GV-Hot Swap System V6 (Rev. B) – 4U, 20-Bay

INTRODUCTION

GV-Hot Swap System V6 (Rev. B) features a powerful data storage capacity. It comes with hot-swappable SATA mobile racks in sizes of 4U (20-bay) and 2U (12 / 8-bay). Depending on HDD capacity, GV-Hot Swap System V6 (Rev. B) can store up to 400 terabytes of recorded data.

GeoVision surveillance software empowers GV-Hot Swap System V6 (Rev. B) with a maximum of 64 audio and video channels for GV-VMS, and 32 audio and video channels for GV-NVR. When installed with GV-Recording Server, GV-Hot Swap System V6 (Rev. B) can record up to 256 channels and distribute up to 600 channels to a variety of GeoVision software.

KEY FEATURES

- Powered by Intel Core i7 Processor
- 64-bit Windows 10 IoT Enterprise
- RAM 8 GB (for GV-NVR) / 16 GB (for GV-VMS / GV-Recording Server)
- H.265 CPU and GPU decoding
- Maximum storage capacity of up to 400 TB (4U 20-Bay) / 240 TB (2U 12-Bay) / 160 TB (2U 8-Bay)
- Hot-swap SATA HDDs for data storage
- Hot-swap status LED panel
- Dual 2.5 Gigabit LAN ports for GV-VMS / NVR and three 2.5 Gigabit LAN ports for GV-Recording Server
- Multiple monitor display for up to 3 monitors
- Compatible with full selections of GeoVision accessories
- 64-channel GV-VMS / 32-channel GV-NVR (pure IP surveillance)
- Up to 256 channels of recording and up to 600 channels of client distribution (for GV-Recording Server)
- Extreme performance for preinstalled GV-VMS / NVR / Recording Server software
- Anti-vibration feature to provide the disk throughput of 95% or higher
- Sliding rail kit for rackmount chassis with loading up to 80 KG
- RAID type: 0, 1, 5, 6, 10, 50, 60 (optional)
- Redundant Power Supply (optional)
- GV-AI Accelerator Module to enhance PVD detection channels and reduce CPU demand (optional)
- CE, FCC, LVD compliant (by request)

-1-

AVAILABLE MODELS

- ▶ GV-VMSH V6 (Rev. B)
- ▶ GV-VMSH Pro V6 (Rev. B)
- ▶ GV-NVRH V6 (Rev. B)
- ▶ GV-Recording Server V6 (Rev. B)

SPECIFICATIONS

System		
CPU		Intel Core i7 Processor
RAM	GV-VMS / Recording Server	16 GB Dual Channels
	GV-NVR	8 GB Dual Channels
OS		64-bit Windows 10 IoT Enterprise
No. of HDD		20 (2.5" / 3.5" HDD)
Internal Storage		128 GB SSD
HDD Storage		Up to 400 TB*
Connector	Ethernet	GV-VMS / NVR: RJ-45, 2.5 GbE x 2 GV-Recording Server: RJ-45, 2.5 GbE x 3
	Video Output	3 Displays: HDMI, DisplayPort, VGA
	USB	Front: USB 2.0 (Type-A) x 1, USB 3.1 (Type-A) x 1 Rear: USB 2.0 (Type-A) x 4, USB 3.2 (Type-A) x 2, USB 3.2 (Type-C) x 1
Fan		8 cm x 2
Power		Output: 850W Input: 100-240V AC, 50-60 Hz, 11-5.5A

Model	GV-VMS	GV-VMS (Pro)
Video and Audio		
Video Input	32 channels	64 channels
Audio Input	32 channels	64 channels
Video Compression	Geo MPEG4, Geo H.264 / H.265	

Model	GV-NVR (GV)	GV-NVR (3rd Party)
Video and Audio		
Video Input	32 channels	1, 2, 4, 6, 8, 10, 12, 16, 18, 20 22, 24, 26, 28, 30, 32 channels
Audio Input	32 channels	1, 2, 4, 6, 8, 10, 12, 16, 18, 20 22, 24, 26, 28, 30, 32 channels
Video Compression	Geo MPEG4, Geo H.264 / H.265	

Model	GV-Recording Server (GV)
Software Specifications	
Number of IP Video Device Connections	256 channels
Number of Remote Client Connections	600 channels

Note:

1. The number of supported channels may vary depending on the resolution and codec of connected IP videos. If you want to know the number of supported channels according to your requirements, please write us at support@geovision.com.tw for more information.
2. The H.265 CPU and GPU decoding are only supported by GV-VMS V15.11.0.0 or later versions.
3. For HDD storage capacity of different brands, please see here for details.*

Live View Playback (for GV-VMS / NVR)	
Image Control	Contrast / Brightness / Saturation / Hue
Recording Mode	Round the Clock / Motion Detection / Sensor Detection / Pre & Post Recording / Schedule Recording
Pre Recording	1 ~ 45 min.
Instant Playback	10 sec. / 30 sec. / 1 min. / 5 min.
Watermark Marking	Supported

