

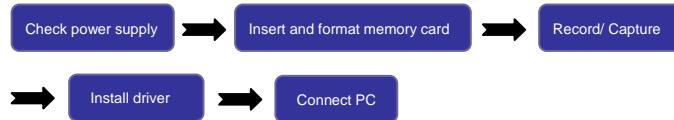
Foreword

Thank you for purchasing this digital video camera. Before use, please read this user manual carefully and keep it in a safe and convenient place for future reference where necessary.

The information contained in this manual is the latest for the camera when it is compiled. The screen displays and illustrations in this manual are used to specifically and vividly describe how to operate the camera. Due to technical development and different production batch, they may be somewhat different from the actual digital video camera you purchase.

Notice

Please use this camera according to the following order:



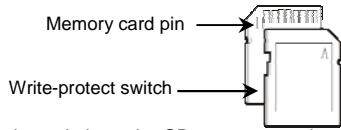
⚠ Note: The memory card newly purchased or used on other digital cameras must be formatted before its use on this camera. Before formatting, please back up the important data on other media such as floppy disk, HD and CD etc.

Use Notice

This camera has no NAND FLASH internal memory. Use memory card for actual use.

This camera can use SD memory card and MMC card (multimedia memory card).

The SD card has write-protect switch, which can prevent deleting or formatting the image files.



Push the switch on the SD memory card to the bottom, then the data on it can be protected; push the switch on the SD memory card to the top, then the data on it will lose protection. Before shooting, please remember push the switch on it to the top.

Notices for memory card use

- When a newly purchased memory card is used or the camera cannot identify the data or other images taken by other cameras on the memory card, please firstly format it.
- Before inserting or taking out the memory card, please power off the camera.
- The memory card, after used for many times, will have lowered performance. If the memory card has low performance, it is necessary to buy a new memory card.
- The memory card is precise electronic device; so do not bend, fall or press it.
- Never place the memory card in the environment with strong electric field or magnetic field, such as close to speaker or TV receiver.
- Never use or place the memory card in the too hot or cold environment.
- Please keep the memory card clean and prevent it touching with any liquid. If it touches any liquid, please wipe it dry.
- When the memory card is not used, please place it into the sheath.
- Please note that the memory card will become hot for long use. This case is normal.
- Do not use the memory card that has been used on other digital cameras. To use it on this camera, please format it.
- Do not use the memory card that has been formatted on other digital cameras or memory card readers.
- In any of the following cases, the data recorded may be damaged:
 - When the memory card is not used properly,
 - When the power supply is shut off or the memory card is taken out during recording, deletion (formatting) or reading.
- It is recommended to back up important data on other media such as floppy disk, hard disk and CD etc.

Maintenance and Care

When leaving the camera idle for long, keep the digital video camera with the battery taken out in dry and dark place.

- In use, always wear the wrist band so as to prevent slip.
- Use proper protection sheath to avoid scratching the lens and screen.
- To clean the lens, firstly blow away the dust on its surface, then use proper cloth or tissue for optical devices to clean the lens. If necessary, use lens cleanser. Never use organic cleanser to clean the digital video camera.
- Do not touch the lens surface with finger.

Table of Contents

System Requirements.....	4
Features.....	4
Accessories.....	4
Profile.....	5
Functions of Keys and Indicator Lamps.....	6
Start to Use.....	6
Install Battery.....	6
Install SD/MMC Card.....	7
Open Screen.....	8
Power on.....	8
Select Focus.....	8
Switch Modes.....	8
Record.....	8
Capture.....	8
Playback.....	8
Power off.....	8
Set Date/Time.....	8
Menu Settings.....	8
Set Date/Time.....	9
Connect to PC.....	10
Operation Step by Step.....	10
Record Mode.....	10
Capture Mode.....	14
Playback Mode.....	14
Connect PC to Download Photos/Videos.....	20
Use PC Camera Function.....	20
Install Driver and Software.....	21
Installation Interface.....	21
Install Driver.....	22
Install Software Attached free of Charge.....	22
Specifications.....	24
Troubleshooting.....	25

System Requirements

When operating or using this digital video camera, please refer to minimum system requirements of PC for this camera. We strongly recommend you to use good PC to operate the camera in order to bring its performance into full play. The minimum system requirements are as follows:

System Requirements	
OS	Microsoft Windows 98 SE,Me,2000,XP,VISTA
CPU	Intel PIII667 above or equivalent CPU
Internal memory	128 MB above
Sound card, display card	DirectX8 or above supported
CD-ROM	4x speed above
HD	1 GB above
Others	One standard USB 1.1 or USB 2.0 interface

Features

This camera has multiple characteristics and functions:

- Digital video camera;
- Digital camera (1.30mega pixels);
- Mass Storage;
- PC camera;
- 4x digital zoom.

