Configuring Sound Settings

You can configure different sounds to play whenever you turn on the camera, press the shutter release button half-way or all the way, or perform a key operation.

To configure sound settings

- 1. In the REC mode or the PLAY mode, press [MENU].
- 2. Select the "Set Up" tab, select "Sounds", and then press [▶].
- Use [▲] and [▼] to select the sound whose setting you want to configure, and then press [▶].



 Use [▲] and [▼] to change the setting, and then press [SET].

To do this:	Select this setting:
Select a built-in sou	nd Sound 1 through Sound 5
Turn off the sound	Off

DDD NOTE (((

• The default sound setting for all operations is "Sound 1".

To set the volume level

- 1. In the REC mode or the PLAY mode, press [MENU].
- 2. Select the "Set Up" tab, select "Sounds", and then press [▶].
- 3. Use [▲] and [▼] to select "Volume".
- Use [◄] and [▶] to specify the volume setting you want, and then press [SET].
 - You can set the volume in the range of 0 (no sound) to 7 (loudest).

DDD NOTE ((()

• The initial default volume setting is 3.

Specifying an Image for the Startup Screen

You can specify an image you recorded as the startup screen image, which causes it to appear on the monitor screen for about two seconds whenever you turn on the camera while the mode selector is aligned with "REC".

- 1. In the REC mode or the PLAY mode, press [MENU].
- 2. Select the "Set Up" tab, select "Startup", and then press [▶].
- 3. Use [◀] and [▶] to display the image you want to use as the startup image.
- Use [▲] and [▼] to change the setting, and then press [SET].

To do this:	Select this setting:
Use the currently displayed image as the startup screen image	On
Disable the startup screen	Off

▶ IMPORTANT! **◀**◀

- You can select any one of the following types of image as the startup image.
 - The camera's built-in startup image
 - A snapshot you recorded with the camera
 - An audio snapshot you recorded with the camera
 - A movie you recorded with the camera 200KB or less in size
- The snapshot image or movie that you select as the startup image is stored in a special memory location called "startup image memory". Only one image can be stored in startup image memory at one time.
 Selecting a new startup image overwrites anything that is already stored in startup image memory.
 Because of this, if you want to return to a previous startup image, you need to have a separate copy of that image in the camera's standard image memory.
- The startup image is deleted by the format operation (page 132).
- If you store an audio snapshot to startup image memory, the image's audio is not played when the image is displayed at startup.

Configuring Power Down Image Settings

With the Power Down Image feature, you can configure the camera so a specific image stored in camera image memory appears whenever you turn off power. You can specify a snapshot or a movie as the power down image.

■ To configure power down image settings

- Use the USB cable to connect the camera to your computer (page 140).
- Move the image data that you want to use for the power down image to the top (root) directory of the camera's built-in Flash memory.
 - The file name extension will not be displayed if your computer is configured to hide file name extensions.
 Example: CIMG0001
 - If your power down image is stored on a memory card, be sure to copy the image to built-in memory before removing the memory card from the camera.

Change the name of the file to one of the following.

Snapshot Image: ENDING.JPG Movie Image: ENDING.AVI

 Input the following file name only (without file name extension) if your computer is configured to hide file name extensions.

File Name: ENDING

 Your camera is now configured to display a power down image. The power down image will appear any time you press the power button to turn off the camera. The power down image appears regardless of whether or not your camera has a memory card loaded in it.

DDD IMPORTANT! 444

- Only a snapshot (JPEG) or movie (AVI) file can be used as the power down image.
- Note that the Power Down Image feature works only with images recorded with this camera. The Power Down Image feature may not operate properly when another type of image is specified as the power down image.
- Formatting the camera's Flash memory deletes the power down image.
- When both a still image and a movie are present for the power down image, only the movie is used.
- Note that a power down image display operation cannot be interrupted once it starts. Because of this, you should select a relatively short movie when using a movie file as the power down image.

- To cancel Power Down Image settings
- 1. Use the USB cable to connect the camera to your computer (page 140).
- Change the name of the current power down image from ENDING.JPG or ENDING.AVI to something else, or delete the current power down image from Flash memory.

Specifying the File Name Serial Number Generation Method

Use the following procedure to specify the method for generating the serial number used for file names (page 109).

- 1. In the REC mode or the PLAY mode, press [MENU].
- Select the "Set Up" tab, select "File No.", and then press [▶].
- 3. Use [▲] and [▼] to change the setting, and then press [SET].

To do this for a newly saved file:	Select this setting:
Store the last file number used and increment it, regardless of whether files are deleted or whether the memory card is replaced with a new one	Continue
Find the highest file number in the current folder and increment it	Reset

Using the Alarm

You can configure up to three alarms that cause the camera to beep and display a specified image at the time you specify.

To set an alarm

- 1. In the PLAY mode, press [MENU].
- Select the "PLAY" tab, select "Alarm", and then press [▶].
- Use [▲] and [▼] to select the alarm whose setting you want to configure, and then press [▶].
- Use [◄] and [▶] to select the setting you want to change, and then use [▲] and [▼] to change the selected setting.
 - You can set an alarm time and configure the alarm to sound either once or at the same time everyday. You can also turn the alarm on or off.

- 5. Press [DISP].
 - You could press [SET] in place of [DISP] if you want to configure the alarm without an image.
- Use [◄] and [▶] to select the scene you want to appear at the alarm time, and then press [SET].
- After all the settings are the way you want, press [SET].
 - You can configure up to three alarms, named "Alarm 1", "Alarm 2", and "Alarm 3".

Stopping the Alarm

When an alarm time is reached while the camera is turned off, the alarm will sound for about one minute (or until you stop it), and then the camera will turn on. To stop the alarm after it starts to sound, press any button. If the camera is on the USB cradle when an alarm sounds, you can stop it by pressing the USB cradle [USB] button or [PHOTO] button, or any camera button.

DDD IMPORTANT! **444**

- Note that the alarm does not sound if the alarm time is reached when any one of the following conditions exists.
 - While the camera is turned on
 - While a USB data communication operation is in progress
 - While a Photo Stand operation is in progress

Setting the Clock

Use the procedures in this section to select a Home Time Zone, and to change its date and time settings.

DDD IMPORTANT! **444**

 Make sure you select your Home Time zone (the zone where you are currently located) before changing the time and date settings. Otherwise, the time and date setting will change automatically when you select another time zone.

To select your Home Time zone

- 1. In the REC mode or the PLAY mode, press [MENU].
- Select the "Set Up" tab, select "World Time", and then press [▶].
 - This displays the current World Time zone.
- Use [▲] and [▼] to select "Home", and then press [▶].

- Use [▲] and [▼] to select "City", and then press [▶].
- Use [▲], [▼], [◄], and [▶] to select the geographical area that contains location you want to select as your Home Time zone, and then press [SET].
- Use [▲] and [▼] to select the city you want, and then press [SET].
- 7. After selecting the city you want, press [SET] to register its zone as your Home Time zone.

To set the current time and date

- 1. In the REC mode or the PLAY mode, press [MENU].
- Select the "Set Up" tab, select "Adjust", and then press [▶].
- 3. Set the current date and the time.

To do this:	Do this:	
Change the setting at the current cursor location	Press [▲] or [▼].	
Move the cursor between settings	Press [◀] or [▶].	
Toggle between 12-hour and 24-hour timekeeping	Press [DISP].	

4. When all the settings are the way you want, press [SET] to register them and exit the setting screen.

Changing the Date Format

You can select from among three different formats for display of the date.

