

# Table of Contents

|                                             |    |
|---------------------------------------------|----|
| Preface .....                               | 3  |
| About this Manual .....                     | 3  |
| Safety and Handling Precautions.....        | 3  |
| Using this Menu .....                       | 4  |
| Introduction .....                          | 5  |
| System Requirements .....                   | 5  |
| Main Features .....                         | 5  |
| Package Contents.....                       | 6  |
| Camera Views .....                          | 7  |
| Camera Buttons .....                        | 9  |
| Navigation Control.....                     | 10 |
| Camera Memory.....                          | 11 |
| Getting Started .....                       | 12 |
| Attach the Camera Strap .....               | 12 |
| Inserting the Battery .....                 | 12 |
| Inserting an SD/SDHC/SDXC Memory Card ..... | 13 |
| Charging the Battery .....                  | 14 |
| Turning the Power On and Off .....          | 14 |
| Initial Settings.....                       | 14 |
| Modes .....                                 | 14 |
| Using the LCD monitor .....                 | 15 |
| LCD Monitor Layout.....                     | 15 |
| Changing the LCD Monitor Display .....      | 18 |
| Recording Images, Videos and Voices .....   | 18 |
| Taking Images .....                         | 18 |
| Setting the Zoom Control .....              | 19 |
| Using Self-timer .....                      | 20 |
| Using Flash .....                           | 20 |
| Setting the Focus Mode .....                | 21 |
| Using the Delete Button.....                | 21 |
| Recording Videos.....                       | 23 |
| Mode dial .....                             | 24 |
| Using the Record Menu.....                  | 29 |
| Using the Movie Menu .....                  | 33 |
| Playback .....                              | 34 |
| Viewing in Single Navigation.....           | 34 |
| Viewing Thumbnails .....                    | 34 |
| Zooming images.....                         | 35 |
| Playing Videos.....                         | 35 |
| Playing Voice Memo.....                     | 37 |
| Playback Menu .....                         | 37 |
| Using the Setup Menu .....                  | 43 |
| Setting Sounds.....                         | 43 |
| Setting Power Save.....                     | 43 |
| Setting Date & Time .....                   | 44 |
| Setting Language .....                      | 44 |

|                                          |    |
|------------------------------------------|----|
| Setting TV Settings.....                 | 44 |
| Setting LCD Brightness .....             | 44 |
| Setting Battery Type .....               | 45 |
| Setting Format .....                     | 45 |
| Reset All .....                          | 45 |
| Making Connections .....                 | 46 |
| Connecting the Camera to a TV .....      | 46 |
| Connecting the Camera to a PC .....      | 46 |
| Connecting the Camera to a Printer ..... | 48 |
| Setting the Print Mode Menu .....        | 49 |
| Appendix.....                            | 50 |
| About Folder and File Names.....         | 50 |
| Troubleshooting .....                    | 50 |
| Specifications .....                     | 51 |

# Preface

## About this Manual

This manual is designed to assist you in using your new digital camera. All information presented is as accurate as possible but is subject to change without notice.

## Copyright

This manual contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic or other means, in any form, without prior written permission of the manufacturer.

© Copyright 2011

## Federal Communications Commission (FCC) Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the distance between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: A shielded-type power cord is required in order to meet FCC emission limits and to prevent interference to radio and television reception. Use only shielded cable to connect I/O devices to this equipment. Any changes or modifications not expressly approved by the manufacturer may void your warranty and service agreement.

## Declaration of Conformity

This device complies with Part 15 of the FCC rules. Operation is subject to the following conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

## Trademark Recognition

Windows 2000/XP/Vista/Win7 are registered trademarks of Microsoft Corporation in the United States and/or other countries. Windows is an abbreviated term referring to the Microsoft Windows Operation System. All other companies or product names are trademarks or registered trademarks of their respective companies.

## Safety and Handling Precautions

### Camera Information

- Do not take apart or attempt to service the camera yourself.
- Do not expose the camera to moisture, or extreme temperatures.
- Allow the camera to warm up when moving from cold to warm temperatures.
- Do not touch the camera lens.
- Do not expose the lens to direct sunlight for extended periods.
- Do not use abrasive chemicals, cleaning solvents or strong detergents to clean the product. Wipe the product with a slightly damp soft cloth.

## Battery Information

- Turn off the camera before installing or removing the battery.
- Use only the provided batteries or type of battery and charger that came with your camera. Using other types of battery or charger may damage the equipment and invalidate the warranty.
- Inserting the battery upside down can cause damage to the product and possibly cause an explosion.
- When the camera is used for an extended period of time, it is normal for the camera body to feel warm.
- Download all pictures and remove the battery from the camera if you are going to store the camera for a long period of time.
- The type of battery and the battery power level may cause the lens to be stuck up. Ensure you use the correct battery type and use a fully charged battery.
- Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

## Using this Menu

Symbols used in this manual are explained below:

|                                                                                   |                                                                                 |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
|  | This indicates useful information when using your camera.                       |
|  | This indicates important message that should be read before using the function. |

# Introduction

Congratulations on your purchase of the new digital camera.  
Capturing high-quality digital images is fast and easy with this state-of-the-art smart camera.

## System Requirements

In order to get the most out of your camera, your computer must meet the following system requirements:

### For Windows:

- Windows XP/Vista/Win7
- Processor: Pentium II 450MHz or above
- Memory: 512MB or above
- HDD space: 200MB or above
- 16bit color display monitor
- Microsoft DirectX 9.0C
- USB port and CD-ROM drive

### For Macintosh:

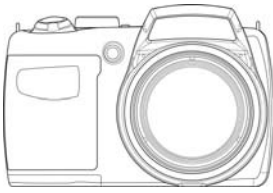
- Power Mac G3 or later
- Mac OS 10.3.9 ~ 10.6.6
- Memory: 512MB or above
- Q. Time player ver. 6.0.3 or above
- USB port and CD-ROM drive

## Main Features

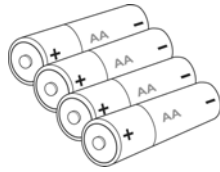
- 16 mega pixels resolution
- Up to 21x optical zoom and 5x digital zoom
- 3.0 inch color LCD monitor
- 128MB internal flash memory with optional external SD/SDHC/SDXC card
- Supports up to 4GB of SD card, and up to 32GB of SDHC card and to 64GB of SDXC card
- Easy-to-use button interface
- DCF, DPOF, PictBridge compatibility
- Slideshow to review still images
- A/V output and HDMI output to view your images and videos on your TV
- USB port to transfer images and videos to your PC

## Package Contents

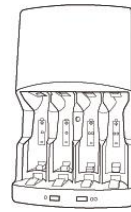
Please check the contents of your camera package. It should contain:



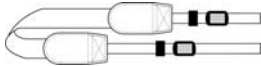
Digital camera



AA battery x 4 pcs  
Rechargeable (optional)



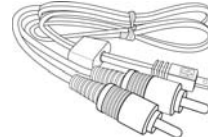
Battery charger (optional)



Neck strap



USB cable



AV cable (optional)



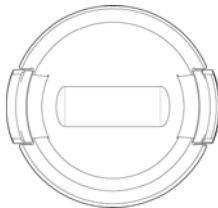
CD-Rom



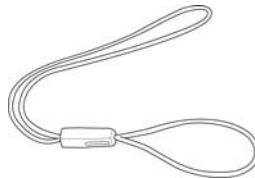
Quick Start Guide/  
User Manual (optional)



Camera pouch  
(optional)



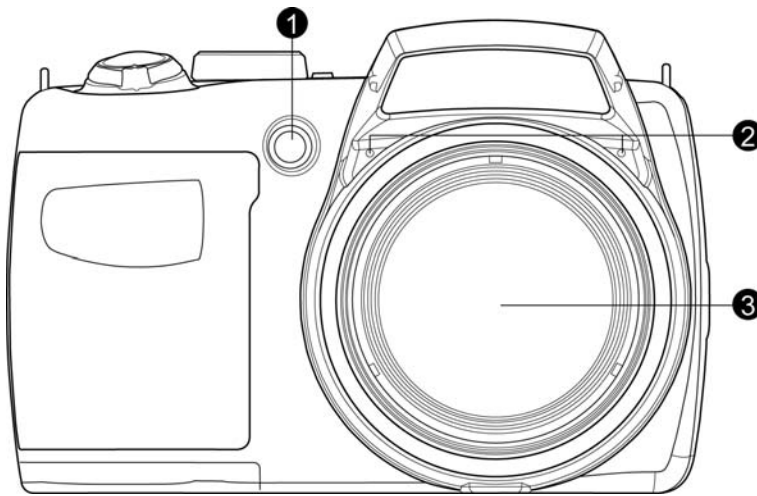
Lens cover



Lens Strap

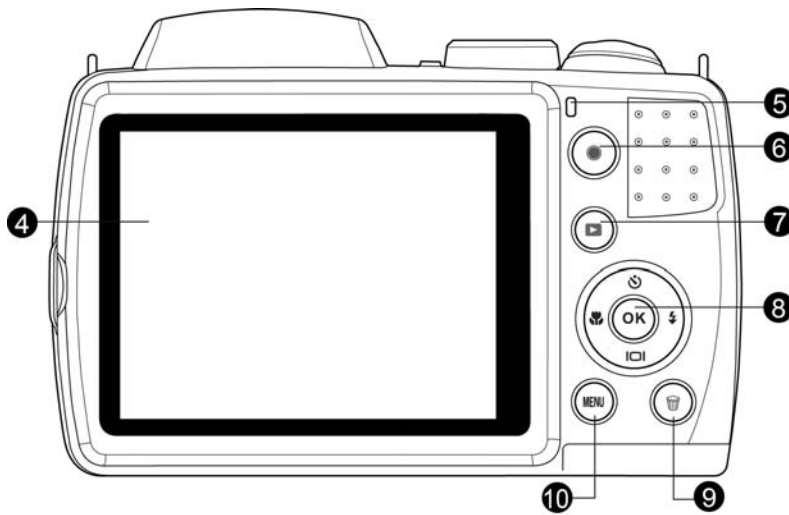
## Camera Views

### Front View



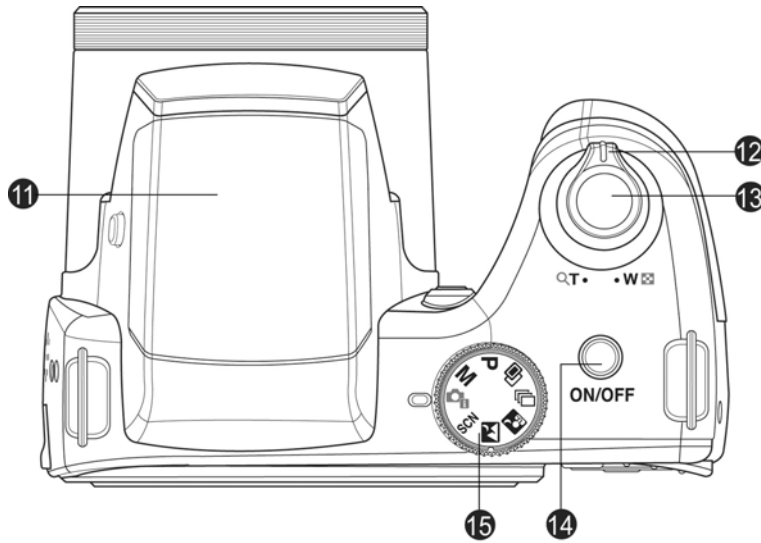
- 1. Self-timer LED/  
AF Assist Lamp
- 2. Microphone
- 3. Lens

### Back View



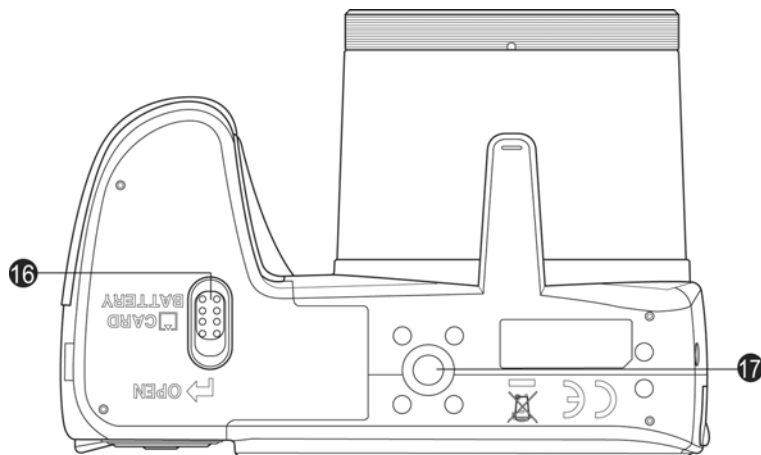
- 4. LCD monitor
- 5. LED indicator
- 6. Movie button
- 7. Playback button
- 8. OK button/4-way  
navigation control
- 9. Delete button
- 10. Menu button

## Top View



- 11. Flash
- 12. Zoom dial
- 13. Shutter button
- 14. Power button
- 15. Mode dial