Accessories

The packing list contains the following main accessories:



USB cable



Installation CD



Wrist strip



User manual



TV cable

Note: The USB extended cable with ferrite bead and the TV cable extended

cable with ferrite ring is designed for exclusive use with this product. Don't use others for this product.

Profile



Functions of keys and indicator lamps:

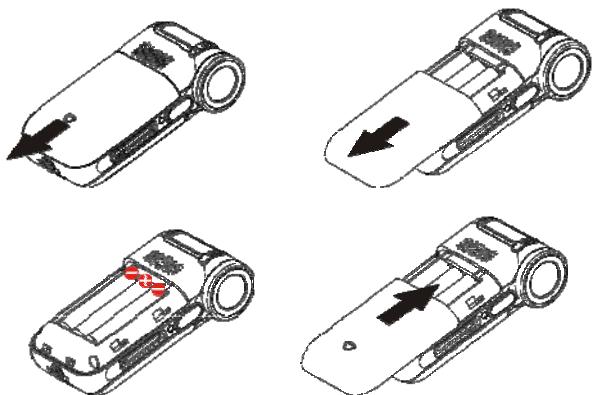
Keys/Indicator Lamps	Functions
Power key	Power on/off.
Shutter key	Record, capture.
T key	Digital zoom enlargement, zoom in (playback); select and move photos rightward.
W key	Digital zoom reduction, zoom out (playback); select and move photos leftward.
Menu key	Menu on/off.
Mode key	Switch modes (capture/record)
Playback key	Enter/exit playback mode.
Up key	Select files and menus; switch capture modes (continuous/self-timer/single), move photos (when @ zoom-out); records/pauses.
Down key	Select files and menus; switch capture modes (continuous/self-timer/single), move photos (when @zoom-out); turns on/off LED fill light.
OK key	Confirm, play and switch screen display states.
BUSY lamp	Busy work.
Self timer indicator lamp	Flashing indication during self timer countdown.
Macro switch	Switch between macro mode and normal mode.

Start to Use

Install battery

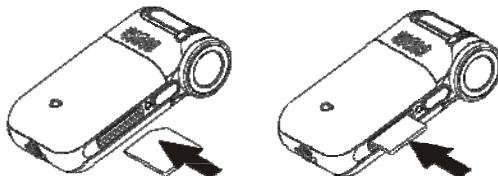
This camera uses 3pcs of AAA battery. To replace the battery, it is necessary to power the camera off.

As indicated in the following photos, open the battery cover, install the battery in according to the polarity indication then restore the battery cover.



Install SD/MMC Card

As indicated in the following figure, according to the hint beside the card slot, insert the SD/MMC card with the metal pin inward into the memory card slot.

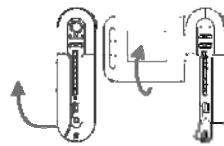


To take out SD/MMC card, press it downward.

-
- Note:
- Before replacing the memory card, be sure to power off the camera.
 - Insert the card in the direction as indicated. Do not impose much force on it to avoid damaging the card or camera components. If it does not work, please check if the direction is correct.
 - If the memory card is used for the first time or it has been used on other cameras, it is necessary to format it.

Open Screen

Unfold the LCD screen outward and then turn it toward the user.



Power on

Push the power key of the camera for 2s to power it on.

Select Focus

Press the macro switch to adjust the focus as Normal (Δ) or Macro (∇).

Switch Modes

After power-on, the camera can enter the record mode.

Press the mode to switch between record mode and capture mode.

Record

In record mode press the shutter key to start recording and again to stop. During recording, press the up key to pause, again to continue.

