

High Definition Camcorder

Welcome

We are honored that you have chosen our product.
Before using, please read the following statement carefully.

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subjected 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.



This equipment has been tested and found to comply with 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 residential installations. 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 interference to radio or television equipment 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.
- Move the equipment away from the receiver.
- Plug the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for additional suggestions.

You are cautioned that any change or modifications to the equipment not expressly approved by the party responsible for compliance could void your authority to operate such equipment.

Safety Notice

1. Do not drop, puncture or disassemble the camcorder; otherwise the warranty will be voided.
2. Avoid all contact with water, and dry hands before using.
3. Do not expose the camcorder to high temperature or leave it in direct sunlight. Doing so may damage the camcorder.
4. Use the camcorder with care. Avoid pressing hard on the camcorder body.
5. For your own safety, avoid using the camcorder when there is a storm or lightning.
6. Do not use batteries of different specifications. Doing so may lead to the potential for serious damage.
7. Remove the battery during long periods between usage, as a deteriorated battery may affect the functionality of the camcorder.
8. Remove the battery if it shows signs of leaking or distortion.
9. Use only the accessories supplied by the manufacturer.
10. Keep the camcorder out of the reach of infants.
11. Risk of explosion if battery is replaced by an incorrect type.
12. Dispose of used batteries according to the instructions.



Environment-friendly Statement

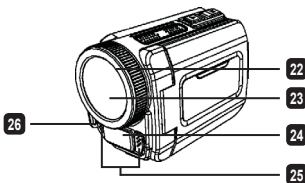
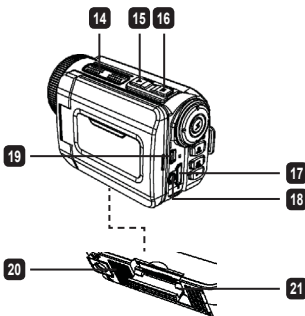
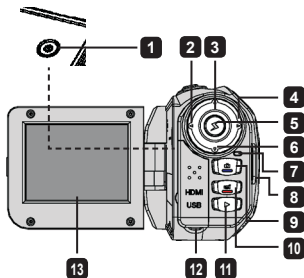
Do not throw the appliance away with the normal household waste at the end of its life, but hand it in at an official collection point for recycling. By doing this you will help to preserve the environment.

Preparing the camcorder

● Knowing the camcorder parts

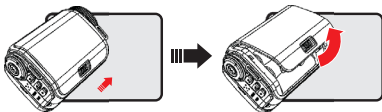
- 1 Power button
- Directional button:
 - 2 Left/Mode/Exit button
 - 3 Up button/EV comp. hot key
 - 4 Right/Menu/OK button
 - 5 Flashlight hot key
 - 6 Down button/Snap mode hot key
- 7 Status LED indicator
- 8 Wrist strap holder (back)
- 9 Shutter button
- 10 Record button
- 11 Playback button
- 12 Connector cover
- 13 LCD display
- 14 Speaker
- 15 Zoom in/Volume up button
- 16 Zoom out/Volume down button
- 17 HDMI output connector
- 18 USB port
- 19 TV-out connector/earphone
- 20 Tripod socket
- 21 Memory card cover / SD/MMC card slot
- 22 Focus switch
- 23 Lens
- 24 Flash strobe
- 25 Microphone
- 26 Wrist strap holder (front)

* For the battery compartment cover and the locker, please refer to section "Load the battery (batteries)".



● Loading the battery (batteries)

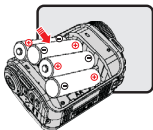
1. Slide latch open to remove the battery compartment cover.



2. Load the battery (batteries) based on specifications of the camcorder as follows:

Camcorder supplied with AA batteries

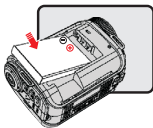
Load four AA batteries into the compartment according to the (+) (-) orientation shown in the battery compartment.



* Never use different types or brands of batteries together, or mix used and unused batteries.

Camcorder supplied with a lithium battery

Slide in the connector end of the lithium battery as the direction of the arrow shown and make sure that the metallic contacts are aligned with the contacts in the compartment.




3. Replace the cover.

* For select model only. Please refer to the package printing for detailed specification.

● Inserting the SD/MMC card (optional accessory)

The camcorder has built-in internal memory for storage, but you can insert a SD/MMC memory card to expand your camcorder's memory capacity.

