GeoVision inc
The Vision of Security

GV-Mobile System

User's Manual

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[Warranty]

[Technical Support Policy]

User’s Manual for GV-Mobile System

Welcome to the GV-Mobile System User’s Manual.

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

- **Chapter 1, Introduction**

  Identifies the GV-Mobile System’s accessories and options.

- **Chapter 2, Overview**

  Identifies the GV-Mobile System’s components.

- **Chapter 3, Getting Started**

  Provides step-by-step instructions on setting up the GV-Mobile System.

- **Chapter 4, Optional Wireless Connection**

  Introduces how to connect to 4G mobile network and how to receive GPS data.

- **Chapter 5, System Restoration**

  Instructs to restore the system to all the preinstalled software and operating system.

- **Chapter 6, NVR Health Analysis**

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

- **Chapter 7, Troubleshooting**

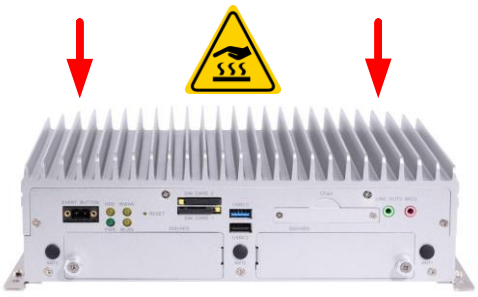
  Suggests courses of action if the GV-Mobile System does not seem to be working properly.

Contents

Safety Instructions

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

- **Read** all safety and installation instructions before you operate the product.
- **Do not operate** the product in high humidity areas or expose it to water or moisture.
- **Do not put** the product in an unstable, a slanting or vibrated place.
- **Do not block** any ventilation opening
- **Do not install** the product near any heat sources such as radiator, heat register or other apparatus that produce heat.
- **Operate** the product using only the type of power source indicated on the marking label.
  - If you are in an area with unstable voltage, make sure to install an automatic voltage regulator (AVR) or a UPS power supply with AVR function, to maintain a constant voltage.
  - All damages to the power supply caused by unstable voltage are not included in the 2-year warranty service.
- **Do not defeat** the safety purpose of the grounding-type plug. A grounding plug has two blades and a third grounding prong. The third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- **Do not overload** wall outlets or extension cords, as this may cause fire or electric shock.
- **Do not use** the product when abnormality occurs, such as emitting smoke from the product, smelling burning, being damaged by drop, invasion of foreign objects inside the product, etc. Be always sure to remove the AC adaptor at once and contact your dealer.
- **Do not use** accessories or attachments not recommended by the manufacturer, as they may cause hazards and void the warranty.
- **Do not attempt** to service the product yourself, as removing the casing may expose you to dangerous voltage and void the warranty.
- **Do not touch** the top panel when you replace the storage drive. The top panel is a dissipation of heat.



Chapter 1 Introduction

1.1 Features of GV-MNVR1000 / GV-MNVR2110

Designed to withstand rugged environment, GV-Mobile System operates at a wide range of temperature and comes with anti-vibration protection, making it ideal for railways, public transits and industrial environment. For storage, it offers up to 2 hot-swappable bays of HDD or SSD choice. With built-in GV-NVR, this fanless system supports up to 32 channels of megapixel cameras to provide an all-in-one solution (Live View, Playback, Recording, Backup, CMS) for rough conditions.

- Powered by Intel Atom / Core i3 Processor
- 64-bit Windows Embedded Standard 7 SP1
- GPU Decoding
- Up to 2 Hot Swappable HDD / SSD bays for up to 2 Terabytes
- Fanless System
- Vibration and Mechanical Shock Protection (2G at 5 ~ 500 Hz for SSD)
- Power Ignition Management (ACC)
- Wide Operating Temperature (-30°C ~ 70°C / -22°F ~ 158°F for SSD)
- 2 Gigabit LAN Ports
- Dual-monitor Display (VGA and DisplayPort)
- Optional Wireless Communication (WiFi / 4G)
- GPS Support for Vehicle Tracking
- Built-in GV-NVR
- Up to 32 Channels
- 3rd Party IP Cameras with H.264 and H.265 Compatible (License Required)
- Automatic Connection to GV-IP Cameras
- Video Analysis
- Dual Video Streams
- Fisheye Dewarping Function
- Smart Device Access (iOS and Android)
- E-Mark, EN50155 Certified (by request)
- 31 Languages

1.2 Features of GV-Mobile System 2700

GV-Mobile System 2700 is an fanless system capable of operating at a wide range of temperature and comes with anti-vibration protection, making it ideal for public transits and industrial environment.

GV-Mobile System 2700 offers up to 2 hot-swappable bays of HDD or SSD for choice. When built-in GV-NVR or GV-VMS, the GV-Mobile System 2700 supports up to 64 channels of megapixel cameras to provide an all-in-one solution (Live View, Playback, Recording, Backup, CMS). The system can also fulfill various access control requirements when installed with access management software GV-ASManager or GV-AI FR face recognition system.

- Powered by Intel Core i7 Processor
- 64-bit Windows 10 IoT Enterprise
- GPU Decoding
- 2 Hot-Swappable HDD / SSD bays for up to 2 Terabytes
- Fanless System
- Vibration and Mechanical Shock Protection (2G at 5 ~ 500 Hz for SSD)
- Power Ignition Management (ACC)
- Wide Operating Temperature (-20˚C ~ 60˚C / -4˚F ~ 140˚F for Industrial SSD)
- 5 Ports of Gigabit LAN (4 x PoE 802.3af/at, max. 60W)
- Dual-monitor Display with VGA and HDMI
- Optional Wireless Communication (4G / WiFi)
- Built-in GPS (Vehicle Tracking supported for GV-NVR only)
- E-Mark Certified (by request)

1.3 Applications

GV-Mobile System (NVR Model) is designed for digital surveillance of rough transports and industrial environments. It can be set up in a public transit or a factory to record images from the GV-IP cameras installed in the vehicle and connected to dual monitors with one monitor displaying live view and the other displaying alarm-triggering events. The hot-swappable storage drives also provide convenient access to recordings and allow data backup in minutes.

With a GPS receiver, the GV-Mobile System (NVR Model) is able to transmit the GPS data collected from the satellite to the GV-GIS (Geographic Information System) through mobile network connection for vehicle tracking.

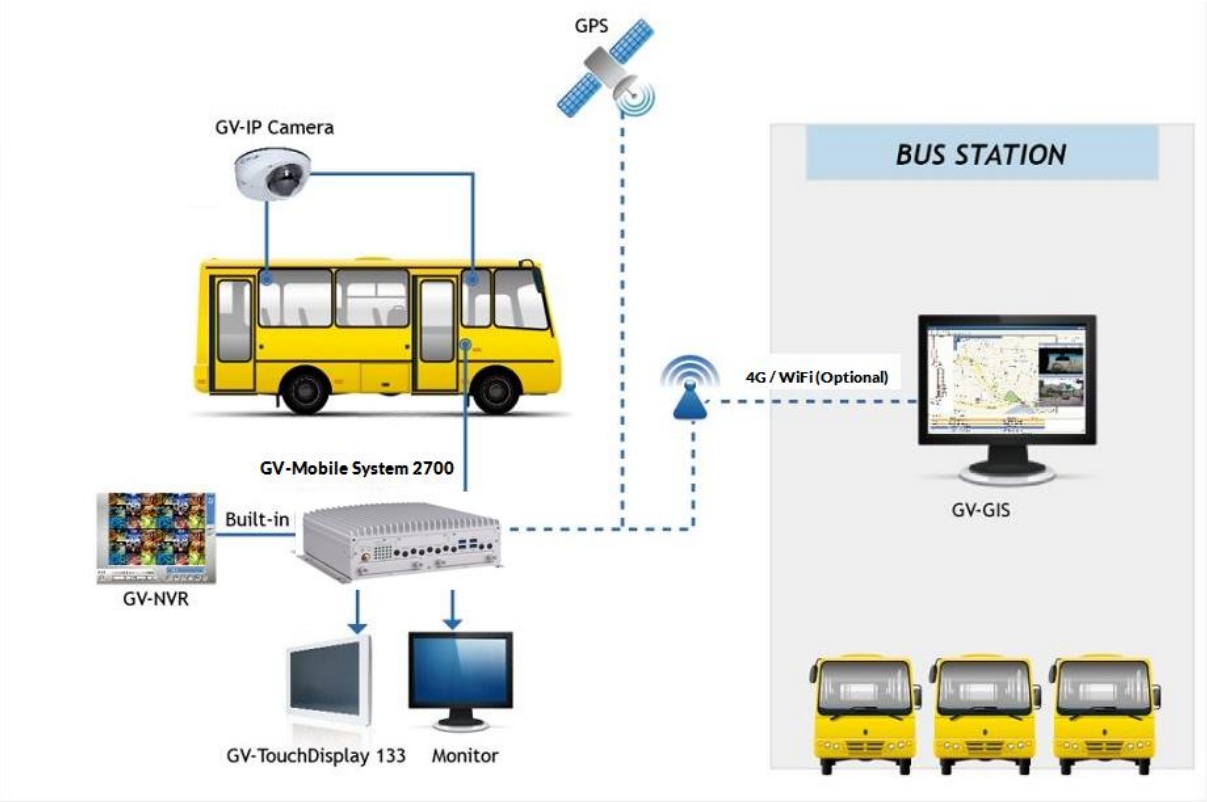


Figure 1-1

Other than being applied in a public transit, the GV-Mobile System (NVR Model) can be installed in a fixed and harsh place, such as a factory. The automatic video backup for the GV-Mobile System (NVR Model) is made possible by LAN connection with GV-Backup Center.

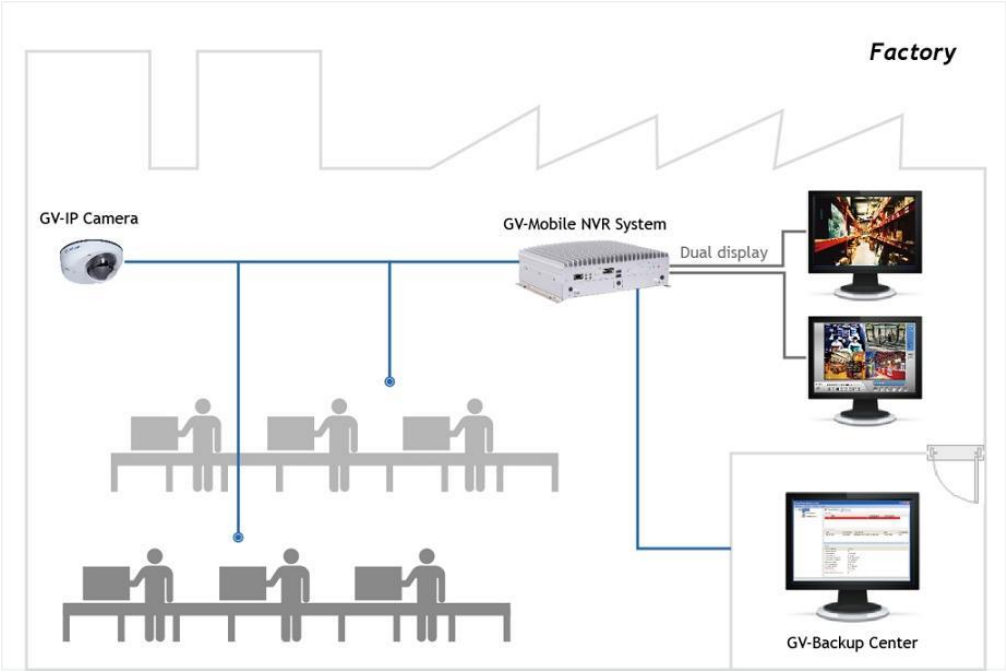


Figure 1-2

With a mobile device or an Internet browser, you can access the live view and recorded events anywhere.

Figure 1-3

1.4 Packing List

The GV-Mobile System package includes the following items. If any of the items are missing or damaged, contact your dealer to arrange a replacement.

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

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1. GV-Mobile System
2. 3-pin Terminal Block (for ACC Connection and DC In)

3. HDD screw x 4 (for GV-MNVR1000)
4. HDD screw x 8 (for GV-MNVR2110 / GV-Mobile System 2700)
5. GPS Antenna
6. GV-NVR Dongle for third-party IP Camera Connection (Optional)
7. GV-VMS Dongle for 64CH or third-party IP Camera Connection (Optional for GV-Mobile System 2700)
8. GV-ASManager Dongle (Optional for GV-Mobile System 2700)
9. GV-AI FR Dongle (Optional for GV-Mobile System 2700)

1.5 Models

GV-MNVR1000 has 1 hot swappable bay of HDD/SSD and records up to 24 IP channels.
Models:

- GV-MNVR1000
- GV-MNVR1000 with 4G module (3G backward compatible)
- GV-MNVR1000 with M12 Connector
- GV-MNVR1000 with M12 Connector and 4G module
- GV-MNVR1000 with EN50155 Certified (by request)
- GV-MNVR1000 with M12 Connector and EN50155 Certified (by request)
- GV-MNVR1000 with WiFi module (2.4G / 5G)

GV-MNVR2110 has 2 hot swappable bays of HDD/SSD and records up to 32 IP channels.
Models:

- GV-MNVR2110
- GV-MNVR2110 with 4G module (3G backward compatible)
- GV-MNVR2110 with M12 Connector
- GV-MNVR2110 with M12 Connector and 4G module
- GV-MNVR2110 with EN50155 Certified (by request)
- GV-MNVR2110 with M12 Connector and EN50155 Certified (by request)
- GV-MNVR2110 with WiFi module (2.4G / 5G)

GV-Mobile System 2700 has 2 hot swappable bays of HDD/SSD and records up to 32 IP channels through GV-NVR and 64 IP channels through GV-VMS.
Models:

- GV-Mobile System 2700
- GV-Mobile System 2700 with 4G module (3G backward compatible)
- GV-Mobile System 2700 with WiFi module (2.4G / 5G)

1.6 Recommended Hard Disks

GV-Mobile NVR supports up to 2 SATA HDD / SSD (2.5”) with up to 2 TB capacities. For optimal system performance, it is recommended to use the SSD (MLC or SLC) or the enterprise-level HDD, such as HGST Ultrastar series and Toshiba automotive HDD.

1.7 Software License

GV-MNVR1000 / GV-MNVR2110 / GV-Mobile System 2700 (NVR Model)

Free License	24 / 32 / 32 channels from GV-IP Devices
Maximum Paid License	24 / 32 / 32 channels from third-party IP devices
Increment for Each License	1 to 24 / 32 / 32 third-party IP cameras, in increments of 2 ch
License Type	External Dongle

GV-Mobile System 2700 (VMS Model) GV-VMS		
Supported Devices	**Channels**	**License**
GV-IP Devices	32 ch	Initial license (only for GV-VMS V18.1 or later)
	64 ch	2 licenses required: • Initial license (only for GV-VMS V18.1 or later) • GV-VMS Pro license, 32 ch per license
GV-IP Devices + 3rd Party IP Devices	32 ch	2 licenses required: • Initial license (only for GV-VMS V18.1 or later) • 3rd-Party license, in increments of 1 ch
	64 ch	3 licenses required: • Initial license (only for GV-VMS V18.1 or later) • GV-VMS Pro license, 32 ch per license • 3rd-Party license, in increments of 1 ch

GV-Mobile System 2700 (Access Control Model)

GV-ASManager	
Free License	4 controllers
Maximum Paid License	1,000 controllers
Increment for Each License	1 controller
License Type	External or Internal Dongle

GV-Mobile System 2700 (Face Recognition Model)

GV-AI FR	
Free License	N/A
Maximum Paid License	8 ch
Increment for Each License	1 ch
License Type	External or Internal Dongle

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1.8 Maximum Channels and Frame Rate Supported

Below are the total channels and frame rates GV-Mobile System can support with CPU usage of up to approximate 70% to ensure performance and stability.

Note: The total frame rate and channels supported are determined in round-the-clock recording settings with live view only, while remote connections and video analysis features being disabled.

1.8.1 Dual Stream from GeoVision and 3rd-Party IP Cameras

GV-MNVR1000 supports up to 24 channels.

Resolution	Dual Streams		Supported Channel	Total Frame Rate
	Stream 1 (H.264)	Stream 2 (H.264)		
1.3 MP	1280 x 1024	320 x 256	20 Ch	600 fps
2 MP	1920 x 1080	448 x 252	17 Ch	510 fps
3 MP	2048 x 1536	320 x 240	24 Ch	480 fps
5 MP	2560 x 1920	320 x 240	16 Ch	160 fps

Resolution	Dual Streams		Supported Channel	Total Frame Rate
	Stream 1 (H.265)	Stream 2 (H.264)		
1 MP	1280 x 720	640 x 360	6 Ch	150 fps
2 MP	1920 x 1080	640 x 360	5 Ch	125 fps
3 MP	2048 x 1520	640 x 480	6 Ch	120 fps
4 MP	2560 x 1440	640 x 360	12 Ch	120 fps
5 MP	2592 x 1944	640 x 480	10 Ch	100 fps

GV-MNVR2110 / GV-Mobile System 2700 (NVR Model) supports up to 32 channels.

Resolution	Dual Streams		Supported Channel	Total Frame Rate
	Stream 1 (H.264)	Stream 2 (H.264)		
1.3 MP	1280 x 1024	320 x 256	31 Ch	930 fps
2 MP	1920 x 1080	448 x 252	25 Ch	750 fps
3 MP	2048 x 1536	320 x 240	32 Ch	640 fps
5 MP	2560 x 1920	320 x 240	32 Ch	320 fps

Resolution	Dual Streams		Supported Channel	Total Frame Rate
	Stream 1 (H.265)	Stream 2 (H.264)		
1 MP	1280 x 720	640 x 360	15 Ch	450 fps
2 MP	1920 x 1080	640 x 360	9 Ch	225 fps
3 MP	2048 x 1520	640 x 480	9 Ch	180 fps
4 MP	2560 x 1440	640 x 360	12 Ch	180 fps
5 MP	2592 x 1944	640 x 480	10 Ch	150 fps

GV-Mobile System 2700 (VMS Model) supports up to 64 channels.

