GeoVision inc
The Vision of Security

Surveillance System

Quick Start Guide V8.5

Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.

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July 2011

Contents

Important Notice for V8.5

GPU Decoding Specifications

In V8.5, support for GPU (Graphics Processing Unit) decoding is added to lower the CPU loading and to increase the total frame rate supported by a GV-System. GPU decoding only supports the following software and hardware specifications:

Software Specifications

	Supported	Not Supported
Operating System	Windows Vista (32-bit) / 7 (32 / 64-bit) / Server 2008 R2 (64-bit)	Windows 2000 / XP / Server 2008 (32 / 64-bit)
Resolution	1 M / 2 M	CIF / VGA / D1 / 3M / 4M / 5M
Codec	H.264	MPEG4 / MJEPG
Stream	Single Stream	Dual Stream
Note: To apply GPU decoding, the recommended memory (RAM) requirements is 8 GB or more for 64-bit OS and 3 GB for 32-bit OS.		

Hardware Specifications

Motherboard	Sandy Bridge chipset with onboard VGA (external VGA cannot be installed) Ex: Intel® Q67, H67, H61, Q65, B65, Z68 Express Chipset.

Multi-Channel Playback Specifications

In V8.5, multi-channel playback in ViewLog has been enhanced to improve the smoothness of the video by producing higher frame rate. However, playing back multiple channels at high resolution can increase the CPU loading especially if the GV-System is processing other tasks simultaneously. As a result of the high CPU loading, dropped frames may sometimes occur in recorded video when playing back multiple megapixel channels.

To avoid the problem, **it is recommended to play back megapixel video in single view**.

Important Notice before Using GV-Video Capture Card

1. **Exclusions:**

- Currently GV-Video Capture Cards are not compatible with **VIA-series**, **ATI-series** chipset motherboards.

  If your GV-Video Capture Card or GV-System works in conjunction with the following GV accessories, note the limitation that **these accessories do not support 64-bit Windows versions currently: GV-Multi Quad Card**, **GV-Keyboard V1 / V2**.

2. **Hard Disk Requirements:**

- It is strongly recommended to use two separate hard disks. One is for installing Windows operating system and GV-System software, and the other is for storing recorded files.
- The total of recording frame rates that you can assign to a single hard disk is listed as below:

  Frame rate limit in a single hard disk when connecting to analog cameras

  ■ Software Compression

Video resolution	MPEG4	
	NTSC	PAL
CIF	480 fps	400 fps
VGA/D1	240 fps	200 fps
Turbo VGA	416 fps	400 fps
Turbo D1	352 fps	320 fps

  ■ Hardware Compression

Video resolution	H.264	
	NTSC	PAL
D1	240 fps	200 fps

Frame rate limit in a single hard disk when connecting to IP cameras

Video Resolution	MJPEG		H.264		MPEG4	
	Frame Rate	Bit Rate	Frame Rate	Bit Rate	Frame Rate	Bit Rate
2560x1920 (5M)	30 fps	102.26 Mbit/s	240 fps	21.24 Mbit/s		
2560x1600 (4M)	60 fps	73.49 Mbit/s	240 fps	15.28 Mbit/s		
2048x1536 (3M)	60 fps	64.73 Mbit/s	480 fps	10.52 Mbit/s		
1600x1200 (2M)	120 fps	41.16 Mbit/s	480 fps	9.16 Mbit/s		
1280x960 (1.3M)	200 fps	30.04 Mbit/s	480 fps	5.77 Mbit/s	480 fps	6.30 Mbit/s
640x480 (VGA)	480 fps	11.42 Mbit/s	640 fps	2.54 Mbit/s	640 fps	3.27 Mbit/s
320x240 (CIF)	480 fps	5.16 Mbit/s	640 fps	0.75 Mbit/s	640 fps	1.03 Mbit/s

Note: The above data was determined using the bit rate listed above and hard disks with average R/W speed above 80 MB/s.

The frame rate limit is based on the resolution of video sources. The higher video resolutions the lower frame rates you can assign to a single hard disk. In other words, the higher frame rates you wish to record the more hard disks you need to install. For the information of recording frame rates, you may consult the user's manual of the GV-System or the IP camera that you wish to connect to.

- The hard disk space required to install GV-System must be at least 1 GB.
- To use Advance Video Analysis, at least 1 GB of memory is required.
- To use two or more of the following functions simultaneously, at least 2 GB of memory is required: Advance Video Analysis, Video Analysis, IP Camera and Pre-Record by Memory.

3. CPU Requirements:

- For recording resolution of 640 x 480 or above, Pentium 4 processor with Hyper Threading is required.

4. Default Settings:

- For software recording rates, all GV Cards are set to CIF. For hardware recording rates, GV-4008A / 4008 / 3008 Card is set to D1.

5. **The Card with PCI-E Interface:**

- All GV-Video Capture Cards with PCI-E Interfaces have x1 interface which can be inserted into the PCI Express x1, x4, x8 or x16 slot.

6. **GV-600A, GV-650A and GV-800A:**

- Starting from V8.3.2, GV-600 (V4), GV-650 (V4) and GV-800 (V4) are renamed to GV-600A, GV-650A and GV-800A. These V4 Cards and A Cards are the same video capture cards.

7. **End of Support:**

- Starting from V8.3, GV-System will not support **GV-250 Card**, **GV-Hybrid DVR (MPEG2) Card** and **GV-DSP Card**.
- Starting from V8.3.2, GV-System will not support **GV-2004 Card**.
- Starting from V8.3.2, GV-System will not support **MPEG2** codec.
- Starting form V8.3.3, GV-System will not support **GV-2008 Card**.
- Starting from V8.4, GV-System will not support **Windows 2000**.

Chapter 1 Video Capture Cards

This chapter includes the following information:

- **Minimum system requirements**
- **Packing list**
- **Connection diagrams**
- **Specifications**
- **Driver installation**
- **Comparison chart**

1.1 GV-4008

The GV-4008 Card provides up to 8 video and 8 audio channels, recording up to 240 / 200 fps (NTSC / PAL) in total with H.264 hardware compression. The new technology of resolution is employed to enhance the live image of D1 without DSP Overlay. Even in screen divisions, the largest division can remain at the high-quality D1 resolution.

Minimum System Requirements

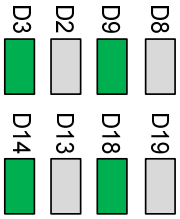
OS	32-bit	Windows XP / Windows Vista / Windows 7 / Windows Server 2008	
	64-bit	Windows 7 / Windows Server 2008	
CPU		GV-4008	Core 2 Duo, 2.33 GHz
		GV-4008 x 2	Core 2 Quad, 2.4 GHz
RAM		GV-4008	2 x 1 GB Dual Channels
		GV-4008 x 2	
HDD		GV-4008	250 GB
		GV-4008 x 2	500 GB
VGA		ATI Radeon X1300 PCI-E / NVIDIA GeForce 7300 PCI-E	
DirectX		9.0c	
Power Supply		400 Watts	

Packing List

1. GV-4008 Card x 1
2. 1-8 Cam Audio BNC Cable with BNC Male to RCA Female Adaptors x 1
3. 1-8 Cam Video BNC Cable x 1
4. Hardware Watchdog Jumper Wire x1
5. SATA Power Converter Cable x 1
6. USB Dongle x 1
7. Software DVD x 1
8. Surveillance System Quick Start Guide x 1

Connecting One GV-4008 Card

- Connect the video and audio cables to the GV-4008 Card.
- Using the supplied SATA Power Converter Cable, connect the GV-4008 Card to power supply. The Power LED in the top right corner should be lit in green and the 4 status LEDs (D3, D9, D14, D18) in the left corner should be lit in green to indicate the normal functionality.



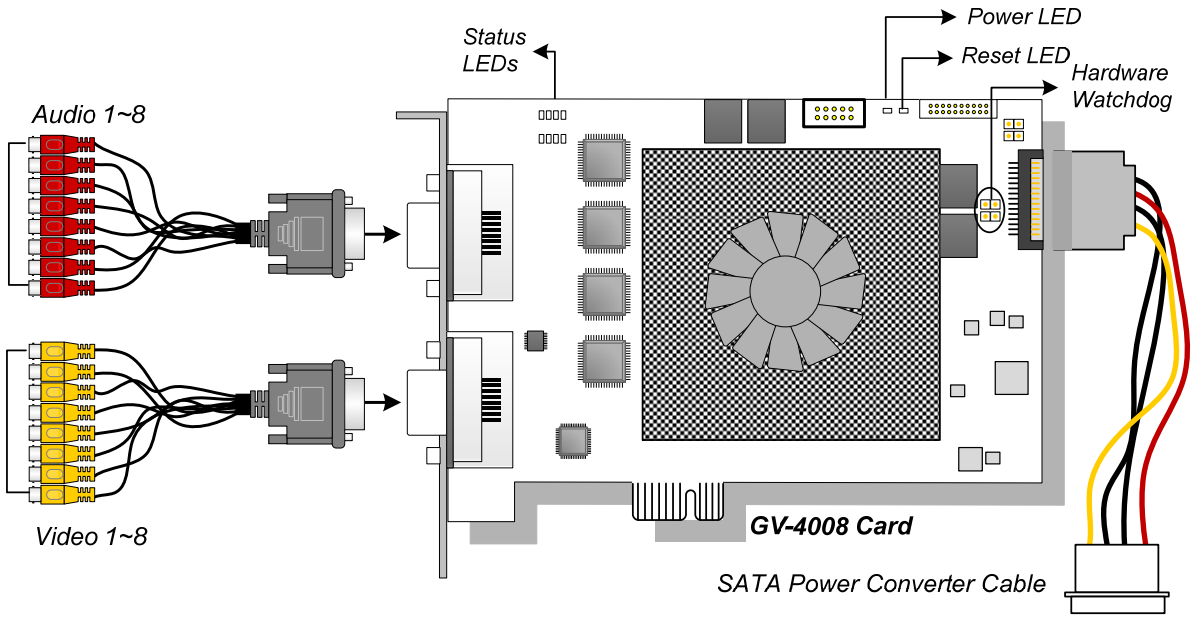


Figure 1-1

Note:

1. The GV-4008 Card only works when the supplied USB Dongle is inserted to PC.
2. The GV-4008 Card cannot work with microphones which acquire power from the PC. Use microphones which have external power supply.

Connecting Two GV-4008 Cards

You can install two GV-4008 Cards for a total of 16 channels. Master Card is the card with 1-8 channels and Slave Card is that with 9-16 channels. Normally, the card attached to the lower PCI slot number will act as Master, and the card attached to the higher PCI slot number will act as Slave.

- **Hardware Watchdog Connection:** Connect the supplied Hardware Watchdog Jump Wire to the Master Card only (Figure 1-3).
- **Accessory Card Connections:** To work together with GV-4008 Cards, GV-NET/IO Card V3.1 must be set in the I/O Box Mode and connected to the PC through USB**.**

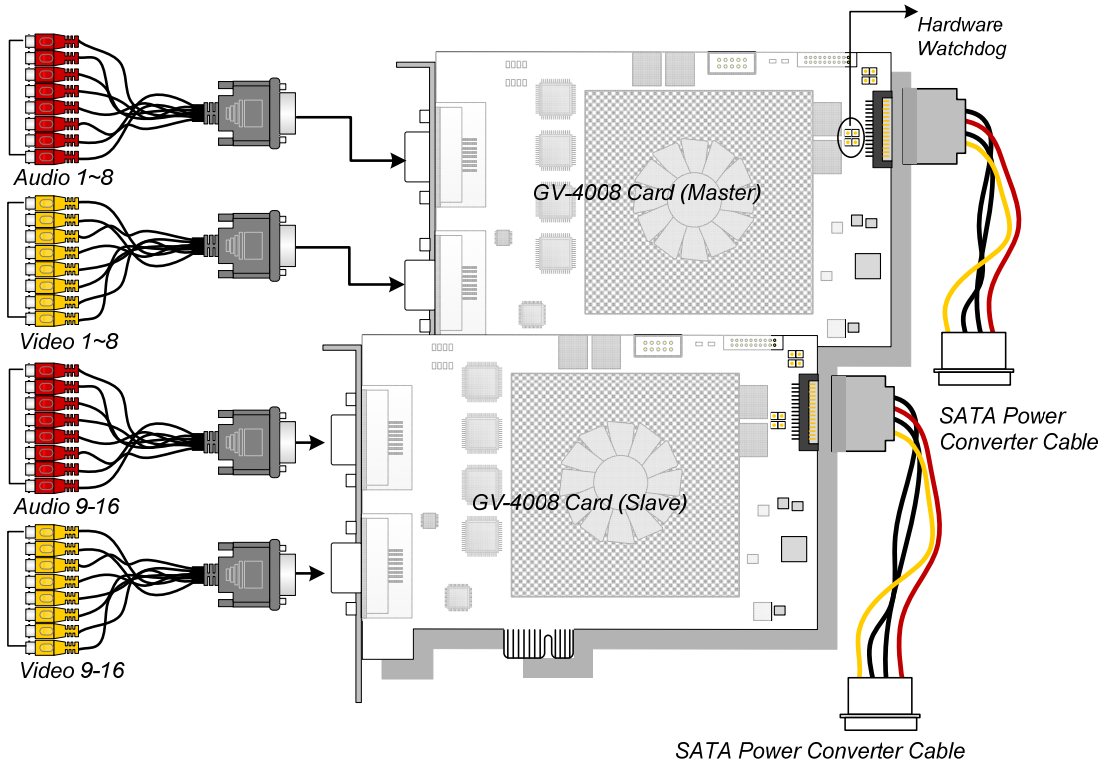


Figure 1-2

Connecting Hardware Watchdog

Insert the Hardware Watchdog Jumper Wire to the 2-pin connectors on the Card. The (+) pin on the Card must connect to the Reset (+) pin on the motherboard, and the (-) pin on the Card to the Ground (-) pin on the motherboard. Ensure the connection is correct; otherwise the hardware watchdog will be damaged.

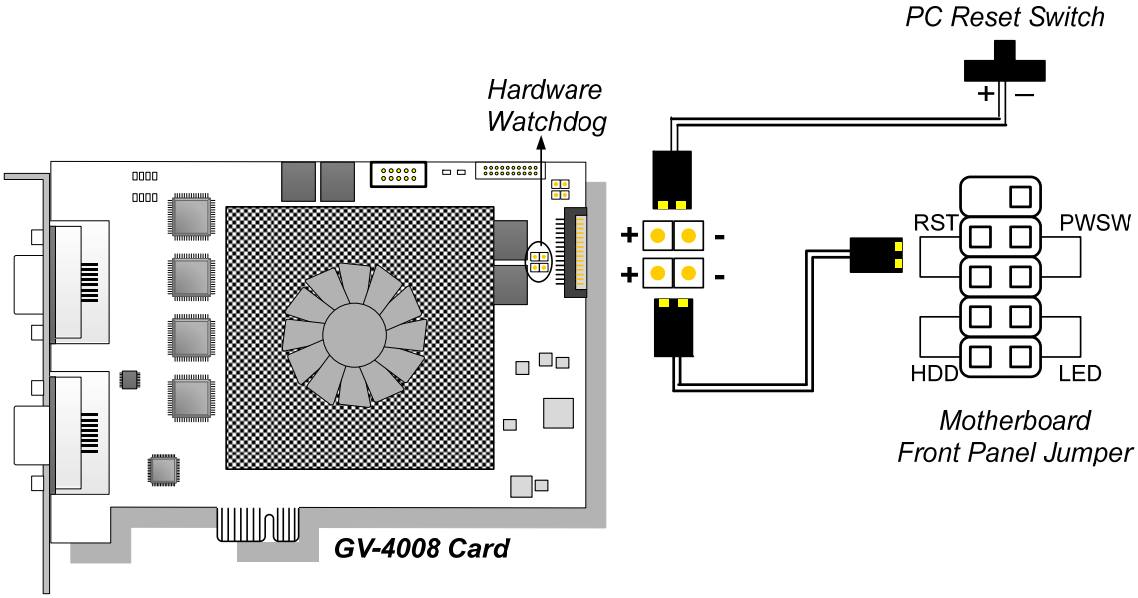


Figure 1-3

Note: To locate the motherboard's Reset (+) pin and (-) pin, please refer to the motherboard's user manual.

Installing Drivers

After installing the GV-4008 Card in the computer, insert the software DVD to install GV-Series drivers. The DVD will run automatically and an installation window will pop up. Select **Install or Remove GeoVision GV-Series Driver**, and select the following two options to install card and USB dongle drivers.

- **Install or Remove GeoVision GV-Series Card Drivers:** installs card drivers.
- **Install GeoVision USB Device Drivers:** installs USB dongle drivers.

Note: For the installation of two GV-4008 cards, it is required to restart the computer after the driver is installed.

To verify the drivers are installed correctly, go to Windows Device Manager and see if their entries are listed. The image below is an example of installing one GV-4008 card.

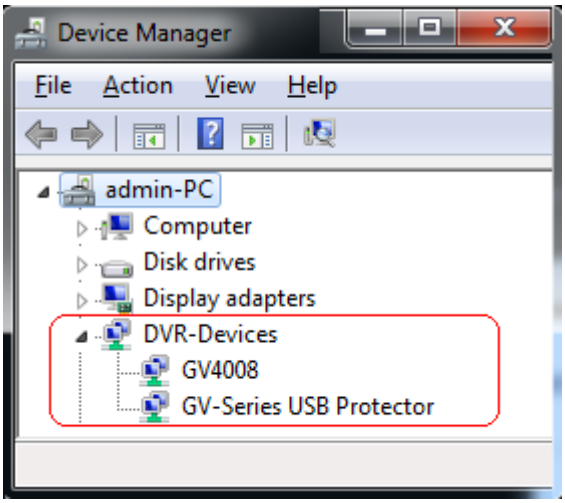


Figure 1-4

Expand the **DVR-Devices** field, you can see:

GV-4008 Card	Entry
Single-card mode	GV4008 GV-Series USB Protector
Two-card mode	GV4008 GV4008 GV-Series USB Protector

Troubleshooting Power Supply Issues

When the **Reset LED** on the top of the Card is flashing red color or the four **Status LEDs** are not all on, it indicates that the GV-4008 Card is short of power supply. Make sure your power supply is of 400 watts at least. If not, replace it with the power supply of 400 or larger watts. The power supply issues should be solved.

Adjusting the Video Settings in the Main System

One distinct feature of GV-4008 Cards is their ability of hardware compression, providing you with higher system performance and DVD recording quality.

To take full advantage of GV-4008 Cards, you can adjust the video settings, including the recording quality and frame rate, before running the GV-System.

Setting up the video settings of the recorded files:

Considering computer performance or recording quality, you may adjust the settings to meet your needs.

1. On the Main System, click the **Configure** button, select **System Configure**, select **Camera Install**, and click **Hardware Compression Setup**. This dialog box appears.

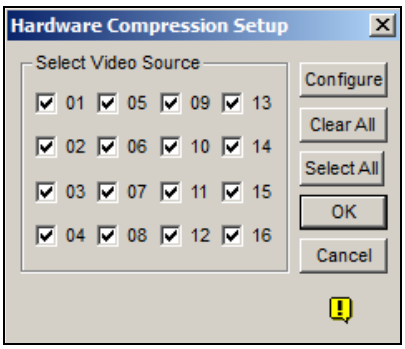


Figure 1-5

2. Select the cameras you want to set up, and click the **Configure** button. This dialog box appears.

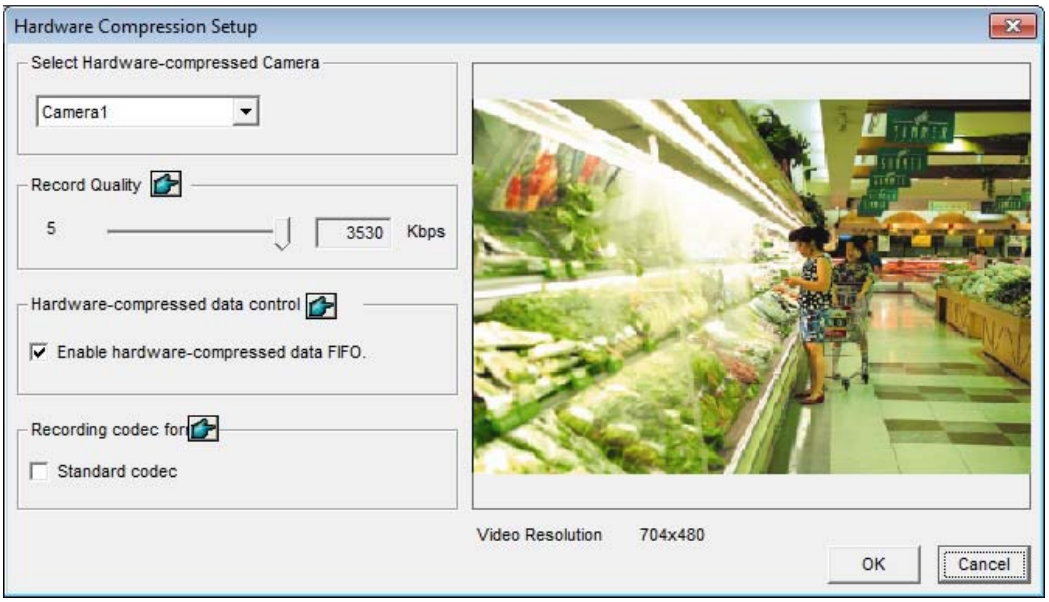


Figure 1-6

3. In the Select Hardware-compressed Camera section, select one camera to be configured.
4. Select the recording quality.
5. The **Enable hardware-compressed data FIFO** option is disabled by default. When the option is enabled, the hardware-compressed data from the video IP device, such as IP camera, video server and compact DVR, will be transmitted directly to remote servers instead of being compressed again on the DVR. The remote servers include CMS-related servers and WebCam Server. This feature can decrease the system load of DVR but increase that of remote servers.
6. To use standard H.264 codec in recording, enable **Standard codec** in the Recording codec for section.
7. If you want to apply the same setting to all cameras, click the **Finger** button in each section.

8. To access the frame rate settings, on the Main System, click the **Configure** button, select **System Configure**, and select **Camera Configure**. This dialog box appears.

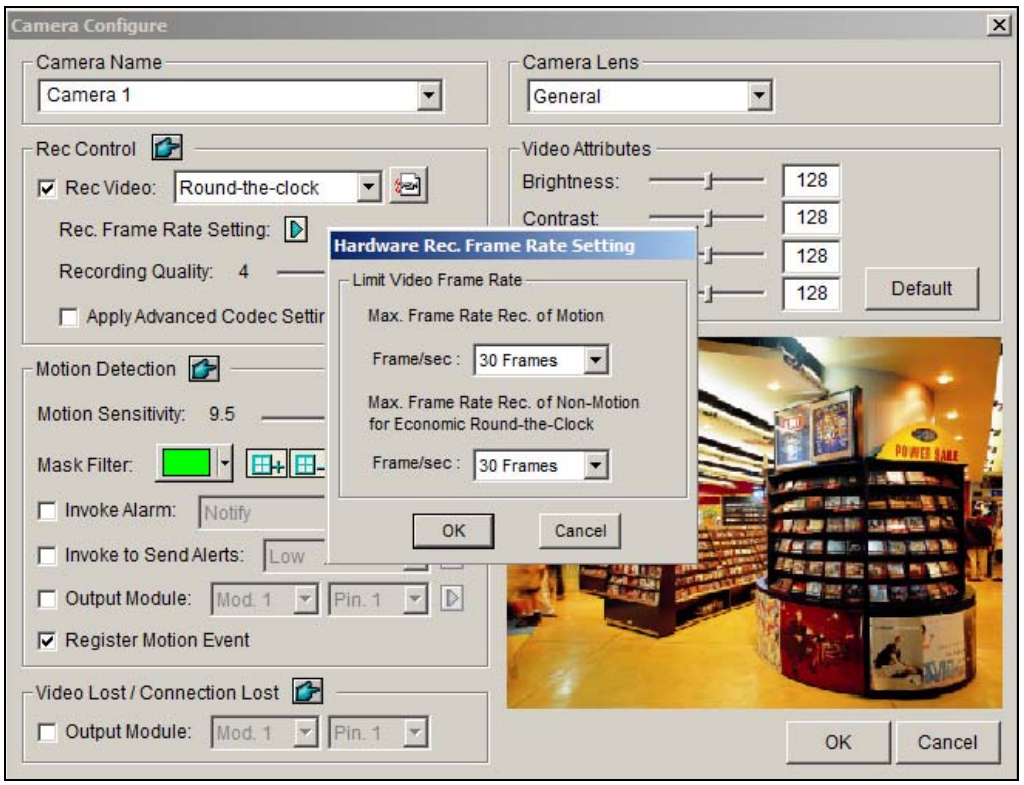


Figure 1-7

9. In the Rec Control section, click the **Arrow** button. The Hardware Rec. Frame Rate Setting dialog box appears.
10. Set the maximum frame rate for motion and non-motion periods so as to save as much disk space as possible.
11. To adjust image quality, in the Video Attributes section, move the sliders to the desired values or click **Default** to apply default values.

Note: The default settings are as follows: Recording Quality is 3, Video Resolution is 704 x 480 (NTSC) or 704 x 576 (PAL), Codec is Geo H.264 and Frame Rate is 30 (NTSC) or 25 (PAL).

Specifications

		GV-4008		GV-4008 x 2
Interface		PCI-E x1		
Input Type		DVI x 2		DVI x 4
Video Input		8 Cams		16 Cams
Audio Input		8 Channels		16 Channels
Recording Rate (D1)	NTSC	240 fps		480 fps
	PAL	200 fps		400 fps
Display Rate	NTSC	240 fps		480 fps
	PAL	200 fps		400 fps
Video Resolution	NTSC	H/W	704 x 480	704 x 480
		S/W	352 x 240	352 x 240
	PAL	H/W	704 x 576	704 x 576
		S/W	352 x 288	352 x 288
Video Compression Format	S/W	Geo MPEG4, Geo H264		
	H/W	H.264		
Audio Compression Format		AAC (16 kHz / 16 bit)		
Bit Rate Range		2.5M ~ 5M		
GV-NET/IO Card Support		Yes (Note2)		
GV-Multi Quad Card Support		No		
Dimensions (W x H)		169 x 99 mm / 6.65 x 3.9 in		

Note:

1. GV-4008 does not support the TV-Out function.
2. To work together with GV-4008, GV-NET/IO Card V3.1 must be set in the I/O Box Mode and connected to the PC through USB.
3. In screen divisions, the largest division is set to D1 resolution and the other divisions to CIF resolution.

1.2 GV-4008A

The GV-4008A Card provides up to 8 video and 8 audio channels, recording up to 240 / 200 fps (NTSC / PAL) in total with H.264 hardware compression. The new technology of resolution is employed to enhance the live image without DSP Overlay. Even in multi views, the image on the largest division view can remain at the high-quality resolution without DSP Overlay.

Minimum System Requirements

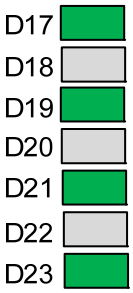
OS	32-bit	Windows XP / Windows Vista / Windows 7 / Windows Server 2008	
	64-bit	Windows 7 / Windows Server 2008	
CPU		GV-4008A	Core 2 Duo, 2.33 GHz
		GV-4008A x 2	Core 2 Quad, 2.4 GHz
RAM		GV-4008A	2 x 1 GB Dual Channels
		GV-4008A x 2	
HDD		GV-4008A	250 GB
		GV-4008A x 2	500 GB
VGA		ATI Radeon X1300 PCI-E / NVIDIA GeForce 7300 PCI-E	
DirectX		9.0c	
Power Supply		400 Watts	

Packing List

1. GV-4008A Card x 1
2. 1-8 DVI-Type Audio Cable x 1
3. 1-8 DVI-Type Video Cable x 1
4. Hardware Watchdog Jumper Wire x 1
5. Internal Power Y Cable x 1
6. USB Dongle x 1
7. Software DVD x 1
8. Surveillance System Quick Start Guide x 1

Connecting One GV-4008A Card

- Connect the video and audio cables to the GV-4008A Card.
- Connect the supplied Hardware Watchdog Jump Wire (Figure 1-10).
- Connect the computer's internal power supply to the GV-4008A Card. The LEDs (D17, D19, D21, D23) should be lit in green to indicate the card is ready for use.



