

Infrared Digital Scouting Camera
User's Manual
Pocket Camera SG570-6M



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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 high sensitive Passive Infrared (PIR) motion sensor, and then automatically captures high quality pictures (up to 6M pixels) or records video clips (VGA) according to default settings or preset customer settings.

It takes color pictures or videos under sufficient daylight. While at dark night, the built-in infrared LEDs function as flash light, the camera then takes clear pictures or videos (monochrome).

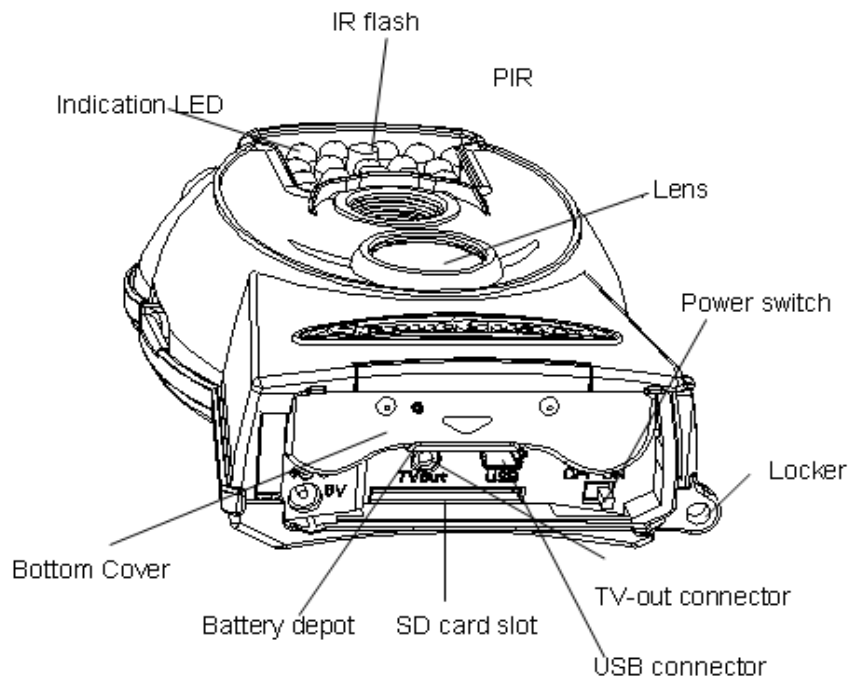
It is resistant against water and snow for outside uses. Furthermore, the camera can be used as a portable digital camera. Pictures or videos can be taken manually by pressing **OK** on the control in **TEST** mode (The wired control needs to be connected).

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.

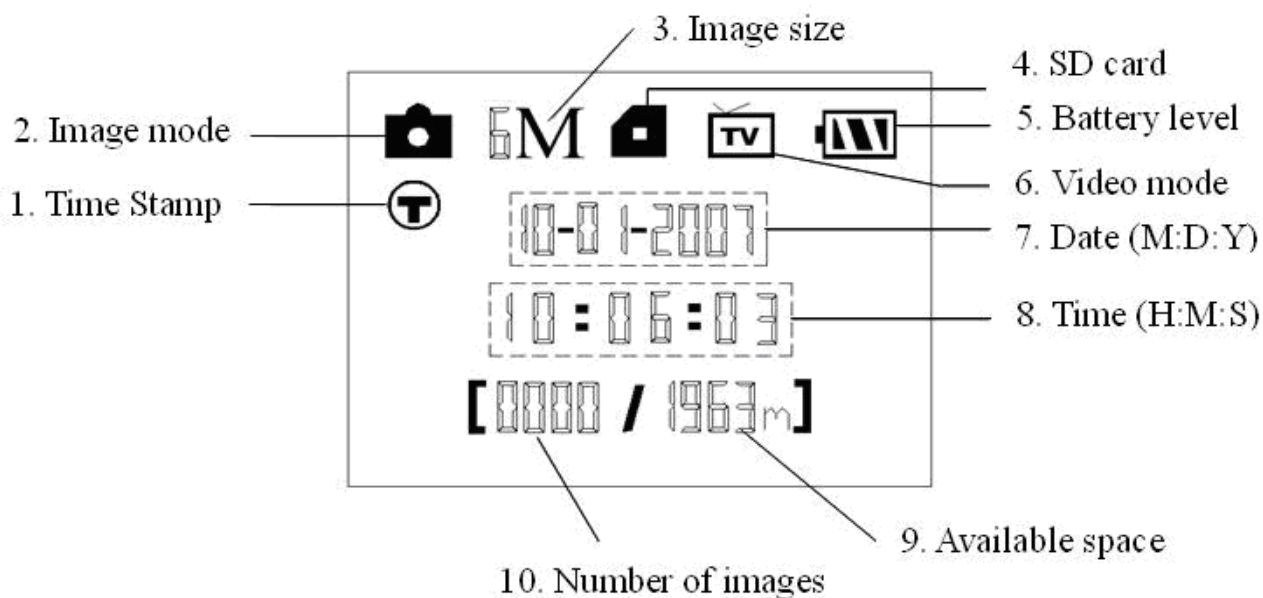
On the head of camera, there is a lock hole for theft-proof.

