DSC-HX300
User Guide

Use this manual if you encounter any problems, or have any questions about the camera.
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Printing still images

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- AVCHD format
- License

**Trademarks**
- Trademarks
How to use this User Guide

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The images used as examples in this User Guide are reproduced images, and are not actual images shot using this camera.

Selecting a topic to display

The following illustrations take Internet Explorer 7 as an example.

1. Click a title in the side bar on the left of the browser window. The title’s topic list appears in the right pane.

2. Click a topic title in the list.

Descriptions appear in the right pane.
Changing the font size
Change the font size by changing the setting of your web browser. For how to change the font size setting, refer to the Help of your web browser.

Searching a topic by keyword
Enter the keyword in the search window, then click the [Search] button.

Returning to a previous page
Use the browser’s back button to return to a previously viewed page, or use the breadcrumb trail navigation (A) to display the desired page.

Printing out a page
Click the [Print] button to print out the page you are viewing.
Marks and notations used in this User Guide

In this User Guide, the sequence of operations is shown by arrows (→) (A). Operate the camera in the order indicated.

- Icons in the operating procedure sentences appear when the camera is in its default settings.
- The default setting is indicated by ✓.
- ✉ indicates information that is useful to know.
Names of parts

1. FOCUS (Focus) button
2. CUSTOM (Custom) button
3. Shutter button
4. For shooting: W/T (zoom) lever
   For viewing: (Index) lever / (Playback zoom) lever
5. Self-timer lamp/Smile Shutter lamp/AF illuminator
6. Lens
7. Flash
8. (Flash pop-up) button
9. Hook for shoulder strap
10. Zoom/Focus switch
11. Manual ring

A detailed listing of parts is provided with the image.
Stereo microphone
Viewfinder
MOVIE (Movie) button
(Playback) button
Control button
Menu on: ▲ / ▼ / ◀ / ◁ / ◁ / ◁
Menu off: DISP. / DISP.
FINDER/LCD button
ON/OFF (Power) button and Power / Charge lamp
Mode dial
Jog dial
(In-Camera Guide/Delete) button
MENU button
Finder adjustment dial
Multi/Micro USB Terminal *
Connector cover
HDMI micro jack
Speaker
LCD screen
Battery/Memory card cover
Battery insertion slot
Battery eject lever
Access lamp
Memory card slot
Tripod receptacle

* Supports Micro USB compatible device.
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Icons are displayed on the screen to indicate the camera status. You can change the screen display using DISP (Display Setting) on the control button.

<table>
<thead>
<tr>
<th>Display</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Battery remaining</td>
</tr>
<tr>
<td></td>
<td>Low battery warning</td>
</tr>
<tr>
<td></td>
<td>Image size/Panorama image size/Quality</td>
</tr>
<tr>
<td>9</td>
<td>Number of recordable images (Dual Rec)</td>
</tr>
<tr>
<td>1</td>
<td>Memory recall mode</td>
</tr>
<tr>
<td></td>
<td>Scene Selection</td>
</tr>
<tr>
<td></td>
<td>Shooting mode</td>
</tr>
<tr>
<td></td>
<td>Scene Recognition icon</td>
</tr>
<tr>
<td></td>
<td>White balance</td>
</tr>
<tr>
<td></td>
<td>White balance Shift</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Display</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>📷</td>
<td>Tracking focus</td>
</tr>
<tr>
<td>⚫️</td>
<td>AE/AF lock</td>
</tr>
<tr>
<td>ISO400</td>
<td>ISO number</td>
</tr>
<tr>
<td>NR</td>
<td>NR slow shutter</td>
</tr>
<tr>
<td>📸</td>
<td>Shutter speed</td>
</tr>
<tr>
<td>F3.5</td>
<td>Aperture value</td>
</tr>
<tr>
<td>🎼</td>
<td>Wind Noise Reduction</td>
</tr>
<tr>
<td>+2.0EV</td>
<td>Exposure value</td>
</tr>
<tr>
<td>⚪️</td>
<td>AE lock</td>
</tr>
<tr>
<td>📢</td>
<td>AF range finder frame indicator</td>
</tr>
<tr>
<td>🚀</td>
<td>Manual focus</td>
</tr>
<tr>
<td>🛑</td>
<td>Focus bar</td>
</tr>
</tbody>
</table>
### Display Indication

<table>
<thead>
<tr>
<th>Display</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>🔴02</td>
<td>Recording folder</td>
</tr>
<tr>
<td>96</td>
<td>Number of recordable images</td>
</tr>
<tr>
<td>🔴四级四级</td>
<td>Buffer writing</td>
</tr>
<tr>
<td>CAPTURE</td>
<td>Importing still images</td>
</tr>
<tr>
<td>100Min</td>
<td>Recordable time</td>
</tr>
<tr>
<td>📞 📦</td>
<td>Recording Media (Memory card, internal memory)</td>
</tr>
<tr>
<td>📦 OFF 📦</td>
<td>Eye-Fi Mode display</td>
</tr>
<tr>
<td>📷 📷 📷</td>
<td>Warning indicator pertaining to still image recording</td>
</tr>
<tr>
<td>⚪️ SL ⚪️ SL ⚪️ SL ⚪️</td>
<td>Flash mode</td>
</tr>
<tr>
<td>⚪️ ⚪️ ⚪️</td>
<td>Flash level</td>
</tr>
<tr>
<td>📖:32:00</td>
<td>Self-diagnosis display</td>
</tr>
<tr>
<td>✅ ON</td>
<td>AF Illuminator</td>
</tr>
<tr>
<td>🕶️</td>
<td>Red-eye reduction</td>
</tr>
<tr>
<td>💾 Hi 💾 Lo</td>
<td>Defocus Effect</td>
</tr>
<tr>
<td>🕶️</td>
<td>Flash charging</td>
</tr>
</tbody>
</table>

### Display Indication

<table>
<thead>
<tr>
<th>Display</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>📷 LCD 📷 EVF</td>
<td>EVF/LCD switch</td>
</tr>
<tr>
<td>⏲️</td>
<td>Self-timer</td>
</tr>
<tr>
<td>🕶️</td>
<td>Face detection</td>
</tr>
<tr>
<td>🔵 Hi 🔵 Mid 🔵 Lo</td>
<td>Soft Skin Effect</td>
</tr>
<tr>
<td>🕶️</td>
<td>Micref Level (Microphone reference level)</td>
</tr>
<tr>
<td>🕶️</td>
<td>Database file full/Database file error</td>
</tr>
<tr>
<td>🕶️</td>
<td>Overheating warning</td>
</tr>
<tr>
<td>🕶️</td>
<td>Write Date</td>
</tr>
<tr>
<td>🕶️</td>
<td>AF range finder frame</td>
</tr>
<tr>
<td>🕶️</td>
<td>Spot metering cross-hairs</td>
</tr>
<tr>
<td>🕶️</td>
<td>Histogram</td>
</tr>
<tr>
<td>REC</td>
<td>Recording a movie/Movie standby</td>
</tr>
<tr>
<td>0:12</td>
<td>Recording time (m:s)</td>
</tr>
<tr>
<td>⬛️</td>
<td>Level</td>
</tr>
</tbody>
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<th>Display</th>
<th>Indication</th>
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</thead>
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<tr>
<td></td>
<td>Battery remaining</td>
</tr>
<tr>
<td></td>
<td>Low battery warning</td>
</tr>
<tr>
<td></td>
<td>Image size/Panorama image size/Quality</td>
</tr>
<tr>
<td>MP4</td>
<td>View mode</td>
</tr>
<tr>
<td>AVCHD</td>
<td>3D images</td>
</tr>
<tr>
<td></td>
<td>Burst Images</td>
</tr>
<tr>
<td></td>
<td>Main image in the burst group</td>
</tr>
<tr>
<td></td>
<td>Protect</td>
</tr>
<tr>
<td></td>
<td>Print order (DPOF)</td>
</tr>
<tr>
<td>Q×2.0</td>
<td>Playback zoom</td>
</tr>
</tbody>
</table>

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<tr>
<th>Display</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>101-0012</td>
<td>Folder-file number</td>
</tr>
<tr>
<td>2013-1-1 9:30 AM</td>
<td>Recorded date/time of the playback image</td>
</tr>
</tbody>
</table>

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<tr>
<th>Display</th>
<th>Indication</th>
</tr>
</thead>
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<tr>
<td></td>
<td>Playback folder</td>
</tr>
<tr>
<td>12/12</td>
<td>Image number/Number of images recorded in selected date range, folder</td>
</tr>
<tr>
<td></td>
<td>Playback Media (Memory card, internal memory)</td>
</tr>
<tr>
<td>OFF</td>
<td>Eye-Fi Mode display</td>
</tr>
<tr>
<td></td>
<td>Flash mode</td>
</tr>
<tr>
<td>Display</td>
<td>Indication</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>500</td>
<td>Shutter speed</td>
</tr>
<tr>
<td>+2.0EV</td>
<td>Exposure value</td>
</tr>
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<td>F3.5</td>
<td>Aperture value</td>
</tr>
<tr>
<td>FULL ERROF</td>
<td>Database file full/Database file error</td>
</tr>
<tr>
<td></td>
<td>Overheating warning</td>
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<tr>
<td></td>
<td>Playback</td>
</tr>
<tr>
<td>PPP PPP</td>
<td>Variable speed playback</td>
</tr>
<tr>
<td></td>
<td>Playback bar</td>
</tr>
<tr>
<td>00:00:12</td>
<td>Counter</td>
</tr>
<tr>
<td>LCD EVF</td>
<td>EVF/LCD switch</td>
</tr>
<tr>
<td></td>
<td>Histogram</td>
</tr>
<tr>
<td></td>
<td>Volume</td>
</tr>
</tbody>
</table>
Using the shoulder strap

Attach the shoulder strap to prevent the camera from damage by being dropped.
Using the internal memory

On image data stored in the internal memory
The camera has approximately 48 MB of internal memory. You can record still images on the internal memory when there is no memory card inserted in the camera.

When a memory card is inserted
[Recording]: Images are recorded on the memory card.
[Playback]: Images on the memory card are played back.
[Menu, Settings, etc.]: Various functions can be performed on images on the memory card.

When there is no memory card inserted
[Recording]: Images are recorded using the internal memory. However, movies cannot be recorded to the internal memory.
[Playback]: Images stored in the internal memory are played back.
[Menu, Settings, etc.]: Various functions can be performed on images in the internal memory.

On image data stored in the internal memory
We recommend that you copy (back up) data using one of the following methods.

To copy (back up) data on a hard disk of your computer
Without a memory card inserted in the camera, import the images into a computer. [Details]

To copy (back up) data on a memory card
Prepare a memory card with sufficient free capacity, then copy the images in the internal memory to the memory card. [Details]

Notes
- You cannot transfer image data on a memory card to the internal memory.
- By making a USB connection between the camera and a computer with a micro USB cable, you can transfer data stored in the internal memory to a computer. However you cannot transfer data on a computer to the internal memory.
In-Camera Guide

This camera contains an internal function guide. This allows you to search the camera's functions according to your needs. You can use the selected function after reading the guide.

1. Press the MENU button.
2. Select the desired MENU item using ▲ / ▼.
3. Press the ?/ (In-Camera Guide) button. The operation guide for the MENU item you have selected in step 2 is displayed.
4. Use ▲ / ▼ to switch among summary, operation and details screens.
   - When [Use this function] is displayed on the screen, select it to switch to that mode.
   - If you press the ?/ (In-Camera Guide) button when the MENU screen is not displayed, you can search the guide using keywords or icons.

Notes
- ?/ (In-Camera Guide) button is not available in Easy Mode.
- Depending on the selected functions, the operation guide and details may not be displayed.
Using the control button

Moving the selection frame on MENU screen, etc.
Selecting an image to be played back

The following functions are located on the up/down/right/left side of the control button: DISP (Display Setting), (Flash), (Photo Creativity) and (Cont. Shooting/Self-Timer).

Press the control button toward each icon to enter the setup screen for each function.

Press the up/down/right/left side of the control button following the screen to move the selection frame. Press in the center of the control button to set the selected item.

Moving the selection frame on MENU screen, etc.
Press the up/down/right/left side of the control button to move the selection frame.
In some modes, you can also move the selection frame by turning the jog dial.

Selecting an image to be played back
Press the right or left side of the control button, or turn the jog dial to play back the next/previous image.
Using the jog dial

You can use the jog dial to change the following setting values:
- ISO value
- Shutter speed
- Aperture value (F value)
- Exposure Compensation

● You may not be able to change the setting values depending on the shooting mode.

In playback mode, you can turn the jog dial to view the next or previous image.

1. Press the jog dial to select an item in the shooting screen
   The item to set is displayed larger.

2. Turn the jog dial to select the setting value

Related Topic
Shutter Speed Priority Shooting
Aperture Priority Shooting
Manual Exposure Shooting
Program Auto
Using MENU items (Shooting)

You can select the various shooting functions easily from the MENU button.

1. Press the ON/OFF (Power) button and set the camera to shooting mode.

2. Press the MENU button to display the Menu screen.

3. Select the desired menu item with ▲ / ◀ on the control button.

4. Select the desired item with ◀ / ▶ on the control button.

5. Press the MENU button to close the Menu screen.
Using MENU items (Viewing)

You can select the various viewing functions easily from the MENU button.

1. Switch to playback mode.
2. Press the MENU button to display the Menu screen.

3. Select the desired menu item with ▲ /▼ on the control button.

4. Select the desired item with ◀ /▶ on the control button.

5. Press ◆ in the center of the control button to execute the function.
Changing camera settings

You can change the settings on the [Settings] screen.

1. Press the MENU button to display the Menu screen.

2. Select (Settings) with ▲ / ▼ on the control button, then press ◀ on the control button to display the setup screen.

3. Select the desired category by using ▲ / ▼ on the control button, then press ◀.

4. Select the desired item by using ▲ / ▼ on the control button, then press ◀.

5. Select the desired setting, then press ◀.

Notes

- [Shooting Settings] appears only when settings have been entered from shooting mode.
- [Memory Card Tool] appears only when a memory card is inserted in the camera, while [Internal Memory Tool] appears only when a memory card is not inserted.
Shooting still images

1. Set the mode dial to i (Intelligent Auto), then press the ON/OFF (Power) button.

2. Hold the camera steady as illustrated.

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

- The shortest shooting distance is approximately 1 cm (13/32 inches) (W), 2.4 m (7 ft. 10 1/2 inches) (T) (from the lens).

4. Press the shutter button fully down.
When you want to use the flash, press the flash pop-up button to pop up the flash unit.

![Image of a camera with a flash](image)

**If you shoot a still image of a subject that is difficult to focus on**

- When the camera cannot focus on the subject automatically, the AE/AF lock indicator changes to slowly flashing and the beep does not sound. Either recompose the shot or change the focus setting. [Details]
- Focusing may be difficult in the following situations:
  - It is dark and the subject is distant.
  - The contrast between the subject and the background is poor.
  - The subject is seen through glass.
  - The subject is moving quickly.
  - There is reflective light or shiny surfaces.
  - The subject is backlit or there is a flashing light.
Zoom (Still images)

Available zoom

Zoom scale
Enlarges images with the W/T (zoom) lever when shooting. The camera’s optical zoom function can enlarge images up to 50x.
Optical zoom allows you to enlarge an image without deteriorating its original quality.
You can set the zoom using the W/T (zoom) lever or the manual ring.

Zooming using the W/T (zoom) lever
1. Set the camera to shooting mode.
2. Slide the W/T (zoom) lever.
   Slide the lever to the T side to zoom in, or to the W side to zoom out.

Zooming using the manual ring
1. Set the Zoom/Focus switch to AF/ZOOM.
2. Turn the manual ring.
   Turn the manual ring to T side to zoom in, W side to zoom out.

Notes
- Zoom is locked to the W side in [iSweep Panorama] mode.

Available zoom
The camera achieves a high magnification zoom scale by combining zoom methods. The icon and zoom bar on the screen change in accordance with the zoom you use.
Optical zoom range
The camera’s optical zoom function can enlarge images up to 50×.

Zoom range other than optical zoom
- Zoom with the original image quality

When [Image Size] is set to other than the maximum image size, you can shoot still images with no deterioration in the original image quality, even if the optical zoom scale exceeds 50× magnification, by trimming image processing.
- (c) [Clear Image Zoom]

Zoom with close to the original image quality [Details]
- (p) [Digital Zoom]

Less than the original image quality [Details]

### Operation Settings

<table>
<thead>
<tr>
<th>Operation</th>
<th>Settings</th>
<th>Zoom bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zooming images without deterioration</td>
<td>Still Image Size: Other than [20M] [Clear Image Zoom]: [Off] [Digital Zoom]: [Off]</td>
<td>W [ ] T</td>
</tr>
<tr>
<td>Shooting clear images using [Clear Image Zoom] (close to the original image quality)</td>
<td>[Clear Image Zoom]: [On] [Digital Zoom]: [Off]</td>
<td>W [ ] T</td>
</tr>
<tr>
<td>Zooming to the maximum zoom range</td>
<td>[Clear Image Zoom]: [On] [Digital Zoom]: [On] ● [Clear Image Zoom] may not be available for some settings. [Details]</td>
<td>W [ ] T</td>
</tr>
</tbody>
</table>

### Zoom scale

The supported zoom scales are different depending on the settings or the image size. The table below summarizes the zoom scales when [Clear Image Zoom] and [Digital Zoom] are set to [On].

<table>
<thead>
<tr>
<th>Image Size</th>
<th>Optical zoom</th>
<th>Zoom with [Clear Image Zoom] [On]</th>
<th>Zoom with maximum zoom scale*1</th>
</tr>
</thead>
<tbody>
<tr>
<td>20M</td>
<td>50</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>10M</td>
<td>50</td>
<td>142</td>
<td>284</td>
</tr>
<tr>
<td>5M</td>
<td>50</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>VGA</td>
<td>50</td>
<td>810</td>
<td>810*2</td>
</tr>
<tr>
<td>16:9(15M)</td>
<td>50</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>16:9(2M)</td>
<td>50</td>
<td>270</td>
<td>540</td>
</tr>
</tbody>
</table>

*1 The maximum zoom scale is the magnification when [Clear Image Zoom] is set to [On] or [Digital Zoom] is set.
The maximum zoom scale varies depending on the settings. The maximum zoom scale for the default setting is the same as when [Clear Image Zoom] is [On]. [Details]

*2 When [Still Image Size] is set to [VGA], [Digital Zoom] is limited; magnification will be the same when [Digital Zoom] is set to [Off], and when [Clear Image Zoom] is set to [On].

**Notes**
- The default setting for [Clear Image Zoom] is [On].
- The default setting for [Digital Zoom] is [Off]. Set [Digital Zoom] to [On] to enlarge images even with deterioration. [Details]
- The default setting for [Still Image Size] is set to maximum. To change the zoom scale, change [Still Image Size]. [Details]
- Zoom functions other than the optical zoom are not available when shooting in the following situations:
  - In [Picture Effect]
  - In [Background Defocus]
  - When the Smile Shutter function is activated.
  - When [Self-Timer] is set to [Self-portrait One Person] or [Self-portrait Two People].
  - When [Backlight Correction HDR] or [Advanced Sports Shooting] mode is selected in Scene Selection.
- The Face Detection function does not operate when you use other than the optical zoom.
Shooting movies

1. Set the mode dial to \(
\text{(Movie Mode)}\)
   \(\text{ON/OFF}\) (Power button).

2. Press the \(\text{MOVIE}\) (Movie) button to start recording.

3. Press the \(\text{MOVIE}\) button again to stop recording.

\(\text{MOVIE (Movie) button}\)

You can start recording a movie by pressing the \(\text{MOVIE}\) button, regardless of the position of the mode dial.

**Notes**

- The sound of the lens and lever operating will be recorded when the zoom function operates while shooting a movie. The sound of the \(\text{MOVIE}\) button operating may also be recorded when you press the \(\text{MOVIE}\) button to stop recording.
- Continuous shooting is possible for approximately 29 minutes at one time at the camera’s default settings and when the temperature is approximately 25°C (77°F). When movie recording is finished, you can restart recording by pressing the \(\text{MOVIE}\) button again. Recording may stop to protect the camera depending on the ambient temperature.

**Related Topic**
Zoom (Movies)

Available zoom
Enlarges images with the W/T (zoom) lever when shooting. The camera’s optical zoom function can enlarge images up to 50×.
You can set the zoom using the W/T (zoom) lever or the manual ring.

Zooming using the W/T (zoom) lever
1. Set the camera to shooting mode.
2. Slide the W/T (zoom) lever.
   Slide the lever to the T side to zoom in, or to the W side to zoom out.

Zooming using the manual ring
1. Set the Zoom/Focus switch to AF/ZOOM.
2. Turn the manual ring.
   Turn the manual ring to T side to zoom in, W side to zoom out.

Available zoom
When zooming, you can exceed the 50× optical zoom. Set [Digital Zoom] to [On] to enlarge the images.
The camera can enlarge images up to 200×.
### Operation Settings

<table>
<thead>
<tr>
<th>Operation</th>
<th>Settings</th>
<th>Zoom bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>To zoom in to the maximum scale before image quality deterioration occurs</td>
<td>[Digital Zoom]: [Off]</td>
<td><img src="image" alt="Zoom bar" /></td>
</tr>
<tr>
<td>To zoom in to the maximum scale</td>
<td>[Digital Zoom]: [On]</td>
<td><img src="image" alt="Zoom bar" /></td>
</tr>
</tbody>
</table>

### Notes
- [Clear Image Zoom] is not available while recording movies.
- The camera zooms slowly while recording movies.
Shooting still images while recording a movie (Dual Rec)

You can shoot still images while recording a movie. The camera keeps recording the movie even if you shoot still images.

1. Press the MOVIE (Movie) button to start recording a movie.

2. Press the shutter button.
   A still image is recorded.
   - The number of recordable still images (A) appears on the screen when you press the shutter button halfway down.

3. Press the MOVIE button to stop recording the movie.

Notes
- When movies are recorded in [AVC HD 28M (PS)] quality, you cannot use Dual Rec.
- The sound of the shutter button operating may be recorded.
- Flash is not available for shooting still images during movie recording.
- The size of a still image that can be shot while recording a movie varies depending on the movie size. For details, see “Still Image Size (Dual Rec).” [Details]
- When the Smile Shutter function is set to [On], the shutter releases automatically each time the camera detects a smiling face. You cannot switch [On] or [Off] for Smile Shutter during movie recording.
- When the (Movie Mode) is set and the camera is on [Standby], you cannot use [Smile Shutter].
### List of mode dial functions

Set the mode dial to the desired function.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>iAUTO</td>
<td>(Intelligent Auto) Allows you to shoot still images with the settings adjusted automatically.</td>
</tr>
<tr>
<td>iAS (Superior Auto)</td>
<td>Allows you to shoot still images in higher quality than with Intelligent Auto mode.</td>
</tr>
<tr>
<td>P (Program Auto)</td>
<td>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.</td>
</tr>
<tr>
<td>S (Shutter Speed Priority Shooting)</td>
<td>Allows you to shoot after adjusting the shutter speed manually.</td>
</tr>
<tr>
<td>A (Aperture Priority Shooting)</td>
<td>Allows you to shoot after adjusting the aperture value (F value) manually.</td>
</tr>
<tr>
<td>M (Manual Exposure Shooting)</td>
<td>Allows you to shoot after adjusting the exposure manually (both the shutter speed and the aperture (F value)).</td>
</tr>
<tr>
<td>MR (Memory recall mode)</td>
<td>Allows you to shoot an image after recalling often-used modes or numeric settings registered in advance.</td>
</tr>
<tr>
<td>iSweep Panorama</td>
<td>(iSweep Panorama) Allows you to shoot a panorama image after composing images.</td>
</tr>
<tr>
<td>Movie Mode</td>
<td>(Movie Mode) Allows you to change the setting for movie recording.</td>
</tr>
<tr>
<td>3D (3D Still Image)</td>
<td>(3D Still Image) Allows you to shoot images that can be played back stereoscopically on a 3D TV.</td>
</tr>
<tr>
<td>SCN (Scene Selection)</td>
<td>Allows you to shoot with preset settings according to the scene.</td>
</tr>
</tbody>
</table>

**Related Topic**
Intelligent Auto

Allows you to shoot still images with the setting adjusted automatically.

1. Set the mode dial to i (Intelligent Auto).
2. Shoot with the shutter button.

On Scene Recognition

Scene Recognition operates in Intelligent Auto mode. This function lets the camera automatically recognize the shooting conditions and shoot the image.

Features of Auto shooting modes

In Superior Auto mode, the camera shoots a higher-quality image than in Intelligent Auto mode. The camera also shoots multiple images based on the recognized scene, then creates a composite of the multiple images (Overlay shooting).

