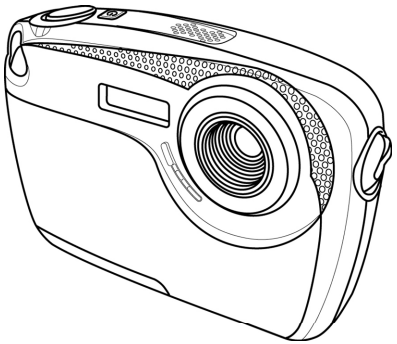
# HD-DV Camera



# User's Manual

# *Table of Contents*


*About this manual* ..... *v*

*Copyright* ..... *v*

*Precautions* ..... *vi*

*Waterproof* ..... *viii*

*Before You Start* ..... *xi*

**1 Introducing the video camera ..... 1**

*1.1 System requirements* ..... *1*

*1.2 Features* ..... *1*

*1.3 Unpacking the video camera* ..... *2*

*1.4 About the video camera* ..... *3*

1.4.1 Front view ..... 3

1.4.2 Top view ..... 3

1.4.3 Bottom view ..... 3

1.4.4 Right and Left views ..... 4

1.4.5 Back view ..... 4

1.4.6 About the LED ..... 7

**2 Getting started ..... 8**

*2.1 Inserting an SD card* ..... *8*

*2.2 Inserting the batteries* ..... *9*

*2.3 Turning on/off the video camera* ..... *12*

*2.4 Connecting to TV with a USB/AV Cable* ..... *12*

*2.5 Connecting to PC with a USB/AV Cable* ..... *13*

*2.6 Changing modes* ..... *14*

*2.7 Before you start ..... 14*
2.7.1 Setting the date and time ..... 14
2.7.2 Setting the language ..... 15
2.7.3 Setting the beep ..... 15

**3 Using the Video Camera ..... 16**

*3.1 Recording Videos ..... 16*
*3.2 Video Menu ..... 18*
3.2.1 Resolution ..... 19
3.2.2 White Balance ..... 19
3.2.3 Quality ..... 20
3.2.4 EV ..... 20
3.2.5 Capture Mode ..... 21
*3.3 Playing Videos ..... 22*
*3.4 Video Playback Menu ..... 24*
3.4.1 Delete ..... 25
3.4.2 Protect ..... 26
3.4.3 Copy to Card ..... 27
*3.5 Voice Mode ..... 28*
3.5.1 Recording voice files ..... 28
3.5.2 Playing voice files ..... 29
*3.6 Shooting Photos ..... 30*
*3.7 Photo Menu ..... 33*
3.7.1 Size ..... 34
3.7.2 Quality ..... 34
3.7.3 White Balance ..... 35

3.7.4 EV ..... 36
3.7.5 Effect ..... 36
3.7.6 Night Mode ..... 37
3.7.7 Burst Mode ..... 37
3.7.8 Face Detect ..... 38
3.7.9 Date Stamp ..... 38
***3.8 Viewing Photos ..... 39***
***3.9 Photo Playback Menu ..... 41***
3.9.1 Delete ..... 42
3.9.2 Protect ..... 43
3.9.3 Autoplay ..... 44
3.9.4 Copy to Card ..... 44
3.9.5 DPOF ..... 45
***3.10 System Menu ..... 46***
3.10.1 Format ..... 47
3.10.2 Default ..... 47
3.10.3 Language ..... 48
3.10.4 Auto Power Off ..... 48
3.10.5 Beep ..... 48
3.10.6 Frequency ..... 48
3.10.7 TV Standard ..... 49
3.10.8 Date / Time ..... 49
***3.11 Thumbnail mode ..... 50***
***3.12 USB mode ..... 51***
3.12.1 Using the PC Cam feature ..... 51
3.12.2 Using the Mass Storage feature ..... 51

3.12.3 Using the DPS (Direct Print Standard) feature……..……51
*3.13 Diving mode*.....*52*
*3.14 Game mode*.....*53*
**4 Installing software and drivers ..... 54**
*4.1 Drivers*.....*54*
4.1.1 Mass Storage.....54
4.1.2 PC Camera.....55
*4.2 Presto! Video Works*.....*56*
*4.3 Presto! Mr. Photo*.....*57*
*Specification*.....*58*
*Troubleshooting*.....*61*

# Preface

Congratulations on your purchase of this advanced video camera. Ensure that you read this manual carefully and keep it in a safe place for future reference.

# About this manual

Every effort has been made to ensure that the contents of this manual are correct and up to date. However, no guarantee is made regarding the accuracy of the contents. If the contents of this manual do not tally with the camera, please take the camera as a criterion, and our company reserves the right to change the contents or technical rules without notice in advance. Also, the manufacturer reserves the right to change the technical specification in advance without notice.

If the accessories do not tally with the actual package, please take the actual package as a criterion.

# Copyright

© Copyright 2010.

All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system or translated into any language or computer language, in any form or by any means, electronic, mechanical, magnetic, optical, manual or otherwise, without the prior written permission of the manufacturer.

# Precautions

## General precautions

- Do not use or store the product in dusty, dirty, or sandy areas, as its components may be damaged.
- Do not store the product in a hot environment. High temperatures can shorten the life of electronic devices, damage batteries and warp or melt certain plastics.
- Do not store the product in cold areas. When the product warms up to its normal temperature, moisture can form inside, which may damage the electronic circuits.
- Do not attempt to open the casing or attempt your own repairs. High-voltage internal components create the risk of electric shock when exposed.
- Do not drop or knock the product. Rough handling may damage the internal components.
- Do not use harsh chemicals, cleaning solvents or strong detergents to clean the product. Wipe the product with a slightly damp soft cloth.
- Do not fire the flash while it is too close to the subject's eyes. Intense light from the flash can cause eye damage if it is fired too close to the eyes. When using the flash, the camera should be at least one meter from the eyes of the subject.
- Do not open the battery cover while an image is being recorded. Doing so will not only make storage of the current image impossible, it can also corrupt other image data already stored in file.
- If the product or any of its accessories are not working properly, take them to your nearest qualified service center. The personnel there will assist you and if necessary, arrange for the product to be repaired.
- Test for proper operation before using the camera.

## Notes on the LCD Screen

Be very careful to ensure the fluid contained in the LCD screen does not escape if the screen becomes cracked or damaged. If this occurs, follow these steps:

- If the fluids make contact with skin, wipe it with a clean cloth then rinse with a large amount of water.
- If the fluid makes contact with eyes, wash eyes with clean water for at least 15 minutes and go to the hospital as soon as possible.
- If the fluid is swallowed, first rinse mouth with water, then drink a large amount of water and induce vomiting. Go to the hospital as soon as possible.

## Operation conditions

- This camera is designed for use in temperatures ranging from 0°C to 40°C (32°F to 104°F).
- Do not use or keep the camera in the following areas:
  - In areas subject to direct sunlight
  - In areas subject to high humidity or dust
  - Near air conditioners, heaters, or other areas subject to temperature extremes
  - Inside of a closed vehicle, especially one parked in the sun.
  - In areas subject to strong vibration

## Power supply

- Use only the type of battery that came with your camera. Using any other type of battery may damage the equipment and invalidate the warranty.
- Ensure the battery is inserted correctly. Inserting the battery incorrectly can cause damage to the product and possibly start a fire.

- Remove the battery to avoid the fluid leakage if the camera is not going to be used for a long time.
- If the battery is crushed or damaged, remove it immediately to avoid the battery fluid leakage and abnormal expansion.