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 Shooting Information Display

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



1.4 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. It is supplied by four AA batteries. Please install 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(insert the control into the USB interface then switch the camera at **ON** position), the camera will shut down automatically after 3 minutes if no operation is done. 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

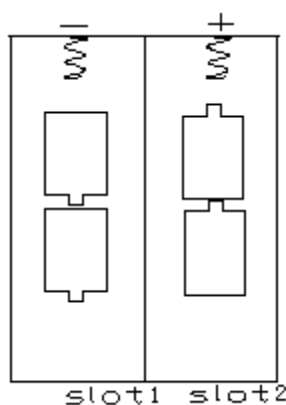
To supply power for the camera, four AA size batteries are needed.

Open the bottom cover. Confirm that the power switch is at the **OFF** position. Install the fully charged batteries into the depot according the polarities sign shown below. 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 two battery slots.

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



3.2 Insert 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 switching on, please pay attention to the follows:

1. Avoid 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 **ON** mode.

After switching 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 **TEST** mode, it requires to connect the control then to do further customizing settings, when the user complete the settings, it requires to unplug the control to enter into normal use, that is, **if the wired control still be connected with the camera, the camera will not work.** The camera (the control must be unplugged when in **ON** mode) will take pictures or videos automatically according to the default settings or preset customer settings.

3.4 Enter into the TEST Mode

Connect the wired control, then switch to the **ON** position and enter into the **TEST** mode. There are some functions in **TEST** mode: Customer settings, manual capture and preview. The control is needed

in this mode.

3.4.1 Customer Settings

Press **MENU** on the control to enter into menu settings. The camera can be taken over control to manually customize the camera settings which display on the LCD screen on the 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 **SHOT** to manually capture photos or record videos. It is also SHOT key to stop the manual capturing of the video.

3.4.3 View Images or Videos

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

1. LCD screen on the control
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 the control or TV monitor. Press **UP** to view the previous image and press **DOWN** for the next. Please note that video cannot be played 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

Switch the camera 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 **ON** position and the control needs to be connected.

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

This chapter explains the advanced operations for customizing the camera settings. The settings can only be customized in **TEST** mode and control is needed.

4.1 Settings Menu

To view the camera settings menu, press **MENU** in the **TEST** mode (Power switch is at **ON** position; control needs to be connected). The settings menu will be shown on the LCD on the camera or the external TV monitor (only when the camera is connected to a TV).

| 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 deleted. |
| Image Size | Choose the image size, e.g. 3 mega pixels. |
| Video Size | Choose the video size, e.g. 640×480 (VGA). |

| | |
|-----------------------|--|
| Set Clock | Set camera date and time. |
| Capture Number | Choose the continuous shooting numbers after each triggering. |
| Video Length | Choose duration of recording video. |
| Interval | Choose how long the camera will stop functioning after each triggering. The camera's PIR will be disabled during this interval. |
| Sense Level | Choose sensitivity of PIR. The higher, the easier the motion sensor would be triggered. It is recommended to use Normal 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. |
| Timer Switch | The camera will be awoken up at certain time duration in a day. In the rest of the time the camera is shut off. |
| Default Set | Restore all customer settings to default values. |

