### ✦ Shutter speed



When a faster shutter speed is used, a moving subject such as a running person, cars, and sea spray appears as if they are stopped.



When a slower shutter speed is used, a trailing image of the movement of the subject is captured to make more natural and dynamic image.

### ▌ **Aperture Priority**

You can adjust the range in focus, or defocuses the background.

1 Select **A** (Aperture Priority) (page 47).

2 Turn the control dial to select the desired value.
Or, touch ▲◢ / ◣▲ on the screen to select the desired value.
• You can record a movie with a value adjusted with [Aperture Priority].

Using the recording functions

## ❚ Program Auto/Superior Auto

In [Superior Auto] mode, the camera shoots with higher quality than
[Intelligent Auto] mode and perform composite shooting as necessary.
In [Program Auto] mode, you can shoot after adjusting various functions, such
as white balance, ISO, etc.

1 Select P (Program Auto) or ᵢ🄰⁺ (Superior Auto)
   (page 47).

2 Point the camera to the subject, focus on the subject, and
   then record an image.

| Shooting mode | Your purpose |
|---|---|
| ᵢ🄰 (Intelligent Auto) | • Select this mode to easily recognize the scene and shoot continuous images. |
| P (Program Auto) | • Select this mode to shoot with various functions other than the exposure (shutter speed and aperture) adjusted. |
| ᵢ🄰⁺ (Superior Auto) | • Select this mode to shoot scenes under difficult circumstances, such as when you have dark scenes, or back-lit subjects.<br>• Select this mode to shoot a higher quality image than that offered by [Intelligent Auto]. |

**Notes**

• In [Superior Auto] mode, the recording process takes longer, since the camera
must make a composite image.

# Zooming

With the [Zoom] feature of the camera, you can increase the magnification to a scale greater than that of the optical zoom scale of the lens.
When using a lens with a power zoom, operate the optical zoom of the lens and then the camera shifts automatically to the [Zoom] feature of the camera.
When using a lens that is not equipped with a power zoom, follow the instruction below after magnifying using the optical zoom.

1 Select MENU → [Camera] → [Zoom] → desired value.
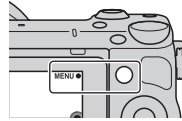
## ☼ The [Zoom] features available with this camera

The [Zoom] feature of the camera provides higher magnification by combining various zoom features. The icon displayed on the LCD screen changes as follows, according to the selected zoom feature.

① $\mathbb{Q}$　②$_S\mathbb{Q}$　③$_C\mathbb{Q}$　④$_D\mathbb{Q}$

Zoom scale
(low)

Zoom scale
(high)

①$\mathbb{Q}$ : The [Zoom] feature of the camera is not used. (×1.0 is indicated.)
②$_S\mathbb{Q}$ Smart Zoom: You can magnify images by trimming them partially. (Available only when [Image Size] is set to [M] or [S].)
③$_C\mathbb{Q}$ Clear Image Zoom: You can magnify images using high-resolution image processing.
④$_D\mathbb{Q}$ Digital Zoom: You can magnify images using image processing. (The default setting is [Off].)

Using the recording functions

# Selecting the flash mode

1  Attach the flash and raise it (page 26).

2  Select MENU → [Camera] →
   [Flash Mode].
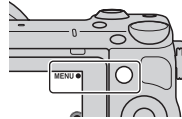
3  Turn the control wheel to select the desired mode, and
   press the center.

   Or, slide your finger across the screen upward or
   downward to move the desired mode to the center of the
   screen, then touch the desired mode.

   ⊛ **(Flash Off):** Does not fire even if the flash is raised.

   ⚡AUTO **(Autoflash):** Fires in dark environments or when shooting towards
   bright light.

   ⚡ **(Fill-flash):** Fires every time you trigger the shutter.

   ⚡SLOW **(Slow Sync.):** Fires every time you trigger the shutter. Slow sync
   shooting allows you to shoot a clear image of both the subject and the
   background.

   ⚡REAR **(Rear Sync.):** Fires right before the exposure is completed every
   time you trigger the shutter. A trailing image of the movement of the
   subject is captured to make more natural image.

   • The selectable items of the flash mode depends on the shooting mode
     (page 70).

   **Notes**

• When the camera is charging the flash, ⚡● blinks on the LCD screen. You cannot
  press the shutter button when this icon is blinking.

**The flash range**
The range of the flash depends on the ISO sensitivity and aperture value.

|  | F2.8 | F3.5 | F5.6 |
|---|---|---|---|
| ISO100 | 1 m – 2.5 m<br>(3.3 feet – 8.2 feet) | 1 m – 2 m<br>(3.3 feet – 6.6 feet) | 1 m – 1.25 m<br>(3.3 feet – 4.1 feet) |
| ISO3200 | 5.6 m – 14 m<br>(18.3 feet – 46 feet) | 4.5 m – 11.2 m<br>(14.7 feet – 36.7 feet) | 2.8 m – 7 m<br>(9.1 feet – 22.9 feet) |

# Setting using the Fn (Function) button

1 Press the Fn (Function)
button.

Fn (Function)
button
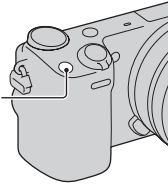
2 Select a desired function by pressing the right/left side of
the control wheel. Or, touch the desired setting.

3 Turn the control wheel to select the desired settings.
Or, touch the desired function to change.

Using the recording functions

💡 How to assign other functions to the Fn (Function)
button

The following functions are assigned to the Fn (Function) button by the default
settings.
Focus (AF/MF Select)/AF MODE (Autofocus Mode)/[□] (Autofocus Area)/
WB (White Balance)/[⊖] (Metering Mode)/⊘ (Picture Effect)
You can change the functions assigned to the Fn (Function) button by selecting
MENU → [Setup] → [Function Menu Settings].

# Selecting the image size/record setting

The image size determines the size of the image file that is recorded when you take an 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. In the case of movies, the larger the bit-rate, the higher the image quality.

1 Select MENU → [Image Size] → [Image Size]. For movie recording, select MENU → [Image Size] → [Record Setting].

2 Select the desired mode.

**Movie**

| [File Format]: [AVCHD] | Bit-rate | Recording |
|---|---|---|
| 60i 24M(FX)* 50i 24M(FX)** | Maximum 24 Mbps | Records high image quality movies of 1920 × 1080 (60i/50i). |
| ✓ 60i 17M(FH)* 50i 17M(FH)** | Average 17 Mbps | Records standard image quality movies of 1920 × 1080 (60i/50i). |
| 60p 28M(PS)* 50p 28M(PS)** | Maximum 28 Mbps | Records highest image quality movies of 1920 × 1080 (60p/50p). |
| 24p 24M(FX)* 25p 24M(FX)** | Maximum 24 Mbps | Records high image quality movies of 1920 × 1080 (24p/25p). This produces a cinema-like atmosphere. |
| 24p 17M(FH)* 25p 17M(FH)** | Average 17 Mbps | Records standard image quality movies of 1920 × 1080 (24p/25p). This produces a cinema-like atmosphere. |
| [File Format]: [MP4] | Bit-rate | Recording |
| ✓ 1440×1080 12M | Average 12 Mbps | Records movies of 1440 × 1080. |
| VGA 3M | Average 3 Mbps | Records movies of VGA size. |

\* 1080 60i-compatible device

\*\* 1080 50i-compatible device

**Notes**

• When you print still images recorded with 16:9 aspect ratio, and panoramic images, both edges may be cut off.

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# Displaying the image list

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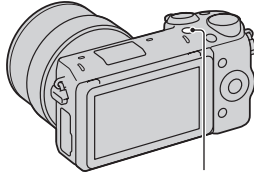
▶ (Playback) button

2 Press ⊞ (Image Index) on the control wheel.

Six images are displayed at a time.
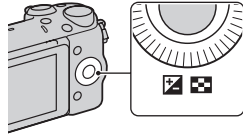
3 Turn the control wheel to select an image.
Or, touch the desired image.

- To return to the single-image screen, select the desired image, and press the center.
- You can browse images quickly by sliding your finger across the screen upward and downward.

## 💡 Displaying a desired folder

To select a desired folder, select the bar on the left of the image index screen, and then press the top/bottom parts of the control wheel. You can switch between still image playback and movie playback by pressing the center of the control wheel. You can also select a folder by touching the bar on the left. You can switch between still image playback and movie playback by touching the center of the bar.

Using the playback functions

# Viewing images on a TV

To view images on the camera using a TV, an HDMI cable (sold separately) and an HD TV equipped with an HDMI connector are required.

1 Connect the camera to the TV with an HDMI cable (sold separately).



To the HDMI connector

HDMI cable

To the HDMI terminal
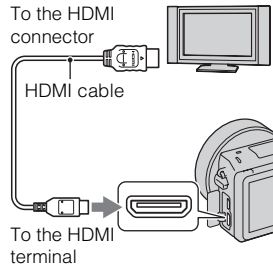
**Notes**

• Use an HDMI mini connector on one end (for the camera), and a plug suitable for connecting your TV on the other end.

## ☿ Using your camera abroad

To view movies shot using this camera on a TV, the camera and TV must use the same color television system.