Capture

In capture mode, press the shutter key to take photos.

Playback

In playback mode, you can browse photos and play the videos recorded with this camera.

Browse photos: Press the up/down key to search the desired photo and press the T key to zoom in photos. After zoom-in, press the up/down/T/W key to move the photo; press the OK key to exit.

Play movies: Press the up/down key to search the desired movie, press the OK key to start to play, again to stop, during play, press the up key to pause; press the up key again to continue.

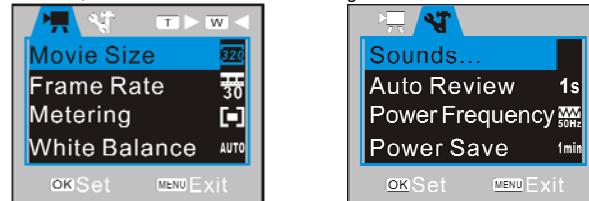
Power off

In power-on state, press the power key to power off the camera.

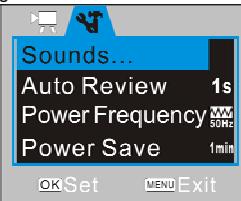
If the camera is in idle state for more than the set power-off time (1min/3min/5min), the camera will automatically power off in order to save power.

Menu Settings

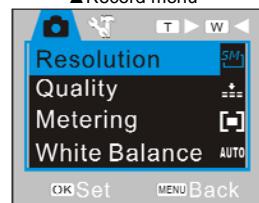
In capture, record and playback mode, press the menu key to open the desired menu, and press T/W key to switch between Record menu and Setting menu. Press the up/down key to choose the desired menu options and press the OK key or T key to enter the desired submenu and then press OK key to confirm. If selected, the menu will have a blue background.



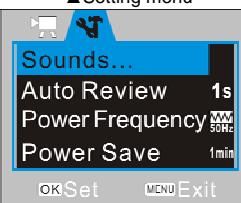
▲Record menu



▲Setting menu



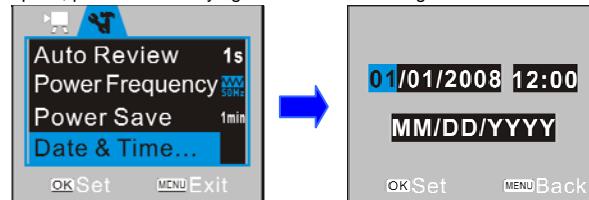
▲Capture menu



▲Playback menu

Set Date/Time

Press the menu key to open the desired menu, then press the T key to enter menu settings. Press the down key to choose the desired "Date/Time" menu option, press the OK key again to enter the setting window.



In the setting menu, press the T key or the W key to choose the desired option (date, time or date format). The chosen option will have a blue background. Then press the up or down key to adjust the chosen option. After adjustment, press the

OK to confirm or press the menu key to cancel setting and back. Finally, press the menu key to exit from the setting mode.

Connect PC

Before connecting PC, please firstly install driver with the installation CD attached. First power on the camera, enter the Setting menu and set USB mode as movable MSDC or PCCAM. Connect the camera with the USB cable attached to the useable USB port of PC, and then the camera will accordingly enter the removable disk or PC camera mode.

Operation Step by Step

Record mode

After powering on the camera, enter the record mode.

Move the macro switch to Normal (▲) or Macro (▼) to choose the desired focus.

Macro switch position	Focus range
Normal (▲)	140cm~infinite
Macro (▼)	15cm~25cm

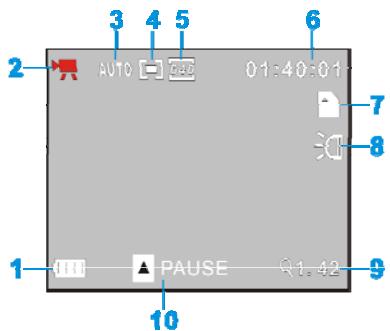
Press the shutter key to start recording and again to stop. During record, press Up key to pause and after pause, press Up key to continue.

Press T key or W key to have digital zoom change.

Press Down key to turn on/off the LED fill light. (After the playback mode is entered, the fill light cannot be used.)