Resolution	Dual Streams		Supported Channel	Total Frame Rate
	Stream 1 (H.264)	Stream 2 (H.264)		
1.3 MP	1280 x 1024	320 x 256	64	1920 fps
2 MP	1920 x 1080	448 x 252	64	1920 fps
3 MP	2048 x 1536	320 x 240	64	1280 fps
5 MP	2560 x 1920	320 x 240	64	640 fps
8 MP	3840 x 2160	1280 x 720	64	1600 fps
12 MP	4000 x 3000	1024 x 768	64	960 fps

Resolution	Dual Streams		Supported Channel	Total Frame Rate
	Stream 1 (H.265)	Stream 2 (H.264)		
1 MP	1280 x 720	640 x 360	64	1920 fps
2 MP	1920 x 1080	640 x 360	64	1920 fps
3 MP	2048 x 1536	640 x 480	64	1920 fps
4 MP	2560 x 1440	640 x 360	64	1600 fps
5 MP	2592 x 1944	640 x 480	64	1920 fps

1.8.2 Single Stream from GeoVision and 3rd-Party IP Cameras

GV-MNVR1000 supports up to 9 channels.

Resolution	Single Stream (H.264)	Supported Channel	Total Frame Rate
1.3 MP	1280 x 1024	9 Ch	270 fps
2 MP	1920 x 1080	4 Ch	120 fps
3 MP	2048 x 1536	4 Ch	80 fps
4 MP	2048 x 1944	4 Ch	60 fps
5 MP	2560 x 1920	6 Ch	60 fps

GV-MNVR2110 / GV-Mobile System 2700 (NVR Model) supports up to 25 channels.

Resolution	Single Stream (H.264)	Supported Channel	Total Frame Rate
1.3 MP	1280 x 1024	25 Ch	750 fps
2 MP	1920 x 1080	19 Ch	570 fps
3 MP	2048 x 1536	15 Ch	300 fps
4 MP	2048 x 1944	13 Ch	195 fps
5 MP	2560 x 1920	11 Ch	110 fps

GV-Mobile System 2700 (VMS Model) supports up to 60 channels.

Resolution	Single Stream (H.264)	Supported Channel	Total Frame Rate
1.3 MP	1260 x 1024	60	1800 fps
2 MP	1920 x 1080	38	1140 fps
3 MP	2048 x 1536	39	780 fps
4 MP	2048 x 1944	44	660 fps
5 MP	2560 x 1920	54	540 fps
8 MP	3840 x 2160	10	300 fps
12 MP	4000 x 3000	14	210 fps

1.8.3 GV-Fisheye Cameras (De-warping)

GV-MNVR1000 supports up to 2-Ch GV-Fisheye cameras.

Resolution	Single Stream (H.264)	Supported Channel	Total Frame Rate
1.3 MP	1280 x 1200	2 Ch	30 fps
2 MP	1440 x 1376	2 Ch	30 fps
4 MP	2048 x 1944	1 Ch	15 fps
5 MP	2560 x 1920	1 Ch	10 fps

GV-MNVR2110 / GV-Mobile System 2700 (NVR Model) supports up to 10-Ch GV-Fisheye cameras.

Resolution	Single Stream (H.264)	Supported Channel	Total Frame Rate
1.3 MP	1280 x 1200	10 Ch	150 fps
2 MP	1440 x 1376	8 Ch	120 fps
4 MP	2048 x 1944	4 Ch	60 fps
5 MP	2560 x 1920	5 Ch	50 fps

GV-Mobile System 2700 (VMS Model) supports up to 61-Ch GV-Fisheye cameras.

Resolution	Single Stream (H.264)	Supported Channel	Total Frame Rate
1.3 MP	1280 x 1200	61	915 fps
2 MP	1440 x 1376	57	855 fps
3 MP	2048 x 1536	36	540 fps
4 MP	2048 x 1944	27	405 fps
5 MP	2560 x 1920	41	410 fps
8 MP	2896 x 2768	12	300 fps
12 MP	4000 x 3000	13	195 fps

1.9 Options

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

GV-IO Box Series	GV-IO Box series (4E / 4 Ports / 8 Ports / 16 Ports) provide 4 / 8 / 16 inputs and relay outputs, and supports both DC and AC output voltages, with optional support for Ethernet module and 4E additionally supporting PoE, TCP/IP and RS-485 connection.
GV-Joystick V2	GV-Joystick V2 facilitates the PTZ camera control. It can be either plugged into the GV-Mobile System for independent use or connected to GV-Keyboard V3 to empower the operation.
GV-Keyboard V3	The GV-Keyboard V3 is designed to program and operate the system, and it can also be connected with PTZ cameras directly for PTZ control.
GV-TouchDisplay133	The GV-TouchDisplay133 is a 13.3-inch touch panel designed for GV-Mobile System. With the touch panel, you can monitor live images and operate GV-NVR by simply touching the screen.
Power Adapter	GV-MNVR1000 / GV-MNVR2110: Australia / Europe / U.K. / U.S.A. GV-Mobile System 2700: Argentina / Australia / Brazil / Europe / U.K. / U.S.A.
4G Module	The 4G module allows data exchange for the GV-Mobile NVR through the network connection covering wide area.
WiFi Module	The WiFi module allows data exchange for the GV-Mobile System through wireless network connection within local areas.

Note: The WiFi / 4G module will be built in the GV-Mobile System and tested before shipment. Opening the case and installing the accessories yourself will void the warranty.

Chapter 2 Overview

2.1 GV-MNVR1000 – Front View

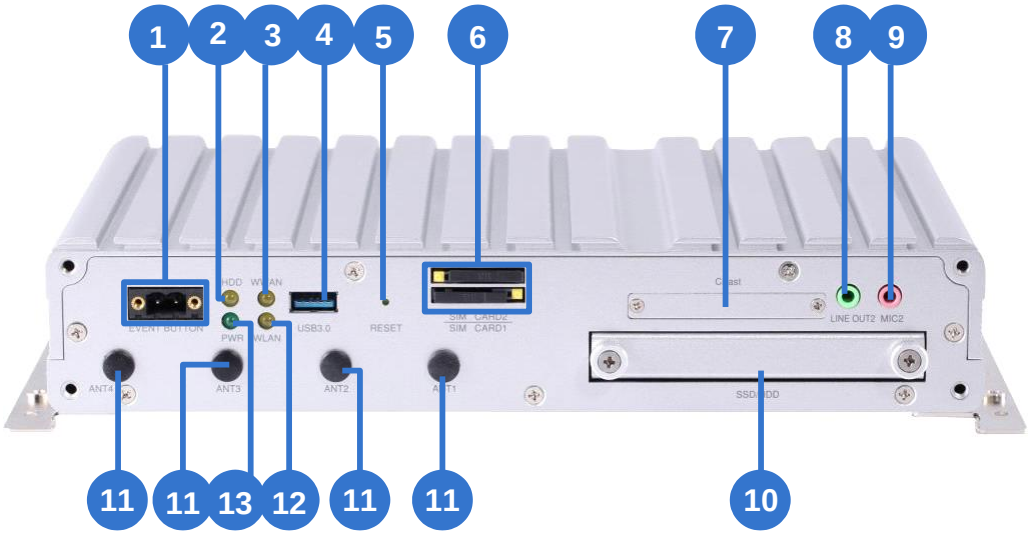


Figure 2-1

No.	Name	No.	Name
1	Event Button (Not Functional)	8	Audio Line Out Port
2	HDD Status LED	9	Audio Microphone In Port
3	WWAN LED	10	2.5” HDD/SSD Slot
4	USB 3.0 Port	11	Antenna Port x 4
5	Reset Button	12	WLAN LED
6	SIM Card Slot x 2	13	Power Status LED
7	CFast Card Slot		

Note:

1. For the status of LED indicators, see *2.1.3 Status Indicator LED*s later in this chapter.
2. The WLAN WiFi and WWAN 4G module are optional.

2.2 GV-MNVR1000 – Rear View

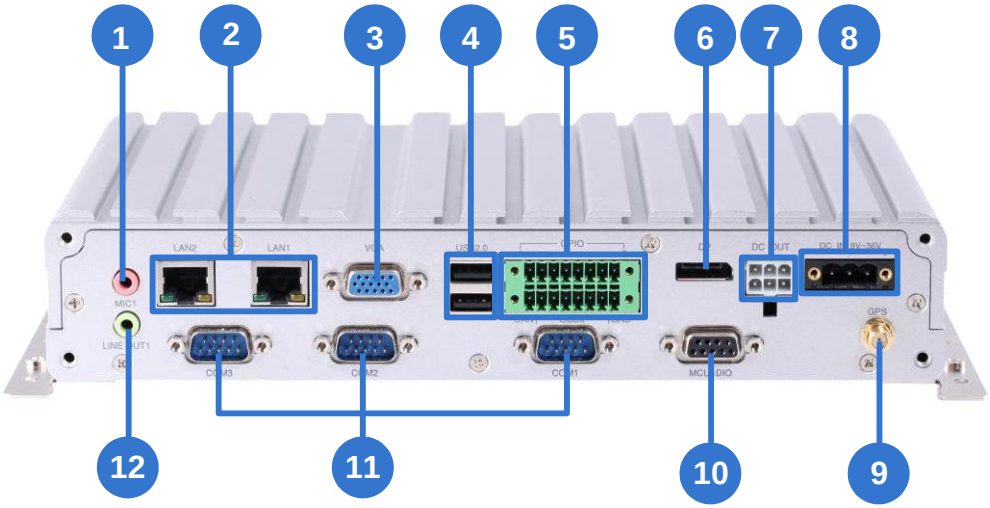


Figure 2-2

No.	Name	No.	Name
1	Audio Microphone In Port	7	DC Power Output (Not Functional)
2	Gigabit Ethernet Port x 2	8	DC 10 ~ 35V Power Input
3	VGA Output	9	GPS Antenna Port
4	USB 2.0 Port x 2	10	MCU DIO Port (Not Functional)
5	GPIO Terminal Block (Not Functional)	11	COM Port x 3
6	DisplayPort	12	Audio Line Out Port

2.3 GV-MNVR2110 – Front View

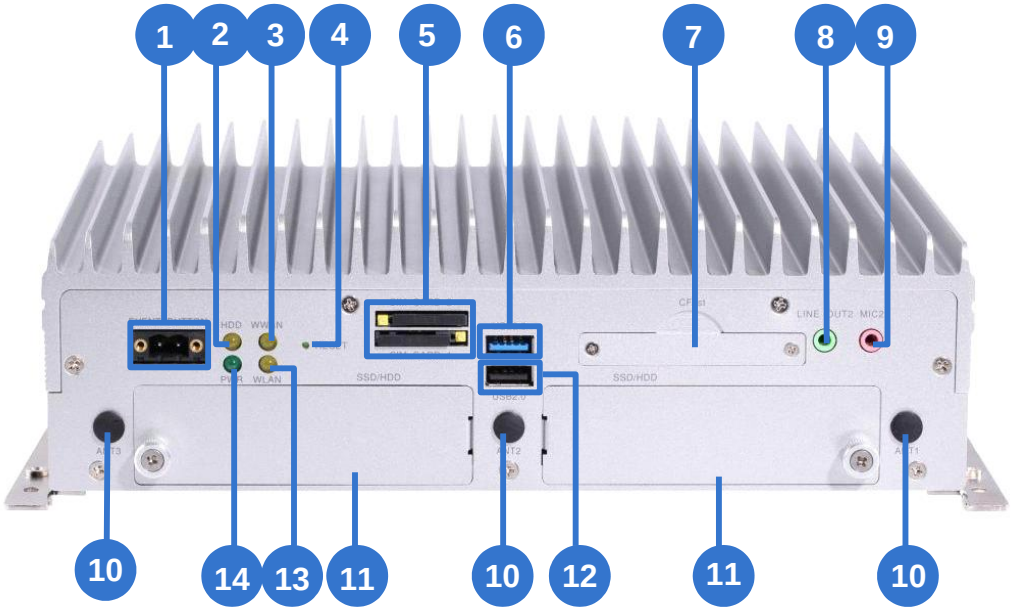


Figure 2-3

No.	Name	No.	Name
1	Event Button (Not Functional)	8	Audio Line Out Port
2	HDD Status LED	9	Audio Microphone In Port
3	WWAN LED	10	Antenna Port x 3
4	Reset Button	11	2.5” HDD/SSD Slot x 2
5	SIM Card Slot x 2	12	USB 2.0 Port
6	USB 3.0 Port	13	WLAN LED
7	CFast Card Slot	14	Power Status LED

Note:

1. For the status of LED indicators, see *2.5 Status Indicator LED*s later in this chapter.
2. The WLAN WiFi and WWAN 4G module are optional.

2.4 GV-MNVR2110 – Rear View

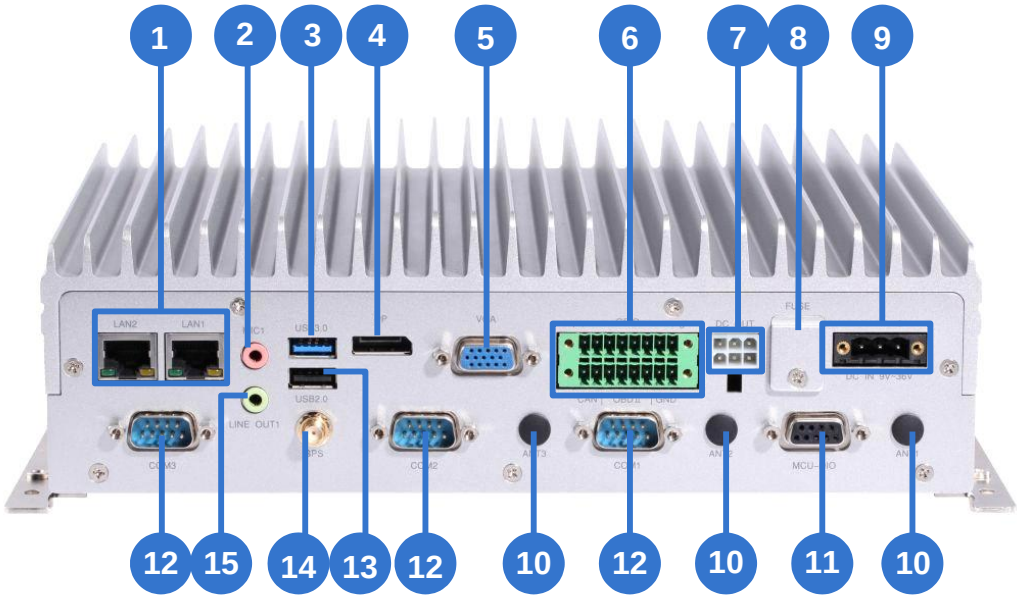


Figure 2-4

No.	Name	No.	Name
1	Gigabit Ethernet Port x 2	9	DC 10 ~ 35V Power Input
2	Audio Microphone In Port	10	Antenna Port x 3
3	USB 3.0 Port	11	MCU DIO Port (Not Functional)
4	DisplayPort	12	COM Port x 3
5	VGA Output	13	USB 2.0 Port
6	GPIO Terminal Block (Not Functional)	14	GPS Antenna Port
7	DC Power Output (Not Functional)	15	Audio Line Out Port
8	Fuse (15A)		

2.5 Status Indicator LEDs of GV-MNVR1000 / GV-MNVR2110

See the below descriptions for each status LED.

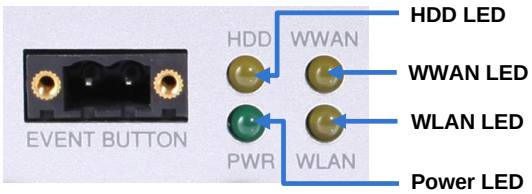


Figure 2-5

Indicator LED	Color	Description
HDD LED	Orange	Glows when HDD/SSD is active.
WWAN LED	Orange	Glows when the WWAN is active.
WLAN LED	Orange	Glows when the WLAN is active.
Power LED	Green	Glows when power is turned on.

