GV-Mini System (Rev. B)

User's Manual

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User's Manual for GV-Mini System (Rev. B)

Welcome to the GV-Mini System (Rev. B) User's Manual.

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

- **Chapter 1, Introduction**
  Identifies the accessories and options of the GV-Mini System (Rev. B).

- **Chapter 2, Overview**
  Identifies the components of the GV-Mini System (Rev. B).

- **Chapter 3, Getting Started**
  Provides step-by-step instructions on setting up the GV-Mini System (Rev. B).

- **Chapter 4, Troubleshooting**
  Suggests courses of action if the GV-Mini System (Rev. B) doesn't 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.

Chapter 1   Introduction

1.1   Packing List

The GV-Mini System (Rev. B) 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.

1. GV-Mini System (Rev. B)
2. 19V, 120W Power Adapter
3. Power Cord (by region)
4. Download Guide

1.2   Options

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

VESA Bracket	The bracket allows for mounting the unit on the rear of a computer monitor.

1.3   Supported Software

1. GV-NVR
2. GV-VMS
3. GV-ASManager
4. GV-AI FR Server (coming)
5. GV-AI Smart Retail (coming)

![GeoVision Inc. logo]

Chapter 2   Overview

2.1   Front View

Figure 2-1

No.	Name	No.	Name
1	Power Button	5	USB 3.1 Gen 1 (Type-C)
2	Power LED	6	USB 3.1 Gen 1 (Type-A)
3	HDD LED	7	Headphone/Headset
4	MIC-In		

2.2   Rear View
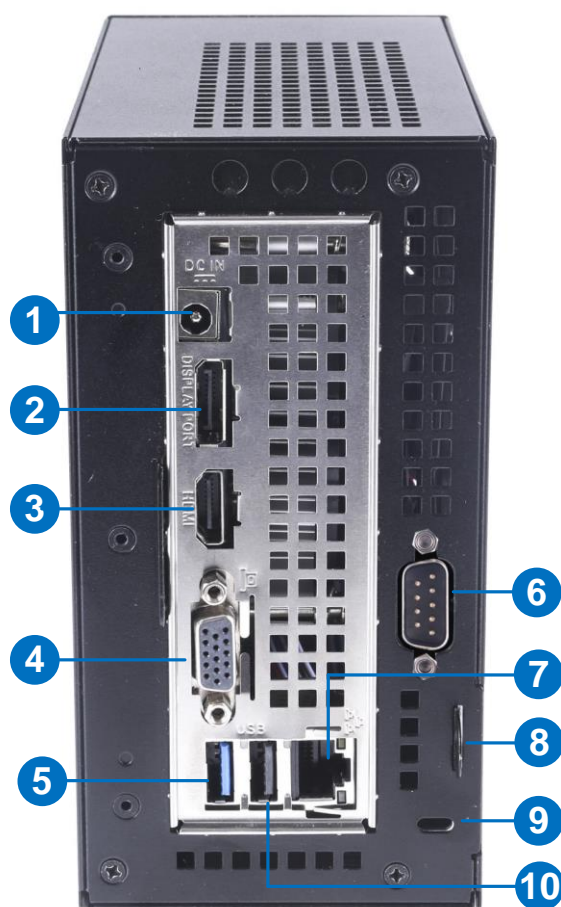
Figure 2-2

No.	Name	No.	Name
1.	DC Jack (for 19V 120W Power Adapter)	6.	COM port
2.	DisplayPort	7.	Gigabit LAN port
3.	HDMI Port	8.	Key Lock (Anti-tampering)
4.	VGA Port	9.	Kensington Lock (Anti-theft)
5.	USB 3.1 Gen 1 (Type-A)	10	USB 2.0 Port

