M33
Digital Camcorder
User Manual

<Note>

Table of Contents

2

Preface

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

About This Manual

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

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4

Disposal of Waste Electrical and Electronic Equipment and/or Battery by users in private households in the European Union.

This symbol on the product or on the packaging indicates that this can not be disposed of as household waste. You must dispose of your waste equipment and/or battery by handling it over to the applicable take-back scheme for the recycling of electrical and electronic equipment and/or battery. For more information about recycling of this equipment and/or battery, please contact your city office, the shop where you purchased the equipment or your household waste disposal service. The recycling of materials will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and environment.

Recycling information: See http://www.benq.com/support/recycle for details.

CE Regulatory Notice

We,

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is herewith confirmed to comply with the requirements set out in the Council Directives on the Approximation of the Laws of the Member States relating Electromagnetic Compatibility (2004/108/EC); the Low Voltage Directive (2006/95/EC); the Restriction of The Use of Certain Hazardous Substances in Electrical And Electronic Equipment Directive (2002/95/EC), Turkish EEE and ErP Directive; the Commission Regulation (EC) No 1275/2008 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to eco-design requirements for standby and off mode electric power consumption of electrical and electronic household and office equipment, and the Directive 2009/125/EC of the European parliament and of the council establishing a framework for the setting of eco-design requirements for energy-related products.

FCC Statement

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 separation between the equipment and receiver.

- Connect the equipment into 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.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Safety Warning and Notice

Before operating the camcorder, please make sure that you read and fully understand the content in this section. If you ignore and violate all safety warning notices indicated in this section, the camcorder warranty may be void. Meanwhile, not only the camcorder but also you and all other people and things around you may be severely damaged, injured, or even placed in danger of death.

For your safety

1. Do not attempt to charge any other battery with this camcorder.

2. Operate the power supply only on even surfaces, without any cover. Air circulation around the product must be always given. The maximum ambient temperature is 40 °C.

3. Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

4. Keep the camcorder and its accessories out of the reach of babies, toddlers, and children. In particular, small parts such as memory card and battery could be easily dismantled and swallowed by them.

5. Use only the original accessories to avoid possible risks to health and property, and thus meet all related legal regulations.

6. Do not dismantle the camcorder under any circumstances.

7. When using the LED torch, do not go too close to human eyes (particularly for babies, toddlers, and children) or animal eyes. Otherwise, when the LED torch fires flash, the light may cause damage to human eyes or irritate animals.

8. Batteries could explode, for instance. All batteries can cause property damage, injury or burns if a conductive material such as jewelry, keys or beaded chains touch exposed terminals. The material may complete an electrical circuit and become quite hot. Exercise care in handling any batteries, particularly when placing it inside your pocket, purse, or other container with metal objects. Do not dispose of batteries in fire as they may explode.

8

9. To prevent electric shock, do not attempt to disassemble or repair your camcorder by yourself.

10. Some camcorder models accept non-rechargeable batteries. When using these batteries, do not charge them. Otherwise, dangers such as explosion and fire may occur.

Warranty

1. Warranty is void if damage or system failure occurred due to outside factors such as collision, fire, flood, dirt, sewage, earthquake, and other force majeure events as well as incorrect usage of electricity or use of non-original accessories.

2. It is the sole responsibility of the user if problems (such as data loss and system failure) occurred due to non-factory installed software, parts, and/or non-original accessories.

3. Do not change the camcorder. Any changes to the camcorder invalidate the warranty.

Taking care of your camcorder

1. Always keep the camcorder in a leather case or pouch for better protection against splashes, dust, and collision.

2. The only way of replacing the battery and the memory card is to open the Battery / Memory cover.

3. Dispose of unwanted batteries and camcorders as permitted by the laws in your countries.

4. Water may cause a fire or electric shock. Therefore, store your camcorder in a dry place.

5. If your camcorder becomes wet, wipe it with a dry cloth as soon as possible.

6. Salt or seawater may cause severe camcorder damage.

7. Do not drop, knock, or shake the camcorder. A rude behavior of using the camcorder may damage the internal electronic circuit board or deform the lens shape.

8. Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the camcorder.

9. Finger grease may be left on the camcorder lens and will result in unclear images or videos. To avoid this problem, be sure to clean the camcorder lens before taking pictures or recording videos. You should also clean the camcorder lens on a regular basis.

10. If the lens is dirty, use a lens brush or soft cloth to clean the lens.

11. Do not touch the lens with your fingers.

12. If a foreign substance or water gets in your camcorder, please turn the power off immediately and disconnect the batteries. Next, remove the foreign substance or water and send it to the maintenance center.

13. Whenever there is data in the external memory card, you should make a backup copy to a computer or disc. So, you can have a backup solution if data loss occurs.

14. All original accessories are designed only for use with this camcorder model you purchased. Do not use these accessories with other camcorder models or camcorders of other brands to avoid unpredictable danger or damage.

15. Before initial use of a memory card, always use the camcorder to format the card first.

16. Remember to slide the write-protect tab (if available) to the unlock position. Otherwise, all data (if any) on the memory card is protected and the card cannot be edited or formatted.

Operating environment

1. Do not use or store your camcorder in the environments listed below:

   ● Direct sunlight

   ● Dusty places

   ● Next to an air conditioner, electric heater or other heat sources

10

- In a closed car that is in direct sunlight
- Unstable locations

2. Do not use your camcorder outdoors when it is raining or snowing.

3. Do not use your camcorder in or near water.

4. The camcorder operating temperature is between 0 and 40 degrees Celsius. It is normal for the operating time to be shortened when the temperature is low.

5. The capacity of your camcorder batteries will reduce each time it is charged/emptied.

6. Storage at too high or low temperatures will also result in a gradual capacity loss. As a result, the operating time of your camcorder may be considerably reduced.

7. It is normal for the camcorder to become warm during operation, because the camcorder casing can conduct heat.

BenQ ecoFACTS

BenQ has been dedicated to the design and development of greener product as part of its aspiration to realize the ideal of the "Bringing Enjoyment 'N Quality to Life" corporate vision with the ultimate goal to achieve a low-carbon society. Besides meeting international regulatory requirement and standards pertaining to environmental management, BenQ has spared no efforts in pushing our initiatives further to incorporate life cycle design in the aspects of material selection, manufacturing, packaging, transportation, using and disposal of the products. BenQ ecoFACTS label lists key eco-friendly design highlights of each product, hoping to ensure that consumers make informed green choices at purchase. Check out BenQ's CSR Website at http://csr.BenQ.com/ for more details on BenQ's environmental commitments and achievements.

1 Introduction

Thank you for purchasing this advanced Digital Video Camera.
This user guide will get you started and ready to make the most of your digital video camera.

1.1 System requirements

For PC connection, be sure your PC meets the following specifications:

For Windows:

- Windows XP SP2 / Vista / Win 7
- Processor with at least Pentium IV 3.2GHz / AMD Athlon FX 2.6GHz or higher
- 2GB RAM at least
- nVIDIA Geforce 7600GT / Ati X1600 series or later
- USB port
- 16-bit color display compatible monitor
  (1280x1024, 32-bit color display recommended)
- 250 MB of available hard disk space
- CD-ROM drive

For Macintosh:

- Mac OS 10.4 or higher
- Power Mac G3 or higher
- Minimum 256MB RAM
- 110MB of available hard disk space
- USB port
- CD-ROM drive

1.2   Features

- Full HD camera (1920x1080 @ 30fps)
- 3.0" Touch screen
- Time lapse recording
- Motion detection recording
- High power LED for infrared night vision
- Dual memory card slot

1.3   Package contents

The package contains the following items. In case there is any missing or damaged item, contact your dealer immediately.
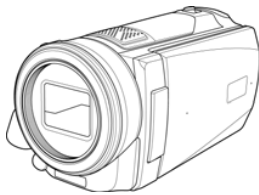
Digital video camera	CD-ROM	Pouch
Quick guide	HDMI cable	Video cable
USB cable	AC adapter	Lithium battery
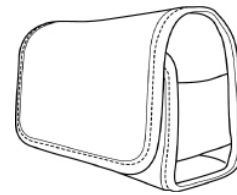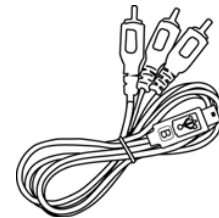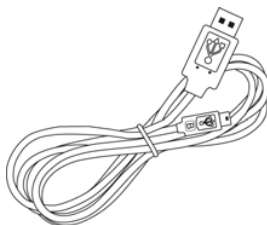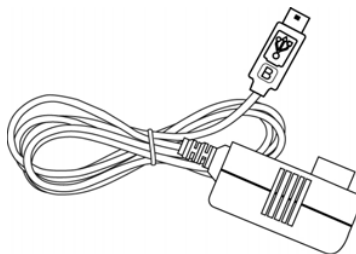
14
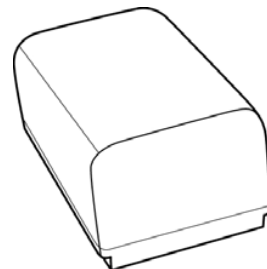
1.4 External view