2.6 GV-Mobile System 2700 – Front View

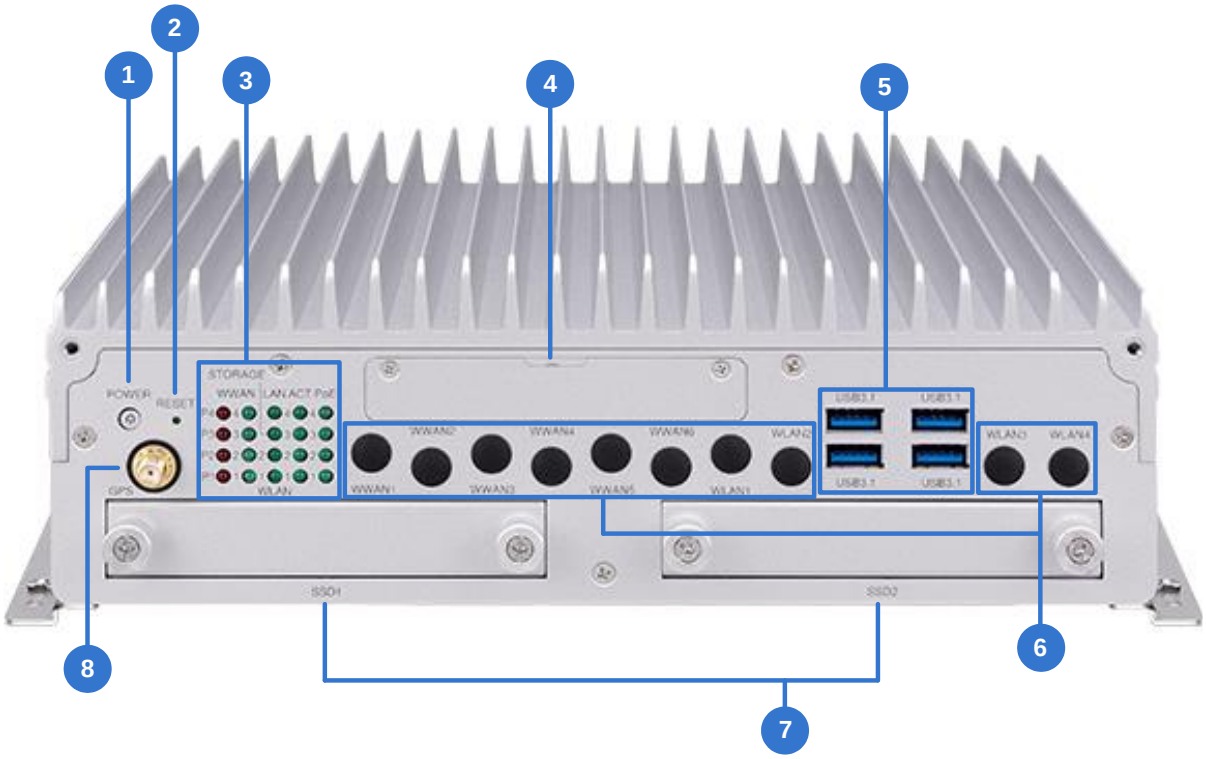


Figure 2-6

No.	Name	No.	Name
1	Power Button	5	USB 3.1 Port x 4
2	Reset Button	6	Antenna Port x 10
3	LED Indicators	7	2.5” HDD/SSD Slot x 2
4	6 SIM Slots with Cover	8	GPS Antenna Port

2.7 GV-Mobile System 2700 – Rear View

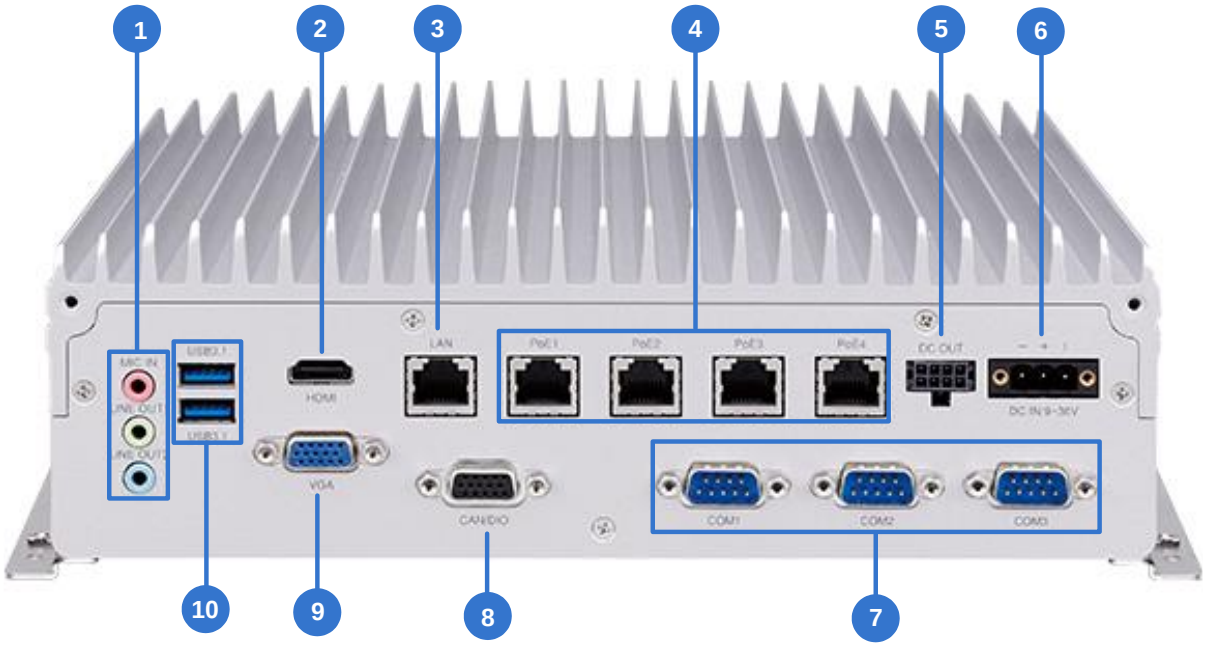


Figure 2-7

No.	Name	No.	Name
1	Audio Microphone In Port Audio Microphone In Port Audio Line Out Port	6	DC 9 ~ 36V Power Input
2	HDMI Port	7	COM Port x 3
3	LAN Port	8	CAN/DIO Port (Not Functional)
4	PoE Port x 4	9	VGA Port
5	DC Power Output	10	USB 3.1 Port x 2

2.7 Status Indicator LEDs of GV-Mobile System 2700

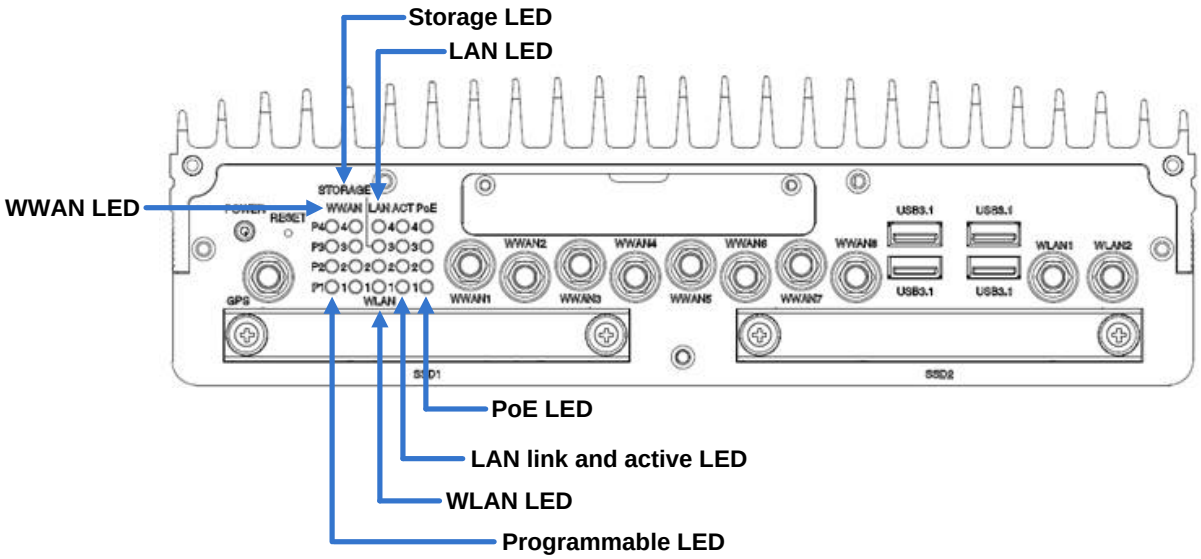


Figure 2-8

Indicator LED	Color	Description
WWAN LED x 4	Green	Glows when the WWAN is active.
Storage LED x 1	Green	Glows when HDD/SSD is active.
LAN LED x 1	Green	Glows when LAN is active.
PoE LED x 4	Green	Glows when power is being supplied to a powered device.
LAN link and active LED x 4	Green	Glows when link is active. Blinks when data is being transmitted.
WLAN LED x2	Green	Glows when the WLAN is active.
Programmable LED x 4	Red	Not functional.

2.3 Wireless Antenna

2.3.1 GV-MNVR1000

An example of the GV-MNVR1000 installed with WiFi, 4G, and GPS antennas is shown as below.

For supported 4G frequency bands, see *Specifications*. For connection details, see *Chapter 4 Optional Wireless Connection*.

Note: GPS module is already built in the GV-Mobile System. WiFi / 4G modules are optional.

Figure 2-9

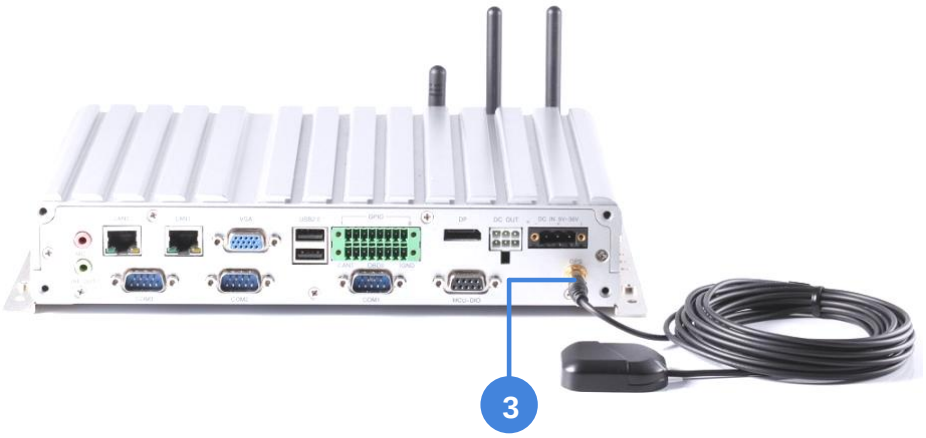


Figure 2-10

No.	Name
1	WiFi Antenna x 2
2	4G Antenna
3	GPS Antenna

2.3.2 GV-MNVR2110

An example of the GV-MNVR2110 installed with WiFi, 4G, and GPS antennas is shown as below.

For supported 4G frequency bands, see *Specifications*. For connection details, see *Chapter 4 Optional Wireless Connection*.

Note: GPS module is already built in the GV-Mobile System. WiFi / 4G modules are optional.

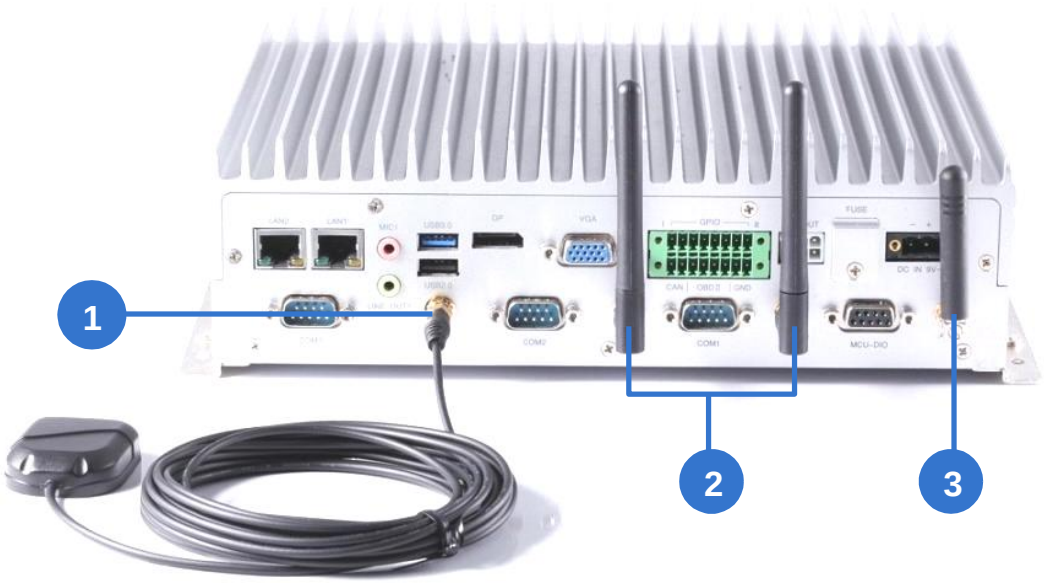


Figure 2-11

No.	Name
1	GPS Antenna
2	WiFi Antenna x 2
3	4G Antenna

2.3.3 GV-Mobile System 2700

For GV-Mobile System 2700, 4G / WiFi antennas can be freely arranged to any of the ten 4G / WiFi Antenna ports. GPS antenna must connect to the GPS Antenna port.

For supported 4G frequency bands, see *Specifications*. For connection details, see *Chapter 4 Optional Wireless Connection*.

Note: GPS module is already built in the GV-Mobile System. 4G / WiFi modules are optional.

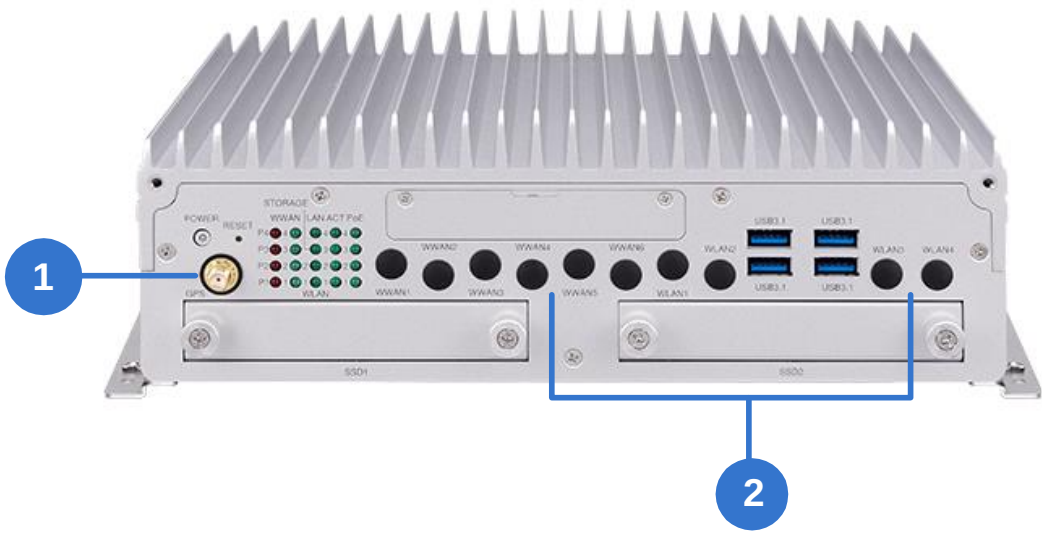


Figure 2-12

No.	Name
1	GPS Antenna
2	4G / WiFi Antenna

Chapter 3 Getting Started

3.1 Interface Connection

This section describes the equipments required to operate the GV-Mobile System. Here we use the GV-MNVR2110 for example.

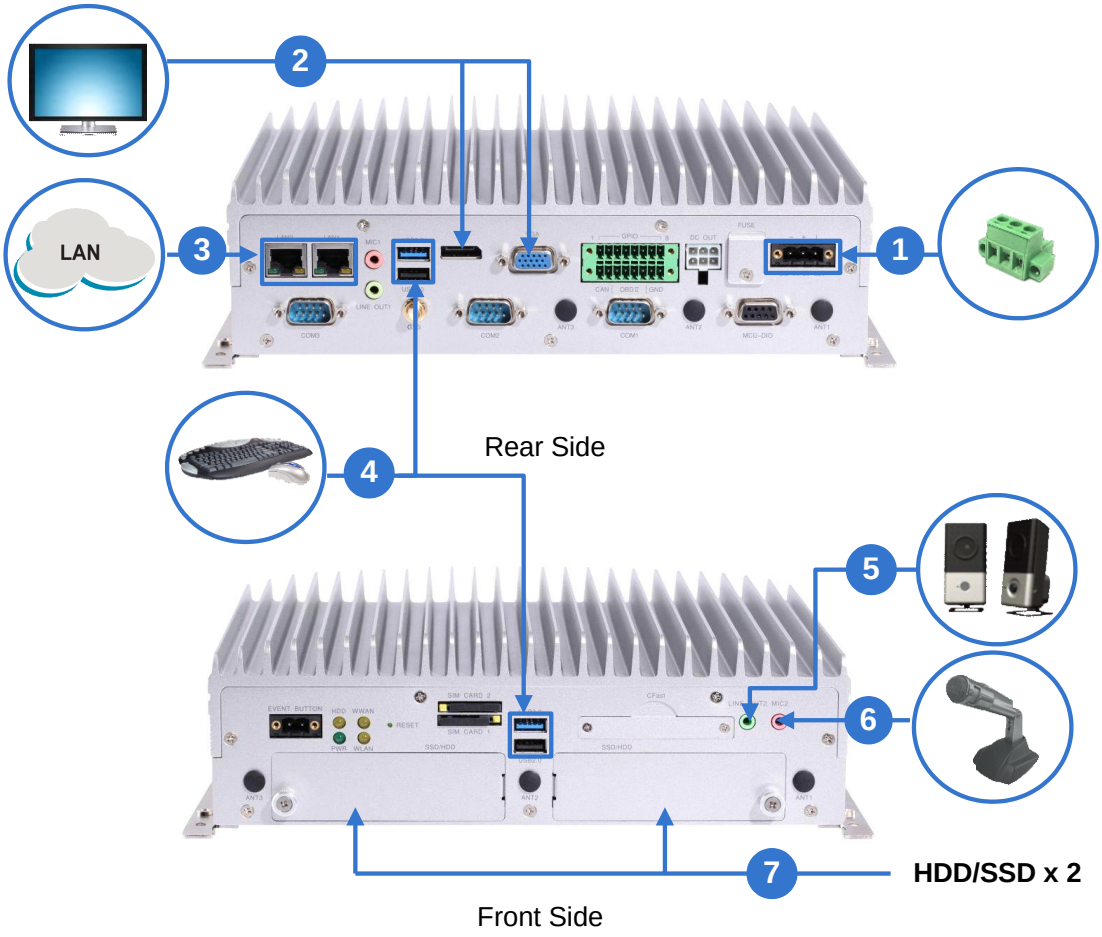


Figure 3-1

1. There are two options for connecting the power.
   A. Connect the GV-Mobile System to the vehicle's power battery and ACC wire using the supplied 3-pin terminal block. The system will automatically start after you turn on the vehicle ignition. Power is supplied to the system as long as the vehicle ignition is on.

