



Surveillance System

Installation Guide V8.1



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

Table of Contents

Chapter 1 Video Capture Cards.....1

1.1	GV-2004, 2008	2
1.2	GV-1120, 1240, 1480	8
1.3	GV-650, 800	15
1.4	GV-600	19
1.5	GV-250	23
1.6	Installing Drivers	27
1.7	Connecting Hardware Watchdog.....	29
1.8	Comparison Chart.....	30

Chapter 2 Hardware Accessories.....33

2.1	GV-Multi Quad Card	34
2.2	GV-Hybrid DVR Card.....	37
2.3	GV-Loop Through Card	40
2.4	GV-DSP Card	43
2.5	GV-A16 Card	46
2.6	GV-NET Card	48
2.7	GV-NET/IO Card.....	51
2.8	GV-IO 12-In Card.....	55
2.9	GV-IO 12-Out Card.....	58
2.10	GV-NET Box.....	61
2.11	GV-IO and GV-Relay Module	63
2.12	GV-Hub Box.....	66
2.13	GV-COM Box.....	70
2.14	GV-Data Capture V2 Box	73
2.15	GV-Data Capture V2E Box	73
2.16	GV-Data Capture V3 Series	73
2.17	GV-Keyboard	74
2.18	GV-IR Remote Control.....	74
2.19	GV-Wiegand Capture Box	75
2.20	GV-Video Server.....	75

Chapter 3	Software Installation	77
3.1	Before You Start	78
3.2	Installing the System.....	79
3.3	Program List	81
Chapter 4	Screen Overview	83
4.1	Main System.....	84
4.2	ViewLog	86
4.3	Remote Playback Client	90
4.4	SingleView MPEG4 Encoder Viewer	92
4.5	MultiView MPEG4 Encoder Viewer	93
4.6	Remote Playback on WebCam.....	95
4.7	Center V2.....	96
4.8	Control Center Toolbar	98
	Troubleshooting	99

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-2004, 2008

The GV-2004 and GV-2008, as four-in-one combo cards, include the features of previous GV-Video Capture Card (recording of up to 16 video channels), GV-DSP Card (real-time display), GV-A16 Card (recording of up to 16 audio channels), and GV-Hybrid DVR Card (hardware compression). This economic device not only provides a single-card solution but also saves the PCI slots.

Minimum System Requirements

OS	Windows 2000 / Windows XP / Windows Server 2003	
CPU	GV-2004	Pentium 4-2.4C GHz, 800 MHz FSB
	GV-2008	Pentium 4-2.6C GHz, 800 MHz FSB
	GV-2008 x 2	Pentium 4-2.8C GHz, 800 MHz FSB
RAM	GV-2004	2 x 256 MB Dual DDR400 SDRAM
	GV-2008	2 x 512 MB Dual DDR400 SDRAM
	GV-2008 x 2	2 x 1G Dual DDR400 SDRAM
HDD	GV-2004	120 GB or above
	GV-2008	250 GB or above
	GV-2008 x 2	500 GB or above
VGA	ATI Radeon 9550 or above (Recommended)	
DirectX	9.0 or above	

Note:

1. Currently GV-Video Capture Cards are not compatible with VIA-series and ATI-series chipset motherboards.
2. To install two GV-2008 Cards, ensure the PC power supply is 400 Watts or above.

Packing List

- | | |
|--|-------------------------------------|
| 1. GV-2004 or GV-2008 Card x 1 | 5. Hardware Watchdog Jumper Wire x1 |
| 2. 1-4 D-Type Video and Audio Cable x 1 | 6. Software CD x 1 |
| 3. 5-8 D-Type Video and Audio Cable x 1
(only supplied with the GV-2008 Card) | 7. Feature Guide x 1 |
| 4. 6-Pin Cable x 1
(only supplied with the GV-2008 Card) | 8. Installation Guide x 1 |

Connections (GV-2004)

- Connect the D-Type video and audio cable to the GV-2004 Card.
- Connect the TV Monitor to the GV-2004 Card if needed.

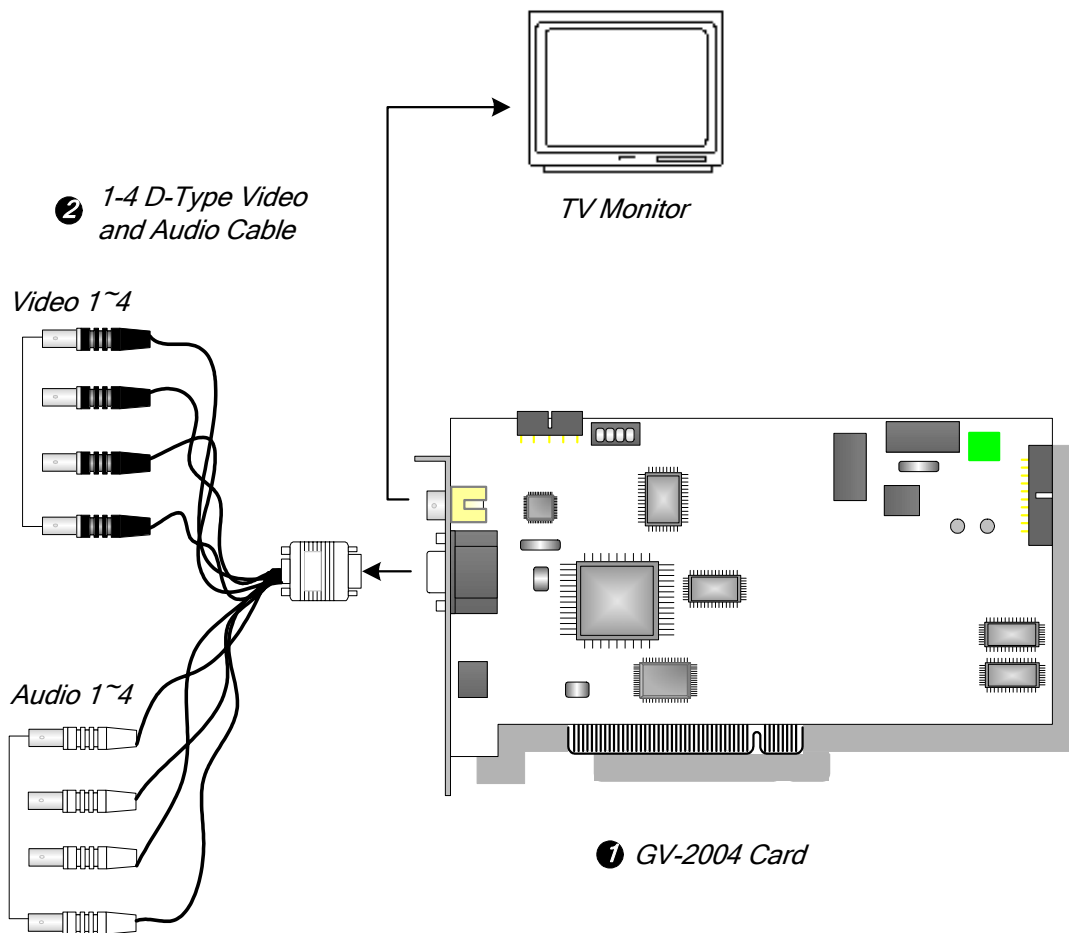


Figure 1-1 GV-2004 Card connections

Connections (GV-2008)

For the GV-2008 Card, you can choose to install one or two GV-2008 Cards to meet your different needs. Connect the D-Type video and audio cable to the GV-2008 Card. If needed, connect the TV monitor to the GV-2008 Card.

When you install two GV-2008 Cards in a computer, you need to classify them as a master and a slave card. Insert them to their own slots determined by the PCI slot IDs. Use the 6-pin cable to connect the slave card to the master card. See Figure 1-3.

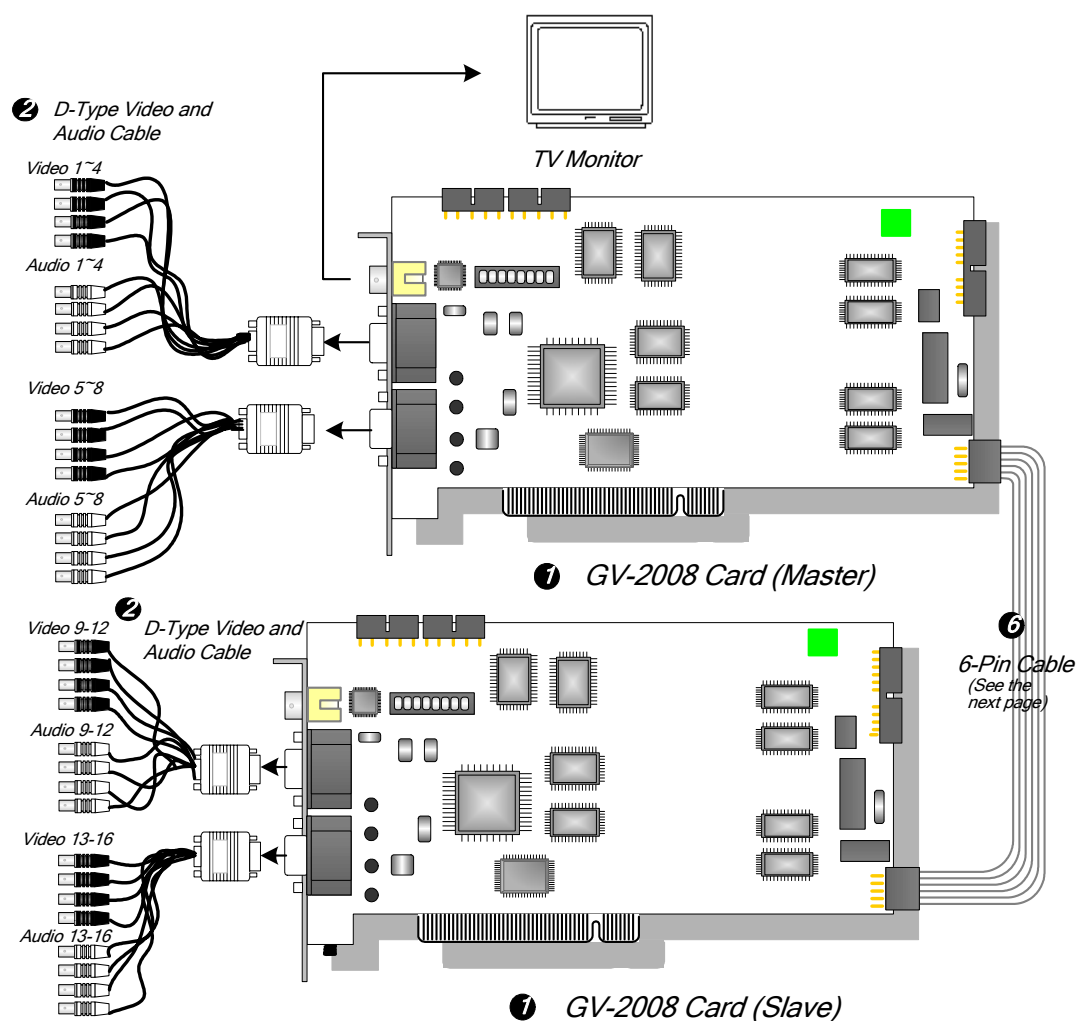


Figure 1-2 Connections of Two GV-2008 Cards

Connecting Slave Card to Master Card

- 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.
- Connect both cards' inner pins with the 6-Pin Cable. See **(A)** connection in the Figure below.
- In a computer where two GV-2008 Cards are installed, only 8 channels are functional when the GV-System is running. It may be that the position of Master card and Slave card is reversed, so the 6-Pin Cable is connected to the wrong pin assignment. To solve the problem, please try to connect both cards' outer pins with the 6-Pin Cable. See **(B)** connection in the Figure below.

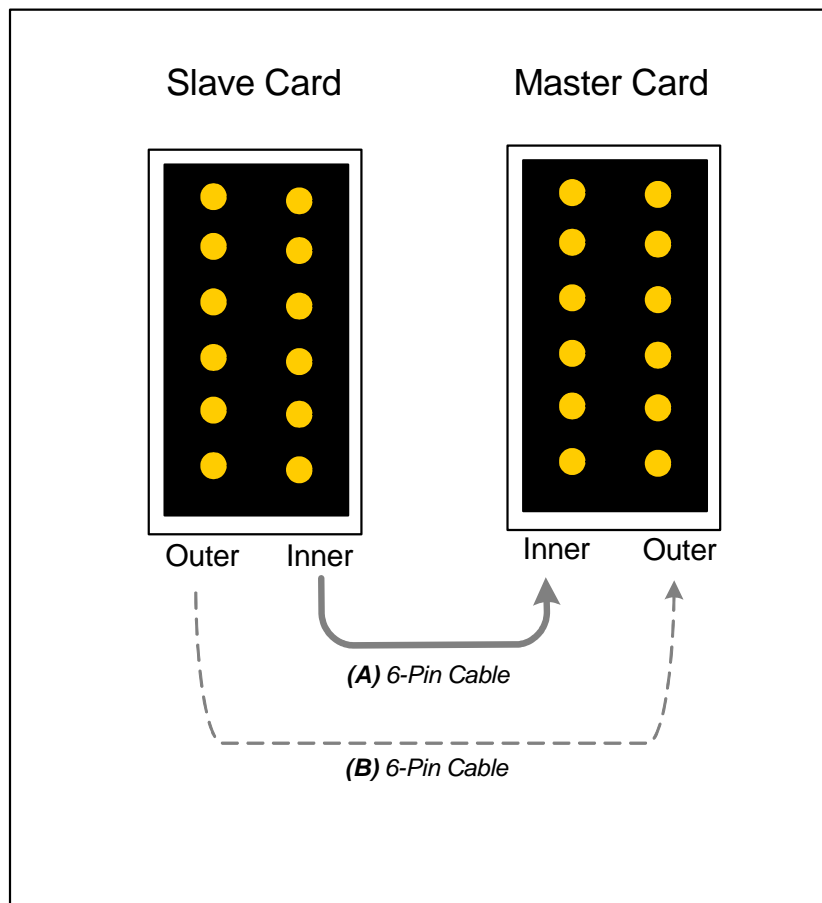


Figure 1-3 Connecting the slave card to the master card

Adjusting the Video Settings in the Main System

One distinct feature of the GV-2004 and GV-2008 Cards is their ability of hardware compression, providing you with higher system performance and DVD recording quality.

To take full advantage of the GV-2004 and GV-2008 Cards, you can adjust the video settings, including the codec, video resolution, frame rate, before running the GV-System.

Set the video settings of the recorded files:

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

1. On the Main System, click the **Configure** button, point to **Camera / Audio Install**, and click **Hybrid Camera Install**. This dialog box appears.

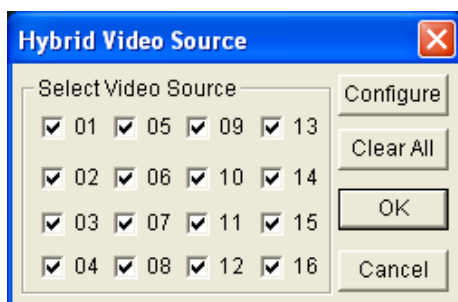


Figure 1-4

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

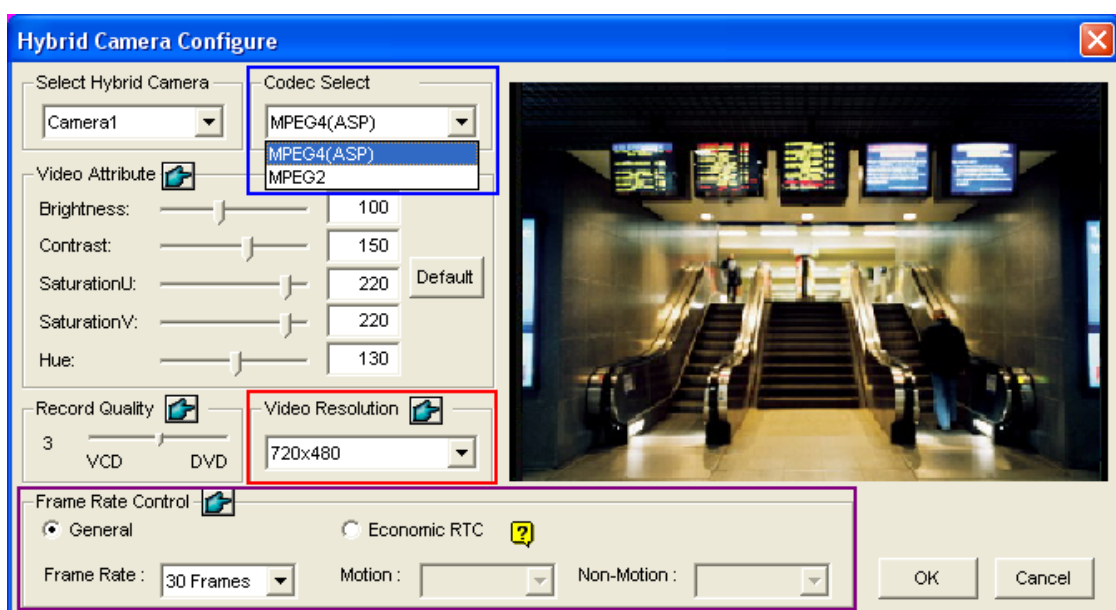


Figure 1-5

3. Use the drop-down list to select the camera for configuration.
4. In the fields of Video Resolution and Frame Rate Control, use the drop-down list to select your changes. If you want to apply the same settings to all selected cameras, click the finger button in each field.
5. In the field of Codec Select, use the drop-down list to select the codec. Note that selected codec applies to all cameras. If you change the codec selection when you configure another camera, the newly selected codec replaces the previous selection.

Note: The default settings are as follows: Record Quality is 3, Video Resolution is 720 x 480 (NTSC) or 720 x 576 (PAL), Codec is MPEG 4 (ASP) and Frame Rate is 30.

Specifications

		GV-2004	GV-2008	GV-2008 x 2
Input Type		DB 15 x 1 (for Video and Audio)	DB 15 x 2 (for Video and Audio)	DB 15 x 4 (for Video and Audio)
Video Input		4 Cams	8 Cams	16 Cams
TV Output		RCA Connector x 1		
Audio Input		4 Channels	8 Channels	16 Channels
Recording Rate	S/W (CIF)	120 fps (NTSC)	240 fps (NTSC)	480 fps (NTSC)
		100 fps (PAL)	200 fps (PAL)	400 fps (PAL)
	H/W (D1 or Half D1)	120 fps (NTSC)	240 fps (NTSC)	480 fps (NTSC)
		100 fps (PAL)	200 fps (PAL)	400 fps (PAL)
Display Rate	NTSC	120 fps	240 fps	480 fps
	PAL	100 fps	200 fps	400 fps
Video Resolution	NTSC	720 x 480, 720 x 480 (De-interlace)		
	PAL	720 x 576, 720 x 576 (De-interlace)		
Compression Format	S/W	Geo MPEG4, Geo MPEG4 (ASP), Geo H264		
	H/W	MPEG-2, MPEG-4 (ASP)		
GV-NET/IO Card Support		Yes		
Dimensions (W x H)		195 mm x 102 mm	240 mm x 102 mm	

1.2 GV-1120, 1240, 1480

GV-1120, GV-1240 and GV-1480 are the three-in-one combo cards, providing one single card solution for 16 video / audio recording, real-time display and TV-out display. To meet different needs, there are three types of GV-Combo cards: D-Type, DVI Type and PCI-E.

Minimum System Requirements

OS	Windows 2000 / Windows XP / Windows Server 2003	
CPU	GV-1120	Pentium 4-2.4C GHz, 800 MHz FSB
	GV-1240	Pentium 4-2.6C GHz, 800 MHz FSB
	GV-1480	Pentium 4-2.8C GHz, 800 MHz FSB
RAM	2 x 256 MB Dual DDR400 SDRAM	
HDD	GV-1120	80 GB
	GV-1240	120 GB
	GV-1480	250 GB
VGA	ATI Radeon 9550 or above (Recommended)	
DirectX	9.0 or above	

Note:

1. For recording resolution of 640 x 480 or above, Pentium 4 processor with Hyper Threading is required.
 2. Currently GV-Video Capture Cards are not compatible with VIA-series and ATI-series chipset motherboards.
-

Packing List (D-Type and PCI-E)

- | | |
|-------------------------------------|--------------------------------------|
| 1. GV-1120/1240/1480 Combo Card x 1 | 6. 9-16 D-Type Audio Cable x 1 |
| 2. Audio Extension Card x 1 | 7. Hardware Watchdog Jumper Wire x 1 |
| 3. 1-8 D-Type Video Cable x 1 | 8. Software CD x 1 |
| 4. 9-16 D-Type Video Cable x 1 | 9. Feature Guide x 1 |
| 5. 1-8 D-Type Audio Cable x 1 | 10. Installation Guide x1 |

Packing List (DVI Type)

- | | |
|---|--------------------------|
| 1. GV-1120/1240/1480 Combo Card x 1 | 5. Software CD x 1 |
| 2. 1-16 DVI Video plus TV Out Cable x 1 | 6. Feature Guide x 1 |
| 3. 1-16 DVI Audio Cable x 1 | 7. Installation Guide x1 |
| 4. Hardware Watchdog Jumper Wire x 1 | |

Connections (D-Type)

- Plug the Audio Extension Card in the assigned connectors on the GV-Combo Card.
- Connect D-Type video and audio cables to the GV-Combo Card and Audio Extension Card respectively.
- Connect the TV monitor to the GV-Combo Card if needed.

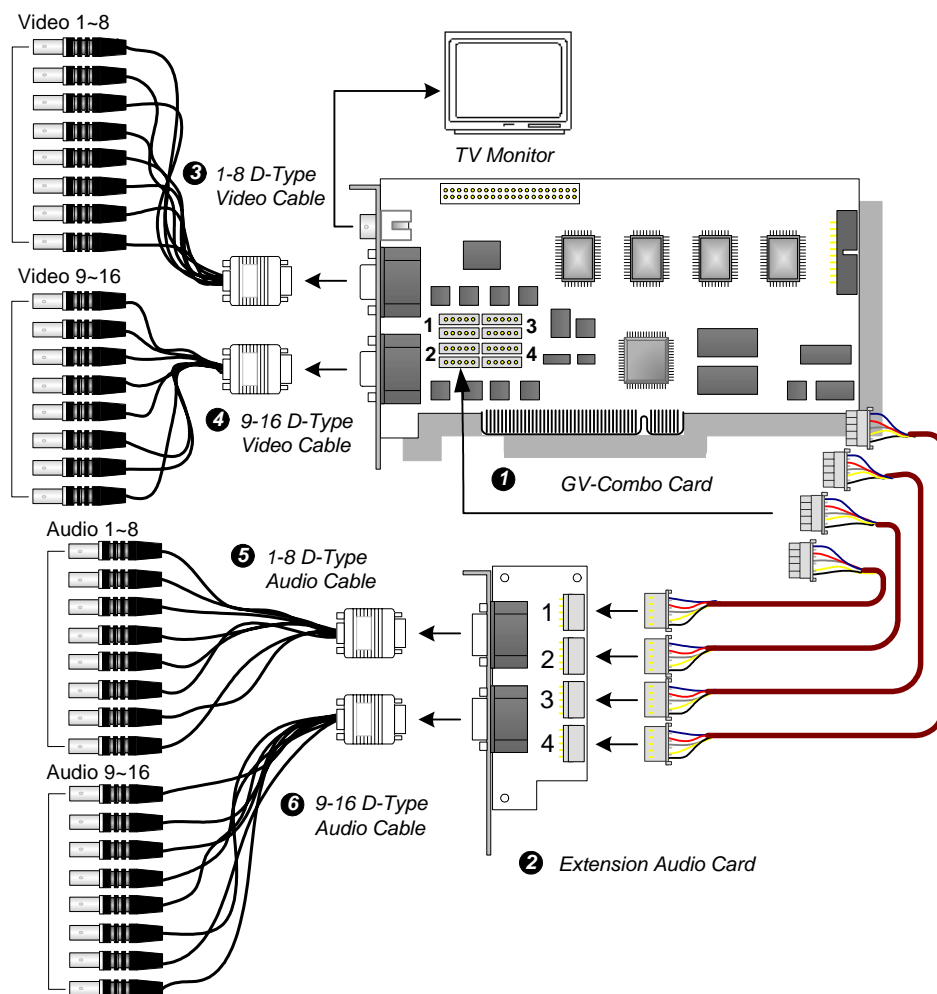


Figure 1-6 GV-Combo Card (D-Type) connections

Specifications (D-Type)

		GV-1120	GV-1240	GV-1480
Input Type		DB15 x 2 (Video), DB9 x 2 (Audio)		
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 (At 320 x 240 Resolution)	NTSC	120 fps	240 fps	480 fps
	PAL	100 fps	200 fps	400 fps
Display Rate	NTSC	480 fps		
	PAL	400 fps		
Video Resolution	NTSC	720 x 480, 720 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 320 x 240		
	PAL	720 x 576, 720 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 320 x 240		
Compression Format		Geo MPEG4, Geo MPEG4 (ASP), Geo H264		
GV-NET/IO Card Support		Yes		
GV-Hybrid DVR Card Support		Yes		
Dimensions (W x H)		170 mm x 95 mm		

Connections (PCI-E)

- Plug the Audio Extension Card in the assigned connectors on the GV-Combo Card.
- Connect D-Type video and audio cables to the GV-Combo Card and Audio Extension Card respectively.
- Plug the power cable connector in the GV-Combo Card's power connector.
- Connect the TV monitor to the GV-Combo Card if needed.

