

GV-DVR System V2

User's Manual





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The Windows XP Embedded is the componentized version of Microsoft Windows XP Professional, forsaking much functionality that Windows XP Professional provides and meeting the specific requirements of GV-Hot Swap DVR System V2. For details on embedded operation systems, please visit Microsoft's website.

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January 2008

User's Manual for GV-DVR System V2

Welcome to the GV-DVR System V2 User's Manual.

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

- **Chapter 1, *Introduction***

Identifies the GV-DVR V2's accessories and options.

- **Chapter 2, *Overview***

Identifies the GV-DVR V2's components.

- **Chapter 3, *Getting Started***

Provides step-by-step instructions on setting up the GV-DVR V2.

- **Chapter 4, *DVR Health Analysis***

Introduces how to collect data to obtain the service of DVR health analysis from GeoVision.

- **Chapter 5, *Troubleshooting***

Suggests courses of action if the GV-DVR V2 doesn't seem to be working properly.

The instructions and figures in this manual are based on GV-System version 8.2.

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Regulatory Notices



FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

Class A

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.



CE Notice

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

RoHS RoHS Compliance

The Restriction of Hazardous Substances (RoHS) Directive is to forbid the use of hazardous materials of production. To meet the RoHS Directive requirements, this product is made to be RoHS compliant.



WEEE Compliance

This product is subject to the Waste Electrical and Electronic Equipment (WEEE) Directive and made compliant with the WEEE requirements.

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.

Chapter 1 Introduction

1.1 Unpacking

The GV-DVR V2 package includes the following items:

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

1. GV-DVR System V2 x 1



2. D-Type Audio Cable x 2
(1 x 1-8 Channels Red Cable, 1 x 9-16 Channels Red Cable)



3. RJ-11 to DB9 Cable x 1



4. Lock Key x 2



5. AC Power Cord x 1



6. GV-Keyboard Package x 1



7. IR Remote Control Package x 1



8. Self-Stick Rubber Pad x 4
9. Recovery DVD x 1
10. Nero Express CD x 1
11. Surveillance System Software CD x 1
12. GV-DVR System V2 User's Manual x 1
13. GV-DVR System V2 Quick Start Guide x 1
14. Surveillance System New Feature Guide x 1
15. Surveillance System Installation Guide x 1

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

1.2 Models

The GV-DVR V2 has the following models:

GV-2016S V2	- Sixteen-channel digital video recorder - Records up to 480 (NTSC) / 400 (PAL) fps at the D1 resolution - Has the option of 1600GB, 2000GB and 3000GB internal storage
GV-2008S V2	- Eight-channel digital video recorder - Records up to 240 (NTSC) / 200 (PAL) fps at the D1 resolution - Has the option of 1200GB, 1600GB and 2000GB internal storage
GV-1480S V2	- Sixteen-channel digital video recorder - Records up to 480 (NTSC) / 400 (PAL) fps at the CIF resolution - Has the option of 900GB, 1200GB and 1600GB internal storage
GV-1240S V2	- Eight-channel or sixteen-channel digital video recorder - Records up to 240 (NTSC) / 200 (PAL) fps at the CIF resolution - Has the option of 600GB, 1200GB and 1600GB internal storage
GV-1120S V2	- Sixteen-channel digital video recorder - Records up to 120 (NTSC) / 100 (PAL) fps at the CIF resolution - Has the option of 300GB, 600GB and 1200GB internal storage

1.3 Options

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

GV-Video Loop Through Card	This card can take the video signal from the GV-DVR V2 and then split it into 16 signals while maintaining video quality. It can meet the need for multiple spot monitors.
GV-IO 12-In Card	With 12-point digital inputs, this card can expand the GV-DVR V2 up to 16 sensor inputs.
GV-IO 12-Out Card	With 12-point relay outputs, this card can expand the GV-DVR V2 up to 16 alarm outputs.
GV-Multi Quad Card	With this card, the GV-DVR V2 can connect up to 5 TV screens. The screen divisions on the TV screens can be definable.
GV-Data Capture V3 Series	GV-Data Capture V3 can integrate the GV-DVR V2 to an electronic POS system, while GV-Data Capture V3E can establish such integration through LAN or Internet.
GV-I/O USB Box	GV-I/O USB Box provides 16 inputs and 16 relay outputs, and up to 9 GV-I/O USB Boxes can chain together to expand the use. However, 16 inputs are only supported when it is used with GV-System version 8.2 or later.
GV-Hub Box	An easy way for serial port extension. This hub can add 4 RS-232/RS-485 serial ports through the GV-DVR V2's USB port.
GV-COM Box	This unit can add 1 RS-232/RS-485 serial port through the GV-DVR V2's USB port.
GV-Joystick	GV-Joystick facilitates the PTZ camera control. It can be either plugged into the GV-DVR V2 for independent use or connected to GV-Keyboard to empower the operation. However, this device can only work on GV-System version 8.2 or later.
VGA Card	With the VGA card, the dual display for monitoring and playback is made possible.
RAM	Multiple options for the amount of RAM are available to meet different needs.
Hard Disk	Multiple options for the HDD capacity are available to meet different needs.
GV-DOM (Disk on Module)	GV-DOM, a solid-state hard drive, is used for operating system and system software to get higher performance under harsh conditions.

Note: The purchased GV-series cards will be added on the GV-DVR V2 before shipment.

Chapter 2 Overview

2.1 Front View

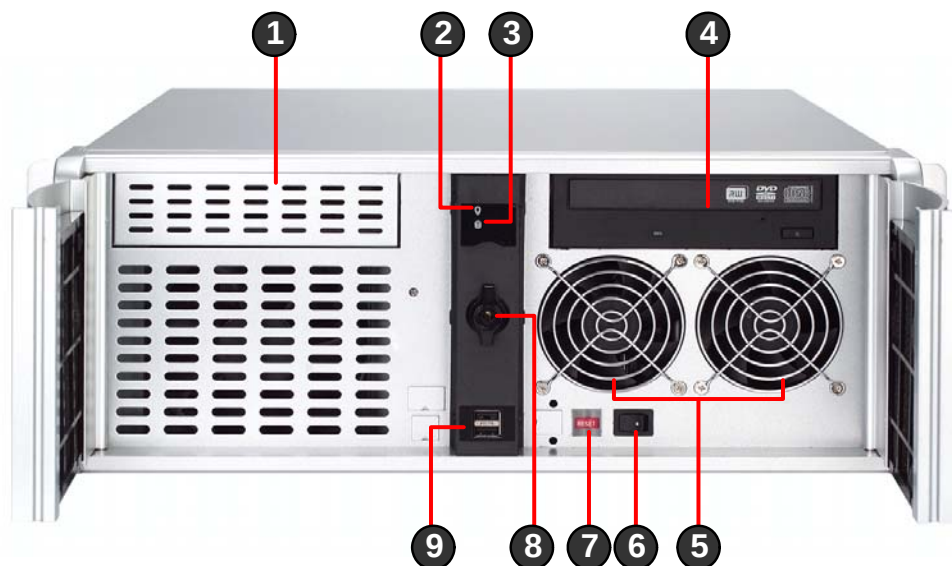


Figure 1

1	5.25" Hard Disk Compartment	6	Power Switch
2	Power LED	7	Reset Button
3	Hard Drive Activity LED	8	Key Lock
4	DVD $\pm$ RW Drive	9	USB Port x 2
5	Fan x 2		

2.2 Rear View

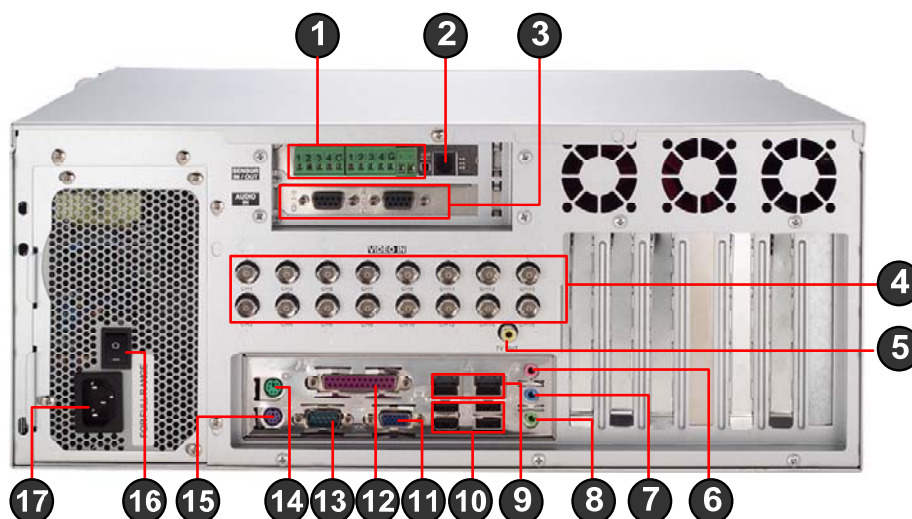


Figure 2

1	RS-485 ± for PTZ Control	10	USB Port x 4
2	RJ-11 Port	11	VGA Monitor Port
3	D-Type Audio Port x 2	12	LPT Parallel Printer Port
4	BNC Connector x 16	13	DB-9 Serial Input
5	RCA TV Output	14	PS/2 Mouse Input
6	Audio Microphone In Port	15	PS/2 Keyboard Input
7	Audio Line In Port	16	AC Power Switch
8	Audio Line Out Port	17	AC Power Input (Full Range)
9	Ethernet Port x 2		

Chapter 3 Getting Started

3.1 Basic Installation

Basic installation describes all the equipments required to program and operate the GV-DVR V2.

