

OTHER RECORDING FUNCTIONS

This chapter describes the other powerful features and functions that are available for recording.

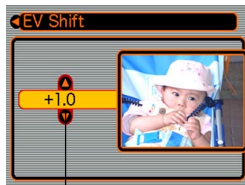
Exposure Compensation (EV Shift)

Exposure compensation lets you change the exposure setting (EV value) manually to adjust for the lighting of your subject. This feature helps to achieve better results when recording a backlit subject, a strongly lit subject indoors, or a subject that is against a dark background.

EV Shift Range: -2.0EV to +2.0EV
Steps: 1/3EV

1. In the REC mode, press [MENU].

2. Select the “REC” tab, select “EV Shift”, and then press [▶].



Exposure compensation value

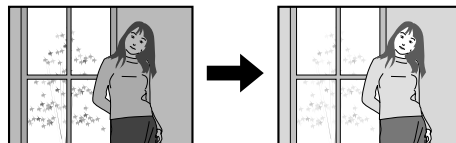
3. Use [▲] and [▼] to change the exposure compensation value, and then press [SET].

- Pressing [SET] registers the displayed value.

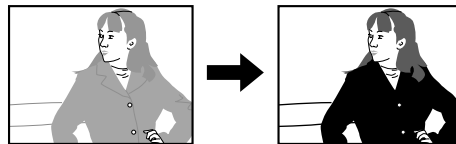


EV value

[▲] : Increases the EV value. A higher EV value is best used for light-colored subjects and backlight subjects.



[▼] : Decreases the EV value. A lower EV value is best for dark-color subjects and for shooting outdoors on a clear day.



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- To cancel EV Shift, adjust the value until it becomes 0.0.

4. Record the image.

▶▶ IMPORTANT! ◀◀

- When shooting under very dark or very bright conditions, you may not be able to obtain satisfactory results even after performing exposure compensation.

▶▶ NOTES ◀◀

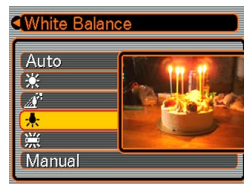
- Performing an EV shift operation causes the metering mode to switch automatically to center weighted metering. Returning the EV shift value to 0.0 causes the metering mode to change back to multi-pattern metering.
- You can use key customization (page 72) to configure the camera to perform exposure compensation whenever you press [◀] and [▶] while in the REC mode.

Adjusting White Balance

The wavelengths of the light produced by various light sources (sunlight, light bulb, etc.) can affect the color of a subject when it is recorded. White balance lets you make adjustments to compensate for different lighting types, so the colors of an image appear more natural.





1. In the REC mode, press [MENU].

2. Select the “REC” tab, select “White Balance”, and then press [▶].



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3. Use [▲] and [▼] to select the setting you want, and then press [SET].

When shooting under these conditions:	Select this setting:
Normal conditions	Auto
Outdoor daylight	
Shade	
Incandescent light bulb (reddish tinge)	
Fluorescent light (greenish tinge)	
Difficult lighting that requires manual control (See “Adjusting White Balance Manually”.)	Manual

►► NOTES ◀◀

- Selecting “Manual” changes white balance to the settings achieved the last time a manual white balance operation was performed.
- You can use the key customization feature (pages 72, 73) to configure the camera so the white balance setting changes whenever you press [◀] and [▶], or [▲] and [▼] while in the REC mode.

Adjusting White Balance Manually

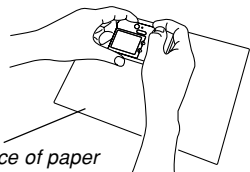
Under some light sources, automatic white balance under the “Auto” setting can take a long time to complete. Also, the auto white balance range (color temperature range) is limited. Manual white balance helps to ensure that colors are recorded correctly for a particular light source. Note that you must perform manual white balance under the same conditions you will be shooting under. You must also have a white piece of paper or other similar object on hand in order to perform manual white balance.