Top, Bottom, and Front views

Top View

Bottom View

Front View
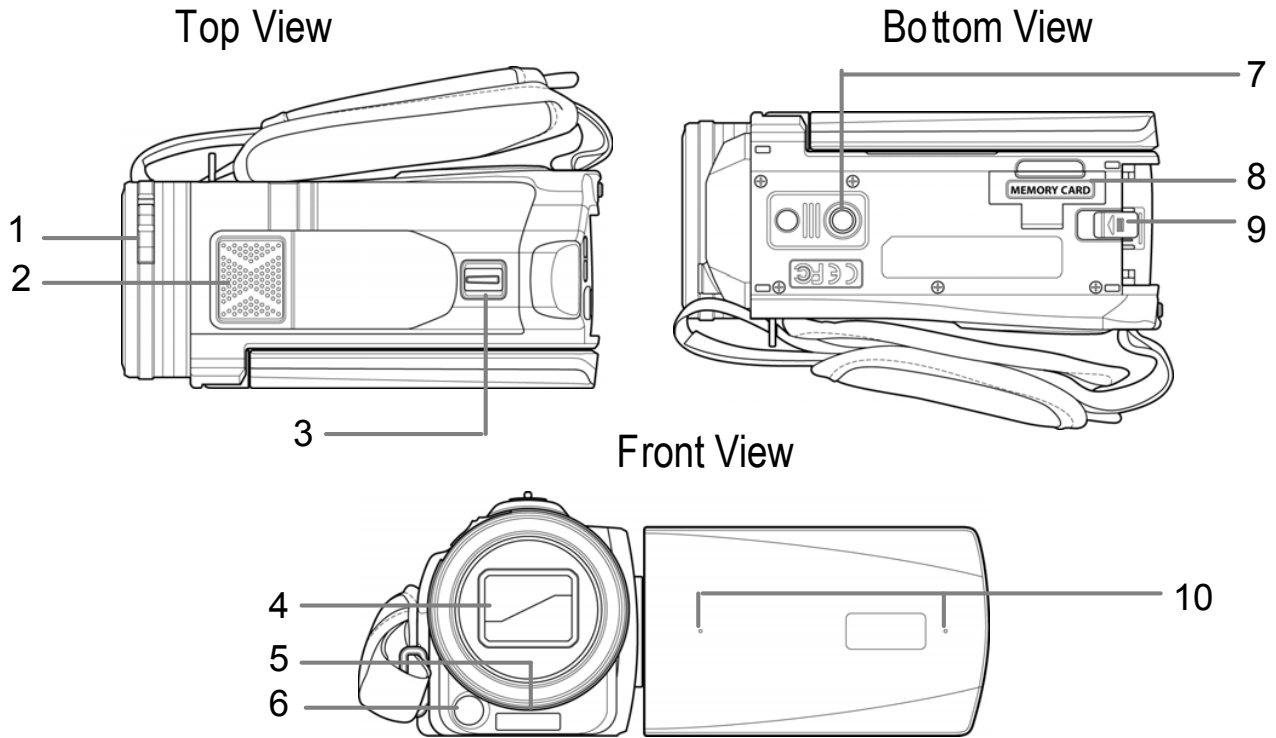
No.	Item		No.	Item
1	Lens Cover Latch		6	Infrared Light
2	Speaker		7	Tripod Socket
3	Zoom Lever		8	Memory Card Slot Cover
4	Lens Cover		9	Battery Compartment Latch
5	LED Light		10	Microphone

Left, Right, and Rear views

Left View

Right View

Rear View
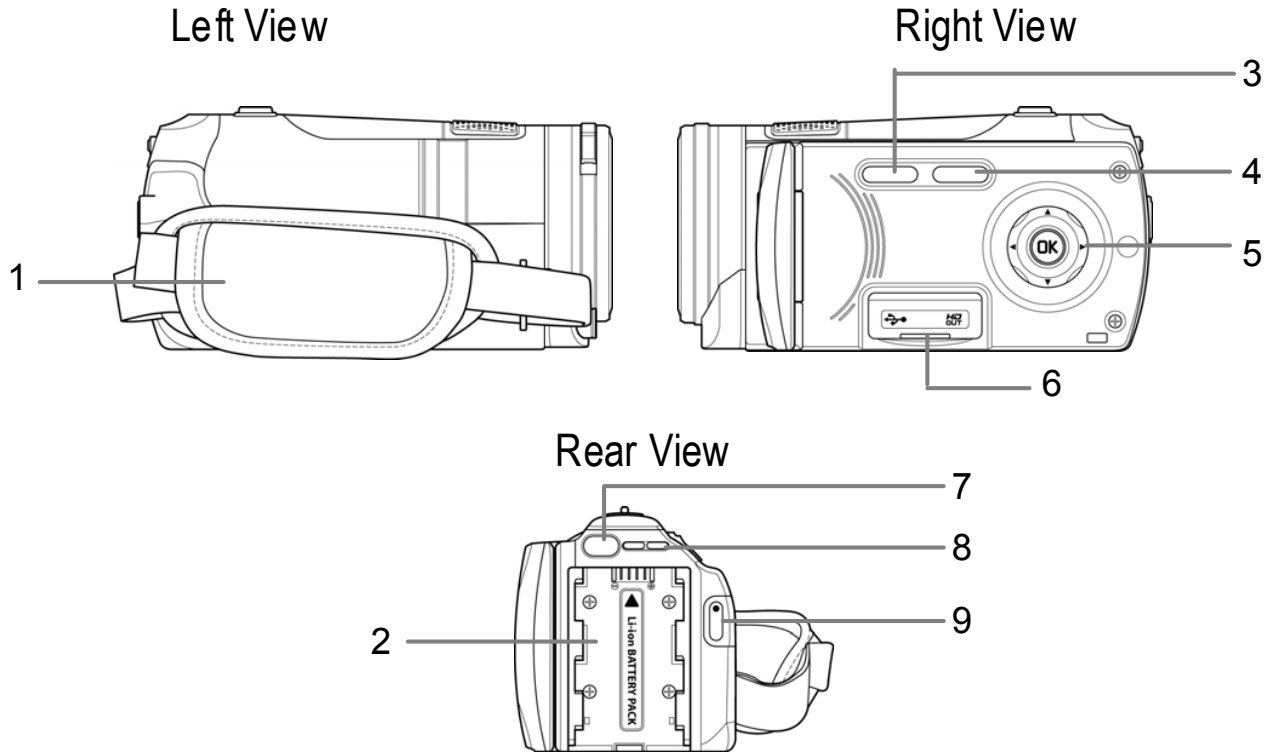
No.	Item
1	Hand Strap
2	Battery Compartment
3	Playback Button
4	Power Button
5	Navigation Buttons

No.	Item
6	USB/HDMI Connector Cover
7	Mode Button
8	LED Indicator
9	Record Button

1.5 Buttons operation

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

| Item	Function
Power Button	Press to turn the digital video camera on or off.
Mode Button	Press to switch between **Video** or **Camera** mode.
Record Button	• In **Video** mode, press to start recording a video. Press it again to stop recording. • In **Camera** mode, press to capture a photo.
Playback Button	In **Video** or **Camera** modes, press to enter Playback mode.

Navigation Buttons (▲/▼/◄/►/**OK**)	• In **Video** mode:
	  ➢ Press ▲ to select the desired lighting mode.
	  ➢ Press ▼ to enable/disable AF setting.
	  ➢ Press ◄ or ► to adjust exposure settings.
	• In **Camera** mode:
	  ➢ Press ▲ to select the desired lighting mode.
	  ➢ Press ▼ to select the desired focus mode (Normal / Macro / AF Lock).
	  ➢ Press ◄ or ► to adjust exposure settings.
	• In **Video Playback** mode:
	  ➢ Press ◄ or ► to view the recorded videos and press **OK** to view the video in full screen.

17

Item	Function
	➢ Press **OK** to start the video playback. Press **OK** again to pause/resume. ➢ During the video playback, press and hold ◀ to rewind the playback and press and ▶ to fast forward the playback. • In **Camera Playback** mode: ➢ Press ◀ or ▶ to view the recorded photos and press **OK** to view the image in full screen. ➢ When the image is zoomed in, use ▲/▼/◀/▶ to view the zoomed image. • In **Video**/**Camera**/**Setup** menu mode: ➢ Press ◀ or ▶ to select the menu item or desired setting. ➢ Press **OK** to confirm the selection.
Zoom Lever	• In **Video** and **Camera** modes, slide to the right/left to zoom in/out when recording videos or shooting photos. • In **Video Playback** mode, slide to the right/left to adjust the volume. The volume can also be adjusted during the playback. • In **Camera Playback** mode, slide to the right to zoom in your photo.

18

1.6   Adjusting the LCD display

Flip the LCD display outwards 90° to fully open.
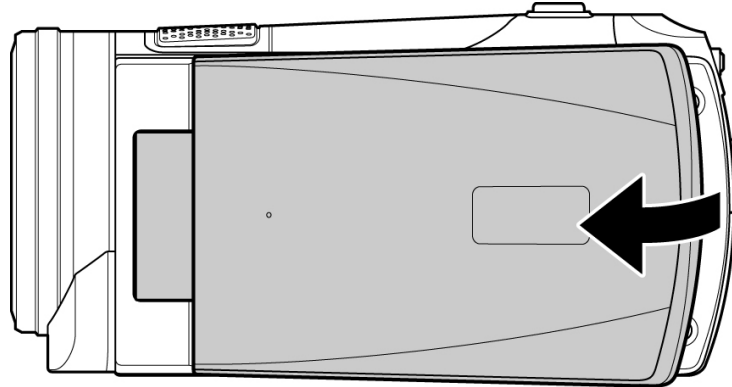
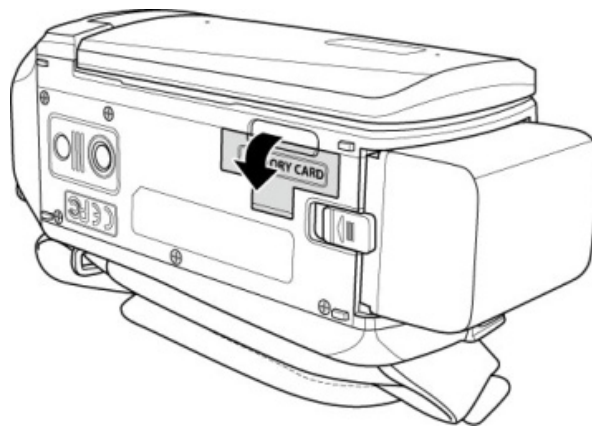Flip and twist the LCD screen at the appropriate angle to suit your viewing preference.
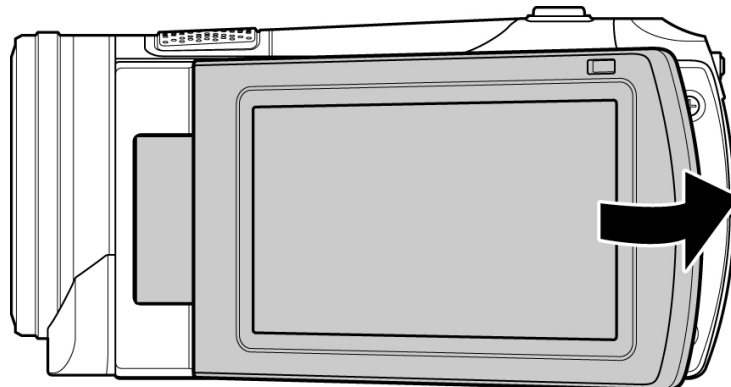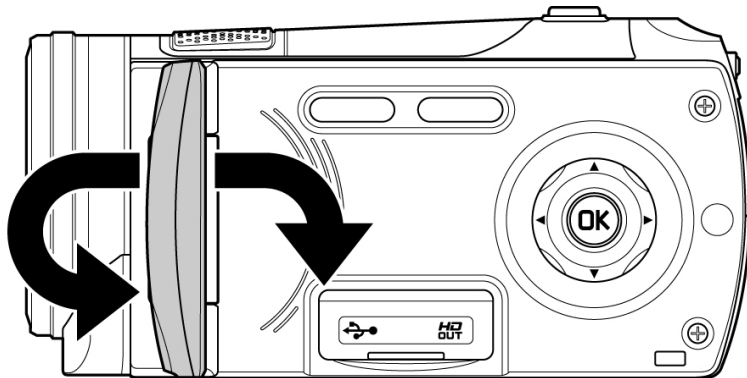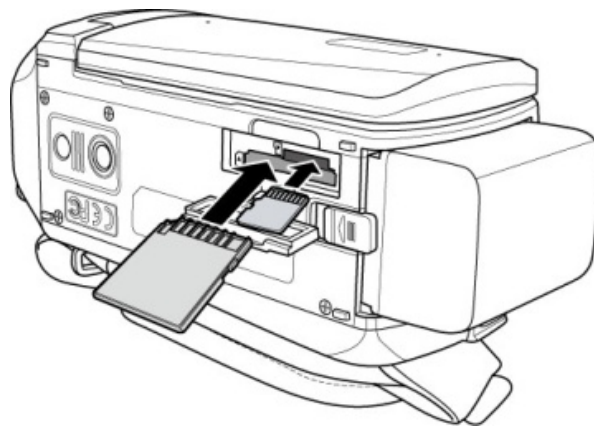
2 Getting Started