In idle state, press the OK key to switch between these three screen display states among Turn off Icons, Close Screen and Normally Display.

◆Screen display information in record mode



	Icon	Icon name	Description
1		Battery	Indicate the current battery state. When it is in read, it indicates the battery is used up and the camera will power off automatically.
2		Video Mode	Indicate that the record mode is chosen.
3		White balance	Indicate the current white balance setting.
4		Metering mode	Indicate the current metering mode
5		Movie size	Indicate the video resolution at present.
6		Record time	In idle state, indicate rest recordable time; during record, indicate recorded time.
7		Card	Indicate storage card has been inserted, Indicate the SD available has write-protect.
8		Fill light	Indicate the fill light is on.
9		Digital zoom	Indicate the current digital zoom multiple
10		Pause	Indicate pressing the up key to pause or continue recording.

◆ Menu Settings

Press the menu key to open the video main menu, press the up/down key to choose the desired menu, press the right key or the OK key to enter the submenu. In the submenu, press the menu key or the left key to back to the main menu; press the up/down key to choose, and press the OK key. After backing to the main menu, you can press the menu key to exit.

In menu selection, the chosen menu will have a blue background.

In record menu, you can have the following options:

Main Menu	Submenu	Description
Movie Size	640×480	High resolution
	320×240	Low resolution
Frame Rate	High	30 frames/s
	Low	15 frames/s
Metering	Center	Focus on the central area during light detection.
	Multi	Focus on multiple points during light detection
	Spot	Focus on only one point during light detection
White Balance	Auto	Auto white balance, applicable for many cases.
	Daylight	Applicable for the environment with sunshine
	Cloudy	Applicable for the cloudy environment.
	Fluorescent	Applicable for the environment with fluorescent lamp
	Tungsten	Applicable for the environment with fluorescent environment lamp.

Set Up Menu

Whether in record mode or capture mode or playback mode, press the menu to open the desired menu, then press the T key or W key to enter the set up main menu; press the up/down key to choose the desired menu, press the right key or the OK key to submenu, in which, press the menu key or the left key to back to the main menu, press the up/down key to choose the desired item and press the OK key to confirm. After backing to the main menu, press the menu key to exit.

In menu selection, the chosen menu will have a blue background.

Main Menu	Submenu	Description
Sounds	Shutter	Open or close the shutter sound during capture.

	Start-up	Three options for choice
	Beep	Set as ON/OFF
	Volume	Choose the volume for key tone
Auto Review	Off	Auto off
	1s	1s review after capture
	3s	3s review after capture
Power Frequency	50Hz	Set as 50Hz frequency
	60Hz	Set as 60Hz frequency
Power Save	1min	Set auto power-off after 1 minute.
	3min	Set auto power-off after 3 minute.
	5min	Set auto power-off after 5 minute.
Date & Time	/	Set date/time and date format.
Language	English	Set menu language as English
	S. Chinese	Set menu language as simplified Chinese
	T. Chinese	Set menu language as traditional Chinese
TV Out	NTSC	Set as NTSC TV system
	PAL	Set as PAL TV system
USB	MSDC	Connected and set as removable disk mode
	PCCAM	Connected and set as PC camera mode
Start-up Image	Off	Close power-on image
	System	Use system power-on image
	My Image	Use custom power-on image
Format	Yes/No	Format storage card
Reset All	Yes/No	Restore factory settings

In the sound submenu, press the up/down key to choose the desired option and press the T key or W key to switch to the desired option.

When setting date/time, press the T key or the W key to switch the set options, press the up/down key to adjust it. Press the OK key to confirm, press the menu key to cancel the settings and back to the main menu.

When using custom power-on menu, in the playback mode, choose the desired photo and set it as power-on menu; otherwise, "My Image" menu will be in grey and cannot be used.

Capture Mode

After power-on, enter the capture Mode.

Move the macro switch to Normal (Δ) or Macro (∇) to choose the desired focus.

Press the shutter key to start taking photos.

Press the T key or W key to have digital zoom.

Press the up key to switch to Self Timer (\circlearrowleft) or Continuous (\square) .

Continuous: You can press the shutter key to take 3 photos.

