

# Installing the Hardware and Software

## Hardware Installation

Depending on the model purchased, hardware components may include:

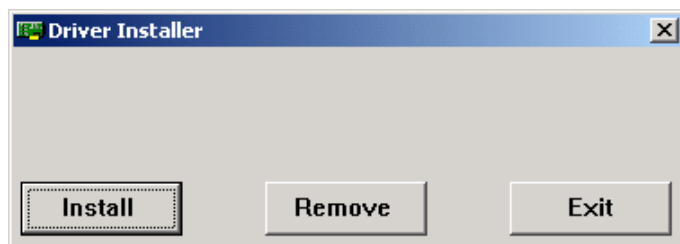
- Video capture card (GV card)
- BNC video extension card (4-cam to 16-cam models)
- Watchdog (GV-600 or above)
- Real-time display card
- Audio extension card
- 16-channel audio recording card
- GV-NET card
- GV-NET I/O card
- GV-Hybrid DVR card
- GV-NET
- GV-IO
- GV-RELAY
- GV-Hub
- GV-Data Capture Box
- IR Remote Control
- GV-Keyboard

## Installing Video Capture Card (GV card) to PC

**To install the GV card to your PC, follow these steps:**

1. Insert the GV card into an empty PCI slot.
2. Turn on your PC and start Windows.
3. The Hardware Wizard in Windows detects this newly installed card and appears. Ignore the wizard window and keep on the following step.

4. Insert the installation CD. It will run automatically and pop up a window.
5. Select the Install or Remove GV-series driver item. This displays the Driver Installer dialog box.



**Figure 1-1** Driver Installer

6. Click Install to install the driver. When the installation is done, this message will appear: *Install Successfully*.
7. Click Exit to close the dialog box.

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

**To remove the GV card from your PC, follow these steps:**

1. Insert the installation CD. It will run automatically and pop up a window.
2. Select the item of Install or Remove GV-series driver. This displays the Driver Installer dialog box.
3. Click Remove to uninstall the driver. When the uninstallation is done, this message will appear: *Uninstall Successfully*.
4. Click Exit to close the dialog box.

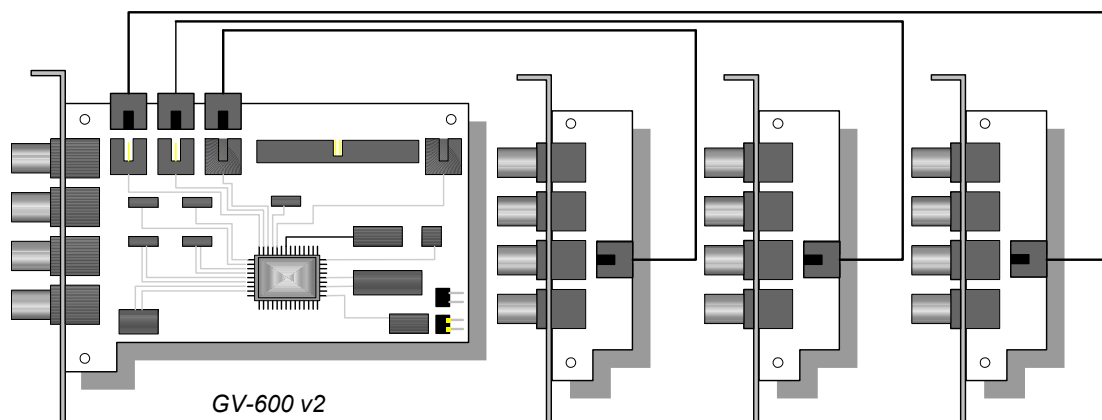
To check if the driver is installed properly, go to Device Manager and see if the following components are listed. Depending on the model purchased, you may see:

Model	Component	Note
GV-250	GV250 Audio	
	GV-250 Video Capture	
GV-600-4	GV600_4 Video Capture # A	
	GV600_4 Audio # A	
GV-600	GV600V2 (GV600V3 or GV604(S)) Audio # A	
	GV600V2 (GV600V3 or GV604(S)) Video Capture # A	
GV-650	GV650 (GV650V3 or GV650(S)) Audio # A - # B	
	GV650 (GV650V3 or GV650(S)) Video Capture # A - # B	

GV-750	GV750 Audio # A - # C GV750 Video Capture # A - # C	
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	
GV-900	GV900 Audio # A - # H GV900 Video Capture # A - # H	
GV-1000	GV1000 16Ch 480fps Capture Board	Audio feature in GV-1000 is optional that only comes with the purchase of GVA16 card.

## Connecting the BNC Extension Card

Connect the BNC extension cards to the GV card as illustrated below:

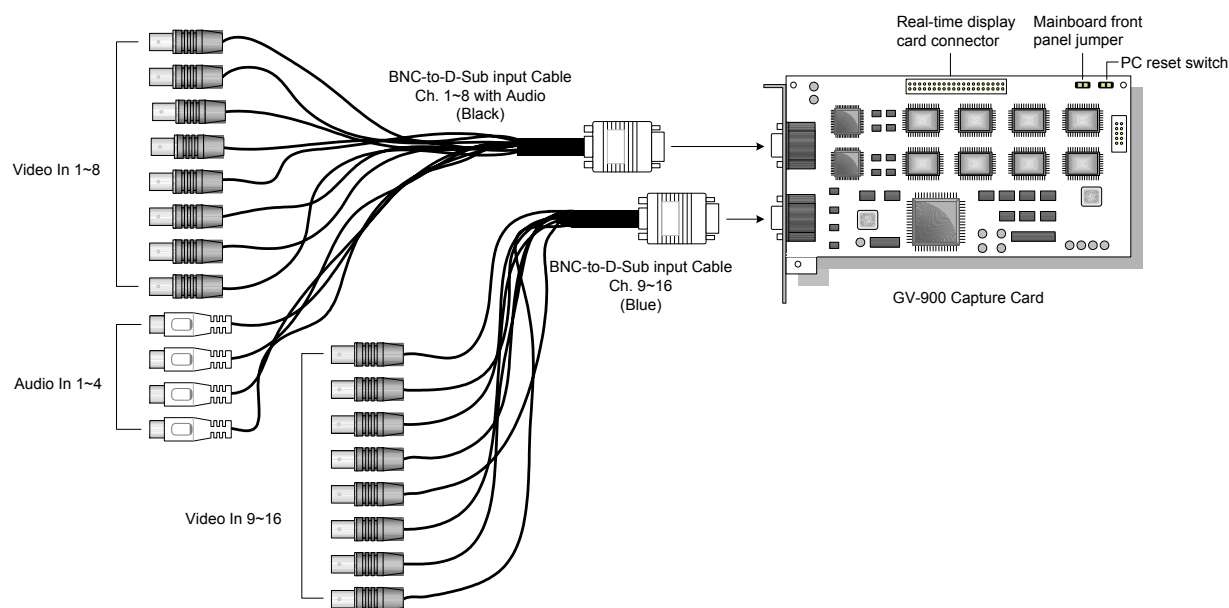


**Figure 1-2** Connecting the BNC extension cards to GV card.

## Connecting the D-type Video Extension Cable

Connect the D-type video extension cables to the GV card as illustrated below. Color matters!

Please only plug black cables to cam 1-8, blue to cam 9-16.



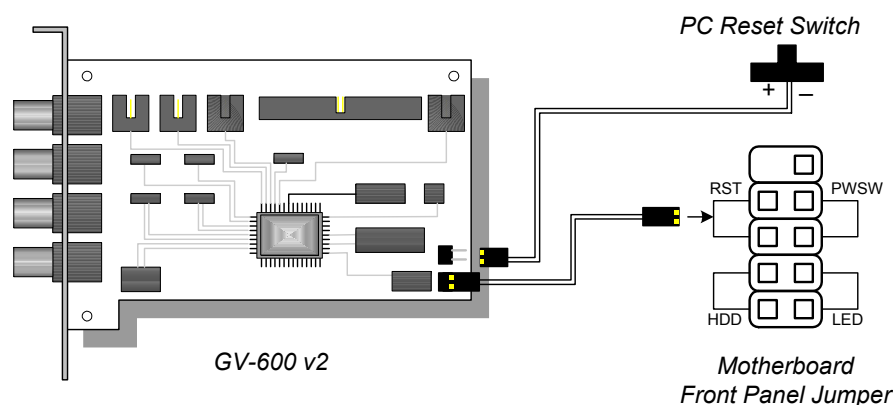
**Figure 1-3** Plugging the correct color cables to the capture card

Depending on the model purchased, you may or may not receive the cable with the white Audio In.

## Connecting Watchdog

To reboot the host computer by the watchdog in the GV card, a connection must be made from the GV card to the motherboard. Perform the following steps to connect the watchdog to the host motherboard:

1. Use the jumper wire, supplied with the GV card, to connect the Reset jumper pins on the GV card and the Reset jumper pins on the host motherboard, as shown in Figure 1-4.



**Figure 1-4** Connecting the watchdog to motherboard

2. If the PC 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 Button jumper pins on the GV card.

## Connecting Real-time Display Card (DSP card)

The following precautions must be taken when installing a DSP card:

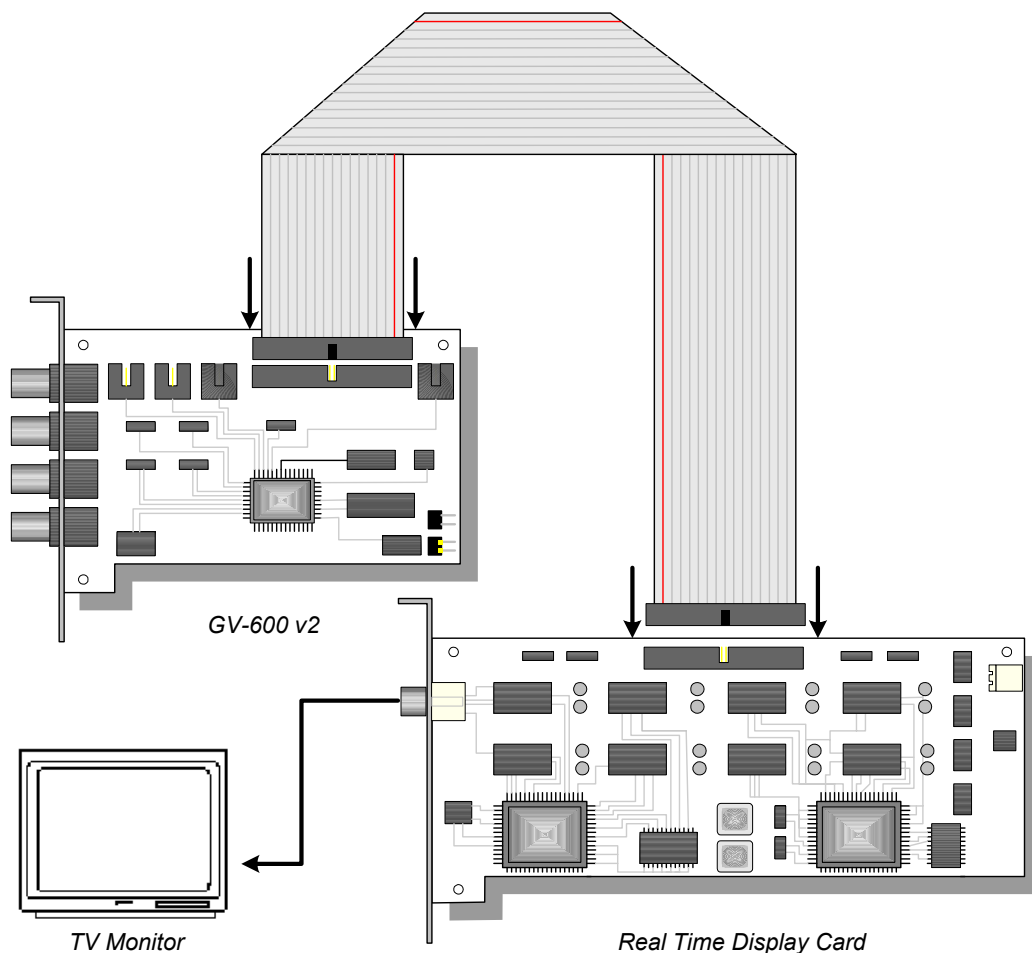
- The DSP card does not support VIA chipset motherboards.
- The DSP card requires a minimum GeForce 2 MX200 VGA card.