2.1 Inserting the memory card(s)

This device supports dual memory card slot that allows you to insert two memory cards at the same time. You can insert one SD card and one micro SD card into the digital video camera.

1. Open the memory card slot cover.

2. Insert the memory card(s).

3. Close the memory card slot cover.

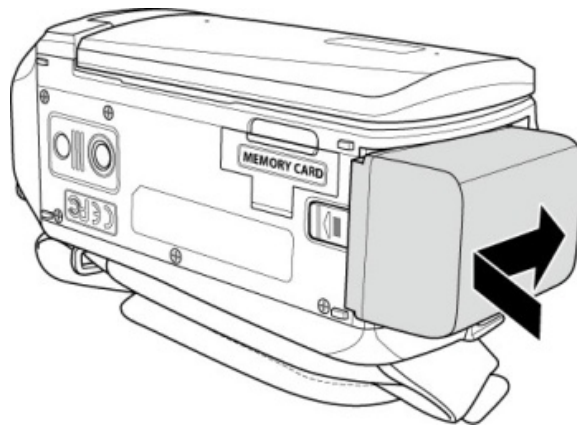> **Note:** Do not remove or insert the memory card when the digital video camera is turned on. This may damage the memory card.

2.2 Inserting the battery

Only use the specified rechargeable battery for the digital video camera.

1. Align the battery position as shown in the illustration.
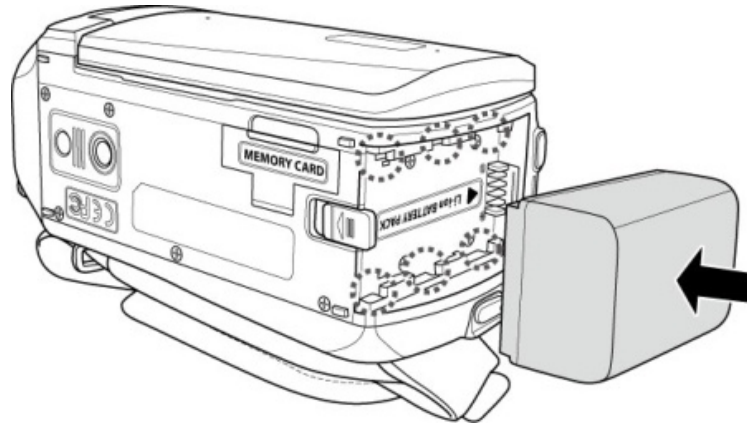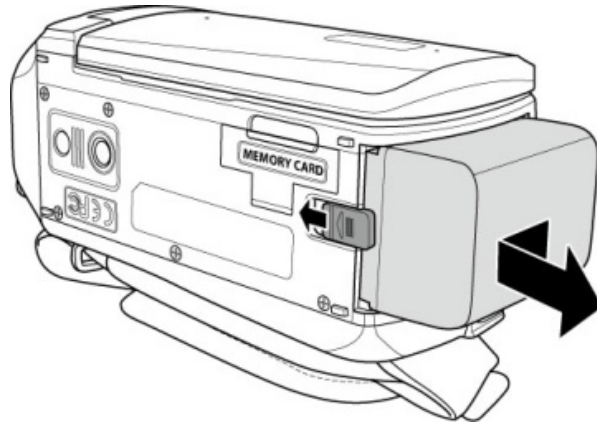

2. Fully insert the battery with the correct orientation until it clicks into place.

Note:
Turn off the digital video camera before removing the battery.
The battery may be warm after being used. This is normal and not a malfunction.
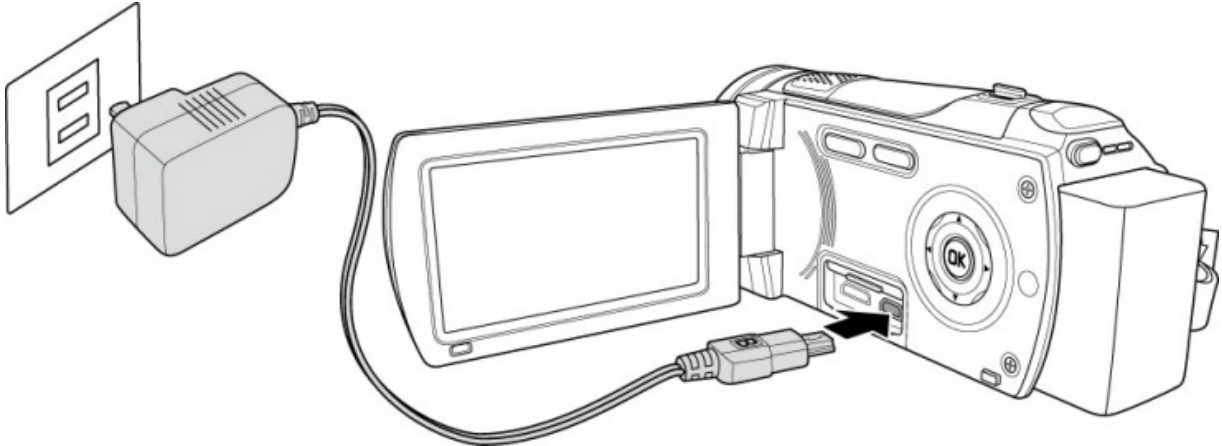
To remove the battery:

Press down and hold the latch as shown in the illustration and remove the battery from the battery compartment.

2.3   Charging the battery

Use the supplied power adapter to charge the battery.

1.   Open the USB/HDMI connector cover.

2.   Connect one end of the power adapter to the USB connector of the digital video camera.

3.   Plug the other end of the power adapter to the wall outlet.

> **Note:**
> The red LED lights up while the battery is charging.
> The charging time depends on the current battery capacity and charging conditions.
> Please take note if the environment temperature reaches 45°C or above, the adapter can still supply power to the digital video camera, but it will not charge the Lithium-ion battery. This is the characteristic of Lithium-ion and is not a malfunction.

2.4 Turning on/off the digital video camera

There are two ways to turn on/off the power:

- Open/close the LCD panel.
- Press the **Power** button.

Note: Before using this digital video camera, be sure to slide the lens cover latch to the right to open the lens.

2.5 Changing modes

The digital video camera has two recording modes:

- **Video** mode: Record videos.

- **Camera** mode: Shoot photos.

Press the **Mode** button to switch the recording modes. By default, the digital video camera is set to **Video** mode.

2.6 Initial Settings

Before using the digital video camera, you may want to set up the date and time and screen language settings.

2.6.1 Setting the date and time

1. Touch ▲/▼ or press the Navigation buttons ▲/▼ to adjust the value.

2. Repeat step 4~5 to adjust other fields.

3. Touch ⬑ or press **OK** to save your changes.

Note: Touch ◄/► to adjust the value. Touch ⏮/⏭ to go to the previous/next field.

2.6.2 Setting the language

1. Touch **Language** to enter the menu. You can also press ◄/► to select **Language** and press **OK** to enter its menu.

2. Touch the language option to select the desired language.

3. You can also press the Navigation buttons ◄/► to select the desired language and press **OK** to confirm.

Note: Touch ◄/► to scroll through the available menu options. Touch ⏮/⏭ to go to the previous/next page.

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3 Using the Digital Video Camera

3.1 Recording videos

1.   Turn on the digital video camera. By default, the device is set to **Video** mode. In **Camera** mode, press the **Mode** button to switch to **Video** mode.

