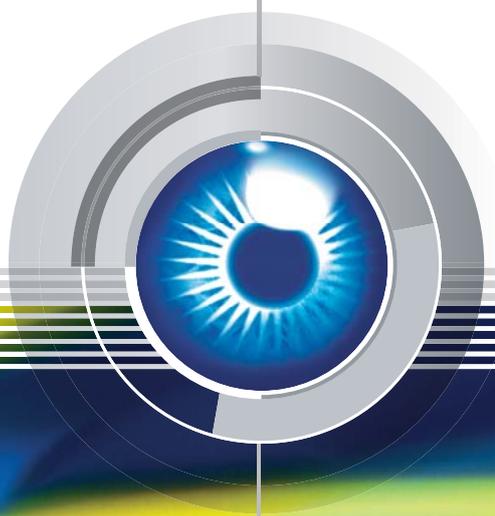


GV-NVR System Lite V2 (Rev. B)

User's Manual





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February 2013

User's Manual for GV-NVR System Lite V2 (Rev. B)

Welcome to the *GV-NVR System Lite V2 (Rev. B) User's Manual*.

The Manual provides an overview of the GV-NVR System Lite V2 and its accessories. It also includes the instructions to guide you through the installation and use of the GV-NVR System Lite V2:

- **Chapter 1, Introduction**
Identifies the GV-NVR System Lite V2's accessories and options.
- **Chapter 2, Overview**
Identifies the GV-NVR System Lite V2's features.
- **Chapter 3, Getting Started**
Provides step-by-step instructions on setting up the GV-NVR System Lite V2.
- **Chapter 4, Advanced Applications**
Introduces how to update firmware to the GV IP cameras.
- **Chapter 5, Mobile Phone Connection**
Introduces how to connect mobile phones to the GV-NVR System Lite V2.
- **Chapter 6, NVR Health Analysis**
Introduces how to collect data to obtain the service of NVR health analysis from GeoVision.
- **Chapter 7, Troubleshooting**
Suggests courses of action if the GV-NVR System Lite V2 doesn't seem to be working properly.

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Safety Instructions



Observe these safety instructions to help ensure against injury to yourself and damage to the product.

- **Read** all safety and installation instructions before you operate the product.
- **Do not operate** the product in high humidity areas or expose it to water or moisture.
- **Do not put** the product in an unstable, a slanting or vibrated place.
- **Do not block** any ventilation opening.
- **Do not install** the product near any heat sources such as radiator, heat register or other apparatus that produce heat.
- **Operate** the product using only the type of power source indicated on the marking label.
- **Do not defeat** the safety purpose of the grounding-type plug. A grounding plug has two blades and a third grounding prong. The third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- **Do not overload** wall outlets or extension cords, as this may cause fire or electric shock.
- **Do not use** the product when abnormality occurs, such as emitting smoke from the product, smelling burning, being damaged by drop, invasion of foreign objects inside the product, etc. Be always sure to remove the AC adaptor at once and contact your dealer.
- **Do not use** accessories or attachments not recommended by the manufacturer, as they may cause hazards and void the warranty.
- **Do not attempt** to service the product yourself, as removing the casing may expose you to dangerous voltage and void the warranty.

Bundled Software

The bundled software preinstalled in the GV-NVR System Lite V2 (GV-Desktop < **Program** button < **Multicam Installation**) is a **lite version**, specially designed for the GV-NVR System Lite V2 to implement the GV IP cameras.

1. It includes a lite version of video analysis applications, featuring Advanced Motion Detection, Privacy Mask, Scene Change Detection and Counter only.
2. The ViewLog player only supports Single View playback. For Quad View or Multi View playback, you need to additionally install **Remote ViewLog** (GV-Desktop < **Program** button < **Multicam Installation**).

Note: For Counter application, it is recommended to set up only one camera and draw only one line on the camera image to mark the boundary of detection zone to maintain a better CPU performance.

Supported Camera and Dongle Options

The Supported Camera Combinations

The GV-NVR Lite V2 (Rev. B) supports connections to GV-IP cameras, third-party IP cameras, GV-Video Servers, and GV-Compact DVRs. You can adopt one of the following combinations:

IP cameras excluding GV-Fisheye cameras

- Connect up to 16 GV-IP cameras. See **Section A**.
- Connect up to 8 third-party cameras (of 640 x 480 resolution, H.264). See **Section C**.
- Connect up to 10 third-party cameras (of 1280 x 720 resolution, H.264). See **Section C**.
- Connect up to 10 third-party cameras (of 1280 x 1024 resolution, H.264). See **Section C**.
- Connect up to 8 third-party cameras (of 1920 x 1080 resolution, H.264). See **Section C**.
- Connect up to 2 third-party cameras (of 2048 x 1536 resolution, H.264). See **Section C**.
- Connect 1 third-party camera (of 2048 x 1944 resolution, H.264). See **Section C**.
- Connect 1 third-party camera (of 2560 x 1920 resolution, H.264). See **Section C**.
- Connect up to 8 cameras from GV-IP cameras and third-party IP cameras (of 640 x 480 resolution, H.264). See **Section A and C**.
- Connect up to 10 cameras from GV-IP cameras and third-party IP cameras (of 1280 x 720 resolution, H.264). See **Section A and C**.
- Connect up to 10 cameras from GV-IP cameras and third-party IP cameras (of 1280 x 1024 resolution, H.264). See **Section A and C**.
- Connect up to 8 cameras from GV-IP cameras and third-party IP cameras (of 1920 x 1080 resolution, H.264). See **Section A and C**.
- Connect 2 cameras from GV-IP cameras and third-party IP cameras (of 2048 x 1536 resolution, H.264). See **Section A and C**.
- Connect 1 camera from GV-IP cameras and third-party IP cameras (of 2048 x 1944 resolution, H.264). See **Section A and C**.
- Connect 1 camera from GV-IP cameras and third-party IP cameras (of 2560 x 1920 resolution, H.264). See **Section A and C**.

IP cameras including GV-Fisheye cameras

- **GV-Fisheye Camera 1.3 MP** + one of the following options:
 - GV-IP Camera x 15
 - Third-party Camera (VGA) x 6
 - Third-party Camera (1 / 1.3 / 2 MP) x 8
 - Third-party Camera (3 / 4 / 5 MP) x 1

- **GV-Fisheye Camera 2 MP** + one of the following options:
 - GV-IP Camera x 15
 - Third-party Camera (VGA) x 5
 - Third-party Camera (1 / 1.3 / 2 MP) x 6
 - Third-party Camera (3 / 4 / 5 MP) x 1

- **GV-Fisheye Camera 4 MP** + one of the following options:
 - GV-IP Camera x 11
 - Third-party Camera (VGA) x 5
 - Third-party Camera (1 / 1.3 / 2 MP) x 4
 - Third-party Camera (3 / 4 / 5 MP) x 1

- **GV-Fisheye Camera 5 MP** + one of the following options:
 - GV-IP Camera x 8
 - Third-party Camera (VGA) x 3
 - Third-party Camera (1 / 1.3 / 2 MP) x 3
 - Third-party Camera (3 / 4 / 5 MP) x 1

Analog cameras through GV-Compact DVRs and GV-Video Servers

- Connect up to 14 analog cameras through GV-Video Servers (of 704 x 480 resolution, H.264). See **Section D**.
- Connect up to 14 analog cameras through GV-Video Servers (of 352 x 240 resolution, H.264). See **Section D**.
- Connect up to 10 analog cameras through GV-Compact DVR V3 Series (of 704 x 480 resolution, de-interlace). See **Section D**.

The number of supported channels is based on the following resolution:

Section A		Dual-stream Resolution		Max. Frame Rate	Total Frame Rate
		Stream 1	Stream 2		
GV-IP Camera	D1	704 x 480 / 704 x 576	352 x 240 / 352 x 288	30 / 25 fps	480 / 400 fps
	1 MP	1280 x 720	448 x 252	15 fps	240 fps
	1.3 MP	1280 x 1024	320 x 256	15 fps	240 fps
	2 MP	1920 x 1080	448 x 252	10 fps	160 fps
	3 MP	2048 x 1536	320 x 240	10 fps	160 fps
	4 MP	2048 x 1944	320 x 240	10 fps	160 fps
	5 MP	2560 x 1920	320 x 240	10 fps	160 fps
Section B		Single Stream Resolution (H.264)		Max. Frame Rate	Total Frame Rate
GV-Fisheye	1.3 MP	1280 x 1024 (4:3)		7 fps	63 fps
	2 MP	1440 x 1376 (4:3)		7 fps	21 fps
	4 MP	2048 x 1944 (4:3)		6 fps	12 fps
	5 MP	2560 x 1920 (4:3)		6 fps	6 fps
Section C		Single Stream Resolution (H.264)		Max. Frame Rate	Total Frame Rate
Third-Party Camera	VGA	640 x 480		30 fps	240 fps
	1 MP	1280 x 720		15 fps	150 fps
	1.3 MP	1280 X 1024		15 fps	150 fps
	2 MP	1920 X 1080		10 fps	80 fps
	3 MP	2048 x 1536		10 fps	20 fps
	4 MP	2048 X 1944		10 fps	10 fps
	5 MP	2560 X 1920		10 fps	10 fps
Section D		Dual-stream Resolution		Max. Frame Rate	Total Frame Rate
		Stream1	Stream 2		
GV-Video Server V2	GV-VS11 / GV-VS14	704 x 480	352 x 240	30 fps	420 fps
	GV-VS12 / GV-VS04H	352 x 240	N/A	30 fps	420 fps
GV-Compact DVR V3		704 x 480 De-interlace	N/A	30 fps	300 fps

Note:**GV IP cameras**

1. For GV IP cameras (excluding GV Fisheye), stream 1 is used for recording and single view, and stream 2 for live viewing in multi divisions.
2. The default resolution for stream 1 is set at its maximum. Several resolution, aspect ratio and codec options are available for each IP camera, except GV-Fisheye cameras.
3. It is highly recommended to set the panel resolution to 1280 x 1024 (default) or lower when connecting to GV Fisheye to get better CPU performance.

Third-party cameras

4. For third-party cameras, be sure the resolution and codec are configured as specified above to achieve the best performance and maximum frame rate. To find the supported third-party cameras, go to http://www.geovision.com.tw/english/4_21.asp.

Frame Rate

5. Total Frame Rate equals to the Max. Frame Rate multiplies the supported channel numbers.
 6. If you record the images, access live view and see the playback simultaneously, the CPU loading will increase massively. Therefore, the frame rates may drop.
-

GV-NVR System Lite V2 (Rev. B) Dongle

A dongle is required when connecting to third-party IP cameras.

Dongle Options: 2, 4, 6, 8 or 10 IP channels.

Chapter 1 Introduction

The GV-NVR System Lite V2 (Rev. B) is an ultimate upgraded mini NVR system, which allows you to record video files directly to the internal hard drive. The GV-NVR System Lite V2 supports up to 16 GV IP cameras or 10 third-party IP cameras for networking surveillance, with the plug-and-play function for GV IP cameras to connect to the unit automatically. Plus, with supported HDMI output, you could connect the unit to HDTV for better video quality. The GV-NVR System Lite V2 (Rev. B) is a perfect NVR system for small business, retail stores, and home security.

Its four USB ports enable to connect with multiple peripheral devices, such as USB HDD, USB DVD player and etc. Its Gigabit Ethernet function enables high-speed Internet access for seamless Web browsing. Moreover, our VESA mounting solution allows you to mount the ultra-slim unit on the back of a computer monitor.

1.1 Main Features

- Compact and sleek
- Up to 16 channels
- Automatic connection to GV IP cameras
- Support for 3rd party IP cameras
- All-in-one solution (Live View, Playback, Recording, Backup, CMS)
- GPU decoding and dewarping
- H.264 / MJPEG / MPEG4
- Dual video streams
- VGA and HDMI outputs
- 1 TB hard drive
- Video analysis
- Standing mount and VESA mount options
- Direct recording to the internal hard drive
- Low power consumption
- Fisheye camera dewarping function
- Smart device access
- Multiple (29) languages

1.2 Packing List

The GV-NVR System Lite V2 package includes the following items:

Important: Please keep the original carton and all packing materials for future shipping need.

- GV-NVR System Lite V2 (Rev. B)x 1
- AC Power Cord x 1
- Power Adapter x 1
- Standing Mount Kit (1 Base Stand and 1 Base Stand Screw included) x 1
- VESA Monitor Mount Kit (1 Stand Screw and 4 Fix Screws included) x 1
- GV-NVR System Lite V2 Quick Start Guide x 1
- GV-NVR Lite V2 Dongle for third-party IP cameras (optional)

If any of the items are missing or damaged, contact your dealer to arrange a replacement.

1.3 Options

Optional devices can expand your GV-NVR System Lite V2's capabilities and versatility. Contact your dealer for more information.

GV-NVR Lite V2 Dongle	The dongle allows you to connect third-party IP cameras to the GV-NVR System Lite V2. It has the options of 2, 4, 6, 8, and 10 channels.
GV-Data Capture V3 Box	GV-Data Capture V3 Box can integrate the GV-NVR System Lite V2 to an electronic POS system, while GV-Data Capture V3E Box can establish such integration through LAN or Internet.
GV-Hub V2	An easy way for serial port extension. This hub can add 4 RS-232/RS-485 serial ports through the GV-NVR System Lite V2's USB port.
GV-COM V2	This unit can add 1 RS-232/RS-485 serial port through the GV-NVR System Lite V2's USB port.
GV-IO Box (4 Ports)	GV-IO Box 4 provides 4 inputs and 4 relay outputs, and supports both DC and AC output voltages. A USB port is also provided for PC connection.
GV-IO Box (8 Ports)	GV-IO Box 8 provides 8 inputs and 8 relay outputs, and supports both DC and AC output voltages. A USB port is also provided for PC connection.
GV-IO Box (16 Ports)	GV-IO Box 16 provides 16 inputs and 16 relay outputs, and supports both DC and AC output voltages. A USB port is also provided for PC connection.

Chapter 2 Overview

2.1 Front and Left-side View



Figure 2-1

No.	Name	Description
1	Power Button & LED	Turns on the power of GV-NVR System Lite V2. The LED shines when the power is on.
2	HDD Activity LED	The LED shines when the HDD is writing or reading data.
3	VGA Output	Connects the computer display.
4	HDMI Output	Connects the HD TV.
5	USB 2.0 Port	Connects USB devices.
6	Giga LAN Port	Connects the switch or hub.
7	DC Power Input	Connects power supply.
8	Audio output	Connects speakers.
9	Microphone input	Connects to a microphone.

2.2 Right-side View



Figure 2-2

No.	Name	Description
1	USB 3.0 Port	Connects USB devices.
2	USB 2.0 Port	Connects USB devices.

Chapter 3 Getting Started

There are two methods to mount the GV-NVR System Lite V2. One is to use the base stand to support the unit to stand. The other is to use the VESA monitor mount to mount the unit on the back of the computer monitor.

3.1 Installing Base Stand



Figure 3-1

1. Attach the base stand to the GV-NVR System Lite V2.
2. Tighten the base stand screw.

3.2 Installing Computer Mount

1. Using the 4 fix screws, tighten the VESA monitor mount on the back of the computer monitor.

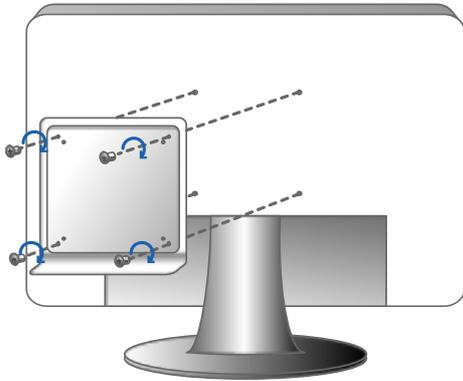


Figure 3-2

2. Peel off the liner from the Velcro.

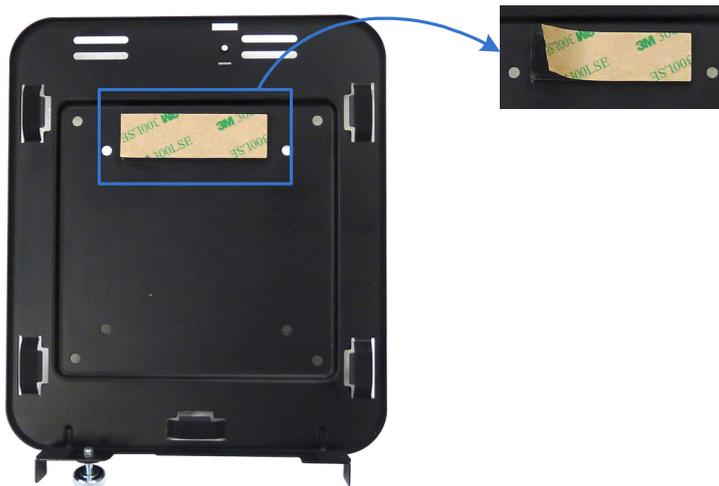


Figure 3-3

3. Attach the GV-NVR System Lite V2 to the VESA monitor mount and tighten the stand screw.



Figure 3-4

Note: For the mounting method of computer monitor, make sure your monitor is VESA compliant. The supplied VESA monitor mount features the two mounting-hole patterns of 3" x 3" and 4" x 4".

3.3 Basic Installation

This section describes basic installation required to program and operate the GV-NVR System Lite V2.



