



t250
Digital Camcorder

User Manual

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Disclaimer

All information presented is as accurate as possible but is subject to change without notice. However, we do not guarantee the accuracy of the contents of this manual. We reserve the right to change any content or technical rule without prior notification. In addition, the manufacturer reserves the right to change technical specifications and package contents without prior notification. For more details about the camcorder operation and troubleshooting, please read the User Manual located on the CDROM disc included with your camcorder or visit <http://www.hp.com/support>.

Preface

Congratulations and thank you for your purchase of this advanced digital camcorder. 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.

For the latest reversion, please visit www.hp.com/support.

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Federal Communications Commission (FCC) Compliance

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

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

Declaration of Conformity

This device complies with Part 15 of the FCC rules.

Operation is subject to the following conditions:

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

Trademark Recognition

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WEEE



Battery

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 cannot be disposed of as household waste. You must dispose of your waste equipment and/or battery by handing 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.

Safety Warning and Notice

Before operating the camcorder, please make sure that you read and fully understand the content in this section. Please do NOT ignore and violate all safety warning notices indicated in this section. Any violation may damage and void the camcorder warranty and in rare events result in injury.

For your safety

1. Do not attempt to insert, use, or charge a battery not designed for this camcorder.
2. Use the power supply only on even surfaces, without any cover. Open air and circulation around the product must be available. The maximum ambient temperature is 40 °C.
3. Risk of explosion may occur if an incorrect battery type is inserted or used. Dispose of used batteries according to their instructions.
4. Keep the camcorder and its accessories out of the reach of babies, toddlers, and children. In particular, small parts such as memory cards and battery could be easily dismantled and swallowed.
5. Use only the original accessories to avoid possible risks to health and property, and thus meet all related legal regulations.
6. Do not disassemble the camcorder under any circumstances. Any attempt to repair the camcorder by disassembly may result in electrical shock.
7. When using the flash, do not use to close to human or animal eyes (particularly for babies, toddlers, and children) to avoid injury.
8. In very rare occasions, Li-ion Batteries such as the one provided with this camcorder could explode 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. In such an event, this could result in property damage, injury or burns. Do not dispose of batteries in fire as they may explode.

9. Some camcorder models accept non-rechargeable batteries. When using these batteries, do not attempt to charge them. This may cause an explosion and fire.
10. The Digital Video Camera is not suitable for barcode photography.

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 attempt to repair or change the camcorder. Any changes to the camcorder invalidate the warranty.

Taking care of your camcorder

1. Always keep the camcorder in the pouch provided or other suitable cases for increased 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. Use care when opening this cover to avoid damage the camcorder.
3. Dispose of unwanted batteries and camcorders as permitted by the laws in your country.
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. Inappropriate behavior when 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 left on the camcorder lens may result in unclear images or videos. To avoid this problem, be sure to clean the camcorder lens before taking pictures or recording videos. Use a lens brush or soft cloth to clean the lens.
10. Do not touch the lens with your fingers.
11. If a foreign substance or water gets in your camcorder, please turn the power off immediately and remove the battery. Next, remove the foreign substance or water by sending it to the authorized service / maintenance center.
12. To avoid the loss of video and photos on the memory card, you should make a backup copy to a computer or optical disc as soon as possible. Memory cards should not be considered as a long term storage device.
13. 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.
14. Before initial use of a memory card, it is recommended to use the camcorder to format the card first. See page 77 for details.
15. 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 or damp places
 - Next to an air conditioner, electric heater or other heat sources
 - 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°C ~ 40°C (32°F ~ 104°F). It is normal for the operating time to be shortened when the temperature is low.
5. The capacity of your camcorder battery 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.

1 Overall Introduction

Please read this chapter carefully to understand the features and functions of this Digital Video Camera. The description of this chapter also includes the description of system requirements, package contents, and hardware components.

1.1 System Requirements

This Digital Video Camera requires a computer or notebook with the following specifications:

- Windows® 7 / Vista / XP / 2000 operating system or Mac OS 10.4 or greater
- A CPU of at least the equivalent of Intel® Pentium 4 2.8GHz
- At least 2GB of RAM
- Standard USB 1.1, 2.0, or 3.0 connection ports.
- At least 64MB of display card
- Apple QuickTime or ArcSoft TotalMedia Theatre for video playback

Note: Windows Media Player may not playback the video files with audio. USB 1.1 allows you to transmit files to the host, but using USB 2.0 or 3.0 connection ports should increase the transmission speed.

1.2 Features

This Digital Video Camcorder provides many features and functions including:

- High resolution pixel camera (DV : maximum 1080P, DSC: maximum 16 million pixels)
- Touch screen
- Dual card slot (1 SD/SDHC and 1 Micro SD)
- Slow motion Playback

In addition, the device may also serve the function as a USB/SD card reader.

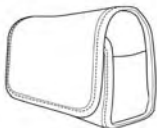
1.3 Accessories

This package should contain the following items. In case there is any missing or damaged item, please contact your reseller immediately.

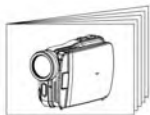
① Digital video camera



② Pouch



③ Quick guide



④ Software CD



⑤ HDMI cable



⑥ Video cable



⑦ USB cable



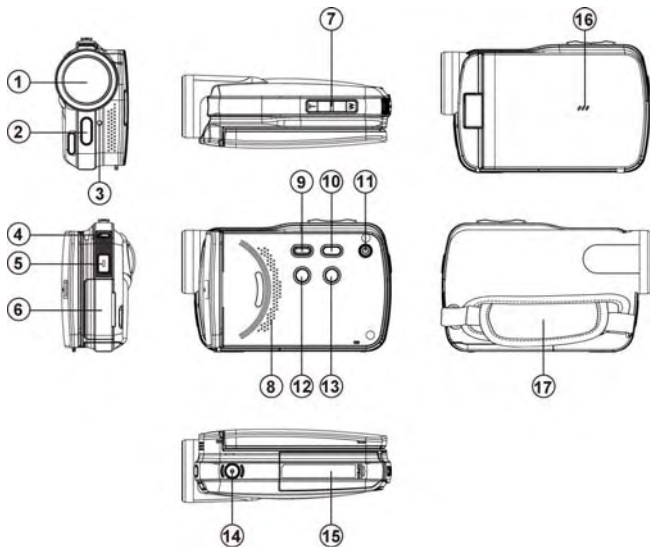
⑧ Lithium battery



⑨ Adaptor



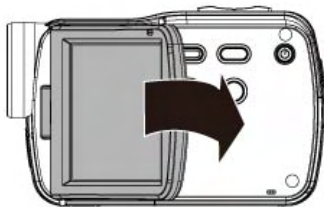
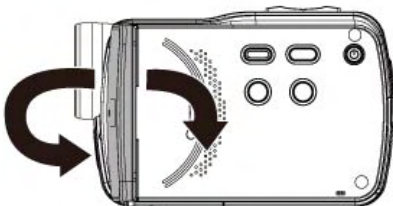
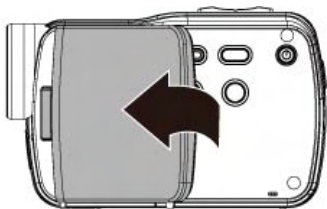
1.4 External View



1	Lens	10	Menu Button
2	LED Light	11	Power
3	Self-timer Indicator	12	Light Button
4	Status Display	13	Mode Button
5	Recording Button	14	Tripod socket
6	USB/HD/TV Output	15	Battery / Memory Card Compartment
7	Zoom Button	16	Microphone
8	Speaker	17	Hand Strap
9	Playback Button		

1.5 Adjusting LCD Display

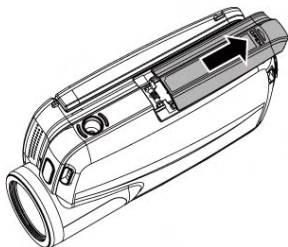
Before taking picture or recording movie clips, please adjust the LCD display for optimal viewing. This camcorder will allow the LCD display to be completely rotated for playback viewing if desired.



