Welcome

Dear user, thanks for purchasing this product.
Much investment in time and effort has gone into its development,
and it is our hope that it will give you many years of trouble-free service.

Safety Notice

1. Do not drop, puncture or disassemble the camera; otherwise the warranty will be voided.

2. Avoid all contact with water, and dry hands before using.

3. Do not expose the camera to high temperature or leave it in direct sunlight. Doing so may damage the camera.

4. Use the camera with care. Avoid pressing hard on the camera body.

5. For your own safety, avoid using the camera 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 camera.

8. Remove the battery if it shows signs of leaking or distortion.

9. Use only the accessories supplied by the manufacturer.

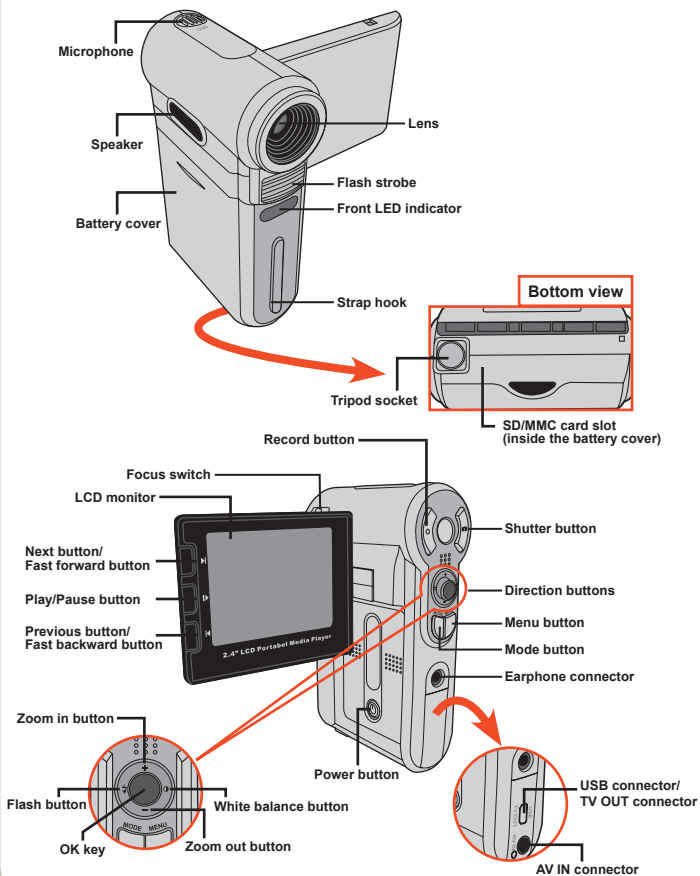10. Keep the camera out of the reach of infants.

Table of Contents

Table of Contents

Getting Started

● **Knowing your camera parts**

Microphone

Speaker

Battery cover

Lens

Flash strobe

Front LED indicator

Strap hook

Bottom view

Tripod socket

SD/MMC card slot
(inside the battery cover)

Record button

Focus switch

LCD monitor

Next button/
Fast forward button

Play/Pause button

Previous button/
Fast backward button

2.4" LCD Portabel Media Player

Shutter button

Direction buttons

Menu button

Mode button

Earphone connector

Zoom in button

Flash button

OK key

White balance button

Zoom out button

Power button

USB connector/
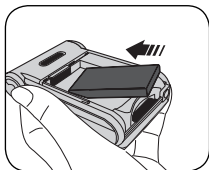TV OUT connector

AV IN connector

Installing the battery

1 Open the battery cover.
Slide the battery cover open as indicated.

2 Install the battery.
Place the accessory Li-Ion battery into the compartment. Note that the metallic contacts must be aligned with the contacts in the compartment.

3 Replace the cover.
After the battery is properly installed, replace the battery cover.

❗ Treat the Li-Ion battery with care:
- Keep the battery away from fire or high-temperature environment (over 140°F or 60°C).
- Do not drop the battery or try to disassemble it.
- If the battery is not used for long periods, fully discharge and charge the battery at least once a year to maintain its lifecycle.

❗ Upon using the battery for the first time, you are recommended to fully discharge and then charge the battery to ensure its lifecycle.

❗ Purchasing additional batteries:
This camera uses one 8210 Li-Ion battery as power source. You can purchase the 8210 Li-Ion Rechargeable battery (3.7 volt; 850mAh) at your local shop.

● Using the charger

The battery attached is not fully charged. Please charge the battery at least 4 hours for first time use.

1 **Connect one end of the supplied AC adapter to the charger stand and the other end to a wall outlet.**

2 **Place the depleted battery pack into the charger.**
Note that the metallic contacts must be aligned with the contacts in the charger.

Battery pack

Charging indicator

To a wall outlet

Power indicator
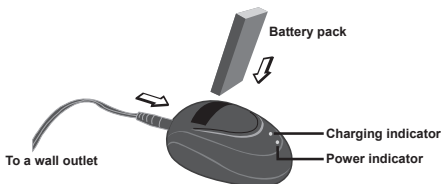
3 **The charging indicator turns red and the charge starts.**

4 **When the charging indicator turns green, the battery pack is fully charged.**

> ❗ This charger can only be used to charge the accessory battery pack. Do not use it to charge other unknown batteries.
>
> ❗ When in use, do not place the charger near fire or in an enclosed area that retains heat.

● Inserting a memory card (optional)

In addition to the built-in flash memory, your camera can store data on a Secure Digital (SD) card or a MultiMedia card (MMC).

To insert a memory card, do the followings:
(1) Open the battery cover.
(2) Gently push the card as indicated until the card reaches the bottom of the slot.

To remove the memory card, gently push the card and it will pop up. Then pull the card out of the slot.

❖ Write protection

The SD card comes with a write-protect switch. When the write-protect switch is set to the Lock position, the card will become non-writable. To ensure that the camera can operate normally, you should set the write-protect switch to the Unlock position before inserting the SD card.

Unlock

Lock
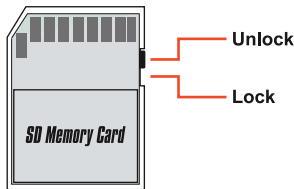
SD Memory Card

❗ Do not remove the memory card while the camera is processing data (when the LED is blinking).

❗ When a memory card is inserted, the camera will use the card as the main storage medium. Files stored in the camera's built-in memory will become inaccessible until the card is removed.