Figure 3-5

1. Connect the speakers to the GV-NVR System Lite V2.
2. Connect the microphone to the GV-NVR System Lite V2.
3. Optionally connect the GV-USB Dongle for third-party IP cameras' connection.
4. Using the USB cables, connect a keyboard and a mouse to the GV-NVR System Lite V2.
5. There are two ways to connect the monitor to the GV-NVR System Lite V2.
 - Using the VGA cable, connect the computer monitor to the GV-NVR System Lite V2.
 - Using HDMI cable, connect the HDTV to the GV-NVR System Lite V2.
6. Using the RJ-45 cable, connect a switch or a hub to the GV-NVR System Lite V2.
7. Using the supplied power adapter, connect the GV-NVR System Lite V2 to the power outlet.

For automatic setup, connect GV IP cameras under the same LAN with the GV-NVR System Lite V2. After the power is turned on, the GV-NVR System Lite V2 will search for GV IP cameras with the default IP address, ID and password. The GV IP cameras will be displayed on the main screen without any further configuration.

IMPORTANT: For automatic setup, make sure all the devices (GV IP cameras and GV-NVR System Lite V2) are connected under the same LAN before you turn on the power of GV-NVR System Lite V2.

Note: The monitor you use must support screen resolution of 1280 x 1024 and display color of 32 bits. And the HDTV must be capable of Full HD 1080P resolution.

3.4 Setting Up IP Cameras

After you have installed the necessary cables and IP cameras, you are ready to display the channels on GV-NVR System Lite V2.

Setting Up GV IP Cameras

1. Power on the GV-NVR System Lite V2. When GV IP cameras with the default IP address, ID and password are detected, this message appears.



Figure 3-6

For automatic IP assignment

2. To automatically assign IP addresses and display the channels on the main screen, click **OK**. The GV-NVR System Lite V2 will assign unused IP addresses to each of the GV IP camera in the form of 192.168.X.X. The channel will then be displayed on the main screen.

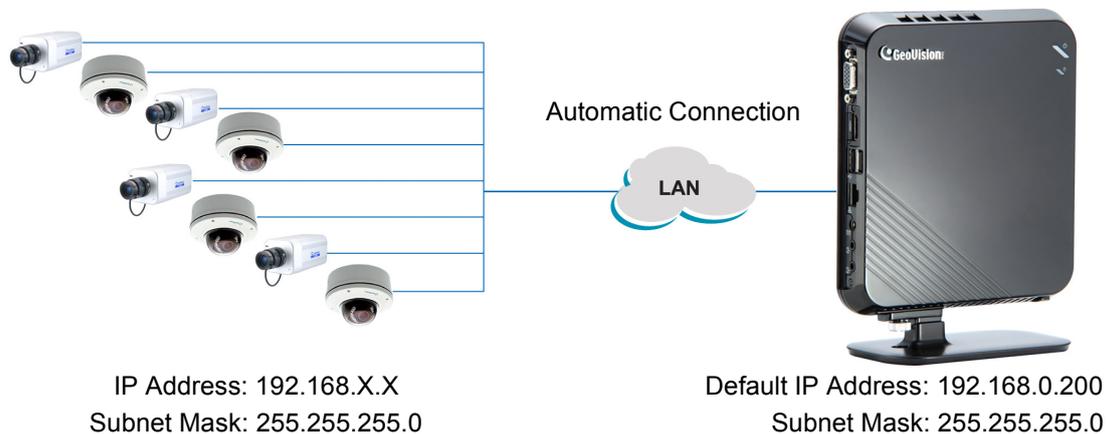


Figure 3-7

Note:

1. This automatic setup is only applicable for GV IP cameras with default IP address (192.168.0.10), and ID (admin) and password (admin).
 2. You can change the automatically assigned IP address of a GV IP camera. See step 3 and 4 below.
-

For manual IP assignment

- To manually assign an IP address and set up the GV IP camera, click **Cancel**. The IP Device Setup window appears.



Figure 3-8

- Click the **IP Device Utility** button and click the **General Settings** tab. The GV IP Device Utility window appears.

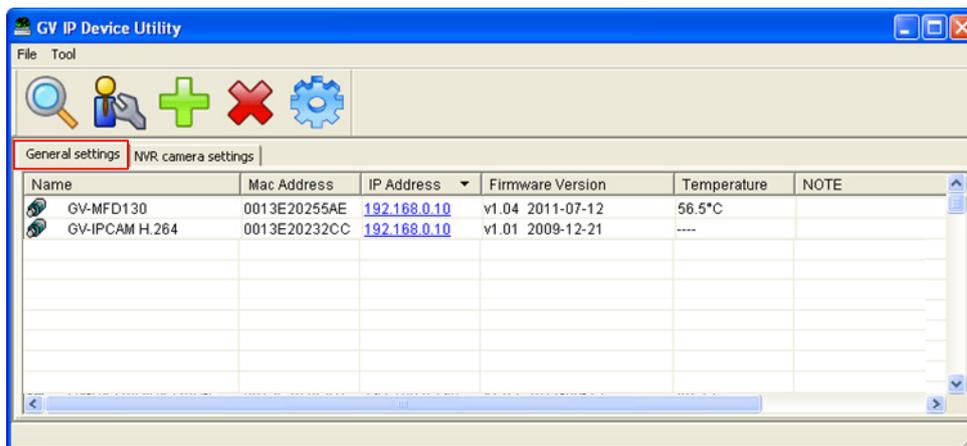


Figure 3-9

5. To modify the IP address, double-click a GV IP camera. This window appears.

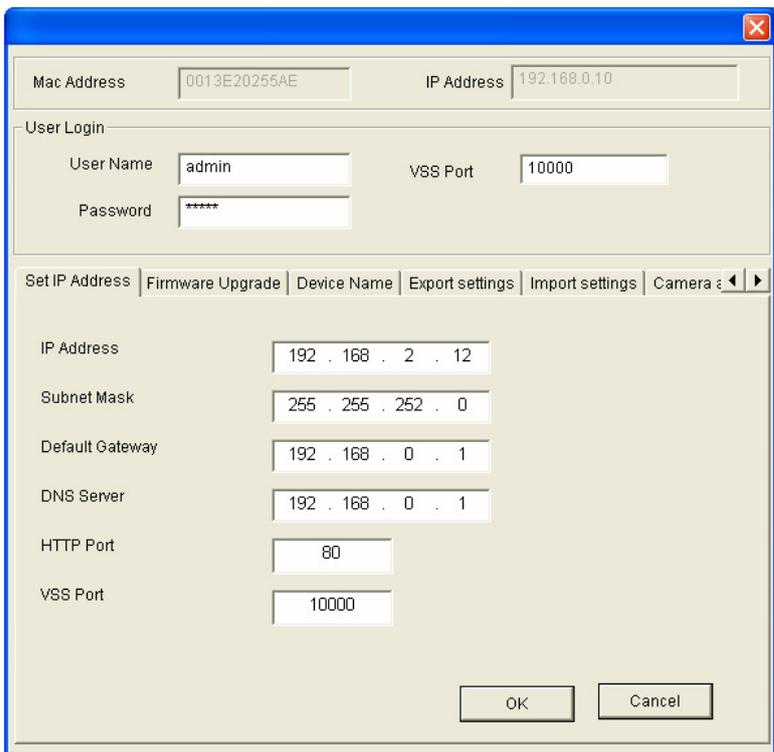


Figure 3-10

6. Type the default user name (admin), default password (admin) and the new IP information.
7. Click **OK**. The new IP address will be updated to the camera.
8. To modify the IP addresses of other GV IP cameras, repeat steps 5 to 7.
9. On the GV IP Device Utility window (Figure 3-9), click the **NVR camera settings** tab. This dialog box appears.

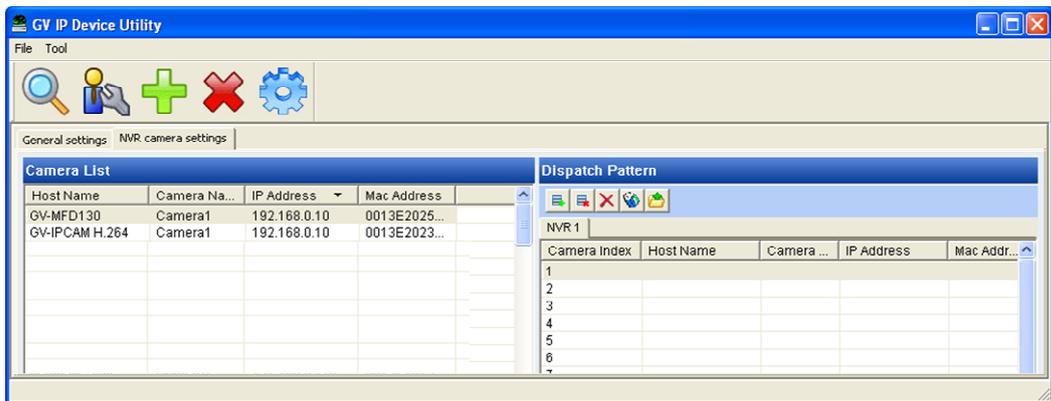


Figure 3-11

10. Click and drag the GV IP cameras from the **Camera List** to the **Dispatch Pattern** column. The camera index represents the display channel number.
11. Click the **Export** button  to export the list of GV IP cameras.

12. On the GV Device Setup window (Figure 3-8), click the **Import Camera** button. A confirmation dialog box appears.



Figure 3-12

13. Click **Yes**. The GV IP cameras will be connected to the GV-NVR System Lite V2 shortly.

Note: Alternatively, you can access the GV IP Device Utility as follows: [GV-Desktop < Program button < GV IP Device Utility](#).

Setting Up Third-Party IP Cameras

You can set up IP cameras using the **Scan Camera** function or the **Add Camera** function.

Using the Scan Camera function

1. On the main screen of GV-NVR System Lite V2, click the **Configure** button, select **System Configure**, and click **IP Camera Install**. This dialog box appears.

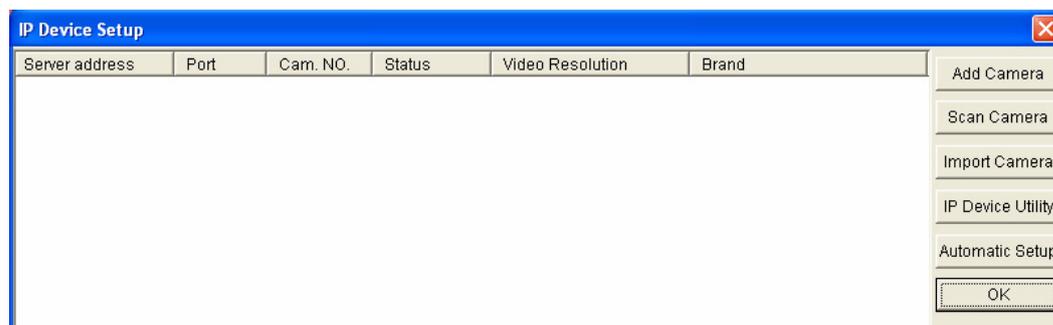


Figure 3-13

- Click the **Scan Camera** button. This dialog box appears.

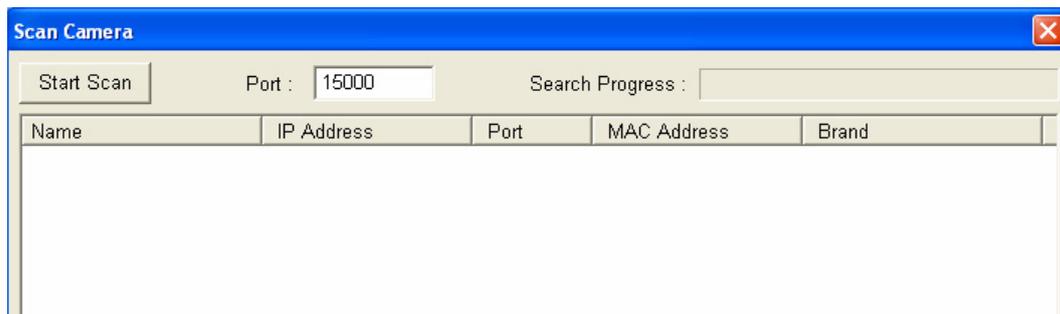


Figure 3-14

- Click the **Start Scan** button. The IP devices under the same LAN with the GV-NVR System Lite V2 will be searched and listed.

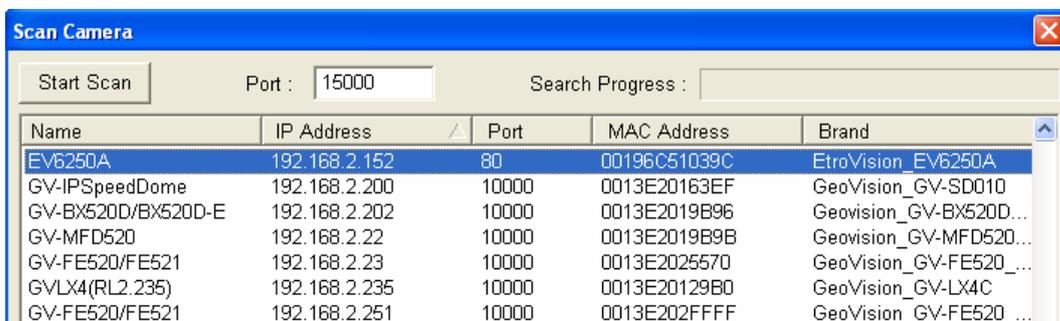


Figure 3-15

- Double-click the IP camera. This dialog box appears.

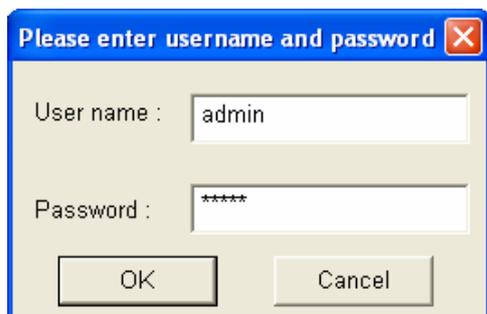


Figure 3-16

5. Type the ID and password of the IP camera and Click **OK**.
6. Click **Query** to detect the IP camera again.

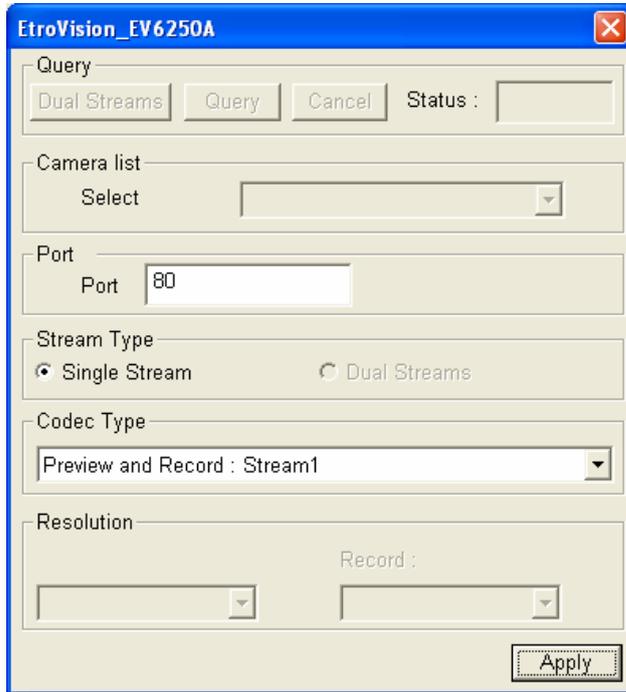


Figure 3-17

7. For third-party IP cameras, the settings accessible on this interface may vary depending on the camera brand.
 - **Port:** Video streaming port number.
 - **Stream Type:** The GV-NVR System Lite V2 only supports a single stream when connecting to a third-party IP camera.
 - **Codec Type:** It is highly recommended to choose H.264 codec type for best performance.
8. Click **Apply**. The IP camera will be added to the IP Device Setup window (Figure 3-13).
9. Click the listed camera, and select **Display position** to map the IP camera to a channel on the GV-NVR System Lite V2.



Figure 3-18

- The Status column now should display “Connected”. Click **OK**. The channel should be displayed on the main screen.

Using the Add Camera function

- On the main screen of GV-NVR Lite V2, click the **Configure** button, select **System Configure**, and click **IP Camera Install**. This dialog box appears.

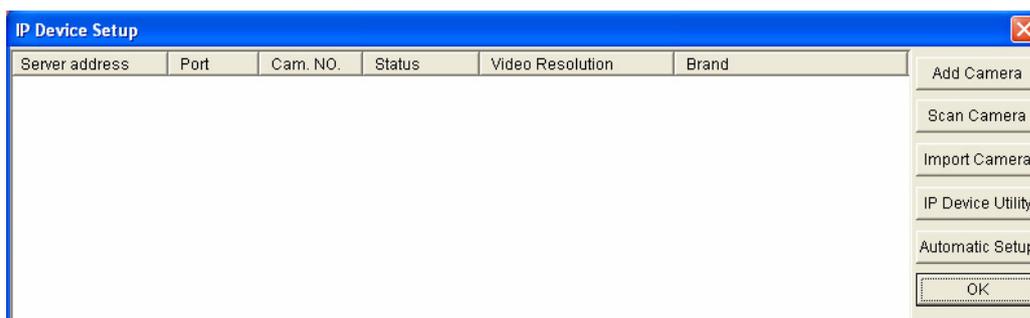


Figure 3-19

- On the IP Device Setup window, click **Add Camera**. This dialog box appears.