# Waterproof

## Waterproof performance

- The camera's waterproof performance is equivalent IPX8
- Underwater time limit: Do not use the camera underwater for more than 60 minutes to ensure water resistance.
- The camera is not dust-proof.
- The supplied accessories are not waterproof.

## Notes before going underwater:

(Do not do the following actions on sandy /dusty environment or near the water's edge, please check indoors)

- Check if the area surrounding the battery/USB port is clean, do not allow dirt or sand or foreign objects around it.
- Ensure that the battery/USB compartment cover has no cracks or scratches.
- Ensure that the battery/USB compartment cover is closed.
- Ensure that the camera has no cracks, if the camera has been dropped; it is recommended to return it to your dealer.

## Notes for general use:

(If the USB cable is directly connected to a computer or if the AV cable is connected to a TV, be careful in plugging it, do not allow it to touch the battery/USB compartment cover to avoid waterproof loss.)

- Avoid opening or closing the battery/USB compartment cover near the water's edge (sea, lake, beach, lake, etc.). Do not open or close the cover with wet hands, or hands with sand or dust.
- If taking pictures near the water's edge, pay attention not to drop the front lens. If it is dropped, wipe off water drops using a non-fiber clean cloth or a soft absorbent cotton cloth as soon as possible so as not to leave water drop marks.
- The accessories (batteries, etc.) used with the camera are not water resistant, be careful in using them.
- Do not drop the camera to ensure waterproof durability.
- Do not place the camera in temperatures above 40°C or below 0°C to ensure waterproof durability.
- Do not attempt to make the camera waterproof or seal the vents yourself, doing so may damage the camera's waterproof ability.

## When using the camera

- The waterproof properties of the camera apply to fresh water and saltwater only; they do not apply to cleaning substances, chemicals, or water from spas, etc. Any such liquids should be wiped off immediately.
- Do not immerse in water at a depth greater than 3.0 m (10 ft).
- Do not subject the camera to highly pressurized water.
- Do not immerse in water for longer than 60 minutes. After 60 minutes of use in water, allow the camera to dry for at least 10 minutes.

- Do not immerse in water warmer than 40°C (104°F).
- Do not open or close the battery/USB compartment cover when the camera is wet or underwater.
- Do not open or close the battery/USB compartment cover with wet hands.
- Do not open the battery/USB compartment cover next to water or a pool.
- The camera is not dust-proof.
- Do not bump or knock the camera underwater, otherwise the battery/USB compartment cover may open.

## After using the camera

- Be sure to come ashore within 60 minutes after going underwater, this will maintain the appearance, quality and water resistance of the camera.
- After taking pictures underwater, clean the camera in a bucket of water without salt. Ensure that the battery/USB compartment cover is closed; then soak the camera in the bucket of water for about 10 minutes. After 10 minutes, wipe the camera and the lens dry with absorbent cotton. Place the camera in a well ventilated cool place to dry naturally (do not place under direct sunlight or exposed areas). Be sure to wait until the camera is completely dry before opening the battery/USB compartment cover (open the compartment cover while holding an absorbent cotton to dry off water or clean other impurities around the cover).
- Wipe off water drops on the camera and the lens with a soft lint-free cloth (to avoid fiber) and place it in a well-ventilated place to dry. The cover at the battery/IO DOOR can be opened only after dry to prevent water from entering the camera when opening.

- Before you open the cover at the battery/IO DOOR, always wipe off water drops inside the cover. Note that it should face down when opening.

### Notes on maintenance

- Be sure to wipe any dirt or sand off the waterproof sealing material or its contraction surface. Dirt or sand may scratch the material or the surface, making the camera less resistant to water.
- Do not use any soapy water, mild detergents, alcohol or similar liquids to clean the camera. They may make the camera less resistant to water.
- The waterproof of sealing material is replaceable at cost. The material should be replaced once a year to maintain the camera water resistance.

### Other Notes

- If water accidentally enters the camera or any problem occurs when it is in water, please get out of water immediately and take proper actions. Dry the camera and send it to repair.
- Information is subject to change without notice. Refer to the important notes in the manual supplied with the camera.

## Before You Start

### Taking test shots

Before taking pictures with this DV camera in any important occasion (such as a wedding ceremony or an overseas trip), do test the DV camera beforehand to ensure that it functions properly. Any additional loss caused by the malfunction of this product (such as costs of photography or any loss of benefit generated by the

photography) is not the responsibility of the manufacturer and no compensation will be given for it.

## Copyright information

Take care to observe "No Photography" notices in certain locations. In these cases, you cannot record any live performance, improvisation or exhibits, even for personal purposes. Any transfer of pictures or memory card data must be conducted under the constraints of copyright law.

# 1 Introducing the video camera

Read this section to learn about the features and functions of the video camera. This chapter also covers system requirements, package contents, and descriptions of the hardware components.

## 1.1 System requirements

The video camera requires a PC with the following specifications:

- Windows® 2000/XP SP2/Vista/ Windows 7 operating system (All 32-bit only)
- Intel® Pentium IV 2.8GHz/AMD Athlon 64 or higher
- At least 512 MB of RAM or higher
- Graphic card with DirectX 9 support (DirectX 10 recommended)
- Standard USB 1.1 port or higher
- At least 800 MB of available disk space

● **Note**:
A USB 1.1 port will enable you to transfer files to and from your host PC, but transfer speeds will be much faster with a USB 2.0 port.

## 1.2 Features

The video camera offers a variety of features and functions including:

- HD 720p (30fps)
- HD digital video camera
- Voice recorder
- USB mass storage
- Waterproof IPX8
- Digital camera – (max. 16 Megapixels)
- Face detection
- DPS (Direct Print Service) support

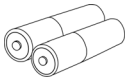
## 1.3 Unpacking the video camera

The following items should be present in the package. If any item is missing or appears damaged, contact your dealer immediately.

Video camera

Pouch

USB/AV cable



2 x "AAA" alkaline batteries

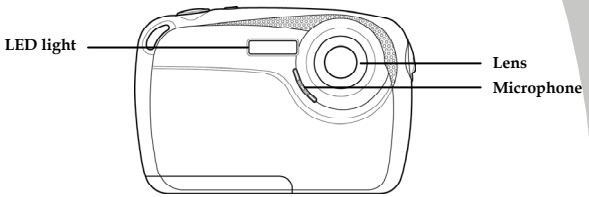
CD ROM

User's Manual

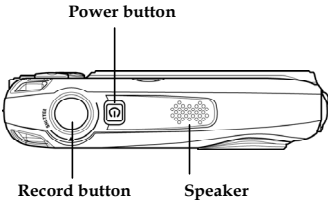
## 1.4 About the video camera

Refer to the following illustrations to familiarize yourself with the buttons and controls of this video camera.

