:9]/[15:9]/[1.66:1]/[1.85:1]/[2.35:1]

#### Safety Zone:

Sets the safety zone display. This becomes the standard range that can be received by a general household TV.

[Off]/[80%]/[90%]

#### **Guideframe:**

Sets whether or not to display the guide frame. You can verify whether the subject is level or perpendicular to the ground.

[Off]/[On]

#### Hint

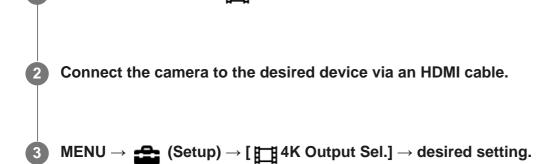
- You can display several markers at the same time.
- Place the subject on the cross point of the [Guideframe] to make a balanced composition.

[160] Recording movies

## 4K Output Sel. (movie)

You can set how to record movies and perform HDMI output when your camera is connected to 4K-compatible external recording/playback devices, etc.





#### Menu item details

#### Memory Card+HDMI:

Simultaneously outputs to the external recording/playback device and records on the camera's memory card.

#### HDMI Only(30p):

Outputs a 4K movie in 30p to the external recording/playback device without recording on the camera's memory card.

#### HDMI Only(24p) Super:

Outputs a 4K movie in 24p to the external recording/playback device without recording on the camera's memory card.

## HDMI Only(25p) Super \*:

Outputs a 4K movie in 25p to the external recording/playback device without recording on the camera's memory card.

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

- This item can be set only when the camera is in movie mode and connected to a 4K-compatible device.
- When [HDMI Only(30p)], [HDMI Only(24p) super ] or [HDMI Only(25p) super ] is set, [HDMI Info. Display] will temporarily be set to [Off].
- A 4K movie is not output to the connected 4K-compatible device during slow-motion/quick-motion shooting.
- When [HDMI Only(30p)], [HDMI Only(24p) Super or [HDMI Only(25p) Su
- When the camera is connected using an HDMI cable with [ File Format] is set to [XAVC S 4K], or when [ File Format] is set to [XAVC S 4K] and [Dual Video REC] is set to [On], the following functions are not available.
  - [Smile/Face Detect.]
  - [Lock-on AF] under [Focus Area]
  - [Center Lock-on AF]
  - [Eye AF]

[161] Viewing | Viewing images

## Playing back still images

Plays back the recorded images.



2 Select the image with the control wheel.

#### Hint

- 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].
- If you play back the images right after continuous shooting, the monitor may display an icon indicating that data is being written/the number of images left to write. During writing, some functions are not available.
- You can also enlarge an image by double-tapping the monitor. In addition, you can drag and move the magnified position on the monitor. Set [Touch Operation] to other than [Off] beforehand.

[162] Viewing | Viewing images

# Enlarging an image being played back (Playback zoom)

Enlarges the image being played back. Use this function to check the focus of the image, etc.

- 1 Display the image you want to enlarge, and then press the ⊕ button.
  - Turn the control wheel to adjust the zoom scale.
     By rotating the control dial, you can switch to the previous or next image while keeping the same zoom scale.
  - The view will zoom in on the part of the image where the camera focused during shooting. If the focus location information cannot be obtained, the camera will zoom in on the center of the image.

- Select the portion you want to enlarge by pressing the top/bottom/right/left sides of the control wheel.
- Press the MENU button, or the center of the control wheel to exit the playback zoom.

#### Hint

- You can also enlarge an image being played back using MENU.
- You can also enlarge an image by double-tapping the monitor. In addition, you can drag and move the magnified position on the monitor. Set [Touch Operation] to other than [Off] beforehand.

#### Note

You cannot enlarge movies.

[163] Viewing | Viewing images

## Rotating recorded images automatically (Display Rotation)

Selects the orientation when playing back recorded images.

1

 $\textbf{MENU} \rightarrow \ \ \, \textbf{[Playback)} \rightarrow \ \ \, \textbf{[Display Rotation]} \rightarrow \ \ \, \textbf{desired setting.}$ 

#### Menu item details

#### Auto:

When you rotate the camera, the displayed image rotates automatically by 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.

[164] Viewing | Viewing images

## Rotating an image (Rotate)

Rotates a recorded still image counter-clockwise.

Press the center of the control wheel.

- $\textbf{ Display the image to be rotated, then select MENU} \rightarrow \textbf{ [Rotate]}.$
- The image is rotated counter-clockwise. The image rotates as you press the center.

If you rotate the image once, the image remains rotated even after the product is turned off.

#### **Note**

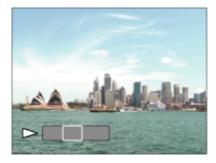
- You cannot rotate the movies.
- You may not be able to rotate images shot using other products.
- When viewing rotated images on a computer, the images may be displayed in their original orientation depending on the software.

[165] Viewing | Viewing images

## Playing back panoramic images

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

- Select the panoramic image to be played back using the control wheel and press the center to start playback.



- To pause playback, press the center again.
- To scroll panoramic images manually, press the top/bottom/right/left during pause.
- To return to the display of the entire image, press the MENU button.

#### **Note**

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

[166] Viewing | Viewing images

## Playing back movies

Plays back the recorded movies.

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

2 Select the movie to be played back using the control wheel and press the center of the control wheel to start playback.

#### Available operations during movie playback

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

: Playback

Pause : Pause

: Fast-forward

: Fast-rewind

Forward slow playbackReverse slow playback

Next movie file

Previous movie file

Displays the next frame

Displays the previous frame

Photo Capture

■ ■): Sound volume adjustment

Closes the operation panel

#### Hint

- "Forward slow playback," "Reverse slow playback," "Displays the next frame" and "Displays the previous frame" are available during pause.
- Movie files recorded using other products may not be able to be playable on this camera.

[167] Viewing | Viewing images

## **Volume Settings**

Sets the sound volume for movie playback.



 $MENU \rightarrow \bigoplus$  (Setup)  $\rightarrow$  [Volume Settings]  $\rightarrow$  desired setting.

### Adjusting the volume during playback

Press the bottom side 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.

[168] Viewing | Viewing images

## **Photo Capture**

Captures a chosen scene in a movie to save as a still image. First shoot a movie, then pause the movie during playback to capture decisive moments that tend to be missed when shooting still images, and save them as still images.

1 Display the movie that you want to capture as a still image.

**2** MENU  $\rightarrow$  (Playback)  $\rightarrow$  select [Photo Capture].



- Play back the movie and pause it.
- Find the desired scene using forward slow playback, reverse slow playback, displays the next frame, and displays the previous frame, and then stop the movie.
- 5 Press 🛱 (Photo Capture) to capture the chosen scene.

The scene is saved as a still image.

[169] Viewing | Viewing images

# Playing back images on the image index screen (Image Index)

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

- 1 Press the [ (Image Index) button while the image is being played back.
- Select the image by pressing the top/bottom/right/left sides of the control wheel or turning the control wheel.

#### To change the number of images to be displayed

 $\mathsf{MENU} \to \blacktriangleright \mathsf{Playback}) \to \mathsf{[Image\ Index]} \to \mathsf{desired\ setting}.$ 

#### Menu item details

12 Images/30 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 sides 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.

[170] Viewing | Viewing images

## Switching between still images and movies (View Mode)

Sets the View Mode (image display method).



#### Menu item details

Date View:

Displays the images by date.

Folder View(Still):

Displays only still images.

**P**<sub>MP4</sub> Folder View(MP4):

Displays only MP4-format movies.

**PAVCHD** AVCHD View:

Displays only AVCHD-format movies.

EXAMES XAVC S HD View:

Displays only XAVC S HD-format movies.

Exavcs XAVC S 4K View:

Displays only XAVC S 4K-format movies.

[171] Viewing | Viewing images

## Playing back images using slideshow (Slide Show)

Automatically plays back images continuously.



 $\textbf{MENU} \rightarrow \ \ \, \textbf{[Slide Show]} \rightarrow \textbf{desired setting.}$ 

## 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 guit the slideshow. You cannot pause the slideshow.

#### Hint

- During playback, you can display the next/previous image by pressing the right/left side of the control wheel.
- You can activate a slideshow only when [View Mode] is set to [Date View] or [Folder View(Still)].

[172] Viewing | Protecting data

## **Protecting images (Protect)**

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



 $\textbf{MENU} \rightarrow \ \ \, \textbf{[Protect]} \rightarrow \textbf{desired setting.}$ 

#### 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) MENU  $\rightarrow$  [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.

[173] Viewing | Designating images for printing (DPOF)

## **Specify 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."

DPOF setting will be retained after the image is printed. We recommend that you cancel this setting after printing.



 $MENU \rightarrow [Playback) \rightarrow [Specify Printing] \rightarrow desired setting.$ 

#### Menu item details

#### Multiple Img.:

Selects images to order printing.

- (1) Select an image and press the center of the control wheel. The  $\checkmark$  mark is displayed in the check box. To cancel the selection, press the center again and delete the  $\checkmark$  mark.
- (2) Repeat step (1) to print other images. To select several images in the date range or in the folder, select the check box of the date or the folder.
- (3) MENU  $\rightarrow$  [OK].

#### Cancel All:

Clears all DPOF marks.

#### **Print Setting:**

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

 The position or size of the date (inside or outside of the image) may differ depending on the printer.

- You cannot add the DPOF mark to the following files:
  - RAW images
- The number of images to be printed cannot be specified.

Some printers do not support the date print function.

[174] Viewing | Deleting images

## **Deleting a displayed image**

You can delete an image displayed. Once you have deleted an image, you cannot restore it. Confirm the image to be deleted beforehand.

- 1 Display the image you want to delete.
- **2** Press the 亩 (Delete) button.
- 3 Select [Delete] using the control wheel.

#### **Note**

The protected images cannot be deleted.

[175] Viewing | Deleting images

## Deleting multiple selected images (Delete)

You can delete multiple selected images. Once you have deleted an image, you cannot restore it. Confirm the image to be deleted beforehand.

#### 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  $\checkmark$  mark is displayed in the check box. To cancel the selection, press the center again to remove the  $\checkmark$ 

mark.

- (2) To delete other images, repeat step (1).
- (3) MENU  $\rightarrow$  [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.
- To display the desired folder or date, select the desired folder or date during playback by performing the following procedure:

(Image Index) button  $\rightarrow$  select the bar on the left using the control wheel  $\rightarrow$  select the desired folder or date using the top/bottom sides of the control wheel.

#### **Note**

- The protected images cannot be deleted.
- The menu items that can be selected differ depending on the [View Mode] setting.

[176] Viewing | Deleting images

## Delete confirm.

You can set whether [Delete] or [Cancel] is selected as the default setting on the delete confirmation screen.



 $\textbf{MENU} \rightarrow \clubsuit \textbf{(Setup)} \rightarrow \textbf{[Delete confirm.]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

"Delete" first:

[Delete] is selected as the default setting.

"Cancel" first:

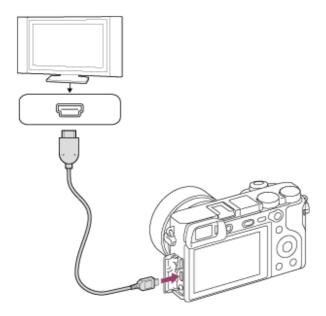
[Cancel] is selected as the default setting.

## Viewing images on a TV using an HDMI cable

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.

- Select an image using the right/left sides of the control wheel.
  - The monitor of this camera is not lit up on the playback screen.

#### "BRAVIA" Sync

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.

- 2. Press the SYNC MENU button on the TV remote control, and select the desired mode.
- If you connect this camera to a TV using an HDMI cable, available menu items are limited.
- 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].

#### Hint

- This product is compatible with the PhotoTV HD standard. If you connect Sony PhotoTV HDcompatible 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.

- 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.
- When [TC Output] is set to [On], the image may not be output properly to the TV or recording device. In such cases, set [TT C Output] to [Off].
- During HDMI output, when you switch the movie from 4K to HD image quality or vice-versa, or change the movie to a different frame rate, the screen may become dark. This is not a malfunction.

Allows you to register up to 2 often-used modes or product settings to the product and up to 4 (M1 through M4) to the memory card. You can recall the settings using just the mode dial.

- 1 Set the product to the setting you want to register.
- **2** MENU  $\rightarrow$  1(Camera Settings1)  $\rightarrow$  [ 1/12 Memory]  $\rightarrow$  desired number.
- 3 Press the center of the control wheel to confirm.

#### Items that can be registered

- You can register various functions for shooting. The items that can actually be registered are displayed on the menu of the camera.
- Aperture (F number)
- Shutter speed

#### To change registered settings

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

#### **Note**

- M1 through M4 can be selected only when a memory card is inserted into the product.
- Program Shift cannot be registered.

[179] Customizing the camera | Assigning selected functions to the button

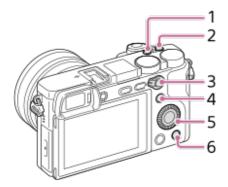
## Custom Key(Shoot.)/Custom Key(PB)

You can assign a desired function to a desired key.

Some functions are available only when they are assigned to a custom key. For example, if you assign [Eye AF] to [Center Button] for [Custom Key(Shoot.)], you can easily recall [Eye AF] simply by pressing the center of the control wheel while shooting.

- **1** MENU  $\rightarrow$  **2** (Camera Settings2)  $\rightarrow$  [Custom Key(Shoot.)] or [Custom Key(PB)].
- 2 Select the key to which you want to assign the function on the selection screen.

- The keys that can be assigned functions are different for [Custom Key(Shoot.)] and [Custom Key(PB)].
- You can assign the desired functions to the following keys.



- 1. Custom Button 2
- 2. Custom Button 1
- 3. AF/MF Button/AEL Button
- 4. Fn/ ★ Button
- 5. Control Wheel (Center Button/Down Button/Left Button/Right Button)
- 6. Custom Button 3
- You can also assign a shooting function to the focus hold button on the lens. However, some lenses do not have a focus hold button.
- 3 Select the function to be assigned.
  - The functions that can be assigned differ depending on the keys.

[180] Customizing the camera | Assigning selected functions to the button

## **Function Menu Set.**

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

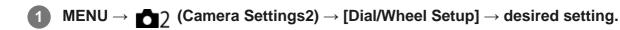
MENU  $\rightarrow$  2 (Camera Settings2)  $\rightarrow$  [Function Menu Set.]  $\rightarrow$  set a function to the desired location.

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

[181] Customizing the camera | Customizing the functions of the dial

## Dial/Wheel Setup

You can switch the functions of the control dial and the control wheel.



#### Menu item details

You can change the shutter speed using the control wheel, and change the aperture value using the control dial.

♠ F/no. ■ SS:

You can change the aperture value using the control wheel, and change the shutter speed using the control dial.

#### **Note**

[Dial/Wheel Setup] is enabled when the shooting mode is set to "M."

[182] Customizing the camera | Customizing the functions of the dial

## Dial / Wheel Lock

You can set whether the dial and wheel will be locked by pressing and holding the Fn (Function) button.

MENU  $\rightarrow$  (Camera Settings2)  $\rightarrow$  [Dial / Wheel Lock]  $\rightarrow$  desired setting.

#### Menu item details

#### Lock:

Locks the control dial and control wheel.

Does not lock the control dial or control wheel even if you press and hold the Fn (Function) button.

#### Hint

You can release the lock by holding the Fn (Function) button down again.

[183] Customizing the camera | Checking images before/after recording

## **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.



MENU  $\rightarrow$  (Camera Settings2)  $\rightarrow$  [Auto Review]  $\rightarrow$  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 you use a function that performs image processing, the image before processing may be displayed temporarily, followed by the image after processing.
- The DISP (Display Setting) settings are applied for the Auto Review display.

[184] Customizing the camera | Checking images before/after recording

## **Aperture Preview**

While you press and hold the key to which you assigned the [Aperture Preview] function, the aperture is stepped down to the set aperture value and you can check the blurriness prior to shooting.



MENU  $\rightarrow$  2 (Camera Settings2)  $\rightarrow$  [Custom Key(Shoot.)]  $\rightarrow$  set the [Aperture Preview] function to the desired key.

Confirm the image by pressing the key to which [Aperture Preview] was assigned.

#### Hint

 Although you can change the aperture value during the preview, the subject may be defocused if you select a brighter aperture. We recommend that you adjust the focus again.

[185] Customizing the camera | Checking images before/after recording

## **Shot. Result Preview**

While pressing down the key to which [Shot. Result Preview] is assigned, you can check the image preview with the DRO, shutter speed, aperture and ISO sensitivity settings applied. Check the shooting result preview before shooting.

- MENU  $\rightarrow$  2 (Camera Settings2)  $\rightarrow$  [Custom Key(Shoot.)]  $\rightarrow$  set the [Shot. Result Preview] function to the desired key.
- 2 Confirm the image by pressing the key to which [Shot. Result Preview] was assigned.

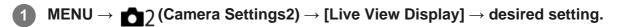
#### Hint

• The DRO settings, shutter speed, aperture and ISO sensitivity settings you have set are reflected on the image for [Shot. Result Preview], but some effects cannot be previewed depending on the shooting settings. Even in that case, the settings you have selected will be applied to the images you shoot.

[186] Customizing the camera | Checking images before/after recording

## **Live View Display**

Sets whether or not to show images altered with effects of the exposure compensation, white balance, [Creative Style], or [Picture Effect] on the screen.



#### Menu item details

#### **Setting Effect ON:**

Displays Live View in conditions close to what your picture will look like as a result of applying all your settings. This setting is useful when you want to shoot pictures while checking the results of the shot on the Live View screen.

#### **Setting Effect OFF:**

Displays Live View without the effects of exposure compensation, white balance, [Creative Style], or [Picture Effect]. When this setting is used, you can easily check the image composition.

Live View is always displayed with the appropriate brightness even in [Manual Exposure] mode.

When [Setting Effect OFF] is selected, the VIEW icon is displayed on the Live View screen.

#### Note

- [Live View Display] cannot be set to [Setting Effect OFF] in the following shooting modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Sweep Panorama]
  - [Movie/S&Q Motion]
  - [Scene Selection]
- When [Live View Display] is set to [Setting Effect OFF], the brightness of the shot image will not be the same as that of the displayed Live View.

#### Hint

When you use a third-party flash, such as a studio flash, Live View Display may be dark for some shutter speed settings. When [Live View Display] is set to [Setting Effect OFF], Live View Display will be displayed brightly, so that you can easily check the composition.

[187] Customizing the camera | Monitor/viewfinder settings

## **Grid Line**

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

#### 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.

[188] Customizing the camera | Monitor/viewfinder settings

### FINDER/MONITOR

Sets the method for switching the display between Electronic Viewfinder and the screen.



 $\textbf{MENU} \rightarrow \textbf{m}) \text{ (Camera Settings2)} \rightarrow \textbf{[FINDER/MONITOR]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

#### Auto:

When you look into the Electronic Viewfinder, the eye sensor reacts and the display is switched to the Electronic Viewfinder automatically.

#### Viewfinder(Manual):

The screen is turned off and the image is displayed only in the Electronic Viewfinder.

#### Monitor(Manual):

The Electronic Viewfinder is turned off and the image is always displayed on the screen.

#### Hint

- You can assign the [FINDER/MONITOR] function to your preferred key.
   MENU → 2 (Camera Settings2) → [Custom Key(Shoot.)] → set [Finder/Monitor Sel.] to the preferred key.
- To turn off automatic switching of the display using the eye sensor, set [FINDER/MONITOR] to [Viewfinder(Manual)] or [Monitor(Manual)].

## **Deactivate Monitor**

When you press the key to which the [Deactivate Monitor] function has been assigned, the monitor turns black, and the screen display is locked to [No Disp. Info.].

- MENU → 2 (Camera Settings2) → [Custom Key(Shoot.)] → set the [Deactivate Monitor] function to the desired key.
- Press the key to which [Deactivate Monitor] is assigned.
  - To return to the display, press the key to which [Deactivate Monitor] is assigned again.

#### **Note**

• Even if you perform [Deactivate Monitor], the backlight of monitor remains on. To turn off the backlight, switch the monitor mode to viewfinder mode using the [FINDER/MONITOR] function.

[190] Customizing the camera | Monitor/viewfinder settings

## **Monitor Brightness**

Adjust the brightness of the screen.

#### Menu item details

#### Manual:

Adjusts the brightness within the range of -2 to +2.

#### **Sunny Weather:**

Sets the brightness appropriately for shooting outdoors.

- The [Sunny Weather] setting is too bright for shooting indoors. Set [Monitor Brightness] to [Manual] for indoor shooting.
- The monitor brightness cannot be adjusted in the following situations. The maximum brightness will be [±0].

- When [ File Format] is set to [XAVC S 4K].
- When [ File Format] is set to [XAVC S HD] and [ Record Setting] is set to [120p]/[100p].
- When [ Sx0 Frame Rate] is set to [120fps]/[100fps] during slow-motion/quick-motion shooting.
- The monitor brightness is locked at [-2] when shooting a movie using the Wi-Fi functions.

[191] Customizing the camera | Monitor/viewfinder settings

## Viewfinder Bright.

When using an electronic viewfinder, this product adjusts the brightness of the electronic viewfinder according to the surrounding environment.



 $\textbf{MENU} \rightarrow \begin{tabular}{ll} \blacksquare \end{tabular} \textbf{(Setup)} \rightarrow \begin{tabular}{ll} \textbf{(Setup)} \rightarrow \begi$ 

#### Menu item details

#### Auto:

Adjusts the brightness automatically.

#### Manual:

Selects the brightness of the electronic viewfinder from the range -2 to +2.

#### Note

- The electronic viewfinder brightness cannot be adjusted in the following situations. The maximum brightness will be [±0].
  - When [ File Format] is set to [XAVC S 4K].
  - When [ File Format] is set to [XAVC S HD] and [ Record Setting] is set to [120p]/[100p].
  - When [ Sx0 Frame Rate] is set to [120fps]/[100fps] during slow-motion/quick-motion shooting.
- You cannot use the viewfinder while using Wi-Fi functions. The camera will switch to screen display mode
- When [ Finder Frame Rate] is set to [120fps]/[100fps], [Viewfinder Bright.] cannot be set to [Auto]. [Viewfinder Bright.] can only be set to [Manual].

[192] Customizing the camera | Monitor/viewfinder settings

## Finder Color Temp.

Adjusts the color temperature of the electronic viewfinder.



 $MENU \rightarrow$  (Setup)  $\rightarrow$  [Finder Color Temp.]  $\rightarrow$  desired setting.

#### Menu item details

#### -2 to +2:

When you select "-," the viewfinder screen changes to a warmer color, and when you select "+," it changes to a colder color.

[193] Customizing the camera | Monitor/viewfinder settings

## **Finder Frame Rate (still image)**

Display the subject's movements more smoothly by adjusting the frame rate of the viewfinder during still image shooting. This function is convenient when shooting a fast-moving subject.



MENU  $\rightarrow$  **6** (Camera Settings2)  $\rightarrow$  [Finder Frame Rate]  $\rightarrow$  desired setting.

• This function can be assigned to button of your choice using [Custom Key(Shoot.)].

#### Menu item details

#### 120fps/100fps:

Displays the movements of the subject more smoothly on the viewfinder.

#### 60fps/50fps:

Displays the subject at a normal frame rate on the viewfinder.

- When [ Finder Frame Rate] is set to [120fps]/[100fps], the resolution of the viewfinder is lowered.
- [Mark Finder Frame Rate] is locked to [60fps]/[50fps] in the following modes:
  - During playback
  - During movie shooting
  - During HDMI connection

You can change the display quality.



 $MENU \rightarrow \bigoplus$  (Setup)  $\rightarrow$  [Display Quality]  $\rightarrow$  desired setting.

#### Menu item details

High:

Displays in high quality.

Standard:

Displays in standard quality.

#### **Note**

When [High] is set, battery consumption will be higher than when [Standard] is set.

[195] Customizing the camera | Monitor/viewfinder settings

## **Bright Monitoring**

Allows you to adjust the composition when shooting in dark environments. By extending the exposure time, you can check the composition on the viewfinder/monitor even in dark locations such as under the night sky.

- MENU  $\rightarrow$  (Camera Settings2)  $\rightarrow$  [Custom Key(Shoot.)]  $\rightarrow$  assign the [Bright Monitoring] function to the desired key.
- Press the key to which you assigned the [Bright Monitoring] function, then shoot an image.
  - The brightness due to [Bright Monitoring] will continue after shooting.
  - To return the monitor brightness to normal, press the key to which you assigned the [Bright Monitoring] function once again.

- During [Bright Monitoring], [Live View Display] will automatically switch to [Setting Effect OFF], and setting values such as exposure compensation will not be reflected in the live view display. It is recommended that you use [Bright Monitoring] only in dark locations.
- [Bright Monitoring] will be automatically cancelled in the following situations.

- When the camera is turned off.
- When the shooting mode is changed from P/A/S/M to a mode that is not P/A/S/M.
- When the focus mode is set to other than manual focus.
- When [Focus Magnifier] is selected.
- During [Bright Monitoring], the shutter speed may be slower than normal while shooting in dark locations. Also, because the measured brightness range is expanded, the exposure may change.

[196] Customizing the camera | Memory card settings

#### **Format**

When you use a memory card with this camera for the first time, we recommend that you format the card using the camera 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.



 $MENU \rightarrow \bigoplus (Setup) \rightarrow [Format].$ 

#### **Note**

- Formatting permanently erases all data including protected images and registered settings (from M1 to M4).
- The access lamp lights up during formatting. Do not remove the memory card while the access lamp is lit up.
- Format the memory card on this camera. If you format the memory card on the computer, the memory card may not be usable depending on the format type.
- It may take a few minutes to complete formatting, depending on the memory card.
- You cannot format the memory card if the remaining battery charge is less than 1%.

[197] Customizing the camera | Memory card settings

## File Number

Selects how to assign file numbers to recorded still images and MP4 movies.



#### 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.)

[198] Customizing the camera | Memory card settings

#### **Set File Name**

You can specify the first three characters of the file name for images you shoot.

- Select the entry field for the file name to display a keyboard on the screen, and then enter three characters of your choice.

#### **Note**

- Only capital letters, numbers, and underscores can be entered. However, an underscore cannot be used as the first character.
- The three characters of the file name you specify using [Set File Name] will only be applied to images you shoot after changing the setting.

[199] Customizing the camera | Memory card settings

## Display Media Info.

Displays the recordable time of movies for the inserted memory card. Also displays the number

of recordable still images for the inserted memory card.



[200] Customizing the camera | Memory card settings

## **Select REC Folder**

If [Folder Name] is set to [Standard Form] and there are 2 folders or more, you can select the folder on the memory card to which images are to be recorded.



 $MENU \rightarrow \bigoplus$  (Setup) $\rightarrow$ [Select REC Folder] $\rightarrow$ desired folder.

#### Note

You cannot select the folder when [Folder Name] is set to [Date Form].

[201] Customizing the camera | Memory card settings

## **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.



- 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.

[202] Customizing the camera | Memory card settings

### **Folder Name**

Still images are recorded in a folder that is automatically created inside the DCIM folder on the memory card. You can change the way folder names are assigned.



#### Menu item details

#### **Standard Form:**

The folder name form is as follows: folder number + MSDCF.

Example: 100MSDCF

#### **Date Form:**

The folder name form is as follows: folder number + Y (the last digit)/MM/DD.

Example: 10060405(Folder number: 100, date: 04/05/2016)

#### **Note**

You cannot change the [Folder Name] settings for movies.

[203] Customizing the camera | Memory card settings

## **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].



#### Note

 Use a sufficiently charged battery pack. Low battery power during repairing can cause damage to data.

## **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.

- 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.

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

The state of the

🛜 : Error

- 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 indicator will be displayed on the product.
- Power save mode will not function during uploading.
- If (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.
- Third parties may know where you shot the image if you upload the image when [☐ Loc. Info. Link Set.] → [Location Info. Link] is set to [On]. To prevent third parties from obtaining your location information, set [☐ Loc. Info. Link Set.] → [Location Info. Link] to [Off].
- 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.
- When you use a new Eye-Fi card for the first time, copy the installation file on the Eye-Fi card to your computer before formatting the Eye-Fi card.
- Update the firmware of an Eye-Fi card to the latest version before using the Eye-Fi card. For details, refer to the manual supplied with the Eye-Fi card.
- For details on files you can upload, refer to the manual supplied with the Eye-Fi card.

[205] Customizing the camera | Camera settings

## **Audio signals**

Selects whether the product produces a sound or not.



 $\textbf{MENU} \rightarrow \textbf{max} \ \, \textbf{(Camera Settings2)} \rightarrow \textbf{[Audio signals]} \rightarrow \textbf{desired setting.}$ 

#### 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.

[206] Customizing the camera | Camera settings

## Tile Menu

Selects whether to always display the first screen of the menu when you press the MENU button.

1

 $MENU \rightarrow \bigoplus$  (Setup)  $\rightarrow$  [Tile Menu]  $\rightarrow$  desired setting.

#### Menu item details

On:

Always displays the first screen of the menu (Tile Menu).

Off:

Deactivates the Tile Menu display.

[207] Customizing the camera | Camera settings

### **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 item details

On:

Displays the Mode Dial Guide.

Off:

Does not display the Mode Dial Guide.

