GeoVision inc
The Vision of Security

GV-Hot Swap Surveillance System V6(Rev. D)

User's Manual

HV6D-UM-A

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[Warranty]

[Technical Support Policy]

User's Manual for GV-Hot Swap Surveillance System V6 (Rev. D)

Welcome to the *GV-Hot Swap Surveillance System V6 (Rev. D) User's Manual*.

The Manual provides an overview of the 2U / 4U GV-Hot Swap Surveillance System V6 (Rev. D) and its accessories. It also includes the instructions to guide you through the installation and use of the GV-Hot Swap Surveillance System V6 (Rev. D):

Chapter 1 Introduction

Identifies the accessories and options of GV-Hot Swap Surveillance System V6 (Rev. D).

Chapter 2 Overview

Identifies the components of GV-Hot Swap Surveillance System V6 (Rev. D).

Chapter 3 Getting Started

Provides step-by-step instructions on setting up the GV-Hot Swap Surveillance System V6 (Rev. D).

Chapter 4 Troubleshooting

Suggests courses of action if the GV-Hot Swap Surveillance System V6 (Rev. D) doesn't seem to be working properly.

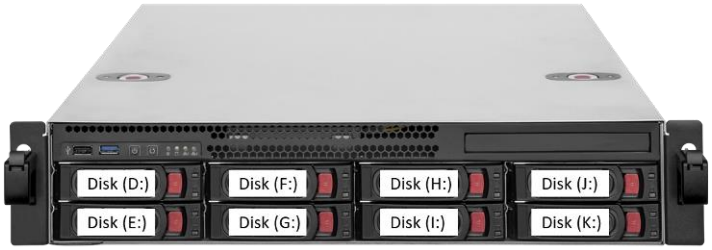
Contents

Notice

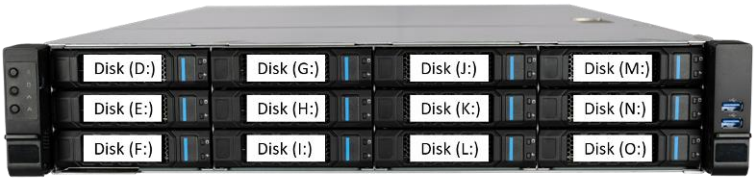
- **The back panel of GV-Hot Swap Surveillance System V6 (Rev. D) is subject to change without prior notice.**
- Please see the *GV-VMS User's Manual* for the software operation of GV-Hot Swap Surveillance System V6 (Rev. D).

Note for Recording

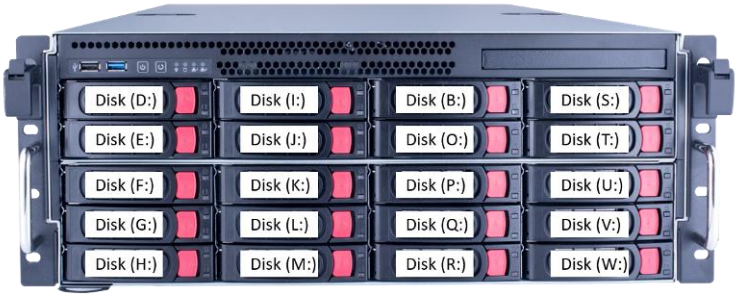
1. Be sure to install each of your hard drives separately in alphabetical order as indicated below for formatting. See *3.6 Formatting the Hard Drive* for details.



8-Bay Models



12-Bay Models



20-Bay Models

2. Before recording, you need to divide your hard disks into 4 storage groups and each group is assigned with an equal number of cameras. See *3.7 Setting Up the Video Storage Location* for details.

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.
- **Install** the equipment in a restricted access area only, as it is intended only for authorized personnel.
-  **Keep away** from moving parts of the hardware, such as fan blades, while during operation.
- **Do not operate** the product in high humidity areas or expose it to water or moisture.
- **Do not put** the product in an unstable, 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 replace** batteries with ones of unsuited specifications as which may be subjected to risk of explosion.

- **Only dispose batteries** in accordance to the battery disposal regulations set in your country and/or region.

Chapter 1 Introduction

1.1 Models

The 2U / 4U GV-Hot Swap Surveillance System V6 (Rev. D) has the following models:

GV-VMSH V6 Rev. D	- **For GV-VMS V20:** 129–256-channel GeoVision IP Devices and third-party IP devices digital video recorder - Has the options of 4U (20-bay) and 2U (12 / 8-bay) hot-swap SATA drive bays
Note: A dongle used for hardware watchdog is internally inserted in GV-VMSH V6 Rev. D.	

1.2 Packing List

The GV-Hot Swap Surveillance System V6 (Rev. D) package includes the following items. If any of the items are missing or damaged, contact your dealer to arrange a replacement.

IMPORTANT: Keep the original carton and all packing materials for future shipping needs.

- GV-Hot Swap System V6 (Rev. D)
- AC Power Cord
- Sliding Rail Kit (for 4U 20-Bay models only)
- Documents Download Guide

1.3 Software License

The following Maximum License of IP devices are available as a paid service. The license is based on your requirements for the number of connection channels. The USB dongle for software license will be inserted to the system before shipment.

GV-Hot Swap VMS System (Rev. D)

GV-VMSH V6 Rev. D supports GV-VMS V20.
For software license details, see the *GV-VMS V20 Datasheet*.

1.4 Recommended Hard Disks

For system efficiency, we recommend enterprise level hard disk drives. Avoid using desktop level or green HDD which may affect system efficiency. See here for details.

1.5 Options

Optional devices can expand your system's capabilities and versatility.

GV-AI Accelerator Module	GV-AI Accelerator Module increases the number of PVD motion detection channels in GV-VMS.
GV-Data Capture V3 Box	GV-Data Capture unit allows the integration of POS systems and the GeoVision surveillance system through cable or network connection.
GV-IO Box Series	GV-IO Box series provides 4 / 8 / 16 inputs and relay outputs and support both DC and AC output voltages, with optional support for Ethernet module and 4E additionally supporting PoE connection.
GV-Joystick	GV-Joystick facilitates the PTZ camera control. It can be either plugged into the GeoVision surveillance system for independent use or connected to GV-Keyboard to empower the operation.
Gigabit Network Card	Gigabit Network Card is provided with two options of 1-port 2.5 Gb card and 2-port 10 Gb (20 Gigabit) card. The number of network cards supported varies based on models and combination of the RAID card. For more information, contact with our sales representatives.
RAID Card	The supported RAID types include 0, 1, 5, 6, 10, 50, 60.
Redundant Power Supply	Redundant Power Supply comes with 2 hot-swap modules for 2U models and 3 hot-swap modules for 4U models. When 1 module is down, the remaining module(s) can still supply full power to the system. For details, see *3.13.3 Redundant Power Supply*. ● 2U 8-Bay models: 460 W 1+1 mode; 100~240V, 47~63 Hz ● 2U 12-Bay models: 550 W 1+1 mode; 100~240V, 47~63 Hz ● 4U 20-Bay models: 800 W 1+1 modes; 90~264V, 47~63 Hz
Sliding Rail Kit	With its tool-less design, the sliding rail kit is perfect for GV-Hot Swap System. It supports up to 430 mm wide chassis and can take up loading of up to 45 kg (100 lb). ** This kit is included as a standard package item for the 4U 20-Bay models.

Note: The optional accessories will be built in the GV-Hot Swap Surveillance System V6 (Rev. D) and tested before shipment. Opening the case and installing the accessories yourself will void the warranty.

Chapter 2 Overview

2.1 Front View

2.1.1 4U (20 Bay) Models

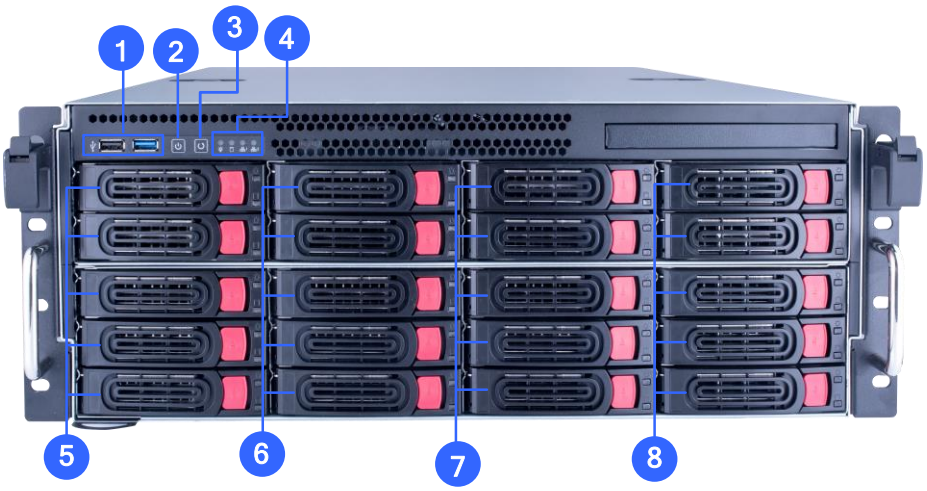


Figure 2-1

No.	Name	No.	Name
1	USB 2.0 (Type A) Port / USB 3.2 (Type A) Port	5	HDD Group A
2	Power Button	6	HDD Group B
3	Reset Button	7	HDD Group C
4	LED Panel (See *2.2 LED Panel View* for details.)	8	HDD Group D

Note: HDD Groups A–D reflect the default insertion and formatting order. The tables in *3.7 Setting Up the Video Storage Location* correspond to this order. If the drives are inserted differently, the tables will no longer be valid.

2.1.2 2U (12 / 8-Bay) Models

2.1.2.1 12-Bay Models

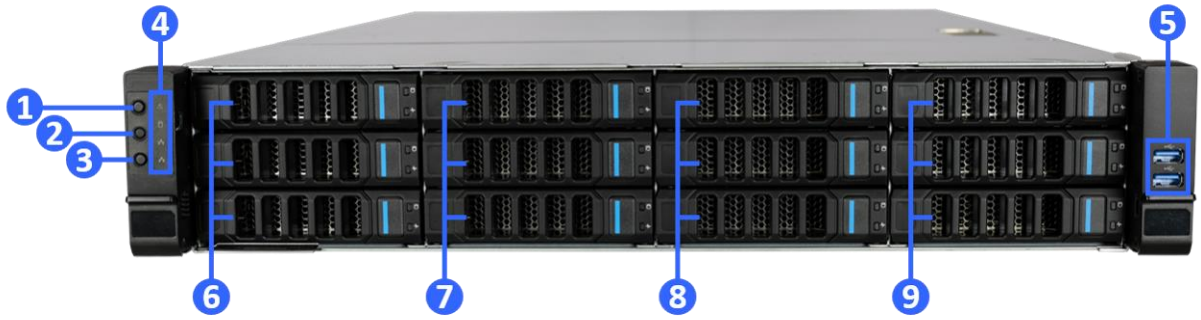


Figure 2-2

No.	Name	No.	Name
1	Power Button	6	HDD Group A
2	Reset Button	7	HDD Group B
3	Non-Functional Button	8	HDD Group C
4	LED Panel (See *2.2 LED Panel View* for details.)	9	HDD Group D
5	USB 3.2 (Type A) Port x 2		

Note: HDD Groups A–D reflect the default insertion and formatting order. The tables in *3.7 Setting Up the Video Storage Location* correspond to this order. If the drives are inserted differently, the tables will no longer be valid.

2.1.2.2 8-Bay Models

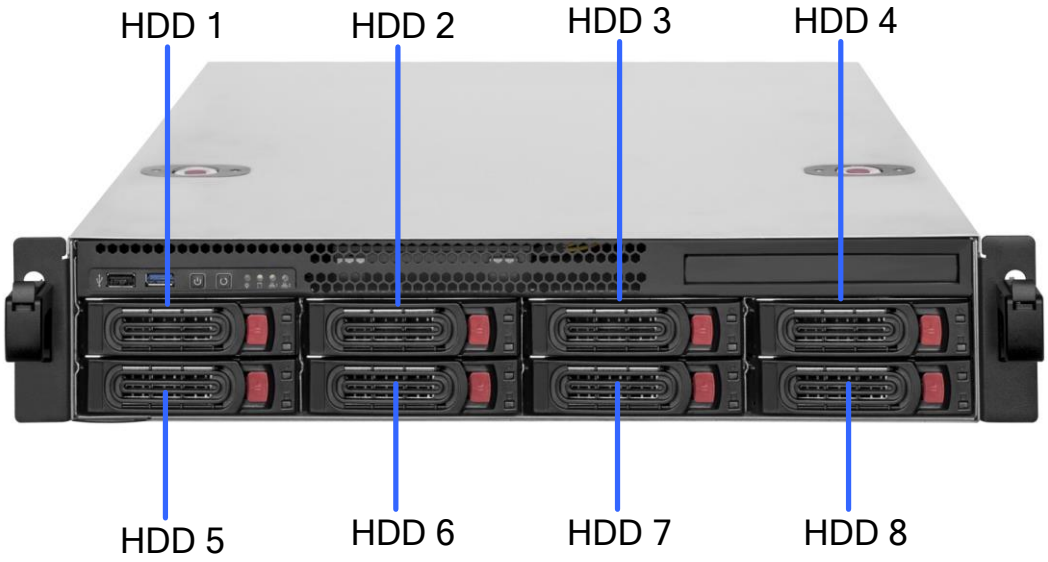


Figure 2-3

For details on the other features of the front panel, see Figure 2-1.