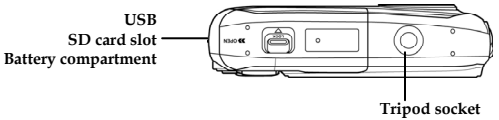
### 1.4.1 Front view



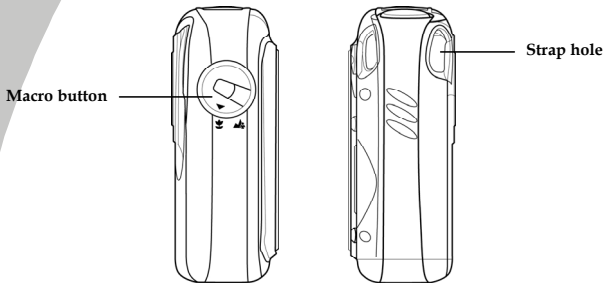

### 1.4.2 Top view



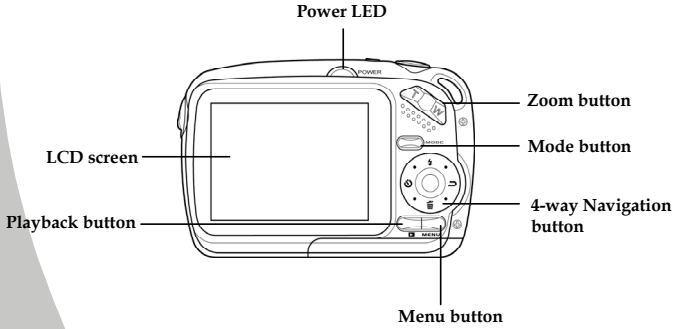

### 1.4.3 Bottom view



## 1.4.4 Right and Left views




## 1.4.5 Back view



See the table below for a description of each button's function.

| Name | Button | Function |
|---|---|---|
| Power Button | | Press and hold to turn the power on or off. |
| Record Button | | In Video mode:<br>• Press to start recording a video. Press again to stop.<br>In Photo mode:<br>• Press to take a picture. |
| Zoom Button | | In Video and Photo modes:<br>• Press the **T/W Button** to zoom out/in.<br>In Video Playback and Photo Playback modes:<br>• Press the **T Button** to enter the Thumbnail mode.<br>• Press the **T/W Button** to toggle four or nine thumbnail view.<br>In Photo Playback mode:<br>• Press the **W Button** to enter the Zoom mode.<br>While playing video:<br>• Press to adjust the volume. |

| Name | Button | Function |
| --- | --- | --- |
| Mode Button | | Press to switch to different modes: Video, Video (in Diving), Photo, or Photo (in Diving). |
| 4-way Navigation Button | | In OSD menus:<br>• Use the 4-way Navigation Button to select items in the menu and press the middle button to confirm.<br>In Video and Photo modes:<br>• Press the **Down Navigation Button** to toggle the display mode.<br>In Photo mode:<br>• Press the **Up Navigation Button** to toggle the flash mode.<br>• Press the **Right Navigation Button** to view the latest taken photo.<br>• Press the **Left Navigation Button** to toggle the self-timer. |

| Name | Button | Function |
|---|---|---|
| Playback Button | | Press to switch to Playback mode. |
| Menu Button | | Press to display the menu for the current mode. |

### 1.4.6 About the LED

The following table describes the camera LED:

| LED | Color | Definition |
|---|---|---|
| **Power** | Green | Power-on |
| | Green Blinking | Low battery |
| | Red Blinking | Protect/Unlock All Format/Delete/Recording/ USB Mass Storage operation |

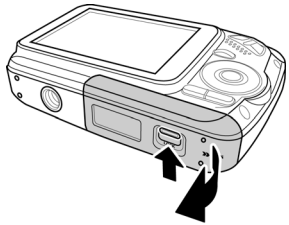
# 2 Getting started

Read this section to learn how to start using the video camera. This section covers basic functions such as switching on, inserting the batteries and memory card, and configuring preliminary settings. See later chapters for advanced functions.

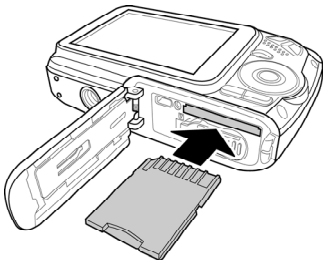
## 2.1 Inserting an SD card

An SD card can be installed in the video camera to provide additional storage space for still images, video clips, or other files.

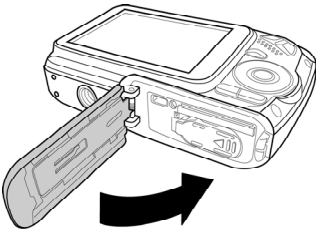
1. Push the tab upwards to open the bottom cover lock then push right to open the bottom cover.



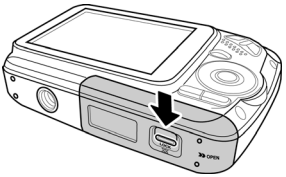
2. Insert the memory card. We recommend using a memory card with a capacity of 1 GB or higher.



3. Close the bottom cover.



4. Push the tab downwards to secure the bottom cover lock.

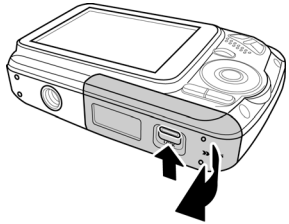


## 2.2 Inserting the batteries

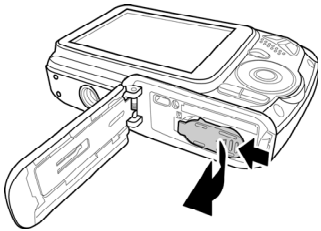
This video camera is designed to use two AAA alkaline batteries. Only use the batteries supplied or similar batteries recommended by the manufacturer or your dealer.

- **Note**:
  Install the batteries exactly as described here. Installing the batteries incorrectly could cause damage to the video camera and possibly start a fire.

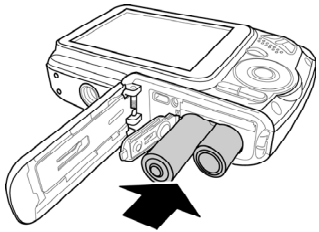
1. Push the tab upwards to open the bottom cover lock then push right to open the bottom cover.



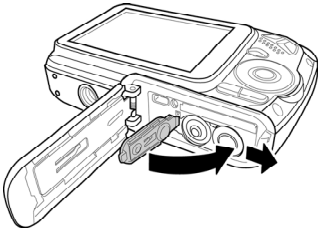
2. Push left to open the battery cover.



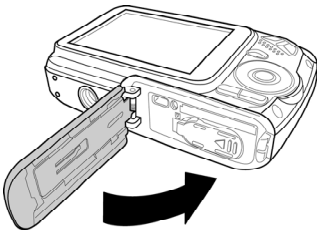
3. Insert the batteries. Ensure that the + and – symbols on the batteries line up with the + and – symbols on your video camera.



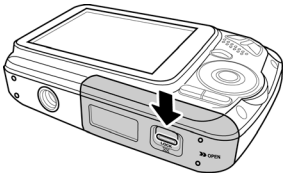
4. Close and push right to secure the battery cover.



5. Close the bottom cover.



6. Push the tab downwards to secure the bottom cover lock.

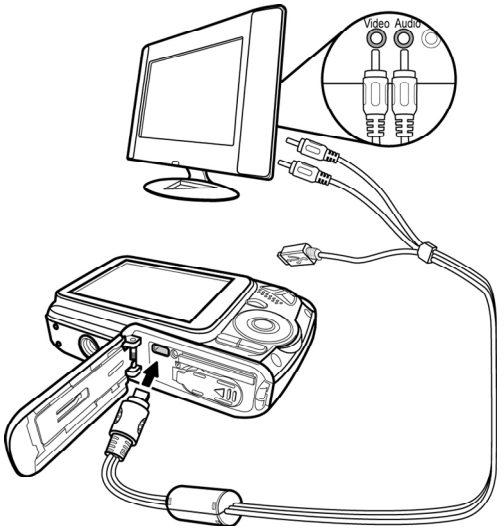


## 2.3 Turning on/off the video camera

Press and hold the **Power Button** to turn the video camera on/off.