Program Auto mode allows you to change various shooting settings, such as the white balance or ISO settings.

<table>
<thead>
<tr>
<th>REC Mode</th>
<th>When to use</th>
<th>Major restricted functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>i (Intelligent Auto)</td>
<td>Use when you want the camera to automatically recognize the shooting conditions and shoot some images continuously.</td>
<td>Forced flash</td>
</tr>
<tr>
<td>i (Superior Auto)</td>
<td>Use when you shoot images under difficult conditions, such as low light or backlit scenes. Use when you want to shoot a higher-quality image than in (Intelligent Auto) mode.</td>
<td>Continuous shooting, Smile Shutter</td>
</tr>
<tr>
<td>P (Program Auto)</td>
<td>Use when you want to shoot using customized shooting settings with the exposure (both the shutter speed and the aperture value) adjusted automatically.</td>
<td>Scene Recognition</td>
</tr>
</tbody>
</table>

Notes

- In [Intelligent Auto] mode, you may be unable to shoot low light or backlit scenes clearly.
- In [Superior Auto] mode, it takes some time to record an image, because the camera overlays the images.
Superior Auto

The camera combines Scene Recognition and high-quality image technology to automatically shoot the images with the optimal settings.

1. Set the mode dial to Superior Auto.
2. Shoot with the shutter button.

The camera shoots burst images when needed and overlays the multiple images. By overlaying the images, the camera records an image with less subject blur and noises.

What is the difference between Superior Auto mode and Intelligent Auto mode?

In Superior Auto mode, the camera shoots burst images based on the recognized scene, then creates a composite of the burst images (Overlay shooting).

The camera automatically corrects the backlight and reduces the noise by overlaying images, so a higher-quality image results than in Intelligent Auto mode.

A: Scene Recognition
- Night Scene
- Night Portrait
- Backlight
- Backlight Portrait
- Landscape
- Macro
- Portrait
- Infant
- Spotlight
- Low Light
- Tripod
- Move (Bright)
- Move (Dark)

B: Overlay processing
- Hand-held Twilight
- Anti Motion Blur
Backlight Correction HDR

- The camera automatically selects an overlaying mode based on the recognized scene, and the (overlay) appears on the screen.

**Notes**

- When the camera overlays the images, it takes more time to record an image.
- In low light conditions such as night scenes, set [Flash] to [Off] to achieve the optimal effect of the overlaid images.

**Related Topic**

- Scene Recognition
- Functions available for each shooting mode
- MENU items available for each shooting mode
Background Defocus

Allows you to shoot an image with image processing so that the background and the subject stands out.

1. Set the mode dial to SCN (Scene Selection).
2. Select (Background Defocus) on the control button.
3. Shoot with the shutter button.

Tips for adjusting the intensity of the background defocus
- Before shooting, select MENU → [Defocus Effect] → [High], [Mid] or [Low] to change the intensity of the background defocus effect.

Tips for defocusing the background

Position of the subject and the background
If you shoot an image with the subject and background far apart, as shown in the illustration, the background can be defocused. Shoot from the recommended shooting distance indicated on the screen.

Subject is sufficiently removed from the background

Subject and background are too close
**Zoom scale and position of the subject**

When you shoot a flower and a small item from close up, turn the W/T (zoom) lever to the W side. For shooting people, move a short distance away from the subject and turn the W/T (zoom) lever to the T side.

To lock the focus on the subject more easily, use the Tracking focus function of the camera. [Details]

**Notes**
- When shooting, hold the camera still to reduce camera shake.
- If you are unable to defocus effectively, try the following steps:
  - Turn the W/T (zoom) lever to the T side.
  - Approach the subject until you are within the recommended shooting distance.
  - Separate the subject and the background.
  - Shoot after focusing on the subject.

**Related Topic**
- Defocus Effect
- Tracking focus
- Functions available for each shooting mode
- MENU items available for each shooting mode

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Program Auto

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

1. Set the mode dial to P (Program Auto).
2. Shoot with the shutter button.

Program shift

You can change the aperture (F value) and shutter speed combination while keeping the exposure fixed.

1. Press the jog dial.
2. Turn the jog dial. P on the screen changes to P* and the shooting mode changes to program shift.
3. Turn the jog dial to select the aperture (F value) and shutter speed combination. You can set the Exposure Compensation or ISO setting with the jog dial.
4. Shoot with the shutter button.

To cancel program shift, turn the jog dial to return the indication to P.

Notes

- You cannot shift the aperture value and shutter speed combination when the shutter button is pressed halfway down.
- According to the brightness of the environment, the program shift may not be used.
- Set the mode dial to the one other 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.
- When the flash mode setting is changed, program shift is canceled.

Related Topic

Using the jog dial
Functions available for each shooting mode
MENU items available for each shooting mode
3D Still Image

Shooting a 3D image. Images recorded using the 3D functions can be played back stereoscopically on a 3D TV.

1. Set the mode dial to 3D (3D Still Image).
2. Shoot with the shutter button.

Tips for shooting 3D images

Approach a subject with the subject and background far apart, as shown in the illustration. The 3D effect may not work effectively when the scene is too dark, the subject is moving or you moved the camera after setting the AE/AF lock. If you shoot the image in a dark place, noise may be highly visible.

Notes

- Available image sizes are [20M] and [16:9(15M)].
- The 3D images are played back as standard still images on this camera.

Related Topic

Functions available for each shooting mode
MENU items available for each shooting mode
Viewing 3D images on a 3D TV
Intelligent Sweep Panorama

Allows you to create a panoramic image from composite images. The camera also automatically detects people’s faces or moving subjects.

1. Set the mode dial to [iSweep Panorama].
2. Select a shooting direction.
3. Align the camera with the end of the subject to be shot and press the shutter button fully.

A: This part will not be recorded.

4. Pan the camera to the end of the guide (B), following the indication on the screen.

Tips for shooting a panorama image

Pan the camera in an arc at a constant velocity in the direction indicated on the screen. Subjects at rest are more suited for panorama shots than moving subjects.

Radius as short as possible.
Vertical direction

Horizontal direction

- First, press the shutter button halfway so that you can lock the focus and exposure. Then, press the shutter button fully down and pan or tilt the camera.
- If a section with greatly varied shapes or scenery is concentrated along a screen edge, the image composition may fail. In such case, adjust the frame composition so that the section is in the center of the image, then shoot again.

**To shoot a 360 degree panoramic image**

This camera is equipped with a panorama shooting function, capable of shooting a near-full 360 degree panoramic image.

Shoot a panoramic image by selecting MENU → set [Panorama Image Size] to [360°]. Recorded panoramic images can be scrolled accurately when played on the camera.

- Select a shooting direction with ◀/▶. You cannot shoot a panoramic image in a vertical direction with [Panorama Image Size] set to [360°].
- The image actually recorded may not cover 360 degrees, depending on the subject or the way it is shot.

**Notes**

- If you cannot pan the camera across the entire subject within the given time, a gray area occurs in the composite image. If this happens, move the camera faster to record a full panorama image.
- Since several images are stitched together, the stitched part will not be recorded smoothly.
- When the whole angle of panoramic shooting and the AE/AF locked angle are very different in brightness, color and focus, the shooting will not be successful. If this happens, change AE/AF locked angle and shoot again.
- You cannot create panorama images in the following situations:
  - You pan the camera too quickly or too slowly.
There is too much camera shake.

Related Topic
Scrolling the panorama images for display
Still Image Size/Panorama Image Size
Functions available for each shooting mode
MENU items available for each shooting mode
Panorama Shooting Scene
Picture Effect

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Picture Effect

Allows you to shoot a still image with an original texture according to the desired effect.

1. Set the mode dial to P (Program Auto), S (Shutter Speed Priority Shooting), A (Aperture Priority Shooting) or M (Manual Exposure Shooting).

2. MENU → (Picture Effect) → desired mode → ●
   - If you want to select other Picture Effect mode, select from MENU.
   - If you want to add an effect to a movie, press the MOVIE (Movie) button after selecting the desired effect.

<table>
<thead>
<tr>
<th>Picture Effect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Off)</td>
<td>Does not use the Picture Effect.</td>
</tr>
<tr>
<td>(HDR Painting)</td>
<td>Allows you to shoot multiple images with different exposures to create a single image that looks like an oil painting. You can change the effect level using MENU → [HDR Painting effect].</td>
</tr>
<tr>
<td>(Rich-tone Monochrome)</td>
<td>Allows you to shoot multiple images with different exposures to create a single, sharp monochrome image.</td>
</tr>
<tr>
<td>(Miniature)</td>
<td>Allows an image to be processed so that it looks as though you were shooting dioramas. One part of the image is blurred for a high-contrast image. You can change the blurred part using MENU → [Area of emphasis].</td>
</tr>
<tr>
<td>(Toy Camera)</td>
<td>Allows you to shoot images with effects such as tunnel effect, high contrast, or color cast as if they were shot with a toy camera. You can change the color hue using MENU → [Color hue].</td>
</tr>
<tr>
<td>Effect</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>(Toy camera)</strong></td>
<td>Allows you to shoot a pop art-like colorful image with emphasis on the color tone.</td>
</tr>
<tr>
<td><strong>(Pop Color)</strong></td>
<td>Allows you to shoot an image that makes a strong impression by leaving a specified color on portions of a monochrome image. You can select the color to extract using MENU → [Extracted Color].</td>
</tr>
<tr>
<td><strong>(Partial Color)</strong></td>
<td>Allows you to shoot soft, clear images with an emphasis on brightness.</td>
</tr>
<tr>
<td><strong>(Soft High-key)</strong></td>
<td>Allows you to shoot an image with ink bleed and blurring effects as if it painted with watercolors.</td>
</tr>
<tr>
<td><strong>(Watercolor)</strong></td>
<td>Allows you to shoot an illustration-like image by emphasizing the outlines. You can change the effect level using MENU → [Illustration Effect].</td>
</tr>
</tbody>
</table>

**To add an effect when shooting panoramic image**

- If you set MENU → [Panorama Shooting Scene] → [Picture Effect] → desired mode, the following Picture Effect modes are effective:
  - [Pop Color]
To add an effect to a movie

- The following Picture Effect modes are effective for movies. The Dual Rec function cannot be used.
  - [Toy camera]
  - [Pop Color]
  - [Partial Color]
  - [Soft High-key]
- When the mode dial is set to \( \text{(Movie Mode)} \), you cannot set the Picture Effect.

Related Topic

HDR Painting effect
Area of emphasis
Color hue
Extracted Color
Illustration Effect
Functions available for each shooting mode
MENU items available for each shooting mode
Panorama Shooting Scene
Scene Selection

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

For still images:
1. Set the mode dial to **SCN** (Scene Selection).
2. Select the desired mode.

For movies:
1. Set the mode dial to **** (Movie Mode).
2. MENU → **** (Movie shooting scene) → **SCN** (Scene Selection) → ●
3. Select the desired mode.

Scene Selection modes with an * mark are not available for [Scene Selection] in [Movie shooting scene].

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🖼️+ (Soft Skin)*</td>
<td>Allows you to shoot faces for smoothness.</td>
</tr>
<tr>
<td>🖼️ (Background Defocus)*</td>
<td>Allows you to shoot an image with background defocus and define the subject.</td>
</tr>
<tr>
<td>🌸 (Soft Snap)</td>
<td>Allows you to shoot images with a softer atmosphere for portraits and flowers, etc.</td>
</tr>
<tr>
<td>🕳️Anti Motion Blur)*</td>
<td>Allows you to shoot indoor shots without using the flash to reduce subject blur.</td>
</tr>
<tr>
<td>🎠</td>
<td>Allows easy shooting of distant scenes by focusing in the distance. Shoots the clear</td>
</tr>
</tbody>
</table>
sky and trees and flowers in vivid colors.

(Landscape)

Allows you to shoot three images having different exposures to create a single image with a greater range of gradation.

(Backlight Correction HDR)*

Allows you to shoot sharp images of people with the night view in the background without compromising the atmosphere.
- Press the (flash pop-up) button to pop up the flash unit.

(Night Portrait)*

Allows you to shoot night scenes at far distance without losing the dark atmosphere of the surroundings.

(Night Scene)

Allows you to shoot night scenes with less noise without using a tripod.

(Hand-held Twilight)*

Allows you to shoot images without a flash under low light conditions, reducing blur.

(High Sensitivity)

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

(Gourmet)*
<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Pet)*</td>
<td>Allows you to shoot images of your pet with the best settings.</td>
</tr>
<tr>
<td>(Beach)</td>
<td>Allows you to shoot scenes on the beach in bright and vivid colors even under the sunlight.</td>
</tr>
<tr>
<td>(Snow)</td>
<td>Allows you to record clear images preventing sunken colors in snowy scenes or other places where the whole screen appears white.</td>
</tr>
<tr>
<td>(Fireworks)</td>
<td>Allows you to record fireworks in all their splendor.</td>
</tr>
<tr>
<td>(Advanced Sports Shooting)*</td>
<td>Allows you to shoot subjects with fast movements such as sports. While the shutter is pressed halfway, the movement of the subject is predicted and the focus will be adjusted.</td>
</tr>
</tbody>
</table>

**Notes**

- When you shoot images using (Night Portrait), (Night Scene) or (Fireworks) mode, the shutter speed is slower and the images tend to blur. To prevent blurring, the use of a tripod is recommended.
Shutter Speed Priority Shooting

You can shoot still images after adjusting the shutter speed manually.

1. Set the mode dial to `S` (Shutter Speed Priority Shooting).
2. Press the jog dial.
3. Turn the jog dial to select the shutter speed value.

- You can select a shutter speed from 1/4000 to 30 seconds.
- You can set the Exposure Compensation or ISO setting with the jog dial.

4. Shoot with the shutter button.

**Notes**

- When the shutter speed is fast, the amount of flash light may be insufficient even if you fire the flash.
- If the proper exposure is not obtained after making the settings, the setting value indicators on the screen flash when the shutter button is pressed halfway down. You can shoot in this condition, but we recommend that you adjust the flashing values again.
- If the ISO sensitivity is set to 4000 or higher, you cannot use a shutter speed slower than 1/4 second. To use a shutter speed slower than 1/4 second, set the ISO sensitivity to 3200 or less.

**The setting range of the shutter speed**

- Shutter speed of one second or longer is indicated by 
- When you set the shutter speed slower, using a tripod is recommended to prevent the effects of
vibration.
- If you select slow shutter speeds, it takes time to process the data.
- When the shutter speed becomes slower than a certain speed, the NR slow shutter function is activated automatically to reduce image noise, and \( \text{NR} \) appears on the screen.

**About the shutter speed**

When you set the shutter speed faster, moving objects such as running people, cars or splashing water, etc., appear stopped.

When you set the shutter speed slower, the traces of moving objects such as a river current etc., appear. You can shoot more natural live action images.

**Related Topic**

Functions available for each shooting mode

MENU items available for each shooting mode
Aperture Priority Shooting

You can manually adjust the amount of light that passes through the lens.

1. Set the mode dial to Aperture Priority Shooting.
2. Press the jog dial.
3. Turn the jog dial to select the aperture (F value).

- You can select an aperture (F value) from F 2.8 to F 8.0. (When you turn the W/T (zoom) lever to T side, the minimum aperture (F value) will increase.)
- The shutter speed is automatically adjusted from 1/2000 to 8 seconds.
- You can set the Exposure Compensation or ISO setting with the jog dial.

4. Shoot with the shutter button.

Notes

- If the proper exposure is not obtained after making the settings, the setting value indicators on the screen flash when the shutter button is pressed halfway down. You can shoot in this condition, but we recommend that you adjust the flashing values again.

💡 About the aperture priority

The lower the aperture (F value), the wider the hole that lets light pass through. The depth of focus decreases, and everything except objects within a narrow range of distance will be out of focus. This is good for portraits, etc.
The higher the aperture (F value), the smaller the hole that lets light pass through. Both objects relatively close and far away from the lens will appear sharp. This is good for landscapes, etc.

**Related Topic**
- Functions available for each shooting mode
- MENU items available for each shooting mode

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Manual Exposure Shooting

You can shoot at your favorite exposure by manually setting the shutter speed and aperture value.

1. Set the mode dial to (Manual Exposure Shooting).
2. Press the jog dial to select the shutter speed, aperture (F value) or ISO speed.
   - Each time you press the center of the control button, the item to be set will change.
   - To set the focus manually, first select the (Flexible Spot AF) or (Manual Focus) and then adjust the focus.
3. Select the shutter speed and aperture (F value) using the jog dial.
4. Press the shutter button to shoot the image.

Setting the shutter speed and aperture (F value)

The difference between the settings and proper exposure judged by the camera appears as an Exposure Compensation value on screen.

A: Shutter speed value
B: Aperture value
C: Exposure Compensation value

- 0EV is the value judged as the most suitable by the camera.
- When the shutter speed is one second or slower, the shutter speed is indicated by "", for example, [1”].
- When you set the shutter speed slower, using a tripod is recommended to prevent the effects of vibration.
- When the shutter speed becomes slower than a certain speed, the NR slow shutter function is activated automatically to reduce image noise, and NR appears on the screen.
- If you select slow shutter speeds, it takes time to process the data.

Notes

- If proper exposure is not obtained by your settings, the setting value indicators on the screen will flash when the shutter button is pressed halfway down. You can shoot in this condition, but exposure readjustment is recommended.
- If the ISO sensitivity is set to higher than 4000, you cannot use a shutter speed slower than 1/4 second. To use a shutter speed slower than 1/4 second, set the ISO sensitivity to 3200 or less.
Memory recall mode

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

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

2. Press 🅱️ / 🅴 to select the desired number → ●.

Notes

- Register shooting settings in advance by 🟢 (Register Setting). [Details]
- If you set 🟢 (Memory recall mode) 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.

Related Topic

Register Setting
Functions available for each shooting mode
MENU items available for each shooting mode
Viewing still images

1. Switch to playback mode.
2. Select an image.

Viewing images taken with a different camera
If you insert a memory card which has images taken with a different camera, registration screen with the message “Files found which were not recognized Import files” will be displayed.
To view unregistered images, register them by selecting [OK].
Playback zoom

Enlarges the image being played back.

1. Switch to playback mode.
2. Turn the W/T (zoom) lever to T side (↑) during still image playback.
3. Adjust the position using ▲ / ▼ / ◀ / ▶.
   The frame in the lower left of the image shows which part of the total image is being displayed.

4. Change the zoom scale with the W/T (zoom) lever.
   Turn the W/T (zoom) lever to T side (↑) to zoom in, W side (↓) to zoom out.

To save enlarged images

You can save an enlarged image by using the trimming function.
Press MENU → [Retouch] → [Trimming (Resize)].
### Image Index

Displays multiple images at the same time.

1. Switch to playback mode.
2. Turn the W/T (zoom) lever to the W side (확대) to display the image index screen. Turn the lever again to display an index screen with more images.

   - You can select the next/previous image with the jog dial.

### Displaying images of the desired date/folder

Select the left side bar, then select the desired date range or folder using ▲ / ▼.

### Viewing images with the Calendar

When [View Mode] is set to [Date View] and the screen display is in index mode, turn the W/T (zoom) lever to W side (확대) to view images with the Calendar.

- ▲ / ▼ / ◀ / ▶: Moves the selection frame to a different date.
- To select the month you want to display, select ◀ / ▶, then the desired month.
- To view images in selected date in index mode, select ◀, then press .
- To cancel the calendar display and return to an index screen, select ◀ / ▶, then press .
Deleting images

Allows you to select unwanted images for deletion. You can also delete images from the MENU button. [Details]

1. Switch to playback mode.
2. (Delete) button → desired mode → .

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Images on This Date</td>
<td>Deletes all still images and movies in the selected date range or folder, or all AVCHD movies.</td>
</tr>
<tr>
<td>All in This Folder</td>
<td>Allows you to select and delete multiple images.</td>
</tr>
<tr>
<td>All AVCHD view files</td>
<td>After step 2, select an image to be deleted, then press . To cancel the selection, press again to cancel the mark.</td>
</tr>
<tr>
<td>Multiple Images</td>
<td>MENU → [OK] .</td>
</tr>
<tr>
<td>This Image</td>
<td>Deletes the currently displayed image.</td>
</tr>
<tr>
<td>All Imgs in This Cnt.Sht. Grp.</td>
<td>Deletes all images in the selected burst group at once.</td>
</tr>
<tr>
<td>All but This Image</td>
<td>Deletes all images in a burst group except the selected image in Display Cont. Shooting Group mode.</td>
</tr>
<tr>
<td>Cancel</td>
<td>Cancels the deletion.</td>
</tr>
</tbody>
</table>

💡 You can switch between index and single-image mode when selecting images

Turn the W/T (zoom) lever to the T side in index mode to return to single-image mode, and turn the lever to the W side in single-image mode to return to index mode.

Notes

- When the internal memory is used to record images, View Mode is set to Folder View.
- To delete images in the internal memory, remove the memory card.

Related Topic

Delete
Viewing burst images

Tilt playback

You can select the playback method for continuous (burst) shots when [View Mode] is set to [Date View] and [Display Cont. Shooting Group] is set to [Display Main Image Only].

1. Switch to playback mode.
2. Select the burst images then operate as following.

<table>
<thead>
<tr>
<th>Operation</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>●</td>
<td>Tilt playback</td>
</tr>
<tr>
<td>▶</td>
<td>Next image</td>
</tr>
<tr>
<td>▼</td>
<td>Previous image</td>
</tr>
<tr>
<td>▼</td>
<td>Unfold</td>
</tr>
</tbody>
</table>

Tilt playback

The burst shots are played back smoothly as a movie.

1. Press ● to enter the Tilt playback screen.
2. Tilt the camera to the right or left, with the center of the camera as the axis.
3. To exit Tilt playback, execute any operation, such as pressing ●.
The thumbnails of a series of burst shots are displayed on the bottom of the screen. A selected image is enlarged.

1. Press ▼ to unfold the burst shots. A series of burst shots are displayed in an index.

When images are displayed in an index, ⚤ is displayed on the main image.

2. Press ◀ / ▶ to display each image in a burst group.

3. Switch the display between single-image display and index display by pressing ●.

4. To cancel the display, press ▼.

Related Topic

View Mode
Display Cont. Shooting Group

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Viewing movies

Displaying the control panel
Capture a still image from a movie

1. Switch to playback mode.
2. Select a movie.
3. Press ●.

Movie playback starts.

On the movie viewing screen
Select the image you want to display using ◀ / ▶, and press ●.
The Playback bar appears, you can check a playback position of a movie.

The icon displayed may vary depending on image size and quality.

<table>
<thead>
<tr>
<th>Operation</th>
<th>Action during playback</th>
</tr>
</thead>
<tbody>
<tr>
<td>●</td>
<td>Stop</td>
</tr>
<tr>
<td>▶</td>
<td>Fast forward</td>
</tr>
<tr>
<td>◀</td>
<td>Fast rewind</td>
</tr>
<tr>
<td>▼</td>
<td>Displays the control panel</td>
</tr>
</tbody>
</table>

To display only movies on the index screen
You can view only movie thumbnails on the index screen by pressing MENU → (View Mode) → MP4 (Folder view (MP4)) or AVCHD (AVCHD view).
MP4 (Folder view (MP4)): Displays MP4-format movie thumbnails on the index screen.
AVCHD (AVCHD view): Displays AVCHD-format movie thumbnails on the index screen.
When a movie file is played back to the end, the camera automatically starts playing back the next movie file.

**Notes**
- You may not be able to play back some images shot using other cameras.

### Displaying the control panel

Display the control panel, you can control slow movie playback and adjust the volume.

1. Press \( \text{\textbullet} \). The control panel appears.
2. Select a desired button with \( \text{\textbullet} / \text{\textbullet} \), and press \( \text{\textbullet} \).