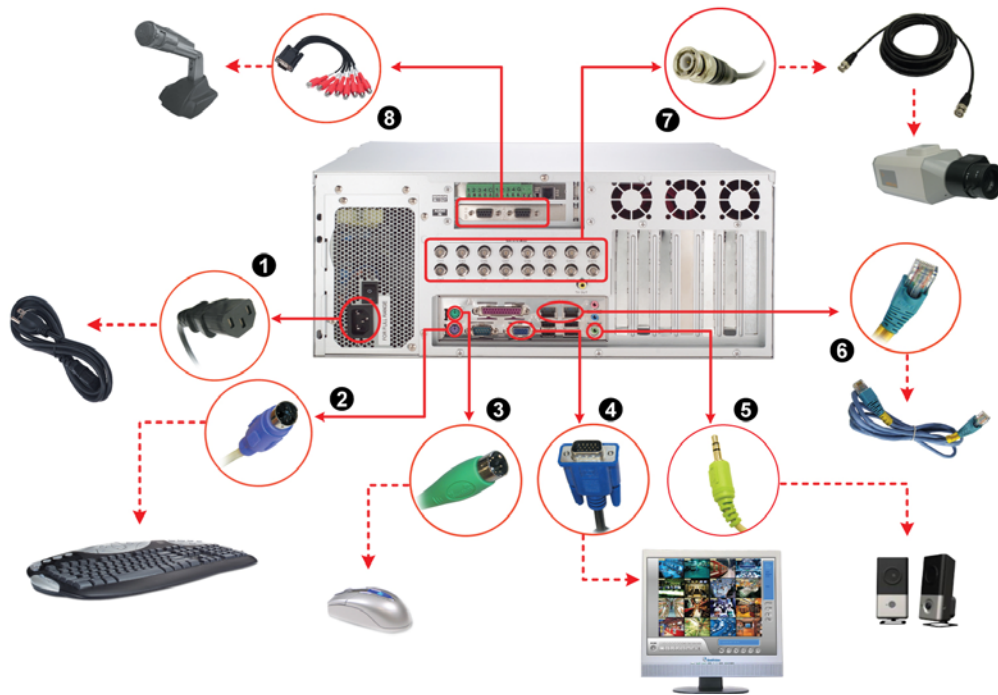


Figure 3

1. Using the supplied power cord, connect one end to the AC input and the other end to the power outlet.
2. Connect the keyboard to the PS/2 input.
3. Connect the mouse to the PS/2 input.
4. Using the VGA cable supplied by the monitor manufacturer, connect the VGA monitor.
5. For video lost beep, connect Speakers to the Audio Line Out port.
6. Using the RJ-45 cable, connect one end to the Ethernet port and the other end to Network.
7. Using the BNC video cables, connect one end to the BNC connectors and the other end to video sources.
8. Using the supplied D-type audio cables, connect one end to the audio ports and the other end to audio sources.

Note: The monitor you use must be capable of having a screen resolution of 1280 x 1024 and display color of 32 bits.

3.2 Turning on the Power

Once the above hardware is properly connected, it is the time to turn on the GV-DVR V2. To turn on the power, follow these steps:

1. Turn on the monitor.

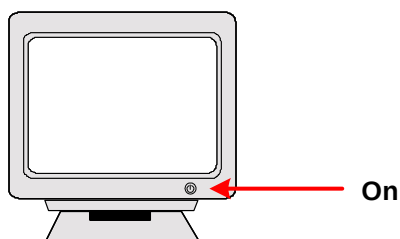


Figure 4

2. Turn on the AC power switch on the rear panel.



Figure 5

3. Turn on the main power switch on the front panel.



Figure 6

The GV-DVR V2 will run a series of self-tests. After two or three minutes, a series of messages may be displayed as the various hardware and software subsystems are activated. After this finishes, the GV-System Software (Multicam Surveillance System) should load automatically and bring you to the main screen with 8 or 16 cameras display.

3.3 Configuring an IP Address

The purpose of configuring an IP address is to support the remote monitoring, control and configuration of the GV-DVR V2 over a network connection.

The GV-DVR V2 is enabled for DHCP network. An IP address will be automatically allocated when the GV-DVR V2 is powered up. Despite the DHCP setting, it is recommended that a static IP address be configured on the unit.

The GV-DVR V2 uses Windows operating system to configure an IP address. For this, you must exit to Windows.

Note: Exiting to the Windows operating system is a protected feature. The default ID and Password is "0000".

Exit to Windows

1. Exit the main screen to display the GV-Desktop screen.

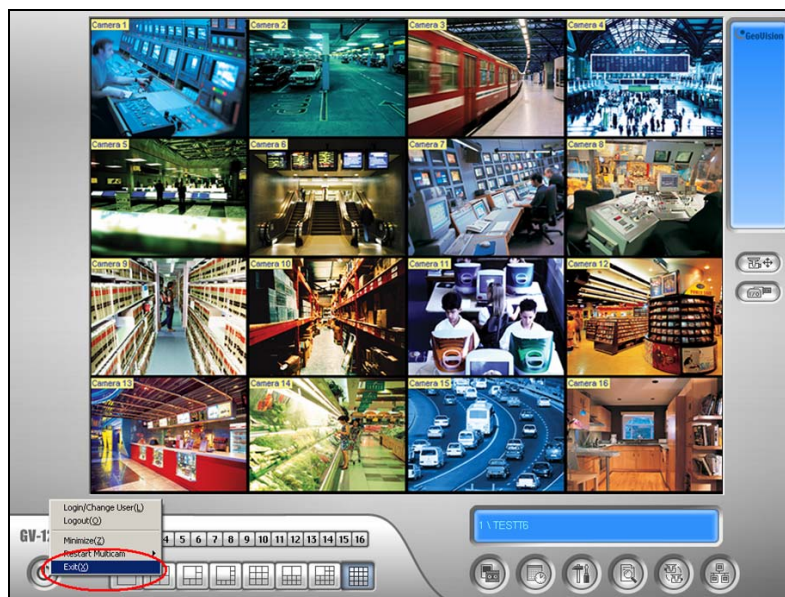


Figure 7 Exit the main screen

2. Click the **Settings** button, and enter the valid ID and Password to display the Settings dialog box.
3. Under Desktop Type, select **Windows** from the drop-down list, and click **OK**.
4. Click the **Log Off** button, and enter the valid ID and Password to display the Windows desktop.

- Configure a static IP address on the Windows XP platform. Check your network administrator if you have questions about the configuration.

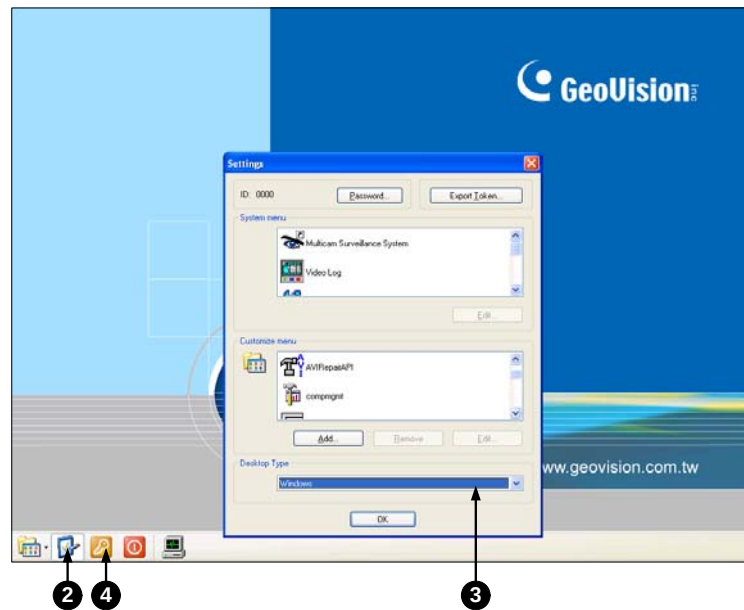


Figure 8 The GV-Desktop

Back to GV-Desktop

Click the Windows **Start** button, point to **Programs**, select **GVCombo**, and click **Key Lock Utility**.