Functions you can expect from a DSP card:

- Displays monitoring screen in total 480fps.
- Output to TV monitor through TV output, as shown in Figure 1-5.

To install a DSP card, follow these steps:

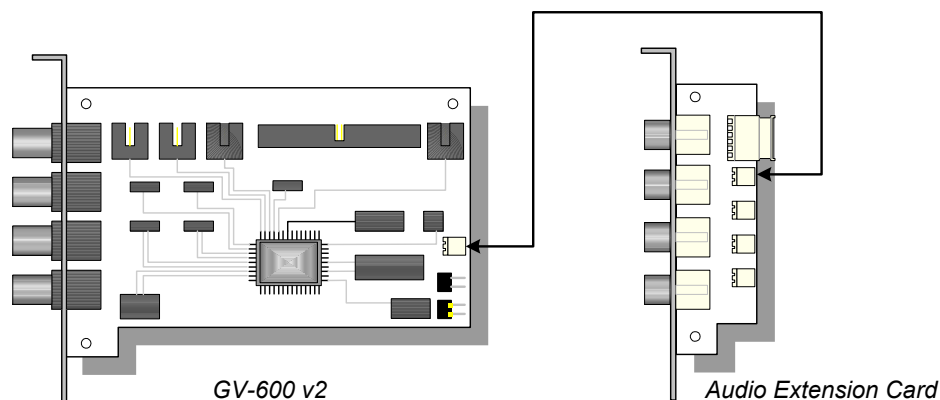
1. Connect the ribbon cable to the DSP card and to the video capture card, as illustrated below.
2. Install the driver, supplied in the installation CD, from the root directory \Driver\GVDSP.



**Figure 1-5** Connecting the DSP card to the video capture card and to TV monitor

## Connecting Audio Extension Card

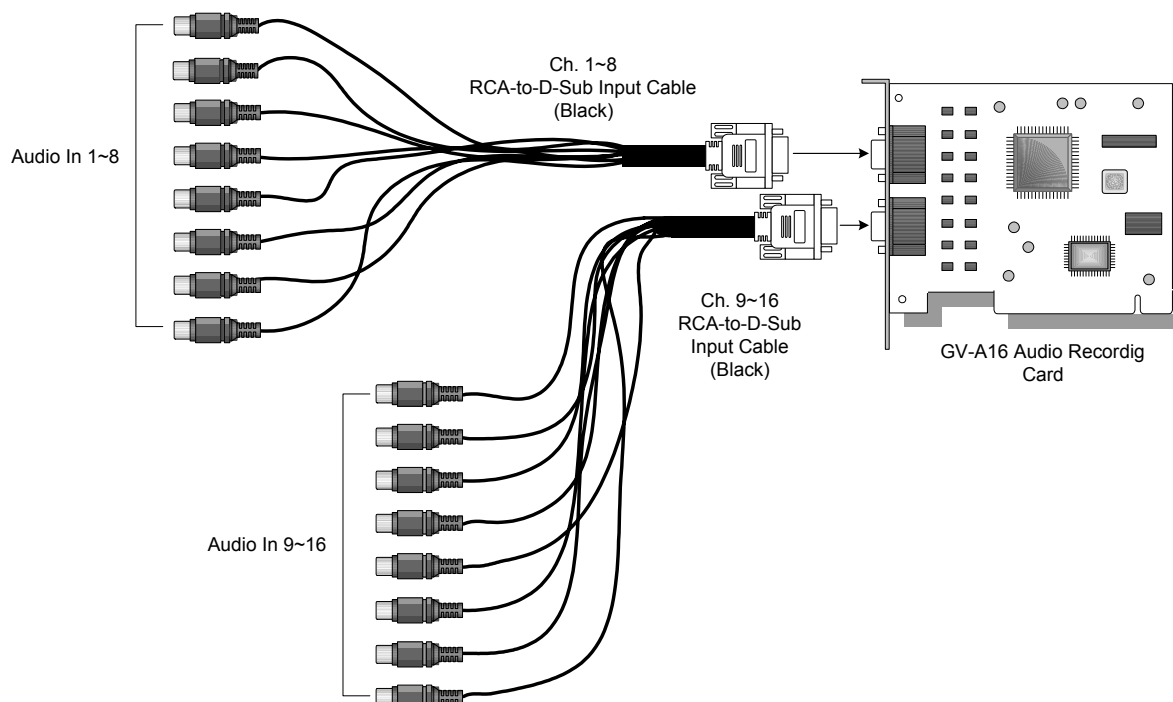
Depending on the model purchased, an audio extension card may record up to 4 audio channels. To install an audio extension card, plug the output cord in the audio extension card into the audio input connector in the GV card, as illustrated in Figure 1-6.