![Control Panel Image]

<table>
<thead>
<tr>
<th>Control panel</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \text{\textbullet} )</td>
<td>Playback</td>
</tr>
<tr>
<td>( \text{\textbullet} )</td>
<td>Pause</td>
</tr>
<tr>
<td>( \text{\textbullet} / \text{\textbullet} )</td>
<td>Fast forward</td>
</tr>
<tr>
<td>( \text{\textbullet} )</td>
<td>Fast rewind</td>
</tr>
<tr>
<td>( \text{\textbullet} / \text{\textbullet} )</td>
<td>Slow playback</td>
</tr>
<tr>
<td>( \text{\textbullet} )</td>
<td>Slow rewind playback</td>
</tr>
<tr>
<td>( \text{\textbullet} / \text{\textbullet} / \text{\textbullet} )</td>
<td>Chapter advance</td>
</tr>
<tr>
<td>( \text{\textbullet} / \text{\textbullet} / \text{\textbullet} )</td>
<td>Chapter rewind</td>
</tr>
<tr>
<td>( \text{\textbullet} / \text{\textbullet} / \text{\textbullet} / \text{\textbullet} )</td>
<td>Frame advance</td>
</tr>
<tr>
<td>( \text{\textbullet} / \text{\textbullet} / \text{\textbullet} / \text{\textbullet} )</td>
<td>Frame rewind</td>
</tr>
<tr>
<td>( \text{\textbullet} / \text{\textbullet} / \text{\textbullet} / \text{\textbullet} / \text{\textbullet} )</td>
<td>Photo Capture</td>
</tr>
<tr>
<td>( \text{\textbullet} / \text{\textbullet} / \text{\textbullet} / \text{\textbullet} / \text{\textbullet} / \text{\textbullet} )</td>
<td>Volume settings</td>
</tr>
<tr>
<td>( \text{\textbullet} / \text{\textbullet} / \text{\textbullet} / \text{\textbullet} / \text{\textbullet} / \text{\textbullet} / \text{\textbullet} )</td>
<td>Closes the control panel</td>
</tr>
</tbody>
</table>

**Notes**
- The buttons on the control panel will vary depending on the playback status.
**Capture a still image from a movie**

1. Press 
   during the scene you want to capture.

2. Select 
   using 
   , then press .
   - When the still image has been recorded, the camera will pause.
   - When the movie format is [MP4 3M], a still image is saved in [VGA]. Otherwise, the still image is saved in [16:9(2M)].

---

**Related Topic**

View Mode

---

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Scrolling the panorama images for display

You can scroll panorama images by pressing the center button while panorama images are being displayed.

A: Shows the displayed area of the whole panorama image

<table>
<thead>
<tr>
<th>Control button</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>Starts scrolling playback/pauses scrolling playback</td>
</tr>
</tbody>
</table>

- Panorama images recorded using another camera may not scroll correctly when played.
- Turn the W/T (zoom) lever to the W side to display the whole image again.

**Notes**

- A panoramic image recorded in [High Resolution] size requires a longer time to scroll than a normal size panoramic image.

**Related Topic**

Still Image Size/Panorama Image Size
### Functions available for each shooting mode

#### Functions available in REC modes

<table>
<thead>
<tr>
<th>Flash</th>
<th>Face Detection</th>
<th>Tracking focus</th>
<th>Self-Timer</th>
<th>Continuous Shooting / Bracket</th>
<th>Exposure Compensation</th>
<th>ISO</th>
<th>Auto focus</th>
<th>Manual Focus</th>
<th>Photo Creativity</th>
</tr>
</thead>
<tbody>
<tr>
<td>i-camera</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>i-camera $\text{AUTO}$</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
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<td>Yes</td>
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<tr>
<td>i-camera $\text{AUTO}$</td>
<td>Yes</td>
<td>Yes</td>
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<td>Yes</td>
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<td>P $\text{AUTO}$</td>
<td>Yes</td>
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<td>S $\text{S}$</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>A $\text{S}$</td>
<td>Yes</td>
<td>Yes</td>
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<td>M $\text{S}$</td>
<td>Yes</td>
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<td>$\text{S}$</td>
<td>Yes</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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</tr>
</tbody>
</table>

* [Bracket] cannot be selected.

### Functions available in Scene Selection

<table>
<thead>
<tr>
<th>Flash</th>
<th>Face Detection</th>
<th>Tracking focus</th>
<th>Self-Timer</th>
<th>Continuous Shooting / Bracket</th>
<th>Exposure Compensation</th>
<th>ISO</th>
<th>Auto focus</th>
<th>Manual Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{AUTO}$</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

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### Functions available in Picture Effect

<table>
<thead>
<tr>
<th>Flash</th>
<th>Face Detection</th>
<th>Tracking focus</th>
<th>Self-Timer</th>
<th>Continuous Shooting / Bracket</th>
<th>Exposure Compensation</th>
<th>ISO</th>
<th>Auto focus</th>
<th>Manual Focus</th>
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<tbody>
<tr>
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</tr>
</tbody>
</table>

* [Off] cannot be selected for [Face Detection].

---

83
<table>
<thead>
<tr>
<th>Setting</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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</tr>
</tbody>
</table>

*1 [Bracket] cannot be selected.
*2 ISO settings higher than [ISO2000] cannot be selected.

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### MENU items available for each shooting mode

**▼ MENU items not available in Scene Selection/Picture Effect mode**

In the table below, a check mark indicates settings that can be changed, while – indicates settings that cannot be changed. A setting may be fixed or restricted depending on the shooting mode. For details, see each topic.

<table>
<thead>
<tr>
<th>Menu items</th>
<th>iCAS</th>
<th>iA+</th>
<th>P</th>
<th>S</th>
<th>A</th>
<th>M</th>
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<td>Picture Effect</td>
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<td>HDR Painting effect</td>
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</tr>
<tr>
<td>Area of emphasis</td>
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<tr>
<td>Color hue</td>
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<td>Illustration Effect</td>
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¹ For details, see page 87.

² For details, see page 86.


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Menu items not available in Scene Selection/Picture Effect mode

The icons below SCN or ✓ indicate the available modes.

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<th>SCN (Still images)</th>
<th>SCN (Movies)</th>
<th>SCN (Still images)</th>
<th>SCN (Panorama images)</th>
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<td>HDR Painting effect</td>
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<td>–</td>
</tr>
<tr>
<td>Area of emphasis</td>
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<tr>
<td>Color hue</td>
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<td>Extracted Color</td>
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<tr>
<td>Illustration Effect</td>
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<td>Defocus Effect</td>
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<td>✓</td>
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<td>✓</td>
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<td>Movie Quality / Movie Size</td>
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<td>Cont. Shooting Interval</td>
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<tr>
<td>Bracket Setting</td>
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</tr>
<tr>
<td>Scene Recognition</td>
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</tr>
<tr>
<td>Smile Shutter</td>
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<tr>
<td>Smile Detection Sensitivity</td>
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<td>Face Detection*3</td>
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<td>Flash Level</td>
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<td>Color Mode</td>
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<td>Color Saturation</td>
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<td>Contrast</td>
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<tr>
<td>Sharpness</td>
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<td>Noise Reduction</td>
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<tr>
<td>Anti Blink</td>
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<tr>
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<td>✓</td>
<td>✓</td>
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<tr>
<td>Register Setting</td>
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<tr>
<td>In-Camera Guide</td>
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<td>✓</td>
<td>✓</td>
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<tr>
<td>(Settings)</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

*1 [Off] cannot be selected for [Soft Skin Effect] when Scene Selection is set to (Soft Skin).
*2 [Flash] cannot be selected for [White Balance] when Scene Selection is set to (Anti Motion Blur), (Hand-held Twilight) or ISO (High Sensitivity).
*3 [Off] cannot be selected for [Face Detection] when Scene Selection is set to (Soft Skin) or (Soft Snap).

**Notes**
- When the above shooting modes are registered and recalled in Memory recall mode (Memory recall mode), the conditions for whether settings can be changed or not remain the same as in the above table.
Tracking focus

The camera tracks the subject and adjusts the focus automatically even if when the subject is moving.

1. Press ◆ on the control button.
   The target frame appears.

2. Place the target frame over the subject you want to focus on, and press ◆.
   Tracking begins.
3. Press the shutter button to shoot the image.

Tracking a face

If you use the tracking focus function while the Face Detection function is activated, you can select a face to be given priority and register that face with the camera. Even if the registered face disappears from the screen, when it shows up on the screen again, the camera focuses on the registered face.

- When a specified face is registered in the camera memory and you use the Smile Shutter function, the camera searches only for that face’s smile.

Notes

- Tracking focus is not available in the following situations:
  - When using zoom functions other than optical zoom
  - When [Focus] is set to [Flexible Spot AF] or [Manual Focus]
- Tracking focus will automatically be canceled when the subject disappears from the screen or has failed to be tracked. However, if the target of the tracking focus is a specified face, the camera keeps tracking on that face even if the face disappears from the screen.

Related Topic

Face Detection
Functions available for each shooting mode
### DISP (Display Setting)

#### Histogram

1. Press **DISP** (Display Setting) on the control button.
2. Select the desired mode with the control button.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(OFF)</td>
<td>Displays only images.</td>
</tr>
<tr>
<td>(Level)</td>
<td>Displays an indicator guide shows the angle of inclination of the camera to the left or right side. When the camera is held on a level, this indicator guide appears green.</td>
</tr>
<tr>
<td>(Detailed Info)</td>
<td>Displays the information. Exif data for the recorded image and the histogram are also displayed.</td>
</tr>
<tr>
<td>(ON)</td>
<td>Displays the information.</td>
</tr>
</tbody>
</table>

#### Histogram

A histogram is a graph showing the brightness of an image. The graph display indicates a bright image...
when skewed to the right side (A), and a dark image when skewed to the left side (B).

1. Press **DISP** (Display Setting), then select [Detailed Info].

**Notes**
- The histogram also appears when playing back a single image, but you cannot adjust the exposure.
- The histogram does not appear when:
  - Recording/playing back movies
  - Viewing vertical orientation images
  - Rotating still images
  - Shooting/viewing in [iSweep Panorama]
  - When [Display Cont. Shooting Group] is set to [Display Main Image Only]
- The histogram may not appear for images recorded using other cameras.
Flash

1. Press the flash pop-up button to raise the flash.
   - When the flash unit is not raised, the flash mode is set to (Off) automatically. You cannot change the setting.
2. Press (Flash) on the control button.
3. Select the desired mode.
   - When you do not want to fire the flash, push the flash unit down by hand to retract it.

<table>
<thead>
<tr>
<th>Flash Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Advanced Flash)</td>
<td>Flash automatically operates in dark locations or when the subject is backlit. The ISO sensitivity is increased in a dark place to shoot a farther distance brighter.</td>
</tr>
<tr>
<td>(Auto)</td>
<td>Flash automatically operates in dark locations or when there is backlight.</td>
</tr>
<tr>
<td>(On)</td>
<td>Flash always operates.</td>
</tr>
<tr>
<td>(Slow Synchro)</td>
<td>Flash always operates. The shutter speed is slow in a dark place to clearly shoot the background that is out of flash light.</td>
</tr>
<tr>
<td>(Rear Slow Synchro)</td>
<td>Flash always operates. The flash fires at the end of the exposure to allow you to shoot both the subject and background with more light.</td>
</tr>
<tr>
<td>(Off)</td>
<td>Flash does not operate.</td>
</tr>
</tbody>
</table>

When the “White circular spots” appears in flash photos

This is caused by particles (dust, pollen, etc.) floating close to the lens. When they are accentuated by the camera’s flash, they appear as white circular spots.

How can the “White circular spots” be reduced?

- Light the room and shoot the subject without a flash.
- Select (Anti Motion Blur) or (High Sensitivity) mode in Scene Selection. ([Off] is automatically selected.)

Notes

- The flash strobes twice. The first flash adjusts the light quantity.
- While charging the flash, is displayed.
- You cannot use the flash during burst shooting.
- [Advanced Flash] can be set only when shooting mode is set to [Intelligent Auto] or [Superior Auto].
- 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, set the zoom to T and shoot with the flash again.

**Related Topic**

*Functions available for each shooting mode*
Photo Creativity

Photo Creativity is a mode that you can operate the camera intuitively using unusual screen display. When shooting mode is set to [Intelligent Auto] or [Superior Auto], you can change the settings easily and shoot images.

1. Set the mode dial to [Intelligent Auto] or [Superior Auto].
2. Press [Photo Creativity] on the control button.
3. Select the desired item with the control button.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Color]</td>
<td>Adjusts color.</td>
</tr>
<tr>
<td>[Vividness]</td>
<td>Adjusts vividness.</td>
</tr>
<tr>
<td>[Picture Effect]</td>
<td>Shoots a still image with an original texture according to the desired effect.</td>
</tr>
</tbody>
</table>

4. Change the settings.
   - You can combine some settings by repeating step 3 and 4.
   - To reset the changed settings to the default settings, press the [In-Camera Guide] button. [Brightness], [Color] and [Vividness] are set to [AUTO], and [Picture Effect] is set to [Off].

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

Notes

- When you record movies in Photo Creativity mode, you cannot change the settings during recording.
- If you switch the camera mode to Intelligent Auto mode or turn off the camera, the settings you changed are reverted to the default settings.
- When you set Photo Creativity in Superior Auto mode, overlaying images are disabled.

Related Topic

Functions available for each shooting mode
Picture Effect
Cont. Shooting Settings

You can select Single (single-image), Continuous Shooting or Bracket as the shooting mode.

1. Press (Cont. Shooting/Self-Timer) on the control button.
2. Select the desired mode with the control button.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>The camera shoots a single image.</td>
</tr>
<tr>
<td>Cont.</td>
<td>The camera shoots up to 10 continuous frames in one burst when you hold down</td>
</tr>
<tr>
<td></td>
<td>the shutter button.</td>
</tr>
<tr>
<td>BRK</td>
<td>The camera shoots a series of 3 images each with a different setting.</td>
</tr>
</tbody>
</table>

Notes
- [Flash] is set to [Off] in continuous or bracket shooting mode.
- When [Continuous Shooting] is selected, [Focus], [White Balance], and [Exposure Compensation] are adjusted for the first image, and these settings are also used for the other images.
- When the internal memory or a memory card is full, the burst stops.
- When you perform continuous shooting or bracket shooting, [VGA] image size will be set while recording on internal memory.

Related Topic
- Functions available for each shooting mode
- Cont. Shooting Interval
- Bracket Setting
Self-Timer

Automatic shooting with Self-portrait timer

1. Press \( \text{Cont. Shooting/Self-Timer} \) on the control button.
2. Select the desired mode with the control button.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Single Shooting)</td>
<td>Does not use the self-timer.</td>
</tr>
<tr>
<td>( \text{(10sec)} )</td>
<td>Sets the self-timer to a 10-second delay. When you press the shutter button, the self-timer lamp flashes and a beep sounds until the shutter operates. To cancel, press ( \text{Cont. Shooting/Self-Timer} ) again.</td>
</tr>
<tr>
<td>( \text{(2sec)} )</td>
<td>Sets the self-timer to a 2-second delay.</td>
</tr>
<tr>
<td>(Self-portrait One Person)</td>
<td>Sets the self-timer to Self-portrait timer. When the camera detects the specified number of faces, a beep sounds, and the shutter operates 2 seconds later.</td>
</tr>
<tr>
<td>(Self-portrait Two People)</td>
<td>The camera shoots 10 continuous frames 10 seconds later after you press the shutter button.</td>
</tr>
<tr>
<td>(Self-Timer: Continuous Shooting)</td>
<td>The camera starts bracket shooting 10 seconds later after you press the shutter button.</td>
</tr>
</tbody>
</table>

Tips for preventing blur

If your hands or body moves while holding the camera and pressing the shutter button, “Camera shake” occurs. Camera shake occurs frequently under low-light or slow shutter speed conditions, such as those encountered in \( \text{Night Portrait} \) or \( \text{Night Scene} \) mode.

To reduce camera shake, set the self-timer to a 2-second delay and brace your arms against your sides after pressing the shutter button.

Notes

- [Flash] is set to [Off] in continuous or bracket shooting mode.
- When [Continuous Shooting] is selected, [Focus], [White Balance], and [Exposure Compensation] are adjusted for the first image, and these settings are also used for the other images.
- When the internal memory or a memory card is full, the burst stops.
- In continuous or bracket shooting mode, [VGA] image size will be set while recording on internal memory.
Automatic shooting with Self-portrait timer

Point the lens at yourself so that the selected number of faces are reflected in the screen. The shutter operates automatically. Do not move your camera after the beep sounds.

Related Topic

Functions available for each shooting mode
Cont. Shooting Interval
Bracket Setting
Using the CUSTOM (Custom) button

Pressing the CUSTOM (Custom) button allows you to recall previously registered functions.

For details on registering settings, see “Custom Button.” [Details]
Manual Focus Check

In manual focus, if you press the FOCUS button, the display will be magnified about 8 times and you can confirm the focus.

1. Set the Zoom/Focus switch to MF.
2. Press the FOCUS button to enlarge the image.

3. Confirm and adjust the focus.
4. Press the shutter button fully down to shoot the image.
   The manual focus check will be released when the shutter is pressed halfway.

Notes

- The shutter speed and exposure values cannot be changed when the manual focus check is engaged. Just before shooting, the light is metered again and the exposure is set.
- The image is displayed with the proper brightness regardless of the determined exposure. The exposure compensation is not reflected in the displayed image, however, it is reflected in the recorded image.
- While the display is magnified, you can shoot photos if you press the shutter button, but the camera will record the entire displayed image.
- You cannot use the Face Detection and Smile Shutter functions.
Switching between the LCD screen and the viewfinder

You can select the LCD screen or the viewfinder as your confirmation screen when shooting. Each time you press the **FINDER/LCD** button, the screen will switch in the order **LCD** → **EVF**.

1. Press the **FINDER/LCD** button to select the desired mode.

<table>
<thead>
<tr>
<th><strong>FINDER/LCD</strong></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LCD</strong></td>
<td>Switches to the LCD screen.</td>
</tr>
<tr>
<td><strong>EVF</strong></td>
<td>Switches to the viewfinder.</td>
</tr>
</tbody>
</table>

**Notes**
- During playback, switches to the LCD screen regardless of the settings.
### Movie shooting scene

You can select the movie shooting mode when shooting movies.

1. **MENU → [Movie shooting scene] → desired mode → **

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Intelligent Auto" /></td>
<td>Allows you to shoot movies with the settings adjusted automatically. [Details]</td>
</tr>
<tr>
<td><img src="image" alt="Scene Selection" /></td>
<td>Allows you to shoot movies with preset settings according to the scene. [Details]</td>
</tr>
</tbody>
</table>

#### On Scene Recognition

Scene Recognition operates in Intelligent Auto mode. This function lets the camera automatically recognize the shooting conditions and shoot the image.

![Scene Recognition](image)
Panorama Shooting Scene

Select a panorama shooting mode in Sweep Panorama.

1. MENU → i (Panorama Shooting Scene) → desired mode → ●

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(iSweep Panorama)</td>
<td>Shoots a regular panorama image. [Details]</td>
</tr>
<tr>
<td>(Picture Effect)</td>
<td>Allows you to shoot a panoramic image with a desired picture effect added.</td>
</tr>
</tbody>
</table>

Related Topic

Picture Effect

MENU items available for each shooting mode
Memory recall mode

Allows you to select a setting registered in advance when the mode dial is set to [Memory recall mode].

1. MENU → MR (Memory recall mode)

2. Press ◀ / ▶ to select the desired number → ●.

Notes

- Register shooting settings in advance using MR (Register Setting).
- If you set MR (Memory recall mode) 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.

Related Topic

Memory recall mode
Register Setting
Easy Mode

On Scene Recognition

Shooting functions available in Easy Mode (Shooting)

Allows you to shoot still images using the minimum necessary functions. The text size increases and indicators become easier to see.

1. Set the mode dial to [i](Intelligent Auto).
2. MENU → EASY (Easy Mode) → ●
3. [OK] → ●
4. Shoot with the shutter button.
   ● To end Easy Mode, MENU → [Exit Easy Mode]

On Easy Mode (Viewing)

When you press the [ ] (Playback) button in Easy Mode, the playback screen text becomes larger and easier to see.

Delete currently displayed image:

? [Delete] button → [OK] → ● on the control button

Select between [1 image] and [All]:

MENU → [Delete] → ● on the control button → desired mode → ●

You can delete currently displayed image with [1 image] and delete all images in the selected date range or internal memory (if selected) with [All].

● [View Mode] is set to [Date View] when using a memory card.

Notes

● The battery power may decrease faster because the screen brightness increases automatically.

On Scene Recognition

Scene Recognition operates in Easy Mode. This function lets the camera automatically recognize the shooting conditions and shoot the image.
### Related Topic

**Scene Recognition**

---

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOVIE (Movie) button</td>
<td>Allows you to record movies with their audio.</td>
</tr>
<tr>
<td>Still Image Size</td>
<td>Select between [Large] or [Small] size.</td>
</tr>
<tr>
<td>Flash</td>
<td>Select between [Auto] or [Off] mode.</td>
</tr>
</tbody>
</table>

Copyright 2013 Sony Corporation
Top page > Useful shooting functions > Menu items available for shooting > HDR Painting effect

HDR Painting effect

When you select [HDR Painting] in Picture Effect, set the effect level.

1. MENU → (HDR Painting effect) → desired mode → ●

- **Low**
- **Medium**
- **High**

Select weak, medium or strong for effects that emphasize color, etc.

**Related Topic**

- Picture Effect
- MENU items available for each shooting mode

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Area of emphasis

When you select [Miniature] in Picture Effect, set the part you want attention on.

1. MENU → (Area of emphasis) → desired mode →

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Top) Sets area of emphasis at the top.</td>
</tr>
<tr>
<td></td>
<td>(Center) Sets area of emphasis in the center.</td>
</tr>
<tr>
<td>☑</td>
<td>(Bottom) Sets area of emphasis at the bottom.</td>
</tr>
<tr>
<td></td>
<td>(Left) Sets area of emphasis to the left.</td>
</tr>
<tr>
<td></td>
<td>(Middle) Sets area of emphasis in the middle.</td>
</tr>
<tr>
<td></td>
<td>(Right) Sets area of emphasis to the right.</td>
</tr>
</tbody>
</table>

Related Topic

Picture Effect

MENU items available for each shooting mode
Color hue

When you select [Toy camera] in Picture Effect, adjust the color hue.

1. MENU → (Color hue) → desired mode → ●

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>Adds a normal hue and darkens the surroundings.</td>
</tr>
<tr>
<td>Cool</td>
<td>Adds a bluish cool hue and darkens the surroundings.</td>
</tr>
<tr>
<td>Warm</td>
<td>Adds a reddish warm hue and darkens the surroundings.</td>
</tr>
<tr>
<td>Green</td>
<td>Adds a green filter-like hue and darkens the surroundings.</td>
</tr>
<tr>
<td>Magenta</td>
<td>Adds a magenta filter-like hue and darkens the surroundings.</td>
</tr>
</tbody>
</table>

Notes

- It is recommended that you shoot a test image in advance for some subjects.

Related Topic

Picture Effect

MENU items available for each shooting mode
Extracted Color

When you select [Partial Color] in Picture Effect, select the color to extract.

1. **MENU** ➔ (Extracted Color) ➔ desired mode ➔

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Extracts red only.</td>
</tr>
<tr>
<td>Green</td>
<td>Extracts green only.</td>
</tr>
<tr>
<td>Blue</td>
<td>Extracts blue only.</td>
</tr>
<tr>
<td>Yellow</td>
<td>Extracts yellow only.</td>
</tr>
</tbody>
</table>

**Notes**
- Images may not retain the selected color, depending on the subject.

**Related Topic**
- Picture Effect
- MENU items available for each shooting mode

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Illustration Effect

When you select [Illustration] in Picture Effect, set the effect level.

1. MENU \(\rightarrow\) (Illustration Effect) \(\rightarrow\) desired mode \(\rightarrow\) ●

<table>
<thead>
<tr>
<th>Mode</th>
<th>Effect Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Adds a strong, medium or weak Illustration effect.</td>
</tr>
<tr>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td></td>
</tr>
</tbody>
</table>

Related Topic

Picture Effect
MENU items available for each shooting mode
Defocus Effect

Sets the level of background defocus effect when shooting in Background Defocus mode.

1. MENU → ⪮ (Defocus Effect) → desired mode →

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Lo (Low)" /></td>
<td><img src="image" alt="Mid (Mid)" /></td>
</tr>
</tbody>
</table>

Select a weak, medium or strong Background Defocus effect.

Related Topic

Background Defocus
Soft Skin Effect

When the Face Detection function is activated, sets whether to use the Soft Skin effect, and the effect level.

1.MENU → (Soft Skin Effect) → desired mode →

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
<td>Does not use the Soft Skin Effect.</td>
</tr>
<tr>
<td>Lo</td>
<td>Adds a weak, medium or strong Soft Skin Effect.</td>
</tr>
</tbody>
</table>

**Notes**
- The [Soft Skin Effect] may not be visible depending on the subject.
Still Image Size(Dual Rec)

Sets the still image size shot while recording a movie.