# Menu list

When you press MENU, the menu items [Shoot Mode], [Camera], [Image Size], [Brightness/Color], [Playback], [Application]\* and [Setup] appear on the screen.
You can set various functions in each item. Items that cannot be set in the context are displayed in gray.

```
Menu                                              ↩ ●
Shoot Mode   Camera    Image Size   Brightness/
                                        Color

   ◯          🖵⊙         ◁◁           ▯

Playback    Application    Setup

   ◁▱          ▦            ⊟
```
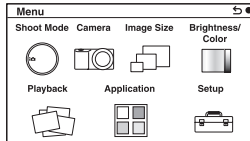
\* The application downloading function may not be available in some countries/regions.

## ▌ Shoot Mode

Allows you to select a shooting mode, such as exposure mode, panoramic, Scene Selection.

| Superior Auto | Shoots images with a wider range of shooting functions than those of Intelligent Auto shooting. Recognizes and evaluates the shooting conditions automatically, performs Auto HDR, and chooses the best image. |
|---|---|
| Intelligent Auto | The camera evaluates the subject and makes the proper settings. |
| Scene Selection | Shoots with preset settings according to the subject or condition. (Portrait/Landscape/Macro/Sports Action/Sunset/Night Portrait/Night Scene/Hand-held Twilight/Anti Motion Blur) |
| Sweep Panorama | Shoots with panoramic size. |
| Manual Exposure | Adjusts the aperture and shutter speed. |
| Shutter Priority | Adjusts the shutter speed to express the movement of the subject. |
| Aperture Priority | Adjusts the range in focus, or defocuses the background. |

Checking the functions available

| Program Auto | Automatic shooting that allows you to customize settings, except for the exposure (shutter speed and aperture). |

### ❚ Camera

Allows you to set shooting functions, such as continuous shooting, self-timer, and flash.

| Drive Mode | Selects the drive mode, such as continuous shooting, self-timer, or bracket shooting. (Single Shooting/Cont. Shooting/Spd Priority Cont./Self-timer/Self-timer(Cont)/Bracket: Cont./Remote Cdr.) |
| Flash Mode | Selects the method used to fire the flash. (Flash Off/Autoflash/Fill-flash/Slow Sync./Rear Sync.) |
| AF/MF Select | Selects auto focusing or manual focusing. (Autofocus/DMF/Manual Focus) |
| Autofocus Area | Selects the area to be focused on. (Multi/Center/Flexible Spot) |
| Autofocus Mode | Selects the autofocus method. (Single-shot AF/Continuous AF) |
| Touch Shutter | Sets whether to use the touch shutter function. (On/Off) |
| Object Tracking | Keeps the focus on a subject while tracking it. |
| Zoom | Sets the zoom scale of the [Zoom] feature of the camera. |
| Face Detection | Detects people's faces automatically, and adjusts focus and exposure to suit the faces. (On (Regist. Faces)/On/Off) |
| Face Registration | Registers or changes the person to be given priority in the focus. (New Registration/Order Exchanging/Delete/Delete All) |
| Smile Shutter | Each time the camera detects a smile, the camera releases the shutter automatically. (Off/On) |
| Auto Port. Framing | Analyzes the scene when capturing a face and saves another image with a more impressive composition. (Off/Auto) |

| Soft Skin Effect | Shoots the skin smoothly in the Face Detection function. (On/Off) |
| Shooting Tip List | Allows you to access all shooting tips. |
| LCD Display (DISP) | Switches the information to be displayed on the shooting screen on the LCD screen. (Graphic Display/Display All Info./Big Font Size Disp./No Disp. Info./Level/Histogram/For viewfinder) |
| Finder Display(DISP) | Changes the information to be displayed on an Electronic Viewfinder (sold separately). (Disp. Basic Info/Level/Histogram) |
| DISP Button(Monitor) | Sets the screen display modes to be displayed on the LCD screen by pressing the DISP button. (Graphic Display/Display All Info./Big Font Size Disp./No Disp. Info./Level/Histogram/For viewfinder) |

### ▌Image Size

Allows you to set the image size and aspect ratio, etc.

| Still | |
| --- | --- |
| Image Size | Selects the image size. (3:2: L: 16M/ M: 8.4M/ S: 4.0M) (16:9: L: 14M/ M: 7.1M/ S: 3.4M) |
| Aspect Ratio | Selects the aspect ratio. (3:2/16:9) |
| Quality | Selects the compression format. (RAW/RAW & JPEG/Fine/Standard) |
| Panorama | |
| Image Size | Selects the image size. (Standard/Wide) |
| Panorama Direction | Selects the direction to pan the camera when shooting panoramic images. (Right/Left/Up/Down) |

Checking the functions available

| Movie | |
|---|---|
| File Format | Selects AVCHD or MP4. |
| Record Setting | Selects the image size, frame rate, and image quality of movies.<br>(AVCHD: 60i/50i 24M (FX) / 60i/50i 17M (FH) / 60p/50p 28M (PS) / 24p/25p 24M (FX) / 24p/25p 17M (FH))<br>(MP4: 1440×1080 12M/VGA 3M) |

### ❙ Brightness/Color

Allows you to make brightness settings such as metering mode, and color settings such as white balance.

| Exposure Comp. | Compensates for the brightness of the entire image.<br>(–3.0EV to +3.0EV) |
|---|---|
| ISO | Sets the ISO sensitivity.<br>(ISO AUTO/100 - 25600) |
| White Balance | Adjusts the color tones according to the ambient light conditions.<br>(Auto WB/Daylight/Shade/Cloudy/Incandescent/Fluor.: Warm White/Fluor.: Cool White/Fluor.: Day White/Fluor.: Daylight/Flash/C.Temp./Filter/Custom/Custom Setup) |
| Metering Mode | Selects the method used for measuring the brightness.<br>(Multi/Center/Spot) |
| Flash Comp. | Adjusts the amount of flash light.<br>(–2.0EV to +2.0EV) |
| DRO/Auto HDR | Corrects the brightness or contrast automatically.<br>(Off/D-Range Opt./Auto HDR) |
| Picture Effect | Shoots with the desired effects to express a unique atmosphere.<br>(Off/Toy Camera/Pop Color/Posterization/Retro Photo/Soft High-key/Partial Color/High Contrast Mono./Soft Focus/HDR Painting/Rich-tone Mono./Miniature) |
| Creative Style | Selects the image processing method.<br>(Standard/Vivid/Portrait/Landscape/Sunset/Black & White) |

❚ **Playback**

Allows you to set playback functions.

| Delete | Deletes images. (Multiple Img./All in Folder/All AVCHD view files) |
|---|---|
| Still/Movie Select | Allows you to determine how to group the playback images (View mode). (Folder View(Still)/Folder View(MP4)/AVCHD View) |
| Slide Show | Plays back images automatically. (Repeat/Interval/Image Type) |
| View on Smartphone | Transfers the images to a Smartphone and displays them. (This Image/All Images on This Date/All Images in The Device) |
| Send to Computer | Transfers the images to a computer that is connected to the network for backup. |
| View on TV | Transfers the images to a TV that is connected to the network for viewing. |
| Specify Printing | Selects the images to print, or makes printing settings. (DPOF Setup/Date Imprint) |
| Image Index | Selects the number of images to be displayed on the index screen. (6 Images/12 Images) |
| ⊕ Enlarge Image | Enlarges the image. |
| Rotate | Rotates images. |
| Protect | Protects images, or cancels the protection. (Multiple Img./Cancel All Images/Cancel All Movies(MP4)/Cancel All AVCHD view files) |
| Volume Settings | Sets the sound volume of movies. |
| Display Contents | Switches the information to be displayed on the playback screen. (Display Info./Histogram/No Disp. Info.) |

❚ **Application**

You can add the desired functions to your camera by connecting to the application downloading website "PlayMemories Camera Apps" via the Internet.