2.   Press the **Record** button to start recording the video. Press it again to stop recording.

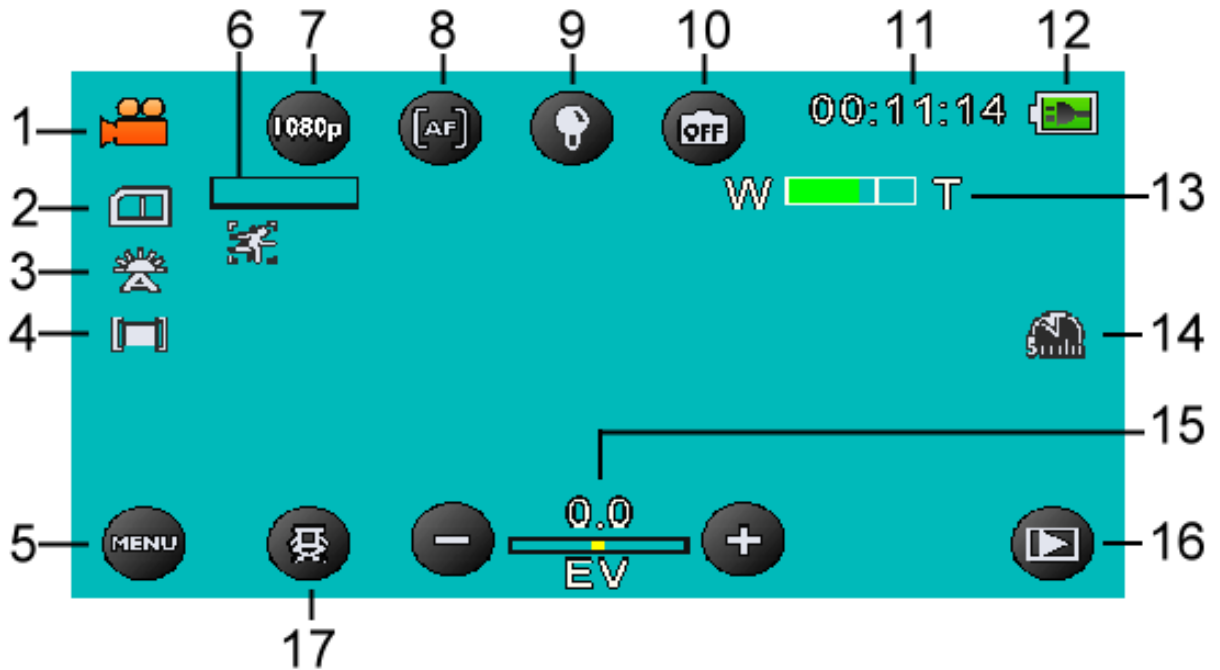While recording, you can also use the **Zoom** lever to zoom/in on the subject.

3.1.1 The recording screen

No.	Item	Description
1	Video mode	Indicates the digital video camera is currently in **Video** mode.
2	Card type	Indicates the memory card type in use.
3	White balance	Indicates the current white balance mode.
4	Metering mode	Indicates the current AE metering mode.
5	Menu	Touch to enter the **Video** menu.
6	Motion detection	Indicates Motion detection recording mode is activated.
7	Video resolution	Touch to select the desired video resolution. Available options: FHD / HD (60) / HD (30)

No.	Item	Description
8	AF setting	Touch to select the setting Auto Focus (AF) / AF Lock.
9	LED/Infrared icon	Touch to select the suitable lighting mode. Available options: Off / On / IR
10	Scene mode	Touch to select the desired scene mode: Available options: Auto / Night / Sports / Landscape / Portrait / Sunset / Sand/Snow / Flower / Firework / Beauty
11	Time duration	Indicates the recording time.
12	Battery status	Indicates the remaining battery power.
13	Zoom indicator	Indicates the zoom status.
14	Time lapse	Indicates the Time lapse recording is set to 5 minutes.
15	EV compensation	Indicates the current EV compensation. Touch ⊖/⊕ to adjust the EV value.
16	Playback	Touch to enter Playback mode.
17	Director Mode	Provide pre-defined file folders organized by different themes, so you can store your recorded videos and play them like a story.

28

3.2 Video menu

The Video menu is used to adjust settings in **Video** mode.

1. Turn on the digital video camera. By default, the device is set to **Video** mode. In **Camera** mode, press the **Mode** button or touch ![camera icon] to switch to **Video** mode.

2. Touch **MENU** to enter the **Video** menu.

3. Touch the desired menu option to enter the menu. You can also press ◀/▶ to select the desired menu and press **OK** to enter its menu.

4. Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

5. Touch ![back icon] to exit the menu.

> **Note:** Touch ![left icon]/![right icon] to scroll through the available menu options. Touch ![prev icon]/![next icon] to go to the previous/next page.

3.2.1 Quality

Set the video quality.

1. In **Video** mode, touch **MENU** to enter the **Video** menu.

2. Touch **Quality** to enter the menu. You can also press ◀/▶ to select **Quality** and press **OK** to enter its menu.

3. Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting (Super Fine, Fine, or Normal) and press **OK** to confirm.

3.2.2   Pre-recording

Pre-recording function records images even before you press the **Record** button.

1.   In **Video** mode, touch   MENU   to enter the **Video** menu.

2.   Touch **Pre-recording** to enter the menu. You can also press ◀/▶ to select **Pre-recording** and press **OK** to enter its menu.

3.   Touch the option to select **On** or **Off**. You can also press ◀/▶ to select **On** or **Off** and press **OK** to confirm.

Note: If Pre-recording is enabled, Time Lapse and Motion Detection will be disabled.

3.2.3   Time Lapse

With the Time Lapse feature, the frames are recorded slower than the normal recording speed but the recorded videos will be played back in fast motion than normal playback speed.
You can use this feature to record videos such as evolution of a construction project, weather changes, tree growth, or flower blossom.

1.   In **Video** mode, touch   MENU   to enter the **Video** menu.

2.   Touch **Time Lapse** to enter the menu. You can also press ◀/▶ to select **Time Lapse** and press **OK** to enter its menu.

3.   Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

- **Off**: Disable this feature.
- **1 min**: 1-minute time lapse recording.
- **5 min**: 5-minute time lapse recording.
- **30 min**: 30-minute time lapse recording.

Note: If Time Lapse is enabled, Pre-recording and Motion Detection will be disabled.

30

3.2.4 Motion Detection

With Motion Detection feature, the video recording automatically starts if the digital video camera detects any movement.

3. In **Video** mode, touch   **MENU**   to enter the **Video** menu.

4. Touch **Motion Detection** to enter the menu. You can also press ◄/► to select **Motion Detection** and press **OK** to enter its menu.

5. Touch the option to select **On** or **Off**. You can also press ◄/► to select **On** or **Off** and press **OK** to confirm.

Note: If Motion Detection is enabled, Time Lapse and Pre-recording will be disabled.

3.2.5 White Balance

Set the white balance when recording videos under specific lighting conditions.

1. In **Video** mode, touch   **MENU**   to enter the **Video** menu.

2. Touch **White Balance** to enter the menu. You can also press ◄/► to select **White Balance** and press **OK** to enter its menu.

3. Touch an option to select the desired setting. You can also press ◄/► to select the desired setting and press **OK** to confirm.

- **Auto**: Set the white balance automatically.
- **Incandescent**: Indoor under tungsten lighting condition.
- **Sunny**: Bright daylight shooting.
- **Cloudy**: Cloudy day or shady condition.
- **Fluorescent**: Indoor under fluorescent lighting.
- **Preset**: Manually adjust the white balance.

31

3.2.6　AE Meter

Select the metering method for calculating the exposure.

1.　In **Video** mode, touch 　**MENU**　 to enter the **Video** menu.

2.　Touch **AE meter** to enter the menu. You can also press ◀/▶ to select **AE meter** and press **OK** to enter its menu.

3.　Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

- **Average**: Calculate exposure based on the entire image area.
- **Center**: Calculate exposure based on the entire image area, but provides greater exposure to the center of a subject.
- **Spot**: Calculate exposure based on the small portion of the screen center.

3.2.7　Digital Effect

Set the color filter effect to be applied on the video you want to record.

1.　In **Video** mode, touch 　**MENU**　 to enter the **Video** menu.

2.　Touch **Digital Effect** to enter the menu. You can also press ◀/▶ to select **Digital Effect** and press **OK** to enter its menu.

3.　Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

- **Off**: No digital effect is used.
- **Art**: Add an oil painting color effect.
- **Sepia**: Add brown color effect.
- **Negative**: Add a negative color effect.
- **Black/White**: Add a monochrome color effect.
- **Vivid**: Add a bright color tone effect.

32

3.2.8 Digital Zoom

Set whether or not to use digital zoom when recording videos.

1. In **Video** mode, touch **MENU** to enter the **Video** menu.

2. Touch **Digital Zoom** to enter the menu. You can also press ◄/►
    to select **Digital Zoom** and press **OK** to enter its menu.

3. Touch the option to select **On** or **Off**. You can also press ◄/► to
    select **On** or **Off** and press **OK** to confirm.

3.2.9 Director Mode

Provide pre-defined file folders organized by different themes, so you can
store your recorded videos and play them like a story.

To record videos using the Director Mode:

1. In **Video** mode, touch   to enter the **Director Mode**
    menu.

2. Touch a category (for example,   stands for **Holiday getaway**)
   and select a sub-category (for example, **Eat Breakfast**).
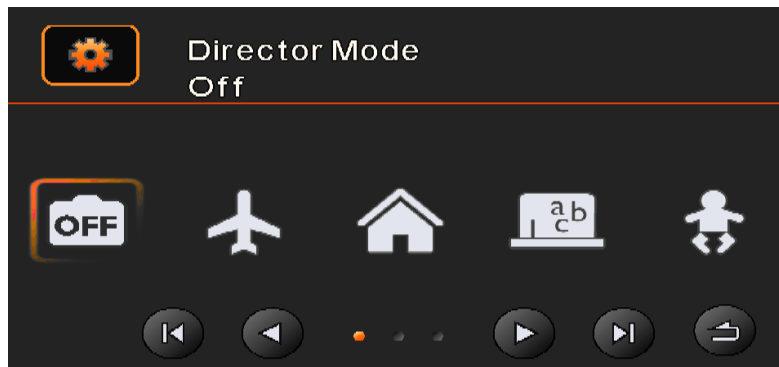
> **Note:** It is not necessary to select the first sub-category to place the first video to be recorded. In
> other words, you can select any sub-category you like. However, later when all videos (recorded
> under the Director Mode) are played back using the Director Mode, they will be played back by
> according to the pre-defined folder sequence.