[208] Customizing the camera | Camera settings

## **Pwr Save Start Time**

Sets time intervals to automatically switch to power save mode when you are not performing operations to prevent wearing down the battery pack. To return to shooting mode, perform an operation such as pressing the shutter button halfway down.

1

 $\textbf{MENU} \rightarrow \textbf{ (Setup)} \rightarrow \textbf{ [Pwr Save Start Time]} \rightarrow \textbf{ desired setting.}$ 

#### Menu item details

#### 30 Min/5 Min/2 Min/1 Min/10 Sec

#### **Note**

- Turn off the product when you do not use it for a long time.
- When using a lens with power zoom, the lens is retracted one minute after the product stops operation if [Pwr Save Start Time] is set to [10 Sec].
- 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.

[209] Customizing the camera | Camera settings

## Auto Pwr OFF Temp.

Sets the temperature of the camera at which the camera turns off automatically during shooting. When it is set to [High], you can continue shooting even when the temperature of the camera gets hotter than normal.



 $\textbf{MENU} \rightarrow \clubsuit \textbf{ (Setup)} \rightarrow \textbf{[Auto Pwr OFF Temp.]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

#### Standard:

Sets the standard temperature at which the camera turns off.

#### High:

Sets a higher temperature than the standard at which the camera turns off.

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

- Do not shoot while holding the camera in your hand. Use a tripod.
- Using the camera while holding it in your hand for a long period of time may cause lowtemperature burns.

## Continuous recording time for movies when [Auto Pwr OFF Temp.] is set to [High]

The following values are the continuous times from when the camera starts recording until the camera stops recording.

#### Ambient temperature: 20°C (68°F)

Continuous recording time for movies (HD): Approx. 29 minutes Continuous recording time for movies (4K): Approx. 29 minutes

Ambient temperature: 30°C (86°F)

Continuous recording time for movies (HD): Approx. 29 minutes

Continuous recording time for movies (4K): Approx. 29 minutes

Ambient temperature: 40°C (104°F)

Continuous recording time for movies (HD): Approx. 29 minutes

Continuous recording time for movies (4K): Approx. 20 minutes

HD: XAVC S HD (60p 50M/50p 50M, not connected via Wi-Fi)

4K: XAVC S 4K (24p 60M, not connected via Wi-Fi)

#### **Note**

 Even if [Auto Pwr OFF Temp.] is set to [High], depending on the conditions or the temperature of the camera, the recordable time for movies may not change.

[210] Customizing the camera | Camera settings

## **Remote Ctrl**

You can operate this product and shoot images using the SHUTTER button, 2SEC button (2 second delay shutter), and START/STOP button (or Movie button (RMT-DSLR2 only)) on the Wireless Remote Commander RMT-DSLR1 (sold separately) and RMT-DSLR2 (sold separately). Refer also to the operating instructions for the Wireless Remote Commander.



#### Menu item details

On:

Allows remote commander operation.

Off:

Does not allow remote commander operation.

- The lens or lens hood may block the remote sensor that receive the signals. Use the remote commander in the position from which the signal can reach the product.
- When [Remote Ctrl] is set to [On], the product does not switch to power save mode. Set [Off] after using a remote commander.

## **NTSC/PAL Selector**

Plays back movies recorded with the product on a NTSC/PAL system TV.

#### Note

- If you insert a memory card that has previously been formatted with a different video system, a
  message telling you that you must reformat the card will appear.
   If you want to record using another system, re-format the memory card or use another memory card.
- When you perform [NTSC/PAL Selector], and the setting is changed from the default one, a message "Running on NTSC." or "Running on PAL." will appear on the start-up screen.

[212] Customizing the camera | Camera settings

## **HDMI Settings: 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.

#### Menu item details

#### Auto:

The product automatically recognizes an HD TV and sets the output resolution.

#### 2160p/1080p:

Outputs signals in 2160p/1080p.

#### 1080p:

Outputs signals in HD picture quality (1080p).

#### 1020i-

Outputs signals in HD picture quality (1080i).

#### **Note**

 If the images are not displayed properly using the [Auto] setting, select either [1080i], [1080p] or [2160p/1080p], based on which TV is to be connected. [213] Customizing the camera | Camera settings

# HDMI Settings: 24p/60p Output (movie) (Only for 1080 60i compatible models)

Set 1080/24p or 1080/60p as the HDMI output format when [  $\blacksquare$  Record Setting] is set to [24p 24M(FX)  $\frac{\text{Super}}{\text{35mm}}$ ], [24p 17M(FH)  $\frac{\text{Super}}{\text{35mm}}$ ], [24p 50M  $\frac{\text{Super}}{\text{35mm}}$ ].

- MENU  $\rightarrow$  (Setup)  $\rightarrow$  [HDMI Settings]  $\rightarrow$  [HDMI Resolution]  $\rightarrow$  [1080p] or [2160p/1080p].

## Menu item details

60p:

Movies are output as 60p.

24p:

Movies are output as 24p.

## **Note**

- Steps 1 and 2 can be set in either order.
- When [ Record Setting] is set to other than [24p 24M(FX) Super ], [24p 17M(FH) Super ], or [24p 50M Super ], this setting is canceled, and HDMI video is output according to the [HDMI Resolution] settings.

[214] Customizing the camera | Camera settings

# **HDMI Settings: HDMI Info. Display**

Selects whether to display the shooting information when this product and the TV are connected using an HDMI cable (sold separately).

# Menu item details

On:

Displays the shooting information on the TV.

The recorded image and the shooting information are displayed on the TV, while nothing is displayed on the camera's monitor.

#### Off:

Does not display the shooting information on the TV.

Only the recorded image is displayed on the TV, while the recorded image and the shooting information are displayed on the camera's monitor.

#### Note

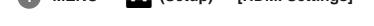
When this product is connected to a 4K-compatible TV, [Off] is selected automatically.

[215] Customizing the camera | Camera settings

# **HDMI Settings: TC Output (movie)**

Sets whether or not to layer the TC (time code) information on the output signal via the HDMI terminal when outputting the signal to other professional-use devices.

This function layers the time code information on the HDMI output signal. The product sends the time code information as digital data, not as an image displayed on the screen. The connected device can then refer to the digital data to recognize the time data.



 $\textbf{MENU} \rightarrow \clubsuit \textbf{ (Setup)} \rightarrow \textbf{[HDMI Settings]} \rightarrow \textbf{[} \biguplus \textbf{TC Output]} \rightarrow \textbf{desired setting.}$ 

### Menu item details

On:

Time code is output to other devices.

Off:

Time code is not output to other devices.

## Note

• When [TTC Output] is set to [On], the image may not be output properly to the TV or recording device. In such cases, set [TTTC Output] to [Off].

If you connect the camera to an external recorder/player, you can remotely command the recorder/player to start/stop recording using the camera.

### Menu item details

On:

The camera can send a recording command to an external recorder/player.

The camera is sending a recording command to an external recorder/player.

Off:

The camera is not able to send a command to an external recorder/player to start/stop recording.

#### **Note**

- Available for external recorders/players compatible with [ REC Control].
- When [ TC Output] is [Off], [ REC Control] is set to [Off].

[217] Customizing the camera | Camera settings

# **HDMI Settings: 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.

Connect this product to a "BRAVIA" Sync-compatible TV.

The input of the TV is switched automatically and images on this product are displayed on the TV screen.

3 Press the SYNC MENU button of the TV's remote control.



Operate this product using the TV's remote control.

## 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**

- If you connect this product to a TV using an HDMI cable, available menu items are limited.
- [CTRL FOR HDMI] is available only with a "BRAVIA" Sync-compatible TV. Also, the SYNC MENU
  operation differs depending on the TV you are using. 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].

[218] Customizing the camera | Camera settings

# **USB** Connection

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



# 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, Windows 8.1, or Windows 10 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, Windows 8.1, or Windows 10 computers are connected in MTP, and their unique functions are enabled for use.

### PC Remote:

Uses "Remote Camera Control" to control this product from the computer, including such functions as shooting and storing images on the computer.

#### **Note**

It may take some time to make the connection between this product and a computer when [USB Connection] is set to [Auto].

[219] Customizing the camera | Camera settings

# **USB LUN Setting**

Enhances compatibility by limiting of USB connection functions.



## Menu item details

Multi:

Normally, use [Multi].

Single:

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

[220] Customizing the camera | Camera settings

# **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.



 $MENU \rightarrow$  (Setup)  $\rightarrow$  [USB Power Supply]  $\rightarrow$  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.

## Note

• Insert the battery pack into the product to supply power via USB cable.

[221] Customizing the camera | Camera settings

# PC Remote Settings: Still Img. Save Dest.

Sets whether to save still images stored in both the camera and the computer during PC Remote shooting. This setting is useful when you want to check recorded images on the camera without leaving the camera.

\* PC Remote: Uses "Remote Camera Control" to control this product from the computer, including such functions as shooting and storing images on the computer.



MENU  $\rightarrow$  **(Setup)**  $\rightarrow$  [PC Remote Settings]  $\rightarrow$  [Still Img. Save Dest.]  $\rightarrow$  desired setting.

# Menu item details

# PC Only:

Saves still images only on the computer.

#### PC+Camera:

Saves still images on the computer and the camera.

#### **Note**

- During PC Remote shooting, you cannot change settings for [Still Img. Save Dest.]. Adjust the settings before you start shooting.
- If you insert a memory card that is not recordable, you cannot shoot still images even if you select [PC+Camera].
- If you select [PC+Camera] and you have not inserted a memory card into the camera, you cannot release the shutter even if [Release w/o Card] is set to [Enable].
- While you are playing back still images on the camera, you cannot shoot using PC Remote.

[222] Customizing the camera | Camera settings

Selects the file type for images to be transferred to the computer in PC Remote shooting. When shooting still images using PC Remote, the application on the computer does not display the image until the image has been completely transferred. When performing RAW+JPEG shooting, you can accelerate the display processing speed by transferring only JPEG images instead of transferring both RAW and JPEG images.

\* PC Remote: Uses "Remote Camera Control" to control this product from the computer, including such functions as shooting and storing images on the computer.



MENU  $\rightarrow$  (Setup)  $\rightarrow$  [PC Remote Settings]  $\rightarrow$  [RAW+J PC Save Img]  $\rightarrow$  desired setting.

## Menu item details

#### **RAW & JPEG:**

Transfers both RAW and JPEG files to the computer.

# JPEG Only:

Transfers only JPEG files to the computer.

## **RAW Only:**

Transfers only RAW files to the computer.

#### **Note**

[RAW+J PC Save Img] can be set only when [AW Quality] is set to [RAW & JPEG].

[223] Customizing the camera | Camera settings

# Language

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



[224] Customizing the camera | Camera settings

# **Date/Time Setup**

The Clock Set screen is displayed automatically when you turn on this product for the first time or when the internal rechargeable backup battery has fully discharged. Select this menu when setting the date and time after the first time.

## 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.

### Hint

- To charge the internal rechargeable backup battery, insert a charged battery pack, and leave the product for 24 hours or more with the power off.
- If the clock resets every time the battery is charged, the internal rechargeable backup battery may be worn out. Consult your service facility.

[225] Customizing the camera | Camera settings

# **Area Setting**

Sets the area where you are using the product.

[226] Customizing the camera | Camera settings

# **Copyright Info**

Writes copyright information onto the still images.

**1** MENU  $\rightarrow$  **2** (Setup)  $\rightarrow$  [Copyright Info]  $\rightarrow$  desired setting.

When you select [Set Photographer] or [Set Copyright], a keyboard appears on the screen. Enter your desired name.

## Menu item details

## Write Copyright Info:

Sets whether to write copyright information. ([On]/[Off])

If you select [On], an (c) icon will appear on the shooting screen.

# Set Photographer:

Sets the photographer name.

## **Set Copyright:**

Sets the copyright holder name.

## Disp. Copyright Info:

Displays the current copyright information.

#### **Note**

- You can only enter alphanumeric characters and symbols for [Set Photographer] and [Set Copyright].
   You can enter up to 46 letters.
- A (c) icon appears during the playback of images with copyright information.
- In order to prevent unauthorized use of [Copyright Info], be sure to clear the [Set Photographer] and [Set Copyright] columns before lending out or handing over your camera.
- Sony is not liable for problems or damages resulting from use of [Copyright Info].

[227] Customizing the camera | Camera settings

# Version

Displays the version of this product's software. Check the version when updates for this product's software are released, etc.

Also displays the version of the lens if a lens compatible with software updates is attached. Also displays the version of the adaptor if an adaptor compatible with software updates is attached.



 $\mathsf{MENU} \to \bigoplus \mathsf{(Setup)} \to \mathsf{[Version]}.$ 

## Note

Updating can be performed only when the battery level is the use of a sufficiently charged battery or the AC Adaptor (sold separately) is recommended.

[228] Customizing the camera | Camera settings

# **Certification Logo (For some models only)**

Displays some of the certification logos for this product.



[229] Customizing the camera | Camera settings

# **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].



# Menu item details

#### On:

The movie playback demonstration starts automatically if the product is not operated for about one minute. Only protected AVCHD movies can be 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**

- You can set this item only when the product is powered by the AC Adaptor (supplied).
- 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.

# **Setting Reset**

Resets the product to the default settings. Even if you perform [Setting Reset], the recorded images are retained.



 $MENU \rightarrow \bigoplus$  (Setup)  $\rightarrow$  [Setting Reset]  $\rightarrow$  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.
- When you perform [Initialize], downloaded applications on the product may be uninstalled. To use these applications again, re-install them.
- The value set with [AF Micro Adj.] will not be reset even when [Camera Settings Reset] or [Initialize] is performed.

[231] Using wireless functions | Connecting this product and a Smartphone

# **PlayMemories Mobile**

Using the smartphone application PlayMemories Mobile, you can shoot an image while controlling the camera using a smartphone or transfer the images recorded on the camera to the smartphone. Download and install the application PlayMemories Mobile from your smartphone's application store. If PlayMemories Mobile is already installed on your smartphone, be sure to update it to the latest version.

For details on PlayMemories Mobile, refer to the support page (http://www.sony.net/pmm/).

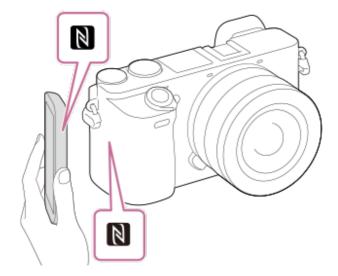
#### **Note**

 Depending on future version upgrades, the operational procedures or screen displays are subject to change without notice.

# Controlling the camera using an Android smartphone (NFC One-touch remote)

You can connect this product to an NFC-enabled Android smartphone by touching them together and then operate the product using the smartphone.

- 1 Activate the NFC function of the smartphone.
- 2 Switch this product to shooting mode.
  - The NFC function is available only when the (N mark) is displayed on the screen.
- 3 Touch the smartphone to the product.



The smartphone and the product are connected, and PlayMemories Mobile launches.

- You can shoot an image by remote control while checking the composition of the image on the smartphone screen.
- Touch the smartphone to the product for 1-2 seconds until PlayMemories Mobile launches.

## **About "NFC"**

NFC is a technology that enables short-range wireless communication between various devices, such as mobile phones or IC tags, etc. NFC makes data communication simpler with just a touch on the designated touch-point.

 NFC (Near Field Communication) is an international standard of short-range wireless communication technology.

### **Note**

- If you cannot make a connection, do as the following:
  - Launch PlayMemories Mobile on your smartphone, and then move the smartphone slowly toward the N (N mark) of this product.
  - If the smartphone is in a case, remove it.
  - If the product is in a case, remove it.
  - Check whether the NFC function is activated on your smartphone.
  - Check whether [Smart Remote Embedded] is assigned to [One-touch(NFC)].
- Radio wave interference may occur as Bluetooth communications and Wi-Fi communications use the same frequency band. If your Wi-Fi connection is unstable, it may be improved by turning off the Bluetooth function of the smartphone. If you do this, the location information interlocking function is not available.
- When you record movies using a smartphone as a remote controller, the monitor of the product becomes darker. Also, you cannot use the viewfinder during shooting the still images or movies.
- When [Airplane Mode] is set to [On], you cannot connect this product and the smartphone. Set [Airplane Mode] to [Off].
- If this product and the smartphone are connected when the product is in playback mode, the displayed image is sent to the smartphone.

[233] Using wireless functions | Connecting this product and a Smartphone

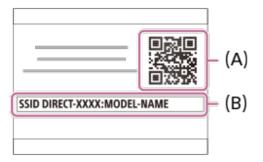
# Controlling the camera using an Android smartphone (QR code)

You can control this product using your smartphone by connecting your smartphone to the camera using the QR code.

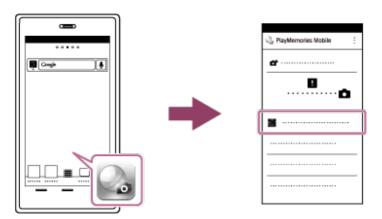


 $\textbf{MENU} \rightarrow \blacksquare \textbf{ [Application)} \rightarrow \textbf{[Application List]} \rightarrow \textbf{[Smart Remote Embedded]}.$ 

QR code (A) and the SSID (B) are displayed on the monitor of this product.



Launch PlayMemories Mobile on your smartphone and select [Scan QR Code of the Camera].



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



4 Read the QR code displayed on the monitor of this product with the smartphone.

Once the QR code has been read, a message [Connect with the camera?] will be displayed on the monitor of the smartphone.

5 Select [OK] on the smartphone screen.

The smartphone is connected to the product.

 You can shoot an image using remote control while checking the composition of the image on the smartphone screen.

### Hint

Once the QR code has been read, this product's SSID (DIRECT-xxxx) and password are registered

to the smartphone. This enables you to easily connect the smartphone to the product via Wi-Fi at a later date by selecting the SSID.

## Note

- Radio wave interference may occur as Bluetooth communications and Wi-Fi communications use the same frequency band. If your Wi-Fi connection is unstable, it may be improved by turning off the Bluetooth function of the smartphone. If you do this, the location information interlocking function is not available.
- When you record movies using a smartphone as a remote controller, the monitor of the product becomes darker. Also, you cannot use the viewfinder during shooting the still images or movies.
- If you cannot connect your device to this product using the [One-touch(NFC)] function or QR code, use the SSID and password.

[234] Using wireless functions | Connecting this product and a Smartphone

# Controlling the camera using an Android smartphone (SSID)

You can control this product using your smartphone by connecting your smartphone to the camera using the SSID and password.

**1** MENU  $\rightarrow \square$  (Application)  $\rightarrow$  [Application List]  $\rightarrow$  [Smart Remote Embedded].

QR code is displayed on the monitor of this product.

Press the 前 (Delete) button of this product.

This product's SSID and password are displayed on the monitor of this product.



4 Select the model name of this product (DIRECT-xxxx: xxxx).



**5** Input the password that is displayed on this product.



The smartphone is connected to the product.

 You can shoot an image using remote control while checking the composition of the image on the smartphone screen.

## Note

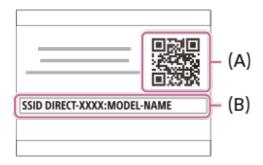
- Radio wave interference may occur as Bluetooth communications and Wi-Fi communications use the same frequency band. If your Wi-Fi connection is unstable, it may be improved by turning off the Bluetooth function of the smartphone. If you do this, the location information interlocking function is not available.
- When you record movies using a smartphone as a remote controller, the monitor of the product becomes darker. Also, you cannot use the viewfinder during shooting the still images or movies.

[235] Using wireless functions | Connecting this product and a Smartphone

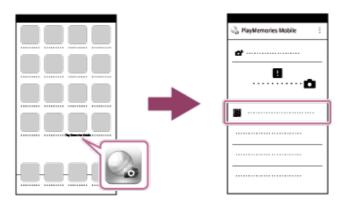
# Controlling the camera using an iPhone or iPad (QR code)

You can connect an iPhone or iPad to the camera using the QR code and operate the camera using the iPhone or iPad.

QR code (A) and the SSID (B) are displayed on the monitor of this product.



2 Launch PlayMemories Mobile on your iPhone or iPad and select [Scan QR Code of the Camera].



- Select [OK] on the iPhone or iPad screen.
  - When a message is displayed, select [OK] again.



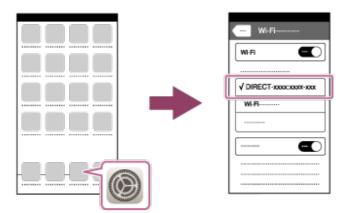
- Read the QR code displayed on the monitor of this product with the iPhone or iPad.
- Install the profile (setting information) by following the instructions shown on the iPhone or iPad screen and select [OK].

The profile will be installed to the iPhone or iPad.



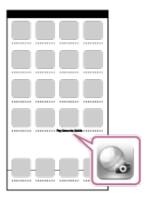
6 Select [Settings] on the "Home" screen  $\rightarrow$  [Wi-Fi]  $\rightarrow$  this product's SSID.

The iPhone or iPad will connect to the product.





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



 You can shoot an image using remote control while checking the composition of the image on the screen of the iPhone or iPad.

#### Hint

Once the QR code has been read, this product's SSID (DIRECT-xxxx) and password are registered
to the iPhone or iPad. This enables you to easily connect the iPhone or iPad to the product via Wi-Fi
at a later date by selecting the SSID.

#### **Note**

- Radio wave interference may occur as Bluetooth communications and Wi-Fi communications use the same frequency band. If your Wi-Fi connection is unstable, it may be improved by turning off the Bluetooth function of the smartphone. If you do this, the location information interlocking function is not available.
- When you record movies using a smartphone as a remote controller, the monitor of the product becomes darker. Also, you cannot use the viewfinder during shooting the still images or movies.
- If you cannot connect your device to this product using the QR code, use the SSID and password.

[236] Using wireless functions | Connecting this product and a Smartphone

# Controlling the camera using an iPhone or iPad (SSID)

You can control the camera using an iPhone or iPad by connecting the iPhone or iPad to the camera using the SSID and password.



 $\textbf{MENU} \rightarrow \blacksquare \textbf{\texttt{MENU}} \rightarrow \textbf{\texttt{[Smart Remote Embedded]}}.$ 

QR code is displayed on the monitor of this product.

2 Press the m (Delete) button of this product.

This product's SSID and password are displayed on the monitor of this product.



3 Select the model name of this product (DIRECT-xxxx: xxxx) on the Wi-Fi setting screen of your iPhone or iPad.

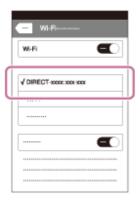


Input the password that is displayed on this product.

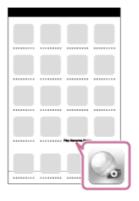


The iPhone or iPad is connected to the product.

5 Confirm that your iPhone or iPad was connected to the "SSID" shown on this product.



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



 You can shoot an image using remote control while checking the composition of the image on screen of the iPhone or iPad.

## **Note**

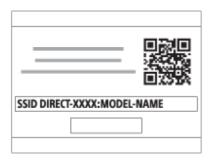
- Radio wave interference may occur as Bluetooth communications and Wi-Fi communications use the same frequency band. If your Wi-Fi connection is unstable, it may be improved by turning off the Bluetooth function of the smartphone. If you do this, the location information interlocking function is not available.
- When you record movies using a smartphone as a remote controller, the monitor of the product becomes darker. Also, you cannot use the viewfinder during shooting the still images or movies.

[237] Using wireless functions | Transferring images to a Smartphone

# **Send to Smartphone**

PlayMemories Mobile must be installed on your smartphone.

- - If you press the (Send to Smartphone) button in playback mode, the setting screen for [Send to Smartphone] will appear.
- If the product is ready for the transfer, the information screen appears on the product. Connect the smartphone and the product using that information.
  - The setting method for connecting the smartphone and the product varies depending on the smartphone.



## Menu item details

#### Select on This Device:

Selects an image on the product to be transferred to the smartphone.

- (1) Select from among [This Image], [All Images on This Date] or [Multiple Images].
  - The options displayed may differ depending on the View Mode selected on the camera.
- (2) If you select [Multiple Images], select the desired images using the center of the control wheel, then press MENU  $\rightarrow$  [Enter].

## **Select on Smartphone:**

Displays all images recorded on the product's memory card on the smartphone.

### Note

- You can only transfer images that are saved on the camera's memory card.
- You can select an image size to be sent to the smartphone from [Original], [2M] or [VGA].
   To change the image size, refer to the following steps.
  - For Android smartphone
     Start PlayMemories Mobile, and change the image size by [Settings] → [Copy Image Size].
  - For iPhone/iPad
     Select PlayMemories Mobile in the setting menu, and change the image size by [Copy Image Size].
- Some images may not be displayed on the smartphone depending on the recording format.
- RAW images are converted to JPEG format when they are sent.

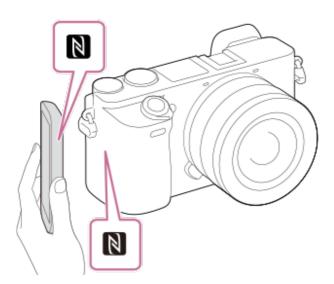
- You cannot send XAVC S or AVCHD format movies.
- When [Airplane Mode] is set to [On], you cannot connect this product and the smartphone. Set [Airplane Mode] to [Off].

[238] Using wireless functions | Transferring images to a Smartphone

# Sending images to an Android smartphone (NFC Onetouch Sharing)

With just one touch, you can connect this product and an NFC-enabled Android smartphone, and send an image displayed on the product screen directly to the smartphone. For movies, you can only transfer MP4 movies recorded with [### File Format] set to [MP4].

- 1 Activate the NFC function of the smartphone.
- **2** Display a single image on the product.
- 3 Touch the smartphone to the product.



The product and the smartphone are connected, and PlayMemories Mobile automatically launches on the smartphone, and then the displayed image is sent to the smartphone.

- Before you touch the smartphone, cancel the sleep and lock-screen functions of the smartphone.
- The NFC function is available only when the (N mark) is displayed on the product.
- Touch the smartphone to the product for 1-2 seconds until PlayMemories Mobile launches.
- $\bullet$  To transfer two or more images, select MENU  $\rightarrow$   $\ensuremath{ \begin{subarray}{c} \ensuremath{ \begin{subarray}{c} \ensuremath{\begin{subarray}{c} \ensur$ Smartphone] to select images. After the connection enabled screen appears, use NFC to connect the product and the smartphone.

# **About "NFC"**

NFC is a technology that enables short-range wireless communication between various devices, such as mobile phones or IC tags, etc. NFC makes data communication simpler with just a touch on the designated touch-point.

 NFC (Near Field Communication) is an international standard of short-range wireless communication technology.

#### **Note**

- You can select an image size to be sent to the smartphone from [Original], [2M] or [VGA]. To change the image size, refer to the following steps.
  - Start PlayMemories Mobile, and change the image size by [Settings] → [Copy Image Size].
- RAW images are converted to JPEG format when they are sent.
- If the Image Index is displayed on the product, you cannot transfer images using the NFC function.
- If you cannot make a connection, do as the following:
  - Launch PlayMemories Mobile on your smartphone, and then move the smartphone slowly toward the N (N mark) of this product.
  - If the smartphone is in a case, remove it.
  - If the product is in a case, remove it.
  - Check whether the NFC function is activated on your smartphone.
- When [Airplane Mode] is set to [On], you cannot connect the product and the smartphone. Set [Airplane Mode] to [Off].
- You cannot send AVCHD format movies.
- You cannot send XAVC S format movies.

You can transfer images stored in the product to a computer connected to a wireless access point or wireless broadband router and easily make backup copies using this operation. Before starting this operation, install PlayMemories Home on your computer and register the access point on the product.

- 1 Start your computer.
- **MENU**  $\rightarrow$  **MENU**  $\rightarrow$  (Wireless)  $\rightarrow$  [Send to Computer].

## Note

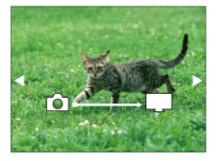
- Depending on the application settings of your computer, the product will turn off after saving the images to your computer.
- You can transfer images from the product to only one computer at a time.
- If you want to transfer images to another computer, connect the product and the computer via a USB connection and follow the instructions in PlayMemories Home.
- When you save images to the Mac computer using Wi-Fi function, use "Wireless Auto Import."

[240] Using wireless functions | Transferring images to a TV

# View on TV

You can view images on a network-enabled TV by transferring them from the product without connecting the product and TV with a cable. For some TVs, you may need to perform operations on the TV. For details, refer to the operating instructions supplied with the TV.

- When you want to play back images using slideshow, press the center of the control wheel.



- To display the next/previous image manually, press the right/left sides of the control wheel.
- To change the device to be connected, press the down side of the control wheel, then select [Device list].

# Slideshow settings

You can change the slideshow settings by pressing the down side of the control wheel.

## **Playback Selection:**

Selects the group of images to be shown.

## Folder View(Still):

Selects from [All] and [All in Folder].

#### **Date View:**

Selects from [All] and [All in Date Rng.].

## Interval:

Selects from [Short] and [Long].

#### Effects\*:

Selects from [On] and [Off].

# Playback Image Size:

Selects from [HD] and [4K].

\* The settings are effective only for BRAVIA TV which is compatible with the functions.

#### **Note**

- You can use this function on a TV that supports DLNA renderer.
- You can view images on a Wi-Fi Direct-enabled TV or network-enabled TV (including wired network-enabled TVs).
- If you connect TV and this product and do not use Wi-Fi Direct, you need to register your access point first.
- Displaying the images on the TV may take time.
- Movies cannot be shown on a TV via Wi-Fi. Use an HDMI cable (sold separately).