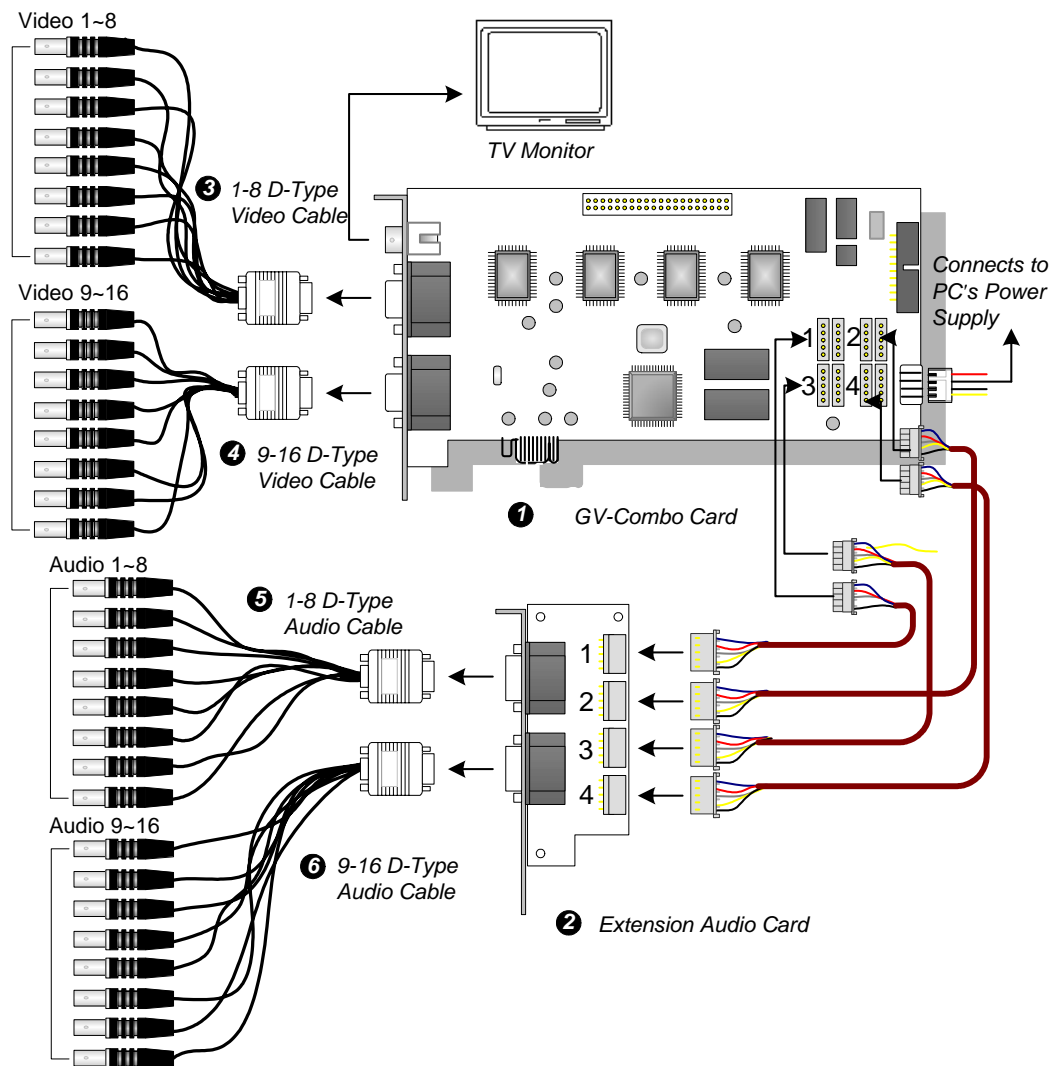


Figure 1-7 GV-Combo Card (PCI-E) connections

Note:

1. The GV-Combo Card (PCI-E) can only be inserted into the PCI Express x1 slot.
2. This card only works when it connects to PC's power supply.

Specifications (PCI-E)

		GV-1120	GV-1240	GV-1480
Input Type		DB15 x 2 (Video), DB9 x 2 (Audio)		
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 (At 320 x 240 Resolution)	NTSC	120 fps	240 fps	480 fps
	PAL	100 fps	200 fps	400 fps
Display Rate	NTSC	480 fps		
	PAL	400 fps		
Video Resolution	NTSC	720 x 480, 720 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 320 x 240		
	PAL	720 x 576, 720 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 320 x 240		
Compression Format		Geo MPEG4, Geo MPEG4 (ASP), Geo H264		
GV-NET/IO Card Support		Yes		
GV-Hybrid DVR Card Support		Yes		
Dimensions (W x H)		212 mm x 99 mm		

Connections (DVI Type)

- Connect the DVI video and audio cables to the GV-Combo Card.
- Connect the DVI TV Out cable to the TV monitor if needed.

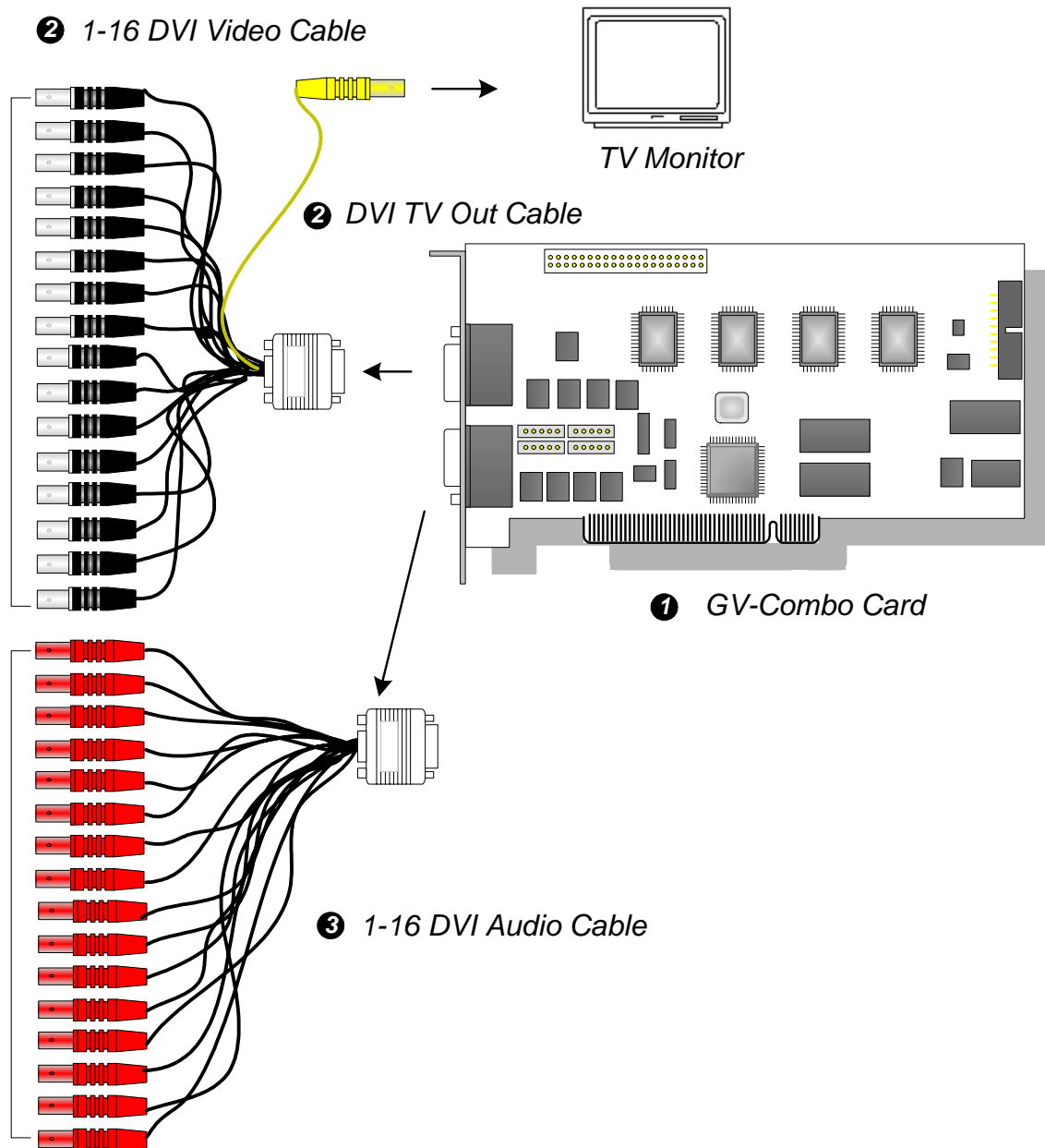


Figure 1-8 GV-Combo Card (DVI Type) connections

Specifications (DVI-Type)

		GV-1120	GV-1240	GV-1480
Input Type		DVI x 1 (for Video), DVI x 1 (for Audio)		
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 (At 320 x 240 Resolution)	NTSC	120 fps	240 fps	480 fps
	PAL	100 fps	200 fps	400 fps
Display Rate	NTSC	480 fps		
	PAL	400 fps		
Video Resolution	NTSC	720 x 480, 720 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 320 x 240		
	PAL	720 x 576, 720 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 320 x 240		
Compression Format		Geo MPEG4, Geo MPEG4 (ASP), Geo H264		
GV-NET/IO Card Support		Yes		
GV-Hybrid DVR Card Support		Yes		
Dimensions (W x H)		165 mm x 95 mm		

1.3 GV-650, 800

The GV-650 and GV-800 Card have the same appearance, 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

OS	Windows 2000 / Windows XP / Windows Server 2003
CPU	Pentium 4-2.0 GHz
RAM	256 MB DDR SDRAM
HDD	80 GB
VGA	NVIDIA GeForce2 MX200 32 MB (Recommended)
DirectX	9.0 or above

Note: Currently GV-Video Capture Cards are not compatible with VIA-series and ATI-series chipset motherboards.

Packing List

- | | |
|--|--------------------------------------|
| 1. GV-800 or GV-650 Card x 1 | 6. Hardware Watchdog Jumper Wire x 1 |
| 2. Audio Extension Card x 1 ** | 7. Software CD x 1 |
| 3. 1-8 Cams with 4-Port Audio D-Type Cable x 1 | 8. Feature Guide x 1 |
| 4. 9-16 Cams D-Type Cable x 1 * | 9. Installation Guide x1 |
| 5. BNC Video Extension Card *** | |
| (Quantity depends on model purchased) | |

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

** Supplied with BNC Video Capture Card

*** Supplied with 8-16 Cams BNC Video Capture Card

Connections

There are two types of GV-800 and GV-650 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 four audio channels together.

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

Note: The GV-650 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.

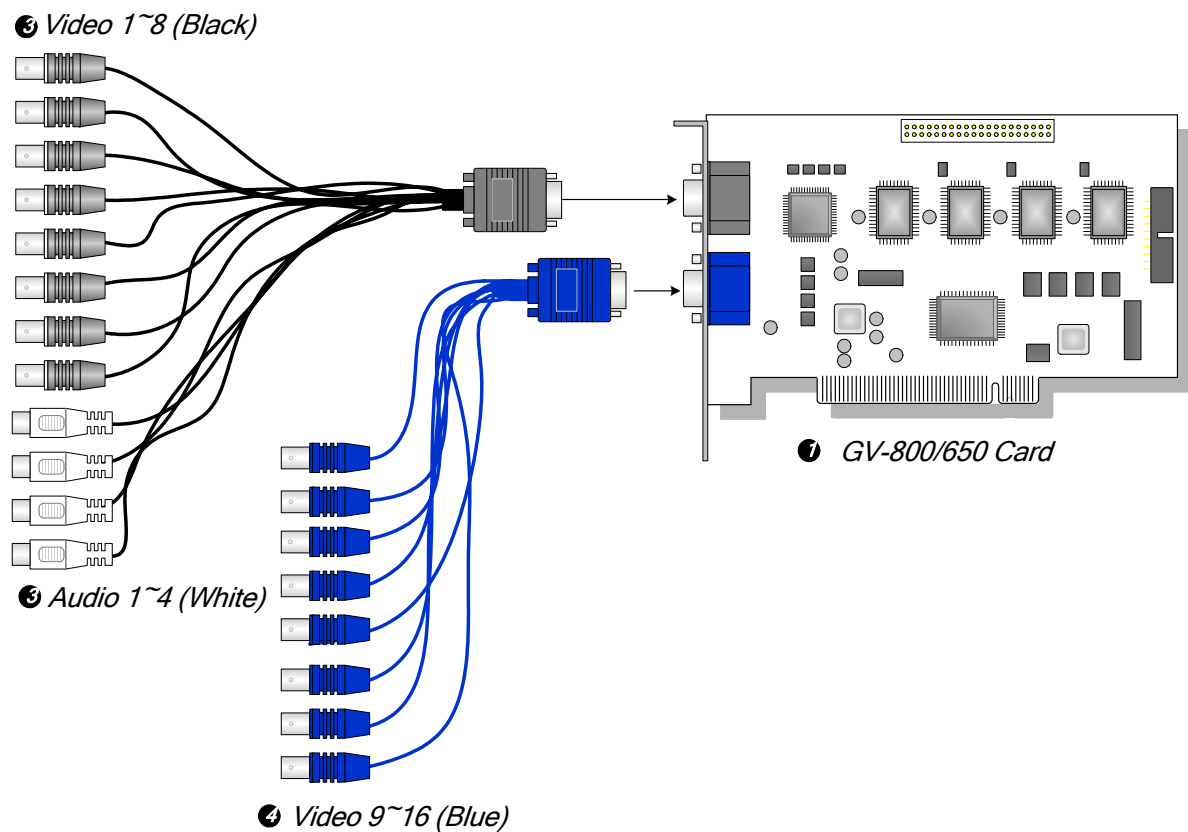


Figure 1-9 D-Type GV-650 or GV-800 Card connections

For the BNC-type video capture card, plug the Audio Extension Card into No. 1 or No. 2 connector on the GV-650/800 Card, as illustrated below. Both connectors are okay for connection.

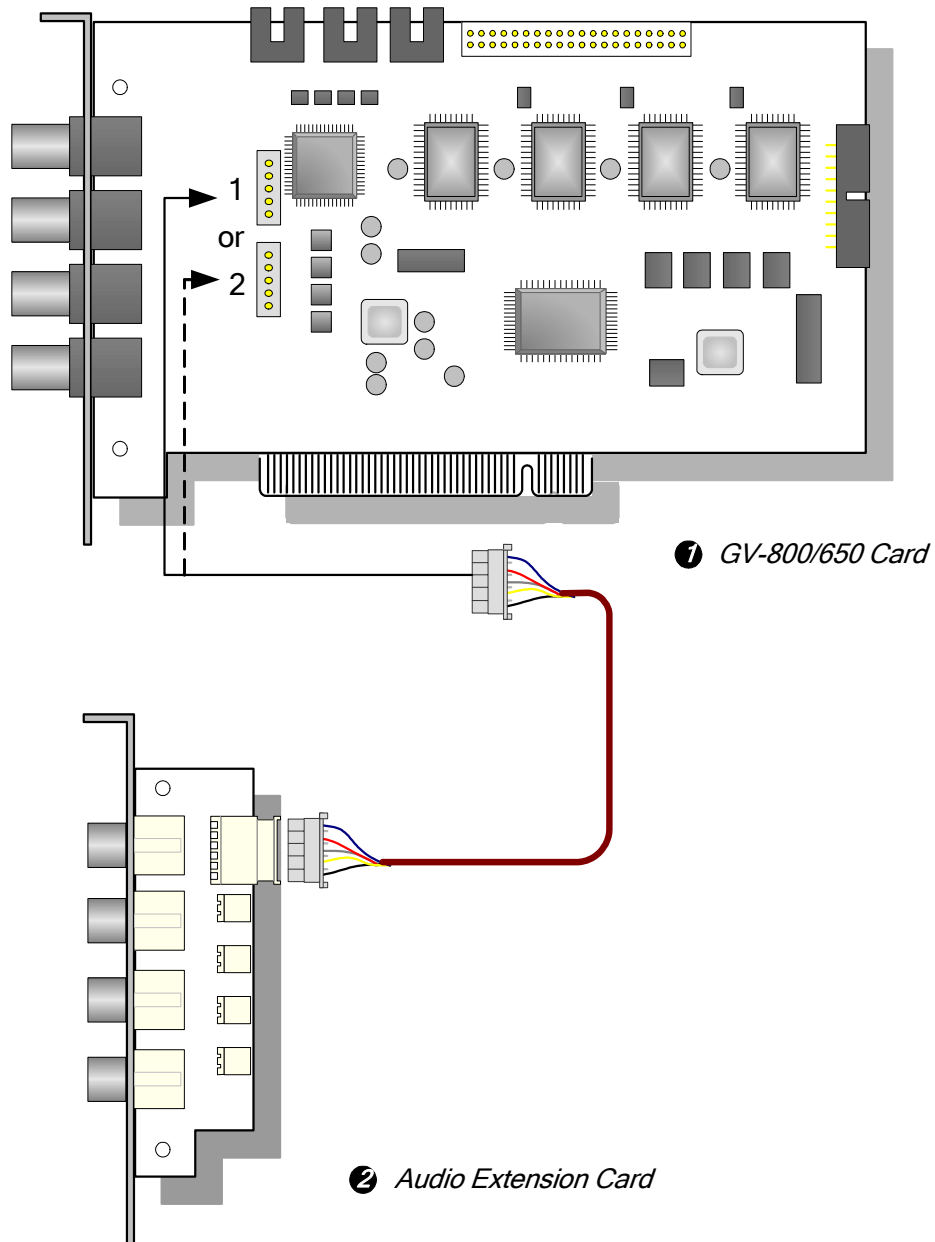


Figure 1-10 BNC-type GV-650 or GV-800 Card connections

Specifications

		GV-650	GV-800
Input Type	BNC	BNC x 4	
	D-Type	DB15 x 2	
Video Input		4, 8, 12, 16 Cams	
Audio Input		2 Channels	4 Channels
Recording Rate (At 320 x 240 Resolution)	NTSC	60 fps	120 fps
	PAL	50 fps	100 fps
Display Rate	NTSC	60 fps	120 fps
	PAL	50 fps	100 fps
Video Resolution	NTSC	720 x 480, 720 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 320 x 240	
	PAL	720 x 576, 720 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 320 x 240	
Compression Format		Geo MPEG4, Geo MPEG4 (ASP), Geo H264	
GV-DSP Card Support		Yes	
GV-A16 Support		Yes	
GV-NET/IO Card Support		Yes	
Dimensions (W x H)	BNC	175 mm x 98 mm	
	D-Type	175 mm x 98 mm	

1.4 GV-600

There are two types of GV-600 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

OS	Windows 2000 / Windows XP / Windows Server 2003
CPU	Pentium 4-2.0 GHz
RAM	256 MB DDR SDRAM
HDD	80 GB
VGA	NVIDIA GeForce2 MX200 32 MB (Recommended)
DirectX	9.0 or above

Note: Currently GV-Video Capture Cards are not compatible with VIA-series and ATI-series chipset motherboards.

Packing List

- | | |
|---------------------------------------|-----------------------------|
| 1. GV-600 Card x 1 | 7. Hardware Watchdog Jumper |
| 2. Audio Extension Card x 1 ** | 8. Wire x 1 |
| 3. 1-8 Cams with 4-Port Audio D-Type | 9. Software CD x 1 |
| 4. Cable x 1 | 10. Feature Guide x 1 |
| 5. 9-16 Cams D-Type Cable x 1 * | 11. Installation Guide x1 |
| 6. BNC Video Extension Card *** | |
| (Quantity depends on model purchased) | |

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

** Supplied with BNC Video Capture Card

*** Supplied with 6-16 Cams BNC Video Capture Card

Connections

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

Note: The GV-600 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.

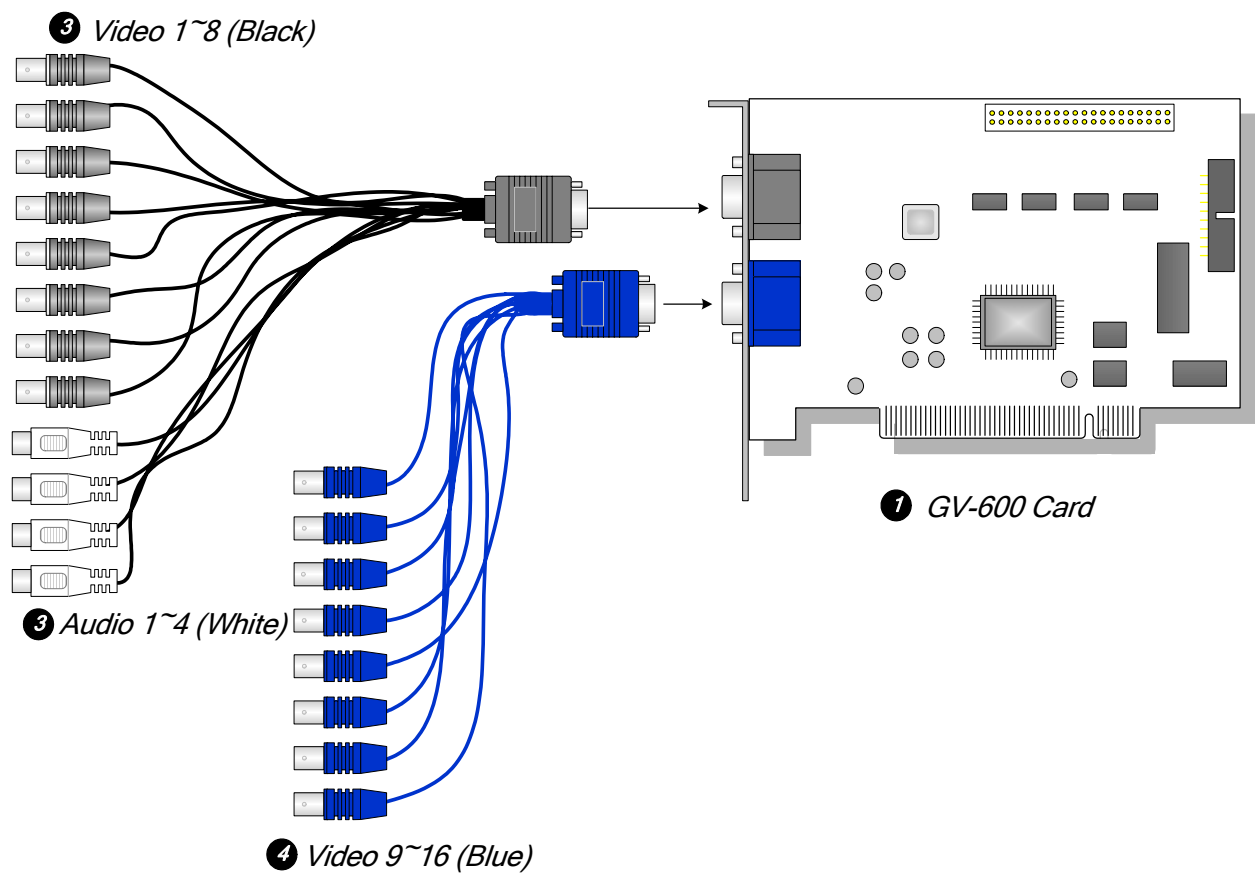


Figure 1-11 D-Type GV-600 Card connections

1 Video Capture Cards

For the BNC-Type video capture card, plug the Audio Extension Card into No. 1 or No. 2 connector on the GV-600 Card, as illustrated below. Both connectors are okay for connection.