Checking the functions available

### ❙Setup

Allows you to make more detailed shooting settings, or change the camera settings.

| Shooting Settings | |
| --- | --- |
| AEL w/ shutter | Sets whether or not to fix the exposure when you press the shutter button halfway down. (On/Off) |
| AF Illuminator | Sets the AF illuminator to assist auto-focusing in dim places. (Auto/Off) |
| Phase Detection AF Area | Sets whether to display the Phase Detection AF ranging points on the screen. (On/Off) |
| Red Eye Reduction | Provides pre-flash before shooting when using the flash, to prevent eyes from being shot in red. (On/Off) |
| FINDER/LCD Setting | Sets how to switch between an Electronic Viewfinder (sold separately) and the LCD screen. (Auto/Viewfinder/Manual) |
| Live View Display | Allows you to choose whether or not to show the value of exposure compensation, etc. on the screen display. (Setting Effect ON/Setting Effect OFF) |
| Auto Review | Sets the display time of the image right after shooting. (10 Sec/5 Sec/2 Sec/Off) |
| Grid Line | Turns on the grid line that helps you to adjust the composition of images. (Rule of 3rds Grid/Square Grid/Diag. + Square Grid/Off) |
| Peaking Level | Enhances the outline of in-focus ranges with a specific color. (High/Mid/Low/Off) |
| Peaking Color | Sets the color used for the peaking function. (White/Red/Yellow) |
| Clear Image Zoom | Zooms an image with higher quality than Digital Zoom. (On/Off) |

| Digital Zoom | Zooms an image with higher magnification than Clear Image Zoom. This feature can be also available in movie recording. (On/Off) |
|---|---|
| Self-portrait Self-timer | Sets the shooting mode when the LCD screen is tilted upward about 180 degrees. When you set [Self-portrait Self-timer] to [On], a 3-second delay self-timer is activated, and you can reduce the camera-shake when shooting self-portrait. (On/Off) |
| S. Auto Image Extract. | Sets whether or not to save all the images that were shot continuously in Superior Auto mode. (Auto/Off) |
| MF Assist | Displays an enlarged image when focusing manually. (On/Off) |
| MF Assist Time | Sets the length of time the image will be shown in an enlarged form. (No Limit/5 Sec/2 Sec) |
| Color Space | Changes the range of color reproduction. (sRGB/AdobeRGB) |
| SteadyShot | Sets camera-shake compensation. (On/Off) |
| Release w/o Lens | Sets whether or not to release the shutter when there is no lens. (Enable/Disable) |
| Eye-Start AF | Sets whether or not to use autofocus when you look through an Electronic Viewfinder (sold separately) with the LA-EA2 Mount Adaptor attached (sold separately). (On/Off) |
| Front Curtain Shutter | Sets whether or not to use the electronic front curtain shutter function. (On/Off) |
| Long Exposure NR | Sets the noise reduction processing for long exposure shootings. (On/Off) |
| High ISO NR | Sets the noise reduction processing for high ISO sensitivity shootings. (Normal/Low) |
| Lens Comp.: Shading | Compensates for the shaded corners of the screen. (Auto/Off) |

Checking the functions available

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| Lens Comp.: Chro. Aber. | Reduces the color deviation at the corners of the screen. (Auto/Off) |
|---|---|
| Lens Comp.: Distortion | Compensates for distortion on the screen. (Auto/Off) |
| Face Priority Tracking | Sets whether to preferentially-track a certain face or not when the camera detects that face during object tracking. (On/Off) |
| Auto Slow Shutter | Sets whether or not to adjust the shutter speed automatically when recording movies if the subject is dark. (On/Off) |
| Movie Audio Rec | Sets whether or not to record sound when recording a movie. (On/Off) |
| Wind Noise Reduct. | Reduces wind noise during movie recording. (On/Off) |
| AF Micro Adj. | Finely adjusts the autofocused position, when using the LA-EA2 Mount Adaptor (sold separately). (AF Adjustment Setting/amount/Clear) |
| Main Settings | |
| Menu start | Selects a first-displayed menu from the top menu or the last menu screen. (Top/Previous) |
| Function Menu Settings | Assigns functions to the Fn (Function) button. |
| MOVIE Button | Sets whether or not to activate the MOVIE button. (On/Off) |
| Custom Key Settings | Assigns functions to the Soft keys. |
| Touch Operation | Sets whether or not to operate the camera using the touch panel. (On/Off) |
| Beep | Selects the sound produced when you operate the camera. (On/Off) |
| 🄰 Language | Selects the language used on the screen. |
| Date/Time Setup | Sets the date and time. |
| Area Setting | Selects the area where you are using the camera. |

| Help Guide Display | Turns the Help Guide on or off. (On/Off) |
| --- | --- |
| Power Save | Sets the level of the power saving feature. (Max/Standard) |
| Power Saving Start Time | Sets the time to turn the camera to the power save mode. (30 Min/5 Min/1 Min/20 Sec/10 Sec) |
| LCD Brightness | Sets the brightness of the LCD screen. (Manual/Sunny Weather) |
| Viewfinder Bright. | Sets the brightness of an Electronic Viewfinder (sold separately). (Auto/Manual) |
| Display Color | Selects the color of the LCD screen. (Black/White/Blue/Pink) |
| Wide Image | Selects a method to display wide images. (Full Screen/Normal) |
| Playback Display | Selects the method used to play back portrait images. (Auto Rotate/Manual Rotate) |
| HDMI Resolution | Set resolution when connected to HDMI TV. (Auto/1080p/1080i) |
| CTRL FOR HDMI | Sets whether or not to operate the camera with a "BRAVIA" Sync-compliant TV's Remote Control. (On/Off) |
| USB Connection | Selects the appropriate USB connection method for each computer or USB device connected to the camera. (Auto/Mass Storage/MTP) |
| Cleaning Mode | Allows you to clean the image sensor. |
| Calibration | Enables you to perform calibration when the touch panel buttons do not react at the appropriate points where you touch. |
| Version | Displays the version of the camera and the lens. |
| Demo Mode | Sets whether or not to display the demonstration with movies. (On/Off) |
| Initialize | Resets the camera to the default settings. (Reset Default/Factory Reset) |

Checking the functions available

| Memory Card Tool | |
| --- | --- |
| Format | Formats the memory card. |
| File Number | Selects the method to use to assign file numbers to still images and MP4 movies. (Series/Reset) |
| Folder Name | Selects the folder name format in which the still image is stored. (Standard Form/Date Form) |
| Select Shoot. Folder | Selects the recording folder to which still images and MP4 movies are recorded. |
| New Folder | Creates a new folder to which still images and MP4 movies are recorded. |
| Recover Image DB | Repairs the image database file when inconsistencies are found. |
| Display Card Space | Displays the remaining recording time of movies and the recordable number of still images on the memory card. |
| Eye-Fi Setup* | |
| Upload Settings | Sets whether to use the upload function of the camera with an Eye-Fi card. (On/Off) |
| Network Settings | |
| WPS Push | You can register the access point to the camera easily by pushing the WPS button. |
| Access Point Settings | You can register your access point manually. |
| Edit Device Name | You can change the device name under Wi-Fi Direct. |
| Disp MAC Address | Displays the MAC address of the camera. |
| Reset View on Smartphone | Resets the connecting information for [View on Smartphone]. |
| Reset Network Settings | Resets all the network settings to default settings. |

* This setting appears when an Eye-Fi card is inserted in the camera. Do not use an Eye-Fi card inserted in the camera on an airplane. If an Eye-Fi card is inserted in the camera, set [Upload Settings] to [Off].
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.

# Functions available for each shooting mode

The functions you can use depend on the selected shooting mode.
In the table below, ✔ indicates the function is available, and a – indicates the function is not available.
The functions you cannot use are displayed in gray on the screen.

| Shoot Mode | | Exposure Comp. | Self-timer | Cont. Shooting | Face Detection | Picture Effect |
|---|---|---|---|---|---|---|
| 📷 (Intelligent Auto) | | – | ✔ | ✔ | ✔ | – |
| **SCN** (Scene Selection) | 🌙 | – | ✔ | – | ✔ | – |
| | 🏃 | – | ✔ | ✔ | ✔ | – |
| | 🌷 | – | ✔ | – | ✔ | – |
| | ▲ | – | ✔ | – | ✔ | – |
| | 🌅 | – | ✔ | – | ✔ | – |
| | 🌙 | – | ✔ | – | ✔ | – |
| | 🌙✋ | – | – | – | ✔ | – |
| | 👤 | – | ✔ | – | ✔ | – |
| | ((👤)) | – | – | – | ✔ | – |
| ⬜ (Sweep Panorama) | | ✔ | – | – | – | – |
| **M** (Manual Exposure) | | – | ✔ | ✔ | ✔ | ✔ |
| **S** (Shutter Priority) | | ✔ | ✔ | ✔ | ✔ | ✔ |
| **A** (Aperture Priority) | | ✔ | ✔ | ✔ | ✔ | ✔ |
| **P** (Program Auto) | | ✔ | ✔ | ✔ | ✔ | ✔ |
| 📷⁺ (Superior Auto) | | – | ✔ | ✔ | ✔ | – |

**Notes**

• The functions available may be limited also by conditions other than the shooting mode.

Checking the functions available

# Flash modes available

The flash modes you can select depend on the shooting mode and functions selected.

In the table below, ✓ indicates the function is available, and a – indicates the function is not available.

The flash modes you cannot select are displayed in gray on the screen.

| Shoot Mode | | Flash Off | Autoflash | Fill-flash | Slow Sync. | Rear Sync. |
|---|---|---|---|---|---|---|
| **i🞳** (Intelligent Auto) | | ✓ | ✓ | ✓ | – | – |
| **SCN** (Scene Selection) | 🌄 | ✓ | ✓ | ✓ | – | – |
| | 🏃 | ✓ | – | ✓ | – | – |
| | 🌷 | ✓ | ✓ | ✓ | – | – |
| | ▲ | ✓ | – | ✓ | – | – |
| | 🍴 | ✓ | – | ✓ | – | – |
| | 🌙 | ✓ | – | – | – | – |
| | 🌙✋ | ✓ | – | – | – | – |
| | 👤 | – | ✓* | – | – | – |
| | (((👤))) | ✓ | – | – | – | – |
| **▭** (Sweep Panorama) | | ✓ | – | – | – | – |
| **M** (Manual Exposure) | | – | – | ✓ | ✓ | ✓ |
| **S** (Shutter Priority) | | – | – | ✓ | ✓ | ✓ |
| **A** (Aperture Priority) | | – | – | ✓ | ✓ | ✓ |
| **P** (Program Auto) | | – | – | ✓ | ✓ | ✓ |
| **i🞳+** (Superior Auto) | | ✓ | ✓ | ✓ | – | – |

\* The camera emits flash light in slow synchro mode if the flash is necessary.