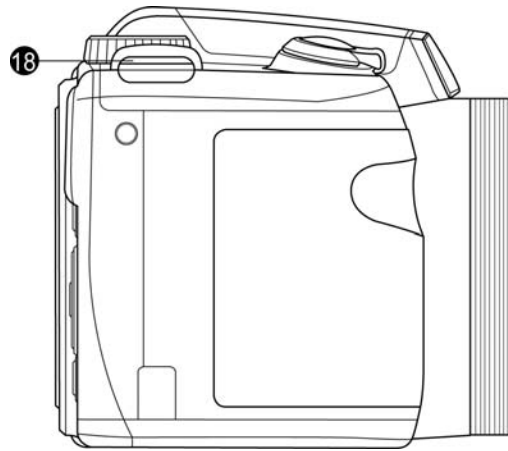
## Bottom View



- 16. Battery/Memory card compartment
- 17. Tripod screw hole

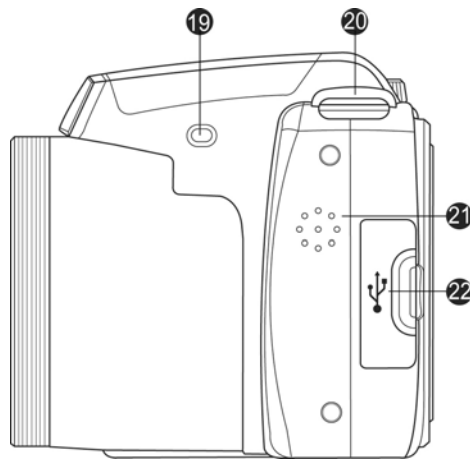


## Right View



18. Strap ring

## Left View



19. Flash button

20. Strap ring

21. Speaker

22. USB/TV/HDMI Out

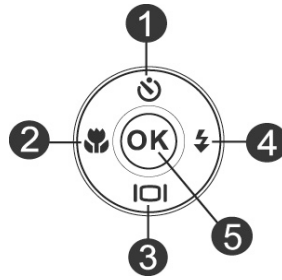
## Camera Buttons

Your camera is equipped with different buttons for ease of use.

| Button    | Description                                                                                                                                                               |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power     | Press the Power button to turn the power on/off.                                                                                                                          |
| Shutter   | Press to capture an image.                                                                                                                                                |
| Zoom dial | In photo and movie mode, spin the zoom dial to left to zoom out, right to zoom in.<br>In Playback mode, spin to zoom in to magnify image or zoom out to enter thumbnails. |
| Menu      | Press to enter or exit menu/submenu.                                                                                                                                      |
| Delete    | In Playback mode, press to delete an image, or video clip.<br>In Record mode, press Delete button to delete the last captured image directly.                             |
| Mode dial | There are 8 recording modes can be set. Once turning the mode dial, it enters the selected mode immediately even in Playback mode or during movie recording.              |
| Playback  | Press to enable Playback mode or return Record mode.                                                                                                                      |
| Movie     | Press to start/stop recording video.                                                                                                                                      |

## Navigation Control

The **4-way Navigation Control** and the **OK** button allow you to access the various menus available from the On Screen Display (OSD). You can configure a wide range of settings to ensure maximum results from your images and videos. Further functions of these buttons are as follows:



| No. | Description              |
|-----|--------------------------|
| 1   | Self-timer/Rotate Button |
| 2   | Macro Button             |
| 3   | Display Button           |
| 4   | Flash Button             |
| 5   | OK Button                |

| Button                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OK                       | <ol style="list-style-type: none"> <li>1. Confirm a selection when using the OSD menus.</li> <li>2. In Playback Movie mode, press to start video playback.</li> </ol>                                                                                                                                                                                                                                                         |
| Flash/Right              | <ol style="list-style-type: none"> <li>1. In Photo Mode, press to scroll through the flash mode options. (Auto, Red-eye Reduction, Forced On, Slow Sync and Forced Off)</li> <li>2. In Playback mode, press to view the next image or video clip.</li> <li>3. In playback Movie mode, press to Forward video playback.</li> <li>4. In Menu, press to enter the submenu or to navigate through the menu selections.</li> </ol> |
| Macro/Left               | <ol style="list-style-type: none"> <li>1. In Photo Mode, press to scroll through Macro options. (Macro)</li> <li>2. In Playback mode, press to view the previous image or video clip.</li> <li>3. In Playback movie mode, press to Rewind video playback.</li> <li>4. In Menu, press to exit a submenu or to navigate through the menu selections.</li> </ol>                                                                 |
| Up/Self-timer/<br>Rotate | <ol style="list-style-type: none"> <li>1. Playing Video file, press to Pause/Start video playback.</li> <li>2. In Playback photo mode, press to rotate the image clockwise 90 degrees by each press of the button. This feature is applicable for still images only.</li> <li>3. In Menu, press to navigate through the menu and submenu selections.</li> </ol>                                                               |
| Display/Down             | <ol style="list-style-type: none"> <li>1. The LCD monitor can be changed into 4 different types such as Basic, Full, None and Guideline.</li> <li>2. Playing video file, press to stop video playback.</li> <li>3. In Menu, press to navigate through the menu and submenu selections.</li> </ol>                                                                                                                             |

## Camera Memory

### Internal memory

Your camera is equipped with 128MB of internal memory. Users can store files up to 85MB. If there is no memory card inserted in the memory card slot, all images and videos recorded are automatically stored in the internal memory.

### External storage

Your camera supports SD cards of up to 4GB in size. It also supports SDHC cards with a maximum capacity of 32GB. Then also supports SDXC cards with a maximum capacity of 64GB. If there is a storage card inserted in the memory slot, the camera automatically saves all images and videos in the external storage card. The icon  indicates the camera is using SD card.

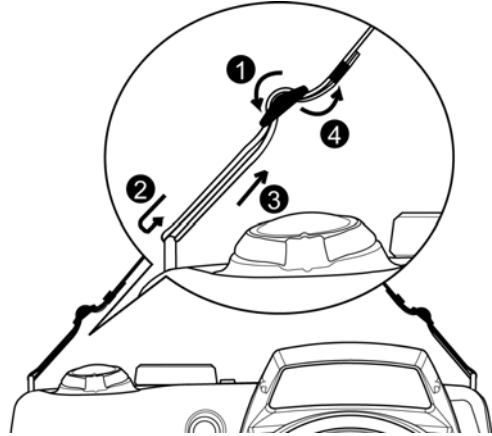


Not all cards may be compatible with your camera. When purchasing a card, please check the card's specifications and take the camera with you.

# Getting Started

## Attach the Camera Strap

1. Pass the strap through the strap ring by outside.
2. Then pass it through the buckle as the inner loop like the illustration.
3. Put the strap in the strap holder.
4. Take up the slack and make sure the strap is tight from the buckle.



Wrapping the strap around your neck is dangerous. Take care that child do not hang the strap around their neck.

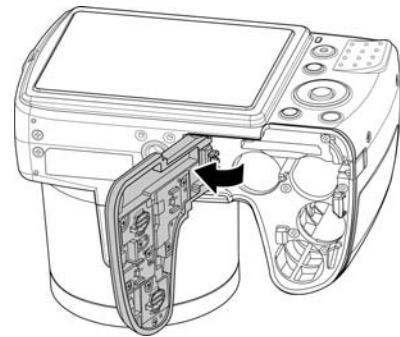
## Inserting the Battery

Follow these instructions to insert the rechargeable battery into the battery/memory card compartment. Please read "Battery Information" on page 4 before inserting/removing batteries.

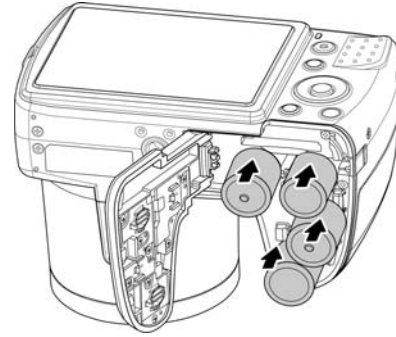
1. Make sure the power is off before inserting the battery.



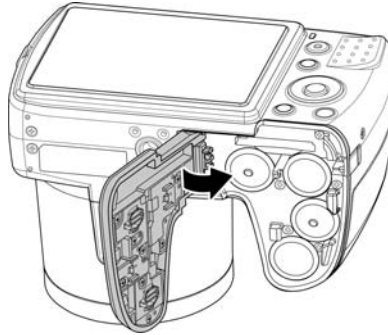
2. Unlock and open the battery/memory card compartment at the bottom of the camera.



3. Insert the batteries into the compartment with the terminal facing inside the camera with correct orientation as shown.



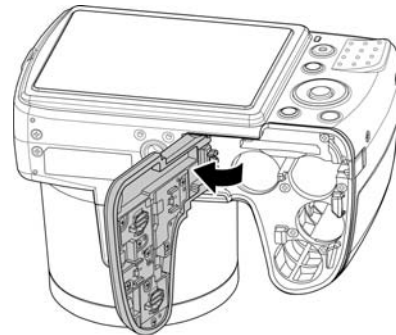
4. Close and lock the battery/memory card compartment.



## Inserting an SD/SDHC/SDXC Memory Card

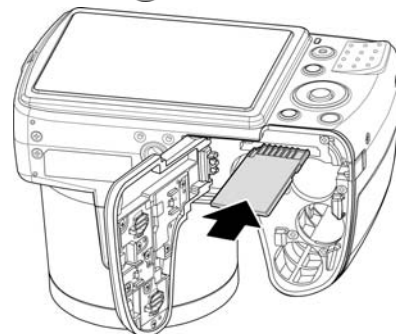
Expand your camera's storage by using SD, SDHC or SDXC memory cards.

5. Unlock and open the Battery/memory card compartment at the bottom of the camera.
6. Insert the SD/SDHC/SDXC card into the memory card slot with the metallic part facing the back side of the camera.
7. Push the SD/SDHC/SDXC card into the memory slot until it clicks into place.
8. Close and lock the Battery/memory card compartment.



To remove the SD/SDHC/SDXC card

1. Unlock and open the battery/memory card compartment.
2. Gently push the card until it pops out.
3. Pull out the card carefully.

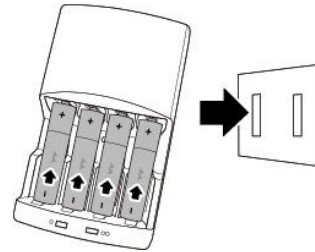


- Windows 2000/XP are not support SDXC card (exFAT format). But in Windows XP (Service Pack 2 or 3), you can download exFAT patch update to support SDXC card.
- To use the SDXC card with Mac OS, the OS version should be 10.5 or higher.

## Charging the Battery

The battery is not charged when you purchase the camera. You need to charge the battery before using the camera.

1. Place the battery in the charger as shown.
2. Plug it into a power outlet.
  - The light of the LED on the charger is orange when charging is started and lights green when charging is completed.
  - It is recommended that you fully discharge the battery before recharging.
  - Charging time varies according to the ambient temperature and the status of battery.



The battery may feel warm after it has been charged or immediately after being used. This is normal and not a malfunction.



When using the camera in cold areas, keep the camera and battery warm by holding them inside your outer clothes.

## Turning the Power On and Off

There are two ways to turn on the camera:

- The startup image displays briefly and the startup sound plays if enabled. The zoom lens extends and the camera is turned on in Record mode.
- The camera is turned on in Playback mode. The zoom lens is not extended.

To turn off the camera, press the **Power button**.

See "Modes" on page 14 to know more about Record and Playback mode.

## Initial Settings

When you turn on your camera for the first time, you will be asked to do the initial settings of your camera. First is the setup of language menu. Specify in which language menus and messages are to be displayed on the LCD monitor.

### Setting the Language

1. Press ▲, ▼, ◀ or ▶ to move through the selection.
2. Select a language, and then press **OK** to apply.

### Setting the Date & Time

1. Press ◀ or ▶ to move through the selection.
2. Press ▲ or ▼ keys to change the value for the date and time.
3. Press **OK** to apply.

4. If necessary, press  to close the menu.

Now, you are ready to start taking images and videos.



Holding down ▲ or ▼ keys to change the values continuously.

## Modes

Your camera has three modes:

### Record Mode

This is the default mode while you turn on the camera every time. You are able to take images in this mode.

### Playback mode

Press the **Playback button**  after the camera is turned on to view and edit captured images or playback videos. The recording of voice memo attached to images is available in this mode.

### Movie mode

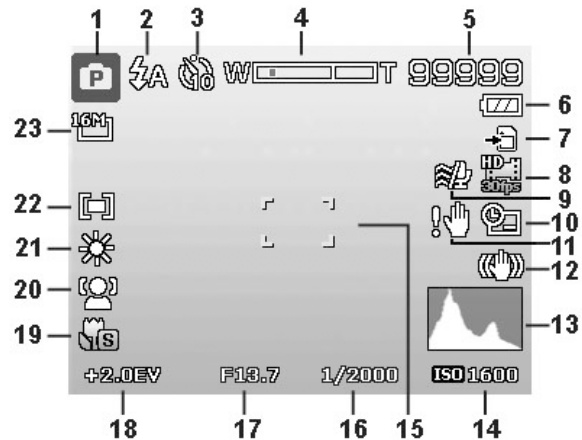
Press the **Movie button**  after the camera is start/stop recording video in this mode.

## Using the LCD monitor

The LCD monitor shows all important information regarding camera settings as well as the visual image of your image or video. The display on the LCD monitor is called the On Screen Display or OSD.

### LCD Monitor Layout

#### Photo Mode Screen Layout



| No. | Item             | Description                                |
|-----|------------------|--------------------------------------------|
| 1   | Record Mode      | Indicates the current mode.                |
| 2   | Flash            | Indicates flash settings.                  |
| 3   | Self-timer/Burst | Indicates Self-timer settings.             |
| 4   | Zoom indicator   | Displays zoom.                             |
| 5   | Shots remaining  | Indicates the remaining shots available.   |
| 6   | Battery          | Indicates battery level.                   |
| 7   | Storage media    | Indicates current storage media in use.    |
| 8   | Movie size       | Indicates movie size.                      |
| 9   | Wind Cut         | Reduces wind noise during movie recording. |
| 10  | Date stamp       | Indicates date stamp is enabled.           |
| 11  | Shake warning    | Indicates that the camera is shaking.      |
| 12  | Stabilizer       | Indicates stabilizer function is enabled.  |
| 13  | Histogram        | Graphic display of Brightness.             |
| 14  | ISO              | Displays ISO settings.                     |
| 15  | Focus area       | Indicates focus area.                      |
| 16  | Shutter speed    | Displays shutter speed settings.           |
| 17  | Aperture value   | Displays aperture settings.                |
| 18  | Exposure         | Displays exposure compensation settings.   |
| 19  | Focus            | Indicates focus is enabled.                |
| 20  | Face priority    | Indicates face priority is enabled.        |
| 21  | White balance    | Displays white balance settings.           |
| 22  | Metering         | Displays metering settings.                |
| 23  | Photo size       | Displays photo size settings.              |

## Movie Mode Screen Layout



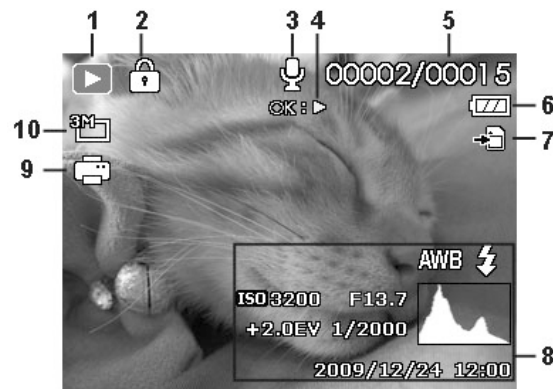
Recording Layout

| No. | Item             | Description                                                                 |
|-----|------------------|-----------------------------------------------------------------------------|
| 1   | Recorded time    | Displays recorded time.                                                     |
| 2   | Recording status | Indicates recording status.                                                 |
| 3   | PIV available    | Indicates that you can capture screenshot without stopping movie recording. |

## Playback Mode Screen Layout

The Playback mode display varies depending on the type of image being viewed.