2.2 LED Panel View

An LED panel on the front door provides a quick indication of the activity status of hard disk drives. Note that the panel design and function vary from model to model.

2.2.1 4U (20-Bay) / 2U (8-Bay) Models

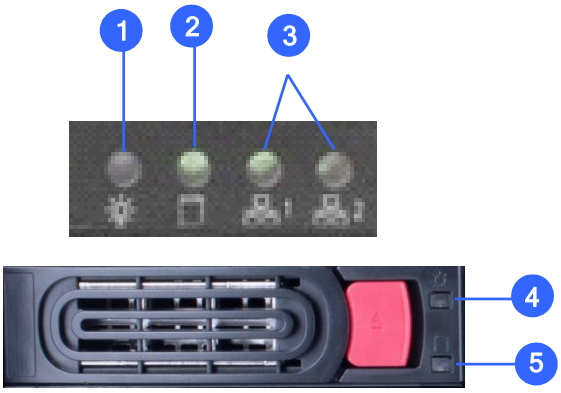


Figure 2-4

No.	LED	Description
1	Power LED	The LED shines when the power is on.
2	OS HDD Activity LED	The LED shines when the OS HDDs are writing or reading data.
3	LAN LED	Not functional.
4	HDD Power LED	The LED shines yellow after the HDD is installed.
5	HDD Activity LED	The LED shines green if the HDD is reading or writing data.

2.2.2 2U (12-Bay) Models

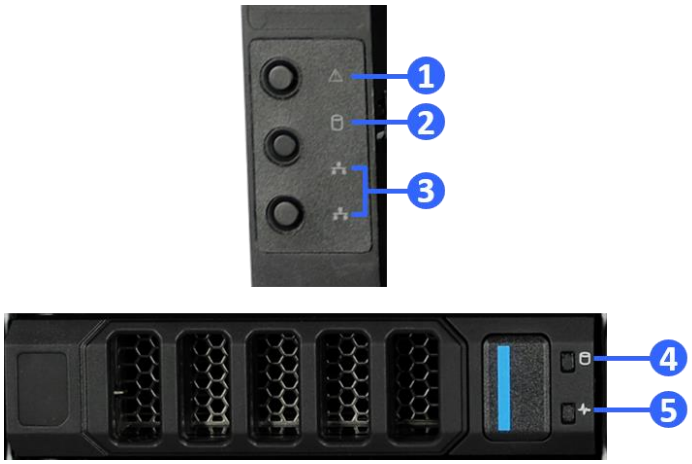


Figure 2-5

No.	LED	Description
1	Power LED	The LED shines when the power is on.
2	OS HDD Activity LED	The LED shines when the OS HDDs are writing or reading data.
3	LAN LED	The LED flashes when the independent LAN card is transmitting or receiving network data.
4	HDD Power LED	The LED shines blue after the HDD is installed.
5	HDD Activity LED	The LED shines green if the HDD is reading or writing data.

2.3 Rear View

Here we use the **4U (20-bay)** model of GV-VMSH V6 (Rev. D) as an example.

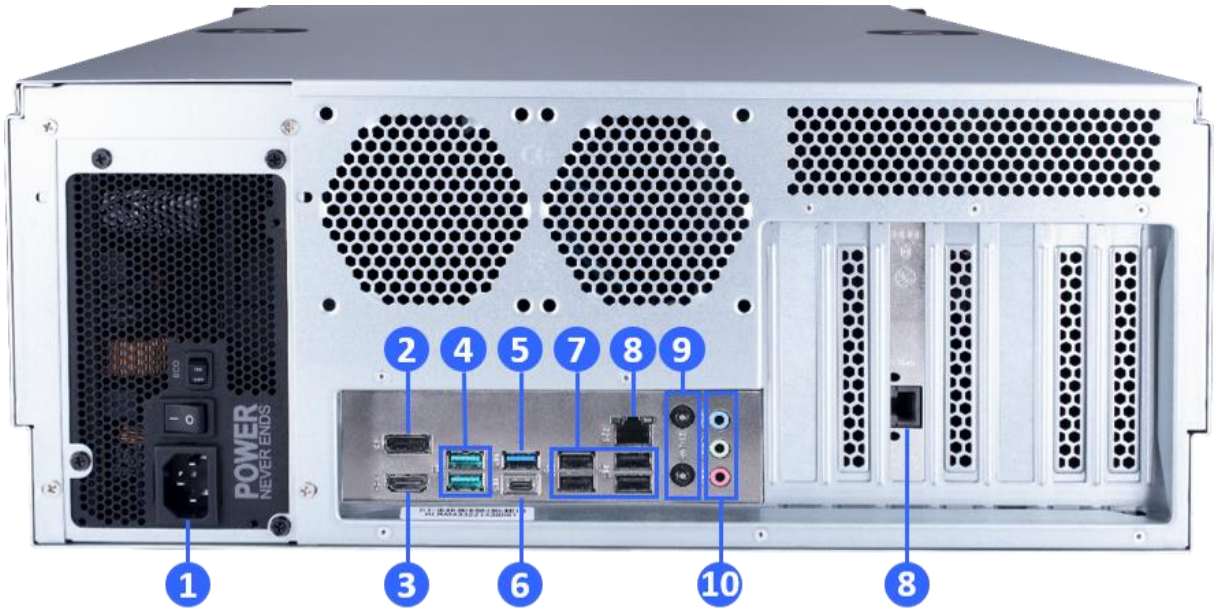


Figure 2-6

No.	Name
1	Power Connector x 1
2	DisplayPort x 1
3	HDMI x 1
4	USB 3.2 Gen 2 Port (Type-A, 10 Gbps) x 2
5	USB 3.2 Gen 1 Port (Type-A, 5 Gbps) x 1
6	USB 3.2 Gen 2x2 Port (Type-C, 20 Gbps) x 1
7	USB 2.0 Port (Type-A) x 4
8	2.5 GbE Ethernet Port x 2 (one on the left side and the other on the right side of the rear panel)
9	Not functional
10	Audio Jack x 3 ➢ Line In (Blue) ➢ Line Out (Green) ➢ Mic In (Pink)
Note: The rear panel view is based on the 20-bay model (VMS System). The rear panel on the 8-bay and 12-bay models (VMS System) is identical to the figure shown above.	

Chapter 3 Getting Started

3.1 Basic Installation

Here we use the **4U (20-bay)** model as an example.

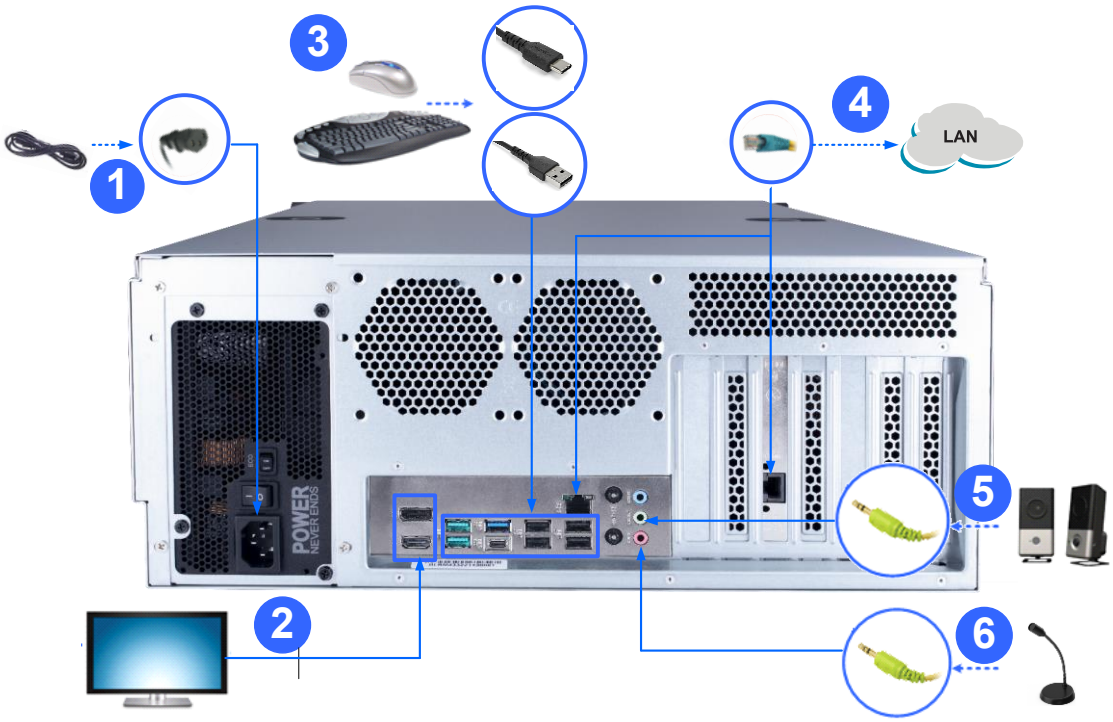


Figure 3-1

1. Connect one end to the AC input and the other end to the power outlet using the supplied power cord.
2. Connect the monitor using the HDMI / DisplayPort cable supplied by the monitor manufacturer.
3. Connect the keyboard and mouse to any of the USB ports.
4. Connect one end to the Ethernet port and the other end to Network using the RJ-45 cable.
5. Connect speakers to the Audio Line Out port.
6. Connect speakers to the Audio Mic In port.

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

3.2 Turning On the Power

Once the above hardware is properly connected, it is the time to turn on the GV-Hot Swap Surveillance System V6 (Rev. D). To turn on the power, follow these steps:

1. Turn on the monitor.

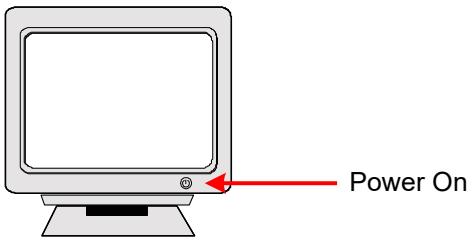


Figure 3-2

2. For 4U (20 bay) models, turn on the AC power switch on the rear panel first.

4U (20-Bay) Models

Figure 3-3

(**Note:** The figure of 4U model is for reference only; the rear panel may vary due to product enhancement.)

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

Figure 3-4

3 Getting Started

The GV-Hot Swap Surveillance System V6 (Rev. D) will run a series of self-tests, and later series of messages may be displayed as the various hardware and software subsystems are activated. After this is finished,

- **GV-Hot Swap VMS System** pops up the Automatic Setup dialog box. To add an IP camera to the system, see *Adding IP Video Devices to GV-VMS*, Chapter 8, in the *Quick Start Guide*.

Note: The series of self-tests will take around 20 seconds to 2 minutes, depending on the number of installed hard drives.

3.3 Installing the Hard Drive

The GV-Hot Swap Surveillance System V6 (Rev. D) uses SATA hard drives for video and audio data storage. Before recording, be sure to install your hard drives.

IMPORTANT: Be sure to install each of your hard drives separately for formatting. See *3.6 Formatting the Hard Drive* for details.

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1. Slide the release latch to the right. The drawer handle pops up.

Figure 3-5

2. Pull out the drive drawer.
3. Insert the hard drive in the drawer.
4. Secure the hard drive with the 4 screws (included in the drawer), and make sure all screw heads flush with the surface.

Figure 3-6

5. Put the drawer back in the drive bay of the System, and push the latch until it locks. The white LED on the drawer shines, and the hard drive is now ready to use.

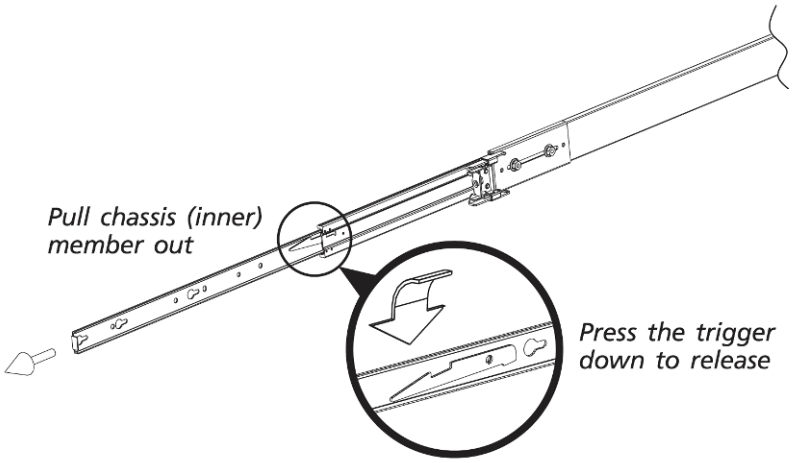
3.4 Installing the Sliding Rail Kit

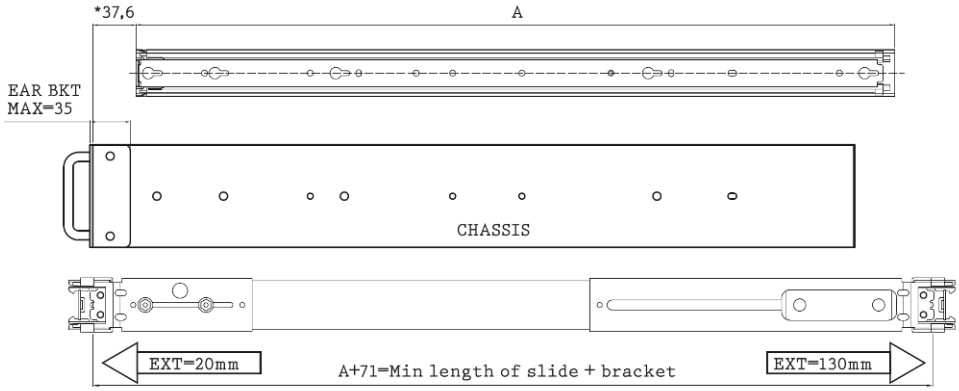
The sliding rail kit makes it easy for users to mount the GV-Hot Swap Surveillance System V6 (Rev. D) onto the server rack. With its tool-less design, users can easily place the models for a more organized space allocation.

