Digital Scouting Camera MMS/SMS/EMAIL via GSM Network



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1 Instruction

1.1 General Description

This camera, a digital scouting camera, is a surveillance camera working automatically. It can be triggered at once by any movement of human (or animals) in a certain region of interested (ROI) monitored by a highly sensitive Passive Infrared (PIR) motion sensor, and then automatically captures high quality pictures (up to five mega pixels) or records video clips (VGA) according to previously custom settings.

It can take color pictures or videos under sufficient daylight. While at the dark night, clear pictures or videos (monochrome) can be obtained as built-in infrared LEDs functioning as flash light.

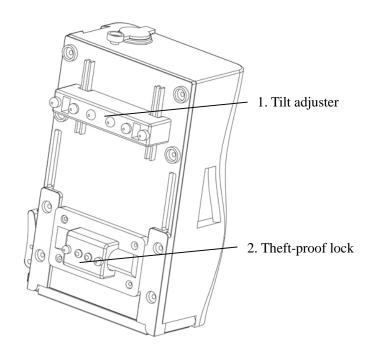
It is resistant against water and snow for outing uses. Furthermore, the camera can be used as a portable digital camera. Pictures or videos can be taken manually by pressing OK on the remote control in **TEST** mode.

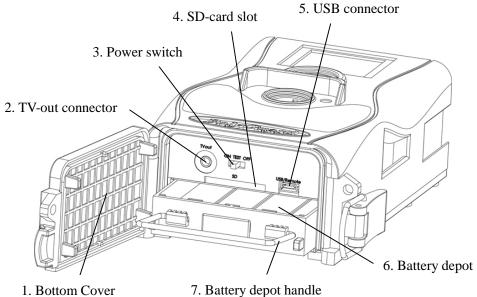
1.2 Camera Body Interfaces

The camera has the following I/O interfaces: USB connector, SD-card slot, TV output and external DC power connector.

On the back of camera, there is a lock for theft-proof and an adjuster to change the tilt when mounting on an irregular interface e.g. tree.

Take a few moments to familiarize with the camera controls and displays. It is helpful to bookmark this section and refer to it when read through the rest of the manual.





1.3 Remote Control

The remote control is an input device of the camera and is primarily used for custom setting and password input. This is an infrared type wireless remote control. The maximum remote distance is 9 meters.

There are fifteen keys on the remote control. For P model, except MENU, OK, * and *, all other keys have still another meaning which use for password entering.

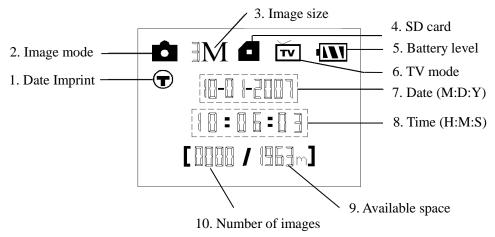
ForM model, except MENU, OK and *, all other keys have still another meaning which use for password



entering and MMS function.

1.4 Shooting Information Display

When the camera is turned on (the power switch is slid to **ON** or **TEST** position), the shooting information will be displayed in the monitor.



1.5 Supported Format

Item	Format
Image	JPG
Video	AVI
File format	FAT32

Here are some important notices. You don't need to concern about the file system format of the camera unless you have problems with reading the SD-card by your other equipments. If this happened, please format the SD-card in the camera or in a computer at first and then reinsert the card into your camera to make a try.

2 Cautions

- ★ The working voltage of the camera is 6V. The power can be supplied by four or eight AA batteries.
- ★ Please insert batteries according to shown polarity.
- ★ Please unlock the write-protect before inserting the SD-card.
- ★ Please insert the SD-card when the power switch is at OFF position before testing the camera. The camera has no internal memory for saving images or videos. If no SD-card is inserted, the camera will shut down automatically after a continuous indication sound.
- ★ Please do not insert or take out the SD-card when the power switch is at ON position.
- ★ It is recommended to format the SD-card by the camera when used at the first time.
- ★ The camera will be in USB mode when connected to a USB port of a computer. In this case, the SD-card functions as a removable disk.
- ★ In the TEST mode, the camera will shut down automatically after 3 minutes if no key is pressed. Please turn on the power again if you want to continue to work with the control.
- ★ Please ensure sufficient power when having firmware upgrade, otherwise the upgrade process could be interrupted incorrectly. If any fault occurs after improper upgrading process, the camera may stop function properly.