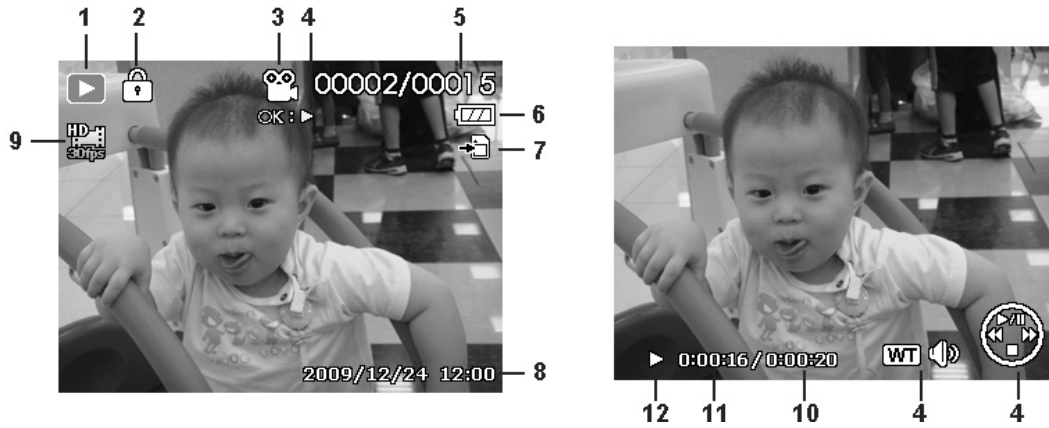
**Playback mode display of still images:**



| No. | Item                  | Description                                                                   |
|-----|-----------------------|-------------------------------------------------------------------------------|
| 1   | Playback mode         | Indicates playback mode.                                                      |
| 2   | Protect               | Indicates file is protected.                                                  |
| 3   | Voice memo            | Indicates voice memo is attached.                                             |
| 4   | Button intro          | Indicates the button to press on the camera to play a video file.             |
| 5   | File no./Total no.    | Indicates the file number over the total number of files in the storage card. |
| 6   | Battery               | Indicates battery level.                                                      |
| 7   | Storage media         | Indicates used storage memory.                                                |
| 8   | Recording information | Displays recording information of the file.                                   |
| 9   | DPOF                  | Indicates the file is marked for printing.                                    |
| 10  | Image Size            | Displays the image size settings.                                             |



### Playback mode of videos:



| No. | Item                  | Description                                                                   |
|-----|-----------------------|-------------------------------------------------------------------------------|
| 1   | Playback mode         | Indicates playback mode.                                                      |
| 2   | Protect               | Indicates file is protected.                                                  |
| 3   | Video clip            | Indicates the file is a video.                                                |
| 4   | Button intro          | Indicates the button to press on the camera to play a video file.             |
| 5   | File no./Total no.    | Indicates the file number over the total number of files in the storage card. |
| 6   | Battery               | Indicates battery level.                                                      |
| 7   | Storage media         | Indicates used storage memory.                                                |
| 8   | Recording date & time | Displays the date and time of the video clip.                                 |
| 9   | Video size            | Indicates the size of the video clip.                                         |
| 10  | Video length          | Display the total length of the video clip.                                   |
| 11  | Played time           | Indicates the played time of the video.                                       |
| 12  | Playing status        | Displays playing status.                                                      |

## Changing the LCD Monitor Display

The type of information displayed on the LCD monitor can be changed using the ▼ button. Press the ▼ button repeatedly to change the LCD display from one type to another. In Photo Mode, the LCD display can be changed into any of the following:

- Basic
- Full
- None
- Guideline



- The OSD information may vary depending on the record mode type.
- The following icons, if enabled, are still displayed on the LCD even when OSD off or Guide lines on: Face priority, Flash, Self-timer, and Focus.
- Use the "Guide lines" to properly set image for capture.

In Playback mode, the LCD display can be changed into any of the following:

- Basic
- Full
- None



LCD display cannot be changed in the following situations:

- Adjusting Aperture value/Shutter speed under Manual exposure mode.
- Recording video clips
- Playing video clips
- Playing slideshow

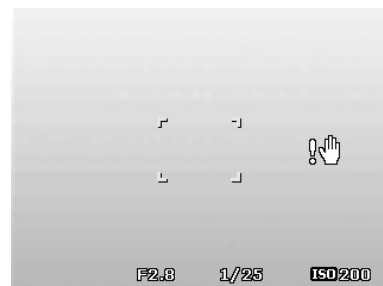
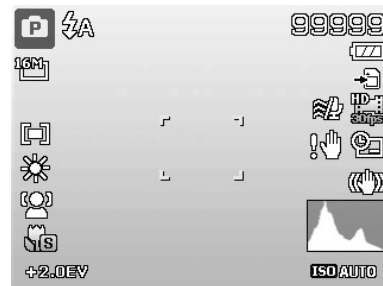
## Recording Images, Videos and Voices

### Taking Images

Now that you are familiar with your camera, you are now ready to take your images. Taking images with your camera is very simple.

1. Turn on the camera by pressing the **Power button**.
2. Frame the shot using the focus bracket on the LCD monitor. See illustration on the right.
3. Pressing the **Shutter button** down halfway automatically focuses and adjusts the exposure, and pressing the **Shutter button** down fully captures the images.

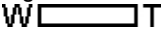
When the shake warning icon  appears, hold the camera steadily, with your arms at your side or use a tripod to stabilize the camera to prevent blurred images.



## Setting the Zoom Control

Using a combination of 21 times optical zoom and 5 times digital zoom permits zoom photography at up to 105 times magnification. While the digital zoom can be a useful feature, the more an image is enlarged (zoomed), the more pixelated (grainier) the image will appear. Please refer to "Setting the Digital Zoom" on page 32 on how to setup digital zoom.

To adjust the optical zoom:

1. Spin the **Zoom dial** to zoom in or zoom out an image.
2. The zoom indicator appears on the LCD monitor. 

### Zoom dial

1. Spin the dial clockwise (right) to zoom in. 
2. Spin the dial counterclockwise (left) to zoom out. 

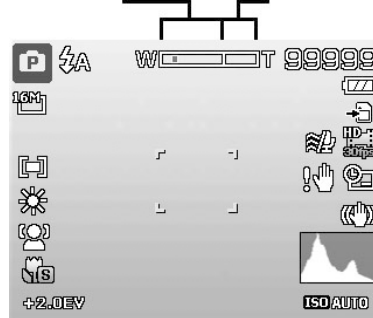


To adjust the digital zoom:

1. Activate digital zoom. See "Setting the Digital Zoom" on page 32.
2. Spin the **Zoom dial** clockwise/counterclockwise optically zooms in/out to the maximum until it stops.
3. Release the **Zoom dial**.

Optical zoom 1X to 21X

Digital zoom 1X to 5X



## Using Self-timer

The Self-timer allows you to take images after a pre-defined delay. While burst lets you take consecutive shots. This function is only available in recording still images. The Self-timer setting is automatically set to off when you turn off the camera.

To activate Self-timer:

- Press the **Self-timer/Up** button on your camera repeatedly until your desired Self-timer mode is displayed on the LCD monitor.

Self-timer/Up button



Your camera is equipped with three Self-timer modes:

**Off.** Captures an image without time delay.



**10 Sec.** Sets a 10-second delay to capture image after pressing the Shutter button.



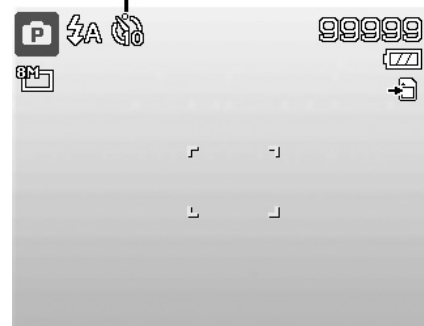
**2 Sec.** Sets a 2-second delay to capture image after pressing the Shutter button.



**Double.** Performs delay and capture twice:

- Performs a 10-second delay, then captures the image.
- Performs another 2-second delay then captures the image again.

Self-timer is enabled



## Using Flash

When taking pictures in difficult lighting conditions, use the **Flash/Right** button to get correct exposure. This function cannot be activated in recording videos or continuous shooting.

To activate Flash:

- Press the **Flash/Right** button on your camera repeatedly until your desired flash mode is displayed on the LCD monitor.



Flash/Right button

Your camera is equipped with five flash modes:



**Auto.** The flash fires automatically whenever extra lighting is needed.



**Red-eye reduction.** The flash fires twice to reduce the red-eye effect.



**Forced on.** The flash fires whenever you press the Shutter button regardless of lighting conditions.



**Slow sync.** The flash fires with a slow shutter speed.

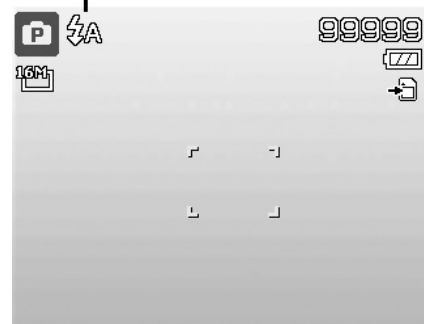


**Forced off.** The flash is turned off.



- Flash function is only available in shooting still images, but not available in Continuous shooting mode, HDR and Handheld night shot.
- Do not charge the flash while spinning the Zoom dial. Charge the flash after releasing the zoom dial if necessary.
- The flash mode will remain at "Flash Off" if the flash does not open.
- When the flash is closed, flash mode is automatically set to flash off.
- When activating flashlight, the Flash won't pop up automatically. Please open the Flash manually by pressing the Flash button.

Auto flash is enabled

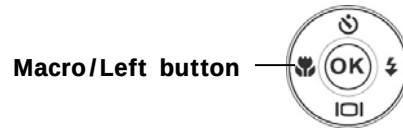


## Setting the Focus Mode

This function allows users to define the type focus when recording a still image or a video clip.

To set the Focus mode

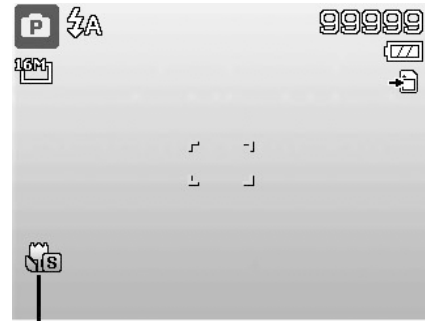
- Press the **Macro/Left** button repeatedly until the desired focus mode icon is displayed on the lower left corner of the LCD monitor.



Your camera supports the two focus modes:

**Normal.** With normal focus, the focus range starts from 0.5m. When the camera is set to Normal mode, there is no icon displayed on the screen.

 **Super Macro.** This mode is designed for close-up photography. If Macro is enabled, you can capture the detail and sharpness of a very close image by fixed focus.



Focus enabled

## Using the Delete Button



Use the **Delete** button on your camera to delete an image/video clip.

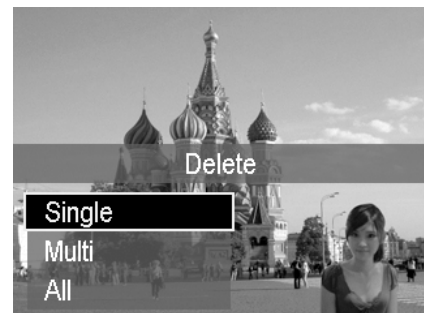
The Delete function allows to remove unwanted files in the internal memory or on the memory card. Protected files cannot be erased, to delete, unprotect the file first. See "Protect" on page 38.

To delete an image/video clip:

- Press the **Playback button**  on the camera.
- View images/videos clips in Single navigation mode.
- Use the ◀ or ▶ keys to scroll the display.
- When the desired image/video clip is displayed on the LCD monitor, press the **Delete** button.
- A confirmation selection appears on screen.
- To close the Delete function and go back to the single navigation mode, press **Menu** button.

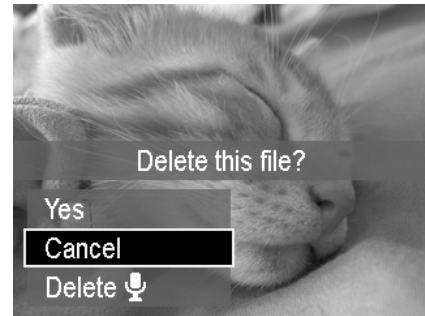
To delete a single file:

- After a confirmation selection appears on screen. Select **Single**.
- Press the **OK** button and select **Yes** to delete.
- The next image is displayed on the LCD monitor. To delete another file, use the ◀ or ▶ keys to scroll through the images/videos clip. Repeat steps 1 to 2.
- To close the Delete function and go back to the single navigation mode, press **Menu** button.