3

Chapter 3 Getting Started

3.1 Basic Installation

This section describes all the equipments required to program and operate the GV-Mini System (Rev. B).
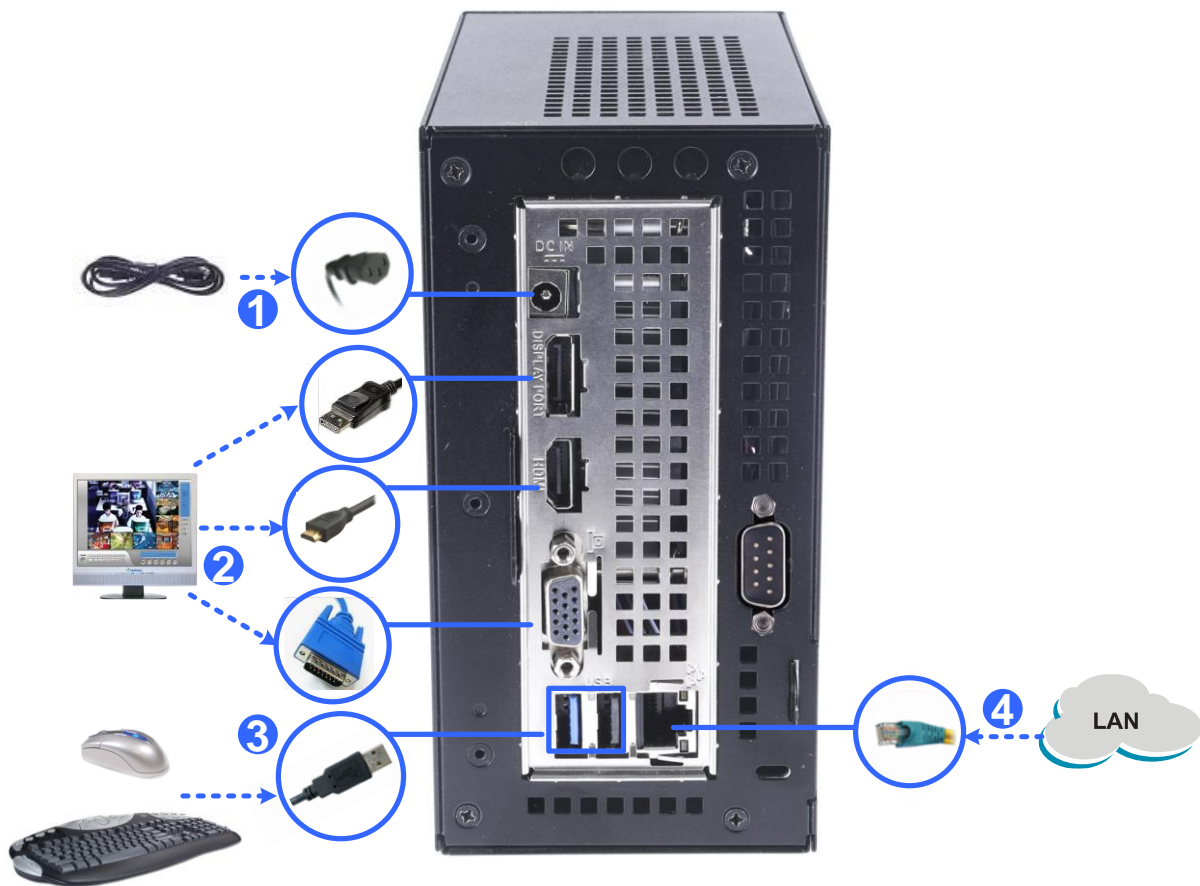
Figure 3-1

1. Using the supplied power cord, connect one end to the AC input and the other end to the power outlet.

2. Using the DisplayPort / VGA / HDMI cable supplied by the monitor manufacturer, connect up to 2 monitors for simultaneous displays.

3. Connect the mouse and keyboard to the USB ports.

4. Using the RJ-45 cable, connect one end to the Ethernet port and the other end to Network.

Once the above hardware is properly connected, press the Power button on the front panel to start the system. It takes about 1 minute for startup.

3.2 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.
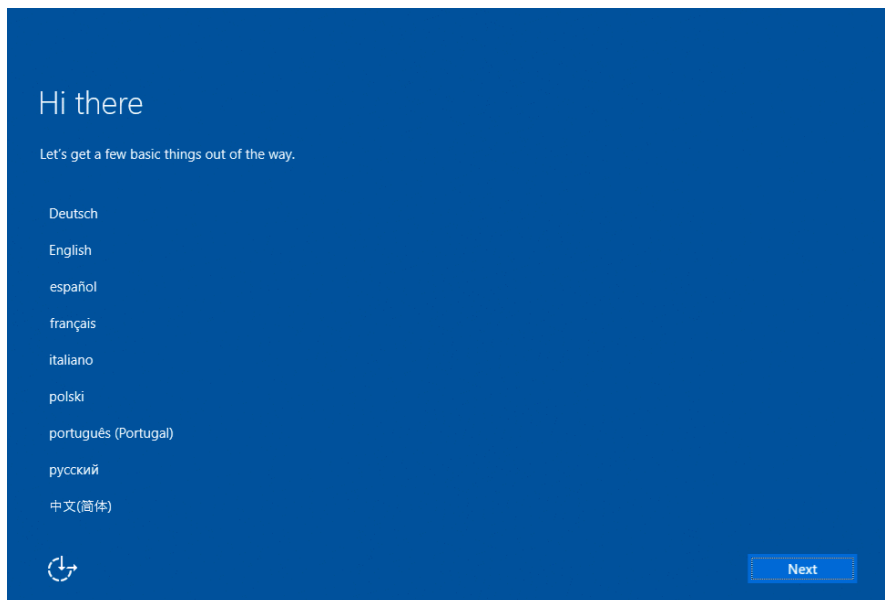
Figure 3-2