3 Easy Operations

3.1 Power Supply

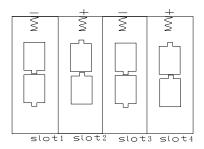
To supply power for the camera, four or eight AA size batteries are needed.

Open the bottom cover. Confirm that the power switch is at the OFF position, pull out the battery depot. Load the fully charged batteries into the depot according the polarities sign shown below. Push back the depot to the battery chamber. The following batteries with 1.5V output can be used:

- 1. High-density and high-performance alkaline batteries (Recommended)
- 2. Rechargeable alkaline batteries
- 3. Rechargeable NiMH batteries

There are four battery slots. Slot 1 and 2 form one group ("1" will mark on depot), while slot 3 and 4 form the other group ("2" will mark on depot) where each group can supply the power individually.

When in low-battery state, camera will be automatically shut down after two times indication sound will be heard. Please change the batteries in time.



3.2 Inserting the SD-card

Open the bottom cover. Insert SD-card into the card slot with unmarked side upwards. Please note that the SD-card can only be plugged in one direction. Make sure that the write-protect switch of the SD-card is on the "write" position otherwise the camera cannot be switch on.

3.3 Power on and Entering into the ON Mode

Before switch on, please pay attention to the following:

- 1. Avoiding temperature and motion disturbances in front of the camera such as big leaf, curtain, air-conditioner, air outlet of the chimney and other heat sources to prevent from false triggering.
- 2. The height from ground for placing the camera should vary with the object size appropriately. In general, **one** to **two meters** are preferred.

Slide the power switch to the ON position to power on the camera and enter into the \mathbf{ON} mode.

After switch on the camera, the motion indication LED (red) will blink for about 10s. The 10s is a buffering time before autonomic capturing photos or videos, e.g. for closing and locking the bottom cover, fixing the camera on a tree and walk away.

In **ON** mode, it is unnecessary to use the remote control. The camera will take pictures or videos automatically according to the default settings or previous custom settings. The camera has the sound recording function, so the sound will be embed in the video clip.

3.4 Entering into the TEST Mode

Slide the power switch to the TEST position and enter into the **TEST** mode. There are three functions in **TEST** mode: Custom settings, manual capture and preview pictures or videos. The remote control is needed in this mode.

3.4.1 Custom Settings

Press MENU on the remote control to enter into menu setting. The camera can be taken over control to manually customize the camera settings which display on the LCD screen on camera or external TV monitor. The detailed operations will be described in "Advanced Operations" chapter.

3.4.2 Manual Capturing

The TV-in connector should be unconnected, and then press NEXT to manually capture photos or recording video.

3.4.3 Viewing Images or Videos

There are two ways to view the captured images or videos:

- 1. LCD screen on camera
- 2. TV monitor which connect to camera with TV cable

Press OK to view images, the latest image will be shown in the LCD screen on camera or TV monitor. Press UP to view the previous image and press DOWN for the next. Please note that video cannot be played back in the LCD screen and only thumbnail of the video is showed.

The detailed operations like deleting images or videos will be described in "Advanced Operations" chapter.

3.5 Power Off

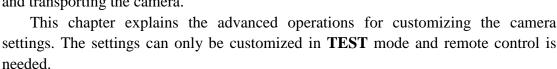
Slide the power switch to OFF position to power off the camera. Please note that even in the **OFF** mode, the camera still consumes certain power at μA level. Therefore, please remove the battery if the camera will not be used for a long time.

4 Advanced Operations

From the basic operations of the camera in previous chapter, we know that the camera has three basic operation modes:

- 1. **OFF** mode: Power switch is at OFF position.
- 2. **ON** mode: Power switch is at **ON** position.
- 3. **TEST** mode: Power switch is at TEST position.

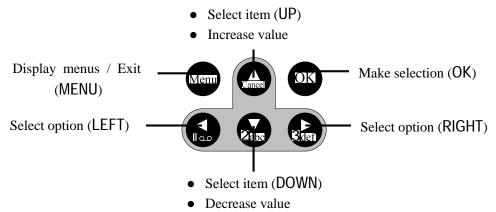
In the above three modes, the **OFF** mode is the specified safe mode when replacing the SD-card or batteries and transporting the camera.



SD

4.1 Remote Control Navigating

Press UP or DOWN to select or highlight the menu item, while press LEFT or RIGHT to select the option of each item and press OK to make selection.