**Notes**

• The flash modes may be limited also by conditions other than the shooting mode.
• Even if you select a workable flash mode, the flash does not fire unless it is raised.

# Installing the software

To utilize images recorded with the camera, the following software is provided with CD-ROM (supplied):
• "Image Data Converter"
  You can open RAW format image files.
• "PlayMemories Home" (Windows only)
  You can import still images or movies recorded with the camera to your computer so that you can view them, and use various convenient features to enhance the images you have shot.

**Notes**

• Log on as Administrator.
• Use "Image Data Converter" to play back RAW images.
• If "PMB" (Picture Motion Browser) supplied with a camera that was purchased before 2011 has already been installed on the computer, "PMB" will be overwritten by "PlayMemories Home," and you may be unable to use some functions of "PMB" that were previously available.
• "PlayMemories Home" is not compatible with Mac computers. When you play back images on Mac computers, use the appropriate application software supplied with the Mac computer.

## ▌Windows

The following computer environment is recommended when using the supplied software and importing images via a USB connection.

| OS (pre-installed) | Microsoft Windows XP* SP3/Windows Vista** SP2/ Windows 7 SP1 |
|---|---|
| "PlayMemories Home" | **CPU:** Intel Pentium III 800 MHz or faster For playing/editing the High Definition movies: Intel Core Duo 1.66 GHz or faster/Intel Core 2 Duo 1.66 GHz or faster (Intel Core 2 Duo 2.26 GHz or faster (AVC HD (FX/FH)), Intel Core 2 Duo 2.40 GHz or faster (AVC HD PS)) **Memory:** Windows XP 512 MB or more (1 GB or more is recommended), Windows Vista/Windows 7 1 GB or more **Hard Disk:** Disk space required for installation— approximately 500 MB **Display:** Screen resolution—1024 × 768 dots or more |
| "Image Data Converter Ver.4" | **CPU/Memory:** Pentium 4 or faster/1 GB or more **Display:** 1024 × 768 dots or more |

\* 64-bit editions and Starter (Edition) are not supported. Windows Image Mastering API (IMAPI) Ver. 2.0 or later is required to use the function for creating discs.
\*\* Starter (Edition) is not supported.

Importing images to the computer

GB
71

NEX-5R
4-437-511-**11**(1)

1 Turn on your computer, and insert the CD-ROM (supplied) into the CD-ROM drive.

The installation menu screen appears.
• If the installation menu does not appear, double-click [Computer] (For Windows XP: [My Computer]) → 📂 (PMHOME) → [Install.exe].
• If the AutoPlay screen appears, select "Run Install.exe" and follow the instructions that appear on the screen to proceed with the installation.

2 Connect the camera to the computer.

3 Click [Install].
• Make sure that both "Image Data Converter" and "PlayMemories Home" are checked and follow the instructions on the screen.
• When the restarting confirmation message appears, restart the computer following the instructions on the screen.
• DirectX may be installed depending on the system environment of your computer.

4 Remove the CD-ROM after the installation is complete.

The following software is installed and shortcut icons appear on the desktop.
"Image Data Converter"
"PlayMemories Home"
"PlayMemories Home Help Guide"

### ∎ Mac

The following computer environment is recommended when using the supplied software and importing images via a USB connection.

| OS (pre-installed) | **USB Connection:** Mac OS X v10.3 to v10.8<br>**"Image Data Converter":** Mac OS X v10.5 to v10.8 |
| --- | --- |
| "Image Data Converter Ver.4" | **CPU:** Intel processor, such as Intel Core Solo/Core Duo/Core 2 Duo<br>**Memory:** 1 GB or more is recommended.<br>**Display:** 1024 × 768 dots or more |

1 Turn on your Mac computer, and insert the CD-ROM (supplied) into the CD-ROM drive.

2 Double-click the CD-ROM icon.

3 Copy the [IDC_INST.pkg] file in the [MAC] folder to the hard disk icon.

4 Double-click the [IDC_INST.pkg] file in the destination folder.
   • Follow the instructions on the screen to complete the installation.

## What you can do with the supplied software

### ❚ "PlayMemories Home"

With "PlayMemories Home," you can do the following:
• You can import images shot with the camera to your computer and display them on the computer.
• You can trim and resize images.
• You can organize images on the computer on a calendar by shooting date to view them.
• You can retouch (Red Eye Correction, etc.), print, send still images as e-mail attachments and change the shooting date.
• You can print or save still images with the date.
• You can create a Blu-ray Disc, AVCHD disc or DVD disc from AVCHD movies imported to a computer. (An internet connection environment is required when a Blu-ray Disc/DVD disc is created for the first time.)

For details on "PlayMemories Home," refer to "PlayMemories Home Help Guide".
Double-click the shortcut of ❷ (PlayMemories Home Help Guide) on the desktop, or click [Start] → [All Programs] → [PlayMemories Home] → [PlayMemories Home Help Guide].

"PlayMemories Home" support page (English only)
http://www.sony.co.jp/pmh-se/

Importing images to the computer

**Notes**

• "PlayMemories Home" is not compatible with Mac computers. When you play back images on Mac computers, use the appropriate application software supplied with the Mac computer.
• Movies recorded with the [60p 28M(PS)/50p 28M(PS)]/[60i 24M(FX)/50i 24M(FX)]/[24p 24M(FX)/25p 24M(FX)] setting in [Record Setting] are converted by "PlayMemories Home" in order to create an AVCHD recording disc. This conversion can take a long time. Also, you cannot create a disc in the original image quality. If you want to keep the original image quality, store your movies on a Blu-ray Disc.

### ❚ "Image Data Converter"

With "Image Data Converter," you can do the following:
• You can play back and edit images recorded in RAW format with various corrections, such as tone curve and sharpness.
• You can adjust images with white balance, exposure, and [Creative Style], etc.
• You can save the images displayed and edited on a computer.
  You can either save the 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 camera.
• You can rank images in 5 grades.
• You can apply color labels, etc.

For details on "Image Data Converter," refer to Help.
Click [Start] → [All Programs] → [Image Data Converter] → [Help] → [Image Data Converter Ver.4].

"Image Data Converter" support page (English only)
http://www.sony.co.jp/ids-se/

# Adding functions to the camera

You can add the desired functions to your camera by connecting to the
application downloading website (PlayMemories Camera Apps) via the
Internet.
For example, the following functions are available:
• You can control the camera using a Smartphone.
• You can use various effects for shooting images.
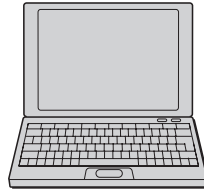• You can upload images to network services directly from the camera.
Some applications may be fee-based.

## ❙ Starting up downloading services

1  Access the application
downloading website.

http://www.sony.net/pmca
• Use Internet Explorer 8 or 9 for
Windows, and Safari 5 for Mac.

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 camera.

**Notes**

• The application downloading function may not be available in some countries and
regions. For details, refer to the application downloading website above.

Adding functions to the camera

## ▌Downloading the application

1 Access the application downloading website.

http://www.sony.net/pmca

• Use Internet Explorer 8 or 9 for Windows, and Safari 5 for Mac.

2 Select the desired application
and download the application
to the camera following the
instructions on the screen.

• Connect the computer and the
camera using the micro USB Cable
(supplied), following the
instructions on the screen.

To the USB terminal

USB Cable
(supplied)

To the USB terminal
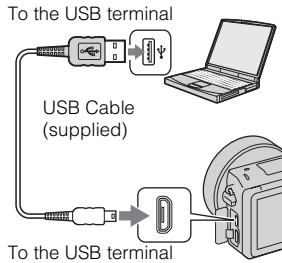
### ☼ How to download applications directly using Wi-Fi function of the camera

You can download applications using the Wi-Fi function without connecting to a computer.

Select MENU → [Application] → 📷 (PlayMemories Camera Apps), then follow the instructions on the screen to download applications.

Acquire a service account in advance (page 75).

## ▌Launching the downloaded application

1 Select MENU → [Application] → desired application to launch.

# Transferring images to a Smartphone

You can transfer still images to a Smartphone and view them. Download the application "PlayMemories Mobile" to your Smartphone from the application store.

1 Press ⌀ᵂⁱ⁻ᶠⁱ (View on Smartphone) and select the desired mode.

• If another function is assigned to soft key B, select MENU → [Playback] → [View on Smartphone].

**This Image:** Transfers the most recently shot or played back image to the Smartphone.

**All Images on This Date:** Transfers all still images in the same date range as the most recently shot or played back image to the Smartphone.

**All Images in The Device:** Transfers all still images in the camera to the Smartphone.
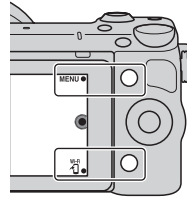
2 If the camera is ready for the transfer, the information screen appears on the camera. Connect the Smartphone and the camera using that information.