2. Select your regional settings and time zone and click **Next** to continue.
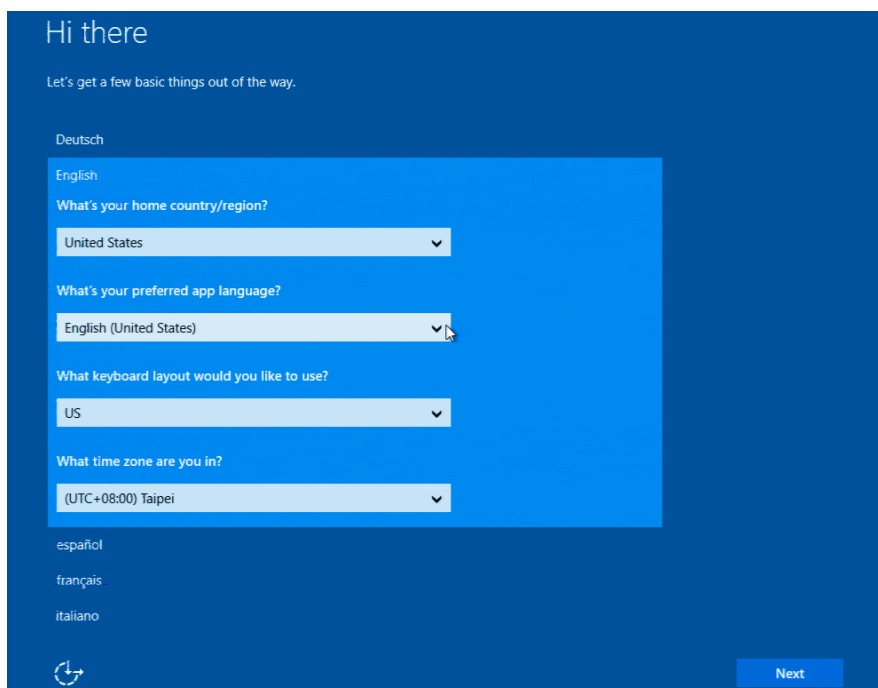
Figure 3-3

3. Click **Accept** to accept Microsoft software license terms.

4. Select between "Customize" and "Use Express settings" for your Windows 10 installation.

5. Type your account name. It is recommended that you create a password for your account and click **Next**.
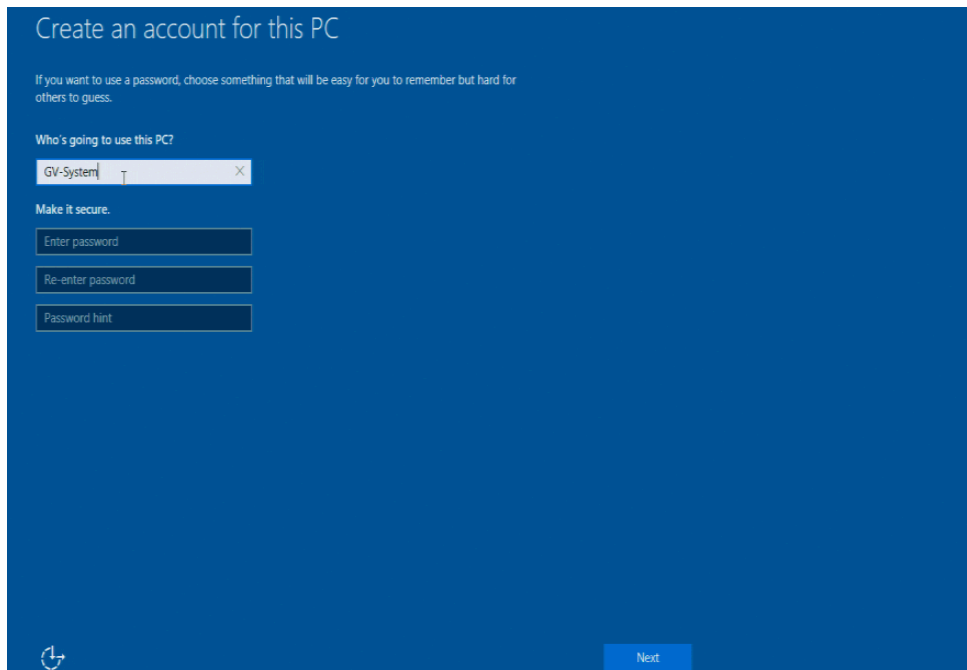
Figure 3-4

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

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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 *3.3 System Restoration*.