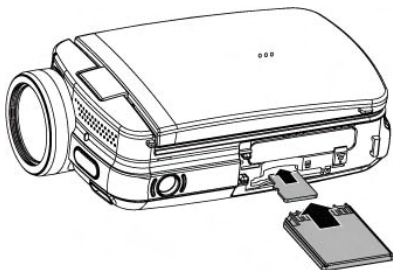
2 Getting Started


2.1 Inserting SD Card(s)

1. Open the battery cover.



2. Insert the SD card gently into the slot. Make sure the copper contact faces upwards.



SD card 1:  : SD / SDHC card;

SD card 2:  : Micro SD card

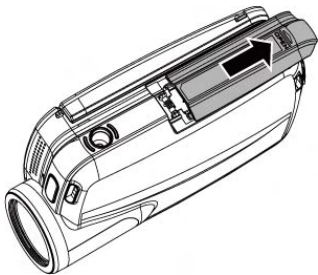
Note: To avoid damage to the camcorder and memory cards, DO NOT insert while powered up. Damage to the memory card will result in loss of video and photos.

2.2 Loading the Battery

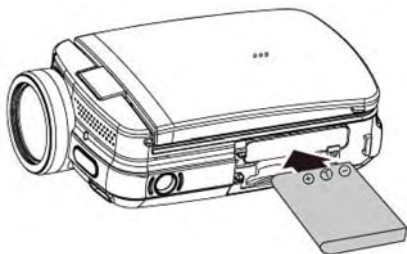
ONLY use the provided battery or manufacturer recommended battery with this camcorder.

Note: Insert the battery correctly according to this description. Failure to do this could result in damage to this Digital Video Camcorder and result in fire.

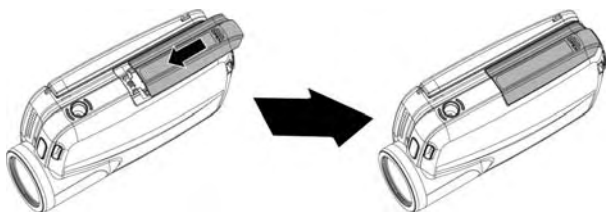
1. Open the battery cover.



2. Insert the battery according to the illustration. Be sure to have the battery terminal contacts match with the camcorder.



3. Close the battery cover.



Battery Status Indicator:

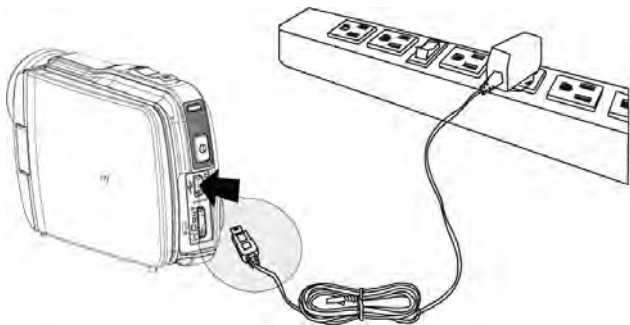
	Battery full
	Battery half full
	Battery empty
	<ul style="list-style-type: none">• Charging battery (A new battery should be charged at least 4 hours.)• The device power is supplied by DC input. (No

	battery inside.)
--	------------------

2.3 Charging the Battery

You can use the AC adaptor to charge the lithium battery, whether the camcorder is on or off

Insert the lithium battery into the camcorder and connect the camera to the cable of the AC adaptor. You can also charge the battery by a PC (via USB port) when the system is off.

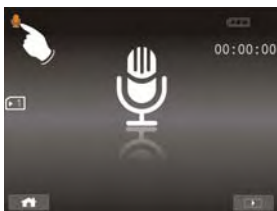
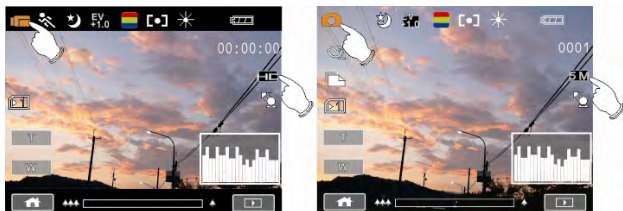


2.4 Using the touch screen gestures

2.4.1 Single touch

The single touch function acts as a hotkey menu to adjust basic settings directly on the display.

1. Mode change (Video, Photo and Voice Recording)
2. Resolution change (Full HD, HD, WVGA, WEB or 16M, 8M, 5M, 3M)



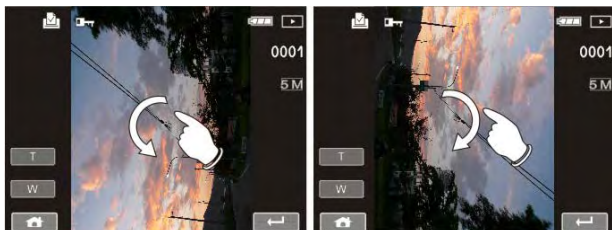
2.4.2 Slide

Slide right or left to view the previous file or the next file in Playback Mode.










2.4.3 Rotate

Under Playback Mode, you can rotate the image by 90°/step as shown below.



2.5 Buttons & Functions

Description	Button	Function
Power Button		Press the button to turn ON/OFF the power.
Menu Button		Press the button to display the main OSD menu.
LIGHT Button & MODE Button		<ul style="list-style-type: none"> - Press [MODE] to access different the 3 mode of Video, Photo and Voice recording. - Press [LIGHT] to turn ON/OFF the LED light in front of the camcorder. - In MENU and PLAY BACK modes, these buttons can be used for selection of the relevant functions. [LIGHT] is for left and [MODE] is for right.
Zoom Button		<ul style="list-style-type: none"> - This camcorder is equipped with 5X optical zoom and 4X digital zoom function. Please note that the 4X digital zoom is supported in 720P or lower video resolutions. - The [T] and [W] buttons can be used for function selection in the mode of [MENU]
Recording Button		Press the start/stop button  to begin / stop video recording, take a photo, or to start/stop voice recording.

Playback Button		Press the Playback button to enter Playback mode and playback the last file.
------------------------	---	--

2.6 About LED Indicators

Below table describes the meaning of the camera LED indicators:

	Indicator Color	Definition
Power (Rear LED)	Green	Turning power on.
Recording (Front LED)	Red blinking	Recording
Self-timer	Red blinking	Start of Self-timer.

2.7 Initial settings before use

2.7.1 Setting Date and Time

1. Turn on the camcorder to set up the date and time for the initial use. Set the date and time by pressing the Zoom Buttons (◀▶) and / or touching the screen to select.



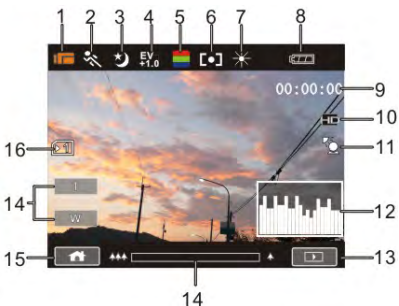
2. Press Mode Buttons (< LIGHT MODE >) or touch the indicator to highlight each column. Use Zoom Buttons (◀▶) to adjust the value. Press Recording Button (RECORD) to store your changes, or touch the screen to adjust the date and time before pressing the Return Button (↵) to store the value and leave the setting.





















3 LCD Display Information

3.1 Video (DV) Mode

The following illustration shows the LCD display layout and icon description in the DV Mode (📹).








1		DV(Movie Clip) Mode icon
2		Motion Detection icon
3		Night Mode icon
4		Exposure compensation icon
5		Color effect icon

6		Metering Mode icon
7		White balance icon
8		Battery status icon
9	00:00:00	Remaining recording time icon
10		Resolution Button
11		Backlight icon
12		Histogram icon
13		Playback Button
14		Digital Zoom Button
15		Menu Button
16		<p>Memory Status icon</p> <p> : SD card 1 icon;</p> <p> : Micro SD card 2 icon</p> <p> : Internal memory icon (displayed when there is no SD card)</p>

3.2 Voice Recording Mode

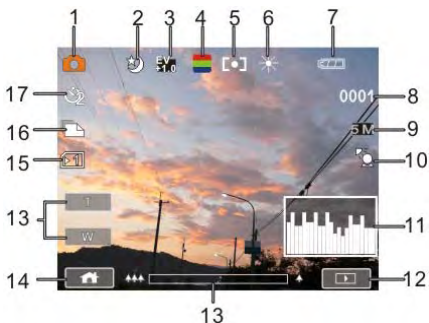
The following illustration shows the LCD display layout and icon description in the Voice Recording Mode (🎤).