1. In the REC mode, press [MENU].
2. Select the “REC” tab, select “White Balance”, and then press [▶].
3. Use [▲] and [▼] to select “Manual”.

- This causes the object you last used to adjust manual white balance to appear on the monitor screen.



4. Point the camera at a white piece of paper or similar object under the lighting conditions for which you want to set the white balance, and then press the shutter release button.



A white piece of paper

- This starts the white balance adjustment procedure. The message “Complete” appears on the monitor screen after white balance adjustment is complete.
 - Dim lighting or pointing the camera at a dark colored object while performing manual white balance adjustment can cause the procedure to take a long time to complete.
5. Press [SET].
- This registers the white balance settings and returns to the REC mode.

Using the BESTSHOT Mode

Selecting one of the 15 BESTSHOT scenes automatically sets up the camera for recording a similar type of image.

■ Example Sample Scene

- Portrait



- Scenery



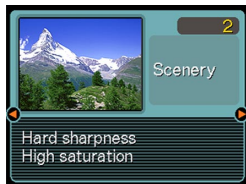
- Night Scene



- Night Scene Portrait



1. In the REC mode, press [MENU].
2. Select the “REC” tab, select “REC Mode”, and then press [▶].
3. Use [▲] and [▼] to select “**BS BESTSHOT**”, and then press [SET].
 - This enters the BESTSHOT mode and displays a sample scene.
4. Use [◀] and [▶] to select the sample scene you want, and then press [SET].
5. Record the image.



▶▶ IMPORTANT! ◀◀

- Sample scene number 4 is Coupling Shot scene (page 62). Sample scene number 5 is a Pre-shot scene (page 64).
- BESTSHOT scenes were not recorded using this camera. They are provided as samples only.
- Images recorded using a BESTSHOT scene may not produce the results you expected due to shooting conditions and other factors.
- After selecting a BESTSHOT scene, you can change to a different one by using [◀] and [▶] to scroll through available scenes. When the one you want is displayed, press [SET].

▶▶ NOTE ◀◀

- You can use the key customization feature (page 72) to configure the camera to enter the BESTSHOT mode whenever you press [◀] or [▶] while in the REC mode. Operation guidance and the currently selected BESTSHOT scene appear on the display for about two seconds after you enter the BESTSHOT mode this way, or if the camera is in the BESTSHOT mode when you turn it on.



Creating Your Own BESTSHOT Setup

You can use the procedure below to save the setup of an image you recorded for later recall when you need it again. Recalling a setup you save automatically sets up the camera accordingly.

1. In the REC mode, press [MENU].
2. Select the “REC” tab, select “REC Mode”, and then press [▶].
3. Use [▲] and [▼] to select “**BS** BESTSHOT”, and then press [SET].
 - This enters the BESTSHOT mode and displays a sample scene.
4. Use [◀] and [▶] to display “Register User Scene”.



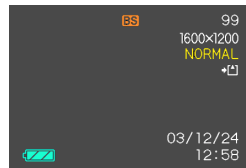
5. Press [SET].

6. Use [◀] and [▶] to display the image whose setup you want to register as a BESTSHOT scene.



7. Use [▲] and [▼] to select “Save”, and then press [SET].

- This registers the setup.
- Now you can use the procedure on page 59 to select your user setup for recording.



▶▶ IMPORTANT! ◀◀

- BESTSHOT user setups are located in the camera's built-in memory after the built-in sample scenes.
- Note that formatting the built-in memory (page 119) deletes all BESTSHOT user setups.

▶▶ NOTES ◀◀

- The following are the settings that are included in a BESTSHOT user setup: EV shift value, white balance mode, flash mode, and ISO sensitivity.
- Note that images recorded with this camera only can be used to create a BESTSHOT user setup.
- You can have up to 999 BESTSHOT user setups in the camera's built-in memory at one time.
- You can check the current setup of a scene by displaying the various setting menus.
- When you register a BESTSHOT user setup, it is automatically assigned a file name using one of the formats shown below, depending on your camera model.