3.4.1 For 2U (8-Bay) Models

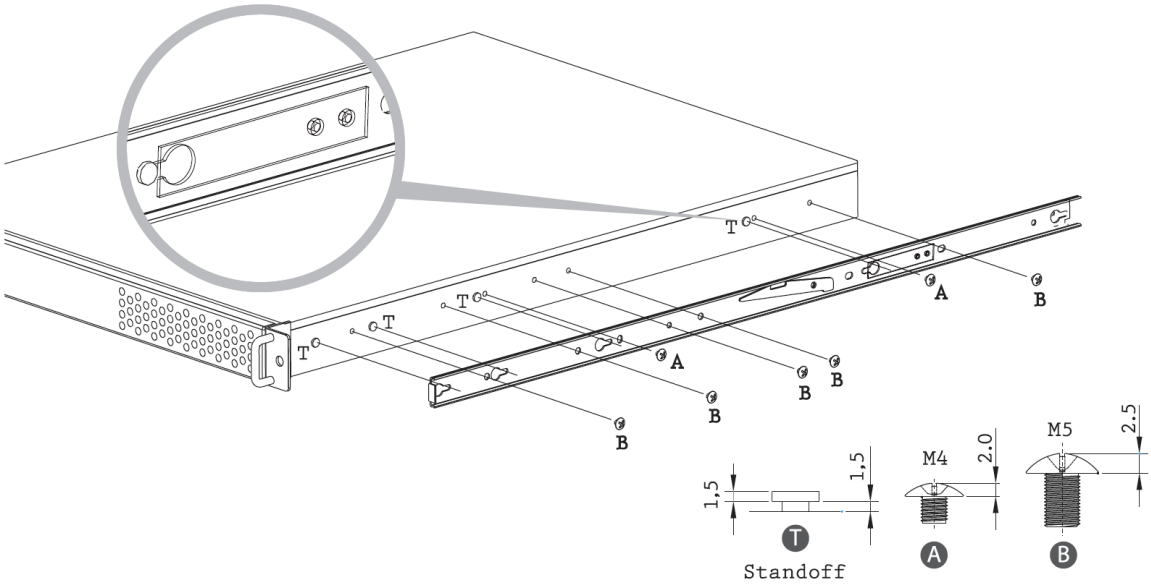
Follow the steps below to install the sliding rail kit for 2U (8-Bay) models.

1. Pull the slide open. Press the trigger down and pull the chassis (inner) member out.

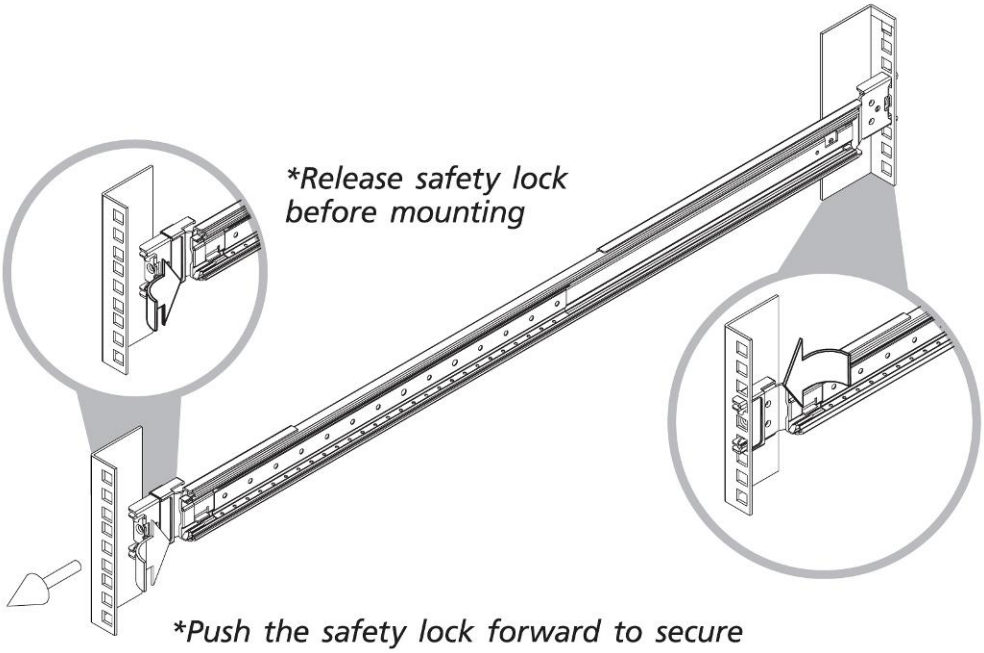




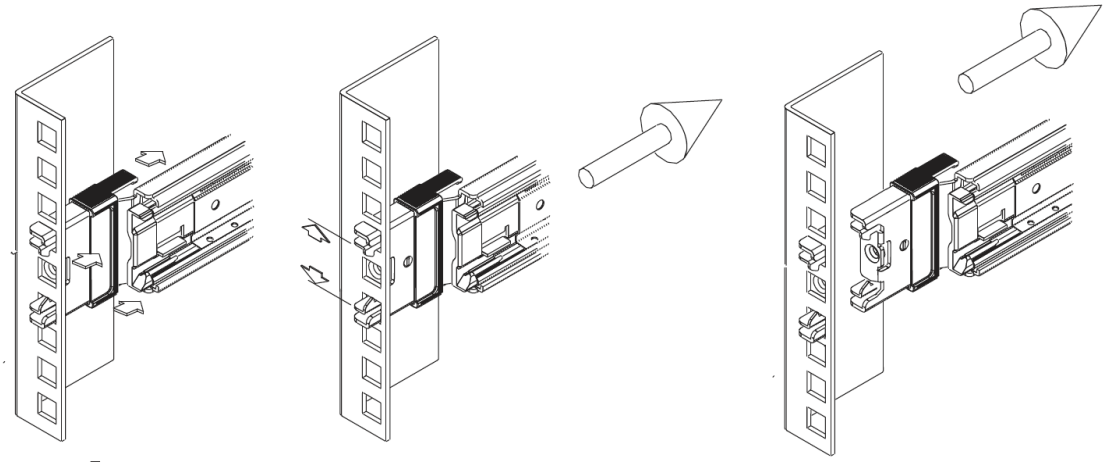
2. Align the spring clip on chassis (inner) member of the pre-performed bayonets on both sides of the chassis. Push back the inner member to allow the rail slide to be fixed to the rackmount chassis. Make sure the spring clip installation has been completed on the rackmount chassis when finishing the step.



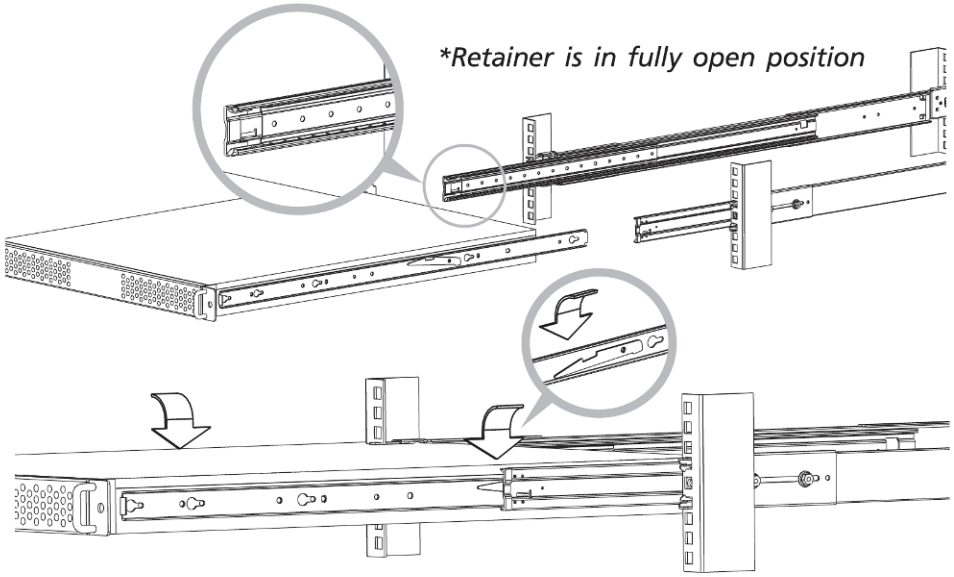
3. Insert the stag into the upper and lower square holes on EIA rail from the back of rail. Push the safety lock forward to secure the bracket. Make sure to check if the safety lock is in unlocked position before mounting the brackets.



Uninstall the bracket



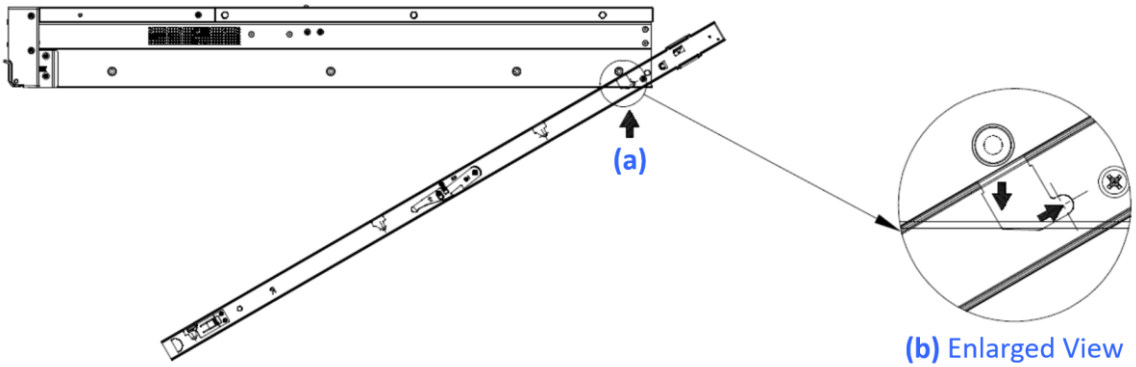
4. Insert the chassis (inner) member into the cabinet member as shown below. Make sure to check if the ball retainer is in a fully open position before installing the chassis. Release the slide from locking position by pressing the trigger down when pushing the chassis back to the cabinet.



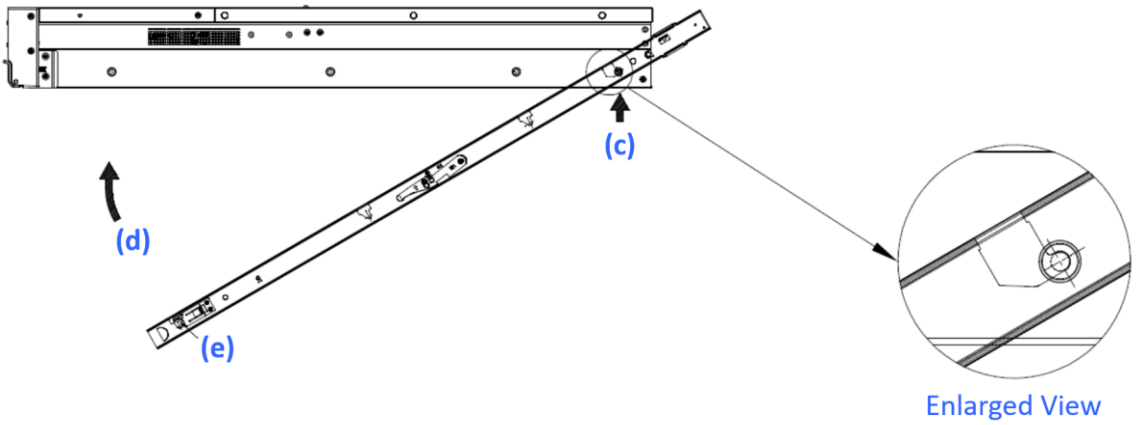
3.4.2 For 2U (12-Bay) Models

Follow the steps below to install the sliding rail kit for 2U (12-Bay) models.

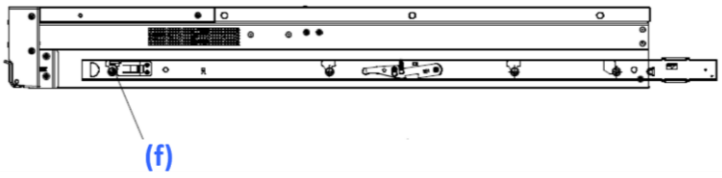
1. Align the last hole of the sliding rail with the T-bolt position on the side of the chassis, as shown in (a) below. Slide it to the designated position as indicated by the arrows in (b) below.



2. Once the sliding rail hole is aligned with the T-bolt as shown in (c) below, rotate the front end of the sliding rail upward to lock onto the T-bolt as shown in (d) below. During the locking process, the stopper mechanism will be automatically pushed up by the T-bolt, as shown in (e) below.