[241] Using wireless functions | Reading location information from a smartphone

# Loc. Info. Link Set.

You can use the application PlayMemories Mobile to obtain location information from a smartphone that is connected with your camera using Bluetooth communication. You can record the obtained location information when shooting images.

# **Preparation in advance**

To use the location information linking function of the camera, the application PlayMemories Mobile is required.

If "Location Information Linkage" is not displayed on the top page of PlayMemories Mobile, you need to perform the following steps beforehand.

- 1. Install PlayMemories Mobile on your smartphone.
  - You can install PlayMemories Mobile from the application store of your smartphone. If you have already installed the application, update it to the latest version.
- 2. Transfer a pre-recorded image to your smartphone using the [Send to Smartphone] function of the camera.
  - After you transfer an image recorded using the camera to your smartphone, "Location Information Linkage" will appear on the top page of the application.

# Operating procedure

Operating procedure
☐ : Operations performed on the smartphone ☐ : Operations performed on the camera
1. : Confirm that the Bluetooth function of your smartphone is activated.
<ul> <li>Do not perform the Bluetooth pairing operation on the smartphone setting screen. In steps 2 to 7, the pairing operation is performed using the camera and the application PlayMemories Mobile.</li> <li>If you accidentally perform the pairing operation on the smartphone setting screen in step 1, cancel the pairing and then perform the pairing operation by following Steps 2 through 7 using the camera and the application PlayMemories Mobile.</li> </ul>
2. On the camera, select MENU $\rightarrow$ (Wireless) $\rightarrow$ [Bluetooth Settings] $\rightarrow$ [Bluetooth Function] $\rightarrow$ [On].
3. On the camera, select MENU $\rightarrow$ (Wireless) $\rightarrow$ [Bluetooth Settings] $\rightarrow$ [Pairing].
4. : Launch PlayMemories Mobile on your smartphone and tap "Location Information Linkage."
<ul> <li>If "Location Information Linkage" is not displayed, follow the steps in "Preparation in advance" above.</li> </ul>
5. : Activate [Location Information Linkage] on the [Location Information Linkage] setting screen of PlayMemories Mobile.
<b>6.</b> $\square$ : Follow the instructions on the [Location Information Linkage] setting screen of PlayMemories Mobile, and then select your camera from the list.

- 7. Select [OK] when a message is displayed on the monitor of the camera.
  - Pairing of the camera and PlayMemories Mobile is complete.
- 8. On the camera, select MENU  $\rightarrow$  (Wireless)  $\rightarrow$  [ Location Info. Link]  $\rightarrow$  [On].
  - <u>A</u> (obtaining location information icon) will be displayed on the monitor of the camera. Location information obtained by your smartphone using GPS, etc., will be recorded when shooting images.

## Menu item details

#### **Location Info. Link:**

Sets whether to obtain the location information by linking with a smartphone.

#### **Auto Time Correct.:**

Sets whether to automatically correct the date setting of the camera using information from a linked smartphone.

## Auto Area Adjust.:

Sets whether to automatically correct the area setting of the camera using information from a linked smartphone.

# Icons displayed when obtaining the location information

- (Obtaining location information): The camera is obtaining the location information.
- (Location information cannot be obtained): The camera cannot obtain the location information.
- (Bluetooth connection available): Bluetooth connection with the smartphone is established.
- (Bluetooth connection unavailable): Bluetooth connection with the smartphone is not established.

#### Hint

- Location information can be linked when PlayMemories Mobile is running on your smartphone even if the smartphone monitor is off.
- When PlayMemories Mobile is not operating, such as when the smartphone is restarted, launch PlayMemories Mobile to resume location information linking.
- In the application PlayMemories Home, you can view images on a map by importing images with location information to your computer. For details, refer to Help for PlayMemories Home.
- If the location information linking function does not work properly, see the following notes and perform pairing again.
  - Confirm that the Bluetooth function of your smartphone is activated.
  - Confirm that the camera is not connected with other devices using the Bluetooth function.
  - Confirm that [Airplane Mode] for the camera is set to [Off].
  - Delete the pairing information for the camera registered in PlayMemories Mobile.
  - Execute [Reset Network Set.] of the camera.
- For more detailed video instructions, refer to the following support page. http://www.sony.net/pmm/btg/

#### **Note**

- When you initialize the camera, the pairing information is also deleted. To perform pairing again,
   delete the pairing information for the camera registered in PlayMemories Mobile before trying again.
- The location information will not be recorded when it cannot be obtained, such as when the Bluetooth connection is disconnected.
- The camera can be paired with up to 15 Bluetooth devices, but can link the location information with that of only one smartphone. If you want to link the location information with that of another smartphone, turn off the [Location Information Linkage] function of the smartphone that is already linked.
- If the Bluetooth connection is unstable, remove any obstacles, such as people or metal objects from between the camera and the paired smartphone.
- When pairing the camera and your smartphone, be sure to use the [Location Information Linkage] menu on PlayMemories Mobile.

# **Supported smartphones**

- Android smartphones: Android 5.0 or later and compatible with Bluetooth 4.0 or later\*
- iPhone/iPad: iPhone 4S or later/iPad 3rd generation or later
- As of October 2016. For the latest information, refer to the support site.
- \* For the Bluetooth version, refer to the website for your smartphone.

[242] Using wireless functions | Changing the wireless connection settings

# **Airplane Mode**

When you board an airplane, etc., you can temporarily disable all the wireless-related functions including Wi-Fi.



If you set [Airplane Mode] to [On], an airplane mark will be displayed on the screen.

[243] Using wireless functions | Changing the wireless connection settings

Wi-Fi Settings: WPS Push

If your access point has the Wi-Fi Protected Setup (WPS) button, you can register the access point to this product easily by pushing the Wi-Fi Protected Setup (WPS) button.

- Press the WPS button on the access point you want to register.

#### **Note**

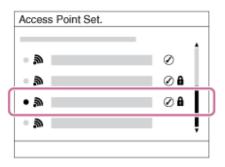
- [WPS Push] works only if the security setting of your access point is set to WPA or WPA2 and your access point supports the Wi-Fi Protected Setup (WPS) button method. If the security setting is set to WEP or your access point does not support the Wi-Fi Protected Setup (WPS) button method, perform [Access Point Set.].
- For details about the available functions and settings of your access point, see the access point operating instructions or contact the administrator of the access point.
- A connection may not be enabled depending on the surrounding conditions, such as the type of wall material or if there is an obstruction or poor wireless signal between the product and access point. If that happens, change the location of the product or move the product closer to the access point.

[244] Using wireless functions | Changing the wireless connection settings

# Wi-Fi Settings: Access Point Set.

You can register your access point manually. Before starting the procedure, check the SSID name of the access point, security system, and password. The password may be preset in some devices. For details, see the access point operating instructions, or consult the access point administrator.

- Select the access point you want to register.

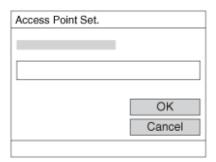


When the desired access point is displayed on the screen: Select the desired access point.

When the desired access point is not displayed on the screen: Select [Manual Setting] and set the access point.

 If you select [Manual Setting], input the SSID name of the access point, then select the security system.





Access points without the A mark do not require a password.

4 Select [OK].

# Other setting items

Depending on the status or the setting method of your access point, you may want to set more items.

## **WPS PIN:**

Displays the PIN code you enter into the connected device.

# **Priority Connection:**

Select [On] or [Off].

## **IP Address Setting:**

Select [Auto] or [Manual].

## **IP Address:**

If you are entering the IP address manually, enter the set address.

## **Subnet Mask/Default Gateway:**

When you set [IP Address Setting] to [Manual], enter the IP address to match your network environment.

## **Note**

To give the registered access point priority, set [Priority Connection] to [On].

[245] Using wireless functions | Changing the wireless connection settings

# **Edit Device Name**

You can change the device name for the Wi-Fi Direct or Bluetooth connection.

- **1** MENU  $\rightarrow$  **3** (Wireless)  $\rightarrow$  [Edit Device Name].
- 2 Select the input box, then input the device name→[OK].

[246] Using wireless functions | Changing the wireless connection settings

# Wi-Fi Settings: Disp MAC Address

Displays the MAC address of this product.

[247] Using wireless functions | Changing the wireless connection settings

# Wi-Fi Settings: SSID/PW Reset

This product shares the connection information for [Send to Smartphone] and [Smart Remote Embedded] with a device that has permission to connect. If you want to change the device that is permitted to connect, reset the connection information.

#### **Note**

• If you connect this product to the smartphone after resetting the connection information, you must register the smartphone again.

[248] Using wireless functions | Changing the wireless connection settings

# Reset Network Set.

Resets all the network settings to default settings.

1

 $\mathsf{MENU} \to \P \text{ (Wireless)} \to [\mathsf{Reset} \ \mathsf{Network} \ \mathsf{Set.}] \to [\mathsf{OK}].$ 

[249] PlayMemories Camera Apps | About PlayMemories Camera Apps

# **PlayMemories Camera Apps**

You can add the desired functions to this product by connecting to the application download website (PlayMemories Camera Apps) via the Internet.

 Press MENU → ☐ (Application) → [Introduction] for information about the service and available countries and regions.

[250] PlayMemories Camera Apps | About PlayMemories Camera Apps

# Recommended computer environment

For details on the recommended computer environments for downloading an application and adding functions to the product, refer to the following URL:

"PlayMemories Camera Apps" website (http://www.sony.net/pmca/)

[251] PlayMemories Camera Apps | Installing the applications

# Opening a service account

You can open a service account, which is required to download applications.

Access the application download website.

http://www.sony.net/pmca/

- 2 Follow the instructions on the screen and acquire a service account.
  - Follow the instructions on the screen to download the desired application to the product.

[252] PlayMemories Camera Apps | Installing the applications

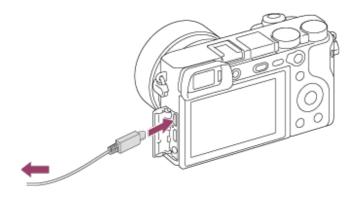
# **Downloading applications**

You can download applications using your computer.

Access the application downloading website.

http://www.sony.net/pmca/

- 2 Select the desired application and download the application to the product following the instructions on the screen.
  - Connect the computer and the product using the micro USB cable (supplied), following the instructions on the screen.



[253] PlayMemories Camera Apps | Installing the applications

# Downloading applications directly to the product using the Wi-Fi function

You can download applications using the Wi-Fi function without connecting to a computer. Acquire a service account in advance.



MENU  $\rightarrow \square$  (Application)  $\rightarrow$  [Application List]  $\rightarrow \mathbb{Q}$  (PlayMemories Camera Apps), then follow the instructions on the screen to download applications.

### Note

If MENU → (Wireless) → [Wi-Fi Settings] → [Access Point Set.] → access point to be connected → [IP Address Setting] is set to [Manual], change the setting to [Auto].

[254] PlayMemories Camera Apps | Starting the applications

# Launching the downloaded application (Application List)

Launch an application that has been downloaded from the application download website PlayMemories Camera Apps.



 $\textbf{MENU} \rightarrow \blacksquare \textbf{ (Application)} \rightarrow \textbf{[Application List]} \rightarrow \textbf{desired application to launch}.$ 

#### Hint

## How to launch the applications faster

Assign [Download Appli.] and [Application List] to the custom key. You can launch the applications or display application list only by pressing the custom key during the shooting information screen is displayed.

[255] PlayMemories Camera Apps | Starting the applications

You can call up a desired application from the application menu of this product by touching an NFC-enabled Android smartphone to the product. If the application you call up has a feature that works with the smartphone, the product and the smartphone will be connected via Wi-Fi. To use this function, register the desired application in advance.

- Switch this product to shooting mode, then touch an NFC-enabled smartphone to the (N mark) on the product for 1-2 seconds.
  - PlayMemories Mobile launches on the smartphone, and the application you have registered launches on this product.

#### Note

- When the product is in playback mode, the registered application will not launch even if you touch the smartphone to the product.
- When you call up an application with one touch, even if that application does not work with a smartphone, PlayMemories Mobile on smartphone will launch. Exit PlayMemories Mobile without performing an operation. If you do not exit PlayMemories Mobile, the smartphone stays in standby connection status.
- [Smart Remote Embedded] is assigned to [One-touch(NFC)] as a default setting.

[256] PlayMemories Camera Apps | Managing the applications

# **Uninstalling applications**

You can uninstall applications from this product.

- MENU  $\rightarrow \blacksquare$  (Application)  $\rightarrow$  [Application List]  $\rightarrow$  [Application Management]  $\rightarrow$  [Manage and Remove].
- 2 Select the application to be uninstalled.
- Select 前 to uninstall the application.

 The uninstalled application can be re-installed. For details, see the application download website.

[257] PlayMemories Camera Apps | Managing the applications

# Changing the order of applications

You can change the order in which added applications are displayed on this product.

- MENU  $\rightarrow \blacksquare$  (Application)  $\rightarrow$  [Application List]  $\rightarrow$  [Application Management]  $\rightarrow$  [Sort].
- Select the application of which you want to change the order.
- 3 Select the destination.

[258] PlayMemories Camera Apps | Managing the applications

# **Confirming the account information of PlayMemories Camera Apps**

The account information for the "Sony Entertainment Network" that is registered on the product is displayed.

MENU → ☐ (Application) → [Application List] → [Application Management] → [Display Account Information].

[259] Using a computer

You can confirm the operating computer environment of the software from the following URL: <a href="http://www.sonv.net/pcenv/">http://www.sonv.net/pcenv/</a>

[260] Using a computer

# **Software for Mac computers**

For details on software for Mac computers, access the following URL: <a href="http://www.sony.co.jp/imsoft/Mac/">http://www.sony.co.jp/imsoft/Mac/</a>

## **Wireless Auto Import**

"Wireless Auto Import" is required if you are using a Mac computer and want to import images to the computer using Wi-Fi function. Download the software from the URL above, and install it on your Mac computer.

For details, see Help for "Wireless Auto Import."

#### Note

The software that can be used varies depending on the region.

[261] Using a computer | Importing images for use on a computer

# **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.
- You can change the playback speed of movies and slow-motion 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 create a disc from movies imported to a computer.
   Blu-ray discs or AVCHD discs can be created from XAVC S-format movies.
- You can upload images to a network service. (An Internet connection is required.)
- You can import images recorded with location information to a computer and view them on a map.
- For other details, please refer to the Help of PlayMemories Home.

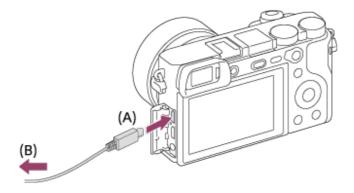
[262] Using a computer | Importing images for use on a computer

# **Installing PlayMemories Home**

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 (English only).
   <a href="http://www.sony.co.jp/pmh-se/">http://www.sony.co.jp/pmh-se/</a>
- 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 Multi/Micro USB Terminal **B:** To the USB jack of the computer

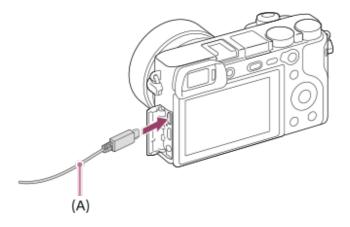
#### **Note**

- 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.

[263] Using a computer | Importing images for use on a computer

# Connecting the camera to a computer

- Insert a fully charged battery pack into the camera, or connect the camera to a wall outlet (wall socket) using an AC Adaptor (sold separately).
- 2 Turn on the camera and the computer.
- Check that [USB Connection] under (Setup) is set to [Mass Storage].
- 4 Connect the camera to the computer using the micro USB cable (supplied) (A).



- When you connect the camera to the computer for the first time, the procedure for recognizing the camera may start automatically on the computer. Wait until the procedure is finished.
- 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])

[264] Using a computer | Importing images for use on a computer

# Importing images to the computer without using PlayMemories Home

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]  $\rightarrow$  [OK]  $\rightarrow$  [DCIM] or [MP\_ROOT]. Then copy the desired images to the computer.

# 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  $\rightarrow$  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**

- For operations such as importing XAVC S movies or AVCHD movies to the computer, use PlayMemories Home.
- Do not edit or otherwise process AVCHD or XAVC S movie files/folders from the connected computer. Movie files may be damaged or become unplayable. Do not delete or copy AVCHD movies or XAVC S movies on the memory card from the computer. Sony is not held liable for consequences resulting from such operations via the computer.

[265] Using a computer | Importing images for use on a computer

# Disconnecting the camera from the computer

Perform steps 1 and 2 below before performing the following operations:

Disconnecting the micro USB cable.

n

- Removing a memory card.
- Turning off the product.
- Click 👡 (Safely Remove Hardware and Eject Media ) in the taskbar.
- 2 Click the displayed message.

#### **Note**

- On Mac computers, drag and drop the memory card icon or the drive icon into the "Trash" icon. The camera will be disconnected from the computer.
- On Windows 7/Windows 8 computers, the disconnection icon may not appear. In that case, you can skip the steps above.
- Do not remove the micro USB cable from the camera while the access lamp is lit. The data may be damaged.

[266] Using a computer | Developing RAW images (Image Data Converter)

# **Image Data Converter**

With Image Data Converter, you can do the following:

- You can print 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.

[267] Using a computer | Developing RAW images (Image Data Converter)

## **Installing Image Data Converter**

1

Download and install the software by accessing the following URL.



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

## Mac

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

### **Note**

Log on as Administrator.

[268] Using a computer | Controlling the camera from a computer (Remote Camera Control)

## **Remote Camera Control**

When using Remote Camera Control, the following operations are available on your computer.

- Changing this product's settings and shooting.
- Recording images directly to the computer.
- Performing interval timer shooting.

Use these functions after selecting MENU  $\rightarrow$  **(Setup)**  $\rightarrow$  [USB Connection]  $\rightarrow$  [PC Remote]. For details on how to use Remote Camera Control, refer to the Help.

[269] Using a computer | Controlling the camera from a computer (Remote Camera Control)

# **Installing Remote Camera Control**

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/

# 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: XAVC S, 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: XAVC S, 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 formats: AVCHD

Players: Ordinary DVD playback devices (DVD players, computers that can play back DVD discs, etc.)

#### Hint

You can use the following types of 12 cm discs with PlayMemories Home.

BD-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.

4K movies cannot be recorded on a disc in 4K image quality.

[271] Using a computer | Creating a movie disc

# Creating Blu-ray Discs from high-definition image quality movies

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 XAVC S or MP4 movie formats, 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) Super ]/[50p 28M(PS) Juner ], 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.

[272] Using a computer | Creating a movie disc

# 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 XAVC S or MP4 movie formats, 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) Super ]/[50p 28M(PS) Super ], [60i 24M(FX) Super ]/[50i 24M(FX) Super ] or [24p 24M(FX) Super ]/[25p 24M(FX) Super ], the image quality is converted and it is not possible to create discs with the original image quality. This conversion can take a long time. To record movies with the original image quality, use a Blu-ray Disc.

[273] Using a computer | Creating a movie 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

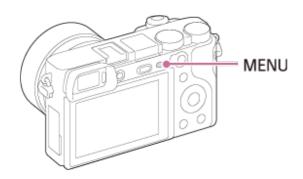
You can also create DVD discs using a Blu-ray recorder, HDD recorder, etc. For details, refer to the device's operating instructions.

[274] List of MENU items

# **Using MENU items**

You can change settings related to all the camera operations including shooting, playback, and operating method. You can also execute camera functions from the MENU.

1 Press the MENU button to display the menu items.



- 2 Select the desired setting you want to adjust using the top/bottom/left/right sides of 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 your selection.

[275] List of MENU items | Camera Settings1

# **Quality (still image)**

1 MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [ Quality]  $\rightarrow$  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].

## **Extra fine:**

File format: JPEG

The image is compressed in the JPEG format and recorded using a higher quality than with [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 one 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.
- RAW images recorded with this camera have a resolution of 14 bits per pixel. However, resolution is limited to 12 bits in the following shooting modes:

  - [BULB]
  - Continuous shooting (including continuous shooting in [Superior Auto] mode)
  - [ Silent Shooting]

### **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.

[276] List of MENU items | Camera Settings1

# 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.



#### Menu item details

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

L: 24M 6000×4000 pixels

M: 12M 4240×2832 pixels S: 6.0M 3008×2000 pixels

When [ Aspect Ratio] is set to [16:9]

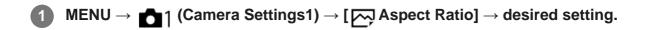
L: 20M 6000×3376 pixels M: 10M 4240×2400 pixels S: 5.1M 3008×1688 pixels

## **Note**

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

[277] List of MENU items | Camera Settings1

# **Aspect Ratio (still image)**



## Menu item details

3:2:

Suitable for standard prints.

16:9:

For viewing on a high-definition TV.

[278] List of MENU items | Camera Settings1

Panorama: Size

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

**1** MENU  $\rightarrow$  **1** (Camera Settings1)  $\rightarrow$  [Panorama: Size]  $\rightarrow$  desired setting.

## Menu item details

When [Panorama: Direction] is set to [Up] or [Down]

**Standard:** 3872×2160 **Wide:** 5536×2160

When [Panorama: Direction] is set to [Left] or [Right]

**Standard:** 8192×1856 **Wide:** 12416×1856

[279] List of MENU items | Camera Settings1

**Panorama: Direction** 

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



MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Panorama: Direction]  $\rightarrow$  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.

[280] List of MENU items | Camera Settings1

# Long Exposure NR (still image)

When you set the shutter speed to 1 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.



 $\textbf{MENU} \rightarrow \ \ \, \textbf{1} \ \, \textbf{(Camera Settings1)} \rightarrow \ \ \, \textbf{[} \ \ \, \textbf{Dong Exposure NR]} \rightarrow \ \ \, \textbf{desired setting.}$ 

## 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] 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].
- [ Long Exposure NR] cannot be set to [Off] in the following shooting modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
- Depending on the shooting conditions, the camera may not perform noise reduction, even if the shutter speed is 1 second(s) or longer.

[281] List of MENU items | Camera Settings1

# 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.



 $\textbf{MENU} \rightarrow \ \ \, \textbf{1} \ \, (\textbf{Camera Settings1}) \rightarrow \ \ \, \textbf{[} \ \ \, \textbf{Migh ISO NR]} \rightarrow \ \ \, \textbf{desired setting.}$ 

## Menu item details

#### Normal:

Activates high ISO noise reduction normally.

#### Low:

Activates high ISO noise reduction moderately.

#### Off:

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

## Note

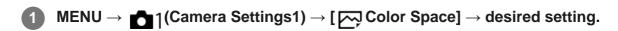
- [Migh ISO NR] is not available in the following shooting modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
  - [Sweep Panorama]
- When [ Quality] is set to [RAW], this function is not available.

• [MHigh ISO NR] does not work for RAW images when the [MQuality] is [RAW & JPEG].

[282] List of MENU items | Camera Settings1

# **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.



## 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.

[283] List of MENU items | Camera Settings1

## Lens Comp.: Shading Comp.

Compensates for the shaded corners of the screen, caused by certain lens characteristics.

MENU → ↑ 1(Camera Settings1) → [Lens Comp.] → [Shading Comp.] → desired setting.

## Menu item details

Auto:

Compensates for darker corners of the screen automatically.

Off:

Does not compensate for darker corners of the screen.

## Note

- This function is only available when using an automatic compensation compliant lens.
- The amount of light around the edges may not be corrected, depending on the lens type.

[284] List of MENU items | Camera Settings1

Lens Comp.: Chro. Aber. Comp.

Reduces the color deviation at the corners of the screen, caused by certain lens characteristics.



MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Lens Comp.]  $\rightarrow$  [Chro. Aber. Comp.]  $\rightarrow$  desired setting.

## Menu item details

Auto:

Reduces the color deviation automatically.

Off:

Does not compensate for the color deviation.

## Note

This function is only available when using an automatic compensation compliant lens.

[285] List of MENU items | Camera Settings1

Lens Comp.: Distortion Comp.

Compensates for the distortion of the screen, caused by certain lens characteristics.



MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Lens Comp.]  $\rightarrow$  [Distortion Comp.]  $\rightarrow$  desired setting.

## Menu item details

Auto:

Compensates for distortion of the screen automatically.

Off:

Does not compensate for distortion of the screen.

## **Note**

- This function is only available when using an automatic compensation compliant lens.
- Depending on the attached lens, [Distortion Comp.] is fixed to [Auto], and you cannot select [Off].

[286] List of MENU items | Camera Settings1

# Switching the auto mode (Auto Mode)

Switch the auto mode between [Intelligent Auto] and [Superior Auto].

- 1 Set the mode dial to AUTO.
- MENU  $\rightarrow$  [Auto Mode]  $\rightarrow$  desired settings.

## Menu item details

intelligent Auto:

Shoots using automatic scene recognition.

i + Superior Auto:

Shoots automatically while reducing blurring and noise.

[287] List of MENU items | Camera Settings1

## **Scene Selection**

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

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

Turn the control dial to select the desired setting.

## 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.

The flash does not pop up automatically. Pop up the flash manually before shooting.



## ((♣)) 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.



## **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]
- 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.

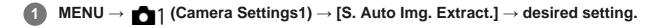
#### Hint

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

[288] List of MENU items | Camera Settings1

# S. Auto Img. Extract.

Sets whether or not to save all the images that were shot continuously in [Superior Auto].



## Menu item details

#### Auto:

Saves one appropriate image selected by the product.

#### Off:

Saves all of the images.

## **Note**

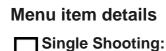
- Even if you set [S. Auto Img. Extract.] to [Off] with [Hand-held Twilight] selected as the scene recognition mode, one combined image is saved.
- When the Auto Framing function is activated, two images are saved even if you set [S. Auto Img. Extract.] to [Auto].
- When [ Quality] is set to [RAW] or [RAW & JPEG], the shooting function will be limited.

[289] List of MENU items | Camera Settings1

## **Drive Mode**

Select the appropriate mode for the subject, such as single shooting, continuous shooting or

br	acketing shooting.
1	Select $\delta$ / $\square$ (Drive Mode) on the control wheel $\rightarrow$ desired setting.
	ullet You can also set the drive mode by selecting MENU $ullet$ $ullet$ $ullet$ (Camera Settings1) $ullet$



[Drive Mode].

Normal shooting mode.

## □<sub>II</sub> Cont. Shooting:

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

## (5) Self-timer:

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

## Self-timer(Cont):

Shoots a designated number of images using the self-timer after a designated number of 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.

## **BRKS** Single Bracket:

Shoots a specified number of images, one by one, each with a different degree 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.

## **BRKDRO** DRO Bracket:

Shoots a total of three images, each at a different degree of D-Range Optimizer.

## Note

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

[290] List of MENU items | Camera Settings1

# **Bracket Settings**

You can set the self-timer in bracket shooting mode, and the shooting order for exposure bracketing and white balance bracketing.



Select  $\delta$ / $\square$  (Drive Mode) of the control wheel  $\rightarrow$  select bracket shooting mode.

You can also set the drive mode by selecting MENU → 1 (Camera Settings1) → [Drive Mode].

2 MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Bracket Settings]  $\rightarrow$  desired setting.

## Menu item details

## Selftimer during Brkt:

Sets whether to use the self-timer during bracket shooting. Also sets the number of seconds until the shutter is released if using the self-timer.

(OFF/2 Sec/5 Sec/10 Sec)

#### **Bracket order:**

Sets the order of exposure bracketing and white balance bracketing.

$$(0 \rightarrow - \rightarrow +/- \rightarrow 0 \rightarrow +)$$

[291] List of MENU items | Camera Settings1

# Recall (Camera Settings1/Camera Settings2)

Allows you to shoot an image after recalling often-used modes or camera settings registered with [ 1/12] Memory] in advance.

- Set the mode dial to 1, 2 (Memory recall).
- 2 Press the center of the control wheel to confirm.
  - You can also recall registered modes or settings by selecting MENU → 1 (Camera Settings1) → [ 1/1/12] Recall].

#### Hint

- To recall settings registered to the memory card, set the mode dial to 1 or 2, then select the desired number by pressing the left/right side of the control wheel.
- Settings registered to a memory card using another camera of the same model name can be recalled with this camera.

## Note

If you set [ 1/12] 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.

[292] List of MENU items | Camera Settings1

# Memory (Camera Settings1/Camera Settings2)

Allows you to register up to 2 often-used modes or product settings to the product and up to 4 (M1 through M4) to the memory card. You can recall the settings using just the mode dial.

- 1 Set the product to the setting you want to register.
- MENU → 1(Camera Settings1) → [ 1/12 Memory] → desired number.
- 3 Press the center of the control wheel to confirm.

## Items that can be registered

- You can register various functions for shooting. The items that can actually be registered are displayed on the menu of the camera.
- Aperture (F number)
- Shutter speed

## To change registered settings

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

#### **Note**

- M1 through M4 can be selected only when a memory card is inserted into the product.
- Program Shift cannot be registered.

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



MENU  $\rightarrow$  (Camera Settings1)  $\rightarrow$  [Focus Mode]  $\rightarrow$  desired setting.

## Menu item details

## AF-S (Single-shot AF):

The product locks the focus once focusing is complete. Use this when the subject is motionless.