● **Attaching the carrying strap**

1 **Thread one end of the strap into the strap hook.**
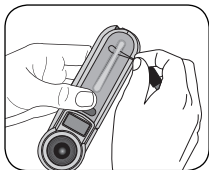
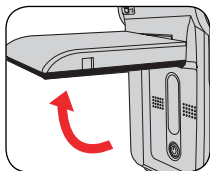**2** **Thread the strap as illustrated on the right.**
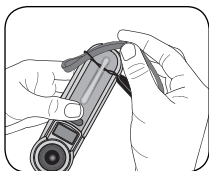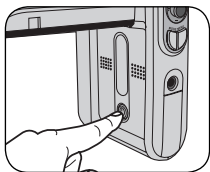
Basic Operations

● Turning on your camera

Open the LCD monitor and the camera will be automatically powered on.

OR

When the camera is powered off with the LCD monitor open, press and hold down the Power button for 1 second to turn on the camera.

> ❶ If the camera is not turned on after pressing the Power button, please check:
> 1. The battery pack is well installed in the camera.
> 2. The battery pack has enough power left.

● Turning off your camera

Press and hold down the Power button for 1 ~ 3 seconds to turn off the camera.

OR

If the camera stays inactive for a long period of time, it may automatically shut down due to the Auto-Off setting. See page 30 for more information.

● Using the LCD monitor

The LCD monitor can be used to compose image settings for shooting, to review recorded files, or to change menu options.
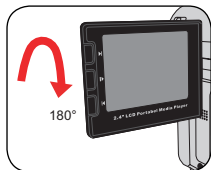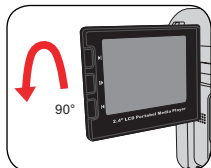
The LCD monitor can be rotated to the following positions:
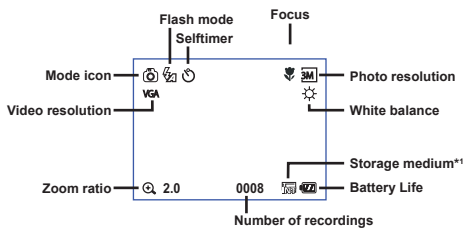
1 Open the LCD monitor.
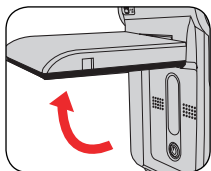
2 Rotate the LCD monitor.
The LCD monitor can be rotated up to 270 degrees as indicated. You can position the panel at any angle to serve your filming purpose.

90°

180°

❗ When the LCD monitor is flipped over, the previewed image on the LCD will be automatically adjusted.
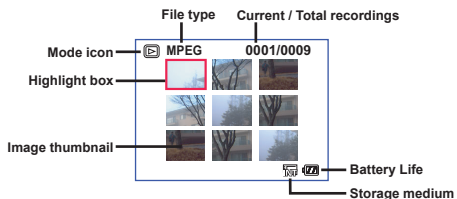
Reading LCD indicators

Digital Camcorder mode:

Flash mode
Selftimer
Focus

Mode icon
Video resolution

VGA

Photo resolution
White balance

Zoom ratio — 2.0   0008   **Storage medium***1
Battery Life

Number of recordings

*1 This icon will change according to the storage medium you are using:

: internal memory.
: memory card.

Playback mode:

File type   **Current / Total recordings**

Mode icon — MPEG   0001/0009
Highlight box

Image thumbnail

Battery Life
Storage medium

● Setting time and language

When you power on the camera for the first time, you are recommended to adjust the time and language settings.

1 **Turn on the camera.**

2 **Press the Mode button and use the Direction buttons to select the Setting (⚒) mode. Then press the OK key to enter.**

3 **Use the Direction buttons to select the Date & Time (🗓) item.**

4 **Press the OK key or move the Direction buttons toward right to enter the sub-menu.**

5 **Move the Direction buttons left or right to shift between items. Move the Direction buttons up or down to adjust the value. Press the OK key or right key of the Direction buttons to confirm the setting.**

6 **Press the Menu button or Mode button to return to the menu, and then use the Direction buttons to select the Language (ABC) item.**

7 **Press the OK key or move the Direction buttons toward right to enter the sub-menu.**

8 **Use the Direction buttons to select a suitable language and press the OK key to confirm.**

● Recording a video clip

1 Adjust the focus.

Set the **Focus Switch** to an appropriate setting. Normally, you should set the focus to (🚶) for most filming conditions. Select (🌷) only for close-ups. The focus is adjustable during recording.

🚶	70cm ~ ∞ (28" ~ ∞)
🌷	50cm ~ 70cm (20" ~ 28")
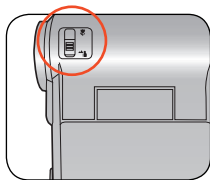
Zoom in

2 Zooming

Move the Direction buttons up or down to zoom in or zoom out the screen. The maximum magnification is 4X.

Zoom out

❶ The zoom function is also available during recording.

❶ Adjust other advanced settings if necessary. See the section "Advanced Operations" on page 22 for more information.

● Recording a video clip (continued)

3   **Press the Record button to start recording.**

Timer

00:00:07

VGA

2.0   0008
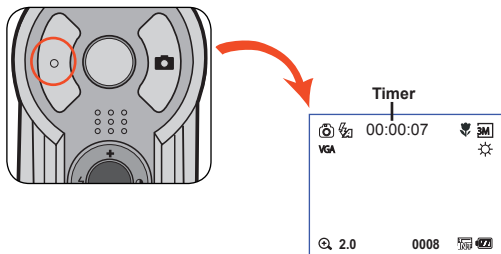
4   **Press the Record button again to stop recording.**
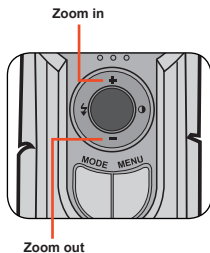
Taking a still picture

1 Adjust the focus.

Set the **Focus Switch** to an appropriate setting. Normally, you should set the focus to (👤) for most filming conditions. Select (🔺) for scenery photos. Select (🌷) only for close-ups.

👤	70cm ~ ∞ (28" ~ ∞)
🌷	50cm ~ 70cm (20" ~ 28")

2 Zooming

Use the Zoom button or Up/Down key to zoom in or zoom out the screen.

> ❗ Adjust other advanced settings if necessary. See the section "Advanced Operations" on page 22 for more information.