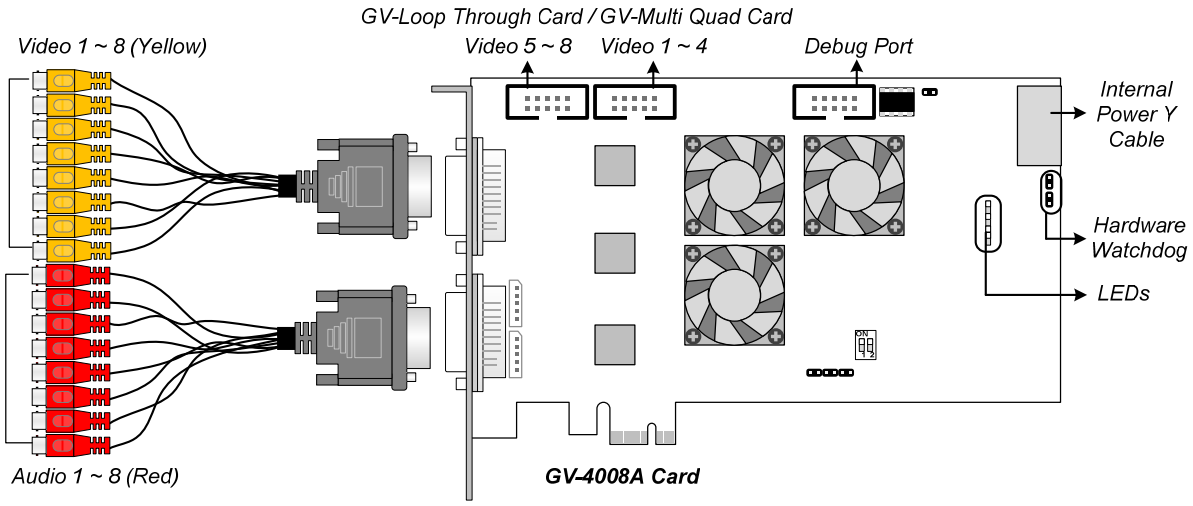


Figure 1-8

Note:

1. The GV-4008A Card only works when the supplied USB Dongle is inserted to PC.
2. The GV-4008A Card cannot work with microphones which acquire power from the PC. Use microphones which have external power supply.

Connecting Two GV-4008A Cards

You can install two GV-4008A Cards for a total of 16 channels. Master Card is the card with 1-8 channels and Slave Card is that with 9-16 channels. Normally, the card attached to the lower PCI-E slot number will act as Master, and the card attached to the higher PCI-E slot number will act as Slave.

- **Hardware Watchdog Connection:** Connect the supplied Hardware Watchdog Jump Wire to the Master Card only (Figure 1-10).
- **Accessory Card Connections:**
  - ⊙ GV-Loop Through Card: Connect the card to two 10-pin connectors on each Master and Slave Card by using a supplied cable with four 10-pin headers.
  - ⊙ GV-Multi Quad Card: Connect the card to two 10-pin connectors on each Master and Slave Card by using a supplied cable with four 10-pin headers.

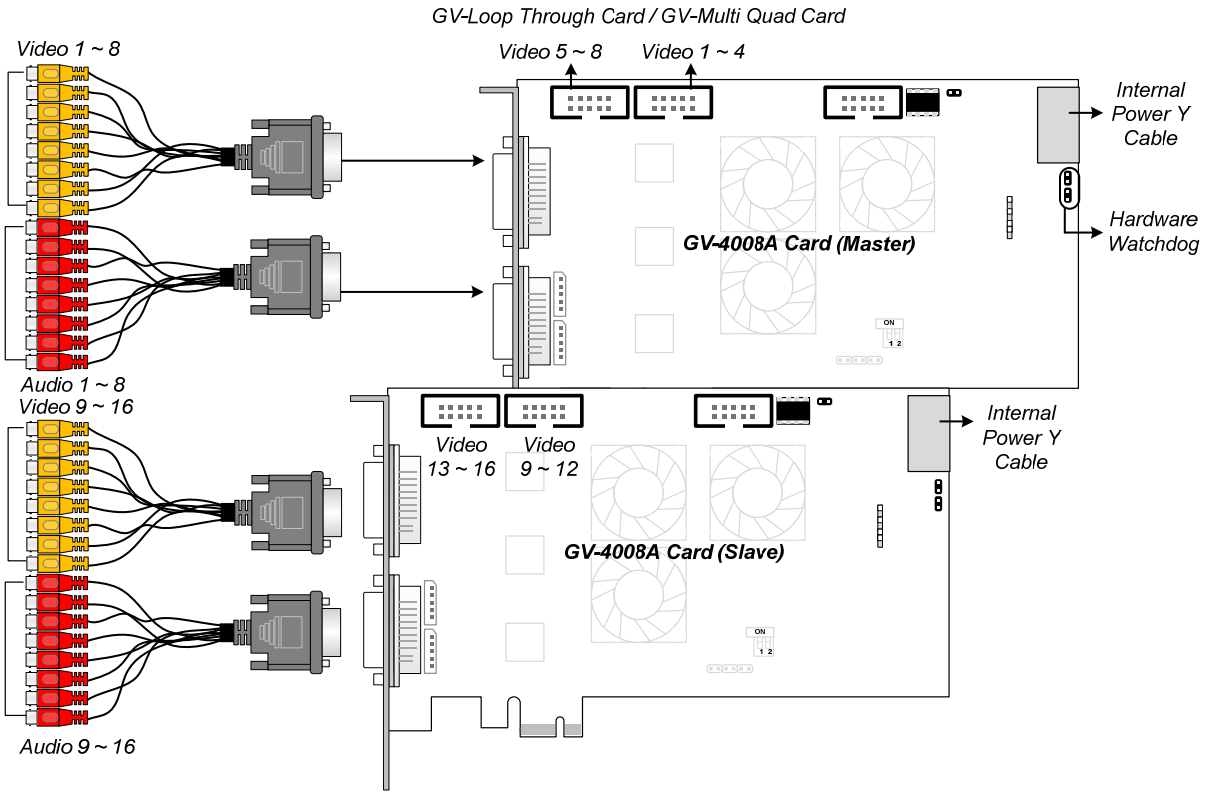


Figure 1-9

Connecting Hardware Watchdog

Insert the Hardware Watchdog Jumper Wire to the 2-pin connectors on the Card. The (+) pin on the Card must connect to the Reset (+) pin on the motherboard, and the (-) pin on the Card to the Ground (-) pin on the motherboard. Ensure the connection is correct; otherwise the hardware watchdog will not work.

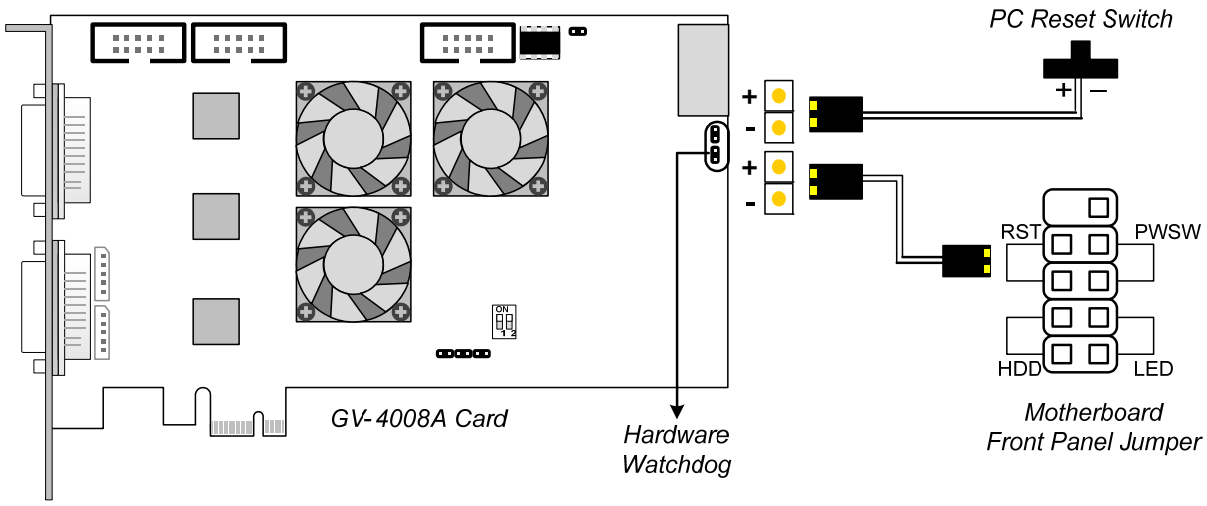


Figure 1-10

Note: To locate the motherboard's Reset (+) pin and (-) pin, please refer to the motherboard's user manual.

Installing Drivers

After installing the GV-4008A Card in the computer, insert the software DVD to install GV-Series drivers. The DVD will run automatically and an installation window will pop up. Select **Install or Remove GeoVision GV-Series Driver**, and select the following two options to install card and USB dongle drivers.

- **Install or Remove GeoVision GV-Series Card Drivers:** installs card drivers.
- **Install GeoVision USB Device Drivers:** installs USB dongle drivers.

To verify the drivers are installed correctly, go to Windows Device Manager and see if their entries are listed.

Expand the **DVR-Devices** field, you can see:

GV-4008A Card	Entry
Single-card mode	GV4008(A) GV-Series USB Protector
Two-card mode	GV4008(A) GV4008(A) GV-Series USB Protector

Adjusting the Video Settings in the Main System

One distinct feature of GV-4008A Cards is their ability of hardware compression, providing you with higher system performance and DVD recording quality.

To take full advantage of GV-4008A Cards, you can adjust the video settings, including the recording quality and frame rate, before running the GV-System.

For details on adjusting the video settings, see *Setting up the video settings of the recorded files* in *1.1 4008 Card*.

Specifications

		GV-4008A		GV-4008A x 2
Interface		PCI-E x1		
Input Type		DVI x 2		DVI x 4
Video Input		8 Cams		16 Cams
Audio Input		8 Channels		16 Channels
Recording Rate (D1)	NTSC	240 fps		480 fps
	PAL	200 fps		400 fps
Display Rate	NTSC	240 fps		480 fps
	PAL	200 fps		400 fps
Video Resolution	NTSC	H/W	704 x 480	704 x 480
		S/W	352 x 240	352 x 240
	PAL	H/W	704 x 576	704 x 576
		S/W	352 x 288	352 x 288
Video Compression Format	S/W	Geo MPEG4, Geo H264		
	H/W	H.264		
Audio Compression Format		AAC (16 kHz / 16 bit)		
Bit Rate Range		2.5M ~ 5M		
GV-NET/IO Card Support		Yes (Note 2)		
GV-Multi Quad Card Support		Yes		
GV-Loop Through Card Support		Yes		
Dimensions (W x H)		169 x 99 mm / 6.65 x 3.9 in		

Note:

1. GV-4008A does not support the TV-Out function.
2. To work together with GV-4008A, GV-NET/IO Card V3.1 must be set in the I/O Box Mode and connected to the PC through USB.

1.3 GV-3008

The GV-3008 Card provides up to 8 video and 8 audio channels, recording up to 240 / 200 fps (NTSC / PAL) in total with H.264 hardware compression. The GV-3008 Card provides the high-resolution live image with DSP Overlay. Even in multi views, the image on the largest division view can remain at the high-quality resolution.

Minimum System Requirements

OS	32-bit	Windows XP / Windows Vista / Windows 7 / Windows Server 2008	
	64-bit	Windows 7 / Windows Server 2008	
CPU		GV-3008	Core 2 Duo, 2.33 GHz
		GV-3008 x 2	Core 2 Quad, 2.4 GHz
RAM		GV-3008	2 x 1 GB Dual Channels
		GV-3008 x 2	
HDD		GV-3008	250 GB
		GV-3008 x 2	500 GB
VGA		ATI Radeon X1300 PCI-E / NVIDIA GeForce 7300 PCI-E	
DirectX		9.0c	
Power Supply		400 Watts	

Packing List

1. GV-3008 Card x 1
2. 1-4 D-Type Video and Audio Cable x 1
3. 5-8 D-Type Video and Audio Cable x 1
4. Hardware Watchdog Jumper Wire x1
5. Software DVD x 1
6. Surveillance System Quick Start Guide x 1

Connecting One GV-3008 Card

- Connect the D-Type video and audio cables to the GV-3008 Card.
- Connect the supplied Hardware Watchdog Jump Wire (Figure 1-13).
- Connect the computer's internal power supply to the GV-3008 Card. The Power LED should be lit in green to indicate the card is ready for use.

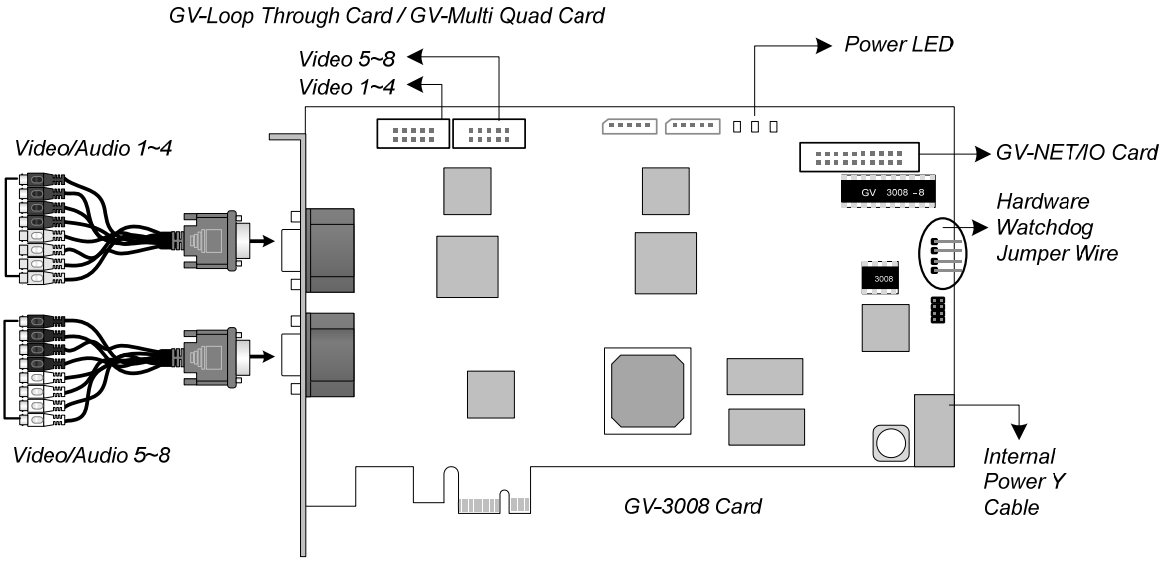


Figure 1-11

Connecting Two GV-3008 Cards

You can install two GV-3008 Cards for a total of 16 channels. Master Card is the card with 1-8 channels and Slave Card is that with 9-16 channels. The Master and Slave cards can be distinguished by the labels on cards, as shown below:

Master Card: 

Slave Card: 

IMPORTANT:

1. The Slave Cards cannot work alone. They need to work in conjunction with the Master Cards.
2. If both GV-3008 Cards are Master Cards, it is required to identify which are Master and Slave by the PCI-E slot number. Normally, the card attached to the lower PCI-E slot number will act as Master, and the card attached to the higher PCI-E slot number will act as Slave.

- **Hardware Watchdog Connection:** Connect the supplied Hardware Watchdog Jump Wire to the Master Card only (Figure 1-13).
- **Accessory Card Connections:**
  - ⊙ GV-NET/IO Card: Connect the card only to the Master Card.
  - ⊙ GV-Loop Through Card: Connect the card to two 10-pin connectors on each Master and Slave Card by using a supplied cable with four 10-pin headers.
  - ⊙ GV-Multi Quad Card: Connect the card to two 10-pin connectors on each Master and Slave Card by using a supplied cable with four 10-pin headers.

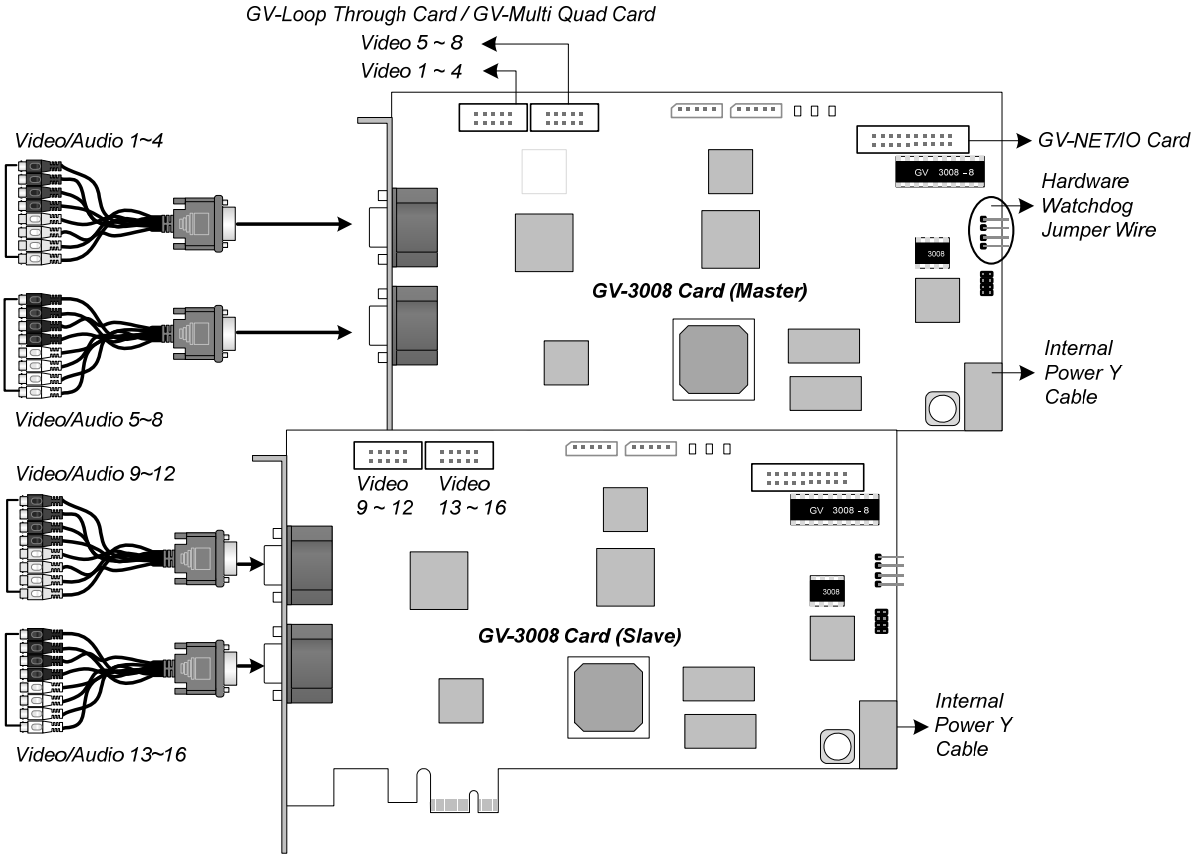

GV-Loop Through Card / GV-Multi Quad Card
Video 5 ~ 8
Video 1 ~ 4
Video/Audio 1~4
GV-NET/IO Card
Hardware
Watchdog
Jumper Wire
GV-3008 Card (Master)
Internal
Power Y
Cable
Video/Audio 5~8
Video/Audio 9~12
Video
9 ~ 12
Video
13 ~ 16
GV-3008 Card (Slave)
Internal
Power Y
Cable
Video/Audio 13~16

Figure 1-12

Connecting Hardware Watchdog

To restart the computer automatically by the hardware watchdog on the GV-Video Capture Card, a connection needs to be made from the card to the motherboard.

1. Using the supplied jumper wire, connect the reset jumper pins on the card and on the motherboard.

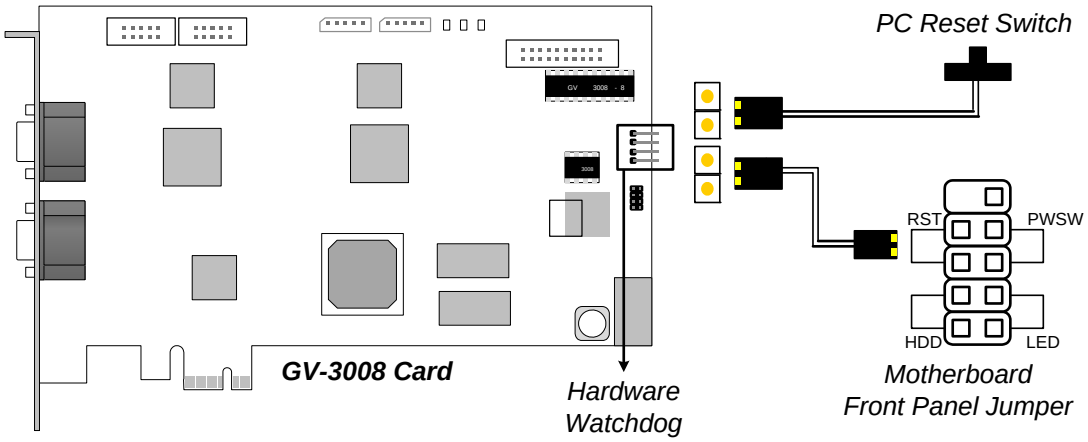


Figure 1-13

2. If the computer has a reset switch, the switch's jumper wire should already be connected to the motherboard's reset jumper pins. Remove the switch wire from the motherboard and connect it to the reset jumper pins on the card.

Installing Drivers

After installing the GV-3008 Card in the computer, insert the software DVD to install GV-Series drivers. The DVD will run automatically and an installation window will pop up. Select **Install or Remove GeoVision GV-Series Driver**, and select **Install or Remove GeoVision GV-Series Card Drivers** to install card drivers.

To verify the drivers are installed correctly, go to Windows Device Manager and see if their entries are listed.

Expand the **DVR-Devices** field, you can see:

GV-3008 Card		Entry
Single-card mode		GV3008 Capture GV3008 Encode #1 GV3008 Encode #2
Two-card mode	Two Master Cards	GV3008 Capture GV3008 Capture GV3008 Encode #1 GV3008 Encode #1 GV3008 Encode #2 GV3008 Encode #2
	One Master and Slave Card	GV3008 Capture GV3008 Capture GV3008 Encode #1 GV3008 Encode #2 GV3008 Encode #3 GV3008 Encode #4

Adjusting the Video Settings in the Main System

One distinct feature of GV-3008 Cards is their ability of hardware compression, providing you with higher system performance and DVD recording quality.

To take full advantage of GV-3008 Cards, you can adjust the video settings, including the recording quality and frame rate, before running the GV-System.

For details on adjusting the video settings, see *Setting up the video settings of the recorded files* in *1.1 4008 Card*.

Specifications

		GV-3008		GV-3008 x 2
Interface		PCI-E x1		
Input Type		D-Type x 2		D-Type x 4
Video Input		8 Cams		16 Cams
Audio Input		8 Channels		16 Channels
Recording Rate (D1)	NTSC	240 fps		480 fps
	PAL	200 fps		400 fps
Display Rate	NTSC	240 fps		480 fps
	PAL	200 fps		400 fps
Video Resolution	NTSC	H/W	704 x 480	704 x 480
		S/W	352 x 240	352 x 240
	PAL	H/W	704 x 576	704 x 576
		S/W	352 x 288	352 x 288
Video Compression Format	S/W	Geo MPEG4, Geo H264		
	H/W	H.264		
Audio Compression Format		AAC (16 kHz / 16 bit)		
Bit Rate Range		2.5M ~ 10M		
GV-NET/IO Card Support		Yes		
GV-Multi Quad Card Support		Yes		
GV-Loop Through Card Support		Yes		
Dimensions (W x H)		180 x 100 mm / 7.09 x 3.94 in		
Note: GV-3008 does not support the TV-Out function.				

1.4 GV-1120A, 1240A, 1480A

GV-Combo A Card (GV-1120A, GV-1240A and GV-1480A) are the three-in-one combo cards, providing one single card solution for 16 video / audio recording, real-time display and TV-out display.

Minimum System Requirements

<table>
<tr><td rowspan="2">OS</td><td>32-bit</td><td colspan="3">Windows XP / Windows Vista / Windows 7 / Windows Server 2008</td></tr>
<tr><td>64-bit</td><td colspan="3">Windows 7 / Windows Server 2008</td></tr>
<tr><td rowspan="10">CPU</td><td rowspan="2">GV-1120A</td><td colspan="2">Pentium 4, 3.0 GHz with Hyper-Threading</td></tr>
<tr><td colspan="2">Turbo Mode: Pentium 4, 3.0 GHz, Dual Core</td></tr>
<tr><td rowspan="2">GV-1120A x 2</td><td colspan="2">Pentium 4, 3.0 GHz, Dual Core</td></tr>
<tr><td colspan="2">Turbo Mode: Core 2 Quad, 2.4 GHz</td></tr>
<tr><td rowspan="2">GV-1240A</td><td colspan="2">Pentium 4, 3.0 GHz, Dual Core</td></tr>
<tr><td colspan="2">Turbo Mode: Core 2 Duo, 3.0 GHz</td></tr>
<tr><td rowspan="2">GV-1240A x 2</td><td colspan="2">Core 2 Duo, 2.53 GHz</td></tr>
<tr><td colspan="2">Turbo Mode: Core 2 Quad, 2.8 GHz</td></tr>
<tr><td rowspan="2">GV-1480A</td><td colspan="2">Core 2 Duo, 3.0 GHz</td></tr>
<tr><td colspan="2">Turbo Mode: Core 2 Quad, 2.4 GHz</td></tr>
<tr><td rowspan="2">GV-1480A x 2</td><td colspan="2">Core 2 Quad, 2.4 GHz</td></tr>
<tr><td colspan="2">Turbo Mode: Core i7-920, 2.66 GHz</td></tr>
<tr><td rowspan="3">RAM</td><td rowspan="2">GV-1120A / 1240A / 1480A</td><td>Windows XP</td><td>2 x 512 MB Dual Channels</td></tr>
<tr><td>Windows Vista / 7 / Server 2008</td><td>2 x 1 GB Dual Channels</td></tr>
<tr><td>GV-1120A x 2 / 1240A x 2 / 1480A x 2</td><td colspan="2">2 x 1 GB Dual Channels</td></tr>
<tr><td rowspan="6">HDD</td><td>GV-1120A</td><td colspan="2">80 GB / Turbo Mode: 120 GB</td></tr>
<tr><td>GV-1120 A x 2</td><td colspan="2">160 GB / Turbo Mode: 250 GB</td></tr>
<tr><td>GV-1240A</td><td colspan="2">120 GB / Turbo Mode: 160 GB</td></tr>
<tr><td>GV-1240A x 2</td><td colspan="2">250 GB / Turbo Mode: 320 GB</td></tr>
<tr><td>GV-1480A</td><td colspan="2">250 GB / Turbo Mode: 320 GB</td></tr>
<tr><td>GV-1480A x 2</td><td colspan="2">500 GB / Turbo Mode: 750 GB</td></tr>
<tr><td colspan="2">VGA</td><td colspan="3">ATI Radeon X1300 PCI-E / NVIDIA GeForce 7300 PCI-E</td></tr>
<tr><td colspan="2">DirectX</td><td colspan="3">9.0c</td></tr>
</table>

Packing List (D-Type)

1. GV-Combo A Card x 1
2. Audio Extension Card x 1
3. 1-8 D-Type Video Cable x 1
4. 9-16 D-Type Video Cable x 1
5. 1-8 D-Type Audio Cable x 1
6. 9-16 D-Type Audio Cable x 1
7. Internal Power Y Cable x 1
8. Hardware Watchdog Jumper Wire x 1
9. Software DVD x 1
10. Surveillance System Quick Start Guide x 1

Packing List (DVI-Type)

1. GV- Combo A Card x 1
2. 1-8 DVI-Type Video plus TV Out Cable x 1
3. 9-16 DVI-Type Video Cable x 1
4. 1-8 DVI-Type Audio Cable x 1
5. 9-16 DVI-Type Audio Cable x 1
6. Internal Power Y Cable x 1
7. Hardware Watchdog Jumper Wire x 1
8. Software DVD x 1
9. Surveillance System Quick Start Guide x 1

Connecting One GV-Combo A Card (D-Type)

- Plug the Audio Extension Card in the assigned connectors on the GV-Combo A Card.
- Connect D-Type video and audio cables to the GV-Combo A Card and Audio Extension Card respectively.
- Connect the supplied Hardware Watchdog Jump Wire (Figure 1-18).
- Connect the PC's internal power supply to the GV-Combo A Card.
- Connect the TV monitor to the GV-Combo A Card if needed.