## AF-A (Automatic AF):

[Single-shot AF] and [Continuous AF] are switched according to the movement of the subject. When the shutter button is pressed halfway down, the product locks the focus when it determines that the subject is motionless, or continues to focus when the subject is in motion. During continuous shooting, the product automatically shoots with Continuous AF from the second shot.

## 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. In [Continuous AF] mode, there is no beep when the camera focuses.

## DMF (DMF):

You can make fine adjustments manually after the focus is locked, letting you focus on a subject more quickly than when using the manual focus from the beginning. This is convenient in situations such as macro shooting.

## MF (Manual Focus):

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

## **Focus indicator**



The subject is in focus and the focus is locked.



The subject is not in focus.



The subject is in focus. The focus will be adjusted continuously according to the movements of the subject.



Focusing is in progress.

## Subjects on which it is difficult to focus using auto focus

- Dark and distant subjects
- Subjects with poor contrast
- Subjects seen through glass
- Fast-moving subjects
- Reflective light or shiny surfaces
- Flashing light
- Back-lit subjects

- Continuously repetitive patterns, such as the facades of buildings
- Subjects in the focusing area with different focal distances

### **Note**

- [Automatic AF] is available only when you are using a lens that supports phase detection AF.
- When [Continuous AF] or [Automatic AF] is set, the angle of view may change little by little while focusing. This does not affect the actual recorded images.
- Only [Continuous AF] and [Manual Focus] are available in the movie shooting mode.

#### Hint

 In [Continuous AF] mode, you can lock the focus by pressing and holding the button that has been assigned the [Focus Hold] function.

[294] List of MENU items | Camera Settings1

# **Priority Set in AF-S**

Sets whether to release the shutter even if the subject is not in focus when [Focus Mode] is set to [Single-shot AF], [DMF] or [Automatic AF] and the subject is remaining still.



 $\textbf{MENU} \rightarrow \textbf{ } \textbf{1} (\textbf{Camera Settings1}) \rightarrow \textbf{[Priority Set in AF-S]} \rightarrow \textbf{desired setting}.$ 

## Menu item details

#### AF:

Prioritizes focusing. The shutter will not be released until the subject is in focus.

#### Release:

Prioritizes the shutter's release. The shutter will be released even if the subject is out of focus.

## **Balanced Emphasis:**

Shoots with a balanced emphasis on both focusing and shutter release.

[295] List of MENU items | Camera Settings1

# **Priority Set in AF-C**

Sets whether to release the shutter even if the subject is not in focus when the continuous AF is activated and the subject is in motion.

## Menu item details

## AF:

Prioritizes focusing. The shutter will not be released until the subject is in focus.

#### Release:

Prioritizes the shutter's release. The shutter will be released even if the subject is out of focus.

## **Balanced Emphasis:**

Shoots with a balanced emphasis on both focusing and shutter release.

[296] List of MENU items | Camera Settings1

## **Focus Area**

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

## Menu item details

## Wide:

Focuses on a subject covering the whole range of the screen automatically. When you press the shutter button halfway down in the still image shooting mode, a green frame is displayed around the area that is in focus.

## Zone :

Select a zone on the monitor on which to focus, and the product will automatically select a focus area.

## Center :

Focuses automatically on a subject in the center of the image. Use together with the focus-lock function to create the composition you want.

## Flexible Spot :

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

## ্রি‡়া Expand Flexible Spot :

If the product cannot focus on a single selected point, it uses focus points around the flexible spot as a secondary priority area for focusing.

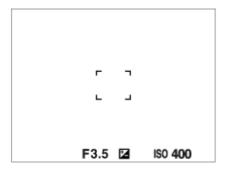
பே மா மா மா Lock-on AF :

When the shutter button is pressed and held halfway down, the product tracks the subject within the selected autofocus area. This setting is available only when the focus mode is set to [Continuous AF]. Point the cursor at [Lock-on AF] on the [Focus Area] setting screen, and then adjust the desired area to start tracking using the left/right sides of the control wheel. You can also move the tracking start area to the desired point by designating the area as a flexible spot or expand flexible spot.

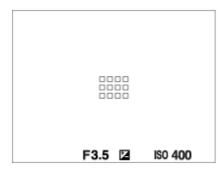
## List of focus range finder frames

The focus range finder frame differs as follows depending on the shooting mode.

## When focusing on a larger area

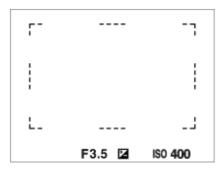


## When focusing on a smaller area



- When [Focus Area] is set to [Wide] or [Zone] and you aim at a moving subject, the focus range finder frame for "When focusing on a smaller area" may be displayed.
- When you attach an A-mount lens with a Mount Adaptor (LA-EA1 or LA-EA3) (sold separately) and [ AF System] is set to [Phase Detection AF], the focus range finder frame for "When focusing on a smaller area" may be displayed.

## When focus is achieved automatically based on the whole range of the monitor



When you use a zoom function other than the optical zoom, the [Focus Area] setting is
disabled and the focus area frame is shown by the dotted line. The AF operates with priority
on and around the center area.

## To move the focus area

- When [Focus Area] is set to [Zone], [Flexible Spot] or [Expand Flexible Spot], if pressing the button to which [Focus Standard] is assigned, you can shoot while moving the focus area using the top/bottom/left/right sides of the control wheel. To change the shooting settings using the control wheel, press the button to which [Focus Standard] is assigned.
- You can move the focusing frame quickly by touching and dragging it on the monitor. Set [Touch Operation] to other than [Off] beforehand.

## Note

- [Focus Area] is locked to [Wide] in the following situations:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
  - During Smile Shutter mode
- The focus area may not light up during continuous shooting or when the shutter button is pressed all the way down at once.
- When the mode dial is set to [ (Movie/S&Q Motion) or during movie shooting, [Lock-on AF] cannot be selected as the [Focus Area].
- When [Focus Area] is set to [Wide] or [Zone], the size of the AF range finder frame may be automatically adjusted according to the subject and the composition as follows:
  - When focusing on a wider area such as a landscape: A larger AF range finder frame is displayed.
  - When focusing on a smaller area such as flowers or small items: A smaller AF range finder frame is displayed.
- You cannot perform functions assigned to the top/bottom/left/right sides of the control wheel or the custom button 3 while moving the focusing frame.

[297] List of MENU items | Camera Settings1

# AF Illuminator (still image)

The AF illuminator supplies fill light to focus more easily on a subject in dark surroundings. In the time between pressing the shutter button halfway down and locking the focus, the red AF illuminator lights up to allow the camera to focus easily.



MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [  $\nearrow$  AF Illuminator]  $\rightarrow$  desired setting.

## Menu item details

## Auto:

The AF illuminator lights up automatically in dark surroundings.

#### Off:

Does not use the AF illuminator.

#### **Note**

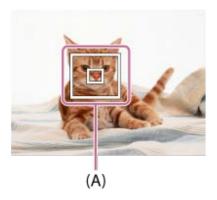
- You cannot use [ AF Illuminator] in the following situations:
  - In movie mode
  - Sweep Panorama
  - When [ Focus Mode] is set to [Continuous AF] or [Automatic AF] and the subject is moving (when
    the focus indicator ( ) lights up).
  - When [Focus Magnifier] is activated.
  - When [Scene Selection] is set to the following modes:
    - [Landscape]
    - [Sports Action]
    - [Night Scene]
  - When a Mount Adaptor is attached.
- 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.

[298] List of MENU items | Camera Settings1

## **Center Lock-on AF**

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

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



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

## Hint

 You can select the subject to be tracked by touch operation when shooting using the monitor. Set [Touch Operation] to other than [Off].

## **Note**

- The [Center Lock-on AF] function 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:
  - [Sweep Panorama]
  - When [Scene Selection] is set to [Hand-held Twilight] or [Anti Motion Blur].
  - When shooting in Manual Focus mode.
  - When using the digital zoom
  - When [ Record Setting] is set to [120p]/[100p].

[299] List of MENU items | Camera Settings1

# AF System (still image)

Sets the focus detection system (Phase Detection AF/Contrast AF) when you attach an Amount lens using an LA-EA1/LA-EA3 Mount Adaptor (sold separately).



## Menu item details

## **Phase Detection AF:**

Focuses with Phase Detection AF. The focusing speed is very fast.

#### **Contrast AF:**

Always focuses with Contrast AF. The focusing speed is slower. Use when you cannot focus with [Phase Detection AF].

## **Note**

When [ AF System] is set to [Contrast AF], AF-C (Continuous AF) under [Focus Mode] is unavailable.

- The following functions are unavailable when [ AF System] is set to [Phase Detection AF]:
  - [Zone], [Expand Flexible Spot], and [Lock-on AF] in [Focus Area]
  - [Eye AF]
- When [ AF System] is set to [Phase Detection AF], even if [Priority Set in AF-S] is set to [Balanced Emphasis], the camera will temporarily switch to [AF].

[300] List of MENU items | Camera Settings1

# AF w/ shutter (still image)

Selects whether to focus automatically when you press the shutter button halfway down. Select [Off] to adjust the focus and the exposure separately.



MENU  $\rightarrow$   $\uparrow$  1(Camera Settings1)  $\rightarrow$  [ $\nearrow$  AF w/ shutter]  $\rightarrow$  desired setting.

## Menu item details

#### On:

The auto focus operates when you press the shutter button halfway down.

#### Off:

The auto focus does not operate even if you press the shutter button halfway down.

## Useful method to micro-adjust the focus

When an A-mount lens is attached, activating the auto focus function with a button other than the shutter button lets you focus more precisely in combination with manual focusing.

- 1. Set [ AF w/ shutter] to [Off].
- 2. MENU  $\rightarrow$  2 (Camera Settings2)  $\rightarrow$  [Custom Key(Shoot.)]  $\rightarrow$  assign the [AF On] and [Focus Magnifier] functions to the desired keys.
- 3. Set [ Eye-Start AF] to [Off] to avoid auto focusing when you look through the viewfinder.
- 4. Press the key to which the [AF On] function is assigned.
- **5.** Press the key to which the [Focus Magnifier] function is assigned, and then rotate the focus ring for micro-adjustments of the focus.
- 6. Press the shutter button fully down to shoot the image.

# Pre-AF (still image)

The product automatically adjusts focus before you press the shutter button halfway down.

## Menu item details

On:

Adjusts focus before you press the shutter button halfway down.

Off:

Does not adjust focus before you press the shutter button halfway down.

## **Note**

[M Pre-AF] is available only when an E-mount lens is mounted.

[302] List of MENU items | Camera Settings1

# **Eye-Start AF (still image)**

Sets whether or not to use autofocus when you look through an Electronic Viewfinder.

**1** MENU →  $\bigcirc$  1(Camera Settings1) → [ $\bigcirc$  Eye-Start AF] → desired setting.

## Menu item details

On:

Auto focusing starts when you look through the Electronic Viewfinder.

Off:

Auto focusing does not start when you look through the Electronic Viewfinder.

## Hint

• [ Eye-Start AF] is available when an A-mount lens and a Mount Adaptor (LA-EA2, LA-EA4) (sold separately) are attached.

## **AF Area Auto Clear**

Sets whether the focus area should be displayed all the time or should disappear automatically shortly after focus is achieved.



MENU  $\rightarrow$  [AF Area Auto Clear]  $\rightarrow$  desired setting.

## Menu item details

On:

The focus area disappears automatically shortly after focus is achieved.

Off:

The focus area is displayed all the time.

[304] List of MENU items | Camera Settings1

## Disp. cont. AF area

You can set whether or not to display the area that is in focus when [Focus Area] is set to [Wide] or [Zone], in [Continuous AF] mode.



## Menu item details

On:

Displays the focus area that is in focus.

Off:

Does not display the focus area that is in focus.

#### Note

- When [Focus Area] is set to one of the following, the frames in the area that is in focus turn green:
  - [Center]
  - [Flexible Spot]
  - [Expand Flexible Spot]
- When an A-mount lens and a Mount Adaptor (LA-EA1/LA-EA3) (sold separately) are mounted on the camera and [ AF System] is set to [Phase Detection AF], [Disp. cont. AF area] is always turned on regardless of the [Focus Area] settings.

[305] List of MENU items | Camera Settings1

# AF Micro Adj.

Allows you to adjust and register an autofocused position for each lens, when using an A-mount lens with the Mount Adaptor LA-EA2 or LA-EA4 (sold separately).

In general use, you do not need to adjust the autofocused position using this function. Use this function only when adjustments are needed for certain focal lengths. Note that the auto focus function may not be performed at a proper position when using this adjustment.

- **1** MENU  $\rightarrow$  **1** (Camera Settings1)  $\rightarrow$  select [AF Micro Adj.].
- 2 Select [AF Adjustment Set.]  $\rightarrow$  [On].
- [amount] → desired value.
  - The larger the value you select, the farther the autofocused position will be from the product. The smaller the value you select, the closer the autofocused position will be to the product.

### Hint

• It is recommended that you adjust the position under actual shooting conditions. Set [Focus Area] to [Flexible Spot] and use a bright subject with high contrast when you adjust.

## **Note**

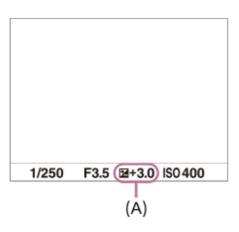
- When you attach a lens for which you have already registered a value, the registered value appears on the screen. [±0] appears for lenses for which a value has not yet been registered.
- If [-] is displayed as the value, then a total of 30 lenses have been registered and no new lens can be registered. To register a new lens, attach a lens for which the registration can be erased, and set its value to [±0], or reset the values of all the lenses using [Clear].
- The [AF Micro Adj.] supports Sony, Minolta, or Konica-Minolta lenses. If you perform [AF Micro Adj.] with lenses other than the supported lenses, the registered settings for the supported lenses may be affected. Do not perform [AF Micro Adj.] with an unsupported lens.
- You cannot set [AF Micro Adj.] individually for a Sony, Minolta, and Konica-Minolta lens of the same specification.

[306] List of MENU items | Camera Settings1

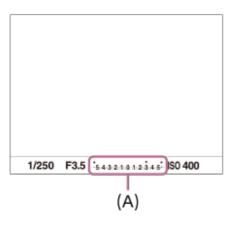
## **Exposure Comp.**

Normally, exposure is set automatically (auto exposure). 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).

- 1
- $\blacksquare$  (Exposure Comp.) on the control wheel  $\rightarrow$  press the left/right side of the control wheel or turn the control wheel, and select the desired exposure range.
  - You can also select MENU → 1 (Camera Settings1) → [Exposure Comp.].
  - You can adjust the exposure in a range of -5.0 EV to + 5.0 EV.
  - You can check the exposure value you set on the shooting screen (A).
     Monitor



### Viewfinder



- You cannot perform the exposure compensation in the following shooting modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
- When using [Manual Exposure], you can perform the exposure compensation only when [ISO] is set

to [ISO AUTO].

- Only a value between -3.0 EV and + 3.0 EV with the equivalent image brightness appears on the screen when shooting. If you set an exposure beyond this range, the image brightness on the screen does not show the effect, but it will be reflected in the recorded image.
- 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.

[307] List of MENU items | Camera Settings1

### ISO

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



ISO (ISO) on the control wheel  $\rightarrow$  select desired setting.

You can also select MENU→ 1 (Camera Settings1) → [ISO].

### Menu item details

#### Multi Frame NR:

Combines continuous shots to create an image with less noise. Press the right side to display the setting screen, then select a desired value using the top/bottom sides of the control wheel. Select the desired ISO number from ISO AUTO or ISO 100 – ISO 51200.

#### ISO AUTO:

Sets the ISO sensitivity automatically.

#### ISO 100 - ISO 51200:

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

- When [ Quality] is set to [RAW] or [RAW & JPEG], [Multi Frame NR] cannot be selected.
- When [Multi Frame NR] is selected, the flash, [D-Range Opt.], or [Auto HDR] cannot be used.
- When [Picture Profile] is set to other than [Off], [Multi Frame NR] cannot be selected.
- When [Picture Effect] is set to other than [Off], [Multi Frame NR] cannot be selected.
- [ISO AUTO] is selected when using the following functions:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
  - [Sweep Panorama]

- The higher the ISO value, the more noise will appear on the images.
- The available ISO settings will differ depending on whether you are shooting still images, shooting movies, or shooting slow-motion/quick-motion movies.
- When shooting movies, ISO values between 100 and 25600 are available. If the ISO value is set to a
  value larger than 25600, the setting is automatically switched to 25600. 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.
- When you select [ISO AUTO] with the shooting mode set to [P], [A], [S] or [M], the ISO sensitivity will be automatically adjusted within the set range.

#### Hint

- You can change the range of ISO sensitivity that is set automatically in [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 are also applied when shooting in [ISO AUTO]
  mode under [Multi Frame NR].
- You can set the effect level for noise reduction by selecting [NR Effect] under [Multi Frame NR].

[308] List of MENU items | Camera Settings1

### ISO AUTO Min. SS

If you select [ISO AUTO] or [ISO AUTO] under [Multi Frame NR] when the shooting mode is P (Program Auto) or A (Aperture Priority), you can set the shutter speed at which the ISO sensitivity starts changing.

This function is effective for shooting moving subjects. You can minimize subject blurring while also preventing camera shake.



 $\textbf{MENU} \rightarrow \textbf{ } \textbf{1}(\textbf{Camera Settings1}) \rightarrow \textbf{[ISO AUTO Min. SS]} \rightarrow \textbf{desired setting.}$ 

### Menu item details

### **FASTER (Faster)/FAST (Fast):**

The ISO sensitivity will start to change at shutter speeds faster than [Standard], so you can prevent camera shake and subject blurring.

### STD (Standard):

The camera automatically sets the shutter speed based on the focal length of the lens.

### SLOW (Slow)/SLOWER (Slower):

The ISO sensitivity will start to change at shutter speeds slower than [Standard], so you can

shoot images with less noise.

#### 1/4000 - 30":

The ISO sensitivity starts to change at the shutter speed you have set.

#### Hint

• The difference in shutter speed at which ISO sensitivity starts to change between [Faster], [Fast], [Standard], [Slow], and [Slower] is 1 EV.

### **Note**

- If the exposure is insufficient even when the ISO sensitivity is set to [ISO AUTO Maximum] in [ISO AUTO], in order to shoot with an appropriate exposure, the shutter speed will be slower than the speed set in [ISO AUTO Min. SS].
- In the following situations, the shutter speed may not function as set:
  - When using the flash to shoot bright scenes. (The maximum shutter speed is limited to the flashsyncing speed of 1/160 seconds.)
  - When using the flash to shoot dark scenes with the [Flash Mode] set to [Fill-flash] or [Wireless].
     (The minimum shutter speed is limited to the speed automatically determined by the camera.)

[309] List of MENU items | Camera Settings1

## **Metering Mode**

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



 $MENU \rightarrow 1$  (Camera Settings1)  $\rightarrow$  [Metering Mode]  $\rightarrow$  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 mode is suitable for measuring light on a specified part of the entire screen. The size of the metering circle can be selected from [Spot: Standard] and [Spot: Large]. The position of the metering circle depends the setting for [Spot Metering Point].

### Entire Screen Avg.:

Measures the average brightness of the entire screen. The exposure will be stable even if the composition or the position of the subject changes.

### Highlight:

Measures the brightness while emphasizing the highlighted area on the screen. This mode is suitable for shooting the subject while avoiding overexposure.

### Hint

- When [Spot] is selected and [Focus Area] is set to either [Flexible Spot] or [Expand Flexible Spot]
  while [Spot Metering Point] is set to [Focus Point Link], the spot metering point can be coordinated
  with the focus area.
- When [Metering Mode] is set to [Highlight] and the [D-Range Opt.] or [Auto HDR] function is activated, the brightness and the contrast will be corrected automatically by dividing the image into small areas and analyzing the contrast of light and shadow. Make settings based on the shooting circumstances.

### Note

- [Metering Mode] is locked to [Multi] in the following shooting modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
  - Other zoom functions than the optical zoom
- In [Highlight] mode, the subject may be dark if a brighter part exists on the screen.

[310] List of MENU items | Camera Settings1

## **Spot Metering Point**

Sets whether to coordinate the spot metering position with the focus area when [Focus Area] is set to [Flexible Spot] or [Expand Flexible Spot].



 $\textbf{MENU} \rightarrow \ \ \, \textbf{1} \ \, \textbf{(Camera Settings1)} \rightarrow \textbf{[Spot Metering Point]} \rightarrow \textbf{desired setting.}$ 

### Menu item details

### Center:

The spot metering position does not coordinate with the focus area, but always meters brightness at the center.

### **Focus Point Link:**

The spot metering position coordinates with the focus area.

When [Focus Area] is set to other than [Flexible Spot] or [Expand Flexible Spot], the spot metering position is locked to the center.

 When [Focus Area] is set to [Lock-on AF: Flexible Spot] or [Lock-on AF: Expand Flexible Spot], the spot metering position coordinates to the Lock-on AF start position, but does not coordinate with the tracking of the subject.

[311] List of MENU items | Camera Settings1

## **Exposure step**

You can set the setting range for the shutter speed, aperture, and exposure compensation values.

**1** MENU  $\rightarrow$  **1** (Camera Settings1)  $\rightarrow$  [Exposure step]  $\rightarrow$  desired setting.

# Menu item details 0.3EV/0.5EV

[312] List of MENU items | Camera Settings1

## **AEL w/ shutter (still image)**

Sets whether to fix the exposure when you press the shutter button halfway down. Select [Off] to adjust the focus and the exposure separately.

**1** MENU →  $\bigcirc$  1(Camera Settings1) → [ $\bigcirc$  AEL w/ shutter] → desired setting.

### Menu item details

### Auto:

Fixes the exposure after adjusting the focus automatically when you press the shutter button halfway down when [Focus Mode] is set to [Single-shot AF]. When [Focus Mode] is set to [Automatic AF], and the product determines that the subject is moving, or you shoot burst images, the fixed exposure is cancelled.

#### On:

Fixes the exposure when you press the shutter button halfway down.

Off:

Does not fix the exposure when you press the shutter button halfway down. Use this mode when you want to adjust focus and exposure separately.

The product keeps adjusting the exposure while shooting in [Cont. Shooting] mode.

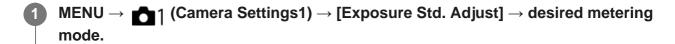
#### **Note**

Operation using the AEL button is prioritized over the [ AEL w/ shutter] settings.

[313] List of MENU items | Camera Settings1

## **Exposure Std. Adjust**

Adjusts this camera's standard for the correct exposure value for each metering mode.



- 2 Select the desired value as the metering standard.
  - You can set a value from -1 EV to +1 EV in 1/6 EV increments.

### **Metering Mode**

The set standard value will be applied when you select the corresponding metering mode in  $MENU \rightarrow [Metering Mode]$ .

Multi/ Center/ Spot/ Entire Screen Avg./ Highlight

- The exposure compensation will not be affected when [Exposure Std. Adjust] is changed.
- The exposure value will be locked according to the value set for [ Spot] during using spot AEL.
- The standard value for M.M (Metered Manual) will be changed according to the value set in [Exposure Std. Adjust].
- The value set in [Exposure Std. Adjust] is recorded in Exif data separately from the exposure compensation value. The amount of exposure standard value will not be added to the exposure compensation value.
- If you set [Exposure Std. Adjust] during bracketing shooting, the number of shots for the bracketing will be reset.

[314] List of MENU items | Camera Settings1

### Flash Mode

You can set the flash mode.



 $MENU \rightarrow 1$  (Camera Settings1)  $\rightarrow$  [Flash Mode]  $\rightarrow$  desired setting.

### 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.

### **⅓** Wireless:

Using a wireless flash creates a shading effect that gives the subject a more 3D appearance than when using the camera's flash.

This mode is effective when you attach a remote control-compatible external flash (sold separately) to the product, and shoot with a wireless flash (sold separately), placed away from the product.

- The default setting depends on the shooting mode.
- Some [Flash Mode] settings are not available, depending on the shooting mode.
- The [Wireless] setting cannot be used with the camera's built-in flash.

Adjusts the amount of flash light in a range of –3.0 EV to +3.0 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.



 $\textbf{MENU} \rightarrow \textbf{ 1} \text{ (Camera Settings1)} \rightarrow \textbf{[Flash Comp.]} \rightarrow \textbf{desired setting.}$ 

 Selecting higher values (+ side) makes the flash level higher, and lower values (- side) makes the flash level lower.

### Note

- [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 (+ side) 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 (- side) may not be visible.

[316] List of MENU items | Camera Settings1

## **Exp.comp.set**

Sets whether to apply the exposure compensation value to control both flash light and ambient light, or just ambient light.



 $\textbf{MENU} \rightarrow \textbf{ } \textbf{1} (\textbf{Camera Settings1}) \rightarrow \textbf{[Exp.comp.set]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

### Ambient&flash:

Applies the exposure compensation value to control both flash light and ambient light.

### **Ambient only:**

Applies the exposure compensation value to control ambient light only.

## **Red Eye Reduction**

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



MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Red Eye Reduction]  $\rightarrow$  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.

[318] List of MENU items | Camera Settings1

### White Balance

Corrects the tone effect of the ambient light condition to record a neutral white subject in white. Use this function 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.



### Menu item details

AWB AWB Auto/ ※ Daylight/ 合 Shade/ Cloudy/ 点 Incandescent/ ※-1 Fluor.: Warm White/ ※ 0 Fluor.: Cool White/ ※+1 Fluor.: Day White/ ※+2 Fluor.: Daylight/ 肾 Flash/ Underwater Auto: When you select a light source that illuminates the subject, the product adjusts the color tones to suit to the selected light source (preset white balance). When you select [Auto], the product automatically detects the light source and adjusts the color tones. 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 display the fine adjustment screen and perform fine adjustments of the color tones as required by pressing the right side of the control wheel.
- If the color tones do not come out as you expected in the selected settings, perform [WB bracket] shooting.
- AWB or AWB is displayed only when [Priority Set in AWB] is set to [Ambience] or [White].

### **Note**

- [White Balance] is fixed to [Auto] in the following shooting modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
- If you use a mercury lamp or a sodium lamp as a light source, the accurate white balance will not be
  obtained because of the characteristics of the light. It is recommended to shoot images using a flash
  or select [Custom Setup].

[319] List of MENU items | Camera Settings1

## **Priority Set in AWB**

Selects which tone to prioritize when shooting under lighting conditions such as incandescent light when [White Balance] is set to [Auto].



MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Priority Set in AWB]  $\rightarrow$  desired setting.

### Menu item details

### AWB Standard:

Shoots with standard auto white balance. The camera automatically adjusts the color tones.

## AWBO Ambience:

Prioritizes the color tone of the light source. This is suitable when you want to produce a warm atmosphere.

## AWBO White:

Prioritizes a reproduction of white color when the color temperature of the light source is low.

[320] List of MENU items | Camera Settings1

## 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.

- MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [DRO/Auto HDR]  $\rightarrow$  [D-Range Opt.].
- Select the desired setting using the left/right sides 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**

- In the following situations, [D-Range Opt.] is fixed to [Off]:
  - The shooting mode is set to [Sweep Panorama].
  - Multi Frame NR
  - When [Picture Effect] is set to other than [Off]
  - When [Picture Profile] 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]

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

- When [ Record Setting] is set to [120p 100M], [100p 100M], [120p 60M] or [100p 60M], [DRO/Auto HDR] will be set to [Off].
- 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.

### [321] List of MENU items | Camera Settings1

### **Auto HDR**

Shoots three images using different exposures and combines the images with correct exposure, the bright parts of an underexposed image, and the dark parts of an overexposed image to create images with a greater range of gradation (High Dynamic Range). One image with proper exposure and one overlaid image are recorded.



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

### Menu item details

Auto HDR: Exposure Diff. Auto:

Corrects the brightness automatically.

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 optimization level from 1.0EV (weak) to 6.0EV (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.

#### Hint

- 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.

- This function is not available when the [ Quality] is [RAW] or [RAW & JPEG].
- [Auto HDR] is not available in the following shooting modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Sweep Panorama]
  - [Scene Selection]
- [Auto HDR] is not available in the following situations:
  - When [Multi Frame NR] is selected.
  - When [Picture Effect] is set to other than [Off].
  - When [Picture Profile] is set to other than [Off].
- You cannot start the next shot until the capture process is completed after you shoot.

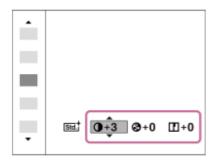
- You may not obtain the desired effect depending on the luminance difference of a subject and the shooting conditions.
- When the flash is used, this function has little effect.
- When the contrast of the scene is low or when product shake or subject blur occurs, you may not obtain good HDR images. 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.

[322] List of MENU items | Camera Settings1

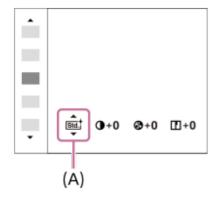
## **Creative Style**

Allows you to set the desired image processing and finely adjust contrast, saturation and sharpness for each image style. You can adjust exposure (shutter speed and aperture) as you like with this function, unlike with [Scene Selection], where the product adjusts the exposure.

- **1** MENU  $\rightarrow$  **1** (Camera Settings1)  $\rightarrow$  [Creative Style].
- 2 Select the desired style or [Style Box] using the top/bottom sides of the control wheel.
- To adjust (Contrast), (Saturation) and (Sharpness), select the desired item using the right/left sides, and then select the value using the top/bottom sides.



