Full Color Digital Scouting Camera

User's Manual

Scouting Camera SG860C-HD

Content

1 Instruction

1.1 General Description

This camera is a surveillance device working automatically. It can be triggered by any movement of human (or animal) in a certain region of interested (ROI) monitored by a highly sensitive Passive Infra-Red (PIR) motion sensor, and then take high quality pictures (up to 8 mega pixels) or video clips.

It also can be triggered by a timer which means the camera can capture pictures or video clips at specified time intervals regardless of whether there is a motion of human or animal.

The device is equipped with built-in full color white LED lights, it takes clear color pictures and color videos both day and night.

The camera consumes very little power (μA level) at surveillance mode. Powered by 8 new AA alkaline batteries, the camera works for months. Once a motion by human or animal is detected, the digital camera unit will be awaken at once and then automatically take pictures or videos according to previously programmed settings.

The device is designed for outdoor use and is resistant against water and snow. Furthermore, the camera can be

used as a portable digital camera. Pictures or videos can be taken manually by pressing 📷 on the operation panel.

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, taxis, work sites, 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 weeks and months and it will save event records automatically in digital format.

1.3 Camera Interface

1.3.1 Camera Body Interface

The camera has the following interfaces: a 2.0" TFT LCD display screen, operation panel, USB connector, SD card slot and external DC power connector. Fig. 1 shows the front view of the camera and its function parts. Fig. 2 shows the operation panel and display screen. Fig. 3 shows the bottom view of the camera and its I/O interface.

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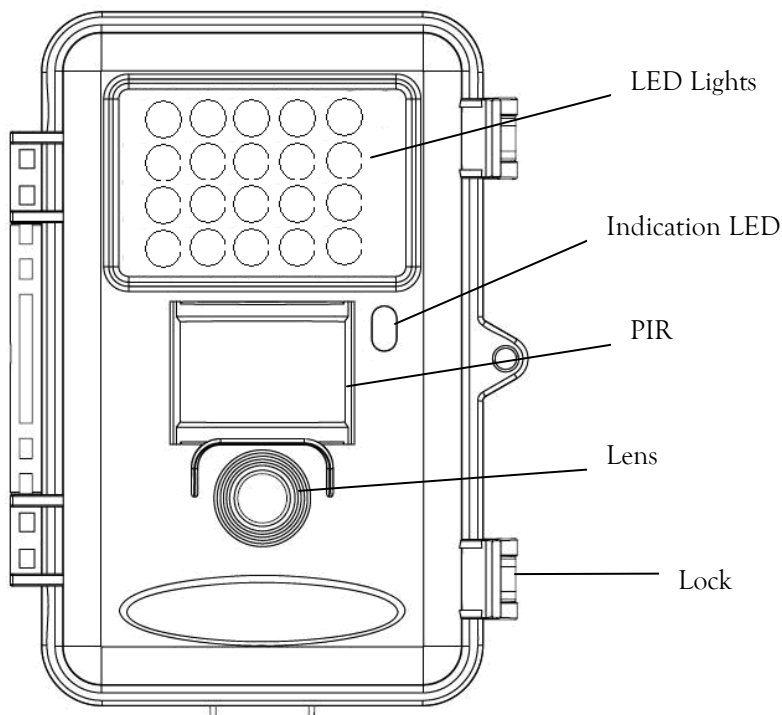
LED Lights