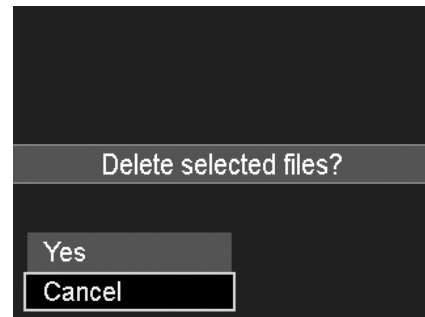
To delete attached voice memo:

1. After a confirmation selection appears on screen. Select **Single**.
2. A delete voice memo option will be added to the selection.
3. Select and press **OK** to delete voice memo only and back to single navigation.
4. Or select **Yes** to delete both image and its voice memo.



To delete multiple files:

1. After a confirmation selection appears on screen. Select **Multi**.
2. The images are displayed in thumbnail view on the LCD monitor.
3. Use the ◀ or ▶ keys to move through the files.
4. When the desired image/video clip is highlighted, use the ▲ or ▼ keys to mark/unmark image/video clip for deletion.
5. Repeat step 4 until all desired images for deletion are marked.
6. Press the **OK** button. A confirmation selection appears.
7. Select **Yes** to confirm.
8. Press the **OK** button to delete marked files.



To delete all files:

1. After a confirmation selection appears on screen. Select **All**.
2. Select **Yes**.
3. Press the **OK** button to delete all files.



In Record mode, press Delete button to delete the last captured image directly.

## Recording Videos

You can record videos with the camera, the available recording time depends on the capacity of the memory card. Videos can be recorded until the maximum memory capacity has been reached. However the length of a single video may be limited (the limitation depends on the camera model).



1. Press the **Movie button** to start recording.
2. Focus your camera on the subject that you want to take.
3. Use the **Zoom dial** to zoom in and zoom out an image.
4. To stop recording, press the **Movie button**.



- The camera will automatically stop recording when the memory capacity is full.
- Optical and Digital zoom are available while recording a video (please enable Digital zoom under Record menu before recording).
- Sound cannot be recorded while using zooms (Spinning the **Zoom dial**.)
- Power save is not available in video recording or pause recording.



- When the temperature of CMOS Sensor is over 63°C, the camera will display the warning message.
- When the temperature of CMOS Sensor is over 65°C, the camera will shutdown automatically.

## PIV function

During the movie recording, an icon  displays on LCD means that the current screen can be stored as a photo without stopping movie recording by full pressing the shutter button. The PIV feature only applicable to movie size: 1080p30, 720p30 and VGAp30.



- When the movie size is 1080p (30fps) or 720p (30fps), the capture photos are saved at 2304 x 1296 resolution.
- When the movie size is VGA (30fps), the capture photos are saved at 2304 x 1728 resolution.

## Settings of Recording Videos

See "Using the Movie Menu" on page 33 for more details.

## Mode dial

There are 8 recording modes can be set by turning the Mode dial, such as Intelligent Scene, Scene mode, Continuous Shooting, HDR, Manual Exposure, Night Portrait, Handheld Night Shot and Program. Once turning the Mode dial, it will enter the selected mode immediately even in Playback mode or during movie recording.



For detail operation, please see the following sections.

The table below shows the available settings for Mode dial.

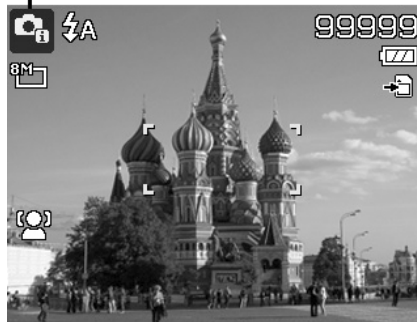
| Icon       | Mode                | Description                                                                                                                                                      |
|------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            | Intelligent Scene   | The camera detects the shooting conditions and automatically switches to the appropriate scene mode. See "Using Intelligent Scene" on page 25 for more details.  |
| <b>SCN</b> | Scene mode          | Turns the mode dial to enter last used Scene mode. Press the MENU button to select other scene mode. See "Setting the Scene Mode" on page 25 for more details.   |
|            | Handheld Night Shot | This feature is used to capture images with night scenery background.                                                                                            |
|            | Night Portrait      | This feature is used to capture portrait pictures with night or dark background.                                                                                 |
|            | Continuous Shooting | Turns the mode dial to enter last used Continuous Shooting mode. See "Using Continuous Shooting" on page 28 for more details.                                    |
|            | HDR                 | This feature applies digital processing only to the necessary portion(s) of the image and preserves details in highlights and shadows with natural contrast.     |
| <b>P</b>   | Program             | The camera automatically adjusts suitable shooting settings like shutter speed and aperture values.                                                              |
| <b>M</b>   | Manual Exposure     | This feature lets users to adjust the shutter speed and aperture value to correctly expose your images. See "Using Manual Exposure" on page 28 for more details. |



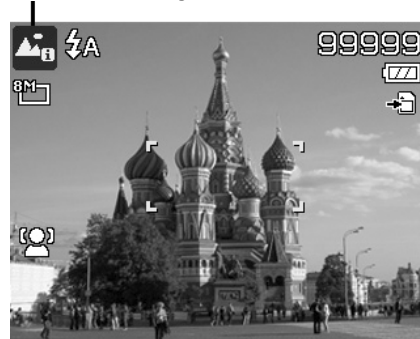
## Using Intelligent Scene

This feature is most useful for novice users to capture great images even without basic knowledge of photography. Simply frame the shot with the help of Intelligent Scene Mode, the camera automatically recognizes 7 kinds of scenes - Portrait, Landscape, Macro, Backlight, Backlight Portrait, Handheld Night Shot and Night Portrait - and selects the ideal settings.

**Intelligent scene icon. After the camera detects the shooting conditions, this icon changes to show the detected scene mode.**



**The camera changed to Landscape mode automatically.**



To activate Intelligent Scene

1. Turn the Mode dial to icon .
2. Focus the camera on the subject to capture.
3. The camera detects the shooting conditions and switches to an appropriate scene mode.
4. Half press the Shutter button to focus the subject. The frame turns green to indicate focus is set.
5. Press the Shutter button to take the shot.

## Setting the Scene Mode

By simply selecting one of the following 17 modes, you can capture the image with the most appropriate settings.

1. Turn the Mode dial to icon **SCN**.
2. Use the navigation controls to move through the selection.
3. Press the **OK** button to save and activate the selected scene mode.



The table below shows the available scene mode settings.

| Icon                                                                                | Item      | Description                                                                               |
|-------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------------------|
|  | Portrait  | The camera blurs the background to focus on the subject.                                  |
|  | Landscape | This feature is used to emphasize wide scenic views.                                      |
|  | Sunset    | This feature enhances the red hue for recording sunset images.                            |
|  | Backlight | This feature is used to capture the image of a backlight object by changing the metering. |

|                                                                                     |                 |                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | Kids            | This feature is used to capture still images of moving kids.                                                                                                                                                                                      |
|    | Fireworks       | This feature slows shutter speed to capture fireworks explosions.                                                                                                                                                                                 |
|    | Snow            | This feature is used for beach and snow scenes.                                                                                                                                                                                                   |
|    | Sports          | This feature captures still images in high speed motions.                                                                                                                                                                                         |
|    | Party           | This feature is used for wedding or indoor party settings.                                                                                                                                                                                        |
|    | Candlelight     | This feature is used to capture warm candle light effects.                                                                                                                                                                                        |
|    | Flowing Water   | This feature enhances smooth effects like water or silk.                                                                                                                                                                                          |
|    | Food            | This feature is used to capture food images. The increased saturation in this mode makes the captured image more enticing.                                                                                                                        |
|    | Text            | This feature enhances the black and white contrast normally used when capturing text images.                                                                                                                                                      |
|    | Smile Capture   | This feature uses face tracking to auto detect faces to capture. When smiles are detected, it continuously captures the image.                                                                                                                    |
|   | Blink Detection | This feature detects if the subject blinked an eye when the image is captured and gives the user an option whether to save it or not.                                                                                                             |
|  | Love Portrait   | This feature uses face tracking to auto detect faces to capture portraits images without the help of others. When over two faces are detected, AF is automatically activated. The camera starts count down and captures a picture in two seconds. |
|  | Self Portrait   | This feature set zoom to wide end. When one face is detected, AF automatically activated and plays the sound (Bi) for notice. Then camera starts count down and captures a picture in two seconds.                                                |

## Using Kids Mode

Tactically, kids are the most difficult to photograph. They tend to be highly animated and can be a real challenge to make them pay attention for more than just a second or two. To capture a great moment for your kids, just keep the camera in kid mode. The mode provides higher shutter speed and always focuses on moving subject.



## Using Sports Mode

When you need a series of sports motion images, such as a golf swing, or try to capture the images of a flying hummingbird/butterfly, be sure to switch the scene mode to sports mode.

## Using Party Mode

Let the Party mode on! It can be difficult to get everyone on a party. While you have the whole gang together, take a group or family portrait. Party mode features on Red-eye reduction flash and face tracking. You'll miss fewer shots, and have more time to focus on enjoying the party.

## Using Soft Skin mode

When the soft skin mode is activated, it makes wrinkles and lines look less conspicuous, while preserving resolution in areas of the picture outside of the skin. The camera detects skin color area, such as the face and processes the image to make the skin appear smooth.

## Using Food Mode

How to share your dining experiences and comments of interesting widgets on your blog by close-up images? Just get the camera and set the scene with food mode. This mode features on macro focus and auto flash designed for close-up photography.



**Macro focus and Auto Flash are enabled by using Food mode.**

## Using Smile Capture Mode

When facing camera, especially kids, smiles are always short and hard to seize by manual shutter. Smile capture mode detects every smile all the time and performs Automatic Focus (AF) to capture an image without pressing Shutter button.

Follow the instructions to get a **Happy** image by Smile Capture Mode:

1. Select Smile capture mode from scene menu.
2. Focus the camera on the subject to capture.
3. When a smile is detected, the white focus frame turns green to denote camera shutter and take a shot automatically.



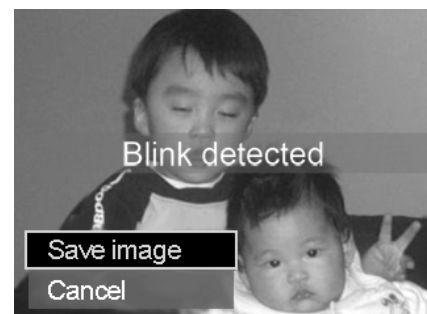
## Using Blink Detection Mode

Nothing ruins a great picture more than having your subjects' eyes closed. Blink Detection provides you with extra assurance when capturing once-in-a-lifetime moments like holding a trophy with teammates after winning a basketball game.

If closed eyes are detected, a saving confirmation menu appears on the screen, allowing you to re-take the shot before your subject or subjects move on.

To activate Blink Detection

1. Select Blink Detection Mode from Scene Mode submenu.
2. Half press the **Shutter button** to focus the subject.  
The frame turns green to indicate focus is set.
3. Press the **Shutter button** to capture the image and automatically save the Image.
4. If the camera detects subject blinked eye, a "**Save image**" or "**Cancel**" option appears on the screen.
5. Select **Save image** to save or **Cancel** to disregard



## Using Love Portrait

Want to take a good image when there are just two of you? All you have to do is hold the camera and show your smiles together.

If over two faces had been recognized, the camera performs 2-second countdown with a beep notice then take a shot without pressing the **Shutter button**.

## Using Self Portrait

When you are the one taking the picture for yourself, then self portrait mode is necessary besides the tripod. With your long arm's help, the camera begin face tracking in self portrait mode. If a face had been recognized, the camera performs 2-second countdown with a beep notice then take a shot without pressing the **Shutter button**.

Tips to make a great shape by self portrait photography:

- Lean in towards the camera to reduce double chin.
- Angle your body and bend your arms to look slimmer.
- Keep your shoulders back.

## Using Continuous Shooting

Turn the Mode dial to icon **Continuous Shooting**. Available shooting options only show up in Record Menu when the mode dial has been turned to **Continuous Shooting**. Pres ▲ or ▼ keys to select between the following settings:

| Icon                                                                                | Item             | Description                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | High-speed Burst | Full press and hold the shutter button to take a continuous shooting in frame rate 10 fps (the maximum number of photos is 10).                                                                                                                                                                                                   |
|    | Pre-shooting     | Capture images before pressing the shutter button. This feature begins by half pressing the shutter key, and continues when the shutter button is fully pressed.                                                                                                                                                                  |
|   | Sporty Burst 120 | Use this feature to capture 54 photos in 1M resolution with 1/120 shutter speed at a shot.                                                                                                                                                                                                                                        |
|  | Sporty Burst 240 | Use this feature to capture 54 photos in 1M resolution with 1/240 shutter speed at a shot.                                                                                                                                                                                                                                        |
|  | Smart Selector   | Full press and hold the shutter button to take a continuous shooting. When releasing the shutter button, ONLY the sharpest photo will be saved, and the others are erased automatically.                                                                                                                                          |
|  | Multi-shot 16    | Full press the shutter button to take 16 shots at 30 fps and arrange them in a single photo. <ul style="list-style-type: none"><li>• The image size is automatically set to 5M (2560 x 1920).</li><li>• Auto review appears directly on the screen after every shot is taken, even if <b>Auto Review</b> is set to off.</li></ul> |

## Using Manual Exposure

When the camera is in the manual exposure mode, you can change either aperture or shutter speed, or both.

To activate Manual Exposure

1. Turn the Mode dial to icon **Manual Exposure**.
2. Press **OK** button to enter the adjust mode.
3. Use the ◀ or ▶ keys to select the shutter speed.
4. Or, use the ▲ or ▼ keys to select the aperture value.
5. Use the **OK** button to switch between aperture and shutter speed adjustment and vice versa.
6. Press the **Shutter button** to capture the image.



**Displays the aperture and shutter speed value**

## Using the Record Menu

If you are in Photo Mode, you can access the Record menu simply by pressing the **MENU** button on your camera.

When the menu is displayed, use the 4-way navigation control and the **OK** button to move through menu selections and apply your desired settings. To close the menu anytime, press the menu button again.