**Figure 1-6** Connecting an audio extension card to the video capture card

## Connecting 16-Channel Audio Recording Card (GV-A16)

GV-A16 is an optional item available for purchase. It works with GV card to record 16-channel audio, and to provide full duplex audio communications system, allowing voice communications between on-site and remote user. GV-250 is the only model not supporting the GV-A16 card. Figure 1-7 shows how to connect the GV-A16 card:

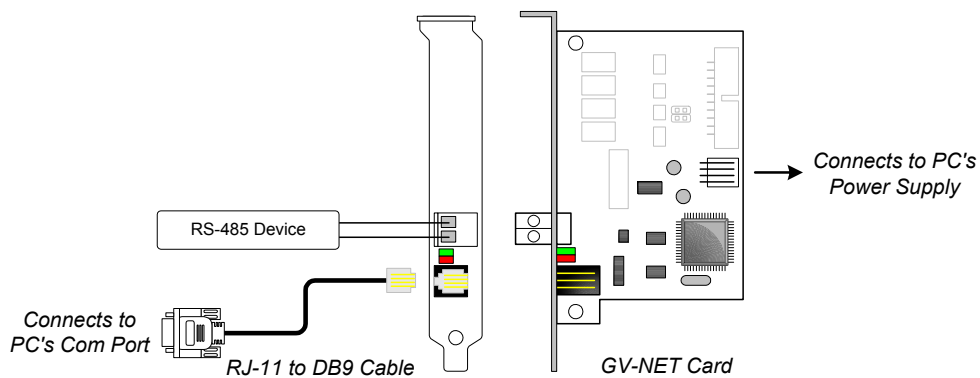


**Figure 1-7** Connecting GV-A16 card for the system to record audio

## Connecting GV-NET Card and GV-NET/IO Card

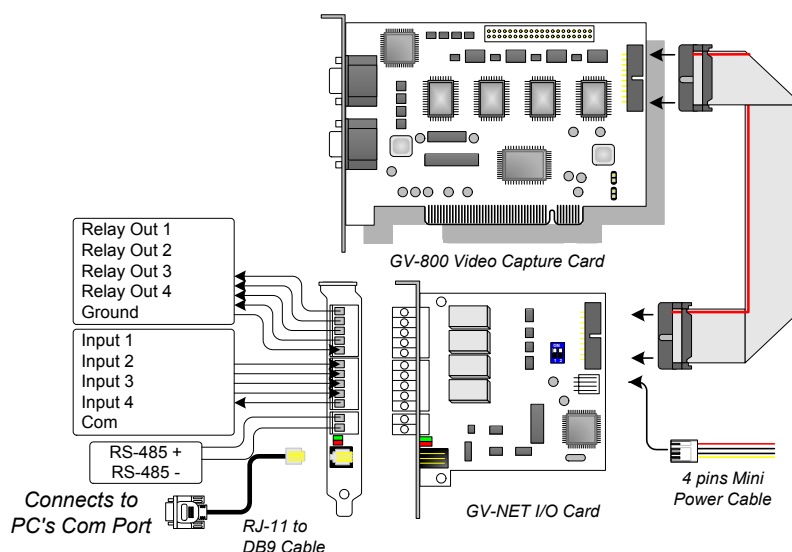
Models	Functions	Cables Included
GV-NET Card:	RS-485 / RS-232 interface converter. Supports all GV-System models	RJ-11 to DB9 Cable x 1 Power Supply Cable x 1
GV-NET/IO Card:	RS-485 / RS-232 interface converter Digital Input x 4 Relay Output x 4 Supports GV-600 v3.0, 650 v3.0, 800 v3.0, 900 v1.11 and 1000 v1.21 only.	20P Ribbon Cable x 1 RJ-11 to DB9 Cable x 1 Power Supply Cable x 1

GV-NET card and GV-NET/IO card may be purchased additionally to support external alarms and sensors. Figure 1-8 shows how to connect the GV-NET card to PC.



**Figure 1-8** Connecting the GV-NET card

Before inserting the GV-NET/IO card to a PCI slot, make sure to connect the 20P ribbon cable to the video capture card as shown in Figure 1-9. Connect one of the PC's power cables to the power input connector.



**Figure 1-9** Connecting the GV-NET/IO card to GV card

**Note:** The GV-NET card only provides RS-485/RS-232 data conversion; connection to the GV capture card is not required.

## Connecting Hybrid DVR Card

**The features of the Hybrid DVR card include:**

- Support hardware-based compression, indicating less CPU usage and higher system performance.
- Provide DVD recording quality. Refer to *Configuring Hybrid Cameras* in Chapter 2 on page 75.
- The Hybrid DVR card-format files can be exported to DVD format files. Refer to *Quick Backup* in Chapter 5 on page 120.