4.2 Settings Menu

To view the camera settings menu, press MENU in the **TEST** mode (called settings menu in this chapter). The settings menu will be shown on the LCD on camera or the external TV monitor. There are twelve setting items of menu:

Setting Items	Description
Camera Mode	Choose capturing images or recording videos.
Format	Format the SD-card. All images and videos in the SD-card will be
rormat	deleted.
Image Size Choose image size.	
Video Size	Choose video size.
Set Clock	Set camera date and time.
Capture Number Choose the continuous shooting numbers after each trig	
Video Length	Choose video length.
Interval	Choose how long the camera's PIR will be disabled after each
ıntervai	triggering.

	Choose sensitivity of PIR. The higher level indicates that it is more
	•
Sense Level	easily to be triggered by motion. It is recommend to use Normal
Scripe Level	mode. The sensitivity of PIR is strongly related to the temperature.
	Higher temperature leads to lower sensitivity.
Time Stamp	Date and time of capturing can be imprinted on image or video.
	The camera will be awoken up at certain time duration in a day. In
Timer Switch	the rest of the time the camera is shut off. The setting steps are
	similar to Set Clock .
Default Set	Restore all custom settings to default values.
MMS Mode	Choose to send the MMS manually or instantly.
MMS Size	Choose the MMS size.
MMS Type	Choose the MMS type.
Send To	Key in the phone number which the MMS to be sent.
MMS Set	The settings of MMS: URL, APN, IP and port.
Doggwand	For the security reason, enter a password each time when entering
Password	Test mode.
Phonebook	Enter new or search phonebook.

4.2.1 Default Setting

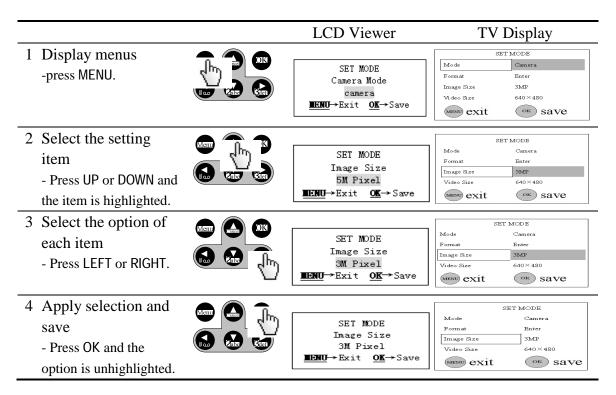
Defaults settings are listed below:

Setting Items	Default	Options	Submenu
Camera Mode	Camera	Video	
Format	Enter		Yes, No
Image Size	5M Pixel	3M Pixel	
Video Size	640×480	320×240	
Set Clock	Enter		Adjust Clock
Capture Number	1 Photo	2 Photo, 3 Photo	
Video Length	Avi 10 seconds	Avi 1–60 seconds	
Interval	1 Minute	0–59 seconds, 1-60 minutes	
Sense Level	Normal	High, Low	
Date Imprint	On	Off	
Timer Switch	Off	On	Start, Stop (00:00 – 23:59)
Default Set			
MMS Mode	Manual	Instant	
MMS Size	320×240	160×120, 640×480	
MMS Type	PIC	CALL,TXT	
Send To	Number	Email	4 inputs
MMS Set	Enter		URL, APN, IP, Port

Password	OFF	ON	Old password, New password and confirm New password
Phonebook	New	Search	Name, Number

4.2.2 General Setting

The operating steps are suitable for following menu items: Camera Mode, Image Size, Video Size, Capture Number, Video Length, Interval, Sense Level, Date Imprint and Timer.



4.2.3 Setting the Camera Mode

There are two ways to set the camera mode. One is to use the shortcut key and the other is via the setting menu.

With the shortcut key, press UP to set the camera mode as **Video** or press DOWN to set camera mode as **Camera** in **TEST** mode.

The following shows how to set camera mode to **Video**, provided that the previous option is **Camera**:

- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select **Camera Mode**.
- c) Press LEFT or RIGHT to select Video.
- d) Press OK to save the current setting and the option will be unhighlighted. Press MENU to cancel setting and return to info display.

4.2.4 Formatting the SD-Card

The system will delete all images or videos stored in the SD-card after formatting, make sure that you have made a backup of important data.

- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select **Format**.
- c) Press OK to choose **Enter** to enter into submenu.
- d) Press LEFT or RIGHT to select **Yes**. **Yes** will be highlighted.
- e) Press OK to start formatting the SD-card. During formatting, the display screen will show a message "Formatting...".

