Infrared Mobile Digital Scouting Camera User's Manual MG982K-10M



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1 Instruction

1.1 General Description

This camera, a digital scouting camera with MMS function, is a digital infrared surveillance camera, triggered by any movement of human or animal monitored by a high sensitive Passive Infrared (PIR) motion sensor, and then automatically captures high quality pictures (up to 10M pixels) or records video clips (720P HD). It sends pictures instantly to your mobile device or e-mail via GSM/GPRS/MMS network. You'll be alerted just when the camera is triggered or per custom settings.

It takes color pictures or videos under sufficient daylight. While at night, the built-in infrared LEDs can help to take clear pictures or videos (monochrome).

There is a 3" color LCD display screen on the camera and a sound recorder embedded in the camera. A laser pointer is used to help target the photo area of the camera.

It is resistant against water and snow. The camera can also be used as a portable digital camera.

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 Overview

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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.

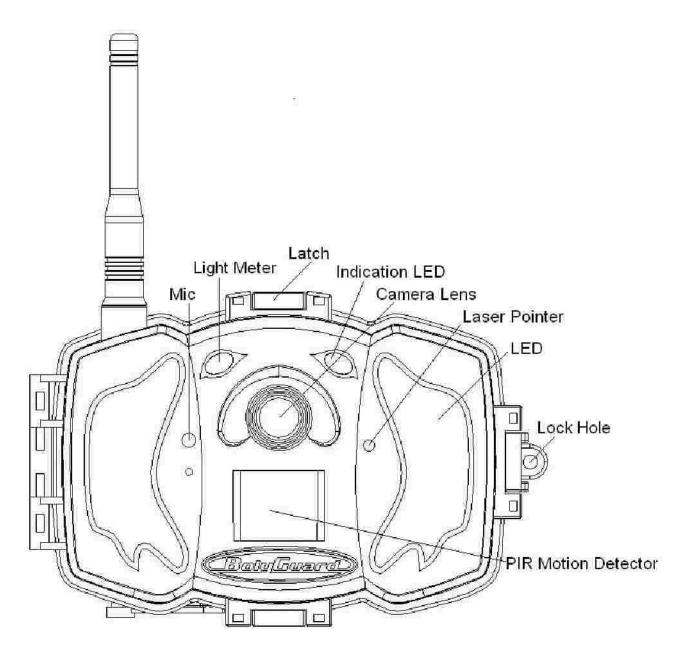


Figure 1 Diagram of camera functional indicators

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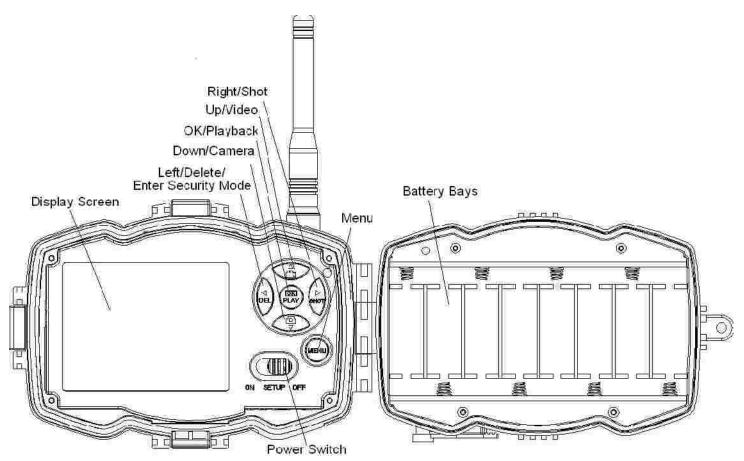