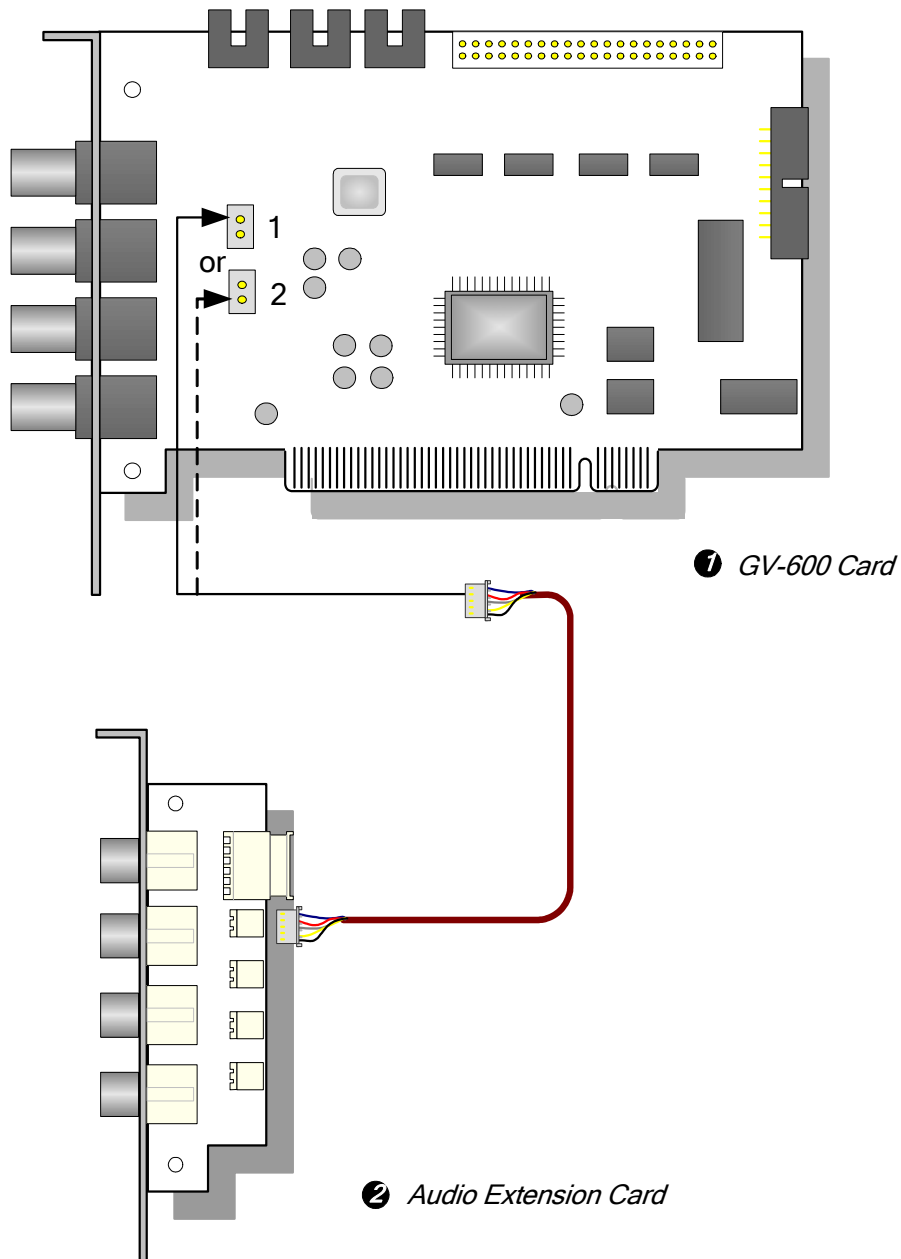


Figure 1-12 BNC-type GV-600 Card connections

Specifications

GV-600		
Input Type		GV-600 BNC: BNC x 4
		GV-600 D-Type: DB15 x 2
Video Input		4, 6, 8, 10, 12, 14, 16 Cams
Audio Input		1 Channel
Recording Rate (At 320 x 240 Resolution)	NTSC	30 fps
	PAL	25 fps
Display Rate	NTSC	30 fps
	PAL	25 fps
Video Resolution	NTSC	720 x 480, 720 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 320 x 240
	PAL	720 x 576, 720 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 320 x 240
Compression Format		Geo MPEG4, Geo MPEG4 (ASP), Geo H264
GV-DSP Card Support		Yes
GV-A16 Support		Yes
GV-NET/IO Card Support		Yes
Dimensions (W x H)	BNC	145 mm x 97 mm
	D-Type	145 mm x 97 mm

1.5 GV-250

There are two types of GV-250 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

OS	Windows 2000 / Windows XP / Windows Server 2003
CPU	Pentium 4-2.0 GHz
RAM	256 MB DDR SDRAM
HDD	80 GB
VGA	NVIDIA GeForce2 MX200 32 MB (Recommended)
DirectX	9.0 or above

Note: Currently GV-Video Capture Cards are not compatible with VIA-series and ATI-series chipset motherboards.

Packing List

- | | |
|--|-----------------------------|
| 1. GV-250 Card x 1 | 6. Hardware Watchdog Jumper |
| 2. Audio Extension Card x 1 ** | Wire x 1 |
| 3. 1-8 Cams with 4-Port Audio D-Type
Cable x 1 | 7. Software CD x 1 |
| 4. 9-16 Cams D-Type Cable x 1 * | 8. Feature Guide x 1 |
| 5. BNC Video Extension Card ***
(Quantity depends on model purchased) | 9. Installation Guide x1 |

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

** Supplied with BNC Video Capture Card

*** Supplied with 6-16 Cams BNC Video Capture Card

Connections

For the D-Type video capture card, plug the black video/audio cable into the black connector on the GV-250 Card; the blue video cable into the blue connector, as illustrated below.

Note: The GV-250 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.

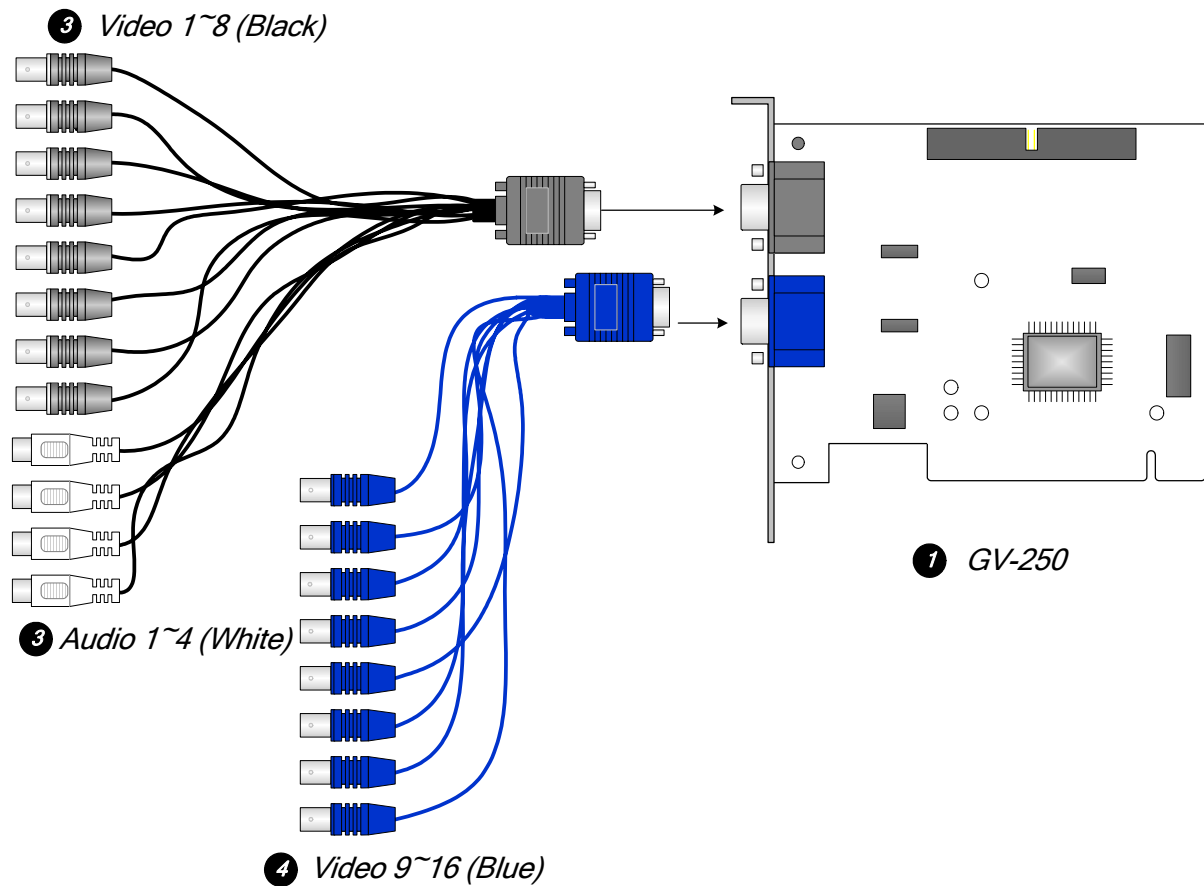


Figure 1- 13 D-Type GV-250 Card connections

For the BNC-type video capture card, plug the Audio Extension Card into the connector on the GV-250 Card, as illustrated below.

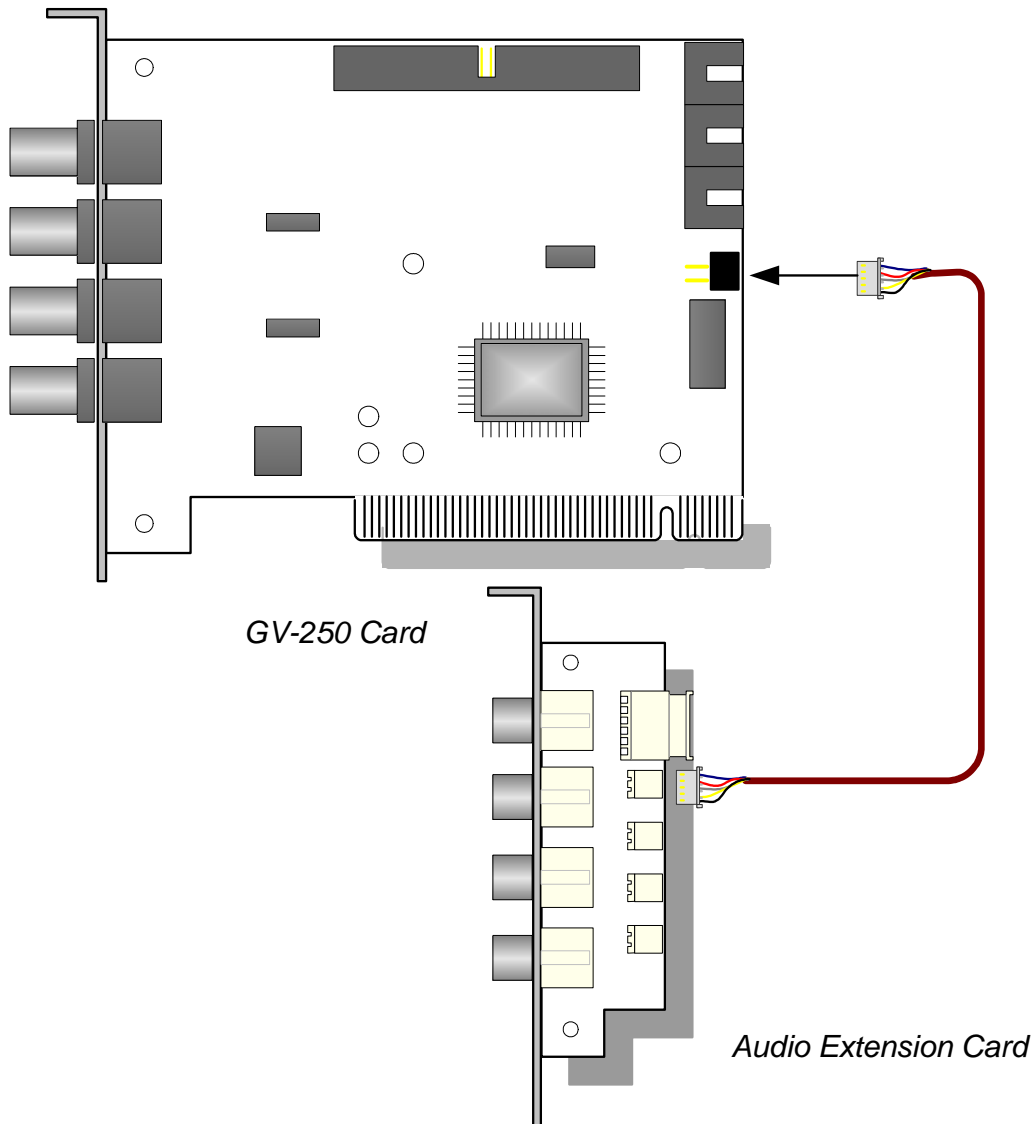


Figure 1-14 BNC-type GV-250 Card connections

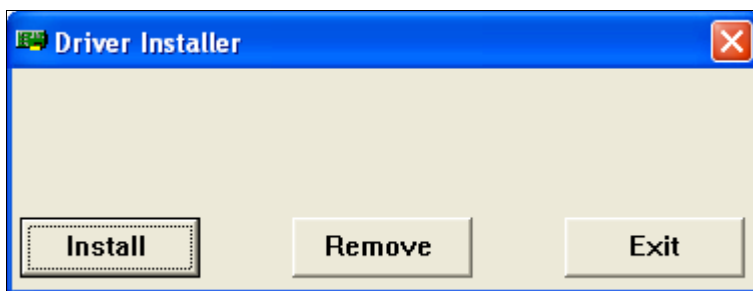
Specifications

GV-250		
Input Type		GV-250 BNC: BNC x 4
		GV-250 D-Type: DB15 x 2
Video Input		1, 2, 4, 6, 8, 12, 16 Cams
Audio Input		1 Channel
Recording Rate (At 320 x 240 Resolution)	NTSC	15 fps
	PAL	12 fps
Display Rate	NTSC	15 fps
	PAL	12 fps
Video Resolution	NTSC	720 x 480, 720 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 320 x 240
	PAL	720 x 576, 720 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 320 x 240
Compression Format		Geo MPEG4, Geo MPEG4 (ASP), Geo H264
GV-DSP Card Support		Yes
GV-A16 Support		No
GV-NET/IO Card Support		No
Dimensions (W x H)	BNC	120 mm x 95 mm
	D-Type	120 mm x 95 mm

1.6 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 CD. It will run automatically and pop up a window.
2. Select **Install or Remove GV-Series Driver**, and then click **Install or Remove GV-Series Cards Driver**. This displays this dialog box.



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:

1. In Windows XP, the wizard will disappear after installation. In Windows 2000, close the wizard manually.
 2. For the installation of two GV-2008 cards, it is required to restart the computer after the driver is installed.
-

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

Expand the **Sound, video and game controller** field, you can see:

Model	Entry
GV-250	GV250 Audio GV250 Video Capture
GV-600-4	GV600_4 or GV604(S) Video Capture #A GV600_4 or GV604(S) Audio # A
GV-600	GV600V2, GV600V3 or GV600(S) Audio #A GV600V2 ,GV600V3 or GV600(S) Video Capture # A
GV-650	GV650, GV650V3 or GV650(S) Audio # A - #B GV650, GV650V3 or GV650(S) Video Capture # A - # B
GV-800-4	GV800_4 or GV804(S) Video Capture # A - #D GV800_4 or GV804(S) Audio # A - # D
GV-800	GV800V2, GV800V3 or GV800(S) Audio # A - #D GV800V2, GV800V3 or GV800(S) Video Capture # A - # D

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

Model	Entry
GV-1120	GV1480 Series
GV-1240	GV1480 Series
GV-1480	GV1480 Series
GV-2004	GV2004-MP4 (CAP), GV2004-MP4 (ENC)
GV-2008	GV2008-MP4 (CAP), GV2008-MP4 (ENC), GV2008-MP4 (ENC)
GV-2008 (2 GV-2008 Cards)	GV2008-MP4 (CAP), GV2008-MP4 (CAP), GV2008-MP4 (ENC), GV2008-MP4 (ENC), GV2008-MP4 (ENC), GV2008-MP4 (ENC)

1.7 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.

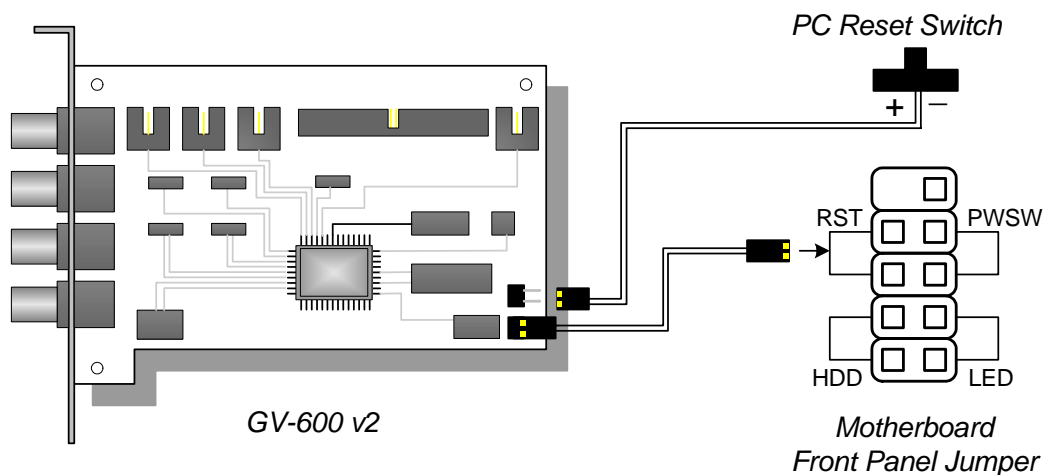


Figure 1-15 Watchdog connections

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.

1.8 Comparison Chart

		GV-250	GV-600	GV-650	GV-800
Input Type		BNC / D-Type	BNC / D-Type	BNC / D-Type	BNC / D-Type
Video Input		1, 2, 4, 6, 8, 12, 16	4, 6, 8, 10, 12, 14, 16	4, 8, 12, 16	4, 8, 12, 16
Total Recording Rate (at 320 x 240)	NTSC	15 fps	30 fps	60 fps	120 fps
	PAL	12 fps	25 fps	50 fps	100 fps
Display Rate	NTSC	15 fps	30 fps	60 fps	120 fps
	PAL	12 fps	25 fps	50 fps	100 fps
Video Codec		Geo MPEG4, Geo MPEG4 (ASP), Geo H264			
Video Resolution	NTSC	720 x 480, 720 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 320 x 240			
	PAL	720 x 576, 720 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 320 x 240			
Audio Input		1	1	2	4
Audio Codec		ADPCM 8Khz 4 bit Mono			
GV-Multi Quad Card Support		○	○	○	○
GV-DSP Support		○	○	○	○
GV-A16 Support		✗	○	○	○
GV-Hybrid DVR Card Support		✗	○	○	○
GV-NET/IO Card Support		✗	○	○	○
GV-I/O 12-In Card Support		✗	○	○	○
GV-I/O 12-Out Card Support		✗	○	○	○
GV-I/O Support		○	○	○	○
Hardware Watchdog		✗	○	○	○
Minimum System Requirements					
OS		Windows 2000 / Windows XP / Windows Server 2003			
Direct X		9.0 or above			
CPU		Pentium 4 - 2.0 GHz			
RAM		256MB DDR SDRAM			
HDD		80 GB			
VGA		NVIDIA GeForce2 MX200 32MB			
Note:					
1. Currently GV-series video capture cards are not compatible with VIA-series and ATI-series chipset motherboards.					
2. For recording resolution of 640 x 480 or above, Pentium 4 processor with Hyper Threading is required.					

GV-1120	GV-1240	GV-1480	GV-2004	GV-2008	GV-2008 x 2
D-Type / PCI-E / DVI-Type			D-Type		
8, 12, 16	8, 16	16	4	8	16
120 fps	240 fps	480 fps	120 fps	240 fps	480 fps
100 fps	200 fps	400 fps	100 fps	200 fps	400 fps
480 fps	480 fps	480 fps	120 fps	240 fps	480 fps
400 fps	400 fps	400 fps	100 fps	200 fps	400 fps
Geo MPEG4, Geo MPEG4 (ASP), Geo H264					
720 x 480, 720 x 480 De-interlace, 640 x 480, 640 x 480 De-interlace, 320 x 240			720 x 480, 720 x 480 De-interlace		
720 x 576, 720 x 576 De-interlace, 640 x 480, 640 x 480 De-interlace, 320 x 240			720 x 576, 720 x 576 De-interlace		
8, 12, 16	8, 16	16	4	8	16
ADPCM 8Khz 4 bit Mono					
○	○	○	○	○	○
○	×	×	×	×	×
○	×	×	×	×	×
○	○	○	×	×	×
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
Minimum System Requirements					
Windows 2000 / Windows XP / Windows Server 2003					
9.0 or above					
Pentium 4 2.4C GHz	Pentium 4 2.6C GHz	Pentium 4 2.8C GHz	Pentium 4 2.4C GHz	Pentium 4 2.6C GHz	Pentium 4 2.8C GHz
2 x 256MB Dual DDR400 SDRAM				2 x 512MB Dual DDR400 SDRAM	2 x 1G Dual DDR400 SDRAM
80 GB	120 GB	250 GB	120 GB	250 GB	500 GB
ATI Radeon 9550 or above (Recommended)					
3. GV-2004 and GV-2008 Cards are capable of hardware compression, which compression codecs are MPEG-4 (ASP) and MPEG-2.					
4. For the software recording rates, all GV Cards are set to CIF. For the hardware recording rates, GV-2004 and GV-2008 Cards are set to D1 and Half D1.					
5. All specifications are subject to change without prior notification.					