4.1.1 Default Settings

Default settings are listed below:

| Setting Items | Default | Options | Submenu |
|----------------------|----------------|------------------|----------------|
| Camera Mode | Image | Video | |
| Format | Enter | | Yes, No |
| Image Size | 6MP | 3MP | |
| 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 | |
| Time Stamp | On | Off | |
| Timer Switch | Off | On | Start, Stop (00:00 – 23:59) |
| Default Set | | | |

4.1.2 Set Camera Mode

There are two ways to set the camera mode: 1. Via shortcut key; 2. Via setting menu.

1. Shortcut key: Press **UP** to set the camera mode as **Video** or press **DOWN** to set camera mode as **Image** in info display of **TEST** mode.
2. Setting menu: The following shows how to set camera mode to **Video**, provided that the previous option is **Image**:
 - a) Press **MENU** to display the setting menu.
 - b) Press **UP** or **DOWN** to select **Mode**.
 - c) Press **RIGHT** to select **Video**.
 - d) Press **OK** to save the current setting and the option will be un-highlighted.

Press **MENU** to cancel setting and return to info display.

4.1.3 Format 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 **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...” as below.
Press **MENU** to cancel setting and return to info display.

Formating...

please wait
for format end

4.1.4 Set Image Size

The following shows how to set pixel size as **3M Pixel** provided that the previous option is **6M Pixel**:

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

Press **MENU** to cancel setting and return to info display.

4.1.5 Set 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 **RIGHT** to select **320×240**.
- d) Press **OK** to save the current setting and the option will be un-highlighted.

Press **MENU** to cancel setting and return to info display.

4.1.6 Set 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 **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.

4.1.7 Set Continuous Capturing Number

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

- a) Press **MENU** to display the setting menu.
- b) Press **UP** or **DOWN** to select **Capture Number**.
- c) Press **RIGHT** to select **3 Images**.
- d) Press **OK** to save the current setting and the option will be un-highlighted.

Press **MENU** to cancel setting and return to info display.

4.1.8 Set Video Length

Press **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 **1 Seconds**:

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

Press **MENU** to cancel setting and exit.

4.1.9 Set Triggering Interval Time

Press **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 **RIGHT** to decrease or increase to **5 Minutes**.
- d) Press **OK** to save the current setting and the option will be un-highlighted.

Press **MENU** to cancel setting and return to info display.

4.1.10 Set PIR Sensitivity

It is recommended to use **Normal** mode. 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 **RIGHT** to select **Low**.

- d) Press **OK** to save the current setting and the option will be un-highlighted.

Press **MENU** to cancel setting and return to info display.

4.1.11 Set 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 **Time Stamp**.
- c) Press **RIGHT** to select **Off**.
- d) Press **OK** to save the current setting and the option will be un-highlighted.

Press **MENU** to cancel setting and return to info display.

4.1.12 Set Timer

The setting steps are similar to **Set Clock**.

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 a.m. to five p.m., the steps are as following:

- a) Press **MENU** to display the setting menu.
- b) Press **UP** or **DOWN** to select **Timer Switch**.
- c) Press **RIGHT** to select **On**.
- d) Press **OK** to enter into submenu.

Press **MENU** to cancel setting and return to info display

- e) Press **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

un-highlighted.

Press **MENU** to return to previous menu.

4.1.13 Reset to Default Settings

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

- 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.

4.1.14 View Image or Video

- a) Switch to **TEST** mode and enter into info display.
- b) Press **OK** to view the latest picture (or video) in LCD screen on camera, TV monitor or Image viewer with TV-in connector.
- c) Press **NEXT** to start playing the video clip in TV monitor. NOTE: Video clip cannot be played in LCD screen on the control.
- d) Press **NEXT** to stop playing and return to playback mode.
- e) Press **UP** to view the next picture (or video) and **DOWN** for the previous.
- f) 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.

4.1.15 Delete Image or Video

- a) View the image (or video) which to be deleted.
- b) Press **MENU** to display the DELETE SELECT menu.
- c) Press **SHOT** to select **delete One or All image. One** is highlighted.

d) Press **OK**, **No** and **Yes** are prompted. **No** is highlighted.

e) Press **SHOT** to highlight **Yes**.

f) Press **OK** to delete the image or video.