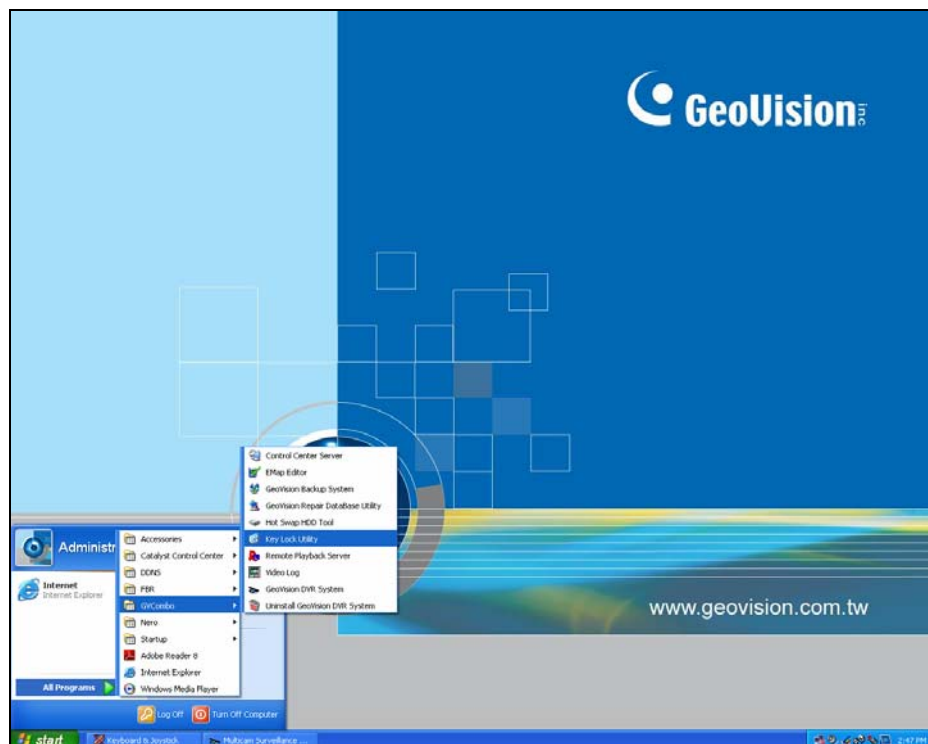


Figure 9 Windows XP desktop

3.4 Extended Installation

Beyond basic installation, the GV-DVR V2 package provides the following accessories to make your unit even more powerful and convenient:

- GV-Keyboard
- IR-Remote Control
- RJ-11 to DB9 Cable for PTZ control

GV-Keyboard

The GV-Keyboard is designed to operate the GV-DVR V2 exclusively. Using the USB cable supplied with the GV-Keyboard, plug one end into the GV-Keyboard and the other end into the assigned USB port (**COM3**) on the front of the GV-DVR V2; you can operate the Keyboard immediately without installing any drivers.

For details on the GV-Keyboard, find the *Installation Manual* included in its own package.

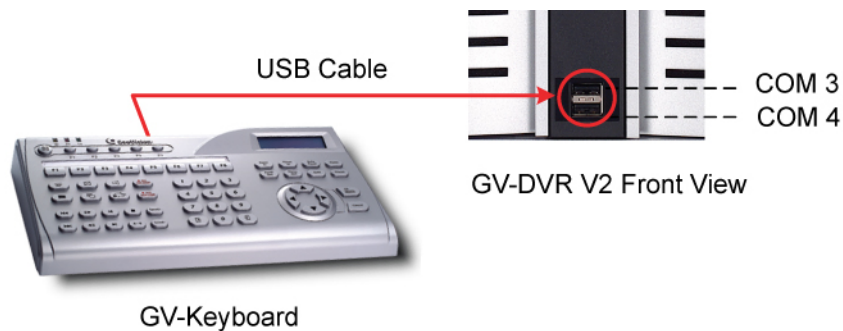


Figure 10

It is also possible to plug the Keyboard into other USB ports of the GV-DVR V2. For this, you must modify the default COM port on the Multicam Controller pop-up once the Keyboard is connected. See Figure 11-1.

To modify the default COM port:

1. Click  to stop the Keyboard service first.
2. In the Port 1 field, modify the port number from the drop-down list. For the port allocation, refer to Figure 11-2.
3. Click  to start the service.

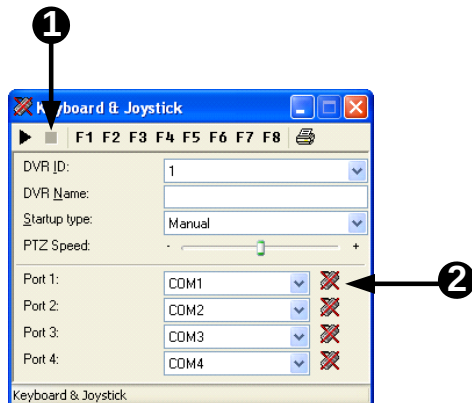


Figure 11-1

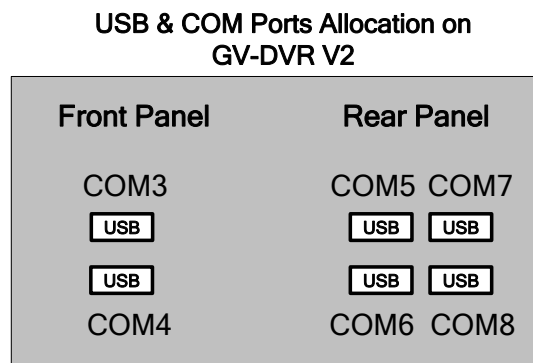


Figure 11-2

IR Remote Control

The IR Remote Control is another plug-and-play device. Simply plug the Receiver into any USB ports of the GV-DVR V2.

For details on the IR Remote Control, find the *User's Manual* included in its own package.

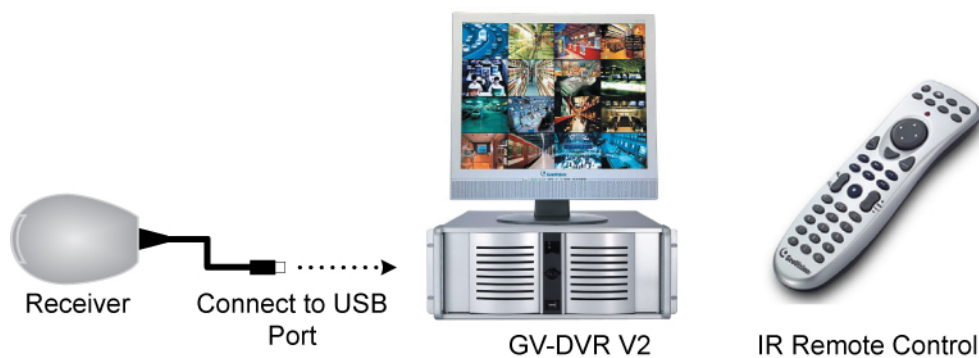


Figure 12

I/O Devices

The GV-DVR V2, with built-in GV-NET/IO Card, provides 4 alarm outputs and 4 sensor inputs.