Searching and Backup (for GV-VMS / NVR)	
Search Method	Date / Time / Camera / Event Type
Backup Type[1]	DVD+R (DL) / DVD-R (DL) / DVD+R / DVD+RW / DVD-R / DVD-RW / CD-R / CD-RW

Remote Monitoring	
Network Type	LAN, WAN, Internet
Monitoring Environment	Web browser (IE, Chrome, Firefox and Safari) Mobile device (Android and iOS)
System Monitoring	
Power Restoration	Automatic restart after power outage
Monitoring	Two independent Watchdogs (Hardware Watchdog + Software Watchdog)
Peripheral Devices	
Audio Microphone In	Mini stereo jack
Audio Output	Mini stereo jack
Environment	
Operating Temp.	0 ~ 45 °C / 32 ~ 113 °F
Humidity	0 ~ 80% RH (non-condensing)
Language	
GV-VMS	Bulgarian / Czech / Danish / English / French / German / Greek / Hebrew / Hungarian / Italian / Japanese / Persian / Polish / Portuguese / Russian / Serbian / Simplified Chinese / Slovakian / Slovenian / Spanish / Traditional Chinese / Turkish
GV-NVR / Recording Server	Arabic / Bulgarian / Czech / Danish / Dutch / English / Finnish / French / German / Greek / Hebrew / Hungarian / Indonesian / Italian / Japanese / Lithuanian / Norwegian / Persian / Polish / Portuguese / Romanian / Russian / Serbian / Simplified Chinese / Slovakian / Slovenian / Spanish / Swedish / Thai / Traditional Chinese / Turkish
Physical	
LED Indicator	Yes (Fan, Power, HDD)
Color	Black / silver
Dimensions (W x H x D)	442 x 175 x 660 mm / 17 x 7 x 26 in
Net Weight	20.7 kg / 45 lb (± 1 kg / 2.2 lb)

LED Indicator	Chassis LED Panel	4 LEDs: Power x 1, OS HDD activity x 1, LAN x 2 (not functional)
	HDD LED Panel	2 LEDs: HDD Power, HDD activity

Software License		
GV-NVR		
Free License		32 channels from GV-IP Cameras
Optional Paid License		2 ~ 32 channels from third-party IP Cameras (at increments of 2)
Optional Combinations		N/A
Dongle Type		Internal Dongle

GV-VMS V17 (for free 32 GV Channels)

Supported Devices	Channels	License
GV-IP Devices Only	32 ch	No license required
	64 ch	GV-VMS Pro license required, 32 ch per license
GV + 3rd-Party IP Devices	16 ch	**Trial Version**: 16 channels of 3rd-Party IP devices
	32 ch	3rd-Party license required, in increments of 1 ch
	64 ch	2 licenses required: • GV-VMS Pro license, 32 ch per license. • 3rd-Party license, in increments of 1 ch
License Type		Internal Dongle or Software License

GV-VMS V18 (for AI integration)

Supported Devices	Channels	License
GV-IP Devices Only	32 ch	Initial license
	64 ch	2 licenses required: • **GV-VMS V18.1 or later** initial license • **GV-VMS Pro** license, 32 ch per license
GV + 3rd-Party IP Devices	32 ch	2 licenses required: • **GV-VMS V18.1 or later** initial license • **3rd-Party** license required, in increments of 1 ch
	64 ch	3 licenses required: • **GV-VMS V18.1 or later** initial license • **GV-VMS Pro** license, 32 ch per license • **3rd-Party** license, in increments of 1 ch
License Type		Internal Dongle or Software License

GV-Hot Swap System V6 (Rev. B) – 4U, 20-Bay   *May 23, 2024*

GV-Recording Server	
Free License	N/A
Optional Paid License	256 channels
Increment for Each License	1. **GV-IP video devices only:** 8, 16, 32, 36, 40, 44, 48, 52, 56, 60, 64, 68, 72, 76, 80, 84, 88, 92, 96, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 144, 148, 152, 156, 160, 164, 168, 172, 176, 180, 184, 188, 192, 196, 200, 204, 208, 212, 216, 220, 224, 228, 232, 236, 240, 244, 248, 252, 256 IP channels. 2. **Third-party IP devices (Includes GV-IP video devices):** 8, 16, 32, 36, 40, 44, 48, 52, 56, 60, 64, 68, 72, 76, 80, 84, 88, 92, 96, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 144, 148, 152, 156, 160, 164, 168, 172, 176, 180, 184, 188, 192, 196, 200, 204, 208, 212, 216, 220, 224, 228, 232, 236, 240, 244, 248, 252, 256 IP channels.
Optional Combinations	N/A
Dongle Type	Internal
Regulatory	
Type	CE, FCC, LVD compliant (by request)

Note:

1. For backup function, you need to connect an external USB DVD/CD burner.

2. The disk throughput test was conducted by a 3rd-party HDD manufacturer. The level of vibration produced by the system's hard drive operation and fan energy is minimized to have an effect of less than 5% on the disk throughput when using 8 TB hard drives.

3. 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.