**The characteristics of the Hybrid DVR card are:**

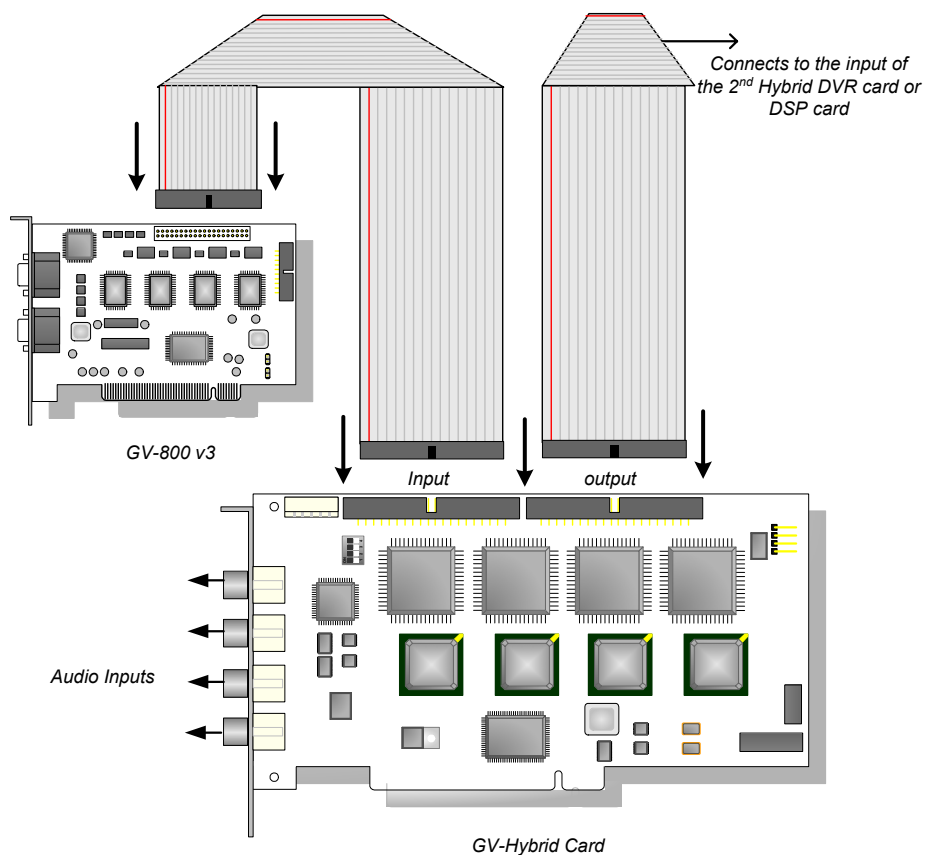
- You may connect up to 4 Hybrid DVR cards to one GV-system; one Hybrid DVR card supports up to 4 cameras.
- It only affects video recording; all live views are still provided by your capture card.
- For audio recording, the audio inputs of the capture card always have the sequence priority over those of the Hybrid DVR card. For example, the GV-800 card has 4 audio channels, so that the Hybrid DVR card audio channels will be from 5 to onwards.
- The Hybrid DVR card-supported channels do not work with these features: Water Mark, Text Overlay and Pre-Rec Motion.

**Requirements for using the Hybrid DVR card**

- GV-600, 650, 750, 800 and 1000 cards
- Version 7.0 or above

**To connect the Hybrid DVR card, follow these steps:**

1. Connect the Hybrid Card as illustrated below.



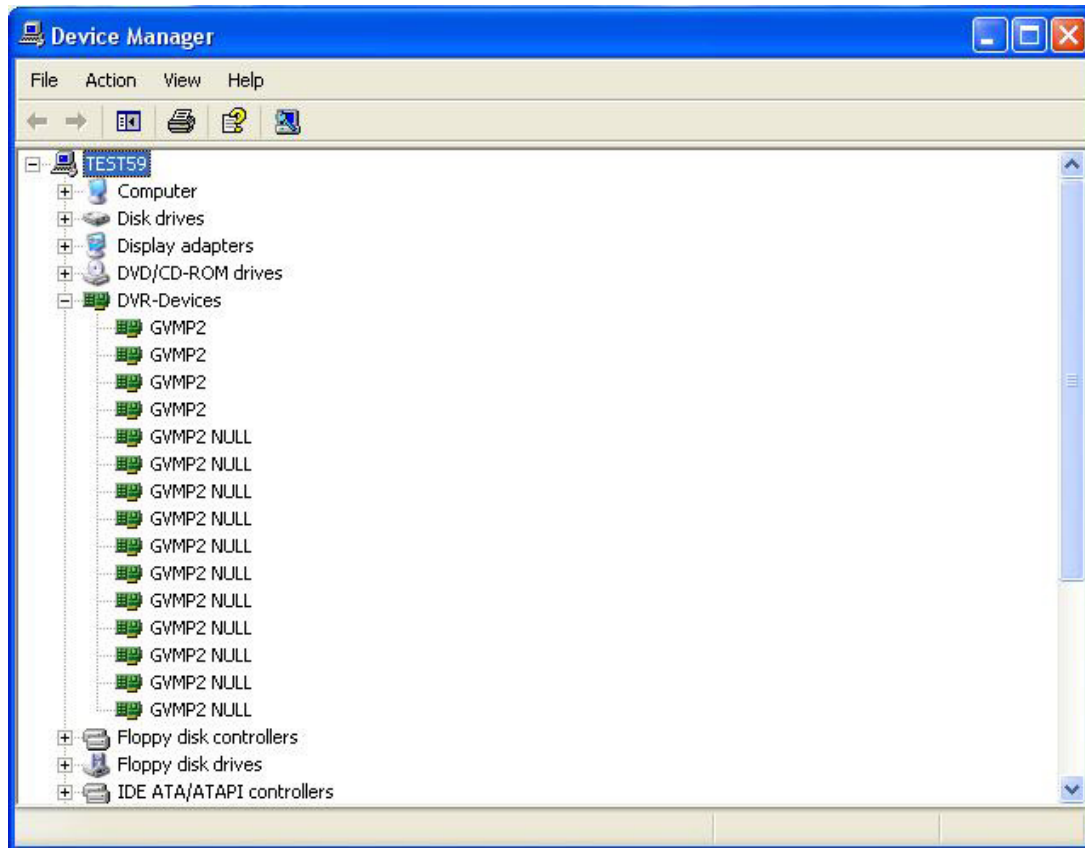
**Note:** Make sure the ribbon cables are connected to correct inputs and outputs.