3. The assembly is completed.

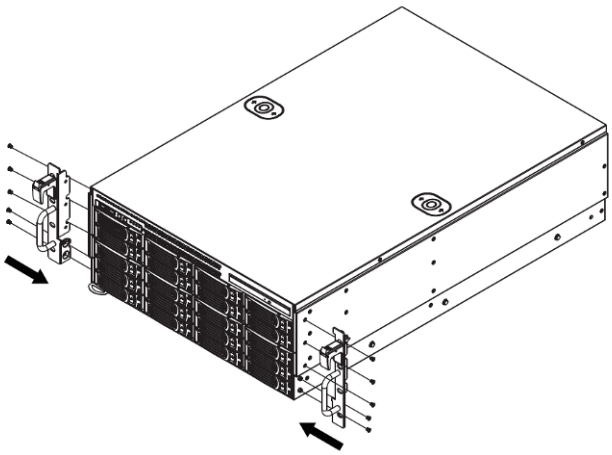


Note: When removing the sliding rail, lift the stopper mechanism before rotating downward, as shown in (f).

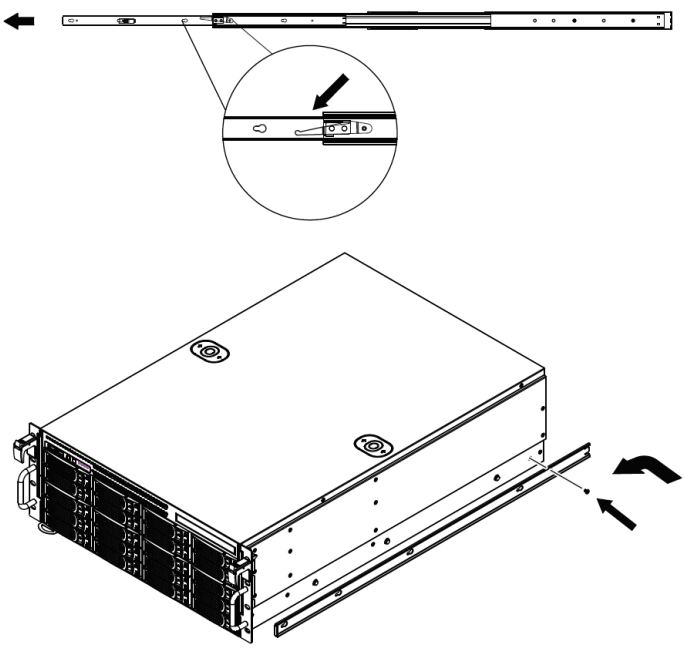
3.4.3 For 4U 20-Bay Models

Follow the steps below to install the sliding rail kit for 4U (20-Bay) models.

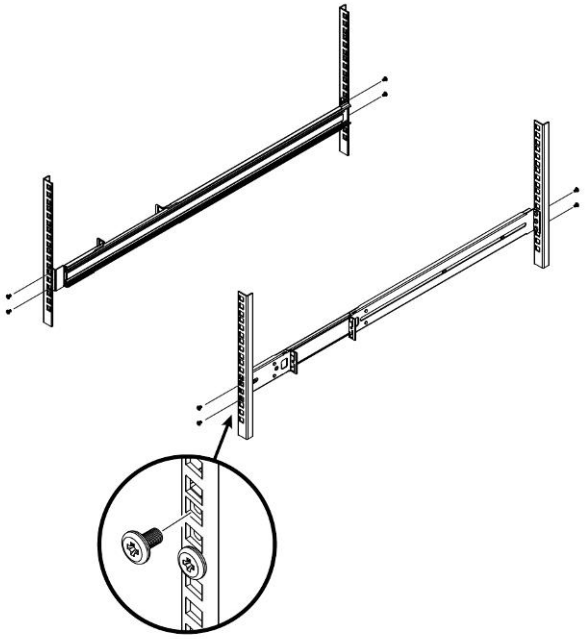
1. Install the chassis ear kit onto both sides of the model.



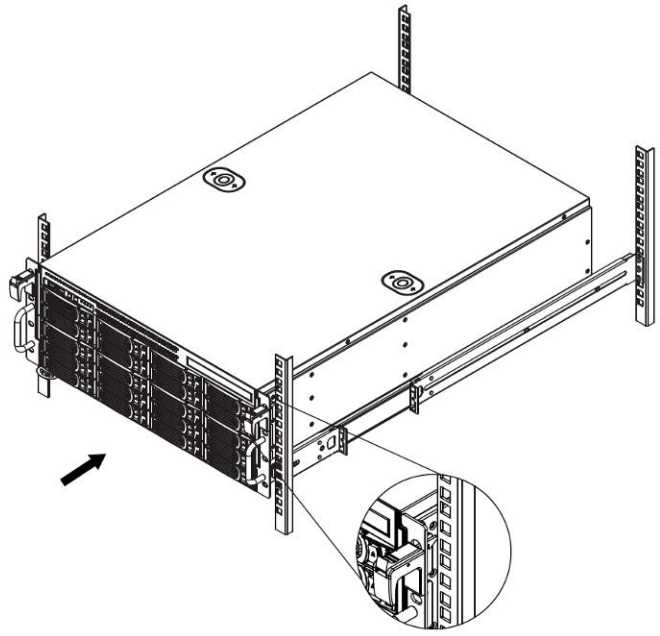
2. Pull out the inner rail of the sliding rail and secure it on both sides of the model.



3. Install the sliding rails onto the server rack, and secure the front and rear with screws.



4. Pull out the middle part of the rails, align the inner rails onto the chassis, and slide the chassis into the server tack until the quick-release handle on the ear kit snaps into place with the server rack.



3.5 Windows Setup Installation

The Windows setup is preparing your computer for first use.

1. After the Windows starts, this setup screen appears. Select your language and click **Next** to continue.

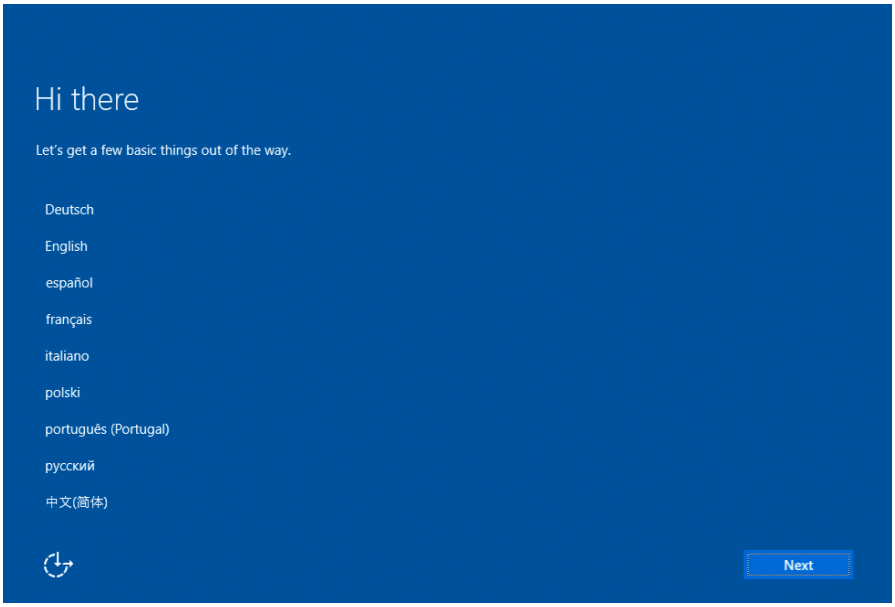


Figure 3-7

2. Select your regional settings and time zone and click **Next** to continue.

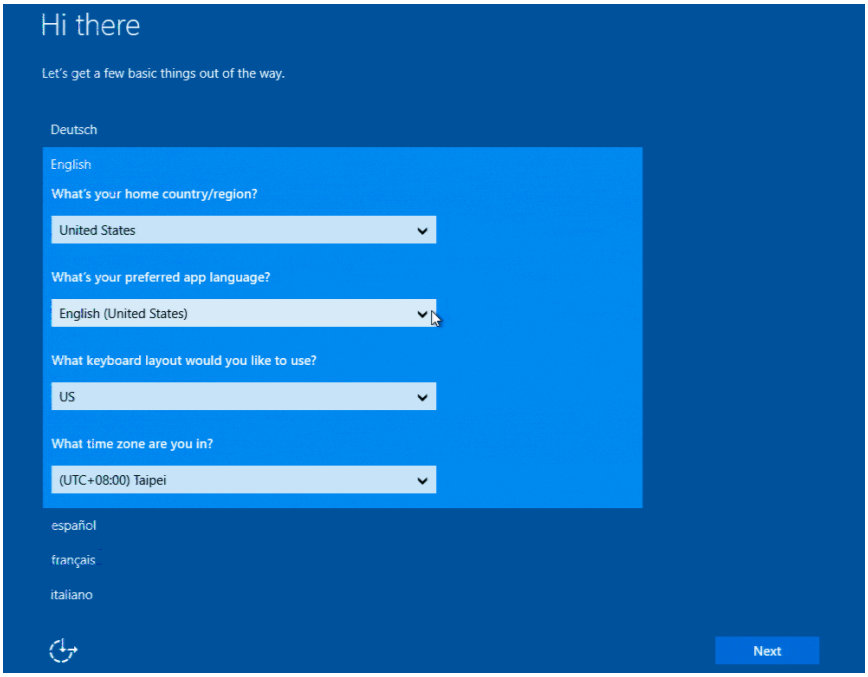


Figure 3-8

3. Click **Accept** to accept Microsoft software license terms.
4. Select between “Customize” or “Use Express settings” for your Windows installation.
5. Type your account name. It is recommended that you create a password for your account and click **Next**.

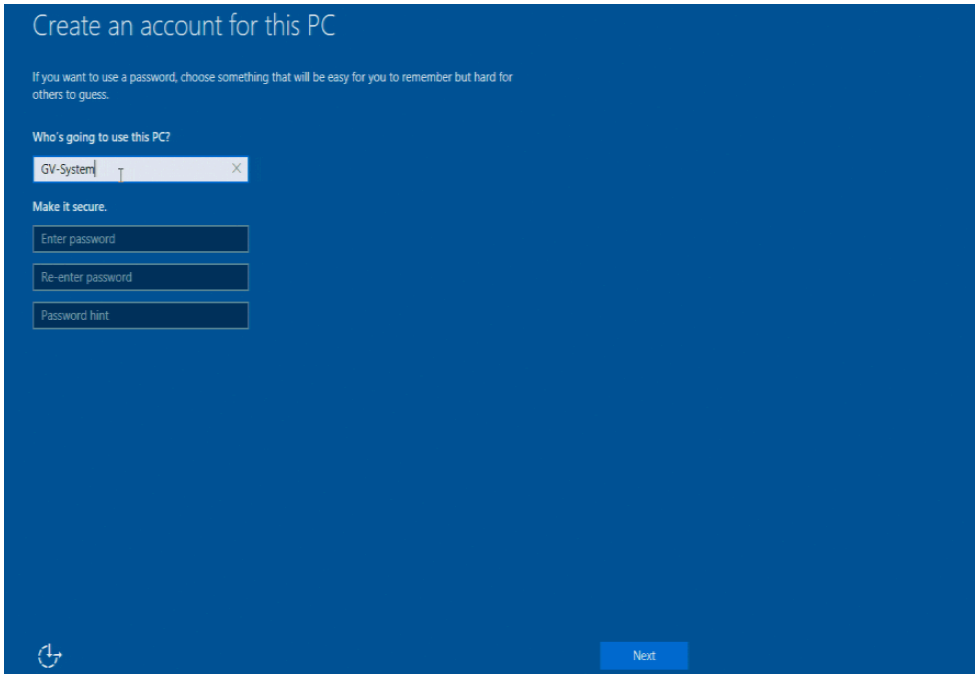


Figure 3-9

When the above setup process is complete, Windows will finalize your settings automatically in the background and restart.

IMPORTANT: In case of any problems causing you unable to access Windows operating system, it is highly recommended to back up the OS before you start any settings or operations. For details, see *3.14 System Restoration*.

3.6 Formatting the Hard Drive

Be sure to install each of your hard drives separately for formatting. Do not install and format more than one hard drive at a time.

Depending on the model of your choices, install and format the hard drives in alphabetical order as indicated below.

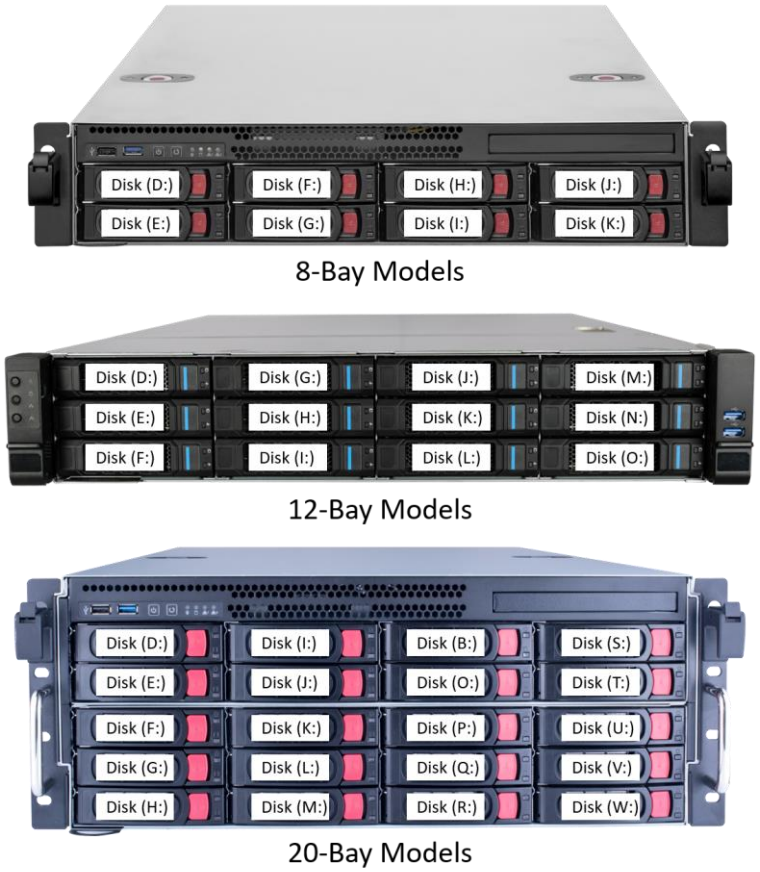


Figure 3-10

To format a hard disk, follow the steps below:

1. Right-click the **Computer** icon  on your desktop, select **Manage**, and select **Disk Management** when the Computer Management window appears.
2. 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.