- When selecting [Style Box], move to the right side using the right side of the control wheel, and then select the desired style.
  - You can call up the same style with slightly different settings.



(A): Displayed only when Style Box is selected

### Menu item details

### Std. † Standard:

For shooting various scenes with rich gradation and beautiful colors.

### 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.

### Ntri Neutral:

The saturation and sharpness are lowered for shooting images in subdued tones. This is also suitable for capturing image material to be modified with a computer.

### Clear Clear:

For shooting images in clear tones with limpid colors in highlight, suitable for capturing radiant light.

### Deep:

For shooting images with deep and dense colors, suitable for capturing the solid presence of the subject.

### Light Light:

For shooting images with bright and simple colors, suitable for capturing a refreshingly light ambience.

### Port. Portrait:

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

### Landscape:

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

### Sunset:

For shooting the beautiful red of the setting sun.

### Night Scene:

The contrast is lowered for reproducing night scenes.

### Autumn leaves:

For shooting autumn scenes, vividly highlighting the reds and yellows of changing leaves.

### B/w Black & White:

For shooting images in black and white monotone.

### <sub>Sepia</sub>† Sepia:

For shooting images in sepia monotone.

### TStd.† Registering preferred settings (Style Box):

Select the six style box (the boxes with numbers on the left side ( 15td.)) to register preferred settings. Then select the desired settings using the right button.

You can call up the same style with slightly different settings.

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

[Contrast], [Saturation], and [Sharpness] can be adjusted for each image style preset such as [Standard] and [Landscape], and for each [Style Box] to which you can register preferred settings.

Select an item to be set by pressing the right/left sides of the control wheel, then set the value using the top/bottom sides 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**

- [Creative Style] is fixed to [Standard] in the following situations:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
  - [Picture Effect] is set to other than [Off].
  - [Picture Profile] is set to other than [Off].
- When this function is set to [Black & White] or [Sepia], [Saturation] cannot be adjusted.

[323] List of MENU items | Camera Settings1

### **Picture Effect**

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

**1** MENU  $\rightarrow$  1(Camera Settings1)  $\rightarrow$  [Picture Effect]  $\rightarrow$  desired setting.

#### Menu item details

### Off:

Disables the [Picture Effect] function.

### Toy Camera:

Creates a soft image with shaded corners and reduced sharpness.

### (Pop) 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.

### (Rtro) 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.

### (版) High Contrast Mono.:

Creates a high-contrast image in black and white.

### (Soft 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.

### (Wtrc) Watercolor:

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

### (Ilustration:

Creates an illustration-like image by emphasizing the outlines.

#### Hint

You can perform detailed settings for some items using the left/right sides of the control wheel.

- 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 during 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. Change the composition or re-shoot the image carefully to avoid image blur, as needed.

- This function is not available in the following shooting modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
  - [Sweep Panorama]
- When [ Quality] is set to [RAW] or [RAW & JPEG], this function is not available.

[324] List of MENU items | Camera Settings1

### **Picture Profile**

Allows you to change the settings for the color, gradation, etc. For details on "Picture Profile," refer to http://helpguide.sony.net/di/pp/v1/en/index.html.

### Customizing the picture profile

You can customize the picture quality by adjusting picture profile items such as [Gamma] and [Detail]. When setting these parameters, connect the camera to a TV or monitor, and adjust them while observing the picture on the screen.

- MENU → ↑ 1 (Camera Settings1) → [Picture Profile] → the profile you want to change.
- 2 Move to the item index screen by pressing the right side of the control wheel.
- 3 Select the item to change using the top/bottom sides of the control wheel.



Select the desired value using the top/bottom sides of the control wheel and press in the center.

### Using the preset of the picture profile

The default settings [PP1] through [PP9] for movies have been set in advance in the camera based on various shooting conditions.

 $MENU \rightarrow 1$  (Camera Settings1)  $\rightarrow$  [Picture Profile]  $\rightarrow$  desired setting.

PP1:

Example setting using [Movie] gamma

PP2:

Example setting using [Still] gamma

PP3:

Example setting of natural color tone using the [ITU709] gamma

PP4:

Example setting of a color tone faithful to the ITU709 standard

PP5:

Example setting using [Cine1] gamma

PP6:

Example setting using [Cine2] gamma

**PP7**:

Example setting using [S-Log2] gamma

PP8:

Example setting using the [S-Log3] gamma and the [S-Gamut3.Cine] under [Color Mode].

PP9:

Example setting using the [S-Log3] gamma and the [S-Gamut3] under [Color Mode].

### Items of the picture profile

#### **Black Level**

Sets the black level. (-15 to +15)

#### Gamma

Selects a gamma curve.

Movie: Standard gamma curve for movies

Still: Standard gamma curve for still images

Cine1: Softens the contrast in dark parts and emphasizes gradation in bright parts to produce a relaxed color movie. (equivalent to HG4609G33)

Cine2: Similar to [Cine1] but optimized for editing with up to 100% video signal. (equivalent to HG4600G30)

Cine3: Intensifies the contrast in light and shade more than [Cine1] and strengthens gradation in black.

Cine4: Strengthens the contrast in dark parts more than [Cine3]. The contrast in dark parts is

lower and the contrast in bright parts is higher than for [Movie].

ITU709: Gamma curve that corresponds to ITU709.

ITU709(800%): Gamma curve for confirming scenes on the assumption of shooting using [S-Log2] or [S-Log3].

S-Log2: Gamma curve for [S-Log2]. This setting is based on the assumption that the picture will be processed after shooting.

S-Log3: Gamma curve for [S-Log3] with more similar features to film. This setting is based on the assumption that the picture will be processed after shooting.

#### **Black Gamma**

Corrects gamma in low intensity areas.

Range: Selects the correcting range. (Wide / Middle / Narrow)

Level: Sets the correcting level. (-7 (maximum black compression) to +7 (maximum black stretch))

#### **Knee**

Sets knee point and slope for video signal compression to prevent over-exposure by limiting signals in high intensity areas of the subject to the dynamic range of your camera. When selecting [Still], [Cine1], [Cine2], [Cine3], [Cine4], [ITU709(800%)], [S-Log2], [S-Log3] in [Gamma], [Knee] is set to [Off] if [Mode] is set to [Auto]. To use functions in [Knee], set [Mode] to [Manual].

Mode: Selects auto/manual settings.

- Auto: The knee point and slope are set automatically.
- Manual: The knee point and slope are set manually.

Auto Set: Settings when [Auto] is selected for [Mode].

- Max Point: Sets the maximum point of the knee point. (90% to 100%)
- Sensitivity: Sets the sensitivity. (High / Mid / Low)

Manual Set: Settings when [Manual] is selected for [Mode].

- Point: Sets the knee point. (75% to 105%)
- Slope: Sets the knee slope. (-5 (gentle) to +5 (steep))

### **Color Mode**

Sets type and level of colors.

Movie: Suitable colors when [Gamma] is set to [Movie].

Still: Suitable colors when [Gamma] is set to [Still].

Cinema: Suitable colors when [Gamma] is set to [Cine1].

Pro: Similar color tones to the standard image quality of Sony professional cameras (when combined with ITU709 gamma)

ITU709 Matrix: Colors corresponding to ITU709 standard (when combined with ITU709 gamma)

Black & White: Sets the saturation to zero for shooting in black and white.

S-Gamut: Setting based on the assumption that the pictures will be processed after shooting. Used when [Gamma] is set to [S-Log2].

S-Gamut3.Cine: Setting based on the assumption that the pictures will be processed after shooting. Used when [Gamma] is set to [S-Log3]. This setting allows you to shoot in a color space that can easily be converted for digital cinema.

S-Gamut3: Setting based on the assumption that the pictures will be processed after shooting. Used when [Gamma] is set to [S-Log3]. This setting allows you to shoot in a wide color space.

#### **Saturation**

Sets the color saturation. (-32 to +32)

#### **Color Phase**

Sets the color phase. (-7 to +7)

### **Color Depth**

Sets the color depth for each color phase. This function is more effective for chromatic colors and less effective for achromatic colors. The color looks deeper as you increase the setting value towards the positive side, and lighter as you decrease the value towards the negative side. This function is effective even if you set [Color Mode] to [Black & White].

- [R] -7 (light red) to +7 (deep red)
- [G] -7 (light green) to +7 (deep green)
- [B] -7 (light blue) to +7 (deep blue)
- [C] -7 (light cyan) to +7 (deep cyan)
- [M] -7 (light magenta) to +7 (deep magenta)
- [Y] -7 (light yellow) to +7 (deep yellow)

### **Detail**

Sets items for [Detail].

Level: Sets the [Detail] level. (-7 to +7)

Adjust: The following parameters can be selected manually.

- Mode: Selects auto/manual setting. (Auto (automatic optimization) / Manual (The details are set manually.))
- V/H Balance: Sets the vertical (V) and horizontal (H) balance of DETAIL. (-2 (off to the vertical (V) side) to +2 (off to the horizontal (H) side))
- B/W Balance: Selects the balance of the lower DETAIL (B) and the upper DETAIL (W).
   (Type1 (off to the lower DETAIL (B) side) to Type5 (off to the upper DETAIL (W) side))
- Limit: Sets the limit level of [Detail]. (0 (Low limit level: likely to be limited) to 7 (High limit level: unlikely to be limited))
- Crispning: Sets the crispening level. (0 (shallow crispening level) to 7 (deep crispening level))
- Hi-Light Detail: Sets the [Detail] level in the high intensity areas. (0 to 4)

### To copy the settings to another picture profile number

You can copy the settings of the picture profile to another picture profile number.

### To Reset the picture profile to the default setting

You can reset the picture profile to the default setting. You cannot reset all picture profile settings at once.

 $MENU \rightarrow 1$  (Camera Settings1)  $\rightarrow$  [Picture Profile]  $\rightarrow$  [Reset].

#### **Note**

- Since the parameters are shared for movie and still images, adjust the value when you change the shooting mode.
- If you print RAW images with shooting settings, the following settings are not reflected:
  - Black Level
  - Black Gamma
  - Knee
  - Color Depth
- When the [ Record Setting] is [120p 100M]/[100p 100M] or [120p 60M]/[100p 60M], [Black Gamma] is fixed at "0" and cannot be adjusted.
- If you change [Gamma], the available ISO value range changes.
- There may be more noise in dark parts depending on the gamma settings. It may improve by setting the lens compensation to [Off].
- When using S-Log2 or S-Log3 gamma, the noise becomes more noticeable compared to when using other gammas. If the noise still is significant even after processing pictures, it may be improved by shooting with a brighter setting. However, the dynamic range becomes narrower accordingly when you shoot with a brighter setting. We recommend checking the picture in advance by test shooting when using S-Log2 or S-Log3.
- Setting [ITU709(800%)], [S-Log2] or [S-Log3] may cause an error in the white balance custom setup.
   In this case, perform custom setup with a gamma other than [ITU709(800%)], [S-Log2], or [S-Log3] first, and then reselect [ITU709(800%)], [S-Log2], or [S-Log3] gamma.
- Setting [ITU709(800%)], [S-Log2] or [S-Log3] disables the [Black Level] setting.
- If you set [Slope] to +5 in [Manual Set], [Knee] is set to [Off].
- S-Gamut, S-Gamut3.Cine, and S-Gamut3 are color spaces exclusive to Sony. However, this
  camera's S-Gamut setting does not support the whole S-Gamut color space; it is a setting to achieve
  a color reproduction equivalent to S-Gamut.

[325] List of MENU items | Camera Settings1

## Soft Skin Effect (still image)

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

MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [ Soft Skin Effect]  $\rightarrow$  desired setting.

### Menu item details

**⊕**<sup>+</sup><sub>0FF</sub> 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**

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

[326] List of MENU items | Camera Settings1

## **Focus Magnifier**

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

Unlike with [ MF Assist], you can magnify the image without operating the focus ring.

- **1** MENU  $\rightarrow$  **1** (Camera Settings1)  $\rightarrow$  [Focus Magnifier].
- Press the center of the control wheel to enlarge the image and select the position you want to enlarge using top/bottom/left/right side of the control wheel.
  - Each time you press the center, the magnification scale will change.

### 3 Confirm the focus.

- When the focus mode is [Manual Focus], you can adjust the focus while an image is magnified. The [Focus Magnifier] function will be canceled when the shutter button is pressed halfway.
- When the shutter button is pressed halfway down while an image is magnified during the auto-focusing, different functions are performed depending on the [ AF in Focus Mag.] setting.
  - When [ AF in Focus Mag.] is set to [On]: Auto-focusing is performed again.

- When [ AF in Focus Mag.] is set to [Off]: The [Focus Magnifier] function is canceled.



Press the shutter button fully down to shoot the image.

### To use the focus magnifier function by touch operation

You can adjust the focus on the magnified image touching the monitor. Set [Touch Operation] to other than [Off] beforehand. When the focus mode is [Manual Focus], you can perform [Focus Magnifier] by double-tapping the area to focus on while shooting with the monitor. While shooting with the viewfinder, a frame is displayed in the center of the monitor by double-tapping and you can move the frame by dragging it. The image is magnified by pressing the center of the control wheel.

#### Hint

- While using the focus magnifier function, you can move the magnified area by dragging it on the touch panel.
- To end the focus magnifier function, double-tap again. When [ AF in Focus Mag.] is set to [Off], the focus magnifier function is ended by pressing the shutter button halfway down.

[327] List of MENU items | Camera Settings1

## Focus Magnif. Time

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



 $\textbf{MENU} \rightarrow \ \ \, \textbf{1} \ \, \textbf{(Camera Settings1)} \rightarrow \textbf{[Focus Magnif. Time]} \rightarrow \textbf{desired setting.}$ 

### 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.

[328] List of MENU items | Camera Settings1

## AF in Focus Mag. (still image)

You can focus on the subject more accurately using auto-focus by magnifying the area where you want to focus. While the magnified image is displayed, you can focus on a smaller area than the flexible spot.

- **2** MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Focus Magnifier].
- Magnify the image by pressing the center of the control wheel, and then adjust the position using top/bottom/right/left of the control wheel.
  - The magnification scale changes each time you press the center.
- Press the shutter button halfway down to focus.
  - The focus will be achieved at point of + in the center of the screen.
- 5 Press the shutter button all the way down to shoot.
  - The [ AF in Focus Mag.] function is canceled after shooting.

#### Hint

- Use of a tripod is recommended to accurately identify the location you want to magnify.
- You can check the auto-focusing result by magnifying the displayed image. If you want to readjust
  the focus position, adjust the focus area on the magnified screen and then press the shutter button
  halfway down.

### **Note**

- The edges of the screen may be unfocused.
- The exposure and white balance cannot be adjusted while the displayed image is being magnified.
- [AF in Focus Mag.] is unavailable in the following situations:
  - In [Sweep Panorama] mode
  - During movie shooting
  - When [Focus Mode] is set to [Continuous AF].
  - When [Focus Mode] is set to [Automatic AF] and the shooting mode is set to other than P/A/S/M.
  - When [Focus Mode] is set to [Automatic AF] and [Drive Mode] is set to [Cont. Shooting].
  - When using a Mount Adaptor (sold separately).
- While the displayed image is being magnified, the following functions are unavailable:
  - [Eye AF]
  - [Center Lock-on AF]
  - [ Eye-Start AF]
  - [MPre-AF]
  - [Smile/Face Detect.]
  - [ Auto Obj. Framing]

[329] List of MENU items | Camera Settings1

## 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.



### 2 Turn the focus ring to adjust the focus.

 The image is enlarged. You can magnify images further by pressing the center of the control wheel.

- You cannot use [MF Assist] when shooting movies. Use the [Focus Magnifier] function instead.
- [ MF Assist] is not available when a Mount Adaptor is attached. Use the [Focus Magnifier] function instead.

#### Hint

You can set how long the image is to be shown magnified by selecting MENU → 1(Camera Settings1) → [Focus Magnif. Time].

[330] List of MENU items | Camera Settings1

## **Peaking Level**

Enhances the outline of in-focus ranges using a specific color in Manual Focus or Direct Manual Focus shooting.



MENU  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [Peaking Level]  $\rightarrow$  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 recognizes sharp areas as in focus, the effect of peaking differs, depending on the subject and lens.
- The outline of in-focus ranges is not enhanced when the product is connected using an HDMI cable.

[331] List of MENU items | Camera Settings1

## **Peaking Color**

Sets the color used for the peaking function in Manual Focus or Direct Manual Focus shooting.

1

 $\textbf{MENU} \rightarrow \textbf{ } \textbf{1} (\textbf{Camera Settings1}) \rightarrow \textbf{[Peaking Color]} \rightarrow \textbf{desired setting.}$ 

### Menu item details

Red:

Enhances outlines in red.

Yellow:

Enhances outlines in yellow.

White:

Enhances outlines in white.

[332] List of MENU items | Camera Settings1

### Smile/Face Detect.

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



 $MENU \rightarrow 1$  (Camera Settings1)  $\rightarrow$  [Smile/Face Detect.]  $\rightarrow$  desired setting.

### Menu item details



Does not use the [Face Detection] function.

### On (Regist. Faces):

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

### On:

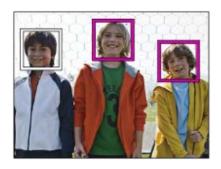
Detects a face without giving higher priority to the registered face.

### **⊕**<sub>nN</sub> 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:
  - Other zoom functions 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], [Sunset].
  - [ Record Setting] is set to [120p]/[100p].
- Up to 8 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.

[333] List of MENU items | Camera Settings1

**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)].

- 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.

[334] List of MENU items | Camera Settings1

## **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  $\rightarrow$  **1** (Camera Settings1)  $\rightarrow$  [Face Registration]  $\rightarrow$  [Order Exchanging].
- 2 Select a face to change the order of priority.
- 3 Select the destination.

[335] List of MENU items | Camera Settings1

## **Face Registration (Delete)**

Deletes a registered face.



If you select [Delete All], you can delete all registered faces.

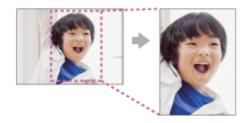
#### **Note**

 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].

[336] List of MENU items | Camera Settings1

## **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  $\rightarrow$  1 (Camera Settings1)  $\rightarrow$  [ Auto Obj. Framing]  $\rightarrow$  desired setting.

### Menu item details

Off:

Does not trim images.

#### Auto:

Automatically trims images into an appropriate composition.

- [ Auto Obj. Framing] is not available when the shooting mode is set to [Sweep Panorama], [Movie], or [Movie/S&Q Motion], or when [Scene Selection] is set to [Hand-held Twilight], [Sports Action], or [Anti Motion Blur].
- The trimmed image may not be the best possible composition, depending on the shooting conditions.
- [MAUTO Obj. Framing] cannot be set when [MQ Quality] is set to [RAW] or [RAW & JPEG].

- [ Auto Obj. Framing] is not available in the following situations.
  - [Drive Mode] is set to [Cont. Shooting], [Self-timer(Cont)], [Cont. Bracket], [Single Bracket], [WB bracket], or [DRO Bracket].
  - The ISO sensitivity is set to [Multi Frame NR].
  - [DRO/Auto HDR] is set to [Auto HDR].
  - Other zoom functions than the optical zoom
  - When shooting in Manual Focus mode
  - [Picture Effect] is set to [Soft Focus], [HDR Painting], [Rich-tone Mono.], [Miniature], [Watercolor], or [Illustration].

[337] List of MENU items | Camera Settings2

### Movie/S&Q Motion

You can select the exposure mode for movie shooting or slow-motion/quick-motion shooting. You can change the setting and playback speed for slow-motion/quick-motion shooting with [ \$&0 S&Q Settings].

- 1 Turn the mode dial to | (Movie/S&Q Motion).
- **2** MENU  $\rightarrow$  **2** (Camera Settings2)  $\rightarrow$  [Movie/S&Q Motion]  $\rightarrow$  desired setting.
- 3 Press the MOVIE (movie) button to start recording.
  - Press the MOVIE (movie) button again to stop recording.

### Menu item details

Program Auto / Sau Program Auto:

Allows you to shoot with the exposure adjusted automatically (both the shutter speed and the aperture value).

Aperture Priority / SaQ A Aperture Priority:

Allows you to shoot after adjusting the aperture value manually.

Shutter Priority / Storage Shutter Priority:

Allows you to shoot after adjusting the shutter speed manually.

Manual Exposure / Manual Exposure:

Allows you to shoot after adjusting the exposure (both the shutter speed and the aperture value) manually.

[338] List of MENU items | Camera Settings2

## File Format (movie)

Selects the movie file format.



 $MENU \rightarrow \bigcirc 2 \text{ (Camera Settings2)} \rightarrow [\square] \text{ File Format]} \rightarrow \text{desired setting.}$ 

### Menu item details

### XAVC S 4K:

Records 4K movies in the XAVC S format. This format supports a high bit rate.

Audio: LPCM

- One of the following kinds of memory card is needed to record movies with [ File Format] set to [XAVC S 4K]:
  - Memory Stick PRO-HG Duo
    - Movies cannot be recorded in 100 Mbps or more.
  - SDHC / SDXC / microSDHC / microSDXC memory card (SD Speed Class 10, or UHS Speed Class U1 or faster)
    - UHS Speed Class U3 is required to record at 100 Mbps or more.
- [HDMI Info. Display] temporarily switches to [Off] when [ File Format] is set to [XAVC S 4K].
- Images will not appear on the monitor of the camera if you record movies while the camera is connected to an HDMI device with [ File Format] set to [XAVC S 4K].
- [Smile/Face Detect.] and [Center Lock-on AF] are temporarily set to [Off] when the camera is connected to an HDMI device with [ File Format] set to [XAVC S 4K].
- [Smile/Face Detect.], [Center Lock-on AF] and [ REC Control] are temporarily set to [Off] when [ File Format] is set to [XAVC S 4K] and [Dual Video REC] is set to [On]. Even if the camera is connected to an HDMI device, images will not be displayed on that device while movie recording is in progress.

### **XAVC S HD:**

Records HD movies in the XAVC S format. This format supports a high bit rate.

Audio: LPCM

- One of the following kinds of memory card is needed to record movies with [ File Format] set to [XAVC S HD]:
  - Memory Stick PRO-HG Duo
    - Movies cannot be recorded in 100 Mbps or more.

SDHC / SDXC / microSDHC / microSDXC memory card (SD Speed Class10, or UHS Speed Class U1 or faster)

- UHS Speed Class U3 is required to record at 100 Mbps or more.

#### **AVCHD:**

Records HD movies in the 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 PlayMemories Home software.

#### **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.

[339] List of MENU items | Camera Settings2

## **Record Setting (movie)**

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



### Menu item details

### When [File Format] is set to [XAVC S 4K]

Records high-definition movies by converting them into the MP4 file format using the MPEG-4 AVC/H.264 codec.

Frame Rate	Bit-rate	
	60 Mbps	100 Mbps

30p/25p	30p 60M/25p 60M Super	30p 100M/25p 100M Super 35mm
24p	24p 60M Super * 35mm	24p 100M Super *

<sup>\*</sup> Only when [NTSC/PAL Selector] is set to NTSC

### When [File Format] is set to [XAVC S HD]

Records high-definition movies by converting them into the MP4 file format using the MPEG-4 AVC/H.264 codec.

Frame Rate	Bit-rate		
	50 Mbps	60 Mbps	100 Mbps
120p/100p	_	120p 60M/100p 60M	120p 100M/100p 100M
60p/50p	60p 50M Super /50p 50M Super 35mm	_	_
30p/25p	30p 50M Super /25p 50M Super 35mm	_	_
24p	24p 50M Super * 35mm	_	_

<sup>\*</sup> Only when [NTSC/PAL Selector] is set to NTSC

### 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 and in the AVCHD format.

24p/25p: Movies are recorded at approximately 24 frames/sec (for 1080 60i-compatible devices) or 25 frames/sec (for 1080 50i-compatible devices), in progressive mode with Dolby Digital audio and in the 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 and in the AVCHD format.

Frame Rate	Bit-rate		
	17 Mbps	24 Mbps	28 Mbps
60i/50i	60i 17M(FH) Super /50i 17M(FH) Super 35mm	60i 24M(FX) Super /50i 24M(FX) Super 35mm	_
60p/50p	_	_	60p 28M(PS) Super /50p 28M(PS) Super 35mm
24p/25p	24p 17M(FH) Super /25p 17M(FH) Super 35mm	24p 24M(FX) Super /25p 24M(FX) Super 35mm	_

### When [File Format] is set to [MP4]

Movies are recorded in the 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 and in the MP4 format.

Frame Rate	Bit-rate		
	6 Mbps	16 Mbps	28 Mbps
60p/50p	_	_	1080/60p 28M Super 35mm /1080/50p 28M Super 35mm
30p/25p	720/30p 6M Super 35mm /720/25p 6M Super 35mm	1080/30p 16M Super 35mm /1080/25p 16M Super 35mm	_

#### **Note**

- Movies recorded with the [60p 28M(PS) Super ]/[50p 28M(PS) Super ]/[60i 24M(FX) Super ]/[50i 24M(FX) Super ]/[24p 24M(FX) Super ]/[25p 24M(FX) Super ]/[25p 24M(FX) Super ]/[24p 24M(FX) Super ]/[25p 24M(FX) Super ]/[25p
- To play back 60p/50p/24p/25p movies on a TV, the TV must be compatible with the 60p/50p/24p/25p format. If the TV is not compatible with the 60p/50p/24p/25p format, 60p/50p/24p/25p movies will be output as 60i/50i movies.
- [120p]/[100p] cannot be selected for the following settings.
  - [Intelligent Auto]
  - [Superior Auto]
  - [Scene Selection]
- The angle of view will be narrower under the following conditions:
  - When [☐ File Format] is set to [XAVC S HD] and [☐ Record Setting] is set to [120p]/[100p]
  - When [File Format] is set to [XAVC S 4K] and [File Record Setting] is set to [30p]/[25p]
  - During slow-motion/quick-motion shooting

[340] List of MENU items | Camera Settings2

## **S&Q Settings**

You can record a moment that cannot be captured by the naked eye (slow-motion recording), or record a long-term phenomenon into a compressed movie (quick-motion recording). For

example, you can record an intense sports scene, the moment when a bird starts to fly, a blooming flower, and a changing view of clouds or a starry sky. Sound will not be recorded.

- 1 Set the mode dial to [1] (Movie/S&Q Motion).
- 2 Select MENU→ 2 (Camera Settings2)→[Movie/S&Q Motion]→ and select the desired setting of slow-motion/quick-motion (S&Q) (S&Q Program Auto, S&Q Aperture Priority, S&Q Shutter Priority, or S&Q Manual Exposure).
- Select MENU $\rightarrow$  2 (Camera Settings2) $\rightarrow$  [  $\S \& Q$  S&Q Settings] and select the desired settings for [  $\S \& Q$  Record Setting] and [  $\S \& Q$  Frame Rate].
- Press the MOVIE (movie) button to start recording.
  - Press the MOVIE button again to stop recording.

#### Menu item details

### **S&Q** Record Setting:

Selects the frame rate of the movie.

#### S&O Frame Rate:

Selects the shooting frame rate.

#### Playback speed

The playback speed will vary as below depending on the assigned [ Sk0 Record Setting] and [ Sk0 Frame Rate].

### When [NTSC/PAL Selector] is set to NTSC

Coo Frame Rate	S&Q Record Setting			
S&Q Frame Rate	24p	30p	60p	
120fps	5 times slower	4 times slower	-	
60fps	2.5 times slower	2 times slower	Normal playback speed	
30fps	1.25 times slower	Normal playback speed	2 times quick	
15fps	1.6 times quick	2 times quick	4 times quick	
8fps	3 times quick	3.75 times quick	7.5 times quick	
4fps	6 times quick	7.5 times quick	15 times quick	

2fps	12 times quick	15 times quick	30 times quick	
1fps	24 times quick	30 times quick	60 times quick	

### When [NTSC/PAL Selector] is set to PAL

S&Q Frame Rate	S <sub>8</sub> 0 Record Setting		
Sau Frame Kate	25p	50p	
100fps	4 times slower	-	
50fps	2 times slower	Normal playback speed	
25fps	Normal playback speed	2 times quick	
12fps	2.08 times quick	4.16 times quick	
6fps	4.16 times quick	8.3 times quick	
3fps	8.3 times quick	16.6 times quick	
2fps	12.5 times quick	25 times quick	
1fps	25 times quick	50 times quick	

• When [ S&O Frame Rate] is set to [120fps]/[100fps], you cannot set [ S&O Record Setting] to [60p]/[50p].

#### **Note**

- In slow-motion recording, the shutter speed becomes faster and you may not be able to obtain the proper exposure. If this happens, decrease the aperture value or adjust the ISO sensitivity to a higher value.
- For an estimation of recordable time, refer to "Recordable movie times."
- The bit-rate of a recorded movie varies depending on the settings for [ S&O Frame Rate] and [ S&O Record Setting].
- The movie will be recorded in XAVC S HD format.
- During slow-motion/quick-motion recording, the following functions are not available.
  - [Dual Video REC]
  - [TC Run] under [TC/UB Settings]
  - [ TC Output] under [HDMI Settings]
  - [ 4K Output Sel.]

### **Dual Video REC**

Allows you to simultaneously record an XAVC S movie and an MP4 movie, or an AVCHD movie and an MP4 movie.