Figure 2 Inner panel view

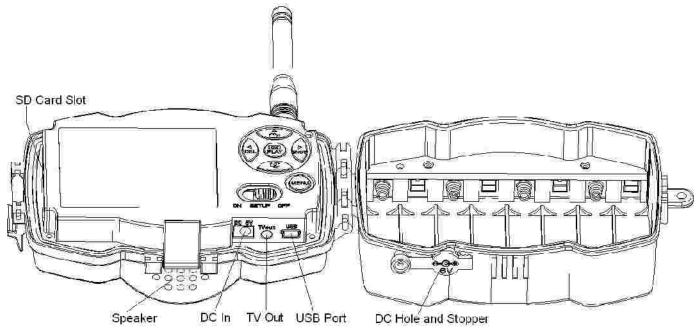


Figure 3 Diagram of camera interfaces

MG982K-10M 1 Instruction

1.4 Shooting Information Display

When the camera is turned on (the power switch is slid to TEST position), the current settings will be displayed on screen.

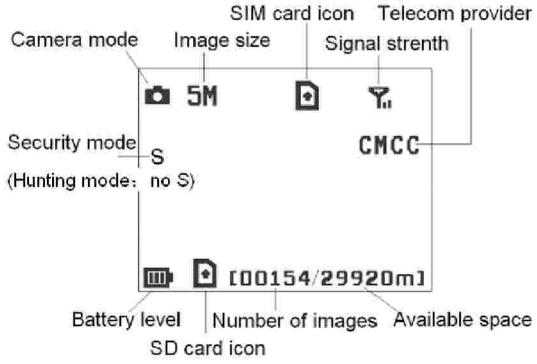


Figure 4 Shooting information display

is the correct SIM card status and the available space of SD card should be a none zero value.

1.5 Two way communication

When in Hunting mode, you can set SMS control submenu as ON to open the two way communication function. Under this setting, the camera can receive and response your SMS command or the android APP command. And you can retrieve live pictures in this mode.

When in Security mode, the two way communication function is enabled by default. Taking into account the power consumption, we recommend to use the power adapter.

2 Cautions

- Ø The working voltage of the camera is 6V. The camera is supplied by 8 or 4 AA batteries.
- Ø Please install batteries according to shown polarity.
- Ø Must insert the SD card before power on camera. The camera has no internal memory for saving images or videos. The camera will not work if there is no SD card.
- Ø Must make sure that your SIM card supports the GPRS data business.
- Ø When going into the SETUP mode, allow approximately 10-20 seconds for the camera to acquire a signal.
- Ø Please unlock the write-protect switch before inserting the SD card.
- Ø Please do not insert or take out the SD card when the power switch is at ON position.
- Ø 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.
- Ø 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.

3 Quick Start Guide

3.1 Power Supply

Hunting mode or outdoor use: Use 8 or 4 AA batteries. High-density and high-performance alkaline or lithium batteries are recommended.

Security mode or indoor use: Use 6V/2A high quality power adapter.

3.2 Insert SD card and SIM card

Insert an unlocked SD card and an available GPRS enabled SIM card.