1		Voice Recording Mode icon
2		Battery status icon
3	00:00:00	Recording time left icon
4		Playback Button
5		Menu Button
6		Memory Status icon ▶1 : SD card 1 icon; ▶2 : Micro SD card 2 icon INT : Internal memory icon (displayed when there is no SD card)

3.3 Photo (DSC) Mode

The following illustration shows the LCD display layout and icon description in the DSC Mode (📷).






1		DSC Mode icon
2		Night Mode icon
3		EV compensation icon
4		Effect icon
5		Metering Mode icon
6		White balance icon

7		Battery icon
8	0001	Number of pictures left icon
9	5 M	Resolution Button
10		Backlight icon
11		Histogram icon
12		Playback Button
13		Digital zoom Button
14		Menu Button
15		Memory Status icon  : SD card 1 icon;  : Micro SD card 2 icon  : Internal memory icon (displayed when there is no SD card)
16		Burst icon
17		Self-timer icon

4 Using the Camcorder

4.1 Shooting a Movie Clip



1. Power on the camcorder by opening the LCD panel or pressing the power button. Press the Mode Button () or touch the “DV Mode icon” on the LCD screen to switch to DV mode.
2. Press the Recording Button () to start recording. Press the Recording Button again () to stop recording.
3. The camcorder will store the video clip automatically.

DV Mode Icon →






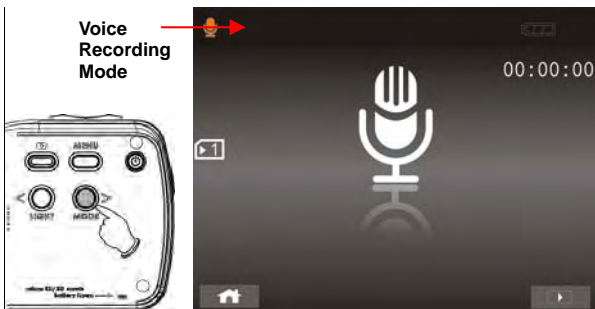
Note: It is recommended to use a 4 GB or greater SD / SDHC memory card for video recording.

The LCD screen ratio will be different depending on the setting of video resolution. Please refer to the table shown below:

Video Resolution	Preview
FHD (1920 x 1080p) HD (1280 x 720p) WVGA (848 x 480p)	16:9 ratio 
WEB (320 x 240)	4:3 ratio 


4.2 Voice Recording Mode

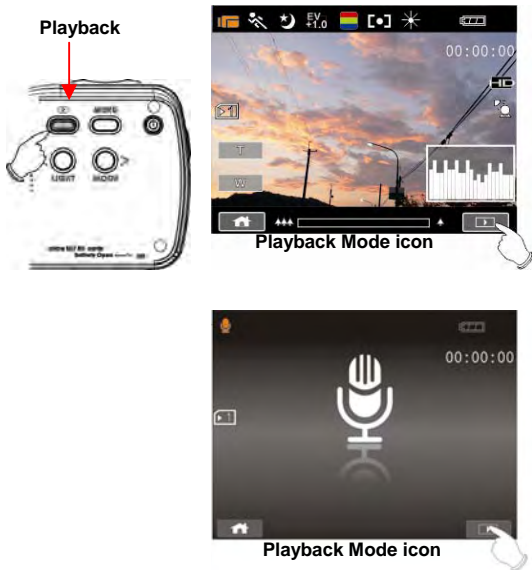
1. Power on the camcorder. Press the Mode Button () or touch the screen to select the “Voice Recording Mode icon” to switch to Voice Recording Mode.
2. Press the Recording Button () to start voice recording. Press the Recording Button again () to stop voice recording.





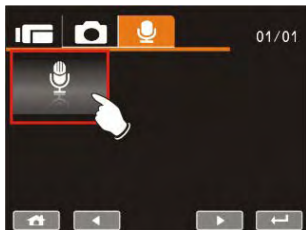
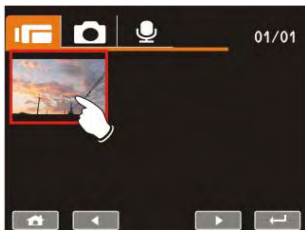
4.3 Video Clip / Voice Clip Playback

Note: Video, Photos and Audios may not play back on the camcorder if:

1. The folder/file name has been changed on your computer.
 2. If the file has been edited / processed on a computer or captured with another camcorder / camera.
1. In DV / Voice Recording Mode, pressing the Playback Button () or touching the Playback Mode icon on the LCD screen to will put the camcorder in playback mode. The last file stored will be displayed on the LCD screen.





2. Touch the desired mode icon (DV, DSC, or Audio). Recorded files will appear as thumbnails as illustrated below. Touch the file thumbnail or press the Zoom Button () to select the file, and press Recording Button ().



3. To pause the Playback of file, press the Recording Button () or touch the screen icon ().



4. Press Playback Button () again or touch the screen to select the Return Button (), the digital video camera will return to DV/Voice Recording Mode.

5. You can also playback the video clips at different speeds by touching the screen icons (◀◀ and ▶▶). To playback in slower speeds, touch the (⚙️ S) icon to select ON/OFF then touch the (◀◀ and ▶▶) icons to vary the speed. Review the table below for details.



Playback speed is as below when the Slow Motion is “OFF”:



◀◀		▶▶
Rewind	2X play	Forward
Rewind	4X play	Forward
Rewind	8X play	Forward
Rewind	16X play	Forward

Playback speed is as below when the Slow Motion is “ON”:

◀◀		▶▶
Rewind	1/2X play	Forward
Rewind	1/4X play	Forward
Rewind	1/8X play	Forward
Rewind	1/16X play	Forward


4.4 Shooting / Playback Photos

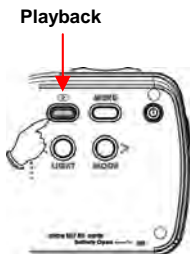
4.4.1 Taking a picture



1. Turn on the camcorder. Press the Mode Button () or touch the screen to select the “DSC Mode icon” to switch to DSC Mode.
2. Press the Recording Button () to capture photos. The camcorder will store the picture automatically.

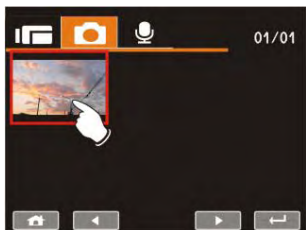






4.4.2 Photo Playback

1. In DSC Mode, press Playback Button () or touch the screen to select the Playback Button icon to display the images on the LCD screen.





2. Touch the file thumbnail or press the Zoom Button () to select the file, and press Recording Button ()





3. Pressing the Zoom Button () or touching the screen to select the Zoom icons ( / ) will zoom in or zoom out the picture. Press the Mode Button () or touch the screen to select the 4-way icons to move the image.



4. Press Zoom Button () or touch the Return Button () to return to full screen for viewing photos.










5. Press the Playback Button () again or touch the screen to select the Return Button () will restore to DSC capture mode.





5 LCD Display Information

5.1 DV Playback Mode

Please refer to the following table regarding the description of each icon and symbol.