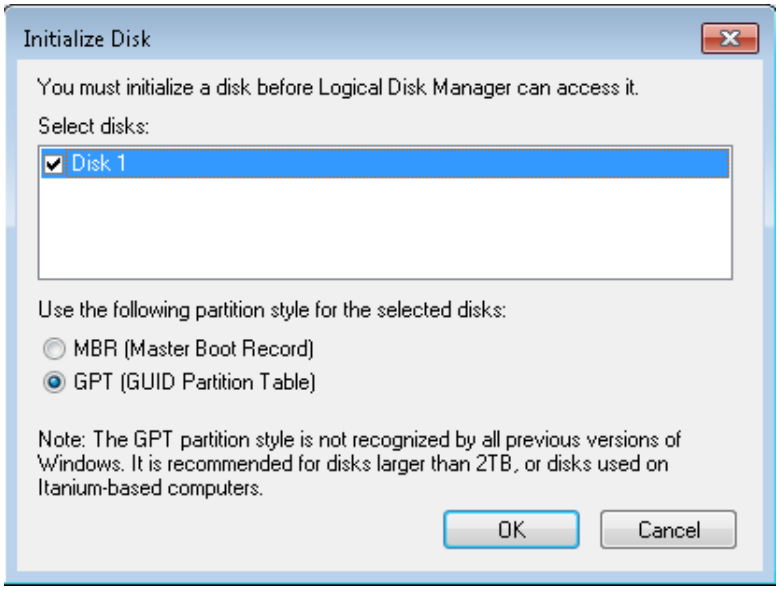


Figure 3-11

3. Click **OK**. The created disk is successfully initialized.
4. On the main page of Disk Management, right-click in the unallocated space of a new drive and select **New Simple Volume**.

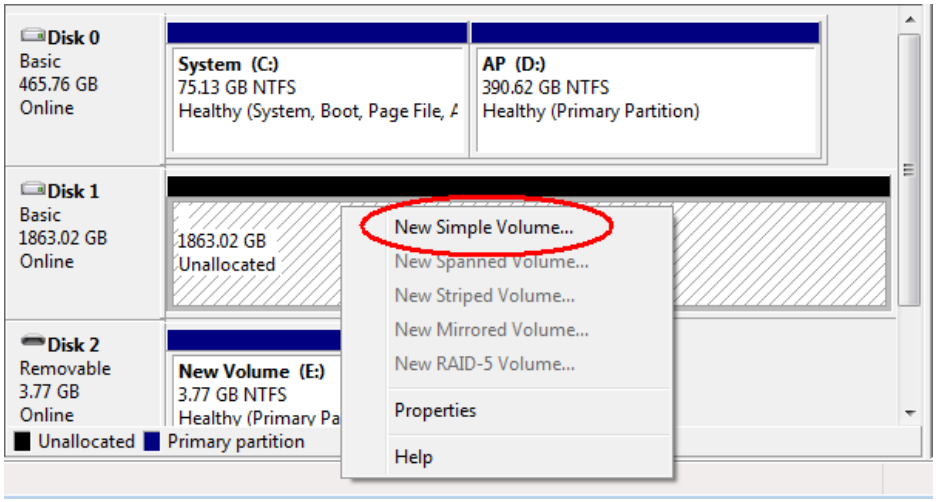


Figure 3-12

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

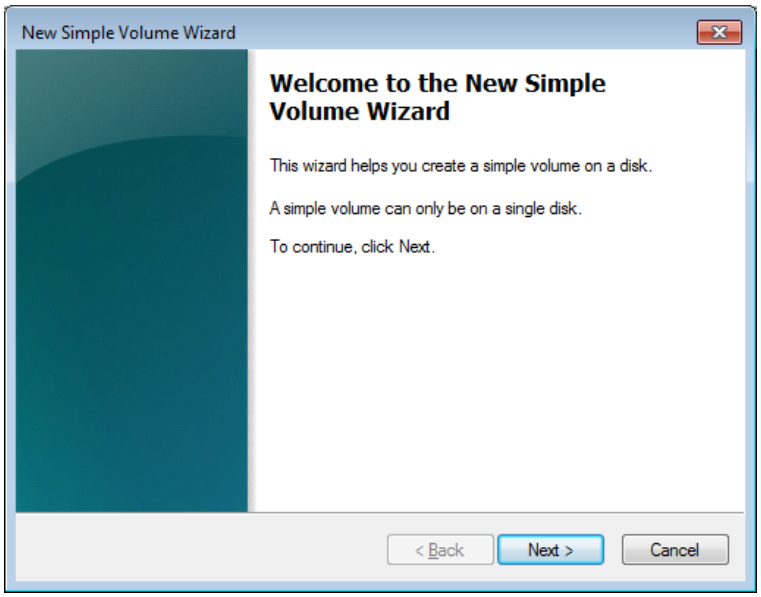


Figure 3-13

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

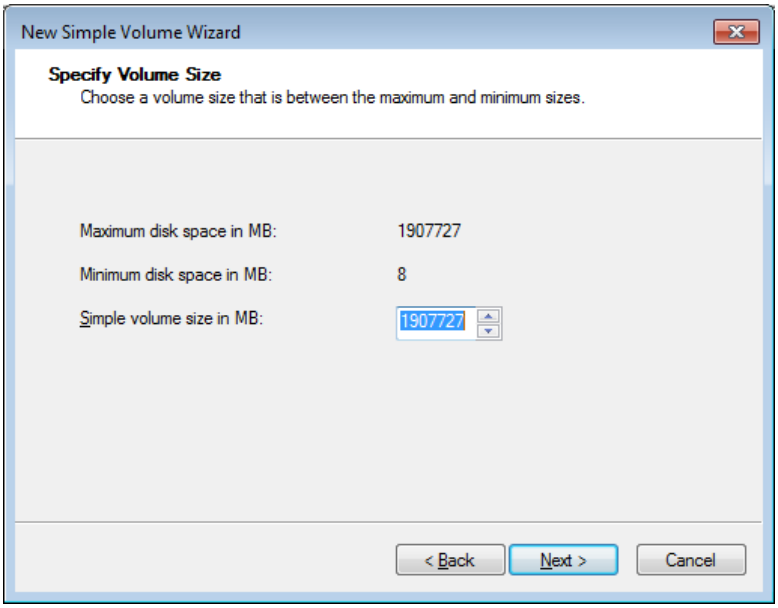


Figure 3-14

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

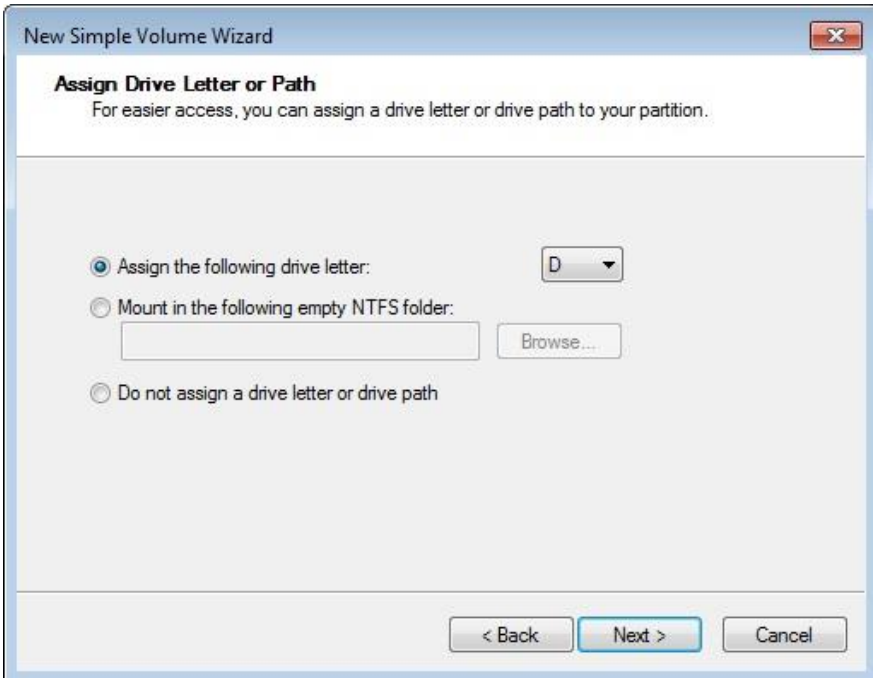


Figure 3-15

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

---

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

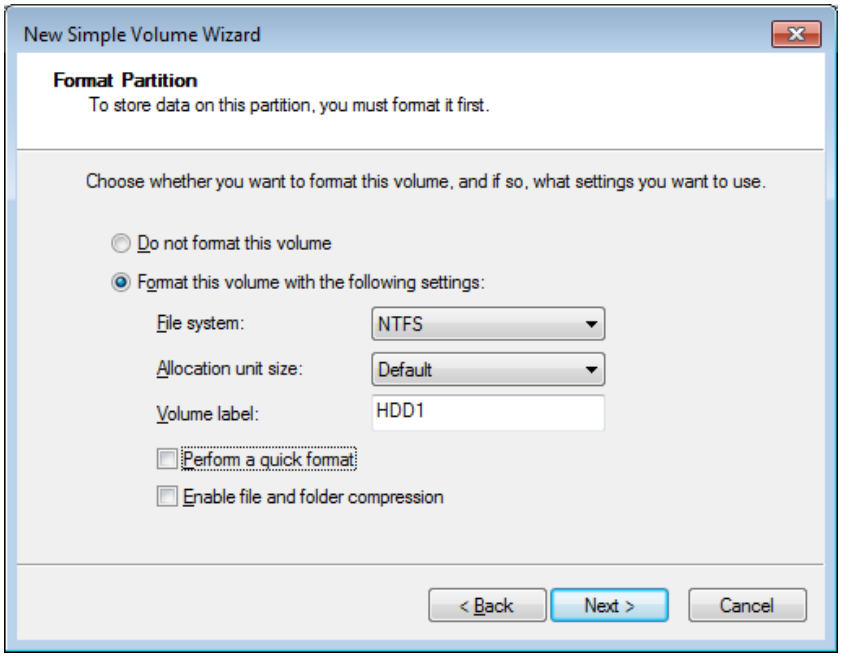


Figure 3-16

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

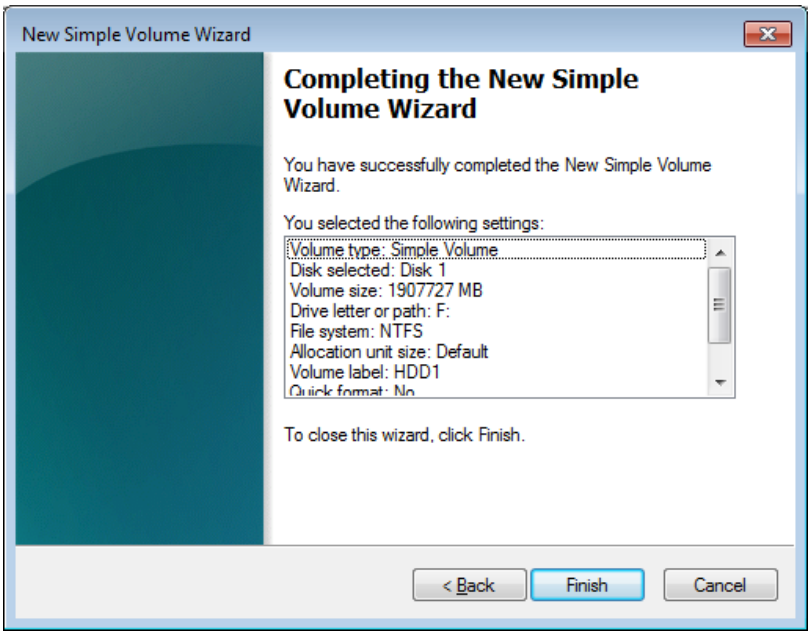


Figure 3-17

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

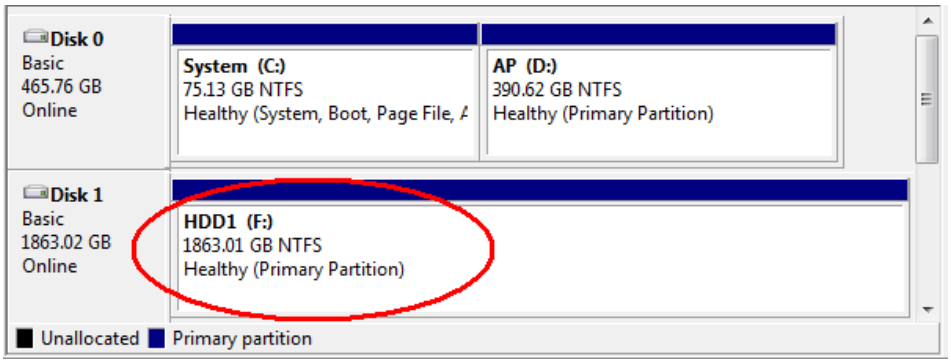


Figure 3-18

3.7 Setting Up the Video Storage Location

To achieve stable recording performance, you need to divide your hard disks into 8 / 12 / 16 storage groups and each group is assigned with an equal number of cameras.