Indication LED

PIR

Lens

Lock

Figure 1: Front view

Display Screen

Operation panel

MENU   DEL

OK

▷   📷

Power Switch

ON

SETUP

OFF

Battery Depot

Lock Hole

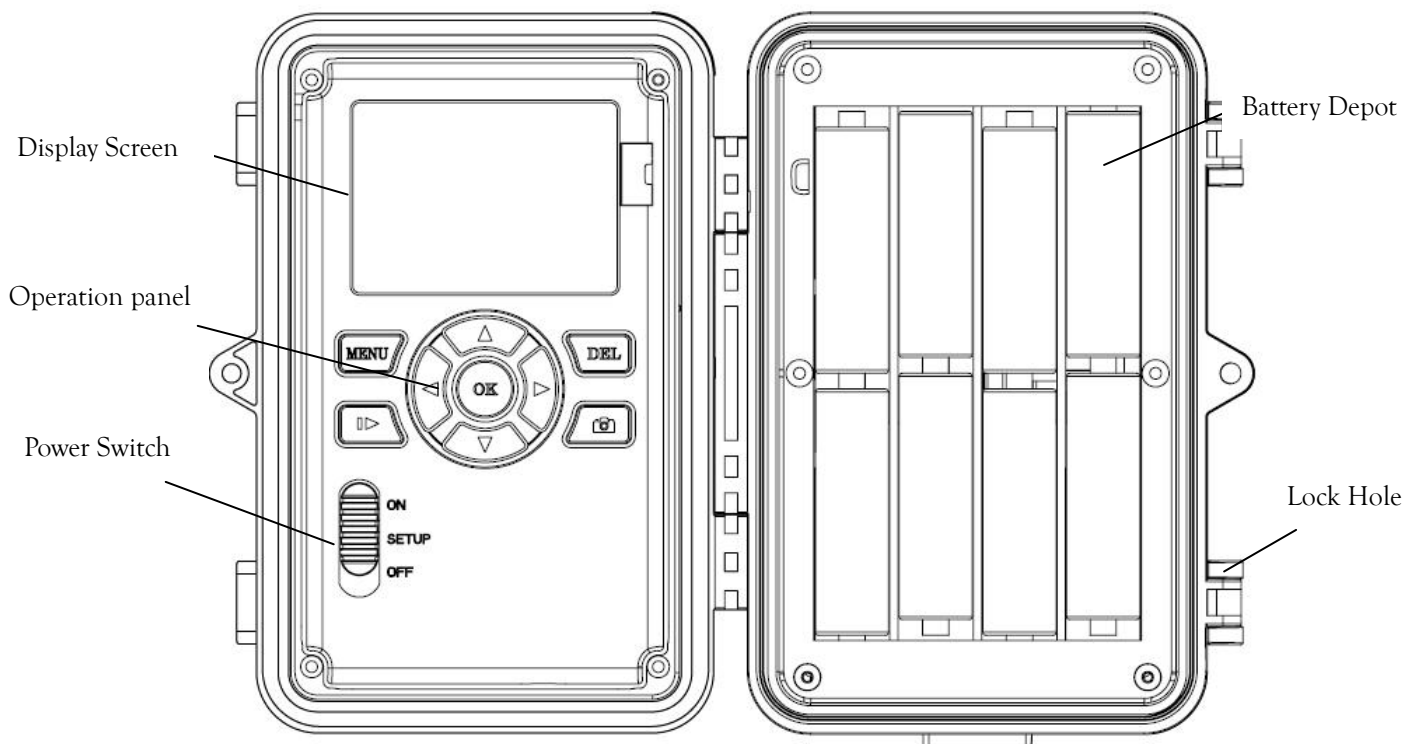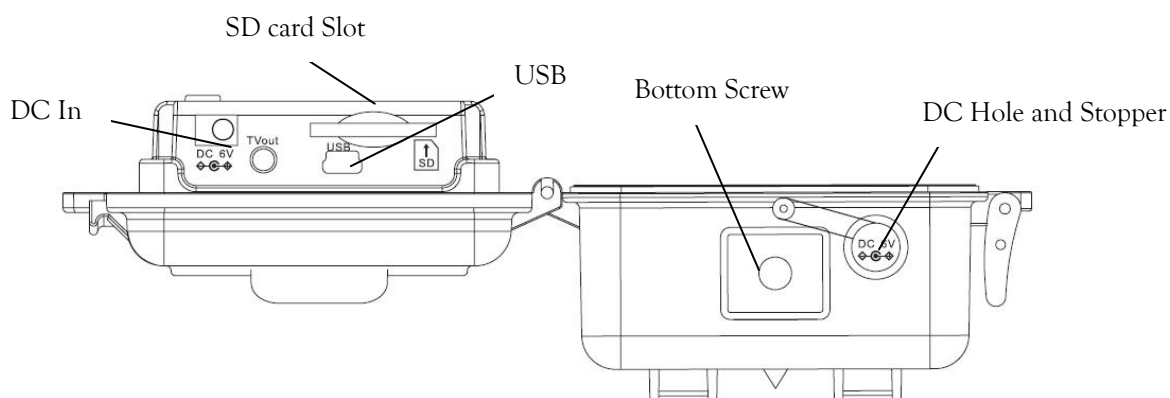## Figure 2: Operation Interface