1		Slow Motion Playback Button
2		File Protect icon
3		Battery status icon
4		Playback Mode icon
5	00:00:00	Length of each Movie clip icon
6		Resolution icon
7		Return Button
8		Fast forward Playback Button

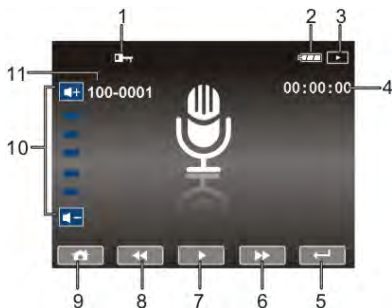
9		Playback/Pause Button
10		Fast rewind Playback Button
11		Menu Button
12		Sound volume Button
13	100-0001	Folder and file number










Note:

- 1. Maximum capacity of each recorded file is 4GB. Once the recording reaches 4 GB, the camcorder will automatically stop recording. Press the record button to begin recording again.**
- 2. Setting of high resolution will result in larger file size and therefore shorter recording time per recording.**

5.2 Voice Recording Playback Mode

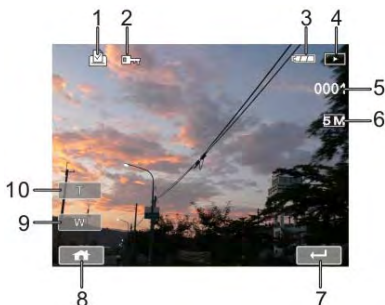
Please refer to the following table regarding the description of each icon and symbol.











1		File Protect icon
2		Battery status icon
3		Playback Mode icon
4	00:00:00	Length of each voice recording icon
5		Return Button
6		Fast forward Playback Button
7		Playback/Pause Button
8		Fast rewind Playback Button
9		Menu Button
10		Sound volume Button
11	100-0001	Folder and file number



5.3 DSC Playback Mode

Please refer to the following illustration to familiarize yourself with icons and symbols of DSC Playback Mode.




1		DPOF (Digital Print Order Format) icon
2		File Protect icon
3		Battery status icon
4		Image Playback Mode icon
5	0001	Number of pictures left icon
6	5M	Resolution icon
7		Return Button
8		Menu Button
9		Zoom- Out Button
10		Zoom- In Button



6 Menu Mode

Touching the  icon or pressing the Menu button () will launch the Main menu screen.





6.1 Menu options for DV Mode

Set your camcorder to DV Mode and press the MENU Button () to show the DV options menu.

6.1.1 Video Recording Resolution


1. Power on the camcorder and make sure it is in the DV Mode.
2. Touch the  icon or press the Menu Button () then touch the Resolution option to display the submenu.
3. Touch the desired resolution option to select as illustrated below. After an option is selected, the Menu screen will be displayed again.





 FHD	1920 x 1080p
 HD	1280 x 720p
 WVGA	848 x 480p
 WEB	320 x 240

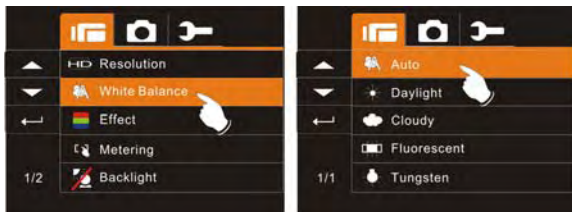
Note:






1. When setting to FHD, HD or WVGA resolution, the LCD display aspect ratio is 16:9.
2. When setting to WEB video resolution, the LCD display aspect ratio is 4:3.


4. Touch the  icon to return to video recording mode.

6.1.2 White Balance



1. Power on the camcorder and make sure it is in the DV Mode.
2. Touch the  icon or press the Menu Button () then touch the White Balance option to display the submenu.
3. Touch the desired White Balance option (Auto, Daylight, Cloudy, Fluorescent or Tungsten) to select as illustrated below. After an option is selected, the Menu screen will be displayed again.

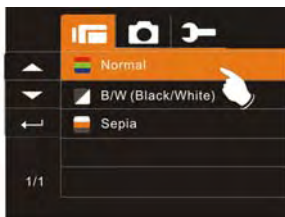





 Auto	The Digital Video Camera automatically adjusts white balance.
 Daylight	The setting is suitable for outdoor recording in daylight.
 Cloudy	The setting is suitable for recording in cloudy or shady environments.
 Fluorescent	The setting is suitable for indoor with fluorescent lamp lighting, or environments with high color temperature.
 Tungsten	The setting is suitable for indoor with incandescent lamp light, or environments with low color temperature.


4. Touch the  icon to return to video recording mode.

6.1.3 Effect



1. Power on the camcorder and make sure it is in the DV Mode.
2. Touch the  icon or press the Menu Button () then touch the Effect option to display the submenu.
3. Touch the desired Effect option (Normal, B/W (Black/White) or Sepia) to select as illustrated below. After an option is selected, the Menu screen will be displayed again.






 Normal	Make recordings in nature color
 B/W	Make recordings in B&W (Black and White) color
 Sepia	Make recordings in Sepia-toned color


4. Touch the  icon to return to video recording mode.

6.1.4 Metering



1. Power on the camcorder and make sure it is in the DV Mode.
2. Touch the  icon or press the Menu Button () then touch the Metering option to display the submenu.
3. Touch the desired Metering option (Spot, Center, Touch AE) to select as illustrated below. After an option is selected, the Menu screen will be displayed again.




 Spot	This setting is to ensure correct exposure for the object even if the background is very bright or very dark.
 Center	Use this setting to preserve background details while letting lighting conditions at the center of the frame define exposure.
 Touch AE	Touch the object to make it with suitable light.

4. Touch the  icon to return to video recording mode.



6.1.5 Backlight

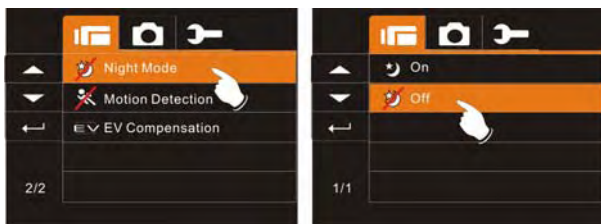
1. Power on the camcorder and make sure it is in the DV Mode.
2. Touch the  icon or press the Menu Button () then touch the Backlight option to display the submenu.
3. Touch the desired Backlight option to enable or disable the function as illustrated below. After an option is selected, the Menu screen will be displayed again. The default setting is disabled. Enabling the option will compensate for a backlit subjects.




4. Touch the  icon to return to video recording mode.

6.1.6 Night Mode

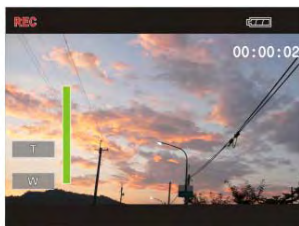
1. Power on the camcorder and make sure it is in the DV Mode.
2. Touch the  icon or press the Menu Button () then touch the Night Mode option to display the submenu.
3. Touch the desired Night Mode option to enable or disable the function as illustrated below. After an option is selected, the Menu screen will be displayed again. The default setting is disabled. Enabling the option will compensate for a low light situations.





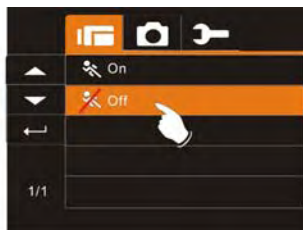
4. Touch the  icon to return to video recording mode.


6.1.7 Motion Detection

When the Motion Detection is enabled, the camcorder will automatically begin recording when a few seconds of movement is detected. The camcorder will stop recording a few seconds after no further motion is detected. When this feature is enabled, the camcorder will NOT automatically shut down due to the power saving mode.










1. Power on the camcorder and make sure it is in the DV Mode.
2. Touch the  icon or press the Menu Button () then touch the Motion Detection option to display the submenu.
3. Touch the desired Motion Detection option to enable or disable the function as illustrated below. After an option is selected, the Menu screen will be displayed again. The default setting is disabled.




4. Touch the  icon to return to video recording mode.

6.1.8 EV Compensation



You can adjust the value of the exposure compensation which is ranged from -2.0EV to +2.0EV (at 0.5EV increment). The higher the EV value, the brighter the image will be.