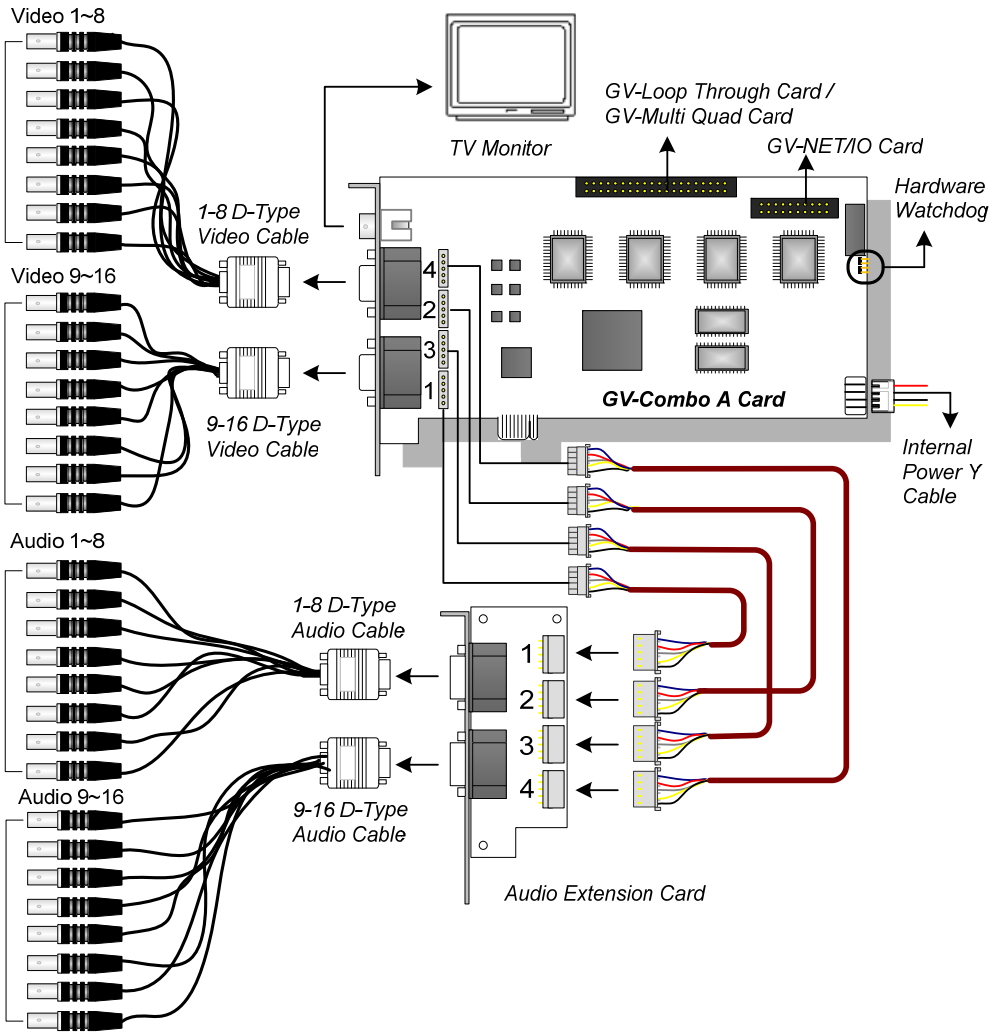


Figure 1-14

Note: The Card only works when it connects to PC's power supply using the supplied Internal Power Y Cable.

Connecting One GV-Combo A Card (DVI-Type)

- Connect the DVI video and audio cables to the GV-Combo A Card.
- Connect the supplied Hardware Watchdog Jump Wire (Figure 1-18).
- Connect the PC's internal power supply to the GV-Combo A Card.
- Connect the DVI TV Out cable to the TV monitor if needed.

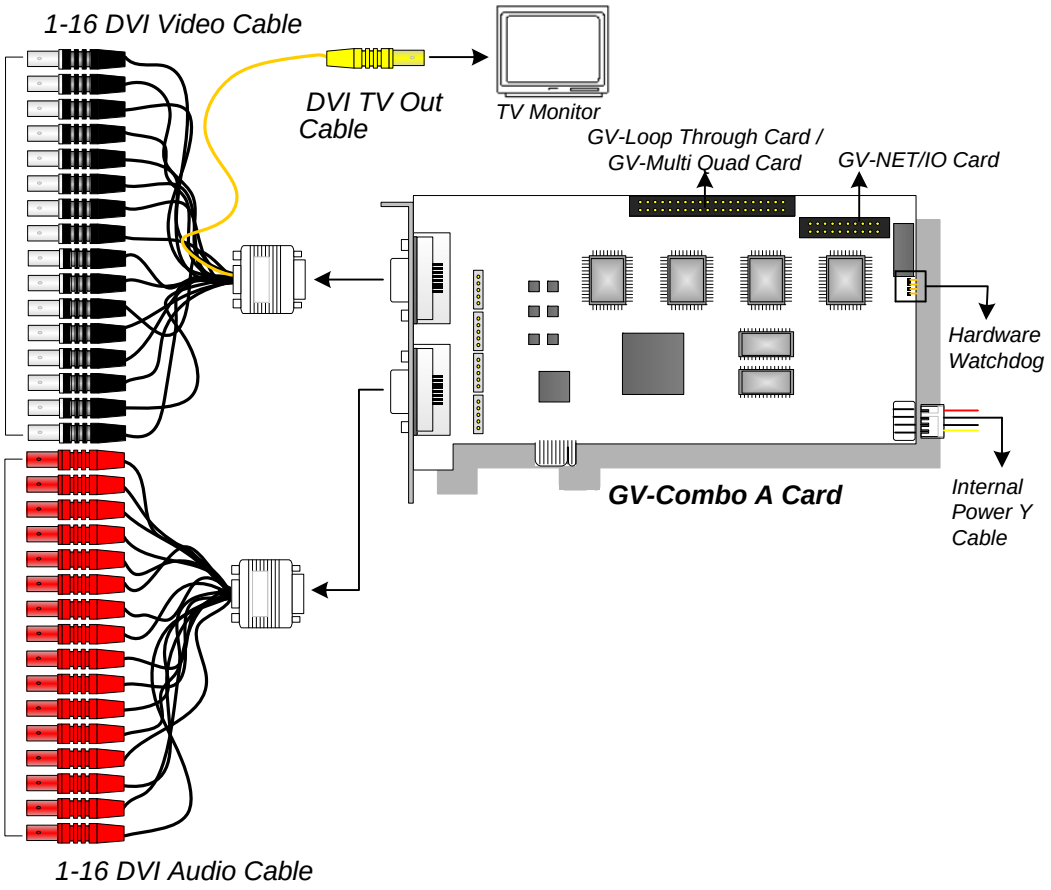


Figure 1-15

Note: The Card only works when it connects to PC's power supply using the supplied Internal Power Y Cable.

Connecting GV-NET/IO Card to GV-Combo A Card

Connect the GV-NET/IO Card to the 20-pin GV-NET/IO port on the GV-Combo A Card. Some GV-Combo A Cards are built in two 20-pin ports. Ensure to connect the GV-NET/IO Card to the correct port as illustrated below.

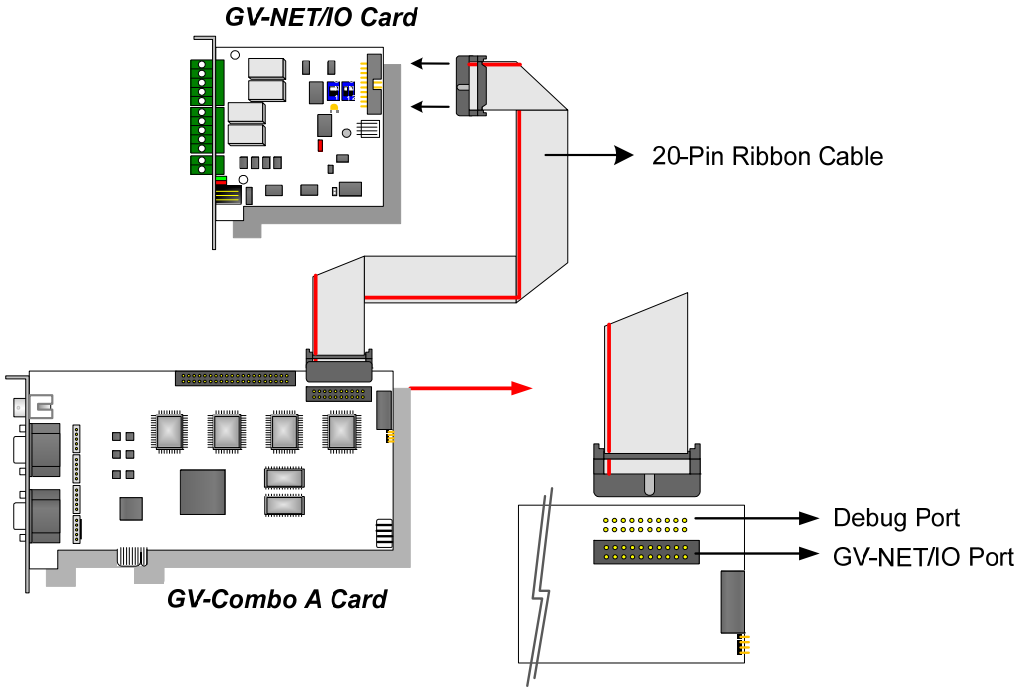


Figure 1-16

Note: If the GV-NET/IO Card is connected to the Debug port, it may lead to the GV-NET/IO Card to be damaged, or the GV-Combo A Card to burn out, causing Video Lost or an error message of “can’t find keypro” to pop up.

Connecting Two GV-Combo A Cards

You can install two GV-Combo A Cards of the same model for up to 32 channels. Master Card is the card with 1-16 channels and Slave Card is that with 17-32 channels. Normally, the card attached to the lower PCI slot number will act as Master, and the card attached to the higher PCI slot number will act as Slave.

- **TV Output Connection:** The RCA connector in the Master Card is for displaying 1-16 channels, and the one in the Slave Card is for displaying 17-32 channels.
- **Hardware Watchdog Connection:** Connect the supplied Hardware Watchdog Jump Wire to the Master Card only (Figure 1-18).
- **Accessory Card Connections:**
  - ⊙ GV-NET/IO Card: Connect the card only to the Master Card.
  - ⊙ GV-Loop Through Card: Connect the card for each video capture card.
  - ⊙ GV-Multi Quad Card: Only connect one card to any of two video capture cards.

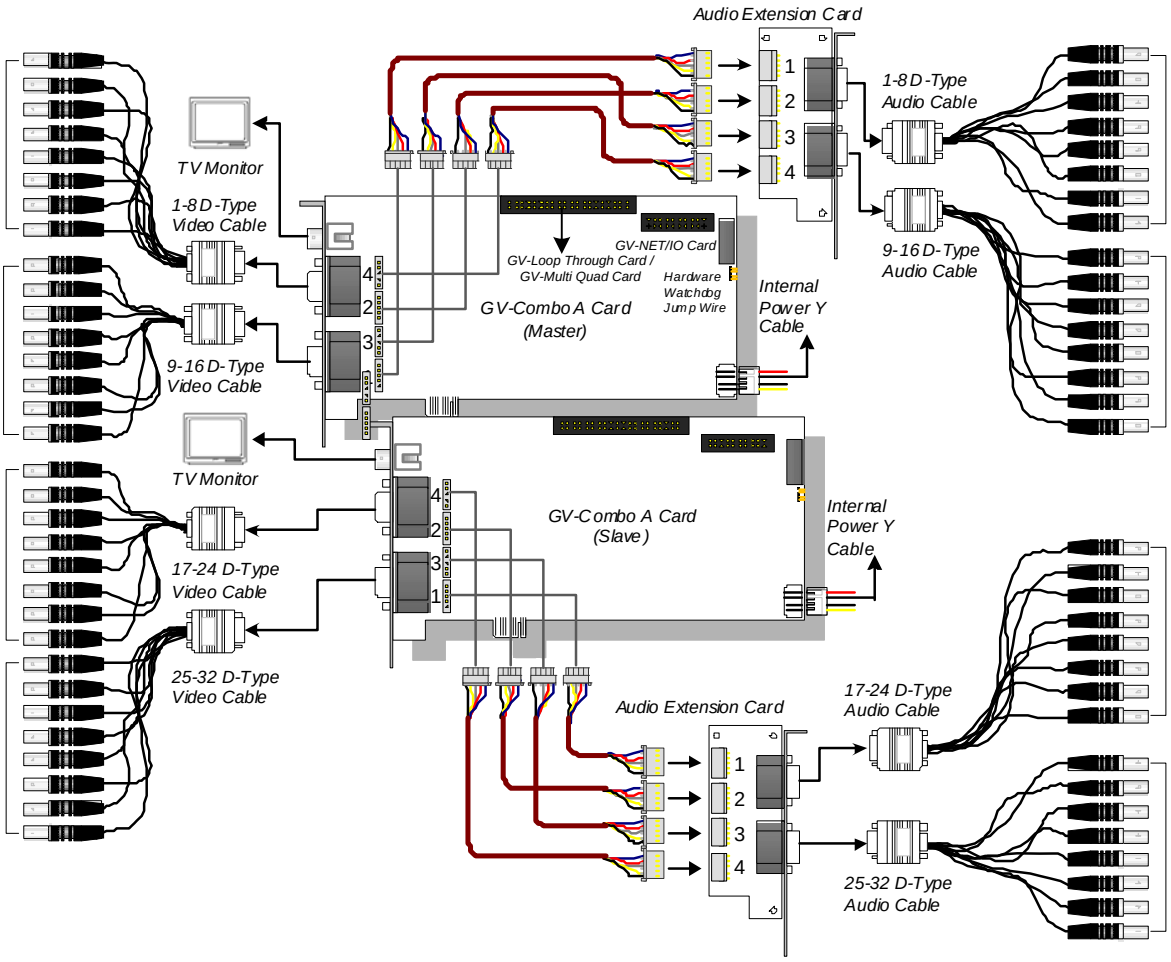


Figure1-17

Connecting Hardware Watchdog

Insert the Hardware Watchdog Jumper Wire to the 2-pin connectors on the Card and on the motherboard as illustrated below. Ensure the connection is correct; otherwise the hardware watchdog will not work.

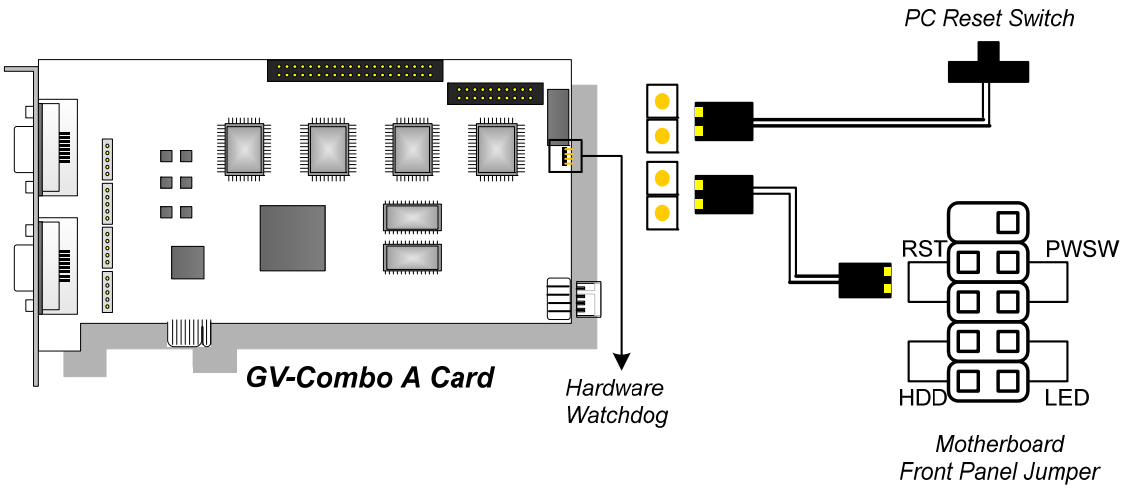


Figure 1-18

Installing Drivers

After installing the GV-Combo A Card in the computer, insert the software DVD. The DVD will run automatically and an installation window will pop up. Select **Install or Remove GeoVision GV-Series Driver**, and select **Install or Remove GeoVision GV-Series Card Drivers** to install card drivers.

To verify the drivers are installed correctly, go to Windows Device Manager and see if their entries are listed.

Expand the **DVR-Devices** field, you can see:

Card Model		Entry
GV-1120A	Single-card mode	GV1480A/GV1240A/GV1248A/GV1120A/GV1008
	Two-card mode	GV1480A/GV1240A/GV1248A/GV1120A/GV1008 GV1480A/GV1240A/GV1248A/GV1120A/GV1008
GV-1240A	Single-card mode	GV1480A/GV1240A/GV1248A/GV1120A/GV1008
	Two-card mode	GV1480A/GV1240A/GV1248A/GV1120A/GV1008 GV1480A/GV1240A/GV1248A/GV1120A/GV1008
GV-1480A	Single-card mode	GV1480A/GV1240A/GV1248A/GV1120A/GV1008
	Two-card mode	GV1480A/GV1240A/GV1248A/GV1120A/GV1008 GV1480A/GV1240A/GV1248A/GV1120A/GV1008

Specifications

			GV-1120A	GV-1240A	GV-1480A
Interface Type			PCI-E x1		
Input Type		D-Type	D-Type x 4		
		DVI	DVI x 2		
Video Input			8, 12, 16 Cams	8, 16 Cams	16 Cams
Audio Input			8, 12, 16 Channels	8, 16 Channels	16 Channels
TV Output			RCA Connector x 1		
Recording Rate	CIF	NTSC	120 fps	240 fps	480 fps
		PAL	100 fps	200 fps	400 fps
	D1	NTSC	80 fps	120 fps	240 fps
		PAL	72 fps	100 fps	200 fps
	Turbo VGA	NTSC	120 fps	240 fps	416 fps
		PAL	100 fps	200 fps	400 fps
	Turbo D1	NTSC	120 fps	240 fps	352 fps
		PAL	100 fps	200 fps	320 fps
Display Rate	CIF	NTSC	480 fps		
		PAL	400 fps		
	D1	NTSC	480 fps		
		PAL	400 fps		
Video Resolution		NTSC	704 x 480, 704 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 240, 320 x 240		
		PAL	704 x 576, 704 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 288, 320 x 240		
Video Compression Format			Geo MPEG4, Geo H264		
Audio Compression Format			AAC (16 kHz / 16 bit)		
GV-Multi Quad Card Support			Yes		
GV-Loop Through Card Support			Yes		
GV-NET/IO Card Support			Yes		
Dimensions		D-Type	179 x 99 mm / 7.04 x 3.89 in		
		DVI-Type			

Note: Turbo Mode is only applied in VGA and D1 resolutions. To activate Turbo Mode, see *Activating Turbo Mode*, *Chapter 1*, *DVR User's Manual* on the Software DVD.

			GV-1120A x 2	GV-1240A x 2	GV-1480A x 2
Interface Type			PCI-E x1		
Input Type		D-Type	D-Type x 8		
		DVI	DVI x 4		
Video Input			16, 20, 24, 28, 32 Cams	16, 24, 32 Cams	32 Cams
Audio Input			16, 20, 24, 28, 32 Channels	16, 24, 32 Channels	32 Channels
TV Output			RCA Connector x 1		
Recording Rate	CIF	NTSC	240 fps	480 fps	960 fps
		PAL	200 fps	400 fps	800 fps
	D1	NTSC	160 fps	240 fps	480 fps
		PAL	144 fps	200 fps	400 fps
	Turbo VGA	NTSC	240 fps	480 fps	832 fps
		PAL	200 fps	400 fps	800 fps
	Turbo D1	NTSC	240 fps	480 fps	704 fps
		PAL	200 fps	400 fps	640 fps
Display Rate	CIF	NTSC	960 fps	960 fps	960 fps
		PAL	800 fps	800 fps	800 fps
	D1	NTSC	960 fps	960 fps	960 fps
		PAL	800 fps	800 fps	800 fps
Video Resolution		NTSC	704 x 480, 704 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 240, 320 x 240		
		PAL	704 x 576, 704 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 288, 320 x 240		
Video Compression Format			Geo MPEG4, Geo H264		
Audio Compression Format			AAC (16 kHz / 16 bit)		
GV-Multi Quad Card Support			Yes		
GV-Loop Through Card Support			Yes		
GV-NET/IO Card Support			Yes		
Dimensions		D-Type	179 x 99 mm / 7.04 x 3.89 in		
		DVI-Type			

Note: Turbo Mode is only applied in VGA and D1 resolutions. To activate Turbo Mode, see *Activating Turbo Mode*, *Chapter 1*, *DVR User's Manual* on the Software DVD.

1.5 GV-1008

The GV-1008, as a three-in-one combo card, provides one single card solution for 8 video / audio recording, real-time display and TV-out display. The Card can record each channel at D1 in real time or 30 fps. When the two Cards are installed in the system, it can be utilized to provide a single TV-out display of 16 cameras and maintain a high recording rate of 480 fps at D1 resolution.

Minimum System Requirements

<table>
<tr><td rowspan="2">OS</td><td>32-bit</td><td colspan="3">Windows XP / Windows Vista / Windows 7 / Windows Server 2008</td></tr>
<tr><td>64-bit</td><td colspan="3">Windows 7 / Windows Server 2008</td></tr>
<tr><td colspan="2" rowspan="2">CPU</td><td>GV-1008</td><td colspan="2">Core 2 Duo, 3.0 GHz</td></tr>
<tr><td>GV-1008 x 2</td><td colspan="2">Core i5-750, 2.66 GHz</td></tr>
<tr><td colspan="2" rowspan="4">RAM</td><td rowspan="2">Windows XP</td><td>GV-1008</td><td>2 x 512 MB Dual Channels</td></tr>
<tr><td>GV-1008 x 2</td><td>2 x 1 GB Dual Channels</td></tr>
<tr><td rowspan="2">Windows Vista / 7 / Server 2008</td><td>GV-1008</td><td rowspan="2">2 x 1 GB Dual Channels</td></tr>
<tr><td>GV-1008 x 2</td></tr>
<tr><td colspan="2" rowspan="2">HDD</td><td>GV-1008</td><td colspan="2">250 GB</td></tr>
<tr><td>GV-1008 x 2</td><td colspan="2">500 GB</td></tr>
<tr><td colspan="2">VGA</td><td colspan="3">ATI Radeon X1300 PCI-E / NVIDIA GeForce 7300 PCI-E</td></tr>
<tr><td colspan="2">DirectX</td><td colspan="3">9.0c</td></tr>
</table>

Packing List

1. GV-1008 Card x 1
2. Audio Extension Card x 1
3. 1-8 D-Type Video Cable x 1
4. 1-8 D-Type Audio Cable x 1
5. 40-Pin Ribbon Cable with 3 headers x 1
6. Internal Power Y Cable x 1
7. Hardware Watchdog Jumper Wire x1
8. Software DVD x 1
9. Surveillance System Quick Start Guide x 1

Connecting One GV-1008 Card

- Plug the Audio Extension Card in the assigned connectors on the GV-1008 Card.
- Connect D-Type video cable and audio cable to the GV-1008 Card and Audio Extension Card respectively.
- Connect the supplied Hardware Watchdog Jump Wire (Figure 1-21).
- Connect the PC's internal power supply to the GV-1008 Card.
- Connect the TV monitor to the GV-1008 Card if needed.

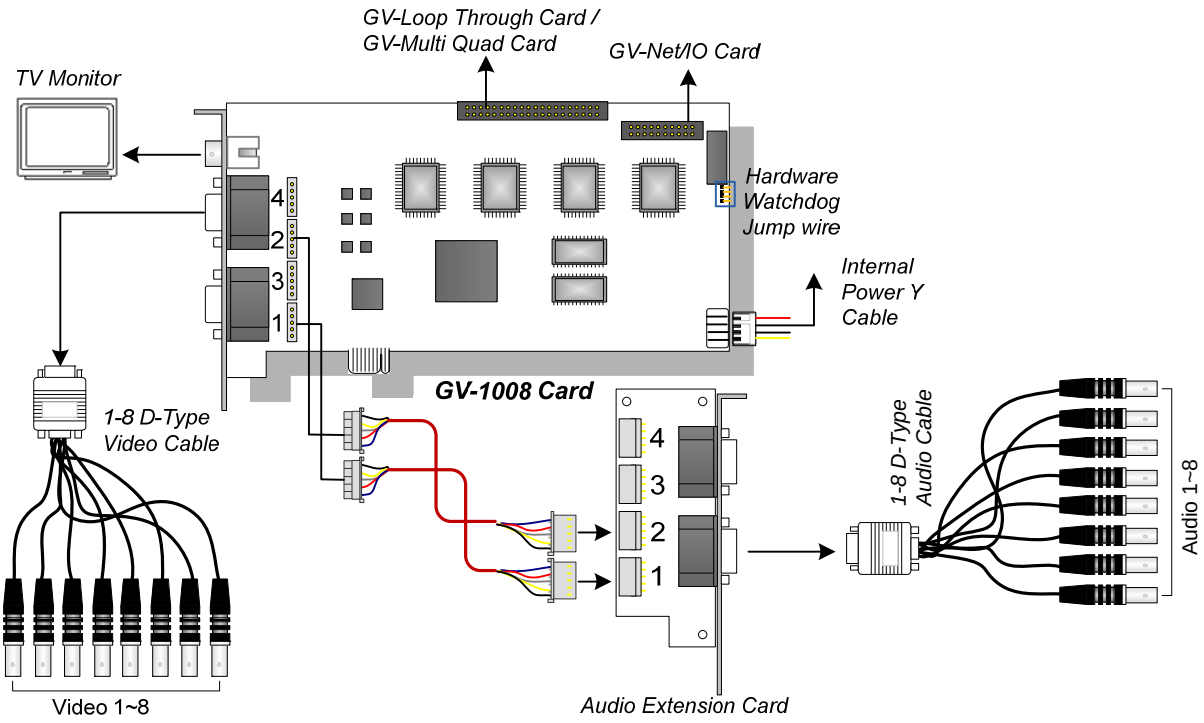


Figure 1-19

Note: The Card only works when it connects to PC's power supply using the supplied Internal Power Y Cable.

Connecting Two GV-1008 Cards

You can install the Master and Slave of GV-1008 Cards for a total of 16 channels. The Master and Slave are distinguished by the labels on cards, as shown below:

Master Card: 

Slave Card: 

Use the supplied 40-pin cable to connect the Master and Slave Cards together.