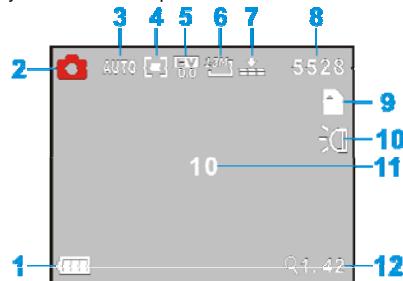
Self timer: Press the shutter key to have countdown and take the first photo after 2s or 10s.

Use LED fill light: Press the up key to open or close LED fill light. (In playback mode, the fill light cannot be used.) In idle mode, press the OK key to switch among the three screen display modes: Turn off Screen, Turn off Icons and Normally Display.

Note: ●Always hold the camera firmly, or place it on tripod etc in order obtain clear photos.

●Press the shutter key to take photos, and then the Busy lamp will be on. In such case, do not move the camera; instead, after the Busy lamp is off, move the camera in order to prevent unclear photos.

◆ Screen display information in capture mode



	Icon	Icon name	Description
1		Battery	Indicate the current battery state. When it is in red, it indicates the battery is used up and the camera will power off

			automatically.
2		Capture Mode	Indicate in capture mode at present
3		White balance	Indicate the current white balance setting.
4		Metering	Indicate the current metering mode
5		Exposure compensation	Indicate exposure compensation value
6		Resolution	Indicate the current photo's resolution
7		Photo quality	Indicate the current photo's quality
8		Number left	Indicate how many photos you can still take.
9		Card	 indicates storage card has been inserted,  indicates the SD available has write-protect
10		Fill light	Indicate the fill light is on.
11		Self-timer countdown	Indicate self timer countdown
12		Digital zoom	Indicate the current digital zoom multiple

◆ Menu Settings

Press the menu key to open the video main menu, press the up/down key to choose the desired menu, press the right key or the OK key to enter the submenu, in which you can press the left key to back to the main menu, press the up/down key to choose the desired option, press the OK key to confirm. After backing to the main menu, press the menu key to exit.

In menu selection, the chosen menu will have a blue background.

We can have the following menu options in capture mode:

Main Menu	Submenu	Description
Resolution	2048x1536	3m pixels
	1600x1200	2m pixels
	1280x1024	1.3m pixels
	640x480	0.3m pixels

Quality	Super Fine	Excellent photo quality
	Fine	Fine photo quality
	Normal	Normal photo quality
Metering	Center	Focus on the central area during light detection.
	Multi	Focus on multiple points during light detection
	Spot	Focus on only one point during light detection
White Balance	Auto	Auto white balance, applicable for many cases.
	Daylight	Applicable for the environment with sunshine
	Cloudy	Applicable for the cloudy environment.
	Fluorescent	Applicable for the environment with fluorescent lamp
	Tungsten	Applicable for the environment with fluorescent environment lamp.
Exposure	/	Use the T key and W key to adjust exposure compensation
Driver Mode	Off	Use single mode
	Self-timer 2S	Use 2s self timer mode
	Self-timer 10S	Use 10s self timer mode
	Burst	Use continuous mode
Effect	Normal	Normal photo effect
	B&W	Black-white photo effect
	Sepia	Classical photo effect
	Negative	Negative photo effect
	Red	Red photo effect
	Green	Green photo effect
	Blue	Blue photo effect

Note: When entering the exposure submenu to adjust exposure compensation, press the T key and the W key to adjust exposure compensation value, then the brightness of the screen will change accordingly. After the setting is over, press the OK key to confirm and back to the main menu; press the menu key to cancel settings.

Set Up Menu

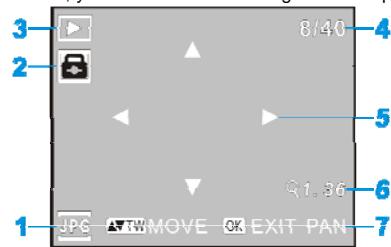
The same as the record mode.

Playback Mode

You can enter the playback mode with the mode key.
In the playback mode, press the up key to choose files forward or the down key to choose files backward.
When the desired video is chosen, press the OK key to start playing, then the right corner of the screen will display play counter. During play, you can press the up key to pause, press it again to continue, press the OK key to stop.
After desired photo is chosen, press the T key to zoom in the photo, press the OK key to lock the enlarged photo, then press the up/down/T/W key to move the photo. To exit from the zoom-in lock mode, press the OK key.