1. Power on the camcorder and make sure it is in the DV Mode.
2. Touch the  icon or press the Menu Button () then touch the EV Compensation option to display the submenu.
3. Touch the  icon to decrease the EV value or touch the  icon to increase the EV value. The EV value can also be changed by pressing the Mode Buttons ( ) to select left/right will increase or decrease EV value by steps. Press the Recording Button () to confirm.





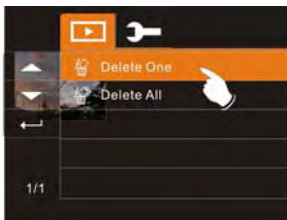
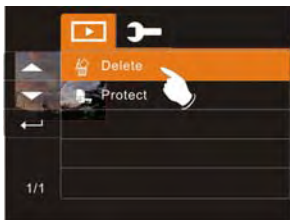
4. Touch the  icon to return to video recording mode.

6.2 Menu options of DV/Voice Playback

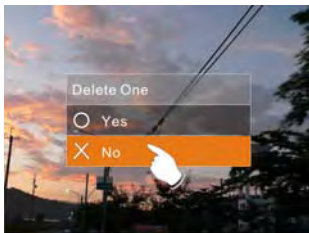
In DV/Voice Recording Mode, touch the  icon or press the Playback button  to enter Playback Mode.



6.2.1 Delete

1. Power on the camcorder and make sure it is in the DV/Voice Playback Mode.
2. Touch the screen to select the file to be deleted and touch the  icon or press the Menu Button () to enter Menu mode.
3. Touch the Delete option to enter the Delete submenu. Next, touch the screen to select Delete One or Delete All.




4. Touch the screen to select "Yes" or "No" to delete file(s).






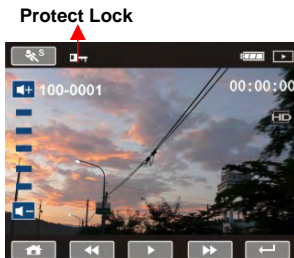
 Delete One	Delete the current file
 Delete All	Delete all files stored in the Digital Video Camera

Note: The file cannot be recovered once it is deleted. Please make sure you have backed up the file (if desired) before Deleting. Protected files cannot be deleted. Before deleting, you must unlock it.

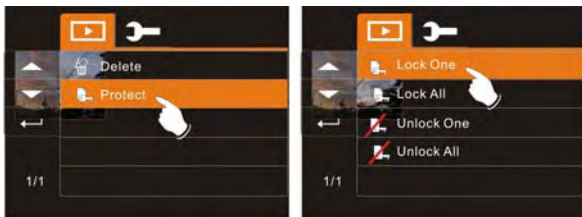
5. Touch the  icon to return to Playback mode.


6.2.2 Protect


1. Power on the camcorder and make sure it is in the DV/Voice Playback Mode.
2. Touch the screen to select the file to be protected and touch the  icon or press the Menu Button () to enter Menu mode. If the file is already protected, the lock  icon will be displayed in the upper part of the screen as illustrated below.





3. Touch the Protect option to enter the Protect submenu. Next, touch the screen to select the desired option.





Note: To unlock the file from Protect, repeat steps stated above. When the Protection is relieved from Protect mode, the locked  icon will disappear.

4. Touch the  icon to return to Playback Mode.





6.3 Menu options of DSC Mode


Touching the  icon or pressing the Menu button () will launch the DSC Main menu screen.

6.3.1 Still Image Resolution



1. Power on the camcorder and make sure it is in the DSC Mode.
2. Touch the  icon or press the Menu Button () then touch the Resolution option to display the submenu.
3. Touch the desired resolution option to select as illustrated below. After an option is selected, the Menu screen will be displayed again.

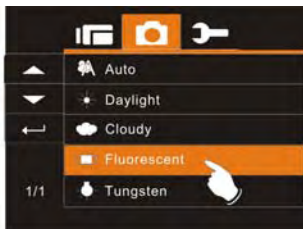







 16M	4608 x 3456 pixels (Interpolation)
 8M	3200 x 2400 pixels (Interpolation)
 5M	2592 x 1944 pixels
 3M	2048 x 1536 pixels


4. Touch the  icon to return to DSC recording mode.

6.3.2 White Balance

1. Power on the camcorder and make sure it is in the DSC Mode.
2. Touch the  icon or press the Menu Button () then touch the White Balance option to display the submenu.
3. Touch the desired White Balance option (Auto, Daylight, Cloudy, Fluorescent or Tungsten) to select (as illustrated below). After an option is selected, the Menu screen will be displayed again.





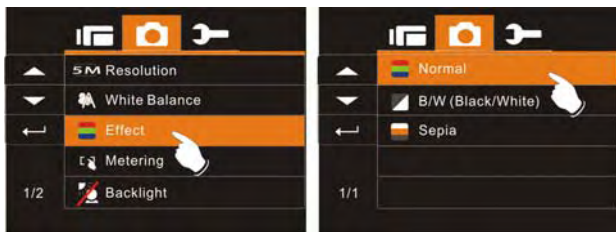
 Auto	The Digital Video Camera automatically adjusts white balance.
 Daylight	The setting is suitable for outdoor recording in daylight.
 Cloudy	The setting is suitable for recording in cloudy or shady environments.
 Fluorescent	The setting is suitable for indoor with fluorescent lamp lighting, or environments with high color temperature.
 Tungsten	The setting is suitable for indoor with incandescent lamp light, or environments with low color temperature.




4. Touch the  icon to return to DSC recording mode.


6.3.3 Effect

This digital video camera can record normal color image, black and white image, or image with sepia effect.



1. Power on the camcorder and make sure it is in the DSC Mode.
2. Touch the  icon or press the Menu Button () then touch the Effect option to display the submenu.
3. Touch the desired Effect option (Normal, B/W (Black/White) or Sepia) to select (as illustrated below). After an option is selected, the Menu screen will be displayed again.






 Normal	Make recordings in nature color
 B&W	Make recordings in B&W (Black and White) color
 Sepia	Make recordings in Sepia-toned color


4. Touch the  icon to return to DSC recording mode.

6.3.4 Metering



1. Power on the camcorder and make sure it is in the DSC Mode.
2. Touch the  icon or press the Menu Button () then touch the Metering option to display the submenu.
3. Touch the desired Metering option (Spot, Center, Touch AE) to select as illustrated below. After an option is selected, the Menu screen will be displayed again.

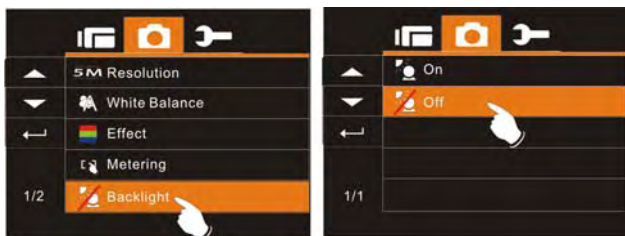



 Spot	This setting is to ensure correct exposure for the object even if the background is very bright or very dark.
 Center	Use this setting to preserve background details while letting lighting conditions at the center of the frame define exposure.
 Touch AE	Touch the object to make it with suitable light.

4. Touch the  icon to return to DSC recording mode.



6.3.5 Backlight

1. Power on the camcorder and make sure it is in the DSC Mode.
2. Touch the  icon or press the Menu Button () then touch the Backlight option to display the submenu.
3. Touch the desired Backlight option to enable or disable the function as illustrated below. After an option is selected, the Menu screen will be displayed again. The default setting is disabled. Enabling the option will compensate for a backlit subjects.




4. Touch the  icon to return to DSC recording mode.



6.3.6 Night Mode

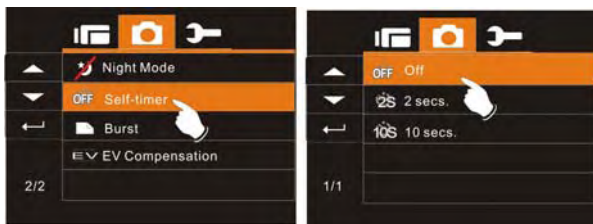
1. Power on the camcorder and make sure it is in the DSC Mode.
2. Touch the  icon or press the Menu Button () then touch the Night Mode option to display the submenu.
3. Touch the desired Night Mode option to enable or disable the function as illustrated below. After an option is selected, the Menu screen will be displayed again. The default setting is disabled. Enabling the option will compensate for a low light situations. The default setting is off.