IMPORTANT:

1. The Slave Cards cannot work alone. They need to work in conjunction with the Master Cards.
2. If both GV-1008 Cards are Master Cards, it is required to identify which are Master and Slave by the PCI-E slot number. Normally, the card attached to the lower PCI-E slot number will act as Master, and the card attached to the higher PCI-E slot number will act as Slave.

- **Video Channels:** Connect only Video Channels 1~8 of the Master Card and Video Channels 9~16 of the Slave Card with the supplied D-Type Video Cables
- **Audio channels:** Connect only Audio Channels 1~8 of the Master Card and Audio Channels 9~16 of the Slave Card to Audio Extension Card.
- **TV Output Connection:** Connect a TV Monitor to any of the RCA connectors on the Master and Slave Cards for displaying 1-16 channels.
- **Hardware Watchdog Connection:** Connect the supplied Hardware Watchdog Jump Wire to the Master Card only (Figure 1-21).
- **Accessory Card Connections:**
  - ⊙ GV-NET/IO Card: Connect the card only to the Master Card.
  - ⊙ GV-Loop Through Card: Connect one card to the 40-pin cable which connects both Master and Slave Cards.
  - ⊙ GV-Multi Quad Card: Connect one card to the 40-pin cable which connects both Master and Slave Cards.

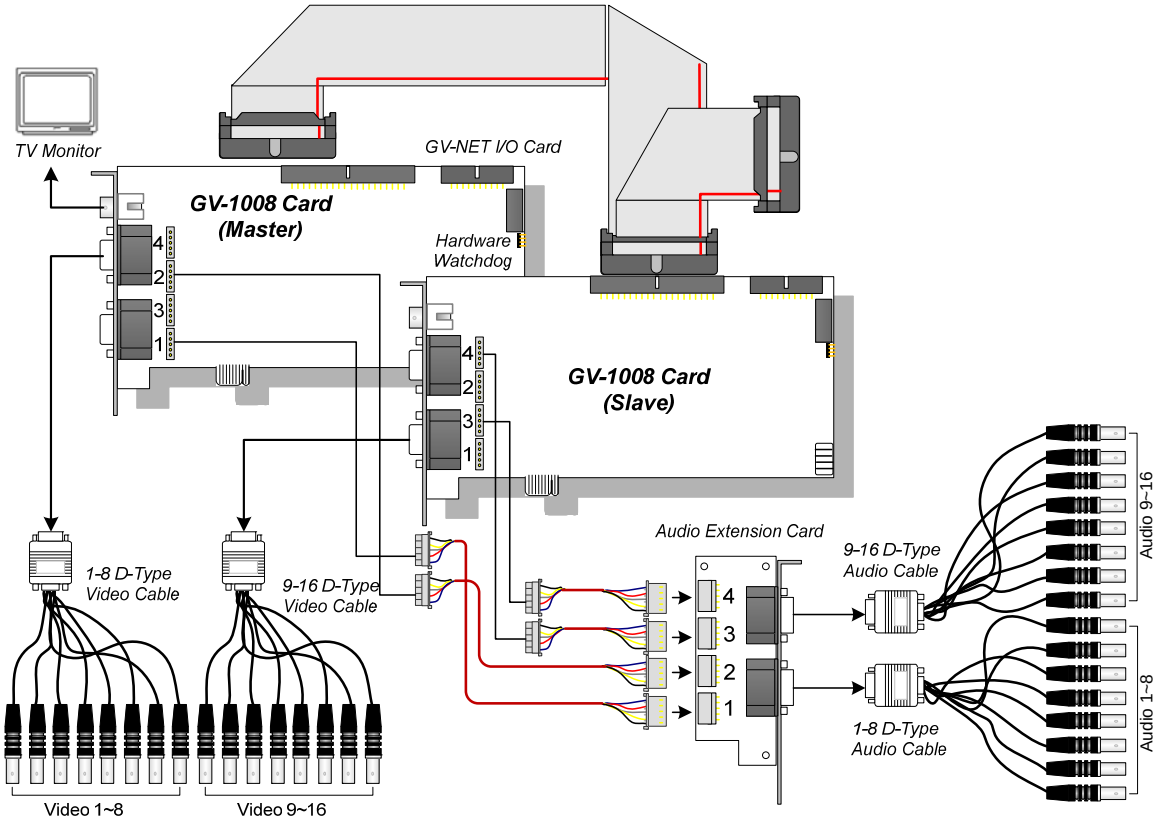

TV Monitor
GV-NET I/O Card
GV-1008 Card
(Master)
Hardware
Watchdog
GV-1008 Card
(Slave)
Audio Extension Card
1-8 D-Type
Video Cable
9-16 D-Type
Video Cable
9-16 D-Type
Audio Cable
1-8 D-Type
Audio Cable
Audio 9~16
Audio 1~8
Video 1~8
Video 9~16

Figure 1-20

Connecting Hardware Watchdog

Insert the Hardware Watchdog Jumper Wire to the 2-pin connectors on the Card. The (+) pin on the Card must connect to the Reset (+) pin on the motherboard, and the (-) pin on the Card to the Ground (-) pin on the motherboard. Ensure the connection is correct; otherwise the hardware watchdog will not work.

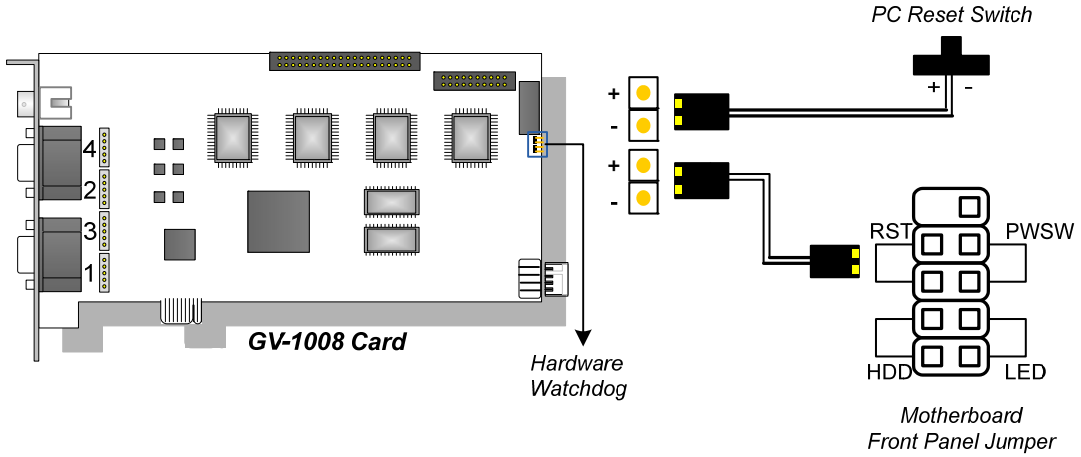


Figure 1-21

Note: To locate the motherboard's Reset (+) pin and (-) pin, please refer to the motherboard's user manual.

Installing Drivers

After installing the GV-1008 Card in the computer, insert the software DVD. The DVD will run automatically and an installation window will pop up. Select **Install or Remove GeoVision GV-Series Driver**, and select **Install or Remove GeoVision GV-Series Card Drivers** to install card drivers.

To verify the drivers are installed correctly, go to Windows Device Manager and see if their entries are listed.

Expand the **DVR-Devices** field, you can see:

GV-1008 Card	Entry
Single-card mode	GV1480A/GV1240A/GV1248A/GV1120A/GV1008
Two-card mode	GV1480A/GV1240A/GV1248A/GV1120A/GV1008 GV1480A/GV1240A/GV1248A/GV1120A/GV1008

Specifications

			GV-1008	GV-1008 x 2
Interface			PCI-E x1	
Input Type	D-Type		D-Type x 2	D-Type x 4
	DVI		DV1 x 2	DV1 x 4
Video Input			8 Cams	16 Cams
TV Output			RCA Connector x 1	
Audio Input			8 Channels	16 Channels
Recording Rate	CIF	NTSC	240 fps	480 fps
		PAL	200 fps	400 fps
	D1	NTSC	240 fps	480 fps
		PAL	200 fps	400 fps
Display Rate	CIF	NTSC	240 fps	480 fps
		PAL	200 fps	400 fps
	D1	NTSC	240 fps	480 fps
		PAL	200 fps	400 fps
Video Resolution	NTSC		704 x 480, 704 x 480 (De-interlace), 640 x 480, 640 X 480 (De-interlace), 352 x 240, 320 x 240	
	PAL		704 x 576, 704 x 576 (De-interlace), 640 x 480, 640 X 480 (De-interlace), 352 x 288, 320 x 240	
Video Compression Format			Geo MPEG4, Geo H264	
Audio Compression Format			AAC (16 kHz / 16 bit)	
GV-Multi Quad Card Support			Yes	
GV-Loop Through Card Support			Yes	
GV-NET/IO Card Support			Yes	
Dimensions (W x H)			179 x 99 mm / 7.04 x 3.89 in	

1.6 GV-900A

One GV-900A Card provides up to 32 video channels and 8 audio channels, recording up to 240 / 200 fps (NTSC / PAL) in total with H.264 software compression.

Minimum System Requirements

OS	32-bit	Windows XP / Windows Vista / Windows 7 / Windows Server 2008	
	64-bit	Windows 7 / Windows Server 2008	
CPU		GV-900A	Pentium 4, 3.0 GHz with Dual Core
		GV-900A x 2	Core i5-750, 2.66 GHz
RAM		2 x 1 GB Dual Channels	
HDD		GV-900A	160 GB
		GV-900A x 2	500 GB
VGA		ATI Radeon X1300 PCI-E / NVIDIA GeForce 7300 PCI-E	
DirectX		9.0c	

Packing List

1. GV-900A Card x 1
2. 1-16 Cams with 4-Port Audio DVI-Type Cable x 2 / 1-8 Cams with 4-Port Audio DVI-Type Cable x 2 / 1-4 Cams with 4-Port Audio DVI-Type Cable x 2
3. Hardware Watchdog Jumper Wire x 1
4. Software DVD x 1
5. Surveillance System Quick Start Guide x 1

Note: The two **1-16 Cams with 4-Port Audio DVI-Type** cables are supplied with the GV-900A card with 32 video inputs, the two **1-8 Cams with 4-Port Audio DVI-Type** cables are supplied with the GV-900A card with 16 video inputs and the two **1-4 Cams with 4-Port Audio DVI-Type** cables are supplied with the GV-900A card with 8 video inputs.

Connecting One GV-900A Card

Here we use the GV-900A Card of 8 channels to illustrate the connection.

- Connect the video / audio cables into the DVI ports of the GV-900A Card.
- Connect the supplied Hardware Watchdog Jump Wire (Figure 1-24).

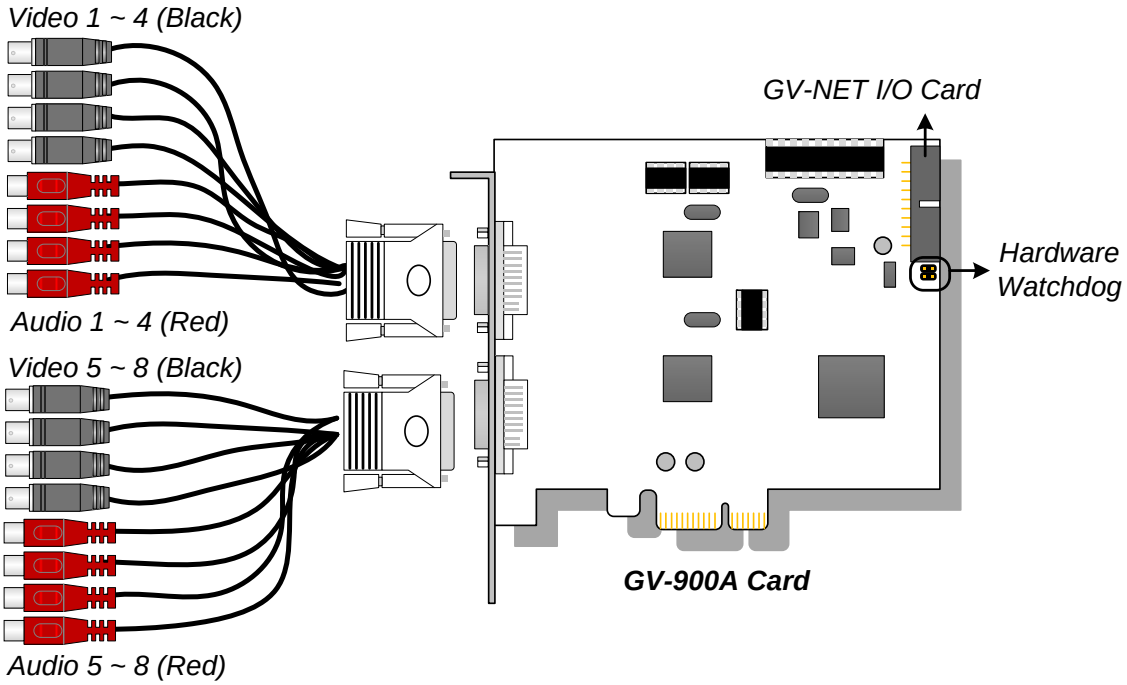


Figure 1-22

Connecting Two GV-900A Cards

You can install two GV-900A Cards for up to 32 channels. Normally, the card attached to the lower PCI-E slot number will act as Master, and the card attached to the higher PCI-E slot number will act as Slave.

- **Hardware Watchdog Connection:** Connect the supplied Hardware Watchdog Jump Wire to the Master Card only (Figure 1-24).
- **Accessory Card Connections:**
  - ⊙ GV-NET/IO Card: Connect the card to the Master Card only.

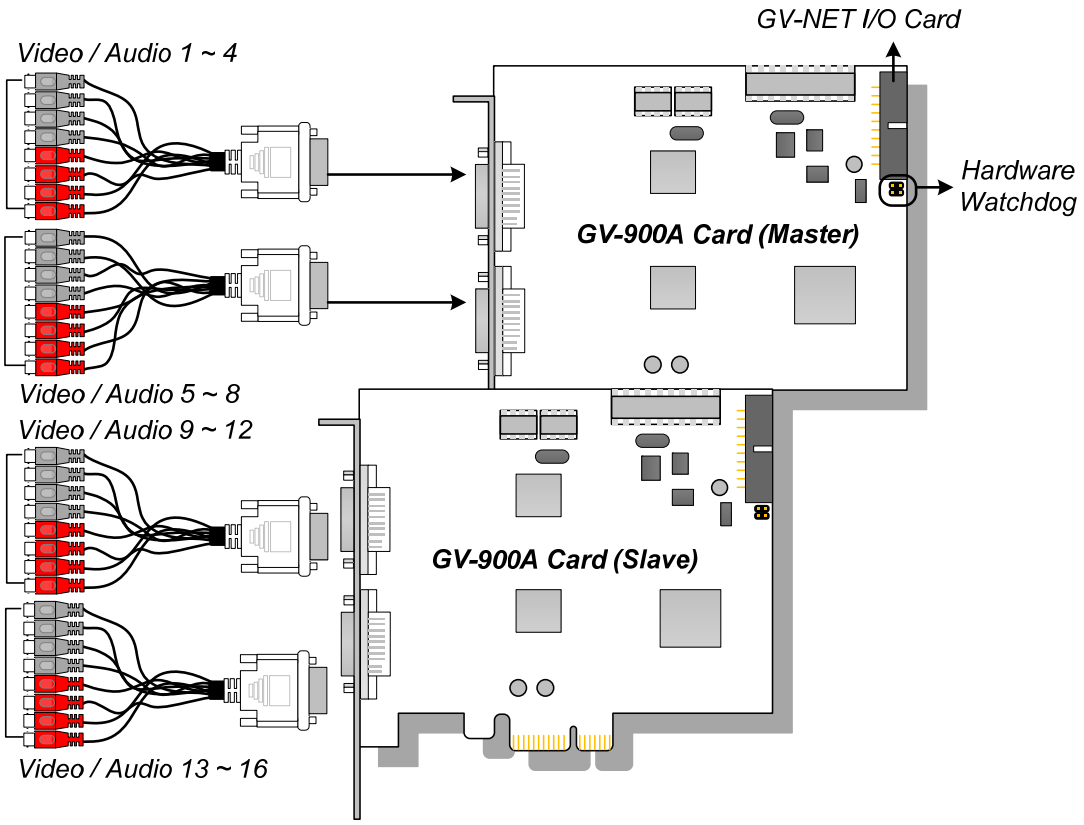


Figure 1-23

Connecting Hardware Watchdog

Insert the Hardware Watchdog Jumper Wire to the 2-pin connectors on the Card. The (+) pin on the Card must connect to the Reset (+) pin on the motherboard, and the (-) pin on the Card to the Ground (-) pin on the motherboard. Ensure the connection is correct; otherwise the hardware watchdog will not work.

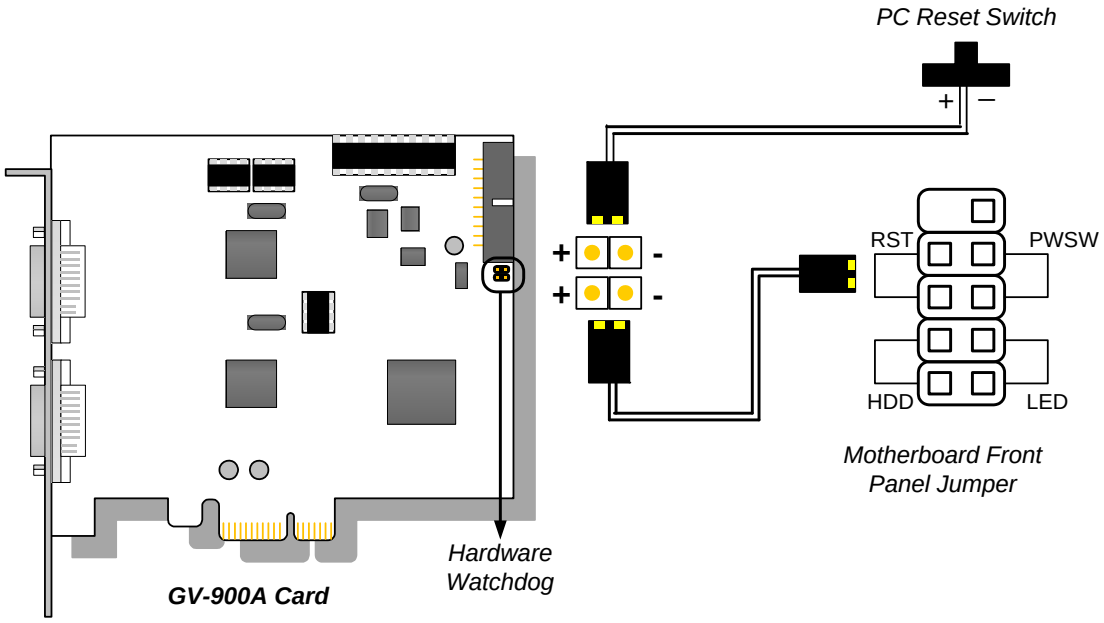


Figure 1-24

Note: To locate the motherboard's Reset (+) pin and (-) pin, please refer to the motherboard's user manual.

Installing Drivers

After installing the GV-900A Card in the computer, insert the software DVD. The DVD will run automatically and an installation window will pop up. Select **Install or Remove GeoVision GV-Series Driver**, and select **Install or Remove GeoVision GV-Series Card Drivers** to install card drivers.

To verify the drivers are installed correctly, go to Windows Device Manager and see if their entries are listed.

Expand the **DVR-Devices** field, you can see:

GV-900A Card	Entry	
Single-card mode	GV900(A) Audio #1 ~ 8 GV900(A) Video #1 ~ 8	
Two-card mode	GV900(A) Audio #1	GV900(A) Video #1
	GV900(A) Audio #1	GV900(A) Video #1
	GV900(A) Audio #2	GV900(A) Video #2
	GV900(A) Audio #2	GV900(A) Video #2
	GV900(A) Audio #3	GV900(A) Video #3
	GV900(A) Audio #3	GV900(A) Video #3
	GV900(A) Audio #4	GV900(A) Video #4
	GV900(A) Audio #4	GV900(A) Video #4
	GV900(A) Audio #5	GV900(A) Video #5
	GV900(A) Audio #5	GV900(A) Video #5
	GV900(A) Audio #6	GV900(A) Video #6
	GV900(A) Audio #6	GV900(A) Video #6
	GV900(A) Audio #7	GV900(A) Video #7
	GV900(A) Audio #7	GV900(A) Video #7
	GV900(A) Audio #8	GV900(A) Video #8
	GV900(A) Audio #8	GV900(A) Video #8

Specifications

			GV-900A	GV-900A x 2
Interface			PCI-E x1	
Input Type			DVI	
Video Input			8, 16, 32 Cams	16, 24, 32 Cams
Audio Input			8 Channels	16 Channels
Recording Rate	CIF	NTSC	8-port: 240 fps 32-port: 240 fps	8+8 port: 480 fps 16+16 port: 480 fps
		PAL	8-port: 200 fps 32-port: 200 fps	8+8 port: 400 fps 16+16 port: 400 fps
	D1	NTSC	8-port: 240 fps 32-port: 120 fps	8+8 port: 480 fps 16+16 port: 240 fps
		PAL	8-port: 240 fps 32-port: 100 fps	8+8 port: 480 fps 16+16 port: 200 fps
Display Rate	CIF	NTSC	8-port: 240 fps 32-port: 240 fps	8+8 port: 480 fps 16+16 port: 480 fps
		PAL	8-port: 200 fps 32-port: 200 fps	8+8 port: 400 fps 16+16 port: 400 fps
	D1	NTSC	8-port: 240 fps 32-port: 120 fps	8+8 port: 480 fps 16+16 port: 240 fps
		PAL	8-port: 240 fps 32-port: 100 fps	8+8 port: 480 fps 16+16 port: 200 fps
Video Resolution		NTSC	704 x 480, 704 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 240, 320 x 240	
		PAL	704x 576, 704 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 288, 320 x 240	
Video Compression Format			Geo MPEG4, Geo H264	
Audio Compression Format			AAC (16 kHz / 16 bit)	
GV-NET/IO Card Support			Yes	
Dimensions (W x H)			127 x 112 mm / 4.7 x 4.4 in	

1.7 GV-650A, GV-800A

The GV-650A and GV-800A Cards have similar appearances, system requirements and packing list so that we introduce both together in this section. However, you may choose between the two according to your need for recording rate and audio channels.

Minimum System Requirements

<table>
<tr><td rowspan="2">OS</td><td>32-bit</td><td colspan="3">Windows XP / Windows Vista / Windows 7 / Windows Server 2008</td></tr>
<tr><td>64-bit</td><td colspan="3">Windows 7 / Windows Server 2008</td></tr>
<tr><td colspan="2" rowspan="4">CPU</td><td>GV-650A</td><td colspan="2">Pentium 4, 2.4 GHz</td></tr>
<tr><td>GV-650A x 2</td><td colspan="2">Pentium 4, 2.8 GHz with Hyper-Threading</td></tr>
<tr><td>GV-800A</td><td colspan="2">Pentium 4, 3.0 GHz with Hyper-Threading</td></tr>
<tr><td>GV-800A x 2</td><td colspan="2">Pentium 4, 3.0 GHz Dual Core</td></tr>
<tr><td colspan="2" rowspan="3">RAM</td><td rowspan="2">GV-650A / GV-800A</td><td>Windows XP</td><td>2 x 512 MB Dual Channels</td></tr>
<tr><td>Windows Vista / 7 / Server 2008</td><td>2 x 1 GB Dual Channels</td></tr>
<tr><td>GV-650A x 2 / GV-800A x 2</td><td colspan="2">2 x 1 GB Dual Channels</td></tr>
<tr><td colspan="2" rowspan="2">HDD</td><td>GV-650A / GV-800A</td><td colspan="2">80 GB</td></tr>
<tr><td>GV-650A x 2 / GV-800A x 2</td><td colspan="2">160 GB</td></tr>
<tr><td colspan="2" rowspan="3">VGA</td><td>GV-650A / GV-800A</td><td colspan="2" rowspan="2">ATI Radeon X600 / NVIDIA 6200</td></tr>
<tr><td>GV-650A x 2</td></tr>
<tr><td>GV-800A x 2</td><td colspan="2">ATI Radeon X1300 PCI-E / NVIDIA GeForce 7300 PCI-E</td></tr>
<tr><td colspan="2">DirectX</td><td colspan="3">9.0c</td></tr>
</table>

Packing List

1. GV-800A or GV-650A Card x 1
2. Audio Extension Card x 1 **
3. 1-8 Cams with 4-Port Audio D-Type Cable x 1
4. 9-16 Cams D-Type Cable x 1 *
5. Hardware Watchdog Jumper Wire x 1
6. Software DVD x 1
7. Surveillance System Quick Start Guide x 1

* Supplied with 12-16 Cams D-Type Video Capture Card

** Supplied with GV-800A Card only

Connecting One GV-650A / GV-800A Card

The GV-650A Card is designed with a D-Type connector while the GV-800A Card is designed with two types of connectors: BNC and D-Type. BNC type only provides four video channels; audio extension card is required for extension. D-Type can provide up to 16 video channels and four audio channels together.

For the D-Type video capture card, plug the black video/audio cable into the black connector on the GV-650A / 800A Card; the blue video cable into the blue connector, as illustrated below.

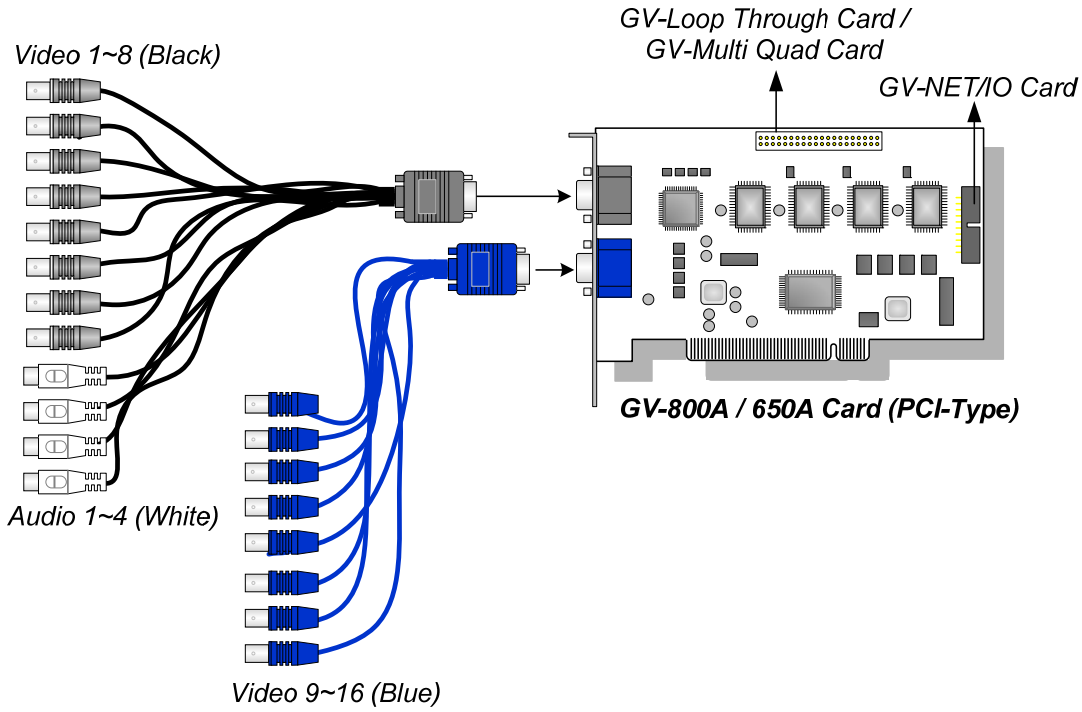


Figure 1-25 D-Type GV-650A / GV-800A Card with PCI interface

Note: The GV-650A Card only supports two audio channels so that only two audio ports can work in the supplied 1-8 Cams with 4-Port Audio D-Type cable.