Figure 3: Bottom view

1.3.2 Key Notes

"MENU": to enter the program menu in preview mode;

"▲""▼""◄""►": for parameter settings as described in the user's manual.

"OK": to save parameter settings and play videos.

"▮▶": to exchange between playback mode and preview mode;

"DEL": to delete an image

"📷": to capture a photo or record a video manually.

1.3.3 Shooting Information Display

Camera Mode   Image Size

5M

[00310/01760m]

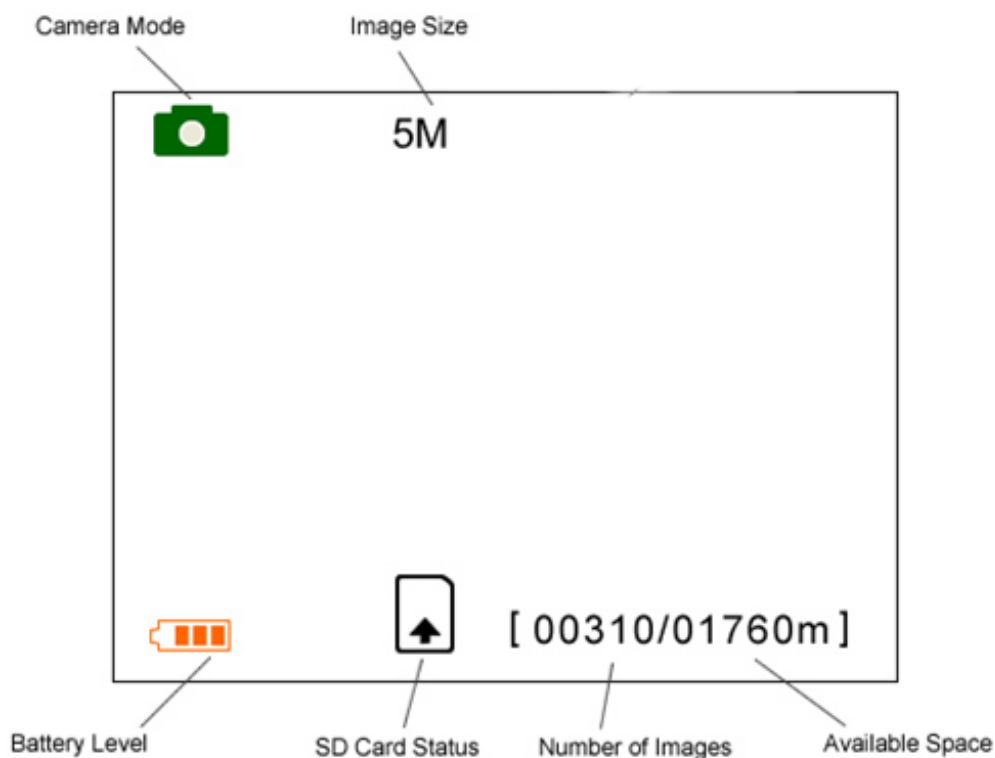Battery Level   SD Card Status   Number of Images   Available Space

Figure 4: Display screen

1.4 Saving Images or Videos

The Camera uses a SD card to save images (in .jpg format) and videos (in .avi format). Before inserting the SD card, be sure that the SD card is unlocked. The camera is compatible with SD card from 8MB to 32GB.