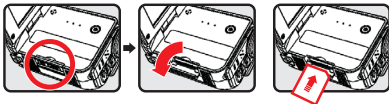
1. Lift the memory card cover as shown.
2. Insert the card as the direction of indication until it reaches the end of the slot.

3. When the card is inserted successfully, the icon () will appear on screen and the internal memory will become inaccessible.

To remove the card, push the card to release it and then pull it out gently.

4. Put the cover back.

- * When using a brand new memory card, you are recommended to format the card with the camcorder or other devices.
- * The camcorder will use the inserted memory card as the main storage medium. Only when the inserted card is removed will the files stored in the built-in memory become accessible.



Using the USB adaptor (optional accessory)

Connect one end of the adaptor to the camcorder and the other end to a power outlet.

When the USB adaptor is plugged successfully, the following circumstances will occur, according to specifications of the camcorder:

Camcorder supplied with AA batteries

When the icon () appears on the screen, the device power is supplied by DC input instead of the loaded batteries. You can record and playback continuously for long periods of time.

* This device does not support battery-charging function.

* If you want to use NiMH rechargeable batteries, please fully charge those batteries with a NiMH battery charger before using for the first time. You can purchase a NiMH battery charger (DC 1.2V) at your local shop.

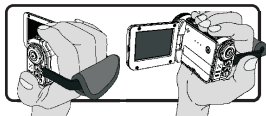
Camcorder supplied with lithium battery

The battery life indicator () will keep running until the lithium battery is fully charged.

Attaching and adjusting the wrist strap

Attach the strap to the strap holder on the front of the camcorder, then attach the other end to the strap holder on the back of the camcorder, as shown in the illustration.

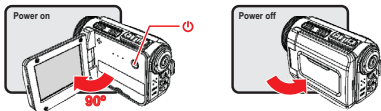
1. Open the cloth of the wrist strap.
2. Adjust the length of the strap according to your palm size.
3. Close and affix the cloth of the wrist strap.



Getting started

● Turning the power on/off

To turn on the camcorder, either open the LCD panel or press the **Power** button.
To turn off the camcorder, either close the LCD panel or press the **Power** button.



- * If the power is not turned on after you have completed the above procedures, please check the following have been done correctly: Batteries are correctly loaded.
The loaded battery (batteries) has enough power.
- * The **[Auto Off]** setting may cause the camcorder to turn off after it is idle for a period of time.

● Mode selection

1. Turn on the camcorder.
2. Use the **Up** button or **Down** button to select the desired item.
3. Press the **Right** button to confirm.
4. Press the **Left** button to exit.






● Choosing the screen language

Power-on → enter **Setting** mode → select the **Language** item → press the **Up** button or **Down** button to select the language → press the **Right** button to confirm.

Setting the date and time

Power-on → enter **Setting** mode → select the **Clock** item → press the **Up** button or **Down** button to select numbers for the YY/MM/DD and HH:MM fields → press the **Right** button to confirm each field → press the **Left** button to exit.

● Realizing the battery life indicator

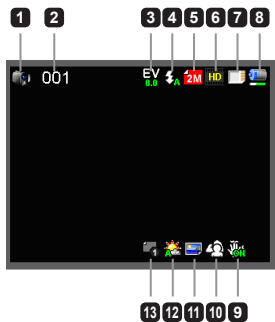
Icon	Description
	Full battery life
	Moderate battery life
	Low battery life
	Empty battery life
	Charging battery

Note: To avoid sudden outage of power supply, you are recommended to replace the battery when the icon indicates low battery life.

● Comprehending icons on the screen

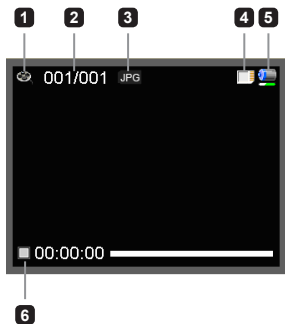
Camera mode:

- 1 Mode icon (camera mode)
- 2 Number of recordings
- 3 Exposure
- 4 Flash mode
- 5 Still resolution
- 6 Video resolution
- 7 Memory card inserted
- 8 Battery life
- 9 Stabilizer
- 10 Focus tape
- 11 Effect
- 12 White balance
- 13 Snap mode