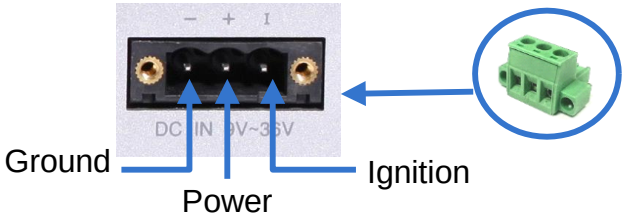


Figure 3-2

   B. Optionally purchase a power adapter from GeoVision. See *3.2 Turning on and off the Power*.
2. Use the VGA cable or the DisplayPort cable to connect the unit to the monitor.

Note: The GV-Mobile System supports dual-monitor display. You can connect two monitors by using the VGA connector and DisplayPort.

---

3. Connect one end to the Gigabit Ethernet port and the other end to Network by using the RJ-45 cable.
4. Connect the keyboard and the mouse to the USB ports.
5. Connect the speaker to the Audio Line Out port.
6. Optionally connect the microphone to the Audio Microphone In port for two-way audio with IP cameras.
7. Insert the 2.5" HDDs or SSDs into the storage slots. For details, see *3.3 Installing the Storage Drive*.

After the unit is powered on, the Power Indicator LED (Figure 2-5) shows constant green.

Before recording, you need to format the storage drive and add it to the recording path of the system. For formatting the storage drive, see *3.4 Formatting the Storage Drive*. For adding the storage drive to the recording path, see *3.5 Adding the Storage Drive* to the Recording Path.

3.2 Turning on and off the Power

The GV-Mobile System is designed to connect to the vehicle's ACC wire. However, you can optionally purchase a power adapter (AC 100 ~ 240V) from GeoVision for power connection.

3.2.1 Connecting to the ACC Wire

To turn on the GV-Mobile System, connect the vehicle's ACC and power wires to the unit's power input using the supplied 3-pin terminal block. The system will automatically start after you power on the vehicle for 5 seconds.

After you power off the vehicle for 3 seconds, the system will turn off automatically.

3.2.2 Using the Power Adapter

To turn on and off the GV-Mobile System using an optional power adapter from GeoVision, follow the steps below.

1. Plug the 3-pin terminal block connected with power adapter to the panel's power pins. The GV-Mobile System will be powered on about 5 seconds later.

Figure 3-3

2. To turn off the GV-Mobile System, shut down the system through the Windows desktop.

Using Rocker Switch to Simulate ACC Ignition

For quick control of turning on or off the GV-Mobile System, you can install a rocker switch to the 3-pin terminal block with the optional power adapter. For the connection and operation, follow the steps below.

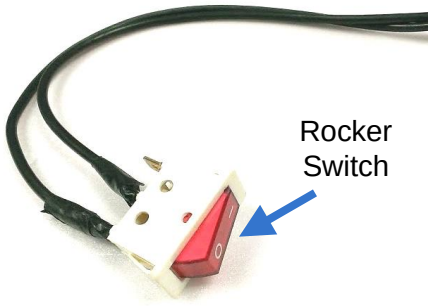


Figure 3-4

1. For the 3-pin terminal block with optional power adapter, unplug the U-shaped wire from the Power and Ignition pins.

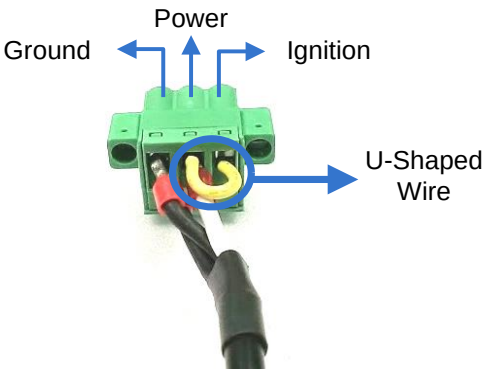


Figure 3-5

2. Connect the wires of the rocker switch to the Power and Ignition pins respectively.

Figure 3-6

3. Plug the terminal block to the panel's power pins.

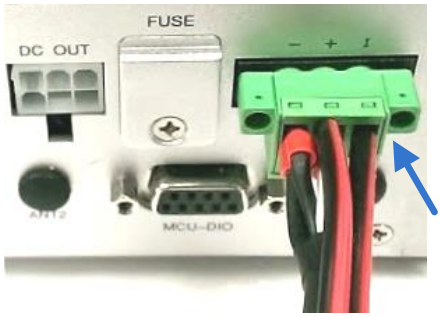


Figure 3-7

4. Press the rocker switch to turn on the GV-Mobile System without operating on the Windows desktop. Once the rocker switch is on, the GV-Mobile System will be powered on about 3 seconds later.
5. To turn off the GV-Mobile System, press the rocker switch again.

Note: After the power is on, the GV-Mobile System will run a series of self-tests, and a series of messages may be displayed as various hardware and software subsystems are activated. After the process is finished, GeoVision software should load automatically and bring you to the main screen.

3.3 Installing the Storage Drive

The GV-Mobile System uses SATA hard drive / SSD for video data storage. Before recording, be sure to install the storage drive.

3.3.1 GV-MNVR1000 System

1. Loosen the thumb screws on the HDD/SSD slot and pull out the drive drawer.

Figure 3-8

2. Insert the storage drive into the drive drawer with the SATA data and power connector facing towards the end.

Figure 3-9

3. Secure the storage drive with the drive drawer using the supplied 4 screws.

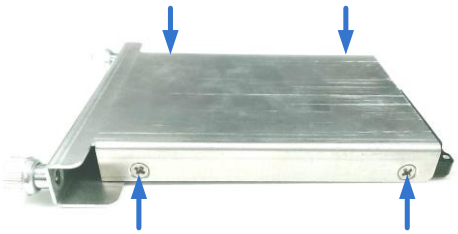


Figure 3-10

Note: For convenience, it is suggested to secure the screws with the drive drawer being placed downward.

---

4. Insert the drive drawer into the HDD/SSD slot and secure the thumb screws.

3.3.2 GV-MNVR2110

1. Loosen the thumb screws on the HDD/SSD slots and remove the covers.

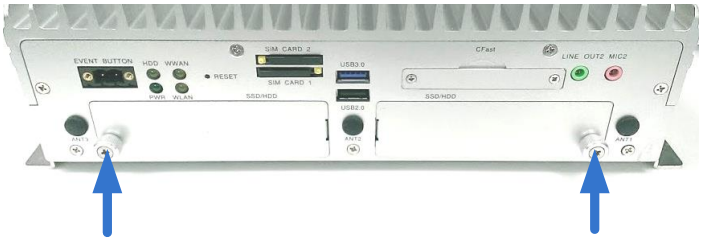


Figure 3-11

2. Press the release latch and pull out the drive drawer using the drawer handle that pops out.

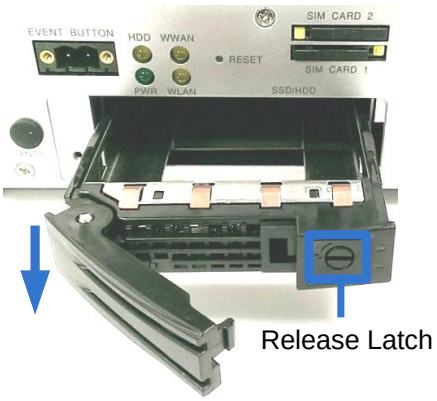


Figure 3-12

3. Insert the storage drive into the drive drawer with the SATA data and power connector facing towards the end.

Figure 3-13

4. Secure the storage drive with the drive drawer using the supplied 4 screws.

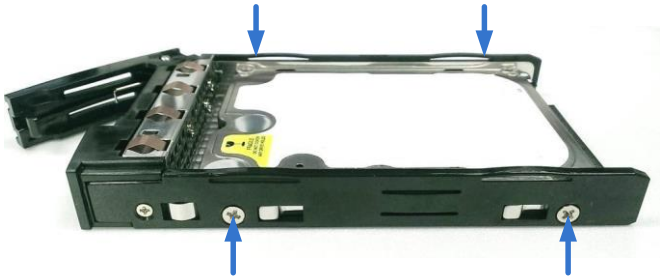


Figure 3-14

5. Insert the drive drawer into the HDD/SSD slot, press the drawer handle back and rotate the release latch until it is vertical to lock the drive drawer.

Figure 3-15

6. Put the cover back and secure the thumb screw.
7. Repeat the steps above to install the storage drive in the other HDD/SSD slot.

The HDD Status LED glows, and the storage drive is ready for use.

3.3.3 GV-Mobile System 2700

1. Loosen the thumb screws on the HDD/SSD slot and pull out the drive drawer.

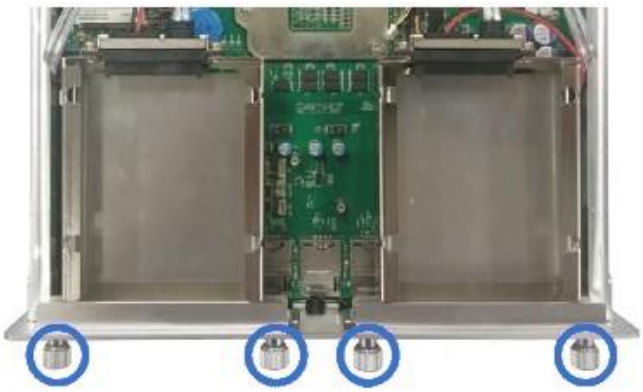


Figure 3-16

2. Put the black anti-vibration dampers into the holes on the drive drawer.

Figure 3-17

3. Insert the storage drive into the drive drawer with the SATA data and power connector facing towards the end.
4. Align the storage drive's mounting holes with the mounting holes on the drive drawer, and secure the storage drive with the drive drawer using the supplied 4 screws.

Figure 3-18

5. Insert the drive drawer into the HDD/SSD slot and secure the thumb screws.

Figure 3-19

3.4 Formatting the Storage Drive

After installing HDD / SSD to your system, you will need to format the storage drive before recording.

For GV-MNVR1000 / GV-MNVR2110:

1. Click the **Programs** button on the GV-Desktop, and select **Disk Management**.

Figure 3-20

2. Type the ID and password in the dialog box. The default ID and password are "**0000**".

Figure 3-21

3. Skip to Step 7

For GV-Mobile System 2700:

4. Right-click the **Computer** icon on your desktop, select **Manage**, and select **Disk Management** when the Computer Management window appears.

5. On the main page of Disk Management, the Initialize Disk dialog box appears for the new drive. Click the created disk and select a partition style.

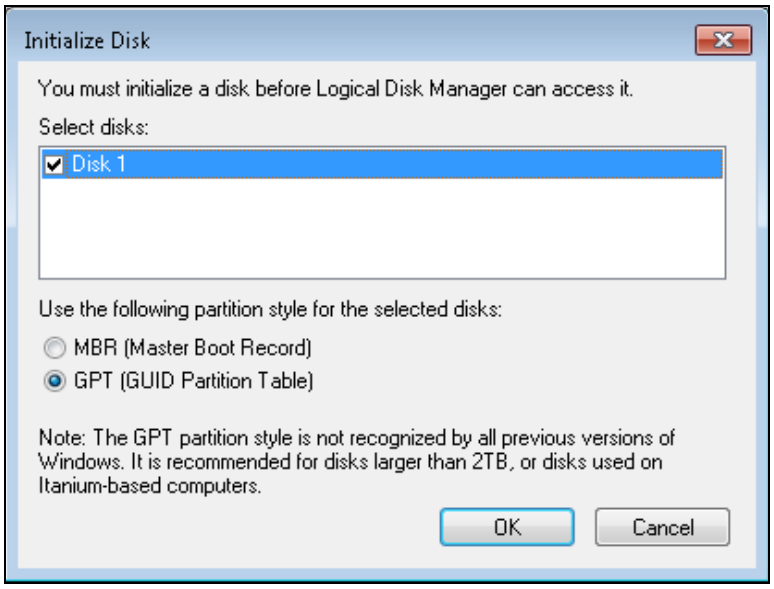


Figure 3-22

6. Click **OK**. The created disk is successfully initialized.

7. On the main page of Disk Management, right-click in the unallocated space of a new drive and select **New Simple Volume**.

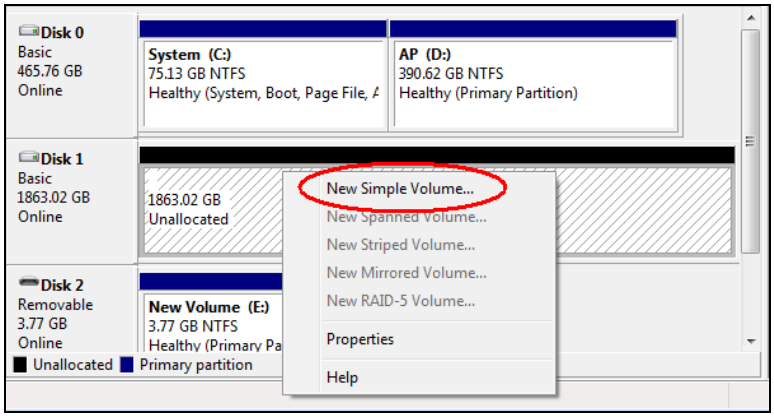


Figure 3-23

8. The New Simple Volume Wizard appears. Click **Next** to continue.

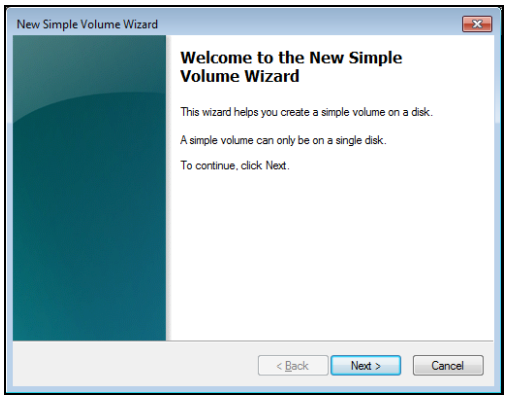


Figure 3-24

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

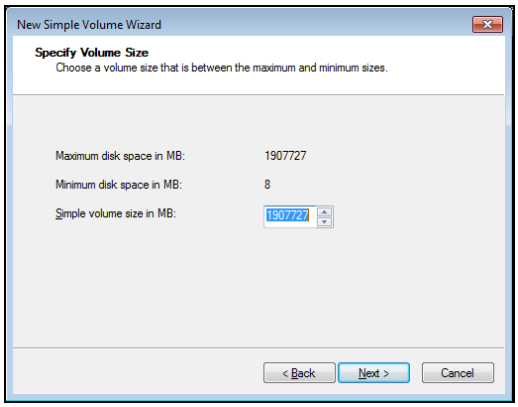


Figure 3-25

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

Figure 3-26

Note: The default drive path starts from **D:**.

---

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

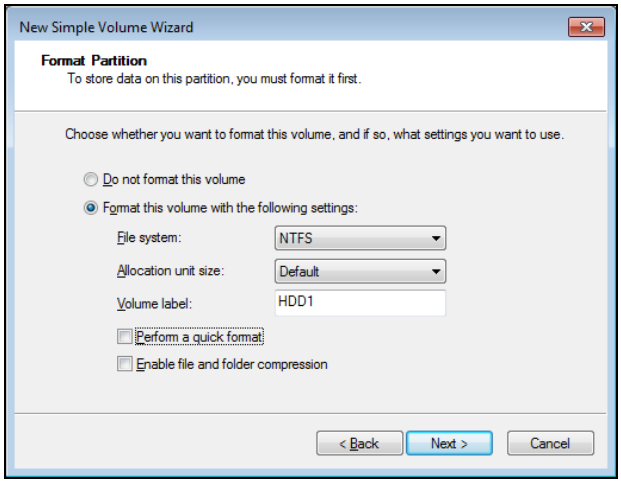


Figure 3-27

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

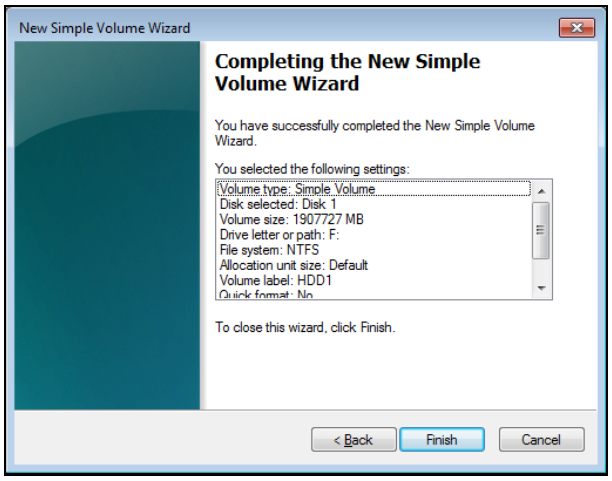


Figure 3-28

When the drive is successfully initialized, partitioned, and formatted, its status description should display "*Healthy*".

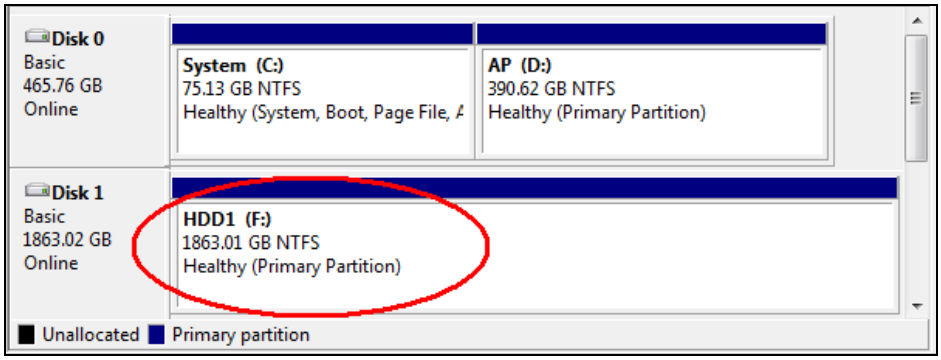


Figure 3-29

3.5 Adding the Storage Drive to the Recording Path

For GV-Mobile System, you need to add the formatted storage drives to the recording path before recording.