For the BNC-type video capture card, plug the Audio Extension Card into the connector on the GV-804A Card, as illustrated below.

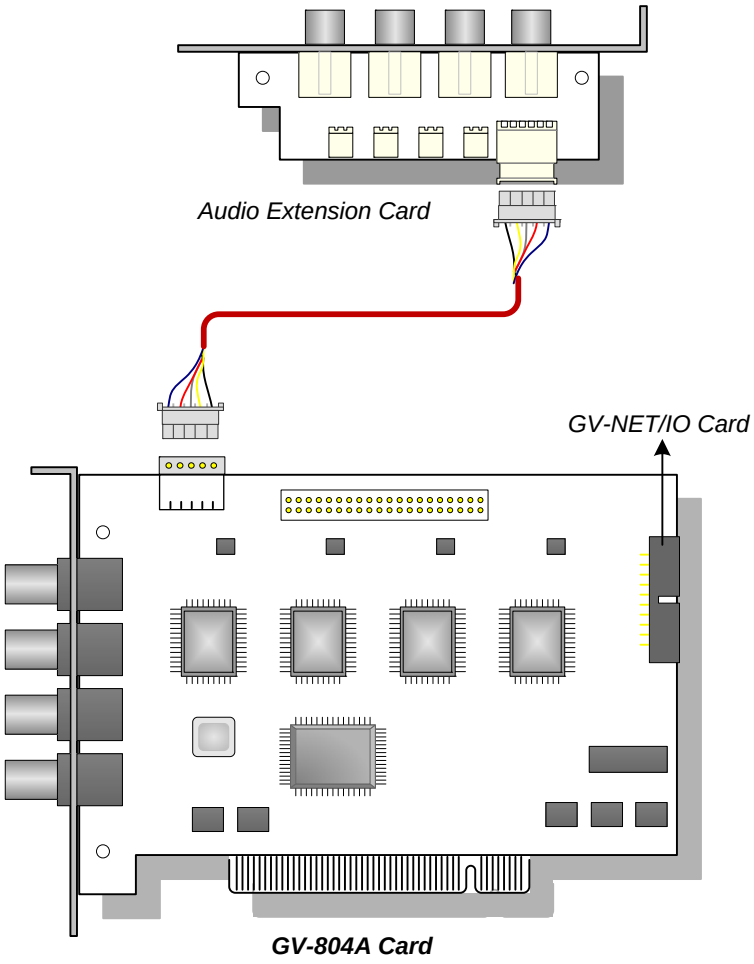


Figure 1-26 BNC-type GV-804A Card

Connecting Two GV-650A / GV-800A Cards

You can install two GV-650A / GV-800A of the same model for up to 32 channels. Master Card is the card with 1-16 channels and Slave Card is that with 17-32 channels. Normally, the card attached to the lower PCI slot number will act as Master, and the card attached to the higher PCI slot number will act as Slave.

Note: To install two GV-800A Cards, ensure one of both has PCI-E interface. For the detailed rules for two-card mode, see *1.10 Installing Two Cards*.

- **Two GV-650A Cards only support four audio channels:** Connect microphones to Audio 1 and Audio 2 connectors of the Master Card, and Audio 5 and Audio 6 connectors of the Slave Card.
- **Hardware Watchdog Connection:** Connect the supplied Hardware Watchdog Jump Wire to the Master Card only (Figure 1-28).
- **Accessory Card Connections:**
  - ⊙ GV-NET/IO Card: Connect the card to the Master Card only.
  - ⊙ GV-Loop Through Card: Connect the card for each video capture card.
  - ⊙ GV-Multi Quad Card: Only connect one card to any of two video capture cards.

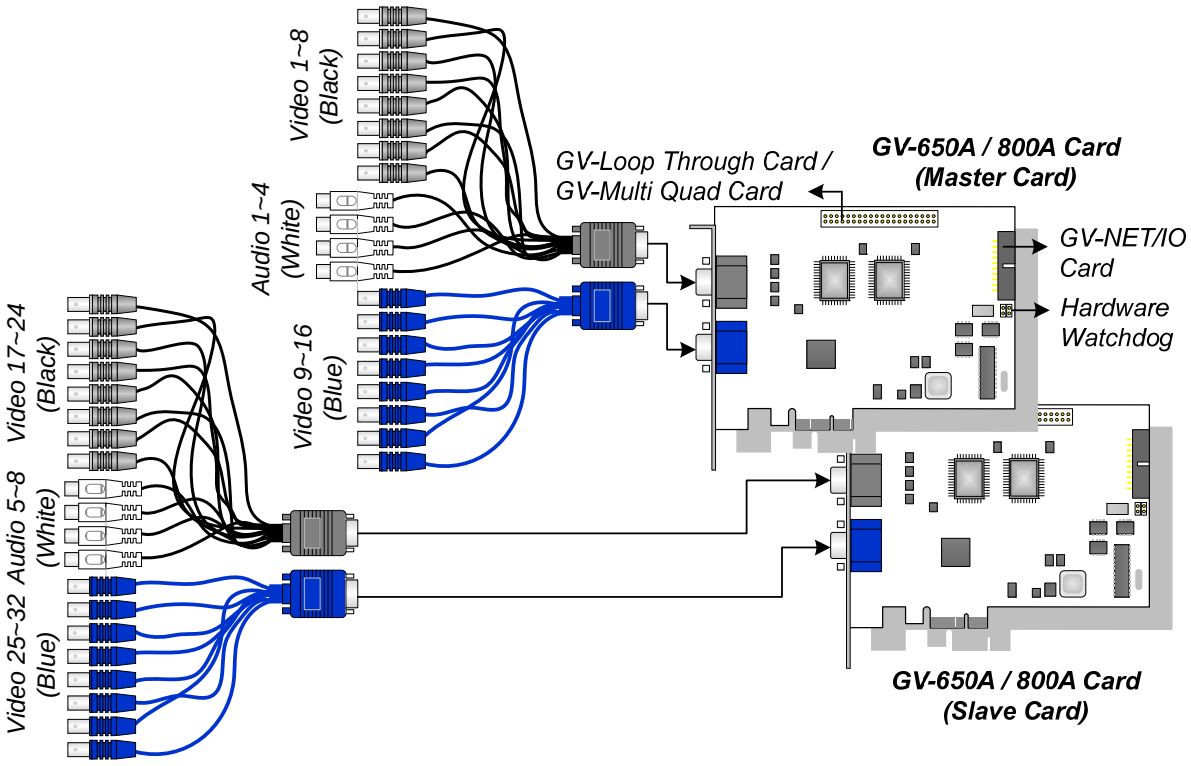


Figure 1-27 D-Type GV-650A / 800A Cards with PCI-E interface

Connecting Hardware Watchdog

Insert the Hardware Watchdog Jumper Wire to the 2-pin connectors on the Card. The (+) pin on the Card must connect to the Reset (+) pin on the motherboard, and the (-) pin on the Card to the Ground (-) pin on the motherboard. Ensure the connection is correct; otherwise the hardware watchdog will not work.

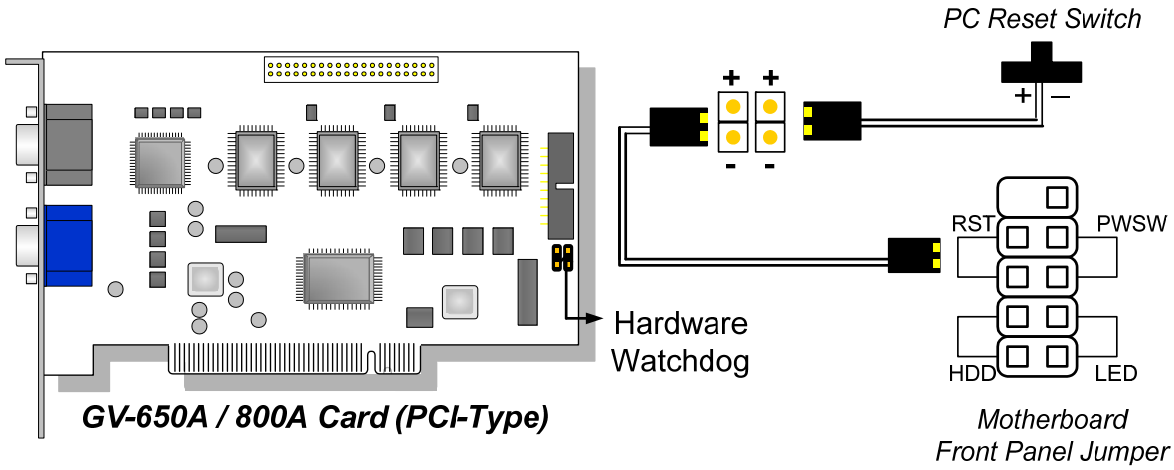


Figure 1-28

Note: To locate the motherboard's Reset (+) pin and (-) pin, please refer to the motherboard's user manual.

Installing Drivers

After installing the GV-650A / GV-800A Card in the computer, insert the software DVD. The DVD will run automatically and an installation window will pop up. Select **Install or Remove GeoVision GV-Series Driver**, and select **Install or Remove GeoVision GV-Series Card Drivers** to install card drivers.

To verify the drivers are installed correctly, go to Windows Device Manager and see if their entries are listed.

Expand the **DVR-Devices** field, you can see:

Card Model		Entry
GV-650A Card	Single-card mode	GV650(V4) Audio #1 ~ 2 GV650(V4) Video Capture #1 ~ 2
	Two-card mode	GV650(V4) Audio #1 GV650(V4) Audio #1 GV650(V4) Audio #2 GV650(V4) Audio #2 GV650(V4) Video Capture #1 GV650(V4) Video Capture #1 GV650(V4) Video Capture #2 GV650(V4) Video Capture #2
GV-800A Card	Single-card mode	GV800(V4) Audio #1 ~ 4 GV800(V4) Video Capture #1 ~ 4
	Two-card mode	GV800(V4) Audio #1 GV800(V4) Audio #1 GV800(V4) Audio #2 GV800(V4) Audio #2 GV800(V4) Audio #3 GV800(V4) Audio #3 GV800(V4) Audio #4 GV800(V4) Audio #4 GV800(V4) Video Capture #1 GV800(V4) Video Capture #1 GV800(V4) Video Capture #2 GV800(V4) Video Capture #2 GV800(V4) Video Capture #3 GV800(V4) Video Capture #3 GV800(V4) Video Capture #4 GV800(V4) Video Capture #4

Specifications

			GV-650A	GV-800A
Interface			PCI, PCI-E x1	
Input Type	BNC		None	BNC x 4
	D-Type		D-Type x 2	
Video Input			4, 8, 12, 16 Cams	
Audio Input			2 Channels	4 Channels
Recording Rate	CIF	NTSC	60 fps	120 fps
		PAL	50 fps	100 fps
	D1	NTSC	30 fps	60 fps
		PAL	25 fps	50 fps
Display Rate	CIF	NTSC	60 fps	120 fps
		PAL	50 fps	100 fps
	D1	NTSC	30 fps	60 fps
		PAL	25 fps	50 fps
Video Resolution		NTSC	704 x 480, 704 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 240, 320 x 240	
		PAL	704x 576, 704 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 288, 320 x 240	
Video Compression Format			Geo MPEG4, Geo H264	
Audio Compression Format			AAC (16 kHz / 16 bit)	
GV-NET/IO Card Support			Yes	
Dimensions (W x H)		BNC	GV-804A	152 x 94 mm / 5.98 x 3.7 in
		D-Type	GV-650A	174 x 98 mm / 6.85 x 3.86 in
			GV-800A	174 x 98 mm / 6.85 x 3.86 in

			GV-650A x 2	GV-800A x 2
Interface			PCI, PCI-E x1	
Input Type		BNC	None	BNC x 8
		D-Type	D-Type x 4	
Video Input			32 Cams (Max.)	16, 20, 24, 28, 32 Cams
Audio Input			4 Channels	8 Channels
Recording Rate	CIF	NTSC	120 fps	240 fps
		PAL	100 fps	200 fps
	D1	NTSC	60 fps	120 fps
		PAL	50 fps	100 fps
Display Rate	CIF	NTSC	120 fps	240 fps
		PAL	100 fps	200 fps
	D1	NTSC	60 fps	120 fps
		PAL	50 fps	100 fps
Video Resolution		NTSC	704 x 480, 704 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 240, 320 x 240	
		PAL	704x 576, 704 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 288, 320 x 240	
Video Compression Format			Geo MPEG4, Geo H264	
Audio Compression Format			AAC (16 kHz / 16 bit)	
GV-NET/IO Card Support			Yes	
GV-Multi Quad Card Support			Yes	
GV-Loop Through Card Support			Yes	
Dimensions (W x H)		BNC	GV-804A	152 x 94 mm / 5.98 x 3.7 in
		D-Type	GV-650A	174 x 98 mm / 6.85 x 3.86 in
			GV-800A	174 x 98 mm / 6.85 x 3.86 in

1.8 GV-600A

There are two types of GV-600A Cards: BNC and D-Type. BNC-Type only provides four video channels; video and audio extension cards are required for extension. D-Type can provide up to 16 video channels and one audio channel together.

Minimum System Requirements

<table>
<tr><td rowspan="2">OS</td><td>32-bit</td><td colspan="3">Windows XP / Windows Vista / Windows 7 / Windows Server 2008</td></tr>
<tr><td>64-bit</td><td colspan="3">Windows 7 / Windows Server 2008</td></tr>
<tr><td colspan="2" rowspan="2">CPU</td><td>GV-600A</td><td colspan="2">Pentium 4, 2.0 GHz</td></tr>
<tr><td>GV-600A x 2</td><td colspan="2">Pentium 4, 2.6 GHz with Hyper-Threading</td></tr>
<tr><td colspan="2" rowspan="3">RAM</td><td rowspan="2">GV-600A</td><td>Windows XP</td><td>2 x 512 MB Dual Channels</td></tr>
<tr><td>Windows Vista / 7 / Server 2008</td><td>2 x 1 GB Dual Channels</td></tr>
<tr><td>GV-600A x 2</td><td colspan="2">2 x 1 GB Dual Channels</td></tr>
<tr><td colspan="2" rowspan="2">HDD</td><td>GV-600A</td><td colspan="2">80 GB</td></tr>
<tr><td>GV-600A x 2</td><td colspan="2">160 GB</td></tr>
<tr><td colspan="2">VGA</td><td colspan="3">ATI Radeon X600 / NVIDIA 6200</td></tr>
<tr><td colspan="2">DirectX</td><td colspan="3">9.0c</td></tr>
</table>

Packing List

1. GV-600A Card x 1
2. Audio Extension Card x 1 **
3. 1-8 Cams with 4-Port Audio D-Type
4. 9-16 Cams D-Type Cable x 1 *
5. Hardware Watchdog Jumper
6. Software DVD x 1
7. Surveillance System Quick Start Guide x 1

* Supplied with 10-16 Cams D-Type Video Capture Card

** Supplied with BNC Video Capture Card

Connecting One GV-600A Card

For the D-Type video capture card, plug the black video / audio cable into the black connector on the GV-600A Card; the blue video cable into the blue connector, as illustrated below.

Note: The GV-600A Card only supports one audio channel so that only one audio port can work in the supplied 1-8 Cams with 4-Port Audio D-Type cable.

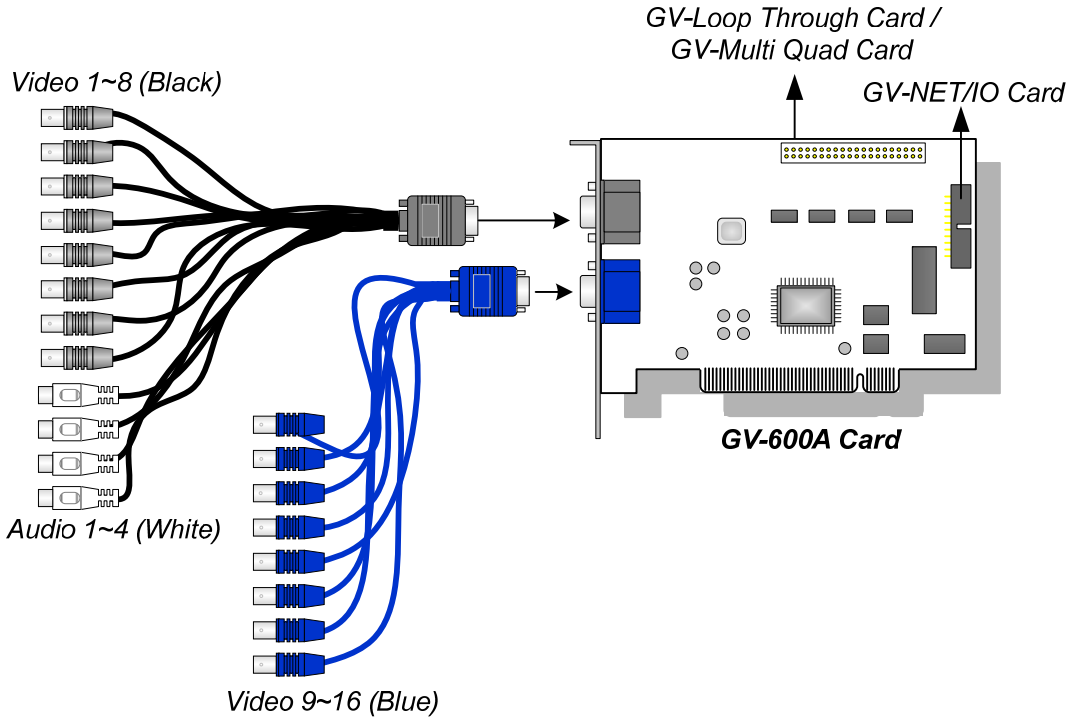


Figure 1-29

For the BNC-Type video capture card, plug the Audio Extension Card into the connector on the GV-600A Card, as illustrated below.

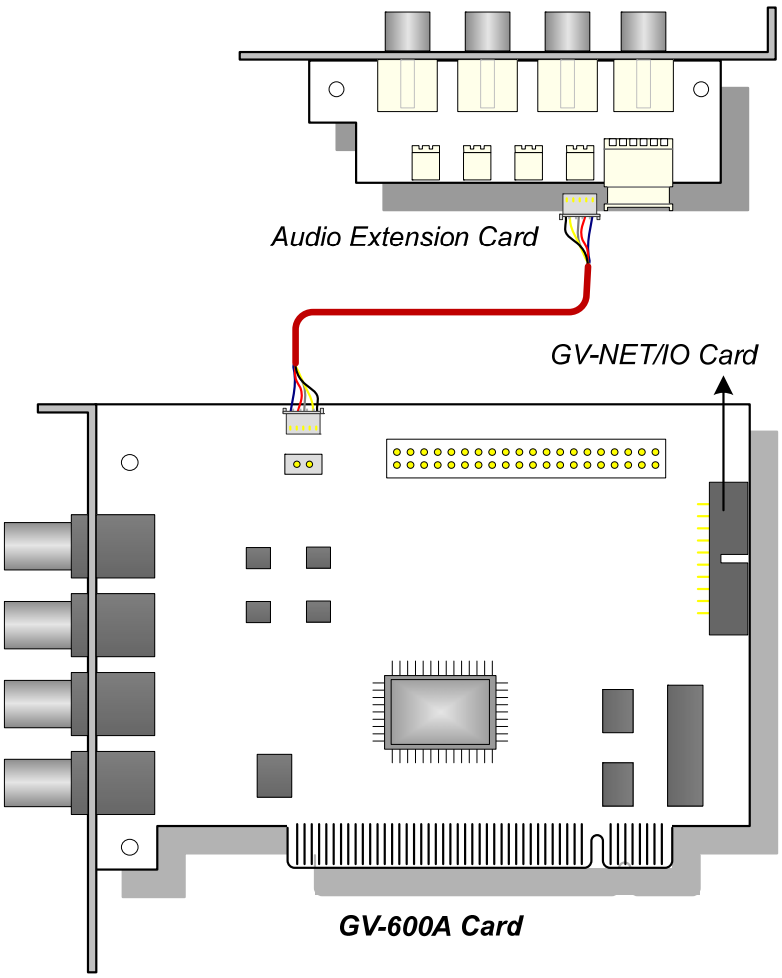


Figure 1-30

Connecting Two GV-600A Cards

You can install two GV-600A Cards for up to 32 channels. Master Card is the card with 1-16 channels and Slave Card is that with 17-32 channels. Normally, the card attached to the lower PCI slot number will act as Master, and the card attached to the higher PCI slot number will act as Slave.

- **Two GV-600A Cards only support two audio channels:** Connect microphones to Audio 1 connector of the Master Card, and Audio 5 connector of the Slave Card.
- **Hardware Watchdog Connection:** Connect the supplied Hardware Watchdog Jump Wire to the Master Card only (Figure 1-32).
- **Accessory Card Connections:**
  - ⊙ GV-NET/IO Card: Connect the card to the Master Card only.
  - ⊙ GV-Loop Through Card: Connect the card for each video capture card.
  - ⊙ GV-Multi Quad Card: Only connect one card to any of two video capture cards.

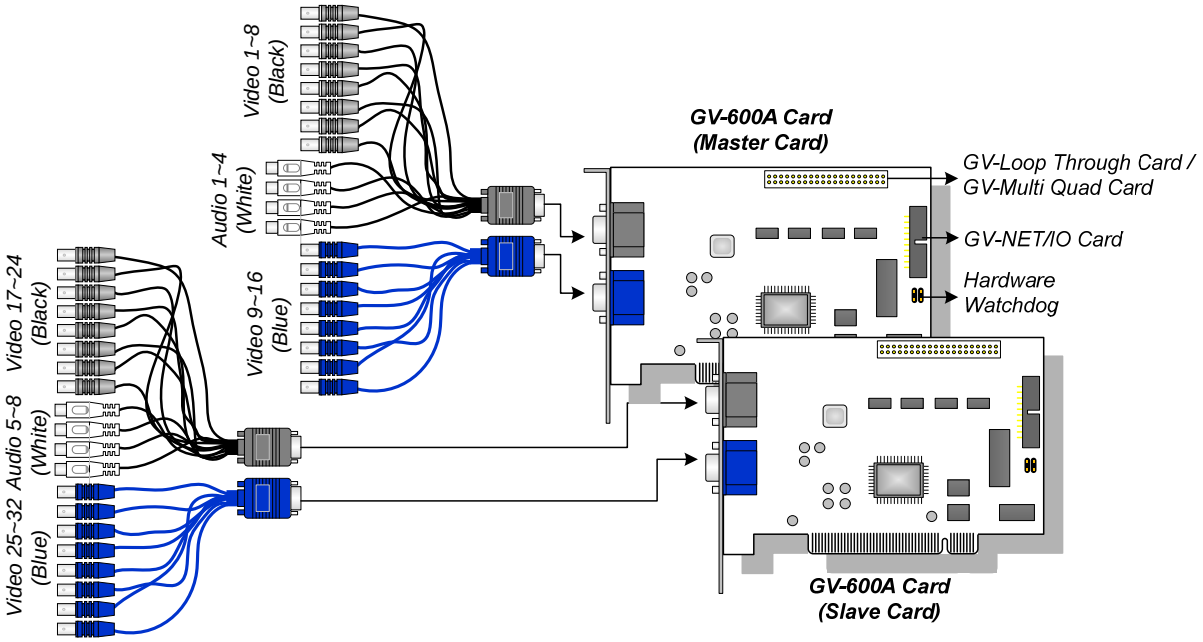


Figure 1-31

Connecting Hardware Watchdog

To reboot the computer by the hardware watchdog on the GV-Video Capture Card, a connection needs to be made from the card to the motherboard.

1. Using the supplied jumper wire, connect the reset jumper pins on the card and on the motherboard.

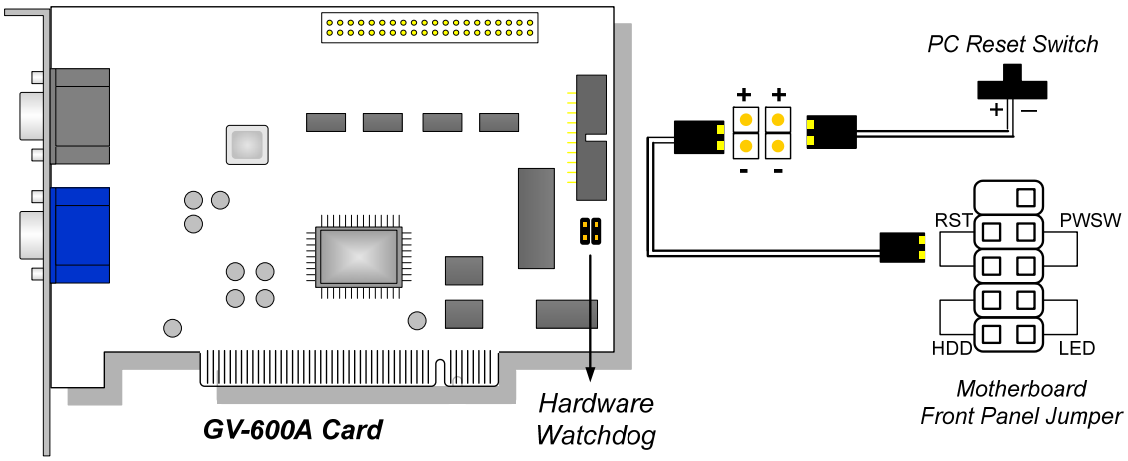


Figure 1-32

2. If the computer has a reset switch, the switch's jumper wire should already be connected to the motherboard's reset jumper pins. Remove the switch wire from the motherboard and connect it to the reset jumper pins on the card.

Installing Drivers

After installing the GV-600A Card in the computer, insert the software DVD. The DVD will run automatically and an installation window will pop up. Select **Install or Remove GeoVision GV-Series Driver**, and select **Install or Remove GeoVision GV-Series Card Drivers** to install card drivers.

To verify the drivers are installed correctly, go to Windows Device Manager and see if their entries are listed.

Expand the **DVR-Devices** field, you can see:

GV-600A Card	Entry
Single-card mode	GV600(V4) Audio GV600(V4) Video Capture
Two-card mode	GV600(V4) Audio GV600(V4) Audio GV600(V4) Video Capture GV600(V4) Video Capture

Specifications

			GV-600A x 1	GV-600A x 2
Interface			PCI	
Input Type	BNC		BNC x 4	BNC x 8
	D-Type		D-Type x 2	D-Type x 4
Video Input			1, 2, 4, 6, 8, 10, 12, 14, 16 Cams	32 Cams (Max.)
Audio Input			1 Channel	2 Channels
Recording Rate	CIF	NTSC	30 fps	60 fps
		PAL	25 fps	50 fps
	D1	NTSC	15 fps	30 fps
		PAL	12.5 fps	25 fps
Display Rate	CIF	NTSC	30 fps	60 fps
		PAL	25 fps	50 fps
	D1	NTSC	15 fps	30 fps
		PAL	12.5 fps	25 fps
Video Resolution		NTSC	704 x 480, 704 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 240, 320 x 240	
		PAL	704 x 576, 704 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 288, 320 x 240	
Video Compression Format			Geo MPEG4, Geo H264	
Audio Compression Format			AAC (16 kHz / 16 bit)	
GV-NET/IO Card Support			Yes	
GV-Multi Quad Card Support			Yes	
GV-Loop Through Card Support			Yes	
Dimensions (W x H)			144 x 89 mm / 5.67 x 3.50 in	

1.9 GV-600B, GV-650B, GV-800B

There are two types of GV-600B / GV-650B / GV-800B Card: PCI and PCI-E. Both types of the GV-600B / GV-650B / GV-800B Card provide up to 16 video channels and 4 audio channels. The GV-600B, GV-650B and GV-800B Cards have the same appearances and similar system requirements so that we introduce the three cards together in this section. However, you may choose among the three according to your need for recording rate.