Note: Be sure to follow the hard drive installation of 20 / 12 / 8-bay models as below. See *3.6 Formatting the Hard Drive* for details.

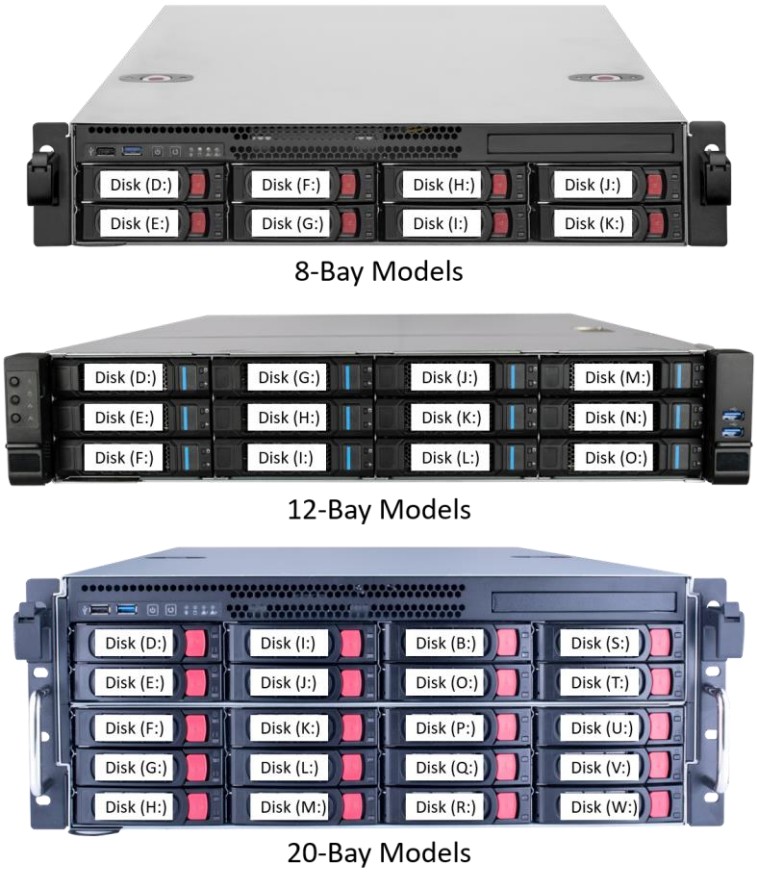


Figure 3-19

For the users of **GV-Hot Swap VMS System**, create **8 / 12 / 16** (for receiving 256 channels) **storage groups** and assign the specified hard drives and camera channels in the storage group according to the tables below. Take the 4U 20-bay for receiving 256 channels as an example, you should assign hard drives D and T to **Storage Group 1**, and then assign cameras 01-16 to be recorded in **Storage Group 1**.

Storage arrangement for receiving 256 channels

4U 20-bay	Storage Group 1	Storage Group 2	Storage Group 3	Storage Group 4	Storage Group 5	Storage Group 6	Storage Group 7	Storage Group 8
	D	E	F	G	H	I	J	K
	T	U	V	W				
1~128-channel	Camera 01-16	Camera 17-32	Camera 33-48	Camera 49-64	Camera 65-80	Camera 81-95	Camera 96-112	Camera 113-128
4U 20-bay	Storage Group 9	Storage Group 10	Storage Group 11	Storage Group 12	Storage Group 13	Storage Group 14	Storage Group 15	Storage Group 16
	L	M	N	O	P	Q	R	S
129~256-channel	Camera 129-144	Camera 145-160	Camera 161-176	Camera 177-192	Camera 193-208	Camera 209-224	Camera 225-240	Camera 241-256

2U 12-bay	Storage Group 1	Storage Group 2	Storage Group 3	Storage Group 4	Storage Group 5	Storage Group 6
	D	E	F	G	H	I
1~132-channel	Camera 01-22	Camera 23-44	Camera 45-66	Camera 67-88	Camera 89-110	Camera 111-132
2U 12-bay	Storage Group 7	Storage Group 8	Storage Group 9	Storage Group 10	Storage Group 11	Storage Group 12
	J	K	L	M	N	O
133~256-channel	Camera 133-144	Camera 155-176	Camera 177-198	Camera 199-220	Camera 221-242	Camera 243-256

2U 8-bay	Storage Group 1	Storage Group 2	Storage Group 3	Storage Group 4	Storage Group 5	Storage Group 6	Storage Group 7	Storage Group 8
	D	E	F	G	H	I	J	K
1~256-channel	Camera 01-32	Camera 33-64	Camera 65-96	Camera 97-128	Camera 129-160	Camera 161-192	Camera 193-224	Camera 225-256

To create a storage group for **GV-Hot Swap VMS System**, follow the steps below.

1. On the GV-VMS, open the Recording dialog box (**Home** > **Toolbar** > **Configure** > **System Configure** > **Record Setting**).
2. Select a camera and click next to **Add Log Location** to open the following dialog box.

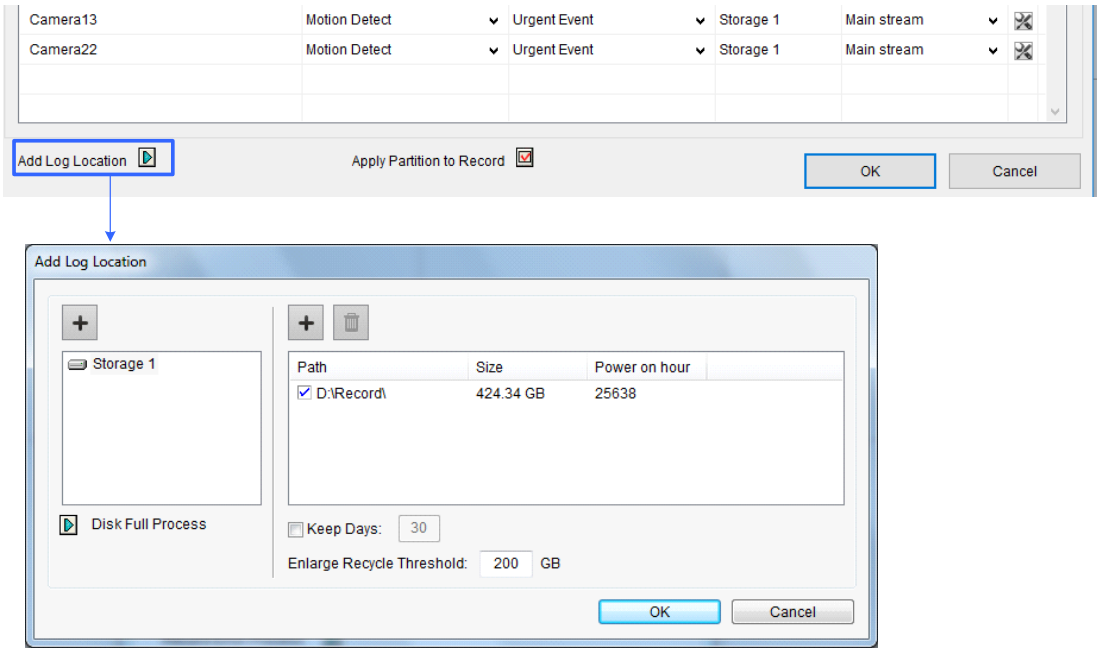


Figure 3-20

3. To create a storage group, click the **Add** button in the top-left corner. The first storage group is created by default.
4. To assign hard drives to a storage group, click the **Add** button above Path and select folders to be assigned to the storage group.

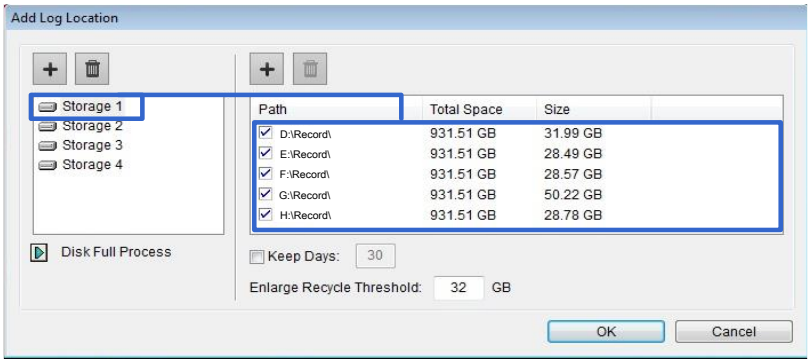


Figure 3-21

5. Click **OK** to apply the settings. The Record Setting dialog box appears.

6. To assign cameras to a storage group, select the cameras and select a storage group from the **Storage** drop-down list. Note one camera can only be added to one storage group.

3.8 Setting Up On-Screen LED Panel

For GV-Hot Swap VMS System, an LED panel on the screen provides a quick indication of the activity status of hard disk drives.

Note: This section does not apply to GV-VMS V20, as Media Man Tools is no longer supported.

Figure 3-24

LED Color	Description
Gray	- No HDD is assigned to this LED. - GV-System is not started.
Green	A HDD is assigned to this LED.
Red	The HDD is full.
Flashing Green	GV-System is recording.
Flashing Red	The HDD is recycling.

1. Go to **C:\GV-VMS** folder and double-click **MediaManTools.exe**.

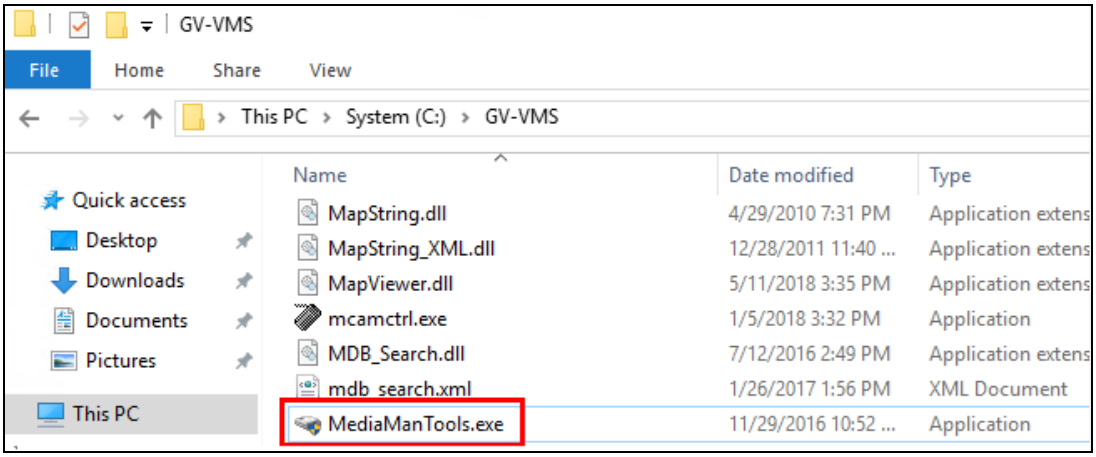


Figure 3-25

2. Click **Tools** on the menu bar and select **Setup LED Panel**. This dialog box appears.

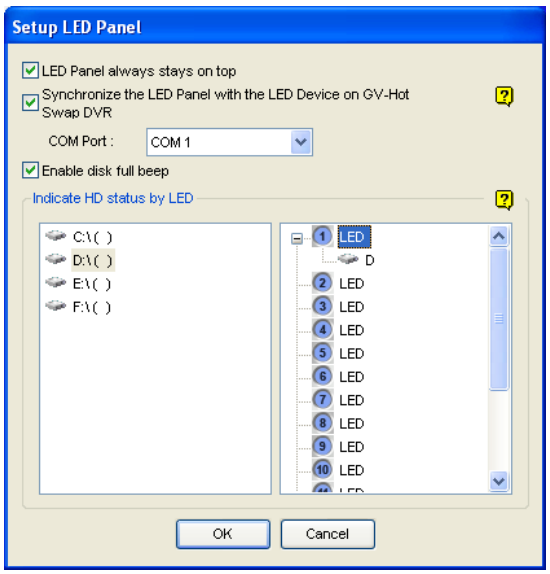


Figure 3-26

- **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-Hot Swap:** When this option is enabled, the LED device installed on the front door of the GV-Hot Swap VMS System will synchronize with the LED panel on the screen.
- **Enable disk full beep:** When the hard disk drive is full, the system sounds on. Note this function only works when speakers are connected to the GV-Hot Swap VMS System.

3. By default, only the hard disk drive F will be assigned to LED. If you want to re-assign the hard disk 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 HDDs that store log files to the LEDs.
2. If the HDD 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.

3.9 Replacing the Hard Drive

You can replace the hard drive in the Hot Swap Drive Bay without shutting down the GV-Hot Swap Surveillance System V6 (Rev. D).