Figure 3-20

- Type the IP address, Username and Password of the camera. Select the camera brand and device from the drop-down lists.
- The GV-NVR System will automatically query for the IP camera, and the status will be indicated as “Standby”. If not, modify the HTTP port and streaming port (Figure 3-19) to match those of the IP camera, and click the **Query** button.
- Follow steps 6 to 9 in the *Using the Scan Camera Function* section to add the IP camera.

3.5 Changing IP Address of GV-NVR System Lite V2

The GV-NVR System Lite V2 has a default IP address of 192.168.0.200 for connecting with GV IP cameras automatically. You can also change the IP address of GV-NVR System Lite V2 by following the steps below.

Note:

1. If you want to install more than one unit of GV-NVR System Lite V2 under the same LAN, you need to change the IP addresses of the first GV-NVR System Lite V2 and its connected GV IP cameras before installing the second GV-NVR System Lite V2 to avoid IP address conflict.
 2. After you change the IP address of GV-NVR System Lite V2, you should also change the IP addresses of GV IP cameras to the same network; otherwise, the GV-NVR System Lite V2 will not detect the cameras for automatic connection.
-

1. On the GV-Desktop, click the **Programs** button, and select **Control Panel**.



Figure 3-21

2. Type the ID and password. The default ID and password are “0000”. The Control Panel window appears. Click the **View network status and tasks** option under the **Network and Internet** setting.

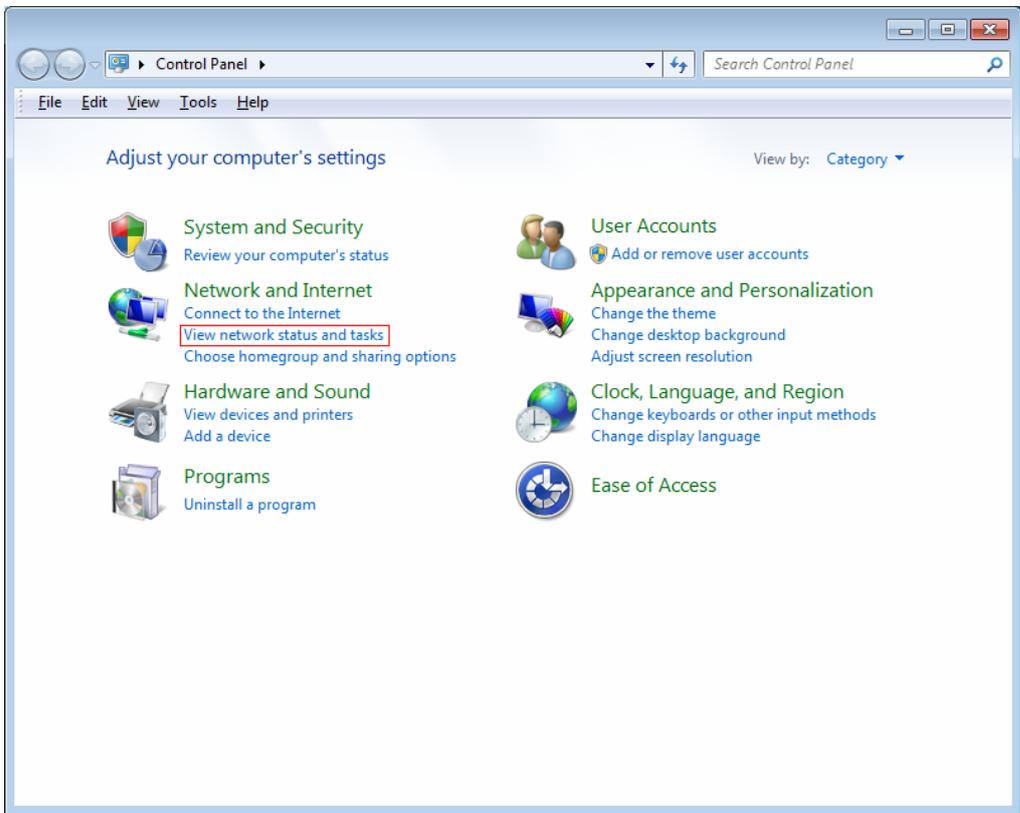


Figure 3-22

3. Click the **Change the adapter settings** option.

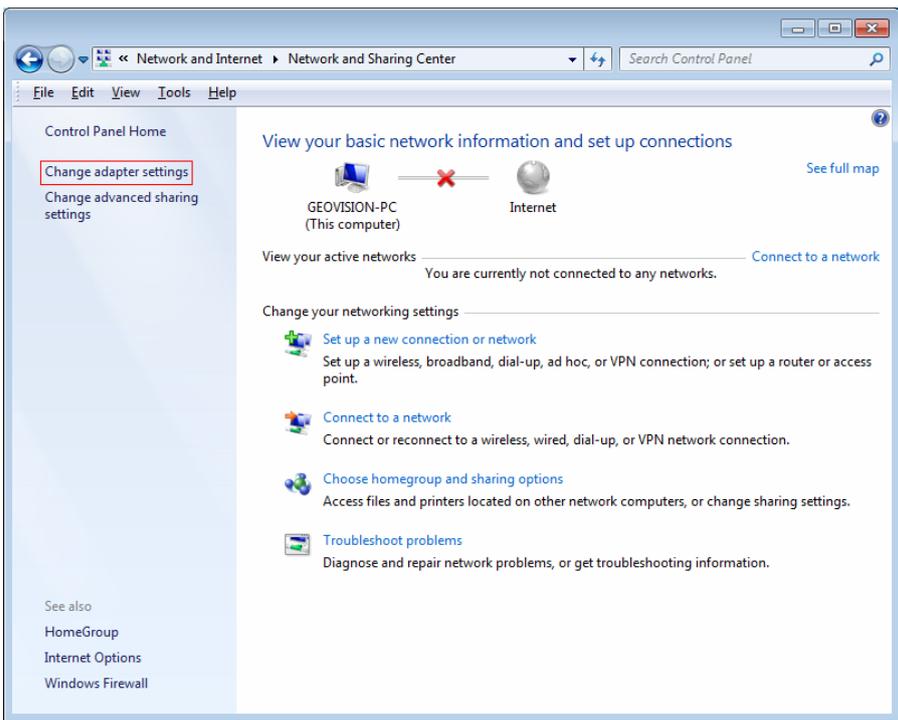


Figure 3-23

4. Right-click **Local Area Connection** and select **Properties**.

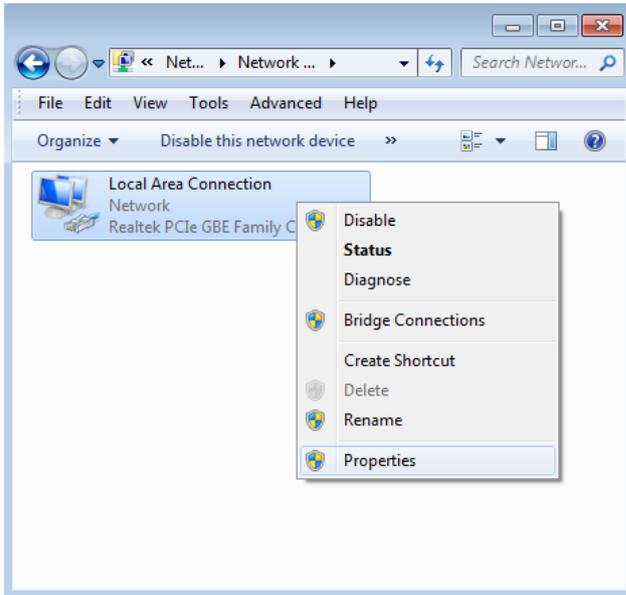


Figure 3-24

5. In the Local Area Connection Properties dialog box, select **Internet Protocol (TCP/IP)** and click **Properties**.

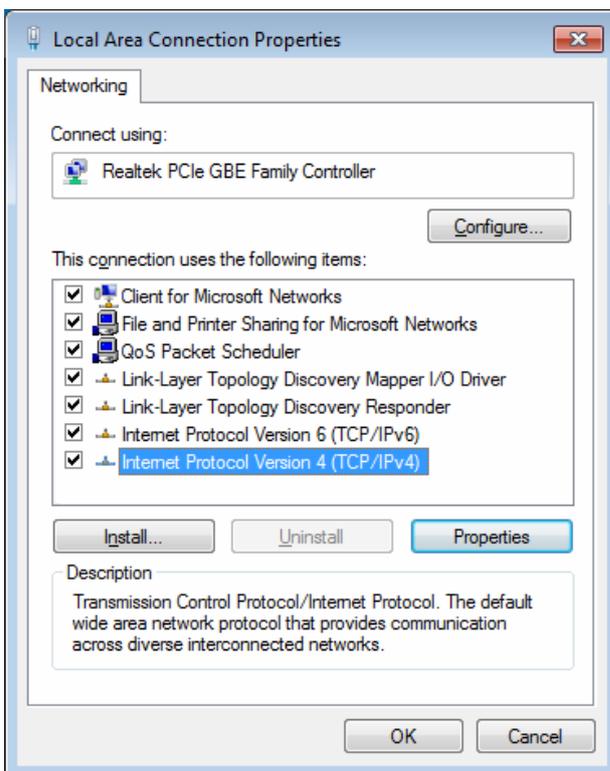


Figure 3-25

6. Select **Use the following IP address**, type the new IP information, and click **OK** to finish the setting.

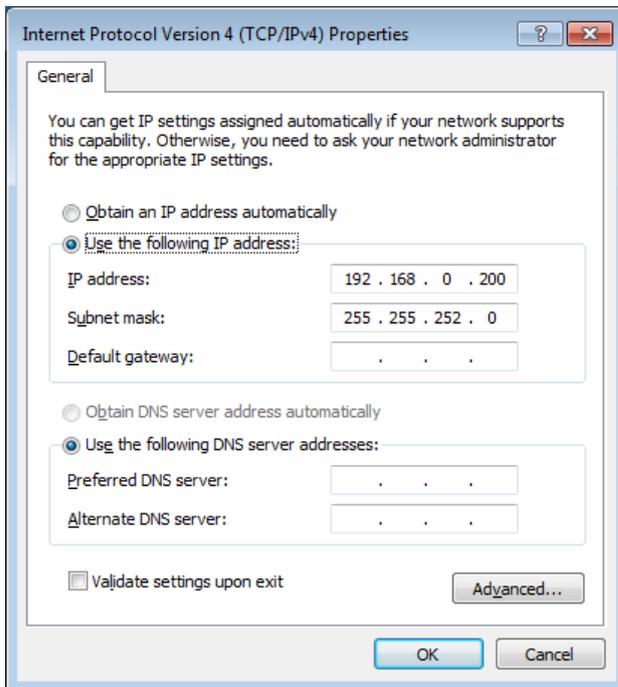


Figure 3-26

3.6 Formatting the External Hard Drive

The GV-NVR System Lite V2 records audio and video to the internal hard drive. You can also use an external hard drive to expand recording space. You must format the hard drive before you can use it.

1. On the GV-Desktop, click the **Programs** button, and select **Disk Management**.

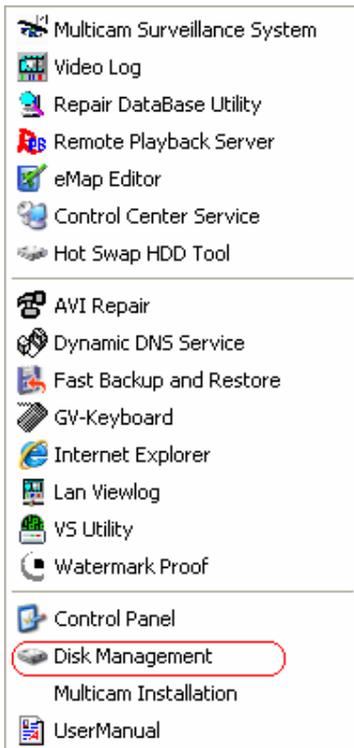


Figure 3-27

2. Type the ID and password in the dialog box. The default ID and password are “0000”.



Figure 3-28

- The Initialize and Convert Disk Wizard appears. Click **Next** to continue.



Figure 3-29

Note: If the Wizard does not appear, you need to initialize the drives one by one. To manually initialize a drive, right-click on the name of the drive and select **Initialize Disk**.

- The screen shows the drives you selected to initialize. Make sure all drives are checked, and click **Next** to continue.

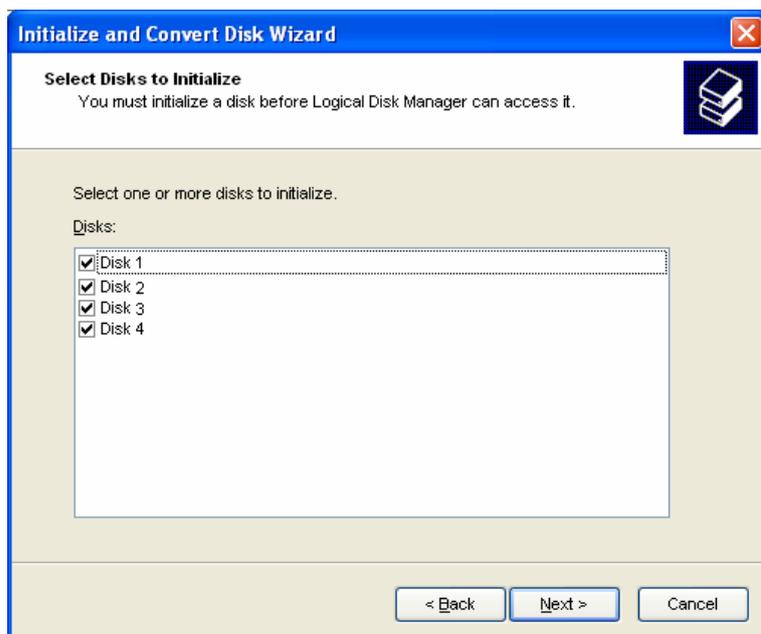


Figure 3-30

5. The screen gives you the option to convert the drives from basic to dynamic storage. Leave all drives unchecked, and click **Next** to continue.