33

3. Start recording video. Once the video is recorded, it will be placed in the folder "Eat Breakfast" as you view this video later from the digital camcorder later.

4. Repeat Step 3 to record more videos in the same sub-category, or return to Step 2 and select anther category.

To play videos using the Director Mode:

1. In **Video** mode, touch ▷ or press the **Playback** button to enter **Video Playback** mode.

2. Touch 🎬 to enter the **Director Mode** playback menu.

3. Touch a category (for example, **Holiday getaway**) and touch

   🖼 to start playback of the whole Holiday series. All videos will be play backed according to the pre-defined folder sequence like a normal day life (for example, starting from waking up, washing up, and then eating breakfast, etc.)
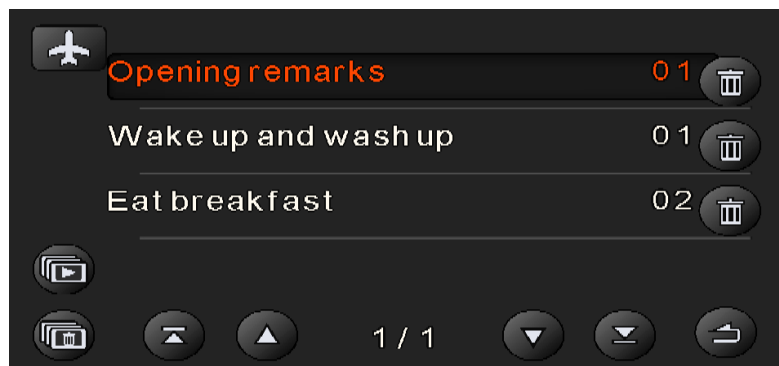
3.3   Playback videos

4. In **Video** mode, touch ▷ or press the **Playback** button to enter **Video Playback** mode.

6. Touch the video to view it in full screen. You can also press ◄/► to browse for the selected video file and press **OK** to view the video in full screen.

7. Touch ▶‖ to play the video.

8. Touch the corresponding icons to adjust the volume and playback speed.
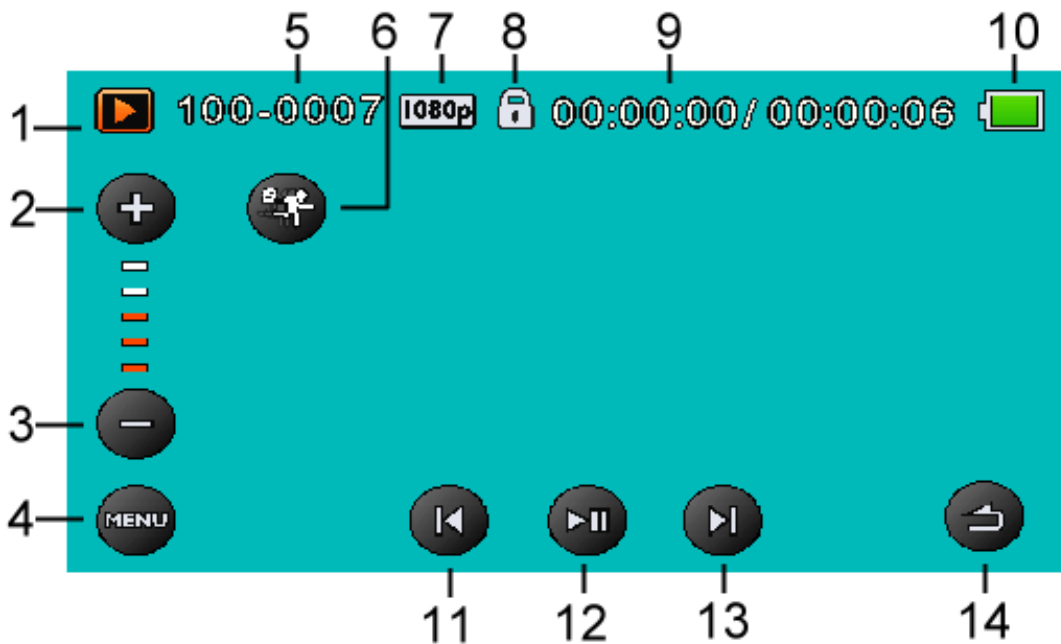
No.	Item	Description
I	Playback mode	Indicates the digital video camera is in **Video Playback** mode.
2	Volume up	Touch to increase playback volume.
3	Volume down	Touch to decrease playback volume.

No.	Item	Description
4	Menu	Touch to enter the **Video Playback** menu.
5	File number	Indicates the file number.
6	Slow motion	Touch to enable or disable slow motion playback.
7	Video resolution	Indicates the file resolution.
8	Protect	Indicates the file is protected.
9	Time duration	Indicates the played duration / total video duration.
10	Battery status	Indicates the remaining battery power.
11	Previous	Touch to view the previous video.
12	Play	Touch to play the video.
13	Next	Touch to view the next video.
14	Return	Touch to return to the previous screen.

36

3.3.1 Slow motion playback

To start playback in slow motion:

1. In **Video** mode, touch ▷ or press the **Playback** button to enter **Video Playback** mode.

2. Touch the video to view it in full screen. You can also press ◀/▶ to browse for the desired video file and press **OK** to view the video in full screen.

3. Touch to enable slow motion feature. The icon turns orange.

4. Touch to play the video.

5. During playback, touch or to adjust the slow motion speed 1/2X ~ 1/64X.

6. Touch the orange to disable slow motion.

Note: If video playback is already in progress, touch to enable slow motion.

3.4 Video playback settings

3.4.1 Protect File

1. In **Video** mode, touch 　▷　 or press the **Playback** button to enter **Video Playback** mode.

2. Select the desired video file that you want to protect.

3. Touch 　MENU　 to enter the **Video Playback** menu.

4. Touch **Protect File** to enter the menu. You can also press ◀/▶ to select **Protect File** and press **OK** to enter its menu.

5. Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

   - **Protect One**: Protect the current file.
   - **Unprotect One**: Unprotect the current file.
   - **Protect All**: Protect all files.
   - **Protect All**: Unprotect all files.

3.4.2 Play Option

1. In **Video** mode, touch 　▷　 or press the **Playback** button to enter **Video Playback** mode.

2. Touch the selected video file to view it in full screen. You can also press ◀/▶ to browse for the desired video file and press **OK** to view the video in full screen.

3. Touch 　MENU　 to enter the **Video Playback** menu.

4. Touch **Play Option** to enter the menu. You can also press ◀/▶ to select **Play Option** and press **OK** to enter its menu.

38

5.   Touch an option to select the desired setting. You can also press
◀/▶ to select the desired setting and press **OK** to confirm.

The video playback will start automatically.

- **Play One**: Playback on the current video.
- **Play All**: Playback all videos.
- **Repeat One**: Replay the current video.
- **Repeat All**: Replay all videos.

3.4.3   Delete File

1.   In **Video** mode, touch ▷ or press the **Playback** button to enter **Video Playback** mode.

2.   Select the desired video file that you want to delete.

3.   Touch **MENU** to enter **Video Playback** menu.

4.   Touch **Delete File** to enter the menu. You can also press ◀/▶ to select **Delete File** and press **OK** to enter its menu.

5.   Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

   - **Delete this file**: Delete the current file.
   - **Delete all files**: Delete all files.
   - **Delete Selection**: Delete the selected files.
     Touch the desired files to mark them. You can also press ◀/▶ to select the desired files and press **OK** to mark them.

6.   Touch ◯ to confirm delete.

Note: Deleted files cannot be recovered. Ensure the files have backup before deletion. Protected files cannot be deleted, unlock the file first.

3.5 Shoo**ting photos**

1. Turn on the digital video camera. By default, the device is set to **Video** mode.

2. Press the **Mode** button to switch to **Camera** mode.

3. Press the **Record** button to capture a photo.

3.5.1 The shooting screen
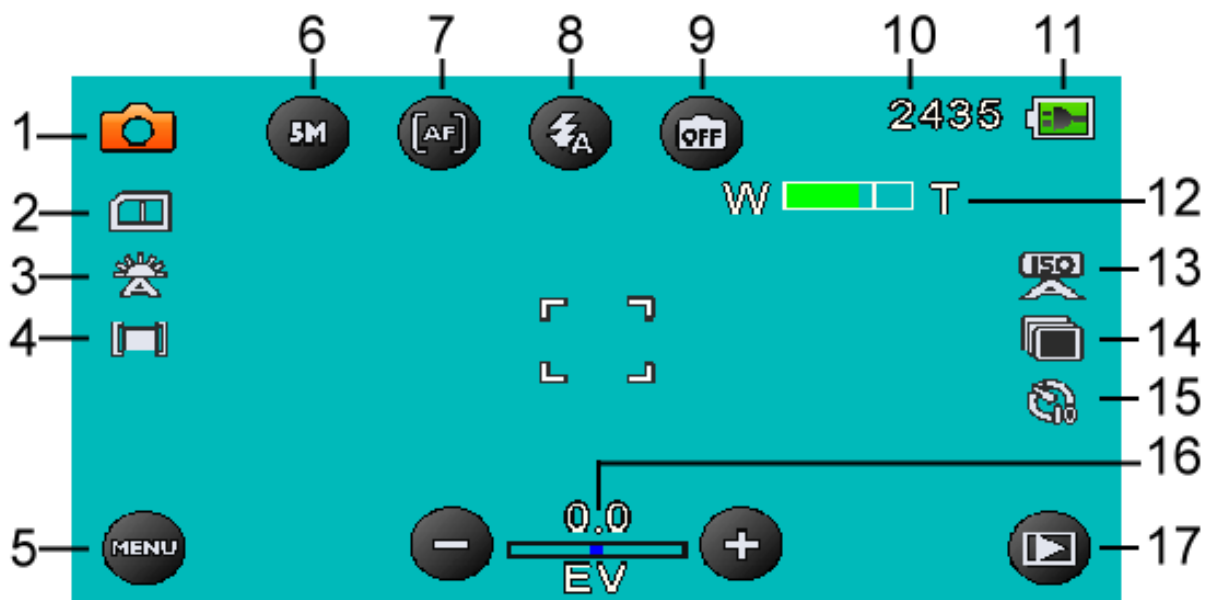
No.	Item	Description
1	Camera mode	Indicates the digital video camera is currently in **Camera** mode.
2	Card type	Indicates the memory card type in use.
3	White balance	Indicates the current white balance mode.
4	Metering mode	Indicates the current AE metering mode.