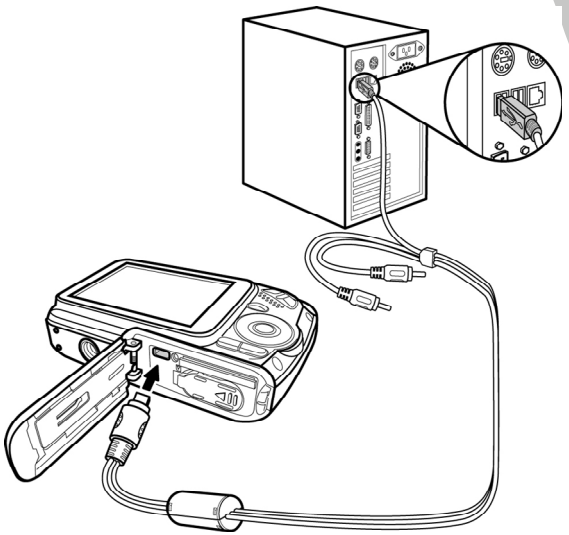
## 2.4 Connecting to TV with a USB/AV Cable

To view pictures or videos on a TV, connect the video camera to a TV using the supplied USB/AV cable as shown.



## 2.5 Connecting to PC with a USB/AV Cable

To manage your pictures or videos on a PC, connect the video camera to a computer with the supplied USB/AV cable as shown.



## 2.6 Changing modes

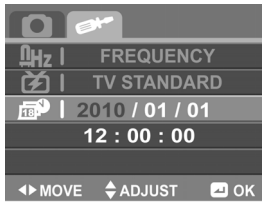
The video camera can operate in four modes: Video, Video (in Diving), Photo, and Photo (in Diving). Press the **Mode Button** to toggle different modes.

## 2.7 Before you start

Before you start using the video camera, some basic settings such as the **Date/Time**, **Language**, and **Beep** functions need to be configured.

### 2.7.1 Setting the date and time

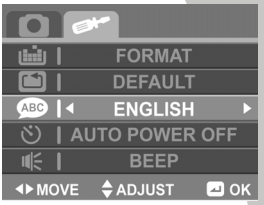
To adjust the date and time, please do the following:




1. Press the **Menu Button** to display the OSD menu.
2. Use the **Left/Right Navigation Button** to select the Setting tab.
3. Use the **Up/Down Navigation Button** to select **DATE/TIME**.
4. Press the **Middle Navigation Button** to confirm.
5. Use the **Left/Right Navigation Button** to select the desired field.
6. Use the **Up/Down Navigation Button** to adjust the value.
7. Repeat steps 5-6 to adjust other fields.
8. Press the **Middle Navigation Button** to confirm.

## 2.7.2 Setting the language

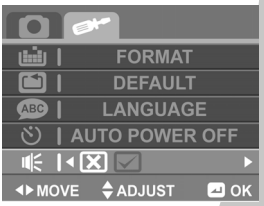
To select the language, please do the following:




1. Press the **Menu Button** to display the OSD menu.
2. Use the **Left/Right Navigation Button** to select the Setting tab.
3. Use the **Up/Down Navigation Button** to select **Language**.
4. Press the **Middle Navigation Button** to confirm.
5. Use the **Left/Right Navigation Button** to select the desired language.
6. Press the **Middle Navigation Button** to confirm.

## 2.7.3 Setting the beep

To adjust the beep, please do the following:




1. Press the **Menu Button** to display the OSD menu.
2. Use the **Left/Right Navigation Button** to select the Setting tab.
3. Use the **Up/Down Navigation Button** to select **Beep**.
4. Press the **Middle Navigation Button** to confirm.
5. Use the **Left/Right Navigation Button** to select ☒ or ☑ to disable/enable the beep.
6. Press the **Middle Navigation Button** to confirm.

# 3 Using the Video Camera

## 3.1 Recording Videos

To record a movie, please do the following:

1. Press the **Power Button** to turn on the video camera.
2. Press the **Mode Button** to switch to Video mode.
3. Press the **Record Button** to start recording the video.

   To adjust the video, you may:

   - Use the **Zoom Button** to zoom in and out.
4. To stop video recording, press the **Record Button** again.

**The Video Recording Screen**

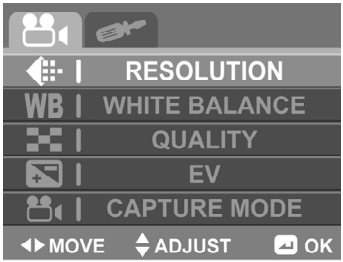
| # | Icon | Description |
|---|---|---|
| 1 | | Indicates the number of saved files. |
| 2 | | Memory status indicator<br> : indicates that an SD card is used.<br> : indicates that no SD card is inserted and the internal memory is used. |
| 3 | | Indicates the current resolution. |
| 4 |  | Indicates the current Quality setting. |
| 5 | | Indicates the current date and time. |
| 6 | | Indicates the remaining recording time. |
| 7 | | Indicates the current image histogram. |
| 8 | | Indicates the current battery status. |
| 9 | | Indicates that Macro is enabled. |
| 10 | | Indicates the current White Balance setting. |
| 11 | | Indicates that the video camera is in Video mode. |
| 12 |  | Indicates the current EV compensation value. |
| 13 | | Indicates the current Zoom status. |

## 3.2 Video Menu

To access the Video menu, please do the following:

1. Make sure you are in the Video mode. Press the **Mode Button** to switch to the Video mode if not.
2. Press the **Menu Button** to open the Video menu.
3. Use the **Up/Down Navigation Button** to scroll through the selections until the desired one is highlighted.
4. Press the **Middle Navigation Button** to confirm.
5. Press the **Menu Button** to exit.

The following selections are available in the Video menu:



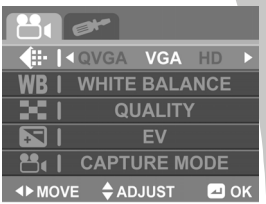

1. Resolution
2. White Balance
3. Quality
4. EV
5. Capture Mode

### 3.2.1 Resolution

The Resolution selection allows you to set the resolution before you record a video. The higher the resolution, the more memory space is required.

To select the resolution, please do the following:

1. Use the **Left/Right Navigation Button** to select the desired option:
   - **QVGA:** Select this option for 320 x 240 resolution.
   - **VGA:** Select this option for 640 x 480 resolution.
   - **HD:** Select this option for 1280 x 720 resolution.




2. Press the **Middle Navigation Button** to confirm.

### 3.2.2 White Balance

The White Balance selection allows you to set the white balance when recording videos under specific lighting conditions.

To set the white balance, please do the following:

1. Use the **Left/Right Navigation Button** to select the desired option:
   - **Auto:** Select this option to let the video camera set the white balance automatically.
   - **Sunny:** Select this option for daylight.
   - **Cloudy:** Select this option for cloudy days.

- **Tungsten:** Select this option for normal indoor lighting conditions.
- **Fluorescent:** Select this option for fluorescent lighting.

2. Press the **Middle Navigation Button** to confirm.

### 3.2.3 Quality

The Quality selection allows you to set the quality before you record a video. The higher the quality, the more memory space is required.

To select the quality, please do the following:

1. Use the **Left/Right Navigation Button** to select the desired option:
   - **Fine:** Select this option for fine quality.
   - **Normal:** Select this option for normal quality.

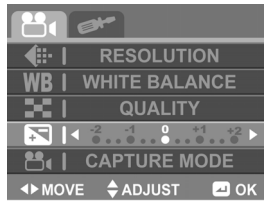
2. Press the **Middle Navigation Button** to confirm.

### 3.2.4 EV

The EV selection allows you to adjust the exposure compensation of the motion picture.

To set the exposure compensation, please do the following:

1. Use the **Left/Right Navigation Button** to select the desired value.
2. Press the **Middle Navigation Button** to confirm.