3.5.1 GV-MNVR1000 / GV-MNVR2110

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

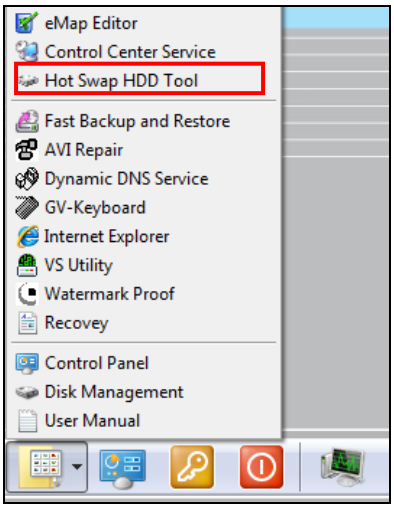


Figure 3-30

2. If a storage drive is already inserted, right-clic2k it in the MediaMan Tools window, select **Add for recording**, and select the storage group from the drop-down list.
3. If a hard drive is not inserted, follow these steps:

   A. Insert a HDD / SSD to the GV-Mobile System. This dialog appears.

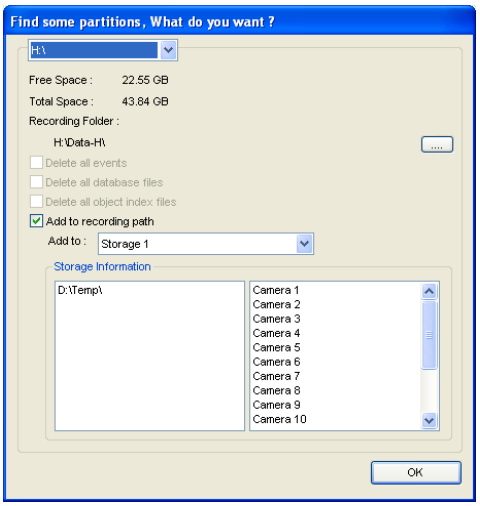


Figure 3-31

   B. Select **Add to recording path**, and select the storage group from the drop-down list.

Note: Storage 1 is the default storage group.

4. Click **OK** to automatically configure the hard drive to the recording path.
5. In the MediaMan Tools window, if the hard drive is successfully added to store data, its Status field should display "*Standby*".

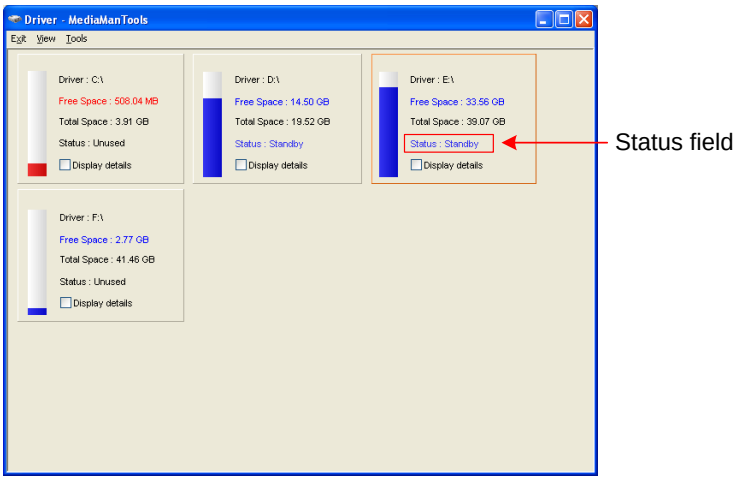


Figure 3-32

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

3.5.2 GV-Mobile System 2700 (NVR Model)

1. Click the Windows **Start** button, click **GV-NVR**, and select **Hot Swap HDD Tool**. The MediaMan Tools window appears.

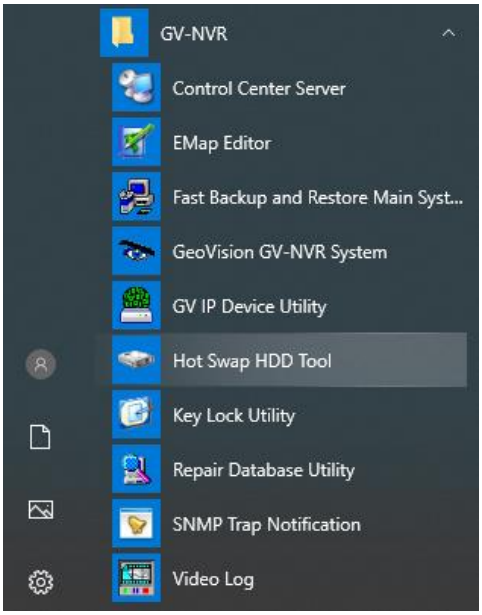


Figure 3-33

2. Follow Steps 2-6 in *3.5.1 GV-MNVR1000 / GV-MNVR2110*.

3.5.3 GV-Mobile System 2700 (VMS Model)

1. On GV-VMS, click **Home** > **Toolbar** > **Configure** > **System Configure** > **Record Setting.** This dialog box appears.

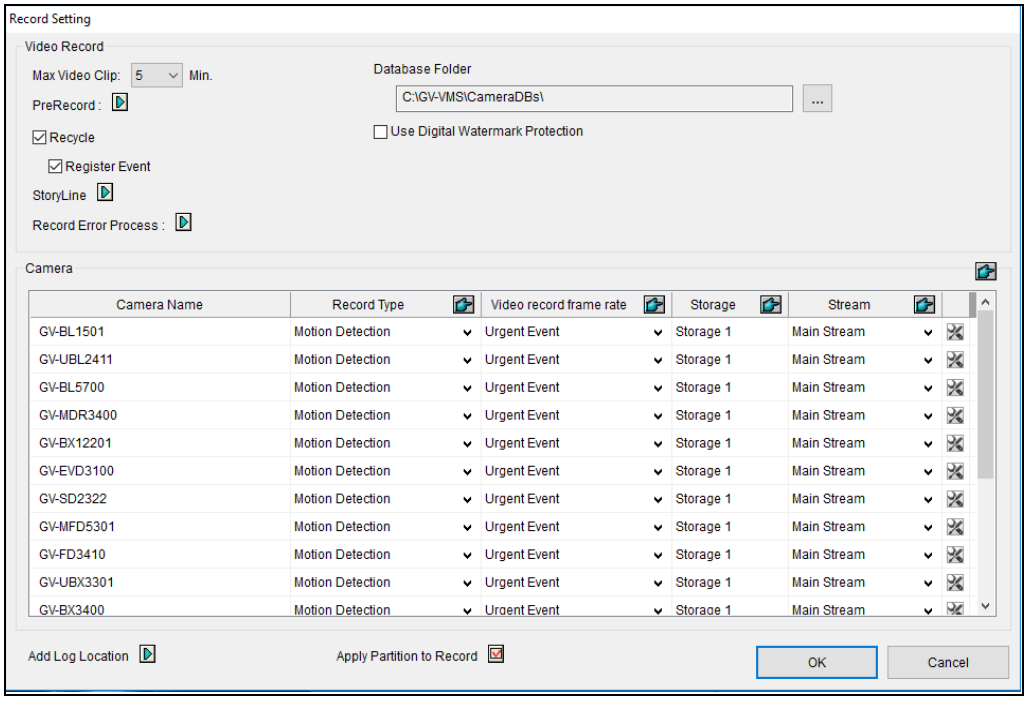


Figure 3-34

2. Click the Arrow button next to **Storage**. This dialog box appears.

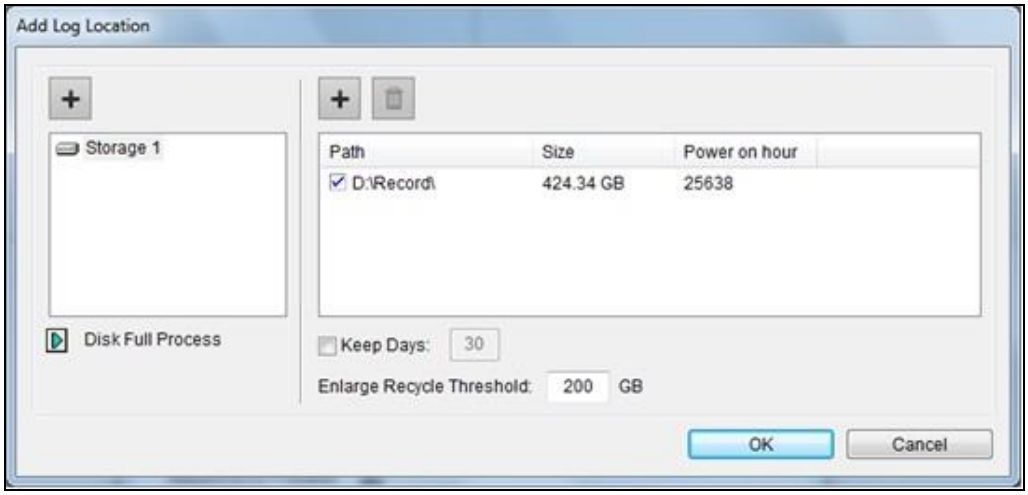


Figure 3-35

3. To add a hard drive to the recording path, follow these steps:

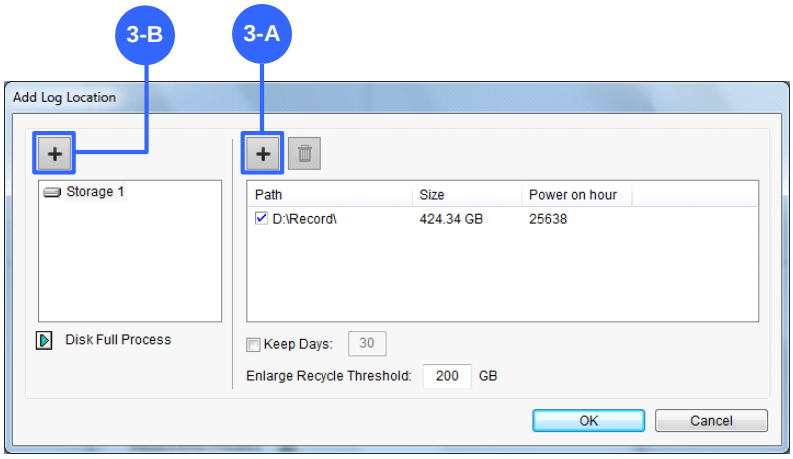


Figure 3-36

A. To add a new folder in the first storage group, click the **Add** button on the right pane and select a folder. Only 1 folder can be assigned as storage folder for each partition (e.g. only 1 folder in D drive).

B. To add a new storage group, click the **Add** button on the left pane and repeat the step 3-A to assign at least one folder to the storage group.

C. Click **OK**.

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

3.6 Replacing the Storage Drive

You can replace the HDD / SSD without shutting down the GV-Mobile System.

1. Stop the recording and make sure the HDD LED for GV-MNVR1000 / 2110 (*Figure 2-5*) or Storage LED (*Figure 2-8*) for GV-Mobile System 2700 is off.
2. To replace a new storage drive:
   - For GV-MNVR1000, see *3.3.1 GV-MNVR1000*.
   - For GV-MNVR2110, see *3.3.2 GV-MNVR2110*.
   - For GV-Mobile System 2700, see *3.3.3 GV-Mobile System 2700*.

Warning: Do not touch the top panel when you replace the storage drive. The top panel is a dissipation of heat and it may be extremely hot.

3.7 Setting Up On-Screen LED Panel

For GV-Mobile System, a LED panel on the screen provides a quick indication of the activity status of the storage drives.

Figure 3-37

LED Color	Description
Gray	- No storage drive is assigned to this LED. - The system is not started.
Green	A storage drive is assigned to this LED.
Red	The storage drive is full.
Flashing Green	The system drive is recording.
Flashing Red	The storage drive is recycling.

1. Click the Windows Start button, and select Hot Swap HDD Tool.
2. Click **Tools** on the menu bar, and select **Setup LED Panel**. This dialog box appears.

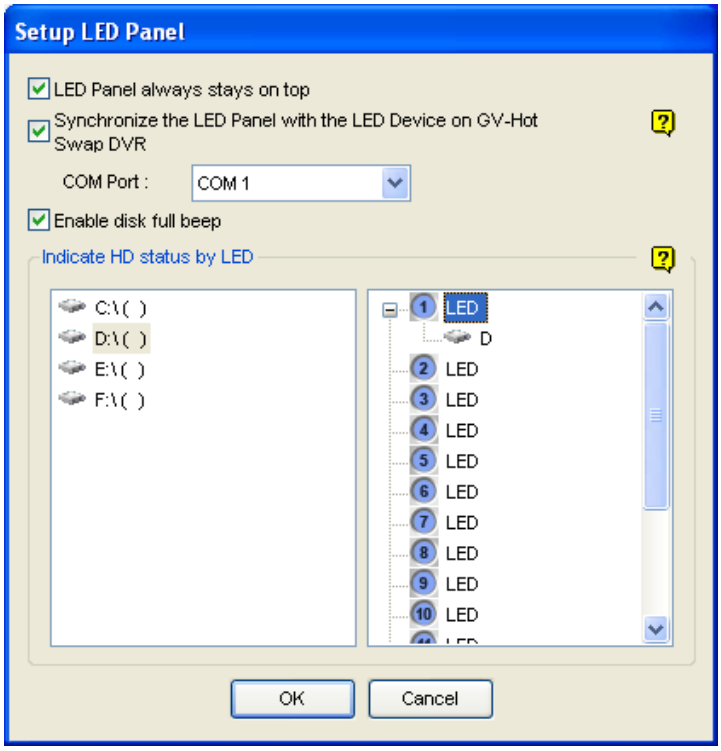


Figure 3-38

- **LED Panel always stays on top:** This option makes the LED panel stay on top of other windows when the Media Man Tools window is minimized.
- **Synchronize the LED Panel with the LED Device on GV-Mobile DVR:** Not functional.
- **Enable disk full beep:** When the storage drive is full, the system sounds on. Note this function only works when speakers are connected to the GV-Mobile System.

3. By default, only the hard disk drive D will be assigned to LED. If you want to re-assign the storage drive or assign other drives to LEDs, freely drag and drop the hard disk drive to the desired LED on the tree.
4. Click **OK** to apply the settings, and minimize the MediaMan Tools window to display the LED panel on the screen.
5. If you want to return to the MediaMan Tools window, right-click the LED panel and select **Switch to the setup window**.

Note:

1. Because the LEDs are designed to indicate the video and audio files are being written or read, it is not recommended to assign the storages that store log files to the LEDs.
2. If the storage that stores log files is assigned to a LED and its LED turns red, make sure the log files are not being written before you remove it. Otherwise, the log files might be lost during the removal.

3.8 Configuring the IP Address

GV-Mobile System supports remote monitoring, control and configuration over a network connection. For **GV-MNVR1000 / GV-MNVR2110**, the following default IP addresses will automatically be assigned.

- **Connection 1: 192.168.0.200**
- **Connection 2: 192.168.0.201**
- **Default Subnet Mask: 255.255.252.0**

Note: GV-Mobile System 2700 does not have a default IP address. You can follow Steps 3 to 7 below to set up an IP address using Windows' **Network and Internet**, or check your current IP address assigned by a DHCP server by clicking **Details** on the **Local Area Connection Status** dialog box under Step 5.

The local area connections listed correspond to the Ethernet ports as shown below:

Figure 3-39

To change the above default IP addresses, follow the steps below.

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

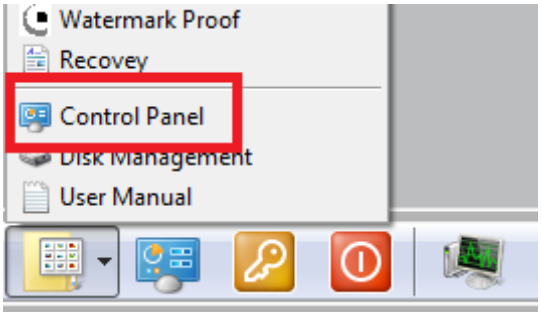


Figure 3-40

2. Type the ID and password. The default ID and password are “**0000**”. The Control Panel window appears.
3. Under Network and Internet, click **View network status and tasks**.

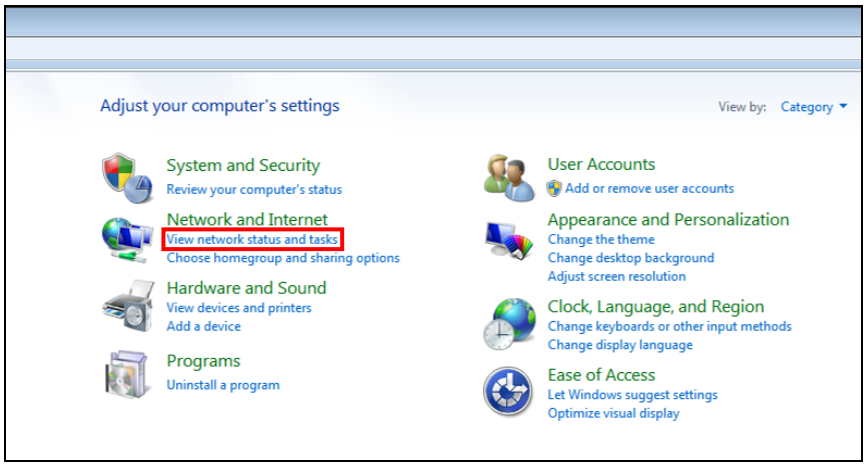


Figure 3-41

4. Under Connections, select the **Local Area Connection** you want to configure.

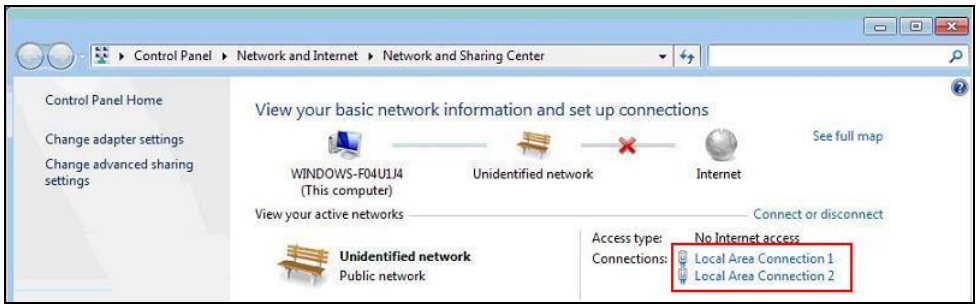


Figure 3-42

5. Select **Internet Protocol Version 4 (TCP/IPv4)**, and select **Properties**.

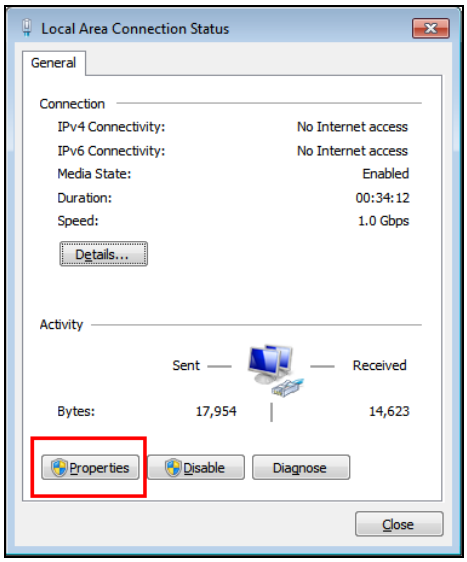


Figure 3-43

6. Select **Use the following IP address** and type the new IP information in the fields. Or select **Obtain an IP address automatically** to enable dynamic IP address.