### Record Menu

The Record menu allows you to change modes, and setup other capture settings.

To go to Record Menu:

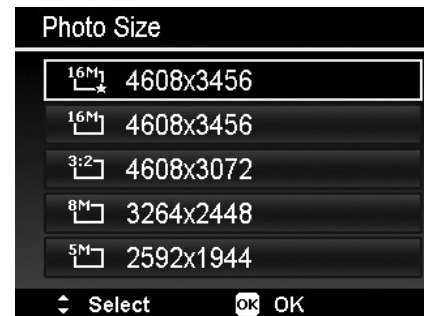
Turn on the camera by pressing **Power** button.

1. Press  to launch the Record Menu.
2. Use the  or  keys to move through the menu
3. To select an item, press  or **OK** button.
4. Change the submenu settings using the 4-way navigation control.
5. Press the **OK** button to save and apply settings.



### Photo Size

The Photo Size function is used to set the resolution before you capture the image. Changing the Photo Size affects the number of images that can be stored in your memory card. The higher the resolution, the more memory space is required.



The table below shows the Photo Size values for still images.

| Icon                                                                                | Pixel Size  | Printing Size Suggestion |
|-------------------------------------------------------------------------------------|-------------|--------------------------|
|  | 4608 x 3456 | A2 Size                  |
|  | 4608 x 3456 | A2 Size                  |
|  | 4608 x 3072 | Standard print paper     |
|  | 3264 x 2448 | A3 Size                  |

| Icon                                                                                | Pixel Size  | Printing Size Suggestion |
|-------------------------------------------------------------------------------------|-------------|--------------------------|
|  | 2592 x 1944 | A4 Size                  |
|  | 2048 x 1536 | 4" x 6"                  |
|  | 1920 x 1080 | HDTV                     |
|  | 640 x 480   | E-mail                   |



The compression rate of  and  is different.

### EV Compensation

Images can be captured with the overall scene intentionally made brighter or darker. These settings are used when a suitable brightness (exposure) cannot otherwise be obtained in circumstances where the difference in brightness between the subject and the background (the contrast) is large, or when the subject that you wish to capture is very small within the scene. Available for still images only.

- To adjust EV settings, press the  or  keys to increase/decrease the value. As you adjust the settings, the LCD monitor synchronously displays the image applying the EV settings. Press the **OK** button to save and apply changes.



## White Balance

This sets the white balance for a variety of lighting conditions and permits images to be captured that approach the conditions that are seen by the human eye.

- As you move through the selection, you can see the preview on the LCD monitor synchronously.

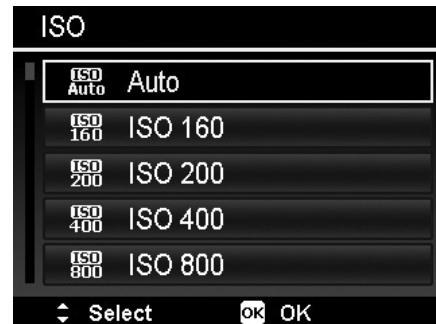


| Icon | Item               | Description                                                                                                                                                                     |
|------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      | Auto White Balance | The camera automatically adjusts the white balance.                                                                                                                             |
|      | Daylight           | Ideally used for bright sunny conditions.                                                                                                                                       |
|      | Cloudy             | Ideally used for cloudy conditions.                                                                                                                                             |
|      | Tungsten           | Ideally used for indoor images with tungsten or halogen lighting without a flash.                                                                                               |
|      | Fluorescent 1      | Ideally used for indoor images with bluish fluorescent lighting conditions.                                                                                                     |
|      | Fluorescent 2      | Ideally used for indoor images with reddish fluorescent lighting conditions.                                                                                                    |
|      | Custom             | Used when light source cannot be specified. Press the Shutter button for the camera to automatically adjust the appropriate white balance setting according to the environment. |

## ISO

This sets the sensitivity for capturing images. When the sensitivity is raised (and the ISO figure is increased), photography will become possible even in dark locations, but the more pixelated (grainier) the image will appear.

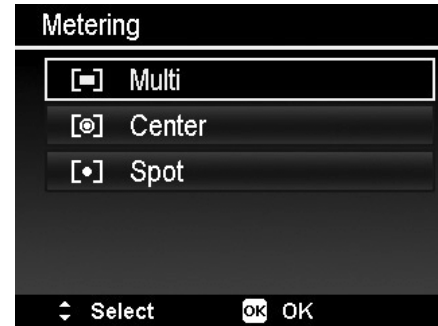
- Use a higher ISO setting in dim conditions and a lower ISO setting in brighter conditions.



If the Stabilizer is enabled, ISO is automatically set to Auto and cannot be adjusted. To adjust ISO disable Stabilizer first.

## Metering

This sets the metering method for calculating the exposure.



| Icon | Item   | Description                                                                                                     |
|------|--------|-----------------------------------------------------------------------------------------------------------------|
|      | Multi  | The entire area of the screen is measured, and the exposure is calculated.                                      |
|      | Center | Averages the light metered from the entire frame, but gives greater weight to the subject matter at the center. |
|      | Spot   | A very small portion of the center of the screen is measured, and the exposure is calculated.                   |

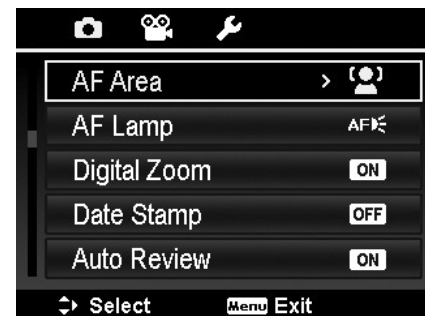
## Setting the AF Area

AF stands for Automatic Focus. This feature determines the area on which the camera focuses.

To set AF Area

1. From the Record menu, select **AF Area**.
2. Use the **▲** or **▼** keys to go through the selection.
3. Press the **OK** button to save and apply changes.

The table below shows the available AF area settings.



| Icon | Item          | Description                                                        |
|------|---------------|--------------------------------------------------------------------|
|      | Face Priority | This feature auto detects faces and tracks continuously..          |
|      | Wide          | The camera automatically selects focus area within the wide frame. |
|      | Center        | The focus area is fixed on the center.                             |

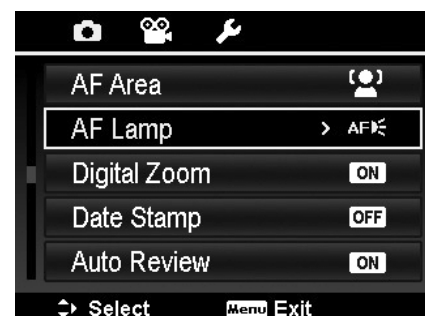
## Setting the AF Lamp

The AF Lamp function allows you to record images even low light conditions.

If AF Lamp is set to Auto, the AF lamp located in the front of the camera, see "Front View" on page 7, emits an red light by half pressing the Shutter button allowing the camera to focus easily.

To set AF Lamp

1. From the Record menu, select **AF Lamp**.
2. Use the **▲** or **▼** keys to go through the selection.
3. Press the **OK** button to save and apply changes.



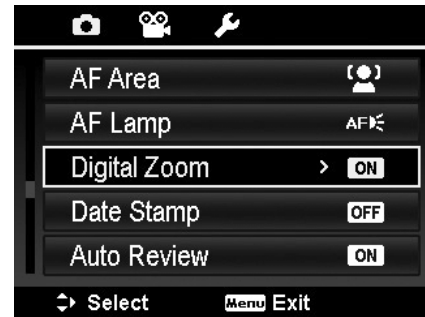
## Setting the Digital Zoom

This feature controls the digital zoom mode of your camera. Your camera enlarges an image using the optical zoom first. When the zoom scale exceeds 5X, the camera uses digital zoom.

To set Digital Zoom

1. From the Record menu, select **Digital Zoom**.
2. Use the ▲ or ▼ keys to go through the selection.
3. Press the **OK** button to save and apply changes.

The table below shows the available Digital Zoom settings.



| Icon | Item | Description                                                   |
|------|------|---------------------------------------------------------------|
|      | On   | Enlarges all image sizes, but the image quality deteriorates. |
|      | Off  | Uses the optical zoom only.                                   |



- Digital Zoom is not available in Face Priority on.
- The maximum Intellect zoom scale varies depending on the image type and resolution.

## Setting the Date Stamp

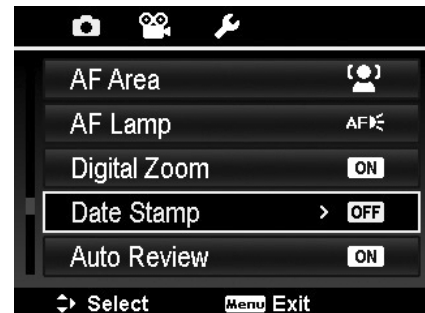
The date of recording can be printed directly on the still images. This function must be activated before the image is captured. Once date and time are stamped on an image, they can no longer be edited or deleted.

Limitations of Date Stamp functions are as follows:

- Available for still images only.
- This feature does not apply to continuous shooting mode.
- In vertical or rotated images, the date and time on your images still appear horizontally.

To set Date Stamp

1. From the Record menu, select **Date Stamp**.
2. Use the ▲ or ▼ keys to go through the selection.
3. Press the **OK** button to save and apply changes.



## Setting Auto Review

The Auto Review function lets you view the captured image right after shooting it.

If Auto review is On, the camera will display the captured image for **1 second** on the LCD monitor.

To set Auto Review

1. From the Record menu, select **Auto Review**.
2. Use the ▲ or ▼ keys to go through the selection.
3. Press the **OK** button to save and apply changes.





## Setting Stabilizer

This function allows you to prevent blurred images caused by shaking.

1. Enable the **Stabilizer** under the **Record Menu**.
2. Use the **▲** or **▼** keys to go through the selection.
3. Press the **OK** button to save and apply changes.



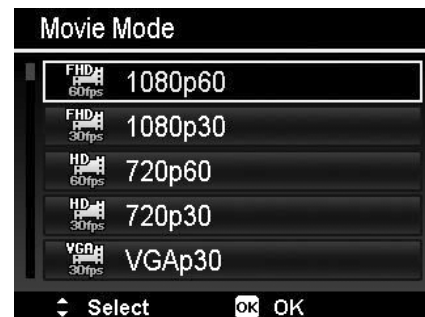
## Using the Movie Menu

You can access the Movie menu simply by pressing the **MENU** button on your camera.

When the menu is displayed, use the 4-way navigation control and the **OK** button to move through menu selections and apply your desired settings. To close the menu anytime, press the menu button again.

## Setting Movie Mode

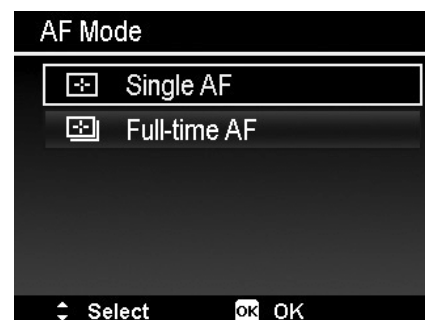
Use this function to adjust the resolution and quality of movie clips.



The use of a SDHC class 4 or class 6 memory card is recommended to record videos in FHD and HD options.

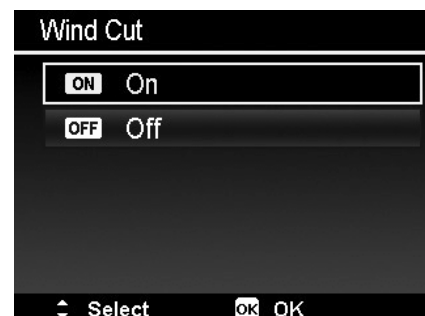
## Setting AF Mode

This feature controls the auto focus method in recording movies.



## Setting Wind Cut

This feature reduces wind noise during movie recording.



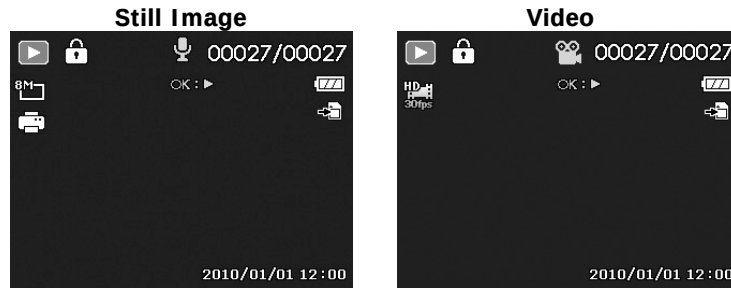
# Playback

You can playback the still images, video clips on the LCD monitor.

## Viewing in Single Navigation

The Single navigation mode displays the image one by one on the LCD monitor. To view images/video clips, follow the steps below.

1. Press the **Playback button**  on the camera.
2. The LCD monitor displays an image. To understand the icons and other information on the screen, please see "Photo Mode Screen Layout" on page 15.



3. Use the ◀ or ▶ keys to view next/previous image/video.
4. To play a video clip, press the **OK** button. See "Playing Videos" on page 35 for more details.

## Viewing Thumbnails

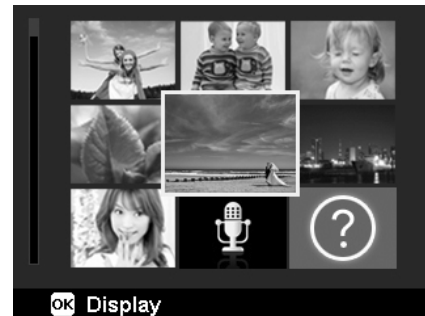
This function allows you to view 9-thumbnail images or by calendar mode on the LCD monitor at the same time. Searching numerous of images is much easier then single view navigation.

To set 9-images mode

1. Press the **Playback button**  on the camera.
2. Spin the **Zoom dial** counterclockwise (left) **once** to enter 9-images mode.
3. Use the navigation controls to move through the items.
4. Press the **OK** button to select the image and view it normally.