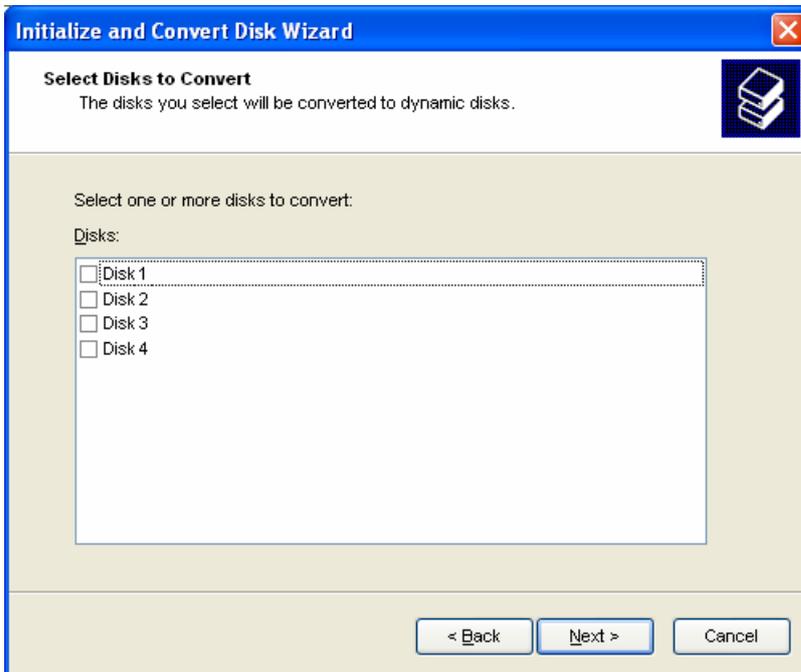


Figure 3-31

6. When the initialization is complete, click **Finish** to close the wizard.

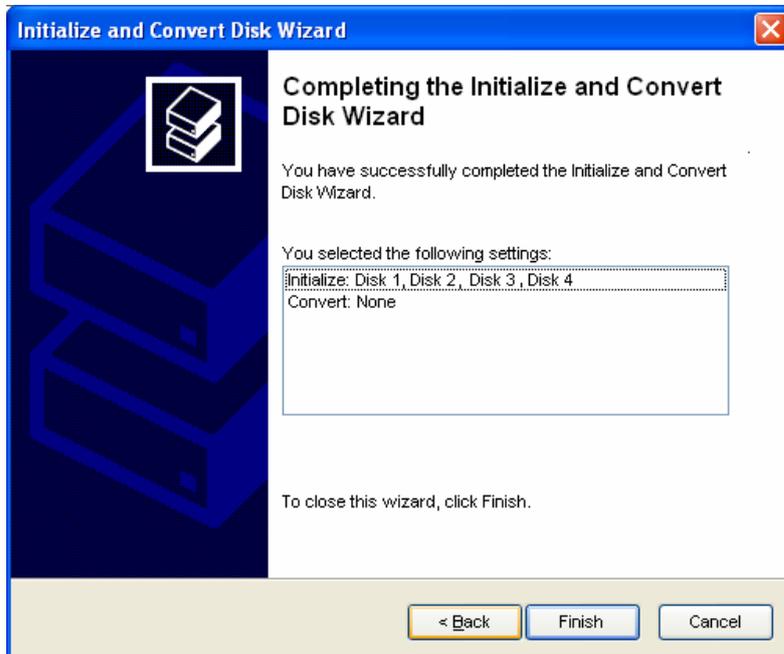


Figure 3-32

7. Right-click in the unallocated space of a new drive, and select **New Partition**.



Figure 3-33

8. The New Partition Wizard appears. Click **Next** to continue.

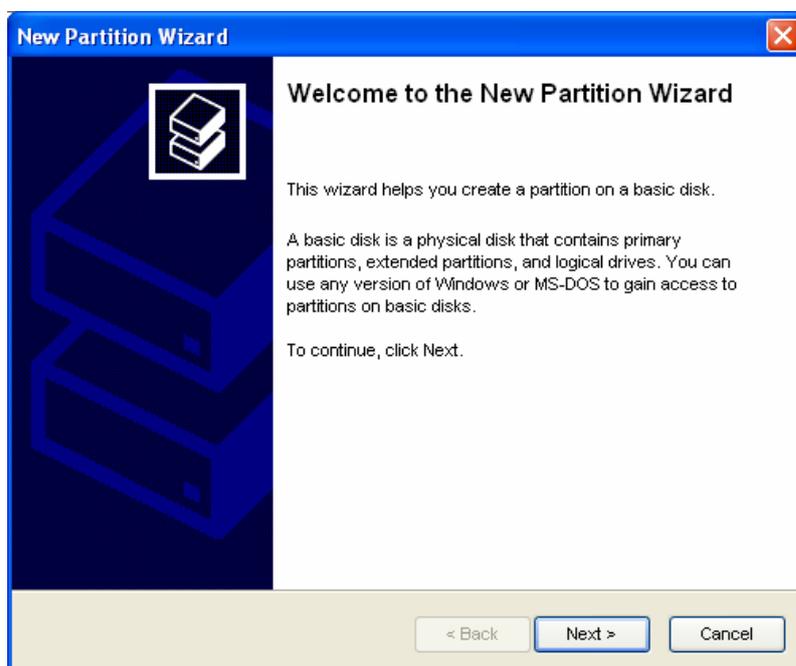


Figure 3-34

9. Select **Primary partition**, and click **Next** to continue.

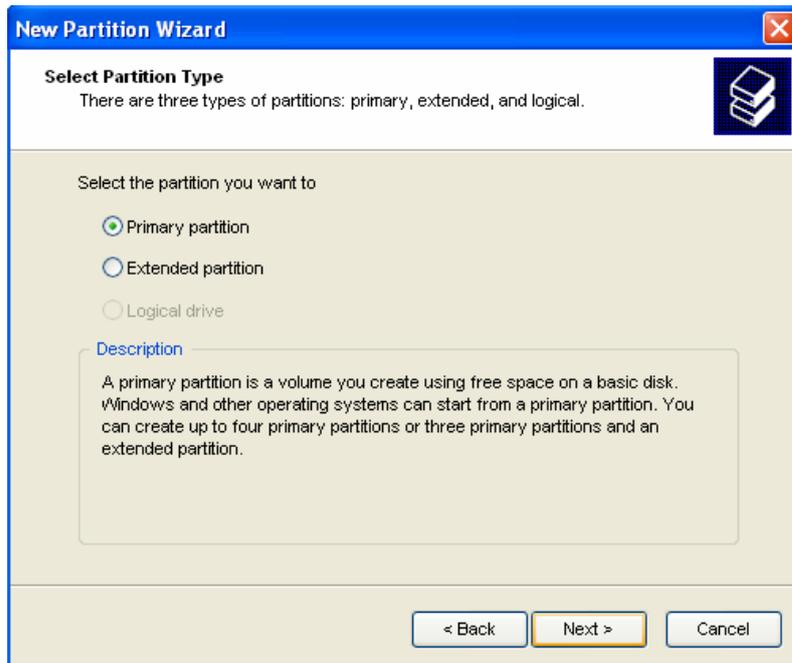


Figure 3-35

10. The default partition size is the same as the maximum disk space. Make changes if necessary. Click **Next** to continue.

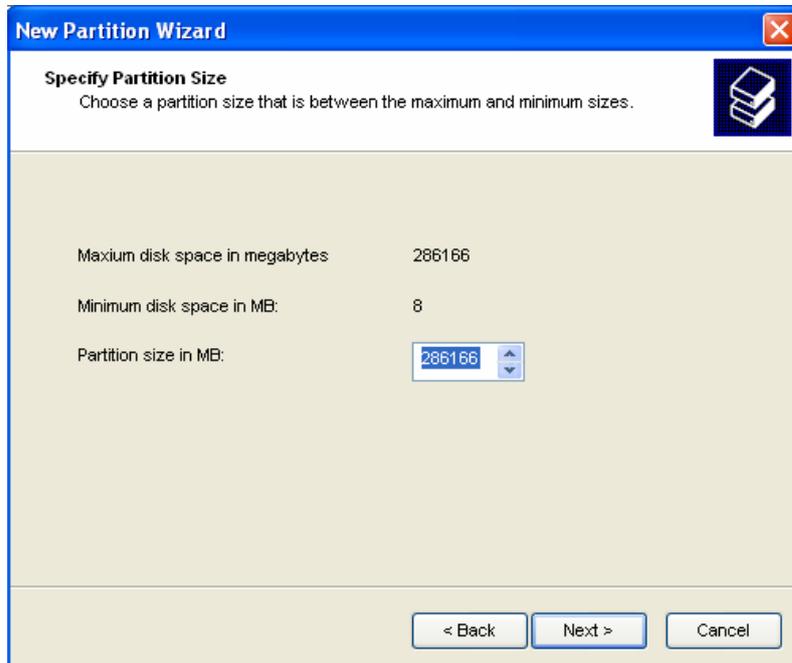


Figure 3-36

11. Assign a drive path that is not in use by other devices, and click **Next** to continue.

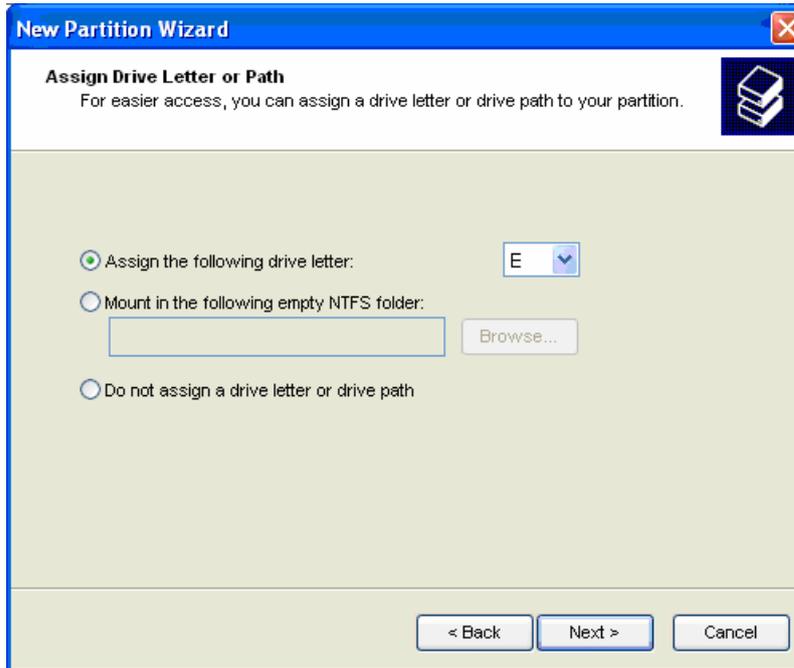


Figure 3-37

Note: The default drive path starts from E:\.

12. Type a name in the **Volume label** box, ex. HDD1, and click **Next** to continue.

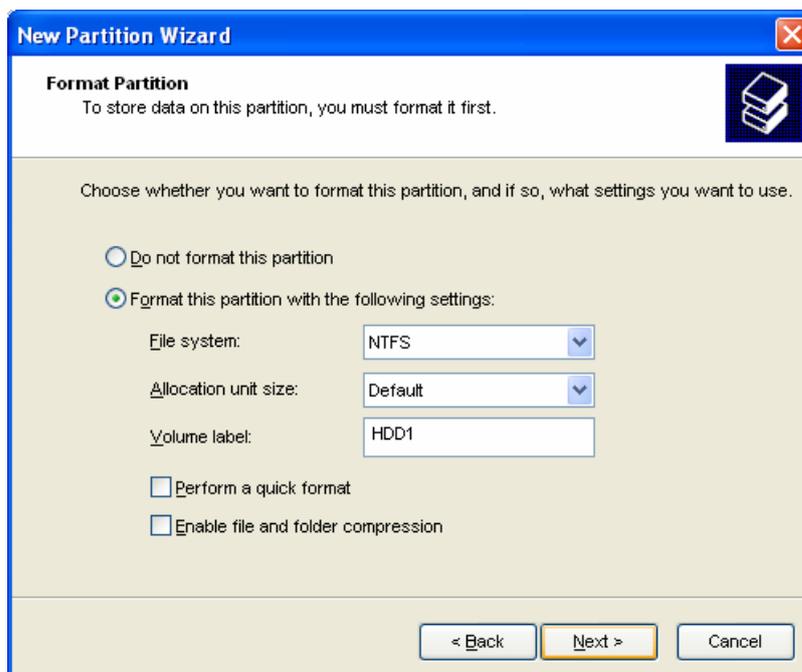


Figure 3-38

13. When the formatting is complete, click **Finish** to close the wizard.

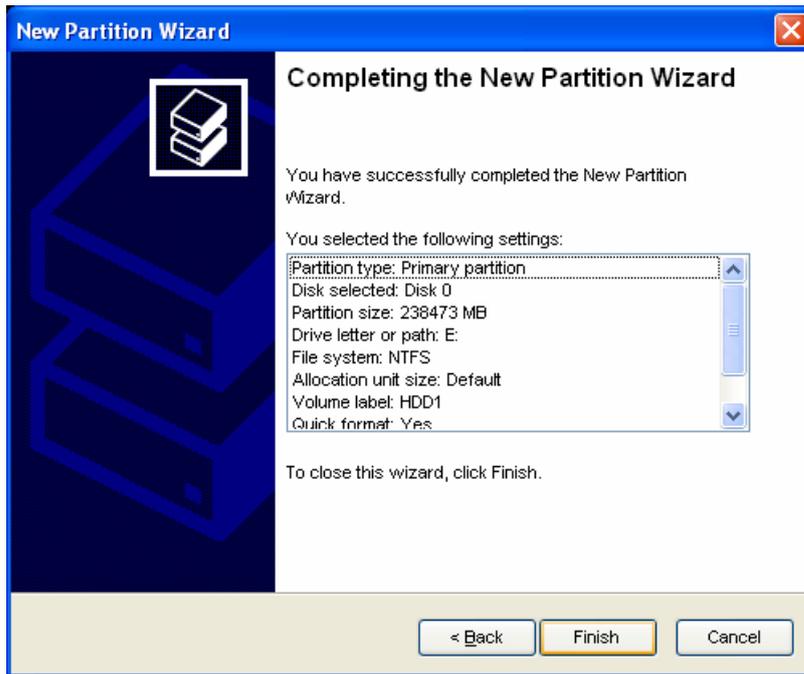


Figure 3-39

14. When the drive is successfully initialized, partitioned, and formatted, its status description should display “Healthy.”

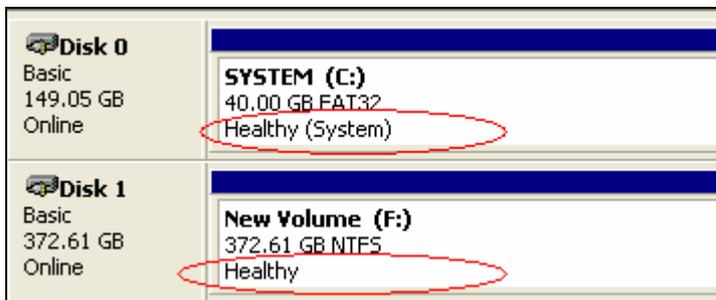


Figure 3-40

3.7 Adding the External Hard Drive to the Recording Path

Before you start recording to the external hard drive, you need to add the formatted external hard drive to the recording path.

1. On the GV-Desktop, click the **Programs** button, and select **Hot Swap HDD Tool**. The MediaMan Tools window appears.



Figure 3-41

2. Right-click the hard drive in the MediaMan Tools window, select **Add for recording**, and then select the storage group from the drop-down list. The Storage 1 is created by default.
3. Click **OK** to automatically configure the hard drive to the recording path.
4. In the MediaMan Tools window, if the hard disk drive is successfully added to store data, its Status field will display “Standby”.

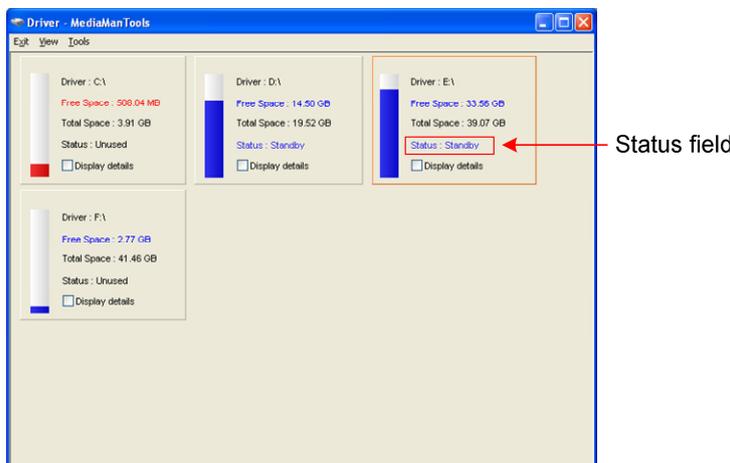


Figure 3-42

5. To add another formatted hard disk drive for storage, repeat the above steps.

3.8 Changing Video Codec and Resolution of GV IP Camera

Several resolution, aspect ratio and codec options are available for GV IP cameras, except GV-Fisheye cameras. Once the video resolution and codec of GV IP cameras are changed on the GV-NVR System Lite V2, these configurations will override those set on the camera's Web interface.

Note: These instructions are only applicable for GV IP cameras.

1. On the main screen, click the **Configure** button, select **System Configure**, and click **IP Camera Install**. This dialog box appears.

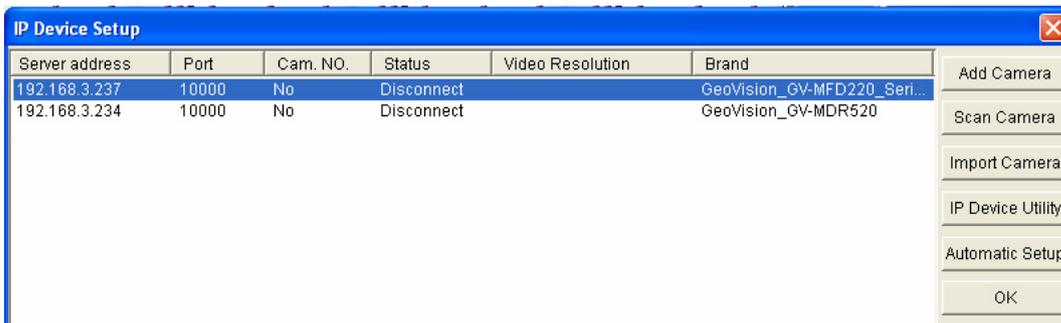


Figure 3-43

2. Click the listed camera, and select **Change live view codec**, **Change record codec** or **Change Resolution** to change the Live View codec or Recording codec and Recording resolution.

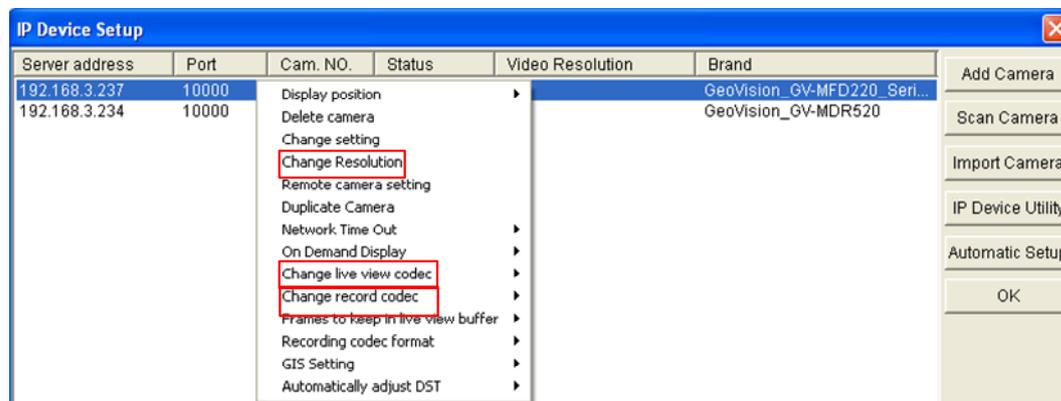


Figure 3-44

3.9 Exiting to Windows

The GV-NVR System Lite V2 is protected by GV-Desktop that is limited to run the selected programs. If you need to exit to Windows desktop, follow these steps.