Minimum System Requirements

<table>
<tr><td rowspan="2">OS</td><td>32-bit</td><td colspan="3">Windows XP / Windows Vista / Windows 7 / Windows Server 2008</td></tr>
<tr><td>64-bit</td><td colspan="3">Windows 7 / Windows Server 2008</td></tr>
<tr><td colspan="2" rowspan="6">CPU</td><td>GV-600B</td><td colspan="2">Pentium 4, 2.0 GHz</td></tr>
<tr><td>GV-600B x 2</td><td colspan="2">Pentium 4, 2.6 GHz with Hyper Threading</td></tr>
<tr><td>GV-650B</td><td colspan="2">Pentium 4, 2.4 GHz</td></tr>
<tr><td>GV-650B x 2</td><td colspan="2">Pentium 4, 2.8 GHz with Hyper Threading</td></tr>
<tr><td>GV-800B</td><td colspan="2">Pentium 4, 3.0 GHz with Hyper-Threading</td></tr>
<tr><td>GV-800B x 2</td><td colspan="2">Pentium 4, 3.0 GHz Dual Core</td></tr>
<tr><td colspan="2" rowspan="3">RAM</td><td rowspan="2">GV-600B / 650B / 800B</td><td>Windows XP</td><td>2 x 512 MB Dual Channels</td></tr>
<tr><td>Windows Vista / 7 / Server 2008</td><td>2 x 1 GB Dual Channels</td></tr>
<tr><td>GV-600B x 2 / 650B x 2 / 800B x 2</td><td colspan="2">2 x 1 GB Dual Channels</td></tr>
<tr><td colspan="2" rowspan="2">HDD</td><td>GV-600B / 650B / 800B</td><td colspan="2">80 GB</td></tr>
<tr><td>GV-600B x 2 / 650B x 2 / 800B x 2</td><td colspan="2">160 GB</td></tr>
<tr><td colspan="2" rowspan="3">VGA</td><td>GV-600B / 650B / 800B</td><td colspan="2" rowspan="2">ATI Radeon X600 / NVIDIA 6200</td></tr>
<tr><td>GV-600B x 2 / 650B x 2</td></tr>
<tr><td>GV-800B x 2</td><td colspan="2">ATI Radeon X1300 PCI-E / NVIDIA GeForce 7300 PCI-E</td></tr>
<tr><td colspan="2">DirectX</td><td colspan="3">9.0c</td></tr>
</table>

Packing List

1. GV-600B, GV-650B or GV-800B Card x 1
2. 1-16 Cams with 4-Port Audio DVI-Type Cable x 1 / 1-8 Cams with 4-Port Audio DVI-Type Cable x 1 / 1-4 Cams with 4-Port Audio DVI-Type Cable x 1
3. Hardware Watchdog Jumper Wire x 1
4. Software DVD x 1
5. Surveillance System Quick Start Guide x 1

Note: The **1-16 Cams with 4-Port Audio DVI-Type** cable is supplied with GV-600B / GV-650B / GV-800B card with 16 video inputs, the **1-8 Cams with 4-Port Audio DVI-Type** cable is supplied with GV-600B / GV-650B / GV-800B card with 8 video inputs, while the **1-4 Cams with 4-Port Audio DVI-Type** cable is supplied with GV-600B / GV-650B / GV-800B card with 4 video inputs.

Connecting One GV-600B / GV-650B / GV-800B Card

There are two types of GV-600B / GV-650B / GV-800B Card: PCI and PCI-E. Here we take the GV-600B / GV-650B / GV-800B Card with PCI interface for example to illustrate the connection.

- Connect the video / audio cables into the DVI ports of the GV-600B / GV-650B / GV-800B Card.
- Connect the supplied Hardware Watchdog Jump Wire (Figure 1-35).

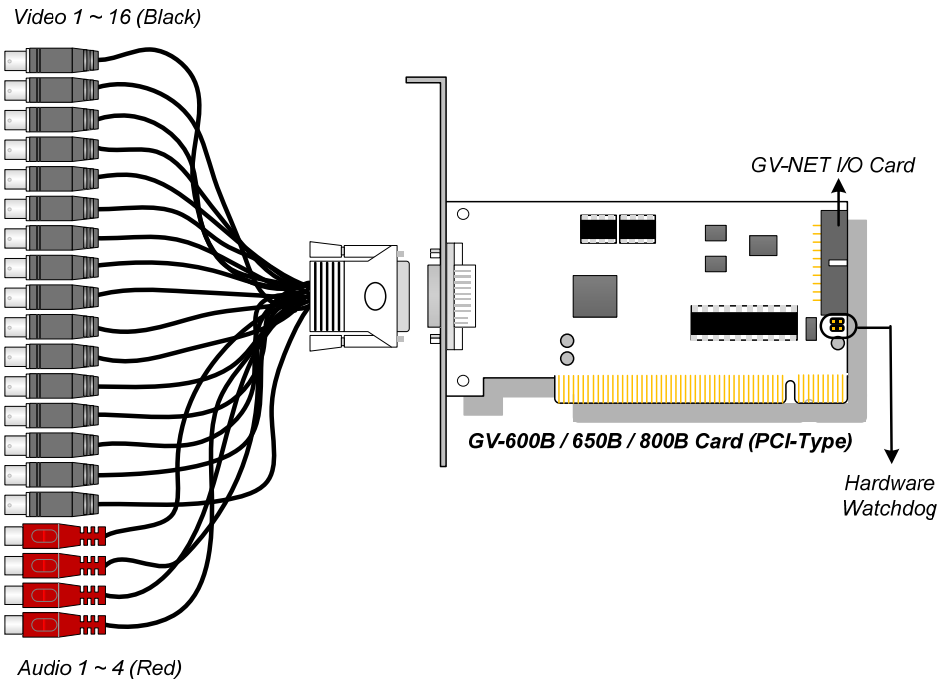


Figure 1-33

Connecting Two GV-600B / GV-650B / GV-800B Cards

You can install two GV-600B / GV-650B / GV-800B Cards of the same model for up to 32 channels. Master Card is the card with 1-16 channels and Slave Card is that with 17-32 channels. Normally, the card attached to the lower PCI-E slot number will act as Master, and the card attached to the higher PCI-E slot number will act as Slave.

Note:

1. You can only install two cards of the same model for a total of 32 channels.
2. For two-card mode, it is required to use two PCI-E cards.

- **Hardware Watchdog Connection:** Connect the supplied Hardware Watchdog Jump Wire to the Master Card only (Figure 1-35).
- **Accessory Card Connection:** Connect the GV-NET/IO Card to the Master Card only.

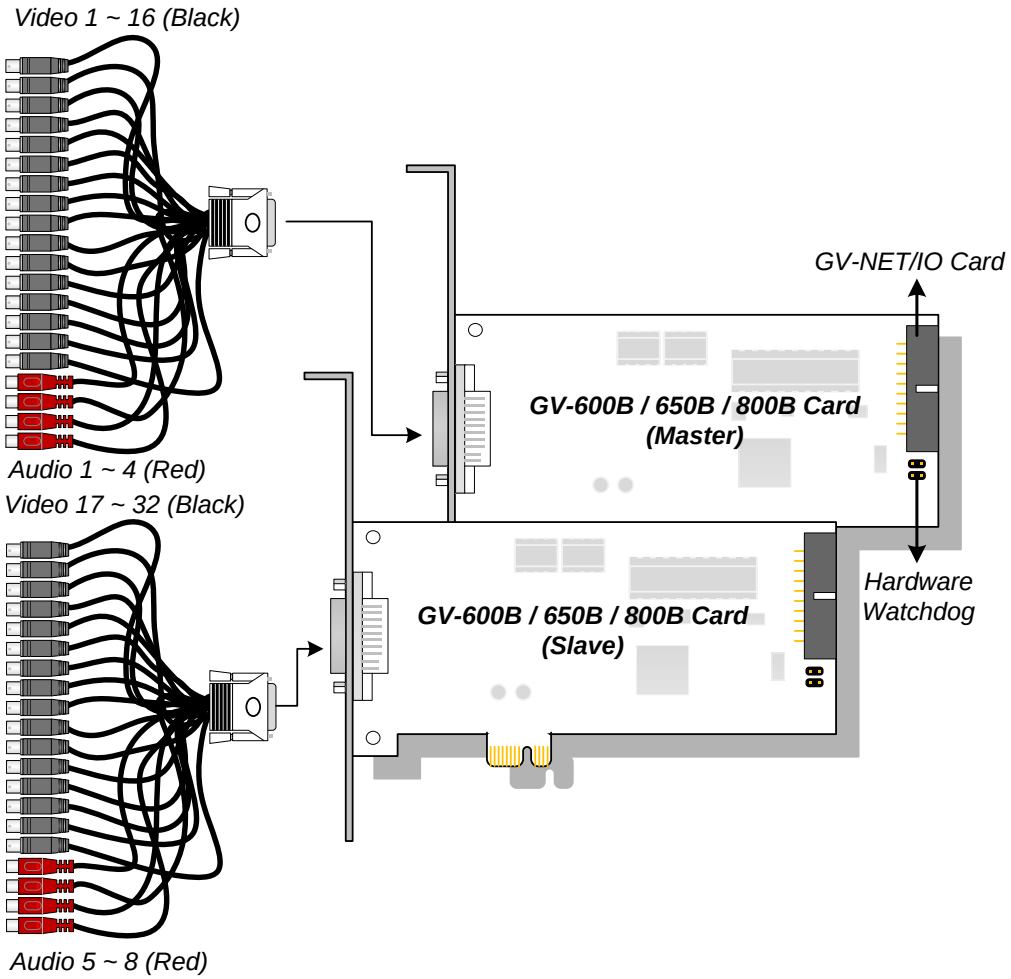


Figure 1-34

Connecting Hardware Watchdog

Insert the Hardware Watchdog Jumper Wire to the 2-pin connectors on the Card. The (+) pin on the Card must connect to the Reset (+) pin on the motherboard, and the (-) pin on the Card to the Ground (-) pin on the motherboard. Ensure the connection is correct; otherwise the hardware watchdog will not work.

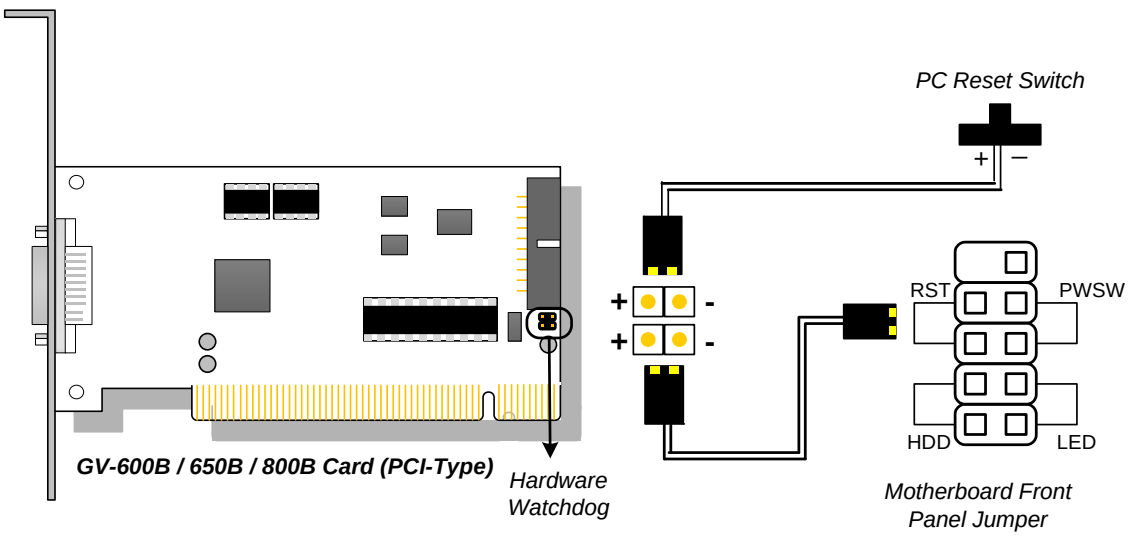


Figure 1-35

Note: To locate the motherboard's Reset (+) pin and (-) pin, please refer to the motherboard's user manual.

Installing Drivers

After installing the GV-600B / GV-650B / GV-800B Card in the computer, insert the software DVD. The DVD will run automatically and an installation window will pop up. Select **Install or Remove GeoVision GV-Series Driver**, and select **Install or Remove GeoVision GV-Series Card Drivers** to install card drivers.

To verify the drivers are installed correctly, go to Windows Device Manager and see if their entries are listed.

Expand the **DVR-Devices** field, you can see:

Card Models	Entry	
GV-600B	GV600(B) Audio #1 ~ 4 GV600(B) Video #1 ~ 4	
GV-600B x 2	GV600(B) Audio #1 GV600(B) Audio #1 GV600(B) Audio #2 GV600(B) Audio #2 GV600(B) Audio #3 GV600(B) Audio #3 GV600(B) Audio #4 GV600(B) Audio #4	GV600(B) Video #1 GV600(B) Video #1 GV600(B) Video #2 GV600(B) Video #2 GV600(B) Video #3 GV600(B) Video #3 GV600(B) Video #4 GV600(B) Video #4
GV-650B	GV650(B) Audio #1 ~ 4 GV650(B) Video #1 ~ 4	
GV-650B x 2	GV650(B) Audio #1 GV650(B) Audio #1 GV650(B) Audio #2 GV650(B) Audio #2 GV650(B) Audio #3 GV650(B) Audio #3 GV650(B) Audio #4 GV650(B) Audio #4	GV650(B) Video #1 GV650(B) Video #1 GV650(B) Video #2 GV650(B) Video #2 GV650(B) Video #3 GV650(B) Video #3 GV650(B) Video #4 GV650(B) Video #4
GV-800B	GV800(B) Audio #1 ~ 4 GV800(B) Video #1 ~ 4	
GV-800B x 2	GV800(B) Audio #1 GV800(B) Audio #1 GV800(B) Audio #2 GV800(B) Audio #2 GV800(B) Audio #3 GV800(B) Audio #3 GV800(B) Audio #4 GV800(B) Audio #4	GV800(B) Video #1 GV800(B) Video #1 GV800(B) Video #2 GV800(B) Video #2 GV800(B) Video #3 GV800(B) Video #3 GV800(B) Video #4 GV800(B) Video #4

Specifications

			GV-600B	GV-650B	GV-800B
Interface			PCI, PCI-E x1		
Input Type			DVI		
Video Input			4, 8, 16 Cams		
Audio Input			4 Channels		
Recording Rate	CIF	NTSC	30 fps	60 fps	120 fps
		PAL	25 fps	50 fps	100 fps
	D1	NTSC	15 fps	30 fps	60 fps
		PAL	12.5 fps	25 fps	50 fps
Display Rate	CIF	NTSC	30 fps	60 fps	120 fps
		PAL	25 fps	50 fps	100 fps
	D1	NTSC	15 fps	30 fps	60 fps
		PAL	12.5 fps	25 fps	50 fps
Video Resolution		NTSC	704 x 480, 704 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 240, 320 x 240		
		PAL	704 x 576, 704 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 288, 320 x 240		
Video Compression Format			Geo MPEG4, Geo H264		
Audio Compression Format			AAC (16 kHz / 16 bit)		
GV-NET/IO Card Support			Yes		
Dimensions (W x H)			PCI-Type: 120 x 65 mm / 4.7 x 2.5 in PCI-E Type: 120 x 82 mm / 4.7 x 3.2 in		

			GV-600B x 2	GV-650B x 2	GV-800B x 2
Interface			PCI-E x1		
Input Type			DVI		
Video Input			8, 16, 32 Cams		
Audio Input			8 Channels		
Recording Rate	CIF	NTSC	60 fps	120 fps	240 fps
		PAL	50 fps	100 fps	200 fps
	D1	NTSC	30 fps	60 fps	120 fps
		PAL	25 fps	50 fps	100 fps
Display Rate	CIF	NTSC	60 fps	120 fps	240 fps
		PAL	50 fps	100 fps	200 fps
	D1	NTSC	30 fps	60 fps	120 fps
		PAL	25 fps	50 fps	100 fps
Video Resolution		NTSC	704 x 480, 704 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 240, 320 x 240		
		PAL	704 x 576, 704 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 288, 320 x 240		
Video Compression Format			Geo MPEG4, Geo H264		
Audio Compression Format			AAC (16 kHz / 16 bit)		
GV-NET/IO Card Support			Yes		
Dimensions (W x H)			PCI-E Type: 120 x 82 mm / 4.7 x 3.2 in		

1.10 Installing Two Cards

You can install two video capture cards of the same model for a total of 32 channels. For example, 2 x GV-650A Cards (16 channels) = 32 channels.

It is also possible to implement two video capture cards of different channels. For example, GV-650A Card (12 channels) + GV-650A Card (16 channels) = 28 channels.

Note: Besides GV-804A Card and GV-600B / 650B / 800B Card with PCI interface, all GV video capture cards support two-card mode.

Rules to Use Two Cards

GV video capture cards have two interface types: PCI and PCI Express (PCI-E). When you install two video capture cards, ensure they are installed in the right slots as instructed in the following tables.

- **GV-600A, GV-650A, GV-800A**

<table>
<tr><th>Card Combination</th><th>V3.20 and later</th><th colspan="2">V4.20 and later</th></tr>
<tr><td>V3.20 and later</td><td>X</td><td colspan="2">X</td></tr>
<tr><td rowspan="6">V4.20 and later</td><td rowspan="6">X</td><td>GV-600A</td><td>PCI x 2</td></tr>
<tr><td rowspan="3">GV-650A</td><td>PCI x 2</td></tr>
<tr><td>PCI-E x 2</td></tr>
<tr><td>PCI x 1+ PCI-E x 1</td></tr>
<tr><td rowspan="2">GV-800A</td><td>PCI-E x 2</td></tr>
<tr><td>PCI x 1+ PCI-E x 1</td></tr>
</table>

1. The V3.20 (and later) Cards or the combination of V3.20 and V4.20 (and later) Cards do not support two-card mode.
2. For GV-600A cards, it is required to use two PCI slots.
3. For GV-650A cards, you can use two PCI slots, two PCI Express slots, or the combination of PCI and PCI Express slots.
4. For GV-800A cards, it is required to use two PCI Express slots, or the combination of PCI and PCI Express slots.

- **GV-600B, GV-650B, GV-800B, GV-900A**

Card Combination	GV-600B / 650B / 800B / 900A
GV-600B / 650B / 800B / 900A	PCI-E x 2

1. For GV-600B / 650B / 800B card, it is required to use two PCI Express slots.

- **GV-1120A, GV-1240A, GV-1480A**

Card Combination	V1.02 / V2.00 and later	Combo A Cards (GV-1120A / GV-1240A / GV-1480A)
V1.02 / V2.00 and later	PCI-E x 2	X
	PCI x 1+ PCI-E x 1	
Combo A Cards (GV-1120A / GV-1240A / GV-1480A)	X	PCI-E x 2

1. V1.02 / V2.00 (and later) and Combo A Cards all support two-card mode, but the combination of V1.02 / V2.00 (and later) and Combo A Cards does not support two-card mode.
2. When you install two V1.02 / V2.00 (and later) Cards, it is required to use two PCI Express slots or the combination of PCI and PCI Express slots.
3. When you install two Combo A Cards, it is required to use only two PCI Express slots.

- **GV-3008, GV-4008, GV-4008A**

Card Combination	GV-3008 / 4008 / 4008A
GV-3008 / 4008 / 4008A	PCI-E x 2

1.11 Installing Drivers

After you install the GV-Video Capture Card on the computer, the Found New Hardware Wizard will automatically detect the device. Ignore the wizard and follow these steps to install drivers:

1. Insert the software DVD. It will run automatically and pop up a window.
2. Select **Install or Remove GeoVision GV-Series Cards Driver** and select **Install or Remove GeoVision GV-Series Card Drivers**. This dialog box appears.

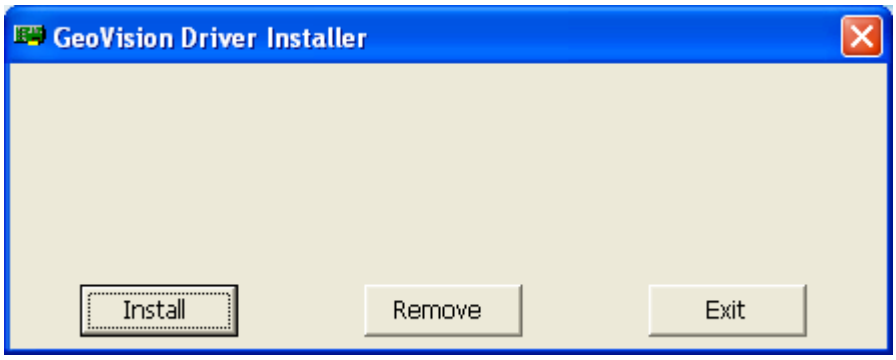


Figure 1-36

3. Click **Install** to install the drivers. When the installation is complete, this message will appear: Install Successfully.
4. Click **Exit** to close the dialog box.

Note: In Windows XP, the wizard will disappear after installation. In Windows 2000, close the wizard manually.

1.12 Comparison Chart (H/W Compression)

			GV-4008A	GV-4008A x 2
Interface			PCI-E x1	
Input Type			DVI	DVI
Video Input			8	16
Total Recording Rate (D1)	NTSC		240 fps	480 fps
	PAL		200 fps	400 fps
Display Rate	NTSC		240 fps	480 fps
	PAL		200 fps	400 fps
Video Codec	H/W		H.264	
	S/W		Geo MPEG4, Geo H264	
Video Resolution	NTSC	H/W	704 x 480	
		S/W	352 x 240	
	PAL	H/W	704 x 576	
		S/W	352 x 288	
Audio Input			8	16
Audio Codec			AAC (16 kHz / 16 bit)	
GV-Multi Quad Card Support			O	O
GV-Loop Through Card Support			O	O
GV-NET/IO Card Support			O[1]	O[1]
GV-I/O 12-In Card Support			O[1]	O[1]
GV-I/O 12-Out Card Support			O[1]	O[1]
Hardware Watchdog			O	O
Minimum System Requirements				
OS			Windows XP (32-bit) / Vista (32-bit) / 7 (32-bit and 64-bit) / Server 2008 (32-bit)	
DirectX			9.0c	
CPU			Core 2 Duo, 2.33G	Core 2 Quad, 2.4G
RAM			2 x 1 GB Dual Channels	
HDD			250 GB	500 GB
VGA			ATI Radeon X1300 PCI-E / NVIDIA GeForce 7300 PCI-E	

Note:

1. GV-Net/IO Card V3.1 must be set in the I/O Box Mode and connected to the PC through USB.
2. All Specifications are subject to change without notice.

			GV-4008	GV-4008 x 2
Interface			PCI-E x1	
Input Type			DVI	DVI
Video Input			8	16
Total Recording Rate (D1)	NTSC		240 fps	480 fps
	PAL		200 fps	400 fps
Display Rate	NTSC		240 fps	480 fps
	PAL		200 fps	400 fps
Video Codec	H/W		H.264	
	S/W		Geo MPEG4, Geo H264	
Video Resolution	NTSC	H/W	704 x 480	
		S/W	352 x 240	
	PAL	H/W	704 x 576	
		S/W	352 x 288	
Audio Input			8	16
Audio Codec			AAC (16 kHz / 16 bit)	
GV-Multi Quad Card Support			X	X
GV-Loop Through Card Support			X	X
GV-NET/IO Card Support			O[1]	O[1]
GV-I/O 12-In Card Support			O[1]	O[1]
GV-I/O 12-Out Card Support			O[1]	O[1]
Hardware Watchdog			O	O
Minimum System Requirements				
OS			Windows XP (32-bit) / Vista (32-bit) / 7 (32-bit and 64-bit) / Server 2008 (32-bit)	
DirectX			9.0c	
CPU			Core 2 Duo, 2.33G	Core 2 Quad, 2.4G
RAM			2 x 1 GB Dual Channels	
HDD			250 GB	500 GB
VGA			ATI Radeon X1300 PCI-E / NVIDIA GeForce 7300 PCI-E	

Note:

1. GV-Net/IO Card V3.1 must be set in the I/O Box Mode and connected to the PC through USB.
2. All Specifications are subject to change without notice.

			GV-3008	GV-3008 x 2
Interface			PCI-E x1	
Input Type			D-Type	D-Type
Video Input			8	16
Total Recording Rate (D1)	NTSC		240 fps	480 fps
	PAL		200 fps	400 fps
Display Rate	NTSC		240 fps	480 fps
	PAL		200 fps	400 fps
Video Codec	H/W		H.264	
	S/W		Geo MPEG4, Geo H264	
Video Resolution	NTSC	H/W	704 x 480	
		S/W	352 x 240	
	PAL	H/W	704 x 576	
		S/W	352 x 288	
Audio Input			8	16
Audio Codec			AAC (16 kHz / 16 bit)	
GV-Multi Quad Card Support			O	O
GV-Loop Through Card Support			O	O
GV-NET/IO Card Support			O	O
GV-I/O 12-In Card Support			O	O
GV-I/O 12-Out Card Support			O	O
Hardware Watchdog			O	O
Minimum System Requirements				
OS			Windows XP (32-bit) / Vista (32-bit) / 7 (32-bit and 64-bit) Server 2008 (32-bit)	
DirectX			9.0c	
CPU			Core 2 Duo, 2.33G	Core 2 Quad, 2.4G
RAM			2 x 1 GB Dual Channels	
HDD			250 GB	500 GB
VGA			ATI Radeon X1300 PCI-E / NVIDIA GeForce 7300 PCI-E	

Note: All Specifications are subject to change without notice.

1.13 Comparison Chart (S/W Compression: Single Card)

			GV-600A	GV-650A	GV-800A
Interface			PCI	PCI, PCI-E x1	
Input Type			BNC, D-Type	D-Type	BNC, D-Type
Video Input			1, 2, 4, 6, 8, 10, 12, 14, 16	4, 8, 12, 16	4, 8, 12, 16
Total Recording Rate	CIF	NTSC	30 fps	60 fps	120 fps
		PAL	25 fps	50 fps	100 fps
	D1	NTSC	15 fps	30 fps	60 fps
		PAL	12.5 fps	25 fps	50 fps
Display Rate	CIF	NTSC	30 fps	60 fps	120 fps
		PAL	25 fps	50 fps	100 fps
	D1	NTSC	15fps	30 fps	60 fps
		PAL	12.5 fps	25 fps	50 fps
Video Codec			Geo MPEG4, Geo H264		
Video Resolution		NTSC	704 x 480, 704 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 240, 320 x 240		
		PAL	704 x 576, 704 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 288, 320 x 240		
Audio Input			1	2	4
Audio Codec			AAC (16 kHz / 16 bit)		
GV-Multi Quad Card Support			O	O	O
GV-Loop Through Card			O	O	O
GV-NET/IO Card Support			O	O	O
GV-I/O 12-In Card Support			O	O	O
GV-I/O 12-Out Card Support			O	O	O
Hardware Watchdog			O	O	O
Minimum System Requirements					
OS			Windows XP (32-bit) / Vista (32-bit) / 7 (32-bit and 64-bit) / Server 2008 (32-bit and 64-bit)		
DirectX			9.0c		
CPU			Pentium 4, 2.0 GHz	Pentium 4, 2.4 GHz	Pentium 4, 3.0 GHz with HT
RAM			2 x 512 MB Dual Channels (Windows XP)		
			2 x 1 GB Dual Channels (Windows Vista / 7 / Server 2008)		
HDD			80 GB		
VGA			ATI Radeon X600A / NVIDIA 6200		

Note: All specifications are subject to change without notice.