• For details on operation of the Smartphone, refer to "α Handbook."

View on Smartphone  (Wi-Fi)  ✕ ●
Awaiting connection to a smartphone.
Running as an access point.
SSID
Password
Device Name

Connecting the camera to a network
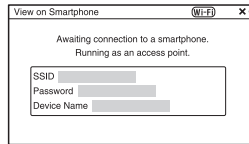
**Notes**

- Some images may not be displayed on the Smartphone, depending on the recording format.
- The camera shares the connection information for [View on Smartphone] with a device that has permission to connect. If you want to change the device that is permitted to connect to the camera, reset the connection information by following these steps. MENU → [Setup] → [Reset View on Smartphone]. After resetting the connection information, you must register the Smartphone again.
- "PlayMemories Mobile" is not available in some countries/regions. [View on Smartphone] is not available in some countries/regions that are not compatible with "PlayMemories Mobile."

## Connecting to a network

You can transfer images on the camera via Wi-Fi network and view them on other devices. The setting procedure differs depending on your LAN router or wireless LAN access point.
- A computer or TV that is already connected to a network is required at your home, etc.
- Be sure to set the network connection inside your wireless LAN access point area (the accessible area).

Refer to the table below for how to register the access point.

| Access point | How to register |
|---|---|
| Your access point has the WPS button. | Use [WPS Push]. |
| Other than above. | Use [Access Point Settings]. |

### ❚ WPS Push

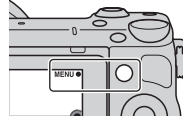1 Select MENU → [Setup] → [WPS Push].
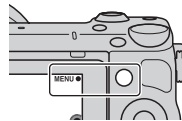


2 Press the WPS button on the access point you want to register.

The camera starts communicating with the access point.

### ▌ **Access Point Settings**

1 Select MENU → [Setup] →
[Access Point Settings].

2 Select the access point you want to register.

   **If the desired access point is displayed on the screen:**
   Select the access point.

   **If the desired access point is not displayed on the screen:**
   Select [Manual Setting] and set the access point following the instructions
   on the screen.

   • For details, refer to "α Handbook."

   **Notes**

   • When aboard an airplane, turn off the camera.

## **Saving images to a computer**

You can save images on the camera to a computer that is connected to a
network. Before saving, install the software "PlayMemories Home" on your
computer, connect the computer and the camera using a USB cable, and
register the camera to "PlayMemories Home."

1 Select MENU → [Playback]
→ [Send to Computer].
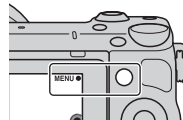
   **Notes**

   • Depending on the application settings on your computer, the camera may turn off
   automatically after the images have been saved.
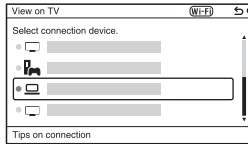
Connecting the camera to a network

# Viewing images on a TV

You can transfer images on the camera to a network-compatible TV without
connecting them using a cable. The transferred images can be played back on
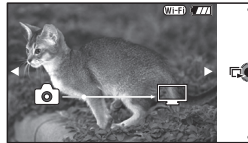the TV.

1 Select MENU → [Playback]
→ [View on TV].
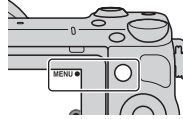
2 Select the device to be
connected to the camera.

3 Press the center of the control
wheel to play back images as
a slideshow. Or, touch 🖼 on
the screen.
• Press the right/left side of the
control wheel to move to the next/
previous image.
• Press or touch OPTION, and then
[Device list] to change the device to
be connected.

# Checking the number of recordable images

Once you insert a memory card into the camera and set the 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 LCD screen.

i◻  ⤶100

#### Notes

• When "0" (the number of recordable images) flashes in yellow, the memory card is full. Replace the memory card with another one, or delete images in the current memory card (page 35).
• When "NO CARD" (the number of recordable images) flashes in yellow, it means no memory card has been inserted. Insert a memory card.

### ❚ Number of still images and time of movies recordable on a memory card

#### Still images

The following table shows the approximate number of still 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.

**Image size: L 16M**
**Aspect ratio: 3:2\***

(Units: images)

| Quality \ Capacity | 2GB | 4GB | 8GB | 16GB | 32GB | 64GB |
|---|---|---|---|---|---|---|
| Standard | 410 | 820 | 1650 | 3350 | 6700 | 13000 |
| Fine | 290 | 590 | 1150 | 2400 | 4800 | 9600 |
| RAW & JPEG | 79 | 160 | 320 | 640 | 1300 | 2600 |
| RAW | 105 | 215 | 440 | 880 | 1750 | 3550 |

\* When [Aspect Ratio] is set to [16:9], you can record more images than the numbers shown in the table above (except for [RAW]).

Others

**Movies**

The following table shows the approximate recording times available. These are the total times for all movie files.

(h (hour), m (minute))

| Capacity / Record Setting | 2GB | 4GB | 8GB | 16GB | 32GB | 64GB |
|---|---|---|---|---|---|---|
| 60i 24M(FX)<br>50i 24M(FX) | 10 m | 20 m | 40 m | 1 h 30 m | 3 h | 6 h |
| 60i 17M(FH)<br>50i 17M(FH) | 10 m | 30 m | 1 h | 2 h | 4 h 5 m | 8 h 15 m |
| 60p 28M(PS)<br>50p 28M(PS) | 9 m | 15 m | 35 m | 1 h 15 m | 2 h 30 m | 5 h 5 m |
| 24p 24M(FX)<br>25p 24M(FX) | 10 m | 20 m | 40 m | 1 h 30 m | 3 h | 6 h |
| 24p 17M(FH)<br>25p 17M(FH) | 10 m | 30 m | 1 h | 2 h | 4 h 5 m | 8 h 15 m |
| 1440×1080 12M | 20 m | 40 m | 1 h 20 m | 2 h 45 m | 5 h 30 m | 11 h 5 m |
| VGA 3M | 1 h 10 m | 2 h 25 m | 4 h 55 m | 10 h | 20 h 5 m | 40 h 15 m |

**Notes**

• The recording time of movies varies because the camera uses VBR (Variable Bit Rate), an encoding method that automatically adjusts image quality according to the shooting situation.

  When you record a fast-moving subject, the image is clearer but the recording time is shorter because much memory is used.

  The recording time also vary depending on the shooting condition or your subject or the setting of image quality/size.

• The duration of time available for movie recording varies with the temperature or condition of the camera before you start recording. If you frequently recompose or shoot still images after the power is turned on, the temperature inside the camera rises and the recording time available will be shorter.

• If the camera stops movie recording due to the temperature, leave the camera for several minutes with the power turned off. Restart recording after the temperature inside the camera goes down.

• If you observe the following points, the recording time is longer.
  – Keep the camera out of direct sunlight.
  – Turn the camera off when it is not being used.

• The maximum size of a movie file is about 2 GB. When the file size is about 2 GB, the movie recording stops automatically when [File Format] is set to [MP4], and a new movie file is created automatically when [File Format] is set to [AVCHD].
• The maximum continuous recording time is approximately 29 minutes.

## ❚ Number of still images recordable with a single charge of the battery pack

The approximate number of images that can be recorded is 330 images when you use the camera with the battery pack (supplied) at full capacity.
Note that the actual numbers may be less depending on the conditions of use.
• The number of images is calculated using full charged battery pack under the following conditions:
  – At an ambient temperature of 25 °C (77 °F).
  – An E PZ 16-50 mm F3.5-5.6 OSS lens is attached.
  – [Quality] is set to [Fine].
  – [Autofocus Mode] is set to [Single-shot AF].
  – Shooting once every 30 seconds.
  – The flash strobes once every two times.
  – The power turns on and off once every ten times.
  – Using the battery pack that is charged for an hour after the charge lamp goes out.
  – Using Sony "Memory Stick PRO Duo" media (sold separately).
• The measurement method is based on the CIPA standard.
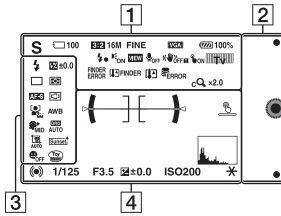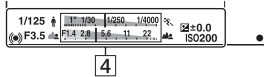  (CIPA: Camera & Imaging Products Association)

Others

# List of icons on the LCD screen

Icons are displayed on the screen to indicate the camera status.
You can change the screen display using DISP (Display Contents) on the
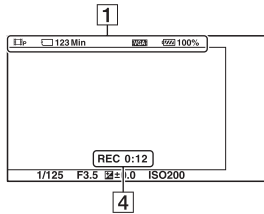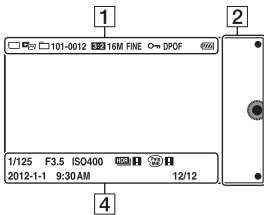control wheel.

