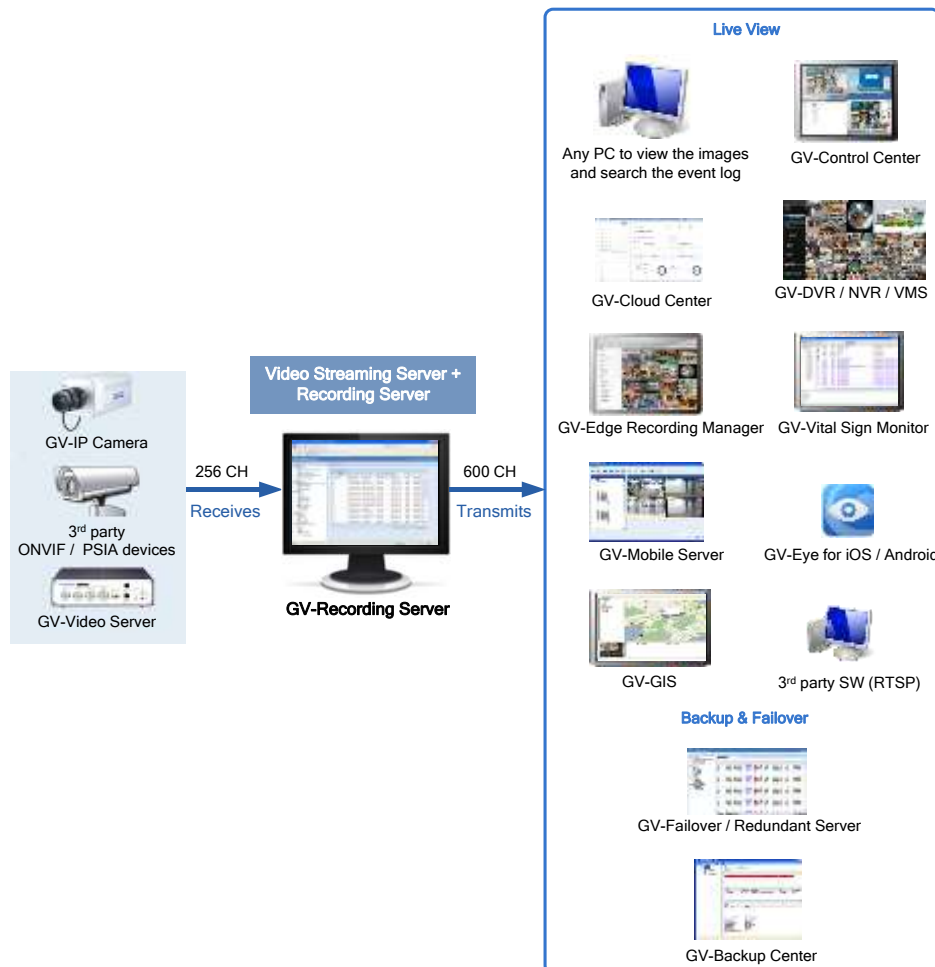# GV-Hot Swap Recording Server System V5 (Rev. F) – 4U, 20-Bay

INTRODUCTION

The GV-Hot Swap Recording Server System is a video streaming server supported by a powerful data storage capacity and designed for large-scale video surveillance deployments. It comes with a selection of 4U (20-bay) or 3U (16-bay) and hot-swappable SATA mobile racks. Depending on the HDD size, the GV-Hot Swap Recording Server System can store up to 200 terabytes of recorded data.