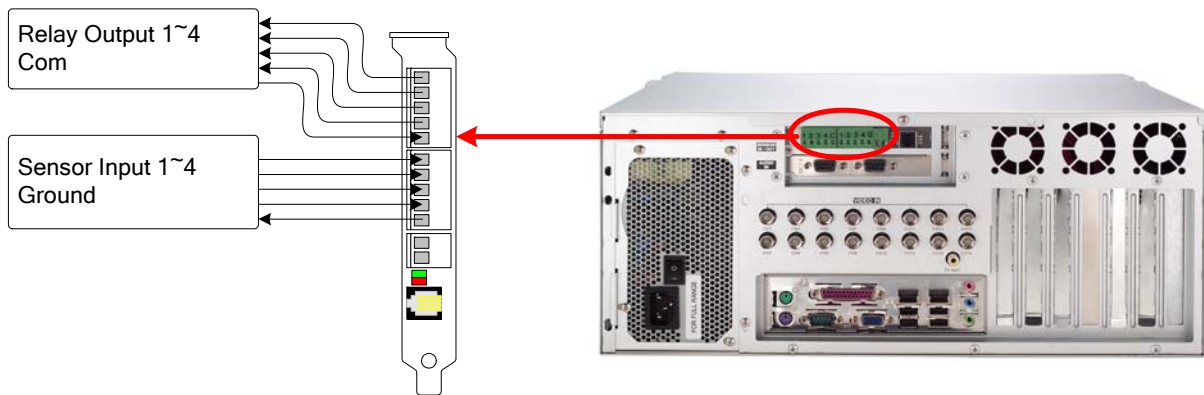


Figure 13

PTZ Domes

When connecting PTZ domes, you need to plug the supplied RJ-11 to DB9 cable into the DB9 port of the GV-DVR V2.

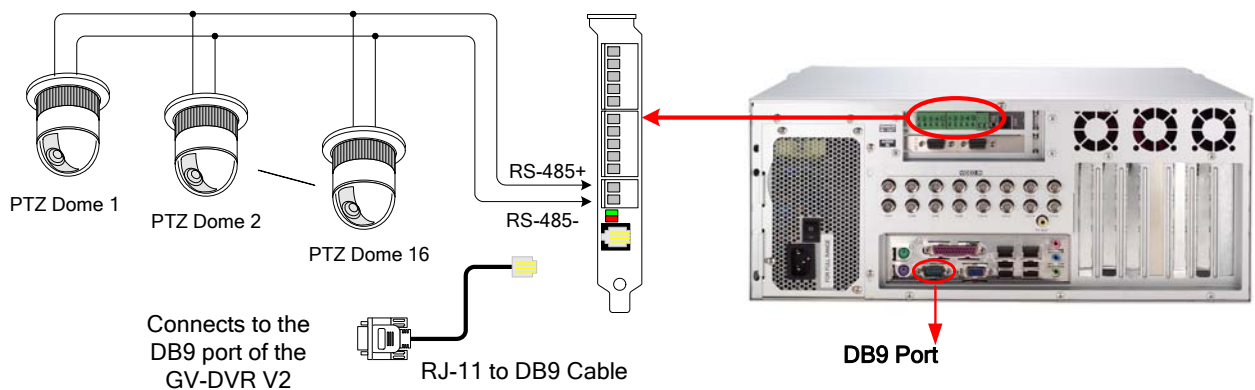


Figure 14

3.5 Recovery DVD

If preinstalled files are damaged, use the supplied Recovery DVD to restore them. To restore the operation system and all preinstalled software, follow these steps:

Note: After recovery, you need to re-install all settings and passwords. But the recovery will not delete your recording files saved in the GV-DVR V2 since it only reformats the partition C and all of your files are still stored at other partitions.

1. Insert the Recovery DVD, and restart the GV-DVR V2.
2. The message “Are you sure want to recover C partition?” will appear. Click **Yes**.

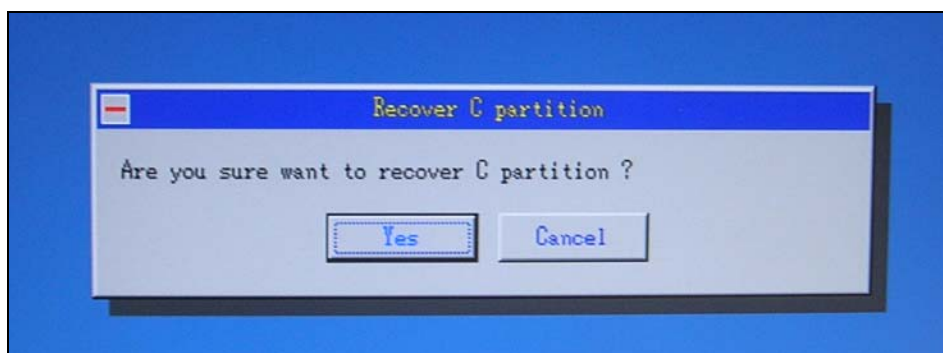


Figure 15

3. When the recovery is complete, the message “Operation completed. Please take out disks from DVD-ROM” will appear. Click **Yes**, and remove the DVD.



Figure 16

Configuring the GV-DVR V2 for PAL after Recovery

The default video standard of the Recovery DVD is set to NTSC. If the video standard in your country is PAL, remember to configure the GV-DVR V2 for PAL after using the Recovery DVD.

1. Click the **Configure** button, point to **A/V Setting**, and then select **Video Source**.



Figure 17

2. In the Video Standard field, select **PAL** from the drop-down list, and click **OK**.

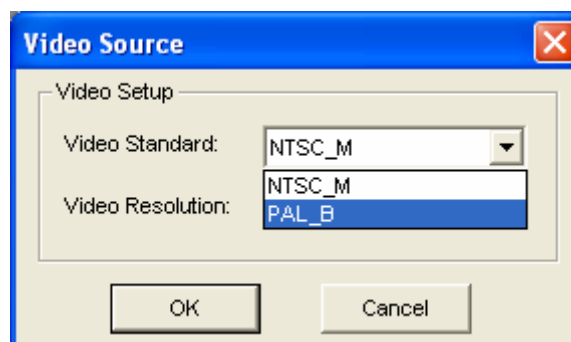


Figure 18

3.6 Updating GV-DVR System V2

GeoVision will periodically release the updated Recovery DVD including the latest GV-System Software (Multicam Surveillance System) and Windows updates. If you like to update your GV-DVR System V2, contact your dealer to get one.

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

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

Chapter 4 DVR Health Analysis

GeoVision offers health analysis to the GV-DVR 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-DVR 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)**

4.1 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.