1. On the GV-Desktop, click the **Settings** button, and type the valid ID and password. The default ID and Password are “0000”. The Settings dialog box appears.
2. Under Desktop Type, select **Windows** from the drop-down list, and click **OK**.
3. Click the **Log Off** button, and enter the valid ID and Password. The Windows desktop appears.



Figure 3-45 The GV-Desktop

3.10 Returning to GV-Desktop

Click the Windows **Start** button, select **All Programs**, click **GV-NVR**, and click **Key Lock Utility**.

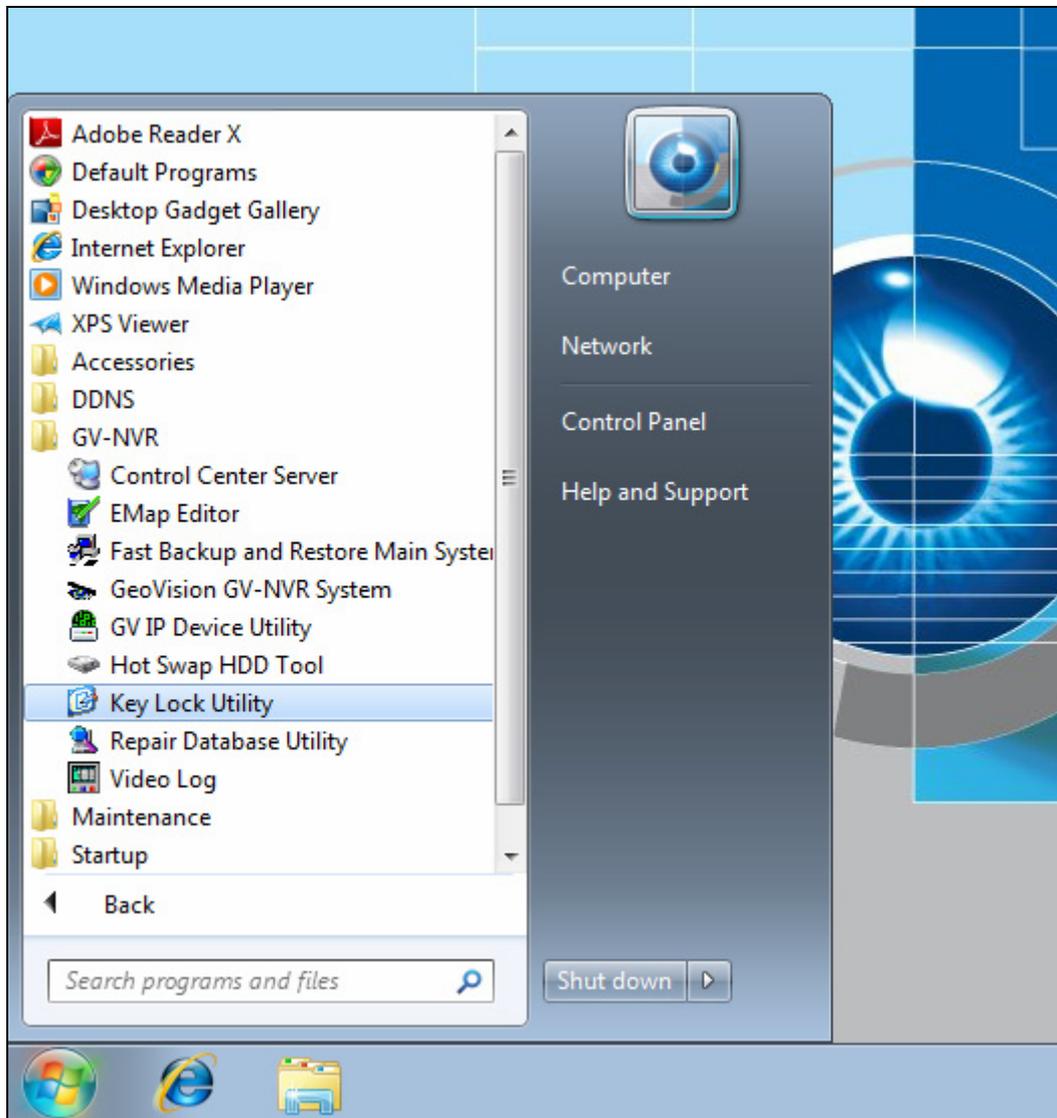


Figure 3-46 Windows 7 desktop

3.11 Restoring System

You can restore preinstalled files once they are damaged by running the recovery from the hidden partition. To restore the operating system and all preinstalled software, follow the steps below.

Note: After recovery, you need to re-install all settings and passwords. But the recovery will not delete your recording files saved in the partition D since it only reformats the partition C.

1. On the GV-Desktop, click the **Program** button and select **Recovery**. The system will run this command by itself.

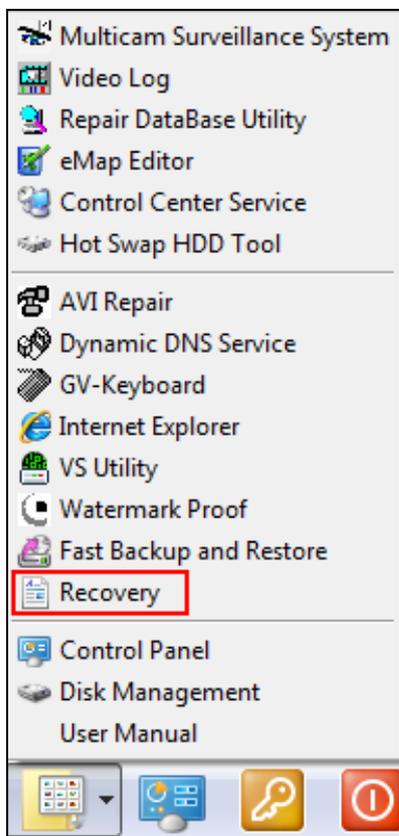


Figure 3-47

2. Restart the GV-NVR System Lite V2.
3. Press **F11** button several times to avoid accessing the system.

- When the below screen appears, press the **Recovery** button.

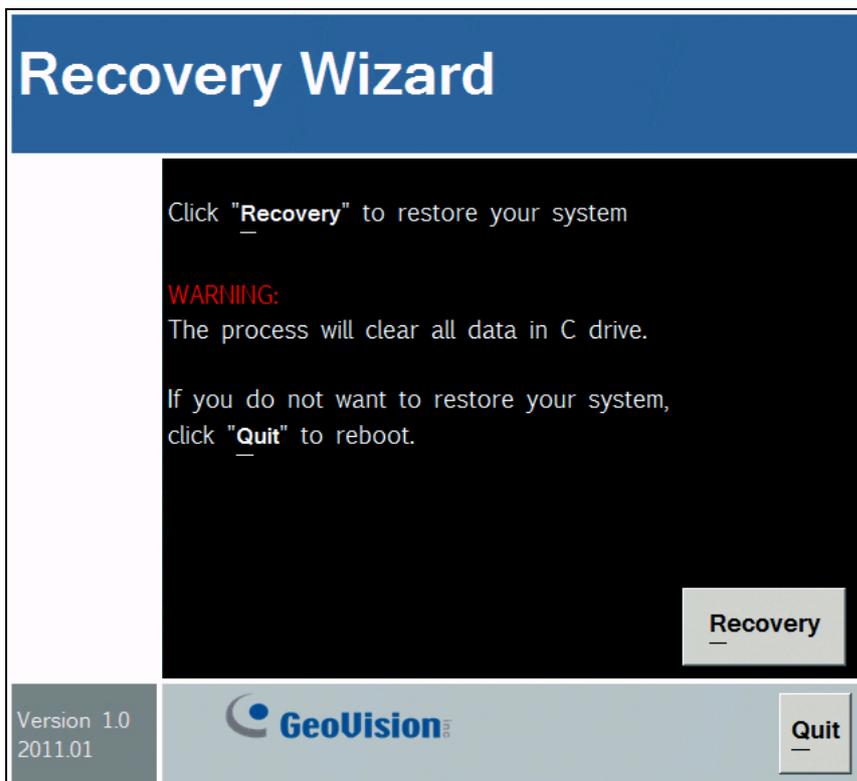


Figure 3-48

- If you can't successfully start the Recovery Wizard, you may see the below screen. Select **SATA PM** to start the Recovery Wizard.



Figure 3-49

- When the restoring process is completed, the screen will automatically show the GV-Desktop. And the system will restore the default values.

3.12 Updating GV-NVR System Lite V2

If you like to update your GV-NVR System Lite V2, contact your dealer for more information.

Before contacting your dealer, you may check software update news at our website:

<http://www.geovision.com.tw>

Chapter 4 Firmware Upgrade for GV IP Cameras

GeoVision will periodically release the updated firmware of GV IP camera on the website. The new firmware can be simply loaded into the GV IP camera by using the Web interface of GV IP camera or IP Device Utility of the GV-NVR System Lite V2.

Important Notes before You Start

Before you start updating the firmware, please read these important notes:

1. While the firmware is being updated,
 - A) the power supply of the camera must not be interrupted, and
 - B) do not unplug the Ethernet cable of the camera if the cable is the source of power supply (Power over Ethernet or PoE supported).
2. Do not turn the camera power off in 10 minutes after the firmware is updated.
3. If you use the IP Device Utility for firmware upgrade, the GV-NVR System Lite V2 used to upgrade firmware must be under the same network of the camera.

WARNING: The interruption of power supply during updating causes not only update failures but also damages to the camera. In this case, please contact your sales representative and send your device back to GeoVision for repair.

4.1 Using the Web Configuration Interface of GV IP Camera

1. In the Live View window, click the **Show System Menu** button and select **Remote Config**. The **Remote Config** dialog box appears.

Live View

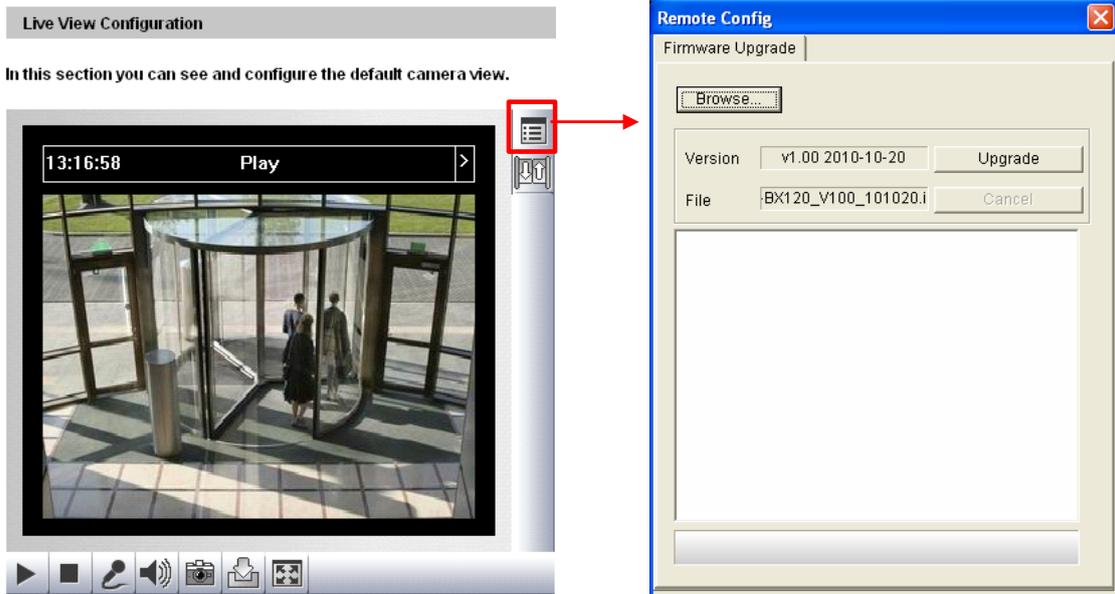


Figure 4-1

2. Click the **Browse** button to locate the firmware file (.img) saved at your GV-NVR System Lite V2.
3. Click the **Upgrade** button to start the upgrade.

4.2 Using the IP Device Utility

The IP Device Utility provides a direct way to upgrade the firmware to multiple units of GV IP camera. Note GV-NVR System Lite V2 used to upgrade firmware must be under the same network of the camera.

1. On the GV-Desktop, click the **Programs** button. This dialog box appears.

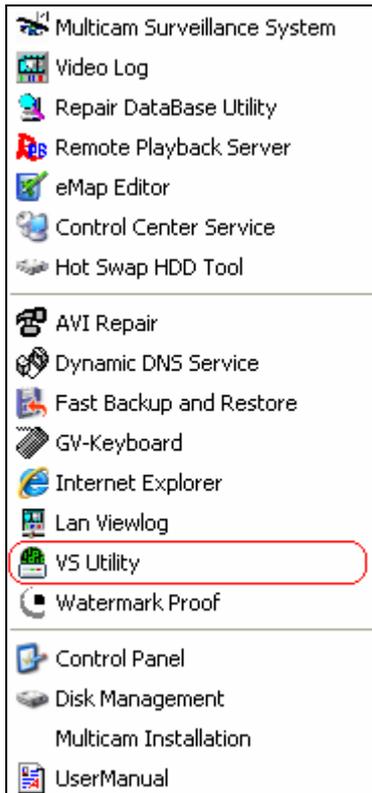


Figure 4-2

2. Select **VS Utility**. This dialog box appears.

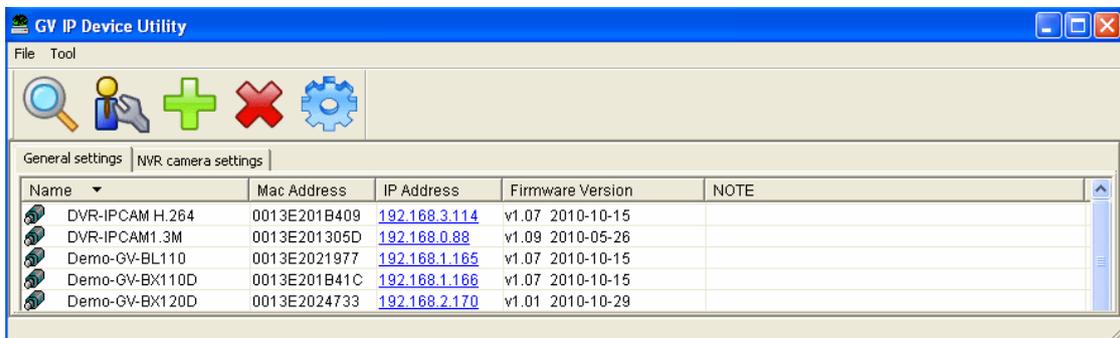


Figure 4-3

3. Click the **Search** button to locate available cameras on the same LAN. Or click the **New** button and assign the IP address to locate the camera over the Internet. Or highlight one camera in the list and click the **Delete** button to remove it.

4. Double-click one camera in the list. This dialog box appears.

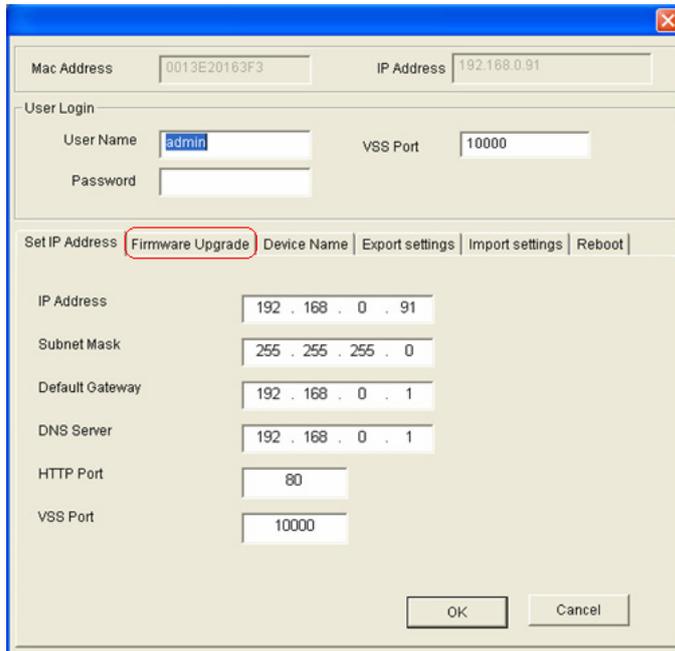


Figure 4-4

5. Click the **Firmware Upgrade** tab. This dialog box appears.

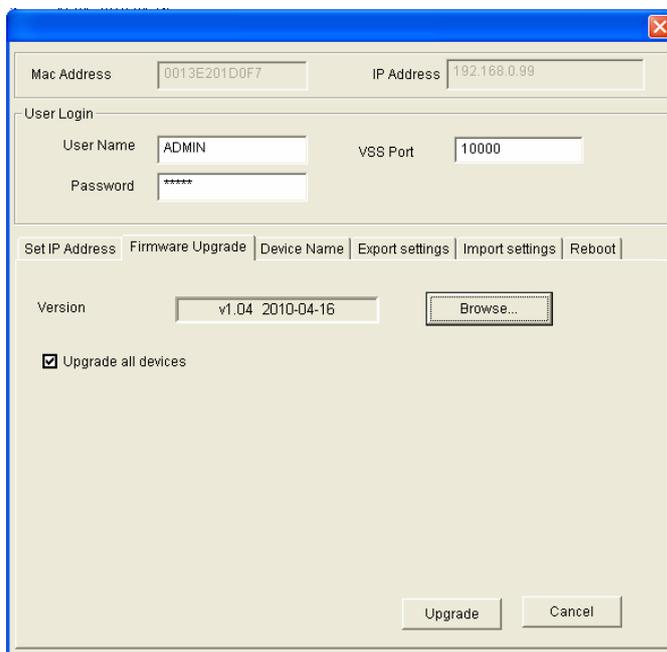


Figure 4-5

6. Click the **Browse** button to locate the firmware file (.img) saved at your GV-NVR System Lite V2.
7. If you like to upgrade all the cameras in the list, select **Upgrade all devices**.
8. Type **Password**, and click **Upgrade** to start the upgrade.