- 1. In the REC mode or the PLAY mode, press [MENU].
- Select the "Set Up" tab, select "Date Style", and then press [▶].
- Use [▲] and [▼] to change the setting, and then press [SET].

Example: December 24, 2003

To display the date like this:	Select this format:	
03/12/24	YY/MM/DD	
24/12/03	DD/MM/YY	
12/24/03	MM/DD/YY	

Using World Time

You can use the World Time screen to view a time zone that is different from the home time zone when you go on a trip, etc. World Time can display the time in one of 162 cities in 32 time zones.

To display the World Time screen

- In the REC mode or the PLAY mode, press [MENU].
- 2. Select the "Set Up" tab, select "World Time", and then press [▶].
 - This displays the current World Time zone.
- 3. Use [▲] and [▼] to select "World".

To do this:	Select this:
Display the time in your home time zone	Home
Display the time in a different time zone	World

4. Press [SET] to exit the setting screen.

To configure World Time settings

- 1. In the REC mode or the PLAY mode, press [MENU].
- Select the "Set Up" tab, select "World Time", and then press [▶].
 - This displays the current World Time zone.
- Use [▲] and [▼] to select "World", and then press [▶].
- Use [▲] and [▼] to select "City", and then press [▶].
- Use [▲], [▼], [◄], and [▶] to select the geographical area you want, and then press [SET].



- Use [▲] and [▼] to select the city you want, and then press [SET].
 - This displays the current time in the city you select.



7. When the setting is the way you want, press [SET] to apply it and exit the setting screen.

To configure summer time (DST) settings

- 1. In the REC mode or the PLAY mode, press [MENU].
- Select the "Set Up" tab, select "World Time", and then press [▶].
 - This displays the current World Time Settings.
- Use [▲] and [▼] to select "World", and then press [▶].
 - If you want to configure Home Time settings, select "Home" instead.
- Use [▲] and [▼] to select "DST", and then press [▶].
- Use [▲] and [▼] to select the summer time (DST) setting you want.

To do this:	Select this:
Advance the current time setting by one hour	On
Display the current time as-is	Off

- After the setting is the way you want, press [SET].
 - This displays the current time in accordance with your setting.
- 7. Press [SET] again to exit the setting screen.

Changing the Display Language

You can use the following procedure to select one of ten language as the display language.

- In the REC mode or the PLAY mode, press [MENU].
- Select the "Set Up" tab, select "Language", and then press [▶].
- 3. Use [▲], [▼], [◀], and [▶] to change the setting, and then press [SET].

日本語 : Japanese
English : English
Français : French
Deutsch : German
Español : Spanish
Italiano : Italian

Português: Portuguese

中國語 : Chinese (Complex) 中国语 : Chinese (Simplified)

한국어 : Korean

Formatting Built-in Memory

Formatting built-in memory deletes any data stored in it.

DDD IMPORTANT! 444

- Note that data deleted by a format operation cannot be recovered. Check to make sure you do not need any of the data in memory before you format it.
- Formatting built-in memory deletes all files, including files in the FAVORITE folder (page 151), protected files (page 110), and BESTSHOT user setups (page 70).
- The startup screen image (page 122) is deleted by formatting memory.
- Check to make sure there is no memory card loaded in the camera.
 - If there is a memory card loaded in the camera, remove it (page 136).
- 2. In the REC mode or the PLAY mode, press [MENU].
- 3. Select the "Set Up" tab, select "Format", and then press [▶].

- Use [▲] and [▼] to select "Format", and then press [SET].
 - To exit the format operation without formatting, select "Cancel".

USING A MEMORY CARD

You can expand the storage capabilities of your camera by using a commercially available memory card (SD memory card or MultiMediaCard). You can also copy files from built-in flash memory to a memory card and from a memory card to flash memory.



- Normally, files are stored in built-in flash memory. When you insert a memory card, however, the camera automatically stores files to the card.
- Note that you cannot save files to built-in memory while a memory card is installed in the camera.

DDD IMPORTANT!

- Use only an SD memory card or a MultiMediaCard with this camera. Proper operation is not guaranteed when any other type of card is used.
- See the instructions that come with the memory card for information about how to use it.
- Certain types of cards can slow down processing speeds.
- SD memory cards have a write protect switch, which you can use to protect against accidental deletion of image data. Note, however, if you write protect an SD memory card, you must remove write protection whenever you want to record to it, format it, or delete any of its files.
- Electrostatic charge, electrical noise, and other phenomena can cause data to become corrupted or even lost. Always make sure that you always back up important data on other media (CD-R, CD-RW, MO disc, computer hard disk, etc.)

Using a Memory Card

DDD IMPORTANT!

- Make sure you turn off the camera before inserting or removing a memory card.
- Be sure to orient the card correctly when inserting it.
 Never try to force a memory card into the slot when you feel resistance.

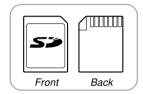
To insert a memory card into the camera

 While pressing the battery compartment cover on the bottom of the camera, slide the cover in the direction indicated by the arrow, and then swing it open.



Positioning the memory card so its front is facing in the same direction as the camera's monitor screen, carefully slide it into the card slot.





Swing the battery compartment cover closed, and then slide it in the direction indicated by the arrow.



To remove a memory card from the camera

 Press the memory card into the camera and then release it. This will cause the card to come part way out of the camera.



2. Pull the memory card out of the slot.

DDD IMPORTANT!

- Never insert any other object besides a memory card into the camera's card slot. Doing so creates the risk of damage to the camera and card.
- Should water or any foreign object ever get into the card slot, immediately turn off the camera, remove the battery, and contact your dealer or nearest CASIO authorized service center.
- Never remove a card from the camera while the green operation lamp is flashing. Doing so can cause the file save operation to fail, and even damage the memory card.

Formatting a Memory Card

Formatting a memory card deletes any data already stored on it

DDD IMPORTANT! **444**

- Be sure to use the camera to format a memory card.
 Formatting a memory card on a computer and then
 using it in the camera can slow down data
 processing by the camera. In the case of an SD card,
 formatting on a computer can result in non conformity with the SD format, causing problems with
 compatibility, operation, etc.
- Note that data deleted by a memory card format operation cannot be recovered. Check to make sure you do not need any of the data on the memory card before you format it.
- Formatting a memory card that contains files deletes all the files, even those that are protected (page 110).

USING A MEMORY CARD

- 1. Load the memory card into the camera.
- Turn on the camera. Next, enter the REC mode or PLAY mode and press [MENU].
- 3. Select the "Set Up" tab, select "Format", and then press [▶].
- 4. Use [▲] and [▼] to select "Format", and then press [SET].
 - To exit the format operation without formatting, select "Cancel".

Memory Card Precautions

- If a memory card starts to behave abnormally, you can restore normal operation by reformatting it. However, we recommend that you always take along more than one memory card whenever using the camera far away from the home or office.
- We recommend that you format a memory card before using it for the first time after purchasing it, or whenever the card you are using seems to be the cause of abnormal images.
- Before starting a format operation, check to make sure that the battery is fully charged. Power interruption during the format operation can result in improper formatting, and even damage the memory card and make it unusable.

Copying Files

Use the procedures below to copy files between built-in memory and a memory card.

IMPORTANT!

- Only snapshot, movie files, audio snapshot, and voice recording files recorded with this camera can be copied. Other files cannot be copied.
- Copying an audio snapshot copies both the image file and the audio file.