### Scroll bar.

If scroll bars appear, it indicates that the screen can be scrolled.

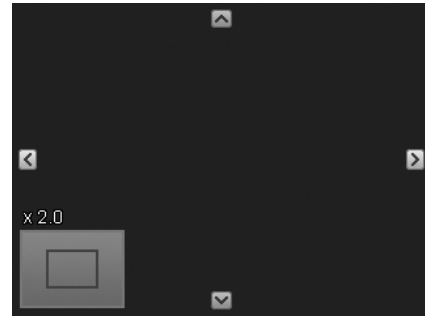


**Thumbnail view**

## Zooming images

The zoom view function works with still images only.

- In normal view, spin the **Zoom dial** clockwise (right) repeatedly until the desired zoom view.
- The 4 arrows on the LCD monitor indicate that the image is zoomed in.
- You can zoom to view an image of up to 10X.
- Use the navigation controls to view the zoomed image.



## Playing Videos

1. Press the **Playback button**  on the camera.
2. Use the navigation controls to scroll through the saved images. A video clip has a video icon displayed on screen.
3. Press the **OK** button to play the video.
4. During playback, press and hold the ◀ or ▶ keys to fast forward or rewind the video. The camera supports forward and rewind speed of up to 4x.
5. During playback, use the **Zoom dial** to control volume. Spin clockwise (right) to increase volume/Spin counterclockwise (left) to decrease volume.
6. Press the ▲ key to pause playback. Press the key ▲ again to resume. When paused, the play info will remain on screen except  .
7. To forward or rewind the video frame by frame, press the key ▲ to pause playback, then press the ◀ or ▶ keys.
8. Press the ▼ key to stop the playback. The LCD monitor displays the video frame image in Single navigation mode.

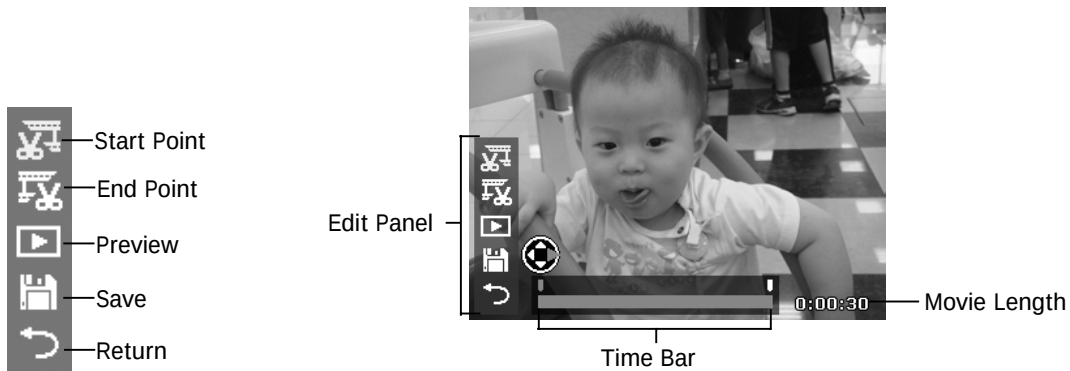


- The play info, except the icon  , will be displayed when the video is paused, during REW/FF or frame by frame modes
- Volume cannot be adjusted when paused or during REW/FF modes.
- Due to massive data streams of FHD / HD videos, it is normal being a few seconds display lag when every first time you play a video with the included program on your computer. It will not happen if you play it again. Recommended hardware specifications are as follows:

|                        |                                                                                                                                                                                                                                                  |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>OS</b>              | Windows XP (Service Pack 2 or later), Windows Vista, Windows 7                                                                                                                                                                                   |
| <b>CPU</b>             | Intel Pentium D 3.0GHz or equivalent AMD Athlon, or faster (Intel Core 2 Duo E6400 2.13GHz or faster, AMD Athlon 64 X2 5600+ 2.6GHz or faster are recommended for HD video)                                                                      |
| <b>Memory</b>          | 1 GB or more (2 GB or more is recommended for HD video)                                                                                                                                                                                          |
| <b>Hard Disk Space</b> | 300 MB free hard drive space or more for program installation; 10 GB is recommended for DVD production                                                                                                                                           |
| <b>Graphics Card</b>   | Intel 945GM or above (Intel X3100 or above is recommended for HD video); NVIDIA GeForce 6600 or above (NVIDIA GeForce 9600GT and above is recommended for HD video); ATI X1600 or above (AMD Radeon HD3850 or above is recommended for HD video) |
| <b>Display</b>         | 1280 x 720, 32-bit color monitor or higher                                                                                                                                                                                                       |
| <b>Burning Device</b>  | A DVD burner (DVD-R/-RW/+R/+RW/RAM) is required to burn DVD/AVCHD content                                                                                                                                                                        |

## Using Movie Edit

When a video clip is paused, press the Delete button to enter Movie Edit mode. An Edit Panel displayed in the lower left corner of the screen while the time bar and movie length display in the bottom of the screen.



### Set Start/End point

1. Press Up/Down key to select  to set start point to trim the beginning of the movie or  to set end point to trim the end of the movie.
2. Press Left/Right key to move  on each 1/30 second interval. The movie length must be at least more than 2 seconds.



3. Select the  to preview or  to save the video clip.
4. Select  and press OK to exit Movie Edit mode and return to the paused time whether the Start/End point is set or not.

## Playing Voice Memo

Voice memo is separately recorded and attached to a captured image. See "Voice Memo" on page 39 on how to record voice memo.

1. Press the **Playback button**  on the camera.
2. Use the navigation controls to scroll through the saved images. An image file with voice memo has a voice memo icon located on the top center of the LCD monitor. See picture on the right.
3. Press the OK button to play the voice recording.
4. During playback, use the **Zoom dial** to control volume. Spin clockwise (right) to increase volume/Spin counterclockwise (left) to decrease volume.
5. Press the key  to pause playback. Press the key  again to resume. When paused, the play info will remain on screen except  .
6. Press the key  to stop the playback. The LCD monitor displays the image in Single navigation mode.



Volume cannot be adjusted when you pause the voice memo.

## Playback Menu

The Playback menu allows you to edit images, record voice memo, and setup playback settings.

To go to Playback Menu:

1. Press the **Playback button**  on the camera.
2. Press **Menu button** to launch the Playback Menu.
3. Use the  or  keys to move through the menu selections.
4. To select a menu, press  or the **OK** button.
5. Change the submenu settings using the 4-way navigation control.
6. Press the **OK** button to save and apply settings.



## Slide Show

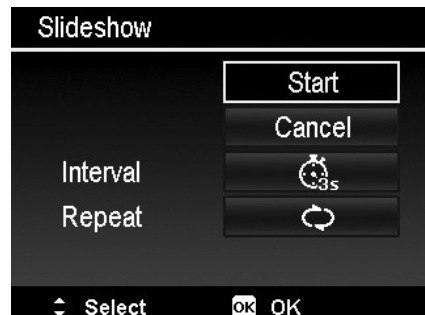
The slide show function enables you to playback your still images automatically in order one image at a time.

To view slideshow:

1. From the Playback menu, select **Slideshow**. The Slideshow menu appears.
2. Set the slide show settings.
3. Select **Start**, then press the **OK** button to start the slide show.
4. During slideshow, press the **OK** button to pause slide show.
5. Use the  or  keys to move through the options. Select whether to **Continue** or **Exit** the slide show.
6. Press the **OK** button to apply selected option.

To change slide show settings:

1. From the Slide show menu, use the  or  keys to move through the selections.
2. Select Interval setting. Press the  or  keys to adjust. Choose among the available interval settings: 1 sec., 3 sec., 5 sec., and 10 sec.
3. Select Repeat setting. Press the  or  keys to adjust. Available settings are: Yes, No.



## Protect

Set the data to read-only to prevent images from being erased by mistake.

A protected file has a lock icon  when viewed on Playback mode.

To protect files:

1. From the Playback menu, select **Protect**.
2. The Protect submenu is displayed on the LCD monitor.  
Available select settings:
  - **Single**. Select one file to lock/unlock.
  - **Multi**. Select multiple files from the thumbnail view to lock/unlock.
  - **Lock All**. Lock all files
  - **Unlock All**. Unlock all files.

To protect/unprotect a single file:

1. Select **Single** in the Protect submenu, the images are displayed on the LCD monitor in single navigation mode.
2. Use ◀ or ▶ keys to scroll the display.
3. When the desired file is displayed on the LCD monitor, press the **OK** button to select **Lock/Unlock**.
4. To close the protect/unprotect function and go back Playback menu, select **Exit**.

To protect/unprotect multiple files:

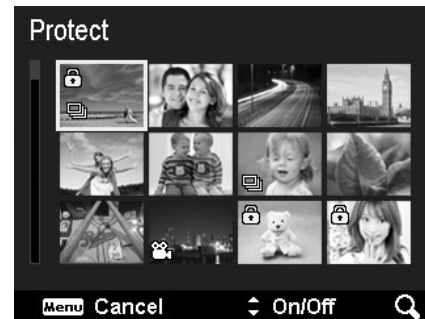
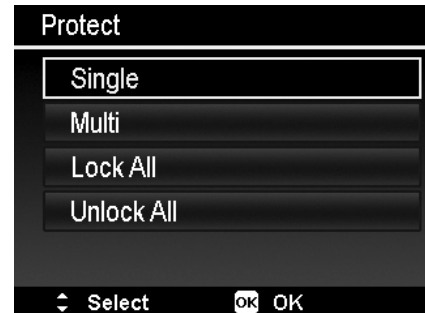
1. Select **Multi** in the Protect submenu, the images are displayed in thumbnail view on the LCD monitor.
2. Use the ◀ or ▶ keys to move through the files.
3. When the desired file is highlighted, use the ▲ or ▼ keys to mark/unmark the file for protection.
4. Repeat step 3 until all desired files to protect are marked.
5. Press the **OK** button to lock files and go back to Playback mode.

To protect all files:

1. Select **Lock all** in the Protect submenu. A confirmation message appears.
2. Select **Yes**.
3. Press the **OK** button to lock all files.

To unlock all files:

1. Select **Unlock all** in the Protect submenu. A confirmation message appears.
2. Select **Yes**.
3. Press the **OK** button to unlock all protected files.

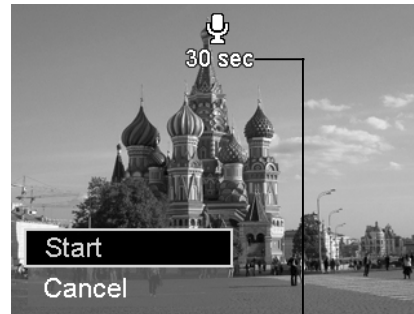


## Voice Memo

A maximum of 30 seconds of audio can be recorded as a memo for captured still images.

To record voice memo:

1. Press the **Playback button**  on the camera.
2. Press the ◀ or ▶ keys to scroll and select an image to attach voice memo to.
3. Press the **MENU** button to launch the Playback menu.
4. Select **Voice Memo**.
5. Select **Start**, then press the **OK** button to start recording.
6. Press the **OK** button again to stop recording.



Time left (n seconds) for recording.



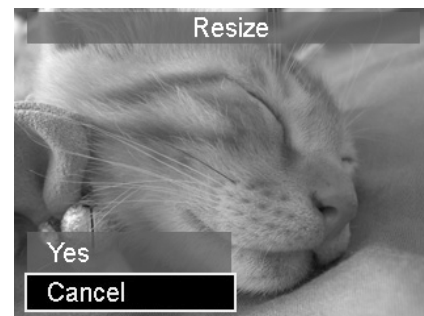
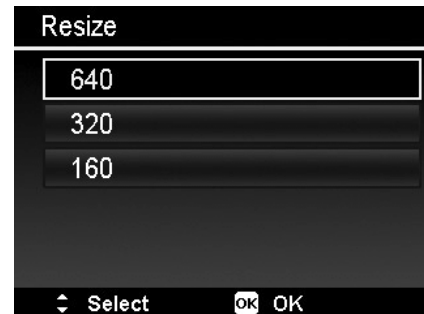
When you record voice memo to an image with an existing voice memo, the old recording file would be replaced by the new one.

## Resize

Resizes a previously saved image to create a small copy photo and only resizing to a smaller size is available.

To resize an image:

1. Press the **Playback button**  on the camera.
2. Use the ◀ or ▶ keys to scroll and select an image to resize.
3. Press the **MENU** button to launch the Playback menu.
4. Select **Resize**. The Resize submenu is displayed on the LCD monitor.
5. Select size among: 640, 320, and 160.
6. After selecting size, a menu selection appears.
7. Press the **OK** button to save/cancel changes.
8. The resized image is saved as a new photo.



- Resize function is only applicable to aspect ratio 4:3 photos.
- Each photo can only be resized once.

## DPOF

DPOF is the abbreviation for Digital Print Order Format, which allows you to embed printing information on your memory card. You can select the images to be printed and how many prints to make with the DPOF menu in the camera and insert the memory card to the card compatible printer. When the printer starts printing, it will read the embedded information on the memory card and print the specified images.

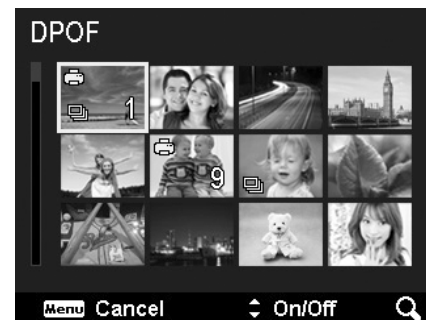
To set DPOF:

1. Press the **Playback button**  on the camera.
2. Press **Menu button** to launch the Playback Menu.
3. Select **DPOF**. The submenu appears. Available settings are as follows:
  - **Select Images**. Mark images in the memory card.
  - **Reset**. Reset all DPOF settings to initial default settings.