No.	Item	Description
5	Menu	Touch to enter the **Camera** menu.
6	Photo size	Touch to select the desired photo size. Available options: 16M / 12M / 7M / 5M / 3M.
7	AF setting	Touch to select the desired AF setting. Available options: Normal / Macro / AF Lock.
8	Flashlight	Touch to select the suitable flash/lighting mode. Available options: Off / Auto / On / Infrared light On.
9	Scene mode	Touch to select the desired scene mode. Available options: Auto / Night / Sports / Landscape / Portrait / Sunset / Sand/Snow / Flower / Firework / Beauty
10	Available shot	Indicates the number of available shots.
11	Battery status	Indicates the remaining battery power.
12	Zoom indicator	Indicates the zoom status.
13	ISO	Indicates the current AE ISO mode.
14	Capture mode	Indicates the Capture Mode is set to Continue Shot.
15	Self-timer	Indicates the Self Timer mode is set to 10 seconds.
16	EV compensation	Indicates the current EV compensation. Touch ⊖/⊕ to adjust the EV value.
17	Playback	Touch to enter Playback mode.

42

3.6　Camera menu

The Camera menu is used to adjust the capture settings in **Camera** mode.

1.　　Turn on the digital video camera. By default, the device is set to **Video** mode.

2.　　Press the **Mode** button or touch to switch to **Camera** mode.

3.　　Touch to enter the **Camera** menu.

4.　　Touch the desired menu option to enter the menu. You can also press ◄/► to select the desired menu and press **OK** to enter its menu.

5.　　Touch an option to select the desired setting. You can also press ◄/► to select the desired setting and press **OK** to confirm.

6.　　Touch to exit the menu.

Note: Touch / to scroll through the available menu options. Touch / to go to the previous/next page.

3.6.1　Capture Mode

Set the recording method to use when shooting photos.

1.　　In **Camera** mode, touch to enter the **Camera** menu.

2.　　Touch **Capture Mode** to enter the menu. You can also press ◄/► to select **Capture Mode** and press **OK** to enter its menu.

3.　　Touch an option to select the desired setting. You can also press ◄/► to select the desired setting and press **OK** to confirm.

- **Normal**: Shoot one photo at a time.
- **Continue Shot**: Continuously shoot photos as long as you keep pressing the **Record** button.

> **Note:** If Capture Mode is set to Continue Shot, Instant View and Self Timer will be disabled.

3.6.2 Instant View

Display a preview of the recorded photo right after the shot is taken.

1. In **Camera** mode, touch ⬚MENU⬚ to enter the **Camera** menu.

2. Touch **Instant View** to enter the menu. You can also press ◀/▶ to select **Instant View** and press **OK** to enter its menu.

3. Touch the option to select **On** or **Off**. You can also press ◀/▶ to select **On** or **Off** and press **OK** to confirm.

3.6.3 Self Timer

Set pre-defined time delay for self timer photography.

1. In **Camera** mode, touch ⬚MENU⬚ to enter the **Camera** menu.

2. Touch **Self Timer** to enter the menu. You can also press ◀/▶ to select **Self Timer** and press **OK** to enter its menu.

3. Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

- **Off**: Disable this feature.
- **2 sec**: 2-second delay self timer.
- **10 sec**: 10-second delay self timer.

3.6.4 White Balance

Set the white balance when shooting photos under specific lighting conditions.

1. In **Camera** mode, touch ▥▤▦▨ to enter the **Camera** menu.

2. Touch **White Balance** to enter the menu. You can also press ◀/▶ to select **White Balance** and press **OK** to enter its menu.

3. Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

- **Auto**: Set the white balance automatically.
- **Incandescent**: Indoor under tungsten lighting condition.
- **Sunny**: Bright daylight shooting.
- **Cloudy**: Cloudy day or shady condition.
- **Fluorescent**: Indoor under fluorescent lighting.
- **Preset**: Manually adjust the white balance.

3.6.5 AE Meter

Select the metering method for calculating the exposure.

1. In **Camera** mode, touch ▥▤▦▨ to enter the **Camera** menu.

2. Touch **AE meter** to enter the menu. You can also press ◀/▶ to select **AE meter** and press **OK** to enter its menu.

3. Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

- **Average**: Calculate exposure based on the entire image area.
- **Center**: Calculate exposure based on the entire image area, but provides greater exposure to the center of a subject.
- **Spot**: Calculate exposure based on the small portion of the screen center.

45

3.6.6   AE ISO

Set the sensitivity for shooting photos.

1.   In **Camera** mode, touch   MENU to enter the **Camera** menu.

2.   Touch **AE ISO** to enter the menu. You can also press ◀/▶ to select **AE ISO** and press **OK** to enter its menu.

3.   Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

- **Auto**: Automatically set the ISO value.
- **ISO 100/200**: Equivalent to color ISO 100/200. Suitable for fine weather shooting.
- **ISO 400/800**: Equivalent to color ISO 400/800. Suitable for cloudy days shooting.
- **ISO 1600**: Equivalent to color ISO 1600. Suitable for night scene or sports shooting.
- **ISO Auto 800**: Automatically set the ISO value within the range (maximum to ISO 800) to suit the shooting environment.
- **ISO Auto 1600**: Automatically set the ISO value within the range (maximum to ISO 1600) to suit the shooting environment.

3.6.7   Digital Effect

Set the color filter effect to be applied on the photo you want to capture.

1.   In **Camera** mode, touch   MENU to enter the **Camera** menu.

2.   Touch **Digital Effect** to enter the menu. You can also press ◀/▶ to select **Digital Effect** and press **OK** to enter its menu.

3.   Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

- **Off**: No digital effect is used.

46

- **Art**: Add an oil painting color effect.
- **Sepia**: Add brown color effect.
- **Negative**: Add a negative color effect.
- **Black/White**: Add a monochrome color effect.
- **Vivid**: Add a bright color tone effect.

3.6.8　Digital Zoom

Set whether or not to use digital zoom when capturing photos.

1. In **Camera** mode, touch ⬛MENU⬛ to enter the **Camera** menu.

2. Touch **Digital Zoom** to enter the menu. You can also press ◀/▶ to select **Digital Zoom** and press **OK** to enter its menu.

3. Touch the option to select **On** or **Off**. You can also press ◀/▶ to select **On** or **Off** and press **OK** to confirm.

3.7   Viewing photos

1.   Turn on the digital video camera. By default, the digital video camera is set to **Video** mode.

2.   Press the **Mode** button or touch [icon] to switch to **Camera** mode.

3.   Touch [icon] or press the **Playback** button to enter **Photo Playback** mode.

4.   Touch the photo to view it in full screen. You can also press ◄/► to browse for the desired photo file and press **OK** to view the photo in full screen.
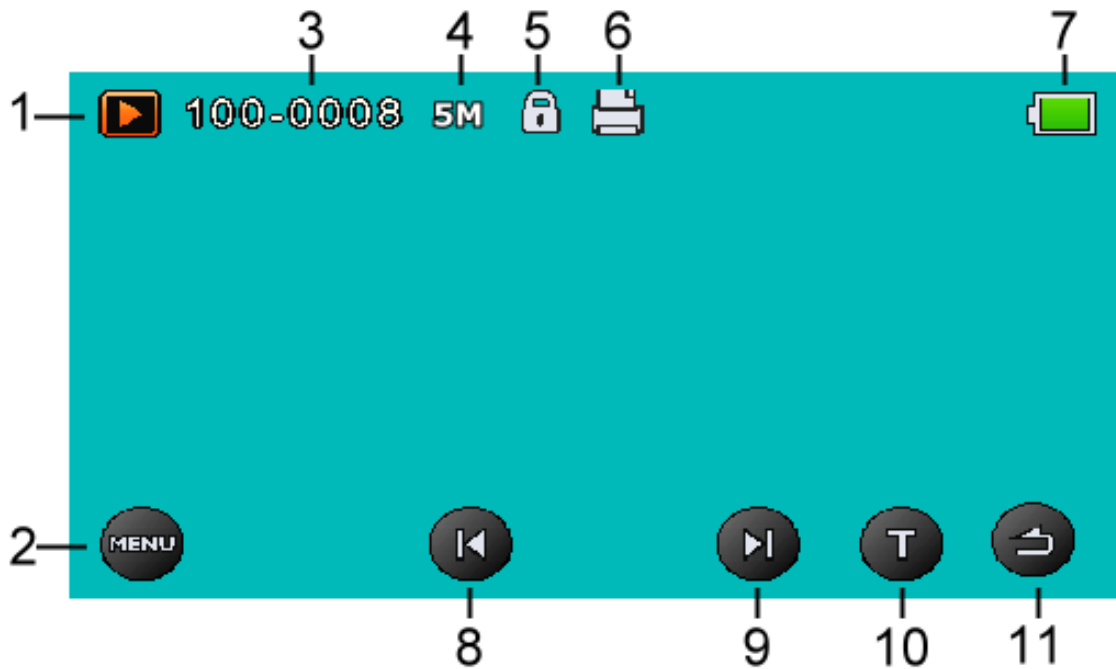
No.	Item	Description
1	Playback mode	Indicates the digital video camera is in **Photo Playback** mode.
2	Menu	Touch to enter the **Photo Playback** menu.

48

No.	Item	Description
3	File number	Indicates the file number.
4	Photo size	Indicates the file resolution.
5	Protect	Indicates the file is protected.
6	DPOF tag	Indicated the file is marked for printing.
7	Battery status	Indicates the remaining battery power.
8	Previous	Touch to view the previous photo.
9	Next	Touch to view the next photo.
10	T (zoom in)	Touch to zoom in the photo up to 10X.
11	Return	Touch to return to the previous screen.