2 Cautions

★**The working voltage of the camera is 6V.** The camera is supplied by four or eight 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 setting up the camera. **If no SD card is inserted, the camera will shut down automatically.**

★It is recommended to format the SD card by the camera when used for the first time.

★In the **SETUP** 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.

★Please avoid putting the camera in a damp place. If you don't use the camera, take out the battery and lock the camera.

3 Easy Operations

3.1 Power Supply

Use 8 or 4 AA batteries or 6V external battery for power supply.

Install the fully charged batteries into the depot according to the polarities sign shown. 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

When in low-battery state, camera will automatically shut down after the indication LED flash for a while. Please change the batteries in time.

Caution: Risk of explosion if battery is replaced by an incorrect type. Also dispose of used batteries according to the instructions.

Correct Disposal of this product. This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To

return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

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 Enter into the ON Mode

The Camera has three basic operation modes:

1. **OFF mode:** to turn off the camera.
2. **SETUP mode:** to set operational parameters, or to playback the photos or video clips via display screen.
3. **ON mode:** to work under surveillance state.

After switching the camera to ON position, the motion indication LED (red) will blink for about 10 seconds. This time interval is for you to make the camera ready for automatic surveillance operation, e.g., to close the bottom cover and to lock it, to fix the camera on a tree and to walk away. After entering into the ON mode, no manual controls are needed and possible. The Camera will take pictures or

videos automatically according to the previous programmed settings when human or animal enter into the monitoring region.

3.4 Enter into the SETUP Mode

There are 3 states in SETUP Mode: preview state (preview the scene in the front of the camera), setting state (make customer settings), and playback state (view Photos or videos via 2.0" TFT display).

3.4.1 Preview

After switching the camera to SETUP Mode, it enters into the preview state.

Press ▶ to exchange between playback mode and preview mode.

3.4.2 Customer Settings

Press **MENU** to manually customizing the camera settings which displayed on the screen. The detailed operations will be described in "Advanced Operations" chapter.

3.4.3 Manual Capturing

Press 📷 to manually capture photos or record videos. Press again 📷 to stop the manual capturing of video clip.

3.4.4 View Images or Videos

Press � to view images or videos, the latest image or video will be shown in the LCD screen on the control. Press "▲" or "▼" to view the previous or next image or video.

3.4.5 Delete Images or Videos

Press **DEL** to delete images or videos. Note the **DEL** button just works in Playback state. So if it's in Preview state, you should press ▷ to enter into **Playback** state first.

3.5   Triggering Modes

There are 3 triggering modes of the camera: PIR triggering, Timer triggering and PIR & Timer triggering.

3.5.1 PIR Triggering

PIR triggering is the default setting. The camera works only when motions get detected, while **PIR Trigger** is set to **OFF**, the camera will stop PIR triggering.

3.5.2 Timer triggering

The **Time Lapse** Default setting is **OFF** which means the timer triggering is disabled. While changing the **Time Lapse** to a non-zero value, the camera starts to work at a

preset time interval. User needs to OFF the **PIR Trigger** if he wants the camera to work only with Time Lapse function.

3.5.3　PIR & Timer triggering

If user wants both PIR triggering and Timer triggering, the user needs to set **PIR Trigger** to **ON** and set **Time Lapse** to a desired non-zero value. The camera will capture pictures or videos in a preset time interval even if no motions get detected and it will also capture pictures and videos if motions get detected.

3.6　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

After you are familiar with the basic operations of the Camera, you are now ready for advanced operations，and the options and parameters of the Camera are explained in more detail.

4.1 Settings Menu

To view the camera settings menu, press **MENU** in **SETUP Mode** (power switch is at **SETUP** position). The settings menu will be shown on the LCD screen of the camera.