**Figure 1-10** Connecting the GV-Hybrid DVR card

2. Start your PC. The Hardware Wizard in Windows detects this newly installed card and appears. Ignore the wizard window and keep on the following step.
3. Execute DrvInst.exe from the Driver folder in the installation CD. This displays Figure 1-1.
4. Click Install to install the driver. When the installation is done, this message will appear: *Install Successfully*.
5. Click Exit to close the dialog box.

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

To verify that the drivers are installed correctly, run Windows Device Manager. In the DVR-Devices field, you should see 4 entries for GVMP2 and 11 entries for GVMP2 NULL, shown as below.



**Figure 1-11** Verifying the Hybrid DVR Card drivers

## Connecting GV-NET, GV-IO, and GV-RELAY Modules

### GV-NET

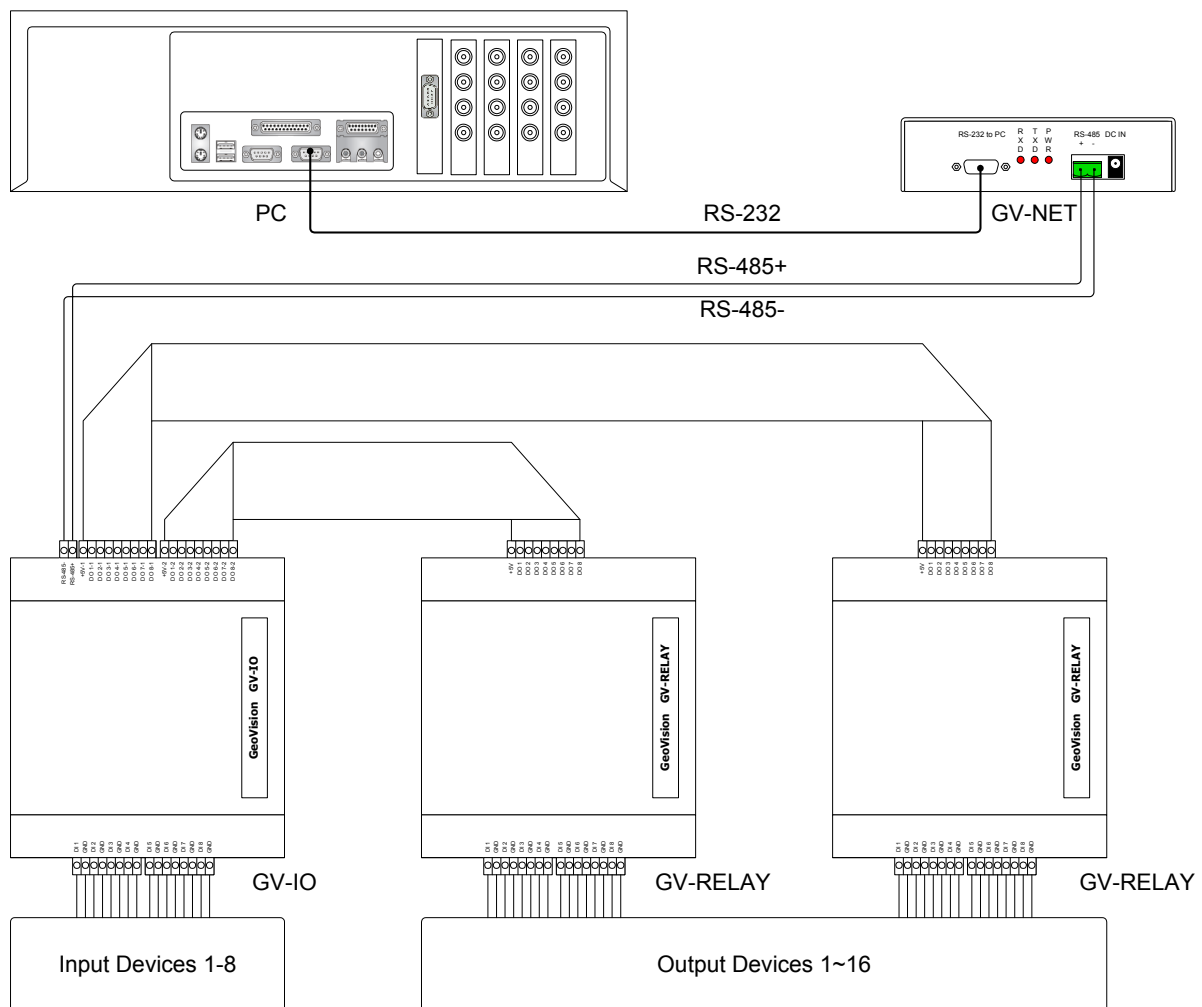
A bridge between GV-I/O and PC, connecting to GV-I/O via RS-485 and to PC via RS-232. Each GV-NET can connect up to 9 GV-I/O modules and 18 GV-RELAY modules.

### GV-I/O

A digital input-output controller with 8 input points and 16 output points. Each GV-I/O can connect up to 2 GV-RELAY modules. Up to 8 input devices can be connected to a GV-I/O.