Zoom in
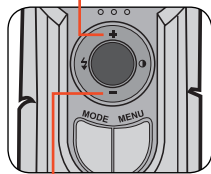
Zoom out

3 Press the Shutter button to take a still picture.
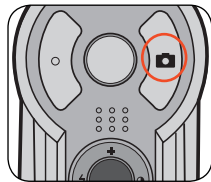
● Recording a voice clip

1 Press the Mode button and use the Direction buttons to select the Voice (🎤) mode. Then press the OK key to enter.

2 Press the Record button to start recording.

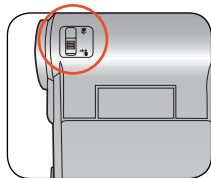**Avoid blocking the microphone**

❗ Before or during recording, you can move the Direction buttons toward left or right to adjust microphone sensibility, thus setting the sound volume of the recording.

3 When you are done, press the Record button again to stop recording.

Recording TV program or DVD

The advanced MPEG-4 digital video recording technology allowes you to record TV program via AV-IN cable.

1 Turn on your TV or DVD player.

2 Connect the AV cable to the AV-Out terminal on the TV or DVD player. (Normally, it's not necessary to switch the mode, please refer to the User's Manual of the TV or DVD player.)

3 Turn on the camera.

4 Connect the other end of the AV cable to the camera's AV-IN terminal. Make sure that the images displayed on the TV or DVD player is also displayed on the camera's LCD monitor.

5 Press the Record button to start recording.

6 Press the Record button again to stop recording.

> ❶ There are two resolution settings available for recording videos: VGA (640x480) and QVGA (320x240).
>
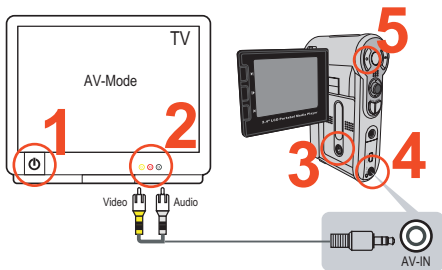> VGA mode is suitable for displaying on the TV, but memory-consuming. The recording time for the 1GB memory card can last approximately 1 hour.
>
> QVGA mode is suitable for displaying on the small screen (such as the LCD monitor). The recording time for the 1GB memory card can last approximately 2 hours.
>
> For more information on VGA and QVGA's settings, please refer to page 25.

● Playing back your recordings

1 Press the Mode button and use the Direction buttons to select the Playback ( ) mode. Then press the OK key to enter. Or press the Play/Pause button (▌▶) below the LCD monitor.

2 Operations in playback mode:

| File type	How to...	Action
Index mode / Full-screen mode	Shift between index mode and full-screen mode	In index mode, press the OK key to switch to full-screen mode. In full-screen mode, press the **Menu** button to switch to index mode. (When reviewing a picture, if you move the Direction buttons down when the zoom ratio is 1.0x, the screen will switch to index mode.)
	Shift between files	1. In index mode: Use the Direction buttons to move the highlight box. 2. In full-screen mode: Use the Direction buttons to move left or right.
Picture	Zoom in/out	Use the Direction buttons to move up or down.
	Lock/Release zoom ratio	When the zoom ratio is greater than 1.0x, press the OK key.
	Browse the enlarged picture	When the zoom ratio is locked, use the Direction buttons to browse the picture.
Video & Audio	Start playing	When selected (in full-screen mode), the file automatically starts playing.
	Pause/Resume playing	During playing/While paused, press the OK key.
	Adjust the volume level	During playing, use the Direction buttons to move up or down.
	Stop playing	During playing, press the **Menu** button.
	Return to the preview screen	Press the **Shutter** button.
	Fast forward	During playing, press the **Next** (▶▎) button. To stop, press the **Play/Pause** (▌▶) button.
	Fast backward	During playing, press the **Previous** (▎◀) button. To stop, press the **Play/Pause** (▌▶) button.
	Select the next file	While paused/stopped, press the **Next** (▶▎) button.
	Select the previous file	While paused/stopped, press the **Previous** (▎◀) button.

● Playing MP3 music

❖ Copy MP3 files to the camera

Before you can play MP3 music, you need to copy MP3 files to the camera first.

1 Connect the camera to your PC.
Turn on the camera, and connect the camera to a PC using the USB cable.
For details on connecting the camera to your PC, see page 34.

2 Copy files to the camera.
After the camera is connected to the PC, double-click on **My Computer** and you will find a removable disk. Create a "MP3" folder in the removable disk, and then you can copy MP3 files into the folder for playing.
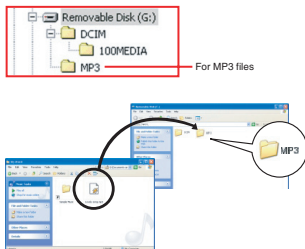
> ❶ MP3 files must be placed in the "MP3" folder for playing.
>
> ❷ To take advantage of the removable disk function, Windows 98SE users may need to install the accessory driver. See page 32-33 for details on the installation.

● Playing MP3 music (continued)

❖ Playing music in MP3 mode

1 **Press the Mode button and use the Direction buttons to select the MP3 (🎵) mode. Then press the OK key to enter.**
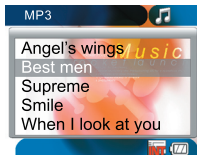
MP3 mode

2 Operations in MP3 mode:

How to...	Action
Shift between tracks	Use the Direction buttons to move up or down. Or press the **Next** (▶|) button or **Previous** (|◀) button.
Start playing	Press the OK key or the **Play/Pause** (|▶) button.
Pause/Resume playing	During playing/While paused, press the OK key or the **Play/Pause** (|▶) button.
Adjust sound volume	Use the Direction buttons to move left or right.
Stop playing	During playing, press the **Menu** button or use the Direction buttons to move up or down.

Connecting the camera to a TV

Connect your camera 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.
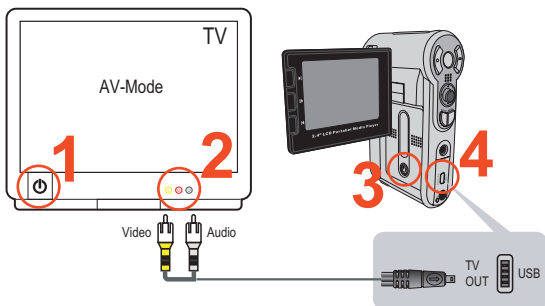
1 Turn on your TV and switch the TV to AV mode.

> ❗ The TV system is different across countries. To configure the TV-out setting, please refer to page 29. (ex. Taiwan/America: NTSC; Europe/China: PAL)

2 Connect the audio and video ends of the AV cable to the TV.

3 Turn on the camera.

4 Connect the other end of the AV cable to your camera.

Advanced Operations

● Menu operation

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

How to...	Action
Bring up the menu	Press the **Menu** button.
Move the highlight bar	Use the Direction buttons to move up or down.
Enter sub-menu/ Confirm an item	Press the **OK** key.
Exit menu/Go back to upper menu	Press the **Menu** button (when in sub-menu).