Playback mode:

- 1 Mode icon (play mode)
- 2 Current / total recordings
- 3 File format (JPG)
- 4 Memory card inserted
- 5 Battery life
- 6 Recording time





Voice mode:

- 1 Mode icon (voice mode)
- 2 Number of recordings
- 3 Memory card inserted
- 4 Battery life
- 5 Voice recorder







Basic operations

● Recording a video clip

1. Set the focus to an appropriate setting. Normally, you may set the focus to () for most filming conditions. Select () only for close-ups.
2. Press the **Record** button to start recording.
3. Use the **Zoom** buttons to zoom in or zoom out the screen.
4. Press the **Record** button again to stop recording.

● Taking a still picture

1. Set the focus to an appropriate setting. Normally, you may set the focus to () for most filming conditions. Select () only for close-ups.
2. Use the **Zoom** buttons to zoom in or zoom out the screen.
3. Press the **Shutter** button to take a still picture.

	50cm ~ ∞
	30cm ~ 50cm

● Recording an audio clip

1. Enter **Voice** mode.
2. Press the **Record** button to start recording.
3. Press the **Right** button to pause, and the **Left** button to resume.
4. Press the **Record** button again to stop recording.

● Playing-back

1. Enter **Playback** mode.
2. The last recorded picture, video clip, or audio clip starts playing.
3. Press the **Up** button or **Down** button to shift between files.
4. The file you go to is displayed or automatically begins playing.

Advanced settings

● Setting menu options

The menu items provide several options for you to fine-tune your camcorder functions. The following table gives details on menu operations:

How to...	Action
Bring up the menu in Camera/ Playback mode	Press the Right button.
Move the highlight bar	Press the Up button or Down button.
Confirm an item	Press the Right button.
Exit menu/Go back to previous menu	Press the Left button.

● Menu options in Camera mode

Power on → enter **Camera** mode → press the **Right** button.

Item	Option	Description
Video Resolution		Please refer to the package printing for resolution specification.
Picture Resolution		Please refer to the package printing for resolution specification.
Flash Strobe	Auto	The flash automatically fires when the lighting is insufficient.
	Force	The flash is forced to fire in every shot.
	Off	The flash is disabled.
Night Mode	On/Off	This setting allows you to take a photograph with a dark background. Since the shutter speed will slow down when taking photographs at a dark place, we recommend using a tripod to eliminate blurring from hand shake.
Stabilizer	On/Off	Minimize blur caused by hand shake.
Exposure	-2~+2	Manually adjust the exposure to gain better effect when the preview image appears too bright or too dark. A positive value indicates the image will be brighter than usual; while a negative value makes the image dimmer.

Item	Option	Description
Snap Mode	Single	The camcorder will take a single shot when the Shutter button is pressed.
	Self-Timer	The camcorder will have ten seconds delay before taking a shot when the Shutter button is pressed.
	Continuous	The camcorder will take a sequence of shots when the Shutter button is pressed.
White Balance	Auto	The camcorder automatically adjusts white balance.
	Sunny	This setting is suitable for outdoor recording in sunny weather.
	Cloudy	This setting is suitable for recording in cloudy weather or shady environments.
	Fluorescent	This setting is suitable for indoor recording with fluorescent lamp lighting, or environments with high color temperature.
	Tungsten	This setting is suitable for indoor recording with incandescent lamp lighting, or environments with low color temperature.
Effect	Normal	Make recordings in natural color.
	Black&White	Make recordings in black and white.
	Classic	Make recordings in sepia-toned color.
Date Stamp	On/Off	Enable this feature to print a date mark on each picture.
Flicker	50Hz/60Hz	Set flicker frequency to 50Hz or 60Hz. For more information, please refer to the " Flicker Settings reference " table in the Appendix.

! The "Video resolution" and "Picture resolution" menu items are model-dependent. Please refer to the package printing for detailed specifications.

● Menu options in Playback mode

Power on → enter **Playback** mode → press the **Right** button.

Item	Option	Description
Slide show	On/Off	Start picture slideshow. / Repeat playing all video clips.
File Info	-	View the file's title, saved date and time, size, and length of recording.
Delete One	Yes/No	Delete current file.
Delete All	Yes/No	Delete all files of the same type stored in the memory.

● Menu options in Setting mode

Power on → enter **Setting** mode → press the **Right** button.