MENU  $\rightarrow$  (Camera Settings2)  $\rightarrow$  [Dual Video REC]  $\rightarrow$  desired setting.

#### Menu item details

#### On:

An XAVC S movie and an MP4 movie, or an AVCHD movie and an MP4 movie, are recorded simultaneously.

#### Off:

The [Dual Video REC] function is not used.

#### **Note**

- When [☐ Record Setting] for an XAVC S movie is set to [60p]/[50p] or [120p]/[100p], [☐ Record Setting] for an AVCHD movie is set to [60p]/[50p], or [☐ File Format] is set to [MP4], [Dual Video REC] is set to [Off].
- If you select [Date View] in [View Mode] when playing back movies, XAVC S movies and MP4 movies, or AVCHD movies and MP4 movies are displayed side-by-side.

[342] List of MENU items | Camera Settings2

# AF drive speed (movie)

You can switch focusing speed when using autofocus in movie mode.



 $\textbf{MENU} \rightarrow \ \ \, \textbf{ (Camera Settings2)} \rightarrow \ \ \, \textbf{ [EII] AF drive speed]} \rightarrow \ \ \, \textbf{desired setting.}$ 

### Menu item details

#### Fast:

Sets the AF drive speed to fast. This mode is suitable for shooting active scenes, such as sports.

#### Normal:

Sets the AF drive speed to normal.

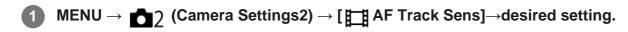
#### Slow:

Sets the AF drive speed to slow. With this mode, the focus switches smoothly when the subject to be focused is changed.

[343] List of MENU items | Camera Settings2

# **AF Track Sens (movie)**

You can set the AF sensitivity in movie mode.



#### Menu item details

#### Responsive:

Sets the AF sensitivity to high. This mode is useful when recording movies in which the subject is moving quickly.

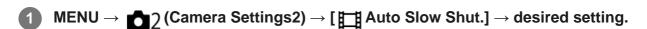
#### Standard:

Sets the AF sensitivity to normal. This mode is useful when there are obstacles in front of the subject or in crowded places.

[344] List of MENU items | Camera Settings2

# **Auto Slow Shut. (movie)**

Sets whether or not to adjust the shutter speed automatically when recording movies if the subject is dark.



#### Menu item details

#### On:

Uses Auto Slow Shutter. The shutter speed automatically slows when recording in dark locations. You can reduce noise in the movie by using a slow shutter speed when recording in dark locations.

#### Off:

Does not use [ Auto Slow Shut.]. The recorded movie will be darker than when [On] is selected, but you can record movies with smoother motion and less object blur.

#### **Note**

• [ Auto Slow Shut.] does not function in the following situations:

- During slow-motion/quick-motion shooting
- ─ **I**S (Shutter Priority)
- − I (Manual Exposure)
- When [ISO] is set to other than [ISO AUTO]

[345] List of MENU items | Camera Settings2

# **Audio Recording**

Sets whether to record sounds when shooting movies. Select [Off] to avoid recording the sounds of the lens and the camera operating.



MENU  $\rightarrow$  (Camera Settings2)  $\rightarrow$  [Audio Recording]  $\rightarrow$  desired setting.

#### Menu item details

On:

Records sound (stereo).

Off:

Does not record sound.

[346] List of MENU items | Camera Settings2

# **Audio Rec Level**

You can adjust the audio recording level while checking the level meter.

Select the desired level using the right/left sides of the control wheel.

#### Menu item details

Turns up the audio recording level.

-:

Turns down the audio recording level.

#### Reset:

Resets the audio recording level to the default setting.

#### Hint

When you record audio movies with loud volumes, set [Audio Rec Level] to a lower sound level. Doing so enables you to record more realistic audio. When you record audio movies with lower volumes, set [Audio Rec Level] to a greater sound level to make the sound easier to hear.

#### **Note**

- Regardless of the [Audio Rec Level] settings, the limiter always operates.
- [Audio Rec Level] is available only when the shooting mode is set to movie mode.
- [Audio Rec Level] is unavailable during slow-motion/quick-motion shooting.
- The [Audio Rec Level] settings are applied for both the internal microphone and the (microphone) terminal input.

[347] List of MENU items | Camera Settings2

# **Audio Level Display**

Sets whether to display the audio level on the screen.



 $\textbf{MENU} \rightarrow \textbf{ } 2 \text{ (Camera Settings2)} \rightarrow \textbf{ [Audio Level Display]} \rightarrow \textbf{desired setting.}$ 

### Menu item details

On:

Displays the audio level.

Off:

Does not display the audio level.

#### Note

- The audio level is not displayed in the following situations:
  - When [Audio Recording] is set to [Off].
  - When DISP (Display Setting) is set to [No Disp. Info.].
  - During slow-motion/quick-motion shooting
- The audio level is also displayed while shooting stand-by in movie recording mode.

[348] List of MENU items | Camera Settings2

### Wind Noise Reduct.

Sets whether or not to reduce wind noise by cutting the low-range sound of the input audio from the built-in microphone.



 $\textbf{MENU} \rightarrow \textbf{\ref{MENU}} \rightarrow \textbf{(Camera Settings2)} \rightarrow \textbf{[Wind Noise Reduct.]} \rightarrow \textbf{desired setting.}$ 

#### 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.
- When an external microphone (sold separately) is used, [On] does not function.

[349] List of MENU items | Camera Settings2

# **Marker Display (movie)**

Sets whether or not to display markers set using [ Marker Settings] on the monitor or the viewfinder while shooting movies.



 $\textbf{MENU} \rightarrow \textbf{max} \ \textbf{(Camera Settings2)} \rightarrow \textbf{[max] Marker Display]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

On:

Markers are displayed. The markers are not recorded.

Off:

No marker is displayed.

#### **Note**

- The markers are displayed when the mode dial is set to [ (Movie/S&Q Motion) or when shooting movies.
- You cannot display markers when using [Focus Magnifier].
- The markers are displayed on the monitor or viewfinder. (You cannot output the markers.)

[350] List of MENU items | Camera Settings2

# **Marker Settings (movie)**

Sets the markers to be displayed while shooting movies.



 $\textbf{MENU} \rightarrow \textbf{m} \textbf{3} \text{ (Camera Settings2)} \rightarrow \textbf{[m] Marker Settings]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

#### Center:

Sets whether or not to display the center marker in the center of the shooting screen. [Off]/[On]

#### Aspect:

Sets the aspect marker display.

[Off]/[4:3]/[13:9]/[14:9]/[15:9]/[1.66:1]/[1.85:1]/[2.35:1]

#### Safety Zone:

Sets the safety zone display. This becomes the standard range that can be received by a general household TV.

[Off]/[80%]/[90%]

#### **Guideframe:**

Sets whether or not to display the guide frame. You can verify whether the subject is level or perpendicular to the ground.

[Off]/[On]

#### Hint

- You can display several markers at the same time.
- Place the subject on the cross point of the [Guideframe] to make a balanced composition.

# Silent Shooting (still image)

You can shoot images without the shutter sound.



 $\textbf{MENU} \rightarrow \textcircled{1} 2 \text{ (Camera Settings2)} \rightarrow \textbf{[} \bigcirc \textbf{Silent Shooting]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

#### On:

You can shoot images without the shutter sound.

#### Off:

[ Silent Shooting] is deactivated.

#### **Note**

- Use the [ Silent Shooting] function on your own responsibility, while taking sufficient consideration to the privacy and portrait rights of the subject.
- Even if [ Silent Shooting] is set to [On], it will not be completely silent.
- Even if [Silent Shooting] is set to [On], the operating sound of the aperture and focus will sound.
- When shooting still images using the [ Silent Shooting] function with low ISO sensitivity, if you
  point the camera at a very bright light source, high intensity areas on the monitor may be recorded in
  darker tones.
- When the power is turned off, the shutter sound may beep in rare occasions. This is not a malfunction.
- Image distortion caused by the movement of the subject or the camera may occur.
- If you shoot images under instantaneous lightning or flickering lights, such as the flash light from other cameras or fluorescent lighting, a striping effect may occur on the image.
- If you want to turn off the beep that sounds when the subject is in focus or the self-timer operates, set [Audio signals] to [Off].
- Even if [ Silent Shooting] is set to [On], the shutter sound may beep under the following circumstances:
  - [White Balance] is set to [Custom Setup]
  - [Face Registration]
- You cannot select [ Silent Shooting] when the mode dial is set to other than P/A/S/M.
- When [ Silent Shooting] is set to [On], the following functions are not available:
  - Flash shooting
  - Auto HDR
  - Picture Effect
  - Picture Profile
  - − Long Exposure NR
  - e-Front Curtain Shut.
  - S. Auto Img. Extract.
  - BULB shooting
  - Multi Frame NR

- When [ Silent Shooting] is set to [On], only [Continuous Shooting: Lo] is available for [Cont. Shooting].
- After you turn the camera on, the time in which you can start recording is extended by approximately 0.5 seconds.

[352] List of MENU items | Camera Settings2

### e-Front Curtain Shut.

The electronic front curtain shutter function shortens the time lag between shutter releases.



MENU  $\rightarrow$  (Camera Settings2)  $\rightarrow$  [e-Front Curtain Shut.]  $\rightarrow$  desired setting.

#### Menu item details

On:

Uses the electronic front curtain shutter function.

Off:

Does not use the electronic front curtain shutter function.

#### Note

- When you shoot at high shutter speeds with a large diameter lens attached, the ghosting of a blurred area may occur, depending on the subject or shooting conditions. In such cases, set this function to [Off].
- When a lens made by another manufacturer (including a Minolta/Konica-Minolta lens) is used, set this function to [Off]. If you set this function to [On], the correct exposure will not be set or the image brightness will be uneven.
- When you shoot at high shutter speeds, the image brightness may become uneven depending on the shooting environment. In such cases, set [e-Front Curtain Shut.] to [Off].

[353] List of MENU items | Camera Settings2

### Release w/o Lens

Sets whether or not the shutter can be released when no lens is attached.

1

MENU  $\rightarrow$  (Camera Settings2)  $\rightarrow$  [Release w/o Lens]  $\rightarrow$  desired setting.

#### Menu item details

#### **Enable:**

Releases the shutter when no lens is attached. Select [Enable] when attaching the product to an astronomical telescope, etc.

#### Disable:

Does not release the shutter when a lens is not attached.

#### **Note**

Correct metering cannot be achieved when you use lenses that do not provide a lens contact, such
as the lens of an astronomical telescope. In such cases, adjust the exposure manually by checking it
on the recorded image.

[354] List of MENU items | Camera Settings2

### Release w/o Card

Sets whether the shutter can be released when no memory card has been inserted.



 $\textbf{MENU} \rightarrow \textbf{ } \textbf{2} \text{ (Camera Settings2)} \rightarrow \textbf{[Release w/o Card]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

#### **Enable:**

Releases the shutter even if no memory card has been inserted.

#### Disable:

Does not release the shutter when no memory card has been inserted.

#### **Note**

- When no memory card has been inserted, the images shot will not be saved.
- The default setting is [Enable]. It is recommended that you select [Disable] prior to actual shooting.

# **SteadyShot**

Sets whether or not to use the SteadyShot function.



#### Menu item details

On:

Uses [SteadyShot].

Off:

Does not use [SteadyShot].

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

[356] List of MENU items | Camera Settings2

# **SteadyShot Settings**

You can shoot with an appropriate SteadyShot setting for the attached lens.



 $\textbf{MENU} \rightarrow \ \ \, \textbf{Camera Settings2)} \rightarrow \textbf{[SteadyShot]} \rightarrow \textbf{[On]}.$ 

 $\textbf{[SteadyShot Settings]} \rightarrow \textbf{[SteadyShot Adjust.]} \rightarrow \textbf{desired setting.}$ 

### Menu item details

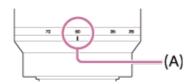
#### Auto:

Performs the SteadyShot function automatically according to the information obtained from the attached lens.

#### Manual:

Performs the SteadyShot function according to the focal-length set using [SteadyS. Focal Len.]. (8mm-1000mm)

• Check the focal-length index (A) and set the focal-length.



- The SteadyShot function may not work optimally when the power has just been turned on, right after you point the camera towards a subject, or when the shutter button has been pressed all the way down without stopping halfway.
- When using a tripod, make sure to turn off the SteadyShot function because this can cause any malfunction when shooting.
- [SteadyShot Settings] will be unavailable when MENU→ 2 (Camera Settings2)→[SteadyShot] is set to [Off].
- When the camera cannot obtain focal length information from the lens, the SteadyShot function does not work correctly. Set [SteadyShot Adjust.] to [Manual] and set [SteadyS. Focal Len.] to match the lens you are using. The current set value of the SteadyShot focal length will display to the side of ((♣)).
- When using an SEL16F28 lens (sold separately) with a teleconverter, etc., set [SteadyShot Adjust.] to [Manual] and set the focal length.
- When you set [SteadyShot] to [On]/[Off], the SteadyShot settings of the camera and lens switch at the same time.
- If a lens equipped with a SteadyShot switch is attached, the settings can only be changed using that switch on the lens. You cannot switch the settings using the camera.

[357] List of MENU items | Camera Settings2

# Clear Image Zoom/Digital Zoom (Zoom)

When you use a zoom function other than the optical zoom, you can exceed the zoom range of the optical zoom.

- MENU  $\rightarrow$  2 (Camera Settings2)  $\rightarrow$  [Zoom Setting]  $\rightarrow$  [On:ClearImage Zoom] or [On:Digital Zoom].
- When a power zoom lens is mounted, move the zoom lever or the zoom ring of the zoom lens to enlarge subjects.
  - When you exceed the zoom range of the optical zoom, the camera automatically switches to another zoom than the optical zoom.
- When a lens other than a power zoom lens is mounted, select MENU → 12 (Camera Settings2) → [Zoom] → desired value.

Press the center of the control wheel to exit.

You can also assign the [Zoom] function to the desired button by selecting MENU →
 (Camera Settings2) → [Custom Key(Shoot.)].

[358] List of MENU items | Camera Settings2

# **Zoom Setting**

You can select the zoom setting of the product.



#### Menu item details

#### **Optical zoom only:**

#### On:ClearImage Zoom:

Select this setting to use Clear Image Zoom. Even if the zoom range exceeds the optical zoom, 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.

[359] List of MENU items | Camera Settings2

# **Zoom Ring Rotate**

Assigns zoom in (T) or zoom out (W) functions to the zoom ring rotation direction. Available only with power zoom lenses that support this function.

#### Menu item details

#### Left(W)/Right(T):

Assigns zoom out (W) function to left-handed rotation and zoom-in (T) function to right-handed rotation.

#### Right(W)/Left(T):

Assigns zoom in (T) function to left-handed rotation and zoom-out (W) function to right-handed rotation.

[360] List of MENU items | Camera Settings2

# **DISP Button (Monitor/Finder)**

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



MENU  $\rightarrow$  2 (Camera Settings2)  $\rightarrow$  [DISP Button]  $\rightarrow$  [Monitor] or [Finder]  $\rightarrow$  desired setting  $\rightarrow$  [Enter].

The items marked with  $\checkmark$  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.:

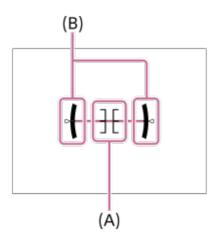
Does not show recording information.

#### **Histogram:**

Displays the luminance distribution graphically.

#### Level:

Indicates whether the product is level in both the front-back **(A)** and horizontal **(B)** directions. When the product is level in both directions, the indicator turns to green.



#### For viewfinder\*:

Displays information suited for shooting with the viewfinder.

\* This screen mode is available only in the setting for [Monitor].

#### **Note**

- If you tilt the product forward or backward by a large degree, the level error will be great.
- The product may have a margin of error of almost ±1° even when the inclination is corrected by the level.

[361] List of MENU items | Camera Settings2

### FINDER/MONITOR

Sets the method for switching the display between Electronic Viewfinder and the screen.



 $\textbf{MENU} \rightarrow \textbf{max} \ \textbf{(Camera Settings2)} \rightarrow \textbf{[FINDER/MONITOR]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

#### Auto:

When you look into the Electronic Viewfinder, the eye sensor reacts and the display is switched to the Electronic Viewfinder automatically.

#### Viewfinder(Manual):

The screen is turned off and the image is displayed only in the Electronic Viewfinder.

#### Monitor(Manual):

The Electronic Viewfinder is turned off and the image is always displayed on the screen.

#### Hint

You can assign the [FINDER/MONITOR] function to your preferred key.
 MENU → 2 (Camera Settings2) → [Custom Key(Shoot.)] → set [Finder/Monitor Sel.] to the preferred key.

• To turn off automatic switching of the display using the eye sensor, set [FINDER/MONITOR] to [Viewfinder(Manual)] or [Monitor(Manual)].

[362] List of MENU items | Camera Settings2

# **Finder Frame Rate (still image)**

Display the subject's movements more smoothly by adjusting the frame rate of the viewfinder during still image shooting. This function is convenient when shooting a fast-moving subject.



This function can be assigned to button of your choice using [Custom Key(Shoot.)].

#### Menu item details

#### 120fps/100fps:

Displays the movements of the subject more smoothly on the viewfinder.

#### 60fps/50fps:

Displays the subject at a normal frame rate on the viewfinder.

#### Note

- When [Market Frame Rate] is set to [120fps]/[100fps], the resolution of the viewfinder is lowered.
- [ Finder Frame Rate] is locked to [60fps]/[50fps] in the following modes:
  - During playback
  - During movie shooting
  - During HDMI connection

[363] List of MENU items | Camera Settings2

### Zebra

The zebra pattern will appear over part of an image if the brightness level of that part meets the IRE level that you set. Use this zebra pattern as a guide to adjust the brightness.

1

 $\textbf{MENU} \rightarrow \textbf{max} \textbf{2} \text{ (Camera Settings2)} \rightarrow \textbf{[Zebra]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

#### Off:

Does not display the zebra pattern.

#### 70/75/80/85/90/95/100/100+/Custom1/Custom2:

Adjusts the brightness level.

#### Hint

- You can register values to check the correct exposure or overexposure as well as the brightness level for [Zebra]. The settings for correct exposure confirmation and overexposure confirmation are registered to [Custom1] and [Custom2] respectively in the default settings.
- To check the correct exposure, set a standard value and the range for the brightness level. The zebra pattern will appear on areas that fall within the range you set.
- To check the overexposure, set a minimum value for the brightness level. The zebra pattern will
  appear over areas with a brightness level equal to or higher than the value you set.

#### **Note**

The zebra pattern is not displayed during HDMI connection.

[364] List of MENU items | Camera Settings2

### **Grid Line**

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



#### 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.

[365] List of MENU items | Camera Settings2

# **Exposure Set. Guide**

You can set whether to display a guide when you change the exposure.



MENU  $\rightarrow$  (Camera Settings2)  $\rightarrow$  [Exposure Set. Guide]  $\rightarrow$  desired setting.

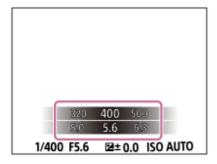
#### Menu item details

Off:

Does not display the guide.

On:

Displays the guide.



[366] List of MENU items | Camera Settings2

### **Live View Display**

Sets whether or not to show images altered with effects of the exposure compensation, white balance, [Creative Style], or [Picture Effect] on the screen.



 $\textbf{MENU} \rightarrow \textbf{m} \ 2 \ (\textbf{Camera Settings2}) \rightarrow \textbf{[Live View Display]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

#### **Setting Effect ON:**

Displays Live View in conditions close to what your picture will look like as a result of applying all your settings. This setting is useful when you want to shoot pictures while checking the

results of the shot on the Live View screen.

#### **Setting Effect OFF:**

Displays Live View without the effects of exposure compensation, white balance, [Creative Style], or [Picture Effect]. When this setting is used, you can easily check the image composition.

Live View is always displayed with the appropriate brightness even in [Manual Exposure] mode.

When [Setting Effect OFF] is selected, the VIEW icon is displayed on the Live View screen.

#### **Note**

- [Live View Display] cannot be set to [Setting Effect OFF] in the following shooting modes:
  - [Intelligent Auto]
  - [Superior Auto]
  - [Sweep Panorama]
  - [Movie/S&Q Motion]
  - [Scene Selection]
- When [Live View Display] is set to [Setting Effect OFF], the brightness of the shot image will not be the same as that of the displayed Live View.

#### Hint

• When you use a third-party flash, such as a studio flash, Live View Display may be dark for some shutter speed settings. When [Live View Display] is set to [Setting Effect OFF], Live View Display will be displayed brightly, so that you can easily check the composition.

[367] List of MENU items | Camera Settings2

### **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.



 $\textbf{MENU} \rightarrow \textbf{m} \textbf{)} \text{ (Camera Settings2)} \rightarrow \textbf{[Auto Review]} \rightarrow \textbf{desired setting.}$ 

#### 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 you use a function that performs image processing, the image before processing may be displayed temporarily, followed by the image after processing.
- The DISP (Display Setting) settings are applied for the Auto Review display.

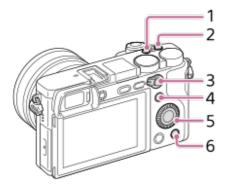
[368] List of MENU items | Camera Settings2

# **Custom Key(Shoot.)/Custom Key(PB)**

You can assign a desired function to a desired key.

Some functions are available only when they are assigned to a custom key. For example, if you assign [Eye AF] to [Center Button] for [Custom Key(Shoot.)], you can easily recall [Eye AF] simply by pressing the center of the control wheel while shooting.

- Select the key to which you want to assign the function on the selection screen.
  - The keys that can be assigned functions are different for [Custom Key(Shoot.)] and [Custom Key(PB)].
  - You can assign the desired functions to the following keys.



- 1. Custom Button 2
- 2. Custom Button 1
- 3. AF/MF Button/AEL Button
- 4. Fn/ ★ Button
- 5. Control Wheel (Center Button/Down Button/Left Button/Right Button)
- 6. Custom Button 3
- You can also assign a shooting function to the focus hold button on the lens. However, some lenses do not have a focus hold button.

- 3 Select the function to be assigned.
  - The functions that can be assigned differ depending on the keys.

[369] List of MENU items | Camera Settings2

### **Function Menu Set.**

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

MENU  $\rightarrow$  2 (Camera Settings2)  $\rightarrow$  [Function Menu Set.]  $\rightarrow$  set a function to the desired location.

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

[370] List of MENU items | Camera Settings2

# **Dial/Wheel Setup**

You can switch the functions of the control dial and the control wheel.

**1** MENU  $\rightarrow$  **1** (Camera Settings2)  $\rightarrow$  [Dial/Wheel Setup]  $\rightarrow$  desired setting.

#### Menu item details

You can change the shutter speed using the control wheel, and change the aperture value using the control dial.

You can change the aperture value using the control wheel, and change the shutter speed using the control dial.

#### **Note**

[371] List of MENU items | Camera Settings2

# **Dial/Wheel Ev Comp**

You can adjust the exposure compensation using the control dial or the control wheel.



MENU  $\rightarrow$  (Camera Settings2)  $\rightarrow$  [Dial/Wheel Ev Comp]  $\rightarrow$  desired setting.

#### Menu item details

#### Off:

Does not assign the exposure compensation function to the control dial or control wheel.

### (iii) Wheel:

Assigns the exposure compensation function to the control wheel.



Assigns the exposure compensation function to the control dial.

#### **Note**

- If you assign the exposure compensation function to the control dial, the function that was originally assigned can be managed using the control wheel, and vice versa.
- When the shooting mode is set to [Manual Exposure] and ISO is set to [ISO AUTO], [Dial/Wheel Ev Comp] is disabled.

[372] List of MENU items | Camera Settings2

### **MOVIE Button**

Sets whether or not to activate the MOVIE (Movie) button.



#### 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/S&Q Motion] mode.

[373] List of MENU items | Camera Settings2

### Dial / Wheel Lock

You can set whether the dial and wheel will be locked by pressing and holding the Fn (Function) button.



**1** MENU  $\rightarrow$  **1** (Camera Settings2)  $\rightarrow$  [Dial / Wheel Lock]  $\rightarrow$  desired setting.

#### Menu item details

#### Lock:

Locks the control dial and control wheel.

#### Unlock:

Does not lock the control dial or control wheel even if you press and hold the Fn (Function) button.

#### Hint

You can release the lock by holding the Fn (Function) button down again.

[374] List of MENU items | Camera Settings2

# **Audio signals**

Selects whether the product produces a sound or not.



MENU  $\rightarrow$  (Camera Settings2)  $\rightarrow$  [Audio signals]  $\rightarrow$  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

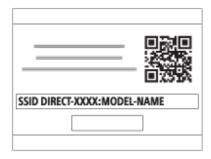
• If [Focus Mode] is set to [Continuous AF], the camera will not beep when it focuses on a subject.

[375] List of MENU items | Wireless

# **Send to Smartphone**

You can transfer still images/movies to a smartphone and view them. The application PlayMemories Mobile must be installed on your smartphone.

- $\textbf{MENU} \rightarrow \textbf{\^{a}} \text{ (Wireless)} \rightarrow \textbf{[Send to Smartphone]} \rightarrow \textbf{desired setting.}$ 
  - If you press the → (Send to Smartphone) button in playback mode, the setting screen for [Send to Smartphone] will appear.
- If the product is ready for the transfer, the information screen appears on the product. Connect the smartphone and the product using that information.
  - The setting method for connecting the smartphone and the product varies depending on the smartphone.



#### Menu item details

#### **Select on This Device:**

Selects an image on the product to be transferred to the smartphone.

- (1) Select from among [This Image], [All Images on This Date] or [Multiple Images].
  - The options displayed may differ depending on the View Mode selected on the camera.
- (2) If you select [Multiple Images], select the desired images using the center of the control wheel, then press MENU  $\rightarrow$  [Enter].

#### **Select on Smartphone:**

Displays all images recorded on the product's memory card on the smartphone.

#### **Note**

- You can only transfer images that are saved on the camera's memory card.
- You can select an image size to be sent to the smartphone from [Original], [2M] or [VGA].
   To change the image size, refer to the following steps.
  - For Android smartphone
     Start PlayMemories Mobile, and change the image size by [Settings] → [Copy Image Size].
  - For iPhone/iPad
     Select PlayMemories Mobile in the setting menu, and change the image size by [Copy Image Size].
- Some images may not be displayed on the smartphone depending on the recording format.
- RAW images are converted to JPEG format when they are sent.
- You cannot send XAVC S or AVCHD format movies.
- This product shares the connection information for [Send to Smartphone] with a device that has permission to connect. If you want to change the device that is permitted to connect to the product, reset the connection information by following these steps. MENU → (Wireless) → [Wi-Fi Settings] → [SSID/PW Reset]. After resetting the connection information, you must register the smartphone again.
- When [Airplane Mode] is set to [On], you cannot connect this product and the smartphone. Set [Airplane Mode] to [Off].

[376] List of MENU items | Wireless

# Send to Computer

You can transfer images stored in the product to a computer connected to a wireless access point or wireless broadband router and easily make backup copies using this operation. Before starting this operation, install PlayMemories Home on your computer and register the access point on the product.

1 Start your computer.

**MENU**  $\rightarrow$  **MENU**  $\rightarrow$  (Wireless)  $\rightarrow$  [Send to Computer].

#### Note

Depending on the application settings of your computer, the product will turn off after saving the

images to your computer.

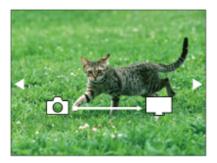
- You can transfer images from the product to only one computer at a time.
- If you want to transfer images to another computer, connect the product and the computer via a USB connection and follow the instructions in PlayMemories Home.
- When you save images to the Mac computer using Wi-Fi function, use "Wireless Auto Import."

[377] List of MENU items | Wireless

### View on TV

You can view images on a network-enabled TV by transferring them from the product without connecting the product and TV with a cable. For some TVs, you may need to perform operations on the TV. For details, refer to the operating instructions supplied with the TV.





- To display the next/previous image manually, press the right/left sides of the control wheel.
- To change the device to be connected, press the down side of the control wheel, then select [Device list].

### Slideshow settings

You can change the slideshow settings by pressing the down side of the control wheel.

#### **Playback Selection:**

Selects the group of images to be shown.

#### Folder View(Still):

Selects from [All] and [All in Folder].

**Date View:** 

Selects from [All] and [All in Date Rng.].

Interval:

Selects from [Short] and [Long].

Effects\*:

Selects from [On] and [Off].

#### Playback Image Size:

Selects from [HD] and [4K].

\* The settings are effective only for BRAVIA TV which is compatible with the functions.

#### **Note**

- You can use this function on a TV that supports DLNA renderer.
- You can view images on a Wi-Fi Direct-enabled TV or network-enabled TV (including wired network-enabled TVs).
- If you connect TV and this product and do not use Wi-Fi Direct, you need to register your access point first.
- Displaying the images on the TV may take time.
- Movies cannot be shown on a TV via Wi-Fi. Use an HDMI cable (sold separately).

[378] List of MENU items | Wireless

# Calling up an application using [One-touch(NFC)]

You can call up a desired application from the application menu of this product by touching an NFC-enabled Android smartphone to the product. If the application you call up has a feature that works with the smartphone, the product and the smartphone will be connected via Wi-Fi. To use this function, register the desired application in advance.