EX-S20U : UES20nnn.JPE (n = 0 to 9)

EX-M20U : UEM20nnn.JPE (n = 0 to 9)

■ To delete a BESTSHOT user setup

1. In the REC mode, press [MENU].
2. Select the "REC" tab, select "REC Mode", and then press [▶].
3. Use [▲] and [▼] to select "BS BESTSHOT", and then press [SET].
 - This enters the BESTSHOT mode and displays a sample scene.
4. Use [◀] and [▶] to display the user setup you want to delete.
5. Press [▼] (🏠) to delete the user setup.
 - You can also delete a user setup by using your computer to delete its file in the "SCENE" folder in the camera's built-in memory (page 137).

Combining Shots of Two People into a Single Image (Coupling Shot)

The Coupling Shot mode lets you record images of two people and combine them into a single image. This makes it possible for you to include yourself in group images, even when there is no one else around to record the image for you. Coupling Shot is available in the BESTSHOT mode (page 58).

- First Image



This is the part of the image that does not include the person who is recording the first image.

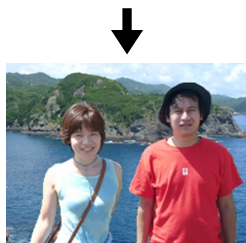


- Second Image



Making sure that the background of the image is aligned correctly, record the image of the person who recorded the first image.

- Combined Images

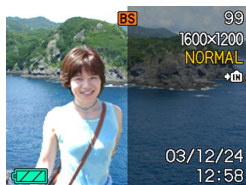


1. In the REC mode, press [MENU].
2. Select the “REC” tab, select “REC Mode”, and then press [▶].
3. Use [▲] and [▼] to select “[BS] BESTSHOT”, and then press [SET].
4. Use [◀] and [▶] to select “Coupling Shot”, and then press [SET].

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5. Use the monitor screen to compose and record the left side of the image.

- The exposure, white balance, zoom, and flash settings are fixed for this type of image.



6. Next, use the monitor screen to compose the right side of the image, taking care to align the actual background with the semi-transparent image of the background of the left-side image, which remains on the monitor screen. When everything is aligned correctly, record the image.



Semi-transparent image

- Pressing [MENU] any time after step 5 of the above procedure cancels the first image and returns to step 5.

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Recording a Subject onto an Existing Background Image (Pre-shot)

Pre-shot helps you get the background you want, even if you need to ask someone else to record the image for you. Basically, Pre-shot is a two-step process.

1. You compose the background you want and press the shutter release button, which causes a semi-transparent image of the background to remain on the monitor screen.
2. Ask someone else to record a shot of you against your original background, telling them to compose the image by using the semi-transparent monitor screen image as a guide.
 - The camera stores the image produced by step 2 only.
 - Depending on how the image is actually composed in step 2, its background may not be exactly the same as the one you composed in step 1.

Note that Pre-shot is available in the BESTSHOT mode only (page 58).

- Freeze the background on the monitor screen.



- Record the image, using the background on the monitor screen as a guide.



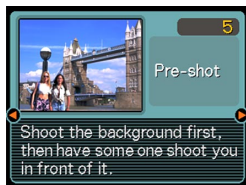
- This records the image.



OTHER RECORDING FUNCTIONS

1. In the REC mode, press [MENU].
2. Select the “REC” tab, select “REC Mode”, and then press [▶].
3. Use [▲] and [▼] to select “BS BESTSHOT”, and then press [SET].

4. Use [◀] and [▶] to select “Pre-shot”, and then press [SET].



5. Freeze the background on the monitor screen.

- Though a semi-transparent image of the background appears on the monitor screen in step 6, the background image is not saved in memory at this time.
- The exposure, white balance, zoom, and flash settings are fixed for this type of image.

6. Next, use the monitor screen to compose the subject with the semi-transparent background shown on the monitor screen. When everything is aligned correctly, record the image.



Semi-transparent image

- This records the image composed on the monitor screen in step 6. The reference background image is not recorded.
- Pressing [MENU] any time after step 5 of the above procedure cancels the background image and returns to step 5.