Chapter 5 Smart Device Access

You can receive live video streaming from the GV-NVR System Lite V2 by using an iPhone, iPad or Android device. The GV mobile phone applications and their major features are listed as below.

Overview of GV Mobile Phone Applications

Handheld Device View	GV-iView for iPhone and iPod Touch
OS Supported	iOS
Port	Live View Port: 8866, RPB Port: 5511, HTTP Port: 80;
Protocol	TCP/IP
Codec	MJPEG
Functions	Live view, PTZ control, I/O trigger, Remote playback (RPB) , Multiple camera views, and Snapshots
Handheld Device View	GV-iView HD for iPad
OS Supported	iOS
Port	Data Port: 8866, RPB Port: 5511, HTTP Port: 80
Protocol	TCP/IP
Codec	MJPEG
Functions	Live view, PTZ control, I/O trigger, Remote playback (RPB) , Multiple camera views, and Snapshots
Handheld Device View	GV-AView for Android Smartphone
OS Supported	Android
Port	Data Port: 8866, HTTP Port: 80, RPB Port: 5511
Protocol	TCP/IP
Codec	MJPEG
Resolution Supported	704 x 480 or below
Functions	Live view, PTZ control, I/O trigger, Remote playback (RPB) , Multiple camera views, and Snapshots

Note:

1. For the 3G-enabled mobile phone, you can receive live video from GV-NVR System Lite V2 without installing any GV mobile applications.
2. To access live view on your mobile phone, enter the **Live View Port** on your mobile phone. To play video back, enable **Run ViewLog Server** on the WebCam Server and enter the **RPB Port** on your mobile phone.

Enabling Mobile Phone Connection

To connect GV-NVR System Lite V2 through your mobile phone devices, you must enable **Mobile** option in the GV-NVR System Lite V2 beforehand.

1. Click the **Network** button .
2. Select **WebCam Server**.
3. Click the **Mobile** tab and activate the settings of communication ports. Then, click **OK**.

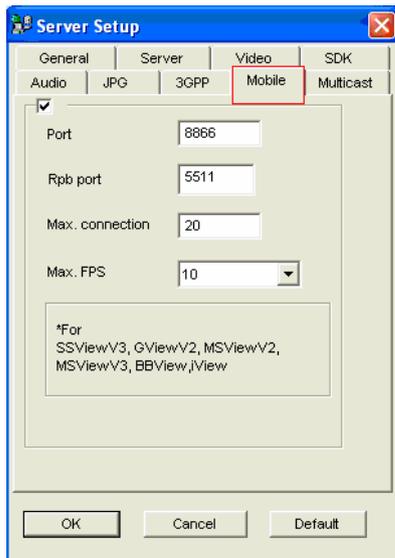


Figure 5-1

Note: If there is a router or firewall installed, ensure these communication ports required by the WebCam server are open: HTTP Port 80, HTTPS Port 443 (if SSL is enabled), Live View Port 8866 and RPB Port 5511.

5.1 iPhone, iPod Touch and iPad

GV-iView function is introduced to support iPhone, iPod Touch and iPad for the mobile surveillance application. For the supported operating system version, see the *Overview of GV Mobile Phone Applications* chart earlier in this chapter.

Note: GV-iView is for iPhone and iPod Touch users, while GV-iView HD is for iPad users. The following installation is using GV-iView as an example.

Installing GV-iView

Download **GV-iView** from App Store, and after installing the application, the **GV-iView** icon will appear on the desktop.

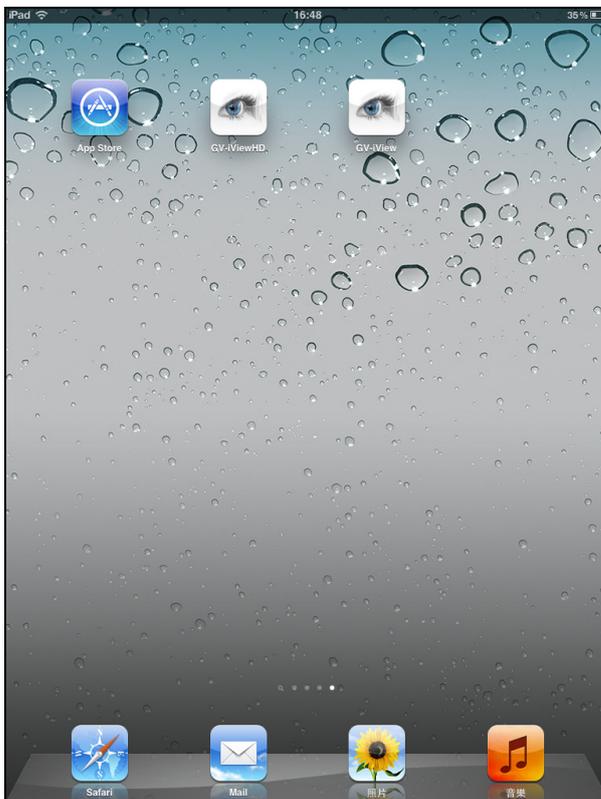


Figure 5-2

Activating the GV-iView Function

To allow remote access to GV-NVR System Lite V2, you must enable the **Create JPEG/GIF file(s)** function on the WebCam Server (Figure 5-1).

Connecting to GV-NVR System Lite V2

1. Activate **GV-iView** on the mobile device.
2. On the login screen enter the IP address of the GV-NVR System Lite V2, port value (default value is 8866), ID and Password.
3. Press **Connect**. Once the connection is established, the live display of 6 cameras will appear.
4. Select **ON** for HTTPS if SSL is enabled for WebCam Server. If the default SSL port of 443 on the WebCam Server is modified, specify the new port number used for HTTPS connection at the end of the IP address, e.g., webcam.geovision.com.tw:445.



Figure 5-3

Note: If the default HTTP port of 80 on the WebCam Server is modified, specify the new port number used for HTTP connection at the end of the IP address, e.g., webcam.geovision.com.tw:81.

Playing Back the Recordings

To retrieve the events recorded on the GV-NVR System Lite V2 and play them back:

Note: The remote playback (RPB) function is only supported if the video was recorded with a resolution of CIF or lower.

1. On the main screen, click the **Network** button, select **Run ViewLog Server**, and click **OK** to allow the remote playback access.

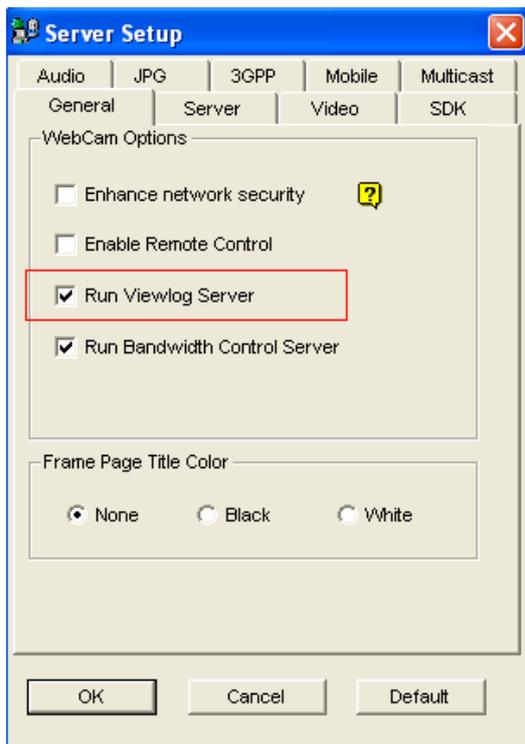


Figure 5-4

2. Run GV-iView on your mobile device.

3. On the login screen, tap **RPB View**



4. Enter the IP address of the GV-NVR System Lite V2, port value (default value is 5511), ID and Password. You can also search the recordings after a specified date and time by selecting **RPB Time Setting** and entering the date and time. Then, tap **Connect**.



Figure 5-5

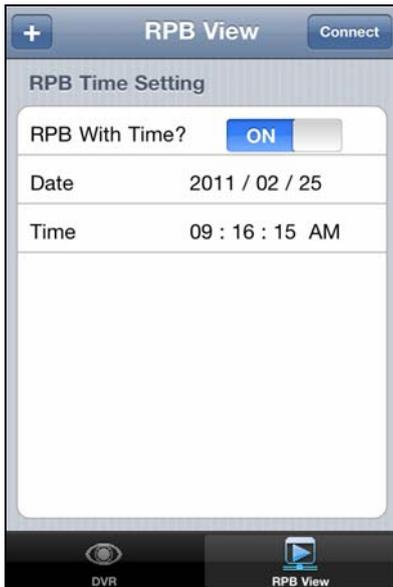


Figure 5-6

5. Select the desired recordings from the event list for playback. Tap the **Change cam** button at the top right corner to switch cameras.

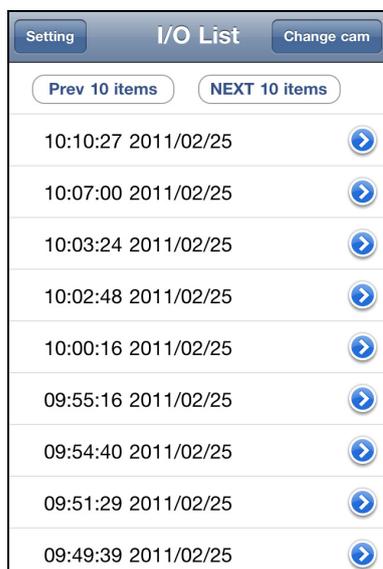


Figure 5-7

Other Functions

After you enlarge one channel, you can find the following buttons for control.



Figure 5-8

Button	Name	Function
	Enable Record	Activates recording controls.
	Record One Channel	The button is available when you tap the Enable Record button. Starts / stops recording the current channel.
	Record All Channels	The button is available when you tap the Enable Record button. Starts / stops recording all channels.
	Enable PTZ	Activates PTZ controls. A swipe of a finger to control the camera's direction. Two finger pinch to zoom in and out.
	Focus Far / Focus Near	The two buttons are available when you tap the Enable PTZ button. Use the two buttons to focus in or out the image.
	PTZ Preset	The button is available when you tap the Enable PTZ button. It allows you to remotely move the PTZ to the preset points.
	Auto Focus	The button is available when you tap the Enable PTZ button.
	Enable I/O	Activates the output controls.
	Snapshot	Takes a snapshot of image.

PTZ Speed Control for PTZ Cameras

Tap anywhere on the Live View screen of PTZ camera to bring up the PTZ Speed Setting panel. Select your desirable level of PTZ speed. Higher value means higher speed.



Figure 5-9

Accessing I/O Devices

1. Press the **Enable I/O** button. The screen, similar to the following image, appears.
2. Use the left and right buttons to change the I/O module, and use the scrollbar to change the output device.
3. Tap **IO Module 1 (output: 1)** to manually force the output to be activated.



Figure 5-10

My Favorite

On the login screen you can find the My Favorite option, allowing you to add several links of GV-NVR System Lite V2 servers for quick connections. Up to 50 links can be created.

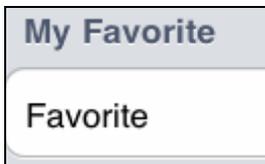


Figure 5-11

Import / Export

This function allows you to export **My Favorite** list to iPhone / iPad / iPod Touch device or import **My Favorite** list from iPhone / iPad / iPod Touch device. The maximum number of import / export items is 100 connections. Find the **Import / Export** option on the login screen and operate.



Figure 5-12

5.2 Android Device

GV-AView function is introduced to support Android Smartphones and Tablets for the mobile surveillance application. For the supported operating system version, see the *Overview of GV Mobile Phone Applications* chart earlier in this chapter.

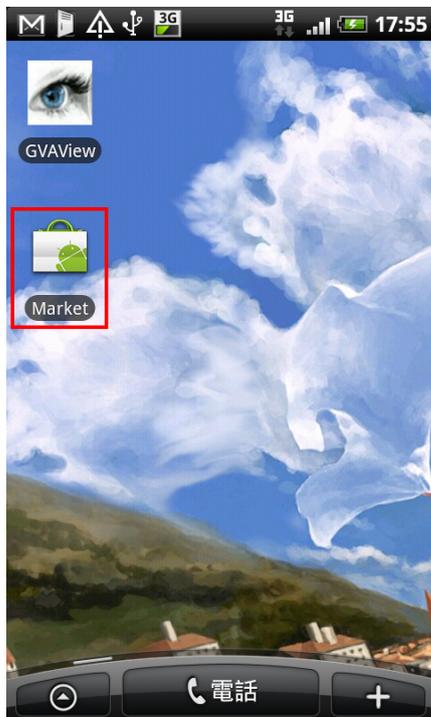


Figure 5-13

Activating the GV-AView Function

To allow remote access to GV-NVR System Lite V2, you must enable the **Create JPEG/GIF file(s)** function on the WebCam Server (Figure 5-1)

Connecting to GV-NVR System Lite V2

1. On your mobile phone, tap the **GV-AView** icon  on the main page. This page appears.

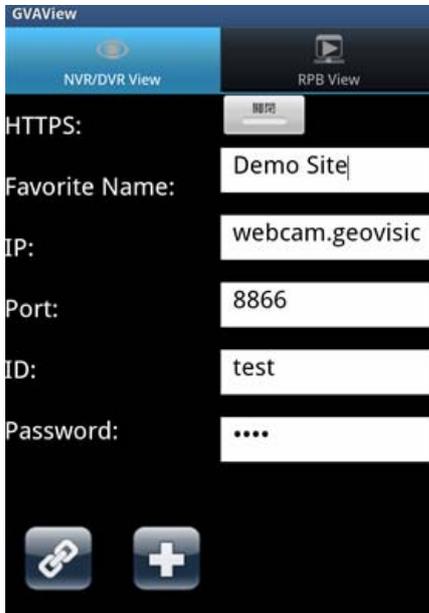


Figure 5-14

2. Type the IP address, port number (default value is 8866), user name and password of the GV-NVR System Lite V2 you want to access. And then tap the **Add** button  to save the connection information in the address book.

Note: If the default HTTP port of 80 on the WebCam Server of the GV-NVR System Lite V2 is modified, specify the new port number used for HTTP connection at the end of the IP address, e.g., webcam.geovision.com.tw:81.

3. Tap the created link in the address book.

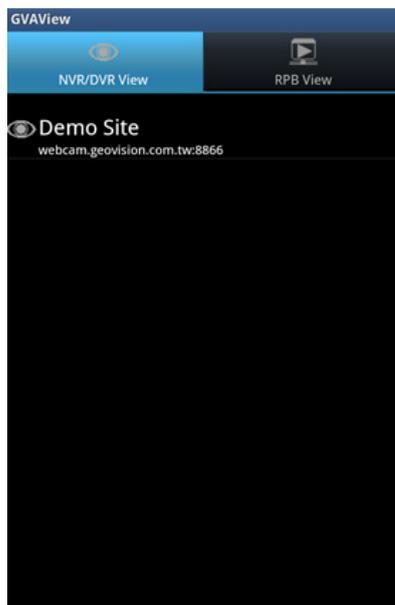


Figure 5-15

4. Tap the **Connection** button  to access the GV-NVR System Lite V2.

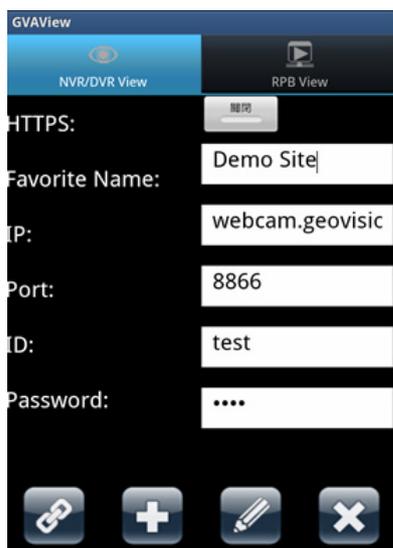


Figure 5-16

5. Tap the Menu button on the mobile phone to see the following options:



Figure 5-17

- **I/O Trigger** : Forces I/O devices to be triggered.
 - **Record Event** : Starts or stops recording the current channel or all channels.
 - **Image setting** : Changes the image quality between **Normal** and **Good**.
6. Double-tap the live view to see it in single view. You can tap the **Snapshot** button  to capture the current image.
7. If the camera supports PTZ functions, tap the **PTZ** button  and use the touch screen to control the camera. The following control buttons are also available:
- : Moves the camera toward different directions.
 - : Zooms in and out.
 - : Adjusts the focus.
 - : Moves the camera back to Home position.
 - : Auto focus.
 - : Moves the camera to a preset point by typing the preset number.

