Infrared Digital Scouting Camera

User's Manual

Pocket Camera for

SG370-6mHD/SG570-10mHD

Content

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 interest (ROI) monitored by a high sensitive Passive Infrared (PIR) motion sensor, and then automatically captures high quality pictures or records video clips (720P HD) 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 Application

This camera can be used as an automatic surveillance device for guarding and recording

unexpected intrusion to homes, shops, schools, depots, offices, taxies, worksites etc. It can also be used as a trail camera for hunting or monitoring animals by recording the traces of wild animals. It can be left alone for months and it will save event records automatically in digital format.

1.3 Camera Overview

The camera has the following I/O interfaces: USB connector, SD card slot 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.

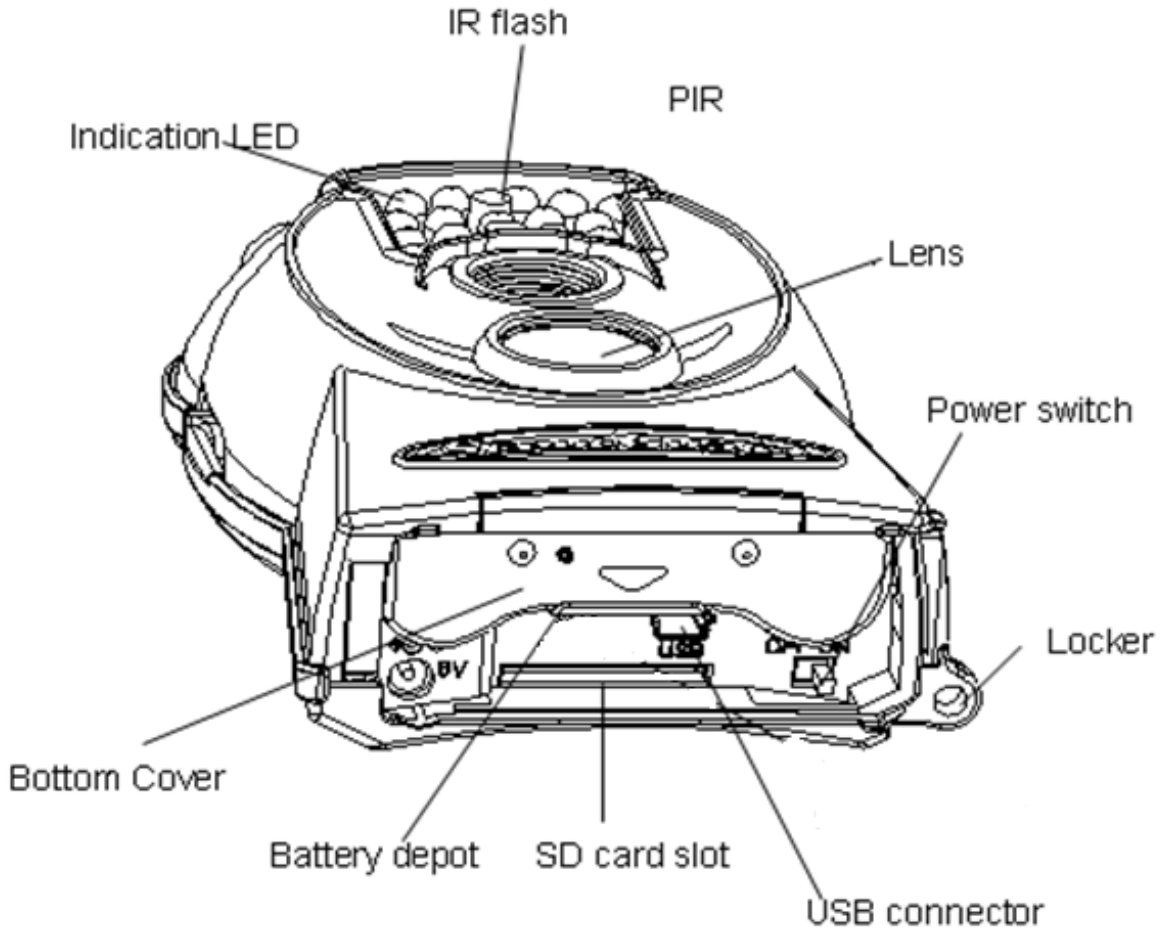

Fig. 1: Diagram of camera functional indicators

1.4 Shooting Information Display

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

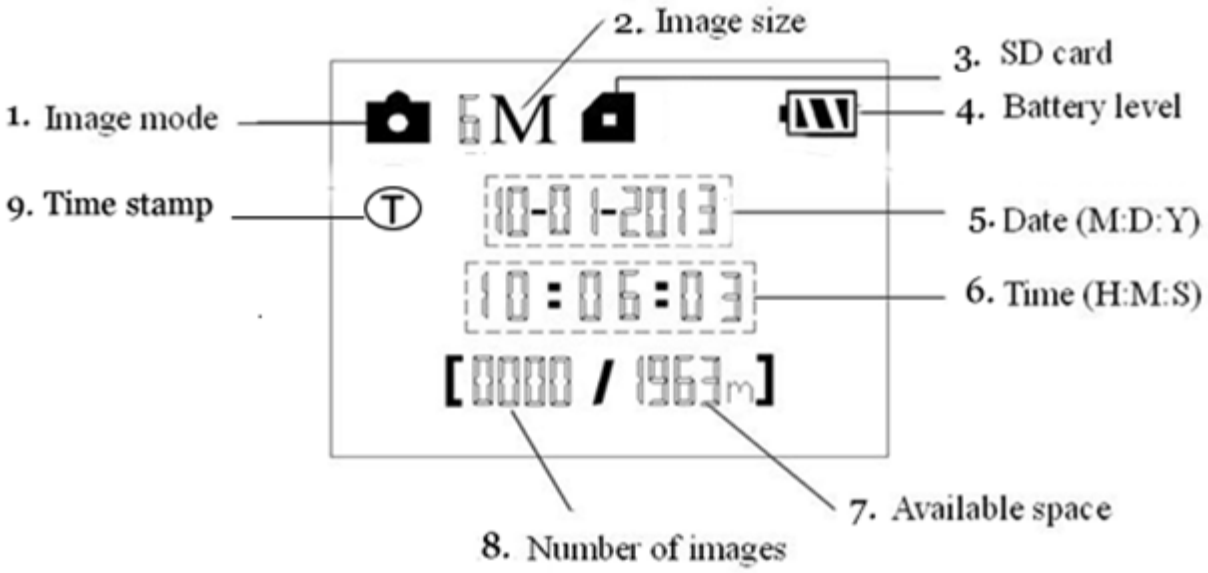

Fig.2 Information display

1.5 Saving Images or Videos

The camera uses a standard SD (Secure Digital) memory card to save images (in .jpg format) and videos (in .avi format). SD and SDHC (High Capacity) cards up to a maximum 32 GB capacity are supported. Before inserting the SD card be sure that the SD card is unlocked.

2 Cautions

★ Please install batteries according to shown polarity.

★ **Must insert the SD card before power on camera. The camera will not work properly unless a working SD card is detected by the camera**

★ 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.

★ 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 for the first time. Many other SD cards formatted by other cameras have poor compatibility with different brands of cameras. So it is best to format the SD card with this camera or on a computer.

★ In the **TEST mode, 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.

3 Easy Operations

3.1 Power Supply

Use 4 AA batteries or 6V external battery for power supply (Fig. 4).

Fig. 3: Battery Configurations of 4 batteries