To copy all the files in built-in memory to a memory card

- 1. Load the memory card into the camera.
- Turn on the camera. Next, enter the PLAY mode and press [MENU].
- 3. Select the "PLAY" tab, select "Copy", and then press [▶].



- Use [▲] and [▼] to select "Built-in → Card", and then press [SET].
 - This starts the copy operation and displays the message "Busy.... Please wait...".
 - After the copy operation is complete, the monitor screen shows the last file in the folder.

To copy a file from a memory card to built-in memory

With this procedure you can copy one file at a time.

- Perform steps 1 through 3 of the procedure under "To copy all the files in built-in memory to a memory card".
- Use [▲] and [▼] to select "Card → Built-in", and then press [SET].
- Use [◄] and [▶] to select the file you want to copy.
- Use [▲] and [▼] to select "Copy", and then press [SET].
 - This starts the copy operation and displays the message "Busy.... Please wait...".
 - The file reappears on the monitor screen after the copy operation is complete.
 - Repeat steps 3 through 4 to copy other images, if you want.
- 5. Press [MENU] to exit the copy operation.

DDD NOTE 444

• Files are copied to the folder in built-in memory whose name has the largest number.

After using the USB cradle to establish a USB connection between the camera and your computer, you can use your computer to view images in file memory and copy images to your computer's hard disk or other storage media. In order to do this, you first need to install the USB driver located on the CD-ROM that comes bundled with the camera onto your computer.

Note that the procedure you need to perform depends on whether you are using computer running under Windows (see below) or a Macintosh (see page 145).

Using the Camera with a Windows Computer

The following are the general steps for viewing and copying files from a computer running under Windows. You can find details about each operation in the procedures that follow below. Note that you should also refer to the documentation that comes with your computer for other information about USB connections, etc.

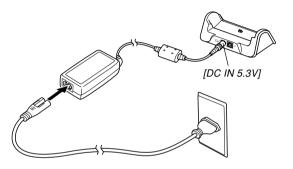
- 1. If you are running Windows 98, Me, or 2000, install the USB driver onto your computer.
 - You need to perform this step only once, the first time you connect to your computer.
 - If you are running Windows XP, you do not need to install the USB driver.
- 2. Use the USB cradle to establish a connection between the camera and computer.
- 3. View and copy the images you want.

DDD IMPORTANT! **444**

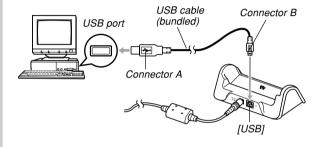
- Do not try to establish a connection between the camera and computer before installing the USB driver onto the computer.
- If you want to transfer files from the camera's built-in memory to a computer, make sure there is no memory card loaded in the camera before you place it onto the USB cradle.
- What you should do first depends on whether your computer is running under Windows 98/ Me/2000 or Windows XP.
 - Windows 98/Me/2000 Users
 - · Start from step 2 to install the USB driver.
 - Note that the example installation presented here uses Windows 98.
 - **■** Windows XP Users
 - Installation of the USB driver is not required, so jump directly to step 6.
- Set the bundled CD-ROM into the CD-ROM drive of your computer.

- 3. On the menu screen that appears, click "English".
- 4. Click [USB driver] and then [Install].
 - · This starts installation.
 - The following steps show installation under the English version of Windows.
- 5. On the screen that appears after installation is complete, select the "Yes, I want to restart my computer now." check box and then click [Finish] to restart your computer.

 Connect the bundled AC adaptor to the [DC IN 5.3V] connector of the USB cradle, and then plug it in to a household power outlet.



Connect the USB cable that comes bundled with the camera to the USB cradle and your computer's USB port.



- Take care when connecting the USB cable to the USB cradle or your computer. USB ports and cable plugs are shaped for proper positioning.
- Plug the USB cable plugs into the ports securely, as far as they will go. Proper operation is not possible if connections are not correct

- 8. After making sure the camera is turned off, place the camera onto the USB cradle.
 - Do not place the camera onto the USB cradle while it is turned on.



9. Press the USB cradle's [USB] button.

- This will cause the "Add New Hardware..." dialog box to appear on the computer screen as the computer automatically detects the camera's file memory. After you install the USB driver, "Add New Hardware..." dialog box will no longer appear when you perform the above steps to establish a USB connection.
- Pressing the [USB] button enters the USB mode, which causes the USB cradle's [USB] lamp to light green (page 172).
- At this point, some operating systems will display a "Removable Disk" dialog box. If your operating system does, close the dialog box.



- 10. On your computer, double-click "My Computer".
- 11. Double-click "Removable Disk".
 - Your computer sees the camera's file memory as a removable disk.
- 12. Double-click the "Dcim" folder.
- Double-click the folder that contains the image you want.
- Double-click the file that contains the image you want to view.
 - For information about file names, see "Memory Directory Structure" on page 151.
- 15. To copy all the files in file memory to your computer's hard disk, drag the "Dcim" folder from "Removable Disk" to the "My Documents" folder on your computer.

DDD IMPORTANT! 444

- Never use your computer to edit, delete, move, or rename images stored in file memory. Doing so can cause problems with the image management data used by the camera, which may make it impossible to display images on the camera or it may cause a large error in the number of images value displayed by the camera. Always copy images to your computer memory before performing any edit, delete, move, or rename operation.
- 16. Depending on the version of Windows you are running, use one of the following procedures to terminate the USB connection.

■ WindowsMe/98 Users

 After pressing the USB cradle [USB] button and making sure that the [USB] lamp is not lit, remove the camera from the USB cradle.

■ Windows2000/XP Users

 Click card services in the task tray on your computer screen, and disable the drive number assigned to the camera. After pressing the USB cradle [USB] button and making sure that the [USB] lamp is not lit, remove the camera from the USB cradle.

USB Connection Precautions

- Be sure to read the documentation that comes with your computer for other important information about USB connections.
- Be sure to connect the AC adaptor to the USB cradle to supply power to the camera.
- USB data communication is performed regardless of the current setting of the camera's mode selector.
- Do not leave the same image displayed on your computer screen for a long time. Doing so can cause the image to "burn in" on the screen.
- Never disconnect the USB cable, or perform any camera or USB cradle operation while data communication is in progress. Doing so can cause data to become corrupted.

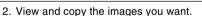
Using the Camera with a Macintosh Computer

The following are the general steps for viewing and copying files from a Macintosh.

You can find details about each operation in the procedures that follow below. Note that you should also refer to the documentation that comes with your Macintosh for other information about USB connections, etc.

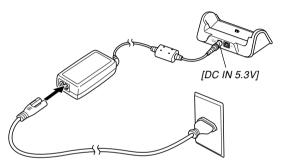
IMPORTANT!

- This camera does not support operation with a computer running Mac OS 8.6 or lower, or Mac OS X 10.0. If you have a Macintosh running Mac OS 9 or OS X (10.1, 10.2 or higher), use the standard USB driver that comes with your OS.
- 1. Use the USB cradle to establish a connection between the camera and your Macintosh.

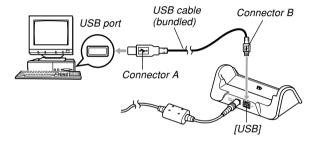


DDD IMPORTANT!

 If you want to transfer files from the camera's built-in memory to a computer, make sure there is no memory card loaded in the camera before you place it onto the USB cradle. Connect the bundled AC adaptor to the [DC IN 5.3V] connector of the USB cradle, and then plug it in to a household power outlet.



Connect the USB cable that comes bundled with the camera to the USB cradle and your computer's USB port.