### 3.2.5 Capture Mode

The Capture Mode selection allows you to select the capture mode for recording movie or recording voice.

To select the capture mode, please do the following:

1. Use the **Left/Right Navigation Button** to select **Video Mode** or **Voice Mode**.
2. Press the **Middle Navigation Button** to confirm.

## 3.3 Playing Videos

To play videos, please do the following:

1. Make sure you are in the Video mode. Press the **Mode Button** to switch to the Video mode if not.
2. Press the **Playback Button** to enter the Video Playback mode.
3. Press the **Left/Right Navigation Button** to browse the videos.
4. Press the **Middle Navigation Button** to play the desired video.
   - To pause during playback, press the **Middle Navigation Button**. To resume, press the **Middle Navigation Button**.
   - To rewind/fast-forward, press and hold the **Left/Right Navigation Button** to toggle different speeds (2X, 4X, or 8X). To return to the normal speed, press the **Middle Navigation Button**.
   - To skip to the previous/next clip, press the **Left /Right Navigation Button**.
   - To adjust the volume, press the **T/W Button**.
5. Press the **Up Navigation Button** to stop playback.

**The Video Playback Screen**

| # | Icon | Description |
|---|---|---|
| 1 | 0003<br>0612 | Indicates the number of the current video and the total number of videos. |
| 2 | ▶00:00:02/00:00:15 | Indicates the elapsed time and total clip length. |
| 3 | | Indicates the current battery status. |
| 4 | | Indicates that the file is protected. |
| 5 | | Indicates that the video camera is in Playback mode. |
| 6 | | Indicates the current volume level. |

## 3.4 Video Playback Menu

To access the Video Playback menu, please do the following:

1. Make sure you are in the Video Playback mode. When in Video mode, press the **Playback Button** to switch to the Video Playback mode.
2. Press the **Menu Button** to open the Video Playback menu.
3. Use the **Up/Down Navigation Button** to scroll through the selections until the desired one is highlighted.
4. Press the **Middle Navigation Button** to confirm.
5. Press the **Menu Button** to exit.

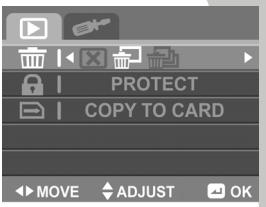
The following selections are available in the Video Playback menu:

1. Delete
2. Protect
3. Copy to Card

### 3.4.1 Delete

The Delete selection allows you to delete files.

To delete files, please do the following:



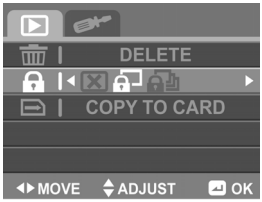

1. Use the **Left/Right Navigation Button** to select **Cancel**, **Delete One**, or **Delete All**.
2. Press the **Middle Navigation Button** to confirm.
   - **Delete One:** Use the **Left/Right Navigation Button** to select the desired file. Use the **Up/Down Navigation Button** to select ☑ and press the **Middle Navigation Button** to confirm.
   - **Delete All:** Use the **Left/Right Navigation Button** to select ☒ or ☑. Press the **Middle Navigation Button** to confirm.

- **Note**:
  Once deleted, files cannot be recovered. Ensure the files are transferred to the PC via the USB cable or saved to another storage device. Files that have been protected will not be deleted. You have to unlock the files first before deleting them.

### 3.4.2 Protect

The Protect selection allows you to protect files from being deleted.

To protect files, please do the following:




1. Use the **Left/Right Navigation Button** to select **Cancel**, **Protect One**, or **Protect All**.
2. Press the **Middle Navigation Button** to confirm.
   - **Protect One:** Use the **Left/Right Navigation Button** to select the desired file. Use the **Up/Down Navigation Button** to select ☑ and press the **Middle Navigation Button** to protect the file. A lock icon is displayed on the screen to show that the file is protected.
   - **Protect All:** Use the **Left/Right Navigation Button** to select **Lock All**. Press the **Middle Navigation Button** to protect all saved files. To unlock all files, select **Unlock All** instead.

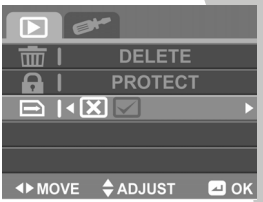
- **Note:**
  To unlock a file, repeat the **Protect One** steps. The lock icon disappears when the file is unlocked.

### 3.4.3 Copy to Card

The Copy to Card selection allows you to copy all saved files in the internal memory to the inserted memory card.

To copy all files to the memory card, please do the following:

1. Use the **Left/Right Navigation Button** to select ☒ or ☑.
2. Press the **Middle Navigation Button** to confirm.



# 3.5 Voice Mode

## 3.5.1 Recording voice files

To record a voice file, please do the following:

1. Make sure you are in the Video mode. Press the **Mode Button** to switch to the Video mode if not.
2. Press the **Menu Button** to open the Video menu.
3. Use the **Up/Down Navigation Button** to select **Capture Mode**.
4. Press the **Middle Navigation Button** to confirm.
5. Use the **Left/Right Navigation Button** to select **Voice Mode**.
6. Press the **Middle Navigation Button** to confirm.
7. Press the **Menu Button** again to exit the menu.
8. Press the **Record Button** to start recording the audio.
9. To stop audio recording, press the **Record Button** again.

**The Voice Recording Screen**

| # | Icon | Description |
|---|---|---|
| 1 | 0003 | Indicates the number of saved files. |
| 2 | | Memory status indicator<br>: indicates that an SD card is used.<br>: indicates that no SD card is inserted and the internal memory is used. |
| 3 | 12:00:00<br>2010/01/01 | Indicates the current date and time. |
| 4 | 01:07:52 | Indicates the remaining recording time. |
| 5 | | Indicates the current battery status. |
| 6 | | Indicates that the video camera is in Voice mode. |

## 3.5.2 Playing voice files

To play a voice file, please do the following:

1. Make sure you are in the Video mode. Press the **Playback Button** to enter the Video Playback mode.
2. Use the **Left/Right Navigation Button** to select the desired audio clip.

3. Press the **Middle Navigation Button** to play the desired audio clip.
   - To pause playback, press the **Middle Navigation Button**. To resume, press the **Middle Navigation Button** again.
4. Press the **Up Navigation Button** to stop playback.

## 3.6 Shooting Photos

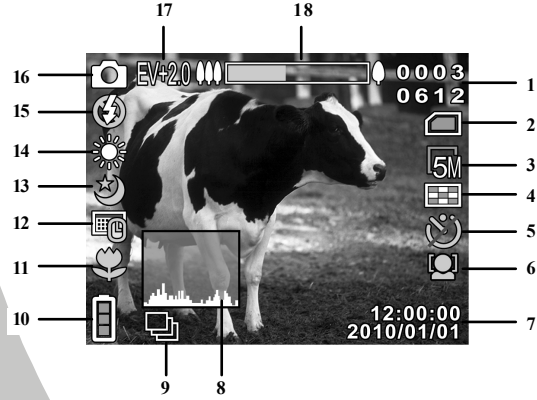
To shoot a photo, please do the following:

1. Press the **Power Button** to turn on the video camera.
2. Press the **Mode Button** to switch to Photo mode.
3. Press the **Record Button** to capture a photo.

   To adjust the camera, you may:

   - Use the **Zoom Button** to zoom in and out.
   - Press the **Left Navigation Button** to set the self-timer.
   - Press the **Up Navigation Button** to toggle the flash mode.
   - Press the **Down Navigation Button** to toggle the display mode.