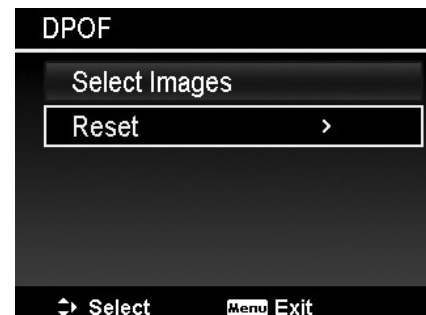
To set DPOF on images:

1. Select **Select Images** on the DPOF submenu.
2. Use the ◀ or ▶ keys to scroll and select images to mark for printing.
3. When the desired image is highlighted, use the ▲ or ▼ to increase/decrease number.
4. Press the **OK** button to define the DPOF settings and select **Done** to save DPOF settings.



To reset DPOF:

1. Select **Reset** on the DPOF submenu.
2. The camera auto reset all DPOF settings.



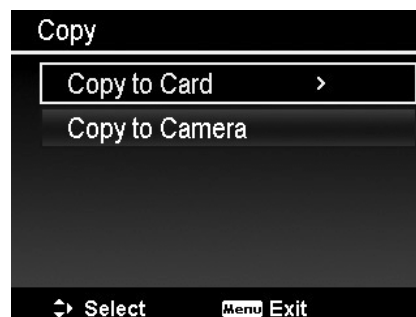


## Copy

Use this feature to copy images between internal memory and memory card.

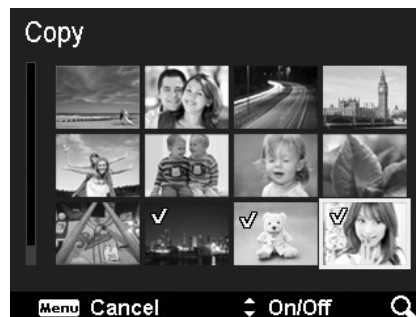
To copy images between internal memory and memory card:

1. Press the **Playback button**  on the camera.
2. Press **Menu button** to launch the Playback Menu.
4. Select **Copy** and choose a method you want to copy images to. After choosing, available settings are as follows:
  - **Selected images.** Select images to the storage device you prefer.
  - **All images.** Copy all images to the storage device you prefer.



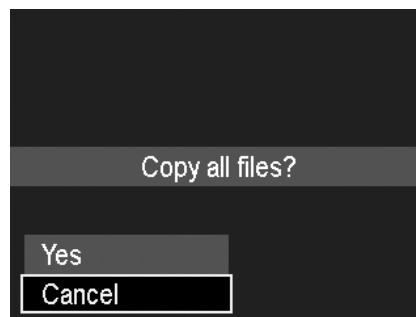
To copy selected images:

5. Select **Selected images** on the Copy submenu.
6. Use the ◀ or ▶ keys to scroll and select images to mark for Copying.
7. When the desired image is highlighted, use the ▲ or ▼ keys to mark/unmark the file for copying.
8. Press the **OK** button and select **Yes** to start copying.



To copy all images:

3. Select **All images** on the Copy submenu.
4. Select **Yes** to start copying.



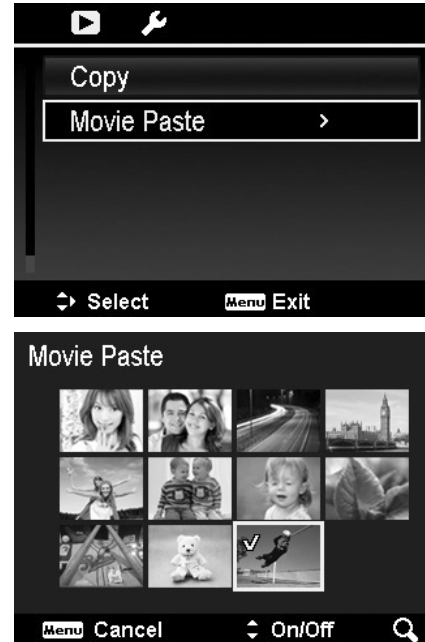
If no memory card or a locked card is inserted, this option would be gray.

## Movie Paste

Use this feature to combine two videos with the same specification (movie size and fps) into one video.

To combine two videos:

1. Press the **Playback button**  on the camera.
2. Use the ◀ or ▶ keys to scroll and select the original video.
3. Press the **MENU** button to launch the Playback menu.
4. Select **Movie Paste**. The videos with the same specification as the original video are displayed on the LCD monitor.
5. Use the ◀ or ▶ keys to scroll and the ▲ or ▼ keys to mark/unmark the second video.
6. Press the **OK** button and select **Yes** to merge it to the end of the original video and overwrite it.



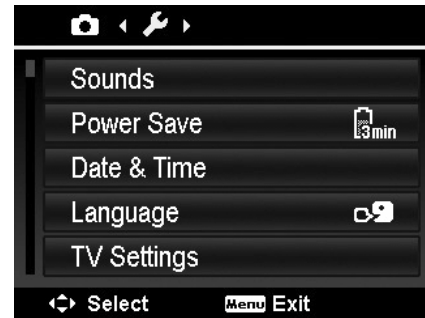
- The total length of the combined video cannot be over 30 minutes.
- After combining videos, the second video will no longer exist with a separate file.

## Using the Setup Menu

You can access the Setup menu whether you are in Record or Playback mode. The Setup menu allows to configure general camera settings.

To go to Setup Menu:

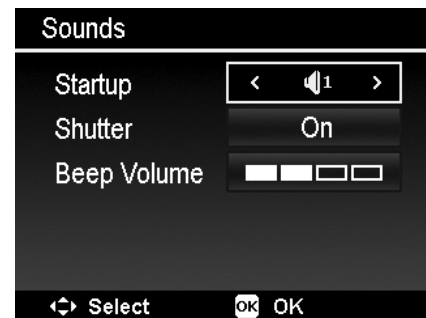
1. Press **Menu** button to launch the Record/Playback Menu.
2. Use the ◀ or ▶ keys to switch the menu tab to **Setup** menu.
3. Use the ▼ or ▲ keys to move through the menu selections.
4. To select an item, press the **OK** button or ▶ key.
5. Change the submenu settings using the 4-way navigation control.
6. Press the **OK** button to save and apply settings.



## Setting Sounds

Use the Sound menu functions to control the sounds produced by the camera.

1. From the Setup menu, select **Sounds**.
2. Adjusts sound settings.
3. Press the **OK** button to apply changes.



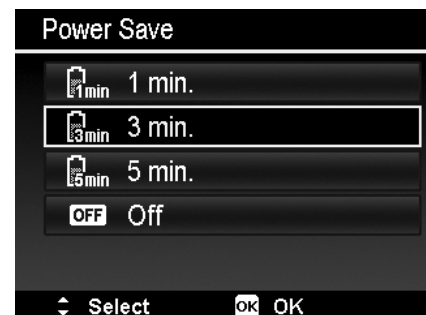
| Item               | Available Settings             | Description                                                                                                                            |
|--------------------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Startup</b>     | Sound 1, Sound 2, Sound 3, Off | Selects the startup sound when camera is turned on.                                                                                    |
| <b>Shutter</b>     | On, Off                        | Enables or disables shutter sound when Shutter button is pressed. Shutter sound is not available when recording videos or voice clips. |
| <b>Beep volume</b> | 0-4                            | Adjusts volume.                                                                                                                        |

## Setting Power Save

The Power Save function allows you to set an idle time after which the camera automatically sets to sleep mode to save power. After a minute of being in sleep mode, the camera eventually turns off power.

This function is not available in the following instances:

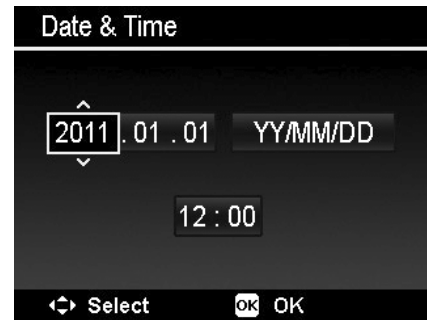
- Recording a video file
- Playing a slideshow/video file
- Using the USB connector



## Setting Date & Time

Use the Date & Time function to set the date and time of your camera. This function is useful in attaching date stamps on captured images. Your camera uses a 24-hour time format.

1. Press the navigation controls to adjust date and time value. By holding down the ▼ or ▲ keys, the numeric values changes continuously.
2. Press the **OK** button to apply changes.



## Setting Language

Specify in which language menus and messages are to be displayed on the LCD monitor.

1. Use the navigation control to scroll through the list and select the desired language.
2. Press the **OK** button to confirm and apply settings.

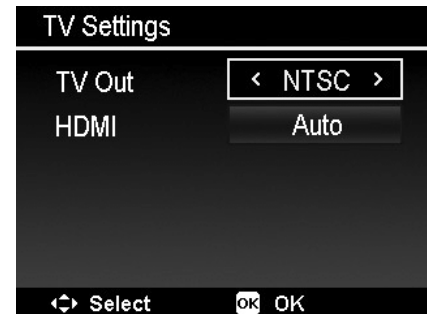


## Setting TV Settings

Use the TV Settings function to adjust video output signal to accommodate different regional settings. If TV Setting is not set correctly, the image may not display properly on TV.

Available settings are:

- **TV Out.** Switch the video output signal to accommodate different regional standards. Available settings are NTSC and PAL.
- **HDMI.** Set an image resolution for HDMI output.
  - If TV Out is set as NTSC, the HDMI settings are Auto/480p60/720p60/1080i60/1080p60.
  - If TV Out is set as PAL, the HDMI settings are Auto/576p50/720p50/1080i50/1080p50.

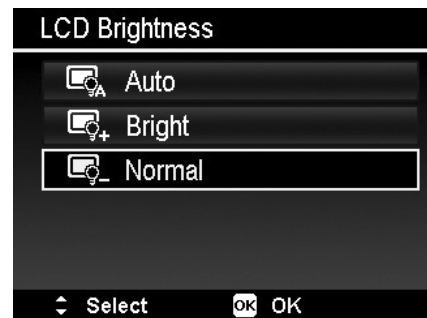


## Setting LCD Brightness

Select a brightness level for the LCD monitor.

Available settings are:

- **Auto.** Auto detects the LCD brightness.
- **Bright.** Enhance the LCD brightness.
- **Normal.** Normal LCD brightness.



## Startup Image

You can activate the system startup image for camera. The captured image can't be set as startup image in this camera.

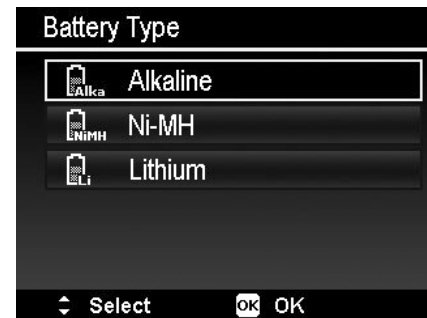


## Setting Battery Type

Select the type of the battery to ensure the camera shows the correct battery level on screen.

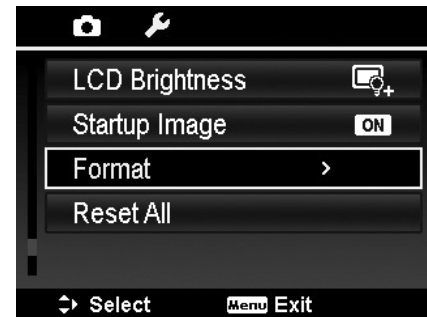
Available settings are:

- **Alkaline**
- **Ni-MH**
- **Lithium**



## Setting Format

This utility formats current used memory (Internal memory or Memory card) and erases all stored images and data.



If a locked card has been inserted, the option would be gray.

## Reset All

Use this function to reset the camera to its factory settings. However, the following settings are exceptions and not affected by Reset.

- Date & Time
- Language
- TV Settings
- Custom White Balance data



# Making Connections

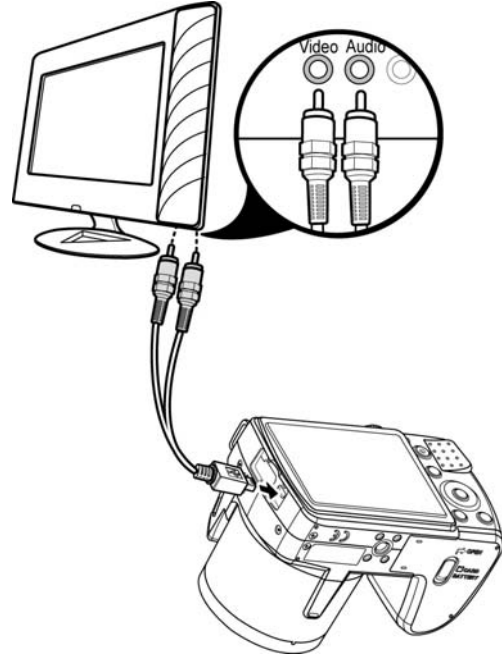
You can connect your camera to: TV, computer, or a printer.

## Connecting the Camera to a TV

You can play back your images on a TV screen. Before connecting to any video devices, make sure to select NTSC/PAL to match the broadcast standard of the video equipment you are going to connect to the camera.

To connect your camera to a TV:

1. Turn on the camera.
2. Set the TV out to match the TV's video out format. See "Setting TV " on page 44.
3. Connect the USB/AV 3-in-1 cable to the USB port on the bottom of your camera.
4. Connect the other end of the cable to the TV's AV input port.
5. The LCD monitor turns black and all images and video clips are displayed on the TV.

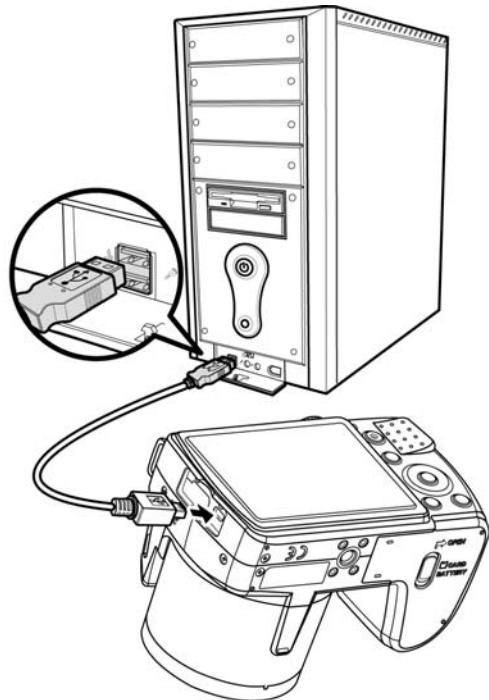


Before connecting the HDMI cable to a TV, please turn on your camera first. If you turn on the camera after connecting HDMI cable, the TV will not respond.