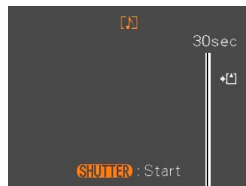
Recording Audio (EX-M20U Only)

Adding Audio to a Snapshot

You can add audio to a snapshot after you record it.

- **Image Format: JPEG**
JPEG is an image format that provides efficient data compression.
The file extension of a JPEG file is “.JPG”.
- **Audio Format: WAVE/ADPCM recording format**
This is the Windows standard format for audio recording.
The file extension of a WAVE/ADPCM file is “.WAV”.
- **Recording Time:**
Up to about 30 seconds per image
- **Audio File Size:**
Approximately 240KB (30-second recording of approximately 8KB per second)

1. In the REC mode, press [MENU].
2. Select the “REC” tab, select “REC Mode”, and then press [▶].
3. Use [▲] and [▼] to select “[] ([] + [])”, and then press [SET].
 - This enters the Snapshot Audio Mode.
4. Press the shutter release button to record the image.
 - After the image is recorded, the camera enters audio recording standby, with the image you just recorded on the monitor screen.
 - You can cancel audio recording standby by pressing [MENU].



Remaining recording time

5. Press the shutter release button to start audio recording.

- The operation/flash charge lamp flashes green as recording is performed.
- Even if you have the monitor screen turned off (page 25), the monitor screen turns on while you are adding audio to a snapshot.

6. Recording stops after about 30 seconds or when you press the shutter release button.


Recording Your Voice

The Voice Recording Mode provides quick and easy recording of your voice.

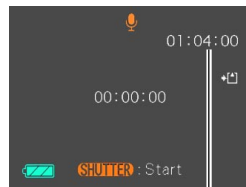
- **Audio Format:** WAVE/ADPCM recording format
This is the Windows standard format for audio recording. The file extension of a WAVE/ADPCM file is “.WAV”.
- **Recording Time:**
Approximately 40 minutes with built-in memory
- **Audio File Size:**
Approximately 240KB (30-second recording of approximately 8KB per second)

1. In the REC mode, press [MENU].

2. Select the “REC” tab, select “REC Mode”, and then press [▶].

3. Use [▲] and [▼] to select “ Voice”, and then press [SET].

- This enters the Voice Recording Mode.



Remaining recording time

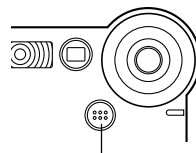
4. Press the shutter release button to start voice recording.

- The remaining recording time value counts down on the monitor screen and the operation/flash charge lamp flashes green as recording is performed.
- Pressing the [DISP] button during voice recording turns off the monitor screen. The monitor screen turns back on automatically when recording is complete.
- You can insert index marks while recording by pressing [SET]. See page 92 for information about jumping to an index mark during playback.

5. Recording stops when you press the shutter release button, when memory becomes full, or when the battery goes dead.

■ Audio Recording Precautions

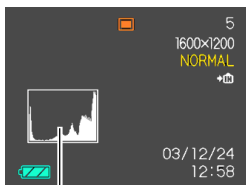
- Keep the microphone on the front of the camera pointed at the subject.
- Take care that you do not block the microphone with your fingers.
- Good recording results are not possible when the camera is too far from the subject.
- Operating camera buttons during recording can cause button noise to be included in the audio.
- Pressing the power button or changing the mode selector setting stops recording at that point and stores any audio recorded up to that point.
- You can also perform “after-recording” to add audio to a snapshot after recording it, and also change the audio recorded for an image. See page 90 for more information.



Microphone

Using the Histogram

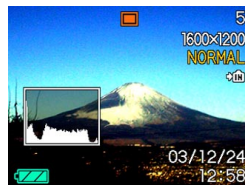
You can use the [DISP] button to display a histogram on the monitor screen. The histogram lets you check exposure conditions as you record images (page 25). You can also display the histogram of a recorded image in the PLAY mode.