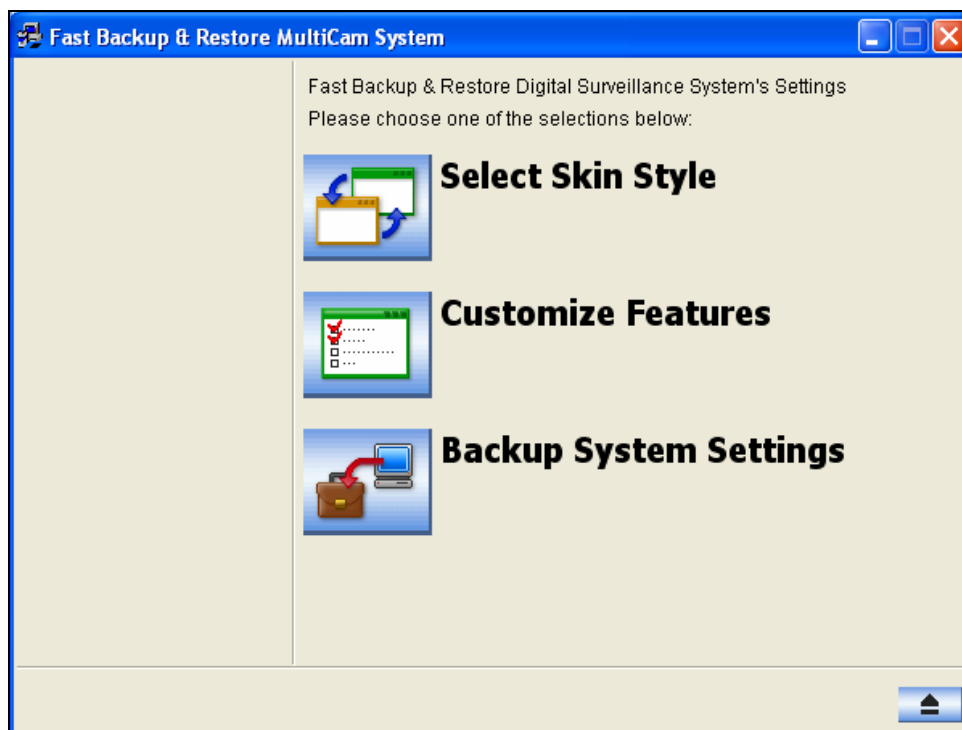


Figure 19

2. Select **Backup System Settings**. This dialog box appears.

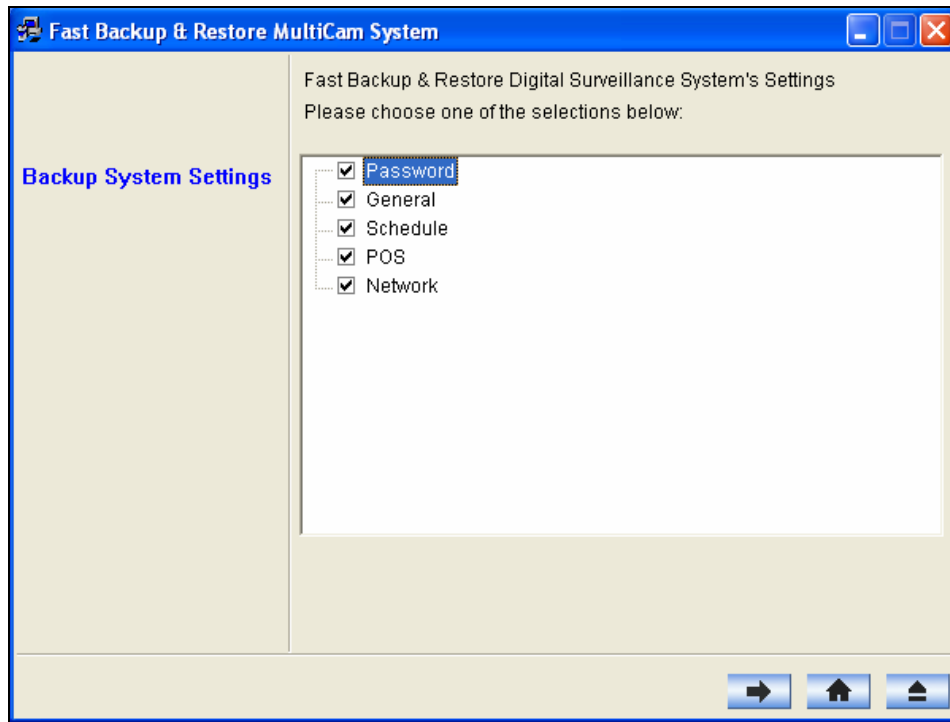


Figure 20

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 will appear: *Successfully Backup MultiCam System Settings*.

4.2 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 by the following steps:

1. Click the **Configure** button on the main system, point to **General Setting**, and then select **System Log Setting**. This dialog box appears.

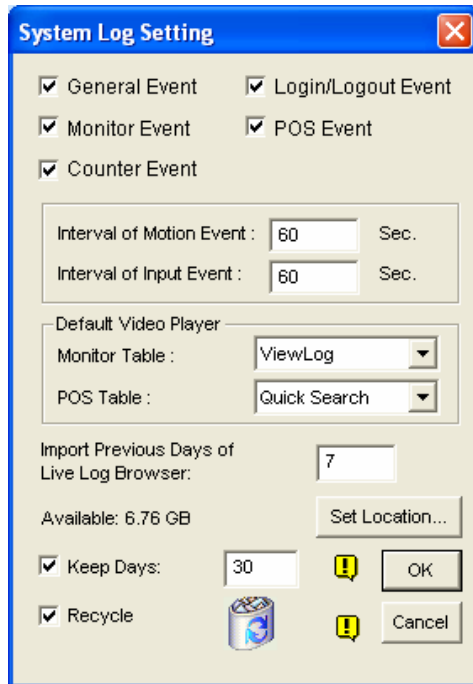


Figure 21

2. Click **Set Location**. You should see the location of your system log.

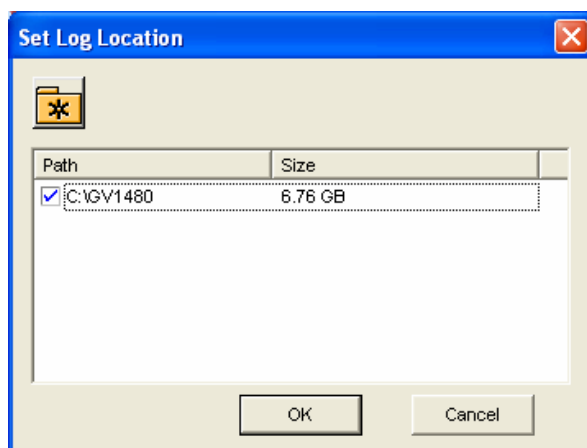


Figure 22

4.3 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 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**.

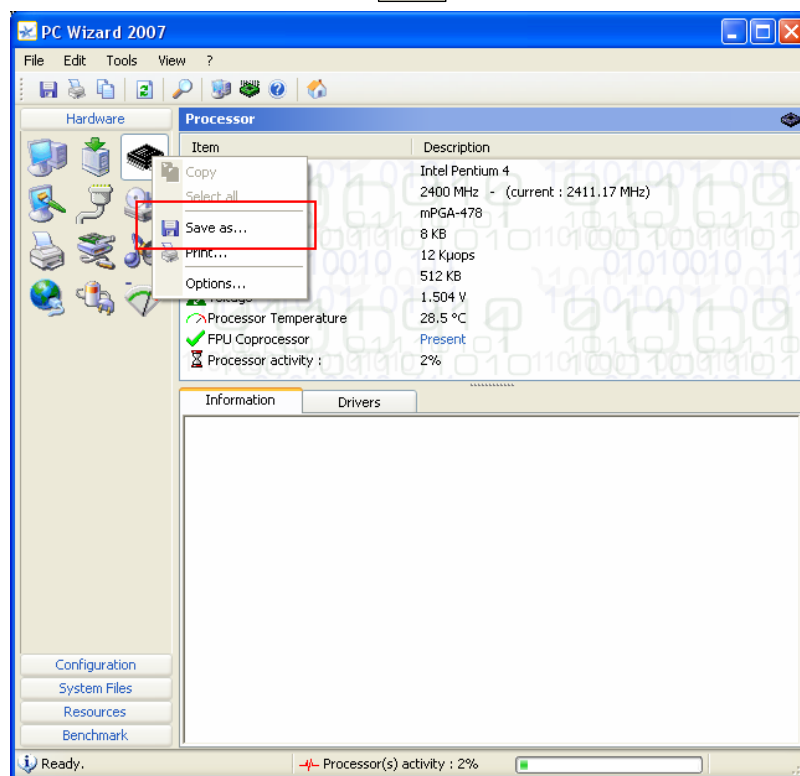


Figure 23

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

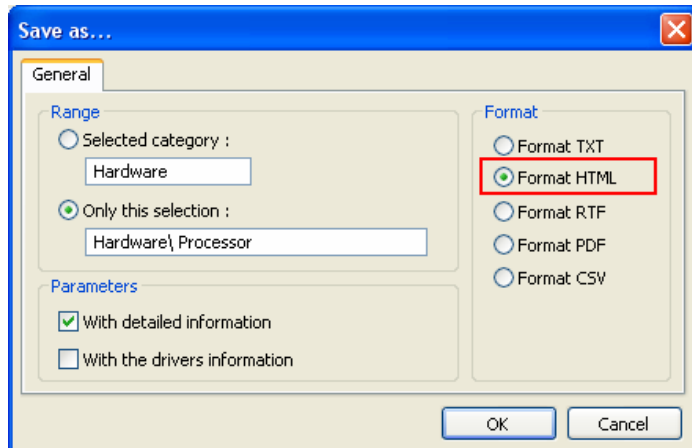


Figure 24

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.

4.4 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-DVR V2	
Contact Person:	Title:
Company Name:	
Telephone: (O)	(H)
Fax:	
E-Mail:	
Model:	
Bar Code:	

4.5 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 5 Troubleshooting

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

A portable 2.5" HDD connected to the GV-DVR V2 front panel cannot be detected.

When the portable 2.5" HDD connected to a GV-DVR V2 cannot be detected, try this step:

Use a dual head USB cable and insert both heads to the USB ports on the GV-DVR V2 front panel as illustrated below.

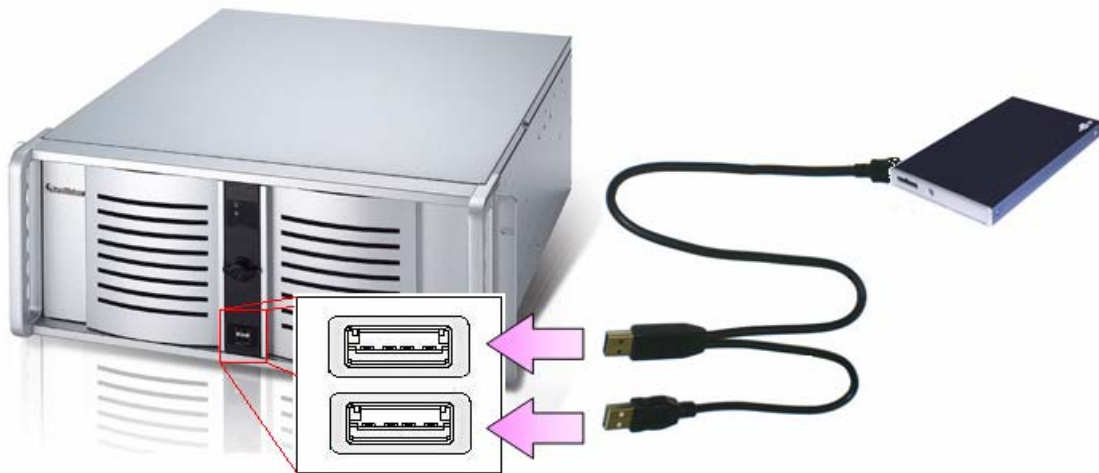


Figure 25

The Main System cannot be minimized, and the GV-Desktop toolbar fails to appear.