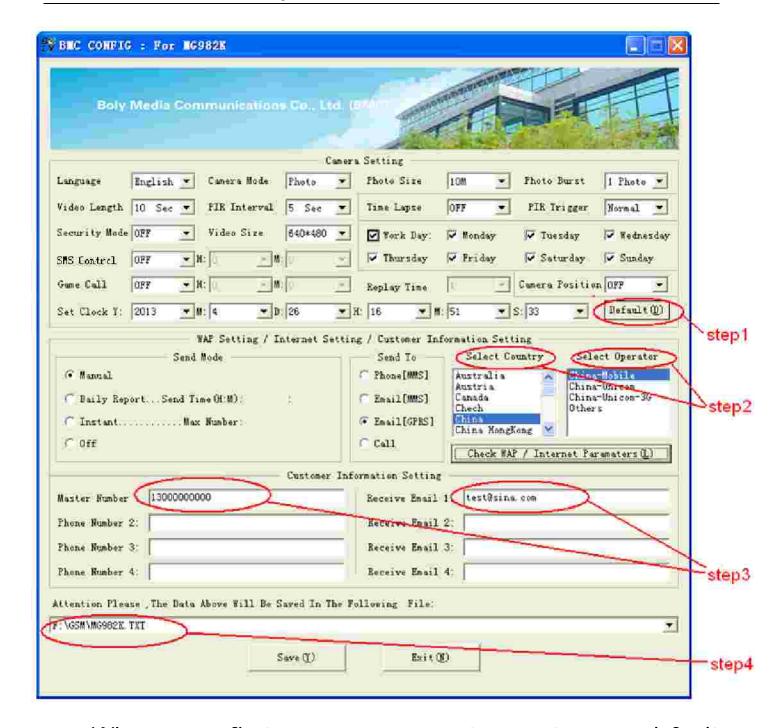
3.3 Do the camera settings

Down load the camera set up software from our website. The specified website is written in the last page of the manual.

1) Open the software and select camera model:



2) Set the camera parameters



When you first use, we suggest you to use default settings(step1). Then select your country and carriers(step2) according to your SIM card and input your receive phone number in "administrator number" and receive email address in "Receive Email 1" (step3)

After finish settings, please save the GSM folder to the root directory of your SD card(step4).

3.4 Manually send a MMS or GPRS photo

After you generate a setting file in your SD card, please slip the power switch to SETUP position. After the camera acquiring the signal and the SIM card icon appears, target an object and press "?" to take a photo manually.

Then press "OK" to playback the photos, press "? "and"? " to switch to previous or next photo. Press "MENU" and you can see a send Phone [MMS] interface, press "OK" to send out the MMS.

After a few seconds, you will receive a MMS in your phone.

3.5 Enter work mode

For hunting use, you need to slide the power switch to ON position to let the camera start to work.

For security use, you need to click "?" in Setup mode to enter security mode.

3.6 SMS control

When the camera is armed, you can send text message "#T#" to your camera's SIM card number to get an on spot image or use our android application tools.

Down load the android control software from our website. <u>The specified website is written in the last page of the manual.</u>



4 Advanced Operations

This chapter explains the advanced operations for customizing the camera settings.

4.1 Work Mode

Setup mode: to program camera, or to playback the photos or video clips.

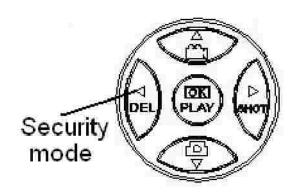
Hunting mode: when animal or human occurs into the monitoring region the camera will take pictures or videos automatically according to the previous programmed settings. After switching the camera to ON position, the motion indication LED(red) will blink for about 10 seconds. This time interval is for you to



Hunting mode

position the camera for automatic surveillance operation.

Security mode: similar to hunting mode, but need more power to supply. So it's suitable for indoor use and need to use the power adapter. Only in security mode, you can use the remote control to easily arm or disarm.



If the power switch is in ON position and the Security Mode is ON, the camera will work in Hunting Mode.

4.2 Settings Menu

Press MENU on the remote control to enter into the menu setting. The settings menu will be shown on the LCD.

Use "? " or "? " key to select the sub-menu, use "? " key to select the different options, use "?" to change different item

page. Press "OK" to save the settings.