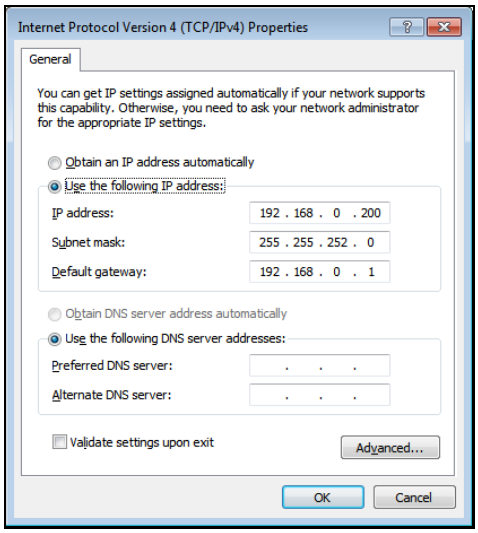


Figure 3-44

7. Click **OK** to finish the setting.

3.9 Exiting to Windows

GV-Mobile System is protected by GV-Desktop that is limited to run the selected programs. For **GV-MNVR1000 / GV-MNVR2110**, follow the steps below to exit to Windows desktop.

Note: GV-Desktop is not supported by GV-Mobile System 2700.

---

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

Figure 3-45

2. Click the **Settings** button, and type the valid ID and password. The default ID and Password are "**0000**". The Settings dialog box appears.
3. Under Desktop Type, select **Windows** from the drop-down list, and click **OK**.
4. Click the **Log Off** button, and type the ID and Password to display the Windows desktop.

Figure 3-46

3.10 Returning to GV-Desktop

To return to GV-Desktop on **GV-MNVR1000 / GV-MNVR2110**, click the Windows **Start** button, point to **All Programs**, click **GV-NVR**, and click **Key Lock Utility**.

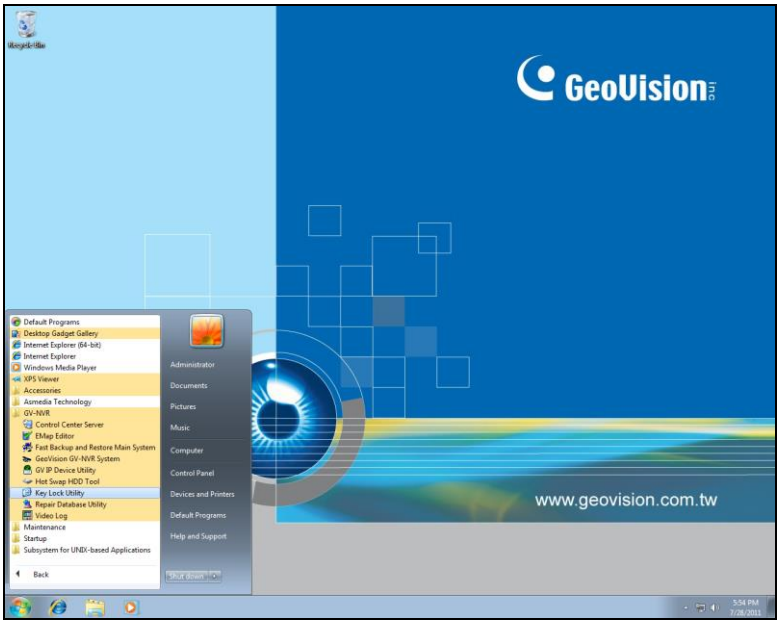


Figure 3-47

3.11 Setting Up Twin View Display

You can display live view and play back video in two separated monitors.

3.11.1 GV-MNVR1000 / GV-MNVR2110 / GV-Mobile System 2700 (NVR Model)

1. Click the **Search** button on your desktop, type **Control Panel** and press Enter key to open Control Panel.
2. In the Control Panel window, click **Adjust Screen Resolution** under the Appearance and Personalization section. This dialog box appears.

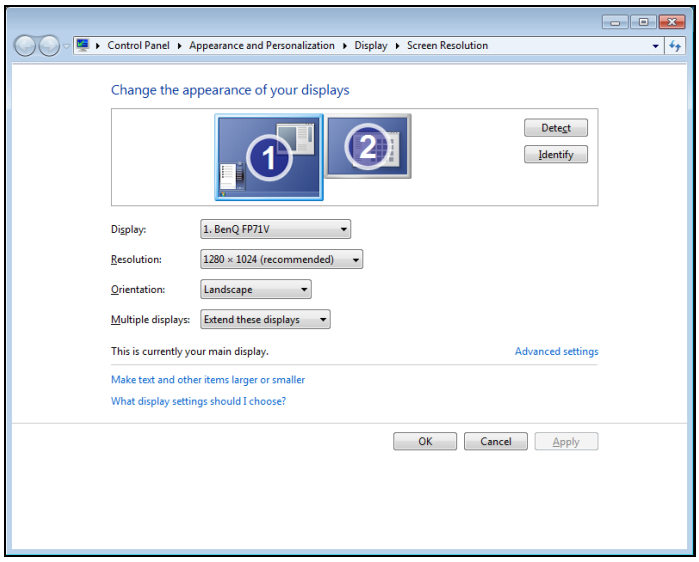


Figure 3-48

3. Click the **Display** list. If you do not see multiple monitors listed, check if your additional monitors are connected with the system properly.
4. Select the primary monitor from the list, and select **Make this my main display**.
5. Select additional monitors from the list, and select **Extend these displays** in the Multiple displays drop-down list.
6. Click **Identify**. Drag and drop the monitor icons to match the physical arrangement of your monitors.
7. Click **OK**.

8. Click the **Up** button on the toolbar, go to the system folder and locate **DMPOS.exe**.

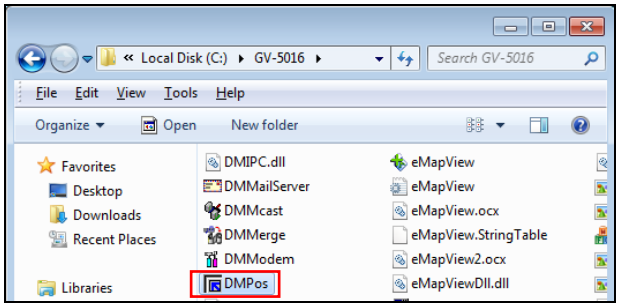


Figure 3-49

9. Double-click **DMPOS.exe**. The Set Application Function Position dialog box appears.

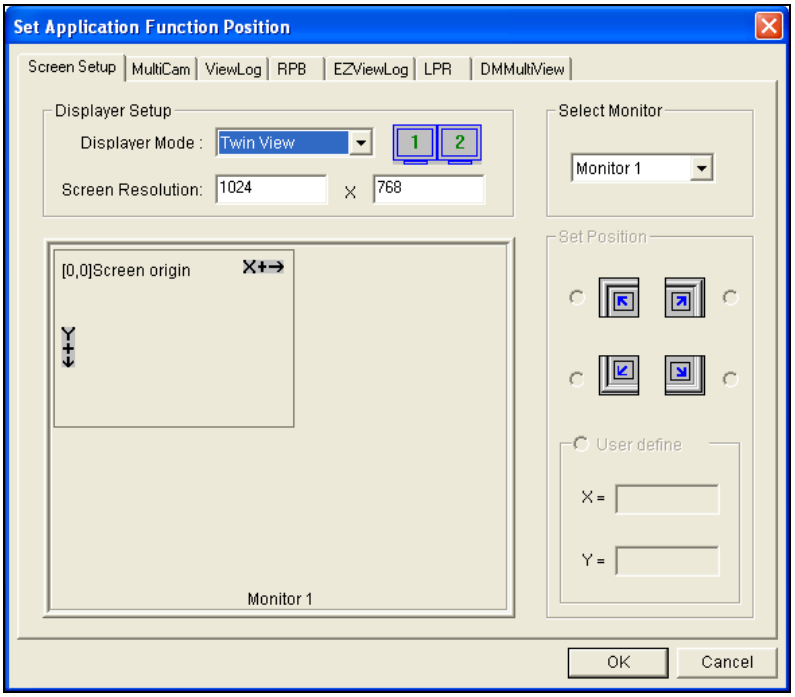


Figure 3-50

10. In the Screen Setup tab, select **TwinView** from the Displayer Mode drop-down list.
11. To define the live view monitor, in the MultiCam tab, select **Monitor 1** from the Select Monitor drop-down list.
12. To define the playback monitor, in the ViewLog tab, select **Monitor 2** from the Select Monitor drop-down list.
13. Click the **OK** button.
14. Exit and re-start the system. The live view should appear on monitor 1.
15. Click the **ViewLog** button on the main screen and select **Video/Audio Log** from the menu. The ViewLog player should appear on monitor 2.

3.11.2 GV-Mobile System 2700 (VMS Model)

To customize the display settings of GV-VMS, click **Home** > **Toolbar** > **Configure** > **System Configure** > **Set Position**. This dialog box appears. The right side of the dialog box is only available when multiple monitors are installed.

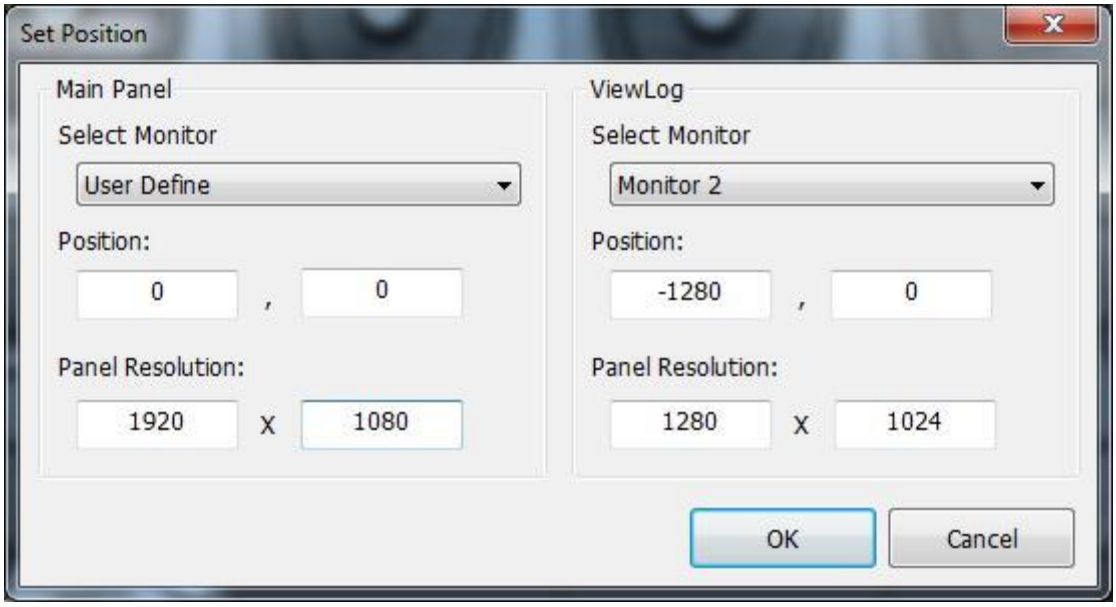


Figure 3-52

- **Select Monitor:** If you have multiple monitors connected, select the monitor you want to configure from the drop-down list.
- **Position:** Offsets the position of the GV-VMS window relative to the upper-left corner of the screen. The default position is 0, 0. A position of 100, 60 will place the GV-VMS window 100 pixels to the right and 60 pixels below the upper-left corner. This function is only supported when the GV-VMS window does not take up the entire screen.

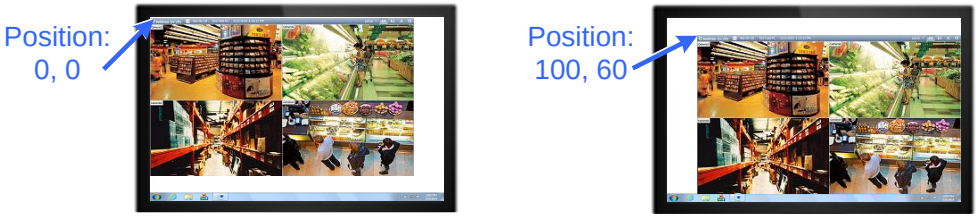


Figure 3-52

- **Panel Resolution:** Sets the Panel Resolution of GV-VMS.

3.12 Setting Up Digital Matrix

To display multiple channels through two monitors, Digital Matrix is thus introduced to provide a method.

Note: Digital Matrix is only supported by GV-Mobile System with GV-NVR software.

The Digital Matrix includes these features:

- **Live view:** You can set different live views and screen divisions for each monitor.
- **Automatic channel scan:** You can set up to 16 scanned pages with different screen divisions and channels for each monitor.
- **Pop-up Alert:** You can be alerted by pop-up live videos when motion is detected or I/O devices are triggered.

3.12.1 Activating Two Monitors

Use Windows Display Property to activate multiple monitors.

1. Follow Steps 1 to 6 *in 3.11 Twin View Display* to configure the second monitor.
2. Start the GV-NVR, click the **Configure** button, click **Accessories**, select **Digital Matrix Setting**, select monitors from the **Display** list and select **Activate** for each monitor. All monitors must be activated one by one.
3. Click **Apply**. Your additional monitor should now display the channels seen on the primary monitor.

3.12.2 Setting Live View

You can set different live views and screen divisions for each monitor.

1. On the main screen, click the **Configure** button, click **Accessories**, and select **Digital Matrix Setting**. This dialog box appears.

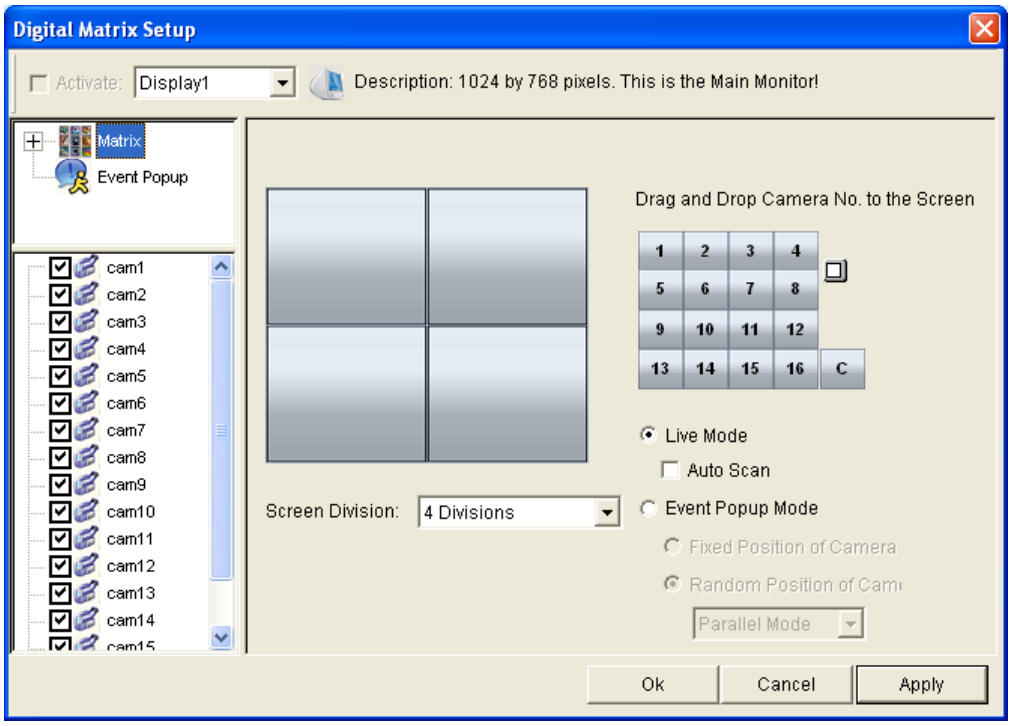


Figure 3-53

2. Use the **Display** list to select the monitor to be configured.
3. Select **Screen Division**.
4. Drag and drop the camera numbers to the desired positions on the divisions. To clear the assignment, drag and drop the “C” icon to that position.
5. Select **Live Mode**.
6. Repeat above steps to configure other monitors.
7. Click **OK** to apply the settings.

3.12.3 Setting Scanned Pages

You can set up to 16 scanned pages with different screen divisions and channels for each monitor.

1. Use the **Display** list to select the monitor to be configured.
2. In the upper-left column, expand the **Matrix** folder tree, and click **Page 1**. This page appears.