1. MENU → (Still Image Size(Dual Rec)) → desired size

- **When [Movie Size] is set to other than [VGA]**

<table>
<thead>
<tr>
<th>Size</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>15M 16:9(15M Level)</td>
<td>For viewing on a high-definition TV and printing up to A3+ size</td>
</tr>
<tr>
<td>3M 16:9(3M)</td>
<td>For viewing on a high-definition TV</td>
</tr>
</tbody>
</table>

- **When [Movie Size] is set to [VGA]**

<table>
<thead>
<tr>
<th>Size</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11M Level</td>
<td>For prints up to A3(11×17&quot;)</td>
</tr>
<tr>
<td>2M</td>
<td>For prints up to 10×15 cm (4×6&quot;) or 13×18 cm(5×7&quot;)</td>
</tr>
</tbody>
</table>

Related Topic

MENU items available for each shooting mode
Still Image Size/Panorama Image Size

- Image size when shooting still images
- 3D Still Image Size
- Image size in Easy Mode
- Image size when shooting Sweep Panorama

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.

### Image size when shooting still images

1. MENU →  (Still Image Size) → desired size

<table>
<thead>
<tr>
<th>Image size (Horizontal x Vertical)</th>
<th>Usage guidelines</th>
<th>No. of images</th>
<th>Printing</th>
</tr>
</thead>
<tbody>
<tr>
<td>20M (5184×3888)</td>
<td>For prints up to A3+ size</td>
<td>Less</td>
<td>Fine</td>
</tr>
<tr>
<td>10M (3648×2736)</td>
<td>For prints up to A3 size</td>
<td>Less</td>
<td>Fine</td>
</tr>
<tr>
<td>5M (2592×1444)</td>
<td>For prints from 10×15 cm up to A4 size</td>
<td>Less</td>
<td>Fine</td>
</tr>
<tr>
<td>VGA (640×480)</td>
<td>For e-mail attachments</td>
<td>More</td>
<td>Rough</td>
</tr>
<tr>
<td>15M (5184×2920)</td>
<td>For viewing on a high-definition TV and printing up to A3+ size</td>
<td>Less</td>
<td>Fine</td>
</tr>
<tr>
<td>2M (1920×1080)</td>
<td>For viewing on a high-definition TV</td>
<td>More</td>
<td>Rough</td>
</tr>
</tbody>
</table>

### 3D Still Image Size

1. MENU →  (Still Image Size) → desired size
### Image size in Easy Mode

1. MENU → [Still Image Size] → desired size

<table>
<thead>
<tr>
<th>Size</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
<td>Shoots images in [20M] size.</td>
</tr>
<tr>
<td>Small</td>
<td>Shoots images in [5M] size.</td>
</tr>
</tbody>
</table>

### Image size when shooting Sweep Panorama

1. MENU → (Panorama Image Size) → desired size

<table>
<thead>
<tr>
<th>Size</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>STD (Standard)</td>
<td>(Horizontal: 4912 × 1080) (Vertical: 3424 × 1920)</td>
</tr>
<tr>
<td></td>
<td>Shoots images using standard size.</td>
</tr>
<tr>
<td>WIDE (Wide)</td>
<td>(Horizontal: 7152 × 1080) (Vertical: 4912 × 1920)</td>
</tr>
<tr>
<td></td>
<td>Shoots images using wide size.</td>
</tr>
<tr>
<td>360°</td>
<td>(Horizontal: 11520 × 1080)</td>
</tr>
<tr>
<td></td>
<td>Shoots images using a 360 degree.</td>
</tr>
<tr>
<td>HR (High Resolution)</td>
<td>(Horizontal: 10480 × 4096)</td>
</tr>
<tr>
<td></td>
<td>Shoots high-resolution panorama in 43 megapixel size.</td>
</tr>
</tbody>
</table>

### Notes

- When you print still images recorded as panorama images, both edges may be cut off.

- If you cannot print panoramic images recorded in [High Resolution] size due to the large size, use the resize function in the software "PlayMemories Home".

### Related Topic

MENU items available for each shooting mode
**Movie Quality/Movie Size**

The larger the size of the movie image, the higher the image quality. The higher the amount of data used per second (average bit-rate), the higher the image quality.

Select a movie recording format by pressing MENU → (Settings) → (Shooting Settings) → [Movie format] in shooting mode. [Details]

If [Movie format] is [AVCHD], select the movie size from [Movie Quality], and if [Movie format] is [MP4], select from [Movie Size].

**Movie quality (recording format: AVCHD)**

1. MENU → [Movie Quality] → desired mode

FX/FH/HQ:
Movies shot are recorded in AVCHD format, 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, AVCHD format.

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

<table>
<thead>
<tr>
<th>Movie quality</th>
<th>Average bit-rate</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS AVC HD 28M (PS)</td>
<td>28 Mbps</td>
<td>Shoots at the highest picture quality of 1920×1080 (50p/60p) size</td>
</tr>
<tr>
<td>FX AVC HD 24M (FX)</td>
<td>24 Mbps</td>
<td>Shoots at the highest picture quality of 1920×1080 (50i/60i) size</td>
</tr>
<tr>
<td>FH AVC HD 17M (FH)</td>
<td>17 Mbps</td>
<td>Shoots at a high picture quality of 1920×1080 (50i/60i) size</td>
</tr>
<tr>
<td>HQ AVC HD 9M (HQ)</td>
<td>9 Mbps</td>
<td>Shoots at a standard picture quality of 1440×1080 (50i/60i) size</td>
</tr>
</tbody>
</table>

**Movie image size (recording format: MP4)**

1. MENU → [Movie Size] → desired size

Movies shot are recorded in MPEG-4 format, at approximately 30 frames/sec (for 1080 60i-compatible devices) or approximately 25 frames/sec (for 1080 50i-compatible devices), in progressive mode, with AAC audio, mp4 format.

<table>
<thead>
<tr>
<th>Movie image size</th>
<th>Average bit-rate</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12M MP4 12M</td>
<td>12 Mbps</td>
<td>Shoots at 1440×1080 size</td>
</tr>
<tr>
<td>720 MP4 6M</td>
<td>6 Mbps</td>
<td>Shoots at 1280×720 size</td>
</tr>
<tr>
<td>3M MP4 3M</td>
<td>3 Mbps</td>
<td>Shoots at VGA size</td>
</tr>
</tbody>
</table>
Notes

- A telephoto image is produced when [MP4 3M] image size is selected.
- When you create AVCHD discs from movies recorded in [AVC HD 28M (PS)] or [AVC HD 24M (FX)], it will take time as the image quality must be converted. To save [AVC HD 28M (PS)] or [AVC HD 24M (FX)] movies without converting the image quality, use Blu-ray discs.
**Exposure Compensation**

1. Press the jog dial to select the Exposure Compensation setting.
2. Turn the jog dial to select the desired Exposure Compensation setting.

![Adjusting the exposure for better looking images](image)

**A**: Overexposure (too much light)

**B**: Correct exposure

**C**: Underexposure (too little light)

- When the image shot is overexposed, adjust [Exposure Compensation] to the minus side.
- When the image shot is underexposed, adjust [Exposure Compensation] to the plus side.

**Notes**
- If you shoot a subject in extremely bright or dark conditions, or when you use the flash, the exposure adjustment may not be effective.

**Related Topic**

Using the jog dial

MENU items available for each shooting mode
ISO


1. Press the jog dial to select the ISO sensitivity.
2. Turn the jog dial to select desired value.

<table>
<thead>
<tr>
<th>ISO</th>
<th>Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO (Auto)</td>
<td>Sets the ISO sensitivity automatically.</td>
</tr>
<tr>
<td>ISO80</td>
<td>You can reduce image blurring in dark locations or with moving subjects by increasing the ISO sensitivity (select a larger number). Higher ISO settings than [ISO4000] are achieved using Clear Image technology and overlay burst shooting.</td>
</tr>
<tr>
<td>ISO100</td>
<td></td>
</tr>
<tr>
<td>ISO125</td>
<td></td>
</tr>
<tr>
<td>ISO160</td>
<td></td>
</tr>
<tr>
<td>ISO200</td>
<td></td>
</tr>
</tbody>
</table>

The ISO numbers in the table above are the representative value.

Turning the jog dial increases or decreases the ISO sensitivity by increments of 1/3 as follows:
ISO80 ← ISO100 ← ISO125 ← ISO160 ← ISO200 ... ISO12800

**Adjusting ISO Sensitivity (Recommended Exposure Index)**
ISO sensitivity is a speed rating for recording media that incorporates an image sensor that receives light. Even when the exposure is the same, images differ depending on the ISO sensitivity.

**High ISO sensitivity**

Records a bright image even in dark locations while increasing shutter speed to reduce blur. However, the image tends to become noisy.

**Low ISO sensitivity**

Records a smoother image. However, when the exposure is insufficient, the image may become darker.
Notes

- When the ISO sensitivity is [ISO4000] or higher, it takes some time to record an image because the camera overlays the image. The flash does not operate with these settings.
- You cannot select [Auto] when the camera is set to Manual Exposure Shooting. [ISO80] is the default setting.
- You can select only from [Auto], [ISO80] to [ISO800] when the shooting mode is set to burst or bracket shooting mode.

Related Topic

Using the jog dial

MENU items available for each shooting mode
White Balance

To capture the basic white color in [One Push Set] mode

Adjusts color tones according to the surrounding light conditions. Use this function if image color appears unnatural.

1. **MENU** → **WB** (White Balance) → desired mode → •

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO (Auto)</td>
<td>Adjusts the white balance automatically so that the colors appear natural.</td>
</tr>
<tr>
<td>DAYLIGHT (Daylight)</td>
<td>Adjusts for outdoors conditions on a fine day, evening views, night scenes, neon signs, fireworks, etc.</td>
</tr>
<tr>
<td>CLOUDY (Cloudy)</td>
<td>Adjusts for a cloudy sky or a shady location.</td>
</tr>
<tr>
<td>FLUORESCENT WHITE BALANCE 1 (Fluorescent White Balance 1)</td>
<td>[Fluorescent White Balance 1]: Adjusts for white fluorescent lighting.</td>
</tr>
<tr>
<td>FLUORESCENT WHITE BALANCE 2 (Fluorescent White Balance 2)</td>
<td>[Fluorescent White Balance 2]: Adjusts for natural white fluorescent lighting.</td>
</tr>
<tr>
<td>FLUORESCENT WHITE BALANCE 3 (Fluorescent White Balance 3)</td>
<td>[Fluorescent White Balance 3]: Adjusts for daylight fluorescent lighting.</td>
</tr>
<tr>
<td>INCANDESCENT (Incandescent)</td>
<td>Adjusts for places under incandescent lamp, or under bright lighting, such as in a photo studio.</td>
</tr>
<tr>
<td>FLASH (Flash)</td>
<td>Adjusts for the flash conditions.</td>
</tr>
<tr>
<td>ONE PUSH (One Push)</td>
<td>Adjusts the white balance depending on the light source. Use this mode when [Auto] and other settings don’t provide accurate colors.</td>
</tr>
<tr>
<td>ONE PUSH SET (One Push Set)</td>
<td>Memorizes the basic white color which will be used in [One Push] mode.</td>
</tr>
</tbody>
</table>

Effects of lighting conditions

The apparent color of the subject is affected by the lighting conditions. The color tones are adjusted automatically, but you can adjust color tones manually using the White Balance function.

Daylight (White as Standard)

Cloudy (Bluish)
Fluorescent (Green-tinged)

Incandescent (Reddish)

<table>
<thead>
<tr>
<th>To capture the basic white color in [One Push Set] mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Frame a white object such as a piece of paper filling the screen under the same lighting conditions as you will shoot the subject.</td>
</tr>
<tr>
<td>2. MENU —&gt; AUTO (White Balance) —&gt; [One Push Set] —&gt;</td>
</tr>
<tr>
<td>The screen momentarily turns black, and when the white balance has been adjusted and stored in the memory, the recording screen is displayed again.</td>
</tr>
</tbody>
</table>

**Notes**
- If the indicator flashes while shooting, the white balance cannot be set. Use automatic white balance.
- Do not shake or strike the camera while [One Push Set] is in progress.
- When flash mode is set to other than [Auto] or [Off], the white balance is adjusted to the condition with the flash emitting.

**Related Topic**
- MENU items available for each shooting mode
White Balance Shift

Allows you to use the selected white balance as the base value and apply the set correction value to change the color and record an image.

1. MENU → WB+ OFF (White Balance Shift) → desired mode → ●
   - When using for the first time, set the correction value to [Shift Amount Adjust].

<table>
<thead>
<tr>
<th>WB+</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF (Off)</td>
<td>Does not use [White Balance Shift].</td>
</tr>
<tr>
<td>ON (On)</td>
<td>Uses [White Balance Shift].</td>
</tr>
<tr>
<td>SET (Shift Amount Adjust)</td>
<td>Sets the correction value. If you set a correction value, [White Balance Shift] will be set to [On] automatically.</td>
</tr>
</tbody>
</table>

Set the White Balance Shift correction value

1. MENU → WB+ OFF (White Balance Shift) → [Shift Amount Adjust]
   - Set the correction value using ▲ / ▼ / ◀ / ►.

<table>
<thead>
<tr>
<th>Operation</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲ / ▼</td>
<td>G (Green) and M (Magenta) provide fine adjustments such as those achieved with a color correction (CC) filter.</td>
</tr>
<tr>
<td>◀ / ►</td>
<td>B (Blue) and A (Amber) provide fine adjustments in the color temperature.</td>
</tr>
</tbody>
</table>

- If you set the [White Balance Shift] to [On] for the previously set correction value, it can be recalled.

Related Topic

MENU items available for each shooting mode
Focus

▶ Using Flexible Spot AF
▶ Using Manual Focus

You can change the focus method. Use the menu when it is difficult to get the proper focus in auto focus mode. AF stands for “Auto Focus,” a function that adjusts the focus automatically.

1. Set the Zoom/Focus switch to AF/ZOOM.
2. Press the FOCUS button.
3. Select the desired mode → ○ on the control button.

<table>
<thead>
<tr>
<th>AF Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ (Multi AF)</td>
<td>Focuses on a subject in all ranges of the finder frame automatically. When you press the shutter button halfway down in still image shooting mode, a green frame is displayed around the area that is in focus. ● When the Face Detection function is active, AF operates with priority on faces.</td>
</tr>
<tr>
<td>☑ (Center AF)</td>
<td>Focuses on a subject in the center of the finder frame automatically. Using the AF lock function together, you can compose the image the way you want.</td>
</tr>
<tr>
<td>☑ (Flexible Spot AF)</td>
<td>Allows you to move the AF range finder frame to the desired point on the screen and focus on an extremely small subject in a narrow area.</td>
</tr>
</tbody>
</table>

Notes
- When you use the following functions, the AF range finder frame is disabled and appears in a dotted line. In this case, the camera works to focus on the subjects at the center of the screen.
  - Zoom functions other than optical zoom
  - AF illuminator
- When the focus mode is set to other than [Multi AF], you cannot use the Face Detection function.
- If Tracking focus is activated, the camera focuses with priority on the subject to be tracked.

<table>
<thead>
<tr>
<th>Using Flexible Spot AF</th>
</tr>
</thead>
</table>
This is useful when you shoot using a tripod and the subject not in the center of the frame.
A: AF range finder frame (yellow: adjustable/white: fixed)

1. Adjust the position of the AF range finder frame where you want to focus, then press ●. To reset the setting, press ● again. You can adjust the rough position by using the jog dial.

Notes
- Once you change the focus method, the AF range finder frame you set up is cleared.

### Using Manual Focus

You can use the manual ring to set the focus manually.

1. Set the Zoom/Focus switch to MF.
2. Turn the manual ring.

A: Focus on the background
B: Focus on the foreground
- When setting the focus, if you press the FOCUS button, the display will be magnified about 8 times to allow for easier focusing.

Notes
- If the focus distance is set very close, the image may show dust or fingerprints on the lens. Wipe the lens with a soft cloth, etc.
- The focus distance range is limited according to the zoom scaling.
- Once you change the focus method, the distance of the Manual Focus you set up is cleared.
- Distance setting information in Manual Focus is approximate. If you point the lens up or down, the error increases.
- When using shooting modes or settings that do not allow you to set the focus using the manual ring, the focus mode will automatically switch to (Multi AF), even if the Zoom/Focus switch is set to MF, and appears on the screen.
- You cannot use the manual ring to set the focus under the following conditions:
  - When the self-timer is set to [Self-portrait One Person] or [Self-portrait Two People]
  - When the Smile Shutter is [On]

Related Topic
Metering Mode

Selects the metering mode that sets which part of the subject to measure to determine the exposure.

1. MENU → 

   (Multi) Divides into multiple regions and measures each region. The camera determines a well-balanced exposure (Multi-pattern metering).

   (Center) Measures the center of the image, and determines the exposure based on the brightness of the subject there (Center-weighted metering).

   (Spot) Align the spot metering cross hairs (A) on the subject to meter one part of the subject (Spot metering). This function is useful when the subject is backlit or when there is strong contrast between the subject and the background.

Notes

- In movie mode, the setting is fixed to [Multi].

Related Topic

MENU items available for each shooting mode
Cont. Shooting Interval

Selects the number of images taken per second for Burst shooting. The camera shoots up to 10 continuous frames when you hold down the shutter button.

1. MENU → 📸 (Cont. Shooting Interval) → desired mode → ●

| Hi (High) | Shoots from 2 to a maximum of 10 successive images. |
| Lo (Low)  |                                           |

Notes

- In slow shutter speed conditions, the burst of shots per second may be decreased.

Related Topic

Cont. Shooting Settings

MENU items available for each shooting mode
## Bracket Setting

You can set the type of shooting when [Cont. Shooting/Self-Timer] is set to [Bracket] or [Self-Timer (Bracket)]. In the bracket shooting mode, you can record a series of 3 images with the setting changed. You can select the most suitable image afterwards.

1. **MENU → **
   - **(Bracket Setting)** → desired mode → 

### Table: Bracket Setting Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXP ±0.3</td>
<td>Records a series of 3 images with the exposure shifted in the following order: standard, dark, and bright. The larger the bracket step value, the larger the shift of the exposure value.</td>
</tr>
<tr>
<td>EXP ±0.7</td>
<td></td>
</tr>
<tr>
<td>EXP ±1.0</td>
<td></td>
</tr>
<tr>
<td>(White Balance)</td>
<td>Records a series of 3 images with the white balance shifted in the following order: current color tone, toward blue, and toward red. When you set [White Balance] to other than [Auto], the color tone is shifted based on the selected white balance.</td>
</tr>
</tbody>
</table>

### Notes
- You cannot select [White Balance] when the mode dial is set to **SCN** (Scene Selection).

### Related Topic
- Cont. Shooting Settings
- Self-Timer
  - Functions available for each shooting mode
  - MENU items available for each shooting mode
Scene Recognition

Advanced mode

In Intelligent Auto mode, the camera automatically detects shooting conditions. When a motion is detected, the ISO sensitivity is increased according to the movement to reduce subject blur. When the camera is set to Intelligent Auto mode, you can select [Advanced] mode, in which the camera automatically shoots two images.

In Scene Recognition, the position of an icon displayed on the screen is different depending on the circumstances. It depends on whether the camera recognizes a scene or condition. If the camera recognizes a scene, icons and guides such as  (Portrait),  (Infant),  (Night Portrait),  (Night Scene),  (Backlight Portrait),  (Backlight),  (Landscape),  (Macro),  (Spotlight) or  (Low Light) are displayed on the first line. If the camera recognizes a condition, icons such as  (Tripod),  (Move) or  (Walk) are displayed on the second line. The camera may recognize both the scene and condition, or just one.

1. MENU → SCN (Scene Recognition) → desired mode →  

<table>
<thead>
<tr>
<th>SCN (Auto)</th>
<th>When the camera recognizes the scene, it switches to the optimal settings and shoots the image.</th>
</tr>
</thead>
</table>
| SCN+ (Advanced) | When the camera recognizes the scene, it switches to the optimal settings. When the camera recognizes  (Night Scene),  (Night Portrait),  (Backlight) or  (Backlight Portrait), it automatically changes the setting and shoots another image.  
  - When you shoot two images consecutively, the + mark on the SCN+ icon will turn green.  
  - When [Anti Blink] is displayed, 2 images are taken automatically and the image with the eyes open is selected automatically. [Details] |

Notes

- Scene Recognition function does not operate when you use zoom functions other than the optical zoom.
- The available flash settings are [Auto], [Advanced Flash] or [Off].
- These scenes may not be recognized depending on the situation.
- In Tracking focus mode,  (Portrait),  (Infant),  (Night Portrait) or  (Backlight Portrait) are not recognized.
- If the environment causes vibrations to be transferred to the camera when  (Tripod) and  (Night Scene) conditions are recognized at the same time,  (Tripod) condition may not be recognized.
- Sometimes a slow shutter results when  (Tripod) and  (Night Scene) conditions are recognized at the same time. Keep the camera still during shooting.
- When shooting movies, Advanced mode is not available.
Advanced mode

In [Advanced] mode, the camera shoots two images consecutively with the different settings as follows when it recognizes (Night Scene), (Night Portrait), (Backlight) or (Backlight Portrait) scenes, which tend to blur or when (Night Scene) and (Tripod) conditions are recognized at the same time. You can select the desired image from the two images shot.

<table>
<thead>
<tr>
<th>First Image*</th>
<th>Second Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shoots in Slow Synchro</td>
<td>Shoots with sensitivity increased and shake reduced</td>
</tr>
<tr>
<td>Shoots in Slow Synchro with the face which the flash strobes on as guide</td>
<td>Shoots with sensitivity increased with the face as guide and shake reduced</td>
</tr>
<tr>
<td>Shoots in Slow Synchro</td>
<td>Shoots with a slower shutter speed without increasing sensitivity</td>
</tr>
<tr>
<td>Shoots with the flash</td>
<td>Shoots with the brightness and contrast of the background adjusted</td>
</tr>
<tr>
<td>Shoots with the face which the flash strobes on as guide</td>
<td>Shoots with the brightness and contrast of the face and the background adjusted</td>
</tr>
</tbody>
</table>

* When [Flash] is set to [Auto].

What is the Anti Blink function?

When set to [Advanced], the camera automatically shoots two images consecutively* when it recognizes (Portrait) or (Infant). The camera will select, display, and record the image which the eyes are not blinked automatically. If the eyes are closed in both images, the message “Blinked eye detected” is displayed.

* except when the flash strobes/when the shutter speed is slow.

Related Topic

MENU items available for each shooting mode
**Smile Shutter**

When the camera detects a smile, the shutter is released automatically.

1. **MENU** → 😊 (Smile Shutter) → [On]
2. Wait for a smile to be detected.
   When a smile is detected and the smile level exceeds the point on the indicator, the camera records images automatically.

<table>
<thead>
<tr>
<th>On (Smile Shutter)</th>
<th>Off (Off)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses/Does not use the [Smile Shutter] function.</td>
<td></td>
</tr>
</tbody>
</table>

**Tips for better capturing of smiles**

1. **Do not cover the eyes with the bangs. Do not obscure the face by hat, masks, sunglasses, etc.**
2. **Try to orient the face in front of the camera and be as level as possible. Keep the eyes narrowed.**
3. **Give a clear smile with an open mouth. The smile is easier to detect when the teeth are shown.**
   - The shutter operates when any person whose face is being detected smiles.
   - You can select or register the priority subject for face detection with [Face Detection]. When the selected face is registered in the camera memory, Smile Detection is performed only for that face. [Details]
● If a smile is not detected, select MENU → [Smile Detection Sensitivity], then set the value to [Slight Smile].

**Notes**

● Shooting using the Smile Shutter ends automatically when either the memory card or internal memory becomes full.
● Smiles may not be detected correctly depending on the conditions.
● The Smile Shutter function does not operate when you use zoom functions other than the optical zoom.

**Related Topic**

Smile Detection Sensitivity

MENU items available for each shooting mode

Copyright 2013 Sony Corporation
Smile Detection Sensitivity

Sets the sensitivity of the Smile Shutter function for detecting smiles.

1. MENU → 😊 (Smile Detection Sensitivity) → desired mode → ○

| 🎭 (Big Smile) | Detects a big, normal or slight smile. |
| 🎭 (Normal Smile) | |
| 🎭 (Slight Smile) | |

**Notes**

- Smiles may not be detected correctly depending on the conditions.

**Related Topic**

Smile Shutter

MENU items available for each shooting mode
Face Detection

When the Face Detection function is used, the camera detects the faces of your subjects and adjusts the focus, flash, exposure, white balance and red-eye reduction settings automatically.

When the camera detects more than one subject, the camera will judge which is the main subject and set focus by priority. The frame for which the focus is set will turn green by pressing the shutter button halfway down.