4.2.1 Setting Items

Setting Items	Description
Camera Mode	There are three camera modes: Photo, Video or Pic+Video. You can enter the main menu to set the camera mode. If you choose Pic+Video mode, the camera takes a picture and a 10s video.
Security Mode	To set if you will use security mode. Security mode is suitable for indoor use. You need to use the power adapter to power supply. The battery can be just a backup for urgency. Otherwise, the battery will be quickly consumed. The remote control is available only when Security Mode is ON.
Photo Size	Choose the image size, e.g. 10 megapixels or 5 megapixels.
Video Size	Choose the video size,e.g. 1280x720 or 640x480.
Photo Burst	This parameter affects the number of pictures taken for each triggering in camera mode. It's from "1 Photo" to "6 Photos".
Video Length	Choose duration of recording video. It's from 10 seconds to 180 seconds.
Set Clock	Set camera date and time. You can change the date and time by setting this parameter when necessary, e.g., after every battery change. The date format is month/day/year, the time format is hour: minute: second.
Time Lapse	Time lapse means the camera can capture images or videos at a preset time interval regardless of whether motions are detected. The default parameter is Off, which means the timer function is disabled. Changing this parameter to a non-zero value turns on the Time Lapse mode, and camera will take photos at given time interval. Please note that if the PIR Trigger is set to

	Off, then the Time Lapse can't be set to Off.
PIR Trigger	Choose sensitivity of the PIR. The higher sensitivity indicates that the camera is more easily triggered by motion and takes more pictures or records more videos. It is recommended to use high sensitivity in room or environment with little interference, and to use lower sensitivity for outdoor or environment with lots of interference like hot wind, smoke, near window etc. For normal use of the camera, the Normal mode is recommended and is the default setting.
PIR Interval	This parameter indicates 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 can work all the time. The maximum interval is 1 hour. It means the PIR will be disabled for 1 hour after each triggering.
Work Day	Choose the days of the week to let the camera work. This item is available only in Security Mode.
Send to	There are 4 Send to modes: 1 Phone MMS: send images to mobile phone. 2 Email MMS: send images to receiving e-mail address via WAP. 3 Email GPRS: send images to a e-mail address via GPRS. 4 Call: calling your preset phone number when the camera is triggered. You should set your receiving phone number or your receiving e-mail address in the APP program to function it.
	There are 4 MMS modes: "Manual" works in SETUP mode, "Daily report" and "Instant" work in ON mode. "OFF" means to close the communicate

Send Mode

function.

1) "Manual":

Choose "Manual" in SETUP mode. Please ensure a SIM card is inserted properly; please note, only photos can be sent in SETUP mode. Video information can't be sent in SETUP mode.

2) "Daily ":

Daily Report means the camera will report the summarized information at a preset time (if the preset time is, eg.20:00PM) on how many pictures it had taken per day. So, you will get a summarized text message with the last picture taken until 20:00PM.

If it is on Camera mode, the camera will send a MMS at the preset time. The MMS will show you the latest photo and the total quantity of the pictures taken. If it is on Video or Pic+Video mode, the camera will send a SMS at the preset time. The SMS will show you how many video clips the camera has taken within 24 hours.

If you choose "Daily", you need to set the daily report time: xxH, xxM.

3) "Instant":

Instant, just works in ON mode, which means the camera will send a MMS instantly after it captures a photo or a video clip. You can choose the number of pictures you want it to send out per day.

If it is on Camera mode and you chose the Instant MMS mode, and set the MAX number as 10, the camera will send 10 MMS within 24 hours. And then it continues to capture photos and save them on the SD card. After 24 hours, the camera will send MMS again when it captures photos. If it is on Video mode, the Camera will send only SMS instead of MMS.

If you choose "Instant", you need to set how many MMS you want to send for economic consideration.
4) "Off": to disable MMS function.

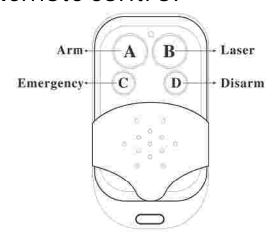
SMS Ctrl	SMS Control can enable two way communication function. It means if you choose SMS Ctrl as ON, this camera can receive and respond your SMS command. Also you can retrieve live pictures any time. But the power consumption will be a little bigger than normal hunting status. Please note this item is available only in Hunting Mode.
Game Call	It means this camera can play WAV format audio file at a preset time clock for preset times. The WAV format audio file mast save in the directory of \DCIM\100BMCIM\. The WAV format audio file should be renamed as AUDIO9999.WAV. Please note this item is available only in Hunting Mode.
Study Code	It means to pair the camera with normal 433MHz wireless device, such as infrared body sensor, wireless door magnet, wireless smoke detector etc. The normal wireless sensor can be set as part of the alarm system. All the device should be paired with this camera first. Please see 4.5 to find the method to connect or remove a wireless sensor. Please note this item is available only in Security Mode.
Language	Display the supported languages.
Beep Sound	Enable or disable the beep sound.
Camera Posit	You can set A-Z position for your camera, so that you can distinguish which photo is taken by which camera.
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.
Version	Version information