## Shooting standby



## Graphic display



## Movie recording



## Playback



1

| Display | Indication |
|---|---|
| i○ i○⁺ ⊔ P A S M 🎬AUTO 🎬P 🎬A 🎬S 🎬M | Shoot Mode |
| 🌃 🏃 🌷 ▲ ⊖ 🌙 ✋ 👤 (👤) | Scene Selection |
| 🌙 🐜 ✋ 👤 🌄 🏞 👤 ▲ 🌷 😊 💡 🕯 | Scene Recognition icon |
| 🗂 📶 📶OFF 📶↕ 📶: 📶↑ 📶❗ | Memory card/ Upload |
| **100** | Number of recordable still images |
| **123Min** | Recordable time of movies |
| **3:2 16:9** | Aspect ratio of still images |
| **16M 14M 8.4M 7.1M 4M 3.4M** ▭WIDE ▭STD | Image size of still images |

| Display | Indication |
|---|---|
| **RAW RAW+J FINE STD** | Image quality of still images |
| **60i/50i FX** **60i/50i FH** **60p/50p PS** **24p/25p FX** **24p/25p FH** **1080** **VGA** | Recording mode of movies |
| **100%** | Remaining battery |
| 4• | Flash charge in progress |
| ON | AF illuminator |
| **VIEW** | Live view |
| OFF | Does not record sound during movie recording |
| | Wind noise reduction is activated |
| OFF OFF ON ON | SteadyShot/ SteadyShot warning |
| ON ON | Touch operation status (Touch Shutter/Object Tracking/Touch operation off) |
| P Tv AV | Control dial |

| Display | Indication |
|---|---|
| FINDER ERROR | Electronic Viewfinder (sold separately) connection error |
| FINDER FINDER | Electronic Viewfinder (sold separately) overheating warning |
| | Overheating warning |
| FULL ERROR | Database file full/ Database file error |
| W T | Zoom magnification |
| sQ ×2.0 | Smart Zoom |
| cQ ×2.0 | Clear Image Zoom |
| dQ ×2.0 | Digital Zoom |
| MP4 AVCHD | View mode |
| **101-0012** | Playback folder – File number |
| | Protect |
| **DPOF** | Print order |
| Wi-Fi | Wi-Fi wave being emitted |

2

| Display | Indication |
|---|---|
| ● ◉ | Soft keys |

Others

3

| Display | Indication |
|---------|-----------|
| ⑤ 💲 💲 💲 💲<br>AUTO SLOW REAR<br>💲⊙ | Flash Mode/Red Eye Reduction |
| 🔲 ±0.0 | Flash compensation |
| ☐ 🔲 🔲<br>⏱10 ⏱2 ⏱c3<br>⏱c5 🔲c 🔲c 🔲 | Drive Mode |
| ⏱3 | Self-portrait Self-timer |
| 🔲 🔲 🔲 | Metering Mode |
| DMF AF-S<br>AF-C MF | Focus mode |
| 🔲 🔲 🔲 | Focus area mode |
| 🔲 🔲 🔲<br>OFF ON | Face Detection |
| AWB ☀ 🔲<br>☁ ☀ ▦-1<br>▦0 ▦+1 ▦+2<br>WB 🔲 7500K<br>A7 G7 | White Balance |
| 🔲 🔲 🔲<br>HI MID LO<br>🔲<br>OFF | Soft Skin Effect |
| 🔲 🔲 🔲<br>OFF AUTO AUTO | DRO/Auto HDR |
| 🔲 🔲<br>AUTO OFF | Auto Port. Framing |

| Display | Indication |
|---------|-----------|
| Std. Vivid<br>Port. Land.<br>Sunset B/W | Creative Style |
| 😊 😊 😊<br>ON OFF ON<br>😊<br>ON | Smile Shutter |
| Pos Pop Rtro Part<br>Sth HC Toy Soft<br>key BW HighC<br>Ptno Rich Mini<br>🔲 OFF | Picture Effect |
| [😊] | Smile detection sensitivity indicator |

4

| Display | Indication |
|---------|-----------|
| ⊢ ▯▯ ⊣ | Level |
| ⊞ | Phase Detection AF ranging points |
| ● 🔲 🔲 | Focus status |
| 1/125 | Shutter speed |
| F3.5 | Aperture value |
| 🔲 ±0.0 | Metered manual |

| Display | Indication |
|---|---|
| $\boxed{Z}$ ±0.0 <br> –3·2·1·0·1·2·3+ | Exposure compensation |
| **ISO400** | ISO sensitivity |
| $\maltese$ | AE lock |
| ↓ 1/30 1/250 1/4000 ↓ | Shutter speed indicator |
| F1.4 2.8 5.6 11 22 | Aperture indicator |
| **REC 0:12** | Recording time of the movie (m:s) |
| **2012-1-1 9:30AM** | Recorded date/time of the image |
| **12/12** | Image number/ Number of images in the view mode |
| HDR | Appears when HDR did not work on the image. |
| Pntg Mild / Rich BW | Appears when [Picture Effect] did not work on the image. |
| ☟ ☟ | Touch shutter ON/ OFF switch |
| (histogram graphic) | Histogram |

Others

# Learning more about the camera (α Handbook)

"α Handbook," which explains how to use the camera in detail, is included on the CD-ROM (supplied). Refer to "α Handbook" for in-depth instructions on the many functions of the camera.

## ▌For Windows users

1 Turn on your computer, and insert the CD-ROM (supplied) into the CD-ROM drive.

2 Click [Handbook].

3 Click [Install].

4 Start "α Handbook" from the shortcut on the desktop.

## ▌For Mac users

1 Turn on your computer, and insert the CD-ROM (supplied) into the CD-ROM drive.

2 Select the [Handbook] folder and copy "Handbook.pdf" stored in the [GB] folder to your computer.

3 After copying is complete, double-click "Handbook.pdf."

# Troubleshooting

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

❶ **Check the items on pages 89 to 93. Also refer to "α Handbook" (PDF).**

❷ **Remove the battery pack, wait for about one minute, re-insert the battery pack, and then turn on the power.**

❸ **Reset the settings (page 67).**

❹ **Consult your Sony dealer or local authorized Sony service facility.**

## Battery pack and power

**The battery pack cannot be installed.**

- When you insert the battery pack, use the tip of the battery pack to push the lock lever (page 17).
- You can use an NP-FW50 battery pack only. Make sure that the battery is NP-FW50.

**The remaining battery level indicator shows incorrect level or power runs out quickly despite the indicator showing sufficient battery level.**

- This phenomenon occurs when you use the camera in an extremely hot or cold location.
- The battery pack is discharged. Install a charged battery pack (page 17).
- The battery pack is dead. Replace the battery pack with a new one.

**Cannot turn the camera on.**

- Install the battery pack correctly (page 17).
- The battery pack is discharged. Install a charged battery pack (page 17).
- The battery pack is dead. Replace the battery pack with a new one.

Others

**The power turns off suddenly.**

- When the camera or battery pack is too warm, the camera displays a warning message and turns off automatically to protect the camera.
- If you do not operate the camera for given period of time, the camera turns to power saving mode. To cancel the power save, operate the camera by means such as pressing the shutter button halfway down.

**The charge lamp on the camera flashes when charging the battery pack.**

- You can only use an NP-FW50 battery pack. Make sure that the battery is NP-FW50.
- If you charge a battery pack that has not been used for a long time, the charge lamp may flash.
- The charge lamp flashes in two ways, fast (about 0.3-second intervals) or slow (about 1.3-second intervals). If the charge lamp is flashing fast, remove the battery pack and reattach the same battery pack securely, or disconnect and reconnect the USB cable. If the charge lamp flashes fast again, it suggests that there is something wrong with the battery pack, AC Adaptor (supplied), or USB cable. Slow flashing indicates that charging is suspended because the ambient temperature is outside the suitable range for charging the battery pack. Charging will resume and the charge lamp will be lit when the ambient temperature returns to within the suitable temperature. The optimal temperature for charging the battery pack is between 10 °C and 30 °C (50 °F and 86 °F).

**The battery has not been charged even if the charge lamp has turned off.**

- This phenomenon occurs when you use the camera in an extremely hot or cold location. The optimal temperature for charging the battery pack is between 10 °C and 30 °C (50 °F and 86 °F).

**The battery pack is not charged.**

- When the battery pack is not charged (the charge lamp does not light) even if you follow the proper charging procedure, remove the battery pack and re-insert the same battery pack securely, or disconnect and reconnect the USB cable.

## Shooting images

### Nothing is displayed on the LCD screen when the power is turned on.

• If you do not operate the camera for given period of time, the camera turns to power saving mode. To cancel the power save, operate the camera, such as pressing the shutter button halfway down.

### The shutter does not release.

• You are using a memory card with a write-protect switch, and the switch is set to the LOCK position. Set the switch to the recording position.
• Check the free capacity of the memory card.
• You cannot record images while charging the flash.
• The lens is not attached properly. Attach the lens properly (page 22).

### Recording takes a long time.

• The noise reduction function is turned on. This is not a malfunction.
• You are shooting in the RAW mode. Since the RAW data file is large, the RAW mode shooting may take time.
• The [Auto HDR] is processing an image.