Histogram

A histogram is a graph that represents the lightness of an image in terms of the number of pixels. The vertical axis indicates the number of pixels, while the horizontal axis indicates lightness. You can use the histogram to determine whether an image includes the shadowing (left side), mid tones (center), and highlighting (right) required to bring out sufficient image detail. If the histogram appears too lopsided for some reason, you can use EV shift (exposure compensation) to move it left or right in order to achieve better balance. Optimum exposure can be achieved by correcting exposure so the graph is as close to the center as possible.

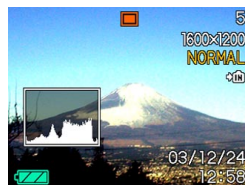
- When the histogram is too far to the left, it means that there are too many dark pixels. This type of histogram results when the overall image is dark. A histogram that is too far to the left may result in “black out” of the dark areas of an image.



- When the histogram is too far to the right, it means that there are too many light pixels. This type of histogram results when the overall image is light. A histogram that is too far to the right may result in “white out” of the light areas of an image.



- A centered histogram indicates that there is good distribution of light pixels and dark pixels. This type of histogram results when the overall image is at optimal lightness.



▶▶ IMPORTANT! ◀◀

- Note that the above histograms are shown for illustrative purposes only. You may not be able to achieve exactly the same shapes for particular subjects.
- A centered histogram does not necessarily guarantee optimum exposure. The recorded image may be over-exposed or under-exposed, even though its histogram is centered.
- You may not be able to achieve an optimum histogram configuration due to the limitations of EV shift.
- Use of the flash as well as certain shooting conditions can cause the histogram to indicate exposure that is different from the actual exposure of the image when it was recorded.
- This histogram does not appear when you are using Coupling Shot (page 62).

REC Mode Camera Settings

Specifying ISO Sensitivity

Use the following procedure to select the ISO sensitivity setting that suits the type of image you are recording.

1. In the REC mode, press [MENU].
2. Select the “REC” tab, select “ISO”, and then press [▶].
3. Use [▲] and [▼] to select the setting you want and then press [SET].

To get this:	Select this setting:
Automatic sensitivity selection	Auto
Conforms to ISO 64	ISO 64
Conforms to ISO 125	ISO 125
Conforms to ISO 250	ISO 250
Conforms to ISO 500	ISO 500

▶▶ IMPORTANT! ◀◀

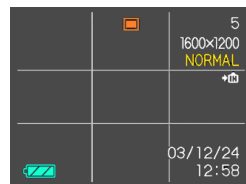
- Increasing ISO sensitivity can cause static to appear inside an image. Select the ISO sensitivity setting that suits your shooting needs.
- Using a high ISO sensitivity setting along with the flash to shoot a nearby subject may result in improper illumination of the subject.

▶▶ NOTE ◀◀

- You can use the key customization feature (page 72) to configure the camera so the ISO sensitivity setting changes whenever you press [◀] and [▶] while in the REC mode.

Turning the On-screen Grid On and Off

You can display gridlines on the monitor screen to help you compose images and ensure that the camera is straight when recording.



1. In the REC mode, press [MENU].
2. Select the “REC” tab, select “Grid”, and then press [▶].
3. Use [▲] and [▼] to select the setting you want, and then press [SET].

To do this:	Select this setting:
Display the grid	On
Hide the grid	Off

Turning Image Review On and Off

Image review displays an image on the monitor screen as soon as you record it. Use the following procedure to turn image review on and off.

1. In the REC mode, press [MENU].
2. Select the “REC” tab, select “Review”, and then press [▶].
3. Use [▲] and [▼] to select the setting you want, and then press [SET].

To do this:	Select this setting:
Display images on the monitor screen for about one second immediately after they are recorded	On
Do not display images immediately after they are recorded	Off

Assigning Functions to the [◀] and [▶] Keys

A “key customization” feature lets you configure the [◀] and [▶] keys so they change camera settings whenever they are pressed in the REC mode. After you configure the [◀] and [▶] keys, you can change the setting assigned to them without going through the menu screen.