4.2.2 Default Set

Setting	Default	Options	Description
Items			
Camera Mode	Photo	Video, Pic+Video	
Security Mode	Off	On	Two way
			communication
Photo Size	5MP	10MP	
Video Size	1280x720	640x480	
Photo Burst	1 Photo	2 -6 Photos	
Video Length	10 sec	20-180 sec	
Set Clock	Enter		Adjust Clock
Time Lapse	OFF	5Min-8H	
PIR Trigger	Normal	High, Low	
PIR Interval	5 Sec	0-55 Sec,	
		1-60 Min	
Work Day	Enter		
Send to	Phone	Email	
	MMS	GPRS,Call,Email	
		MMS,	
Send Mode	Manual	Daily, Instant,	
		Off	

SMS Ctrl	Off	On	Two way
			communication in
			hunting mode
Game Call	Off	On	Set the time and
			frequency of audio
			playback
Study Code	Enter		RCH(wireless
			control),
			Zone1-Zone7
Language	English		
Beep Sound	On	Off	
Camera Posit	Off	A to Z Position	
Format SD	Enter		Yes, No
Default Set	Save		
Version	Enter		

4.3 Use the Remote control



When it's in Security Mode, you can use the remote control to easily arm (button A) or disarm (button D). Also you can dial the emergency numbers via button C in case of

emergency. Press button B can open or close the laser (you can easily mount the camera with the help of the laser pointer.).

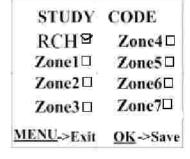
Button A: Arm the camera;

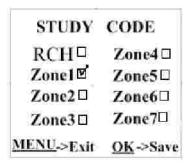
Button D: Disarm the camera

Button C: Emergency call button

Button B: Laser pointer;







Setup status

Study Code Menu

Study Code Menu

Method to add remote control(s) to the camera:

Enter the Setup status, press Menu and enter the Study Code submenu. Choose "RCH", press OK button, then press button A of the remote control. When it's successful, there will be a "v"before RCH.

4.4 Load or remove a wireless sensor

Any 433MHz wireless sensor, such as infrared body sensor, wireless door magnet, wireless smoke detector, etc. can be set as an alarm sensor of the camera.

Method to load or remove a wireless sensor:

- 1. Power on the wireless sensor.
- 2. Enter the Setup status, press Menu and enter into the Study Code submenu. Choose a zone, for example Zone1, press OK button, then trigger the wireless sensor to check if the sensor is loaded successfully. When it's successful, there will be a "v" after the zone number.

For example, to load a infrared body sensor:

Firstly, choose a zone to start study code.

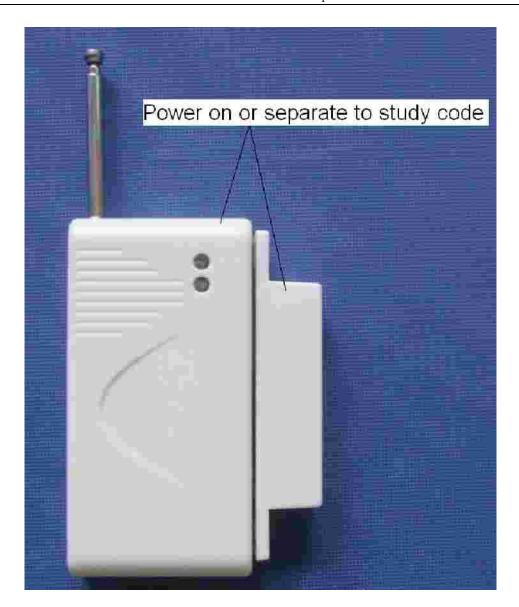




Secondly, Power on or trigger the wireless sensor to study code.