- Take care when connecting the USB cable to the USB cradle or your computer. USB ports and cable plugs are shaped for proper positioning.
- Plug the USB cable plugs into the ports securely, as far as they will go. Proper operation is not possible if connections are not correct.

- 3. After making sure the camera is turned off, place the camera onto the USB cradle.
 - Do not place the camera onto the USB cradle while it is turned on.



- 4. Press the USB cradle's [USB] button.
 - Pressing the [USB] button enters the USB mode, which causes the USB cradle's [USB] lamp to light green (page 172).
- Your Macintosh will see the camera's file memory as a drive.
 - The appearance of the drive icon depends on the Mac OS version you are using.
 - After installing the USB driver, your Macintosh will see the camera's file memory as a drive whenever you establish a USB connection between them.
- Double-click the drive icon for the camera's file memory, the "DCIM" folder, and then the folder that contains the image you want.
- Double-click the file that contains the image you want to view.
 - For information about file names, see "Memory Directory Structure" on page 151.

- 8. To copy all the files in file memory to your Macintosh hard disk, drag the "DCIM" folder to the folder to which you want to copy it.
- **▶** IMPORTANT! **《《**
 - Never use your computer to edit, delete, move, or rename images stored in file memory. Doing so can cause problems with the image management data used by the camera, which may make it impossible to display images on the camera or it may cause a large error in the number of images value displayed by the camera. Always copy images to your computer memory before performing any edit, delete, move, or rename operation.
- 9. To terminate the USB connection, drag the drive icon that represents the camera to Trash. After pressing the USB cradle [USB] button and making sure that the [USB] lamp is not lit, remove the camera from the USB cradle.

USB Connection Precautions

- Be sure to read the documentation that comes with your computer for other important information about USB connections.
- Be sure to connect the AC adaptor to the USB cradle to supply power to the camera.
- USB data communication is performed regardless of the current setting of the camera's mode selector.
- Do not leave the same image displayed on your computer screen for a long time. Doing so can cause the image to "burn in" on the screen.
- Never disconnect the USB cable, or perform any camera or USB cradle operation while data communication is in progress. Doing so can cause data to become corrupted.

Operations You Can Perform from Your Computer

The following are the operations you can perform while there is a USB connection between your camera and computer. See the referenced pages for more information about each operation.

- View images in album format
 See "Using the Album Feature" on page 154.
- Print images in album format
 See "Using the Album Feature" on page 154.
- Automatically transfer images to your computer and manage images
 - See "Installing the Software from the CD-ROM" on page 161 for information about installing Photo Loader.
- Retouch images
 - See "Installing the Software from the CD-ROM" on page 161 for information about installing Photohands.

Using a Memory Card to Transfer Images to a Computer

The procedures in this section describe how to transfer images from the camera to your computer using a memory card.

Using a Computer with a Built-in SD Memory Card Slot Insert the SD memory card directly into the slot.

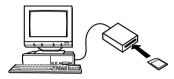
Using a Computer with a Built-in PC Card Slot

Use a commercially available PC card adapter (for an SD memory card/MMC). For full details, see the user documentation that comes with the PC card adapter and your computer.



Using a Commercially Available SD Memory Card Reader/Writer

See the user documentation that comes with the SD memory card reader/writer for details about how to use it.



Using a Commercially Available PC Card Reader/Writer and PC Card Adapter (for SD Memory Cards and MMCs)

See the user documentation that comes with the PC card reader/writer and PC card adapter (for an SD memory card/MMC) for details about how to use them.



Memory Data

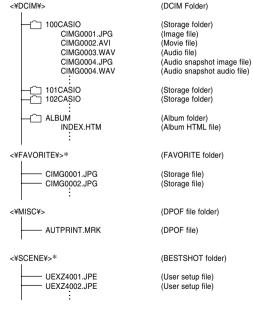
Images recorded with this camera and other data are stored in memory using DCF (Design rule for Camera File System) protocol. DCF protocol is designed to make it easier to exchange image and other data between digital cameras and other devices.

DCF Protocol

DCF devices (digital cameras, printers, etc.) can exchange images with each other. DCF protocol defines camera format for image file data and the directory structure for file memory, so images can be viewed using another manufacturer's DCF camera or printed on a DCF printer.

Memory Directory Structure

■ Directory Structure



^{*} These folders are created in built-in memory only.

■ Folder and File Contents

- DCIM folder
 Folder that stores all of the digital camera files
- Storage folder
 Folder for storing files created by the digital camera
- Image file
 File that contains an image recorded with the digital camera (File Name Extension: JPG)
- Movie file
 File that contains a movie recorded with the digital camera (File Name Extension: AVI)
- Audio file
 File that contains an audio recording (File Name
 Extension: WAV).
- Audio snapshot image file
 File that contains the image part of an audio snapshot
 (File Name Extension: JPG).
- Audio snapshot audio file
 File that contains the audio part of an audio snapshot
 (File Name Extension: WAV).
- Album folder
 Folder that contains files used by the album function
- Album HTML file
 File used by the album function
 (File Name Extension: HTM)

- FAVORITE folder
 Folder that contains Favorites image files (Image Size: 320 x 240 pixels)
- DPOF file folder
 Folder that contains DPOF files
- BESTSHOT folder (Built-in memory only)
 Folder that contains BESTSHOT user setup files.
- User setup files (Built-in memory only)
 Files that contain BESTSHOT user setups

Image Files Supported by the Camera

- Image files recorded with the CASIO EX-Z4 Digital Camera
- · DCF protocol image files

Certain DCF functions may not be supported. When displaying an image recorded on another camera model, it may take a long time for the image to appear on the display.

Built-in Memory and Memory Card Precautions

- Note that the folder named "DCIM" is the parent (top) folder of all the files in memory. When transferring memory contents to a hard disk, CD-R, MO disk, or other external storage, treat all the contents inside a DCIM folder as a set and always keep them together. You can change the name of the DCIM folder on your computer. Changing the name to a date is a good way to keep track of multiple DCIM folders. However, if you even want to copy the folders back to the camera's file memory, be sure you change the name of the DCIM folder back to "DCIM" first. The camera does not recognize any folder name other than DCIM.
- We also strongly recommend that after transferring data from file memory to other external storage that you reformat the camera's file memory and delete its contents before using it to store more files. Remember that formatting memory deletes all of its contents. Check to make sure that you no longer need any of the files in memory before you format it.

USING THE CAMERA WITH A COMPUTER

The album feature of the camera creates files that make it possible for you to view images on your computer in a photo album layout. You can also use the applications contained on the CD-ROM that comes bundled with the camera to automate image transfer and to retouch images.

Using the Album Feature

The album feature creates an HTML photo album layout that displays your images. You can use the HTML layout to post your images on a Web page, or for printing the images.



Album



Index



Info

 You can use the Web browser shown below to view or print the contents of an album. Note that to view a movie on a computer running Windows 2000 or 98, you need to install DirectX.

Microsoft Internet Explorer Ver 5.5 or later

Creating an album

 In the PLAY mode, press [▲] (♥ □□).



Sample layout

- Use [▲] and [▼] to select "Create", and then press [SET].
 - This starts creation of the album, and causes the message "Busy.... Please wait...". to appear on the monitor screen.
 - The PLAY mode screen reappears after creation of the album is complete.

USING THE CAMERA WITH A COMPUTER

 Creating an album causes a file folder named "ALBUM", which contains a file named "INDEX.HTM" plus other files to be created in camera memory or on the memory card.