3.8 Photo playback settings

3.8.1 Protect File

1. In **Camera** mode, touch ▶ or press the **Playback** button to enter **Photo Playback** mode.

2. Select the desired photo file that you want to protect.

3. Touch **MENU** to enter the **Photo Playback** menu.

4. Touch **Protect File** to enter the menu. You can also press ◀/▶ to select **Protect File** and press **OK** to enter its menu.

5. Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

   - **Protect One**: Protect the current file.
   - **Unprotect One**: Unprotect the current file.
   - **Protect All**: Protect all files.
   - **Protect All**: Unprotect all files.

3.8.2 Slide Show

1. In **Camera** mode, touch ▶ or press the **Playback** button to enter **Playback** mode.

2. Touch **MENU** to enter the **Playback** menu.

3. Touch **Slide Show** to enter the menu. You can also press ◀/▶ to select **Slide Show** and press **OK** to enter its menu.

4. Touch the option to select **On** to enable the slide show. You can also press ◀/▶ to select **On** and press **OK** to enable the slide show.

50

3.8.3   Delete File

1.   In **Camera** mode, touch ▶ or press the **Playback** button to enter **Photo Playback** mode.

2.   Select the desired photo file that you want to delete.

3.   Touch **MENU** to enter **Photo Playback** menu.

4.   Touch **Delete File** to enter the menu. You can also press ◀/▶ to select **Delete File** and press **OK** to enter its menu.

5.   Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

- **Delete this file**: Delete the current file.
- **Delete all files**: Delete all files.
- **Delete Selection**: Delete the selected files.
  Touch the desired files to mark them. You can also press ◀/▶ to select the desired files and press **OK** to mark them.

6.   Touch ◯ to confirm delete.

Note: Deleted files cannot be recovered. Ensure the files have backup before deletion. Protected files cannot be deleted, unlock the file first.

3.8.4   DPOF

Note: A memory card is required for DPOF function.

1. In **Camera** mode, touch [▷] or press the **Playback** button to enter **Photo Playback** mode.

2. Select the desired photo file that you want to set the DPOF tag.

3. Touch **MENU** to enter the **Photo Playback** menu.

4. Touch **DPOF** to enter the menu. You can also press ◀/▶ to select **DPOF** and press **OK** to enter its menu.

5. Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

   - **DPOF One**: Set the number of print on the current file.
   - **DPOF All**: Set the number of print on all files.
   - **Reset One**: Remove the DPOF tag on the current file.
   - **Reset All**: Remove the DPOF tag on all files.

6. Touch (◁)/(▷) to select the desired file.

7. Touch (△)/(▽) to set the number of print.

8. Repeat step 6~7 to tag other file.

9. Touch **OK** to confirm the DPOF setting.

3.8.5   Rotate

1. In **Camera** mode, touch [▷] or press the **Playback** button to enter **Photo Playback** mode.

2. Select the desired photo file that you want to rotate.

3. Touch **MENU** to enter the **Photo Playback** menu.

52

4. Touch **Rotate** to enter the menu. You can also press ◀/▶ to select **Rotate** and press **OK** to enter its menu.

5. Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

- **Left 90**: Rotate the image 90° counter-clockwise.
- **Right 90**: Rotate the image 90° clockwise.

4 Using Setup menu

4.1 Setup menu

Configure the digital video camera general settings.

1.   Turn on the digital video camera. By default, the device is set to **Video** mode. In **Camera** mode, press the **Mode** button to switch to **Video** mode.

2.   Touch **MENU** to enter the OSD menu and switch to **Setup** ( ) menu.

   * In **Video** mode, touch twice to switch to **Setup** ( ) menu.

   * In **Camera** mode, touch to switch to **Setup** ( ) menu.

3.   Touch the desired menu option to enter the menu. You can also press ◄/► to select the desired menu and press **OK** to enter its menu.

4.   Touch an option to select the desired setting. You can also press ◄/► to select the desired setting and press **OK** to confirm.

5.   Touch to exit the menu.

Note: Touch / to scroll through the available menu options. Touch / to go to the previous/next page.


4.1.1   System

Set the TV type based on your local region.

1.   Switch to **Setup** ( ) menu.

2.   Touch **System** to enter the menu. You can also press   /   to select **System** and press **OK** to enter its menu.

3.   Touch the option to select **NTSC** or **PAL**. You can also press ◀/▶ to select **NTSC** or **PAL** and press **OK** to confirm.

4.1.2   File Number

Set the file numbering type for recorded files.

1.   Switch to **Setup** ( ) menu.

2.   Touch **File Number** to enter the menu. You can also press ◀/▶ to select **File Number** and press **OK** to enter its menu.

3.   Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.
   - **Reset**: Reset the file number to 0001.
   - **Serial**: Continue the file numbering from the last recorded file.

4.1.3   Time Setup

Set the date and time settings.

1.   Switch to **Setup** ( ) menu.

2.   Touch **Time Setup** to enter the menu. You can also press ◀/▶ to select **Time Setup** and press **OK** to enter its menu.

3.   To adjust the field item, touch the respective field or press ◀/▶ to select the field.

4.   Touch ▲/▼ or press the Navigation buttons ▲/▼ to adjust the value.

5.   Repeat step 4~5 to adjust other fields.

6.   Touch or press **OK** to save your changes.

Note: Touch ◀/▶ to adjust the value. Touch ◀◀/▶▶ to go to the previous/next field.

4.1.4   Format

Format the memory card.

1.   Switch to **Setup** ( ) menu.

2.   Touch **Format** to enter the menu. You can also press ◀/▶ to select **Format** and press **OK** to enter its menu.

3.   Touch ◯ to format the card. You can also press ◀/▶ to select ◯ and press **OK** button to format the card.

4.   When the "Format successful!" message appears, touch ◯ to exit the menu.

56

4.1.5   Default Setting

Reset the digital video camera settings to its factory defaults.

1.   Switch to **Setup** ( ) menu.

2.   Touch **Default Setting** to enter the menu. You can also press ◀/▶ to select **Default Setting** and press **OK** to enter its menu.

3.   Touch to reset. You can also press ◀/▶ to select and press **OK** button to reset.

4.   When the "Operation done!" message appears, touch to exit the menu.

4.1.6   LCD Brightness

Set the LCD display brightness.

1.   Switch to **Setup** ( ) menu.

2.   Touch **LCD Brightness** to enter the menu. You can also press ◀/▶ to select **LCD Brightness** and press **OK** to enter its menu.

3.   Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

- **Normal**: Maintain the brightness level as the default setting.
- **High**: Increase the brightness level.
- **Auto**: Automatically adjust the brightness level based on the surrounding environment.

4.1.7　Date/Time Stamp

Disable the date/time stamp or select the date/time stamp type when shooting a photo.

1.　Switch to **Setup** (🎛️) menu.

2.　Touch **Date/Time stamp** to enter the menu. You can also press ◀/▶ to select **Date/Time stamp** and press **OK** to enter its menu.

3.　Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

- **Off**: Disable the date/time stamp.
- **Date**: Enable the date stamp only.
- **Date/Time**: Enable date and time stamp.

4.1.8　Auto Power Off

Set the digital video camera to automatically turn off if it is left idle for a preset time.

1.　Switch to **Setup** (🎛️) menu.

2.　Touch **Auto power off** to enter the menu. You can also press ◀/▶ to select **Auto power off** and press **OK** to enter its menu.

3.　Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

- **Off**: Disable the Auto Power Off function.
- **3 min**: Automatically turn off the power if the digital video camera if left idle for 3 minutes.
- **5 min**: Automatically turn off the power if the digital video camera if left idle for 5 minutes.

58

4.1.9　Language

Set the on-screen display language.

1.　Switch to **Setup** ( ) menu.

2.　Touch **Language** to enter the menu. You can also press ◀/▶ to select **Language** and press **OK** to enter its menu.

3.　Touch the language option to select the desired language. You can also press the Navigation buttons ◀/▶ to select the desired language and press **OK** to confirm.

> **Note:** Touch ◀/▶ to scroll through the available menu options. Touch ◀/▶ to go to the previous/next page.

4.1.10　Information

Select the information type to be displayed on the preview screen.

1.　Switch to **Setup** ( ) menu.

2.　Touch **Information** to enter the menu. You can also press ◀/▶ to select **Information** and press **OK** to enter its menu.

3.　Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

- **Normal**: Display basic information on the preview screen.
- **Advance**: Display detail information on the preview screen.

4.1.11 Beep Sound

Enable/Disable the beep sound.

1.   Switch to **Setup** ( ) menu.

2.   Touch **Beep Sound** to enter the menu. You can also press ◀/▶ to select **Beep Sound** and press **OK** to enter its menu.

3.   Touch the option to select **On** or **Off**. You can also press ◀/▶ to select **On** or **Off** and press **OK** to confirm.

4.1.12 Start Logo

Set the start up image to be displayed on the screen when the digital video camera is turned on.

1.   Switch to **Setup** ( ) menu.

2.   Touch **Start Logo** to enter the menu. You can also press ◀/▶ to select **Start Logo** and press **OK** to enter its menu.

3.   Touch an option to select the desired setting. You can also press ◀/▶ to select the desired setting and press **OK** to confirm.

- **Default**: Use the default start-up logo.
- **User Setting**: Use one of the recorded photos as the start-up logo.

4.1.13 Anti-flicker

Set the refresh rate of the digital video camera.

1. Switch to **Setup** ( ) menu.

2. Touch **Anti-flicker** to enter the menu. You can also press ◄/► to select **Anti-flicker** and press **OK** to enter its menu.

3. Touch an option to select the desired setting. You can also press ◄/► to select the desired setting and press **OK** to confirm.

   - **Auto**: Automatically adjust the frequency system based on the *System* setting.
   - **60Hz**: Set the frequency system to 60Hz.
   - **50Hz**: Set the frequency system to 50Hz.

4.1.14 Recording Audio Gain

With the Recording Audio Gain function, the digital video camera automatically adjusts the volume level of the device speaker to prevent it from being damaged if the sound is too loud.

1. Switch to **Setup** ( ) menu.

2. Touch **Recording Audio Gain** to enter the menu. You can also press ◄/► to select **Recording Audio Gain** and press **OK** to enter its menu.