● Menu illustration

Menu title ———— CAMERA

Menu icon

Highlight bar ————

Resolution
Date stamp
Stabilizer
WB

Menu item ————

1/4   MENU

Information bar
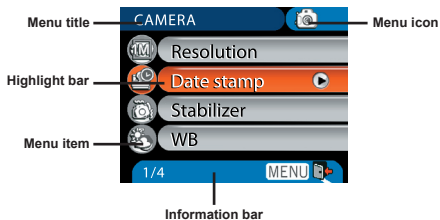
● Menu items in Camera mode

Power-on → Press the **Menu** button.

Item	Option		Description
Resolution	6 Mega-pixel Camera	1M	Set picture resolution to 1280x960.
		3M	Set picture resolution to 2048x1536.
		6M	Set picture resolution to 2816x2112.
	8 Mega-pixel Camera	3M	Set picture resolution to 2048x1536.
		5M	Set picture resolution to 2560x1920.
		8M	Set picture resolution to 3264x2448.
Date Stamp	On		Print a date mark on each picture.
	Off		Disable date mark.
Stabilizer	On		Minimize blur caused by hand shake.
	Off		Disable stabilizer.

● Menu items in Camera mode (continued)

Item	Option	Description
WB	☼ Auto	The camera 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.
Photo-Frame	1 ~ 10	This setting allows you to add customsized frames to photos. 10 background frames are available on the LCD monitor.
	0	The Photo-Frame function is disabled.
Histogram	On	Image histogram displays on the screen.
	Off	Disable histogram.
Flash	⚡ Auto	The flash automatically fires when the lighting is insufficient.
	⚡ On	The flash is forced to fire in every shot.
	⚡ Off	The flash is disabled.

● Menu items in Camera mode (continued)

Item	Option	Description
Effect	🎨 Normal	Make recordings in natural color.
	🎨 B&W	Make recordings in black and white.
	🎨 Classic	Make recordings in sepia-toned color.
☒ 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.
Selftimer	⏱ On	Enable the selftimer. After the selftimer is turned on, the camera will have ten seconds delay before recording when the Shutter button is pressed.
	⏱ Off	Disable selftimer.
⌖ Icon	On	Enable OSD (on screen display) icons to display on the screen.
	Off	Disable OSD icons.
Video	VGA VGA	Set the video resolution to VGA (640x480 pixels).
	QVGA QVGA	Set the video resolution to QVGA (320x240 pixels).

● **Menu items in Camera mode (continued)**

Item	Option	Description
Two-in-One	On	This setting allows you to combine two images taken individually into one photo.
	Off	Disable the Two-in-One function.
NightShot	On	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.
	Off	Disable the Night Mode function.

● Menu items in Playback mode

Power-on → Press the **Mode** button → Enter the Playback (🦅)
mode → Press the **Menu** button.

Item	Option	Description
🗑 Delete	One	Delete current file.
	All	Delete all pictures and video/audio files stored in the memory.
🎞 Slide Show	-	The camera displays images in sequence. Only JPEG pictures and the first frames of MPEG files will be displayed. You can press the Menu button to stop the slide show.
🖨 Print	One	Print current image when connected to a PictBridge-ready printer.
	All	Print all images when connected to a PictBridge-ready printer.
	Cancel	Cancel action.

* If there is no files in the camera, no items will be seen.

❗ Before using the Print command in the menu, you need to connect the camera to a PictBridge compatible printer via the accessory USB cable. See page 31 for more details on connecting a printer.

27
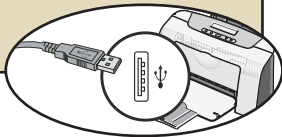
● **Menu items in MP3 mode**

Power-on → Press the **Mode** button → Enter the MP3 (🎵)
mode → Press the **Menu** button.

Item	Description
Delete One	Delete current track.
Cancel	Cancel action.

● **Menu items in Voice mode**

Power-on → Press the **Mode** button → Enter the Voice (🎙)
mode → Press the **Menu** button.

Item	Description
Delete One	Delete current voice recording.
Delete All	Delete all voice recordings.

● Menu items in Setting mode

Power-on → Press the **Mode** button → Enter the Setting (⚒) mode → Press the **Menu** button.

Item	Option	Description
🗓️ Date & Time	-	Set date and time.
Beep	🔊 On	Enable beep sound.
	🔇 Off	Disable beep sound.
Flicker	50 Hz 50Hz	Set flicker frequency to 50Hz. For settings reference, see page 48.
	60 Hz 60Hz	Set flicker frequency to 60Hz. For settings reference, see page 48.
TV-out	📺 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.
📷 Icon	On	Enable OSD icons to display on the screen.
	Off	Disable OSD icons.
🔆 LCD Bright	-2~+2	Set LCD brightness. A positive value makes the LCD brighter; while a negative value makes the LCD dimmer.
🗑️ Format	Yes	Format the storage medium. Note that all files stored in the medium will be gone.
	No	Cancel action.

● **Menu items in Setting mode (continued)**

Item	Option	Description
Auto Off	Off	Disable Auto-off function.
	1 min	The camera automatically shuts down when staying inactive for over 1 minute.
	3 min	The camera automatically shuts down when staying inactive for over 3 minutes.
	5 min	The camera automatically shuts down when staying inactive for over 5 minutes.
(ABC) Language	-	Lets you select the language used for OSD.
Default	Yes	Restore factory defaults. Note that your current settings will be overridden.
	No	Cancel action.
USB Mode	Menu	When connected to a PC, the camera displays a menu for you to choose a desired connection mode.
	Camera	When connected to a PC, the camera automatically enters Camera (PC camera) mode.
	Disk	When connected to a PC, the camera automatically enters Disk (removable disk) mode.
	Printer	When connected to a PC, the camera automatically enters Printer mode.
Start Movie	On	Enable Start Movie function.
	Off	Disable Start Movie function.

● Menu items in Setting mode (continued)

❗ To connect the camera to a PictBridge compatible printer, follow these steps:

1) Power on the camera.

2) Set the camera USB mode to Printer (page 30).
3) Open the connector cover and connect one end of the accessory USB cable to the camera.

4) Connect the other end of the USB cable to the printer.
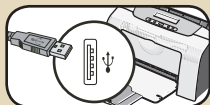
5) Power on the printer.