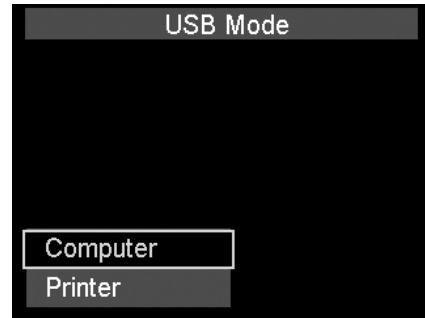
## Connecting the Camera to a PC

You can transfer images and video files to your PC.

1. Connect one end of the USB cable to an available USB port on your computer
2. Connect the other end of the USB cable to the USB terminal on the camera.
3. Turn on the camera.



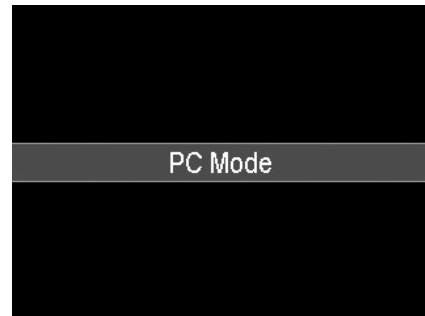
4. The USB mode menu appears on the screen. Select **Computer** by using the ▲ or ▼ key and press the **OK** button.



5. The PC starts to detect the connection while the LCD monitor appears **Connecting...**



6. Connection established after **PC MODE** appeared on the LCD monitor



7. Access the files in the camera by your PC.

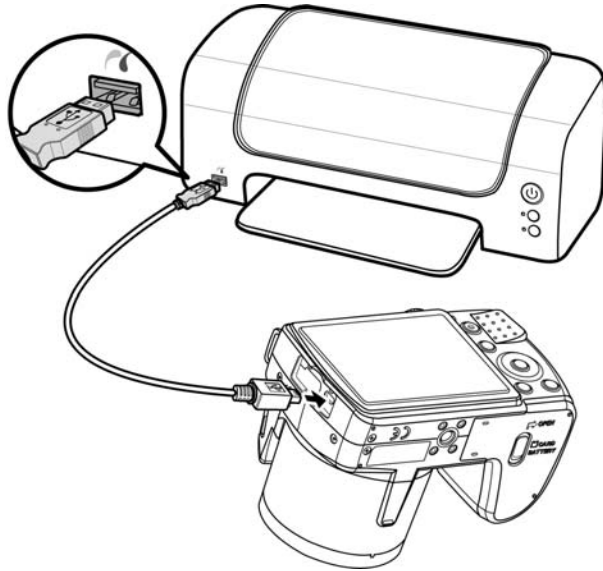


- The camera's internal memory and memory card would display as removable drives in PC.
- After the connection, no image is displayed on the LCD monitor.

## Connecting the Camera to a Printer

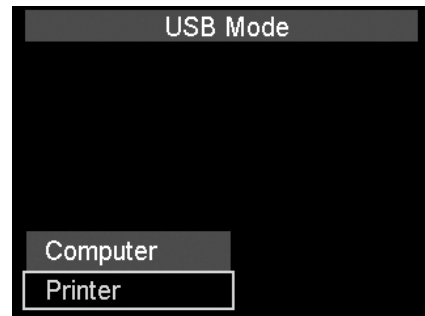
You can print your images directly using a **PictBridge compatible** printer.

1. Turn on your Printer. Check that the printer is turned on, there is paper in the printer, and there are no printer error messages.
2. Connect one end of the USB cable to the printer while the other end to USB terminal on the camera.



3. The USB mode menu appears on the screen. Select **Printer** by using the ▲ or ▼ key and press the **OK** button.
4. Enter the print mode and print the selected images.

For details on the following page "Setting the Print Mode Menu".





## Setting the Print Mode Menu

Print Mode menu appears on the screen after the connection between a printer and your camera is established.

Print Mode includes three major settings:

- **Print Select.** An image can then be selected to print.
- **Print All.** Prints all images.
- **Print DPOF.** Prints the images which are set DPOF.

To set Print Select

1. Use the ◀ or ▶ keys to scroll and select an image for printing.
2. Specify the number of copies. Use the ▲ or ▼ key to increase/decrease number.
3. Press the **OK** button to enter printer settings.

To set Print All and Print DPOF

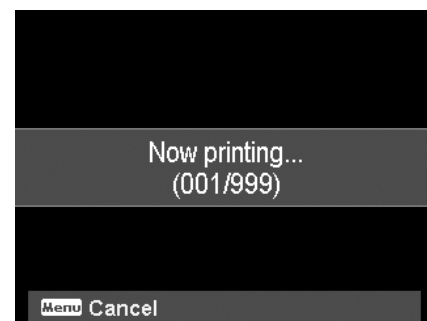
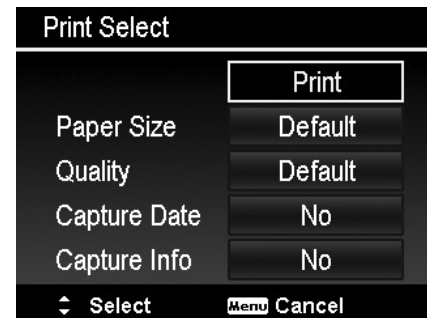
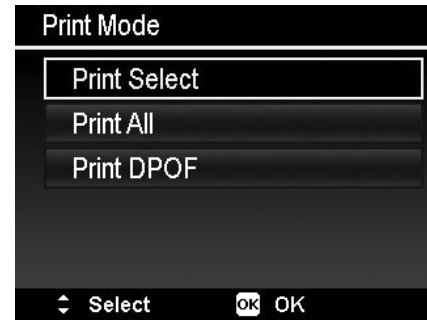
Repeat the same steps 1 to 2, then enter printer settings.

To set Printer Settings

1. Use the ▲ or ▼ key to specify a print option.
2. Modify paper size, quality, date and info by the ◀ or ▶ keys. Available setting:
  - Paper size: Default / A4 / 4"x6"
  - Quality: Default / Fine / Normal
  - Capture Date: Yes / No
  - Capture Info: Yes / No
3. Select **Print** on the screen for printing.  
Or **Cancel** to go back Print Mode.

Start Printing

- LCD monitor appears "Now printing..."
- Or press Menu button to stop printing anytime.



# Appendix

## About Folder and File Names

Your camera automatically creates specific directory of folder in the internal memory cards to organize captured image and video files.

### File Naming

File names begin with "DSCI" and followed by a 4-digit number that increases in sequence. File numbering starts from 0001 when a new folder is created.

The highest file number is 9999, if exceeds 9999, the camera will start over the file number from 0001.



Do not change the folder and file names in the memory card using your PC. It may be unable to playback the data using the camera.

## Troubleshooting

| Problem                                                                | Cause and/or Action                                                                                                                                                                         |
|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Camera does not turn on.                                               | The batteries may be exhausted. Charge or replace the batteries.                                                                                                                            |
| Camera turns off automatically.                                        | Press Power button to turn on the camera.                                                                                                                                                   |
| LCD turns dark.                                                        | Press any button except the Power button to turn on the LCD.                                                                                                                                |
| Empty battery icon is displayed on the LCD, then the camera turns off. | Batteries are exhausted, please replace or recharge.                                                                                                                                        |
| LCD monitor displays "No image".                                       | There is no image file in the memory card. Image file format may not be supported.                                                                                                          |
| LCD monitor displays "Not available for this file".                    | Function is only available for specific file types. File format is not supported.                                                                                                           |
| LCD monitor displays "Memory full".                                    | Memory card is full. Replace the memory card with a new one or delete unnecessary images.                                                                                                   |
| LCD monitor displays "File locked".                                    | This file is locked. Unlock the file. See "Protect" on page 38.                                                                                                                             |
| LCD monitor displays "Card locked".                                    | The memory card is protected. Remove the card and slide the write-protect switch to its unlock position.                                                                                    |
| LCD monitor displays "Format error".                                   | The card may be damaged. You can either change the card or wipe to clean the connected points.                                                                                              |
| LCD monitor displays "Copy error".                                     | The memory card is protected. Remove the card and slide the write-protect switch to its unlock position.<br>The memory card is full. Replace card or delete unnecessary files.              |
| No image displays on the TV screen.                                    | Incorrect TV-out type was selected. Set the correct TV-out type to match your TV system.                                                                                                    |
| The lens got stuck up.                                                 | Do not force the lens to go back.<br>The type of the battery used may be incorrect or the battery power level is too low. Change the battery or charge the battery before using the camera. |

# Specifications

|                           |                                                                                                                                                                                                                     |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Sensor</b>             | Sony 16M CMOS                                                                                                                                                                                                       |
| <b>Lens</b>               | Focal Length: 4.5 (W) ~ 94.5 (T) mm<br>21X optical zoom, 5x digital zoom                                                                                                                                            |
| <b>LCD monitor</b>        | 3.0" Color LCD                                                                                                                                                                                                      |
| <b>Focusing Range</b>     | Normal:<br>Wide: 50 cm ~ infinity<br>Tele: 500 cm ~ infinity<br><br>Macro:<br>Wide: 2 cm ~ infinity<br>Tele: 60 cm ~ infinity<br><br>Super Macro: 1 cm ~ infinity                                                   |
| <b>Aperture</b>           | 1:3.1~5.8                                                                                                                                                                                                           |
| <b>Shutter</b>            | Shutter Speed:<br>Auto: 1 - 1/2,000 sec.<br>Manual: 15 - 1/2,000 sec.<br>Night: 1/2 - 1/2,000 sec.<br>Fireworks: 2 sec.                                                                                             |
| <b>File Format</b>        | Still Image: EXIF 2.3 compatible format (JPEG compression)<br>Video: MOV (Video: H.264, Audio: PCM, stereo)                                                                                                         |
| <b>Resolution (Photo)</b> | 16M* (4608 x 3456) (Compression rate: 4x), 16M (4608 x 3456) (Compression rate: 8x), 3:2 (4608 x 3072), 8M (3264 x 2448), 5M (2592 x 1944), 3M (2048 x 1536), 16:9 (1920 x 1080), VGA (640 x 480)                   |
| <b>Resolution (Movie)</b> | <ul style="list-style-type: none"> <li>• 1920x1080p60</li> <li>• 1920x1080p30</li> <li>• 1280x720p60</li> <li>• 1280x720p30</li> <li>• 640 x 480 30p</li> <li>• 320 x 240 120p</li> <li>• 320 x 240 240p</li> </ul> |
| <b>Scene Mode</b>         | Portrait, Landscape, Sunset, Backlight, Kids, Fireworks, Snow, Sports, Party, Candlelight, Flowing Water, Food, Text, Smile Capture, Blink Detection, Love Portrait, Self Portrait                                  |
| <b>Mode dial</b>          | Intelligent Scene, Scene mode, Handheld Night Shot, Night Portrait, Continuous Shooting, HDR, Program, Manual Exposure                                                                                              |
| <b>ISO Equivalent</b>     | Auto, 160, 200, 400, 800, 1600, 3200 (3M, 16:9 <2M>, VGA), 6400 (3M, 16:9 <2M>, VGA)                                                                                                                                |
| <b>White Balance</b>      | Auto, Daylight, Cloudy, Tungsten, Fluorescent 1, Fluorescent 2, Custom                                                                                                                                              |
| <b>Exposure Control</b>   | +2.0EV / +1.7EV / +1.3EV / +1.0EV / +0.7EV / +0.3EV / 0EV / -0.3EV / -0.7EV / -1.0EV / -1.3EV / -1.7EV / -2.0EV                                                                                                     |
| <b>Metering</b>           | Multi, Center, Spot                                                                                                                                                                                                 |
| <b>Self-timer</b>         | Off, 10 sec., 2 sec., Double                                                                                                                                                                                        |
| <b>Flash</b>              | Auto, Red-eye Reduction, Forced On, Slow Sync, Forced Off                                                                                                                                                           |

|                              |                                                                                                                                                                                                                                                                                  |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Storage</b>               | Internal memory: 128MB flash memory<br>External memory: SD (up to 4GB), SDHC card (up to 32GB guaranteed), SDXC card (up to 64GB guaranteed)                                                                                                                                     |
| <b>OSD Language</b>          | English, Français, Español, Deutsch, Italiano, Русский, Português, Português BR, Nederlands, Türkçe, Polski, Magyar, Rumänisch, Čestina, Български, Croatian, Slovensky, Slovenščina, Ελληνικά, Svenska, Norsk, Suomi, Danish, عربي, Indonesia, Malay, ไทย, 日本語, 한국어, 简体中文, 繁體中文 |
| <b>Interface</b>             | USB/AV/HDMI OUT                                                                                                                                                                                                                                                                  |
| <b>TV system</b>             | NTSC/PAL (selected by Setup MENU)                                                                                                                                                                                                                                                |
| <b>Battery</b>               | AA battery X4                                                                                                                                                                                                                                                                    |
| <b>Operating Temperature</b> | 0° C - 40° C                                                                                                                                                                                                                                                                     |
| <b>Operating Humidity</b>    | 0% - 90%                                                                                                                                                                                                                                                                         |
| <b>Microphone</b>            | Built-in                                                                                                                                                                                                                                                                         |
| <b>Speaker</b>               | Built-in                                                                                                                                                                                                                                                                         |
| <b>Dimensions</b>            | 112.5 x 75.9 x 63.4 mm                                                                                                                                                                                                                                                           |
| <b>Weight</b>                | 367 g (no battery)                                                                                                                                                                                                                                                               |