◆ In the playback mode, you will have the following screen display options.



	Icon	Icon name	Description
1		File type	indicates the current file is photo, indicates the current file is video.

			file is video.
2		File protection	Indicate the current file is protected.
3		Playback mode	Indicate playback mode is chosen at present
4		File no.	Indicate the location of the current file and total of files (with timer displayed during video play)
5		Move hint	Indicate the photo is zoomed in and locked and can be moved.
6		Zoom-in multiple	Indicate the current photo zoom-in multiple
7		Key hint	Indicate key operation

◆Menu Settings

Press the menu key to open the video main menu, press the up/down key to choose the desired menu, press the OK key to enter the submenu, in which you can press the left key to back to the main menu, press the up/down key to choose the desired option, press the OK key to confirm. After backing to the main menu, press the menu key to exit.

In menu selection, the selected menu will have a blue background.

In capture mode, you will have the following options:

Main Menu	Submenu	Description
Lock	Lock/Unlock One	Lock/Unlock the current file
	Lock All	Lock all files
	Unlock All	Unlock all files
Delete	One	Delete the current file
	All	Delete all files
Slide show	Start	Start slide show
	Interval	Set slide show interval (1-10s)
	Repeat	Set as circular play or not
Effect	B&W	Set photo as black and white effect

	Sepia	Set photo as classical effect
	Negative	Set photo as negative effect
	Red	Set photo as red effect
	Green	Set photo as green effect
	Blue	Set photo as blue effect
Rotate	Rotate	Press the OK key once to rotate photo by 90 degrees
	Save	Save the rotated photo.
	Back	Back to the main menu
Voice Memo	Add	Add voice memo for photos.
	Delete	Delete the voice memo in photos
Start-up Image	Yes	Confirm the current photo as start-up image
	No	Cancel

Note: 1. After effect or the rotated photo is saved, you will have a new photo.

2. At most, you can add 30s voice memo. To add voice memo, you can press the shutter key to stop. In the playback mode, the photo added with voice memo will have an icon of . Press the OK key to start playing the voice memo; during playing, press the Up key to pause or press the OK key to stop.



▲Add voice memo



▲Photo after memo added



▲Play voice memo

Set Up Menu

The same as the record mode.

Connect PC to Download Photos/Videos

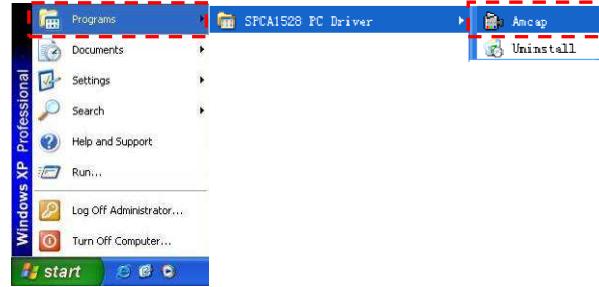
After connecting the camera to PC and entering the Mass Storage mode, in "My Computer" window, you will see one new removable disc. The photos or videos taken are stored under the directory "DCIM\100JLCAM" in the removable disc.

You can enter this directory and copy the desired file onto your PC HD.

 Note: During file downloading, do not disconnect USB; in USB connection, do not plug or pull the memory card in order to prevent data loss.

Use PC Camera Function

Before using PC Camera, make sure that the camera driver has been installed on PC. After the driver is installed, add one "SPCA1528 PC Driver" menu into the "Start→Programs" menu, then there will be one  Amcap shortcut icon. After the camera is connected with PC and enters PC camera mode, click this icon (as indicated in the following figure) to open AMCAP window, in which, the video corresponding to the lens will be displayed. If AMCAP software is not used, the PC Camera function can be used for network video transmission.





Install Driver and Software

The attached CD contains camera driver and the software PhotoImpression and VideoImpression free of charge (used to process photos and videos respectively).