Press MENU to cancel setting and return to info display.

Formating...

please wait for format end

4.2.5 Setting Image Size

The following shows how to set pixel size as **3M Pixel** provided that the previous option is **5M Pixel**:

- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select Image Size.
- c) Press LEFT or RIGHT to select **3M Pixel**.
- d) Press OK to save the current setting and the option will be unhighlighted. Press MENU to cancel setting and return to info display.

4.2.6 Setting Video Size

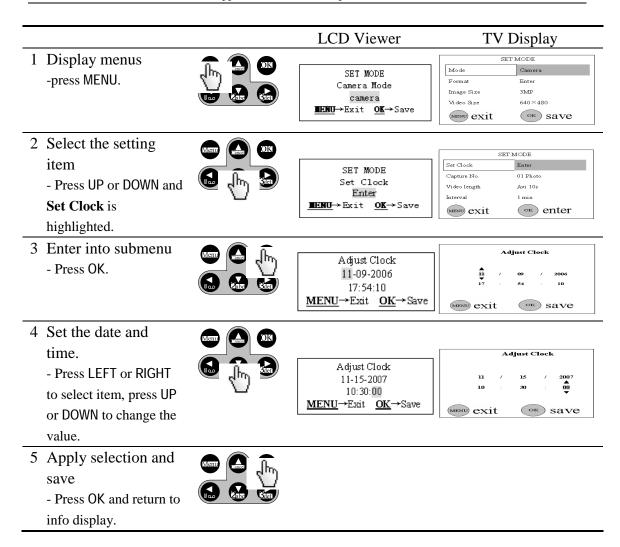
The following shows how to set video size as 320×240 provided that the previous option is at 640×480 :

- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select **Video Size**.
- c) Press LEFT or RIGHT to select 320×240.
- d) Press OK to save the current setting and the option will be unhighlighted. Press MENU to cancel setting and return to info display.

4.2.7 Setting Date and Time

The date format is **month/day/year**, the time format is **hour:minute:second**. The valid value for year is between 2006 and 2031. Provided that the date and time are needed to be set to November 15th, 2007 and half past ten, the steps are as following:

- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select **Set Clock**.
- c) Press OK to **Enter** into submenu.
- d) Press LEFT or RIGHT to select item, press UP or DOWN to change the value.
- e) Press OK to save all current setting and return to info display. Press MENU to cancel setting and return to info display.



4.2.8 Setting Continuous Shooting Numbers

The following shows how to set continuous capture number to **3 photos** provided that the previous option is **1 Photo**:

- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select **Capture Number**.
- c) Press LEFT or RIGHT to select **3 Photo**.
- d) Press OK to save the current setting and the option will be unhighlighted. Press MENU to cancel setting and return to info display.

4.2.9 Setting Video Length

Press LEFT or RIGHT to decreases or increases the value by 1 second.

The following shows how to set video length to **5 Seconds** provided that the previous value is **10 Seconds**:

- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select **Video Length**.
- c) Press LEFT or RIGHT to decrease or increase to **5 Seconds**.
- d) Press OK to save the current setting and the option will be unhighlighted. Press MENU to cancel setting and exit.

4.2.10 Setting Triggering Interval Time

Press LEFT or RIGHT to decreases or increases the value by 1 second or 1 minute.

The following shows how to set triggering interval time to **5 Minutes** provided that the previous value is **1 Minute**.

- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select **Interval**.
- c) Press LEFT or RIGHT to decrease or increase to **5 Minutes**.
- d) Press OK to save the current setting and the option will be unhighlighted. Press MENU to cancel setting and return to info display.

4.2.11 Setting PIR Sensitivity

The following shows how to set PIR sensitivity as **Low** provided that the previous option is **Normal**.

- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select **Sense Level**.
- c) Press LEFT or RIGHT to select **Low**.
- d) Press OK to save the current setting and the option will be unhighlighted. Press MENU to cancel setting and return to info display.

4.2.12 Setting Date and Time Stamp

The following shows how to set time stamp as **Off** provided that the previous option is **On**.