4. Touch the  icon to return to DSC recording mode.

6.3.7 Self-timer


1. Power on the camcorder and make sure it is in the DSC Mode.
2. Touch the  icon or press the Menu Button () then touch the Self-timer option to display the submenu.
3. Touch the desired Self-timer option (Off, 2S, or 10S) to select as illustrated below. After an option is selected, the Menu screen will be displayed again. The default setting is off.





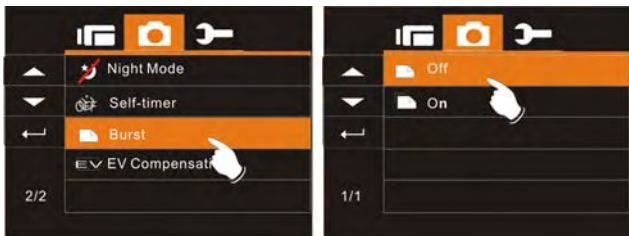
2S 2 secs.	The image will be taken 2 seconds after the shutter is released.
10S 10 secs.	The image will be taken 10 seconds after the shutter is released.


4. Touch the  icon to return to DSC recording mode.

6.3.8 Burst

This feature will continuously and automatically shoot three pictures in approximately 1 second by pressing the Recording Button ().








1. Power on the camcorder and make sure it is in the DSC Mode.
2. Touch the  icon or press the Menu Button () then touch the Burst Mode option to display the submenu.
3. Touch the desired Burst Mode option to enable or disable the function as illustrated below. After an option is selected, the Menu screen will be displayed again. The default setting is disabled. The default setting is off.

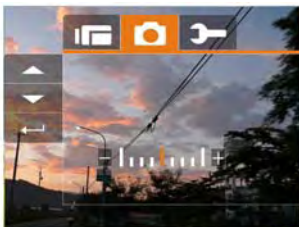
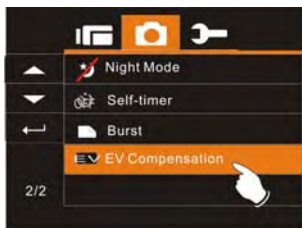



4. Touch the  icon to return to DSC recording mode.

6.3.9 EV compensation



You can adjust the value of the exposure compensation which is ranged from -2.0EV to +2.0EV (at 0.5EV increment). The higher the EV value, the brighter the image will be.

1. Power on the camcorder and make sure it is in the DSC Mode.
2. Touch the  icon or press the Menu Button () then touch the EV Compensation option to display the submenu.
3. Touch the  icon to decrease the EV value or touch the  icon to increase the EV value. The EV value can also be changed by pressing the Mode Buttons ( ) to select left/right will increase or decrease EV value by steps. Press the Recording Button () to confirm.





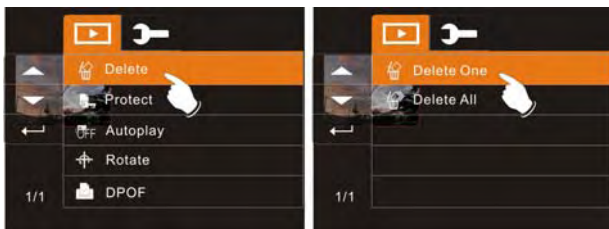
4. Touch the  icon to return to DSC recording mode.

6.4 Menus of DSC Playback

In DSC Recording Mode, touch the  icon or press the Playback button  to enter Playback Mode.



6.4.1 Delete

1. Power on the camcorder and make sure it is in the DSC Playback Mode.
2. Touch the screen to select the file to be deleted and touch the  icon or press the Menu Button  to enter Menu mode.
3. Touch the Delete option to enter the Delete submenu. Next, touch the screen to select Delete One or Delete All.




4. Touch the screen to select "Yes" or "No" to delete file(s).






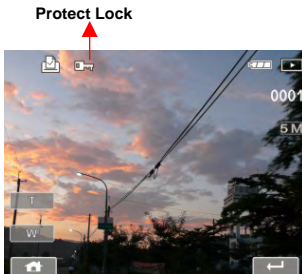
 Delete One	Delete the current file
 Delete All	Delete all files stored in the Digital Video Camera

Note: Photos cannot be recovered once deleted. Please make sure you have backed up the Photo(s) (if desired) before deleting. Protected photos cannot be deleted. Before deleting, you must unlock it.

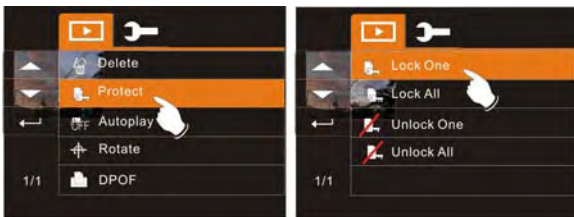
5. Touch the  icon to return to Playback mode.


6.4.2 Protect


1. Power on the camcorder and make sure it is in the DSC Playback Mode.
2. Touch the screen to select the file to be protected and touch the  icon or press the Menu Button () to enter Menu mode. If the photo is already protected, the lock  icon will be displayed in the upper part of the screen as illustrated below.



3. Touch the Protect option to enter the Protect submenu. Next, touch the screen to select the desired option.





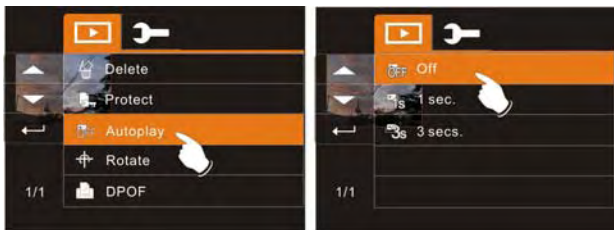
Note: Repeat above steps to unlock the file. When the file is unlocked, the locked icon  will disappear.


4. Touch the  icon to return to Playback mode.

6.4.3 Autoplay



This camcorder includes a slideshow feature for playing back each photo at a fixed interval.

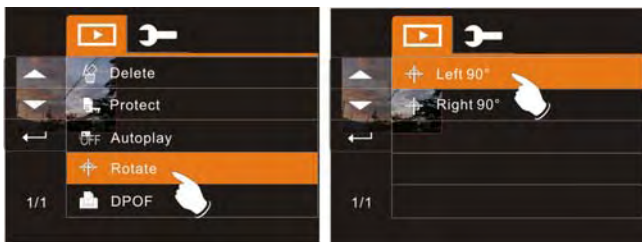
1. Power on the camcorder and make sure it is in the DSC Playback Mode.
2. Touch the screen to select the file to begin the slideshow and touch the  icon or press the Menu Button () to enter Menu mode.
3. Touch the desired photo display interval (Off, 1 sec., or 3 secs.). The photo slideshow will begin to play at the selected interval.





4. Touch the LCD screen to suspend the slideshow and return to Menu mode.
5. Touch the  icon to return to Playback mode.

6.4.4 Rotate




1. Power on the camcorder and make sure it is in the DSC Playback Mode.
2. Touch the screen to select the file to rotate and touch the  icon or press the Menu Button () to enter Menu mode.
3. Touch the desired photo rotation (Left 90 or Right 90). The photo will rotate according to your selection. Continue to touch the desired rotation option until finished.



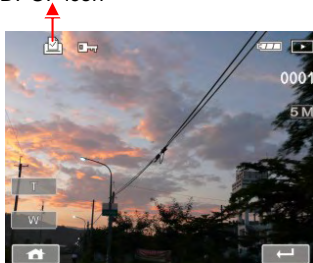
4. Touch the  icon to return to the previous Menu mode.
5. Touch the  icon again to return to Playback mode.