Use high-capacity and high-performance alkaline batteries (recommended), rechargeable Lithium batteries or rechargeable NiMH batteries.

3.2 Insert the SD card

The camera has no internal memory for saving images or videos. **If no SD card is inserted, the camera will shut down automatically.**

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 walking 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 of the camera. The detailed operations will be described in “Advanced Operations” chapter.

3.4.2 Manual Capturing

Press **SHOT** to manually capture photos or record videos. It is also SHOT key to stop the manual capturing of a video.

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 of the camera.

Use "▲" or "▼" key to select sub-menu, use "► " or "◄" key to select the different options, then press "**OK**" to save the settings. The options will be un-highlighted.

4.2 Setting Items

Setting Items	Description
Camera Mode	There are two camera modes: **Photo** or **Video**. You can enter the Setup interface to set the camera mode or use shortcut key to switch the camera mode. Via shortcut key: press "▲" key to set to Video and press "▼" key to set to Photo in TEST mode.
Set Clock	You can change the date and time when necessary, e.g., after every battery change. The date format is **month/day/year**, the time format is **hour: minute: second**. Press "► " to select item, press "▲ " or "▼ " to change the value. The valid value for year is between 2009 and 2050.
Photo Size	Choose the image size: SG370-4mHD: 4MP or 6MP SG570-6mHD: 5MP or 10MP.
Photo Burst	It means the shooting number of each triggering in Camera mode. You can choose from 1 to 3 Photos.

Video Size	Choose video size:1280x720(720P HD) or 640x480(VGA).
Video Length	Choose duration of recording video.
PIR Sensitivity	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.
PIR Interval	This parameter means how long the PIR sensor will be inactive after each triggering in ON mode. During this time the PIR of the device will not react to the motion of human or animals.
Format SD	Format the SD card. All images and videos in the SD card will be deleted.
Default Set	Restore all customer settings to default values.