Setting Menu	Description
Camera Mode	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 SETUP mode. Via setting menu: Press"◄" or "►" to select photo or video mode.
	You can change the date and time of the device by setting this parameter when

Set Clock	necessary, e.g, after every battery change. The date format is **month/day/year**, the time format is **hour: minute: second.** The valid value for year is from 2009 to 2050.
Photo Size	This parameter has two values: 5 mega pixels (5M Pixel or 5MP) and 8 mega pixels (8M Pixel or MP).
Photo Burst	This parameter affects the number of pictures taken for each triggering in **Camera Mode.** It has three values: "1 Photo", "2 Photos", and"3 Photos".
Video Size	You can choose 720P HD (1280X720) or VGA 640X480) for video.
Video Length	This parameter is effective and can be adjusted only when the device is in the video. Its value extends from 5 to 60 seconds with a step of one second. Press "◄" and "►" to decrease or increase the value by 1 second.
Time Lapse	This camera has time lapse function，which means the camera can capture images or videos at a preset time interval

	(range from 5 mins to 8 hours) regardless of whether motions get detected. The default parameter is **OFF** which means the timer function is disabled. When changing this parameter to a non-zero value, it starts to take photo or video at given time interval.
PIR Trigger	This parameter defines the sensitivity of the PIR. There are four parameters: **High, Normal, Low** and **Off.** The higher degree indicates that the Camera is more easily triggered by motion, taking more pictures or recording more videos. It is recommended to use high sensitivity degree in room or environment with little interference, and to use low sensitivity for outdoor or environment with lots of interference like hot wind, smoke, near window, etc. Furthermore, the sensitivity of the PIR is strongly related to the temperature. Higher temperature leads to lower sensitivity. Therefore it is suggested to set a higher sensitivity for high

	temperature environment.
	Please note that if Time Lapse is set to OFF, PIR Trigger can't be set to OFF.
PIR Interval	This parameter means how long the PIR (Passive Infrared motion sensor) will be disabled after each triggering in ON mode. During this time the PIR of the device will not react to the motion of human (or animal). The minimum interval is 0 second, it means the PIR works all the time. The maximum interval is 60 mins, it means the PIR will be disabled for 1 hour after each triggering. Press "◄" and "►" to decrease or increase the value.
Format SD	The system will delete all images or videos stored in the SD card after formatting. Please make sure that you have made a backup of important data.
Default Set	Restore customer settings to default values.

Table 1: Submenu

Please press OK after you select one Item to save and press MENU to cancel settings and return to info display if you need.

4.2　Default Settings and Live Monitoring

Please refer to table 2 for the default settings:

Parameter name	Default	Other settings
Camera Mode	Photo	Video
Set Clock	Enter	
Photo Size	8M Pixel	5M Pixel
Photo Burst	1 Photo	2 Photos, 3 Photos
Video Size	1280X720	640X480
Video Length	10 sec	5-60 seconds
Time Lapse	Off	5 Min to 8 Hour
PIR Trigger	Normal	High，Low，Off
PIR Interval	5 sec	0-55 Sec, 1-5 Min, 10-60 Min
Format SD	Enter	Yes, No
Default Set	Save	

Table 2: Default settings of the Camera

4.3   Firmware upgrade

This camera provides an upgrading function for the users. Upgrading is needed only when an improved firmware is available.

5 Mounting the Camera

When use the camera in outdoor environment, such as hunting or monitoring the living habits of wild animals, you need to mount the device on a certain place properly. It is recommended to mount the camera on a tree with diameter about 15cm. To get the optimal picture quality, the recommended distance is 5m from the tree to the target monitoring area and recommended height from the ground is 1.5~2 meters. Adjust the viewing angel properly (view angle of this camera is 60°).

There are two ways to mount the camera: using a band shaped belt or bottom screw.