Chapter 2 Hardware Accessories

This chapter includes the following information:

- **System requirements**
- **Packing list**
- **Connection diagrams**
- **Specifications**
- **Driver installation**

2.1 GV-Multi Quad Card

The GV-Multi Quad Card connects up to 5 TV monitors (spot monitors). One port supports up to 16 screen divisions, while the other 4 ports support 1 and 4 screen divisions. It also allows self-defined channel sequence and position changes of divisions on the monitor screen.

For further operations on GV-System, see “*Quad Spot Monitors Controller*”, Chapter 1, *User’s Manual* on the Surveillance System Software CD.

System Requirement

- Version 8.1 or above

Packing List

1. GV-Multi Quad Card x 1
2. 1-5 D-Type Video Cable x 1
3. 40-Pin Ribbon Cable x 1
4. 40-Pin Ribbon Cable with Four 10-Pin Headers x 1
5. Installation Guide x 1

Connections

- Use the supplied Ribbon Cable to connect the GV-Multi Quad Card to the GV-Video Capture Card as illustrated below.
- For the connection to the GV-2004 and GV-2008 Card, the supplied Ribbon Cable splits at one end with four 10-pin headers. Plug the corresponding cable headers into the connectors of GV-2004 or GV-2008 Card by the numbers marked on the headers and connectors. For instance, when connecting to two GV-2008 Cards, connect the headers “(1-4) 1” and “(5-8) 1” to video inputs 1-4 and 5-8 of the Master GV-2008 Card. And then connect the headers “(1-4) 2” and “(5-8) 2” to the video inputs of the Slave GV-2008 Card.

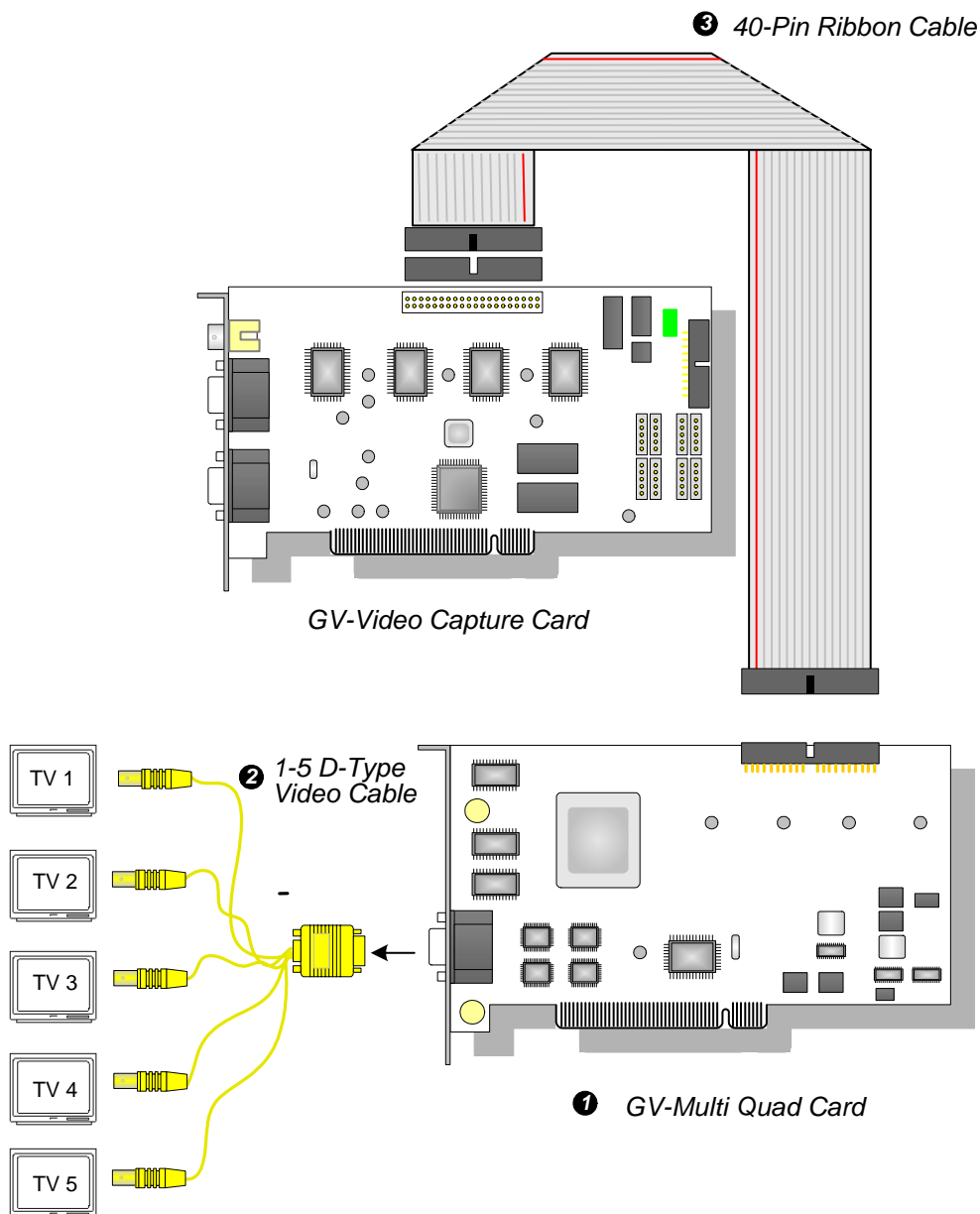


Figure 2-1 GV-Multi Quad Card connections

Installing Drivers

After you install the GV-Multi Quad Card to the computer, the Hardware Wizard will automatically detect the device. Ignore the wizard, and follow the steps in *1.5 Installing Drivers* to install drivers.

To verify the drivers are installed correctly, go to Device Manager. Expanding the Sound, video and game controllers field, you should see the entries for **GVTVOUT Audio #A** and **GVTVOUT Video Capture #A**.

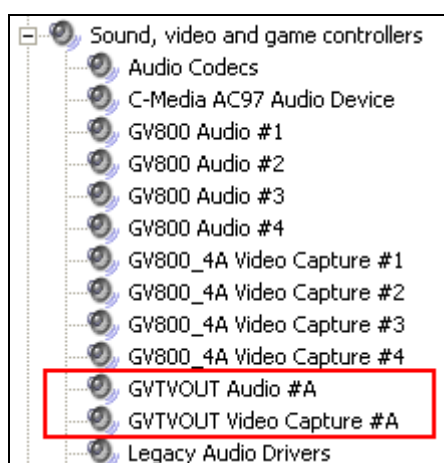


Figure 2-2 Verifying GV-Multi Quad Card drivers

Specifications

Interface for GV-Video Capture Card	40-Pin Connector
TV Output	DB15 to 5 BNC Connectors
Input Signal	16 Channels
TV Monitor Layout	Port 1: supports up to 16 screen divisions. Port 2 ~ Port 5: support 1 and 4 screen divisions.
Compatible Model	GV-250, GV-600, GV-650, GV-800, GV-900, GV-11120, GV-1240, GV-1480, GV-2004 and GV-2008
Dimensions	178 mm x 104 mm

2.2 GV-Hybrid DVR Card

The GV-Hybrid DVR Card supports hardware-based compression, giving you less CPU usage and higher system performance. It features:

- DVD recording quality.
- Support for exporting DVD format files.

The Characteristics of GV-Hybrid DVR Card

- You can connect up to four GV-Hybrid DVR Cards to one GV-System; one GV-Hybrid DVR Card supports up to four channels.
- The GV-Hybrid DVR Card only affects video recording; all live views are still provided by the GV-Video Capture Card.
- For audio recording, the audio inputs of the GV-Video Capture Card always have the sequence priority over those of GV-Hybrid DVR Card. For example, GV-800 Card has 4 audio channels, so that the GV-Hybrid DVR Card's audio channels will be from 5 to upwards.
- The GV-Hybrid DVR Card supported-channels do not work with the Pre-Rec Motion feature.

For further operations on GV-System, see *Configuring Hybrid Cameras*, Chapter 1, *User's Manual* on the Surveillance System Software CD.

System Requirements

- GV-600, 650, 750, 800, 1000, 1120, 1240 and 1480 Cards
- Version 7.0 or above

Packing List

- | | |
|--------------------------------------|-----------------------------------|
| 1. GV-Hybrid DVR Card x 1 | 4. 2-Pin to 5-Pin Audio Cable x 1 |
| 2. Hardware Watchdog Jumper Wire x 1 | 5. 40-Pin Ribbon Cable x 1 |
| 3. 5-Pin to 5-Pin Audio Cable x 1 | 6. Installation Guide x 1 |

Connections

Connect the GV-Hybrid DVR Card to the GV-Video Capture Card as illustrated below.

Note: Make sure the Ribbon Cables are connected to the correct input and output on the GV-Hybrid DVR Card.

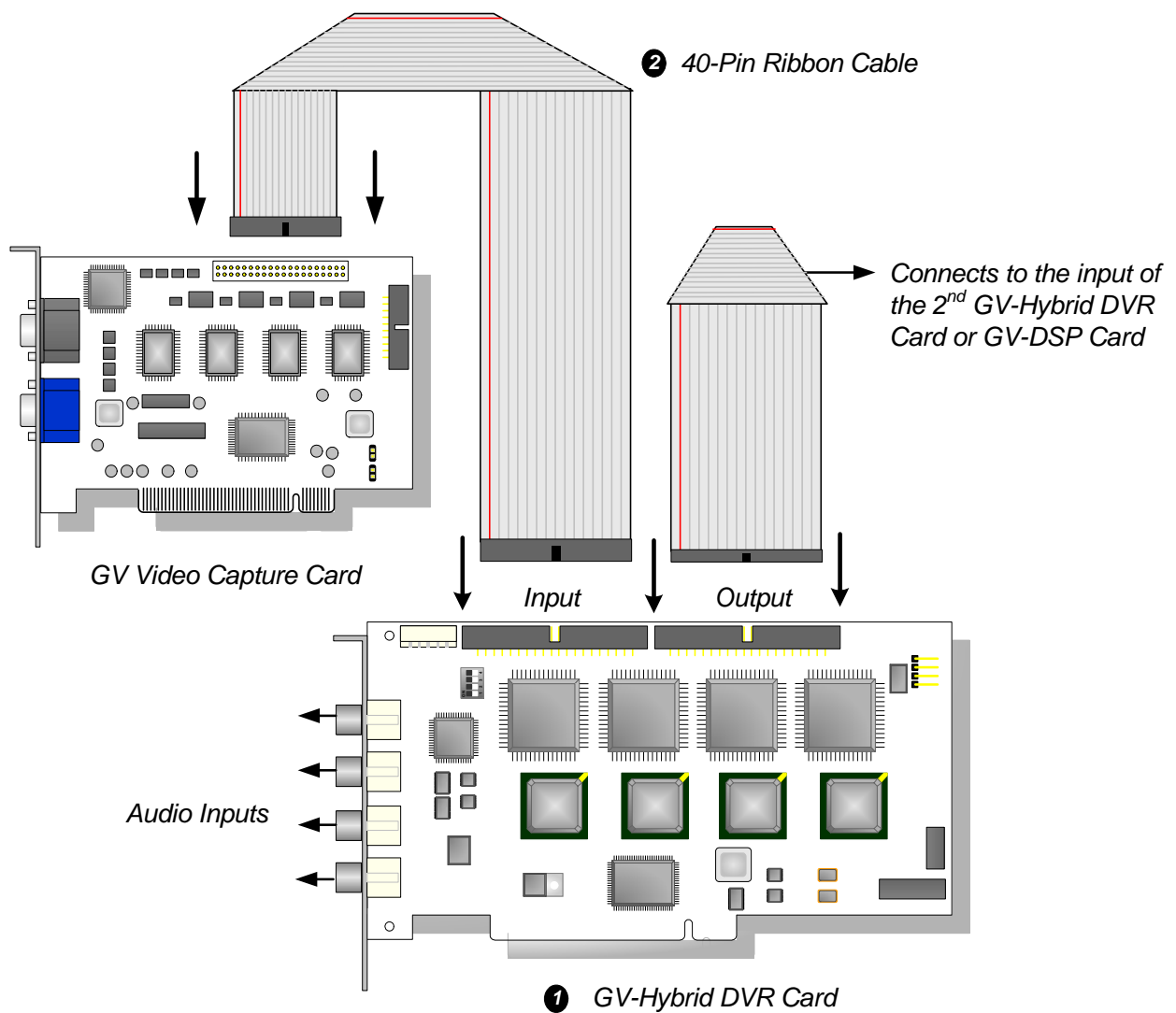


Figure 2-3 GV-Hybrid DVR Card connections

Installing Drivers

After you install the GV-Hybrid DVR Card to the computer, the Hardware Wizard will automatically detect the device. Ignore the wizard, and follow the steps in *1.5 Installing Drivers, Chapter 1* to install drivers.

To verify the drivers are installed correctly, go to Device Manager. In the DVR-Devices field, you should see 4 entries for **GVMP2** and 11 entries for **GVMP2 Null**, as shown below.

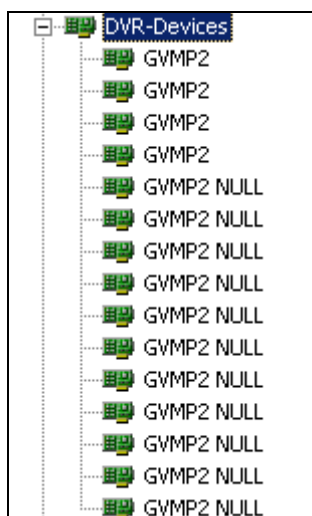


Figure 2-4 Verifying GV-Hybrid DVR Card's drivers

Specifications

Interface	40-Pin Connector
Audio Input	RCA Connector x 4
Number of Channels	4
Recording Rate	120 fps (NTSC), 100 fps (PAL)
Video Resolution	NTSC: 720 x 480
	PAL: 720 x 576
Dimensions	180 mm x 102 mm

2.3 GV-Loop Through Card

The GV-Loop Through Card is designed to take the video signal directly from the GV-Video Capture Card, without internal device processes, and then split it into 16 signals while maintaining video quality. With the duplicate 16 signals, the card can meet your need for multiple monitors.

Packing List

- | | |
|--------------------------------|---|
| 1. GV-Loop Through Card x 1 | 4. 40-Pin Ribbon Cable x 1 |
| 2. 1-8 D-Type Video Cable x 1 | 5. 40-Pin Ribbon Cable with Four 10-Pin Headers x 1 |
| 3. 9-16 D-Type Video Cable x 1 | 6. Installation Guide x 1 |

Overview

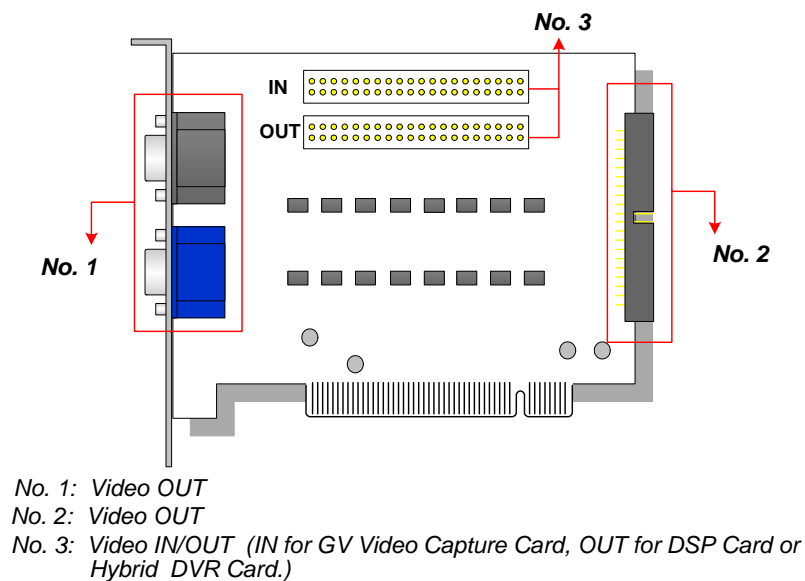


Figure 2-5 GV-Loop Through Card

Note:

- For No. 2 Video Out, an extra D-Type extension card is required.
- Select either No. 1 or No. 2 for video out. Using both at the same time may cause video degradation.
- Only connect GV-series cards, such as Video Capture Card, DSP Card or Hybrid DVR Card to No. 3. Other devices are prohibited.

Connections

- Connect D-type cables and the GV-Video Capture Card to the GV-Loop Through Card as illustrated below.
- For the connection to the GV-2004 and GV-2008 Card, the supplied Ribbon Cable splits at one end with four 10-pin headers. Plug the corresponding cable headers into the connectors of GV-2004 or GV-2008 Card by the numbers marked on the headers and connectors. For instance, when connecting to two GV-2008 Cards, connect the headers “(1-4) 1” and “(5-8) 1” to video inputs 1-4 and 5-8 of the Master GV-2008 Card. And then connect the headers “(1-4) 2” and “(5-8) 2” to the video inputs of the Slave GV-2008 Card.

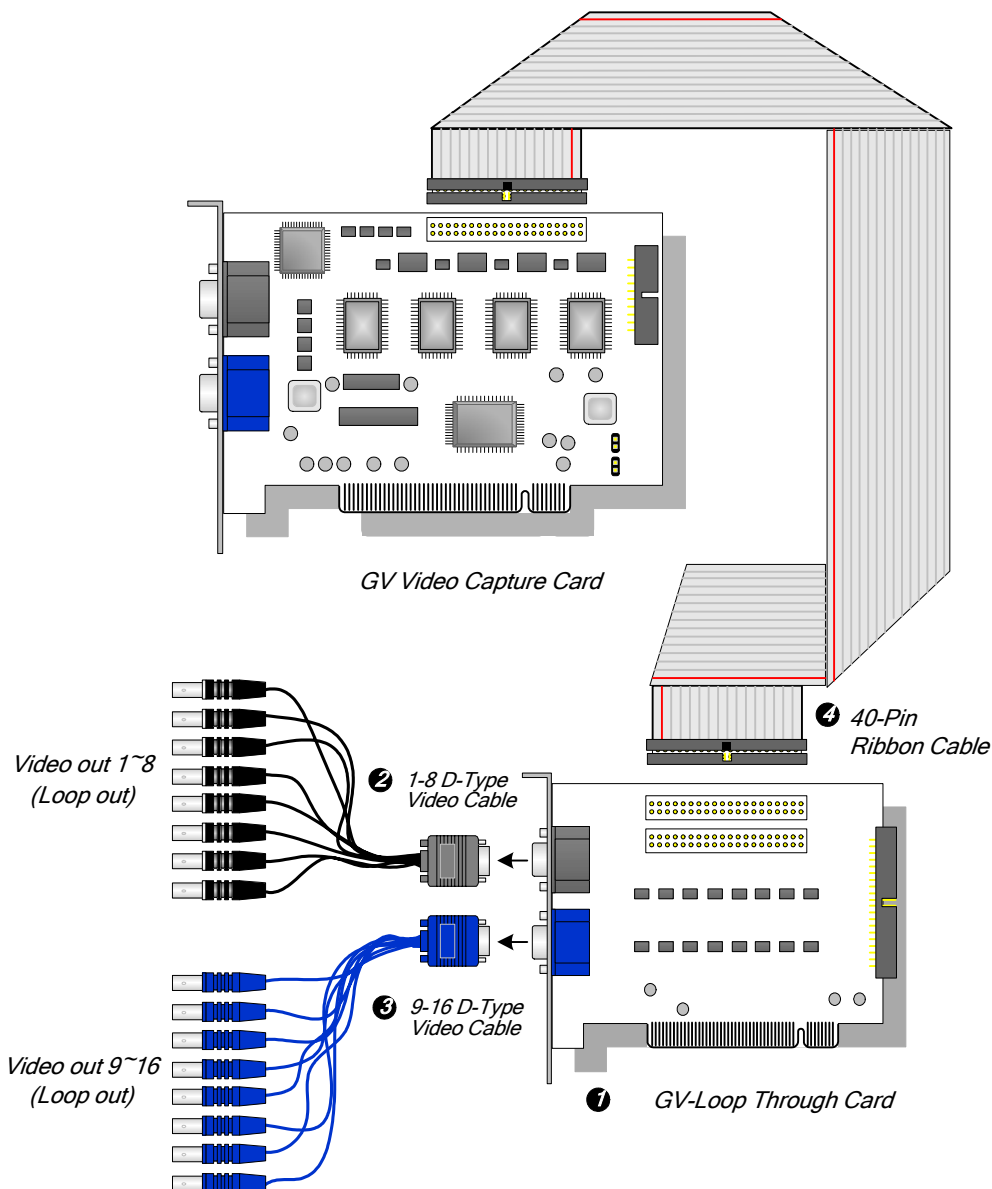


Figure 2-6 GV-Loop Through Card connections

Specifications

Interface for GV-Video Capture Card	40-Pin Connector x 2
Output Interface	DB15 Connector x 2
	40-Pin Connector x 1
Input Signal	16 Channels
Dimensions	130 mm x 98 mm

2.4 GV-DSP Card

The GV-DSP Card, a real-time display card, enables the live display up to 480 fps. In addition, the card supports a TV output, allowing for the simultaneous display on computer and a TV monitor (spot monitor).

For further operations on GV-System, see *DSP Spot Monitor Controller*, Chapter 1, *User's Manual* on the Surveillance System Software CD.

System Requirements

- At least a GeForce 2 MX200 VGA card

Note: The GV-DSP Card is not compatible with VIA-series and ATI-series chipset motherboards.

Packing List

1. GV-DSP Card x 1
2. 40-Pin Ribbon Cable x 1
3. Installation Guide x 1

Connections

Use the supplied Ribbon Cable to connect the GV-DSP Card to the GV-Video Capture Card as illustrated below.

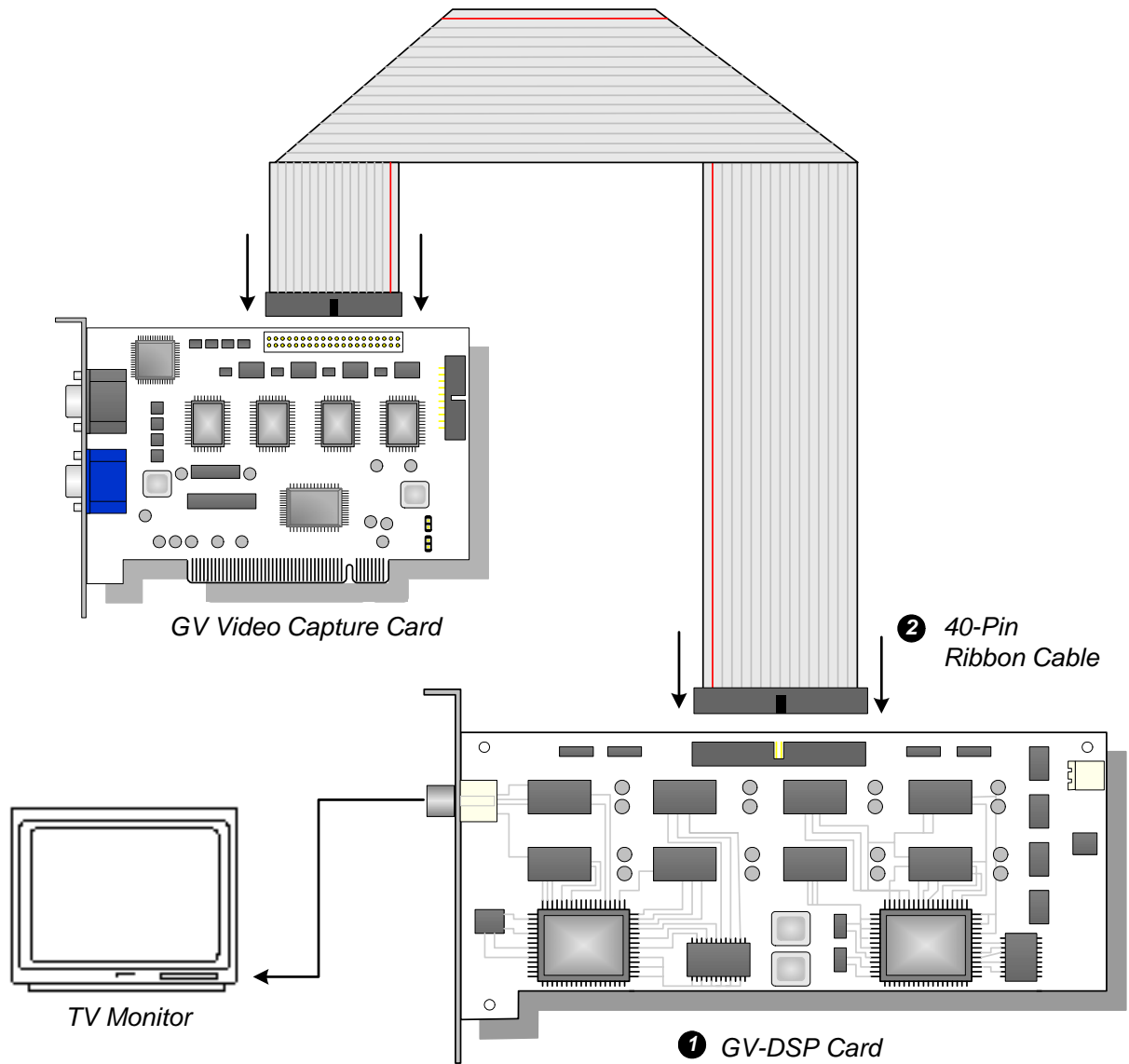


Figure 2-7 GV-DSP Card connections

Installing Drivers

After you install the GV-DSP Card to the computer, the Hardware Wizard will automatically detect the device. Ignore the wizard, and follow the steps in *1.5 Installing Drivers* to install drivers.