Copying Files to Your PC

● **Installing the driver to your PC**

You need to install the camera driver to ensure that video clips can be played back on your PC. To install the software:

1 **Insert the driver CD.**

Turn on your computer. Then place the accessory CD into the CD-ROM drive.
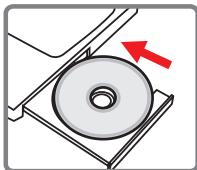
❗ Do not connect the camera to your computer at this stage.

❗ Shut down all other applications running on your computer.

❗ If the autorun screen does not appear automatically, double-click on **My Computer** and then the CD-ROM drive. Then start the *Setup.exe* program manually.

2 **Start the installation.**

Click on the driver icon to launch the installation of the driver.

❗ **Notice for Windows 2000 users:**
During the installation process, a warning message regarding digital signature may appear twice or more. Please click on **Yes** to continue the process. The software is fully compatible with Windows 2000 operation system.

● Installing the driver to your PC (continued)

3 Install the driver.

The **Install Shield Wizard** will then
appear and automatically install the
program. Click on **Next** and follow the
on-screen instructions to complete the
installation.
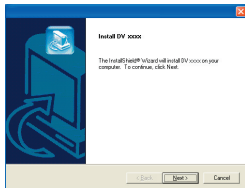
4 Install codecs.

After the driver installation is
completed, the program will
prompt you to install **Windows
Media Player Codecs**. If
you are not sure whether the
codecs have been installed in
your computer, please click on
Yes and follow the on-screen
instructions to complete the
installation.
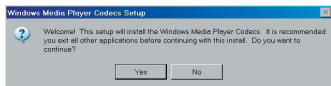
5 Install Direct X 9.0c or above.

After the codecs installation is completed,
you will be prompted to install **Direct X 9.0c**
or above if the program is not yet installed
in your computer. Please click on **Yes** to
continue.

> ❶ *Windows Media Player Codecs* and *Direct X 9.0c* or above are
> necessary for viewing the video clips recorded by the camera.

6 Restart the computer.

After the installation is completed, you may
need to restart your computer for the driver
to take effect.

● Connecting the camera to your PC

1 Connect the USB cable to your computer.
Turn on your computer, and then connect the accessory USB cable to the USB port of your computer. Make sure the cable and the port are correctly aligned.
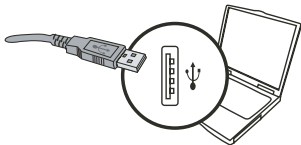
2 Turn on the camera.

3 Connect the USB cable to your camera
Connect the other end of the USB cable to your camera.

The default is set to "Disk" mode, if you would like to set other modes as default, please refer to "USB Mode" section on page 30 for more information.

> PC
> Camera
> Disk
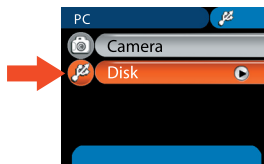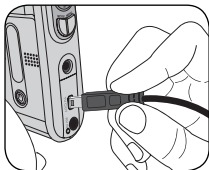
> ● **Notice for Windows 2000/XP/ME users:**
> If you want to disconnect the camera from your computer, please follow these steps:
> 1. Double-click in the system tray.
> 2. Click (USB Disk), and then click **Stop**.
> 3. Select the camera when the confirmation screen appears and click **OK**.
> 4. Follow the on-screen instructions to safely disconnect the camera from your computer.

Copying files to the PC

1 This step varies depending on your operation system:

For Windows XP users:
After the camera is connected to your computer, a dialogue window will appear automatically. Please select the item **Open folder to view files using Windows Explorer** and click **OK**.
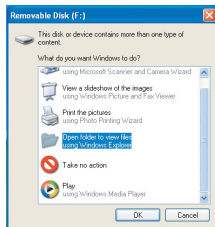
For Windows 2000/ME/XP users:
Double-click on **My Computer**. Then double-click on the icon of the removable disk that has just appeared.
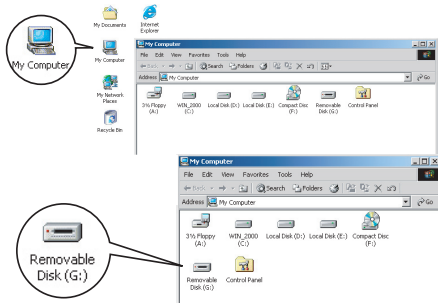
● Copying files to the PC (continued)

2 Double-click on the DCIM file folder.

Windows XP   Windows 2000/ME/98 SE

3 Double-click on the 100MEDIA file folder.

Windows XP   Windows 2000/ME/98 SE
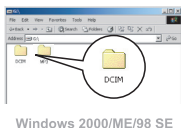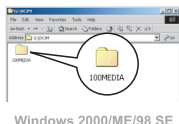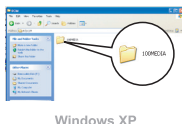
4 Drag the target file into My Documents or the destination folder.

Windows XP

Copy pictures
to "My Documents"
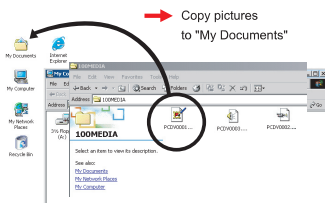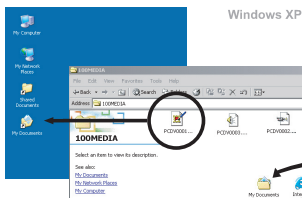
● Viewing/Playing files on your PC

1 **Double-click on My Documents or any other folder that stores your files.**

Windows XP

Windows 2000/ME/98 SE
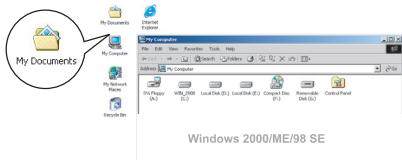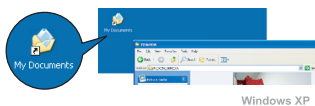
2 **Double-click on the desired file, and the file will be opened by the program matching the file type.**

Windows XP

Windows 2000/ME/98 SE
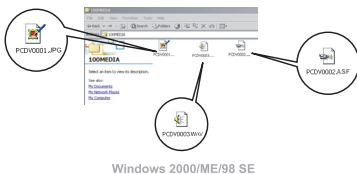
● File location

After connecting the camera to your computer, a removable disk will appear in your computer. The removable disk actually represents the storage medium of your camera. In the disk you can find all of your recordings. Refer to the figure below to see where the files are stored.

```
Folders
📝 Desktop
  ⊞ 📂 My Documents
  ⊟ 💻 My Computer
    ⊞ 💾 3½ Floppy (A:)
    ⊞ 💿 WIN_2000 (C:)
    ⊞ 💿 Local Disk (D:)
    ⊞ 💿 Local Disk (E:)
    ⊞ 🗂 V23 (F:)
    ⊟ 💿 Removable Disk (G:)
      ⊟ 📁 DCIM
          📁 100MEDIA —— For multimedia files.
          📁 MP3 —————— For MP3 files.
    ⊞ 🗗 Control Panel
  ⊞ 🖳 My Network Places
```