1. MENU → [ ] (Face Detection) → desired mode → 

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ] (Off)</td>
<td>Cannot use Face Detection.</td>
</tr>
<tr>
<td>✔️ [ ] (Auto)</td>
<td>Selects the face the camera is to automatically focus on.</td>
</tr>
<tr>
<td>![ ] (Child Priority)</td>
<td>Detects and shoots with priority on child's face.</td>
</tr>
<tr>
<td>![ ] (Adult Priority)</td>
<td>Detects and shoots with priority on adult's face.</td>
</tr>
</tbody>
</table>

**Notes**

- [Off] is not available when [Self-Timer] is set to [Self-portrait One Person] or [Self-portrait Two People].
- You can select [Face Detection] only when the focus mode is set to [Multi AF] and the metering mode is set to [Multi].
- The Face Detection function does not work when you use zoom functions other than the optical zoom.
- Up to 8 faces of your subjects can be detected.
- Adults and children may not be recognized correctly depending on the conditions.
- During Smile Shutter shooting, [Face Detection] is automatically set to [Auto] even if it is set to [Off].

**Related Topic**

Tracking focus
Functions available for each shooting mode
MENU items available for each shooting mode
Flash Level

Adjusts the amount of flash light. The flash level can be set in 1/3 the Exposure Compensation increments.

1. MENU → 0±0.0(Flash Level) → desired mode →

Notes

- The value is not displayed on the screen. It is indicated as  或  .
- If the subject is too bright or dark, this adjustment may have no effect.

Related Topic

MENU items available for each shooting mode
**Color Mode**

You can change the vividness of the image, and use special effects.

1. MENU →  (Color Mode) → desired mode →  

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Example Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Standard]</td>
<td>Set the image to standard color.</td>
<td>![Standard Image]</td>
</tr>
<tr>
<td>![Vivid]</td>
<td>Set the image to bright and deep color.</td>
<td>![Vivid Image]</td>
</tr>
<tr>
<td>![Real]</td>
<td>Set the image similar to real color.</td>
<td>![Real Image]</td>
</tr>
<tr>
<td>![Sepia]</td>
<td>Set the image to sepia color.</td>
<td>![Sepia Image]</td>
</tr>
<tr>
<td>![B &amp; W]</td>
<td>Set the image to black and white.</td>
<td>![B &amp; W Image]</td>
</tr>
</tbody>
</table>
Color Saturation

Adjusts the vividness (color saturation) of the image.

1. MENU → [Color Saturation] → desired mode → ●

- (-)

✓ (Standard)

+ (+)

Adjusts the vividness of the image.

Related Topic

MENU items available for each shooting mode
Contrast

Adjusts the contrast of the image.

1. MENU → [Contrast] → desired mode → ●

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻‥</td>
<td></td>
</tr>
<tr>
<td>⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻⁻‥</td>
<td></td>
</tr>
</tbody>
</table>

Adjusts the contrast of the image.

Related Topic

MENU items available for each shooting mode
Sharpness

Adjusts the sharpness of the image.

1. MENU → [Sharpness] → desired mode → 

- (-)
- (Standard)
+ (+)

Adjusts the sharpness of the image.

Related Topic

MENU items available for each shooting mode
Noise Reduction

Adjusts the resolution/noise balance of the recording images.

1. MENU → NRstd (Noise Reduction) → desired mode →

<table>
<thead>
<tr>
<th>NRstd(–)</th>
<th>Weakens noise reduction. This setting puts emphasis on resolution of images.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRstd(+)</td>
<td>Strengthens noise reduction. This setting puts emphasis on elimination of noise.</td>
</tr>
</tbody>
</table>

**Notes**
- Depending on the settings at the time of recording, the Noise Reduction level cannot be adjusted.

**Related Topic**
MENU items available for each shooting mode
Anti Blink

When Scene Selection is set to [Soft Skin] or [Soft Snap] and the subject blinks while you are shooting an image, the camera automatically shoots two images consecutively. The camera will select, display and record the image which the eyes are not blinked automatically.

1. MENU → Anti Blink → desired mode →

- (Auto) When Face Detection is active, the Anti Blink function operates so that images with the subject’s eyes open are recorded.
- (Off) Does not use the Anti Blink function.

Notes
- Anti Blink does not function in the following situations:
  - When using the flash
  - During burst shooting
  - When the Face Detection function does not work
  - When the Smile Shutter function is activated
- Sometimes the Anti Blink function does not work depending on the situation.
- When the Anti Blink function is set to [Auto] but only images with the subject’s eyes closed are recorded, the message “Blinked eye detected” is displayed on the screen. Shoot again as necessary.

Related Topic
- Scene Selection
- MENU items available for each shooting mode
**Movie SteadyShot**

The strength of the SteadyShot effect when shooting movies can be adjusted.

1. MENU → (Movie SteadyShot) → desired mode →

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="Standard" alt="icon" /></td>
<td>Reduces camera shake during movie shooting under stable conditions.</td>
</tr>
<tr>
<td><img src="Active" alt="icon" /></td>
<td>Reduces camera shake when shooting images while walking or zooming.</td>
</tr>
</tbody>
</table>

**Notes**

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

**Related Topic**

Shooting movies

MENU items available for each shooting mode
Register Setting

▼ Items that can be registered

▼ To recall registered settings

Allows you to register up to 3 often-used modes or camera settings in the camera. You can recall the settings using [Memory recall mode].

1. Set the mode dial to P (Program Auto), S (Shutter Speed Priority Shooting), A (Aperture Priority Shooting), M (Manual Exposure Shooting) or SCN (Scene Selection).

2. Set the camera to the setting you want to register.

3. MENU → [Register Setting] → desired number

Notes
• When correcting settings, follow steps 2 – 3 again.

Items that can be registered

Available shooting settings are as follows:

- PBAMSCN
- DISP
- CUSTOM (Custom) button
- FOCUS button, CUSTOM button
- ISO value
- Shutter speed
- Aperture value (F value)
- Exposure Compensation
- Zoom scale
- MENU items (Shooting)

To recall registered settings

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

2. Press ◀/▶ to select the desired number

Notes
• If you set MR (Memory recall mode) 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.
### MENU items available for each view mode

In the table below, a check mark indicates function that can be changed, while — indicates function that cannot be changed.

<table>
<thead>
<tr>
<th>Menu items</th>
<th>Memory card</th>
<th>Internal Memory</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Date View</td>
<td>Folder view (Still)</td>
</tr>
<tr>
<td>(Retouch)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(Picture Effect)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(Slideshow)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(Delete)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(3D Viewing)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(View Mode)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(Display Cont. Shooting Group)</td>
<td>✓</td>
<td>—</td>
</tr>
<tr>
<td>(Protect)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Print (DPOF)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(Rotate)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(In-Camera Guide)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(Settings)</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Notes**
- Only the items that are available for each mode are displayed on the screen.
Retouch

Retouches a recorded image and saves it as a new file. The original image is retained.

1. Switch to playback mode.
2. MENU → (Retouch) → desired mode → ●
3. Perform retouching according to the operation method in each mode.

### (Trimming (Resize))
Records the zoomed playback image.

1. Turn the W/T (zoom) lever to the T (Q) side to zoom in, and to the W side to zoom out.
2. Set the zoom point using ‹ † ‡ † ‡.
3. MENU → select an image size to save → ●
   - The quality of trimmed images may deteriorate.
   - The image size that you can trim may vary depending on the image.

### (Unsharp masking)
Sharpens the image within a chosen frame.

1. Select the area (frame) of the desired image to retouch using ‹ † ‡ † ‡.
   → MENU → [OK] → ●.
   - Depending on the image, sufficient correction may not be applied and the image quality may deteriorate.

**Notes**
- You cannot retouch the following images:
  - Panoramic images
  - 3D images
Movies
- Images displayed in a burst group
**Picture Effect**

Retouches a recorded image so that it looks like a watercolor or illustration, and saves it as a new file. The original image is retained.

1. Switch to playback mode.
2. MENU → ✔️ (Picture Effect) → desired mode →

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🎨 (Watercolor)</td>
<td>Adds ink bleed and gradational effects to images as if they were painted using watercolors.</td>
</tr>
<tr>
<td>🎨 (Illustration)</td>
<td>Adds illustration-like effects to images by emphasizing the contours, etc.</td>
</tr>
</tbody>
</table>

**Notes**
- You cannot use [Picture Effect] for the following images:
  - Panoramic images
  - 3D images
  - Movies
Slideshow

Continuous Playback

Slideshow with music
Images are automatically played back in succession.

1. Switch to playback mode.
2. MENU → <<(Slideshow) → desired slideshow → ●

(Continuous Playback) Starts playback from the currently displayed image.

(Slideshow with music) Plays back still images in succession along with effects and music.

Notes
- [Slideshow] is not available when [View Mode] is set to [Folder view (MP4)] or [AVCHD view].

Continuous Playback

1. Select the desired image for playing.
2. MENU → <<(Slideshow) → [Continuous Playback] → ●
3. To change the playback method, follow the guide on the bottom of the screen.

Viewing panoramic images during continuous playback
The whole panoramic image is displayed for 3 seconds.
You can scroll a panoramic image by pressing ●.

Slideshow with music

1. MENU → <<(Slideshow) → [Slideshow with music] → ●
   Displays the setting screen.
2. Select a desired setting.
3. [Start] → ●
4. Press ● to end the slideshow.

Notes
- [Slideshow with music] is not available for the following images:
  - Panoramic images
  - 3D images recorded in [Standard] or [Wide] size

Playback Selection
Selects the group of images to be shown. The setting is fixed to [Folder] when the internal memory is used to record images.
All  Plays a slideshow of all the images in order.
This Date  Plays a slideshow of images with the currently selected date range when View Mode is [Date View].
Folder  Plays a slideshow of images in the currently selected folder in Folder View.

Effects
Selects the playback speed and mood for slideshows. If the playback time of the movie is long, an image is taken from it and displayed.

- Simple  A simple slideshow switching images at a preset interval. The playback interval is adjustable in [Interval] and you can thoroughly enjoy your images.
- Nostalgic  A moody slideshow reproducing the atmosphere of a movie scene.
- Stylish  A stylish slideshow proceeding at a middle tempo.
- Active  A high-tempo slideshow suitable for active scenes.

Music
Specifies the music to be played during slideshows. You can select more than one background music track. Press ▼ to display the volume control screen, then press ◀ / ► to adjust the volume.

- Music1  The default setting for a [Simple] slideshow.
- Music2  The default setting for a [Nostalgic] slideshow.
- Music3  The default setting for a [Stylish] slideshow.
- Music4  The default setting for an [Active] slideshow.
- Muting  Does not use music.

Notes
- The movies are played back without their audio.

Interval
Sets the screen switching interval. The setting is fixed to [Auto] when [Simple] is not selected as the [Effects].

- 1 sec  Sets the display interval of images for a [Simple] slideshow.
- 3 sec  The default setting for a [Simple] slideshow.
- 5 sec
- 10 sec
- Auto  The interval is set to suit the selected [Effects] item.

Selecting background music
You can transfer a desired music file from your CDs or MP3 files to the camera to play back during slideshow. To transfer music, install the “Music Transfer” software to your computer.

Related Topic
“Music Transfer”
Delete

Allows you to select unwanted images for deletion. You can also delete images using the Delete button.

1. Switch to playback mode.
2. MENU → (Delete) → desired mode →
3. [OK] →

<table>
<thead>
<tr>
<th>(All but This Image)</th>
<th>Deletes burst group images other than the selected image in Display Cont. Shooting Group mode.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(All Imgs in This Cnt.Sht. Grp.)</td>
<td>Deletes all images in the selected burst group at once.</td>
</tr>
<tr>
<td>(This Image)</td>
<td>Deletes the currently displayed image in single-image mode.</td>
</tr>
<tr>
<td>(Multiple Images)</td>
<td>Allows you to select and delete multiple images.</td>
</tr>
<tr>
<td>(All Images on This Date)</td>
<td>Deletes all still images and movies in the selected date range or folder, or all AVCHD movies at once.</td>
</tr>
<tr>
<td>(All in This Folder)</td>
<td></td>
</tr>
<tr>
<td>(All AVCHD view files)</td>
<td></td>
</tr>
</tbody>
</table>

Notes

- In Easy Mode, you can select from [1 image] or [All].
- When the internal memory is used to record images, View Mode is set to Folder View.

Related Topic

Deleting images
3D Viewing

Select [3D Viewing] when you want to play back images shot in 3D mode on the 3D TV. Connect the camera and the 3D TV using an HDMI Cable (sold separately).

1. Switch to playback mode.
2. MENU → [3D Viewing] →

Related Topic

Viewing 3D images on a 3D TV
View Mode

Displaying the Calendar
Allows you to select the display format for images.

1. Switch to playback mode.
2. MENU → (View Mode) → desired mode → Rum (View Mode) 

<table>
<thead>
<tr>
<th>View Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Date View)</td>
<td>Displays images by date.</td>
</tr>
<tr>
<td>(Folder view (Still))</td>
<td>Displays still images.</td>
</tr>
<tr>
<td>(Folder view (MP4))</td>
<td>Displays MP4-format movies.</td>
</tr>
<tr>
<td>(AVCHD view)</td>
<td>Displays AVCHD-format movies.</td>
</tr>
</tbody>
</table>

Notes
- When the internal memory is used to record images, View Mode is set to Folder View.

Displaying the Calendar
1. MENU → (View Mode) → [Date View] → Rum (View Mode) 
2. Turn the W/T (zoom) lever to W side ( ) repeatedly until the Calendar is displayed.
   Select ( ), then select the month you want to display. Select the date and press Rum (View Mode) to view images of the selected date in index mode.
Display Cont. Shooting Group

You can select to display burst images in groups or display all images during playback.

1. Switch to playback mode.
2. MENU → (View Mode) → [Date View] → ●
3. MENU → (Display Cont. Shooting Group) → desired mode → ●

Related Topic
Viewing burst images
Protect

To cancel the protection
Protects recorded images against accidental erasure. The \( \text{\(\text{\textcopyright} \)} \) mark is displayed for registered images.

1. Switch to playback mode.
2. MENU \( \text{\(\text{\textcopyright} \)} \) (Protect) \( \rightarrow \) desired mode \( \rightarrow \) ●
3. [OK] \( \rightarrow \) ●

<table>
<thead>
<tr>
<th>Protect mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \text{(\text{\textcopyright} )} ) (This Image)</td>
<td>Protects the currently displayed image in single-image mode.</td>
</tr>
<tr>
<td>( \text{(\text{\textcopyright} )} ) (Multiple Images)</td>
<td>You can select and protect multiple images.</td>
</tr>
<tr>
<td></td>
<td>After step 2, select an image to be protected, then press ●.</td>
</tr>
<tr>
<td></td>
<td>To cancel the selection, press ● again to cancel the ( \text{(\text{\textcopyright} )} ) mark.</td>
</tr>
<tr>
<td>( \text{(\text{\textcopyright} )} ) (Set All Cont. Shooting Imgs.)</td>
<td>Protect all images in the selected burst group at once in Display Cont.</td>
</tr>
<tr>
<td></td>
<td>Shooting Group mode.</td>
</tr>
<tr>
<td>( \text{(\text{\textcopyright} )} ) (Rmv. All Cnt. Shoot. Images.)</td>
<td>Release all protected images in the selected burst group at once in Display</td>
</tr>
<tr>
<td></td>
<td>Cont. Shooting Group mode.</td>
</tr>
</tbody>
</table>

Notes

- When the internal memory is used to record images, View Mode is set to Folder View.

To cancel the protection
Select the image for which you want to cancel protection, and unlock it by pressing ● as the same procedure to protect it. The \( \text{\(\text{\textcopyright} \)} \) indicator disappears, and the protection is released.
Print (DPOF)

Clearing the DPOF mark

DPOF (Digital Print Order Format) is a function that allows you to specify the images of the memory card that you want to print out later. The DPOF (Print order) mark is displayed for registered images.

1. Switch to playback mode.
2. MENU → Print (DPOF) → desired mode → ●

<table>
<thead>
<tr>
<th>DPOF (This Image)</th>
<th>Orders printing the currently displayed image in single-image mode.</th>
</tr>
</thead>
</table>
| DPOF (Multiple Images) | You can select and order multiple images to be printed.  
| ① After step 2, select an image to be printed, then press ●.  
| ② MENU → [OK] → ●  
| To cancel the selection, press ● again to cancel the ✔ mark. |

Notes

- The DPOF (Print order) mark cannot be added to the following images:
  - Movies
  - Images in the internal memory
- You can add a DPOF (Print order) mark to a maximum 999 images.

Clearing the DPOF mark

Select the image to clear the DPOF registration, then press ● in the same procedure as when making a DPOF mark. The DPOF mark disappears and the DPOF registration is cleared.

Related Topic

Printing still images
**Rotate**

Rotates a still image. Use this to display a horizontal orientation image in vertical orientation.

![Image before rotation](image1.png) ![Image after rotation](image2.png)

1. Switch to playback mode.
2. **MENU** → (Rotate) → ●
3. Press ●. The still image will be rotated counter-clockwise.
   If you want to rotate the image again, repeat step 3.

**Notes**
- You cannot rotate the following images:
  - 3D images
  - Movies
  - Images displayed in a burst group
- You may not be able to rotate images shot with other cameras.
- When viewing images on a computer, the image rotation information may not be reflected depending on the software.
## Movie format

You can set the recording method used to record movies.

1. Set the camera to shooting mode.

2. MENU → [Settings] → [Shooting Settings] → [Movie format] → desired mode →

<table>
<thead>
<tr>
<th>Format</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVCHD</td>
<td>AVCHD movies are recorded. Sets the recording method to AVCHD, which is suitable for viewing smooth video images on a high-definition television. Blu-ray discs, AVCHD discs and DVD-Video discs can be created using the software &quot;PlayMemories Home.&quot; When you create AVCHD discs from movies recorded in [AVC HD 28M (PS)] or [AVC HD 24M (FX)], it will take time as the image quality must be converted. To save [AVC HD 28M (PS)] or [AVC HD 24M (FX)] movies without converting the image quality, use Blu-ray discs. [Details]</td>
</tr>
<tr>
<td>MP4</td>
<td>MP4 (AVC) movies are recorded. Sets the recording method to MP4, which is suitable for WEB uploads and e-mail attachments. No discs can be created from MP4 movies, even if you use the software &quot;PlayMemories Home.&quot;</td>
</tr>
</tbody>
</table>

**Related Topic**

AVCHD format
The AF illuminator supplies fill light to focus more easily on a subject in dark surroundings. The AF illuminator emits red light allowing the camera to focus easily when the shutter button is pressed halfway, until the focus is locked. The [ ] indicator appears at this time.

1. Set the camera to shooting mode.

2. MENU → (Settings) → (Shooting Settings) → [AF Illuminator] → desired mode →

|   |  
|---|---
| ✓ | Auto |
|   | Uses/Does not use the AF illuminator.
|   | Off |

**Notes**

- Focus is achieved as long as the AF illuminator light reaches the subject, regardless of whether light fails to reach the center of the subject.
- You cannot use the AF illuminator in the following situations:
  - In movie mode
  - In [iSweep Panorama]
  - When (Landscape), (Night Scene), (Pet), (Fireworks) or (Advanced Sports Shooting) mode is selected in Scene Selection.
  - When [Self-Timer] is set to [Self-portrait One Person] or [Self-portrait Two People].
- When you use the AF illuminator, the normal AF range finder frame is disabled and a new AF range finder frame is displayed by a dotted line. AF operates with priority on subjects located near the center of the frame.
- The AF illuminator emits very bright light. Although there is no health hazard, do not look directly into the AF illuminator emitter at close range.
Grid Line

With reference to the grid lines, you can easily set a subject in a horizontal/vertical position.

1. Set the camera to shooting mode.
2. MENU →  (Settings) →  (Shooting Settings) → [Grid Line] → desired mode →

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>On</td>
<td>Displays the grid lines. The grid lines are not recorded.</td>
</tr>
<tr>
<td>Off</td>
<td>Does not display the grid lines.</td>
</tr>
</tbody>
</table>
Clear Image Zoom

Total zoom scale when [Clear Image Zoom] is selected (including 50× optical zoom)

[Clear Image Zoom] allows you to enlarge the image with close to the original image quality when shooting still images. The camera zooms images with the original image quality first depending on the selected still image size. When [Clear Image Zoom] is set to [On], the camera automatically switches over to [Clear Image Zoom] when the zoom range without deterioration of the original image quality is exceeded.

1. Set the camera to shooting mode.

2. MENU → (Settings) → (Shooting Settings) → [Clear Image Zoom] → desired mode

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>On</td>
<td>Zooms the images with close to the original image quality, depending on the image size. Switches to [Clear Image Zoom] within the range where is displayed.</td>
</tr>
<tr>
<td>Off</td>
<td>Does not use [Clear Image Zoom].</td>
</tr>
</tbody>
</table>

Notes

- To zoom the images within the range where original image quality can be retained, set both [Clear Image Zoom] and [Digital Zoom] to [Off]. [Details]
- [Clear Image Zoom] function does not operate in the following situations:
  - In movie mode
  - In [iSweep Panorama]
  - In [Picture Effect]
  - In [Background Defocus]
  - When the Smile Shutter function is activated.
  - When [Cont. Shooting Settings] is set to [Continuous Shooting].
  - In [Photo Creativity].
  - When [Self-Timer] is set to [Self-portrait One Person], [Self-portrait Two People] or [Self-Timer: Continuous Shooting].
  - When [Backlight Correction HDR] or (Advanced Sports Shooting) mode is selected in Scene Selection.
- The Face Detection function does not operate in the range of [Clear Image Zoom].

Total zoom scale when [Clear Image Zoom] is selected (including 50× optical zoom)

The supported zoom scales are different depending on the image size.

<table>
<thead>
<tr>
<th>Image size</th>
<th>Total zoom scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>20M</td>
<td>Approx. 100×</td>
</tr>
<tr>
<td>10M</td>
<td>Approx. 142×</td>
</tr>
<tr>
<td>5M</td>
<td>Approx. 200×</td>
</tr>
<tr>
<td>VGA</td>
<td>Approx. 810×</td>
</tr>
<tr>
<td>16:9 (15M)</td>
<td>Approx. 100×</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>16:9 (2M)</td>
<td>Approx. 270×</td>
</tr>
</tbody>
</table>
Digital Zoom

Sets the total zoom scale (including 50× optical zoom). When [Digital Zoom] is set to [On], the camera zooms images without deteriorating the original quality, but it automatically switches over to [Digital Zoom] when that zoom range (for achieving the original image quality) is exceeded. When [Clear Image Zoom] is set to [On] to shoot still images, the camera automatically switches over to [Digital Zoom] when the [Clear Image Zoom] range is exceeded. [Details]

1. Set the camera to shooting mode.

2. MENU → (Settings) → (Shooting Settings) → [Digital Zoom] → desired mode → ●

| On | The quality of the resulting image will deteriorate when is displayed, since the zoom function is switched over to [Digital Zoom], but you can enlarge images 4× up to the maximum zoom scale. |
| Off | Does not use [Digital Zoom]. |

Notes
- When using [Clear Image Zoom], the maximum zoom scale for [Digital Zoom] is 2×.
- [Digital Zoom] is not available in the following situations:
  - In [iSweep Panorama]
  - In [Picture Effect]
  - In [Background Defocus]
  - When the Smile Shutter function is activated.
  - When [Self-Timer] is set to [Self-portrait One Person] or [Self-portrait Two People].
  - In [Photo Creativity]
  - When (Backlight Correction HDR) or (Advanced Sports Shooting) mode is selected in Scene Selection.
- The Face Detection function does not operate in the range of [Digital Zoom].
Wind Noise Reduct.

Reduces the noise of the wind when shooting movies.

1. Set the camera to shooting mode.
2. MENU → (Settings) → (Shooting Settings) → [Wind Noise Reduct.] → desired mode

<table>
<thead>
<tr>
<th>On</th>
<th>Reduces/Does not reduce wind noise.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
<td></td>
</tr>
</tbody>
</table>

Notes

- If [Wind Noise Reduct.] is set to [On] even though the wind is not blowing strongly, the recorded sounds other than the wind may be hard to hear.
Micref Level

Selects the microphone level for recording.

1. Set the camera to shooting mode.
2. MENU → (Settings) → (Shooting Settings) → [Micref Level] → desired mode → ●

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>Records surrounding sounds within a fixed level. Suitable for recording daily conversations.</td>
</tr>
<tr>
<td>Low</td>
<td>Records surrounding sounds at actual level. Suitable for recording rich sound such as music at a concert.</td>
</tr>
</tbody>
</table>
Red Eye Reduction

The flash strobes two or more times before shooting to reduce the red-eye phenomenon when using the flash.