**The Photo Shooting Screen**



| # | Icon | Description |
|---|---|---|
| 1 | | Indicates the number of the saved pictures and the remaining number of pictures. |
| 2 | | Memory status indicator<br> : indicates that an SD card is used.<br> : indicates that no SD card is inserted and internal memory is used. |
| 3 | | Indicates the current file size. |
| 4 | | Indicates the current Quality setting. |
| 5 | | Indicates the current Self-timer setting. |
| 6 | | Indicates that Face Detect is enabled. |
| 7 | | Indicates the current date and time. |
| 8 | | Indicates the current image histogram. |
| 9 | | Indicates that Burst mode is enabled. |
| 10 | | Indicates the current battery status. |
| 11 | | Indicates that Macro is enabled. |
| 12 | | Indicates that Date Stamp is enabled. |

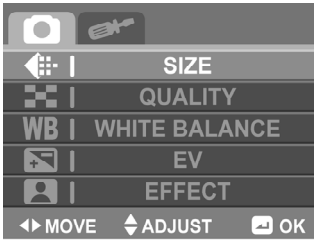
| | | |
|---|---|---|
| 13 | | Indicates that Night Mode is set to On. |
| 14 | | Indicates the current White Balance setting. |
| 15 | | Indicates the current Flash mode. |
| 16 | | Indicates that the video camera is in Photo mode. |
| 17 | | Indicates the current EV compensation value. |
| 18 | | Indicates the current Zoom status. |

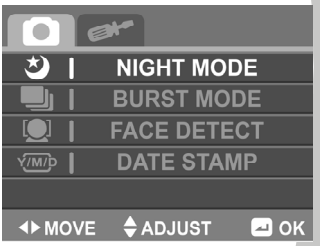
## 3.7 Photo Menu

To access the Photo menu, please do the following:

1. Make sure you are in the Photo mode. Press the **Mode Button** to switch to the Photo mode if not.
2. Press the **Menu Button** to open the Photo menu.
3. Use the **Up/Down Navigation Button** to scroll through the selections until the desired one is highlighted.
4. Press the **Middle Navigation Button** to confirm.
5. Press the **Menu Button** to exit.

The following selections are available in the Photo menu:



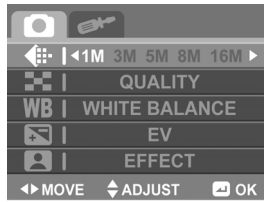

1. Size
2. Quality
3. White Balance
4. EV
5. Effect
6. Night Mode
7. Burst Mode
8. Face Detect
9. Date Stamp

### 3.7.1 Size

The Size selection allows you to set the resolution before you capture an image. The higher the resolution, the more memory space is required.

To select the resolution, please do the following:

1. Use the **Left/Right Navigation Button** to select the desired option:




   - **1M:** Select this option for 1280 x 960 resolution.
   - **3M:** Select this option for 2048 x 1536 resolution.
   - **5M:** Select this option for 2592 x 1944 resolution.
   - **8M:** Select this option for 3264 x 2448 resolution.
   - **16M:** Select this option for 4616 x 3462 resolution.

2. Press the **Middle Navigation Button** to confirm.

### 3.7.2 Quality

The Quality selection allows you to set photo qualities. A file in better quality requires more storage space than a file in the normal quality.

To set the quality, please do the following:

1. Use the **Left/Right Navigation Button** to select the desired option:
   - **Fine:** Select this option for high quality.
   - **Normal:** Select this option for normal quality.

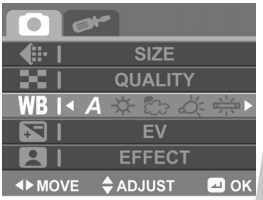
2. Press the **Middle Navigation Button** to confirm.

### 3.7.3 White Balance

The White Balance selection allows you to adjust the white balance when capturing images under specific lighting conditions.

To set the white balance, please do the following:

1. Use the **Left/Right Navigation Button** to select the desired option:




   - **Auto**: Select this option to let the video camera set the white balance automatically.
   - **Sunny**: Select this option for daylight.
   - **Cloudy**: Select this option for cloudy days.
   - **Tungsten**: Select this option for normal indoor lighting conditions.
   - **Fluorescent**: Select this option for fluorescent lighting.
2. Press the **Middle Navigation Button** to confirm.

### 3.7.4 EV

The EV selection allows you to adjust the exposure compensation of the picture.

To set the exposure compensation, please do the following:

1. Use the **Left/Right Navigation Button** to select the desired value.
2. Press the **Middle Navigation Button** to confirm.

### 3.7.5 Effect

The Effect selection allows you to change the camera effect.

To set the effect, please do the following:

1. Use the **Left/Right Navigation Button** to select the desired option:
   - **Color**: Select this option for color photography.
   - **Sepia**: Select this option for brown color effect.
   - **Black and white**: Select this option for monochrome effect.

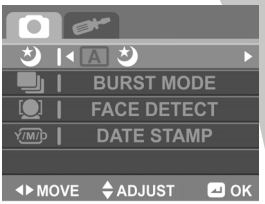
2. Press the **Middle Navigation Button** to confirm.

### 3.7.6 Night Mode

The Night Mode helps you to get better results while shooting at night.

To set the night mode, please do the following:

1. Use the **Left/Right Navigation** button to select **Auto** or **Night Mode**.
2. Press the **Middle Navigation** button to confirm.

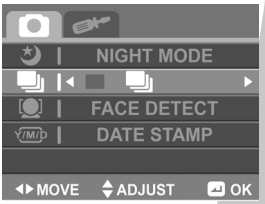



### 3.7.7 Burst Mode

The Burst Mode selection allows you to take three consecutive photos by pressing the **Record Button**.

To set the Burst mode, please do the following:

1. Use the **Left/Right Navigation Button** to select the desired option:
   - **Single**: Select this option for capturing a single photo.
   - **Burst**: Select this option for capturing three consecutive photos.
2. Press the **Middle Navigation Button** to confirm.

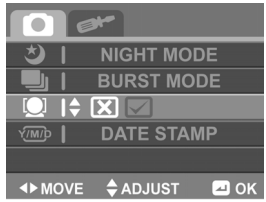


### 3.7.8 Face Detect

The Face Detect selection allows you to detect and track faces automatically.

To set the face detection, please do the following:

1. Use the **Left/Right Navigation Button** to select ☒ or ☑ to disable or enable the face detection.
2. Press the **Middle Navigation Button** to confirm.




### 3.7.9 Date Stamp

The Date Stamp selection allows you to turn on or off the date stamp while taking a photo.

To set the date stamp, please do the following:

1. Use the **Left/Right Navigation Button** to select ☒ or ☑ to disable or enable the date stamp.
2. Press the **Middle Navigation Button** to confirm.

## 3.8 Viewing Photos

To view photos, please do the following:

1. Make sure you are in the Photo mode. Press the **Mode Button** to switch to the Photo mode if not.
2. Press the **Playback Button** to enter the Photo Playback mode.
3. Press the **Left/Right Navigation Button** to browse the recorded photos.
   - Press the **W Button** to enter the Zoom mode. Press the **T/W Button** to select the desired zoom view (up to 16X). Use the **Up/Down/Left/Right Navigation Button** to view the zoomed image.
   - Press the **Middle Navigation Button** to exit the Zoom mode.
   - Press the **T Button** to enter the Thumbnail mode. Use **T/W Button** to toggle nine or four thumbnail view.
4. Press the **Playback Button** again to return to the Photo mode.