3. When you want to remove the wireless sensor, please enter the study code menu, press "? " or "? " button to cancel the "v".

Please note that the wireless sensors just can be used in Security Mode. In Hunting Mode, the wireless sensors will not function.

4.5 Change the settings via Android APP or SMS

When you are far away from your house, you can get spot photos or change camera settings via our android application tools or SMS.

Down load the android APP from our website. The

specified website is written in the last page of the manual.



4.5.1 User level

There are two user levels: administrator and normal users. Each user has a different authorization level:

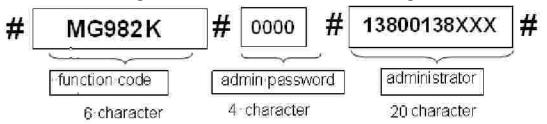
Functions	User Level
Set administrator phone	Only administrator's
number	password
Set administrator 's password	administrator
Set camera parameters	administrator
Set normal user	administrator
Receive emergency calling	administrator, normal user
Send SMS for on spot picture	administrator, normal user
Call the camera to listen in live	administrator, normal user
voice	
Receive MMS when triggered	administrator, normal user
Check camera status	administrator, normal user
Get help information	administrator, normal user

4.5.2 Set administrator phone number

You should set a administrator's phone number to receive MMS or change settings when you first use this camera.

Send #MG982K#0000#administrator's phone number# to your camera's SIM card.

The following chart shows the meaning of each field.



Here the "**0000**" is the original administrator's password. Please change the password ASPS.

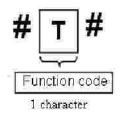
Note: there is a "#" at the end of the commend.

If successful, reply SMS: Dear administrator, your number is 13800138000.

If failed, reply SMS: Please check the password.

4.5.3 Get on spot photo

Method: send SMS command:



Edit SMS #T# send to your camera's SIM card.

If successful, the camera will take an on-spot picture and send to your mobile phone.

If failed, reply SMS: Photo error: xx, Settings error: xx, MMS error: xx or Time out!

4.5.4 Use android APP

It's easy to use the android APP to communication with the camera. So you don't need to edit the SMS, you just need to click the button to finish the operation.







4.5.5 SMS command list

If you can't use the android APP to easy operation, below list all the SMS commands for you. You can control your camera via SMS.

<u> </u>	arricia via Sivis.		
	A. Set GSM Parameter		
No	Function	SMS Command	
1	Set administrator Number	#mg982k#0000#13800138000#	
2	Set Normal Users Phone Numer	#n#13800138001#13800138002#13800138003 #	
3	Set MMS Parameters	#m#http://mmsc.monternet.com#10.0.0.172#80 #cmwap#name#password# (The example parameters are for the carrier of china mobile)	
4	Set Email Parameters	#s#bmctest123@sina.com#bmc123#25#cmnet #smtp.sina.com#name#password#	
5	Set ReceiveEmail	#r#mail1@163.com #	
	Address	mail2@163.com#mail3@163.com#	
		mail4@163.com#	
	B. Normal Control		
No	Function	SMS Command	
1	Get on spot Photo	#T#	
2	Arm	#A#	