Item	Option	Description
Beep	On/Off	Enable beep sound on/off.
Start up	Menu	Use the default start screen.
	Camera	Use Camera mode as the start screen.
Auto off	Off 1min/3min/ 5min	Set how long the camcorder will automatically shut down when staying inactive. Setting to [Off] will make the camcorder stay powered on until it runs out of power.
AV Mode	Earphone	Play sound through your earphones.
	AV Out	Use the loudspeaker of the camcorder.
TV Type	NTSC	Set TV system compatibility to NTSC. This option is suitable for America, Taiwan, Japan, and Korea areas.
	PAL	Set TV system compatibility to PAL. This option is suitable for Germany, England, Italy, Netherlands, China, Japan, and Hong Kong.
USB Mode	PC Cam	When connected to a PC, the camcorder automatically enters Camera (PC camera) mode.
	Disk	When connected to a PC, the camcorder automatically enters Disk (removable disk) mode.
Language	-	Let you select the language used for OSD.

Item	Option	Description
Clock	-	Set date and time.
Format	Yes/No	Format the storage medium. Note that all files stored in the medium will be gone.
Reset Default	Yes/No	Restore factory defaults. Note that your current settings will be overridden.

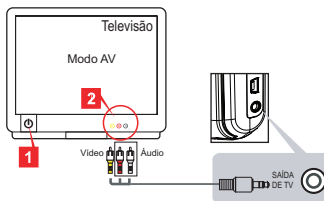
Advanced operations

● Exporting to a standard TV and HDTV

Connect your camcorder and TV via the accessory AV cable for real-time display. You can display your video clips, still pictures, and audio recordings directly on your TV, sharing them with your friends and family.

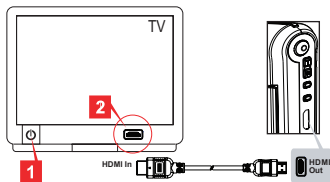
TV : Traditional CRT TV

- ❗ The TV system is different across areas. If you need to adjust the **TV-out** setting, please refer to the “Advanced settings” section for more information. (Taiwan: NTSC; America: NTSC; Europe: PAL; China: PAL)



1. Turn on your TV and switch the TV to AV mode.
2. Connect the audio and video ends of the AV cable to the TV.
3. Turn on the camcorder.
4. Connect the other end of the AV cable to your camcorder.

TV : HDTV with HDMI input port



1. Turn on your HDTV.
2. Connect the HDMI-in connector (the bigger end) of the HDMI cable to the HDTV.
3. Turn on the camcorder.
4. Connect the other end of the HDMI cable to your camcorder.
5. Switch the HDTV to the "HDMI input" mode.

● Copying files to your computer

Please notice that the video clips are recorded in MP4 format. To view these videos on your PC, you may need to install some special programs. For first time use, please install the software on the bundled CD.

1. Turn on the camcorder.
2. Connect the camcorder to your computer by the USB cable.

- ❗ The default is set to "Disk" mode. When connected to a PC, the camcorder will automatically enter Disk (Removable disk) mode.
- ❗ If you would like to change the setting, please refer to the "Advanced settings" section for more information.

● Using your camcorder as a webcam

Using PC Camera

Installing the software

The PC Camera driver is included in the accessory CD, and therefore you should install the driver before using PC Camera.

Starting the application

1. Connect the camcorder to your computer.
Turn on your computer, then connect the accessory USB cable to the USB port of your computer. Make sure the connector and the port are correctly aligned.
2. Switch to Camera mode.
Connect the other end of the USB cable to your camcorder. Power on the camcorder, and the following items will appear on the screen:
1): PC Cam
2): Disk (removable disk)
Select [PC Cam] and press the OK button to confirm.
3. Launch PC Camera.
After the camcorder is correctly connected to and detected by your PC, you are ready to launch your favorite software (such as MSN Messenger or Yahoo Messenger) to use PC Camera functions.

Appendix

! Flicker settings reference

Area	England	Germany	France	Italy	Spain	Russia
Setting	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz
Area	Portugal	America	Taiwan	China	Japan	Korea
Setting	50Hz	60Hz	60Hz	50Hz	50/60Hz	60Hz

Note: The flicker setting is based on the frequency standard of your local power supply.