When the GV-DVR V2 is set up in a LAN where its router or server cannot assign the IP addresses through DHCP, the Main System may not be minimized, and the GV-Desktop toolbar may fail to appear. Try these steps:

1. Manually assign the fixed IP address to the GV-DVR V2.
 - A. Unplug the Ethernet cable, and restart the GV-DVR V2.
 - B. Go to the GV-Desktop, click the **Programs** button, and then select **Disk Management**.

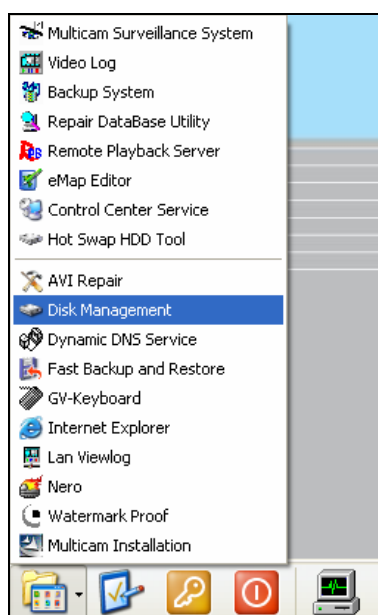


Figure 26

- C. Right-click **System (C:)**, and select **Explore**.

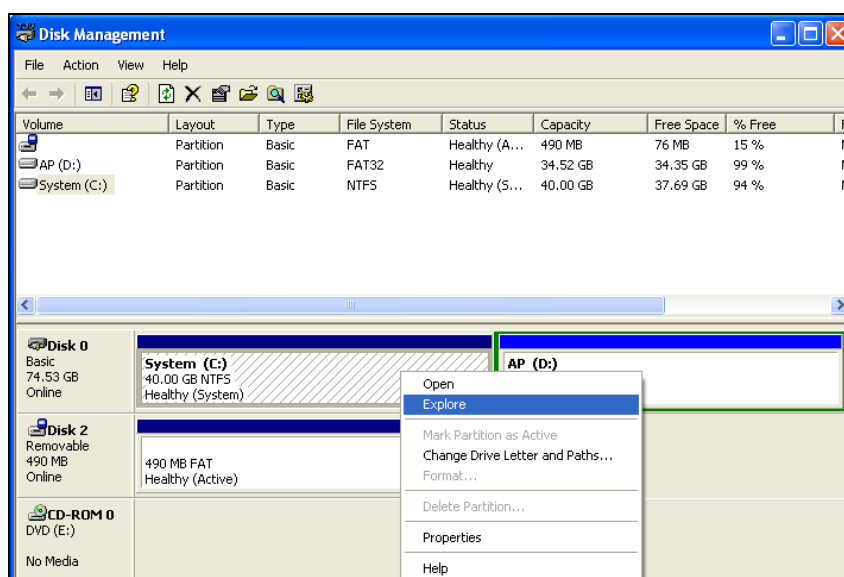


Figure 27

- D. Select **Network Connections**, right-click **Local Area Connection**, and then select **Properties**.

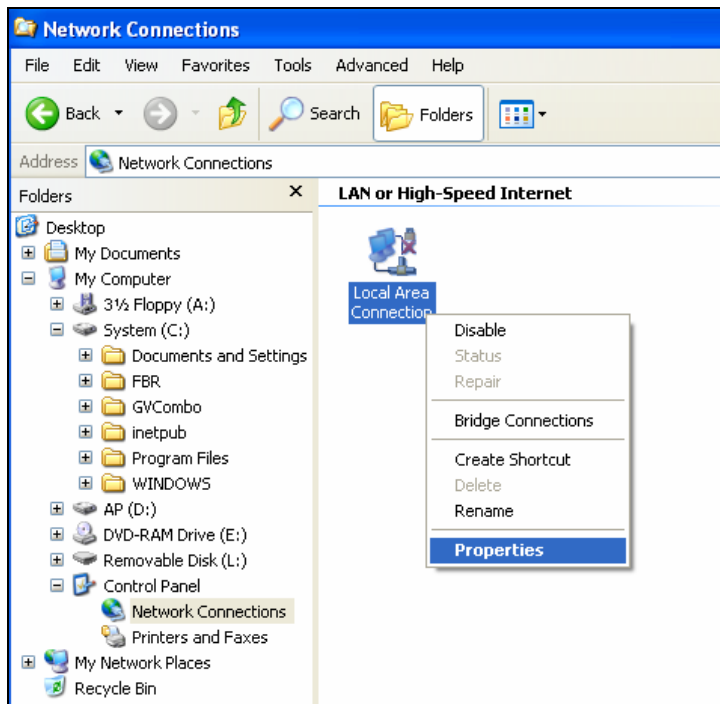


Figure 28

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

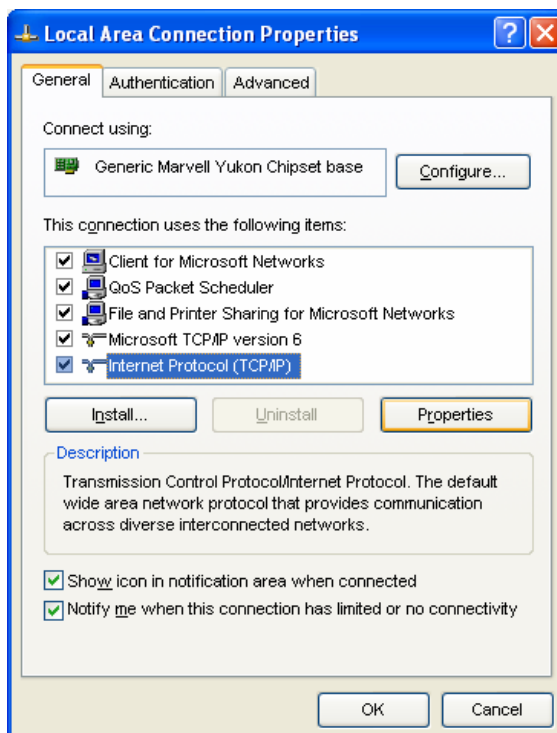


Figure 29

- F. Select **Use the following IP address**, and type the IP info in the fields.

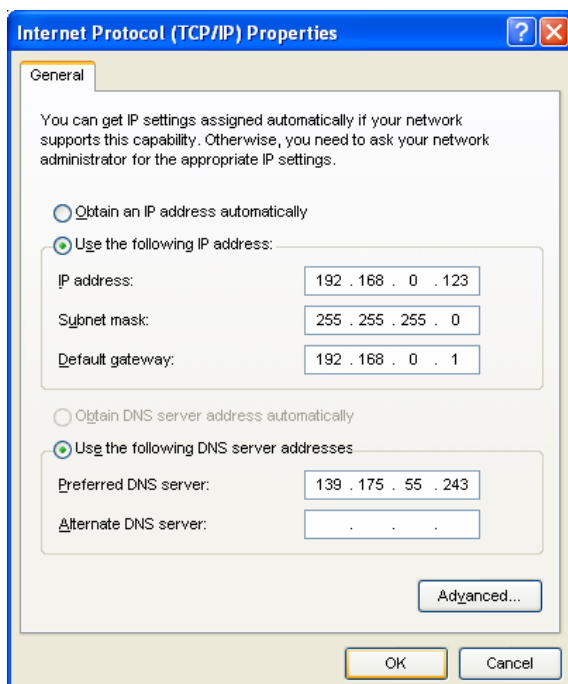


Figure 30

2. Replace the router or server that can assign the IP addresses through DHCP in a LAN.

GV-DVR V2 won't turn on.

If your GV-DVR 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 switch on the AC power on the rear panel.