Playing Back the Recordings

1. On the main screen, click the **Network** button, select **Run ViewLog Server**, and click **OK** to allow the remote playback access (Figure 5-4).
2. Run GV-AView on your mobile device.
3. On the main page, tap the **RPB View** tab.



Figure 5-18

4. Type the IP address, port number (default value is 5511), user name and password of the GV-NVR System Lite V2 you want to access.
5. You can tap the button next to **RPB with Time** and specify a time to see videos recorded after the specified time.
6. On the bottom of the screen, tap the **Add** button  to save the connection information.

7. Tap the connection you just created.

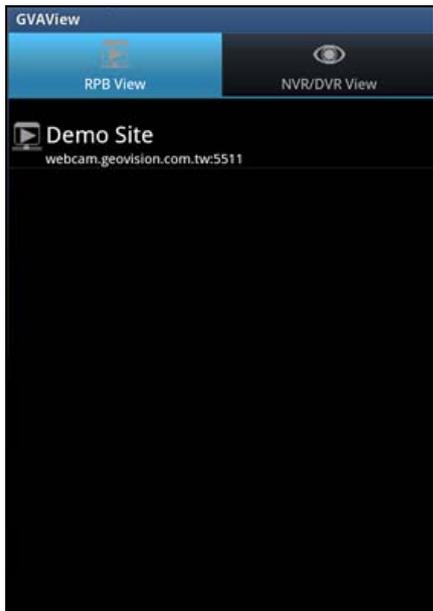


Figure 5-19

8. Tap the **Connect**  button to view the playback.



Figure 5-20

9. Tap the **Connect** button  to connect to the GV-NVR System Lite V2. The videos recorded from camera 1 will be displayed.

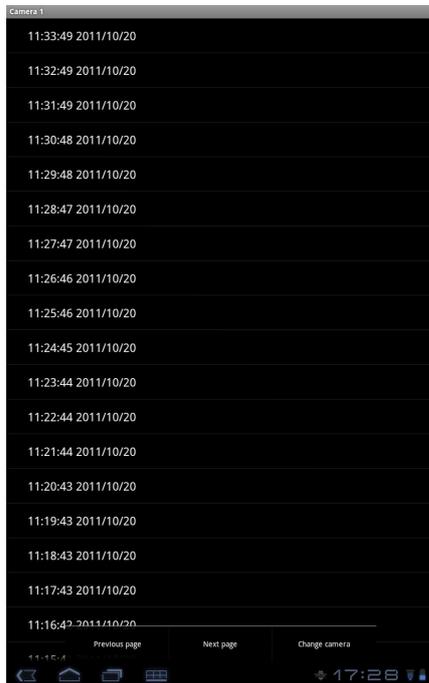


Figure 5-21

10. To play back a recording, tap on the time of the recording.
11. To see more recordings from the same camera, press the Menu button on the mobile phone device and tap **Previous page** to see more recent recordings or tap **Next Page** to view older recordings.
12. To switch to a different camera, press the Menu button on the mobile phone device, tap **Change Camera** and select a camera.

Other Functions

Menu Options in the Address Book

Tap the **NVR/DVR View** tab and then tap the Menu button on the mobile phone device. This page appears.



Figure 5-22

- : **Add** the connection information of a GV-NVR System Lite V2 to the address book.
- : **Delete** all entries in the address book.
- : Displays the **Installation Guide** in two ways—Manual and URL Link.
- : **Exit** the application.
- : **Import or Export** the address book.

Chapter 6 NVR Health Analysis

GeoVision offers health analysis to GV-NVR System Lite V2. The service is intended to give diagnosis for early and immediate detection of problems.

It is recommended to have the health analysis during the first week after you install the GV-NVR System Lite V2, and then have the checkup every three months. It will take 5 working days for response.

Please prepare the following data for analysis, and send to dvrssystem@geovision.com.tw

- **System Settings**
- **System Log**
- **Information of your computer system (Processor; Drives; Voltage, Temperature and Fans)**

6.1 System Settings

Please back up your system configurations using the **Fast Backup and Restore** application.

1. Run **Fast Backup & Restore Main System** from the Start menu.

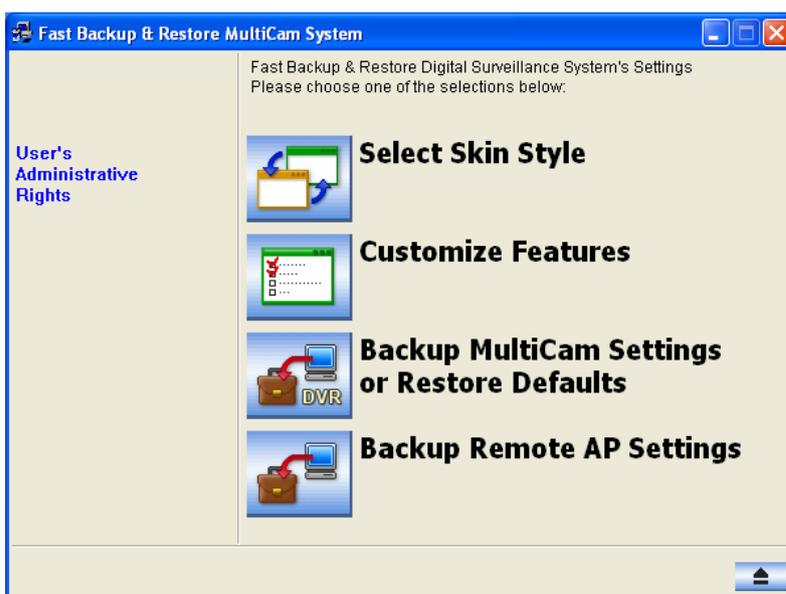


Figure 6-1

2. Select **Backup MultiCam Settings or Restore Defaults**, and select **Backup Current System**. This dialog box appears.

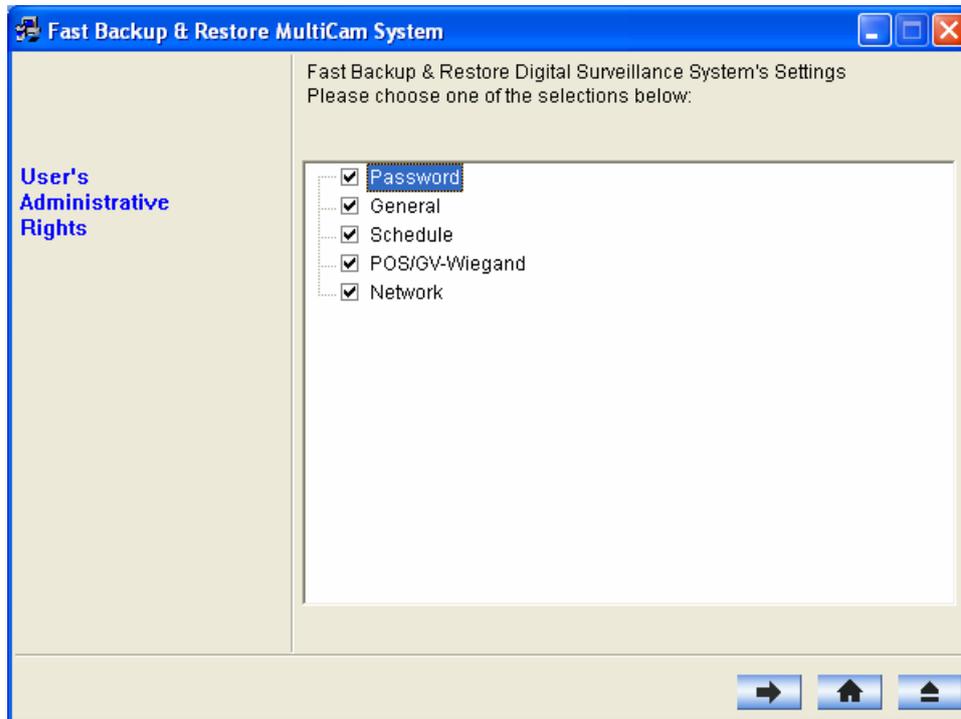


Figure 6-2

3. Press the **Next Step** button  to back up all your system settings. The Save As dialog box appears.
4. Select the destination drive to store the backup file. When the backup is complete, this message "*Successfully Backup MultiCam System Settings*" will appear.

6.2 System Log

Please provide the **sys*.mdb** files of system log. The files by default are saved at **D:\Log\database**. If you have modified the default location, you can check the path on the following System Log Setting dialog box.

To open this dialog box, click the **Configure** button on the Main System, point to **System Configure**, and then select **System Log Setting**.

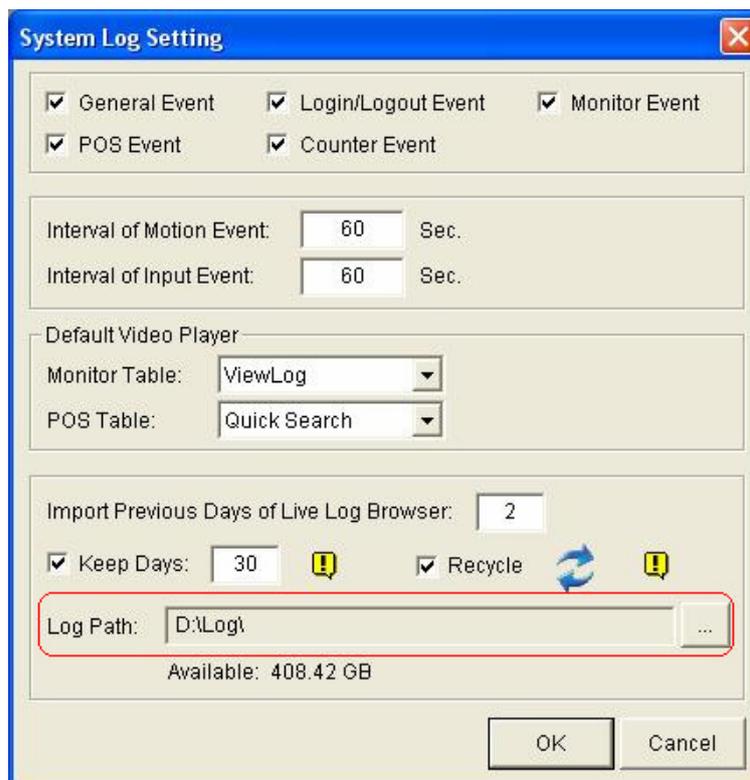


Figure 6-3

6.3 Information of Your Computer System

To get the information of your computer system, please follow the steps below to install the free software PC WIZARD. By using the software, the following computer information can be easily collected and saved for analysis:

- **Processor:** includes Type, Frequency, Data Cache L1, Trace Cache L1, Cache L2, Voltage, Processor Temperature, FPU Coprocessor.
- **Drives:** includes Number of Hard Disk, Number of Drive, Total Size and Free Space of Drive.
- **Voltage, Temperature and Fans:** includes Monitoring Chip, Voltage CPU, Chassis Fan, Processor Temperature, Mainboard Temperature, Hard Disk Temperature.

1. Download and install **PC WIZARD** from <http://www.cpubid.com/pcwizard.php> .
2. After installation, run the program.
3. Right-click the **Processor** icon  and click **Save as**.

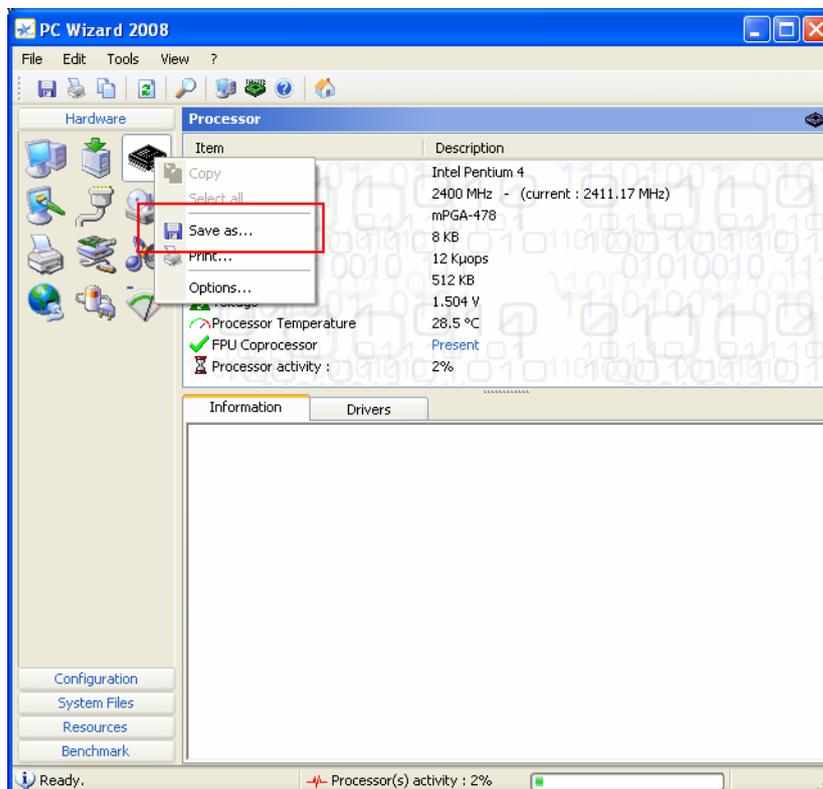


Figure 6-4

4. In the Save As dialog box, select **Format HTML** and click **OK**.

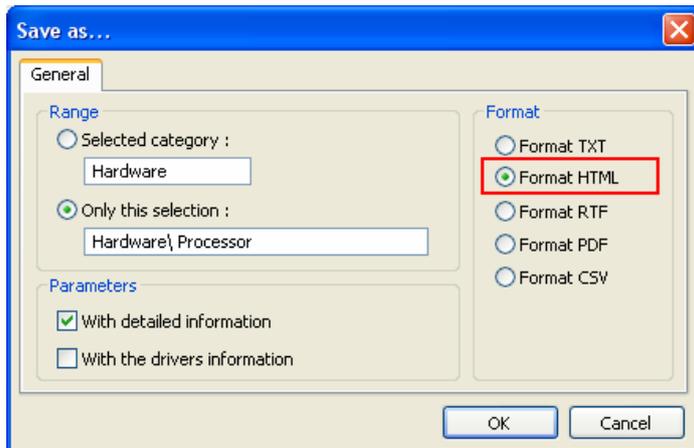


Figure 6-5

5. Select the Save location, type the file name, and then click **Save** to save the Processor information as HTML file.
6. Repeat Steps 3-5 to save the **Drives** information  as HTML file.
7. To save the **Voltage, Temperature and Fans** information , please follow these steps:
 - A. Click the **Voltage, Temperature and Fans** icon. The related data is displayed at the right window.
 - B. Click the first item **Monitoring Chip**.
 - C. Click **Edit** on the menu bar and click **Select All** to highlight all the contents.
 - D. Click **Edit** on the menu bar and select **Copy**.
 - E. Open a Notepad. Paste and save the information to TXT file.

6.4 Health Analysis Form

Please send the related data for analysis along with this Health Analysis Form to dvrssystem@geovision.com.tw.

Health Analysis of GV-NVR System Lite V2	
Contact Person:	Title:
Company Name:	
Telephone: (O)	(H)
Fax:	
E-Mail:	
Model:	
Bar Code:	

6.5 Check List

Read this check list before submitting the health analysis request:

- System Settings- **EXE file**
- System Log- **sys*.mdb**
- Computer System- Processor information of **HTML file**
- Computer System- Drives information of **HTML file**
- Computer System- Voltage, Temperature and Fans information of **TXT file**
- Health Analysis Form

Chapter 7 Troubleshooting

GV-NVR System Lite V2 is designed for durability. However, should problems occur, following the procedures here can help determine the cause.

GV-NVR System Lite V2 won't turn on.

If your GV-NVR System Lite V2 won't turn on or you don't hear a startup sound or any fan or drive noise, try these steps:

1. Make sure that you press the **Power** button. The power LED will turn blue when the GV-NVR System Lite V2 is turned on.



Figure 7-1

2. Make sure that the power cord is properly connected to both GV-NVR System Lite V2 and power outlet. If you are using a power strip, make sure that the strip is powered on.
3. If the problem persists, consult your dealer.

GV-NVR System Lite V2 stops responding (aka “crashed” or “froze”).

If your GV-NVR System Lite V2 is not responding to your clicking, typing, or mouse movements, try to press the **Power** button on the GV-NVR System Lite V2 to turn it off. Wait 30 seconds and then press the **Power** button again to turn it on.

GV-NVR System Lite V2's hard disk corrupts

If you are experiencing file system corruption problems, such as lost clusters, cross-linked files or invalid files or directories, try these steps:

1. Use the **HD Tune** utility to scan the external hard disk for errors. Follow these steps:
 - A. Download and install **HD Tune** from <http://www.hdtune.com/>
 - B. Click the **Error Scan** tab and click **Start** to scan. Any found defects will be shown as red blocks (Figure 7-3).