● System Requirements

For Mac OS X:

- CPU: 1.8 GHz PowerMac G5 or faster Macintosh computer; 1.83 GHz Intel Core Duo or faster
- System Ram: At least 256MB of Ram
- Graphic Card: 64 MB or greater video card
- CD-ROM speed: 4X and above
- Software: H.264 decoder (Quick Time Player 7.4.1 or above)
- Other: USB port

For Windows:

- Operating system: Windows XP Service Pack 2 or Vista
- CPU: 2.8 GHz Pentium 4 or faster processor
- System Ram: At least 512 MB of RAM
- Graphic Card: 64 MB or greater video card
- CD-ROM speed: 4X and above
- Software: H.264 decoder (Quick Time player 7.4.1 or above)
- Other: USB port

Note: The specification might be modified without notice.

● Troubleshooting

When using the camcorder:		
Problem	Cause	Solution
The camcorder can not be powered on normally.	The battery is out of power.	Replace the battery.
	The battery is incorrectly installed.	Re-install the battery.
Can not take pictures or video clips when pressing the Shutter or Record button.	Out of memory.	Free some space from the SD/MMC card or the internal memory.
	The camcorder is recharging the flash strobe.	Wait until the flash strobe is fully charged.
	Using a "protected" SD card.	Set the SD card to be writable.
The LCD screen displays "MEMORY ERROR" or "CARD ERROR" message. Or the camcorder cannot read the memory card.	The format of the memory card is not compatible with the camcorder.	Use the camcorder "Format" function to format the card.
	The memory card is corrupted.	Replace the memory card with a new one.
I did not delete the pictures and video clips, but can not find them in the memory card.	The lost recordings are saved in the internal memory.	It happens when you insert a memory card after taking a few pictures or video clips. You can access those files after removing the memory card.

When using the camcorder:		
Problem	Cause	Solution
Cannot use the flash strobe.	If the battery icon indicates low battery, the flash strobe may be disabled due to insufficient voltage.	Replace the battery.
The camcorder does not respond to any action during operation.	The camcorder encounters software failure.	Remove the battery pack and replace it into the compartment. Then power on the camcorder.
The recorded pictures appear too blurred.	The focus is not correctly set.	Adjust the focus to an appropriate position.
The recorded pictures or video clips appear too dark.	The environment of shooting or recording does not have adequate light.	Use flash strobe when taking pictures. Add extra light sources when recording video clips.
Noises occur when viewing images on the LCD screen or on the computer.	The flicker setting does not match the standard of the country you are staying.	Adjust the flicker setting. For more information, please refer to the "Flicker Settings" table.
I want to restart the serial number of the file name (IMG_xxxx).	The counting of the serial number is handled by the camcorder firmware.	Use the camcorder "Format" function to format the card.
I convert a media file and name it as IMG_xxxx.* (xxxx indicates number). Then I copy the file to the camcorder but cannot find it on the camcorder.	There is another file with duplicate serial number (e.g. IMG_0001.MP4 and IMG_0001.JPG), or the file type is not supported.	Give the file a distinctive serial number and make sure the file type is supported by the camcorder.

When connecting the camcorder to the computer or TV:

Problem	Cause	Solution
I cannot view the video clips on my computer.	Driver or software is not installed on the computer.	Install <i>Direct X 9.0c</i> or above and <i>Windows Media 9.0 Codecs</i> to solve this problem. Install the software and driver in the bundled CD, or go to http://www.microsoft.com to download the required files. Please refer to "Copying files to your computer".
Driver installation failed.	The installation is terminated abnormally.	Remove the driver and other related programs. Follow the installation steps in the manual to re-install the driver.
	The camcorder has been connected to the PC via the USB cable before installing the driver.	Install the driver before plugging in the USB cable.
The TV screen does not display after connecting the camcorder to the TV.	The camcorder is not correctly connected to the TV.	Reconnect the camcorder to TV correctly.
A conflict with other installed camcorder or capture device occurred.	The device is not compatible with the camcorder.	If you have any other camcorder or capture device installed in your computer, please completely remove the camcorder and its driver from the computer to avoid the conflict.
Noises occur on my computer screen when using Video Conferencing.	The flicker setting does not match the standard of the country you are staying.	Adjust the flicker setting. For more information, please refer to the " Flicker Settings " table.

The contents in this manual are subject to change without prior notification.



High Definition Camcorder

User's Manual

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