- $\textbf{MENU} \rightarrow \ \ \textbf{\texttt{M}} \ (\text{Wireless}) \rightarrow [\text{One-touch}(\text{NFC})] \rightarrow \text{desired application}.$
- Switch this product to shooting mode, then touch an NFC-enabled smartphone to the (N mark) on the product for 1-2 seconds.
  - PlayMemories Mobile launches on the smartphone, and the application you have registered launches on this product.

#### **Note**

 When the product is in playback mode, the registered application will not launch even if you touch the smartphone to the product.

- When you call up an application with one touch, even if that application does not work with a smartphone, PlayMemories Mobile on smartphone will launch. Exit PlayMemories Mobile without performing an operation. If you do not exit PlayMemories Mobile, the smartphone stays in standby connection status.
- [Smart Remote Embedded] is assigned to [One-touch(NFC)] as a default setting.

[379] List of MENU items | Wireless

# **Airplane Mode**

When you board an airplane, etc., you can temporarily disable all the wireless-related functions including Wi-Fi.



 $\textbf{MENU} \rightarrow \ \ \textbf{\texttt{M}} \ \ \textbf{(Wireless)} \rightarrow \ \ \textbf{\texttt{[Airplane Mode]}} \rightarrow \ \ \textbf{desired setting.}$ 

If you set [Airplane Mode] to [On], an airplane mark will be displayed on the screen.

[380] List of MENU items | Wireless

# Wi-Fi Settings: WPS Push

If your access point has the Wi-Fi Protected Setup (WPS) button, you can register the access point to this product easily by pushing the Wi-Fi Protected Setup (WPS) button.



 $\textbf{MENU} \rightarrow \ \ \, \textbf{\ref{MENU}} \rightarrow \ \ \, \textbf{(Wireless)} \rightarrow \ \ \, \textbf{(Wireless)} \rightarrow \ \ \, \textbf{(Wireless)} \rightarrow \ \ \, \textbf{(WPS Push)}.$ 

Press the WPS button on the access point you want to register.

#### **Note**

- [WPS Push] works only if the security setting of your access point is set to WPA or WPA2 and your access point supports the Wi-Fi Protected Setup (WPS) button method. If the security setting is set to WEP or your access point does not support the Wi-Fi Protected Setup (WPS) button method, perform [Access Point Set.].
- For details about the available functions and settings of your access point, see the access point operating instructions or contact the administrator of the access point.

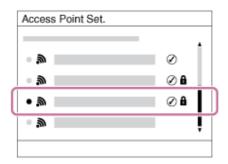
A connection may not be enabled depending on the surrounding conditions, such as the type of wall
material or if there is an obstruction or poor wireless signal between the product and access point. If
that happens, change the location of the product or move the product closer to the access point.

[381] List of MENU items | Wireless

# Wi-Fi Settings: Access Point Set.

You can register your access point manually. Before starting the procedure, check the SSID name of the access point, security system, and password. The password may be preset in some devices. For details, see the access point operating instructions, or consult the access point administrator.

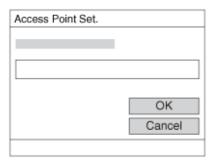
- Select the access point you want to register.



When the desired access point is displayed on the screen: Select the desired access point.

When the desired access point is not displayed on the screen: Select [Manual Setting] and set the access point.

- If you select [Manual Setting], input the SSID name of the access point, then select the security system.
- 3 Input the password, and select [OK].



Access points without the mark do not require a password.

4

Select [OK].

#### Other setting items

Depending on the status or the setting method of your access point, you may want to set more items.

#### **WPS PIN:**

Displays the PIN code you enter into the connected device.

#### **Priority Connection:**

Select [On] or [Off].

#### **IP Address Setting:**

Select [Auto] or [Manual].

#### **IP Address:**

If you are entering the IP address manually, enter the set address.

### **Subnet Mask/Default Gateway:**

When you set [IP Address Setting] to [Manual], enter the IP address to match your network environment.

#### **Note**

To give the registered access point priority, set [Priority Connection] to [On].

[382] List of MENU items | Wireless

# Wi-Fi Settings: Disp MAC Address

Displays the MAC address of this product.



 $\textbf{MENU} \rightarrow ~~ \textbf{\^{A}} ~~ (Wireless) \rightarrow [Wi-Fi~Settings] \rightarrow [Disp~MAC~Address].$ 

[383] List of MENU items | Wireless

# Wi-Fi Settings: SSID/PW Reset

This product shares the connection information for [Send to Smartphone] and [Smart Remote Embedded] with a device that has permission to connect. If you want to change the device that is permitted to connect, reset the connection information.



#### **Note**

 If you connect this product to the smartphone after resetting the connection information, you must register the smartphone again.

[384] List of MENU items | Wireless

### **Bluetooth Settings**

Controls the settings for connecting the camera to a smartphone via a Bluetooth connection. You need to pair the camera and smartphone before using the location information interlocking function.

If you want to pair the camera and smartphone in order to use the location information interlocking function, refer to "Loc. Info. Link Set.."



 $MENU \rightarrow$  (Wireless)  $\rightarrow$  [Bluetooth Settings]  $\rightarrow$  desired setting.

#### Menu item details

#### **Bluetooth Function (On/Off):**

Sets whether to activate or not the Bluetooth function of the camera.

#### Pairing:

Displays the screen for pairing the camera and smartphone using PlayMemories Mobile.

#### **Disp Device Address:**

Displays the BD address of the camera.

### Loc. Info. Link Set.

You can use the application PlayMemories Mobile to obtain location information from a smartphone that is connected with your camera using Bluetooth communication. You can record the obtained location information when shooting images.

### **Preparation in advance**

To use the location information linking function of the camera, the application PlayMemories Mobile is required.

If "Location Information Linkage" is not displayed on the top page of PlayMemories Mobile, you need to perform the following steps beforehand.

- 1. Install PlayMemories Mobile on your smartphone.
  - You can install PlayMemories Mobile from the application store of your smartphone. If you have already installed the application, update it to the latest version.
- 2. Transfer a pre-recorded image to your smartphone using the [Send to Smartphone] function of the camera.
  - After you transfer an image recorded using the camera to your smartphone, "Location Information Linkage" will appear on the top page of the application.

### **Operating procedure**

- : Operations performed on the smartphone: Operations performed on the camera
- 1.  $\square$ : Confirm that the Bluetooth function of your smartphone is activated.
  - Do not perform the Bluetooth pairing operation on the smartphone setting screen. In steps 2 to 7, the pairing operation is performed using the camera and the application PlayMemories Mobile.
    - If you accidentally perform the pairing operation on the smartphone setting screen in step 1, cancel the pairing and then perform the pairing operation by following Steps 2 through 7 using the camera and the application PlayMemories Mobile.
- 3. On the camera, select MENU  $\rightarrow$  (Wireless)  $\rightarrow$  [Bluetooth Settings]  $\rightarrow$  [Pairing].
- 4. : Launch PlayMemories Mobile on your smartphone and tap "Location Information

Linkage."

- If "Location Information Linkage" is not displayed, follow the steps in "Preparation in advance" above.
- 5. : Activate [Location Information Linkage] on the [Location Information Linkage] setting screen of PlayMemories Mobile.
- **6.** The instructions on the [Location Information Linkage] setting screen of PlayMemories Mobile, and then select your camera from the list.
- 7. Select [OK] when a message is displayed on the monitor of the camera.
  - Pairing of the camera and PlayMemories Mobile is complete.
- 8. On the camera, select MENU  $\rightarrow$  (Wireless)  $\rightarrow$  [ Loc. Info. Link Set.]  $\rightarrow$  [Location Info. Link]  $\rightarrow$  [On].
  - (obtaining location information icon) will be displayed on the monitor of the camera. Location information obtained by your smartphone using GPS, etc., will be recorded when shooting images.

#### Menu item details

#### **Location Info. Link:**

Sets whether to obtain the location information by linking with a smartphone.

#### **Auto Time Correct.:**

Sets whether to automatically correct the date setting of the camera using information from a linked smartphone.

#### Auto Area Adjust.:

Sets whether to automatically correct the area setting of the camera using information from a linked smartphone.

### Icons displayed when obtaining the location information

- (Obtaining location information): The camera is obtaining the location information.
- (Location information cannot be obtained): The camera cannot obtain the location information.
- (Bluetooth connection available): Bluetooth connection with the smartphone is established.
- (Bluetooth connection unavailable): Bluetooth connection with the smartphone is not established.

#### Hint

- Location information can be linked when PlayMemories Mobile is running on your smartphone even if the smartphone monitor is off.
- When PlayMemories Mobile is not operating, such as when the smartphone is restarted, launch PlayMemories Mobile to resume location information linking.
- In the application PlayMemories Home, you can view images on a map by importing images with

location information to your computer. For details, refer to Help for PlayMemories Home.

- If the location information linking function does not work properly, see the following notes and perform pairing again.
  - Confirm that the Bluetooth function of your smartphone is activated.
  - Confirm that the camera is not connected with other devices using the Bluetooth function.
  - Confirm that [Airplane Mode] for the camera is set to [Off].
  - Delete the pairing information for the camera registered in PlayMemories Mobile.
  - Execute [Reset Network Set.] of the camera.
- For more detailed video instructions, refer to the following support page. http://www.sony.net/pmm/btg/

#### **Note**

- When you initialize the camera, the pairing information is also deleted. To perform pairing again, delete the pairing information for the camera registered in PlayMemories Mobile before trying again.
- The location information will not be recorded when it cannot be obtained, such as when the Bluetooth connection is disconnected.
- The camera can be paired with up to 15 Bluetooth devices, but can link the location information with that of only one smartphone. If you want to link the location information with that of another smartphone, turn off the [Location Information Linkage] function of the smartphone that is already linked.
- If the Bluetooth connection is unstable, remove any obstacles, such as people or metal objects from between the camera and the paired smartphone.
- When pairing the camera and your smartphone, be sure to use the [Location Information Linkage] menu on PlayMemories Mobile.

#### Supported smartphones

- Android smartphones: Android 5.0 or later and compatible with Bluetooth 4.0 or later
- iPhone/iPad: iPhone 4S or later/iPad 3rd generation or later
- \* As of October 2016. For the latest information, refer to the support site.
- \* For the Bluetooth version, refer to the website for your smartphone.

[386] List of MENU items Wireless

### **Edit Device Name**

You can change the device name for the Wi-Fi Direct or Bluetooth connection.

1

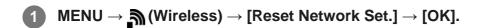
 $MENU \rightarrow$  (Wireless)  $\rightarrow$  [Edit Device Name].

Select the input box, then input the device name→[OK].

[387] List of MENU items | Wireless

### Reset Network Set.

Resets all the network settings to default settings.



[388] List of MENU items | Application

# Launching the downloaded application (Application List)

Launch an application that has been downloaded from the application download website PlayMemories Camera Apps.

#### Hint

#### How to launch the applications faster

Assign [Download Appli.] and [Application List] to the custom key. You can launch the applications or display application list only by pressing the custom key during the shooting information screen is displayed.

[389] List of MENU items | Application

### Introduction

Displays information about services that you can download from PlayMemories Camera Apps.

[390] List of MENU items | Playback

## **Deleting multiple selected images (Delete)**

You can delete multiple selected images. Once you have deleted an image, you cannot restore it. Confirm the image to be deleted beforehand.



 $MENU \rightarrow$  [Delete]  $\rightarrow$  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  $\checkmark$  mark is displayed in the check box. To cancel the selection, press the center again to remove the  $\checkmark$  mark.
- (2) To delete other images, repeat step (1).
- (3) MENU  $\rightarrow$  [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.
- To display the desired folder or date, select the desired folder or date during playback by performing the following procedure:
  - [Image Index] button  $\rightarrow$  select the bar on the left using the control wheel  $\rightarrow$  select the desired folder or date using the top/bottom sides of the control wheel.

#### **Note**

- The protected images cannot be deleted.
- The menu items that can be selected differ depending on the [View Mode] setting.

## Switching between still images and movies (View Mode)

Sets the View Mode (image display method).



#### Menu item details

Date View:

Displays the images by date.

Folder View(Still):

Displays only still images.

**□**<sub>MP4</sub> Folder View(MP4):

Displays only MP4-format movies.

**PAVCHD** AVCHD View:

Displays only AVCHD-format movies.

EXAMES XAVC S HD View:

Displays only XAVC S HD-format movies.

■ XAVC S 4K View:

Displays only XAVC S 4K-format movies.

[392] List of MENU items | Playback

## Playing back images on the image index screen (Image Index)

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



2 Select the image by pressing the top/bottom/right/left sides of the control wheel or turning the control wheel.

To change the number of images to be displayed

 $\mathsf{MENU} \to \blacktriangleright \mathsf{Playback}) \to \mathsf{[Image\ Index]} \to \mathsf{desired\ setting}.$ 

#### Menu item details

12 Images/30 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 sides 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.

[393] List of MENU items | Playback

## Rotating recorded images automatically (Display Rotation)

Selects the orientation when playing back recorded images.



 $MENU \rightarrow [Playback) \rightarrow [Display Rotation] \rightarrow desired setting.$ 

#### Menu item details

#### Auto:

When you rotate the camera, the displayed image rotates automatically by 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.

Automatically plays back images continuously.

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

- During playback, you can display the next/previous image by pressing the right/left side of the control wheel.
- You can activate a slideshow only when [View Mode] is set to [Date View] or [Folder View(Still)].

[395] List of MENU items | Playback

## Rotating an image (Rotate)

Rotates a recorded still image counter-clockwise.

1 Display the image to be rotated, then select MENU  $\rightarrow$   $\blacktriangleright$  (Playback)  $\rightarrow$  [Rotate].

Press the center of the control wheel.

The image is rotated counter-clockwise. The image rotates as you press the center. If you rotate the image once, the image remains rotated even after the product is turned off.

#### **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.

[396] List of MENU items | Playback

# Enlarging an image being played back (Playback zoom)

Enlarges the image being played back. Use this function to check the focus of the image, etc.

- ① Display the image you want to enlarge, and then press the ⊕ button.
  - Turn the control wheel to adjust the zoom scale.
     By rotating the control dial, you can switch to the previous or next image while keeping the same zoom scale.
  - The view will zoom in on the part of the image where the camera focused during shooting. If the focus location information cannot be obtained, the camera will zoom in on the center of the image.
- Select the portion you want to enlarge by pressing the top/bottom/right/left sides of the control wheel.
- 3 Press the MENU button, or the center of the control wheel to exit the playback zoom.

#### Hint

- You can also enlarge an image being played back using MENU.
- You can also enlarge an image by double-tapping the monitor. In addition, you can drag and move the magnified position on the monitor. Set [Touch Operation] to other than [Off] beforehand.

#### **Note**

You cannot enlarge movies.

[397] List of MENU items | Playback

## **Protecting images (Protect)**

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



 $\textbf{MENU} \rightarrow \textbf{[Protect]} \rightarrow \textbf{desired setting.}$ 

#### 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) MENU  $\rightarrow$  [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.

[398] List of MENU items | Playback

## **Specify Printing (Specify Printing)**

You can specify in advance on the memory card which still images you want to print out later. The **\nithint\nithint** (print order) icon will appear on the specified images. DPOF refers to "Digital Print"

Order Format."

DPOF setting will be retained after the image is printed. We recommend that you cancel this setting after printing.



#### Menu item details

#### Multiple Img.:

Selects images to order printing.

- (1) Select an image and press the center of the control wheel. The  $\checkmark$  mark is displayed in the check box. To cancel the selection, press the center again and delete the  $\checkmark$  mark.
- (2) Repeat step (1) to print other images. To select several images in the date range or in the folder, select the check box of the date or the folder.
- (3) MENU  $\rightarrow$  [OK].

#### Cancel All:

Clears all DPOF marks.

#### **Print Setting:**

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

 The position or size of the date (inside or outside of the image) may differ depending on the printer.

#### **Note**

- You cannot add the DPOF mark to the following files:
  - RAW images
- The number of images to be printed cannot be specified.
- Some printers do not support the date print function.

[399] List of MENU items | Playback

## **Photo Capture**

Captures a chosen scene in a movie to save as a still image. First shoot a movie, then pause the movie during playback to capture decisive moments that tend to be missed when shooting still images, and save them as still images.



Display the movie that you want to capture as a still image.

- $\textbf{2} \quad \textbf{MENU} \rightarrow \quad \textbf{ [Playback)} \rightarrow \textbf{select [Photo Capture]}.$
- 3 Play back the movie and pause it.
- Find the desired scene using forward slow playback, reverse slow playback, displays the next frame, and displays the previous frame, and then stop the movie.
- 5 Press 🛱 (Photo Capture) to capture the chosen scene.

The scene is saved as a still image.

[400] List of MENU items | Setup

## **Monitor Brightness**

Adjust the brightness of the screen.

**1** MENU  $\rightarrow$  (Setup)  $\rightarrow$  [Monitor Brightness]  $\rightarrow$  desired setting.

#### Menu item details

#### 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 [Manual] for indoor shooting.
- The monitor brightness cannot be adjusted in the following situations. The maximum brightness will be [±0].
  - When [ File Format] is set to [XAVC S 4K].
  - When [ File Format] is set to [XAVC S HD] and [ Record Setting] is set to [120p]/[100p].
  - When [ S<sub>k0</sub> Frame Rate] is set to [120fps]/[100fps] during slow-motion/quick-motion shooting.
- The monitor brightness is locked at [-2] when shooting a movie using the Wi-Fi functions.

[401] List of MENU items | Setup

## Viewfinder Bright.

When using an electronic viewfinder, this product adjusts the brightness of the electronic viewfinder according to the surrounding environment.



#### Menu item details

#### Auto:

Adjusts the brightness automatically.

#### Manual:

Selects the brightness of the electronic viewfinder from the range –2 to +2.

#### **Note**

- The electronic viewfinder brightness cannot be adjusted in the following situations. The maximum brightness will be [±0].
  - When [ File Format] is set to [XAVC S 4K].
  - When [ File Format] is set to [XAVC S HD] and [ Record Setting] is set to [120p]/[100p].
  - When [ Sx0 Frame Rate] is set to [120fps]/[100fps] during slow-motion/quick-motion shooting.
- You cannot use the viewfinder while using Wi-Fi functions. The camera will switch to screen display mode.
- When [ Finder Frame Rate] is set to [120fps]/[100fps], [Viewfinder Bright.] cannot be set to [Auto].
   [Viewfinder Bright.] can only be set to [Manual].

[402] List of MENU items | Setup

## Finder Color Temp.

Adjusts the color temperature of the electronic viewfinder.



#### Menu item details

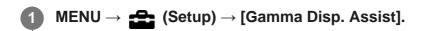
#### -2 to +2:

When you select "-," the viewfinder screen changes to a warmer color, and when you select "+,"

[403] List of MENU items | Setup

## Gamma Disp. Assist

Movies with S-Log gamma are assumed to be processed after shooting in order to make use of the wide dynamic range. They are therefore displayed in low contrast during shooting and may be difficult to monitor, using [Gamma Disp. Assist], contrast equivalent to that of normal gamma can be reproduced. In addition, [Gamma Disp. Assist] can also be applied when playing back movies on the camera's monitor/viewfinder.



Select the desired setting using the top/bottom sides of the control wheel.

#### Menu item details

Assist 7 Off:

Does not apply [Gamma Disp. Assist].

Assist Auto:

Displays movies with an  $[S-Log2\rightarrow709(800\%)]$  effect when the gamma set in [Picture Profile] is [S-Log2], and with an  $[S-Log3\rightarrow709(800\%)]$  effect when the gamma is set to [S-Log3].

```
Assist 7 S-Log2\rightarrow709(800%):
```

Displays movies with an S-Log2 gamma reproducing contrast equivalent to ITU709 (800%).

```
Assist 7 S-Log3\rightarrow709(800%):
```

Displays movies with an S-Log3 gamma reproducing contrast equivalent to ITU709 (800%).

#### **Note**

- When [Gamma Disp. Assist] is set to [Auto] during playback, the picture is displayed based on the current gamma setting in [Picture Profile] instead of auto-detecting the gamma value of the movie.
- [Gamma Disp. Assist] is not applied to movies when displayed on a TV or monitor connected to the camera.

Sets the sound volume for movie playback.



#### Adjusting the volume during playback

Press the bottom side 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.

[405] List of MENU items | Setup

## **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.

- 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

লি : 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 indicator will be displayed on the product.
- Power save mode will not function during uploading.
- If (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.
- Third parties may know where you shot the image if you upload the image when [☐ Loc. Info. Link Set.] → [Location Info. Link] is set to [On]. To prevent third parties from obtaining your location information, set [☐ Loc. Info. Link Set.] → [Location Info. Link] to [Off].
- 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.
- When you use a new Eye-Fi card for the first time, copy the installation file on the Eye-Fi card to your computer before formatting the Eye-Fi card.
- Update the firmware of an Eye-Fi card to the latest version before using the Eye-Fi card. For details, refer to the manual supplied with the Eye-Fi card.
- For details on files you can upload, refer to the manual supplied with the Eye-Fi card.

[406] List of MENU items | Setup

## Tile Menu

Selects whether to always display the first screen of the menu when you press the MENU button.



#### Menu item details

#### On:

Always displays the first screen of the menu (Tile Menu).

#### Off:

Deactivates the Tile Menu display.

[407] List of MENU items | Setup

## **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.



#### Menu item details

On:

Displays the Mode Dial Guide.

Off:

Does not display the Mode Dial Guide.

[408] List of MENU items | Setup

## Delete confirm.

You can set whether [Delete] or [Cancel] is selected as the default setting on the delete confirmation screen.



 $\textbf{MENU} \rightarrow \clubsuit \textbf{(Setup)} \rightarrow \textbf{[Delete confirm.]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

"Delete" first:

[Delete] is selected as the default setting.

"Cancel" first:

[Cancel] is selected as the default setting.

## **Display Quality**

You can change the display quality.



 $MENU \rightarrow \bigoplus (Setup) \rightarrow [Display Quality] \rightarrow desired setting.$ 

#### Menu item details

High:

Displays in high quality.

Standard:

Displays in standard quality.

#### **Note**

When [High] is set, battery consumption will be higher than when [Standard] is set.

[410] List of MENU items | Setup

### **Pwr Save Start Time**

Sets time intervals to automatically switch to power save mode when you are not performing operations to prevent wearing down the battery pack. To return to shooting mode, perform an operation such as pressing the shutter button halfway down.



#### Menu item details

30 Min/5 Min/2 Min/1 Min/10 Sec

#### Note

- Turn off the product when you do not use it for a long time.
- When using a lens with power zoom, the lens is retracted one minute after the product stops operation if [Pwr Save Start Time] is set to [10 Sec].
- 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.

#### [411] List of MENU items | Setup

## Auto Pwr OFF Temp.

Sets the temperature of the camera at which the camera turns off automatically during shooting. When it is set to [High], you can continue shooting even when the temperature of the camera gets hotter than normal.



 $MENU \rightarrow$  (Setup)  $\rightarrow$  [Auto Pwr OFF Temp.]  $\rightarrow$  desired setting.

#### Menu item details

#### Standard:

Sets the standard temperature at which the camera turns off.

#### High:

Sets a higher temperature than the standard at which the camera turns off.

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

- Do not shoot while holding the camera in your hand. Use a tripod.
- Using the camera while holding it in your hand for a long period of time may cause lowtemperature burns.

## Continuous recording time for movies when [Auto Pwr OFF Temp.] is set to [High]

The following values are the continuous times from when the camera starts recording until the camera stops recording.

#### Ambient temperature: 20°C (68°F)

Continuous recording time for movies (HD): Approx. 29 minutes

Continuous recording time for movies (4K): Approx. 29 minutes

Ambient temperature: 30°C (86°F)

Continuous recording time for movies (HD): Approx. 29 minutes

Continuous recording time for movies (4K): Approx. 29 minutes

#### Ambient temperature: 40°C (104°F)

Continuous recording time for movies (HD): Approx. 29 minutes

Continuous recording time for movies (4K): Approx. 20 minutes

HD: XAVC S HD (60p 50M/50p 50M, not connected via Wi-Fi)

4K: XAVC S 4K (24p 60M, not connected via Wi-Fi)

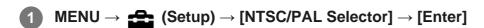
#### **Note**

• Even if [Auto Pwr OFF Temp.] is set to [High], depending on the conditions or the temperature of the camera, the recordable time for movies may not change.

[412] List of MENU items | Setup

## **NTSC/PAL Selector**

Plays back movies recorded with the product on a NTSC/PAL system TV.



#### **Note**

- If you insert a memory card that has previously been formatted with a different video system, a
  message telling you that you must reformat the card will appear.
   If you want to record using another system, re-format the memory card or use another memory card.
- When you perform [NTSC/PAL Selector], and the setting is changed from the default one, a message "Running on NTSC." or "Running on PAL." will appear on the start-up screen.

[413] List of MENU items | Setup

## **Cleaning Mode**

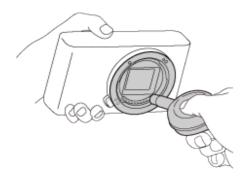
If dust or debris gets inside the camera and adheres to the surface of the image sensor (the part that converts the light to an electric signal), it may appear as dark spots on the image, depending on the shooting environment. If this happens, follow the steps below to clean the image sensor.

- 1 Confirm that the battery has been charged sufficiently.

The image sensor vibrates a little to shake off the dust.

3 Turn off the product following the instructions on the screen.

- 4 Detach the lens.
- **5** Use the blower to clean the image sensor surface and the surrounding area.



6 Attach the lens.

#### Hint

 For how to check the amount of dust on the image sensor, and for further details on cleaning methods, please refer to the following URL.
 <a href="http://support.d-imaging.sony.co.jp/www/support/ilc/sensor/index.php">http://support.d-imaging.sony.co.jp/www/support/ilc/sensor/index.php</a>

#### **Note**

- Clean the image sensor quickly.
- A blower is not supplied with this product. Use a commercially available blower.
- Cleaning can be performed only when the battery level is (3 remaining battery icons) or more.
   The use of an AC-PW20 AC Adaptor is recommended.
- Do not use a spray type blower as it may scatter water droplets inside the camera body.
- Do not put the tip of a blower into the cavity beyond the lens mount area, so that the tip of the blower does not touch the image sensor.
- Hold the camera slightly face downward so that the dust falls out.
- Do not subject the product to any shock during cleaning.
- When cleaning the image sensor with a blower, do not blow too hard. If you blow the sensor too
  hard, the inside of the product may be damaged.
- If the dust remains even after you cleaned the product as described, consult the service facility.

## **Touch Operation**

Sets whether or not to activate touch operations on the monitor.

Touch operations when shooting with the monitor are referred to as "touch panel operations," and touch operations when shooting with the viewfinder are referred to as "touch pad operations."



**1** MENU  $\rightarrow$   $\Longrightarrow$  (Setup)  $\rightarrow$  [Touch Operation]  $\rightarrow$  desired setting.

#### Menu item details

#### Touch Panel+Pad:

Activates both the touch panel operations when shooting with the monitor and touch pad operations when shooting with the viewfinder.

#### **Touch Panel Only:**

Activates only the touch panel operations when shooting with the monitor.

#### **Touch Pad Only:**

Activates only the touch pad operations when shooting with the viewfinder.

#### Off:

Deactivates all touch operations.

#### **Note**

 Touch pad operations cannot be used with applications downloaded from PlayMemories Camera Apps.

[415] List of MENU items | Setup

## Touch Pad Area Set.

Sets the area to be used for touch pad operations when shooting with the viewfinder. You can prevent unintentional operations caused by your nose, etc. touching the monitor.



 $MENU \rightarrow \bigoplus$  (Setup)  $\rightarrow$  [Touch Pad Area Set.]  $\rightarrow$  desired setting.

#### Menu item details

#### Whole Screen:

Uses the entire monitor as the touch pad.

#### Right 1/2 Area:

Uses only the right half of the monitor as the touch pad.

#### Right 1/4 Area:

Uses only the right quarter of the monitor as the touch pad.

[416] List of MENU items | Setup

### **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].



#### Menu item details

#### On:

The movie playback demonstration starts automatically if the product is not operated for about one minute. Only protected AVCHD movies can be 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**

- You can set this item only when the product is powered by the AC Adaptor (supplied).
- 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.

[417] List of MENU items | Setup

## **TC/UB Settings**

The time code (TC) and the user bit (UB) information can be recorded as data attached to movies.



#### Menu item details

#### TC/UB Disp. Setting:

Sets the display for the counter, time code, and user bit.

#### TC Preset:

Sets the time code.

#### **UB Preset:**

Sets the user bit.

#### TC Format:

Sets the recording method for the time code. (Only when [NTSC/PAL Selector] is set to NTSC.)

#### TC Run:

Sets the count up format for the time code.

#### TC Make:

Sets the recording format for the time code on the recording medium.

#### **UB Time Rec:**

Sets whether or not to record the time as a user bit.

#### How to set the time code (TC Preset)

- 1.  $MENU \rightarrow \bigoplus$  (Setup)  $\rightarrow$  [TC/UB Settings]  $\rightarrow$  [TC Preset].
- Turn the control wheel and select the first two digits.
  - The time code can be set between the following range.

When [60i] is selected: 00:00:00:00 to 23:59:59:29

When [24p] is selected, you can select the last two digits of the time code in multiples of four from 0 to 23 frames.