1. Set the camera to shooting mode.
2. MENU → (Settings) → (Shooting Settings) → [Red Eye Reduction] → desired mode

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto</td>
<td>When the Face Detection function is activated, the flash strobes automatically to reduce the red-eye phenomenon.</td>
</tr>
<tr>
<td>On</td>
<td>The flash always strobes to reduce the red-eye phenomenon.</td>
</tr>
<tr>
<td>Off</td>
<td>Does not use Red Eye Reduction.</td>
</tr>
</tbody>
</table>

What causes the red-eye phenomenon?
Pupils become dilated in dark environments. Flash light is reflected off the blood vessels at the back of the eye (retina) (A), causing the “red-eye” phenomenon.

Other ways to reduce red-eye
- Select ISO (High Sensitivity) mode in Scene Selection. (The flash is set to [Off] automatically.)

Notes
- To avoid blurring of images, hold the camera firmly until the shutter is released. It usually takes a second until the shutter is released, and also be sure not to allow the subject to move during this period.
- Red Eye Reduction may not produce the desired effects. It depends on individual differences and conditions, such as distance to the subject, or if the subject looked away from the pre-strobe.
- If you do not use the Face Detection function, Red Eye Reduction does not work, even when you select [Auto].
- [Red Eye Reduction] is set to [Off] in the following situations:
  - In 3D shooting mode
  - When Background Defocus), (Anti Motion Blur), (Night Scene), (Hand-held Twilight), ISO (High Sensitivity), (Gourmet), (Pet), (Fireworks) or (Advanced Sports Shooting) mode is selected in Scene Selection.
  - When Smile Shutter function is activated.
Blink Alert

When an image with the subject’s eyes closed is recorded while Face Detection is activated, the message “Blinked eye detected” is displayed.

1. Set the camera to shooting mode.

2. MENU → (Settings) → (Shooting Settings) → [Blink Alert] → desired mode →

<table>
<thead>
<tr>
<th></th>
<th>Displays/hides the “Blinked eye detected” message.</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Auto</td>
<td>Displays/hides the “Blinked eye detected” message.</td>
</tr>
<tr>
<td>Off</td>
<td>Displays/hides the “Blinked eye detected” message.</td>
</tr>
</tbody>
</table>
Write Date

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

1. Set the camera to shooting mode.
2. MENU → (Settings) → (Shooting Settings) → [Write Date] → desired mode →

| On ( ) | Records a shooting date. When [On] is selected, the mark will appear on the screen while shooting. However, in some shooting modes that cannot record dates on images, the mark will disappear. |
| Off | Does not record a shooting date. |

Notes

- You cannot record dates in the following situations:
  - In movie mode
  - When shooting still images while recording a movie (Dual Rec)
  - When shooting panoramic images
  - In burst shooting mode
  - In [Easy Mode]
  - In 3D shooting mode
- If you shot images with the date once, you cannot delete the date from the images later.
- The dates are doubly printed, if you set the camera to superimpose the dates when printing.
- The recorded time of the image cannot be superimposed on the image.
Custom Button

Set the often-used function to the CUSTOM (Custom) button.

1. Set the camera to shooting mode.

2. MENU → (Settings) → (Shooting Settings) → [Custom Button] → desired mode →

<table>
<thead>
<tr>
<th>AEL</th>
<th>AE lock/AE lock released</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Balance</td>
<td>Sets the White Balance.</td>
</tr>
<tr>
<td>Metering Mode</td>
<td>Sets the Metering Mode.</td>
</tr>
<tr>
<td>Smile Shutter</td>
<td>Sets the Smile Shutter.</td>
</tr>
</tbody>
</table>

Notes

- [Custom Button] is not available in Easy Mode.

Using the AE lock

When using the AE lock, the light meter values used to set the exposure are fixed. This function is convenient if you want to shoot several images without changing the exposure or select an exposure that is not compatible with the focus position.

Each time you press the CUSTOM button, the AE lock changes as follow:

AE lock → AE lock released → AE lock

However if you perform other operations such as pressing and turning the jog dial, the AE lock may be released.

- The AE lock can only be used with the CUSTOM button.
Disp. Resolution

Adjusts the image quality of the image displayed on the screen.

1. Set the camera to shooting mode.

2. MENU → (Settings) → (Shooting Settings) → [Disp. Resolution] → desired mode →

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>Displays the image on the screen in standard image quality.</td>
</tr>
<tr>
<td>High</td>
<td>Displays the image on the screen in high image quality. The battery power may decrease faster.</td>
</tr>
</tbody>
</table>
Beep

Selects the sound produced when you operate the camera.

1. MENU → (Settings) → (Main Settings) → [Beep] → desired mode →

<table>
<thead>
<tr>
<th>Shutter</th>
<th>Turns on the shutter sound when you press the shutter button.</th>
</tr>
</thead>
<tbody>
<tr>
<td>On</td>
<td>Turns on the beep/shutter sound when operation buttons in addition to the shutter button are pressed.</td>
</tr>
<tr>
<td>Off</td>
<td>Turns off the beep/shutter sound.</td>
</tr>
</tbody>
</table>
Panel Brightness

You can select the screen brightness from levels 1 to 5. The screen becomes brighter as the number rises. When you use the camera in bright outside light, select a higher number to see the screen easier.

1. MENU → (Settings) → (Main Settings) → [Panel Brightness] → desired mode →

Notes
- The brighter the screen, the faster the battery pack runs out.
- The screen grows dark if you do not operate the camera while the power is on.
- When the high-temperature indicator ( ) is displayed, the screen may grow dark regardless of the settings. [Details]
Language Setting

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

1. MENU → (Settings) → (Main Settings) → [Language Setting] → desired mode →

▲ Back to top
Display color

Sets the color of the screen display.

1. MENU → (Settings) → (Main Settings) → [Display color] → desired mode →

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>Sets the background color of the screen.</td>
</tr>
<tr>
<td>White</td>
<td></td>
</tr>
<tr>
<td>Pink</td>
<td></td>
</tr>
</tbody>
</table>

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Demo Mode

You can set whether to use a demonstration of Smile Shutter or AVCHD movie playback. When there is no need to view a demonstration, set to [Off].

1. MENU → 📷 (Settings) → ⚙️ (Main Settings) → [Demo Mode] → desired mode →

<table>
<thead>
<tr>
<th>Demo Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode1</td>
<td>A demonstration of the shooting functions will be performed.</td>
</tr>
<tr>
<td>Mode2</td>
<td>Automatically starts the Smile Shutter demonstration when no operation is performed for 15 seconds.</td>
</tr>
<tr>
<td>Mode3</td>
<td>If no operation is performed for a set period of time while the camera is connected to an HD TV, a demonstration of AVCHD movie playback will automatically be performed.</td>
</tr>
<tr>
<td>Off</td>
<td>Does not perform a demonstration.</td>
</tr>
</tbody>
</table>

Notes

- Pressing the shutter button during the Smile Shutter demonstration operates the shutter, but no image is recorded.
- During a demonstration, if the number of images saved in the internal memory increases, the camera may automatically delete the images. It is recommended to make a backup copy of the images on the internal memory before a demonstration.
Initialize

Initializes the setting to the default setting.
Even if you execute this function, the images are retained.

1. MENU →  (Settings) →  (Main Settings) → [Initialize] → desired mode → [OK] →

<table>
<thead>
<tr>
<th>REC Settings</th>
<th>This operation will reset the settings made at the time of shooting to default settings.</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Settings</td>
<td>Resets all settings to default settings.</td>
</tr>
</tbody>
</table>

Notes
- Be sure not to remove the battery pack while initializing.
Function Guide

You can select whether or not the function guide is displayed when you operate the camera.

1. MENU → (Settings) → (Main Settings) → [Function Guide] → desired mode →

<table>
<thead>
<tr>
<th>On</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Displays/hides the function guide.</td>
<td>Displays/hides the function guide.</td>
</tr>
</tbody>
</table>

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HDMI Resolution

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

1. MENU → (Settings) → (Main Settings) → [HDMI Resolution] → desired mode

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto</td>
<td>The camera automatically recognizes an HD TV and sets the output resolution.</td>
</tr>
<tr>
<td>1080p</td>
<td>Outputs signals in HD picture quality (1080p).</td>
</tr>
<tr>
<td>1080i</td>
<td>Outputs signals in HD picture quality (1080i).</td>
</tr>
</tbody>
</table>

**Notes**
- If you cannot display the screen properly with the [Auto] setting, select either [1080i] or [1080p] depending on the TV to be connected.
CTRL FOR HDMI

This setting allows (TV) remote control of a camera that is connected to a “BRAVIA” Sync TV using the HDMI Cable (sold separately).

1. MENU → (Settings) → (Main Settings) → [CTRL FOR HDMI] → desired mode →

- On: Enables/disables remote-controlled operation.
- Off: Enables/disables remote-controlled operation.

Notes
- You can perform the operation of the camera with the remote controller of your TV by connecting your camera to a “BRAVIA” Sync-compatible TV.

Related Topic
Viewing an image on a “BRAVIA” Sync-compatible TV
USB Connect Setting

Selects the USB mode when connecting the camera to a computer or a USB device using the micro USB cable.

1. **MENU** → (Settings) → (Main Settings) → [USB Connect Setting] → desired mode

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Auto</strong></td>
<td>Depending on the computer or other USB devices you connect to the camera, the connection mode is automatically selected from [MTP] or [Mass Storage]. When you use Windows 7 or Windows 8, [MTP] is selected and specific functions become available.</td>
</tr>
<tr>
<td><strong>MTP</strong></td>
<td>Establishes a MTP connection between the camera and a computer or other USB devices. When you use Windows 7 or Windows 8, [MTP] is selected and specific functions become available. When you use other operating systems (Vista/XP, Mac OS X), the AutoPlay Wizard appears, and the still images in the recording folder on the camera are imported to the computer.</td>
</tr>
<tr>
<td><strong>Mass Storage</strong></td>
<td>Establishes a Mass Storage connection between the camera and a computer or other USB device.</td>
</tr>
</tbody>
</table>

**Notes**

- If Device Stage* does not appear when connecting the camera to a Windows 7 or Windows 8 computer, set [USB Connect Setting] to [Auto].

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

Set whether to use the USB power supplied function when the camera is connected to a computer or a USB device using the micro USB cable.

1. MENU → 📊 (Settings) → ⚙️ (Main Settings) → [USB Power Supply] → desired mode →

- **On** Power is supplied when connected using the micro USB cable.
- **Off** Disables USB power supplied function even if you connect the camera to a device such as a computer using a micro USB cable.
# LUN Setting

Sets the display method for the recording media displayed on a computer screen or other monitor when the camera is connected with a computer or AV component using a USB connection.

1. MENU ➔ 📖 (Settings) ➔ 🎞 (Main Settings) ➔ [LUN Setting] ➔ desired mode ➔ 

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Multi</strong></td>
<td>The images both on the memory card and in the internal memory are displayed. Select this setting when you connect the camera to a computer.</td>
</tr>
<tr>
<td><strong>Single</strong></td>
<td>When the memory card is inserted into the camera, the images on the memory card are displayed; when it is not inserted, the images in the internal memory are displayed. Select this setting in cases where the images of both the memory card and the internal memory are not displayed when the camera is connected to a device other than a computer.</td>
</tr>
</tbody>
</table>

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Download Music

You can change background music tracks using “Music Transfer”.

1. MENU → (Settings) → (Main Settings) → [Download Music] →
   The message “Connect to PC” is displayed.
2. Make a USB connection between the camera and a computer, then start “Music Transfer”.
3. Follow the instructions on the screen to change music files.
Empty Music

You can delete all the background music files stored in the camera. It can be used in cases such as when the background music files are damaged and cannot be played.

1. MENU → (Settings) → (Main Settings) → [Empty Music] → [OK] → ○

Related Topic

“Music Transfer”
Eye-Fi

Transferring image data using the Eye-Fi card

Sets whether to use the upload function of an Eye-Fi card (commercially available), when you use the Eye-Fi card with this camera. [Eye-Fi] is displayed only when the Eye-Fi card is inserted in the camera.

1. MENU → (Settings) → (Main Settings) → [Eye-Fi] → desired mode → ●

| On | Uses the upload function. The Eye-Fi mode display icon on the screen will change depending on the communication mode of the Eye-Fi card. |
|    | ☐ Eye-Fi card is in standby mode. There is no image to be sent. |
|    | ☐ Eye-Fi card is in upload standby mode. |
|    | ☐ Eye-Fi card is in connecting mode. |
|    | ☐ Eye-Fi card is uploading images. |
|    | ☐ An error has occurred. |

| Off | Does not use the upload function. |

Notes

- As of December 2012, Eye-Fi cards are sold in the U.S.A., Canada, Japan and some countries in the European Union.
- For more information on the Eye-Fi card, contact the manufacturer or seller of Eye-Fi cards directly.
- Eye-Fi cards are permitted only in the countries and regions in which they were purchased. You may be held liable due to local restrictions.
- The Eye-Fi card has a wireless LAN function. Do not insert the Eye-Fi card where wireless LAN is prohibited, such as while aboard an airplane. If the Eye-Fi card is inserted, set [Eye-Fi] to [Off]. When the uploading function of the Eye-Fi card is set to [Off], ☐OFF is displayed on the screen.

Transferring image data using the Eye-Fi card

1. Set the wireless LAN access point settings or the transferring direction settings of the Eye-Fi card. For details, refer to the operating instructions supplied with the Eye-Fi card.
2. After the settings are finished, insert the Eye-Fi card into the camera, and shoot the images. The recorded images are automatically transferred via the wireless LAN to the PC, etc.

Notes

- When uploading image data, [Power Save] is not available.
- If the ☐ (error) icon is displayed, eject and re-insert the Eye-Fi card, or turn the power of the camera off and on again. If the ☐ (error) icon is still displayed, the Eye-Fi card may be corrupted. For details, contact Eye-Fi, Inc.
- Wireless LAN communication may be interrupted by the other communication devices. If data reception is insufficient, move the camera closer to the access point.
- Some Eye-Fi cards have an "Endless Memory Mode." This product does not support "Endless Memory Mode." Make sure that Eye-Fi cards that you insert into this product have "Endless Memory Mode" turned off. For details on setting "Endless Memory Mode", refer to the operating instructions supplied with the Eye-Fi card.
instructions supplied with the Eye-Fi card.
Power Save

Sets the length of time until the screen goes dark and the time until the camera turns off. If you do not operate the camera for a certain period of time while the power is on using the battery pack, the screen goes dark and the camera later turns off automatically to prevent wearing down the battery pack (Auto power-off function).

1. MENU → (Settings) → (Main Settings) → [Power Save] → desired mode → ●

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max</td>
<td>Saves battery power better than when set to [Standard]. If the camera is not operated for a certain period of time, the power turns off automatically. In shooting mode, the screen automatically goes dark before the power turns off.</td>
</tr>
<tr>
<td>✔️ Standard</td>
<td>If the camera is not operated for a certain period of time, the power turns off automatically. In shooting mode, the screen automatically goes dark before the power turns off. It takes longer before the power turns off than when set to [Max].</td>
</tr>
<tr>
<td>Off</td>
<td>Does not use the Auto power-off function.</td>
</tr>
</tbody>
</table>

Notes
- The camera does not enter Power Save under conditions such as during a slideshow, when recording movies or when the camera is connected to a computer.
## Version

Displays the software version installed on this camera.

1. MENU → (Settings) → (Main Settings) → [Version] →

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Format

Formats the memory card or the internal memory. 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.

1. MENU → (Settings) → (Memory Card Tool) or (Internal Memory Tool) → [Format] → [OK]

Notes
- Note that formatting permanently erases all data including even protected images.
Create REC.Folder

Creates a folder in a memory card for recording images. Images are recorded in the newly created folder until you create another folder or select another recording folder.

1. MENU → SETTINGS → MEMORY CARD TOOL → CREATE REC.FOLDER → OK

On the folders

After a new folder is created, you can change the storage destination folder. [Details]

Notes

- This item is not displayed when the internal memory is used to record images.
- When you insert a memory card that was used with other equipment into the camera and shoot images, a new folder may be automatically created.
- Up to 4,000 images can be stored in one folder. When the folder capacity is exceeded, a new folder is automatically created.
Change REC.Folder

Changes the folder in the memory card that is currently used for recording images.

1. MENU → (Settings) → (Memory Card Tool) → [Change REC.Folder] → OK
2. Select a folder with / .
3. [OK] → OK

Notes
- This item is not displayed when the internal memory is used to record images.
- You cannot select a folder with a number that has only "MSDCF" or "ANV01" as a recording folder.
- You cannot move recorded images to another folder.
Delete REC.Folder

Deletes a folder for recording images in a memory card.

1. MENU → (Settings) → (Memory Card Tool) → [Delete REC.Folder]
2. Select a folder with / .
3. [OK] → 

Notes
- This item is not displayed when the internal memory is used to record images.
- If you delete the folder set as the recording folder using [Delete REC.Folder], the folder that has the largest folder number is selected as the next recording folder.
- If a folder contains protected images or files that cannot be played back by the camera, images other than these images are deleted and the folder will remain.
Copy

Copies all images in the internal memory to a memory card.

1. Insert a memory card with sufficient free capacity into the camera.

2. MENU → (Settings) → (Memory Card Tool) → [Copy] → [OK] →

Notes

- Use a fully charged battery pack. If you attempt to copy image files using a battery pack with little remaining charge, the battery pack may run out, causing copying to fail or possibly corrupting the data.
- Images cannot be copied individually.
- The original images in the internal memory are retained even after copying. To delete the contents of the internal memory, remove the memory card after copying, then format the internal memory ([Format] in [Internal Memory Tool]).
- The data will be copied to the recording folder that is currently being used, with a number one higher than the largest data number in that folder. [Details]
**File Number**

Selects the method used to assign file numbers to images.

1. **MENU** → (Settings) → (Memory Card Tool) → [File Number] → desired mode →

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>✔</td>
<td>Series</td>
</tr>
<tr>
<td></td>
<td>Reset</td>
</tr>
</tbody>
</table>

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## Area Setting

Sets the area in which you are using this camera.

1. MENU → (Settings) → (Clock Settings) → [Area Setting] → desired setting → ●

<table>
<thead>
<tr>
<th>Home</th>
<th>Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>You use the camera in your area. When the currently set area differs from your home area, you must make the Area Setting.</td>
<td>You use the camera set to the time at your destination. Set the destination area.</td>
</tr>
</tbody>
</table>

### Changing Area Setting

Setting a frequently visited destination lets you easily adjust the time when you visit that destination.

1. Select the area part for [Destination], then press ●.

2. Press ◀ / ▶ to select the desired area, then select Summer Time using ▲ / ▼.
Date & Time Setting

Sets the date and time again.

1. MENU → (Settings) → (Clock Settings) → [Date & Time Setting] → desired setting →

2. Select the item to be changed using / / / → .

3. Press / to set the numeric value → .

4. [OK] →

<table>
<thead>
<tr>
<th>Date &amp; Time Format</th>
<th>You can select the date and time display format.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer Time</td>
<td>You can select Summer Time [On]/[Off].</td>
</tr>
<tr>
<td>Date &amp; Time</td>
<td>You can set the date and time.</td>
</tr>
</tbody>
</table>
Viewing an image on an HD TV using the HDMI Cable (sold separately)

Connect the camera to an HD (High Definition) TV that has an HDMI jack using the HDMI Cable (sold separately).

1. Turn off both the camera and the TV.
2. Connect the HDMI micro jack of the camera (A) and the HDMI jack of the TV (B) using an HDMI Cable (sold separately) (C).
3. Turn on the TV and set the input.
4. Turn on the camera.
   Select the desired image after images shot with the camera appear on the TV.

“PhotoTV HD”
This camera is compatible with the “PhotoTV HD” standard.
By connecting a Sony TV compatible with “PhotoTV HD” using an HDMI Cable (sold separately), a whole new world of photos can be comfortably enjoyed in breathtaking Full HD quality.
- “PhotoTV HD” allows for a highly-detailed, photo-like expression of subtle textures and colors.
- When the camera is connected to a Sony TV compatible with Video A mode using an HDMI Cable, your TV is automatically set to the picture quality suitable for still images. When the setting of the TV is set to Video, the picture quality is set to that suitable for movies.
- When playing back an AVCHD movie, it is recommended that you set [View Mode] to [AVCHD view].
- For details, see the operating instructions of the TV.

Notes
- Images shot in [VGA] image size cannot be played back in the HD format.
- MENU →  (Settings) →  (Main Settings), then set [HDMI Resolution] to [Auto], [1080p], [1080i].
- Do not connect the camera and equipment to be connected using both output terminals. When the camera and TV are connected using output terminals, no video or sound are produced. Such a connection can also cause problems with the camera and/or connected equipment.
- The camera may not work properly with some HD TVs. For example, you may not be able to view a video on your HD TV or hear sound from the HD TV.
- Use an HDMI Cable with the HDMI logo.
Use an HDMI mini connector on one end (for the camera), and a connector suitable for connection to your TV on the other end. You cannot view images on a TV that does not have an HDMI connector.

Recording may automatically stop to protect the camera after a period of time if you are shooting movies when the camera and TV are connected by an HDMI Cable (sold separately).

Related Topic

Viewing 3D images on a 3D TV
Viewing an image on a “BRAVIA” Sync-compatible TV

When you use a TV that has “BRAVIA” Sync (compatible with SYNC MENU) support, you can operate the playback functions of the camera using the remote controller supplied with the TV by connecting the camera to the TV using an HDMI Cable (sold separately).

1. Turn off both the camera and the TV.
2. Connect the HDMI micro jack of the camera (A) and the HDMI jack of the TV (B) using an HDMI Cable (sold separately) (C).
3. Turn on the TV and set the input.
4. Turn on the camera.
5. MENU \(\rightarrow\) (Settings) \(\rightarrow\) (Main Settings) \(\rightarrow\) [CTRL FOR HDMI] \(\rightarrow\) [On] \(\rightarrow\)
6. Press the SYNC MENU button of the TV’s remote controller to select the desired mode.

**Notes**

- When the camera is connected to a TV set using an HDMI Cable, the functions that you can operate are limited.
- You can perform the operation of the camera with the remote controller of your TV by connecting your camera to a “BRAVIA” Sync-compatible TV. For details, see the operating instructions of the TV.
- If the camera functions in an undesired manner when you are controlling it using the TV’s remote controller, such as when connected via HDMI to another manufacturer’s TV, press MENU \(\rightarrow\) (Settings) \(\rightarrow\) (Main Settings) \(\rightarrow\) [CTRL FOR HDMI] \(\rightarrow\) [Off].
- When the camera is in Easy Mode, SYNC MENU does not appear on the TV.
Viewing 3D images on a 3D TV

You can view 3D images recorded on the camera in 3D format by connecting the camera to a 3D TV using an HDMI Cable (sold separately). Refer also to the operating instructions supplied with the TV.

1. Turn off both the camera and the TV.
2. Connect the camera to the TV using an HDMI Cable (sold separately).
3. Turn on the TV and set the input.
4. Switch to playback mode.
5. MENU → (3D Viewing) → Images shot with the camera appear on the TV.
6. Select images and set the desired mode.

<table>
<thead>
<tr>
<th>Operation</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲</td>
<td>Continuously plays back only 3D images.</td>
</tr>
<tr>
<td>◄</td>
<td>Previous image</td>
</tr>
<tr>
<td>►</td>
<td>Next image</td>
</tr>
<tr>
<td>▼</td>
<td>Ends 3D playback.</td>
</tr>
</tbody>
</table>

- You can change the zoom scale for 3D still images using the W/T (zoom) lever.

Notes
- When you select (3D Viewing) mode, only 3D images are displayed.
- Do not connect the camera and equipment to be connected using output terminals. When the camera and TV are connected using output terminals, no video and sound are produced. Such a connection can also cause trouble of the camera and/or connected equipment.
- This function may not work properly with some TVs. For example, you may not be able to view a video on your TV, output in 3D mode or hear sound from the TV.
Use an HDMI Cable with the HDMI logo.

When connecting the camera to a TV, use an HDMI Cable that can be connected to the HDMI micro jack on the camera end and to the TV jack.

Recording may automatically stop to protect the camera after a period of time when you shoot movies in the condition where the camera and TV are connected by an HDMI Cable (sold separately).

Related Topic

3D Viewing
Recommended computer environment

The following computer environment is recommended when using the software “PlayMemories Home” (Windows) and “Music Transfer” (Windows/Mac) and when importing images via a USB connection.