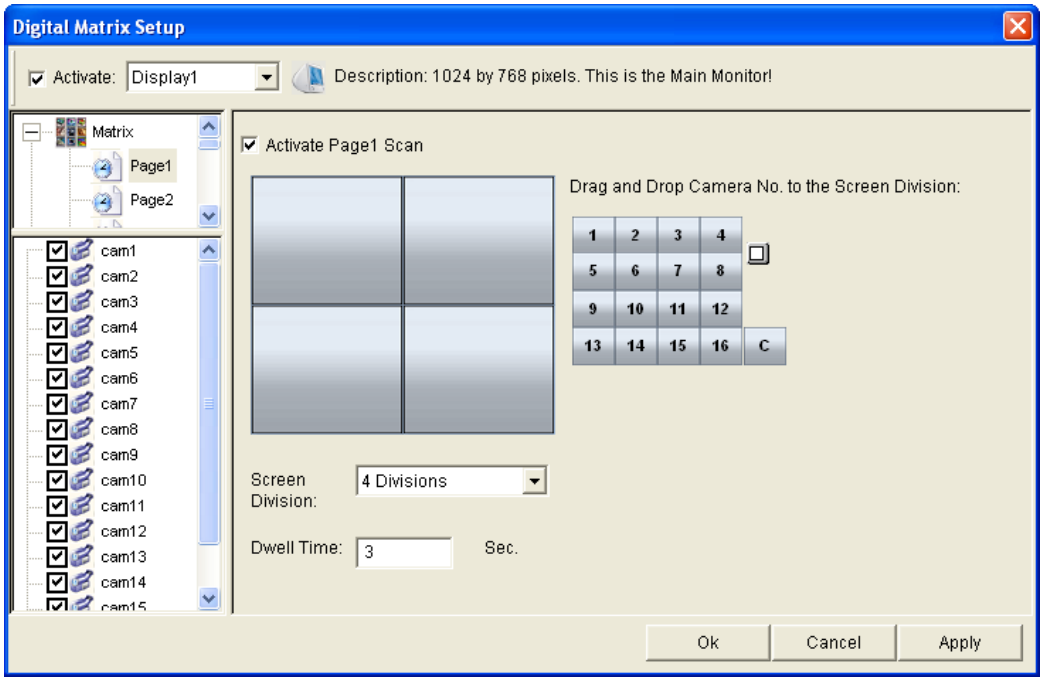


Figure 3-54

3. Select **Activate Page 1 Scan**.
4. Select **Screen Division**.
5. Drag and drop the camera numbers to the desired positions on the divisions. To clear the assignment, drag and drop the “C” icon to that position.
6. Specify **Dwell Time** for how long this scanned page remains on the monitor.
7. Repeat Steps 2 to 5 to configure more scanned pages for the specific monitor.
8. Repeat Steps 1 to 7 to configure scanned pages for the second monitor.
9. In the upper-left column, click the **Matrix** icon and return to Figure 3-53.
10. Select **Auto Scan**.
11. Click **OK** to start scanning among pages.

3.12.4 Setting Pop-up Alert

You can be alerted by pop-up live videos when motion is detected or I/O devices are triggered.

1. Use the **Display** list to select the monitor to be configured.
2. In the upper-left column, click **Event Popup**. This page appears.

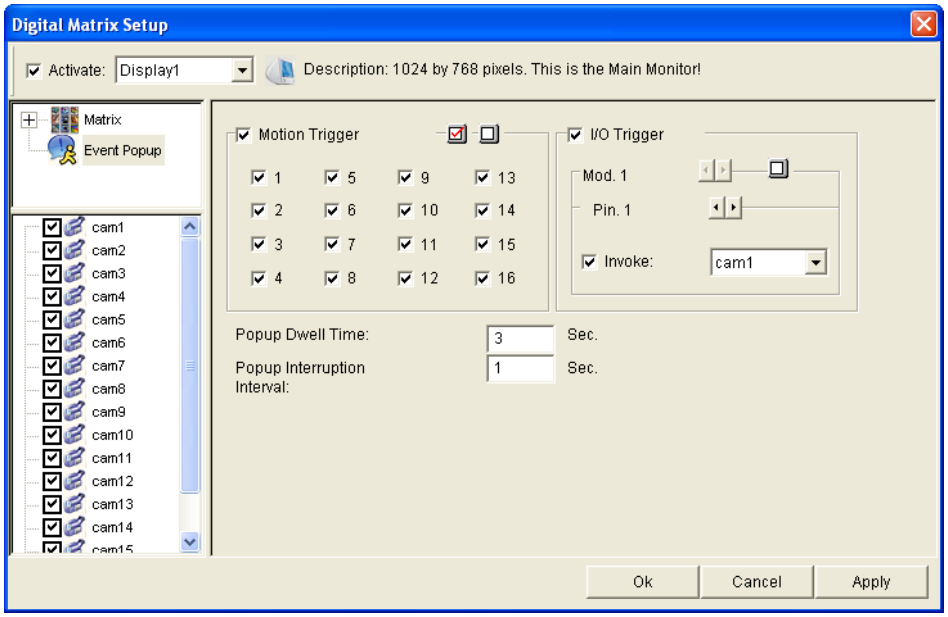


Figure 3-55

- **Motion Trigger:** The live video of selected cameras pops up when motion is detected.
- **I/O Trigger:** The live video of assigned camera pops up when the selected input device is triggered.
- **Popup Dwell Time:** Specify the amount of time that a pop-up live video remains in the foreground.
- **Popup Interruption Interval:** Specify the interval between camera pop-ups. This option is useful when several cameras are activated for pop-up alert at the same time.

3. Use the **Display** list to select other monitors for setup.
4. After above settings, click the **Matrix** icon and return to Figure 3-53.
5. Select **Event Popup Mode**. Then select **Fixed Position of Camera** or **Random Position of Camera**. For these two options, see *3.12.4.1 Setting Pop-up Positions*.
6. Click **OK**.
7. Start monitoring. When motion is detected or the input device is triggered, the live video will pop up for alert.

3.12.4.1 Setting Pop-up Positions

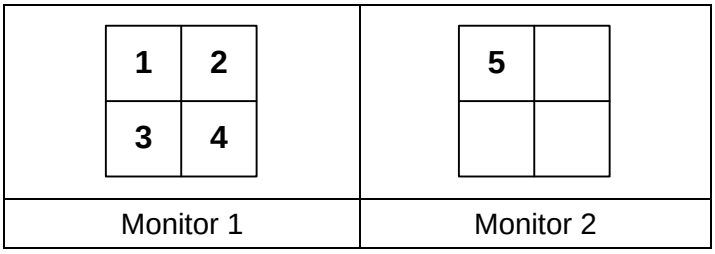
When you select **Random Position of Camera**, you can decide the positions for pop-up cameras.

- **Fixed Position of Camera:** The cameras pop up in their assigned positions. To assign positions, select **Screen Division**. Then drag and drop the cameras number to the desired potions on the divisions.
- **Random Position of Camera:** The positions of pop-up cameras are based on the sequence order of triggers. There are two modes for this position:

1. **Cascade Mode:** This mode can avoid the same cameras popping up on different monitors. This is suggested to be used when multiple monitors are placed close to each other.

Example:

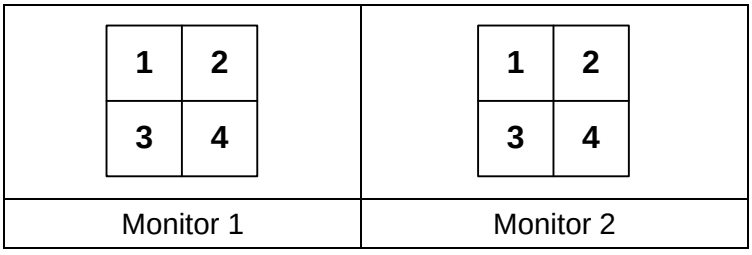
Camera 1, Camera 2, Camera 3, Camera 4 and Camera 5 are assigned for pop-up alert on both Monitor 1 and Monitor 2. Monitor 1 is set at 4 screen divisions. When the five cameras are triggered at same time, the first 4 cameras show up on Monitor 1 and the 5th on Monitor 2.



2. **Parallel Mode:** This mode allows the same cameras simultaneously pop up on different monitors. This is suggested to be used when multiple monitors are placed in separate rooms.

Example:

Camera 1, Camera 2, Camera 3 and Camera 4 are assigned for pop-up alert on both Monitor 1 and Monitor 2. When the four cameras are triggered at the same time, they will show up simultaneously on both Monitor 1 and Monitor 2.



3.12.5 Setting Live View with Pop-up Alert

You can set a different live view mode with pop-up alert together for each monitor. When alert events occur, the live video of the associated camera will pop up on the assigned monitor to replace its live view mode.

1. To configure live view mode, follow the instructions in *3.12.2 Setting Live View*.
2. To configure pop-up alert, in the upper left column, click **Event Popup**. Figure 3-55 appears.
3. Configure **Motion Trigger**, **I/O Trigger**, **Popup Dwell Time** and **Popup Interruption Interval** for each monitor. For details, see *3.12.4 Setting Pop-up Alert.*
4. Click the **Matrix** icon and return to Figure 3-53. Ensure the **Live Mode** option is selected.
5. Click **OK**. The live view mode you configured for each monitor is displayed.
6. Start monitoring. When alert events occur, the associated camera will pop up on the desired monitor.

3.13 Updating GV-Mobile System

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

Before contacting your dealer, you may check software update news at our website: http://www.geovision.com.tw

Chapter 4 Optional Wireless Connection

You can optionally connect GV-Mobile System to 4G mobile network. With the built-in GPS module, you can even get the GPS location of the system.

Note: GPS module is already built in the GV-Mobile System. 4G module is optional.

Mobile Network Connection Supported	
4G Module	**For EU Area** LTE: B1 (2100), B3 (1800), B5 (850), B7 (2600), B8 (900), B20 (800) WCDMA: B1 (2100), B5 (850), B8 (900) GSM: 900 MHz DCS: 1800 MHz CDMA Bands: Not supported GNSS: Not supported
	For US Area LTE: B1 (2100), B2 (1900), B3 (1800), B4 (1700), B5 (850), B7 (2600), B8 (900), B12 (700), B13 (700), B18 (850), B19 (850), B20 (800), B25 (1900), B26 (850), B28 (700) WCDMA: B1 (2100), B2 (1900), B4 (1700), B5 (850), B6 (800), B8 (900), B19 (800) GSM: B2, B3, B5, B8 DCS: 1800 MHz CDMA Bands: Not supported GNSS: Not supported
WiFi Module	IEEE802.11 a/b/g/n/ac draft 2.0 1T1R and BT4.0 + BLE

4.1 Mobile Network Connection

With a mobile device or an Internet browser, you can access the live view and recorded events anywhere.

4.1.1 Mobile Network Connection

1. Turn off the GV-Mobile System
2. Insert a SIM card to the SIM Card Slot 1.
3. Install an antenna to the Antenna Port 2 (ANT2) on **GV-MNVR1000** or Antenna Port 1 (ANT1) on **GV-MNVR2110**; see *Figure 4-1*. For **GV-Mobile System 2700**, install an antenna to any of the 10 ports; see *Figure 4-1*.

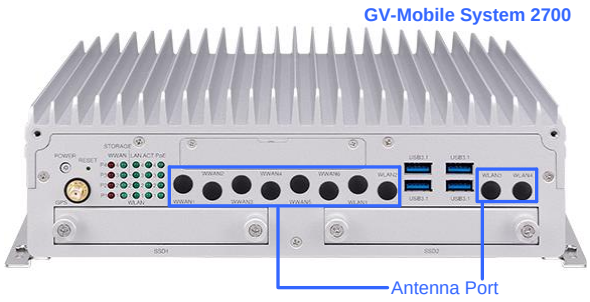


Figure 4-1

4.2 GPS Connection

With the supplied GPS antenna, the GV-Mobile System can receive GPS data and display GPS coordinates with the recordings.

Note: GPS function is only supported by GV-Mobile System with GV-NVR software.

1. Install the GPS antenna to the GPS antenna port of the GV-Mobile System.

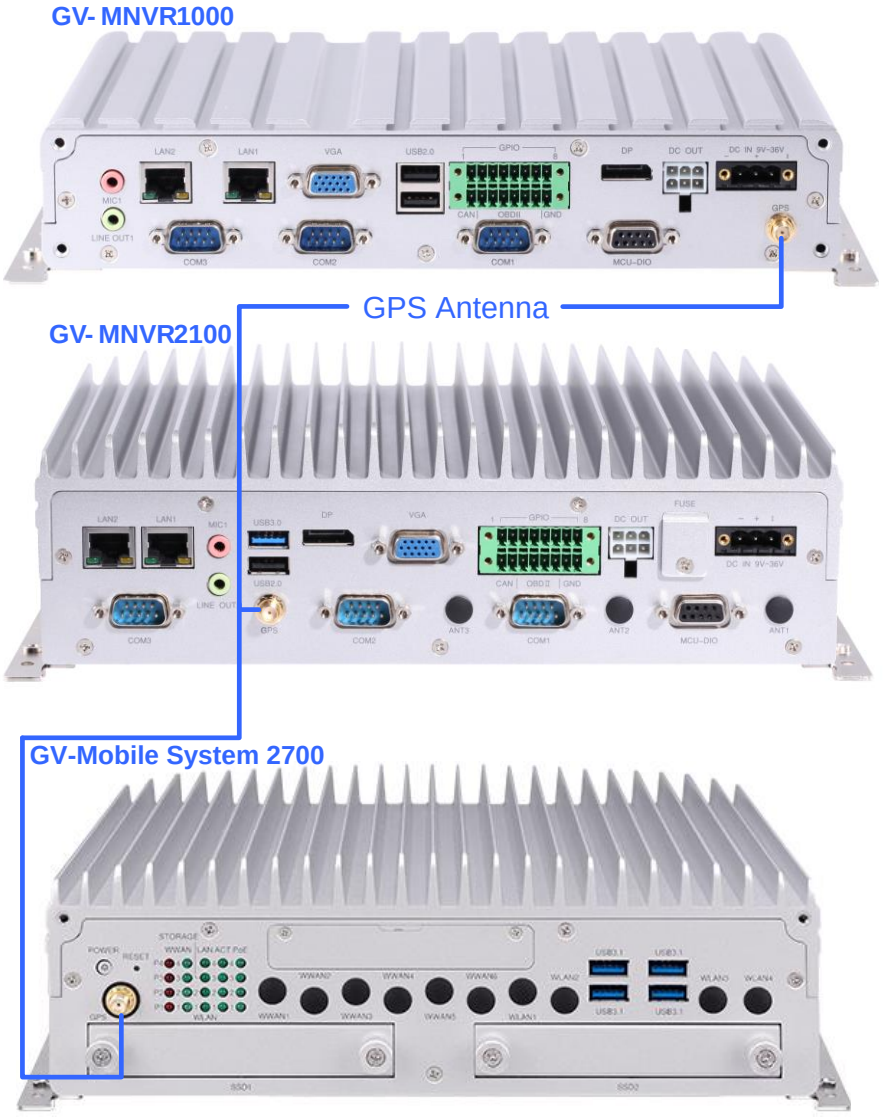


Figure 4-6

Note: The GPS antenna must point toward outdoors.

2. Start the system. The GV-GIS Client runs automatically. Minimize the dialog box to the system tray.

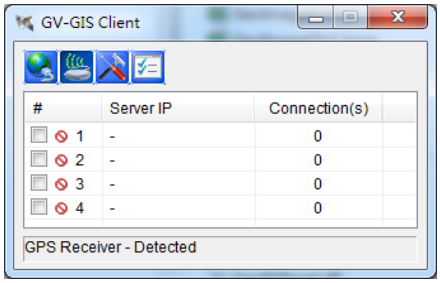


Figure 4-7

3. Start recording. The GPS data is recorded with the video.
4. To see the GPS coordinates with recordings, click **ViewLog** in GV-NVR software and enable **Display GPS positions** (**Setting** > **Display tab** > **Display GPS positions**).

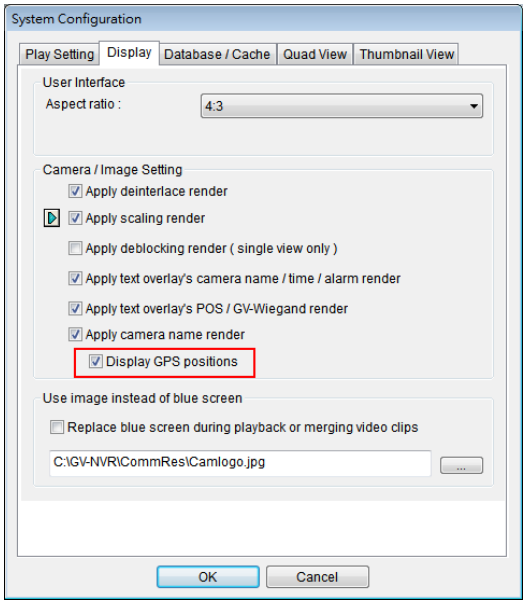


Figure 4-8

5. The GPS coordinates are displayed in the top-left corner of the recording.

Figure 4-9

You can also view the GPS location of the GV-Mobile System on Google map or other map API. For details, see *Viewing GPS Locations during Playback*, Chapter 11, *GV-DVR/NVR User's Manual* (**C:\UserManual**).