	D:	""
3	Disarm	#D#
4	Check camera	#L#
_	Settings	
5	Format TF Card	#F#
6	Set	#P#0000# (It's suggest that the admin phone
	administrator's	number to change the administrators password
	Password	at the beginning)
7	Help	#H#
	C	C. Set Menu Parameter
No	Function	SMS Command
1	Change Camera	#e#cp# (photo mode) or #e#cv# (video mode)
	Mode	or #e#ct#(pic+video)
2	Change Photo	#e#s5# (5mp) or #e#s10# (10mp)
	Size	
3	Change Photo	#e#b1# (1~6 photos)
	Burst	, ,
4	Change Video	#e#fh#(720p) or #E#fl#(VGA)
	Size	, , ,
5	Change Video	#e#v10# or #E#v30# (The number after V is the
	length	seconds)
6	Change Date	#e#t# (adjustment the time)
	Time	
7	Change Time	#e#l1h# (1 hour) or #e#l5m# (5 min)
	Lapse	
8	Change PIR	#e#po# (Off) or #e#ph# (High) or #e#pn#
	Trigger	(Normal) or #e#pl# (Low)
10	Change PIR	#e#i30m# (30min) or #e#i30s# (30sec)
	Interval	
11	Change Work Day	#e#d111111# (0000000~1111111 means
		Sunday to Saturday)
12	Change Send To	#e#mp# (phone) or #e#me# (email) or #e#mc#
		(call) or #e#mg# (email gprs)
13	Change Send	#e#ed# (daily) or #e#ei10#(to set instant mode
	Mode	and the max number per day) or #e#eo# (off) or
		#e#em#
14	Change Game	#e#gon18:00[5]# or #e#goff#
4-	Call	W-WW
15	Change SMS Ctrl	#e#zon# or #e#zoff#
16	Change Camera	#e#oa# (a~z) to set the camera position

Position	function	
	#e#ooff#	to off the camera position function

5 Trouble shooting

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

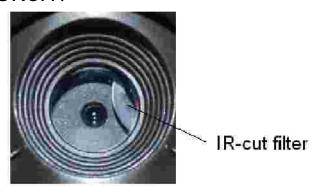


Figure 6 IR-cut filter

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.

4 Why my phone can't receive MMS?

A: MMS/GPRS function needs the SIM cards both in camera and in your phone have balance and be opened the data business.

Appendix I: PIR Detection Zone

Figure 7 shows the detection range in different detection angle. When the detection angle is 35°, the detection range is 50ft (15m). When the detection angle is 52°, the detection range is 30ft (9m).

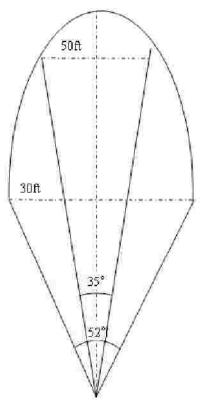


Figure 7 PIR Detection Zone

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

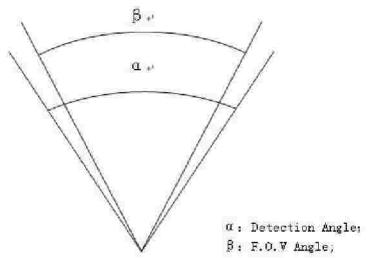


Figure 8 Detection angle vs. FOV angle

This camera has a new design of PIR and the new PIR is patented. The new patented PIR's detection range is ultra-long. Figure 9 shows the compared detection zone between normal PIR and the new patented PIR.