To verify the drivers are installed correctly, go to Device Manager. Expanding the Sound, video and game controllers field, you can see:

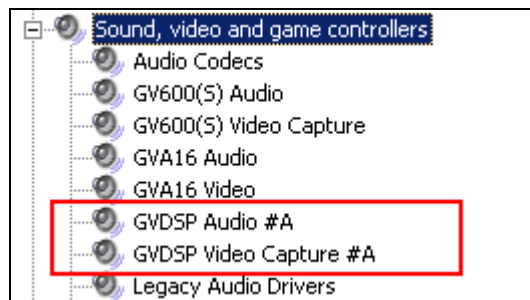


Figure 2-8 Verifying GV-DSP 16-port Card drivers

Model	Entry
8-port	GVDSP8P Audio, GVDSP8P Video Capture
16-port	GVDSP Audio #A, GVDSP Video Capture #A

Specifications

Interface	40-Pin Connector	
TV Output	RCA Connector x 1	
Number of Channels	8, 16	
Display Rate	GV-DSP-8	240 fps
	GV-DSP-16	480 fps
Video Resolution	NTSC	640 x 480
	PAL	720 x 576
Compatible Model	GV-250, GV-600, GV-650, GV-800, GV-900, GV-1000	
Dimensions	GV-DSP-8	191 mm x 98 mm
	GV-DSP-16	204 mm x 100 mm

2.5 GV-A16 Card

The GV-A16 Card can work with the GV-Video Capture Card to record audio for 16 channels, and to provide full duplex audio communication between local and remote users.

Packing List

- | | |
|-------------------------------|--------------------------------|
| 1. GV-A16 Card x 1 | 3. 9-16 D-Type Audio Cable x 1 |
| 2. 1-8 D-Type Audio Cable x 1 | 4. Installation Guide x 1 |

Connections

Connect the audio cables to the GV-A16 Card as illustrated below.

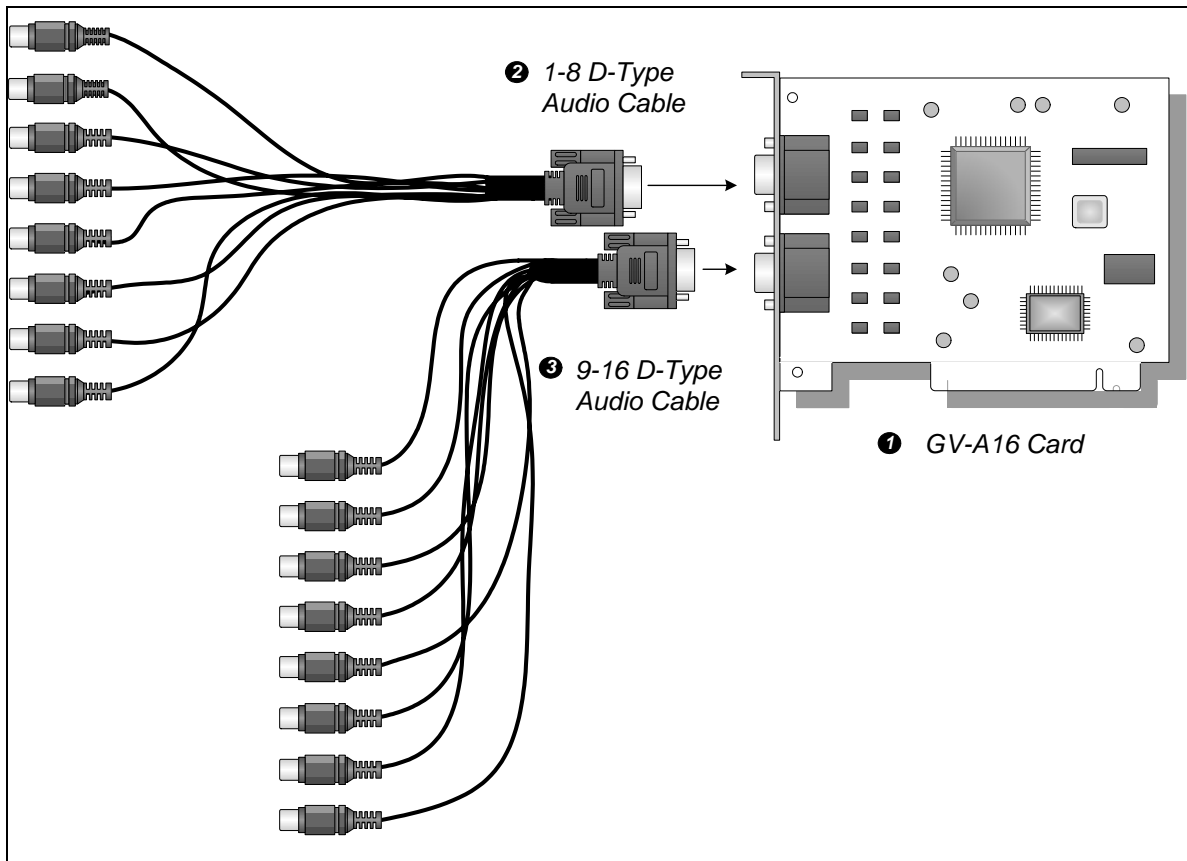


Figure 2-9 GV-A16 Card Connections

Installing Drivers

After you install the GV-A16 Card to the computer, the Hardware Wizard will automatically detect the device. Ignore the wizard, and follow the steps in *1.5 Installing Drivers, Chapter 1* to install drivers.

To verify the drivers are installed correctly, go to Device Manager. Expanding the Sound, video and game controllers field, you should see the entries for **GVA16 Audio** and **GVA16 Video**.

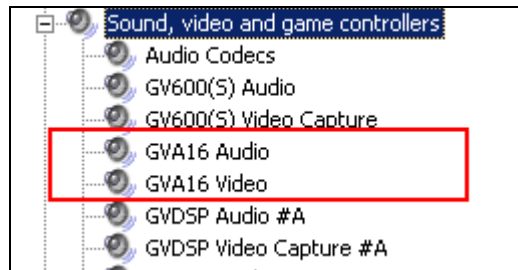


Figure 2-10 Verifying GV-A16 Card drivers

Specifications

Interface	DB9 Connector x 2
Number of Channels	16
Audio Compression	ADPCM 8 bit Mono
Compatible Model	GV-600, GV-650, GV-800, GV-900, GV-1000
Dimensions	120 mm x 91 mm

2.6 GV-NET Card

The GV-NET Card is a RS-485 to RS-232 interface converter. This Card connects to the RS-232 port on your computer, and allows RS-485 devices, such as PTZ domes, to be connected through the Card.

Packing List

1. GV-NET Card x 1
2. RJ-11 to DB9 Cable x 1
3. 4-Pin to 4-Pin Mini Power Cable x 1
4. Installation Guide x 1

Connections

Use the RJ-11 to DB9 Cable to connect the Card to the PC's COM port. Use the 4-Pin Mini Power Cable to connect the Card to the PC's power supply.

Note: The GV-NET Card only provides RS-485 / RS-232 data conversion; the connection to the GV-Video Capture Card is not required.

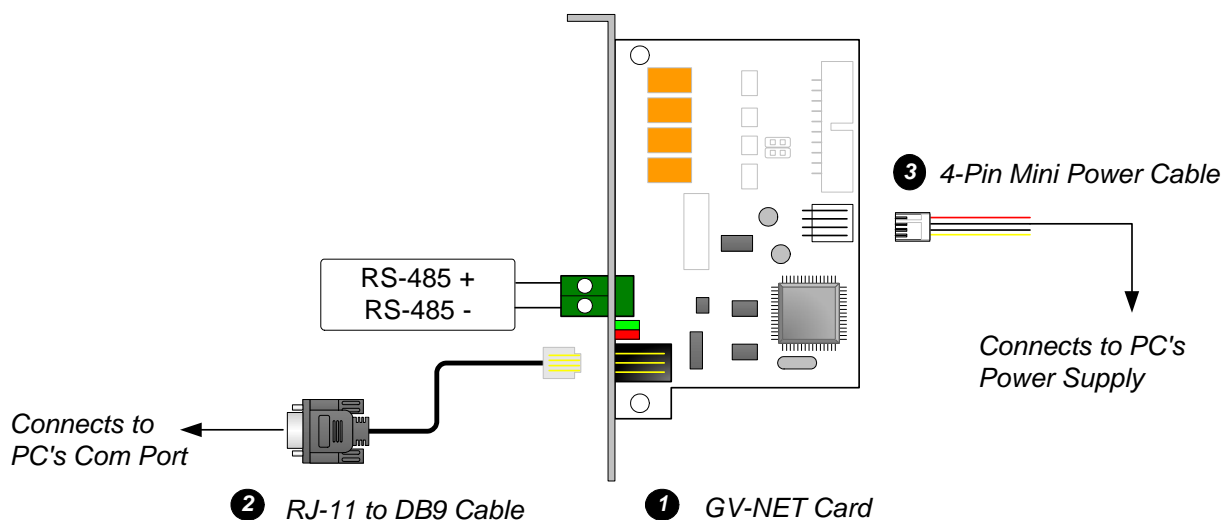


Figure 2-11 GV-Net Card Connections

RS-485 Device Connections

Following provides three examples of connecting RS-485 devices to your computer through the GV-NET Card.

Connecting PTZ Domes

The GV-NET Card can connect up to 16 PTZ domes.

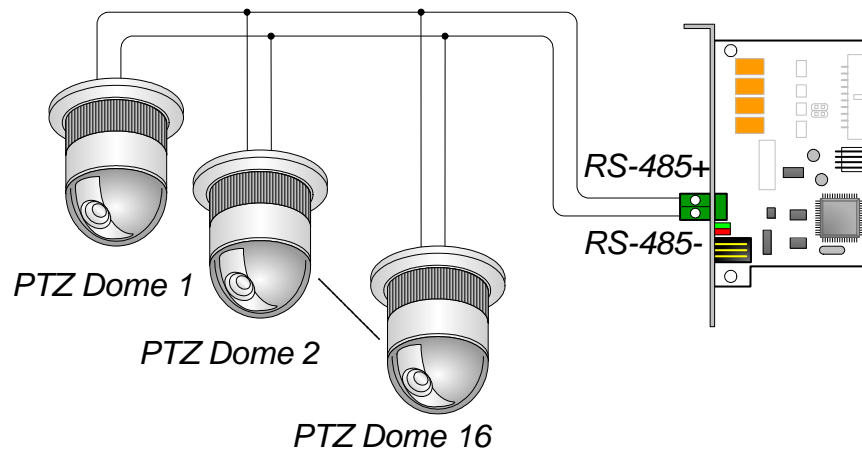


Figure 2-12 Connecting PTZ domes

Connecting the POS System

Use the GV-NET Card and the RS-485 cable to extend the communication distance from the GV-Data Capture Box to the GV-System.

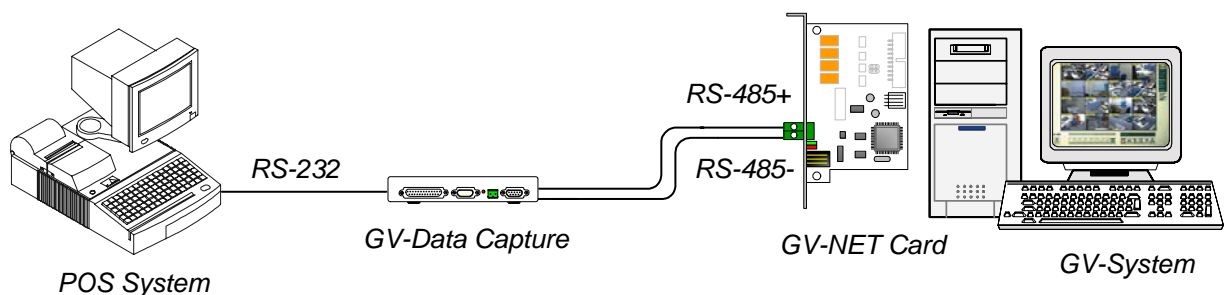


Figure 2-13 Connecting the POS System

Connecting the GV-IO and GV-Relay Module

The GV-NET Card can connect up to nine GV-IO and GV-Relay modules.

For details on the GV-IO and GV-Relay module, see *2.10 GV-IO and GV-Relay Module*.

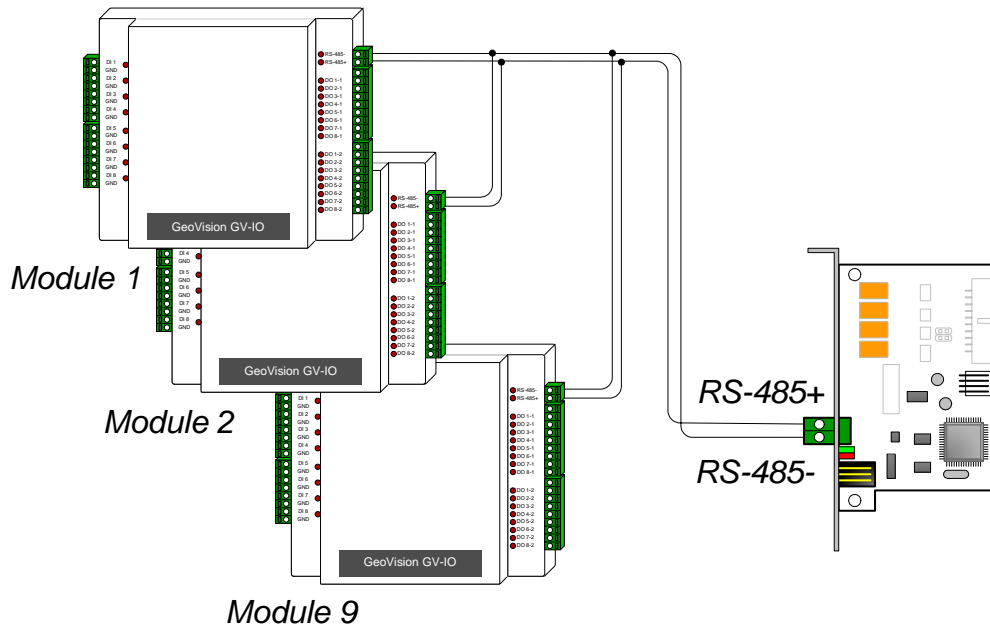


Figure 2-14 Connecting GV-IO boxes

Specifications

RS-232 to PC	RJ-11 to DB9 Cable
RS-485 Interface	Two Wires
Communication	RS-485, 1,200-19,200 bps
DC IN	DC 5V, 1A
Environmental Condition	0 to 50 Degree C, 5%-95% (Non-Condensing)
Compatible Model	All GV-Video Capture Card Models
Dimensions	63 mm x 90 mm

2.7 GV-NET/IO Card

The GV-NET/IO Card not only is a RS-485 / RS-232 interface converter, but also supports four digital inputs and four relay outputs, meeting your need for external alarms and sensors.

Packing List

1. GV-NET/IO Card x 1
2. RJ-11 to DB9 Cable x 1
3. 4-Pin to 4-Pin Mini Power Cable x 1
4. 20-Pin Ribbon Cable x 1
5. Installation Guide x 1

Connections

- Use the Ribbon Cable to connect the GV-NET/IO Card to the GV-Video Capture Card.
- Use the RJ-11 to DB9 Cable to connect the GV-NET/IO Card to the PC's COM port.
- Use the 4-Pin Mini Power Cable to connect the GV-NET/IO Card to the PC's power supply.

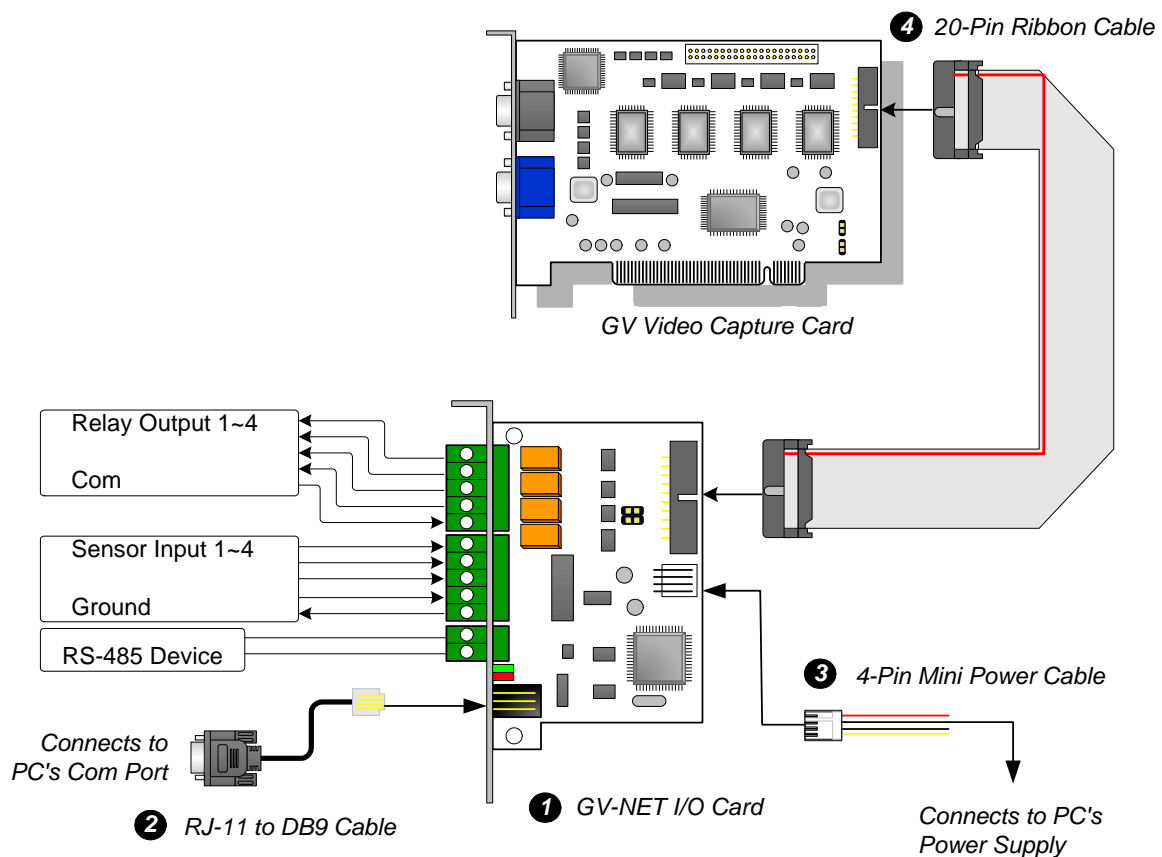


Figure 2-15 GV-NET/IO Card connections

Note:

1. Use the switch for Dry Contact and 5V Wet Contact.
2. The GV-NET/IO Card accepts either all dry-contact or all wet-contact devices. Don't mix two type devices in the same card.
3. To prevent noise interference in I/O operation, tightly screw the GV-NET/IO Card to the computer case.

Connecting Output Devices

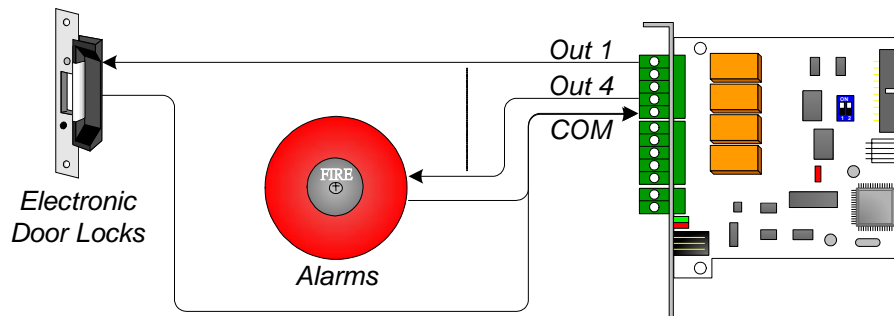


Figure 2-16 Connecting output devices

Connecting Input Devices

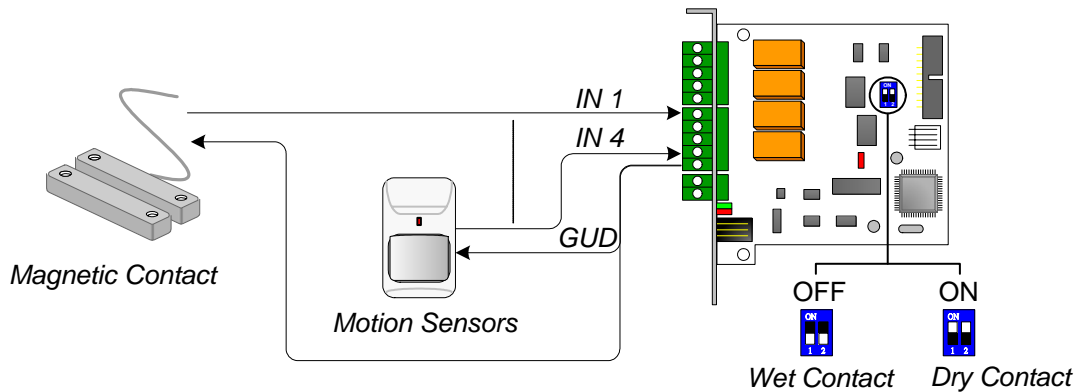


Figure 2-17 Connecting input devices

Connecting RS-485 Devices

The connections of RS-485 devices to the GV-NET/IO Card are the same as the GV-NET Card. Refer to the diagrams in *RS-485 Device Connections, 2.6 GV-NET Card*.