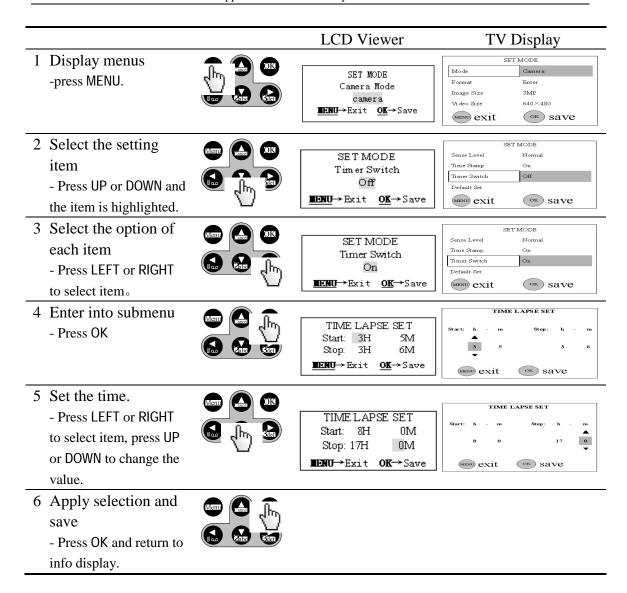
- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select **Date Imprint**.
- c) Press LEFT or RIGHT to select **Off**.
- d) Press OK to save the current setting and the option will be unhighlighted. Press MENU to cancel setting and return to info display.

4.2.13 Setting Timer

The setting steps are similar to **Date and Time**.

Please note that the start and stop time can only be effective when the timer is set as **On**. Provided that the camera should work from eight clock a.m. to five clock p.m., the steps are as following:

- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select **Timer**.
- c) Press LEFT or RIGHT to select **On**.
- d) Press OK to enter into submenu.
 - Press MENU to cancel setting and return to info display
- e) Press LEFT or RIGHT to select item, press UP or DOWN to change the value.
- f) Press OK to save all current setting and the option will be unhighlighted. Press MENU to return to previous menu.



4.2.14 Resetting to Default Settings

To reset the setting to the default values, the steps are as following:

- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select **Reset**.
- c) Press OK to reset to default settings and return to info display. Press MENU to cancel setting and return to info display.

4.2.15 Setting MMS Mode

The following shows how to set the MMS mode to **Instant** provided that the previous option is **Manual**:

- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select **MMS Mode**.
- c) Press LEFT or RIGHT to select **Instant**.
- d) Press OK to save the current setting and the option will be unhighlighted. Press MENU to cancel setting and return to info display.

4.2.16 Setting MMS Size

The following shows how to set the MMS size to 160×120 provided that the previous option is 320×240 :

- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select MMS Size.
- c) Press LEFT or RIGHT to select **160**×**120**.
- d) Press OK to save the current setting and the option will be unhighlighted. Press MENU to cancel setting and return to info display.

4.2.17 Setting MMS Type

The following shows how to set the MMS type to **TXT** provided that the previous option is **PIC**:

- e) Press MENU to display the setting menu.
- f) Press UP or DOWN to select **MMS Type**.
- g) Press LEFT or RIGHT to select **TXT**.
- h) Press OK to save the current setting and the option will be unhighlighted. Press MENU to cancel setting and return to info display.

4.2.18 Entering Phone Number or Email Address

Enter the phone number or email address for sending the photo via MMS or email, the steps are as following:

- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select **Send To**.
- c) Press LEFT or RIGHT to select **Number or Email**.
- d) Press OK to enter into submenu.
 - Press MENU to cancel setting and return to info display
- e) There are four inputs, press # to switch between each inputs. Press number keys to key in the digits or letters. Press UP to delete numbers.
- f) Press OK to save all current setting and return to info display. Press MENU to cancel setting and to return to previous menu.

4.2.19 MMS Setting

Enter the MMS setting which provided by the network service provider. There are four setting to be entered, the steps are as following:

- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select **MMS Set**.
- c) Press OK to **Enter** into submenu.
- d) There are four inputs, press * to switch between each inputs. Press number keys to key in the digits or letters. Press UP to delete numbers.
- e) Press OK to save all current setting and return to info display. Press MENU to cancel setting and to return to previous menu.

4.2.20 Entering Password

If the password setting is selected as **On**, after switch on the camera, the LCD screen on camera will prompt to enter password. The default password is 0000. Please key in the password by using the remote control. It can be changed where the steps are as following:

- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select **Password**.
- c) Press LEFT or RIGHT to select **On**.
- d) Press OK to enter into submenu.
- e) There are three inputs, press # to switch between each inputs. Press number keys to key in the digits. Press UP to delete numbers.
 - Press MENU to return to info display without changing the old password. The LCD screen will prompt to enter password next time u switch on the camera
- f) Enter OK to save all current setting and return to info display.