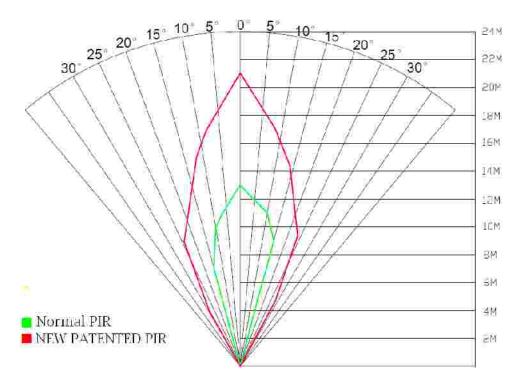


Figure 9 Comparison of Detection Zones of new and existing PIRs

Appendix II: Error Code

Code	Meaning	Description
3915	Non-existent address	Possible cause: 1: The user forget to input the receiving cellphone number; 2: The user forget to input the receiving Email address; Suggestion: 1: Check the MMS settings, input all the necessary parameters;
3919	File not found	Possible cause: 1: The file means the image file. It shows that the system can't find the image file when sending the MMS. Just when the system is unstable, it will happen. (very very small probability) Suggestion: 1: When the GSM and GPRS signal are both ok, please resend again; 2: When the GSM and GPRS signal are poor, please change a place to try again; 3: If 1 and 2 do not work and the error code 3919 always appear, please send the camera back for repairing;
3926; 3927; 3928;	MMS busy; Sending MMS stoped; Sending MMS busy;	Possible cause: When start a new MMS sending procedure, the previous MMS sending is not finished, so it will show these information. This is a inner use error, we have the correct programmer design, so

MG982K-10M Appendix : Error Code

	1	<u> </u>
		Possible cause:
		1: The GSM network is not good or not well
		covered with the GPRS network
		2: The instability in signal transmission lead to
		some MMS setting parameters is missing,
		when the GSM base station do the data
		analysis. If for the incorrect transmission
		reason, the camera may show various error
	Failed to open	
3939,	network;	Suggestion:
3941,		1: Contact the network provider if the GPRS
		network is good covered in that area;
3942		2: Change a place to try again. It's better to try
	INCLINOIR CITOI,	in a public place, because the public place
		always has good signal.
		3: If the provider said there is GPRS signal
		covered but the signal is weak. You can try to
		use a enhanced antenna. Then enhanced
		antenna should be SMA type and the antenna
		gain should be 10db;
		Possible cause:
		1: The SIM-card is not enough balance;
		2 Not correct settings.
		3 The GSM network is not good lead to a
-85	card;	timeout problem (very very small probability)
	MMS Setting	Suggestion:
	error;	1:Please check if your SIM-card is no money
		and make sure it has enough balance.
		2: Please check the MMS settings.
		Many code in the list is used for product
		design phase debug. Most of them will not be
Othe	er error code	showed to consumers. So please ignore the
		other error codes and contract with us
		directly.Thanks.

Appendix : Technical Specifications

Image Sensor	5MP Color CMOS, 10MP Interpolation
Lens	F/NO=3.0 FOV (Field of View)=52°
PIR detection range	30M/100F
Display Screen	3" LCD
Memory Card	From 8 MB to 32 GB
Picture Resolution	10MP = 3648× 2736 5MP = 2560×1920
Video Resolution	720P (1280×720)(20fps) VGA (640×480) (20fps)
PIR Sensor	Multi-zone
PIR Sensitivity	Adjustable (High / Normal / Low)
Trigger Time	1s
Weight	0.30 kg
Operation/Storage Tem.	-20 - +60°C / -30 - +70°C
PIR Interval	0s – 60 min.
Photo Burst	1–6
Video Length	10–180s
Power Supply	8×AA or 4×AA
Stand-by Current	< 0.25 mA (<6mAh / Day)
Power Consumption	400 videos (interval=5 min, video length=10s) >500 MMS (use 8*AA batteries)
Low Battery Alert	LED Indicator
Display Screen	LCD display on camera
Sound Recording	Available
Network Bands	850MHz, 900MHz, 1800MHz and 1900MHz
Mounting	Rope / Belt / Python lock
Dimensions	140 x87 x55 mm
Operation Humidity	5% - 90%
Security authentication	FCC, CE, RoHS

^{*}without battery

Appendix : Parts List

Part Name	Quantity
Digital Camera	One
Wireless Remote Control	two
USB Cable	One
Belt	One
User's Manual	One
Antenna	One

Website Information:

Down load the camera easy set up software from here:

(version 1.3)