When [50i] is selected: 00:00:00:00 to 23:59:59:24

Set the other digits following the same procedure as in step 2, then press in the center of the control wheel.

#### How to reset the time code

- 2. Press the (Delete) button to reset the time code (00:00:00:00).

You can also reset the time code (00:00:00:00) using the RMT-VP1K remote commander (sold separately).

#### How to set the user bit (UB Preset)

- Turn the control wheel and select the first two digits.
- Set the other digits following the same procedure as in step 2, then press in the center of the control wheel.

#### How to reset the user bit

2. Press the 前 (Delete) button to reset the user bit (00 00 00 00).

## How to select the recording method for the time code (TC Format\*1)

1. MENU  $\rightarrow$  (Setup)  $\rightarrow$  [TC/UB Settings]  $\rightarrow$  [TC Format].

#### DF:

Records the time code in Drop Frame\*2 format.

#### NDF:

Records the time code in Non-Drop Frame format.

- \*1 Only when [NTSC/PAL Selector] is set to NTSC.
- \*2 The time code is based on 30 frames per second. However, a gap between the actual time and the time code will occur during extended periods of recording as the frame frequency of the NTSC image signal is approximately 29.97 frames per second. Drop frame corrects this gap to make the time code and actual time equal. In drop frame, the first 2 frame numbers are removed every minute except for every tenth minute. The time code without this correction is called non-drop frame.
  - The setting is fixed to [NDF] when recording in 4K/24p or 1080/24p.

#### How to select the count up format for the time code (TC Run)

1. MENU  $\rightarrow$   $\blacksquare$  (Setup)  $\rightarrow$  [TC/UB Settings]  $\rightarrow$  [TC Run].

#### Rec Run:

Sets the stepping mode for the time code to advance only while recording. The time code is recorded sequentially from the last time code of the previous recording.

#### Free Run:

Sets the stepping mode for the time code to advance anytime, regardless of the camera operation.

- The time code may not be recorded sequentially in the following situations even when the time code advances in [Rec Run] mode.
  - When the recording format is changed.
  - When the recording medium is removed.

## How to select how the time code is recorded (TC Make)

1.  $MENU \rightarrow \bigoplus$  (Setup)  $\rightarrow$  [TC/UB Settings]  $\rightarrow$  [TC Make].

#### **Preset:**

Records the newly set time code on the recording medium.

#### Regenerate:

Reads the last time code for the previous recording from the recording medium and records the new time code consecutively from the last time code. The time code advances in [Rec Run] mode regardless of the [TC Run] setting.

### Remote Ctrl

You can operate this product and shoot images using the SHUTTER button, 2SEC button (2 second delay shutter), and START/STOP button (or Movie button (RMT-DSLR2 only)) on the Wireless Remote Commander RMT-DSLR1 (sold separately) and RMT-DSLR2 (sold separately). Refer also to the operating instructions for the Wireless Remote Commander.



#### Menu item details

On:

Allows remote commander operation.

Off:

Does not allow remote commander operation.

#### **Note**

- The lens or lens hood may block the remote sensor that receive the signals. Use the remote commander in the position from which the signal can reach the product.
- When [Remote Ctrl] is set to [On], the product does not switch to power save mode. Set [Off] after using a remote commander.

[419] List of MENU items | Setup

## **HDMI Settings: 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.



 $\textbf{MENU} \rightarrow \begin{tabular}{l} \blacksquare \end{tabular} \textbf{(Setup)} \rightarrow \textbf{[HDMI Settings]} \rightarrow \textbf{[HDMI Resolution]} \rightarrow \textbf{desired setting.} \end{tabular}$ 

#### Menu item details

Auto:

The product automatically recognizes an HD TV and sets the output resolution.

2160p/1080p:

Outputs signals in 2160p/1080p.

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], [1080p] or [2160p/1080p], based on which TV is to be connected.

[420] List of MENU items | Setup

## HDMI Settings: 24p/60p Output (movie) (Only for 1080 60i compatible models)

Set 1080/24p or 1080/60p as the HDMI output format when [ Record Setting] is set to [24p 24M(FX) Super], [24p 17M(FH) Super], [24p 50M Super].

- MENU  $\rightarrow$  (Setup)  $\rightarrow$  [HDMI Settings]  $\rightarrow$  [HDMI Resolution]  $\rightarrow$  [1080p] or [2160p/1080p].
- MENU  $\rightarrow$  (Setup)  $\rightarrow$  [HDMI Settings]  $\rightarrow$  [ 24p/60p Output]  $\rightarrow$  desired setting.

#### Menu item details

60p:

Movies are output as 60p.

24p:

Movies are output as 24p.

#### **Note**

- Steps 1 and 2 can be set in either order.
- When [ Record Setting] is set to other than [24p 24M(FX) Super ], [24p 17M(FH) Super ], or [24p 50M Super ], this setting is canceled, and HDMI video is output according to the [HDMI Resolution] settings.

[421] List of MENU items | Setup

**HDMI Settings: HDMI Info. Display** 

Selects whether to display the shooting information when this product and the TV are connected using an HDMI cable (sold separately).

1

 $MENU \rightarrow \bigoplus$  (Setup)  $\rightarrow$  [HDMI Settings]  $\rightarrow$  [HDMI Info. Display]  $\rightarrow$  desired setting.

#### Menu item details

#### On:

Displays the shooting information on the TV.

The recorded image and the shooting information are displayed on the TV, while nothing is displayed on the camera's monitor.

#### Off:

Does not display the shooting information on the TV.

Only the recorded image is displayed on the TV, while the recorded image and the shooting information are displayed on the camera's monitor.

#### **Note**

When this product is connected to a 4K-compatible TV, [Off] is selected automatically.

[422] List of MENU items | Setup

## **HDMI Settings: TC Output (movie)**

Sets whether or not to layer the TC (time code) information on the output signal via the HDMI terminal when outputting the signal to other professional-use devices.

This function layers the time code information on the HDMI output signal. The product sends the time code information as digital data, not as an image displayed on the screen. The connected device can then refer to the digital data to recognize the time data.



 $\textbf{MENU} \rightarrow \textbf{ (Setup)} \rightarrow \textbf{[HDMI Settings]} \rightarrow \textbf{[} \textbf{ [T] TC Output]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

#### On:

Time code is output to other devices.

#### Off:

Time code is not output to other devices.

#### **Note**

• When [TC Output] is set to [On], the image may not be output properly to the TV or recording device. In such cases, set [TC Output] to [Off].

[423] List of MENU items | Setup

## **HDMI Settings: REC Control (movie)**

If you connect the camera to an external recorder/player, you can remotely command the recorder/player to start/stop recording using the camera.



#### Menu item details

#### On:

The camera can send a recording command to an external recorder/player. The camera is sending a recording command to an external recorder/player.

#### Off:

The camera is not able to send a command to an external recorder/player to start/stop recording.

#### **Note**

- Available for external recorders/players compatible with [ REC Control].
- When [ TC Output] is [Off], [ REC Control] is set to [Off].

[424] List of MENU items | Setup

## **HDMI Settings: 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.

Connect this product to a "BRAVIA" Sync-compatible TV.

The input of the TV is switched automatically and images on this product are displayed on the TV screen.

- 3 Press the SYNC MENU button of the TV's remote control.
- Operate this product using the TV's remote control.

#### 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

- If you connect this product to a TV using an HDMI cable, available menu items are limited.
- [CTRL FOR HDMI] is available only with a "BRAVIA" Sync-compatible TV. Also, the SYNC MENU
  operation differs depending on the TV you are using. 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].

[425] List of MENU items | Setup

## 4K Output Sel. (movie)

You can set how to record movies and perform HDMI output when your camera is connected to 4K-compatible external recording/playback devices, etc.

- 1 Turn the mode dial to [1] (Movie/S&Q Motion).
- 2 Connect the camera to the desired device via an HDMI cable.

#### Menu item details

#### Memory Card+HDMI:

Simultaneously outputs to the external recording/playback device and records on the camera's memory card.

#### HDMI Only(30p):

Outputs a 4K movie in 30p to the external recording/playback device without recording on the camera's memory card.

#### HDMI Only(24p) Super:

Outputs a 4K movie in 24p to the external recording/playback device without recording on the camera's memory card.

### HDMI Only(25p) Super \*:

Outputs a 4K movie in 25p to the external recording/playback device without recording on the camera's memory card.

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

#### **Note**

- This item can be set only when the camera is in movie mode and connected to a 4K-compatible device.
- When [HDMI Only(30p)], [HDMI Only(24p) Super ] or [HDMI Only(25p) Super ] is set, [HDMI Info. Display] will temporarily be set to [Off].
- A 4K movie is not output to the connected 4K-compatible device during slow-motion/quick-motion shooting.
- When [HDMI Only(30p)], [HDMI Only(24p) Super ] or [HDMI Only(25p) Super ] is set, the counter does not move forward (the actual recording time is not counted) while the movie is being recorded on an external recording/playback device.
- When the camera is connected using an HDMI cable with [ File Format] is set to [XAVC S 4K], or when [ File Format] is set to [XAVC S 4K] and [Dual Video REC] is set to [On], the following functions are not available.
  - Smile/Face Detect.]
  - [Lock-on AF] under [Focus Area]
  - [Center Lock-on AF]
  - [Eye AF]

[426] List of MENU items | Setup

## **USB** Connection

this product.



 $MENU \rightarrow \bigoplus$  (Setup)  $\rightarrow$  [USB Connection]  $\rightarrow$  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, Windows 8.1, or Windows 10 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, Windows 8.1, or Windows 10 computers are connected in MTP, and their unique functions are enabled for use.

#### PC Remote:

Uses "Remote Camera Control" to control this product from the computer, including such functions as shooting and storing images on the computer.

#### Note

It may take some time to make the connection between this product and a computer when [USB Connection] is set to [Auto].

[427] List of MENU items | Setup

## **USB LUN Setting**

Enhances compatibility by limiting of USB connection functions.



 $\textbf{MENU} \rightarrow \textbf{ £} \textbf{ (Setup)} \rightarrow \textbf{[USB LUN Setting]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

#### Multi:

Normally, use [Multi].

#### Single:

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

[428] List of MENU items | Setup

## **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.



 $\textbf{MENU} \rightarrow \textbf{ desired setting.}$ 

#### 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.

#### **Note**

• Insert the battery pack into the product to supply power via USB cable.

[429] List of MENU items | Setup

## PC Remote Settings: Still Img. Save Dest.

Sets whether to save still images stored in both the camera and the computer during PC Remote shooting. This setting is useful when you want to check recorded images on the camera without leaving the camera.

\* PC Remote: Uses "Remote Camera Control" to control this product from the computer, including such functions as shooting and storing images on the computer.



MENU  $\rightarrow$  (Setup)  $\rightarrow$  [PC Remote Settings]  $\rightarrow$  [Still Img. Save Dest.]  $\rightarrow$  desired setting.

#### Menu item details

#### PC Only:

Saves still images only on the computer.

#### PC+Camera:

Saves still images on the computer and the camera.

#### **Note**

- During PC Remote shooting, you cannot change settings for [Still Img. Save Dest.]. Adjust the settings before you start shooting.
- If you insert a memory card that is not recordable, you cannot shoot still images even if you select [PC+Camera].
- If you select [PC+Camera] and you have not inserted a memory card into the camera, you cannot release the shutter even if [Release w/o Card] is set to [Enable].
- While you are playing back still images on the camera, you cannot shoot using PC Remote.

[430] List of MENU items | Setup

## PC Remote Settings: RAW+J PC Save Img

Selects the file type for images to be transferred to the computer in PC Remote shooting. When shooting still images using PC Remote, the application on the computer does not display the image until the image has been completely transferred. When performing RAW+JPEG shooting, you can accelerate the display processing speed by transferring only JPEG images instead of transferring both RAW and JPEG images.

\* PC Remote: Uses "Remote Camera Control" to control this product from the computer, including such functions as shooting and storing images on the computer.



MENU  $\rightarrow$  **(Setup)**  $\rightarrow$  [PC Remote Settings]  $\rightarrow$  [RAW+J PC Save Img]  $\rightarrow$  desired setting.

#### Menu item details

#### **RAW & JPEG:**

Transfers both RAW and JPEG files to the computer.

#### JPEG Only:

Transfers only JPEG files to the computer.

#### **RAW Only:**

Transfers only RAW files to the computer.

#### Note

[RAW+J PC Save Img] can be set only when [MQuality] is set to [RAW & JPEG].

## Language

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

[432] List of MENU items | Setup

## **Date/Time Setup**

The Clock Set screen is displayed automatically when you turn on this product for the first time or when the internal rechargeable backup battery has fully discharged. Select this menu when setting the date and time after the first time.

#### 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.

#### Hint

- To charge the internal rechargeable backup battery, insert a charged battery pack, and leave the product for 24 hours or more with the power off.
- If the clock resets every time the battery is charged, the internal rechargeable backup battery may be worn out. Consult your service facility.

[433] List of MENU items | Setup

## **Area Setting**

Sets the area where you are using the product.

[434] List of MENU items | Setup

## **Copyright Info**

Writes copyright information onto the still images.

- When you select [Set Photographer] or [Set Copyright], a keyboard appears on the screen. Enter your desired name.

#### Menu item details

#### Write Copyright Info:

Sets whether to write copyright information. ([On]/[Off])

• If you select [On], an ( ) icon will appear on the shooting screen.

#### **Set Photographer:**

Sets the photographer name.

#### **Set Copyright:**

Sets the copyright holder name.

#### Disp. Copyright Info:

Displays the current copyright information.

#### **Note**

- You can only enter alphanumeric characters and symbols for [Set Photographer] and [Set Copyright].
   You can enter up to 46 letters.
- A (c) icon appears during the playback of images with copyright information.
- In order to prevent unauthorized use of [Copyright Info], be sure to clear the [Set Photographer] and [Set Copyright] columns before lending out or handing over your camera.
- Sony is not liable for problems or damages resulting from use of [Copyright Info].

## **Format**

When you use a memory card with this camera for the first time, we recommend that you format the card using the camera 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.



 $MENU \rightarrow \clubsuit (Setup) \rightarrow [Format].$ 

#### **Note**

- Formatting permanently erases all data including protected images and registered settings (from M1 to M4).
- The access lamp lights up during formatting. Do not remove the memory card while the access lamp is lit up.
- Format the memory card on this camera. If you format the memory card on the computer, the memory card may not be usable depending on the format type.
- It may take a few minutes to complete formatting, depending on the memory card.
- You cannot format the memory card if the remaining battery charge is less than 1%.

[436] List of MENU items | Setup

## File Number

Selects how to assign file numbers to recorded still images and MP4 movies.



 $\textbf{MENU} \rightarrow \textbf{ £} \textbf{ (Setup)} \rightarrow \textbf{[File Number]} \rightarrow \textbf{desired setting.}$ 

#### 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.)

[437] List of MENU items | Setup

## **Set File Name**

You can specify the first three characters of the file name for images you shoot.

- 2 Select the entry field for the file name to display a keyboard on the screen, and then enter three characters of your choice.

#### **Note**

- Only capital letters, numbers, and underscores can be entered. However, an underscore cannot be used as the first character.
- The three characters of the file name you specify using [Set File Name] will only be applied to images you shoot after changing the setting.

[438] List of MENU items | Setup

## **Select REC Folder**

If [Folder Name] is set to [Standard Form] and there are 2 folders or more, you can select the folder on the memory card to which images are to be recorded.

MENU→ (Setup)→[Select REC Folder]→desired folder.

#### **Note**

You cannot select the folder when [Folder Name] is set to [Date Form].

## **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.



#### **Note**

- 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.

[440] List of MENU items | Setup

## **Folder Name**

Still images are recorded in a folder that is automatically created inside the DCIM folder on the memory card. You can change the way folder names are assigned.



 $\textbf{MENU} \rightarrow \textbf{ £} \textbf{ (Setup)} \rightarrow \textbf{[Folder Name]} \rightarrow \textbf{desired setting.}$ 

#### Menu item details

#### **Standard Form:**

The folder name form is as follows: folder number + MSDCF.

Example: 100MSDCF

#### **Date Form:**

The folder name form is as follows: folder number + Y (the last digit)/MM/DD.

Example: 10060405(Folder number: 100, date: 04/05/2016)

#### Note

You cannot change the [Folder Name] settings for movies.

## **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].



 $MENU \rightarrow$  (Setup)  $\rightarrow$  [Recover Image DB]  $\rightarrow$  [Enter].

#### **Note**

 Use a sufficiently charged battery pack. Low battery power during repairing can cause damage to data.

[442] List of MENU items | Setup

## Display Media Info.

Displays the recordable time of movies for the inserted memory card. Also displays the number of recordable still images for the inserted memory card.



 $\mathsf{MENU} o lacktriangledown_{lacktriangledown} (\mathsf{Setup}) o [\mathsf{Display Media Info.}].$ 

[443] List of MENU items | Setup

## Version

Displays the version of this product's software. Check the version when updates for this product's software are released, etc.

Also displays the version of the lens if a lens compatible with software updates is attached. Also displays the version of the adaptor if an adaptor compatible with software updates is attached.



 $\mathsf{MENU} \to \clubsuit \mathsf{(Setup)} \to \mathsf{[Version]}.$ 

#### **Note**

• Updating can be performed only when the battery level is (3 remaining battery bars) or more. The use of a sufficiently charged battery or the AC Adaptor (sold separately) is recommended.

[444] List of MENU items | Setup

# **Certification Logo (For some models only)**

Displays some of the certification logos for this product.



[445] List of MENU items | Setup

# **Setting Reset**

Resets the product to the default settings. Even if you perform [Setting Reset], the recorded images are retained.



 $\textbf{MENU} \rightarrow \textbf{ £} \textbf{ (Setup)} \rightarrow \textbf{ [Setting Reset]} \rightarrow \textbf{ desired setting.}$ 

### 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.
- When you perform [Initialize], downloaded applications on the product may be uninstalled. To use these applications again, re-install them.
- The value set with [AF Micro Adj.] will not be reset even when [Camera Settings Reset] or [Initialize] is performed.

[446] Precautions/This product

## **Precautions**

Refer also to "Notes on using your camera" in the Instruction Manual (supplied) for this product.

## **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.

### Database file error

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.
- In places with high humidity
   This may cause the lens to mold.

## On storing

Always attach the lens front cap or body cap when you are not using the camera. To prevent dust or debris from getting inside the camera, remove dust from the body cap before attaching it

to the camera.

## **Precaution on carrying**

Do not carry the camera with the tripod attached. This may cause the tripod socket hole to break.

## 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 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

XAVC S movies can be played back only on XAVC S-supported devices.

## On the monitor, viewfinder and lens

- Do not press against the monitor. The monitor may be discolored and that may cause 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.
- 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.
- Make sure not to bump the lens or subject it to force.
- Do not carry the camera by the monitor.
- When using the power zoom lens, be careful not to get your fingers or any other objects caught in the lens.

## 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.

Select [Setting Reset] → [Initialize] → [OK] → [OK].

### **Notes on location information**

If you upload and share an image tagged with a location, you may accidentally reveal the information to a third party. To prevent third parties from obtaining your location information, set [ Loc. Info. Link Set.] to [Off] before shooting images.

[447] Precautions/This product

# On cleaning

## Cleaning the lens, finder and flash

Wipe the lens, finder 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 camera body

Do not touch the parts of the product inside the lens mount, such as a lens signal contact. To

clean inside the lens mount, use a commercially available blower\* to blow any dust off.

\* Do not use a spray-type blower as doing so may cause a malfunction.

## 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.

[448] Precautions/This product | Cleaning the image sensor

# **Cleaning Mode**

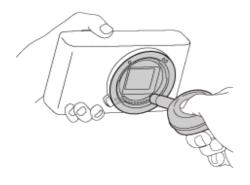
If dust or debris gets inside the camera and adheres to the surface of the image sensor (the part that converts the light to an electric signal), it may appear as dark spots on the image, depending on the shooting environment. If this happens, follow the steps below to clean the image sensor.

- 1 Confirm that the battery has been charged sufficiently.
- $oxed{2}$  MENU ightarrow ightharpoonup (Setup) ightarrow [Cleaning Mode] ightarrow [Enter].

The image sensor vibrates a little to shake off the dust.

- Turn off the product following the instructions on the screen.
- 4 Detach the lens.





6 Attach the lens.

#### Hint

 For how to check the amount of dust on the image sensor, and for further details on cleaning methods, please refer to the following URL.
 <a href="http://support.d-imaging.sony.co.jp/www/support/ilc/sensor/index.php">http://support.d-imaging.sony.co.jp/www/support/ilc/sensor/index.php</a>

#### **Note**

- Clean the image sensor quickly.
- A blower is not supplied with this product. Use a commercially available blower.
- Cleaning can be performed only when the battery level is (3 remaining battery icons) or more.
   The use of an AC-PW20 AC Adaptor is recommended.
- Do not use a spray type blower as it may scatter water droplets inside the camera body.
- Do not put the tip of a blower into the cavity beyond the lens mount area, so that the tip of the blower does not touch the image sensor.
- Hold the camera slightly face downward so that the dust falls out.
- Do not subject the product to any shock during cleaning.
- When cleaning the image sensor with a blower, do not blow too hard. If you blow the sensor too hard, the inside of the product may be damaged.
- If the dust remains even after you cleaned the product as described, consult the service facility.

# Number of recordable images

When you insert a memory card into the camera and set the ON/OFF (Power) switch to "ON," the number of images that can be recorded (should you continue to shoot using the current settings) is displayed on the screen.

#### **Note**

- When "0" (the number of recordable images) flashes in orange, the memory card is full. Replace the memory card with another one, or delete images from the current memory card.
- When "NO CARD" flashes in orange, it means no memory card has been inserted. Insert a memory card.

## The number of images that can be recorded on a memory card

The table below shows the approximate number of images that can be recorded on a memory card formatted with this camera. The values are defined using Sony standard memory cards for testing.

The values may vary depending on the shooting conditions and the type of memory card used.

([ Aspect Ratio] is set to [3:2]

(Units: Images)

Quality	8 GB	16 GB	32GB	64 GB
Standard	1300	2700	5400	10500
Fine	820	1650	3300	6600
Extra fine	405	810	1600	3250
RAW & JPEG	215	435	880	1750
RAW	295	600	1200	2400

<sup>\*</sup> When [Aspect Ratio] is set to other than [3:2], you can record more images than the numbers shown in the table above. (except when [RAW] is selected)

#### **Note**

- Even if the number of recordable images is higher than 9999 images, "9999" will appear.
- When an image shot with another product is played back on this camera, the image may not appear in its actual size.
- The numbers shown are when using a Sony memory card.

### [450] Precautions/This product

# Recordable movie times

The table below shows the approximate total recording times using a memory card formatted with this camera. The values may vary depending on the shooting conditions and the type of memory card used.

The recording times for when [ File Format] is set to [XAVC S 4K], [XAVC S HD], and [AVCHD] are recording times when shooting with [Dual Video REC] set to [Off]. (h (hour), m (minute))

	8 GB	16 GB	32 GB	64 GB
XAVC S 4K 30p 100M/25p 100M Super 35mm	9 m	15 m	35 m	1 h 15 m
XAVC S 4K 30p 60M/25p 60M Super 35mm	15 m	30 m	1 h	2 h 5 m
XAVC S 4K 24p 100M Super *	9 m	15 m	35 m	1 h 15 m
XAVC S 4K 24p 60M Super *	15 m	30 m	1 h	2 h 5 m
XAVC S HD 120p 100M/100p 100M	9 m	15 m	35 m	1 h 15 m
XAVC S HD 120p 60M/100p 60M	15 m	30 m	1 h	2 h 5 m
XAVC S HD 60p 50M Super /50p 50M Super 35mm	15 m	35 m	1 h 15 m	2 h 35 m
XAVC S HD 30p 50M Super /25p 50M Super 35mm	15 m	35 m	1 h 15 m	2 h 35 m
XAVC S HD 24p 50M Super *	15 m	35 m	1 h 15 m	2 h 35 m
AVCHD 60i 24M(FX) Super /50i 24M(FX) Super 35mm	40 m	1 h 25 m	3 h	6 h
AVCHD 60i 17M(FH) Super /50i 17M(FH) Super 35mm	55 m	2 h	4 h 5 m	8 h 15 m
AVCHD 60p 28M(PS) Super /50p 28M(PS) Super 35mm	35 m	1 h 15 m	2 h 30 m	5 h 5 m
AVCHD 24p 24M(FX) Super /25p 24M(FX) Super 35mm	40 m	1 h 25 m	3 h	6 h
AVCHD 24p 17M(FH) Super /25p 17M(FH) Super 35mm	55 m	2 h	4 h 5 m	8 h 15 m
MP4 1080/60p 28M Super /1080/50p 28M Super 35mm	35 m	1 h 15 m	2 h 35 m	5 h 20 m
MP4 1080/30p 16M Super /1080/25p 16M Super 35mm	1 h	2 h	4 h 10 m	8 h 25 m
MP4 720/30p 6M Super /720/25p 6M Super 35mm	2 h 35 m	5 h 20 m	10 h 55 m	22 h

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

- Continuous shooting is possible for approximately 29 minutes (a product specification limit).
   The continuous recordable time may differ in the following situations:
  - When the file format is set to MP4 (28M): Approximately 20 minutes (limited by file size of 4 GB).
  - When shooting slow-motion/quick-motion movies: Recording will automatically stop when the recorded file reaches approximately 29 minutes (the played back movie reaches approximately 29 minutes). (Recording will automatically stop when the recorded file reaches approximately 15 minutes if [ see Record Setting] is set to [60p/50p] and [ see Rate] is set to [30fps/25fps].)
- The times for slow-motion/quick-motion movies are playback times, not recording times.

#### **Note**

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

### Notes on continuous movie recording

- It requires a lot of power to perform high quality movie recording or continuous shooting. Therefore, if you continue to shoot, the temperature inside the camera will rise, especially that of the image sensor. In such cases, the camera will turn off automatically because the surface of the camera is heated to a high temperature that can affect the quality of the images or the internal mechanism of the camera.
- The following values are the continuous times from when the camera starts recording until the camera stops recording.

Ambient temperature: 20°C (68°F)

- Continuous recording time for movies (HD): Approx. 29 minutes
- Continuous recording time for movies (4K): Approx. 20 minutes

Ambient temperature: 30°C (86°F)

- Continuous recording time for movies (HD): Approx. 29 minutes
- Continuous recording time for movies (4K): Approx. 20 minutes

Ambient temperature: 40°C (104°F)

- Continuous recording time for movies (HD): Approx. 29 minutes
- Continuous recording time for movies (4K): Approx. 20 minutes

[Auto Pwr OFF Temp.]: [Standard]

HD: XAVC S HD (60p 50M/50p 50M, not connected via Wi-Fi)

4K: XAVC S 4K (24p 60M, not connected via Wi-Fi)

• The duration of time available for movie recording varies with the temperature, file format/record setting for movies, Wi-Fi network environment, or condition of the camera before you start recording. If you frequently recompose or shoot images after the power is turned on, the temperature inside the camera will rise and the recording time available will be shorter.

- When the icon appears, the temperature of the camera is too high.
- If the camera stops recording due to the temperature, leave it for some time with the power turned off. Start recording after the temperature inside the camera drops fully.
- If you observe the following points, the recording time will be longer.
  - Keep the camera out of direct sunlight.
  - Turn the camera off when it is not being used.
- 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.

[451] Precautions/This product

# 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). Consult a travel agency, etc., and prepare one in advance.

#### Note

Do not use an electronic voltage transformer as doing so may cause a malfunction.

[452] Precautions/This product

## **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 [453] Precautions/This product

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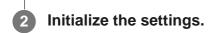
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[455] If you have problems

# **Troubleshooting**

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

1 Remove the battery pack, wait for about one minute, re-insert the battery pack, then turn on the power.



3 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/

[456] If you have problems

# 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.

#### Power insufficient.

• The cleaning mode will not operate when the remaining battery charge is less than (3). We recommend using the AC Adaptor AC-PW20 when using cleaning mode.

#### 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.

## Cannot open the shutter since the memory card is not inserted.

- No memory card has been inserted.
- To release the shutter without inserting a memory card into the camera, set [Release w/o Card] to [Enable]. In this case, images will not be saved.

### 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.

# Check that a lens is mounted. For an unsupported lens, set "Release w/o Lens" in the menu to "Enable".

- The lens is not attached properly, or the lens is not attached. If the message appears when
  a lens is attached, reattach the lens. If the message appears frequently, check whether the
  contacts of the lens and product are clean or not.
- When attaching the product to an astronomical telescope or similar instrument, or using an unsupported lens, set [Release w/o Lens] to [Enable].

#### 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 and cool the product and wait until the product is ready to shoot again.

## ΓIĀ

You have been recording images for a long time, the product temperature has risen.

#### Recording is unavailable in this movie format.

Set [ File Format] to [MP4].



 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 using PlayMemories Home 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 local authorized Sony service facility.

#### Image Database File error. Recover?

 You cannot record and play back an AVCHD movie because the Image Database File is damaged. Recover the Image Database File following the on-screen instructions.

## 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.

# Recommended pages

• How to tag the location information on the images

You can record the location information on the images. The location information can be acquired via a smartphone.

Touch Focus

You can select the subject to focus by the touch operation in the still image and movie

recording modes.

ILCE-6500 Lens compatibility information

This website provides the lens compatibility information. (Another window will open.)