4.2.21 Setting and Searching Phonebook

Set new phonebook and search a phone number, the steps are as following:

- a) Press MENU to display the setting menu.
- b) Press UP or DOWN to select **Phonebook**.
- c) Press LEFT or RIGHT to select New.
- d) Press OK to enter into submenu.
 - Press MENU to cancel setting and return to info display
- e) There are two inputs, press # to switch between each inputs. Press number keys to key in the digits or letters. Press UP to delete numbers.
- f) Press OK to save all current setting and return to info display. Press MENU to cancel setting and to return to previous menu.

4.3 Playback Options

There are two ways to view the images: LCD screen on camera and TV monitor which connect to camera with TV cable. In order to playback or delete, you can also operate on images or videos stored in the SD-card with the following method to be introduced. For simplicity, operations with PC won't be introduced here. Please note that the playing back and deleting images or videos in the LCD screen or TV monitor can only be done in the **TEST** mode.

4.3.1 Playback

- a) Switch to **TEST** mode.
- b) Press OK to view the latest picture (or video) in the screen,Press OK to view in TV monitor or Image viewer (with TV-in connector).
- c) Press SHOT to start playing if it is a video clip.
- d) Press UP to view the previous picture (or video) and DOWN for the next.
- e) Press OK to return to info display.

When view images, the total number of all images in the SD-card and the index of the displaying image will be shown respectively.

4.3.2 Delete

- a) View the image (or video) which to be deleted (please refer to 4.3.1).
- b) Press MENU and **Del Image One** is prompted in LCD screen or TV monitor.
- c) To delete the current image, just skip this step. To delete all images and videos, press RIGHT and **Del Image All** is prompted.
- d) Press OK, No and Yes are prompted. No is highlighted.

- e) Press LEFT or RIGHT to highlight Yes.
- f) Press OK to delete the image or video.Press MENU to cancel and return to playback.

Please Note, after deleting a picture or a video file, the deleted files can't be restored! Furthermore, in order to delete all images and video clips in the SD-card, it is suggested to format the SD-card, please refer to 4.2.4.

4.4 Sensible Angle and Distance Test

When you want to know whether the camera can monitor a certain position, this operation is needed. You can learn that the sensible angle and monitoring distance of the camera by this operation. You can do the following:

Switch to **Test** mode firstly, and then make tangent movements nearby a certain place in front of the camera. If the PIR indication light blinks, it indicates that the area can be sensed. Otherwise, it is out of the sensing area. You can do a series tests to determine area being monitored and being not monitored, and then you can estimate the sensible angle of the camera.

4.5 File Number Sequence

Images and videos are saved in the pre-named folder. File numbering continues by adding one to the last number for each new image or video. The saving name likes IM000001.JPG or IM000001.AVI. Through the suffix you can distinguish whether the file is an image (with suffix .jpg) or a video (with suffix .avi).

4.6 Firmware Upgrade

This camera is equipped with an automatic upgrade function for you. Upgrading is needed only when an improved firmware is available.

!! WARNING !!

Upgrade is risky, please be cautious!

Appendix I : Technical Specifications

Image Sensor	5MP Color CMOS	
Lens	F=3.1mm	
	FOV(Field of View)=40°	
IR-Flash	10-12m	
Control Display	1.7" LCD	
Ext. Memory Card	From 8 MB to 16 GB	
Picture Resolution	$5MP = 2560 \times 1920$ $3MP = 2048 \times 1536$	
Video Resolution	640×480 (16fps) 320×240 (20fps)	
PIR Sensor	Multi Zone	
PIR Sensitivity	Adjustable (High/Normal/Low)	
Trigger Time	1.2s	
Weight	About 0.22 kg without battery	
Operation/Storage Tem.	-20 - +60°C / -30 - +70°C	
Delay	1s – 60 min.	
Capture Number	1–3	
Video Length	1–60s	
Power Supply	8×AA (Recommended) or 4×AA	
Stand-by Current	< 0.25mA (<6mAh/Day)	
Power Consumption	150mA	
Low Battery Alert	LED Indicator	
Display Screen	LCD display on camera	
Sound Recording	Available	
Mounting	Rope/Belt/Python lock	
Dimensions	13* 8*5 cm/5*3*2 inches	
Operation Humidity	5% - 90%	
Security authentication	FCC, CE, RoHS	

Appendix II: Parts List

Part Name	Quantity
Digital Camera	One
Wireless Remote Control	One
USB cable	One
Belt	One
Manual	One