Specifications

Input	Input	4
	Input Signal	5V DC (Floating) / TTL
	High State	5V
	Low State	0V
Output	Relay Output	4
	Relay Status	Normal Open
	Relay Capacitance	2A / 30V DC; 0.25A / 250V AC
	Relay On/Off Time	4ms / 4ms
RS-232 Interface	RJ-11 to DB9 Cable	
Communication	RS-485, 1,200-19,200 bps	
DC IN	DC 5V, 1A	
Environmental Condition	0-50 Degree C, 5%-95% (Non-Condensing)	
Compatible Model	GV-600 V3, GV-650 V3, GV-800 V3, GV-900 V1.11, GV-1000 V1.21, GV-1120, GV-1240, GV-1480, GV-2004 and GV-2008	
Dimensions	88 mm x 99 mm	

2.8 GV-IO 12-In Card

The GV-IO 12-In Card is designed to work with the GV-NET/IO Card. With 12 digital inputs, the GV-IO 12-In Card can expand the GV-System's capacity up to 16 digital inputs.

System Requirements

- GV-NET/IO Card

Packing List

1. GV-IO 12-In Card x 1
2. 20-Pin Ribbon Cable with 4 connectors x 1
3. Installation Guide x 1

Connections

Use the four-connector Ribbon Cable to connect the GV-IO 12-In Card, GV-Video Capture Card, GV-NET/IO Card and GV-IO 12-Out Card together, as illustrated below.

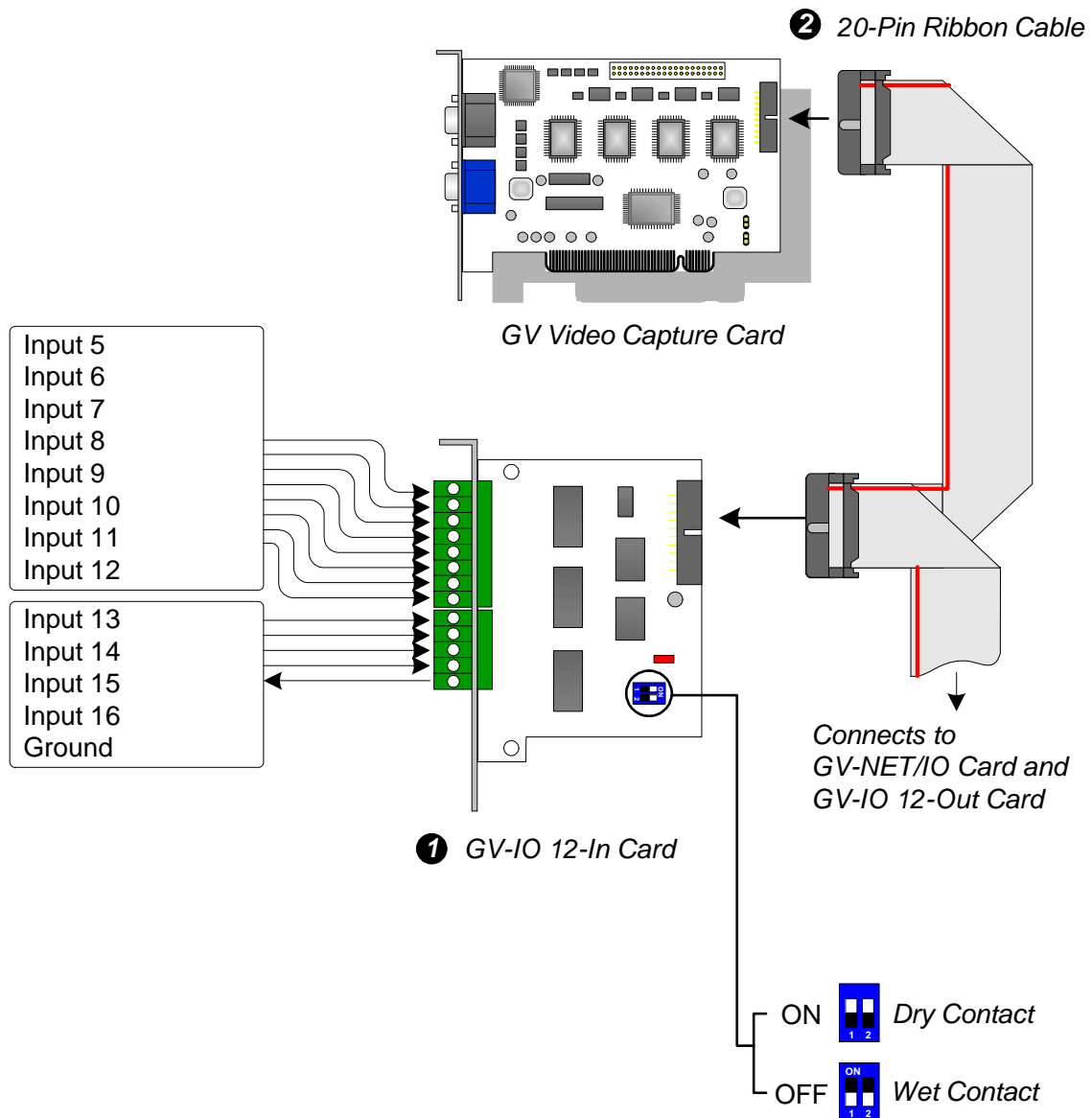


Figure 2-18 GV-IO 12-In Card connections

Note:

1. Use the switch for Dry Contact and 5V Wet Contact.
2. The GV-IO 12-In Card accepts either all dry-contact or all wet-contact devices.
Don't mix two type devices in the same card. (Default: Dry Contact)
3. To prevent noise interference in I/O operation, tightly screw the GV-IO 12-In Card to the computer case.
4. The GV-IO 12-In Card must work together with the GV-NET/IO Card.

Specifications

Input	Input	12
	Input Signal	5V DC (Floating) / TTL
	High State	5V
	Low State	0V
Environmental Condition	0-50 Degree C, 5%-95% (Non-Condensing)	
Compatible Model	GV-600 V3, GV-650 V3, GV-800 V3, GV-900 V1.11, GV-1000 V1.21, GV-1120, GV-1240, GV-1480, GV-2004 and GV-2008	
Dimensions	64 mm x 99 mm	

2.9 GV-IO 12-Out Card

The GV-IO 12-Out Card is designed to work with the GV-NET/IO Card. With 12 replay outputs, the GV-IO 12-Out Card can expand the GV-System's capacity up to 16 relay outputs.

System Requirements

- GV-NET/IO Card

Packing List

1. GV-IO 12-Out Card x 1
2. 220-Pin Ribbon Cable with 4 connectors x 1
3. 4-Pin to 4-Pin Mini Power Cable x 1
4. Installation Guide x 1

Connections

Use the four-connector Ribbon Cable to connect the GV-IO 12-Out Card, GV- Video Capture Card, GV-NET/IO Card and GV-IO 12-In Card together, as illustrated below.

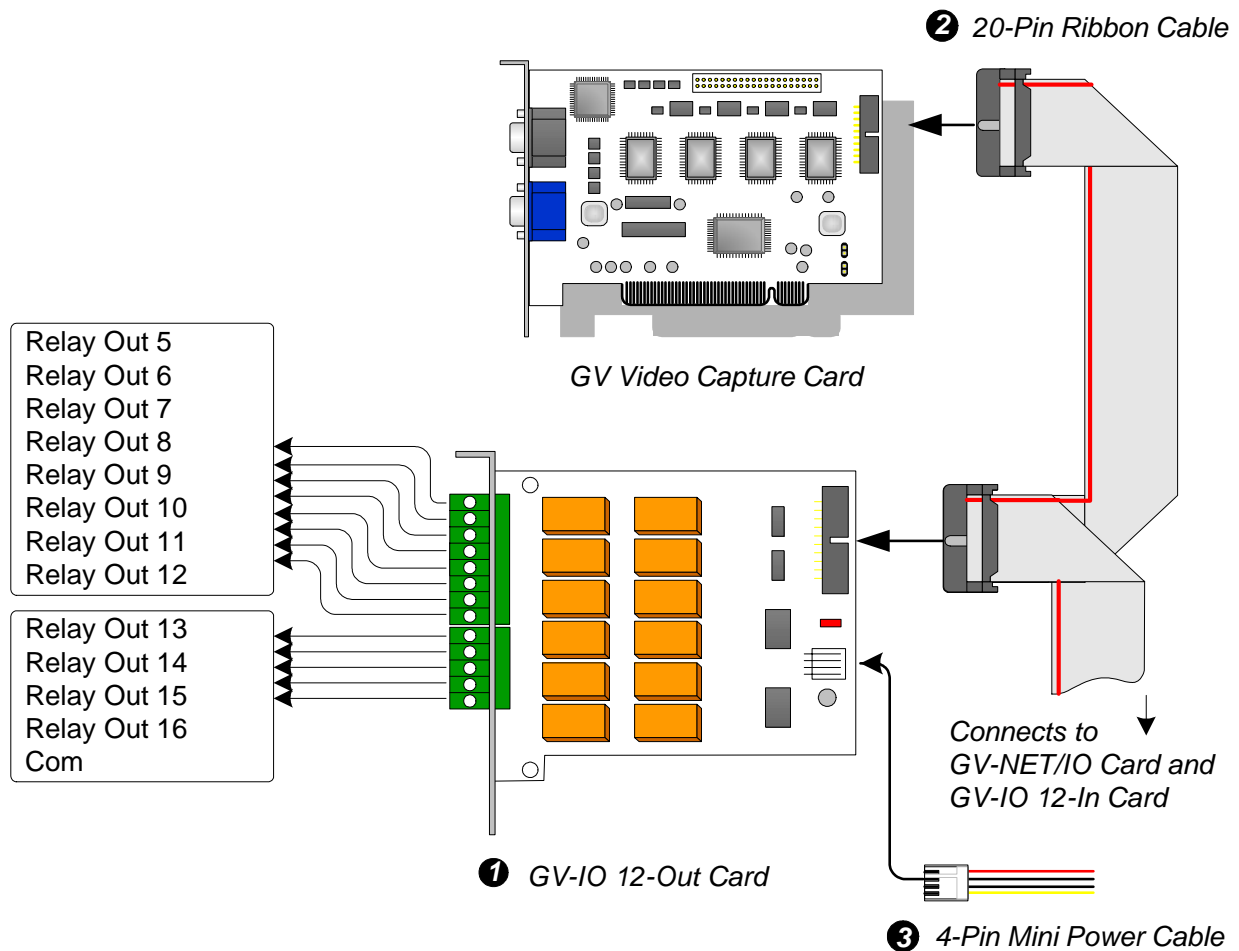


Figure 2-19 GV-IO 12-Out Card connections

Note:

1. To prevent noise interference in I/O operation, tightly screw the GV-IO 12-Out Card to the computer case.
2. The GV-IO 12-Out Card must work together with the GV-NET/IO Card.

Specifications

Output	Relay Output	12
	Relay Status	Normal Open
	Relay Capacitance	2A / 30V DC; 0.25A / 250V AC
	Relay On/Off Time	4ms / 4ms
DC IN	DC 5V, 1A	
Environmental Condition	0~50 Degree C, 5%~95% (Non-Condensing)	
Compatible Model	GV-600 V3, GV-650 V3, GV-800 V3, GV-900 V1.11, GV-1000 V1.21, GV-1120, GV-1240, GV-1480, GV-2004 and GV-2008	
Dimensions	107 mm x 99 mm	

2.10 GV-NET Box

The GV-Net Box is a RS-485 / RS-232 interface converter, the same function as the GV-Net Card. The differences are that the GV-NET Card is fixed within the computer and receives the power supply from your computer, while the GV-NET Box is an independent box and has its own power supply adaptor.

Packing List

- | | |
|--------------------------------------|----------------------------|
| 1. GV-NET Box x 1 | 3. Power Adapter DC 5V x 1 |
| 2. DB9 RS-232 Cable (1.8 meters) x 1 | 4. Installation Guide x 1 |

Connections

- Use the supplied RS-232 cable to connect the GV-NET Box to the computer.
- Use the power adaptor to connect the GV-NET Box to the power outlet.

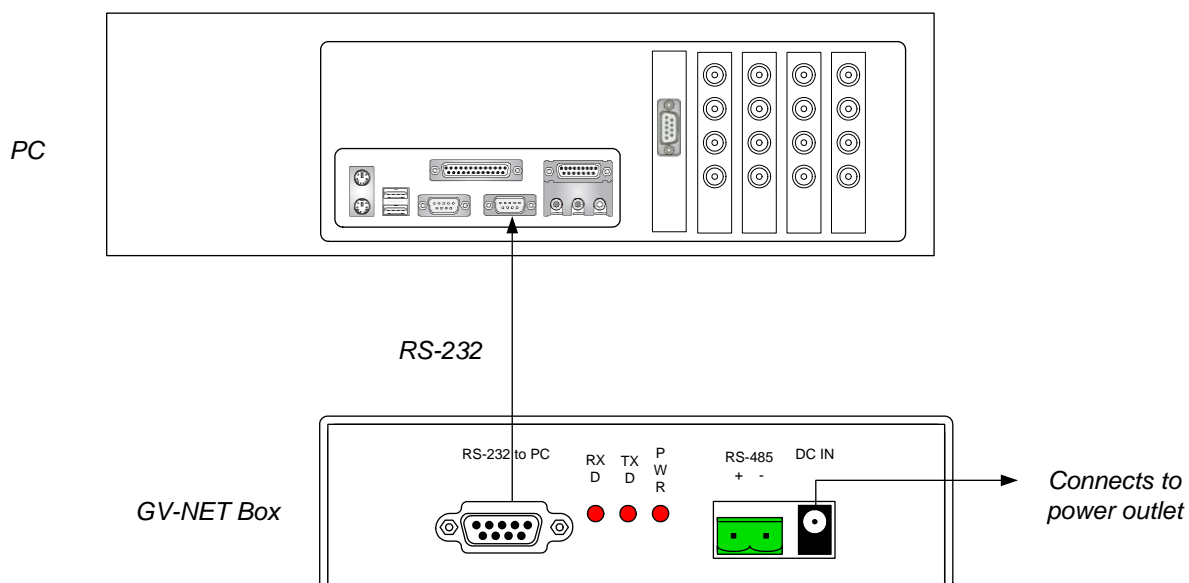


Figure 2-20 GV-Net Box connections

RS-485 Device Connections

The connections of RS-485 devices to the GV-NET Box are the same as the GV-NET Card. Refer to the diagrams in *RS-485 Device Connections*, 2.6 GV-NET Card.

Specifications

RS-232 to PC	DB9 Male to DB9 Female Cable
RS-485 Interface	Two Wires
Communication	RS-485, 1,200-19,200 bps
DC IN	Power Adapter DC 5V, 1A Inner Positive
Environmental Condition	0 to 50 Degree C, 5%-95% (Non-Condensing)
Compatible Model	All GV-Video Capture Card Models
Dimensions	103 (W) x 32 (H) x 64 (D) mm

2.11 GV-IO and GV-Relay Module

The GV-IO and GV-Relay module includes one GV-IO Box and two GV-Relay Boxes, providing eight digital inputs and 16 relay outputs.

The GV-IO and GV-Relay modules connect to the GV-System through the RS-232 / RS-485 interface converter, including GV-NET Card, GV-NET/IO Card and GV-NET Box.

The maximum of nine GV-IO and GV-Relay modules can connect together, giving you a total of 72 digital inputs and 144 relay outputs.

Packing List

1. GV-IO Box x 1
2. GV-Relay Box x 1
3. Power Adapter DC 5V x 1
4. Installation Guide x 1

Connections

This illustration uses the GV-NET Box to bridge computer and the GV-IO Box. Instead, you can use the GV-NET Card or the GV-NET I/O Card as the bridge.

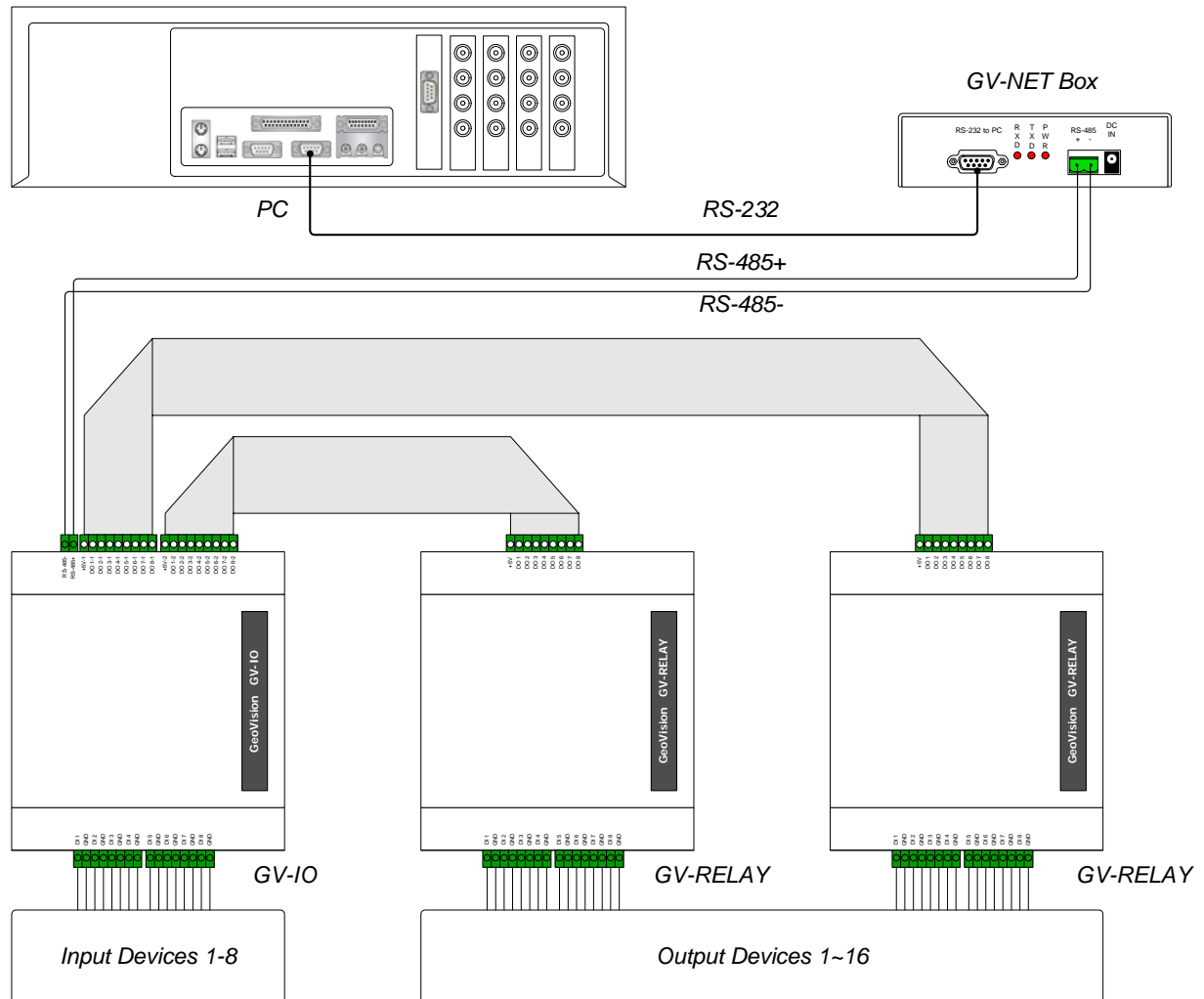


Figure 2-21 GV-IO, GV-Relay connections

Specifications

GV-IO Box		
Input	Input	8
	Input Signal	0-5V DC (Floating)
	High State	5V
	Low State	0V
	Wiring Label	GND, DI 1~ DI 8
Output	Output	16
	Output Circuit	TTL Open Collect
	Wiring Label	+5V-1, DO 1-1~DO 8-1
		+5V-2, DO 1-2~DO 8-2
Communication	RS-485, 9600 bps	
DC IN	Power Adapter DC 5V, 2A Inner Positive	
Environmental Condition	0 to 50 Degree C, 5%-95% (Non-Condensing)	
Dimensions	202 (W) x 39 (H) x 166 (D) mm	

GV-Relay Box	
Relay Output	RL1-RL8
Relay Control Source	+5V, DO 1~DO 8 Connecting Outputs of GV-IO
Relay Status	Normal Open
Relay Capacitance	6A / 250V AC, 10A / 125V AC, 5A / 28V DC
Relay On/Off Time	8ms / 5ms
Environmental Condition	0 to 50 Degree C, 5%-95% (Non-Condensing)
Dimensions	202 (W) x 39 (H) x 166 (D) mm

2.12 GV-Hub Box

The GV-Hub adds four RS-232/RS-485 serial ports through your computer's USB port. The plug and play USB solution for serial port extension is perfect for mobile instrumentation and POS applications.

Packing List

1. GV-Hub Box x 1
2. A to B USB Cable (1.2 meters) x 1
3. DB9 RS-232 Cable (1.8 meters) x 4
4. Installation CD x 1
5. Installation Guide x 1

Overview

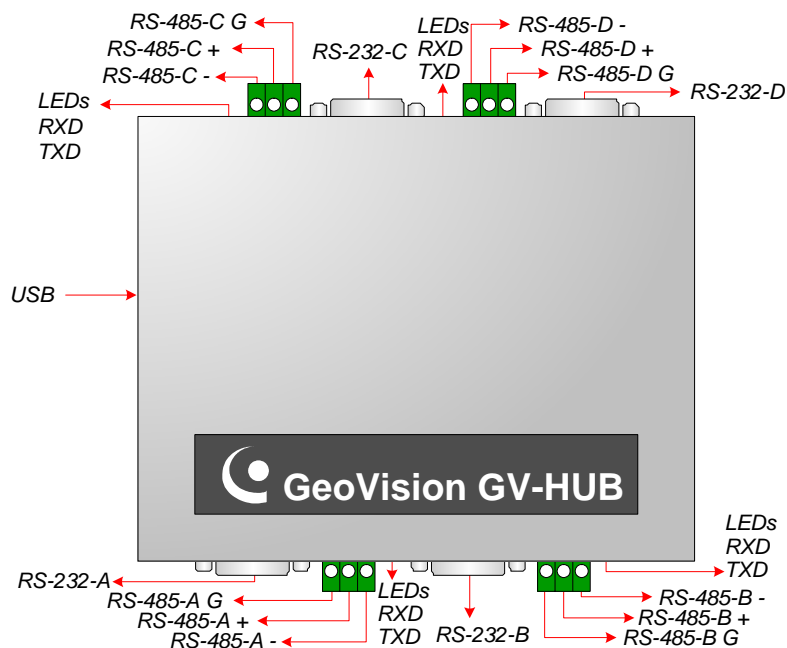
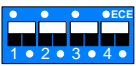
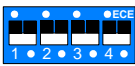


Figure 2-22 GV-Hub

DIP Switches

To change the DIP switches, you must open the GV-Hub Box.

Default Setting		Standard Mode (TX Feedback)	
-----------------	---	-----------------------------	---

Note: There are four sets of RS-232 / 485 ports (A-D). In a single set, you can only choose RS-232 or RS-485 port for connection.

Connections

Following provides two examples of using the GV-Hub:

Connecting POS Systems

The GV-Hub can provide a local connection for up to four POS systems, and deliver transaction data to the GV-System over a USB cable.