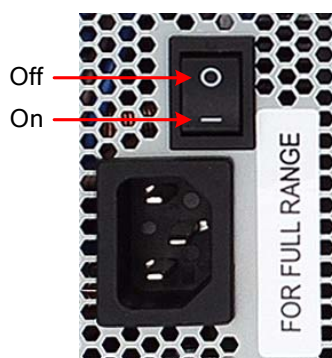


Figure 31

2. Make sure that the power cord is properly connected to both the GV-DVR 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-DVR V2 stops responding (aka “crashed” or froze).

If your GV-DVR V2 is not responding to your clicking, typing, or mouse movements, try these steps to get your GV-DVR V2 back on track. Please note that you will lose any unsaved changes in all open applications.

1. Restart your GV-DVR V2 by pressing the **Reset** button on the front panel.
2. If your GV-DVR V2 is still unresponsive, switch off the **Power** button to shut it down. Wait 30 seconds and then restart your GV-DVR V2.

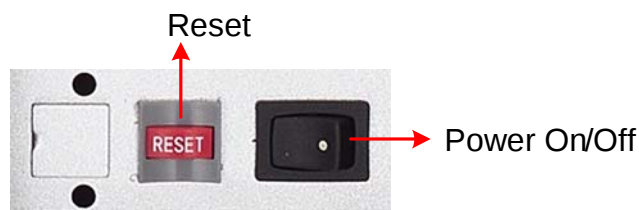


Figure 32

GV-DVR 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 Windows built-in utility to scan your hard disk for errors and attempt to fix them.

Follow these steps:

- A. On the GV-Desktop, click the **Programs** button, and select **Disk Management**. See Figure 26.
- B. Right-click the desired hard disk and select **Properties** from the file menu to display the Properties window.

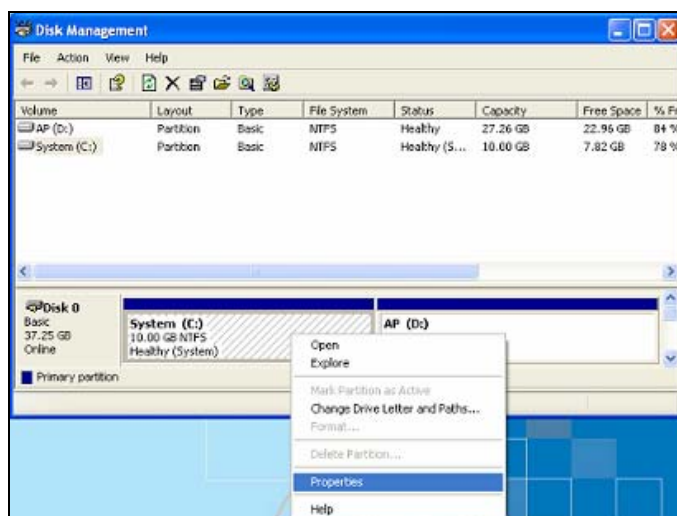


Figure 33

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



Figure 34

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

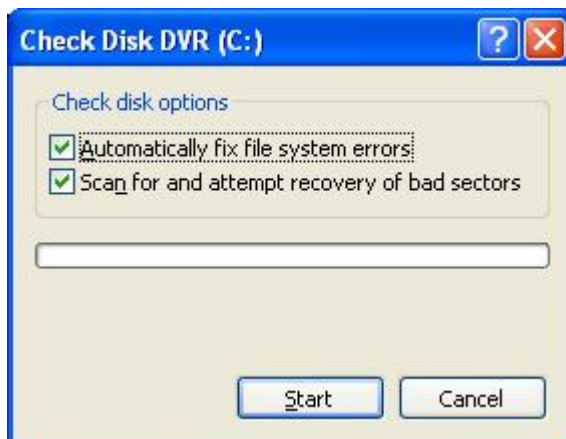


Figure 35

- F. Click **Start**.
2. If the Windows hard disk utility still cannot fix the problem in Partition C, try rebuilding the operation system and GV-System Software by using the Recovery DVD. Refer to 3.5 *Recovery DVD*.
 3. If the problem persists, replace a hard disk drive.

GV-DVR V2 suffers virus attack.

GV-DVR V2 is designed and optimized for Windows XP 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-DVR V2 suffers virus attack, try rebuilding the operation system and GV-System Software by using the Recovery DVD. Refer to 3.5 *Recovery DVD*.

GV-DVR V2 has video and/or audio lost.

If your GV-DVR V2 fails to show video, audio or both, try these steps:

1. Check the video/audio connection. Make sure one end of the D-type video/audio cable is securely connected to the video/audio device, and the other end to the video/audio port of the GV-DVR V2.
2. Make sure the video/audio device is turned on.
3. Switch the cable from the functional channel to the non-functional channel, and vice versa. If the previously non-functional channel is now able to deliver video/audio, you should check the video/audio device itself and its related cables.

The screen image appears distorted or jitters.

If the screen image seems to be distorted, jitter, or not to look right, try these steps:

1. Make sure the video standard in your country matches the setting in the GV-DVR V2. Refer to *Configuring the GV-DVR V2 for PAL after Recovery* in 3.5 Recovery DVD.
2. Make sure the camera and its cable are not damaged or frayed. Try to replace a camera or camera cable to see if this fixes the problem.

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

System

Model	GV-2016S V2	GV-2008S V2	GV-1480S V2	GV-1240S V2	GV-1120S V2
CPU	Intel Pentium Core 2 Duo Processor				
RAM	2 GB Dual Channel	1 GB Dual Channel	1 GB Dual Channel		
HDD	1600 GB	1200 GB	900 GB	600 GB	300 GB
	2000 GB	1600 GB	1200 GB	1200 GB	600 GB
	3000 GB	2000 GB	1600 GB	1600 GB	1200 GB
OS	Microsoft Windows XP Embedded				
VGA	Intel GMA 3000				
DirectX	9.0c				
DVD (±) RW	20X				
Fan	Front: 3 fans				
Power	450 W, 110-230 V, 60-50 Hz				

Note: Multiple options for the HDD capacity, amount of RAM and type of VGA are available to meet different needs. Please contact your dealer or sales representative for further information.

Video

Model		GV-2016S V2	GV-2008S V2	GV-1480S V2	GV-1240S V2	GV-1120S V2
Video Standard		NTSC, PAL				
Video Input		16 channels	8 channels	16 channels	8 / 16 channels	16 channels
Input Level		1.0 Vp-p (± 10%) composite, 75 Ω				
TV Output		1.0 Vp-p composite				
Video Loop Output (Optional)		16 channels	8 channels	16 channels	8 / 16 channels	16 channels
Compression		H/W: MPEG-2 / MPEG-4 (ASP)		Geo MPEG4 / Geo Mpeg4 (ASP) / Geo H264 / Geo H264 V2 *		
		S/W: Geo MPEG4 / Geo Mpeg4 (ASP) / Geo H264 Geo H264 V2 *				
Display Frame (Max)	NTSC	480 FPS	240 FPS	480 FPS		
	PAL	400 FPS	200 FPS	400 FPS		
Display Resolution	NTSC	360 x 240 / 720 x 480 / 720 x 480 De-interlace		320 x 240 / 360 x 240 */ 640 x 480 / 640 x 480 De-interlace / 720 x 480 / 720 x 480 De-interlace		
	PAL	360 x 288 / 720 x 576 / 720 x 576 De-interlace		320 x 240 / 360 x 288 */ 640 x 480 / 640 x 480 De-interlace / 720 x 576 / 720 x 576 De-interlace		
Camera Name		Max. 32 characters				
Screen Split Control		1x1 / 2x2 / 1+5 / 1+7 / 3x3 / 2+8 / 1+12 / 1+16 / 4x4				
Screen Rotate Control		1 ~ 10 sec.				
Image Control		Contrast / Brightness / Saturation / Hue				

Note: The functions with star marks * are only available on GV-System version 8.2.