### The image is out of focus.

• The subject is too close. Check the minimum focal distance of the lens.
• You are shooting in manual focus mode. Set [AF/MF Select] to [Autofocus].
• Ambient light is insufficient.
• The subject may require special focusing. Use the [Flexible Spot] or manual focus function.

### The flash does not work.

• Raise the flash (page 26).
• The flash is not attached correctly. Reattach the flash (page 26).
• You cannot use a flash with the following shooting mode:
  – [Bracket: Cont.]
  – [Sweep Panorama]
  – [Night Scene], [Hand-held Twilight] and [Anti Motion Blur] in [Scene Selection]
  – Movie recording

### Fuzzy white circular spots appear on images shot using the flash.

• Particles (dust, pollen, etc.) in the air reflected the flash light and appeared on the image. This is not a malfunction.

Others

**The flash takes too long to recharge.**

• The flash has been fired in succession in a short period. When the flash has been fired in succession, the recharging process may take longer than usual to avoid overheating of the flash.

**The image taken with the flash is too dark.**

• If the subject is beyond the flash range (the distance that the flash can reach), the pictures will be dark because the flash light does not reach the subject. If the ISO is changed, the flash range also changes with it (page 55).

**The date and time are recorded incorrectly.**

• Set the correct date and time (page 28).
• The area selected with [Area Setting] is different from the actual area. Set the actual area by selecting MENU → [Setup] → [Area Setting].

**The aperture value and/or shutter speed flashes.**

• The subject is too bright or too dark, and the camera's available range for the aperture value and/or shutter speed is exceeded. Adjust the setting again.

**The image is whitish (Flare).**

**Blurring of light appears on the image (Ghosting).**

• The picture was taken under backlit conditions, and excessive light has entered the lens. When using the zoom lens, attach a lens hood.

**The corners of the picture are too dark.**

• If any filter or hood is used, take it off and try shooting again. Depending on the thickness of the filter and improper attachment of the hood, the filter or the hood may partially appear on the image. The optical properties of some lenses may cause the periphery of the image to appear too dark (insufficient light). You may compensate for this phenomenon with [Lens Comp.: Shading].

**The eyes of the subject come out red.**

• Activate the [Red Eye Reduction] function.
• Get close to the subject, and shoot the subject within the flash range (page 55) using the flash.

**Dots appear and remain on the LCD screen.**

• This is not a malfunction. These dots are not recorded (page 94).

**The image is blurred.**

• The picture was taken in a dark location without the flash, resulting in camera-shake. The use of a tripod or the flash is recommended (page 54). [Hand-held Twilight] and [Anti Motion Blur] in [Scene Selection] (page 48) are also effective in reducing blur.

**The exposure value is flashing on the LCD screen or the viewfinder.**

• The subject is too bright or too dark for the metering range of the camera.

**The self-timer lamp does not flash.**

• When the LCD screen is tilted upward about 180 degrees with [Self-portrait Self-timer] set to [On] and the camera is ready to take a self-portrait, the self-timer lamp does not flash.

## Viewing images

**Images cannot be played back.**

• The folder/file name has been changed on your computer.
• When an image file has been processed by a computer or when the image file was recorded using a model other than that of your camera, playback on your camera is not guaranteed.
• The camera is in USB mode. Disconnect the camera from the computer.
• Use "PlayMemories Home" to copy images stored on your computer to your camera to play them back on your camera.

Others

# Precautions

### On the functions available with the camera

• Your camera is 1080 60i-compatible or 1080 50i-compatible.
To check whether the camera is 1080 60i-compatible or 1080 50i-compatible, check for the following marks on the bottom of the camera.
1080 60i-compatible camera: 60i
1080 50i-compatible camera: 50i

• Your camera is compatible with 1080 60p/50p movies. Unlike existing standard recording modes, which record in an interlacing method, this camera records using a progressive method. This increases the resolution, and provides a smoother, more realistic image.

### On the LCD screen and lens

• The LCD screen is manufactured using extremely high-precision technology so over 99.99 % of the pixels are operational for effective use. However, there may be some tiny black points and/or bright points (white, red, blue or green in color) that constantly appear on the LCD screen. These points are normal in the manufacturing process and do not affect the images in any way.

Black, white, red, blue and green points
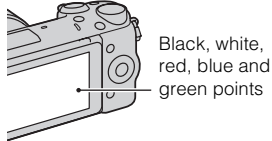
• Do not hold the camera by the LCD screen.
• A magnet is attached to the back of the LCD screen. Do not put objects that are affected by magnetic fields, such as a floppy disk or a credit card, between the LCD screen and the camera body.

Magnet
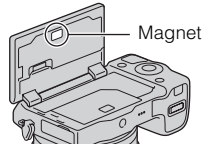
• Images may trail across on the LCD screen in a cold location. This is not a malfunction. When turning on the camera in a cold location, the LCD screen may become temporarily dark.
• Do not press against the LCD screen. The monitor may be discolored and that may cause a malfunction.
• Do not expose the camera to direct sunlight. If reflected sunlight is focused on a nearby object, it may cause a fire. When you must place the camera under direct sunlight, attach the front lens cap.

### On using the lenses and accessories

It is recommended that you use Sony lenses/accessories designed to suit the characteristics of this camera. Using the products of other manufacturers may cause the camera not to operate to its capability, or result in accidents and malfunctions of the camera.

### On the Smart Accessory Terminal 2

Set the power switch of the camera to OFF before you attach or remove an accessory, such as the flash, to the Smart Accessory Terminal 2. When attaching an accessory, plug the accessory into the Smart Accessory Terminal 2 to the end and fasten the screw. Make sure that the accessory is attached to the camera securely.

### Do not use/store the camera in the following places

• In an extremely hot, dry 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 camera. This may cause the camera to malfunction, and in some cases this malfunction cannot be repaired.

### On the grip

The grip is applied with a special coating. The grip may be discolored if it is rubbed with dark colored cloth, leather, etc.

### On storing

Be sure to attach the front lens cap when not using the camera.

### On the temperature of the camera

Your camera and battery may get hot due to continuous use, but it is not a malfunction.

### On operating temperatures

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

Others

**How to prevent moisture condensation**

When bringing the camera from a cold place to a warm place, seal the camera in a plastic bag and allow it to adapt to conditions at the new location over about an hour.

**If moisture condensation occurs**

Turn off the camera and wait about an hour for the moisture to evaporate. Note that if you attempt to shoot with moisture remaining inside the lens, you will be unable to record clear images.

## On the internal rechargeable battery

This camera has an internal rechargeable battery for maintaining the date and time and other settings regardless of whether the power is on or off, or the battery is installed or not. This rechargeable battery is continually charged as long as you are using the camera. However, if you use the camera for only short periods, it gradually discharges. If you do not use the camera at all for about three months it becomes completely discharged. In this case, be sure to charge this rechargeable battery before using the camera. However, even if this rechargeable battery is not charged, you can still use the camera as long as you do not record the date and time. If the camera resets to the default settings each time you charge the battery, the internal rechargeable battery may be dead. Consult your Sony dealer or local authorized Sony service facility.

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**Charging method of the internal rechargeable battery**

Insert a charged battery pack into the camera, or connect the camera to a wall outlet (wall socket) using the AC Adaptor (supplied), and leave the camera for 24 hours or more with the power off.

## On memory cards

Do not attach a label, etc. on a memory card or a card adaptor. This may cause a malfunction.

## On recording/playback

• When you use a memory card with this camera for the first time, it is recommended to format the card using the camera for stable performance of the memory card before shooting. Note that formatting permanently erases all data on the memory card, and is unrecoverable. Save precious data on a computer, etc.

• If you repeatedly record/delete images, fragmentation of data may occur on the memory card. Movies may not be able to be saved or recorded. In such a case, save your images to a computer or other storage location, and then format the memory card.

• The recorded contents cannot be compensated for even if recording or playback is not possible due to a malfunction of the camera or memory card, etc.

• To avoid the potential risk of data loss, always copy (back up) data to other media.

- Before you record one-time events, make a trial recording to make sure that the camera is working correctly.
- This camera is neither dust-proof, nor splash-proof, nor water-proof.
- Do not aim the camera at the sun or other bright light. It may cause the malfunction of the camera.
- Do not look at the sun or a strong light through a removed lens. This may cause irrecoverable damage to your eyes. Or it may cause a malfunction of the lens.
- Do not use the camera near a place that generates strong radio waves or emits radiation. The camera may not be able to record or play back properly.
- Using the camera in sandy or dusty place may cause malfunctions.
- If moisture condensation occurs, remove it before using the camera (page 95).
- Do not shake or strike the camera. In addition to malfunctions and an inability to record images, this may render the memory card unusable, or cause image data breakdown, damage or loss.
- Clean the flash surface with a soft cloth. The heat of flash emission may cause dirt to adhere on the flash surface, resulting in smoking or scorching.
- Keep the camera, supplied accessories, etc., out of the reach of children. A memory card, etc., may be swallowed. If such problem occurs, consult a doctor immediately.

**Importing AVCHD movies to a computer**

When importing AVCHD movies to a computer, for Windows, use the software "PlayMemories Home" in the CD-ROM (supplied).