38
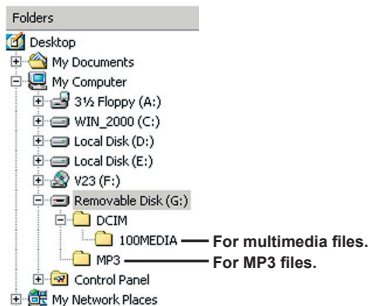
Using PC Camera

● Installing the software

The PC camera software is included in the camera driver, and therefore you should install the driver before using the PC camera function. If you have not yet installed the driver, see page 32 for details on the installation.

● Starting the application

1 Turn on the camera and connect the camera to your computer.
Turn on the camera, and then connect the camera to your computer using the accessory USB cable. See page 34 for more details.
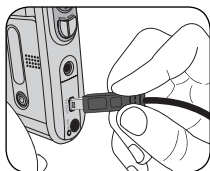
2 Switch to Camera mode.
Press the **Menu** button to bring up the options menu. Use the Direction buttons to select the **Camera** item and press the OK key to confirm.

The default is set to "Disk" mode, if you would likt to set other modes, please refer to "USB Mode" section on page 30 for more information.
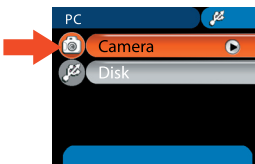
> ❗ If you want to use the Video Conferencing function, please install programs such as *Netmeeting* to serve the purpose.

● Starting the application (continued)

☛Notice for Windows ME users:
When the indicated screen appears, please select **Automatic search for a better driver** and click **Next** to continue.
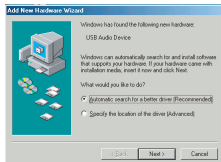
☛Notice for Windows 98SE users:

1. Click **Next** when the following screen appears.
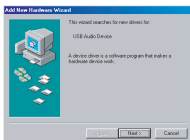
2. When the following screen appears, select **Search for the best driver for your device** and click **Next** to continue.
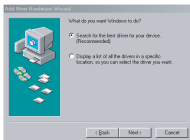
3. During installation, some users may need to insert a licensed 98SE CD into the CD-ROM drive for copying the needed files.

4. Follow the on-screen instructions to complete the installation.

☛Notice for Windows 2000 users:
When using the PC camera function for the first time, the warning message regarding digital signature may appear twice or more. Please click **Yes** to continue the installation. The camera is fully compatible with Windows 2000 operation system.

● Starting the application (continued)

3 Launch the PC Camera program.

Double-click the icon (📷) on the Desktop to start the program. After the program starts, you can begin to use the PC camera function.

> ❗ If you cannot find the program shortcut on the desktop, you can start the program from the **Programs** menu.

● Using the PC Camera
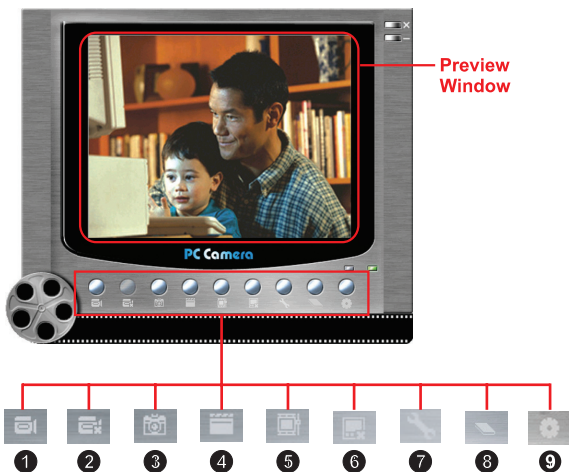
Preview
Window

❶ **Start recording a video clip**

❷ **Stop recording**

❸ **Snapshot**

❹ **Format** *

❺ **Source** *

❻ **Start/Stop preview window**

❼ **Setting** *

❽ **Open album**

❾ **Select video source**

* Sub-menu available.

❗ To view pictures taken by the PC Camera, please click on 🖼 to open the photo album. Or, as an alternate option, go to the "Work Temp" folder to find the files.

● **Using the PC Camera (continued)**

❖ <u>Recording an AVI movie</u>

1. Click on the ⊟ icon.
2. Press ... to specify the path and name of the AVI file.
3. Set the frame rate and recording time according to your needs.
4. Press the **Start to Record** button to begin recording.
5. To stop recording, click on the ⊟ icon.
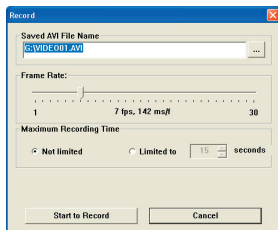
❖ <u>Taking a snapshot</u>

Click on the 📷 icon to take a snapshot.

❖ <u>Configuring format options</u>

◻ Color Space:
Select one of the following functions according to your needs.
- RGB 24: This item is for retaining better quality.
- MJPG: This item indicates the AVI movie will be more compressed to gain the advantage of faster processing speed.

◻ Output Size:
Set output size to change the size of the preview window. The default size is 320x240. Select larger pixels when you need a larger preview window.

43
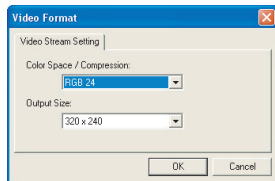
● Using the PC Camera (continued)

❖ Configuring source options

◘ Device Control:
- Brightness: You can check the
  "Auto" item and let the program
  adjust image brightness for you, or
  uncheck the "Auto" item and slide
  the bar to adjust image brightness
  manually.