**The Photo Playback Screen**

| # | Icon | Description |
|---|---|---|
| 1 | 0003<br>0612 | Indicates the number of current image and total number of saved images. |
| 2 | | Indicates the current battery status. |
| 3 | | Indicates that the file is protected. |
| 4 | | Indicates that the video camera is in Playback mode. |

## 3.9 Photo Playback Menu

To access the Photo Playback menu, please do the following:

1. Make sure you are in the Photo Playback mode. When in Photo mode, press the **Playback Button** to switch to the Photo Playback mode.
2. Press the **Menu Button** to open the Photo Playback menu.
3. Use the **Up/Down Navigation Button** to scroll through the selections until the desired one is highlighted.
4. Press the **Middle Navigation Button** to confirm.
5. Press the **Menu Button** to exit.

The following selections are available in the Photo Playback menu:

1. Delete
2. Protect
3. Autoplay
4. Copy to Card
5. DPOF

### 3.9.1 Delete

The Delete selection allows you to delete files.

To delete files, please do the following:

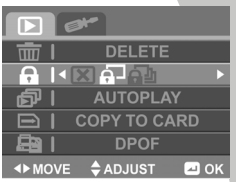
1. Use the **Left/Right Navigation Button** to select **Cancel**, **Delete One**, or **Delete All**.
2. Press the **Middle Navigation Button** to confirm.
   - **Delete One:** Use the **Left/Right Navigation Button** to select the desired file. Use the **Up/Down Navigation Button** to select ☒ or ☑ and press the **Middle Navigation Button** to confirm.
   - **Delete All:** Use the **Left/Right Navigation Button** to select ☒ or ☑ and press the **Middle Navigation Button** to confirm.

- **Note**:
  Once deleted, files cannot be recovered. Ensure the files are transferred to the PC via the USB cable or saved to another storage device. Files that have been protected will not be deleted. You have to unlock the files first before deleting them.

### 3.9.2 Protect

The Protect selection allows you to protect files from being deleted.

To protect files, please do the following:




1. Use the **Left/Right Navigation Button** to select **Cancel**, **Protect One**, or **Protect All**.
2. Press the **Middle Navigation Button** to confirm.
   - **Protect One:** Use the **Left/Right Navigation Button** to select the desired file. Use the **Up/Down Navigation Button** to select ☑ and press the **Middle Navigation Button** to protect the file. A lock icon is displayed on the screen to show that the file is protected.
   - **Protect All:** Use the **Left/Right Navigation Button** to select **Lock All**. Press the **Middle Navigation Button** to protect all saved files. To unlock all files, select **Unlock All** instead.

- **Note:**
  To unlock a file, repeat the **Protect One** steps. The lock icon disappears when the file is unlocked.

### 3.9.3 Autoplay

The Autoplay selection allows you to enable a slide show function, which displays each image in turn at a regular interval.

To start the auto play, please do the following:

1. Use the **Left/Right Navigation Button** to select ☑.
2. Press the **Middle Navigation Button** to confirm.
3. The image will be displayed one after another.

4. Press the **Middle Navigation Button** to stop the slide show.

### 3.9.4 Copy to Card

The Copy to Card selection allows you to copy all saved files in the internal memory to the inserted memory card.

To copy all files to the memory card, please do the following:

1. Use the **Left/Right Navigation Button** to select ☑.
2. Press the **Middle Navigation Button** to confirm.

### 3.9.5 DPOF

The DPOF selection allows you to use the DPOF (Digital Print Order Format) function to tag pictures stored in the memory card with print information. You can tag all or individual pictures.

To set the DPOF, please do the following:

1. Use the **Left/Right Navigation Button** to select **Single Print** or **Print All**.
2. Press the **Middle Navigation Button** to confirm.

- **Single Print:** Use the **Up/Down Navigation Button** to select the desired file. Press the **T/W Button** to select the number of prints. The maximum of prints for each picture is 9.
- **Print All:** The number of prints for all pictures will be set to 1. Repeat the above step to remove the DPOF tag from all pictures.

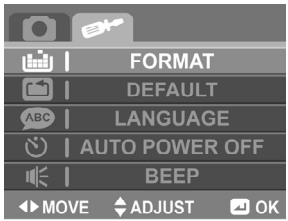
- **Note**:
  - To remove the DPOF tag from a picture, use the **T/W Button** to reduce the number of prints to zero.
  - A memory card is required for the DPOF function.

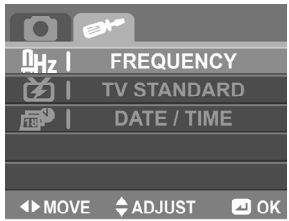
## 3.10 System Menu

To access the System menu, please do the following:

1. Press the **Menu Button** to open the OSD menu.
2. Use the **Left/Right Navigation Button** to select the Setting tab.
3. Use the **Up/Down Navigation Button** to scroll through the selections until the desired one is highlighted.
4. Press the **Middle Navigation Button** to confirm.

The following selections are available on the System menu:



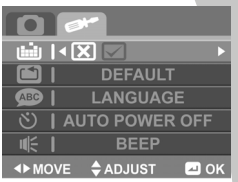

1. Format
2. Default
3. Language
4. Auto Power Off
5. Beep
6. Frequency
7. TV Standard
8. Date/Time

### 3.10.1 Format

The Format selection allows you to format your memory card or the internal memory when no memory card is inserted.

To format your memory card or internal memory, please do the following:

1. Use the **Left/Right Navigation Button** to select ☑.
2. Press the **Middle Navigation Button** to confirm.



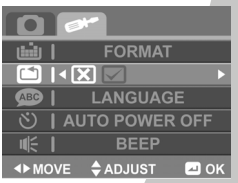

- **Warning:**
  Formatting will delete everything on the media.

### 3.10.2 Default

The Default selection allows you to reset the video camera to factory defaults.

To reset, please do the following:

1. Use the **Left/Right Navigation Button** to select ☑.
2. Press the **Middle Navigation Button** to confirm.



### 3.10.3 Language

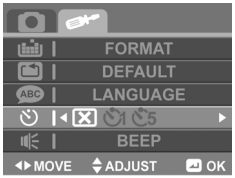
See section 2.7.2 “Setting the language”.

### 3.10.4 Auto Power Off

The Auto Power Off selection allows you to set an idle time after which the video camera automatically sets to sleep mode to save power.

To set the auto power off, please do the following:

1. Use the **Left/Right Navigation Button** to select:
   - **Off:** Disable the Auto Power Off function.
   - **1 min.:** Auto power off after 1 minute.
   - **5 min.:** Auto power off after 5 minutes.




2. Press the **Middle Navigation Button** to confirm.

### 3.10.5 Beep

See section 2.7.3 “Setting the beep”.

### 3.10.6 Frequency

The Frequency selection allows you to set the refresh rate of the video camera. Increasing the refresh rate decreases flickering, thereby reducing eyestrain.

To set the refresh rate, please do the following:

1. Use the **Left/Right Navigation Button** to select **60Hz** or **50Hz**.

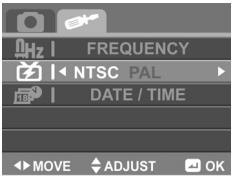
2. Press the **Middle Navigation Button** to confirm.

## 3.10.7 TV Standard

The TV Standard selection allows you to select the TV standard of the recorded videos.

To adjust the TV standard, please do the following:

1. Use the **Left/Right Navigation Button** to select **NTSC** or **PAL**.
2. Press the **Middle Navigation Button** to confirm.




## 3.10.8 Date / Time

See section 2.7.1 “Setting the date and time”.

## 3.11 Thumbnail mode

In **Playback** mode, you can view images, video clips, and audio clips in thumbnails.