Installation Interface

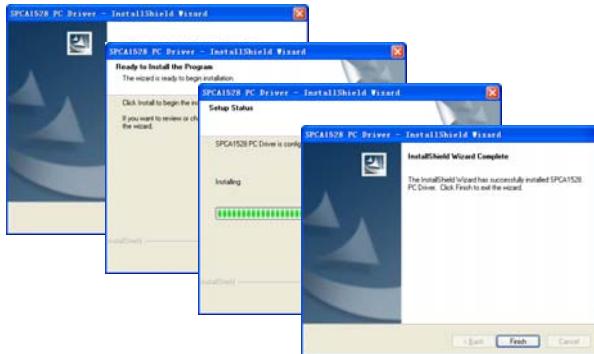
Insert the attached CD into the CD-ROM, then the system will automatically run the software installer in the CD and the screen will have the installation direction window as follows.



(It may take several minutes to run the program, depending on PC performance.
If there is no installation direction window occurring, please run "Windows
Explorer" and run the "SoftwareInstaller.exe" under the CD-ROM.)

Install driver

In the software direction installation window, click the "Install Driver" button, and complete the installation step by step.

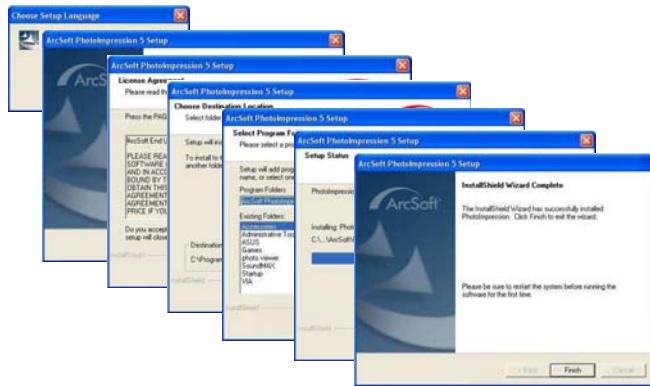


The driver is installed. Please restart the computer.

Install Software Attached free of charge

In the install direction window, click "Install PhotoImpression" button and "Install VideoImpression" button to accomplish the installation according to the screen hint.

Install PhotoImpression:



Install PhotoImpression:



After the software is installed, before the first use, please restart the computer. For the instructions for PhotoImpression and VideoImpression, please refer to the Help menu.

Specifications

Image sensor	1.3m pixels
Main functions	Record, capture, playback, removable disc, PC camera.
Lens	F2.8 f=6.0mm
Focus	140cm~infinite (normal) 15cm~25cm (macro)
Digital zoom	4x
Shutter	Electronic
LCD screen	1.5" TFT LCD
Photo resolution	2048×1536;1600×1200;1280×1024; 640×480
Video resolution	VGA 640×480, QVGA 320×240, 30/15 frames/s
White balance	Auto/manual: Daylight, cloudy, fluorescent and tungsten
Exposure	Auto/manual compensation (-2.0EV~+2.0EV, 0.3EV step)
Self timer	2s or 10s
File format	Video AVI
	Photo JPEG
Storage media	SD/MMC card
USB port	Mini USB2.0 interface
Power supply	3 x AAA alkali battery.

Troubleshooting

Unable to start up after battery is installed.	Low battery, please replace it.
	The battery is not removed of the package.
	The battery is installed inversely. Please check if the battery is installed correctly.
Unable to take photos and record videos when the shutter key is pressed.	No memory card is inserted. Please insert a proper card for capture or record. The SD card has write-protect. Please take it out and push this protection switch to the non-protection position.
Unclear photos	Wrong focus. Please move the macro switch to choose a proper focus again.
	The hands are shaking during capture. Please hold the camera firmly or use other fixing objects such as tripod etc to stabilize the camera and try not to shake the camera.
Dark photos or videos	Insufficient rays in the environment. Please take photos or videos in the place with sufficient rays or use lamp to intensify brightness.
Automatic power-off	Low battery. Please replace it.
	To save power, if the camera has no operation for more than 1min (3min or 5min, depending on setting), it will power off automatically.
Unable to delete the file in the camera.	The SD card has write-protect. Please take it out and push this protection switch to the non-protection position.

FCC information

FCC Part 15

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

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

Do not attempt to repair or modify this equipment.

Warning: Changes or modifications to this equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.