			GV-600B	GV-650B	GV-800B	GV-900A
Interface			PCI, PCI-E x1			PCI-E x1
Input Type			DVI			
Video Input			4, 8, 16			8, 16, 32
Total Recording Rate	CIF	NTSC	30 fps	60 fps	120 fps	240 fps
		PAL	25 fps	50 fps	100 fps	200 fps
	D1	NTSC	15 fps	30 fps	60 fps	120 fps
		PAL	12.5 fps	25 fps	50 fps	100 fps
Display Rate	CIF	NTSC	30 fps	60 fps	120 fps	240 fps
		PAL	25 fps	50 fps	100 fps	200 fps
	D1	NTSC	15fps	30 fps	60 fps	120 fps
		PAL	12.5 fps	25 fps	50 fps	100 fps
Video Codec			Geo MPEG4, Geo H264			
Video Resolution		NTSC	704 x 480, 704 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 240, 320 x 240			
		PAL	704 x 576, 704 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 288, 320 x 240			
Audio Input			4			8
Audio Codec			AAC (16 kHz / 16 bit)			
GV-Multi Quad Card Support			X	X	X	X
GV-Loop Through Card			X	X	X	X
GV-NET/IO Card Support			O	O	O	O
GV-I/O 12-In Card Support			O	O	O	O
GV-I/O 12-Out Card Support			O	O	O	O
Hardware Watchdog			O	O	O	O
Minimum System Requirements						
OS			Windows XP (32-bit) / Vista (32-bit) / 7 (32-bit and 64-bit) / Server 2008 (32-bit and 64-bit)			
DirectX			9.0c			
CPU			Pentium 4, 2.0 GHz	Pentium 4, 2.4 GHz	Pentium 4, 3.0 GHz with HT	Pentium 4, 3.0 GHz Dual Core
RAM			2 x 512 MB Dual Channels (Windows XP)			2 x 1 GB Dual Channels
			2 x 1 GB Dual Channels (Windows Vista / 7 / Server 2008)			
HDD			80 GB			160 GB
VGA			ATI Radeon X600A / NVIDIA 6200			ATI Radeon X1300 PCI-E / NVIDIA GeForce 7300 PCI-E

Note: All specifications are subject to change without notice.

			GV-1008	GV-1120A	GV-1240A	GV-1480A
Interface			PCI-E x1			
Input Type			D-Type, DVI			
Video Input			8	8, 12, 16	8, 16	16
Total Recording Rate	CIF	NTSC	240 fps	120 fps	240 fps	480 fps
		PAL	200 fps	100 fps	200 fps	400 fps
	D1	NTSC	240 fps	80 fps	120 fps	240 fps
		PAL	200 fps	72 fps	100 fps	200 fps
Display Rate	CIF	NTSC	240 fps	480 fps	480 fps	480 fps
		PAL	200 fps	400 fps	400 fps	400 fps
	D1	NTSC	240 fps	480 fps	480 fps	480 fps
		PAL	200 fps	400 fps	400 fps	400 fps
Video Codec			Geo MPEG4, Geo H264			
Video Resolution		NTSC	704 x 480, 704 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 240, 320 x 240			
		PAL	704 x 576, 704 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 288, 320 x 240			
Audio Input			8	8, 12, 16	8, 16	16
Audio Codec			AAC (16 kHz / 16 bit)			
GV-Multi Quad Card Support			O	O	O	O
GV-Loop Through Card			O	O	O	O
GV-NET/IO Card Support			O	O	O	O
GV-I/O 12-In Card Support			O	O	O	O
GV-I/O 12-Out Card Support			O	O	O	O
Hardware Watchdog			O	O	O	O
Minimum System Requirements						
OS			Windows XP (32-bit) / Vista (32-bit) / 7 (32-bit and 64-bit) / Server 2008 (32-bit and 64-bit)			
DirectX			9.0c			
CPU			Core 2 Duo, 3.0 GHz	Pentium 4, 3.0 GHz With HT	Pentium 4, 3.0 GHz Dual Core	Core 2 Duo, 3.0 GHz
RAM			2 x 512 MB Dual Channels (Windows XP)			
			2 x 1 GB Dual Channels (Windows Vista / 7 / Server 2008)			
HDD			250GB	80 GB	120 GB	250 GB
VGA			ATI Radeon X1300 PCI-E / NVIDIA GeForce 7300 PCI-E			

Note: All specifications are subject to change without notice.

1.14 Comparison Chart (S/W Compression: Two Cards)

			GV-600A x 2	GV-650A x 2	GV-800A x 2
Interface			PCI	PCI, PCI-E x1	
Input Type			BNC, D-Type	D-Type	BNC, D-Type
Video Input			32 (Max)	32 (Max)	16, 20, 24, 28, 32
Total Recording Rate	CIF	NTSC	60 fps	120 fps	240 fps
		PAL	50 fps	100 fps	200 fps
	D1	NTSC	30 fps	60 fps	120 fps
		PAL	25 fps	50 fps	100 fps
Display Rate	CIF	NTSC	60 fps	120 fps	240 fps
		PAL	50 fps	100 fps	200 fps
	D1	NTSC	30 fps	60 fps	120 fps
		PAL	25 fps	50 fps	100 fps
Video Codec			Geo MPEG4, Geo H264		
Video Resolution		NTSC	704 x 480, 704 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 240, 320 x 240		
		PAL	704 x 576, 704 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 288, 320 x 240		
Audio Input			2	4	8
Audio Codec			AAC (16 kHz / 16 bit)		
GV-Multi Quad Card Support			O	O	O
GV-Loop Through Card Support			O	O	O
GV-NET/IO Card Support			O	O	O
GV-I/O 12-In Card Support			O	O	O
GV-I/O 12-Out Card Support			O	O	O
Hardware Watchdog			O	O	O
Minimum System Requirements					
OS			Windows XP (32-bit) / Vista (32-bit) / 7 (32-bit and 64-bit) / Server 2008 (32-bit and 64-bit)		
DirectX			9.0c		
CPU			Pentium 4, 2.6 GHz with HT	Pentium 4, 2.8 GHz with HT	Pentium 4, 3.0 GHz Dual Core
RAM			2 x 1 GB Dual Channels		
HDD			160 GB		
VGA			ATI Radeon X600 NVIDIA 6200		ATI Radeon X1300 PCI-E / NVIDIA GeForce 7300 PCI-E

Note: All specifications are subject to change without notice.

			GV-600B x 2	GV-650B x 2	GV-800B x 2	GV-900A x 2
Interface			PCI-E x1			
Input Type			DVI			
Video Input			8, 12, 16, 20, 24, 32			
Total Recording Rate	CIF	NTSC	60 fps	120 fps	240 fps	480 fps
		PAL	50 fps	100 fps	200 fps	400 fps
	D1	NTSC	30 fps	60 fps	120 fps	240 fps
		PAL	25 fps	50 fps	100 fps	200 fps
Display Rate	CIF	NTSC	60 fps	120 fps	240 fps	480 fps
		PAL	50 fps	100 fps	200 fps	400 fps
	D1	NTSC	30 fps	60 fps	120 fps	240 fps
		PAL	25 fps	50 fps	100 fps	200 fps
Video Codec			Geo MPEG4, Geo H264			
Video Resolution		NTSC	704 x 480, 704 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 240, 320 x 240			
		PAL	704 x 576, 704 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 288, 320 x 240			
Audio Input			8	8	8	16
Audio Codec			AAC (16 kHz / 16 bit)			
GV-Multi Quad Card Support			X	X	X	X
GV-Loop Through Card Support			X	X	X	X
GV-NET/IO Card Support			O	O	O	O
GV-I/O 12-In Card Support			O	O	O	O
GV-I/O 12-Out Card Support			O	O	O	O
Hardware Watchdog			O	O	O	O
Minimum System Requirements						
OS			Windows XP (32-bit) / Vista (32-bit) / 7 (32-bit and 64-bit) / Server 2008 (32-bit and 64-bit)			
DirectX			9.0c			
CPU			Pentium 4, 2.6 GHz with HT	Pentium 4, 2.8 GHz with HT	Pentium 4, 3.0 GHz Dual Core	Core i5-750, 2.66 GHz
RAM			2 x 1 GB Dual Channels			
HDD			160 GB			500 GB
VGA			ATI Radeon X600 / NVIDIA 6200		ATI Radeon X1300 PCI-E / NVIDIA GeForce 7300 PCI-E	

Note: All specifications are subject to change without notice.

			GV-1008 x 2	GV-1120A x 2	GV-1240A x 2	GV-1480A x 2
Interface			PCI-E x1			
Input Type			D-Type, DVI			
Video Input			16	16, 20, 24, 28, 32	16, 24, 32	32
Total Recording Rate	CIF	NTSC	480 fps	240 fps	480 fps	960 fps
		PAL	400 fps	200 fps	400 fps	800 fps
	D1	NTSC	480 fps	160 fps	240 fps	480 fps
		PAL	400 fps	144 fps	200 fps	400 fps
Display Rate	CIF	NTSC	480 fps	960 fps	960 fps	960 fps
		PAL	400 fps	800 fps	800 fps	800 fps
	D1	NTSC	480 fps	960 fps	960 fps	960 fps
		PAL	400 fps	800 fps	800 fps	800 fps
Video Codec			Geo MPEG4, Geo H264			
Video Resolution		NTSC	704 x 480, 704 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 240, 320 x 240			
		PAL	704 x 576, 704 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 352 x 288, 320 x 240			
Audio Input			16	16, 20, 24, 28, 32	16, 24, 32	32
Audio Codec			AAC (16 kHz / 16 bit)			
GV-Multi Quad Card Support			O	O	O	O
GV-Loop Through Card			O	O	O	O
GV-NET/IO Card Support			O	O	O	O
GV-I/O 12-In Card Support			O	O	O	O
GV-I/O 12-Out Card Support			O	O	O	O
Hardware Watchdog			O	O	O	O
Minimum System Requirements						
OS			Windows XP (32-bit) / Vista (32-bit) / 7 (32-bit and 64-bit) / Server 2008 (32-bit and 64-bit)			
DirectX			9.0c			
CPU			Core i5-750, 2.66 GHz	Pentium 4, 3.0 GHz Dual Core	Core 2 Duo, 2.53 GHz	Core 2 Quad, 2.4 GHz
RAM			2 x 1 GB Dual Channels			
HDD			500GB	160 GB	250 GB	500 GB
VGA			ATI Radeon X1300 PCI-E / NVIDIA GeForce 7300 PCI-E			

Note: All specifications are subject to change without notice.

Chapter 2 Software Installation

This chapter includes the following information:

- **Important notice**
- **Installing a program**
- **Program list**
- **User's Manual**

2.1 Before You Start

For optimal performance of your system, it is important to follow these recommendations before installing GV-System software:

- It is strongly recommended to use two separate hard disks. One is for installing Windows OS and GV-System software, and the other is for storing recorded files and system logs.
- When formatting the two hard disks, select NTFS as the file system.
- GV-System is a multi-channel video recording system. With normal use of the system, the drive containing video files will become fragmented. This is because GV-System constantly stores video files of multi channels simultaneously, and video files will be scattered all over the drive. It is not necessary to regularly perform disk defragmentation. Since GV-System software and video files are stored on two separated hard disks, the performance of GV-System will not be affected.

2.2 Installing the System

When you insert the Surveillance System Software DVD, the Install Program window will pop up automatically:

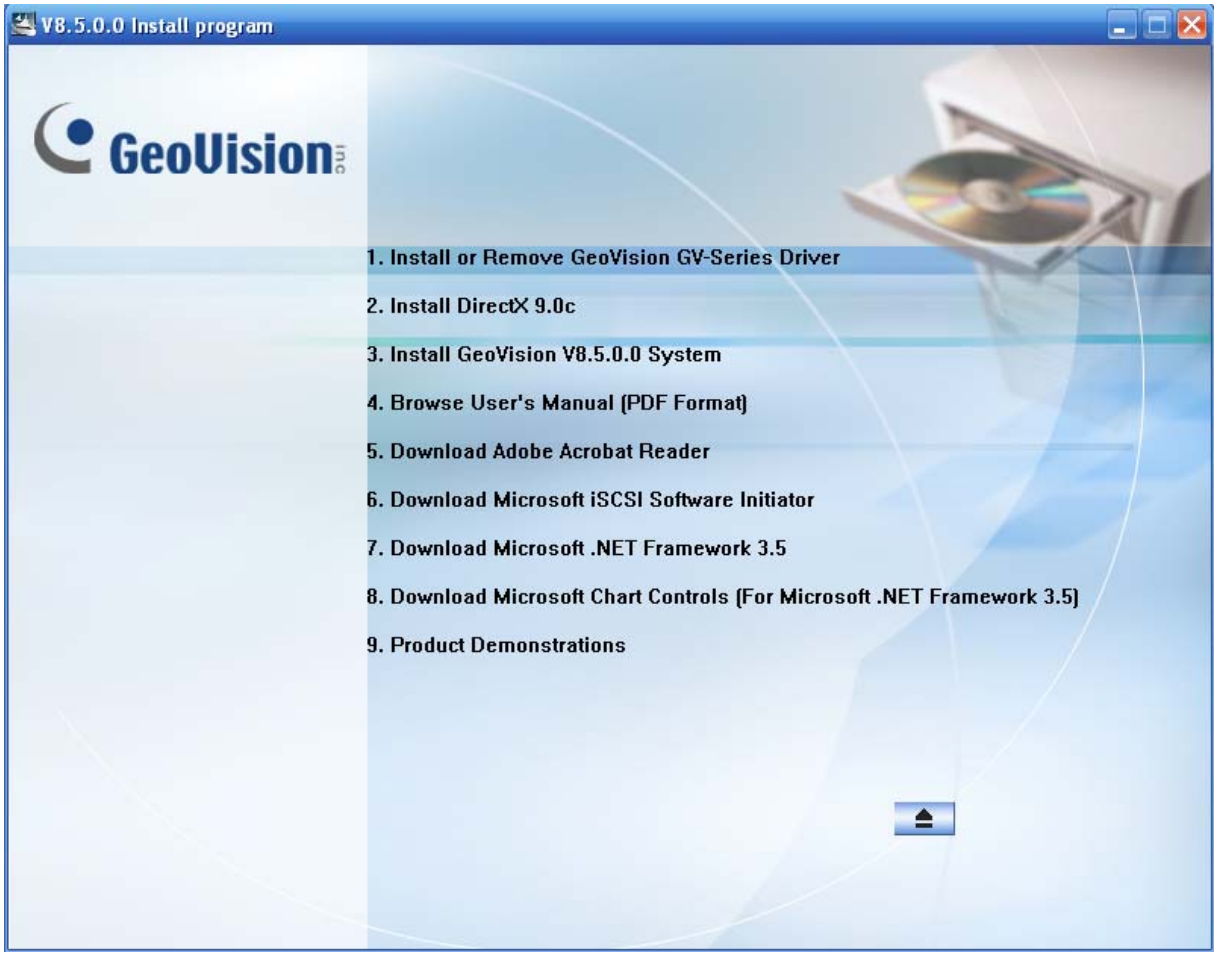


Figure 2-1 The Install Program Window

Installing DirectX

Before installing the system software, make sure **DirectX 9.0c** is already installed on your computer. If your computer doesn't have the latest version of Direct X, click **Install DirectX 9.0c** in the Install Program window.

Installing the System

To install the GV-System, follow these steps:

1. In the Install Program window, click **Install GeoVision xxx System** (ex. Install GeoVision V8.5 System).
2. To install the Main System, select **GeoVision Main System**, and follow the on-screen instructions.
3. Follow the above steps to install other programs one by one.

Uninstalling the System

To uninstall the GV-System, follow these steps:

1. Close any open programs because your computer will restart during the uninstalling process.
2. On the taskbar, click **Start**, point to **Programs**, select the system folder, and then click **Uninstall GeoVision System**.

Note: Uninstalling the system will not delete video files and log files previously saved in the computer.

2.3 Program List

The Surveillance System Software DVD includes the following programs:

First Page:

1. Main System
2. Remote ViewLog
3. Fast Backup and Restore Multicam System
4. GV-IP Device Utility
5. Multi View
6. E-Map Server
7. Remote E-Map
8. Center V2
9. Dynamic DNS Service
10. Mcamctrl Utility (Only for GV-Joystick)

Figure 2-2 First page of program installation

Second page:

11. POS Data Sender (Only for Graphic Mode POS device)
12. POS Text Sender (Only for Windows-Based and Text Mode POS device)
13. Authentication Server
14. SMS Server
15. Audio Broadcast
16. Multicast
17. Twin DVR System
18. Bandwidth Control Client Site
19. Backup Viewer
20. Mobile Server

Figure 2-3 Second page of program installation

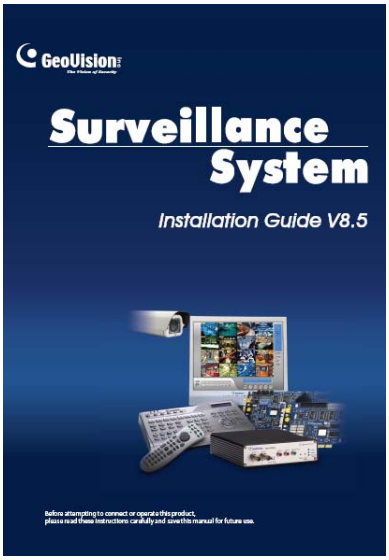
Third page:

21. Local DDNS Server
22. GV-AView for Android Smartphone in Android Market
23. GV-iView for iPhone and iPod Touch in iTunes Store
24. GV-iView HD for iPad in iTunes Store
25. GV-Remote View for BlackBerry Smartphone in BlackBerry App World

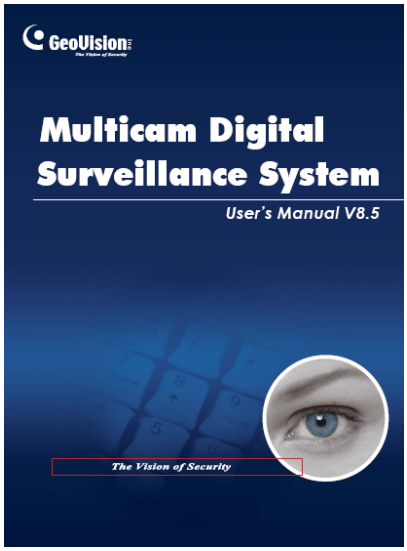
Figure 2-4 Third page of program installation

2.4 User's Manuals

For detailed information on hardware accessories, see the *Installation Guide* on the Surveillance Software DVD.



For configuration and usage of the GV-System, see the *DVR User's Manual* on the Surveillance Software DVD.



Chapter 3 Basic Operation

This chapter includes the following information:

- **Main screen**
- **Setting video storage**
- **Changing camera names and attributes**
- **Choosing the recording mode**
- **Changing the recording resolution**
- **Setting a recording schedule**
- **Playing the video**
- **Backing up the video**

3.1 Main Screen

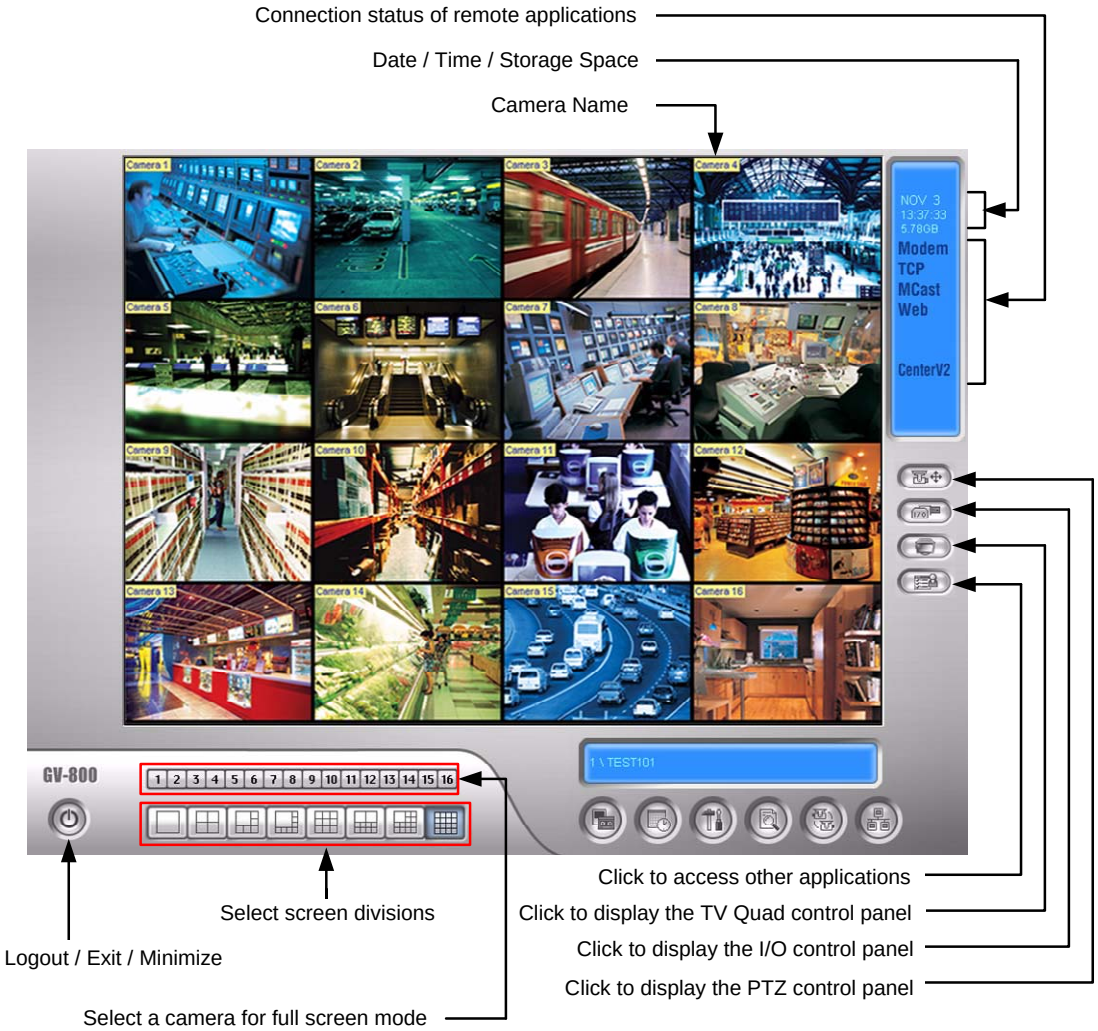


Figure 3-1


Start/stop recording


Set up recording schedules


Access system settings


Access ViewLog to play back videos


Start/stop screen rotation


Connect to remote applications

3.2 Setting Video Storage

You can create a maximum of 16 storage groups, each with a set of storage location, keep day and recycle size to store your recording files.

1. Click  on the main screen, select **System Configure** and select **General Setting**.

   This dialog box appears.

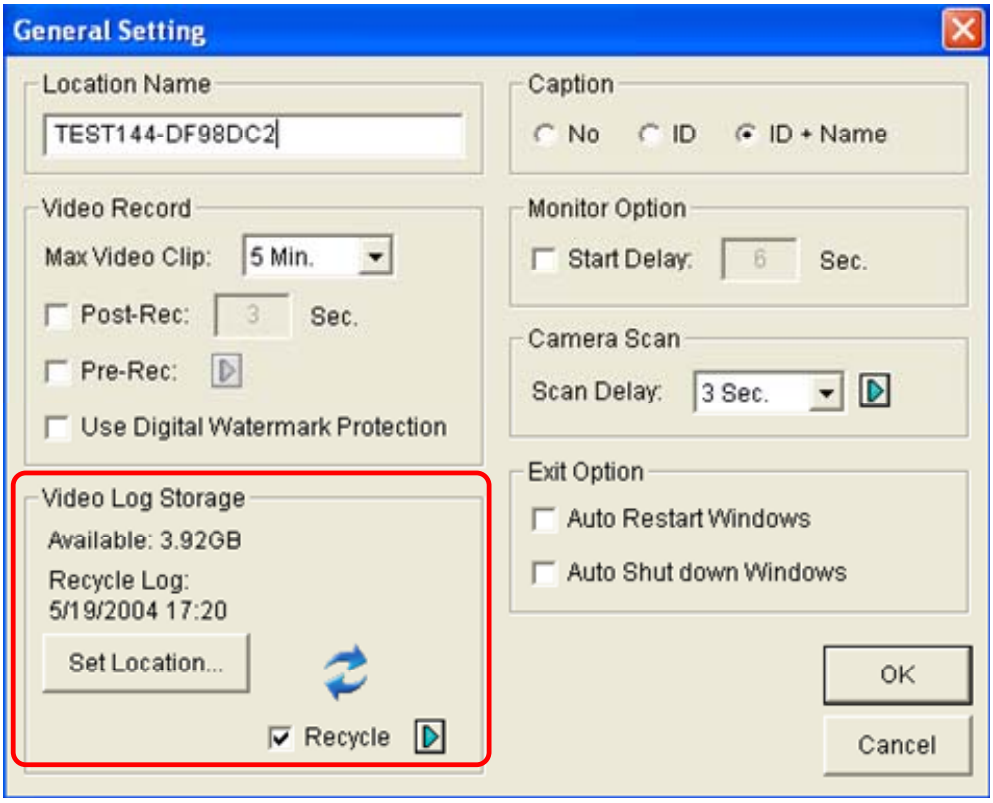


Figure 3-2

2. In the **Video Log Storage** section, click the **Set Location** button and select **Storage Group Folder**. This dialog box appears.

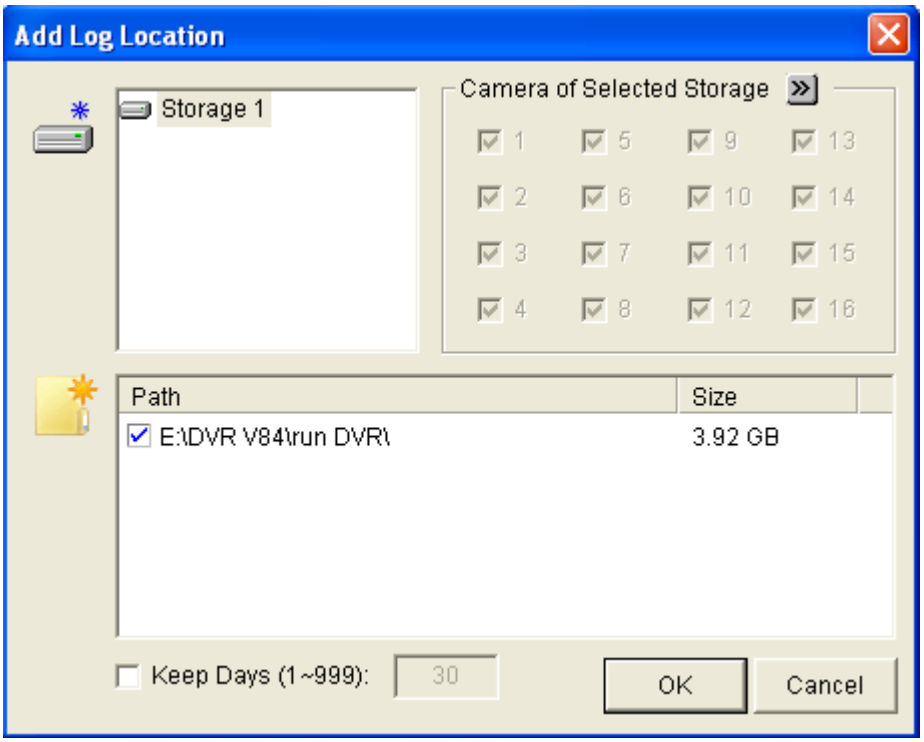


Figure 3-3

3. Click the **Add Storage Group** icon . The first storage group is created by default.

4. Click the new storage group and select the cameras to be added to it. Note that a camera can only be added to one storage group.

5. Click the **Add New Path** icon to specify the storage location in a hard drive which is not used for other storage groups.