### GV-RELAY

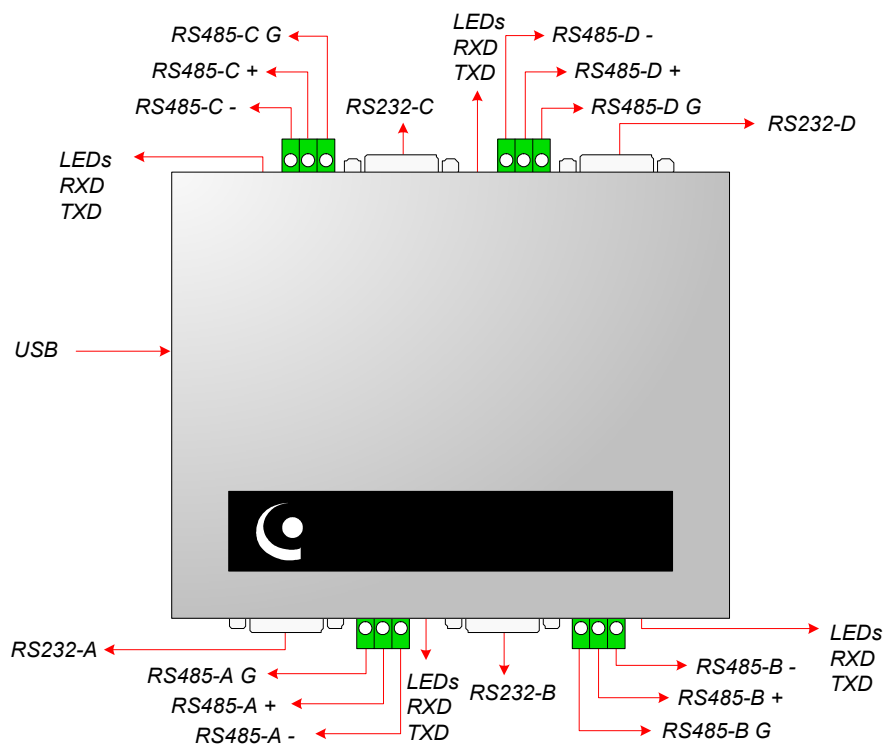
A relay output unit with 8-point relay outputs used as a circuit switch for sending on and off signals to controls, gates, lights and/or alarms. Up to 8 output devices can be connected to one GV-RELAY. Up to 2 GV-RELAY modules can be connected to 1 GV-I/O module.



**Figure 1-12** Connecting between GV-System, GV-NET, GV-IO, and GV-RELAY

## Connecting GV-Hub

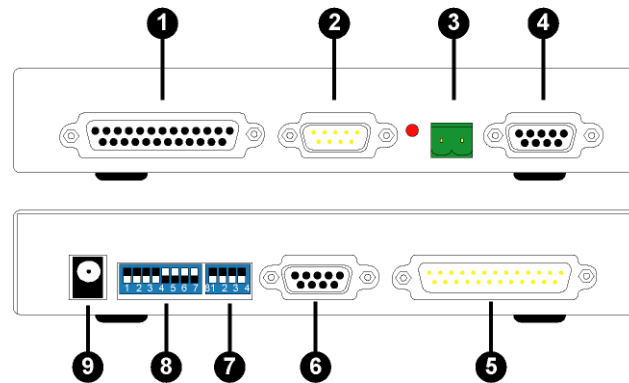
The GV-Hub adds 4 RS-232 and 4 RS-485 serial ports through your PC's USB port. The USB solution for serial port extension is perfect for mobile instrumentation and POS applications. For details, see *Installation Guide* attached with the product.






**Figure 1-13** GV-Hub

## Connecting GV-Data Capture Box

The GV-Data Capture box is designed to interface different POS systems with GV-systems. It can intercept the signal from the POS system/cash register to the printer, duplicate the signal and transmit it to the GV-system.



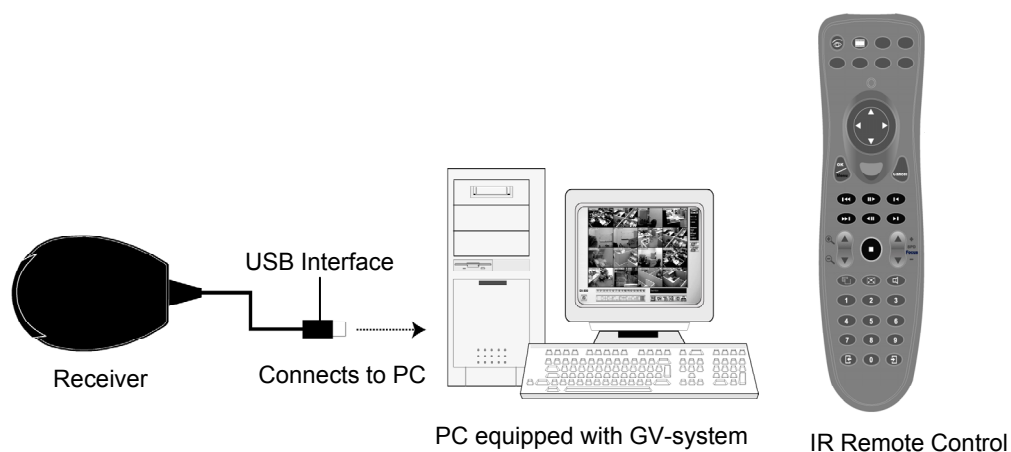
**Figure 1-14** GV-Data Capture

1	25 pins parallel connector	Connects to a parallel printer
2	9 pins D-Sub male connector	Connects to a serial printer
3	2 pins RS-485 connector	Connects to the GV-NET box or GV-NET card
4	9 pins D-Sub RS-232 connector	Connects to a GV-system COM port
5	25 pins parallel connector	Connects to a parallel POS system
6	9 pins D-Sub female connector	Connects to a serial POS system
7	The 4-position baud-rate switch settings are to configure the parallel connection only. If you are using a serial POS system, the settings are not necessary.	 1200 bps    2400 bps    4800 bps    9600 bps  19200 bps    38400 bps    57600 bps    115200 bps
8	The 8-position DIP switch settings are to configure the serial and parallel connection.	 Parallel Port    Serial Port
9	5V DC-IN	