1. Make sure the HDD Activity LED (No. 2, Figure 2-4 and Figure 2-5) is off.
2. Slide the release latch to the right. The drawer handle pops up.
3. Pull out the drawer slightly, and wait until the hard drive spins down.
4. Pull out the drawer completely, remove the hard drive, and then mount a new one.
5. Screw the hard drive, and make sure all screw heads are flush with the surface.
6. Put the drawer back in the drive bay and slide the release latch again.

3.10 Configuring the IP Address

The GV-Hot Swap Surveillance System V6 (Rev. D) supports remote monitoring, control and configuration over a network connection. The following default IP addresses will automatically be assigned.

- **192.168.0.200**
- **192.168.0.201**

The system supports up to 2 Ethernet ports. The number of Local Area Connection is assigned from the left to the right. Here we use the 4U (20-bay) model of GV-Hot Swap VMS System V6 (Rev. D) as illustration.

Local Area Connection 1
Default IP: 192.168.0.200

Local Area Connection 2
Default IP: 192.168.0.201

Figure 3-27

To change the static IP addresses or to enable dynamic IP address, follow the steps below.

1. Right-click the **Network Connection** icon from the notification area and select **Open Network and Sharing Center**.

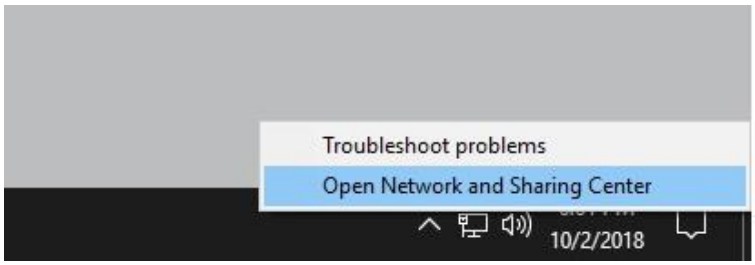


Figure 3-28

2. Click **Change Adapter Settings** from the left-hand side menu of the Network and Sharing Centre window.
3. Under Network Connections, select a network connection you want to configure its IP address.

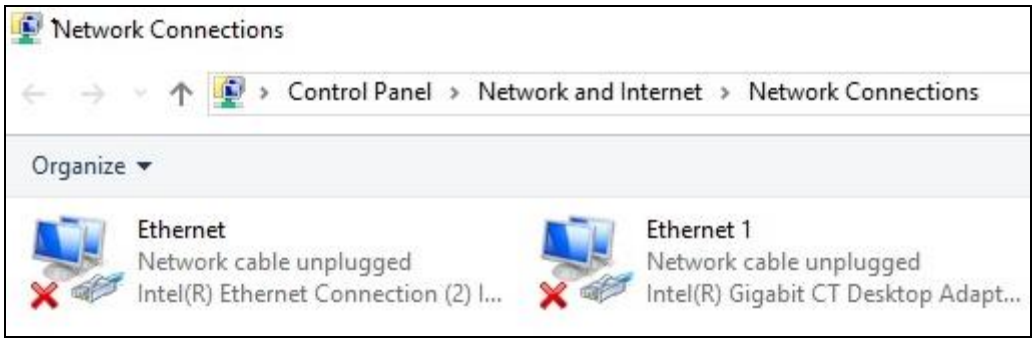


Figure 3-29

4. Select **Internet Protocol Version 4 (TCP/IPv4)** and then click **Properties**.

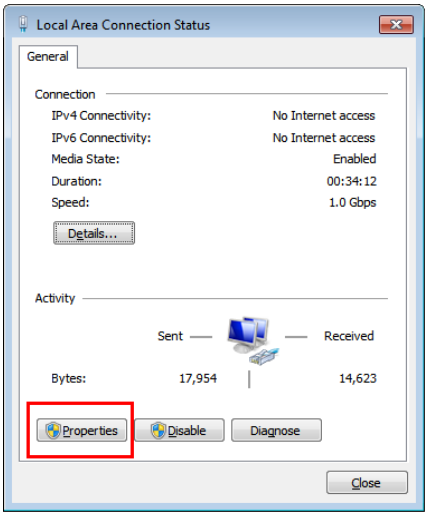


Figure 3-30

5. 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.

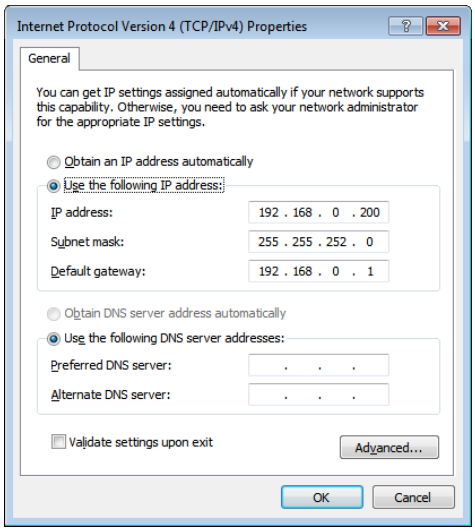


Figure 3-31

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

Note: For models with multiple Ethernet ports, it is recommended to assign IP channels received and clients transmitted into different networks. Refer to *Appendix B. Assigning Network Cards* for more details.

3.11 Dual View Display

3.11.1 GV-Hot Swap VMS System V6 (Rev. D)

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

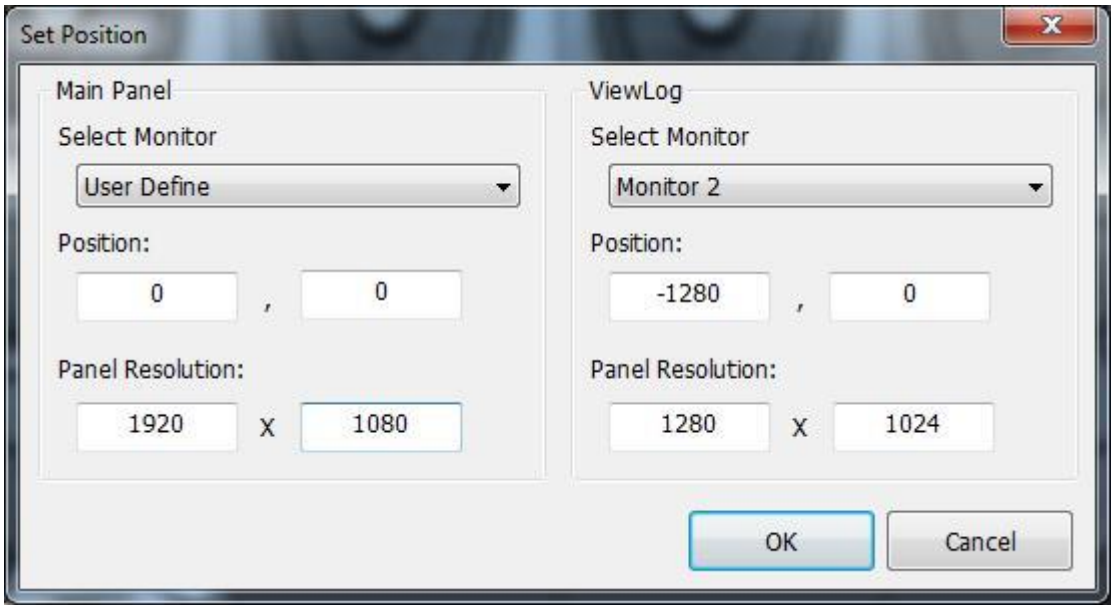


Figure 3-35

- **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.

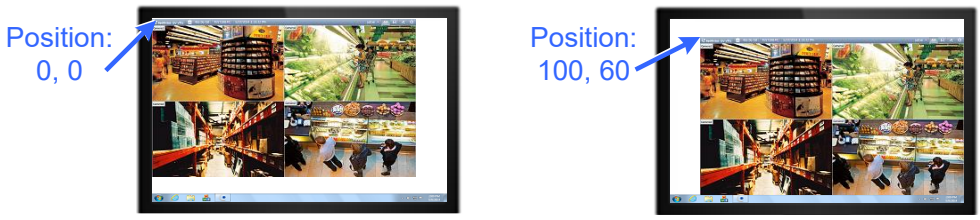


Figure 3-36

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

3.12 Extended Installation

Optionally, you can purchase GV-IO Box series to make your unit even more powerful and convenient, Gigabit Network Cards for additional gigabit ports, and Redundant Power Supply for uninterrupted supply of power.

- GV-I/O Box Series
- Gigabit Network Card
- Redundant Power Supply

3.12.1 I/O Devices

Optionally, you can purchase GV-IO Box series for the connection with external I/O devices. GV-I/O Box series provides a varied number of inputs and relay outputs. It supports both DC and AC output voltages with optional support for Ethernet module and 4E additionally supporting POE connection.

3.12.2 Gigabit Network Cards

The optional **Gigabit** and **10 Gigabit** Network Cards are available for GV-Hot Swap System V6 (Rev. D) upon request, with two choices of 1-Gb single port card and 2-port 10-Gb (20 Gb) card.

The number of optional Network Cards supported varies with different models. Refer to the table below.

GV-Hot Swap VMS System

Models	Default	Optional Installation	
		Gigabit Network Card	20 Gb Network Card (2-port, 10-Gb)
2U (8-bay)	2.5 Gb x 2	2 cards	N/A
2U (12-bay)	2.5 Gb x 2	2 cards	N/A
4U (20-bay)	2.5 Gb x 2	2 cards	1 card (when purchased with RAID card)

3.12.3 Redundant Power Supply

The Redundant Power Supply comes with 2 power supply modules for 4U models. Each power supply module shares the loading of the power supply. When one of the power supply modules is down, the other module still supports full power for the system.

4U models

Figure 3-44

LED Indicators	Description
Ready LED	Glow red on both power supply modules when the power input is properly connected to the modules.
Access LED	Glow green on both power supply modules when the modules are functioning.
Alarm LED	Glow red or no light indicating the module is not functioning properly or out of order. The alarm LED will be accompanied by the alarm sound.

2U models

Figure 3-45

LED Indicators	Description
Ready LED	Glow red on both power supply modules when the power input is properly connected to the modules.
Access LED	Glow green on both power supply modules when the modules are functioning.
Alarm LED	Glow red or no light indicating the module is not functioning properly or out of order. The alarm LED will be accompanied by the alarm sound.

The Audio Alarm

When the audio alarm of the Redundant Power Supply rings, check:

1. If the modules are pushed all the way to the end, or
2. The power input is properly connected to the power supply.

If the modules are properly installed but the audio alarm continues to ring, the modules may be damaged and you may need to contact your distributor for a replacement. To stop the ringing alarm sound, press the alarm button. To remove the module from the system, push the release latch and pull out the entire module with the handle at the same time.

4U Models

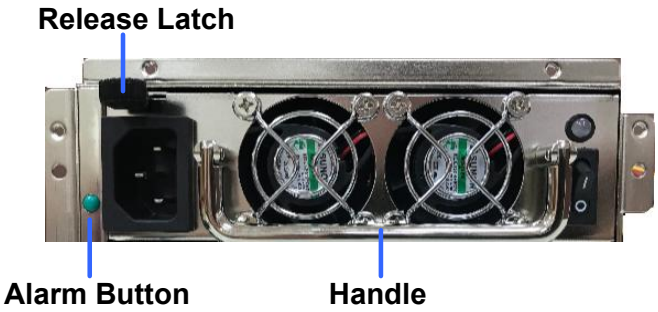


Figure 3-46

2U Models

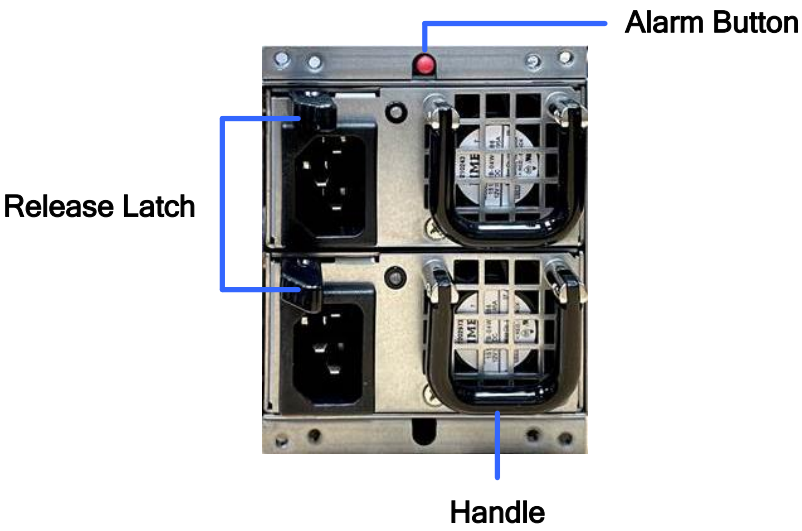


Figure 3-47

3.13 System Restoration

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

3.14 Updating GV-Hot Swap Surveillance System V6 (Rev. D)

GeoVision will periodically update the GV-System Software (Multicam Surveillance System). If you like to update your GV-Hot Swap Surveillance System V6 (Rev. D), contact your dealer for more information or check software update news at our website: https://www.geovision.com.tw

Chapter 4 Troubleshooting

GV-Hot Swap Surveillance System V6 (Rev. D) is designed for durability. However, should problems occur, following the procedures here can help determine the cause.

A portable 2.5" HDD connected to the front panel cannot be detected.

When the portable 2.5” HDD connected to a GV-Hot Swap Surveillance System V6 (Rev. D) cannot be detected, try this step:

Use a dual head USB cable and insert both heads to the USB ports on the GV-Hot Swap Surveillance System V6 (Rev. D) front panel as illustrated below.