Windows

<table>
<thead>
<tr>
<th>OS (pre-installed)</th>
<th>Microsoft Windows XP* SP3/Windows Vista SP2/Windows 7 SP1/ Windows 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Intel Pentium II 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 is required when processing AVCHD (FX/FH) movies and Intel Core 2 Duo 2.40 GHz or faster is required when processing AVCHD (PS) movies.)</td>
</tr>
<tr>
<td>Memory</td>
<td>Windows XP: 512 MB or more (1 GB or more is recommended.) Windows Vista / Windows 7 / Windows 8: 1 GB or more</td>
</tr>
<tr>
<td>Hard Disk (Disk space required for installation)</td>
<td>Approximately 500 MB</td>
</tr>
<tr>
<td>Display</td>
<td>1,024 dots × 768 dots or more</td>
</tr>
</tbody>
</table>

* 64-bit editions and Starter (Edition) are not supported.

Windows Image Mastering API (IMAPI) Ver.2.0 or later is required to create a disc.

Mac

<table>
<thead>
<tr>
<th>OS (pre-installed)</th>
<th>USB Connection: Mac OS X v10.5 to v10.8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Music Transfer: Mac OS X v10.5 to v10.8*</td>
</tr>
</tbody>
</table>

* Equipped with Intel processor

Notes

- Operation is not assured in an environment based on an upgrade of the operating systems described above or in a multi-boot environment.
- If you connect two or more USB devices to a single computer at the same time, some devices, including the camera, may not operate, depending on the types of USB devices you are using.
- Connecting the camera using a USB interface that is compatible with Hi-Speed USB (USB 2.0) allows advanced transfer (high speed transfer), as the camera is compatible with Hi-Speed USB (USB 2.0).
- When your computer resumes activity from suspend or sleep mode, communication between the camera and your computer may not recover at the same time.
“PlayMemories Home” (Windows)

Below are examples of the functions available when you use “PlayMemories Home.”

- “PlayMemories Home” allows you to import images shot with the camera to a computer for display. Make a USB connection between the camera and your computer, and click [Import].
- You can display images stored on a computer by shooting date in a calendar display.
- You can save and print images with the date.
- You can edit still images, such as resizing (Resize) and cropping (Trimming).
- You can correct still images, and change the shooting date and time.
- Blu-ray discs, AVCHD discs and DVD-Video discs can be created from AVCHD movies imported to a computer.
- You can upload images to a network service. (An internet connection environment is required.)
- For other details, see (PlayMemories Home Help Guide).

Notes

- Mac does not support “PlayMemories Home.” Use the application bundled with the Mac to play back images.
Installing “PlayMemories Home” (Windows)

Starting “PlayMemories Home” (Windows)
Accessing to “PlayMemories Home Help Guide” (Windows)

1. Using the Internet browser on your computer, go to the following URL, then click [Install] → [Run].
   www.sony.net/pm

2. Follow the instructions on the screen to complete the installation.
   - When the message to connect the camera to a computer is displayed, connect using the micro USB cable (supplied) (A).

   ![Diagram](image)

   A: To a USB jack of the PC
   B: To the Multi/Micro USB Terminal

   - For details on “PlayMemories Home”, see (PlayMemories Home Help Guide) or the following PlayMemories Home support page (English only):
     http://www.sony.co.jp/pmh-se/

Notes

- 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.
- Mac does not support “PlayMemories Home.” Use the application bundled with the Mac to play back images.
- If “PlayMemories Home” has already been installed on your computer, connect the camera with the computer and register your camera with “PlayMemories Home.” The available functions activate.
- If the software “PMB (Picture Motion Browser)” has already been installed on your computer, “PlayMemories Home” will overwrite it and will be installed. Although some “PlayMemories Home” functions differ from those of “PMB,” use “PlayMemories Home.”

Starting “PlayMemories Home” (Windows)

1. Double-click (PlayMemories Home) on the desktop.
   - To start “PlayMemories Home” from the Start menu, select [Start] → [All Programs] → (PlayMemories Home).
   - For Windows 8, select the [PlayMemories Home] icon on the Start screen.

Accessing to “PlayMemories Home Help Guide” (Windows)
   - To start “PlayMemories Home Help Guide” from the Start menu, select [Start] → [All Programs] → [PlayMemories Home] → [PlayMemories Home Help Guide].
“Music Transfer”

“Music Transfer” allows you to replace the Music files provided in the camera at the factory with your favorite tracks, and to delete and add Music files. You can also restore the tracks stored at the factory to your camera.

Download the software from the following URL and install it on your computer.
Windows: http://www.sony.co.jp/imsoft/Win/
Mac: http://www.sony.co.jp/imsoft/Mac/

- The following track types can be imported using “Music Transfer”:
  - MP3 files stored on the hard disk of your computer
  - Music CD tracks
  - Preset-music saved on the camera

Before starting up “Music Transfer” perform MENU → 🏛️ (Settings) → ⌦ (Main Settings) → [Download Music], and connect the camera to the computer.

For other details, see the help in “Music Transfer”.

Related Topic
Download Music
Empty Music
Software for Mac

For details on software for Macs, access the following URL:
http://www.sony.co.jp/imsoft/Mac/

**Note**
- The available software varies depending on the area.
Connecting the camera to the computer

1. Connect the camera to your computer using a micro USB cable (supplied) (A).

- When connecting the camera to a computer using the micro USB cable, power feeding from the computer starts if [USB Power Supply] is set to [On]. ([On] is the default setting.)

Related Topic
USB Connect Setting
LUN Setting

Copyright 2013 Sony Corporation
Importing images to a computer

“PlayMemories Home” allows you to easily import images. For details on “PlayMemories Home” functions, see the “PlayMemories Home Help Guide”.

Importing images to a Windows computer without using “PlayMemories Home”

When the AutoPlay Wizard appears after making a USB connection between the camera and a computer, click [Open folder to view files] → [OK] → [DCIM] or [MP_ROOT] → copy the desired images to the computer.

- If the Device Stage screen appears with Windows 7, double-click [Browse Files] → media icon → folder in which the image you want to import is stored.

Importing images to a Mac computer without using “PlayMemories Home”

Connect the camera to your Mac computer. Double-click the newly recognized icon on the desktop → the folder in which the image you want to import is stored. Then drag and drop the image file on to the hard disk icon.

Notes

- Use “PlayMemories Home” for operations such as when importing AVCHD movies to a computer (Windows). However, movies shot in 60p/50p mode cannot be imported.
- Use the “iMovie” software bundled with Mac for operations such as importing AVCHD movies to a computer (Mac).
- If operations are performed on an AVCHD movie file or folder on the camera from a PC while the camera is connected to a PC, it may destroy the image file or playback may become impossible. Do not delete or copy AVCHD movies on the camera’s memory card from a PC. Sony bears no responsibility for the result of operations of this type.
- The camera creates a 3D image by combining a JPEG file with an MPO file. If you delete either file on a PC, you cannot playback the 3D image.
Disconnecting the camera from the computer

Perform the procedures from step 1 to 2 below before:
- Disconnecting the cable.
- Removing a memory card.
- Inserting a memory card into the camera after copying images from the internal memory.
- Turning off the camera.

1. Click the disconnect icon \( \text{Disconnected} \) on the tasktray.

   ![Disconnected icon]

   • With Windows 7 or Windows 8, click \( \text{Not Connected} \) first, then click \( \text{Connected} \).

2. Click [Safely remove USB Mass Storage Device].

Notes

- Drag and drop the icon of the memory card or the drive icon to the “Trash” icon beforehand when you use a Mac computer, and the camera is disconnected from the computer.
- The disconnect icon may not appear when you use a Windows 7 computer. In this case, you can disconnect the camera from the computer without following the above steps.
Selecting the method for creating a disc of movies

Characteristics of each type of disc
Creating a disc with a device other than a computer
Creating Blu-ray discs

You can create a disc from AVCHD movies that have been recorded with this camera. Select the method that suits your disc player.

For details on the method for creating a disc using “PlayMemories Home”, see “PlayMemories Home Help Guide.”

To import movies into a PC, see [Details].

<table>
<thead>
<tr>
<th>Disc type/Purpose</th>
<th>Recordable movie quality</th>
<th>Player</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PS</td>
<td>FX</td>
</tr>
<tr>
<td>Blu-ray</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>For saving images in high-definition image quality (HD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DVD</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>For saving images in high-definition image quality (HD) (AVCHD disc)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DVD</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>For saving images in standard definition image quality (STD)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Movies can be saved by converting them to lower image quality when creating a disc using “PlayMemories Home.”

Characteristics of each type of disc

- **Blu-ray**
  - High-definition image quality (HD)
  - Using a Blu-ray disc enables you to record high-definition image quality (HD) movies of a longer duration than DVD discs.

- **DVD**
  - High-definition image quality (HD) (AVCHD disc)
  - High-definition image quality (HD) movies can be recorded on DVD media, such as DVD-R discs, and a high-definition image quality (HD) disc is created.
  - You can play a high-definition image quality (HD) disc on AVCHD format playback devices, such as a Sony Blu-ray disc player and a PlayStation 3. You cannot play the disc on ordinary DVD players.

- **DVD**
  - Standard definition image quality (STD) movies converted from high-definition
Standard definition image quality (STD) movies can be recorded on DVD media, such as DVD-R discs, and a standard definition image quality (STD) disc is created.

**Types of discs that can be used with “PlayMemories Home”**
The following 12-cm discs can be used with "PlayMemories Home." For information on Blu-ray discs, see [Details].
- DVD-R / DVD+R / DVD+R DL: Cannot be re-written.
- DVD-RW / DVD+RW: Can be re-written and used again.
- Always maintain your PlayStation 3 to use the latest version of the PlayStation 3 system software.
- The PlayStation 3 may not be available in some countries/regions.

### Creating a disc with a device other than a computer
You can also create a disc using a Blu-ray recorder and so on. Depending on which device you use, the types of disc that can be created vary.

<table>
<thead>
<tr>
<th>Devices</th>
<th>Disc type</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Blu-ray recorder" /></td>
<td><img src="image" alt="Blu-ray disc" /> High-definition image quality (HD) Standard definition image quality (STD)</td>
</tr>
<tr>
<td><img src="image" alt="HDD recorder" /></td>
<td><img src="image" alt="DVD disc" /> Standard definition image quality (STD)</td>
</tr>
</tbody>
</table>

**Notes**
- To create a Blu-ray disc from movies recorded in [AVC HD 28M (PS)], you need to use device that is compliant with an AVCHD format Ver. 2.0. The created Blu-ray disc can be played back only on the device that is compliant with the AVCHD format Ver. 2.0.
- For details on how to create a disc, refer to the operating instructions of the device you use.

### Creating Blu-ray discs
You can create Blu-ray discs from AVCHD movies imported to a PC. The PC in question must be capable of creating Blu-ray discs. BD-R (not re-writable) or BD-RE (re-writable) discs can be used. Multi-session recordings cannot be made.
To create Blu-ray discs using "PlayMemories Home," be sure to install the dedicated add-on software. For details, see the following URL:
[http://support.d-imaging.sony.co.jp/BDUW/](http://support.d-imaging.sony.co.jp/BDUW/)
To install, your PC must be connected to the Internet.
For detailed operations, see "PlayMemories Home Help Guide."

**Notes**
- To create a Blu-ray disc from movies recorded in [AVC HD 28M (PS)], you need to use device that is compliant with an AVCHD format Ver. 2.0.
Printing still images

You can print still images using the following methods.
- Printing directly using a printer which supports your memory card type.
  For details, see the operating instructions supplied with the printer.
- Printing using a computer
  You can import images to a computer using the “PlayMemories Home” software and print the images.
  For details, see the “PlayMemories Home Help Guide”.
- Printing at a shop
  You can take a memory card to a photo printing service shop. As long as the shop supports photo printing services conforming to DPOF, you can make a DPOF (Print order) mark on images in advance in the playback mode so that you do not have to reselect them when you print them out at the shop. Before you take image data to a shop, always copy (back up) your data.

Notes
- When you print still images shot in [16:9] mode, both edges may be cut off.
- You cannot print panorama images depending on the printer.
If you have problems

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

1. Check the items under “Troubleshooting”, then check your camera.
   If a code such as “C/E: 0 0 : 0 0 ” appears on the screen, see “Self-diagnosis display”.

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

3. Initialize the settings. [Details]

4. Consult your Sony dealer or local authorized Sony service facility.
   • Be aware that by sending the camera for repair, you give consent that the contents of the internal memory, music files may be checked.

Additional information on this product and answers to frequently asked questions can be found at our Customer Support Website.

http://www.sony.net/
Battery pack and power

Cannot insert the battery pack into the camera.

- Make sure the direction of the battery pack is correct, and insert it until the battery eject lever is locked.

Cannot turn on the camera.

- After inserting the battery pack into the camera, it may take a few moments for the camera to power up.
- Make sure that the battery pack is inserted correctly.
- The battery pack will discharge by itself even if you do not use it. Charge the battery pack before use.
- Check that the battery pack type is compatible. [Details]

The power turns off suddenly.

- Depending on the camera and battery temperature, the power may turn off automatically to protect the camera. In this case, a message is displayed on the screen before the power turns off.
- If you do not operate the camera for a certain period of time while the power is on and [Power Save] is set to [Standard] or [Max], the camera turns off automatically to prevent wearing down the battery pack. Turn on the camera again.

The remaining charge indicator is incorrect.

- This is caused when you use the camera in an extremely hot or cold location.
- Battery capacity decreases over time and through repeated use. If decreased usage time between charges becomes significant, it is probably time to replace it with a new one.

The Power/charge lamp of the camera flashes while charging the battery.

- Check that the battery pack type is compatible. [Details]
- The Power/charge lamp of the camera flashes infrequently when you use a battery pack that has not been used for a long time. In such cases, remove the battery pack from the camera and re-insert it.
- For details, see “Battery pack” [Details].

The battery is not charged even if the Power/charge lamp turns off and charging is finished.

- This happens when you charge the battery pack in an extremely hot or cold location. Charge the battery pack within the proper charging temperature range of between 10°C to 30°C (50°F to 86°F).
Shooting still images/movies

Cannot record images.

- If images are recorded on the internal memory even when a memory card is inserted into the camera, make sure that the memory card is fully inserted into the camera.
- Check the free capacity of the internal memory or memory card. If it is full, do one of the following:
  - Delete unnecessary images. [Details] [Details]
  - Change the memory card.
- You cannot record images while charging the flash.
- When recording movies, it is recommended that you use the following memory cards:
  - “Memory Stick PRO Duo” (Mark2) media, “Memory Stick PRO-HG Duo” media, “Memory Stick XC-HG Duo” media
  - SD memory card, SDHC memory card or SDXC memory card (Class 4 or faster)
- Set [Demo Mode] to [Off]. [Details]

Smile Shutter function does not work.

- No image is shot if a smiling face is not detected. [Details]
- Set [Demo Mode] to [Off]. [Details]

Anti-blur function does not work.

- The anti-blur function may not work properly when shooting night scenes.
- Shoot after pressing the shutter button halfway down.

Recording takes a long time.

- When the shutter speed becomes slower than a certain speed, for example, when you shoot images in dark locations, the camera automatically reduces the image noise. This function is called NR (noise reduction) slow shutter and the shooting time takes longer.

The image is out of focus.

- The subject is too close. When shooting, make sure to position the lens farther away from the subject than the shortest shooting distance (approximately 1 cm (13/32 inches) (W)/2.4 m (7 ft. 10 1/2 inches) (T) from the lens).
- [Night Scene], [Landscape], [Fireworks] or [Advanced Sports Shooting] mode is selected in the Scene Selection when shooting still images.

Zoom does not work.

- You cannot use the optical zoom in Sweep Panorama mode.
- You cannot use zoom functions other than optical zoom when:
  - [Background Defocus], [Backlight Correction HDR] or [Advanced Sports Shooting] mode is selected
in the Scene Selection
- The Smile Shutter is working.
- [Self-Timer] is set to [Self-portrait One Person] or [Self-portrait Two People].

**Cannot select the Face Detection function.**

- You can select Face Detection only when the focus mode is set to [Multi AF] and the metering mode is set to [Multi].

**The flash does not work.**

- You cannot use the flash when:
  - Burst mode is selected. [Details]
  - [Anti Motion Blur], [Night Scene], [Hand-held Twilight], [High Sensitivity], [Fireworks] or [Advanced Sports Shooting] mode is selected in Scene Selection.
  - Shooting in Sweep Panorama mode
  - Shooting in movie mode
- Set the flash to [On] when the Scene Selection mode is set to [Landscape], [Gourmet], [Pet], [Beach] or [Snow] mode. [Details]

**Fuzzy white circular spots appear in images shot using the flash.**

- Particles (dust, pollen, etc.) in the air reflected the flash light and appeared in the image. This is not a malfunction. [Details]

**The close-up shoot function (Macro) does not work.**

- The camera automatically adjusts the focus. Press and hold the shutter button halfway down. Focus adjustment may take some time when shooting a close subject.
- [Landscape], [Night Scene], [Fireworks] or [Advanced Sports Shooting] mode is selected in the Scene Selection.

**The date and time are not displayed on the screen.**

- While shooting, the date and time are not displayed. They are displayed only during playback.

**The F value and shutter speed flash when you press and hold the shutter button halfway down.**

- The exposure is incorrect. Correct the Exposure Compensation. [Details]

**The image colors are not correct.**

- Adjust the White Balance. [Details]
- Picture Effect is selected. [Details]

**Noise appears in the image when you view the screen in a dark place.**

- The camera is attempting to increase the visibility of the screen by temporarily brightening the image under conditions of low illumination. There is no effect on the recorded image.

**You can see a dark shadow on the image.**

- Depending on the brightness of the subject, you may see a dark shadow when you change the aperture. This is not a malfunction.
The eyes of the subject come out red.
- Set [Red Eye Reduction] to [Auto] or [On]. [Details]
- Shoot the subject at a distance closer than the flash range using the flash.
- Light the room and shoot the subject.

Dots appear and remain on the screen.
- This is not a malfunction. These dots are not recorded.

Cannot shoot images in succession.
- The internal memory or memory card is full. Delete unnecessary images. [Details] [Details]
- The battery level is low. Insert a charged battery pack.

The same image is shot several times.
- Set [Cont. Shooting Settings] to [Single Shooting]. [Details]
- [Scene Recognition] is set to [Advanced]. [Details]

The camera makes a sound.
- When you shake the camera, the camera makes a rattling sound because the image-stabilizing lenses or manual focus lenses move. It is not a malfunction.
- The camera may make a rattling sound because the camera iris adjusts the amount of light to be received in accordance with the subject brightness during movie recording. It is not a malfunction.
Viewing images

Cannot play back images.

- Make sure that the memory card is fully inserted into the camera.
- The folder/file name has been changed on your computer.
- No guarantees are made for playing back, on this camera, files containing images which were processed on a computer or images which were shot using other cameras.
- The camera is in USB mode. Delete the USB connection. [Details]
- Use “PlayMemories Home” to play images stored on a PC with this camera. Use the application bundled with the Mac to play back the images.
- 3D images consist of a JPEG file and an MPO file. If either file is deleted on the PC, the camera may not operate correctly.

The date and time are not displayed.

- The screen display is set to display images only. Press DISP (Display Setting) to display information. [Details]

Cannot hear music during slideshow.

- Slideshow is played back with [Continuous Playback]. Select [Slideshow with music] and play back.
- Transfer music files to the camera with “Music Transfer”. [Details]

The image does not appear on the TV.

- For viewing movies, the camera and television must use the same color television system. [Details]
- Check whether the connection is correct. [Details]

The 3D images do not appear on the TV even though the camera is in [3D Viewing] mode.

- Check that the TV is set to display the 3D images.
Computers

Your computer does not recognize the camera.
- Set [USB Connect Setting] to [Mass Storage]. [Details]
- Use the micro USB cable (supplied).
- Disconnect the USB cable from both the computer and the camera, and connect it again firmly.
- Disconnect all equipment other than the camera, the keyboard and the mouse from the USB connectors of your computer.
- Connect the camera directly to your computer without passing through a USB hub or other device.
- Set [USB Power Supply] to [Off]. Your computer may recognize the camera.

Cannot import images.
- Connect the camera and your computer correctly making a USB connection. [Details]
- When you shoot images with a memory card formatted by a computer, you may not be able to import the images to a computer. Shoot using a memory card formatted by the camera. [Details]

After making a USB connection, “PlayMemories Home” does not start automatically.
- Make the USB connection after the computer is turned on.

Cannot play back images on your computer.
- If you are using “PlayMemories Home”, refer to “PlayMemories Home Help Guide”. [Details]
- Consult the computer or software manufacturer.

The image and sound are interrupted by noise when you view a movie on a computer.
- You are playing back the movie directly from the memory card. Import the movie to your computer using “PlayMemories Home” and play it back. [Details]

Images once exported to a computer cannot be viewed on the camera.
- Use “PlayMemories Home” to play images stored on a PC with this camera. Use the application bundled with the Mac to play back the images.
- Register the image in the Image Database File and play in [Date View]. [Details]
Memory card

Cannot insert a memory card.
- Insert the memory card in the correct direction.

You have formatted a memory card by mistake.
- All the data on the memory card is deleted by formatting. You cannot restore it.

Images are recorded on the internal memory even when a memory card is inserted into the camera.
- Make sure that the memory card is fully inserted into the camera.
Internal memory

Cannot play back or record images using the internal memory.
- There is a memory card inserted in the camera. Remove it.

Cannot copy the data stored in the internal memory to a memory card.
- The memory card is full. Copy to a memory card with sufficient capacity.

Cannot copy the data on the memory card or the computer to the internal memory.
- This feature is not available.
Printing

Images are printed with both edges cut off.

- Depending on your printer, all the edges of the image may be cut off. Especially when you print an image shot with the image size set to [16:9], the lateral end of the image may be cut off.
- When printing images using your printer, cancel the trimming or borderless settings. Consult the printer manufacturer as to whether the printer provides these functions or not.
- When having images printed at a digital print shop, ask the shop whether they can print the images without cutting off both edges.

Cannot print images with the date.

- Select MENU ➔ (Shooting Settings) ➔ [Write Date] ➔ [On] to insert a date on the image. Make sure that once the date is inserted, you cannot remove that date from the image.
- Using “PlayMemories Home”, you can insert the date on still images that have been recorded without a date. [Details]

Cannot print the 3D images as they are displayed on the camera’s screen.

- The 3D images displayed on the camera are MPO files, but the images to be printed are JPEG files, so in some cases, the images to be printed out are not the same as the ones displayed on the screen.
Others

The lens gets fogged.

- Moisture condensation has occurred. Turn off the camera and leave it for about an hour before using it.

The camera stops with the lens portion extended.

- Do not attempt to force a lens that has stopped moving.
- Insert a charged battery pack, then turn the camera on again.

The camera turns off with the lens portion extended.

- The battery pack is discharged. Replace it with a charged battery pack, then turn the camera on again.
- Do not attempt to force a lens that has stopped moving.

The camera becomes warm when you use it for a long time.

- This is not a malfunction.

The Clock Set screen appears when you turn on the camera.

- Set the date and time again. [Details]
- The internal rechargeable backup battery has discharged. Insert a charged battery, and set aside for 24 hours or more with the power left off.

The date or time is incorrect.

- The Area Setting is set to a different location than your current location. Change the setting by MENU ➔ [Settings] ➔ [Clock Settings] ➔ [Area Setting].
Self-diagnosis display

If a code starting with a letter of the alphabet appears, the self-diagnosis function on the camera is working. The last two digits (indicated by □ □ ) will differ depending on the state of the camera.

If you cannot solve the problem even after trying the following corrective actions a few times, the camera may need repair.
Contact your Sony dealer or local authorized Sony service facility.

C:32: □ □
• There is trouble with the camera's hardware. Turn the power off and on again.

C:13: □ □
• The camera cannot read or write data on the memory card. Try turning off and on the camera again, or taking out and inserting the memory card several times.
• The internal memory has experienced a format error, or an unformatted memory card is inserted. Format the internal memory or the memory card. [Details]
• The inserted memory card cannot be used with the camera, or the data is damaged. Insert a new memory card.

E:61: □ □
E:62: □ □
E:91: □ □
• A camera malfunction has occurred. Initialize the camera, then turn the power on again. [Details]

E:94: □ □
• There is a malfunction when writing or deleting data. Repair is required. Contact your Sony dealer or local authorized Sony service facility. Be prepared to give all numbers in the error code beginning from the E.

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Messages

If the following messages appear, follow the instructions.

- The battery level is low. Charge the battery pack immediately. Depending on the conditions of use or the type of battery pack, the indicator may flash even though there are still 5 minutes to 10 minutes of remaining battery time left.

For use with compatible battery only
- The battery inserted is not an NP-BX1 (supplied) battery pack.

Camera overheating Allow it to cool
- The camera temperature has risen. The power may turn off automatically, or you may be unable to record movies. Leave the camera in a cool location until the temperature goes down.

Internal memory error
- Turn the power off and then on again.