In addition, it can simultaneously distribute up to 600 channels to its clients, which include GV-DVR / NVR / VMS, GV-GIS (geographic information system), GV-Mobile Server, GV-Control Center (central monitoring system), Multi View (viewing software) and GV-Edge Recording Manager. GV-Recording Server can also send text notifications to one GV-VSM (Vital Sign Monitor) when alert conditions occur. GV-Recording Server empowers users to reach the desired frame rates while reducing the CPU loading and the bandwidth usage of IP video devices significantly.
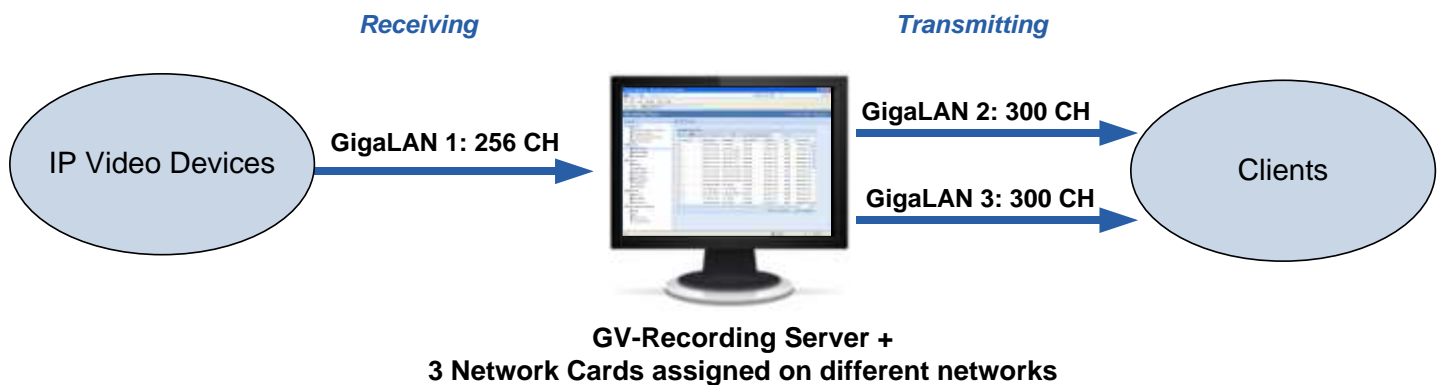

Note: The arrows in the diagram indicate the direction of the connections.

In some areas or countries, you may like to install 3G wireless Internet module (e.g. GPRS/UMTS) on the GV-Video Server or GV-Compact DVR but have the problem to obtain a public IP address from ISP. The **Passive** connection method of GV-Recording Server can solve the public IP issue by accepting the connection request from the GV-Video Server or GV-Compact DVR, and then distribute the video streaming to clients.

Moreover, the GV-Recording Server provides you with a secure and affordable remote backup solution with the GV-Backup Center, GV-Failover Server and GV-Redundant Server.

NETWORK DEPLOYMENT

The GV-Hot Swap Recording Server System, equipped with 3 network interface cards, has the capacity of receiving 256 channels and transmitting 600 channels to clients. It is recommended to set one network interface card for receiving video and two network interface cards for transmitting to clients.

**GV-Recording Server +
3 Network Cards assigned on different networks**

PACKING LIST

- GV-Hot Swap Recording Server System (Rev. F)
- AC Power Cord
- Self-Stick Rubber Pad x 4
- Documents Download Guide
- Warranty Card

FEATURES

- 64-bit Windows 10 IoT Enterprise
- Powered by Intel Core i7 Processor
- 20 hot-swappable SATA drive bays for data storage
- Maximum storage capacity up to 200 TB (4U 20-Bay) / 160 TB (3U 16-Bay)
- Three Gigabit LAN ports: 2.5 Gigabit x 1, 1 Gigabit x 2
- Pre-installed SSD for recovery
- Redundant Power Supply (optional)
- Simultaneous receiving and recording up to 128 IP channels
- Distributing up to 300 IP channels of video to clients
- Web interface to remotely configure and monitor GV-Recording Server
- Two-way audio communication (only for GV-IP devices through active connection)
- Supported RAID type: 0, 1, 3, 5, 6, 10, 00, 30, 50, 60, 100 Single Disk or JBOD (optional)
- Support for ONVIF, PSIA and RTSP protocols
- Support for 31 languages
- Anti-vibration feature to provide the disk throughput of 95% or higher
- CE, FCC, LVD compliant