4U (20-Bay) Models

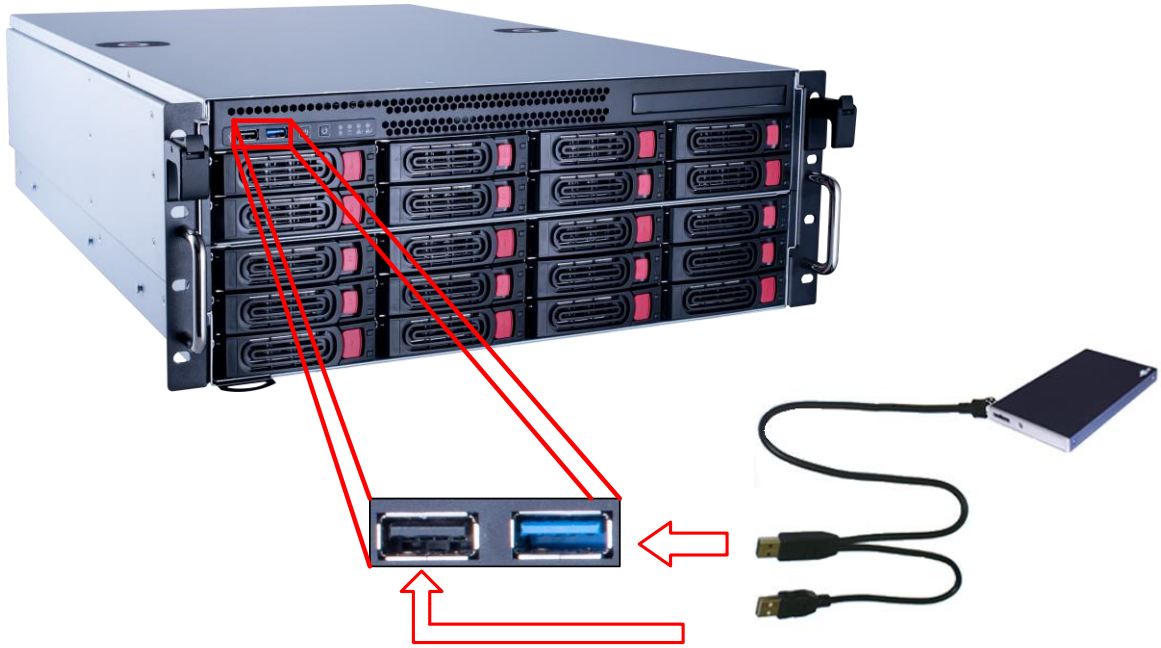


Figure 4-1

GV-Hot Swap Surveillance System V6 (Rev. D) cannot be turned on.

If your GV-Hot Swap Surveillance System V6 (Rev. D) cannot be turned on or you don't hear a startup sound or any fan or drive noise, try these steps:

1. For 4U (20-bay) models, make sure that you switch on the AC power on the rear panel.

4U (20-Bay) Models

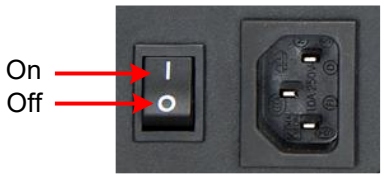


Figure 4-2

2. Make sure that the power cord is properly connected to both GV-Hot Swap Surveillance System V6 (Rev. D) and power outlet. If you are using a power strip, make sure that the strip is powered on.
3. If the problem persists, consult your dealer.

GV-Hot Swap Surveillance System V6 (Rev. D) stops responding ("crashed" or "frozen").

If your GV-Hot Swap Surveillance System V6 (Rev. D) is not responding to your clicking, typing, or mouse movements, try these steps to get your GV-Hot Swap Surveillance System V6 (Rev. D) back on track. Please note that you will lose any unsaved changes in all open applications.

1. Restart your GV-Hot Swap Surveillance System V6 (Rev. D) by pressing the **Reset** button on the front panel.
2. If your GV-Hot Swap Surveillance System V6 (Rev. D) is still unresponsive, switch off the **Power** button to shut it down. Wait 30 seconds and then restart your GV-Hot Swap Surveillance System V6 (Rev. D).

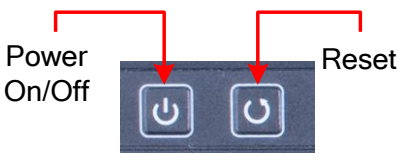


Figure 4-3

GV-Hot Swap Surveillance System V6 (Rev. D)'s hard disk corrupts.

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

1. Use the **HD Tune** utility to scan the hard disk 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.

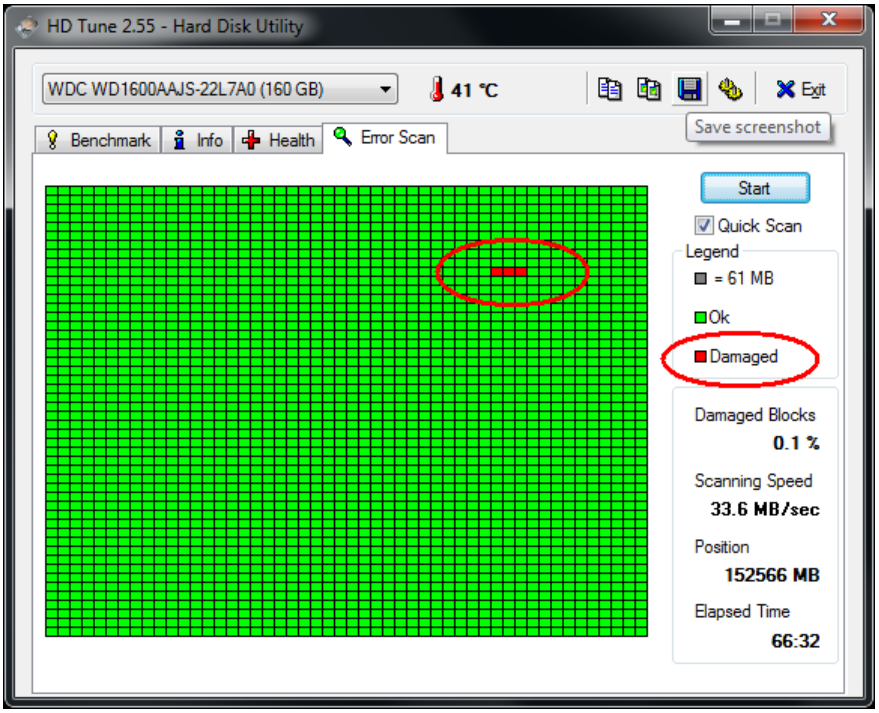


Figure 4-4

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

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

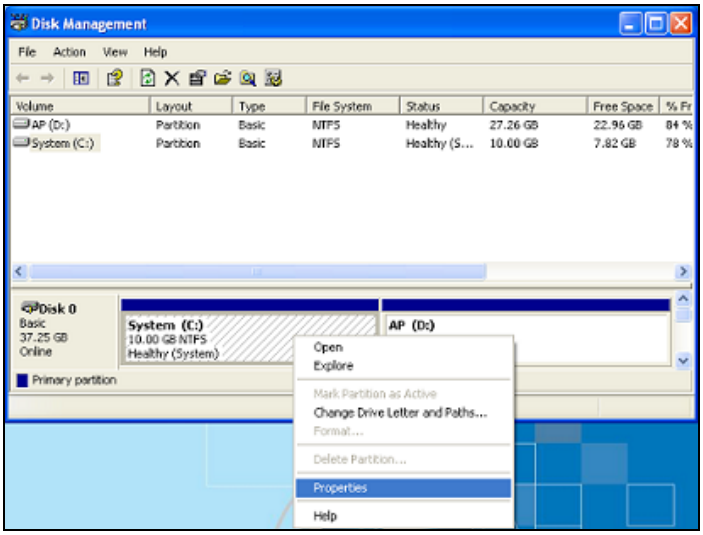


Figure 4-5

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

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

Figure 4-6

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

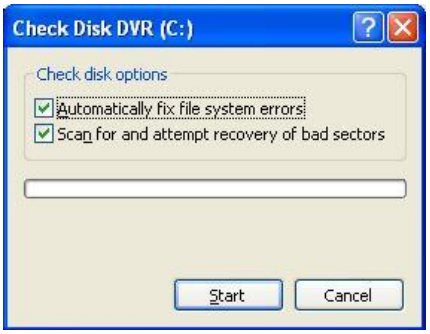


Figure 4-7

   F. Click **Start**.

3. If the Windows hard disk utility still cannot fix the problem in Partition C, try rebuilding the operating system and GV-System Software. Refer to *3.13 System Restoration.*
4. If the problem persists, replace a hard disk drive.

GV-Hot Swap Surveillance System V6 (Rev. D) suffers virus attack.

GV-Hot Swap Surveillance System V6 (Rev. D) is designed and optimized for Windows platform. It may be vulnerable to newly created worms and exploits that attack any of the underlying operating system's previously undocumented flaws. If your GV-Hot Swap Surveillance System V6 (Rev. D) suffers virus attack, try rebuilding the operating system and the software. Refer to *3.13 System Restoration.*

How can I find more help?

1. Visit our website at http://www.geovision.com.tw/
2. Contact us at support@geovision.com.tw

Specifications

GV-Hot Swap System V6 (Rev. D)

For hardware and software specifications, and total frame rate and max number of channels supported, see details in:

- Datasheet GV-Hot Swap System V6 (Rev. D) – 2U 8-Bay
- Datasheet GV-Hot Swap System V6 (Rev. D) – 2U 12-Bay
- Datasheet GV-Hot Swap System V6 (Rev. D) – 4U 20-Bay
- Surveillance System Comparison

GV-VMSH V6 Hard Disk Requirements (for GV-VMS V20)

The total recording frame rates that you can assign to a single hard disk are listed as below:

Frame Rate Limit in a Single Hard Disk		
Video resolution	H.265	
	Frame Rate (fps)	Bitrate (Mbit/s)
2 MP	960	0.88
4 MP	960	2.27
5 MP	960	2.93
8 MP	640	3.88
12 MP	640	4.15

Note:

1. The data above was determined using the listed bitrate, with enterprise-grade hard disks operating at 7200 RPM or higher and featuring an average read/write speed of over 200 MB/s.
2. If you upgraded from GV-VMS V17/V18, you can still use an enterprise-grade hard disk with 7200 RPM and an average read/write speed of over 110 MB/s to record 22 channels on a single hard disk

RAID Group Requirements

For ensuring high performance of RAID group deployment, the maximum number of recording channel that you can assign to a single RAID 5 group is suggested as below.

Video Resolution	Frame Rate (fps)	Max. Channel
1.3 MP	30	50 (6.16 Mbps)
2 MP	30	32 (12.59 Mbps)
3 MP	20	40 (9.83 Mbps)
4 MP	15	36 (10.4 Mbps)
5 MP	10	46 (8.5 Mbps)
8 MP	30	50 (16.9 Mbps)
12 MP	15	50 (17 Mbps)

Appendix

A. Supported IP Devices

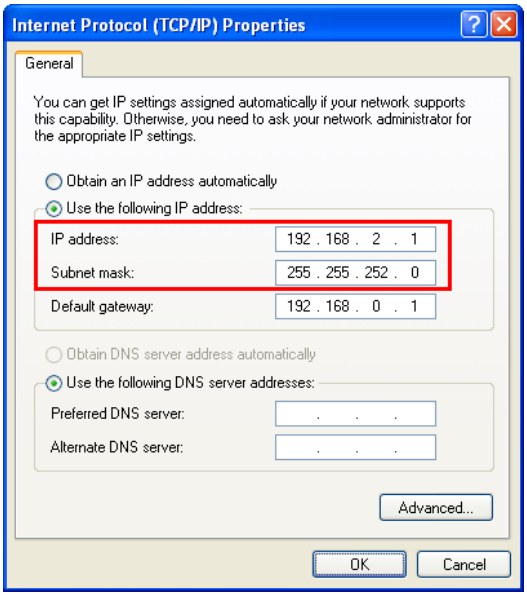
This list provides the supported IP device brands. For detailed information on the supported IP devices, refer to Supported IP Camera List on GeoVision's Website: http://www.geovision.com.tw/

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

B. Assigning Network Cards

GV-VMSH V6 comes with multiple Ethernet ports. To increase network bandwidth and avoid network bottlenecks, you need to set up multiple networks and divide networks into different multiple subnets or segments. Next, organize IP channels received and clients transmitted into different networks.

1. To set up multiple networks, you need to install multiple network cards. Each network card is assigned a different IP address and subnet mask.



2. Organize IP channels and clients into groups and then assign each group to different network cards using the IP addresses you have set up.

For **GV-VMSH V6**, the recommended network allocation is illustrated as below. The first network card can receive up to 64 IP channels in 2 M resolution. The second network card can transmit up to 64 channels in 2 M resolution.

GV-VMSH V6 + 2 Network Cards assigned on different networks

Warranty Requirements

Thank you for purchasing the GV-Hot Swap Surveillance System V6 (Rev. D). GeoVision understands that accidents 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 GV-System. Refer to *3.13 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
   - Software system version
   - Details of the defect or problem
   - Attempted solutions
   - Your contact information
   - Reseller's contact information
4. If you find it is the software problem, please check our website or your dealer for software updates.

Obtaining Warranty Service

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

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

   E-Mail: 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-HOT SWAP SURVEILLANCE SYSTEM V6 (REV. D) 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.