Reinsert the memory card.
- The inserted memory card cannot be used in the camera. [Details]
- The terminal section of the memory card is dirty.
- The memory card is damaged.

This memory card is not formatted correctly.
- The inserted memory card cannot be used in the camera. [Details]

This memory card may not be able to record or play images correctly.
- The inserted memory card cannot be used in the camera. [Details]

Buffer overflow. Writing to the media was not completed in time.
- If you use a memory card that has been recorded and erased repeatedly, or that was formatted on a different camera, the data writing speed may be too slow. First back up any data on the card to a computer, and then reformat the card before using it. [Details]
- The writing speed of the memory card you are using is not sufficient for movie recordings. Use a "Memory Stick PRO-HG Duo" media, "Memory Stick PRO Duo" (Mark2) media, "Memory Stick XC-HG Duo" media, "Memory Stick Micro" (Mark2) media or an SD card (Class 4 or faster).
The memory card is locked. Check the tab.

- You are using the memory card with the write-protect switch, and the switch is set to the LOCK position. Set the switch to the recording position.

This is a read-only memory card.

- The camera cannot record or delete images on this memory card.

Writing to the memory card was not completed correctly. Recover data

- Reinsert the memory card, and select [OK] to recover data.

No images

- No images that can be played back have been recorded in the internal memory.
- No images that can be played back have been recorded in this folder of the memory card.

No still images

- There are no 3D images that can be played back in [3D Viewing] mode.
- The selected folder or date does not contain a file that can be played back in a slideshow.

File found which was not recognized

- You tried to delete a folder containing a file that cannot be played on this camera. Delete the file on a computer and then delete the folder.

Folder error. Cannot record to the selected folder. Please select a different folder.

- A folder with the same first three digit number already exists on the memory card (for example: 123MSDCF and 123ABCDE). Select another folder [Details], or create a new folder [Details].

Cannot create more folders

- The folder with a name beginning with “999” exists on the memory card. You cannot create any folders if this is the case.

Empty folder contents

- You tried to delete a folder containing one or more files. Delete all of the files and then delete the folder.

Folder protected

- You tried to delete a folder that is protected as read only on a computer.

File Error.

- An error occurred while the image was playing back.
  No guarantees are made for playing back, on this camera, files containing images which were processed on a computer or images which were shot using other cameras.
**Read only folder**
- You have selected a folder that cannot be set as a recording folder on the camera. Select another folder. [Details]

**File protected**
- Release the protection. [Details]

**Image size over limit**
- You are playing back an image with size that cannot be played back on the camera.

**Unable to detect face for retouch**
- You may not be able to retouch the image depending on the image.

![Vibration warning indicator](image)
- Camera shake may occur due to insufficient light. Use the flash, or mount the camera on a tripod to secure the camera.

**MP4 12M is not supported with this memory card. MP4 6M is not supported with this memory card.**
- For recording movies, it is recommended that you use a “Memory Stick PRO Duo” (Mark2) media, a “Memory Stick PRO-HG Duo” media, a “Memory Stick XC-HG Duo” media or an SD card (Class 4 or faster).

**Movie with different video signal format from this device recorded. Recording is unavailable in this movie format.**
- Set [Movie format] to [MP4]. [Details]

**Turn the power off and on again**
- The lens malfunction.

**Maximum number of images already selected.**
- Up to 100 files can be selected when using [Multiple Images].
- You can add **DPOF** (Print order) marks to up to 999 files.

**Error Playing Music**
- Delete the Music file, or replace it with a normal Music file.
- Execute [Empty Music], then download a new Music file.

**Error Formatting Music**
- Execute [Empty Music].

**Operation cannot be executed in unsupported files.**
• Processing and other editing functions of the camera cannot be performed on image files that have been processed using a computer or images that were recorded with other cameras.

**Preparing image database file. Please wait.**

• The camera restores the date information, etc., in cases where images have been deleted on a PC, etc.

• The necessary Image Database File is created after the memory card is formatted.

• The number of images exceeds that for which date management in a database file by the camera is possible. To register additional images in the Image Database File, delete images in [Date View].

**Inconsistencies found in image database file. Recover data.**

• AVCHD movies cannot be recorded or played because the Image Database File is corrupt. Follow the on-screen instructions to recover the Image Database File.

• It is not possible to record to the camera’s Image Database File or play back using [Date View]. Use “PlayMemories Home” to back up all images to a PC and use it to restore a memory card.

**Image Database File error. Cannot recover data.**

• Import all of the images to the computer with “PlayMemories Home”, and format the memory card or the internal memory. [Details]

  To view the images again with the camera, export the imported images to the camera with “PlayMemories Home”.

**Recording function unavailable due to high internal temperature.**

• The camera temperature has risen. You cannot record images until the temperature has gone down.

**Recording has stopped due to increased camera temperature.**

• Recording has stopped due to a rise in temperature while recording a movie. Please wait until the temperature goes down.

• When you record movies for a long time, the camera temperature rises. In this case, stop recording movies.
Situations this camera has difficulty handling

The camera cannot take full advantage of some features under certain circumstances. When shooting under the following conditions, either recompose the shot or change the shooting mode, then shoot the images again.

Low light conditions
- Intelligent Sweep Panorama
- Background Defocus
- Tracking focus
- 3D Still Image

Overly bright conditions
- Background Defocus
- Tracking focus

Varying levels of brightness
- Tracking focus

Flickering lights
- Intelligent Sweep Panorama

Subjects too close to the camera
- Intelligent Sweep Panorama
- Background Defocus

Subjects too far from the camera
- Background Defocus

Large moving subjects or subjects that move too quickly
- Superior Auto
- Background Defocus
- Tracking focus
- 3D Still Image

Subjects too small or too large
- Background Defocus
- Tracking focus

Background the same color as the subject
- Background Defocus

Scenes with little contrast, such as the sky or a sandy beach
- Intelligent Sweep Panorama
- Superior Auto

Scenes changing constantly, such as waterfalls
- Intelligent Sweep Panorama
- Superior Auto


## Precautions

- **Internal memory and memory card back up**
- **On database files**
- **Do not use/store the camera in the following places**
- **On operating temperatures**
- **On moisture condensation**
- **Functions built into this camera**
- **What is 1080p/50p?**
- **On image data compatibility**
- **Notes when playing movies on other devices**
- **Notes on the screen and lens**

### Internal memory and memory card back up

Do not turn off the camera, remove the battery pack, or remove the memory card while the access lamp is lit. Otherwise, the internal memory data or the memory card may be damaged. Be sure to make a backup copy to protect your data.

### On database files

When you insert a memory card without a database file into the camera and turn on the power, part of the memory card capacity is used to automatically create a database file. It may take some time until you can perform the next operation.

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

- In an extremely hot, cold or humid place
  - In places such as in a car parked in the sun, the camera body may become deformed and this may cause a malfunction.
- Storing under direct sunlight or near a heater
  - The camera body may become discolored or deformed, and this may cause a malfunction.
- In a location subject to rocking vibration
- Near 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 operating temperatures

Your camera is designed for use under the temperatures between 0°C and 40°C (32°F to 104°F). Shooting in extremely cold or hot places that exceed this range is not recommended.

### On moisture condensation

- If the camera is brought directly from a cold to a warm location, moisture may condense inside or outside the camera. This moisture condensation may cause a malfunction of the camera.
- If moisture condensation occurs, turn off the camera and wait about 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.

Functions built into this camera
- This manual describes the function of 1080 60p-compatible devices and 1080 50p-compatible devices.
- Do not watch 3D images shot with this camera for extended periods of time on 3D-compatible monitors.
- When you view 3D images shot with this camera on 3D-compatible monitors, you may experience discomfort in the form of eye strain, fatigue, or nausea. To prevent these symptoms, we recommend that you take regular breaks. However, you need to determine for yourself the length and frequency of breaks you require, as they vary according to the individual. If you experience any type of discomfort, stop viewing the 3D images until you feel better, and consult a physician as necessary. Also refer to the operating instructions supplied with the device or software you have connected or are using with this camera. Note that a child’s eyesight is still at the development stage (particularly children below the age of 6). Consult a pediatrician or ophthalmologist before letting your child view 3D images, and make sure he/she observes the above precautions when viewing such images.

What is 1080 60p/50p?
- Unlike standard recording modes up to now, which record in an interlacing method, this camera records using a progressive method. This increases the resolution, and provides a smoother, more realistic image.

On image data compatibility
- The camera conforms with DCF (Design rule for Camera File system) universal standard established by JEITA (Japan Electronics and Information Technology Industries Association).
- Sony does not guarantee that the camera will play back images recorded or edited with other equipment, or that other equipment will play back images recorded with the camera.

Notes when 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.
- You can play a high-definition image quality (HD) disc only on AVCHD format playback devices. A DVD player or DVD recorder cannot play back a disc recorded in high-definition image quality (HD) because they are not compatible with the AVCHD format. In addition, if you insert a high-definition image quality (HD) disc recorded in AVCHD format into a DVD player or DVD recorder, you may not be able to eject the disc.

Notes on the screen and lens
- The screen is manufactured using extremely high-precision technology so over 99.99% of the pixels are operational for effective use. However, some tiny black and/or bright dots (white, red, blue or green) may appear on the screen. These dots are a normal result of the manufacturing process and do not affect the recording.
- Exposing the screen or the lens to direct sunlight for long periods may cause malfunctions. Be careful when placing the camera near a window or outdoors.
- Do not press against the screen. The screen may be discolored and that may cause a malfunction.
- Images may trail across on the screen in a cold location. This is not a malfunction.
- Be careful not to bump the lens, and be careful not to apply force to it.
On the internal rechargeable backup 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. 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 discharges gradually, and if you do not use the camera at all for about one month 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, but the date and time will not be indicated.

Charging method of the internal rechargeable backup battery

Insert a charged battery pack in the camera, and then leave the camera for 24 hours or more with the power off.
Battery pack

- On charging the battery pack
- Effective use of the battery pack
- Remaining battery charge
- How to store the battery pack
- On battery life
- Compatible battery pack

On charging the battery pack
- Charge the battery pack (supplied) before using the camera for the first time.
- You can charge the battery pack even if it is not completely discharged. In addition, even if the battery pack is not fully charged, you can use the partially charged capacity of the battery pack as is.
- We recommend charging the battery pack in an ambient temperature of between 10°C to 30°C (50°F to 86°F). The battery pack may not be effectively charged in temperatures outside this range.

Effective use of the battery pack
- Battery performance decreases in low temperature surroundings. So in cold places, the operational time of the battery pack is shorter. We recommend the following to ensure longer battery pack use:
  - Put the battery pack in a pocket close to your body to warm it up, and insert it in the camera immediately before you start shooting.
    (If there are any metal objects such as keys in your pocket, be aware of short-circuits.)
- The battery pack will run out quickly if you use the flash or zoom frequently.
- We recommend having spare battery packs handy for two times or three times the expected shooting time, and making trial shots before taking the actual shots.
- 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.
- You may not be able to turn on the camera or the battery pack may not be effectively charged if the terminal section of the battery is dirty. In this case, wipe any dust off lightly using a soft cloth or a cotton swab to clean the battery.

Remaining battery charge
- A remaining charge indicator appears on the screen.

A B

A: High
B: Low
- It takes about one minute until the correct remaining charge indicator appears.
- The remaining charge indicator may not be correct under certain circumstances.
- When [Power Save] is set to [Standard] or [Max], if you do not operate the camera for a certain period of time while the power is on, the screen becomes dark, then the camera turns off automatically (Auto power-off function).
How to store the battery pack

- Fully discharge the battery pack before storing and store the camera in a cool, dry place. To maintain the battery pack’s function, charge the battery pack and then fully discharge it in the camera at least once a year while storing.
- To use the battery pack up, leave the camera in slideshow playback mode until the power goes off.
- To prevent staining the terminal, short-circuiting, etc., be sure to use a plastic bag to keep away from metal materials when carrying or storing.

On battery life

- The battery life is limited. Battery capacity decreases over time and through repeated use. If decreased usage time between charges becomes significant, it is probably time to replace it with a new one.
- The battery life varies according to how it is stored and the operating conditions and environment in which each battery pack is used.

Compatible battery pack

- The NP-BX1 (supplied) can be used in compatible Cyber-shot models.
Charging the battery pack

- The supplied AC Adaptor is dedicated to this camera. Do not connect with other electronic devices. Doing so may cause a malfunction. Also, make sure to use a genuine Sony AC Adaptor.
- If the Power/charge lamp of the camera flashes during charging, remove the battery pack being charged, and then insert the same battery pack into the camera securely again. If the Power/charge lamp flashes again, this may indicate a battery error 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 battery is charged correctly. If the battery is charged correctly, a battery error may have occurred.
- If the Power/charge lamp flashes even if the AC Adaptor is connected to the camera and the wall outlet (wall socket), this indicates that the 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 Power/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).
- Using the supplied AC Adaptor, you can charge the battery pack inserted in the camera. In addition, power supply via AC Adaptor in playback mode is also available. However, in shooting mode, power supply via AC Adaptor is not available. You need AC Adaptor AC-UD10 (sold separately) or AC-UD11* (sold separately) to supply a power from a wall outlet (wall socket) while shooting.

* The AC Adaptor AC-UD11 (sold separately) may not be available in some countries/regions.
Memory card

Note on using the memory card adaptor (sold separately)

"Memory Stick" media

When using a "Memory Stick Duo" media with standard sized "Memory Stick" media slot

Notes on using a "Memory Stick Micro" media (sold separately)

Memory card

<table>
<thead>
<tr>
<th>Memory card</th>
<th>Representation in User Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory Stick XC-HG Duo</td>
<td>&quot;Memory Stick Duo&quot; media</td>
</tr>
<tr>
<td>Memory Stick PRO Duo</td>
<td></td>
</tr>
<tr>
<td>Memory Stick PRO-HG Duo</td>
<td></td>
</tr>
<tr>
<td>Memory Stick Duo</td>
<td></td>
</tr>
<tr>
<td>Memory Stick Micro (M2)</td>
<td>&quot;Memory Stick Micro&quot; media</td>
</tr>
<tr>
<td>Memory Stick Micro (Mark2)</td>
<td></td>
</tr>
<tr>
<td>SD memory card</td>
<td>SD card</td>
</tr>
<tr>
<td>SDHC memory card</td>
<td></td>
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<tr>
<td>SDXC memory card</td>
<td></td>
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<tr>
<td>microSD memory card</td>
<td></td>
</tr>
<tr>
<td>microSDHC memory card</td>
<td>microSD memory card</td>
</tr>
<tr>
<td>microSDXC memory card</td>
<td></td>
</tr>
</tbody>
</table>

- "Memory Stick Duo" media and SD cards of up to 64 GB have been tested and proven to operate with your camera.
- "Memory Stick Micro" media of up to 16 GB and microSD memory cards of up to 64 GB have been tested and proven to operate with your camera.
- When recording movies, it is recommended that you use the following memory cards:
  -MEMORY STICK PRO DUO (Mark2) ("Memory Stick PRO Duo" (Mark2) media)
  -MEMORY STICK XC-HG DUO ("Memory Stick XC-HG Duo" media)
  -MEMORY STICK PRO-HG DUO ("Memory Stick PRO-HG Duo" media)
  -MEMORY STICK MICRO (Mark2) ("Memory Stick Micro" (Mark2) media)
  -SD card (Class 4 or faster), microSD memory card (Class 4 or faster)

Notes

- To ensure stable operations of the memory card, we recommend that you use this camera to format any memory card being used with this camera for the first time. Note that formatting will erase all data recorded on the memory card. This data cannot be restored. Be sure to backup any important data to a PC or other storage location.
- 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 PC or other storage location, then [Format].
A memory card formatted with a computer is not guaranteed to operate with the camera.

Data read/write speeds differ depending on the combination of the memory card and the equipment used.

Data may be corrupted in the following cases:
- When the memory card is removed or the camera is turned off during a read or write operation
- When the memory card is used in locations subject to static electricity or electrical noise

We recommend backing up important data.

Do not attach a label on the memory card itself nor on a memory card adaptor.

Do not touch the terminal section of the memory card with your hand or a metal object.

Do not strike, bend or drop the memory card.

Do not disassemble or modify the memory card.

Do not expose the memory card to water.

Do not leave the memory card within the reach of small children. They might accidentally swallow it.

Insert a memory card that fits the memory card slot size. Otherwise, it will cause a malfunction.

Do not use or store the memory card under the following conditions:
- High temperature locations such as the hot interior of a car parked in direct sunlight
- Locations exposed to direct sunlight
- Humid locations or locations with corrosive substances present

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**Note on using the memory card adaptor (sold separately)**

- When inserting a memory card into a memory card adaptor, make sure the memory card is inserted facing in the correct direction, then insert it all the way in. Incorrect insertion may result in a malfunction.

- When using “Memory Stick Micro” media or a microSD memory card, use a specified memory card adaptor.

**“Memory Stick” media**

The types of “Memory Stick Duo” media that can be used with the camera are listed in the table below. However, proper operation cannot be guaranteed for all “Memory Stick Duo” media functions.

<table>
<thead>
<tr>
<th>“Memory Stick” media type</th>
<th>Recording/Playback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory Stick Duo (without MagicGate)</td>
<td>○ *1</td>
</tr>
<tr>
<td>Memory Stick Duo (with MagicGate)</td>
<td>○ *2</td>
</tr>
<tr>
<td>MagicGate Memory Stick Duo</td>
<td>○ <em>1</em>2</td>
</tr>
<tr>
<td>Memory Stick PRO Duo</td>
<td>○ <em>2</em>3</td>
</tr>
<tr>
<td>Memory Stick PRO-HG Duo</td>
<td>○ <em>2</em>3</td>
</tr>
<tr>
<td>Memory Stick XC-HG Duo</td>
<td>○ <em>2</em>3</td>
</tr>
<tr>
<td>Memory Stick Micro (M2)</td>
<td>○ *2</td>
</tr>
<tr>
<td>Memory Stick Micro (Mark2)</td>
<td>○ <em>2</em>3</td>
</tr>
</tbody>
</table>

*1 High-speed data transfer using a parallel interface is not supported.

*2 “Memory Stick Duo” media, “MagicGate Memory Stick Duo” media, “Memory Stick PRO Duo” media, “Memory Stick PRO-HG Duo” media and “Memory Stick Micro” media are equipped with MagicGate functions.

MagicGate is copyright protection technology that uses encryption technology. Data recording/playback that requires MagicGate functions cannot be performed with the camera.

*3 Movies recorded in AVCHD format, [MP4 12M] and [MP4 6M] size movies cannot be recorded to “Memory Stick” media other than “Memory Stick PRO Duo” media, “Memory Stick PRO-HG Duo” media, “Memory Stick XC-HG Duo” media or “Memory Stick Micro” (Mark2) media.

---

**When using a “Memory Stick Duo” media with standard sized “Memory**
**Stick” media slot**

You can use the “Memory Stick Duo” media by inserting it into the “Memory Stick Duo” media Adaptor (sold separately).

![Memory Stick Duo Adaptor](image)

“Memory Stick Duo” media Adaptor

**Notes on using a “Memory Stick Micro” media (sold separately)**

- This product is compatible with “Memory Stick Micro” media (“M2”). “M2” is an abbreviation for “Memory Stick Micro” media.
- To use a “Memory Stick Micro” media with the camera, be sure to insert the “Memory Stick Micro” media into an “M2” Adaptor as large as of Duo size. If you insert a “Memory Stick Micro” media into the camera without an “M2” Adaptor as large as of Duo size, you might not be able to remove it from the camera.
- Do not leave the “Memory Stick Micro” media within the reach of small children. They might accidentally swallow it.
On cleaning

Cleaning the lens and flash
If the lens or flash becomes dirty (fingerprints, dust, etc.), gently wipe clean with a soft cloth.

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 surface
Clean the camera surface with a soft cloth slightly moistened with water, then wipe the surface with a dry cloth. To prevent damage to the finish or casing:
- Do not expose the camera to chemical products such as thinner, benzine, alcohol, disposable cloths, insect repellent, sunscreen or insecticide.
- Do not touch the camera with any of the above on your hand.
- Do not leave the camera in contact with rubber or vinyl for a long time.
Number of still images

The number of still images may vary depending on the shooting conditions and the memory card. (Units: Images)

<table>
<thead>
<tr>
<th>Size</th>
<th>Internal memory</th>
<th>Memory card formatted with this camera</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Approx. 48 MB</td>
<td>2 GB</td>
</tr>
<tr>
<td>20M</td>
<td>7</td>
<td>295</td>
</tr>
<tr>
<td>10M</td>
<td>9</td>
<td>385</td>
</tr>
<tr>
<td>5M</td>
<td>16</td>
<td>670</td>
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<tr>
<td>VGA</td>
<td>155</td>
<td>6400</td>
</tr>
<tr>
<td>16:9(15M)</td>
<td>8</td>
<td>325</td>
</tr>
<tr>
<td>16:9(2M)</td>
<td>29</td>
<td>1150</td>
</tr>
</tbody>
</table>

Notes
- When an image shot with other cameras is played back on this camera, the image may not appear in the actual image size.
**Recordable time of movies**

The table below shows the approximate maximum recording times. These are the total times for all movie files. The recordable time may vary depending on the shooting conditions and the memory card. (h (hour), m (minute))

<table>
<thead>
<tr>
<th>Quality / Size</th>
<th>Internal memory</th>
<th>Memory card formatted with this camera</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Approx. 48 MB</td>
<td>2 GB</td>
</tr>
<tr>
<td>AVC HD 28M (PS)</td>
<td>—</td>
<td>8 m  (8 m)</td>
</tr>
<tr>
<td>AVC HD 24M (FX)</td>
<td>—</td>
<td>10 m  (10 m)</td>
</tr>
<tr>
<td>AVC HD 17M (FH)</td>
<td>—</td>
<td>10 m  (10 m)</td>
</tr>
<tr>
<td>AVC HD 9M (HQ)</td>
<td>—</td>
<td>25 m  (15 m)</td>
</tr>
<tr>
<td>MP4 12M</td>
<td>—</td>
<td>15 m</td>
</tr>
<tr>
<td>MP4 6M</td>
<td>—</td>
<td>35 m</td>
</tr>
<tr>
<td>MP4 3M</td>
<td>—</td>
<td>1 h 10 m</td>
</tr>
</tbody>
</table>

The number in ( ) is the minimum recordable time.

Continuous shooting is possible for approximately 29 minutes (a product specification limit). The maximum continuous recording time of an MP4 (12M) format movie is about 15 minutes (limited by the 2 GB file size restriction).

**Notes**

- 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.
Using the camera abroad

You can use the AC Adaptor (supplied) in any country or region where the power supply is within 100 V to 240 V AC, 50 Hz/60 Hz.

**Notes**
- An electronic voltage transformer is unnecessary and its use may cause a malfunction.
On TV color systems

To view movies shot using this camera on a television, the camera and television must use the same color television system. Check the color TV system for the country or region where you are using the camera.

**NTSC system**
Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

**PAL system**
Australia, Austria, Belgium, China, Croatia, Czech Republic, Denmark, Finland, Germany, Holland, Hong Kong, Hungary, Indonesia, Italy, Kuwait, Malaysia, New Zealand, Norway, Poland, Portugal, Romania, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Thailand, Turkey, United Kingdom, Viet Nam, etc.

**PAL-M system**
Brazil

**PAL-N system**
Argentina, Paraguay, Uruguay

**SECAM system**
Bulgaria, France, Greece, Guiana, Iran, Iraq, Monaco, Russia, Ukraine, etc.
Carl Zeiss lens

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

The AVCHD format has been developed for high-definition digital video cameras when recording an HD (High-Definition) signal at the 1080i*1 or 720p*2 specification using high-efficiency compression coding technology. The MPEG-4 AVC/H.264 format is adopted 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. The MPEG-4 AVC/H.264 format enables a high definition video signal shot on a digital video camera recorder to be recorded on 8 cm DVD discs, hard disk drive, flash memory, memory card, etc.

Recording and playback on the camera

Based on the AVCHD format, your camera records with the high definition image quality (HD) mentioned below.

Video signal*3:
- 1080 60i-compatible device
  - MPEG-4 AVC/H.264 1920×1080/60i, 1920×1080/60p, 1440×1080/60i
- 1080 50i-compatible device
  - MPEG-4 AVC/H.264 1920×1080/50i, 1920×1080/50p, 1440×1080/50i

Audio signal: Dolby Digital 2ch

Recording media: Memory card

*1 1080i specification
- A high definition specification which utilizes 1,080 effective scanning lines and the interlace system.

*2 720p specification
- A high definition specification which utilizes 720 effective scanning lines and the progressive system.

*3 Data recorded in AVCHD format other than the above mentioned cannot be played on your camera.
License

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