▶ IMPORTANT! **■**

- Never open the battery compartment cover or remove the memory card from the camera while an album is being created. Doing so not only runs the risk of certain album files being skipped, it can also result in image data and other data in memory being corrupted.
- If memory becomes full while an album is being created, the message "Memory Full" appears on the monitor screen and album creation is terminated.
- Album creation will not be performed properly if the battery goes dead while album creation is in progress.
- You can also configure the camera to create albums automatically (page 157). However, performing the above procedure creates an album regardless of whether automatic album creation is turned on or off.

Selecting an Album Layout

You can select from among 10 different display layouts for an album.

- 1. In the PLAY mode, press [▲] (♥ □).
- 2. Use [▲] and [▼] to select "Layout".
- 3. Use [◄] and [▶] to select the layout you want.
 - Changing the layout causes the layout sample on the right side of the screen to change.

IMPORTANT!

 The sample layout shows the arrangement of items and the background color. It does not show whether the layout uses a list view or detailed view, or the current Image Type setting.

Configuring Detailed Album Settings

- 1. In the PLAY mode, press [▲] (♥ □).
- Use [▲] and [▼] to select "Set Up", and then press [▶].
- Use [▲] and [▼] to select the item whose setting you want to change, and then press [▶].



- Details about each of the settings are provided in the following sections.
- Use [▲] and [▼] to change the setting, and then press [SET].

■ Background Color

You can specify white, black, or gray as the color of the album background using the procedure under "Configuring Detailed Album Settings".

■ Album Type

There are two album types: "Normal" and "Index/Info".

"Normal" Type : This type of album displays images in

accordance with the currently selected layout.

"Index/Info" Type: In addition to the normal album screen.

this type of album also includes thumbnails of images and detailed information about each image.

■ Image Use

This setting lets you select from among three different image uses, as described below. Select the image use that best suits the way you plan to use the image.

For this purpose:	Select this setting:
Smaller images for album browsing, Website thumbnails, or archiving on a CD-R or other media, with the full-size image displayed when a thumbnail is clicked This setting can be used for browsing with the thumbnails. Clicking a thumbnail displays a larger version for viewing or printing.	View
Small image files only for album browsing, or uploading to a Website, etc. This option displays only the small-file images (located in the camera's "ALBUM" folder). Smaller files upload to the Internet faster. You cannot enlarge images by clicking a thumbnail or play movies while this image is selected.	WEB
Printing (high resolution) High-resolution images take longer to display on your computer screen. You cannot enlarge images by clicking a thumbnail or play movies while this image is selected.	Print

■ Auto Album Creation On/Off

This setting controls whether an album is created automatically whenever you turn off the camera.

To do this:	Select this option:
Turn on auto album creation	On
Turn off auto album creation	Off

 When auto album creation is turned on, an album is created automatically in built-in memory or on the memory card whenever you turn off the camera.

DDD IMPORTANT!

 When you turn off the camera while auto album creation is turned on, the monitor screen turns off, but the green operation lamp continues to flash for a few seconds to indicate that the album creation process is being performed. Never open the battery compartment cover or remove the memory card while the green operation lamp is flashing.

NOTE (((

 Depending on the number of images in memory, it can take quite a bit of time to complete auto album creation when you turn off the camera. If you do not plan to use the album feature, we suggest that you keep auto album creation turned off, which shortens the amount of time the camera takes to power down completely.

Viewing Album Files

You can view and print album files using your computer's Web browser application.

- Use your computer to access the data in builtin memory or on the memory card, or access a memory card with your computer (pages 140, 150).
- 2. Open the built-in memory "ALBUM" folder or the memory card "ALBUM" folder, which is located inside the folder named "DCIM".
- Use your computer's Web browser to open the file named "INDEX.HTM".
 - This displays a list of folders in built-in memory or on the memory card.



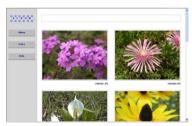
4. If you created the album after selecting "Normal" type or "Index/Info" as the album type under "Configuring Detailed Album Settings" on page 156, you can click one of the following display options.

Album: Displays an album created by the camera.

Index: Displays a list of images stored in a folder.

Info: Displays information about each image.

 If "View" is selected for "Use" (page 157), you can double-click an image on your computer screen to display the full-size version.



Album



Index



Info

 The following describes the information that appears on the Info Screen.

This Info Screen item:	Shows this:
File Size	Image file size
Resolution	Resolution
Quality	Quality
Drive mode	Drive mode
AE	Exposure mode
Light metering	Metering mode
Shutter speed	Shutter speed
Aperture stop	Aperture stop
Exposure comp	EV shift
Focusing mode	Focusing mode
Flash mode	Flash mode
AF Area	Auto Focus area
Sharpness	Sharpness
Saturation	Saturation
Contrast	Contrast
White balance	White balance
Sensitivity	Sensitivity
Filter	Filter setting
Enhancement	Enhancement setting
Flash intensity	Flash intensity
Digital zoom	Digital zoom setting
World	Location
Date	Recording date and time
Model	Camera model name

DDD NOTES (((

- When printing an album page, you should set up your Web browser as described below.
 - Select the browser frame where the images are located.
 - Set margins to the lowest possible values.
 - Set the background color to a printable color.
- See the user documentation that came with your Web browser application for details about printing and configuring settings for printing.
- 5. After you are finished viewing the album, exit your Web browser application.

Saving an Album

- To save an album, copy the "DCIM" folder from camera memory or the memory card to your computer's hard disk, a CD-R, an MO disk, or some other storage medium.
 Note that copying only the "ALBUM" folder, does not copy image data and other necessary files.
- After copying the "DCIM" folder, do not change or delete any of the files inside of it. Adding new images or deleting existing images may lead to abnormal album display.
- If you plan to use a memory card again after saving its album, first delete all of its files or format it before loading it into the camera.
- When you have "WEB" selected for the "Use" setting, the album shows only the smaller image files stored in the "ALBUM" folder. Such images can be uploaded to the Internet more quickly.

Installing the Software from the CD-ROM

About the bundled CD-ROM

The CD-ROM that comes bundled with the camera contains the applications described below. Installation of these applications is optional, and you should install only the ones you want to use.

USB Driver for Mass Storage (for Windows)

This is the software that makes it possible for the camera to "talk" to your personal computer over a USB connection. If you are using Windows XP, do not install the USB driver from the CD-ROM. With these operating systems, you will be able to perform USB communication simply by connecting the camera to your computer with the USB cable.

Photo Loader (for Windows/Macintosh)

This application loads image data saved in JPEG and AVI format from a digital camera to your computer. With this camera, you can also load audio snapshot and voice recording WAV files to your computer.

Photohands (for Windows)

This application is for retouching and printing image files.

DirectX (for Windows)

This software provides an extended tool set including a codec that allows Windows 98 and 2000 to handle movie files recorded using a digital camera. You do not need to install DirectX if you are running Windows XP or Me.

Acrobat Reader (for Windows)

This is an application that lets you read PDF files. Use it to read the user documentation for the camera, Photo Loader, and Photohands, all of which is included on the bundled CD-ROM.

NOTE (((

 See the user documentation files (PDF) on the bundled CD-ROM for details about using Photo Loader and Photohands. See "Viewing User Documentation (PDF files)" on page 165 (Windows) and page 167 (Macintosh) of this manual for more information.

Computer System Requirements

Computer system requirements depend on each of the applications, as described below.

Windows -

See the "Readme" file on the bundled CD-ROM.

Macintosh -

See the "readme" file on the bundled CD-ROM.