Using the belt: Using the belt to fix the camera on a tree is illustrated in Fig. 5. Take the belt toes to go through the two back holes of the camera. At the end, tie the two toes to the tree to finish fixing.

Using bottom screw.

Figure 5: Fixing the camera with belt

Appendix I: PIR Detection Zone

Fig. 6 shows Bolymedia's 4 kinds of detection range at different detection angles. This camera is extra long range with 55 degree.
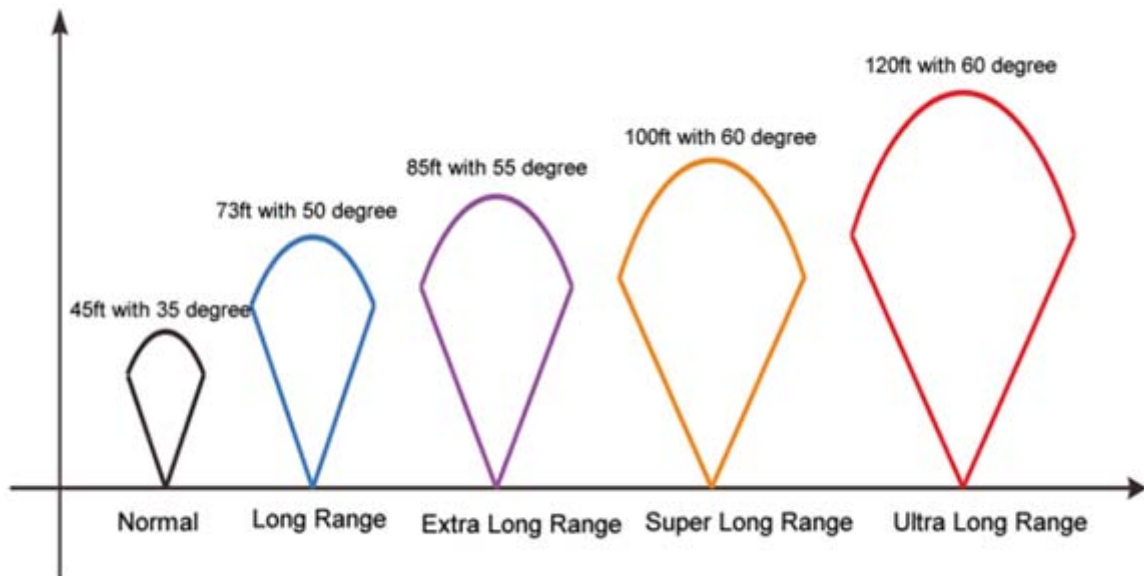

Figure 6:IR Detection Zone

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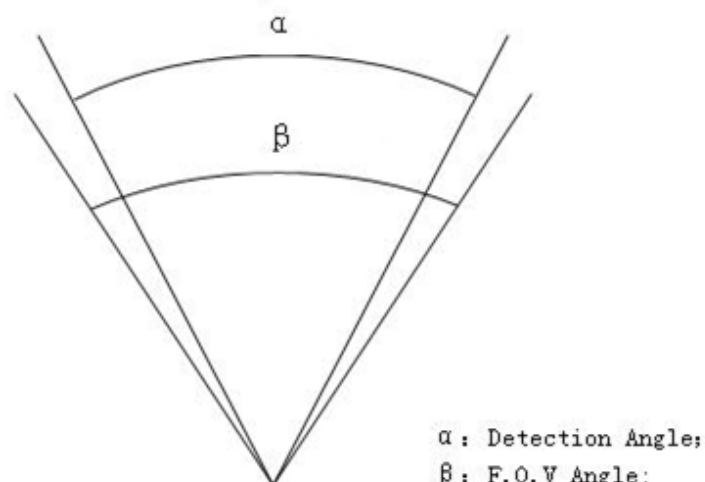

α: Detection Angle;
β: F.O.V Angle;