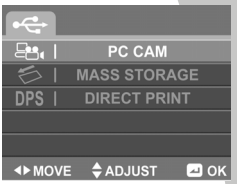
1. Turn on the video camera and ensure it is in **Playback** mode.
2. The most recent image/video clip/audio clip is displayed on the screen.
3. Press the **T Button** to enter the Thumbnail mode.
4. Use the **T/W Button** to toggle four or nine thumbnail view.

5. Press the **Left/Right Navigation Button** to highlight an image/video clip/audio clip, and press the **Middle Navigation Button** to view the image/video clip/audio clip in full screen.

## 3.12 USB mode

You can use the USB mode to connect to a printer or a host PC. Before connecting to a printer or PC, refer to "Installing software and drivers" in chapter 4.

When the video camera is connected to a computer or printer using the USB cable and the video camera is turned on, the menu to the right is displayed.




Press the **Up/Down Navigation Button** to select the desired selection and press the **Middle Navigation Button** to confirm.

### 3.12.1 Using the PC Cam feature

When set as PC Cam, the video camera can be used as a webcam for video conferencing.

### 3.12.2 Using the Mass Storage feature

When used as a USB mass storage device, the video camera is displayed as a removable drive in Windows Explorer. Drag and drop files to and from the removable drive just like any other storage device.

### 3.12.3 Using the DPS (Direct Print Standard) feature

Connect to a printer using the USB cable exactly in the same way, as you would connect a PC.

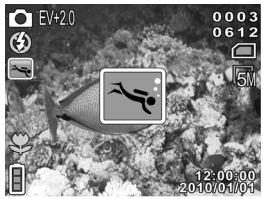
## 3.13 Diving mode

The Diving mode allows you to shoot videos or capture images in underwater conditions. In Diving mode, the video camera will automatically adjust the White Balance setting.

> ● **Note**:
> Except for the White Balance setting, you can adjust all the other video/image settings just like in the Video/Photo mode.

To switch to the Diving mode, please do the following:

1. Press the **Mode Button** to switch to the Video in Diving or Photo in Diving mode.
2. An icon is displayed on the screen to indicate the video camera is in Diving mode.



## 3.14 Game mode

This video camera includes several pre-installed games such Boxman, Tetris, Memory and Gobang.

To start playing the game, please do the following:

1. Press the **Mode Button** to switch to the Game mode.
2. Press the **Up/Down Navigation Button** to select the desired game and press the **Middle Navigation Button** to confirm.

# 4 Installing software and drivers

Read this section to learn how to install drivers and software for the video camera.

## 4.1 Drivers

You can use the “Mass Storage” function of the camera on the PC.

### 4.1.1 Mass Storage

The digital video camera offers Mass Storage function via the built-in card reader. You can treat this digital video camera as a USB device.

Windows 2000/XP SP2/Vista/Windows 7 is a plug and play operating system and does not require a driver to be manually loaded.

When the video camera is connected, the video camera memory or any inserted SD card displays as Mass Storage in Windows Explorer. Files can be dragged and dropped in the same way as with an ordinary disk.

### 4.1.2 PC Camera

You need to install a driver for the video camera to use as a PC or web cam in all Windows operating systems: Windows 2000/ XP SP2/Vista/Windows 7 (All 32-bit only).

> ● **Note**:
> Driver installation is required for all operating systems.

The video camera can be used as a PC camera or a web cam.

Please follow the instructions below:

1. Insert the supplied CD-ROM in the CD-ROM drive.
2. If the CD-ROM does not automatically boot, use Windows Explorer to execute the **InstallMgr.exe** file in the root directory.

   The following screen is displayed.

3. Click **Install** to start driver installation.
4. Follow the on-screen instructions.
5. Click **Finish** to restart the computer. Video camera driver installation is complete.

## 4.2 Presto! Video Works

Presto! Video Works is an advanced software application for editing video.

To install Presto! Video Works:

1. Insert the supplied CD-ROM in the CD-ROM drive.
2. If the CD-ROM does not automatically boot, use Windows Explorer to execute the **InstallMgr.exe** file in the root directory.

   The following screen is displayed.

3. Click the **Install** button to begin the installation and follow the instructions on-screen.

More information about Presto! Video Works can be found in the help files when the application is started.

## 4.3 Presto! Mr. Photo

Presto! Mr. Photo is an advanced photo editing software application.

To install Presto! Mr. Photo:

1. Insert the supplied CD-ROM in the CD-ROM drive.
2. If the CD-ROM does not automatically boot, use Windows Explorer to execute the **InstallMgr.exe** file in the root directory.

   The following screen is displayed.

3. Click **Install** to begin the installation process and follow the instructions on-screen.

More information about Presto! Mr. Photo can be found in the help files when the application is started.

# Appendix

## Specification

| General | |
|---|---|
| Imaging sensor | 1/3.2" CMOS 5.0 Megapixel Sensor |
| Active pixels | 5.0 Megapixel |
| Storage media | Internal: Built-in 16MB Flash Memory<br>SD Card, SDHC Compatible (Up to SDHC 16GB Class6) |
| Color effects | Color/B&W/Sepia |
| Lens | F3.2, f=5.1mm<br>Fixed lens |
| Focus range | Normal: 1.5m~infinity<br>Macro: 20~21 cm |
| Still image | Formats: JPEG (EXIF 2.2), DCF, DPOF<br>Resolution: 1M, 3M, 5M, 8M,<br>16M (Firmware Interpolation) |
| Movie clips | MJPEG (AVI)<br>Resolution: QVGA (30fps), VGA (30fps), HD 720p (30fps max.)<br>Quality: Fine, Normal |

| General | |
|---|---|
| Zoom | Movie: Digital Zoom 4X,<br>Advance Zoom 2X<br>Camera: Digital Zoom 4X,<br>Advance Zoom 2X<br>Still Image Playback: Digital Zoom 16X (max.) |
| TFT Monitor | 2.5″ TFT (480 x 240 pixels) |
| LED Flash | Effective range: 1.2 ~1.8 m<br>Mode: Auto/Off/Forced |
| White balance | Auto/Sunny/Cloudy/Tungsten/<br>Fluorescent/Special WB for diving mode |
| EV compensation | -2.0 EV~+2.0 EV |
| Self-timer | Off, 5, 10 seconds |
| PC interface | USB 2.0 (High Speed) |
| TV out format | NTSC/PAL |
| Shutter | Electronic shutter<br>8 ~1/2000 second |

| General | |
|---|---|
| Auto power off | Off, 1 min., 5 min. |
| Power supply | 2 x AAA (Alkaline/Ni-cd/Ni-MH) |
| Dimension | 95.5 (W) x 63.6 (H) x 24.5 (D) mm |
| Weight | Approx. 100±5g (without batteries) |

## Troubleshooting

| Problem | Possible Cause | Solution |
|---|---|---|
| Cannot turn on the video camera. | The batteries are not inserted correctly. | Insert the batteries correctly. |
| | The batteries have no power. | Replace the batteries. |
| The video camera suddenly turns off. | The auto power off function is enabled. | Turn the power on again. |
| | The video camera is running out of battery power. | Replace the batteries. |
| The captured image is not stored in memory. | Before the image is saved the power has been cut off. | When the battery indicator turns red, replace the batteries immediately. |
| The video camera turns off when capturing image using the self-timer. | The video camera is running out of battery power. | Replace the batteries. |
| The image is out of focus. | The subject is beyond focus range. | Please take a picture within the available focus range. |

| Problem | Possible Cause | Solution |
|---|---|---|
| Memory card cannot be used. | The memory card is protected. | Unlock the memory card. |
| | The memory card contains non-DCF images taken by other video cameras. | Format the memory card. Before formatting the card, ensure you back up the files. |