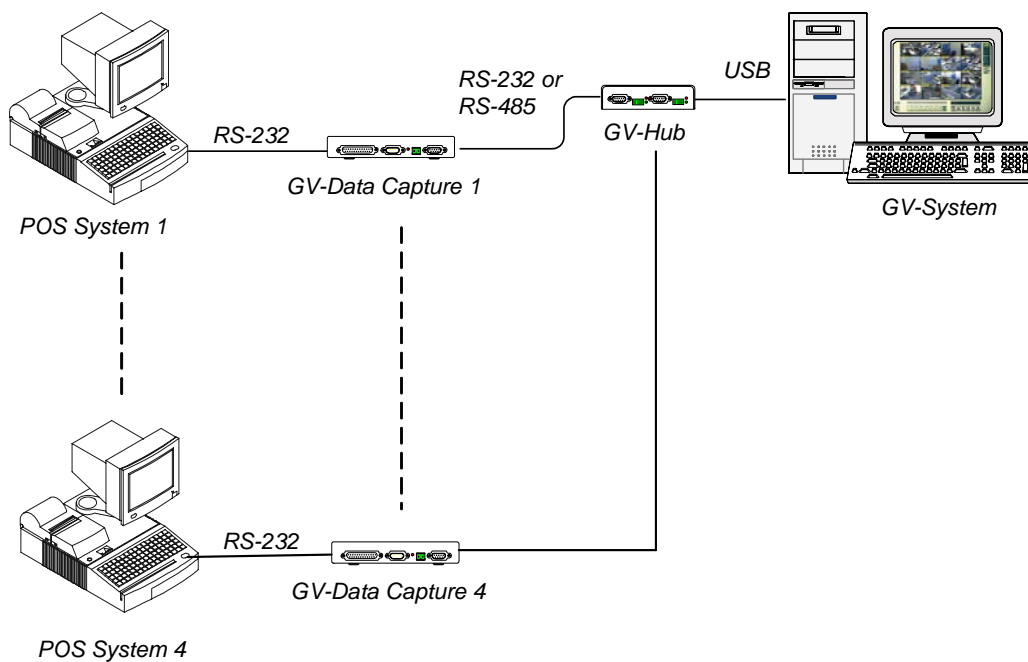


Figure 2-23 Connecting POS systems

Connecting RS-485 Devices

With the GV-Hub, the GV-System can connect up to 16 PTZ domes and nine GV-IO and GV-Relay modules simultaneously.

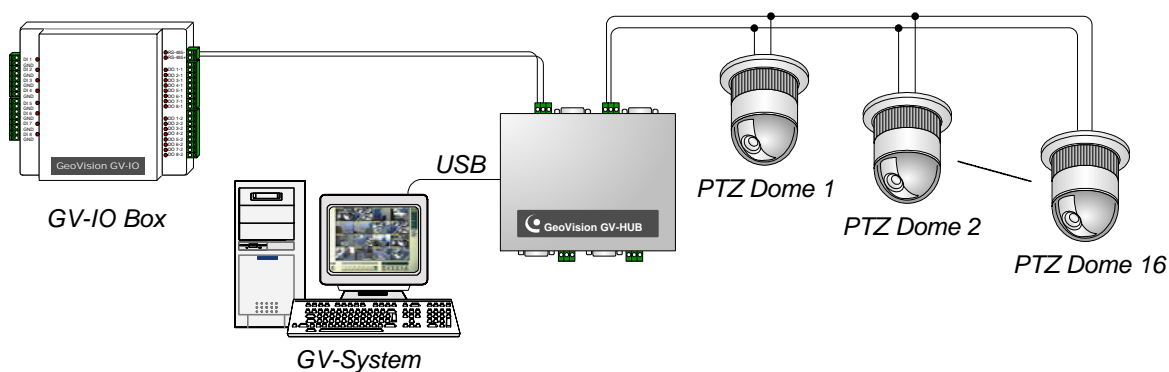


Figure 2-24 Connecting RS-485 devices

Installing Drivers

When you connect the GV-Hub Box to the computer, the Found New Hardware Wizard will automatically detect the device. Ignore the wizard, and follow these steps to install the drivers.

1. Insert the installation CD to your computer.
2. Run **GvUsb.exe**.
3. When this warning window appears, click **Continue Anyway**. The drivers will be installed automatically.



Figure 2-25 Hardware Installation

To verify the drivers are installed correctly, go to Device Manager. Expanding the Ports field, you should see the 4 entries for **Prolific USB-to Serial Bridge**.

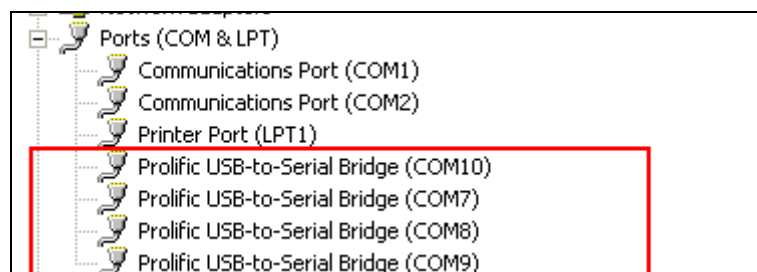


Figure 2-26 Prolific USB-to Serial Bridge

Specifications

Serial Interface	RS-232	Signal: DCD, RxD, TxD, DTR, GND, DSR, RTS, CTS
		Connector: 4 x DB9 Male (A, B, C, D)
	RS-485	Signal: D+, D-, GND
		Connector: 4 x Terminal Block (A, B, C, D)
	Serial Line Protection	16 KV ESD for All Signals
USB	Compliance	USB 1.1, 1.0
		USB 2.0 Backward Compatible
	Speed	Full Speed 12 Mbps
Communication Parameters	Parity	None, Even, Odd
	Data Bit	7, 8
	Stop Bit	1 (Default), 2
	Flow Control	RTS/CTS, XON/XOFF
	Speed	600 bps to 115,200 bps
Environmental Conditions	0-55 Degree C, 5%-95% (Non-Condensing)	
Dimensions	103 (W) x 30 (H) x 125 (D) mm	

2.13 GV-COM Box

The GV-COM adds one RS-232/RS-485 serial port through your computer's USB port. The plug and play USB solution for serial port extension is perfect for mobile instrumentation and POS applications.

Packing List

- | | |
|--------------------------------------|--------------------------|
| 1. GV-COM Box x 1 | 4. Terminal Resistor x 1 |
| 2. A to B USB Cable (1.2 meters) x 1 | 5. Installation CD x 1 |
| 3. DB9 RS-232 Cable (1.8 meters) x 1 | 6. Installation Guide x1 |

Overview

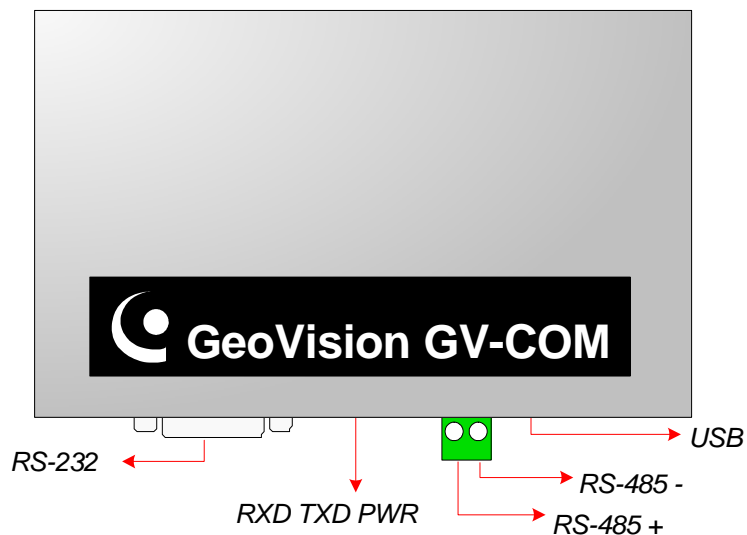


Figure 2-27 GV-COM

Long-Distance Connection

When the two conditions below are met, the supplied Terminal Resistor needs to be used:

1. Connection distance is greater than 600 meters.
2. High-speed baud rate is applied, ex. 115200.

The diagram below illustrates how to use Terminal Resistor on Terminal Block attached to the RS-485 device:

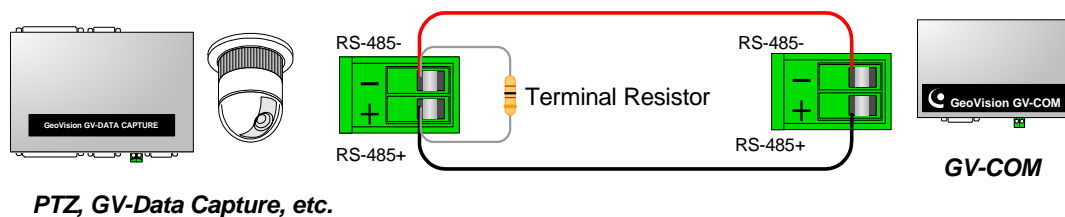


Figure 2-28 Terminal Resistor connections

Installing Drivers

When you connect GV-COM to the computer, the Found New Hardware Wizard will automatically detect the device. To install drivers, follow the steps described in Installing Drivers, 2.11 GV-Hub Box.

To verify the drivers are installed correctly, go to Device Manager. Expanding the Ports field, you should see one entry for Prolific USB-to-Serial Bridge.

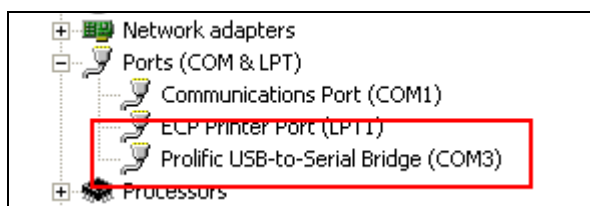


Figure 2-29 Prolific USB-to-Serial Bridge

Specifications

Serial Interface	RS-232	Signal: DCD, RxD, TxD, DTR, GND, DSR, RTS, CTS
		Connector: DB9 Male
	RS-485	Signal: D+, D-
		Connector: Terminal Block
	Serial Line Protection	16 KV ESD for All Signals
USB	Compliance	USB 1.1, 1.0
		USB 2.0 Backward Compatible
	Speed	Full speed 12 Mbps
Communication Parameters	Parity	None, Even, Odd
	Data Bit	7, 8
	Stop Bit	1 (Default), 2
	Flow Control	RTS/CTS, XON/XOFF
	Speed	600 bps to 115,200 bps
Environmental Conditions	0-55 Degree C, 5%-95% (Non-Condensing)	
Dimensions	103 (W) x 32 (H) x 64 (D) mm	

2.14 GV-Data Capture V2 Box

The GV-Data Capture V2 can integrate your POS system (cash register) with the GV-System. Through the integration, you can investigate a transaction with transaction data overlaying on video footage.

System Requirements

- Version 6.0.2.0 or above

For details on GV-Data Capture V2 Box, see *GV-Data Capture V2 User's Manual* attached with the product.

2.15 GV-Data Capture V2E Box

The GV-Data Capture V2E is the network version of GV-Data Capture V2. With an Ethernet jack, the V2E allows you to integrate POS systems (cash registers) with the GV-System through LAN.

System Requirements

- Version 8.0 or above

For details on GV-Data Capture V2E Box, see *GV-Data Capture V2E User's Manual* attached with the product.

2.16 GV-Data Capture V3 Series

Compared to the V2E, the GV-Data Capture V3 Series, including V3 and V3E, not only provides LAN but Internet connection. In addition, the V3 Series can support both serial and parallel POS systems (cash registers).

System Requirements

- GV-Data Capture V3: GV-System version 6.0.2.0 or above
- GV-Data Capture V3E: GV-System version 8.0.4.0 or above

For details on GV-Data Capture V3 Series, see *GV-Data Capture V3 Series User's Manual* attached with the product.

2.17 GV-Keyboard

The GV-Keyboard is designed to program and operate GV-Systems. Through RS-485 configuration, it can control up to 16 additional GV-Systems.

System Requirements

- Windows 2000 or XP
- Version 7.0 or above

For details on GV-Keyboard, see *GV-Keyboard Instruction Manual* attached with the product.

2.18 GV-IR Remote Control

The GV-IR Remote Control is designed for basic system operation.

System Requirements

- Windows 2000 or XP
- Version 6.1 or above

For details on GV-IR Remote Control, see *IR Remote Control User's Manual* attached with the product.

2.19 GV-Wiegand Capture Box

The GV-Wiegand Capture can integrate your access control system with the GV-System. Through the integration, you can investigate the video footage overlaid with the cardholder's name, ID, photo and related information.

System Requirements

- Version 8.1 or above

For details on GV-Wiegand Capture Box, see *GV-Wiegand Capture User's Manual* attached with the product.

2.20 GV-Video Server

The GV-Video Server can stream the real-time digital video over the Internet in the same way that current IP cameras do. With the GV-Video Server attached to analog cameras, you can see camera images through a web browser anywhere and anytime. With the GV-Video Server connected to the GV-System, your existing surveillance system can be upgraded and networked into a new IP surveillance system.

System Requirements

- Version 8.1 or above

For details on GV-Video Server, see *GV-Video Server User's Manual* attached with the product.

Chapter 3 Software Installation

This chapter includes the following information:

- **Important notice**
- **Installing a program**
- **Program list**

3.1 Before You Start

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

- It is strongly recommended to divide your hard disk into two partitions. One partition is for installing Windows OS and System Software, and the other for storing audio/video files and system logs.
- When formatting hard disk, select **NTFS** as the file system on both logical drives.
- GV-System is a multi-channel video recording system. With normal use of the system, the logical drives 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 drives. It is **not necessary** to regularly perform disk defragmentation. Since the system software and video files are stored on two separated logical drives, the performance of your system will not be affected.

3.2 Installing the System

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



Figure 3-1 The Install Program Window

Before installing the system software, make sure **DirectX 9.0c** is already installed on your computer.

DirectX

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 V8.1.0.0 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 the **Start** button, 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.

3.3 Program List

The Surveillance System Software CD includes the following programs:

First Page:

1. Main System
2. Remote View
3. IP Multicast
4. Center V2
5. Fast Backup and Restore Multicam System
6. LocalDDNS Server
7. Authentication Server
8. Dynamic DNS Service
9. Remote Playback Client site
10. Microsoft PDA Viewer V2



Figure 3-2 First page of program installation

Second page:

11. Microsoft SmartPhone Viewer V2
12. Symbian SmartPhone Viewer V2
13. Symbian SmartPhone Viewer V3 (Only for Nokia S60 2nd)
14. TwinDVR System
15. SMS Server
16. Software POS Driver (Only for Graphic mode POS system)
17. E-Map Server
18. MultiView
19. Remote EMap
20. Remote ViewLog



Figure 3-3 Second page of program installation

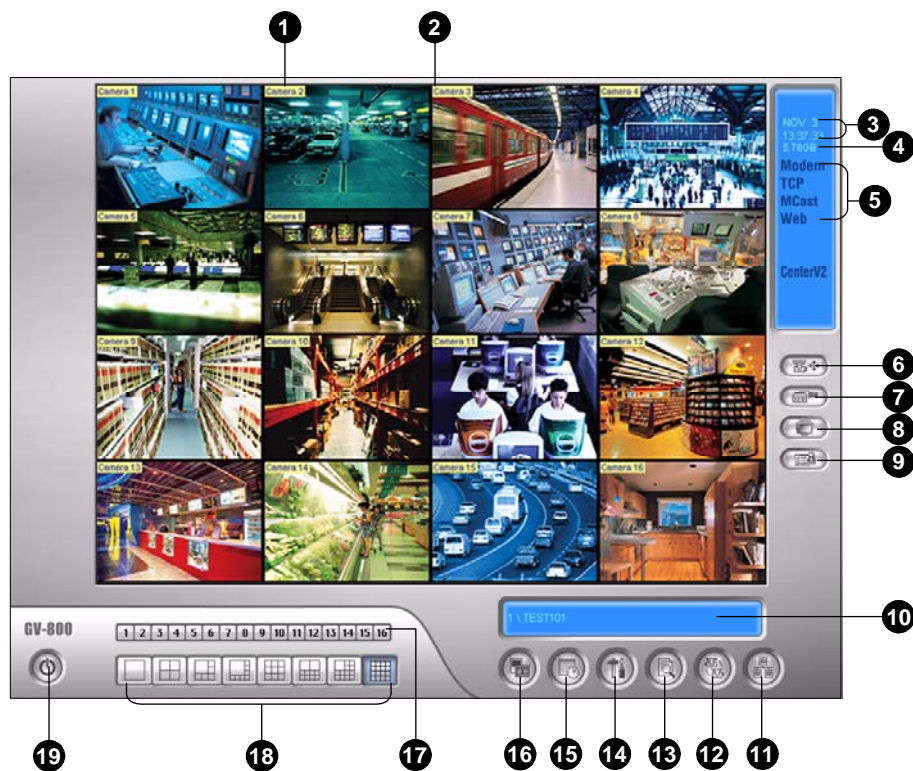
Chapter 4 Screen Overview

The GV-System provides two skin types: Silver and Conventional. The factory default is Silver. Each skin type has its own interface design. Therefore, this chapter gives you an overview of the following major screens:

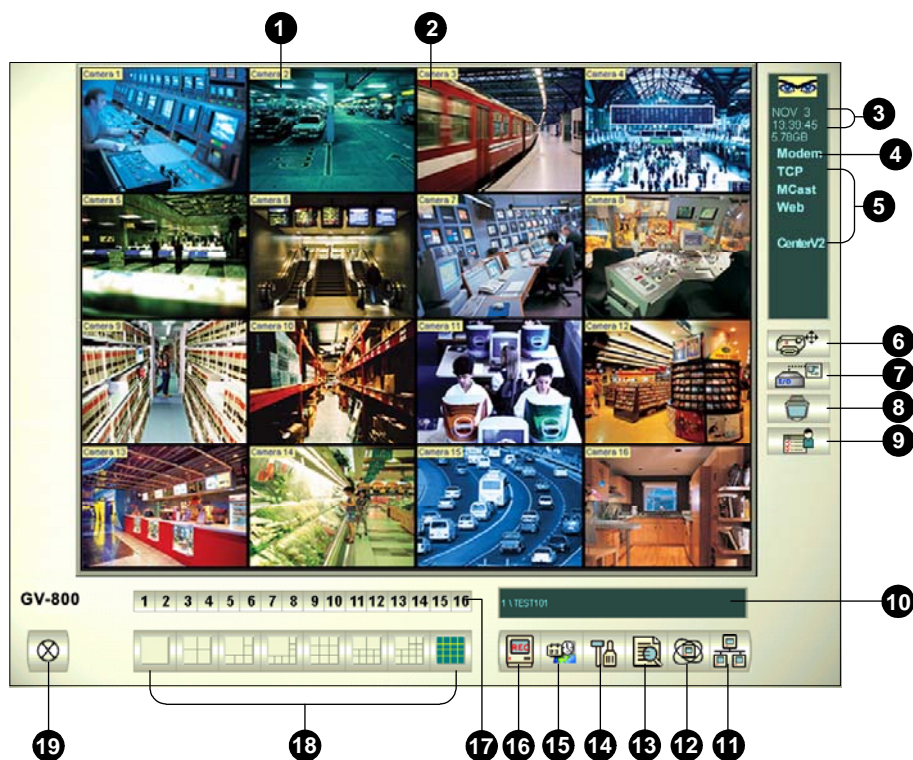
- **Main System**
- **ViewLog**
- **Remote Playback Client**
- **SingleView MPEG4 Encoder Viewer**
- **MultiView MPEG4 Encoder Viewer**
- **Center V2**
- **Control Center**

4.1 Main System

Silver



Conventional

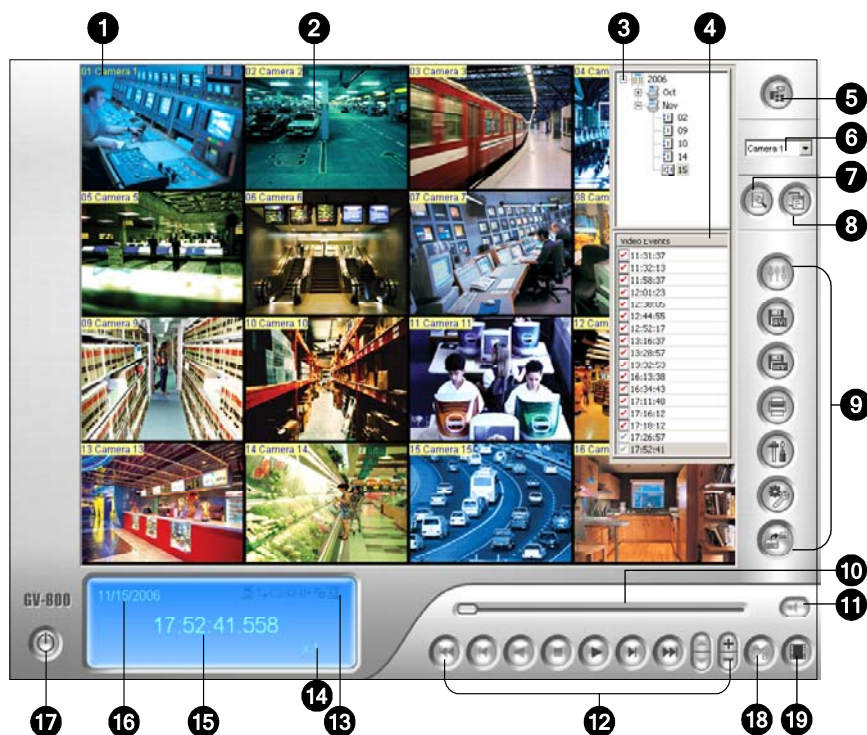


The controls in the main screen:

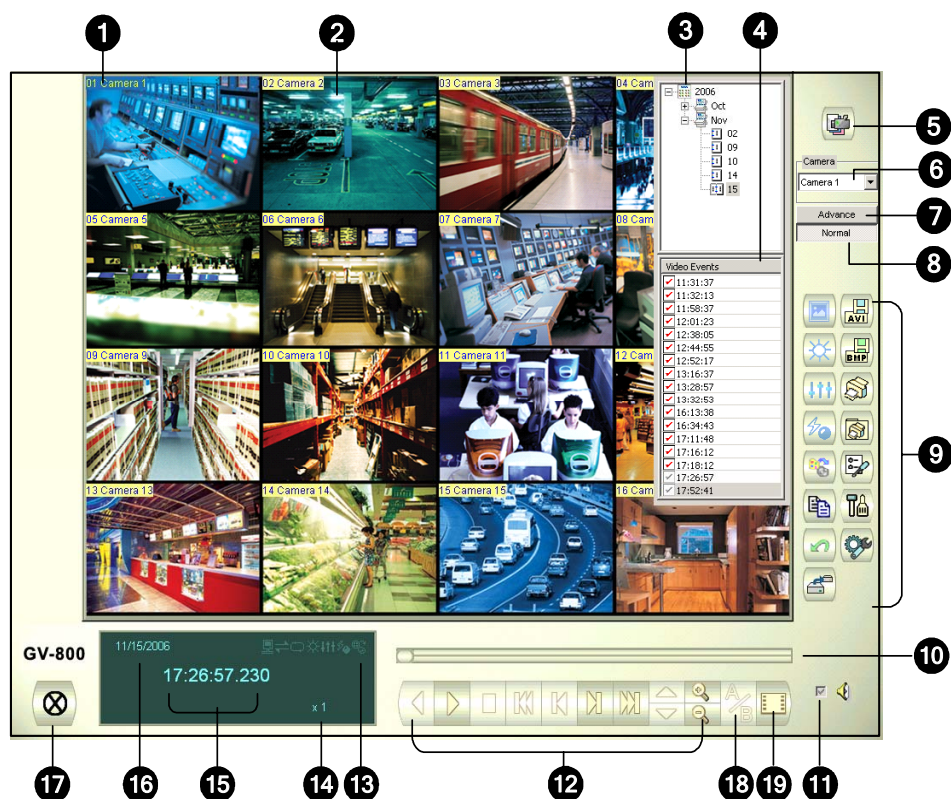
No	Name	Description
1	Camera Number	Indicates the camera number matching the port number in the GV video capture card.
2	Camera Name	Indicates the given camera name.
3	Date/Time	Indicates the current date and time.
4	Storage Space	Indicates the remaining disk space.
5	Connection	Indicates the connection status of remote applications.
6	PTZ Control	Displays the PTZ control panel.
7	I/O Control	Displays the I/O control panel.
8	TV-Out	Displays the TV Quad control panel.
9	User-Defined	Accesses other applications.
10	Location Name	Indicates the GV-System's name, usually named by its geographical location.
11	Network	Enables the connection to remote applications
12	Camera Scan	Rotates through the screen divisions.
13	ViewLog	Brings up these options: Video/Audio Log, System Log, Search POS Data, POS Live View, Live Object Index, Search Object Index and E-Map.
14	Configure	Accesses system settings.
15	Schedule	Sets up recording schedules.
16	Monitor	Starts or stops monitoring.
17	Camera Select	Selects the desired camera number for main division view.
18	Screen Division	Selects screen divisions.
19	Exit	Brings up these options: Login/Change User, Logout, Minimize, Restart Multicam and Exit.