SPECIFICATIONS

System		
CPU		Intel Core i7 Processor
RAM		16 GB Dual Channels
OS		64-bit Windows 10 IoT Enterprise
No. of HDD		20 (2.5" / 3.5" HDD)
Internal Storage		128 GB SSD
Connector	Ethernet	RJ-45, 2.5 GbE x 1, 1 GbE x 2
	Video Output	2 Displays: HDMI, DisplayPort
	USB	Front: USB 3.2 (Type-A) x 2 Rear: USB 2.0 (Type-A) x 3, USB 3.2 (Type-A) x 4, USB 3.2 (Type-C) x 1
Fan	12 cm (4 3/4")	3 units
	8 cm (3 1/8")	2 units
Power		Output: 850W Input: 100-240V AC, 50-60 Hz, 11-5.5A
Backup Type[1]		DVD+R (DL) / DVD-R (DL) / DVD+R / DVD+RW / DVD-R / DVD-RW / CD-R / CD-RW
System Monitoring and Recovery		
Power Restoration		Automatic restart after power outage
Monitoring		Two independent Watchdogs (Hardware Watchdog + Software Watchdog)
Recovery		Automatic system rebuilt from SSD
Environment		
Operating Temp.		0 ~ 45 °C (32 ~113 °F)
Humidity		0 ~ 80% RH (non-condensing)
Physical		
LED Indicator		Yes (Fan, Power, HDD)
Color		Black
Dimensions (W x H x D)		483 x 178 x 660.4 (mm) / 19 x 7 x 26 (in)
Net Weight		23.5 kg / 51.8 lb (± 1 kg / 2.2 lb)
Software Specifications		
Number of IP Video Device Connections		256 channels
Number of Remote Client Connections		600 channels
Active Connections		Yes
Passive Connections		Yes (only for GV IP devices)
3rd Party IP Cameras Support		Yes
Live Viewing		Single live view, multi-channel live view
Recording		Yes (up to 256 channels)
Remote Playback		Yes (with GV-Backup Center, GV-Failover Server and GV-Redundant Server)
Protocol		HTTP, HTTPS, TCP, UDP, SMTP, UPnP, DynDNS, RTSP, PSIA, ONVIF
E-Mail Notification		Yes (for Active connection lost, passive connection lost, USB protection key removed, recycling of recorded video, start keep days operation, motion detection, disk full, disk error, I/O trigger, disk removed, recording failure)
SMS Notification		No
2-Way Audio		Yes (only for GV-IP devices through active connection)
GPS support		Yes (only for GV-IP cameras)
Number of Accounts		Up to 1000 accounts
Mobile Phone Support		Yes (with GV-Eye)
Bandwidth Control		No
IE Live View		Yes (up to 36 channels)
IE Event Query		Yes
IE I/O Control		No
Language		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

Software License	
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

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.

HDD CAPACITY

The amount of time GV-Hot Swap Recording Server System can record before recycling begins is listed below.

Resolution	Frame rate	Bit rate	HDD capacity required for recording 128ch	HDD Capacity for each model	Amount of time each model can record before recycling begins
1.3 MP	30 fps	3.7 Mbps	5.3 TB per 24 hr	16-bay (160 TB)	160 TB / 5.3 TB = 30 days
				20-bay (200 TB)	200 TB / 5.3 TB = 37 days
2 MP	30 fps	6.7 Mbps	9.3 TB per 24 hr	16-bay (160 TB)	160 TB / 9.3 TB = 17 days
				20-bay (200 TB)	200 TB / 9.3 TB = 21 days
3 MP	20 fps	5.7 Mbps	7.9 TB per 24 hr	16-bay (160 TB)	160 TB / 7.9 TB = 20 days
				20-bay (200 TB)	200 TB / 7.9 TB = 25 days
4 MP	15 fps	11.75 Mbps	15.6 TB per 24 hr	16-bay (160 TB)	160 TB/ 15.6 TB = 10 days
				20-bay (200 TB)	200 TB/ 15.6 TB = 12 days
5 MP	10 fps	16.53 Mbps	22 TB per 24 hr	16-bay (160 TB)	160 TB/ 22 TB = 7 days
				20-bay (200 TB)	200 TB / 22 TB = 9 days
8 MP	25 fps	13.73 Mbps	18.2 TB per 24 hr	16-bay (160 TB)	160 TB / 18.2 TB = 8 days
				20-bay (200 TB)	200 TB / 18.2 TB = 10 days
12 MP	15 fps	13.73 Mbps	18.4 TB per 24 hr	16-bay (160 TB)	160 TB / 18.4 TB = 8 days
				20-bay (200 TB)	200 TB / 18.4 TB = 10 days

Note:

1. To see the number of channels supported by each hard disk, refer to *3.6 Setting Up the Video Storage Location, GV-Hot Swap Surveillance System V5 (Rev. F) User's Manual* for details.
2. Specifications are subject to change without notice.

OPTIONS

Gigabit Network Card	Gigabit Network Card is provided with the two options of 1-Gb single port 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.
Redundant Power Supply	Redundant Power Supply comes with 2 hot-swap modules for 3U models and for 4U models. When 1 module is down, the other module can still supply full power to the system. - 3U 8 Bay models: 460 W 1+1 mode; 100 ~ 240 V, 47 ~ 63 Hz - 3U 16 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
RAID Card	The supported RAID types include 0, 1, 3, 5, 6, 10, 00, 30, 50, 60, 100 Single Disk or JBOD.

Note:

1. The optional accessories will be built in the GV-Hot Swap Surveillance System V5 (Rev. F) 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 V5 (Rev. F) or later.
3. Please contact our sales representatives for more information when combining optional cards for your system.

OVERVIEW

Front View

GV-Hot Swap Recording Server System V5 (Rev. F) – 4U, 20-Bay   *June 5, 2021*