6.4.5 DPOF

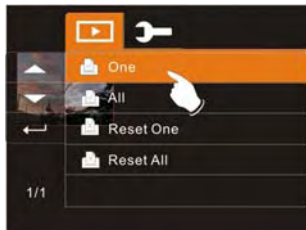
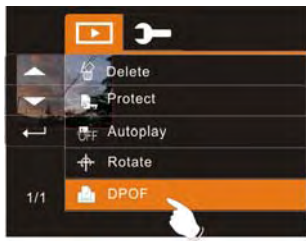
DPOF (Digital Print Order Format) function allows you to determine which captured photos on the memory card are to be printed.


1. Power on the camcorder and make sure it is in the DSC Playback Mode.
2. Touch the screen to select the file to be printed and touch the  icon or press the Menu Button () to enter Menu mode. If the photo has already been selected for print, the DPOF icon  will be displayed in the upper part of the screen as illustrated below.

DPOF icon




3. Touch the DPOF option to enter the DPOF submenu. Next, touch the screen to select the desired option.



4. Touch the desired option to select. Once selected, the previous Menu screen will be displayed.
5. Touch the  icon again to return to Playback mode.




Note: 1. A memory card is required for the DPOF function.
2. If you insert the memory card into a DPOF compatible printer, these selected photos will begin to print after prompted.

6.5 Settings Menu

The Settings Menu  can be used to select specific camcorder settings such as date/time. The Settings menu can be accessed in recording or playback mode.

6.5.1 Information

This feature is used to display information on the LCD screen to help you capture the best video and photos.

1. Power on the camcorder.
2. Touch the  icon or press the Menu Button () then touch the Settings icon . Touch the Information option to display the Information submenu.
3. Touch the desired option (Normal, Histogram, or Off) to select as illustrated below. After an option is selected, the Menu screen will be displayed again. The default setting is Normal.






4. Touch the  icon to exit the Menu mode.


6.5.2 Date / Time

Please refer to 2.7.1 the Setting of Date and time.

6.5.3 Beep




1. Power on the camcorder.
2. Touch the  icon or press the Menu Button () then touch the Settings icon . Touch the Beep option to display the submenu.
3. Touch the desired option to enable or disable the camcorder sound effects. The default option is On.

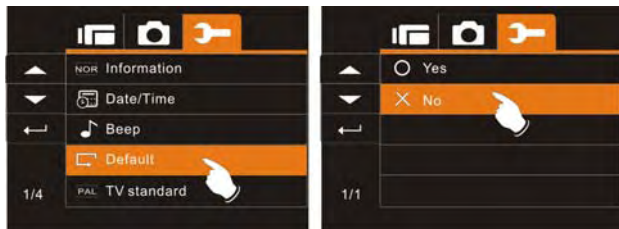


4. Touch the  icon to exit the Menu mode.

6.5.4 Default

Use this to reset all settings to the original factory default settings.




1. Power on the camcorder.
2. Touch the  icon or press the Menu Button () then touch the Settings icon . Touch the Default option to display the submenu.
3. Touch the desired option to restore or not to restore the camcorder original factory settings. If you select yes, another prompt will be displayed again to confirm.



4. Touch the  icon to exit the Menu mode.

6.5.5 TV standard

Use the TV standard to set for your area. See table below.

1. Power on the camcorder.
2. Touch the  icon or press the Menu Button () then touch the Settings icon . Touch the TV Standard option to display the submenu.
3. Touch the desired option to match your TV area.






TV out standard setting reference

 NTSC	USA, Canada, Japan, Korea, Taiwan, Mexico
 PAL	Australia, Austria, Belgium, China, Denmark, Finland, Germany, UK, Italy, Kuwait, Malaysia, New Zealand, Singapore, Spain, Sweden, Switzerland, Thailand, Norway


5. Touch the  icon to exit the Menu mode.

6.5.6 Auto Power Off

This setting can be used to automatically power off the camcorder after not using it for a selected period of time.




1. Power on the camcorder.
2. Touch the  icon or press the Menu Button () then touch the Settings icon . Touch the Auto Power Off option to display the submenu.
3. Touch the desired option (Off, 3 MIN, or 5 MIN) to select as illustrated below. After an option is selected, the Menu screen will be displayed again. The default setting is 3 minutes.



4. Touch the  icon to exit the Menu mode.



6.5.7 Frequency

Use the Frequency setting to set the frequency system for your area. See table below.

1. Power on the camcorder.
2. Touch the  icon or press the Menu Button () then touch the Settings icon . Touch the Frequency option to display the submenu.
3. Touch the desired option to match your area.






Frequency setting reference:

 50HZ	UK, Germany, Spain, Italy, France, Netherlands, Portugal, Russia, China, Japan
 60HZ	USA, Taiwan, Korea, Japan

4. Touch the  icon to exit the Menu mode.

6.5.8 Language




1. Power on the camcorder.
2. Touch the  icon or press the Menu Button () then touch the Settings icon . Touch the Language option to display the submenu.
3. Touch the desired User Interface language (English, German, French, Italian, Japanese, Spanish, Portuguese, Traditional Chinese, Simplified Chinese, Turkish, Russian, Thai, Arabian or Korean) to select.



4. Touch the  icon to exit the Menu mode.


6.5.9 Format

This will format the memory card or the built-in memory. Be warned that all Video, Photo, and Audio content on the card or internal memory will be deleted and CANNOT be restored once completed.

1. Power on the camcorder.
2. Touch the  icon or press the Menu Button () then touch the Settings icon . Touch the Format option to display the submenu.
3. Remove all memory cards to format the internal memory. Touch "O" Yes to select to format the card or memory. Touch "X" No to cancel and return to the Settings menu. If you select yes, another prompt will be displayed again to confirm.






Note: All Video, Photo, and Audio content on the card or internal memory will be deleted and CANNOT be restored once completed.

4. Touch the  icon to exit the Menu mode.

6.5.10 File Number(Default: Series)

This setting allows you to name the files. If “Series” is selected, the file name will follow the latest stored file consecutively. If “Reset” is selected, the next file name will start from 0001 even after formatting, deleting or inserting a new memory card.




1. Power on the camcorder.
2. Touch the  icon or press the Menu Button () then touch the Settings icon . Touch the File Number option to display the submenu.
3. Touch the desired option.



4. Touch the  icon to exit the Menu mode.

6.5.11 LCD brightness

This setting can be used to adjust the brightness of the screen.




1. Power on the camcorder.
2. Touch the  icon or press the Menu Button () then touch the Settings icon . Touch the LCD Brightness option to display the submenu.
3. Touch the desired option. The brighter the LCD, the more drain on the battery.



4. Touch the  icon to exit the Menu mode.

6.5.12 Instant Review

This setting can be used to determine the number of seconds that a photo will displayed on the LCD after capture.




1. Power on the camcorder.
2. Touch the  icon or press the Menu Button  then touch the Settings icon . Touch the Instant Review option to display the submenu.
3. Touch the desired option (1S, 3S, or 5S) to select as illustrated below. After an option is selected, the Menu screen will be displayed again. The default setting is 1 second.



4. Touch the  icon to exit the Menu mode.

6.5.13 Memory

Use this setting to select data storage location. If a single memory card is inserted, it will be automatically selected by default. This setting should only be used when 2 memory cards are inserted.

1. Power on the camcorder.
2. Touch the  icon or press the Menu Button () then touch the Settings icon . Touch the Memory option to display the submenu.
3. Touch the desired option. SD1 is the SD/SDHC memory card slot and SD2 is the micro SD card slot. If you select a card source that does NOT have a memory card inserted, a "No Card" prompt will briefly be displayed.






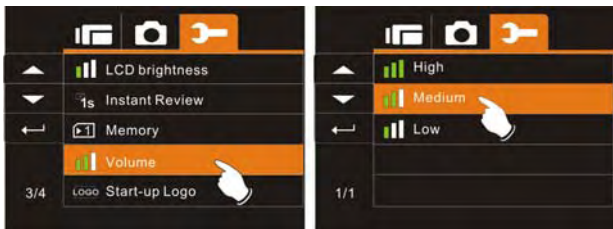
Note: Power off the camcorder before inserting a memory card to avoid damage and loss of content on the card. When inserting SD card, slot 1 or slot 2 can be selected for storage. If the camera does not have SD card, the file will be stored in the build-in storage.