**On RAW images**

To view RAW images recorded with the camera, "Image Data Converter" on the CD-ROM (supplied) is required. If you do not intend to modify the images you record, we recommend that you shoot images using the JPEG format.

**Notes on playing movies on other devices**

- This camera uses MPEG-4 AVC/H.264 High Profile for AVCHD format recording. Movies recorded in AVCHD format with this camera cannot be played by the following devices.
  – Other devices compatible with AVCHD format that does not support High Profile
  – Devices incompatible with the AVCHD format
- This camera also uses MPEG-4 AVC/H.264 Main Profile for MP4 format recording. For this reason, movies recorded in MP4 format with this camera cannot be played on devices other than those that support MPEG-4 AVC/H.264.

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- Discs recorded with HD (high definition) image quality can be played back only on AVCHD format-compatible devices. DVD-based players or recorders cannot play back HD image quality discs, as they are incompatible with the AVCHD format. Also, DVD-based players or recorders may fail to eject HD image quality discs.
- Movies recorded in 1080 60p/1080 50p format can be played back only on 1080 60p/1080 50p-supported devices.

**Caution when flying**

When aboard an airplane, turn off the camera.

**Warning on copyright**

Television programs, films, videotapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the provisions of the copyright laws.

**The pictures used in this manual**

The photographs used as examples of pictures in this manual are reproduced images, and are not actual images shot using this camera.

**On the data specifications described in this manual**

The data on performance and specifications are defined under the following conditions, except as described in this manual: at an ordinary ambient temperature of 25 ºC (77 °F), and using a battery pack that has been fully charged for about an hour after the charge lamp has turned off.

## Specifications

### Camera

#### [System]

Camera type: Interchangeable lens digital camera
Lens: E-mount lens

#### [Image sensor]

Image sensor: APS-C format (23.5 mm × 15.6 mm) CMOS image sensor
Total pixel number of image sensor: Approx. 16 700 000 pixels
Effective pixel number of camera: Approx. 16 100 000 pixels

#### [Anti-dust]

System: Charge protection coating on Low-Pass Filter and ultrasonic vibration mechanism

#### [Auto focus system]

System: Fast Hybrid AF (Phase detection system/Contrast detection system)
Sensitivity range: EV0 to EV20 (at ISO 100 equivalent, with F2.8 lens)

#### [Exposure control]

Metering method: 1 200-segment metering by the image sensor
Metering range: EV0 to EV20 (at ISO 100 equivalent, with F2.8 lens)
ISO sensitivity (Recommended exposure index):
    Still images: AUTO, ISO 100 – 25 600
    Movies: AUTO, ISO 100 – 6 400 equivalent
Exposure compensation: ±3.0 EV (1/3 EV step)

#### [Shutter]

Type: Electronically-controlled, vertical-traverse, focal-plane type
Speed range:
    Still images: 1/4 000 second to 30 seconds, BULB
    Movies: 1/4 000 second to 1/4 second (1/3 EV step),
    1080 60i-compatible device up to 1/60 second in AUTO mode (up to 1/30 second in [Auto Slow Shutter] mode)
    1080 50i-compatible device up to 1/50 second in AUTO mode (up to 1/25 second in [Auto Slow Shutter] mode)
Flash sync speed: 1/160 second

#### [Recording media]

"Memory Stick PRO Duo" media, SD card

#### [LCD screen]

LCD panel: Wide, 7.5 cm (3.0 type) TFT drive
Total number of dots: 921 600 dots

#### [Input/output terminals]

USB: Micro USB type B
HDMI: HDMI type C minijack

#### [Power]

Used battery pack: Rechargeable battery pack NP-FW50

#### [Power consumption]

When using an E PZ 16–50 mm F3.5–5.6 OSS lens*
Approx. 2.7 W
* supplied with NEX-5RL/5RY

#### [Others]

Exif Print: Compatible
PRINT Image Matching III: Compatible

Others

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DPOF: Compatible
Dimensions (CIPA compliant):
Approx. 110.8 mm × 58.8 mm ×
38.9 (4 3/8 inches ×
2 3/8 inches × 1 9/16 inches)
(W/H/D)
Mass (CIPA compliant):
Approx. 276 g (9.7 oz)
(including battery and "Memory
Stick PRO Duo" media)
Approx. 218 g (7.7 oz)
(camera only)
Operating temperature: 0 °C to 40 °C
(32 °F to 104 °F)
File format:
Still image: JPEG (DCF Ver. 2.0,
Exif Ver. 2.3, MPF Baseline)
compliant, RAW (Sony ARW 2.3
Format)
Movie (AVCHD format): AVCHD
format Ver. 2.0 compatible
Video: MPEG-4 AVC/H.264
Audio: Dolby Digital 2ch
Dolby Digital Stereo Creator
• Manufactured under license from
Dolby Laboratories.
Movie (MP4 format):
Video: MPEG-4 AVC/H.264
Audio: MPEG-4 AAC-LC 2ch
USB communication: Hi-Speed USB
(USB 2.0)

**[Wireless LAN]**

Supported format: IEEE 802.11 b/g/n

## Flash HVL-F7S

Flash guide number: GN 7 (in meters at
ISO 100)
Recycling time: Approx. 4 seconds
Flash coverage: Covering 16 mm lens
(focal length that the lens indicates)
Flash compensation: ±2.0 EV (1/3 EV
step)

Dimensions (CIPA compliant):
Approx. 35.9 mm × 23.8 mm ×
42.7 mm
(1 7/16 inches × 15/16 inches ×
1 11/16 inches)
(W/H/D)
Mass: Approx. 20.4 g (0.8 oz)

## AC Adaptor AC-UB10/ UB10B/UB10C/UB10D

Power requirements: AC 100 V to
240 V, 50 Hz/60 Hz, 70 mA
Output voltage: DC 5 V, 0.5 A
Operating temperature: 0 °C to 40 °C
(32 °F to 104 °F)
Storage temperature: –20 °C to +60 °C
(–4 °F to +140 °F)
Dimensions:
Approx. 50 mm × 22 mm × 54 mm
(2 inches × 7/8 inches ×
2 1/4 inches) (W/H/D)
Mass:
For the USA and Canada: Approx.
48 g (1.7 oz)
For countries or regions other than
the USA and Canada: Approx. 43 g
(1.5 oz)

## Rechargeable battery pack NP-FW50

Used battery: Lithium-ion battery
Maximum voltage: DC 8.4 V
Nominal voltage: DC 7.2 V
Maximum charge voltage: DC 8.4 V
Maximum charge current: 1.02 A
Capacity: Typical 7.7 Wh (1 080 mAh)
Minimum 7.3 Wh (1 020 mAh)
Maximum dimensions:
Approx. 31.8 mm × 18.5 mm ×
45 mm (1 5/16 inches × 3/4 inches
× 1 13/16 inches) (W/H/D)
Mass: Approx. 57 g (2.1 oz)

## Lens

| Lens | E16 – 50 mm zoom lens[1] | E18 – 55 mm zoom lens | E55 – 210 mm zoom lens |
|---|---|---|---|
| Camera | NEX-5RL/5RY | NEX-5RK | NEX-5RY |
| Equivalent 35 mm-format focal length[2] (mm) | 24 – 75 | 27 – 82.5 | 82.5 – 315 |
| Lens groups – elements | 8 – 9 | 9 – 11 | 9 – 13 |
| Angle of view[2] | 83° – 32° | 76° – 29° | 28.2° – 7.8° |
| Minimum focus[3] (m (feet)) | 0.25 – 0.3 (0.82 – 1) | 0.25 (0.82) | 1.0 (3.28) |
| Maximum magnification (×) | 0.215 | 0.3 | 0.225 |
| Minimum f-stop | f/22 – f/36 | f/22 – f/32 | f/22 – f/32 |
| Filter diameter (mm) | 40.5 | 49 | 49 |
| Dimensions (max. diameter × height) (Approx. mm (in.)) | 64.7 × 29.9 (2 5/8 × 1 3/16) | 62.0 × 60.0 (2 1/2 × 2 3/8) | 63.8 × 108 (2 5/8 × 4 3/8) |
| Mass (Approx. g (oz.)) | 116 (4.1) | 194 (6.8) | 345 (12.2) |
| SteadyShot | Available | Available | Available |

[1] Power zoom
[2] The values for equivalent 35 mm-format focal length and angle of view are based on digital cameras equipped with an APS-C sized image sensor.
[3] Minimum focus is the shortest distance from the image sensor to the subject.

Design and specifications are subject to change without notice.

Others

## On focal length

The picture angle of this camera is narrower than that of a 35 mm-format camera. You can find the approximate equivalent of the focal length of a 35 mm-format camera, and shoot with the same picture angle, by increasing the focal length of your lens by half. For example, by using a 50 mm lens, you can get the approximate equivalent of a 75 mm lens of a 35 mm-format camera.

## On image data compatibility

- This camera 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 camera on other equipment and playback of images recorded or edited with other equipment on your camera are not guaranteed.

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• Add further enjoyment with your PlayStation 3 by downloading the application for PlayStation 3 from PlayStation Store (where available).
• The application for PlayStation 3 requires PlayStation Network account and application download. Accessible in areas where the PlayStation Store is available.

Others

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Others