4. All damages to the power supply caused by unstable voltage are not included in the 2-year warranty service.

5. All specifications are subject to change without notice.

TOTAL FRAME RATE AND MAX. NO. OF CHANNELS SUPPORTED

For GV-IP Camera (Dual Streams)

Video Resolution	Dual-stream Resolution		Max. Frame Rate / Camera	Channel	Total Frame Rate / System
	Stream 1 (H.264)	Stream 2 (H.264)			
1.3 MP	1280 x 720	640 x 360	30 fps	64	1920 fps
2 MP	1920 x 1080	640 x 360	30 fps	64	1920 fps
3 MP	2048 x 1520	640 x 360	30 fps	64	1920 fps
4 MP	2560 x 1440	640 x 360	25 fps	64	1600 fps
5 MP	2592 x 1944	640 x 480	30 fps	64	1920 fps
8 MP	3840 x 2160	1280 x 720	25 fps	58	1450 fps
12 MP	4000 x 3000	1024 x 768	15 fps	64	960 fps

Video Resolution	Dual-stream Resolution		Max. Frame Rate / Camera	Channel	Total Frame Rate / System
	Stream 1 (H.265)	Stream 2 (H.264)			
1.3 MP	1280 x 720	640 x 360	30 fps	64	1920 fps
2 MP	1920 x 1080	640 x 360	30 fps	64	1920 fps
3 MP	2048 x 1536	640 x 360	30 fps	64	1920 fps
4 MP	2560 x 1440	640 x 360	25 fps	64	1600 fps
5 MP	2560 x 1920	640 x 360	30 fps	64	1920 fps
8 MP	3840 x 2160	640 x 360	20 fps	64	1280 fps

For GV-Fisheye Camera (Dual Stream De-warping)

Video Resolution	Dual-stream Resolution		Max. Frame Rate / Camera	Channel	Total Frame Rate / System
	Stream 1 (H.264)	Stream 2 (H.264)			
8 MP	2896 x 2768	640 x 608	25 fps	28	700 fps
12 MP	4000 x 3000	640 x 480	15 fps	26	390 fps
Video Resolution	Dual-stream Resolution		Max. Frame Rate / Camera	Channel	Total Frame Rate / System
	Stream 1 (H.265)	Stream 2 (H.264)			
3 MP	2048 x 1536	640 x 480	30 fps	41	1230 fps
5 MP	2592 x 1944	640 x 480	30 fps	40	1200 fps
12 MP	4000 x 3000	1024 x 768	20 fps	28	560 fps

For Third-Party IP Camera (Single Stream GPU Decoding)

Video Resolution	Single-Stream Resolution (H.264)	Max. Frame Rate / Camera	Channel	Total Frame Rate / System
1.3 MP	1260 x 1024	30 fps	60	1800 fps
2 MP	1920 x 1080	30 fps	38	1140 fps
3 MP	2048 x 1536	20 fps	39	780 fps
4 MP	2048 x 1944	15 fps	44	660 fps
5 MP	2560 x 1920	10 fps	54	540 fps
8 MP	3840 x 2160	30 fps	10	300 fps
12 MP	4000 x 3000	15 fps	14	210 fps

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.

PACKING LIST

- GV-Hot Swap System V6 (Rev. B)
- AC Power Cord
- Sliding rail kit
- Documents Download Guide

OVERVIEW

Front Panel

Rear Panel - GV-Hot Swap VMS / NVR System

Rear Panel - GV-Hot Swap Recording Server System

OPTIONS

GV-AI Accelerator Module (for GV-VMS)	GV-AI Accelerator Module increases the number of PVD motion detection channels in GV-VMS or GV-AI Guard.
GV-Data Capture V3 Box (for GV-VMS / NVR)	GV-Data Capture V3 allows the integration of POS systems and the GeoVision surveillance system through cable or network connection.
GV-IO Box Series (for GV-VMS / NVR)	GV-IO Box series provides 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 connection.
GV-Joystick V2 (for GV-VMS / NVR)	GV-Joystick facilitates the PTZ camera control.
Gigabit Network Card (for GV-VMS / NVR)	Gigabit Network Card is provided with the two options of 1-port Gb card and 2-port 10-Gb (20 Gb) card. The supported number of network cards varies based on models and combination of RAID card. Contact our sales representatives for more information.
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 for 4U models. When 1 module is down, the other module can still supply full power to the system. - 2U 8-Bay models: 460 W 1+1 mode; 100 ~ 240 V, 47 ~ 63 Hz - 2U 12-Bay models: 550 W 1+1 mode; 100 ~ 240 V, 47 ~ 63 Hz - 4U 20-Bay models: 800 W 1+1 mode; 90 ~ 264 V, 47 ~ 63 Hz

Note:

1. The optional accessories will be built in the GV-Hot Swap Surveillance System V6 (Rev. B) and tested before shipment. Opening the case and installing the accessories yourself will void the warranty.
2. The optional accessories are only supported in GV-Hot Swap Surveillance System V6 (Rev. B) or later.
3. Please contact our sales representatives for more information when combining optional cards for your system.