Installing Software from the CD-ROM in Windows

Use the procedures in this section to install the software from the bundled CD-ROM to your computer.

DD NOTE (((

 If you already have one of the bundled applications installed on your computer, check its version. If the bundled version is newer than the one you have, you should install the newer version.

The CD-ROM includes the software and user documentation for various languages. Check the CD-ROM menu screen to see if applications and user documentation are available for a particular language.

Getting Started

Start up your computer and insert the CD-ROM into its CD-ROM drive. This will automatically launch the menu application, which displays a menu screen on your computer.

 The menu application may not start up automatically on some computers. If this happens, navigate to the CD-ROM and double-click "menu.exe" to launch the menu application.

Selecting a Language

First select a language. Note that some software is not available in all languages.

 On the menu screen, click the tab for the language you want.

Viewing the Contents of the "Read me" File

You should always read the "Read me" file for any application before installing it. The "Read me" file contains information you need to know when installing the application.

 Click the "Read me" button for the application you are going to install.

▶ IMPORTANT! **((**

 Before upgrading or reinstalling Photo Loader, or before installing it onto another computer, be sure to read the "Read me" file for information about retaining existing libraries.

Installing an Application

- 1. Click the "Install" button for the application you want to install.
- Follow the instructions that appear on your computer screen.
- **IMPORTANT!**
 - Be sure to follow the instructions carefully and completely. If you make a mistake when installing Photo Loader, you may not be able to browse your existing library information and HTML files that are created automatically by Photo Loader. In some cases, image files may be lost.
 - When using an operating system other than Windows XP, never connect the camera to your computer without installing the USB driver from the CD-ROM first.

Viewing User Documentation (PDF Files)

 In the "Manual" area, click the name of the manual you want to read.

DDD IMPORTANT! **444**

 You need to have Adobe Acrobat Reader installed on your computer to read user documentation files. If you do not already have Adobe Acrobat Reader installed, you can install it from the bundled CD-ROM.

User Registration

You can perform user registration over the Internet. To do so, of course, you need to be able to connect to the Internet with your computer.

- 1. Click the "Register" button.
 - This starts up your Web browser and accesses the user registration website. Follow the instructions that appear on your computer screen to register.
- 2. After registering, terminate your connection to the Internet.

Exiting the Menu Application

 On the menu screen, click "Exit" to exit the menu.

Installing Software from the CD-ROM on a Macintosh

Use the procedures in this section to install the software from the bundled CD-ROM to your computer.

Installing Software

Use the following procedures to install the software.

■ To install Photo Loader

- 1. Open the folder named "Photo Loader".
- 2. Open the folder named "English", and then open the file named "Important".
- 3. Open the folder named "Installer", and then open the file named "readme".
- Follow the instructions in the "readme" file to install Photo Loader.

▶ IMPORTANT! **◀**◀

 If you are upgrading to the new version of Photo Loader from a previous version and you want to use library management data and HTML files created using the old version of Photo Loader, be sure to read the "Important" file in the "Photo Loader" folder. Follow the instructions in the file to use your existing library management files. Failure to follow this procedure correctly can result in loss or corruption of your existing files.

Viewing User Documentation (PDF Files)

To perform the following procedures, you must have Acrobat Reader installed on your Macintosh. You can download the latest version of Adobe Acrobat Reader by visiting the Adobe Systems website.

- To view the camera user's guide
- 1. On the CD-ROM, open the "Manual" folder.
- Open the "Digital Camera" folder, and then open the folder for the language whose user's guide you want to view.
- 3. Open the file named "camera_xx.pdf".
 - · "xx" is the language code.

- To read the Photo Loader user's guide
- 1. On the CD-ROM, open the "Manual" folder.
- 2. Open the "Photo Loader" folder and then open the "English" folder.
- 3. Open "PhotoLoader_english".
- To register as a user

Internet registration only is supported. Visit the following CASIO website to register:

http://world.casio.com/qv/register/

Menu Reference

The following shows lists of menus that appear in the REC mode and PLAY mode, and their settings.

• The settings that are underlined in the following table are initial defaults.

■ REC mode

REC tab menu

REC Mode	Snapshot / BS BESTSHOT / Movie /		
	[▶] (□+ ♥) / ♥ Voice		
Self-timer	10 sec / 2 sec / X3 / Off		
Size	2304 x 1728 / 2304 x 1536 (3:2) /		
	1600 x 1200 / 1280 x 960 / 640 x 480		
Quality	Fine / Normal / Economy		
EV Shift	-2.0 / -1.7 / -1.3 / -1.0 / -0.7 / -0.3 / <u>0.0</u> /		
	+0.3 / +0.7 / +1.0 / +1.3 / +1.7 / +2.0		
White Balance	Auto / 🔅 (Sunlight) / 🔝 (Shade) / 🎄		
	(Light Bulb) / 💢 (Fluorescent) / Manual		
ISO	<u>Auto</u> / ISO 50 / ISO 100 / ISO 200 / ISO 400		
AF Area	Spot / Multi		
Grid	On / Off		
Digital Zoom	<u>On</u> / Off		
Review	On / Off		

L/R Key	REC Mode / EV shift / White Balance / ISO /	
	Self-timer / Off	

Memory tab menu

On / Off
On / Off

● Set Up tab menu

Sounds	Startup / Half Shutter / Shutter / Operation /	
	Volume	
Startup	On (Selectable image) / Off	
File No.	Continue / Reset	
World Time	Home / World	
	Home Time setup (city, DST, etc.)	
	World Time setup (city, DST, etc.)	
Date Style	YY/MM/DD / DD/MM/YY / MM/DD/YY	
Adjust	Time setting	
Language	日本語 / English / Français / Deutsch /	
	Español / Italiano / Português / 中國語 /	
	中国语 / 한국어	
Sleep	30 sec / 1 min / 2 min / Off	
Auto Power Off	2 min / 5 min	
Format	Format / Cancel	
Reset	Reset / Cancel	

■ PLAY mode

● PLAY tab menu

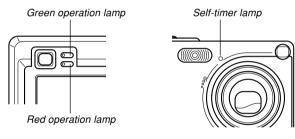
Slideshow	Start / Images / Time / Interval	
Calender	_	
Favorites	Show / Save / Cancel	
DPOF	Select images / All images / Cancel	
Protect	On / All Files : On / Cancel	
Rotation	Rotate / Cancel	
Resize	1280 x 960 / 640 x 480 / Cancel	
Trimming	-	
Dubbing	-	
Alarm	Alarm setups	
Сору	Built-in → Card / Card → Built-in / Cancel	

Set Up tab menu

Sounds	Startup / Half Shutter / Shutter / Operation /	
	Volume	
Startup	On (Selectable image) / Off	
File No.	Continue / Reset	
World Time	Home / World	
	Home Time setup (city, DST, etc.)	
	World Time setup (city, DST, etc.)	
Date Style	YY/MM/DD / DD/MM/YY / MM/DD/YY	
Adjust	Time setting	
Language	日本語 / English / Français / Deutsch /	
	Español / Italiano / Português / 中國語 /	
	中国语 / 한국어	
Sleep	30 sec / 1 min / 2 min / Off	
Auto Power Off	2 min / 5 min	
Format	Format / Cancel	
Reset	Reset / Cancel	

Indicator Lamp Reference

The camera has three indicator lamps: a green operation lamp, a red operation lamp, and a self-timer lamp. These lamps light and flash to indicate the current operational status of the camera.