4.3 Default Settings

Setting Items	Default	Options	Submenu

Camera Mode	Photo	Video	
Set Clock	Enter		Adjust Clock
Photo Size	4MP(SG370-4mHD) 5MP(SG570-6mHD)	6MP 10MP	
Photo Burst	1 Photo	2 Photo, 3 Photo	
Video Size	1280x720	640x480	
Video Length	10 seconds	5–60 seconds	
PIR Sensitivity	Normal	High, Low	
PIR Interval	5 sec	0–55 seconds, 1-60 minutes	
Format SD	Enter		Yes, No

4.4 View Image

We know that the camera has three basic operation modes，please slide the power switch to **ON** position and connect the control to enter into **TEST** mode. Then Press **OK** to view the latest picture (or video) on LCD screen on camera. Press **UP** or **DOWN** for other pictures. Press **OK** to return to info display.

Note: Only pictures can be playback on the LCD 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.

4.5 Delete Image or Video

View the image (or video) which will be deleted. Press **MENU** to display the DELETE SELECT menu. Then press **SHOT** to select **delete One or All images**.

5 Trouble shooting

1 There is something in front of the camera lens. Is the camera broken?

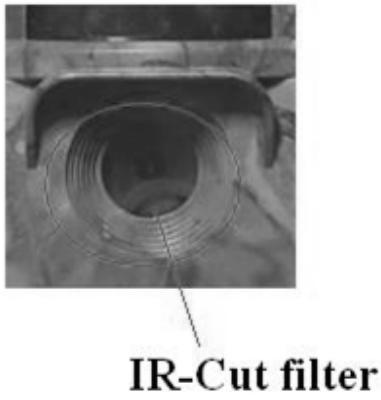

Fig. 4: Floating IR-Cut Lens

A: The camera is not broken. It's an IR-Cut filter. When the camera is powered on, the IR-Cut will be reset and cover the lens. Only when the camera is powered off, the IR-Cut will be at a random place.

2 The camera controller is not working anymore.

A: Most likely, no SD card has been inserted in the camera when it is turned on. Please make sure a working SD card has been inserted in the camera before it is turned on.

3 The display screen is suddenly black.

A: To reduce power consumption, **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.

Appendix I: PIR Detection Zone

Fig.5 shows Bolymedia's 4 kinds of detection range at different detection angles. This camera is long range with 50 degree.

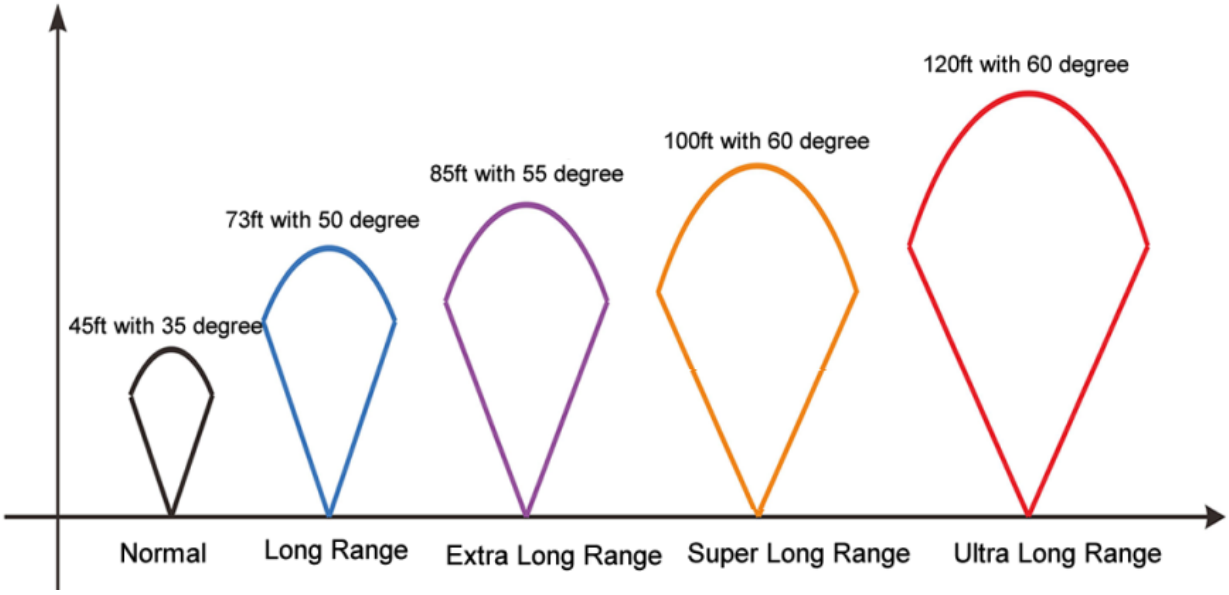

Fig.5 PIR Detection Zone

The PIR detection angle (α) is just smaller than the field of view (FOV) angle (β). The advantage of this design is to reduce empty picture rate and capture most, if not all, motions.