6. Select **Keep Days** and specify the number of days to keep the video files in storage.

7. Click **OK**.

For details on setting storage, recycle and keep days, see *1.2.2 Setting Data Storage*, *V8.5 DVR User's Manual* on the Surveillance Software DVD.

3.3 Changing Camera Names and Attributes

You can give a new name for each camera and adjust camera attributes.

1. Click on the main screen, select **System Configure** and select **Camera Configure**. This dialog box appears.

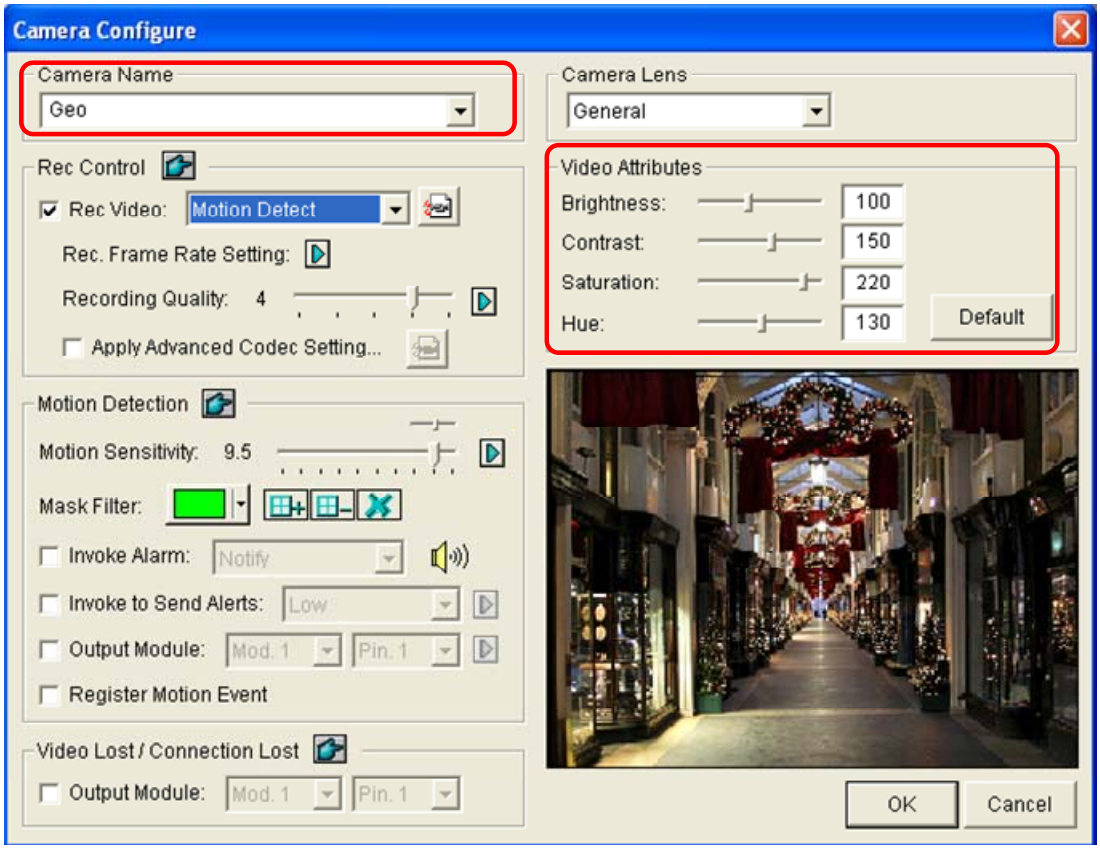


Figure 3-4

2. In the Camera Name field, type a new name for the camera.
3. In the Video Attributes section, use the sliders to adjust video attributes.
4. Click **OK**.

For details, see *1.2.3 Adjusting Camera Configuration, V8.5 DVR User's Manual* on the Surveillance Software DVD.

3.4 Choosing the Recording Mode

You can set the recording mode of each camera as Motion Detection, Round-the-Clock or Day and Night. The Day and Night mode allows you to have different recording modes for different time frames of the day.

1. Click  on the main screen, select **System Configure** and select **Camera Configure**. This dialog box appears.

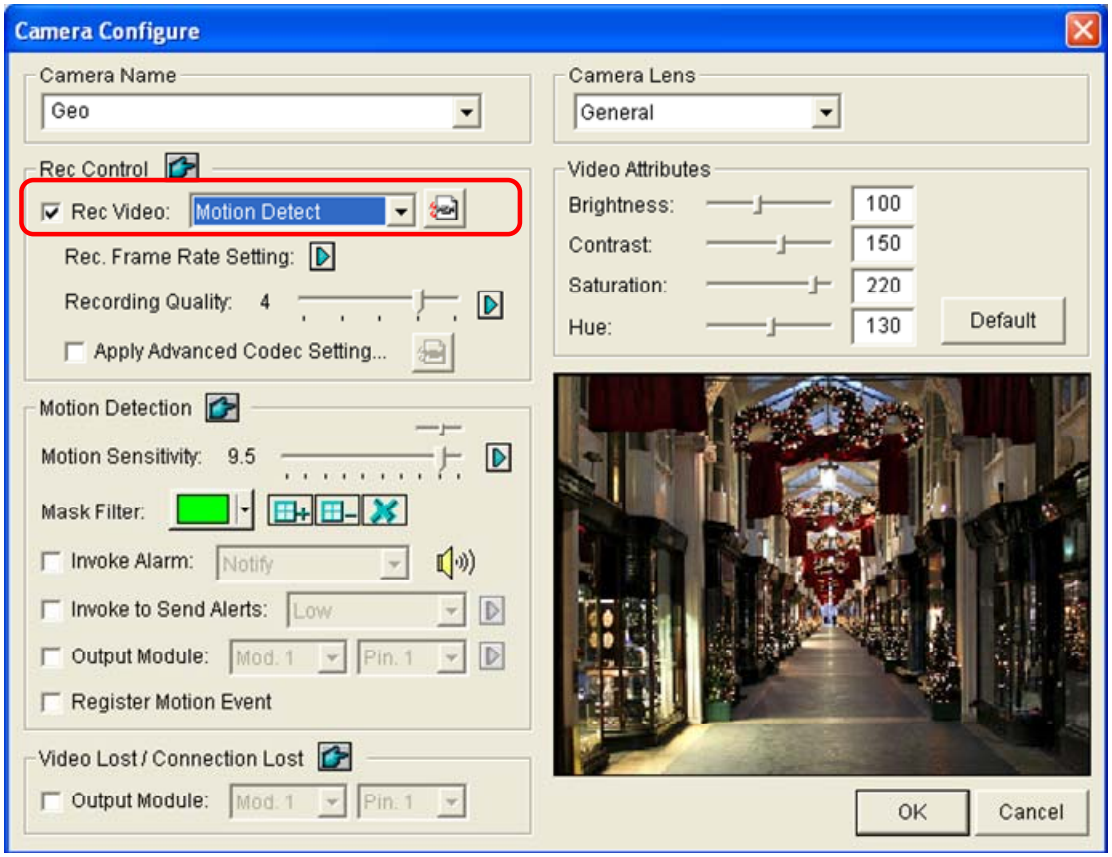


Figure 3-5

2. From the Camera Name drop-down list, select a camera.
3. In the Rec Control section, select **Rec Video**, and use the drop-down list to select **Motion Detection**, **Round-the-Clock** or **Day-Night**.
4. If you select Day-Night, click the **Arrow** button after the Rec Video option to set up time frames.
5. Click **OK**.

For details, see *1.2.3 Adjusting Camera Configuration* and *1.2.4 Setting Day and Night Recording Mode, V8.5 DVR User's Manual* on the Surveillance Software DVD.

3.5 Changing the Recording Resolution

The default recording resolution is 320 x 240. You can set the recording resolution of each camera individually.

1. Click on the main screen, select **A/V Setting** and select **Video Source**. This dialog box appears.

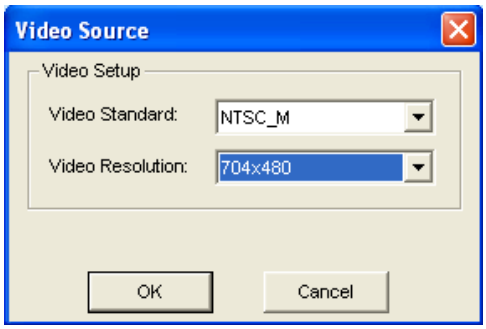


Figure 3-6

2. Select the desired video standard and resolution from the drop-down list, and click **OK**.

3. Click on the main screen, select **System Configure**, and select **Camera Configure**. This dialog box appears.

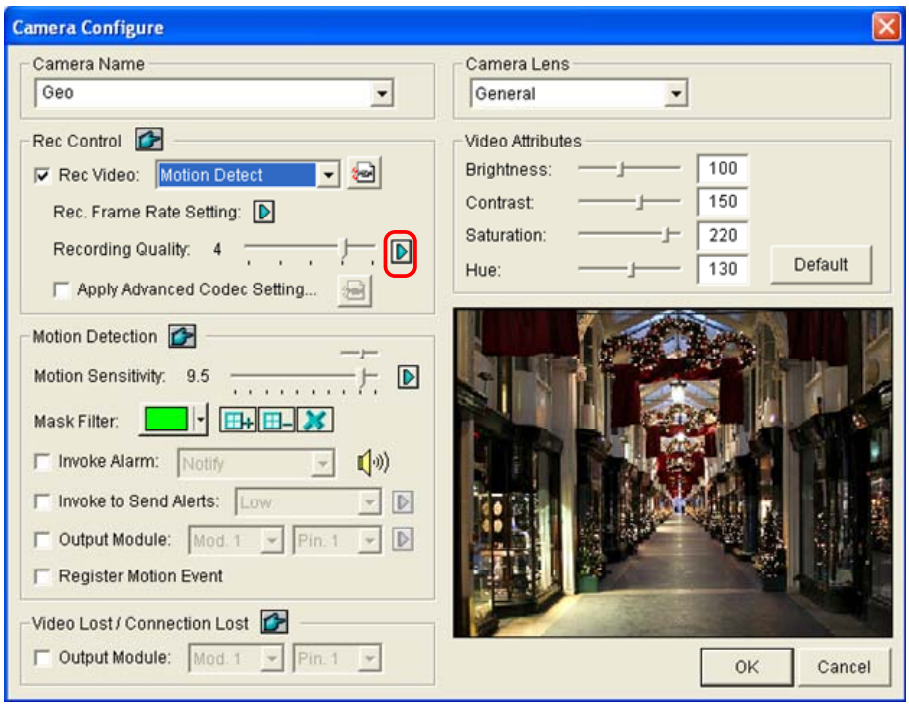


Figure 3-7

4. Select a desired camera from the Camera Name drop-down list.

5. Click the arrow button next to **Recording Quality** to select the desired resolution.
6. Repeat steps 4 and 5 to set up each camera.
7. Click **OK**.

For details, see *1.3.1 Setting Video Source and Resolution, V8.5 DVR User's Manual* on the Surveillance Software DVD.

3.6 Setting a Recording Schedule

You can schedule the system to record at a specific time each day.

1. Click  on the main screen, and select **Schedule Edit**.
2. Select the **Start** and **End** time.
3. Select day(s).
4. Select **Rec**, and use the drop-down list to select **Round-the-Clock** or **Motion Detection** as the recording mode.
5. Select camera(s).
6. Click **Add Schedule**.
7. Click **OK**.

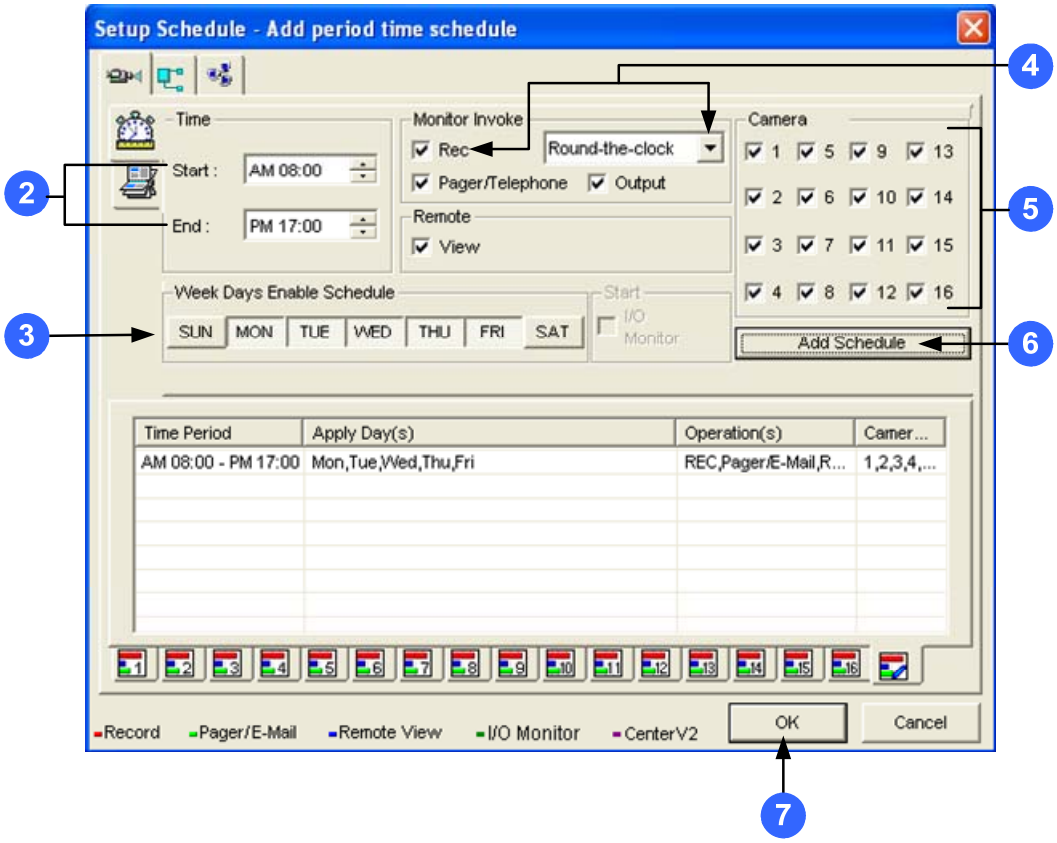


Figure 3-8

For details, see *1.8 Recording Schedule, V8.5 DVR User's Manual* on the Surveillance Software DVD.

3.7 Playing the Video

You can play back the video recorded during a particular date and time.

1. Click  on the main screen, and select **Video/Audio Log**. The ViewLog window appears.
2. Select the camera you wish to view.
3. Select a date folder from the date tree.
4. Select a time from the Video Events list.
5. Click  to begin playback.

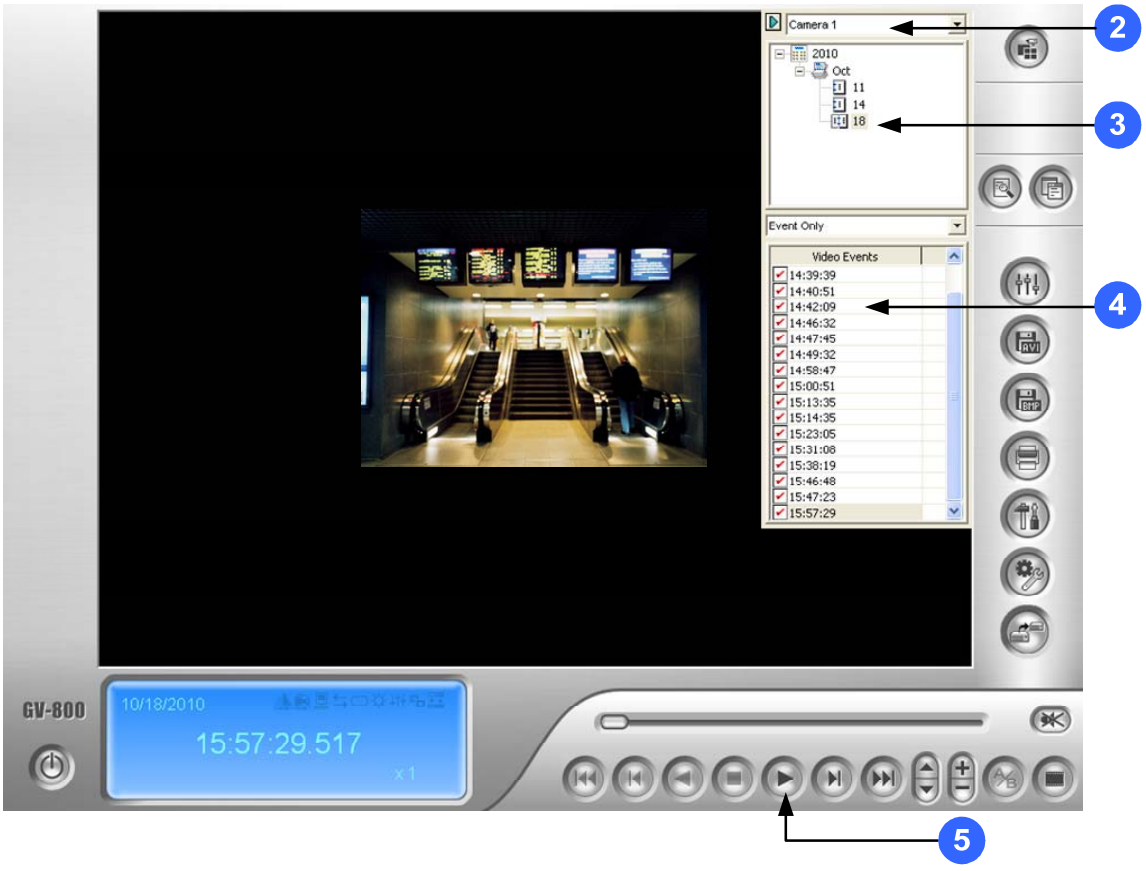


Figure 3-9

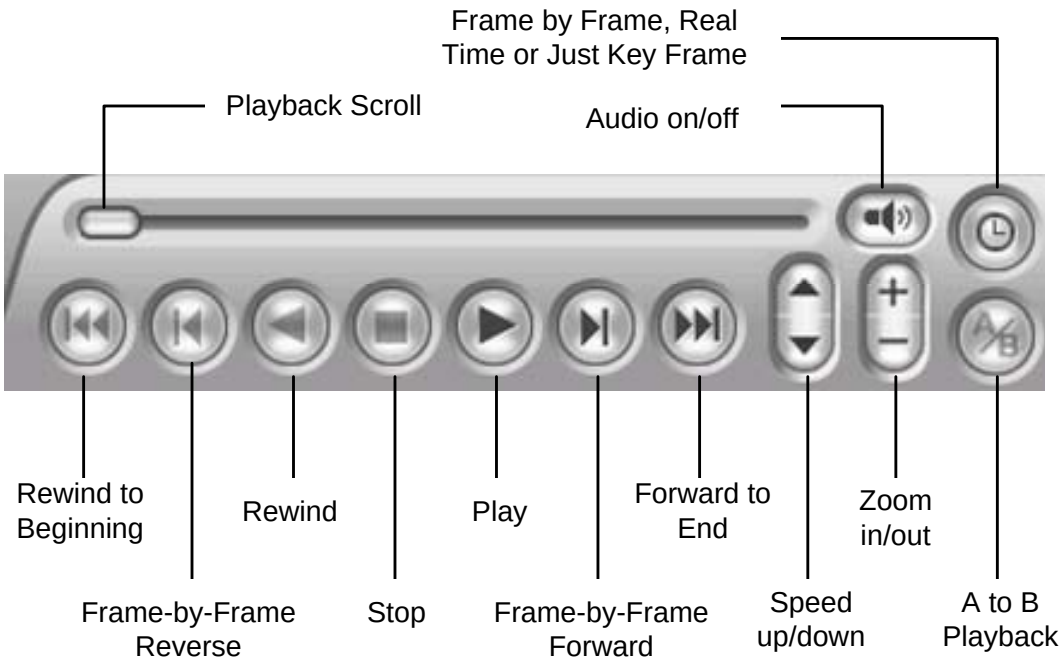


Figure 3-10

Using the Zoom

- **Zoom in:** Click the Zoom-in button, and then click on the area you want to magnify. Each click will increase the zoom level.
- **Zoom out:** Click the Zoom-out button, and then click on the image to zoom out. Each click will decrease the zoom level.

For details, see *Playing Back on ViewLog,* Chapter 4, *V8.5 DVR User's Manual* on the Surveillance Software DVD.

3.8 Backing up the Video

You can back up videos of the desired time to CD / DVD.

1. Insert the CD / DVD media into the drive.
2. Click  on the main screen, and select **Video/Audio Log**.
3. Click  on the functional panel.
4. Select **CD Using OS-Burning** to burn files using the inbuilt software of Windows.
5. Click **Add time frame**.

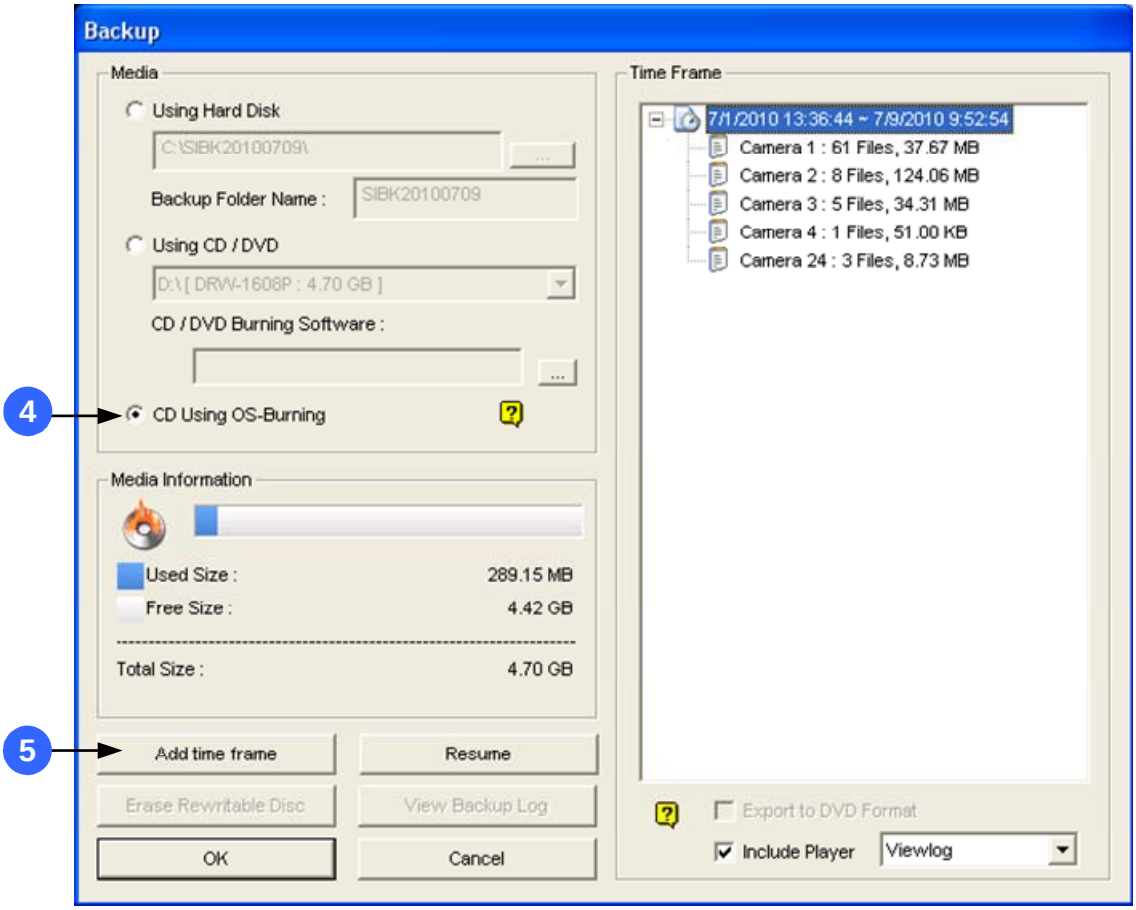


Figure 3-11

6. Enter the **Start Time** and **End Time**.
7. Select the desired camera(s) for backup.
8. Use the drop-down list to select the types of events for backup, e.g. video, audio or both together.
9. Click **OK** to add the time frame. You can repeat steps 5 to 8 to create up to 10 time frames.

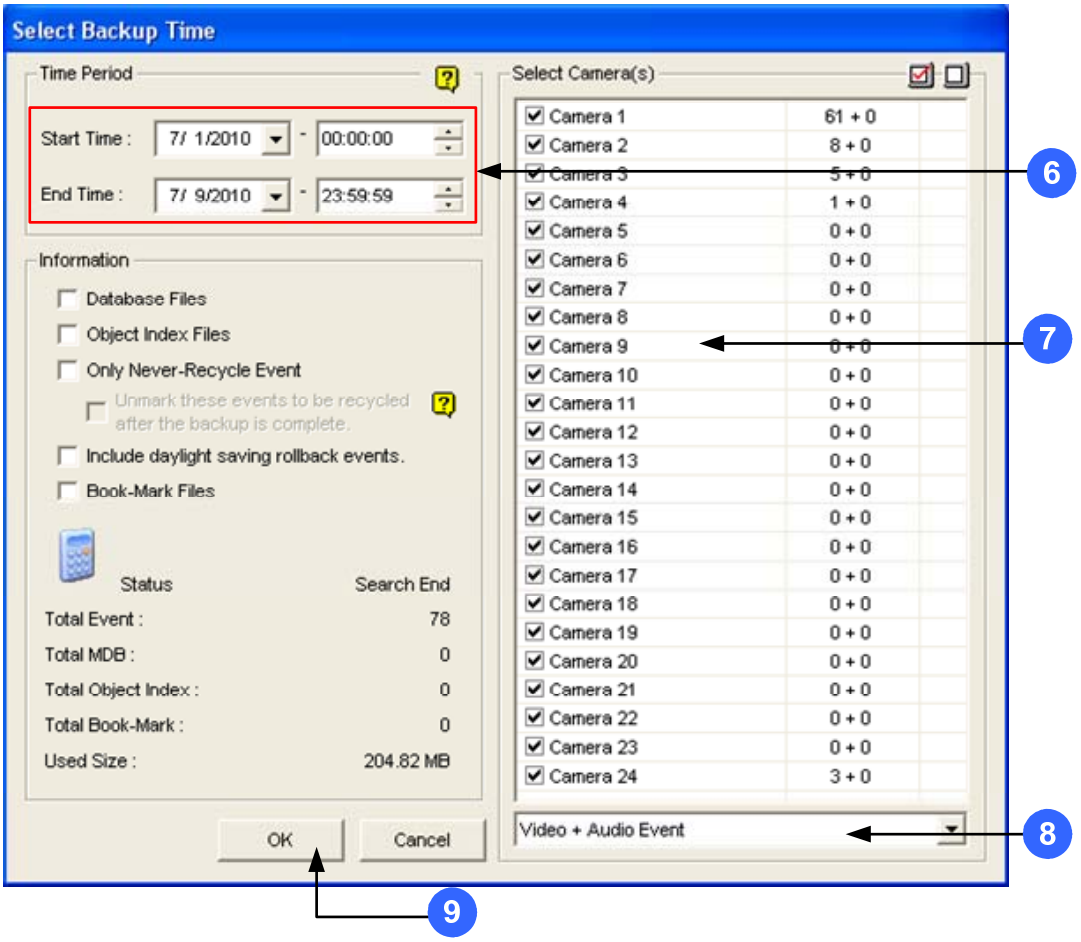


Figure 3-12

Playing the Backup Videos

Open the backup folder, run **EZViewLog500.exe**  , and then follow the instructions in the *Playing the Video* section earlier in this Quick Guide.

For details, see *Backup, Deletion and Repair*, Chapter 5, *V8.5 DVR User's Manual* on the Surveillance Software DVD.