* There are three lamp flash patterns. Pattern 1 flashes once per second, Pattern 2 flashes twice per second, and Pattern 3 flashes four times per second. The table below explains what each flash pattern indicates.

REC mode

Operation Lamp		Self-timer Lamp	Meaning
Green	Red	Red	
Lit			Operational (Power on, recording
Lit			enabled)
	Pattern 3		Flash is charging.
	Lit		Flash charging is complete.
Lit			Auto Focus operation was successful.
Pattern 3			Cannot Auto Focus.
Lit			Monitor screen is off.
Pattern 2			Storing image
Pattern 1			Storing movie
		Pattern 1	Self-timer countdown
		rallelli	(10 to 3 seconds)
		Pattern 2	Self-timer countdown
		rallelli 2	(3 to 0 seconds)
	Pattern 1		Cannot charge flash.
			Memory card problem / Memory
	Pattern 2		card is unformatted. / BESTSHOT
			setup cannot be registered.
			Memory card is locked. / Cannot
	Lit		create folder. / Memory is full. /
			Write error

Operation Lamp		Self-timer Lamp	Meaning
Green	Red	Red	
	Pattern 3		Low battery alert
Pattern 3			Formatting card
Pattern 3			Powering down

▶ IMPORTANT! **◀**◀

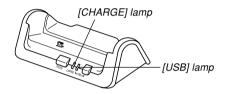
 When you are using a memory card, never remove the card from the camera while the green operation lamp is flashing. Doing so will cause recorded images to be lost.

PLAY mode

Operation Lamp		Self-timer Lamp	Meaning
Green	Red	Red	
Lit			Operational (Power on, recording
LIL			enabled)
			One of the following operations is
Pattern 3			being performed: delete, DPOF,
Fallelli 3			image protect, copy, album creation,
			format, power down
D-# 0	Pattern 2		Memory card problem / Memory
	rallelli 2		card is unformatted.
	Lit		Memory card is locked. / Cannot
			create folder. / Memory is full.
	Pattern 3		Low battery alert

USB Cradle Indicator Lamps

The USB cradle has two indicator lamps: a [CHARGE] lamp and a [USB] lamp. These lamps light and flash to indicate the current operational status of the USB cradle and camera.



[CHARGE] lamp		[USB] lamp		Meaning
Color	Status	Color Status		
Red	Lit			Charging
Green	Lit			Charging complete
Amber	Lit			Charge standby
Red	Flashing			Charge error
		Green	Lit	USB connection
		Green	Flashing	Accessing memory

Troubleshooting Guide

	Symptom	Possible Cause	Action
Power Supply	Power does not turn on.	The battery is not oriented correctly. The battery is dead.	1) Orient the battery correctly (page 26). 2) Charge the battery (page 28). If the battery goes dead soon after being charged, it means the battery has reached the end of its life and needs to be replaced. Purchase a separately available NP-20 rechargeable lithium ion battery.
	Camera suddenly powers down.	Auto Power Off activated (page 37). The battery is dead.	1) Turn power back on. 2) Charge the battery (page 28).
Recording	Image is not recorded when the shutter release button is pressed.	The mode selector is set to "PLAY". Flash unit is being charged. Memory is full.	Align the mode selector with "REC". Wait until the flash unit finishes charging. Transfer files you want to keep to your computer and then delete files from image memory, or use a different memory card.
Image Reco	Auto Focus does not focus properly	 The lens is dirty. The subject is not located in the center of the focus frame when you compose the image. The subject you are shooting is a type that is not compatible with Auto Focus operation (page 48). You are moving the camera. 	1) Clean the lens. 2) Make sure the subject is centered in the focus frame when composing the image. 3) Use manual focus (page 63). 4) Mount the camera on a tripod.

	Symptom	Possible Cause	Action
Image Recording	The subject is out of focus in the recorded image.	The image is not focused properly.	When composing the image, make sure the subject on which you want to focus is located inside the focus frame.
	Camera powers down during self-timer countdown.	The battery is dead.	Charge the battery (page 28).
	Monitor screen image is out of focus.	 You are using the Manual Focus Mode and have not focused the image. You are trying to use the Macro Mode when shooting a scenery or portrait shot. You are trying to use Auto Focus or the Infinity Mode (∞) when shooting a close-up shot. 	Focus the image (page 63). Use Auto Focus for scenery and portrait shots. Use the Macro Mode for close-ups.
	Recorded images are not saved in memory.	Camera powers down before the save operation is complete. Removing the memory card before the save operation is complete.	1) When the battery indicator shows , charge the battery as soon as possible (page 28). 2) Do not remove the memory card before the save operation is complete.
Playback	Color of the playback image is different from the image on the monitor screen during recording.	Sunlight or light from another source is shining directly into the lens during recording.	Position the camera so sunlight does not shine directly into the lens.

	Symptom	Possible Cause	Action
Playback	Images are not displayed.	A memory card with non-DCF images recorded with another camera is loaded in the camera.	This camera cannot display non-DCF images recorded onto a memory card using another digital camera.
	All buttons and switches are disabled.	Circuit problem caused by electrostatic charge, impact, etc. while the camera was connected to another device.	Remove the battery from the camera, reinsert it, and then try again.
Other	Monitor screen is off.	USB communication is in progress. 2) The monitor screen is turned off (in the REC mode).	After the computer stops accessing camera file memory, press the [USB] button on the USB cradle. Check to make sure that the [USB] lamp on the USB cradle is off, and then remove the camera from the USB cradle. 2) Press [DISP] to turn on the monitor screen.
	Cannot transfer files over a USB connection.	Camera is not set securely on the USB cradle. USB cable is not connected securely. USB driver is not installed. 4) Camera is turned off.	Check the connection between the camera and USB cradle. Check all connections. Install the USB driver on your computer (page 140). Press the [USB] button on the USB cradle.

Display Messages

	•			
Alarm setting complete.			This message appears when you try to record an image while there are 9,999 files stored in the 999th folder. If you want to record more files, delete files you no longer need (page 107).	
Battery is low. The battery is dead.				
Can not find the file. The camera cannot find the image specified by the slideshow "Images" setting. Specify another image (page 99).		LENS ERROR	If the lens comes into contact with some obstacle while it is extending, this message appears, the lens retracts, and the camera turns off. Take action	
Cannot register any more files.	You are attempting to register a BESTSHOT setup when the "SCENE" folder already contains		to remove the obstacle, and try turning on power again.	
more mes.	999 setups. • You are attempting to register a FAVORITE file when the "FAVORITE" folder already contains	Memory Full	Memory is full. If you want to record more files, delete files you no longer need (page 107).	
	9999 files.	No Favorites file!	There is no FAVORITE file.	
Card ERROR	Some problem occurred with the memory card. Turn off the camera, and remove and then reinsert the memory card. If the same message appears, format the memory card (page 136). IMPORTANT!	Printing Error	One of the following problems occurred during printing. • Printer power off • Out of paper • Out of ink • Printer internal error	
	Formatting the memory card deletes all files on the memory card. Before formatting, try transferring recoverable files to a computer or some other storage device.	Record Error	Image compression could not be performed during image data storage for some reason. Record the image again.	
File could not be saved because battery is low.	The battery is dead, so the recorded image could not be saved.	SYSTEM ERROR	Your camera system is corrupted. Contact your retailer or a CASIO service center.	