1. In the REC mode, press [MENU].
2. Select the “REC” tab, select “L/R Key”, and then press [▶].
3. Use [▲] and [▼] to select the setting you want, and then press [SET].

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When you want to assign this function to [◀] and [▶] keys:	Select this:
Recording mode • [◀] and [▶] cycle through recording modes. • EX-S20U: Snapshot, BESTSHOT • EX-M20U: Snapshot, BESTSHOT, Snapshot Audio, Voice Recording (page 168)	REC Mode
Flash mode • [◀] and [▶] cycle through the flash mode settings (page 47).	Flash
EV shift • [◀] decreases compensation, [▶] increases compensation (page 55).	EV Shift
White balance setting • [◀] and [▶] cycle through white balance settings (page 56).	White Balance
ISO sensitivity • [◀] and [▶] cycle through ISO sensitivity settings (page 70).	ISO
No function assigned	Off

NOTE

- The initial default setting is “REC Mode”.

Assigning Functions to the [▲] and [▼] Keys

A “key customization” feature lets you configure the [▲] and [▼] keys so they change camera settings whenever they are pressed in the REC mode. After you configure the [▲] and [▼] keys, you can change the setting assigned to them without going through the menu screen.

- 1. In the REC mode, press [MENU].**
- 2. Select the “REC” tab, select “U/D Key”, and then press [▶].**
- 3. Use [▲] and [▼] to select the setting you want, and then press [SET].**

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When you want to assign this function to [▲] and [▼] keys:	Select this:
Recording mode • [▲] and [▼] cycle through recording modes. • EX-S20U: Snapshot, BESTSHOT • EX-M20U: Snapshot, BESTSHOT, Snapshot Audio, Voice Recording (page 168)	REC Mode
Digital Zoom • [▲] increases the digital zoom factor, [▼] decreases the digital zoom factor (page 46).	Digital Zoom
Flash mode • [▲] and [▼] cycle through the flash mode settings (page 47).	Flash
White balance setting • [▲] and [▼] cycle through white balance settings (page 56).	White Balance
Self-timer mode • [▲] and [▼] cycle through self-timer modes (page 51).	Self-timer
No function assigned	Off


NOTE

- The initial default setting is “Digital Zoom”.

Specifying Power On Default Settings

The camera’s “mode memory” feature lets you specify the power on default settings individually for the REC mode, flash mode, white balance mode, ISO sensitivity, and digital zoom mode. Turning on mode memory for a mode tells the camera to remember the status of that mode when you turn off the camera, and restore it the next time you turn the camera back on. When mode memory is turned off, the camera automatically restores the initial factory default setting for the applicable mode.

The following table shows what happens when you turn mode memory on or off for each mode.

Function	On	Off
REC Mode	Setting when camera is turned off	 Snapshot
Flash		Auto
White Balance		Auto
ISO		Auto
Digital Zoom		On

1. In the REC mode, press [MENU].
2. Select the “Memory” tab, select the item you want to change, and then press [▶].
3. Use [▲] and [▼] to select the setting you want, and then press [SET].

To do this:	Select this setting:
Turn on mode memory so settings are restored at power on	On
Turn off mode memory so settings are initialized at power on	Off

▶▶ IMPORTANT! ◀◀

- Note that BESTSHOT mode settings take priority over mode memory settings. If you turn the camera off while in the BESTSHOT mode, the camera’s Flash, White Balance, and ISO Sensitivity will be configured according to the BESTSHOT sample scene when you turn it back on again, regardless of mode memory on/off setting.

Resetting the Camera

Use the following procedure to reset all of the camera’s settings to their initial defaults as shown under “Menu Reference” on page 168.

1. In the REC mode or the PLAY mode, press [MENU].
2. Select the “Set Up” tab, select “Reset”, and then press [▶].
3. Use [▲] and [▼] to select “Reset”, and then press [SET].
 - To cancel the procedure without resetting, select “Cancel” and press [SET].