4.2 ViewLog

Silver



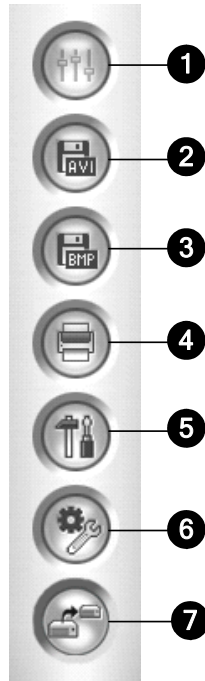
Conventional



The controls in the ViewLog window:

No	Name	Description
1	Camera Name	Indicates the given camera name.
2	Camera View	Displays the playback video.
3	Date Tree	Displays date folders.
4	Video Event List	Displays video events within a certain date folder.
5	View Mode	Sets screen divisions: Single, Thumbnail, Quad or Multi View.
6	Camera Select	Sets a desired camera for display.
7	Advance	Accesses the basic or advanced search, and reloads video event list.
8	Normal	Displays the date tree and video event list.
9	Function Panel	Provides various settings for ViewLog.
10	Scroll Bar	Scrolls forward or backward of the playback video.
11	Audio Playback	Enables audio playback.
12	Playback Panel	Contains typical playback control buttons.
13	Function Icons	A highlighted icon indicates an enabled function. From left to right are the A to B Mode, auto playing of next events, the contrast and brightness function, the light enhancement and equalization function, the sharpness and smoothness function, the grayscale function, and reconnection to Remote ViewLog.
14	Playback Speed	Indicates the playback speed. x 1 represents normal playback speed.
15	Time Display	Indicates the time of the playback video.
16	Date Display	Indicates the date of the playback video.
17	Exit	Closes or minimizes the ViewLog window.
18	A to B Mode	Plays repeatedly the set frames A to B.
19	Frame by Frame / Real Time	Plays back video frame by frame or on real time.

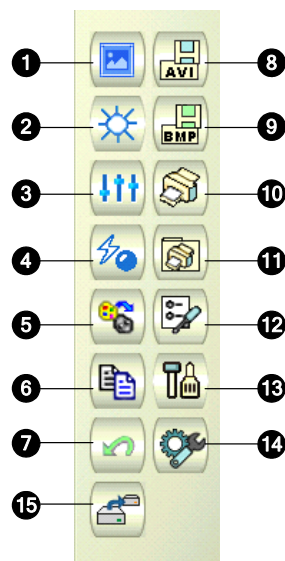
Silver Functional Panel



The controls in the Functional Panel:

No	Name	Description
1	Effects	Adds effects to the images. The effect options include: Sample, Contrast/Brightness, Light Enhancement, Equalization, Sharpen, Smooth, Grayscale, Copy, Undo to Prev. Action and Undo All Effects.
2	Save As AVI	Saves a video file as avi or exe format.
3	Save As Image	Saves a video image as bmp, jpg, gif, png, or tif format.
4	Print	Specifies various settings for printing.
5	Setting	Accesses system settings of ViewLog.
6	Tools	Brings up these options: Object Search, Advanced Log Browser, Delete, Remote ViewLog Service, Address Book, Full Screen and Tool Kit.
7	Backup	Backs up video files.

Conventional Functional Panel

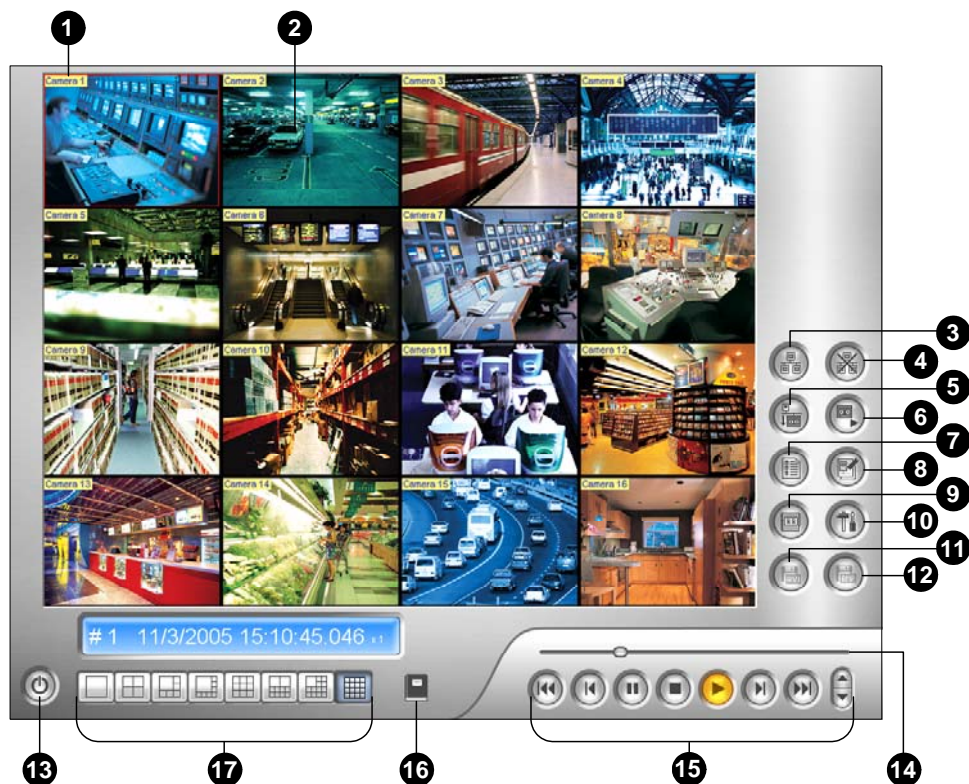


The controls in the Function Panel:

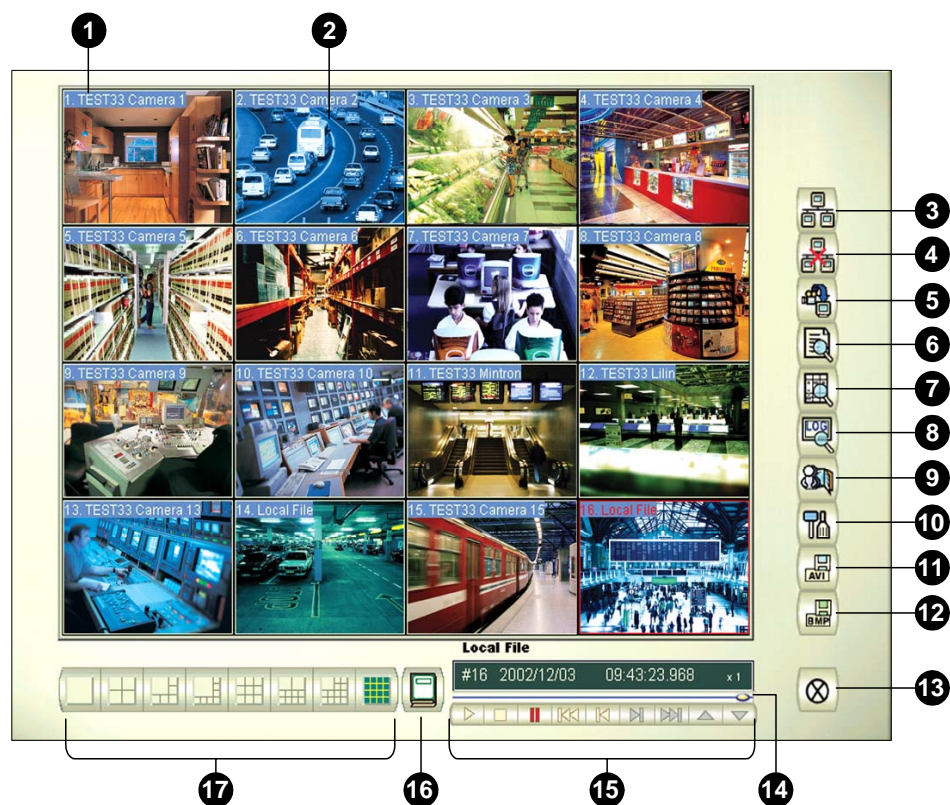
No	Name	Description
1	Sample	Gives the examples of “Before” and “After” effects of contrast, brightness, light enhancement, equalization, sharpness, smoothness and Gray.
2	Contrast/Brightness	Modifies color contrast and brightness of the video image.
3	Light Enhancement/ Equalization	Modifies light enhancement and equalization of the video image. To remove the applied effect, click the Undo button.
4	Sharpen/Smooth	Modifies smoothness and sharpness of the video image. To remove the applied effect, click the Undo button.
5	Grayscale	Switches to the black/white image. To remove the applied effect, click the Undo button.
6	Copy	Copies the video image.
7	Undo	Undoes the applied effects on the video image.
8	Save AVI File	Saves a video file as avi or exe format
9	Save As Image	Saves a video image as bmp, jpg, gif , png, or tif format.
10	Print	Prints out the image.
11	Print Setup	Specifies various settings for printing.
12	Page Setup	Adjusts the page layout.
13	Setting	Accesses system settings of ViewLog.
14	Tools	Brings up these options: Object Search, Advanced Log Browser, Delete, Remote ViewLog Service, Address Book, Full Screen and Tool Kit.
15	Backup	Backs up video files.

4.3 Remote Playback Client

Silver



Conventional



The controls in the RPB Client window:

No	Name	Description
1	Camera Name	Indicates the given camera name.
2	Camera View	Displays the playback video.
3	Connect	Sets the connection to the RPB servers.
4	Disconnect	Closes all or selected connections to the RPB servers.
5	Download (Play) Remote Video	Downloads and plays the remote video.
6	Play Local Video	Plays back video files at the client computer.
7	View List	Keeps track of connection activities.
8	Connection Record	Keeps record of connection status.
9	Address Book	Creates a quick connection to the RPB server.
10	Preference Setting	Sets download status, text display and panel resolution.
11	Save As AVI	Saves a video file as avi or exe format.
12	Save As BMP	Saves a video image as bmp format.
13	Exit	Closes or minimizes the RPB Client window.
14	Scroll Bar	Moves forward and backward of the playback video.
15	Playback Panel	Contains typical playback buttons.
16	Page Select	Toggles between channels 1~16 and 17~32.
17	Screen Division	Sets the screen divisions.

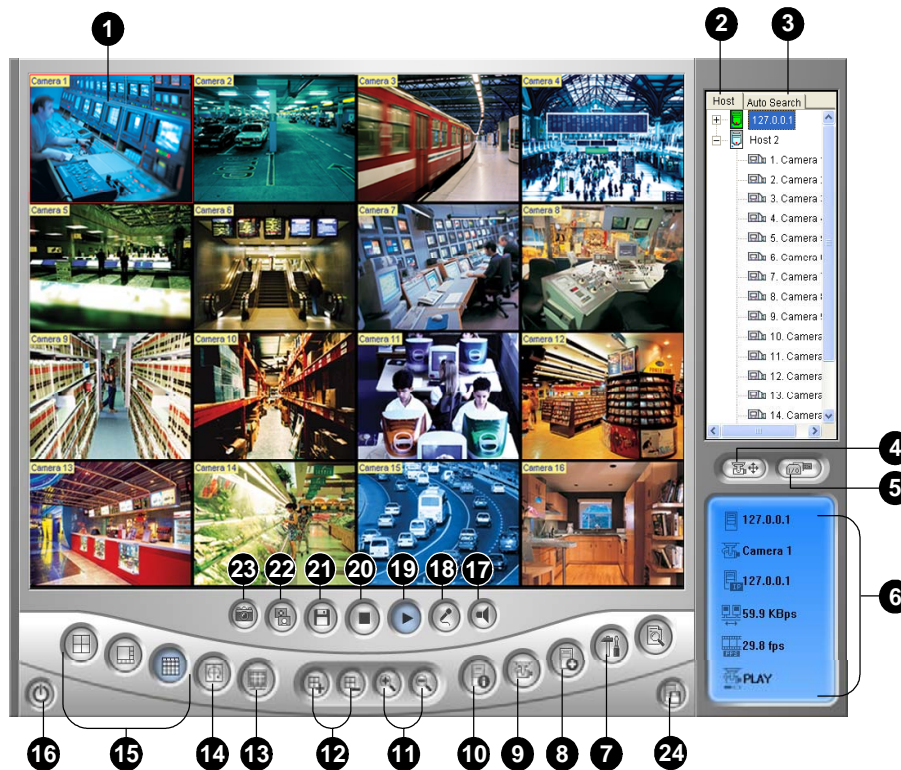
4.4 SingleView MPEG4 Encoder Viewer



The controls in the SingleView Viewer:

No	Name	Description
1	Change Server	Brings up these options: Alarm Notify, Data Rate Configure, Remote Config, Change Server, Show Camera Name and Enable DirectDraw.
2	Change Camera	Sets the desired camera for display.
3	PTZ Control	Displays the PTZ control panel.
4	I/O Control	Displays the I/O control panel.
5	Full Screen	Switches to full screen view.
6	File Save	Saves live video in the local computer.
7	Change Quality	Adjusts video quality in 4 levels.
8	Snapshot	Takes a snapshot of the displayed live video.
9	Speaker	Enables live audio from the remote GV-System.
10	Microphone	Enables speaking to the remote GV-System.
11	Stop	Terminates the connection to the remote GV-System.
12	Play	Connects to the remote GV-System.
13	Countdown Timer	Indicates the remaining time when you log in as Guest. When the time is up, you will be logged out automatically.

4.5 MultiView MPEG4 Encoder Viewer



The controls in the MultiView Viewer:

No	Name	Description
1	Monitoring Window	Displays live video.
2	Host Server Window	Displays connected GV-Systems and their available cameras.
3	UPnP Device	Displays all hosts on the same LAN.
4	PTZ Control	Displays the PTZ control panel.
5	I/O Control	Displays the I/O control panel.
6	Channel Status	Indicates the general information of the selected channel.
7	ViewLog	Accesses Remote ViewLog.
8	Configure	Accesses system settings of the MultiView.
9	Edit Host	Adds, deletes or modifies GV-Systems.
10	Camera Status	Displays the camera status of the connected GV-Systems.
11	Host Information	Displays the general information of the connected GV-Systems.
12	Zoom in and out	Zooms in or out the selected channel.

13	Add/Remove Channel	Adds or deletes the channels for video polling. Click the Add or Remove Channel button and then click the desired channel to add to or remove from the video polling.
14	Full Screen	Switches to a full screen view.
15	Video Polling	Rotates through the selected channels.
16	Screen Division	Sets the screen divisions for 4, 8 or 16.
17	Exit/Minimize	Closes or minimizes the MultiView window.
18	Speaker	Enables speaking to the remote GV-System.
19	Microphone	Enables live audio from the remote GV-System.
20	Stop	Terminates the connection to a GV-System.
21	Play	Establishes the connection to a GV-System.
22	Save	Saves live video.
23	Quality	Changes video resolution.
24	Snapshot	Takes a snapshot of the selected channel.
25	Save Camera to Multiple Host	Saves the selected cameras to create a Multiple Host.

4.6 Remote Playback on WebCam

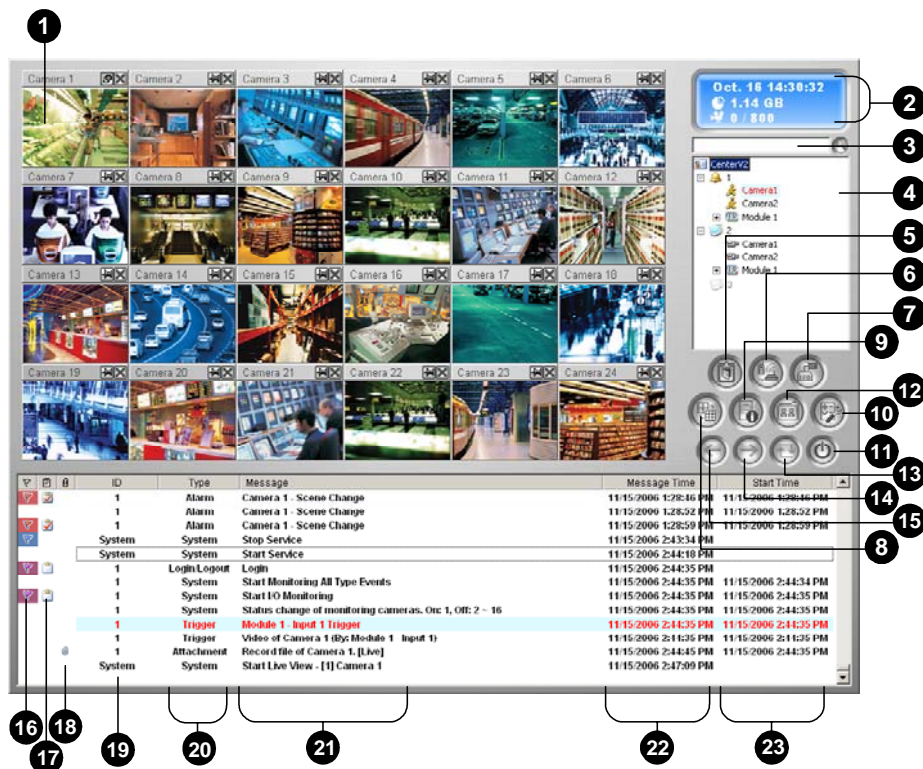


The controls in the Remote Playback on WebCam:

No	Name	Description
1	File Tree	Displays date folders.
2	Event List	Displays the video events
3	Channel Select Tab	Selects different channels.
4	Option	Includes the Enable DirectDraw option.
5	Object Search	Searches Object Index.
6	Get Event List	Displays the Event List.
7	Smart Search	Includes the Advanced Search option.
8	Audio	Enables live audio from the remote GV-System.
9	Pause	Pauses the video file.
10	Play	Plays the video file.
11	Stop	Stops the video file.
12	Download	Downloads the video file.
13	Snapshot	Takes a snapshot of the displayed live video.
14	Full Screen	Switches to a full screen view.

4.7 Center V2

Silver



Conventional

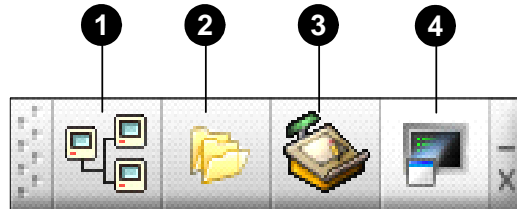


The controls in the Center V2 window:

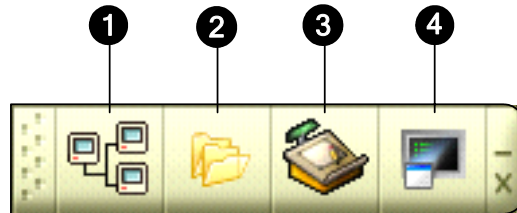
No	Name	Description
1	Monitoring Window	Displays live video.
2	Status Panel	Indicates the date, time, remaining disk space and the total number of online channels versus available channels.
3	Find A Subscriber	Type the desired ID in the Current Subscriber field and click this button to search.
4	Subscriber List	Displays subscribers' IDs and online status. Blue Icon: Indicates the subscriber is online. White Icon: Indicates the subscriber is offline. Alarm Icon: Indicates either motion has been detected or the I/O has been triggered at the subscriber's site.
5	Event List	Accesses Event Log and Event List.
6	SMS	Configures the SMS service.
7	I/O Device	Configures and forces output devices at Center V2.
8	Screen Division	In the 1024 x 768 resolution, you can select 6, 15, or 24 screen divisions for a single monitor; 9, 25, or 36 screen divisions for dual monitors. In the 1280 x 1024 resolution, you can select 6, 12, or 24 screen divisions for a single monitor; 9, 20, or 42 screen divisions for dual monitors.
9	Host Info	Displays the connection status of subscribers.
10	Preference Settings	Brings up these options: System Configure, Notification, Password Setup and E-mail Setup.
11	Exit	Closes or minimizes the Center V2 window.
12	Accounts	Adds, deletes or modifies subscriber accounts.
13	Refresh Channel	Refreshes the connection status.
14	Next Page	Displays the next page of camera views.
15	Previous Page	Displays the previous page of camera views.
16	Flag	Flags an event for later reference.
17	Clipboard	Displays the Alarm Report dialog box.
18	Clip	Indicates an event coming with an attachment. Double-click the event to open the attached video file.
19	ID	Indicates a subscriber's ID.
20	Event Type	Indicates the event type: Alarm, Attachment, Connection, Login/Logout, Motion, System and Trigger.
21	Message	Indicates associated information for each event type.
22	Message Time	Indicates when Center V2 receives an event.
23	Start Time	Indicates when an event happens at the subscriber's site.

4.8 Control Center Toolbar

Silver



Conventional



The controls on the Control Center Toolbar:

No	Name	Description
1	Host List	Opens the Host List to create and edit DVRs.
2	Group List	Opens the Group List to group cameras from different DVRs.
3	Edit	Opens the Edit toolbar to display these buttons: Search DVR, Configure, Save, and Delete. The Add Host button only appears after the Host List is opened.
4	Service	Opens the Service toolbar to display these buttons: Remote Control, Remote ViewLog, Remote E-Map and I/O Central Panel. The Matrix button only appears after the Group List is opened.

Troubleshooting

GV-System is designed to provide you with trouble-free performance. If it does not appear to be functioning correctly, please make sure all connectors are properly attached and follow these troubleshooting steps:

GV-System has video and/or audio lost.

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

1. Check the video/audio connection.
2. Make sure the video/audio device is turned on.
3. Make sure the video standard in your country matches the setting in GV-System.
4. Switch the cable from the functional channel to the non-functional channel, and vice versa. If the previously non-functional channel is now able to deliver video/audio, you should check the video/audio device itself and its related cables.

The screen image appears distorted or jitters.

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

1. Make sure the video standard in your country matches the setting in GV-System.
2. Make sure the camera and its cable are not damaged or frayed. Try to replace a camera or cable to see if this fixes the problem.

Messages “Can’t find keypro” and “Card Setup Fail” appear when GV-System starts.

1. Verify the video capture card driver. See *1.3 Installing Drivers*.
2. Insert the video capture card to a different PCI slot to see if this fixes the problem.
3. If you are using the video capture card V1, attach an appropriate Keypro to the PC’s parallel port and run **Dos2kreg.exe** from the GV-System folder.
4. If using the version 7.0 or later, you may need an appropriate USB dongle.

A message “Can’t find I/O Module:1, Address:1, in Com1” or “Not GV-IO in COM1” appears.

1. Check RS-485 connection between the GV-Net Card/Box and the GV-IO Box.
2. Check whether the power adapter is properly attached to the GV-IO Box.

A message “No PTZ Device Installed” or “Default PTZ Device not Activate” appears.

1. Make sure the **Activate** option is enabled in Main System. See Step 4, “PTZ Control Panel”, in Chapter 1, *User’s Manual*, Software CD.
2. If multiple PTZ cameras are installed, make sure to activate each PTZ camera individually.

How can I find more help?

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