- Quality: If the network bandwidth
  is congested when using PC
  Camera, slide the bar toward
  "Faster Video" to avoid this problem.
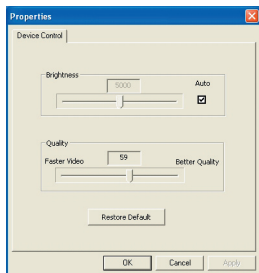
❖ Configuring flicker options

If you take your camera abroad, and
find the screen of your computer
flickers when using PC Camera
function, please check the Cancel
Flicker item to prevent noises from
appearing on the screen. Or, you can
refer to the Flicker Settings table on
page 48 for proper flicker value that
suits the country you are staying.
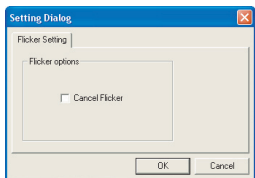
Appendix:A

● Troubleshooting

When using the camera:		
Problem	**Cause**	**Solution**
The camera can not be powered on normally.	The battery is out of power.	Replace the battery.
	The battery is incorrectly installed.	Re-install the battery.
The camera is still powered on, but the LCD monitor does not display.	If the camera stays idle over one minute, the LCD monitor will automatically shut down to save power.	Press any button except the power button to reactivate the display.
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 camera 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 monitor displays "MEMORY ERROR" or "CARD ERROR" message. Or the camera cannot read the memory card.	The format of the memory card is not compatible with the camera.	Use the camera "Format" function to format the card.
	The memory card is corrupted.	Replace the memory card with a new one.

Appendix:A

When using the camera:		
Problem	**Cause**	**Solution**
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.
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 camera does not respond to any action during operation.	The camera encounters software failure.	Remove the battery pack and replace it into the compartment. Then power on the camera.
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 monitor 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 on page 48.

Appendix:A

When connecting the camera 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 *Direct X 9.0c* or above and *Windows Media 9.0 Codecs* to solve this problem. See page 32 for details on installing the software, or go to http://www.microsoft.com to download the required files.
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 camera 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 camera to the TV.	The camera is not correctly connected to the TV.	Reconnect the camera to TV correctly.
A conflict with other installed camera or capture device occurred.	The device is not compatible with the camera.	If you have any other camera or capture device installed in your computer, please completely remove the camera 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 on page 48.

Appendix:A

Flicker Settings

Country	England	Germany	France	Italy	Spain	Netherlands
Setting	50Hz	50Hz	60Hz	50Hz	50Hz	50Hz
Country	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 Message

Message	Description
Recording	The camera is recording a file.
Please Unlock SD Card	If you insert a SD card and the card is set to "Protected", this message will show up when the camera tries to write data into the card.
No File	When the camera is set to Playback mode without any existing file to play, this message will show up.
Please Change Battery	The battery life of the camera is low. You should replace the battery with a new one immediately.
Memory Full	The storage memory is full and can not store any more files. Please change the SD/MMC card or delete some files to free some memory space.
Card Error	The inserted card is not compatible with the camera. Please change the card or try formatting the card.
Memory Error	The camera can not access data in the internal memory. Please format the medium to solve this problem.
Strobe Is Charging	The flash strobe is charging.
File Format Error	The file being played is not compatible with the camera.
Deleting	The camera is performing file deletion.
Formatting	The camera is formatting the storage medium.
Setting	The camera is performing a setting action.

Appendix:A

● Storage Capacity

Memory	Video (min.)		Audio (min.)
	VGA	QVGA	Maximum
Flash memory (16MB for storage)	2	7	15
SD/MMC card (128MB)	6	22	90
SD/MMC card (256MB)	12	44	190
SD/MMC card (512MB)	24	88	380
SD/MMC card (1GB)	48	176	760

Memory	Still picture					
	8 Mega-pixel camera			6 Mega-pixel camera		
	8M	5M	3M	6M	3M	1M
Flash memory (16MB for storage)	20	30	50	25	50	170
SD/MMC card (128MB)	130	210	300	170	300	1000
SD/MMC card (256MB)	260	420	600	340	600	2000
SD/MMC card (512MB)	520	840	1200	680	1200	4000
SD/MMC card (1GB)	1040	1680	2400	1360	2400	8000

Note: The actual value of capacity may vary (up to ± 30%) depending on the color saturation and complexity of your subject and surroundings.

Appendix:A

◗ Battery Life Indicator

Icon	Description
(white)	Full battery life
	Moderate battery life
(white)	Low battery life * If the indicator turns red, flash strobe is disabled.
	Empty battery life

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

◗ Battery Life

Still picture	Video clip
Number of shots	Recording time (minute)
290	90
* shoot every 30 seconds ** flash is on *** resolution is set to 2816x2112 pixels	* resolution is set to VGA (640x480 pixels)

Note: This table is for your reference only. The actual battery life depends on your battery type and recharge level.

Appendix:B

● Instruction for ArcSoft MediaConverter™

Introduction

ArcSoft MediaConverter is a powerful all-in-one multimedia file converter. This utility quickly and effortlessly converts photo, video, and music files into formats optimized for use on your portable device. Multiple files and file types can be converted at the same time. It's easy! Three simple steps are all it takes. (Refer to page 54 for more information.)

❖ System requirements

To install and run the MediaConverter, your system must meet the following minimum requirements:

◘ Microsoft Windows 98 SE/ME/2000/XP (Home or Professional)
◘ 50 MB free hard drive space
◘ 256 MB RAM
◘ DirectX 9 (DirectX 9c recommended)
◘ Microsoft Windows Media Player 9.0 (for converting WMA and WMV files)
◘ Microsoft Windows 98 SE/ME/2000/XP (Home or Professional)
◘ Apple QuickTime 6.5 (for converting MOV files)

Appendix:B

❖ **Supported file formats**

◘ Video
Video files are converted and copied to the selected location as MPEG-4 encoded AVI files, WMV files or MPEG-4 encoded ASF files (Default).

◘ Supported file types for conversion
- AVI (Microsoft Video 1 format, Cinepak, Intel Indeo, uncompressed, etc.)
- MPEG-1 in MPEG, MPG, MPE
- DAT (VCD MPEG1)
- MPEG-4 in AVI format
- MPEG-4 in ASF
- WMV
- QuickTime MOV

QuickTime 6.5 and Windows Media Player 9.0 or above are required for QuickTime MOV and WMV file conversion, respectively.

◘ Supported file types for export
- AVI (MPEG-4 SP)
- WMV
- ASF(MPEG-4 SP)

Appendix:B

Converting files

Use this application to convert video, photo and audio files into file formats compatible with your media player.