3. Touch the option to select **On** or **Off**. You can also press ◄/► to select **On** or **Off** and press **OK** to confirm.

4.1.15 SD

Select the memory card type to be used as the default storage.

1.   Switch to **Setup** ( ) menu.

2.   Touch **SD** to enter the menu. You can also press ◀/▶ to select **SD** and press **OK** to enter its menu.

3.   Touch the option to select **micro SD** or **SD**. You can also press ◀/▶ to select **micro SD** or **SD** and press **OK** to confirm.

4.1.16 Auto Hide Info

Select whether or not to automatically hide the information icons shown on the screen.

1.   Switch to **Setup** ( ) menu.

2.   Touch **Auto Hide Info** to enter the menu. You can also press ◀/▶ to select **Auto Hide Info** and press **OK** to enter its menu.

3.   Touch the option to select **On** or **Off**. You can also press ◀/▶ to select **On** or **Off** and press **OK** to confirm.

62

5 Connecting to other devices

5.1 Connecting to the computer

You can connect the device to a PC or notebook to transfer or view files as well as charge the device.

1. Turn on the digital video camera.

2. Open the USB/HDMI connector cover.

3. Connect one end of the USB cable to the device.

4. Connect the other end of the USB cable to an available USB port on your computer.
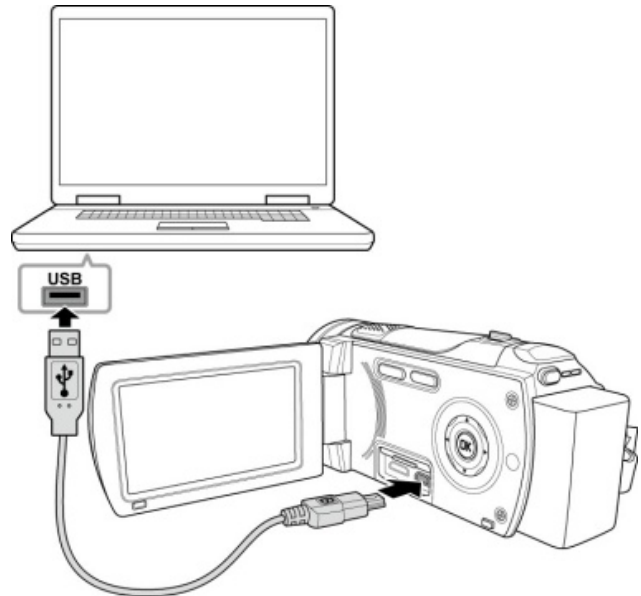
5. After the connection is established, a "Removable Disk" icon appears in "My Computer". Click this icon to access the files in your device.

6. Copy the desired files to a folder on your computer.

5.2   Connecting to TV

You can play files in your digital video camera on a TV using an HDMI cable.

1.   Turn on the digital video camera.

2.   Open the USB/HDMI connector cover.

3.   Connect one end of the HDMI cable to the digital video camera.

4.   Connect the other end of the HDMI cable to an HDMI TV.
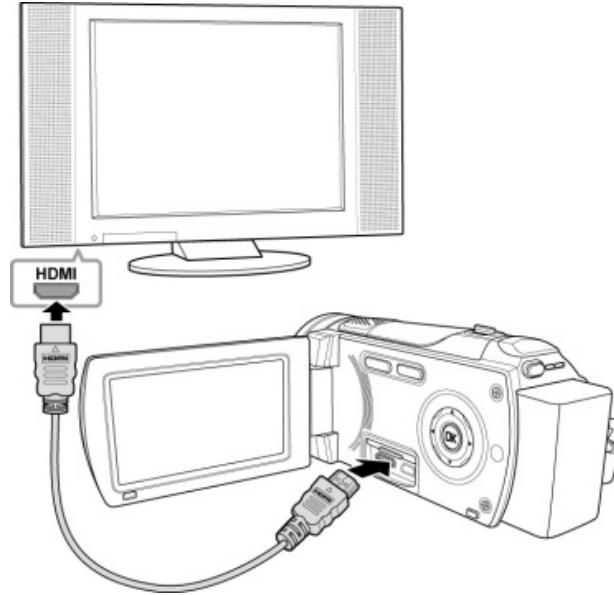
5.   Turn on the TV, and then switch the input source of the TV to "HDMI".

6.   Follow the on-screen instructions to operate the device via the TV.

> **Note:**
> The synchronized output depends on the current digital video camera mode (Video or Camera). These two modes cannot be switched.
> In HDMI mode, you cannot use the digital video camera to record videos, capture photos, utilize the digital zoom function, or playback videos in slow motion.
> Be sure to turn the digital video camera on before connecting to a TV using an HDMI cable.

64

6 Editing software
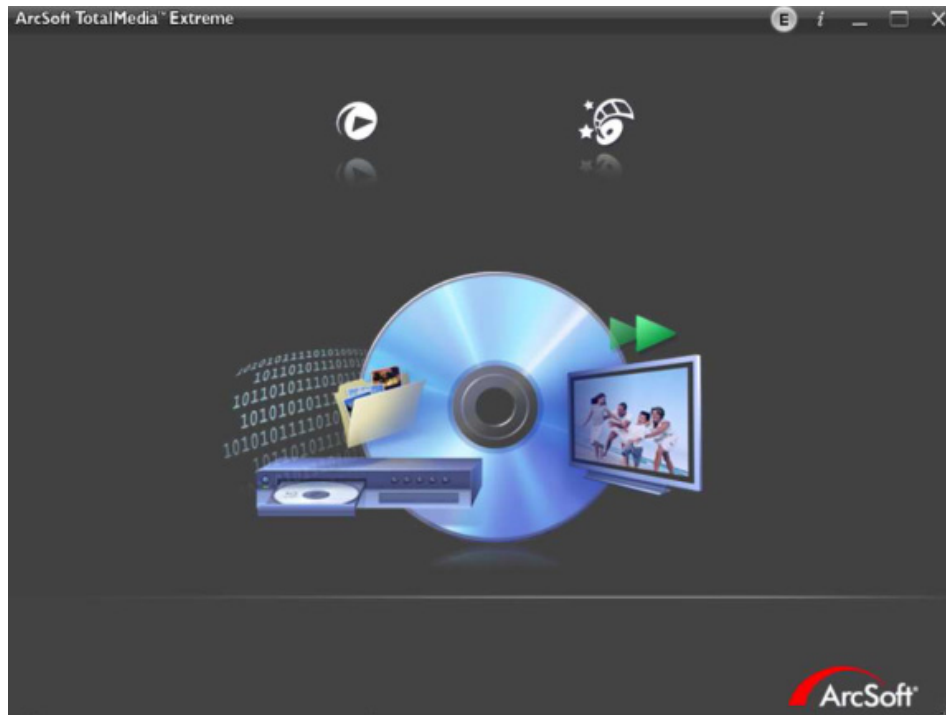
ArcSoft Total Media Extreme (TME) ™ manages your media for you, and gives you tons of fun and exciting ways to create and share projects featuring your photo, video, and music files. Edit, enhance and add creative effects to your photos. You can

- Create your own movies or photo slide shows complete with soundtrack.

- Upload your files easily to YouTube™!

- Or share them through simple email attachments or popular photo printing.

- You can go to http://www.arcsoft.com/ for more information.

Troubleshooting

Problem	Possible Cause	Solution
Can not turn on the power of Digital Video Camera.	1. The Battery is not inserted correctly. 2. The Battery is dead.	1. Please insert the battery correctly. 2. Replace the battery.
Pictures are not stored in the memory.	Power off before storing the images.	Please change to a new battery when the battery indicator turns to red color.
Camera shutdown when using Self-timer shooting picture.	The Battery in camera is dead.	Change to a new battery.
Images are out of focus	Object exceeds the range of focus.	Refocus by zooming in/out.
Unable to use the external memory card.	1. Memory card is protected. 2. Memory card contains non-DCF images taken by other cameras.	1. Unlock the memory card. 2. Reformat the memory card. Please make sure to backup the file before reformatting memory card.
All buttons can not work or camera hangs.	Short circuit occurred when connecting the camera to other device.	Take out the battery in the camera and re-insert again.

Technical support

For technical assistance, free driver updates, product information, and news releases, visit the following web site:

<div align="center">http://www.BenQ.com</div>

66

7   Specifications

Specifications	
Image sensor	1/3.2" CMOS sensor
Effective pixels	5.0 Megapixels (2592 x 1944)
Storage media	Supports SDHC, up to 32GB class 4 or above
Memory	32MB (1Gbits NAND Flash)
Lens	10X Optical zoom lens F2.8-F3.5, f=4.6mm-46mm (35-350mm, 35mm equivalent)
Focus range	Wide: 10cm~Infinity Tele: 90cm~Infinity
Movie Clip	Resolution: Full HD (1920 x 1080), 30fps HD (1280 x 720), 30fps and 60fps
	Format: MPEG4 H.264 (MOV) ADPCM
	Playback Function: Play/Pause, Forward, Rewind; Slow Motion On: 1/2X ~ 1/64X Slow Motion Off: 2X ~ 64X
Still image	Resolution: 16M (4608x3456, by interpolation), 12M (4000x3000, by interpolation), 8M (3200x2400, by interpolation), 5M (2592x1944), 3M(2048x1536)
	Format: DCF 1.1 (JPEG, Exif2.2)

Specifications	
	Playback:10x digital zoom
TFT screen	3.0" Touch Panel screen (16:9)
Assist Lamp	White LED: 1.5m effective distance IR LED: 3~5m effective distance
Shutter	Electronic shutter Auto:1/2 ~1/2000 sec, Night: 2~1/2000 sec.
Exposure	Average, Center, Spot
ISO	Movie mode: Auto Still image mode : Auto (100-400), 100, 200, 400, 800, 1600, Auto800(100-800), Auto1600(100-1600)
Interface	Mini B Type USB 2.0 (high-speed), Mini C Type HDMI
Microphone	Yes
Speaker	Yes
Battery	1700mAH Lithium-ion rechargeable
Operating Temperature	0° ~ 40° C
Operating Humidity	20 ~ 70% RH
Dimensions	121 x 60 x 55 mm
Weight	Approx. 310g

68