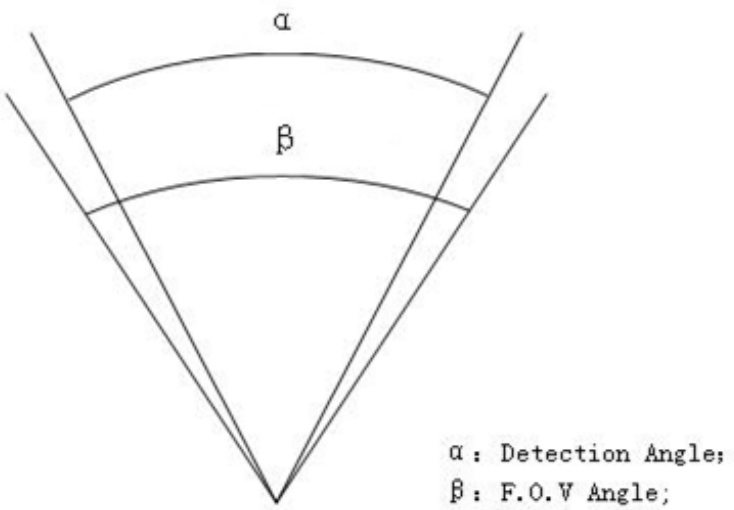

Fig.6 Detection angle vs. FOV angle

This camera has a new design of PIR and this new PIR is patented. The new patented PIR's detection range can reach to 73ft(in good environments). The figure 7 shows the compared detection zone between normal PIR and the new patented PIR.

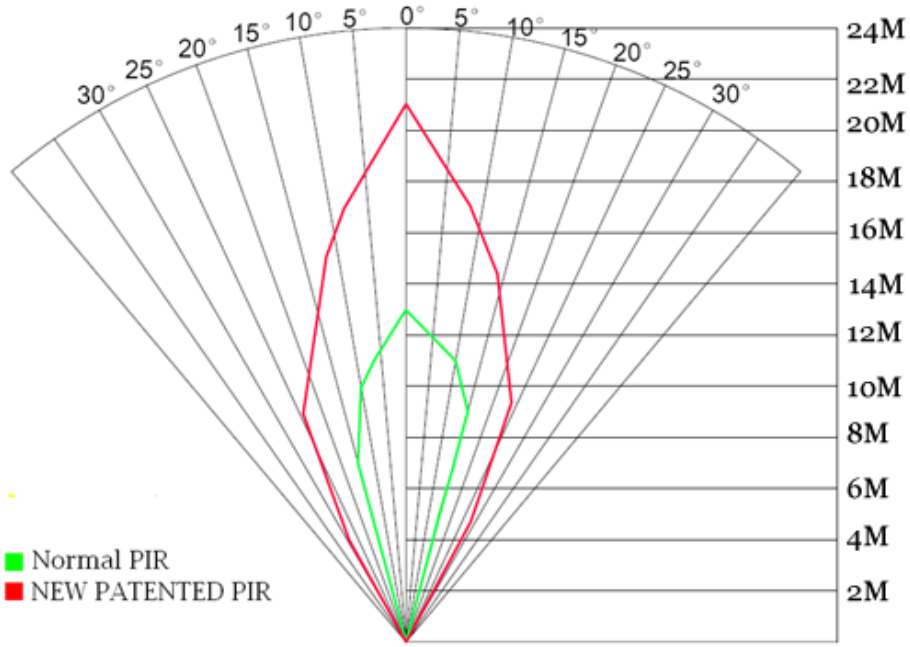

Fig.7 Comparison of Detection Zones of new and existing PIRs

Appendix II : Technical Specifications

Image Sensor	5MP Sensor
Lens	F/NO=2.2 FOV(Field of View)=60°
Detection Range and Illumination	Up to 73ft
Display Screen	1.4" LCD
Memory Card	Up to 32GB
Image Resolution	SG370-4mHD:4MP or 6MP SG570-6mHD:5MP or 10MP
Video Resolution	1280x720 640×480
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
Belt	One
User Manual	One
Warranty card	One

（Version 1.4）