See supported file formats

ArcSoft

Step 1: Select Media

Name ↑	Size	Current Format
01-One Hundred Years.mp3	11536.000 KB	Winamp media file
01-The Holy Hour.mp3	6904.000 KB	Winamp media file
02-A Short Term Effect.mp3	7292.000 KB	Winamp media file
02-Primary.mp3	6084.000 KB	Winamp media file
03-Other Voices.mp3	6948.000 KB	Winamp media file
03-The Hanging Garden.mp3	7720.000 KB	Winamp media file
04-All Cats Are Grey.mp3	8774.000 KB	Winamp media file
04-Siamese Twins.mp3	8566.000 KB	Winamp media file
05-The Figurehead.mp3	9870.000 KB	Winamp media file
05-The Funeral Party.mp3	7044.000 KB	Winamp media file
06-A Strange Day.mp3	8350.000 KB	Winamp media file

You can drag and drop files into the window above.

Step 2: Select Destination

C:\Documents and Settings\My Documents

Settings   Convert

Appendix:B

❖ **Step 1: Select media**

◘ Adding files for conversion
1　Click the "Select Media" button.
2　An "Open" window will appear. Navigate to the folder that contains the
　　files you'd like to convert.
　　a. Use the "Files of type" pull-down to filter the file types you'd like to
　　　display.
　　b. Preview highlighted files to be sure that they're the ones you want.
　　　Check the "AutoPlay" box to start the playback automatically
　　　after you click a file.
3　Repeat steps 1 and 2 above until all the files you want are added. In
　　addition to using the above method, you can also drag-and-drop files
　　directly to the file list in the program window.
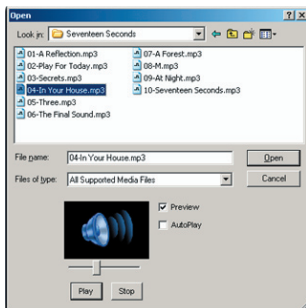
◘ Removing files

To delete a file from the list, highlight it and click the "X" icon.

Appendix:B

❖ Step 2: Select destination

Click the "Select Destination" button to select the location where your converted files will be saved. The default save location is "C:\Documents and Settings\[current user]\My documents". However, you'll most likely want to save the files to your portable device. In this case, make sure your device is connected, and then click "Select Destination" and choose the device.

| Step 2: Select Destination |
| C:\Documents and Settings\My Documents |

◘ Settings

Various program settings can be accessed by clicking the "Settings" button. Each section lets you select one of two settings: "Optimize for the selected device," and "Use custom conversion settings."

Appendix:B

◘ Optimize for the selected device

This is the default setting. The program will automatically set the conversion parameters according to your selected device.

◘ Use custom conversion settings
If you decide to use this option, you can set the various conversion parameters manually.
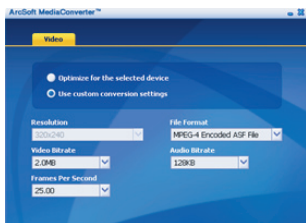
◘ Video settings
When converting a video file, there are several different parameters:
- **Resolution** (Options include QVGA (320 x 240) [default] and VGA (640 x 480))
- **File Format** (MPEG-4 encoded AVI files, WMV files or MPEG-4 encoded ASF files)
- **Video Bitrate** (Options include 500KB, 1.0MB, 1.5MB, 2.0 MB [default], 2.5 MB, and 3.0 MB)
- **Audio Bitrate** (Options include 96 KB, 128 KB [default], 192 KB)
- **Frame Per Second** (Options include [in fps] 15.00, 20.00, 24.00, 25.00 [default], and 29.97)

Selecting "Optimize for the selected device" uses the default values above, where applicable.
After viewing/modifying the various settings, select either "Save" or "Cancel" to return to the main screen. Click "Save" if you'd made changes that you'd like to keep. Otherwise, click "Cancel."

Appendix:B

❖ **Step 3: Convert**

When you're ready, select (highlight) the files you'd like to convert from the list, and then click the "Convert" button.

A progress bar will display the current status. Various popups may appear asking for specific confirmation. A popup will appear and inform you once all the files have been converted and stored to the location you selected.

Playing the converted ASF files in your camera

To play the video clips or movies (MPEG-4 in ASF format only) converted by ArcSoft MediaConverter in your MPEG-4 digital camera, please follow the steps below.

❖ **Step 1**

Insert a SD/MMC card in the card slot of the camera and connect the camera to PC via the USB cable. You could follow the instructions of "Connecting the camera to your PC" on page 34 for more information.

Appendix:B

❖ <u>Step 2</u>

Save the ASF files converted by MediaConverter on PC to your camera.
1. Copy the converted ASF files.
2. Open Windows Explorer to find a "Removable Disk" appeared in My Computer.
3. Double-click on the icon of Removable Disk.
4. Double-click on the DCIM file folder.
5. Double-click on the 100MEDIA file folder.
6. Paste the files into 100MEDIA file folder.
7. Change the file names to CLIP****.ASF.
   **** could be any 4-digit number from 0001 to 9999.

> ⓘ The file name must follow the naming principle of your camera, so that the camera could identify the files saved on 100MEDIA.

❖ <u>Step 3</u>

Now you can use the Playback (🎬) mode to enjoy the video clips or movies on the large LCD monitor!

The ArcSoft MediaConverter in this package is a customized version for your digital camera. You may visit the website http:\\www.arcsoft.com for more product information.

Appendix:C

◉ Specifications

Item	Description	
Model	8 Mega-pixel camera	6 Mega-pixel camera
Image sensor	5 Mega (2560x1920 pixels)	3 Mega (2048x1536 pixels)
Resolution	Still image: 3M/5M/8M Movie: 640x480 (VGA) 320x240 (QVGA)	Still image: 1M/3M/6M Movie: 640x480 (VGA) 320x240 (QVGA)
Lens	4X digital zoom lens F2.8~F5.3	4X digital zoom lens F3.0
File format	ASF, JPEG WAV, MP3	
Video frame rate	640x480, up to 30fps; 320x240, up to 30fps	
Internal memory	32MB flash memory (16MB for storage)	
External memory	SD/MMC (Max. 2GB)	
LCD display	2.4" TFT LCD	
TV out	NTSC/PAL system supported	
AV in	Yes	
Interface	USB 2.0	
Microphone	Yes	
Speaker	Yes	
Night shot	Yes (both in still image and video modes)	
Stabilizer	Yes	
Direct print	Supports PictBridge compatible printer	
Battery	8210 Li-ion rechargeable battery (3.7V 850mAh)	
Dimensions	110x72x34 mm (43"x28"x13")	

Note: Specifications are subject to change without notification.

Appendix:D

● System Requirements

Operating System: Windows 98SE/ME/2000/XP
CPU: Pentium III or above
System RAM: 128MB or above
Graphic Card: 64MB, 24 bit true color
CD-ROM speed: 4x or above
Software: Direct X 9.0c or above and Windows Media Player Codecs
Other: USB connector