Figure 7:Detection angle vs FOV angle

This camera has a new design of PIR which is patented. The new patented PIR's detection range can reach to 85 ft. Fig. 8 shows the compared detection zone between normal PIR and the new patented PIR.
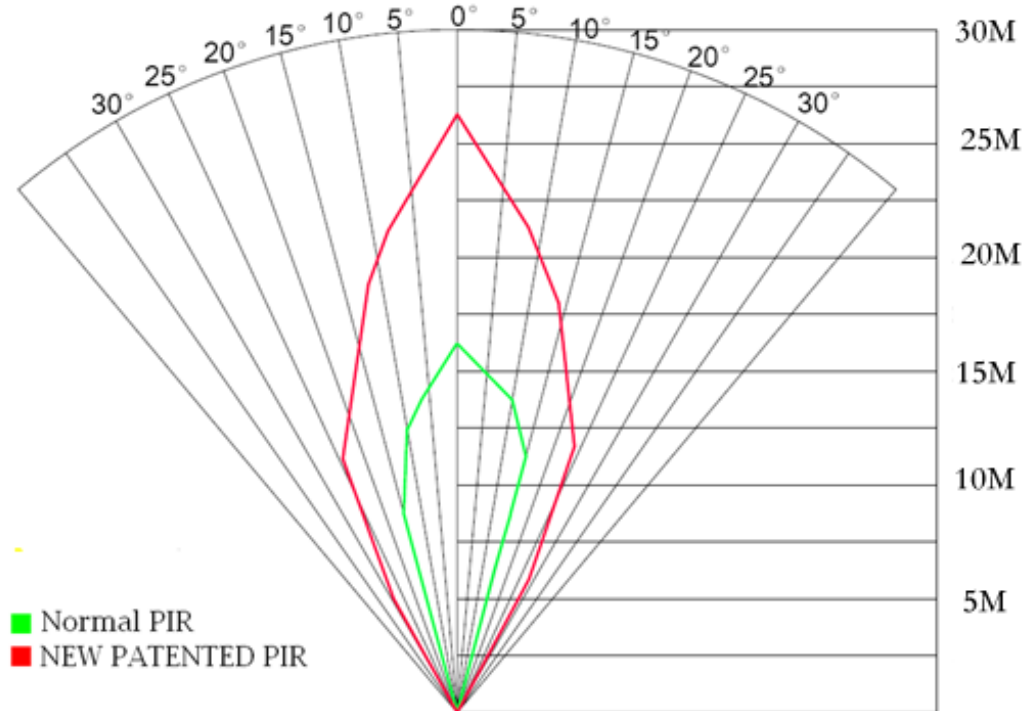

Figure 8: Comparison of Detection Zones of new and existing PIR

Appendix Ⅱ : Technical Specifications

Image Sensor	5MP Color CMOS, 8MP interpolation
Lens	F/NO=2.2 FOV (Field of View)=60°; Auto IR-Cut-Remove;
Detection Range	Up to 85 ft
Display Screen	2.0" TFT
Memory Card	Up to 32 GB
Picture Resolution	8MP = 3264 ×2448 5MP = 2560×1920
Video Resolution	1280x720 640X480
PIR Sensor	Multi Zone
Trigger Time	1.2 seconds
Weight	0.24 kg
Operation/Storage Temperature	-20 - +60°C / -30 - +70°C
Interval	0 sec – 60 Min.
Photo Burst	1–3
Video Length	5–60 seconds
Power Supply	8AA can take >500 10s video clips with LED lights;
Stand-by Current	< 0.3 mA (<7mAh/Day)
Low Battery Alert	LED Indicator
Display Screen	LCD display
Mounting	Rope/Belt/Python lock
Dimensions	140x 80x 50 mm
Operation Humidity	5% - 90%
Security Authentication	FCC, CE, RoHS

*without battery

Appendix Ⅲ: Parts List

Part Name	Quantity
Digital Camera	One
USB Cable	One
Belt	One
User's Manual	One
Warranty Card	One

（Version 1.4）