4. Touch the  icon to exit the Menu mode.

6.5.14 Volume

Use this setting to adjust the camcorder effects volume.




1. Power on the camcorder.
2. Touch the  icon or press the Menu Button () then touch the Settings icon . Touch the Volume option to display the submenu.
3. Touch the desired option (High, Medium, or Low) to select as illustrated below. After an option is selected, the Menu screen will be displayed again. The default setting is Medium.

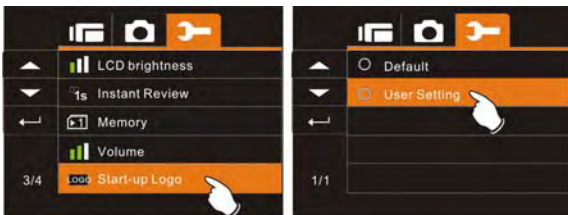


4. Touch the  icon to exit the Menu mode.

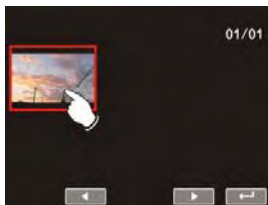
6.5.15 Start-up LOGO

Use this setting to change the startup image when the camcorder is powered on.

1. Power on the camcorder.
2. Touch the  icon or press the Menu Button () then touch the Settings icon . Touch the Start-up Logo option to display the submenu.
3. Touch the desired option (Default or User Setting) to select as illustrated below. If Default is selected, then the camcorder will display the HP startup screen.






4. If the User Setting option is selected, cycle through the photos stored on the camcorder's memory (card or internal) and touch the desired photo you want when the camcorder powers up.



5. The camcorder will exit the settings menu.

6.5.16 Face Detection

The Face Detection setting will detect and focus on faces in a scene automatically during a photo mode.

1. Power on the camcorder.
2. Touch the  icon or press the Menu Button () then touch the Settings icon . Touch the Face Detection option to display the submenu.
3. Touch the desired option to enable or disable the setting. The default option is Off. Enabling face detection may slow the shot to shot time.



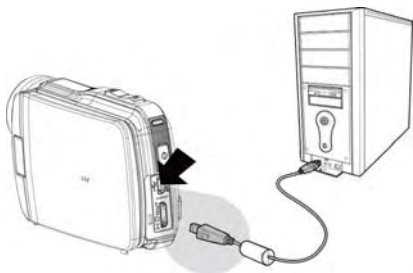
4. Touch the  icon to exit the Menu mode.

Note: Face Detection can ONLY be used in DSC (Photo) mode.

7 PC and TV Connection

7.1 Connecting to the Computer

As shown in the illustration, use the USB cable provided to connect the camcorder to a PC for file transmission.



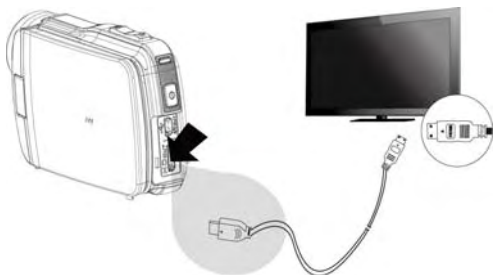
7.2 Connecting to a Standard TV

As shown in the illustration, use the video cable to connect the camcorder to a standard TV.



7.3 Connecting to a HD TV

As shown in the illustration, use the HDMI cable provided to connect the camcorder to a HD TV or HDMI enabled PC monitor for high resolution picture display.

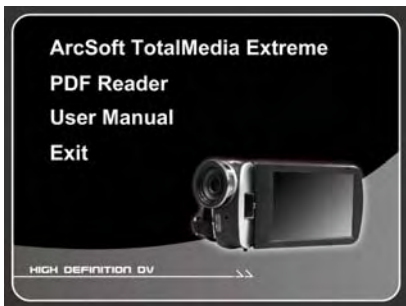


Note : Some TVs may not recognize this image format (1080p, 30fps). Please confirm the resolution of the connected TV.

8 Installing the Software

1. Place the CD ROM attached into the CD player.
2. If the CD is not executed automatically, please use the root menu of the computer to locate the **Install_CD.exe** file in the CD root menu.

The following screen will be displayed.



3. Press the Menu item and follow the Installation process and follow the instructions on screen.

9 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.

10 Appendix

Specifications

Image sensor	1/3.2 inch. 5 mega pixels CMOS sensor		
Effective pixels	5 Megapixel (2592X1944)		
Storage media	Support SD / Micro SD card and SDHC card up to 32GB		
ISO Equipment	Auto		
Color effect	Normal / BW / Sepia		
Lens	f = 5-25 mm; F=3.5-3.7 (f = 38-190 mm, 35mm equivalent)		
Focus range	Wide: 10cm~Infinity Tele: 100cm~ Infinity		
Still image	Format : JPEG (DPOF, EXIF) Resolution: 3MP, 5MP, 8MP (Interpolation), 16M (Interpolation)		
Recording method (fps)	Resolution	NTSC	PAL
	Full HD (1920 x 1080)	30fps	30fps
	HD (1280x720)	30fps	30fps
	WVGA (848x480)	60fps	60fps
	WEB (320x240)	30fps	30fps
	Format: H.264 (MOV)		
TV output	NTSC/PAL		
Zoom	Optical Zoom: 5x ; Digital Zoom: 4x		

	Static image playback: 8x digital zoom (depending on the size of the image)
Audio	Sound: ADPCM Video: MOV
TFT screen	3.0" Touch Panel screen
LED Flashlight	Range : Below 1.0m DV: On / Off DSC: On / Off
White balance	Auto / Daylight / Cloudy / Fluorescent / Tungsten
Exposure	-2.0 EV~+2.0 EV (0.5EV / step)
Self-Timer	Off, 2 seconds, 10 seconds
Ports	1) USB 2.0 (mass storage device, AV out, DC in) 2) HDMI
Shutter	Electronic shutter 1/2 ~1/4000 sec
Auto Power Off	Off, 3 minutes, 5 minutes
Power Source	NP-60 Lithium battery (1050mAh)
Dimensions	110 (L) x 68 (H) x 37 (W) mm
Weight	About 186g (without battery and SD card)

Troubleshooting

Problem	Possible Cause	Solution
Cannot power on the Camcorder.	<ol style="list-style-type: none">1. Battery is not inserted correctly.2. Battery is exhausted.	<ol style="list-style-type: none">1. Please insert battery correctly.2. Recharge the Battery.
Camera shutdown suddenly.	<ol style="list-style-type: none">1. Power saving mode already activated.2. Battery exhausted.	<ol style="list-style-type: none">1. Please turn on the power again.2. Recharge the Battery.
Photos are not stored in the memory.	The camcorder was Powered off before it completed storing the images.	Be sure the Battery is charged and do not power off the camcorder until 5 seconds after a video of photo is recorded.
Camera shutdown when using Self-timer shooting picture.	Battery exhausted	Recharge the Battery.
Images are out of focus	Object exceeds the range of focus or camcorder was not still during recording.	Keep subjects within range and reduce camcorder movement.

<p>Unable to use the external memory card.</p>	<ol style="list-style-type: none"> 1. Memory card is Protected. 2. Memory card contains non-DCF images taken by other cameras. 3. Memory card type or format not supported. 	<ol style="list-style-type: none"> 1. Unlock the memory card. 2. Reformat the memory card. Please make sure to backup the file before reformatting memory card. 3. Use only SD, SDHC or micro SD memory cards.
<p>All Buttons can not work or camera hangs.</p>	<p>Short circuit occurred when connecting the camera to other device.</p>	<p>Remove the Battery and re-insert after 10 seconds.</p>
<p>Battery power was okay when the camcorder was new, but now lasts only a few minutes.</p>	<p>Rechargeable Batteries do wear out after a year or longer.</p>	<p>Replace the NP-60 battery with same type (mAh rating ` 1050 and 1700).</p>