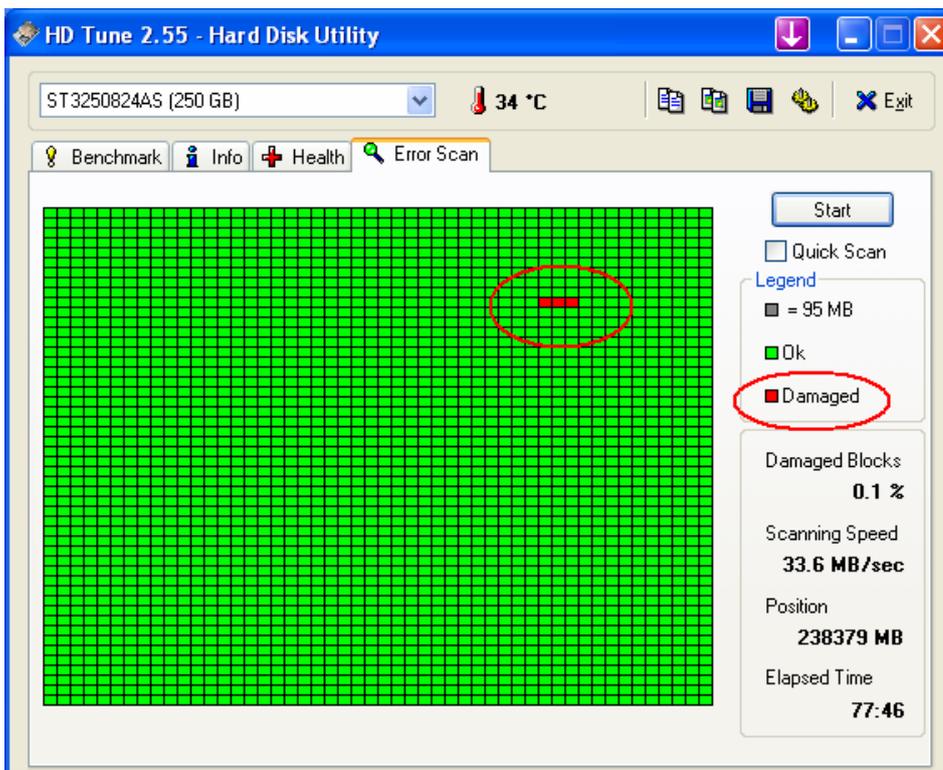


Figure 7-2

- C. If your hard disk drive is damaged, replace a new one.
2. If the HD Tune utility does not find any defects, use the Windows built-in utility to attempt to fix the errors. Follow these steps:
 - A. On the GV-Desktop, click the **Programs** button, and select **Disk Management** (Figure 3-27).

- B. Right-click the desired hard disk and select **Properties** from the file menu to display the Properties window.

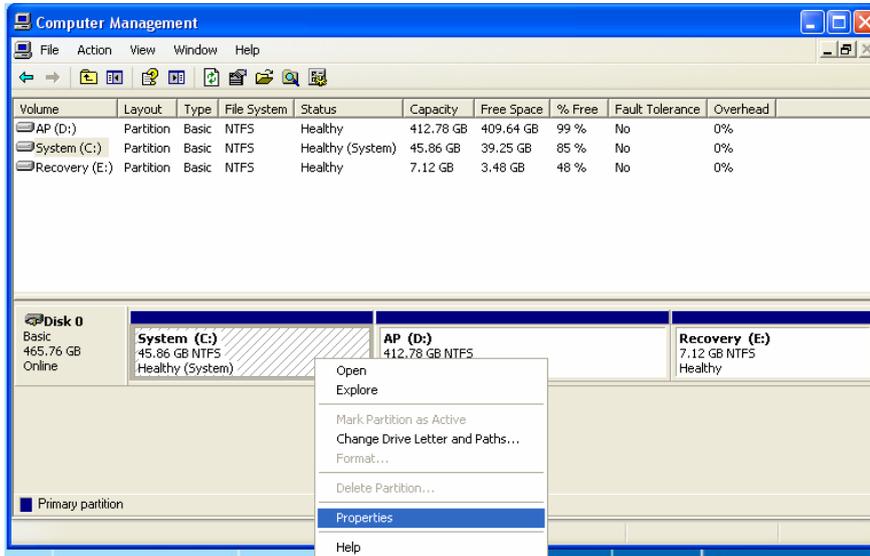


Figure 7-3

- C. Click the **Tools** tab in the upper portion of the window.
 D. Under Error-checking, click the **Check Now** button.



Figure 7-4

- E. Select **Automatically fix file system errors** and **Scan for and attempt recovery of bad sectors**.

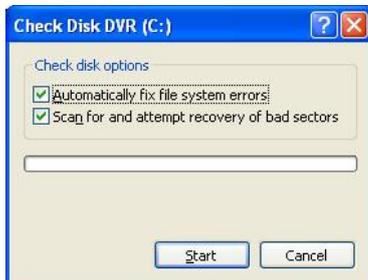


Figure 7-5

- F. Click **Start**.
3. If the Windows hard disk utility still cannot fix the problem in Partition C, try rebuilding the operating system and GV-System Software. Refer to 3.11 Restoring System.
 4. If the problem persists, replace an external hard drive.

GV-NVR System Lite V2 suffers virus attack.

GV-NVR System Lite V2 is designed and optimized for Windows 7 platform. It may be vulnerable to newly created worms and exploits that attack any of the underlying operating system's previously undocumented flaws. If your GV-NVR System Lite V2 suffers virus attack, try rebuilding the operating system and GV-System Software. Refer to *3.11 Restoring System*.

Live video is not displayed smoothly.

If some of live videos are not displayed smoothly, check the following status:

1. Check the bandwidth status of the network that is connected to the GV-NVR System Lite V2.
2. Check if several users are accessing the Web interface of the GV IP camera. Try to close some of open Web interfaces.

Unable to locate all the GV IP cameras by using the IP Device Utility.

If you can not locate all the GV IP cameras by using the IP Device Utility, try the following instructions:

1. Ensure all the GV IP cameras are connected to the same LAN with the GV-NVR System Lite V2 and check the network connectivity.
2. Ensure you have powered on all the GV IP cameras.
3. Click the **Search** button of the IP Device Utility again to detect the GV IP cameras.

Black images are displayed

If there is no image displayed after the GV IP cameras are connected to GV-NVR System Lite V2, check if these GV IP cameras are compatible. For compatible GV IP cameras, see *Bundled Software and Supported Cameras*.

How can I find more help?

1. Visit our website at http://www.geovision.com.tw/english/4_1.asp
2. Write us at dvrssystem@geovision.com.tw

Specifications

GV-NVR Lite System V2

Hardware

System			
CPU		Intel Processor	
RAM		2 GB	
Storage		1 TB	
OS		Microsoft Windows 7 Embedded 64-Bit SP1	
Power		Output: 65W, 19V, 3.42A; Input: 100~240V, 50~60Hz	
Connector	Ethernet	RJ-45, 10 / 100 / 1000 Mbps	
	Video Output	VGA and HDMI	
	USB 2.0	Right Side	1 port
		Left Side	2 ports
USB 3.0	Right Side	1 port	
Environment			
Operating Temperature		0°C ~ 35 °C / 32 °F ~ 95 °F	
Humidity		0% ~ 80% RH (non-condensing)	
Physical			
Color		Black	
Dimensions (W x H x D)		153.6 x 25.2 x 172.6 mm / 6.04 x 0.99 x 6.8 in	
Weight		800 g / 1.77 lbs	

Software

Video and Audio	
Video Standard	NTSC, PAL
Video Input	16 channels
Audio Input	16 channels
Audio Codec	AAC (32 kHz / 16 bit)
Video Codec	MJPEG / MPEG4 (ASP) / H.264
Live View and Playback	
Image Control	Contrast / Brightness / Saturation / Hue
Recording Mode	Round the Clock / Motion Detection / Sensor Detection / Pre & Post Recording / Schedule Recording
Pre Recording	1 ~ 45 min.
Instant Playback	10 sec. / 30 sec. / 1 min. / 5 min.
Watermark	Support

Specifications

Search and Backup		
Search Method	Date / Time / Camera / Event Type	
Backup Type	DVD+R (DL) / DVD-R (DL) / DVD+R / DVD+RW / DVD-R / DVD-RW / CD-R / CD-RW	
Note: For backup function, you need to connect an external USB DVD/CD burner.		
Remote Monitoring		
Monitoring Environment	Web browser (IE, Chrome, Firefox, and Safari) Mobile device (Android Smartphone and tablet; iPad, iPhone and iPod Touch)	
Live View	Max. 16-channel multi views (Up to 200 channels connection to GV-NVR System Lite V2)	
Network Type	LAN, WAN, Internet	
System Monitoring and Recovery		
Power Restoration	Power restored after AC power outage	
Monitoring	Software watchdog	
Recovery	Automatic system rebuild from internal hard disk.	
Language		
Type	Arabic / Bulgarian / Czech / Danish / Dutch / English / Finnish / French / German / Greek / Hebrew / Hungarian / Italian / Japanese / Lithuanian / Norwegian / Polish / Portuguese / Romanian / Russian / Serbian/ Simplified Chinese / Slovakian / Slovenian / Spanish / Swedish / Thai / Traditional Chinese / Turkish	
Software License		
Free License	16 channels from GV-IP Cameras	
Maximum License	10 channels from third-party IP Cameras	
Increment for Each License	2, 4, 6, 8 or 10 third-party IP Cameras	
Dongle Type	External	
Sensor and Alarm		
Sensor Input	GV-IO Box	4, 8, 16 inputs
Alarm Output	GV-IO Box	4, 8, 16 outputs

*Product design and specifications are subject to change without notice.

Warranty Policy

GeoVision, Inc. (“GeoVision”) hereby provides three types of Limited Warranty as below:

■ **One (1) Year - Limited Warranty**

Including:

GV-Pad / GV-PadT series

■ **Two (2) Year - Limited Warranty**

Including:

1. **All hardware products (except all GV-series capture cards) and;**
2. **Pan Tilt Camera GV-PT110D within max 500,000 times of pan or tilt movement and;**
3. **PTZ Camera GV-PTZ010D within max 500,000 times of pan or tilt movement and lens zoom in/out.**

■ **Three (3) Year - Limited Warranty**

Including:

All GV-series capture cards

■ **No Warranty Coverage**

The cover of GV-series IP cameras is a consumable item and thus not included under these Limited Warranties.

All aforementioned products, **EXCLUDE OTHER PACKAGED ACCESSORIES AND ALL SOFTWARE**, (hereinafter called “Products”) will be free from defects in materials/workmanship during the terms of these Limited Warranties (“Limited Warranties”) from the date of purchase. These Limited Warranties parts and labor warranty are applicable to Products purchased via authorized distribution and sales channels.

If a defect arises and a valid claim is received by GeoVision within Limited Warranties Period, at its option, GeoVision will (1) repair Products at no charge, using new or refurbished replacement parts, or (2) exchange Products with a Product that is new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original Products.

GeoVision warrants replacement parts or repairs for thirty (30) days from the date of GeoVision shipment or for the remainder of Limited Warranties Period, whichever provides longer coverage for you. When a Product or part is exchanged, any replacement item becomes your property and the replaced item becomes GeoVision’s property.

It is customer’s sole responsibility and requirement to prove these Products are under warranty (by submit your sales invoice and bar code), otherwise GeoVision will determine these Products’ warranties period at its option. GeoVision reserves the right, at its sole discretion and any time, to modify and adjust the scope and content of Products and its

warranty without prior notice, however, any modification and adjustment thereafter will not affect or interrupt any rights belonging to Products you purchased already.

Limitations of Warranties

Limited Warranties apply only to Products manufactured by or for GeoVision that can be identified by the "GeoVision" trademark, trade name, or logo affixed to them. Limited Warranties do not apply to any non-GeoVision products including counterfeited products. GeoVision is not liable for any damage to or loss of any profit, programs, data, or other information stored on any media, or any non-GeoVision Products or part not covered by these warranties. Recovery and reinstallation of system and application software and user data are not covered under Limited Warranties. Limited Warranties do not apply if:

- a) Products have been subjected to abnormal use, improper storage, unauthorized modifications, unauthorized repair, misuse, neglect, abuse, accident, alternation, removal of any stickers or labels on the hardware, improper hardware/software installations, or other acts that are not the faults of GeoVision, including damage caused by shipping;
- b) Products have been damaged from exposure under circumstances which is over weatherproof specification of the product, an Act of God, or improper use of any electrical source, or the connection to other products not recommended for interconnection by GeoVision;
- c) Products have defects or damage caused due to computer virus attack, internet or technical issues;
- d) Products serial number have been removed, defaced or altered;
- e) Products have been sold by an unauthorized distributor or retailer; or
- f) The system case, including GV-Hot Swap DVR System, GV-Storage System and GV-NVR System Lite V2, has been opened.

Disclaimer of Warranties

Except as specified in these Warranties, all express or implied conditions, representations, and warranties including, without limitation, any implied warranties or condition of merchantability, fitness for a particular purpose, non-infringement, satisfactory quality, non-interference, accuracy of informational content, or arising from a course of dealing, law, or trade practice, are hereby excluded to the extent allowed by applicable law and are expressly disclaimed by GeoVision. To the extent implied warranties cannot be excluded, such warranties are limited in duration to the express warranties period. Because some states or jurisdictions do not allow limitations on how long implied warranties lasts, the above limitation may not apply. These warranties give customers specific legal rights, and customer may also have other rights which vary from jurisdiction to jurisdiction. This disclaimer and

exclusion shall apply even if the express warranties set forth above fails of its essential purpose.

Limitation of Liability

Regardless whether any remedy set forth herein fails of its essential purpose or otherwise, in no event will GeoVision or its suppliers be liable for any lost revenue, profit or lost or damaged data, business interruption, loss of capital, or for special, indirect, consequential, incidental, or punitive damages however caused and regardless of the theory of liability or whether arising out of the use or inability to use the GeoVision Products or otherwise and even if GeoVision has been advised of the possibility of such damages. In no event shall GeoVision's liability to customer, whether in contract, tort (including negligence), breach of warranty, or otherwise, exceed the price paid by customer for the Software that gave rise to the claim or if the Software is part of another Products, the price paid for such other Products. Because some states or jurisdictions do not allow limitation or exclusion of consequential or incidental damages, the above limitation may not apply to you. In no event shall GeoVision's total liability to you for all damages (other than as may be required by applicable law in cases involving personal injury) exceed the amount of two hundred dollars (U.S. \$200.00). The foregoing limitations will apply even if the above stated remedy fails of its essential purpose.

Customer agrees that the limitations of liability and disclaimers set forth herein will apply regardless of whether customer has accepted any other Products or service delivered by GeoVision. Customer acknowledges and agrees that GeoVision has set its prices in reliance upon the disclaimers of warranties and the limitations of liability set forth herein, that the same reflect an allocation of risk between the parties, and that the same form an essential basis of the bargain between the parties.

These Warranties shall be governed by and construed in accordance with the laws of Taiwan, Republic of China and United State, without reference to or application of choice of law rules or principles. The United Nations Convention on the International Sale of Goods shall not apply. If any portion hereof is found to be void or unenforceable, the remaining provisions shall remain in full force and effect.

GeoVision Inc. Warranty Policy last updated on December 26, 2011.

Warranty Requirements

To validate your purchase, you shall complete the online Product Registration **within 30 days from the date of purchase** at http://www.geovision.com.tw/english/4_6.asp. Or click **GeoVision Online Registration** in My Favorite for a direct link.

If you fail to complete the Product Registration, the warranty period will start **from the date of shipment**.

Before you return the product

Some problems you experience may be related to software or the operating system. It is important to investigate other sources of assistance first. Before returning the product, try the following:

1. Review troubleshooting sections in the documentation for software and peripheral devices.
2. Try rebuilding the operating system and GV-NVR System Lite V2 from the hidden partition.
3. Consult your dealer. They are your best sources for current information and support. Or you can call or email GeoVision offshore offices for assistance.

When you call or e-mail, please inform us the following:

- Model name
 - Bar Code
 - Details of the defect or problem
 - Attempted solutions
 - Your contact information
 - Reseller's contact information
4. If you find it is the software problem, please check our website or your dealer for software updates.

Obtaining Warranty Service

If you are still unable to solve the problem and suspect that it is hardware related, follow these:

1. Send an e-mail to GeoVision to start Return Merchandise Authorization (RMA) process.
E-Mail: sales@geovision.com.tw or dvrssystem@geovision.com.tw
2. Securely pack the product in its original carton using the original packing material, or in equivalent packaging.
3. The product shall be returned to **GeoVision, Taiwan** at your expense for shipping and insurance costs.

BEFORE YOU DELIVER YOUR GV-NVR SYSTEM LITE FOR WARRANTY SERVICE, IT IS YOUR RESPONSIBILITY TO BACK UP YOUR DATA. YOU WILL BE RESPONSIBLE FOR REINSTALLING ALL DATA, SETTINGS AND PASSWORDS. DATA RECOVERY IS NOT INCLUDED IN THE WARRANTY SERVICE AND GEOVISION IS NOT RESPONSIBLE FOR DATA THAT MAY BE LOST OR DAMAGED DURING TRANSIT OR A REPAIR.

Warranty Form

User's Manual for GV-NVR System Lite V2

Thank you for purchasing the GV-NVR System Lite V2. To help us validate your purchase and better serve you in the future, please go to http://www.geovision.com.tw/english/4_6.asp or click **GeoVision Online Registration** in My Favorite for a direct link to register online **within 30 days from the date of purchase**. Please keep this copy for your records.

Name: First (given)	Surname (family name)
Company Name (only if the product is owned by company):	
Mailing Address:	
City/Town:	Province/State:
Country:	Postal Code:
Telephone: (O)	(H)
Fax:	
E-Mail:	
Date of Purchase: (e.g. 16-APR-2008)	
Bar Code:	
Shipment Date:	

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