Audio

Model	GV-2016S V2	GV-2008S V2	GV-1480S V2	GV-1240S V2	GV-1120S V2
Audio Input	16 channels	8 channels	16 channels	8 / 16 channels	16 channels
Input Level	0.5 ~ 1 Vp-p composite				
Compression	ADPCM / G.723				

Recording

Model		GV-2016S V2	GV-2008S V2	GV-1480S V2	GV-1240S V2	GV-1120S V2
Recording Frame	NTSC	H/W: 480 (D1)	H/W: 240 (D1)	S/W: 480 (CIF)	S/W: 240 (CIF)	S/W: 120 (CIF)
	PAL	H/W: 400 (D1)	H/W: 200 (D1)	S/W: 400 (CIF)	S/W: 200 (CIF)	S/W: 100 (CIF)
Image Compression Dimensions	NTSC	720 x 480 / 720 x 480 De-interlace		320 x 240 / 360 x 240  / 640 x 480 / 640 x 480 De-interlace / 720 x 480 / 720 x 480 De-interlace		
	PAL	720 x 576 / 720 x 576 De-interlace		320 x 240 / 360 x 288  / 640 x 480 / 640 x 480 De-interlace / 720 x 576 / 720 x 576 De-interlace /		
Recording Mode		Round the Clock / Motion Detection / Sensor Detection / Pre & Post Recording / Schedule Recording				
Schedule		96 groups per day by 15 min.				
Instant Playback		10 sec. / 30 sec. / 1 min. / 5 min.				
Pre Recording		1~ 90 sec. (1 FPS)				
Water Marking		Support				

Note: The functions with star marks ★ are only available on GV-System version 8.2.

Searching and Playback

Search Method	Date / Time
Date / Time / Event Search	Selectable on the tree list and calendar
Log Search	Through the log data to find the video event / time
Backup Type	DVD+R (DL) / DVD-R (DL) / DVD+R / DVD+RW / DVD-R / DVD-RW / CD-R / CD-RW

Remote Client Software

Monitoring Environment	WebCam / Twin Server / CenterV2 / VSM / Control Center / Remote Playback Server / Remote View / IP Multicast / GView V2 for PDA / MSView V2 for Windows Mobile 5.0 / MSView V3 for Windows Mobile 6.0 */ SSVIEW V2 for Symbian Smartphone / SSVIEW V3 for Nokia S60 2nd and 3rd / 3G Mobile Phone
WebCam Live View	Max. 16 channels transmission (Max. 200 channels accessible)
Remote Search	WebCam's Remote Playback / Remote Playback Server

Note: The functions with star marks * are only available on GV-System version 8.2.

System Monitoring and Recovery

Power Restoration	Power restored after AC power loss
Monitoring	Two independent Watchdogs (Hardware Watchdog + Software Watchdog)
Recovery DVD	Automatic system rebuild

Alarm

Sensor Input	Standard	4 inputs
	GV-IO 12-In Card (Optional)	16 inputs
	GV-IOUSB Box (Optional)	8 ~ 72 inputs 16 ~ 144 inputs (only with GV-System version 8.2 or later)
Alarm Output	Standard	4 outputs
	GV-IO 12-Out Card (Optional)	16 outputs
	GV-IOUSB Box (Optional)	16 ~ 144 outputs
Motion Detection	16 channels	

Connector

Video Input	BNC 8 / 16 ports
Video Loop Output (Optional)	BNC 16 ports
Audio Input	RCA 8 / 16 ports
Audio Microphone In	Mini stereo jack
Audio Output	Mini stereo jack
TV Output	RCA
RS±485 for PTZ Control	2-pin terminal
Ethernet	RJ-45, 10/100/1000 Mbps x 2
USB 2.0	Front: 2 ports, Rear: 4 ports
VGA Output	15-pin female D Sub
Remote Access	TCP/IP

Environment

Operating Temp.	0 ~ 50 °C (32 ~ 122 °F)
Humidity	0 ~ 80% RH (non-condensing)

Physical

Model	GV-2016S V2	GV-2008S V2	GV-1480S V2	GV-1240S V2	GV-1120S V2
IPC Case	4U Rackmount				
Color	Silver				
Dimensions	483 (W) x 178 (H) x 528 (D) mm (19 x 7 x 21 inch)				
Weight	300GB				17 Kg
	600GB			17.6 Kg	17.6 Kg
	900GB		18.2Kg		
	1200GB	18.9 Kg	18.8 Kg	18.8 Kg	18.8 Kg
	1600GB	19.2 Kg	19 Kg	18.9 Kg	
	2000GB	19.3 Kg	19.1 Kg		
	3000GB	19.5 Kg			

Language

Type	English / Czech / French / German / Hebrew / Hungarian / Italian / Japanese / Polish / Portuguese (Brazil) / Russian / Spanish / Simplified Chinese / Traditional Chinese
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Product design and specifications are subject to change without notice.

Warranty Policy

Warranty Coverage

GeoVision, Inc. warrants **GV-DVR System V2, IR Remote Control, and GV-Keyboard** against defects in materials and workmanship for a period of TWO (2) years from the date of purchase.

Other packaged accessories and software (including but not limited to System Software) are excluded.

If a defect where due to causes attributable to GeoVision arises and a valid claim is received by GeoVision within the Limited Warranty Period, at its option, GeoVision will (1) repair the product at no charge, using new or refurbished replacement parts, or (2) exchange the product 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 product.

GeoVision warrants replacement parts or repairs for thirty (30) days from the date of GeoVision shipment or for the remainder of the Limited Warranty 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.

Exclusions and Limitations

The Customer shall have no coverage or benefits under this Limited Warranty if any of the following conditions are applicable:

1. The product has been subjected to abnormal use, failure to follow the instructions prescribed in User's Manuals, improper storage, improper packaging, improper maintenance, unauthorized modifications, unauthorized repair, misuse, neglect, abuse, accident, alternation, improper hardware/software installations, or other acts due to causes not attributable to GeoVision, including damage caused by shipping.
2. The product was not purchased from an authorized distributor or agent.
3. The product has been damaged from exposure to rain, flood, storm, moisture, dampness, weather conditions, an Act of God, force majeure, improper use of any electrical source, or the connection to other products not recommended for interconnection by GeoVision.
4. Defects or damage caused due to virus attack.
5. The product bar code on the system case has been removed, defaced or altered.
6. The system case has been opened.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, WHETHER ORAL OR WRITTEN, EXPRESS OR IMPLIED. THE WARRANTY IS LIMITED TO REPAIR OR EXCHANGE THE PRODUCT AT GEOVISION'S OPTION. OTHER EXPRESSED OR IMPLIED WARRANTIES FOR THIS PRODUCT, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED IN DURATION TO THE WARRANTY PERIOD. NO WARRANTIES EXPRESSED OR IMPLIED WILL APPLY AFTER THIS PERIOD. GEOVISION SHALL NOT BE LIABLE FOR SPECIAL, DIRECT, INDIRECT, CONSEQUENTIAL DAMAGES. GEOVISION SHALL NOT BE LIABLE FOR LOST PROFITS, LOST OF DATA, PROGRAMS OR OTHER INFORMATION, DAMAGE TO OTHER PROPERTY CAUSED BY ANY DEFECTS OF THIS PRODUCT, OR DAMAGES BASED UPON INCONVENIENCE, LOSS OF PRODUCT USE, LOSS OF TIME, COMMERCIAL USE, INCIDENTAL AND/OR CONSEQUENTIAL DAMAGES FOR THE BREACH OF ANY EXPRESSED OR IMPLIED WARRANTY, INCLUDING DAMAGES TO PROPERTY, AND TO THE EXTENT PERMITTED BY LAW, DAMAGES FOR PERSONAL INJURY, OR OTHERWISE, EVEN IF GEOVISION HAS BEEN ADVISED OF THE POSSIBILITIES OF SUCH DAMAGES.

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 operation system and GV-System by using the Recovery DVD.
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
- Recovery DVD version
- 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-DVR SYSTEM V2 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

Thank you for purchasing the GV-DVR System 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-2007)	
Product: <u>Please check the item you purchased.</u>	
☐ GV – 2016S V2 – 16 Port – 1600 GB ☐ GV – 2016S V2 – 16 Port – 2000 GB ☐ GV – 2016S V2 – 16 Port – 3000 GB	☐ GV – 2008S V2 – 8 Port – 1200 GB ☐ GV – 2008S V2 – 8 Port – 1600 GB ☐ GV – 2008S V2 – 8 Port – 2000 GB
☐ GV – 1480S V2 – 16 Port – 900 GB ☐ GV – 1480S V2 – 16 Port – 1200 GB ☐ GV – 1480S V2 – 16 Port – 1600 GB	☐ GV – 1240S V2 – 16 Port – 600 GB ☐ GV – 1240S V2 – 16 Port – 1200 GB ☐ GV – 1240S V2 – 16 Port – 1600 GB
☐ GV – 1240S V2 – 8 Port – 600 GB ☐ GV – 1240S V2 – 8 Port – 1200 GB ☐ GV – 1240S V2 – 8 Port – 1600 GB	☐ GV – 1120S V2 – 16 Port – 300 GB ☐ GV – 1120S V2 – 16 Port – 600 GB ☐ GV – 1120S V2 – 16 Port – 1200 GB

Bar Code:

Shipment Date:

GeoVision, Inc.

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