Note:

1. The GPS coordinates aren't displayed on the live view.
2. If the GV-Mobile System doesn't receive any GPS data, check the following settings.
   A. Make sure you enable the GPS Receiver on the GV-GIS Client (see *Figure 4-10*). The **Service** button is selected.
   B. Make sure the default GPS Receiver settings are as below:

      GV-MNVR1000: COM Port 3, Baud Rate 9600

      GV-MNVR2110: COM Port 4, Baud Rate 9600

      GV-Mobile System 2700: COM Port 4, Baud Rate 9600

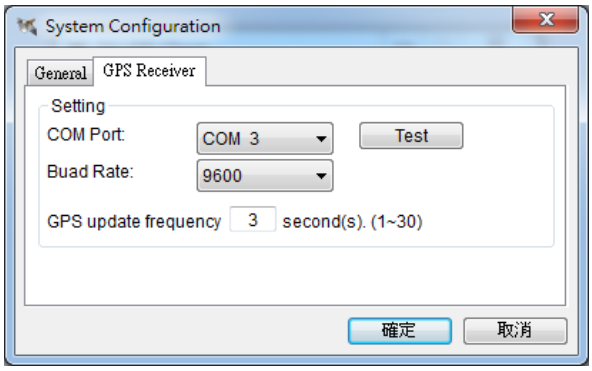


Figure 4-10

   C. Make sure the GIS function of GV-NVR software is enabled (**Configure** > **Accessories** > **Enable Local GIS**).

Chapter 5 System Restoration

You can restore the operating system and system software back-up files using Windows Tool. Refer to the instructions here.

Chapter 6 Health Analysis

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

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

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

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

6.1 System Settings

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

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

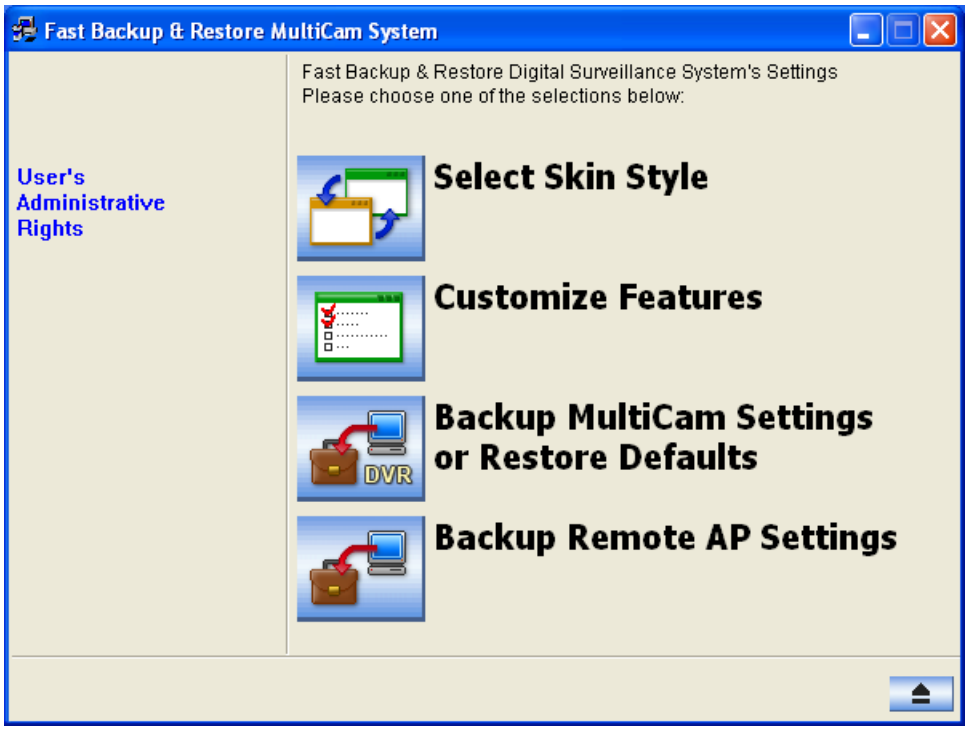


Figure 6-1

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

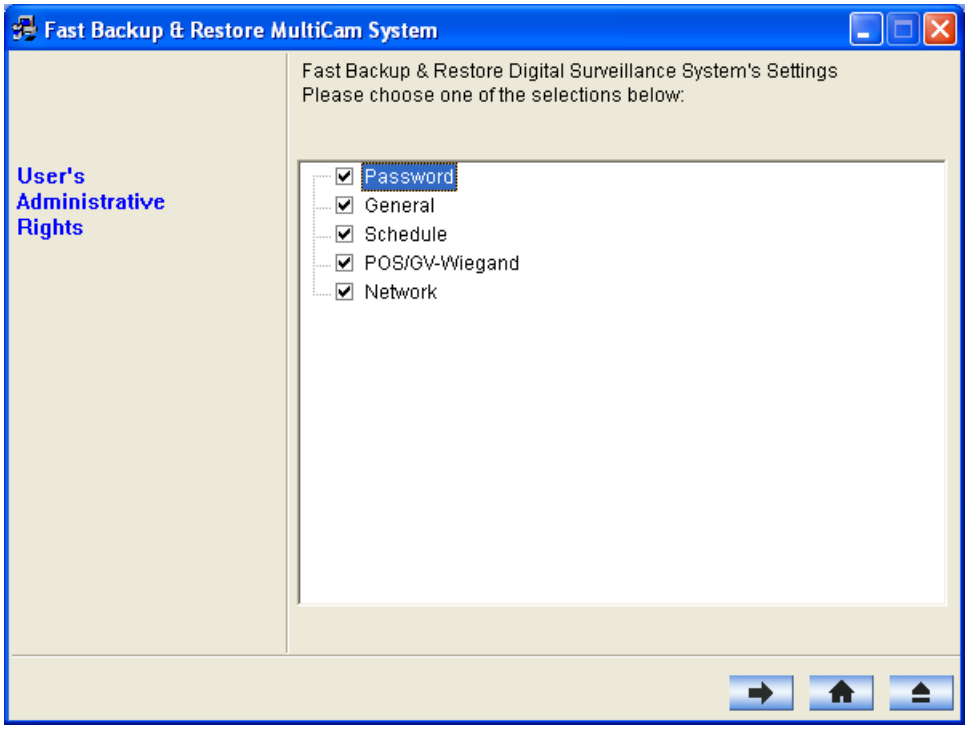


Figure 6-2

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

6.2 System Log

Please provide the **sys*.mdb** files of system log. The files by default are saved at **C:\GV folder\database**. If you have modified the default location, you can check the path by the following steps:

1. Click the **Configure** button on the Main System, select **System Configure**, and select **System Log Setting**. This dialog box appears.

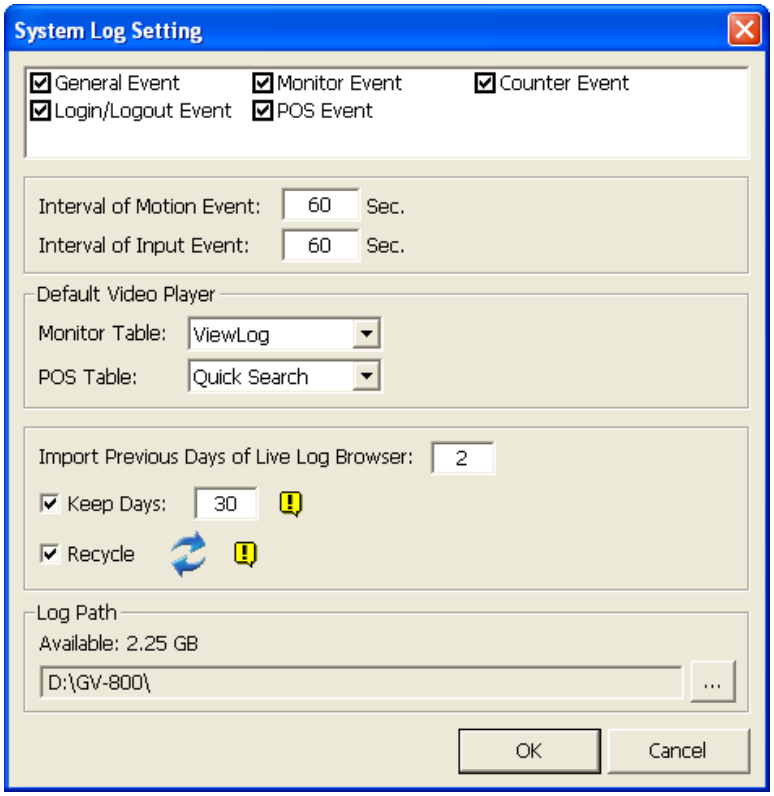


Figure 6-3

2. The location of your system log is listed after **Log Path**.

6.3 Information of Your Computer System

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

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

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

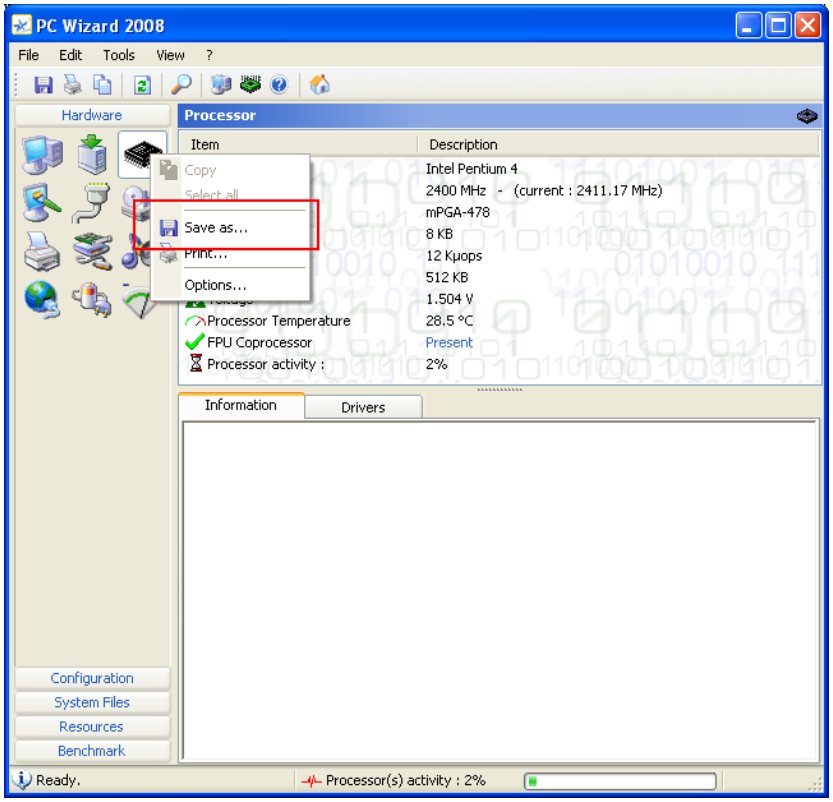


Figure 6-4

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

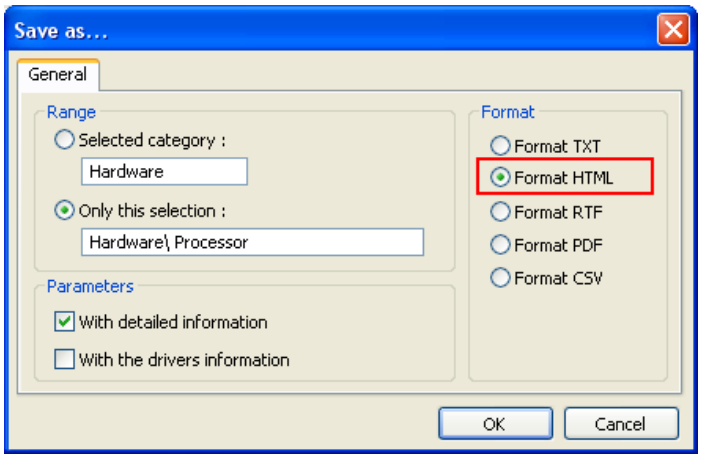


Figure 6-5

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

6.4 Health Analysis Form

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

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

6.5 Check List

Read this check list before submitting the health analysis request:

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

Chapter 7 Troubleshooting

GV-Mobile System storage drive becomes corrupted.

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

1. Use the **HD Tune** utility to scan the storage drive for errors. Follow these steps:
   A. Download and install **HD Tune** from http://www.hdtune.com/
   B. Click the **Error Scan** tab and click **Start** to scan. Any found defects will be shown as red blocks (see Figure 5-1).

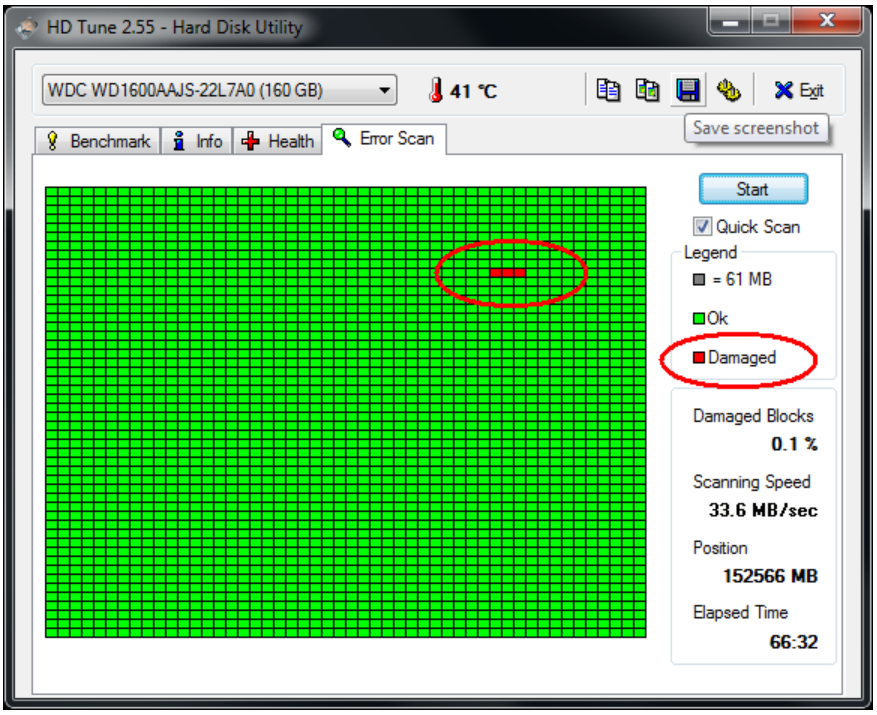


Figure 7-1

   C. If your storage drive is damaged, replace a new one.

2. If the HD Tune utility does not find any defects, use the Windows built-in utility to attempt to fix the errors. Follow these steps:

   A. For **GV-MNVR1000 / GV-MNVR2110**, click the **Programs** button on the GV-Desktop, and select **Disk Management**.

   For **GV-Mobile System 2700**, right-click the Computer icon  on your desktop, select **Manage**, and select **Disk Management**.

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

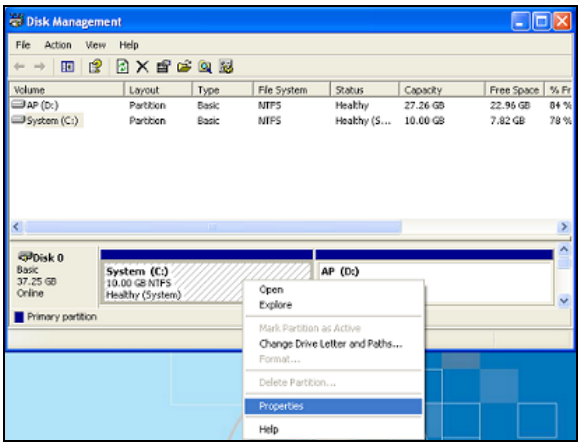


Figure 7-2

   C. Click the **Tools** tab in the upper portion of the window.

   D. Under Error-checking, click the **Check Now** button.

Figure 7-3

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

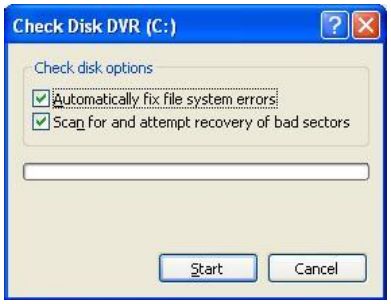


Figure 7-4

F. Click **Start**.

3. If the Windows hard disk utility still cannot fix the problem in Partition C, try rebuilding the operating system and GeoVision software. Refer to *Chapter 5 System Restoration*.

Live video is not displayed smoothly.

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

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

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

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

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

Black images are displayed.

1. Check the IP cameras and make sure they are functioning well.
2. Check the GV-Mobile System's connection over network.

How can I find more help?

Visit our website at http://www.geovision.com.tw/

Write us at support@geovision.com.tw

Specifications

For detailed specifications, see Datasheet

GV-MNVR1000

GV-MNVR2110

GV-Mobile System 2700

Appendix

Supported IP Devices

This list provides the supported IP device brands. For detailed information on the supported IP devices, refer to Supported IP Camera List on GeoVision's website: http://www.geovision.com.tw/_upload/files/support_list.pdf

GeoVision
ACTi
Arecont Vision
AXIS
Bosch
Canon
CNB
D-Link
Etrovision
Hikvision
HUNT
IQinVision
JVC
LG
MOBOTIX
Panasonic
Pelco
Samsung
Sanyo
SONY
UDP
Verint
VIVOTEK

Warranty Requirements

Thank you for purchasing the GV-Mobile System. GeoVision understands that accident happen, and has developed a warranty policy in place. See http://www.geovision.com.tw/warranty.php for more information on warranty.

Before you return the product

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

1. Review troubleshooting sections in the documentation for software and peripheral devices.
2. Try rebuilding the operating system and GeoVision Software. Refer to *Chapter 5. System Restoration*.
3. Consult your dealer. They are your best sources for current information and support. Or you can call or email GeoVision offshore offices for assistance.

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

   - Model name
   - Bar Code
   - Details of the defect or problem
   - Attempted solutions
   - Your contact information
   - Reseller's contact information

4. If you find it is the software problem, please check our website or your dealer for software updates.

Obtaining Warranty Service

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

1. Send an e-mail to GeoVision to start Return Merchandise Authorization (RMA) process.

   E-Mail: support@geovision.com.tw
2. Securely pack the product in its original carton using the original packing material, or in equivalent packaging.
3. The product shall be returned to **GeoVision, Taiwan** at your expense for shipping and insurance costs.

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