The card is locked.	The LOCK switch of the SD memory card is locked. You cannot store images to or delete images from a memory card that is locked.
There are no files.	There are no files in built-in memory or on the memory card.
There are no printing images. Set up DPOF.	There are no DPOF settings specifying images and the number of copies of each for printing. Configure the required DPOF settings (page 111).
There is no file to register.	You are trying to save an invalid file as a BESTSHOT user setup, or as an original startup image.
This card is not formatted.	The memory card is not formatted. Format the memory card (page 136).
This file cannot be played.	The image file or audio file is corrupted, or is a type that cannot be displayed by this camera.
This function cannot be used.	You attempted to copy files from built-in memory to a memory card while there is no memory card loaded in the camera (page 135).
This function is not supported for this file.	The function you are trying to perform is not supported for the file on which you are trying to perform it.

Specifications

Main Specifications

Product	Digital Camera
Model	EX-Z4

■ Camera Functions

Image Files Format	
Snapshots	JPEG (Exif Ver.2.2); DCF (Design rule for Camera File system) 1.0 standard;
	DPOF compliant
Movies	•
Audio	WAV
Recording Media	10MB built-in Flash memory
ricoording modile illininini	SD Memory Card
	MultimediaCard
Image Size	
Snapshots	. 2304 x 1728 pixels
	2304 x 1536 (3:2) pixels
	1600 x 1200 pixels
	1280 x 960 pixels
	640 x 480 pixels
Movies	320 x 240 pixels

Approximate Memory Capacity and File sizes:

Snapshots

File Size		Approximate	Built-in flash	SD Memory
(pixels)	Quality	Image File Size	memory 10MB	Card* 64MB
2304 x 1728	Fine	1.9MB	4 shots	30 shots
	Normal	1.5MB	6 shots	37 shots
	Economy	1.1MB	8 shots	50 shots
2304 x 1536	Fine	1.8MB	5 shots	32 shots
(3:2)	Normal	1.4MB	6 shots	40 shots
	Economy	1.0MB	8 shots	54 shots
1600 x 1200	Fine	1050KB	8 shots	53 shots
(UXGA)	Normal	710KB	12 shots	79 shots
	Economy	370KB	24 shots	154 shots
1280 x 960	Fine	680KB	13 shots	82 shots
(SXGA)	Normal	460KB	20 shots	126 shots
	Economy	250KB	35 shots	221 shots
640 x 480	Fine	190KB	46 shots	294 shots
(VGA)	Normal	140KB	61 shots	386 shots
	Economy	90KB	98 shots	618 shots

• Movies (320 x 240 pixels)

Data Size	160KB/second max.
Recording	One Movie: 60 seconds maximum
Time	Total Movie Time:
	60 seconds maximum (built-in memory)
	380 seconds maximum (SD 64MB memory card)*

- * Based on Matsushita Electric Industrial Co., Ltd. products. Capacity depends on card manufacturer.
- * To determine the number of images that can be stored on a memory card of a different capacity, multiply the capacities in the table by the appropriate value.

Delete	. Single-file, all files (with protection)
Effective Pixels	.4.0 million
Imaging Element	. 1/2.5-inch square pixel color CCD (Total pixels: 4.23 million)
Lens/Focal Distance	.F2.6 (W) to 4.8 (T); f=5.8 (W) to 17.4mm (T) (equivalent to approximately 35 (W) to 105 (T) for 35mm film)
Zoom	.3X optical zoom; 4X digital zoom (12X in combination with optical zoom)
Focusing	Contrast-type Auto Focus (AF Mode (AF Area: Spot or Multi), Macro Mode), Pan Focus; Infinity Mode; focus lock; manual focus
Approximate Focus Range Normal Macro	
Exposure Control Light Metering Exposure Exposure Compensation	. Multi-pattern by CCD . Program AE . –2EV to +2EV (1/3EV units)
Shutter	CCD electronic shutter; mechanical shutter, 1/8 to 1/2000 second (Changes in accordance with recording mode and ISO sensitivity setting.) • Shutter speed is different for the

following BESTSHOT scenes. Night Scene: 4 to 1/2000 second Fireworks: 2 seconds (fixed)

Aperture	.F2.6/4.3, auto switching
White Balance	Automatic, fixed (4 modes), manual switching
Self-timer	.10 seconds, 2 seconds, Triple Self-timer
	AUTO, ON, OFF, Red eye reduction Wide Angle Optical Zoom: 0.4 to 2.3 meters (1.3´ to 7.5´) Telephoto Optical Zoom: 0.4 to 1.7 meters (1.3´ to 5.6´) (ISO Sensitivity: "Auto")
Recording Functions	Snapshot with audio; Macro; self-timer; BESTSHOT; Movie with audio; voice recording
Audio Recording Time Audio Snapshot	. Approximately 30 seconds maximum per image
Voice Recording	. Approximately 40 minutes with built-in memory
After Recording	Approximately 30 seconds maximum per image
Monitor Screen	.2.0-inch TFT color LCD 84,960 pixels (354 x 240)
Viewfinder	. Monitor screen and optical viewfinder
Timekeeping Functions	.Built-in digital quartz clock

Auto Calendar	. Recorded with image data . To 2049 . City; Date; Time; Summer time; 162 cities in 32 time zones	
Input/Output Terminals Cradle connector		
Microphone	. Monaural	
Speaker	. Monaural	

■ Power Requirements

Power Requirements Rechargeable lithium ion battery (NP-20) x 1

Approximate Battery Life:

Number of Shots, Continuous Recording*1 (Recording Time)	540 shots (90 minutes)
Number of Shots, Normal Recording*2 (Recording Time)	140 shots (70 minutes)
Continuous Playback*3 (Continuous Snapshot Recording)	150 minutes
Continuous Voice Recording*4	130 minutes

The above values indicate the amount of time under the conditions defined below, until power automatically turns off due to battery failure. They do not guarantee that you will be able to achieve this level of operation. Low temperatures shorten battery life.

- *1 Continuous Recording Conditions
 - Temperature: 23°C (73°F)
 - Monitor screen: On
 - · Flash: Off
 - · Image recorded about every 10 seconds

- *2 Normal Recording Conditions
 - Temperature: 23°C (73°F)
 - · Monitor screen: On
 - Zoom operation between full wide to full telephoto every 30 seconds, during which two images are recorded, one image with flash; power turned off and back on every time 10 images are recorded.
- *3 Continuous Playback Conditions
 - Temperature: 23°C (73°F)
 - Scroll one image about every 10 seconds
- *4 Voice recording times are based on continuous recording.

Power Consumption DC 3.7V Approximately 3.	3.3W
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Bundled Accessories....... Rechargeable lithium ion battery (NP-20); USB cradle (CA-21A); Special AC adaptor (AD-C51G); AC power cord; USB cable; Strap; CD-ROM; Basic Beference

■ Rechargeable Lithium Ion Battery (NP-20)

■ USB Cradle (CA-21A)

■ Special AC Adaptor (AD-C51G)

Weight Approximately 90 g (3.2 oz)

Power Supply

- Use only the special NP-20 rechargeable lithium ion battery to power this camera. Use of any other type of battery is not supported.
- This camera does not have a separate battery for the clock. The date and time settings of the camera are cleared whenever power is totally cut off (from both the battery and USB cradle). Be sure to reconfigure these settings after power is interrupted (page 40).

LCD Panel

 The LCD panel is a product of the latest LCD manufacturing technology that provides a pixel yield of 99.99%. This means that less than 0.01% of the total pixels are defective (they do not turn on or always remain turned on).

Lens

 You may sometimes notice some distortion in certain types of images, such as a slight bend in lines that should be straight. This is due to the characteristics of lens, and does not indicate malfunction of the camera.