**Note:** The default baud-rate is set to 9600 bps and the default DIP switch is set for the serial port.

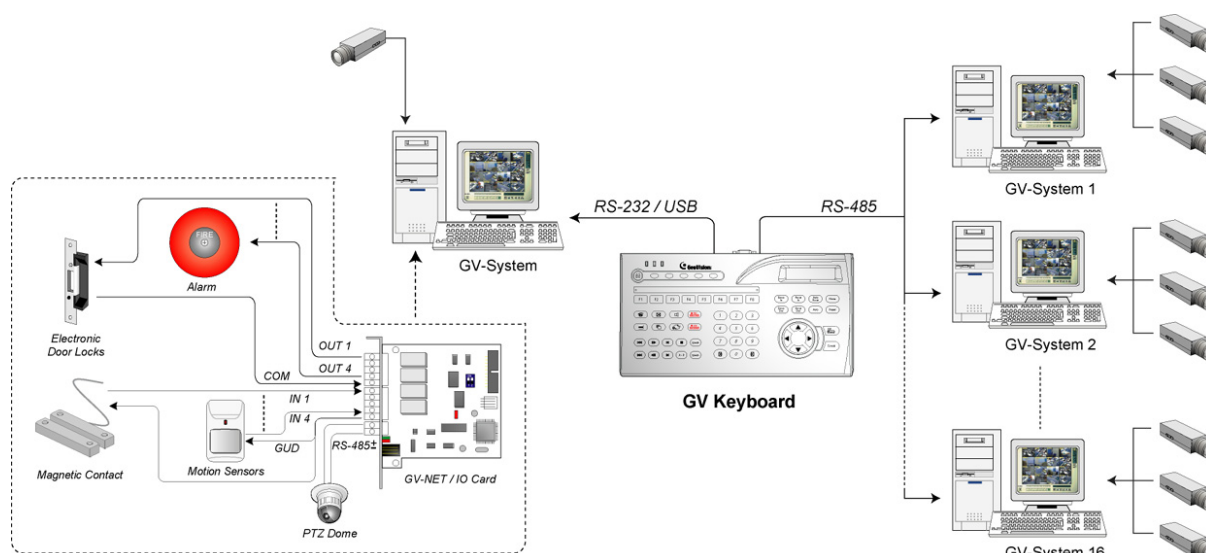
## Connecting IR Remote Control

Plug the receiver into a USB port. Immediately you are able to use the remote control. For details about using the remote control, see *IR Remote Control User Manual* attached with the product.



## Connecting GV-Keyboards

The GV-Keyboards are used to program and operate GV-systems. Through RS-485 configuration, it can control up to 16 additional GV-systems. For details, see the User's Manual attached with the product.



## Software Installation

The installation CD includes the following applications:

Install Program 1 <sup>st</sup> menu	Install Program 2 <sup>nd</sup> menu
Main System	MS SmartPhone Viewer
Remote View	Symbian Phone Viewer
IP Multicast	TwinDVR System
CenterV2	SMS Server
Dispatch Sever	Software POS Driver (Only for Graphic mode POS system)
Vital Sign Monitor	
Authentication Server	
Dynamic DNS Service	
Remote Playback Client Site	
PDA Viewer for WinCE	

To install any of the above applications, follow these steps:

1. Insert the installation CD. It will run automatically and pop up a window.
2. Select the item of Install Version 7.0 system. The following window appears.



**Figure 1-15** The Install Program 1st menu

3. Select a desired application, and follow the on-screen instructions.

**To uninstall the GV-system, follow these steps:**

1. Close Main System and remote applications.
2. Close any open programs because your PC will be restarted during the uninstallation process.
1. Click Start, point to Programs, choose the GV folder, and then click Uninstall GV-system.

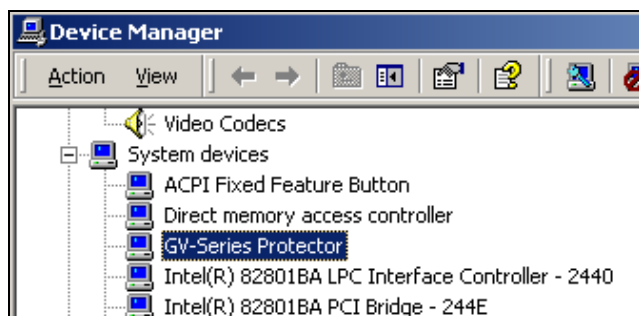
**Note:** Uninstalling the system will **not** delete video files and log files previously saved in the PC.

## USB Dongle Driver for V7.0 Upgrade

Except new models GV-600(S), 650(S) and 800(S), all old GV cards (GV-600, 650, 750, 800, 1000) need a USB Dongle for V7.0 upgrade. If you don't have one, please contact your nearest distributor. To install the dongle driver, follow these steps.

1. Insert the USB dongle to your PC. The Found New Hardware Wizard should appear.
2. Select the item of Search for a suitable device for my device, and then click Next. The driver will be installed automatically.

To verify that the driver is installed correctly, go to Windows Device Manager. In the System devices field, you should see the entry for GV-Series Protector.



**Figure 1-16** Verifying the USB dongle driver