Press **MENU** to cancel and return to playback.

Please note that 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.

4.2 File Numbering

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).

4.3 Firmware Upgrade

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

Appendix I: PIR Detection Zone

The figure4 shows the detection range in different detection angle. When the detection angle is 35° , the detection range is 50ft. When the detection angle is 52° , the detection range is 30ft.

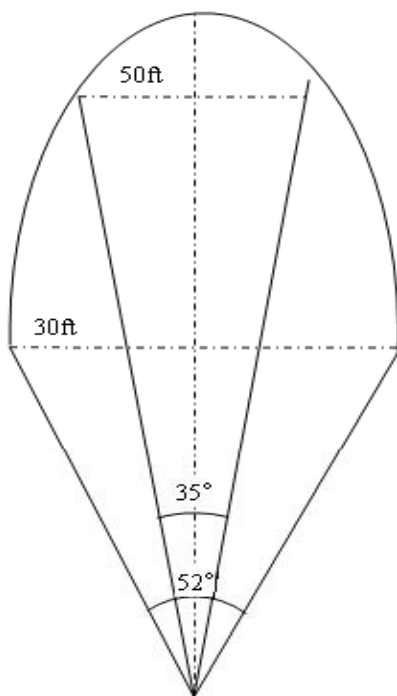
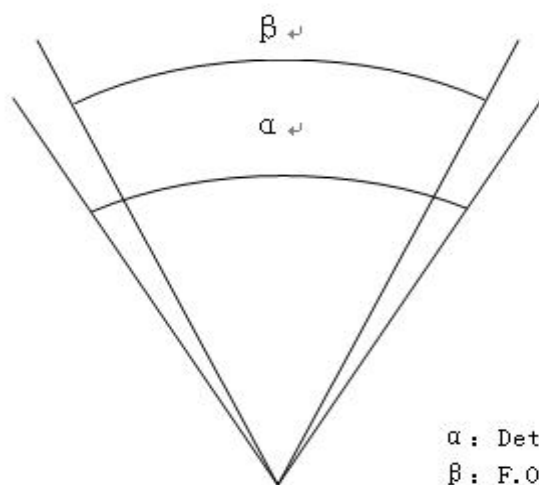


Figure 4

The PIR detection angle (α) is just barely larger than the field of view angle (β). The advantage of this design is to avoid empty pictures and get available pictures.



α : Detection Angle;
 β : F.O.V Angle;

Figure

Appendix II : Technical Specifications

| | |
|--------------------------------|--------------------------------------|
| Image Sensor | 5MP CMOS Sensor 6MP Interpolation |
| Lens | F/NO=3.1mm FOV(Field of View)=52° |
| IR-Flash | Up to 14m |
| Detection Range | Up to 12m |
| Display Screen | 1.5" LCD |
| Memory Card | Up to 32GB |
| Image Resolution | 6MP=2848x2136 3MP=2048x1536 |
| Video Resolution | 640×480 (16fps) 320×240 (20fps) |
| PIR Sensor | Multi Zone |
| PIR Sensitivity | Adjustable (High/Normal/Low) |
| Trigger Time | 1.2s |
| Weight * | 0.2 kg |
| Operation/Storage Tem. | -20 - +60°C / -30 - +70°C |
| Interval | 1s – 60 min. |
| Photo Burst | 1–3 |
| Video Length | 1–60s |
| Power Supply | 4× AA |
| Stand-by Current | < 0.25 mA (<6mAh/Day) |
| Low Battery Alert | LED Indicator |
| Display Screen | LCD display on control |
| Mounting | Rope/Belt/Python lock |
| Dimensions** | 145x 82x 36 mm |
| Operation Humidity | 5% - 90% |
| Security authentication | FCC, CE, RoHS |

*without battery

AppendixIII: Parts List

| Part Name | Quantity |
|------------------|-----------------|
| Digital Camera | One |
| Wired control | One |
| USB Cable | One |
| TV Cable | One |
| Belt | One |
| User Manual | One |