3.3 System Restoration

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

3.4 Updating GV-Mini System (Rev. B)

If you like to update your GV-Mini System (Rev. B), contact your dealer for more information.

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

3.5   Installation of 2.5-inch HDD/SSD

1. Unscrew the four screws on the back panel. Pull out the motherboard tray.
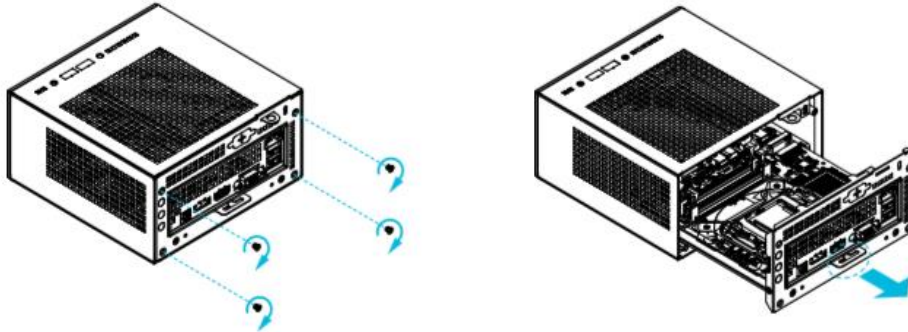
Figure 3-7

2. Remove the motherboard by unscrewing the four screws of each corner.

3. Flip the motherboard over with the reverse side up. Place the HDD/SSD onto trays (A) and (B).
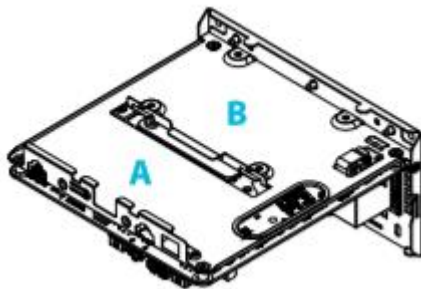
Figure 3-8

4. Secure the HDD/SSD of tray A with the four screws.
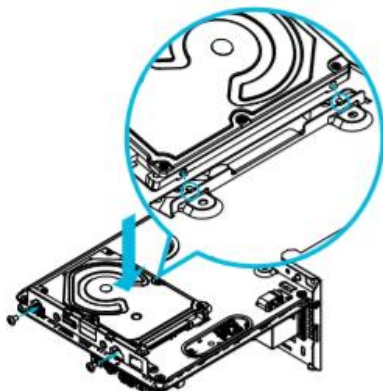
Figure 3-9

5. Flip the motherboard right side up and secure the HDD/SSD of tray B in place.
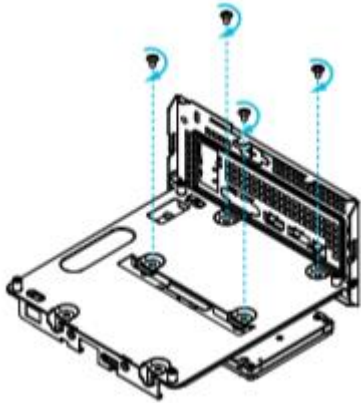
Figure 3-10

6. Ensure the SATA Data and Power Cable is connected to the HDD/SSD.
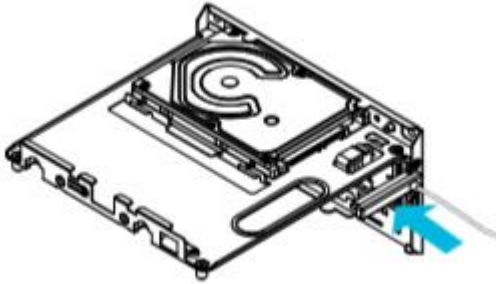
Figure 3-11

7. Connect the ends of the SATA Cables to the SATA Connectors as shown in Figure 3-12.
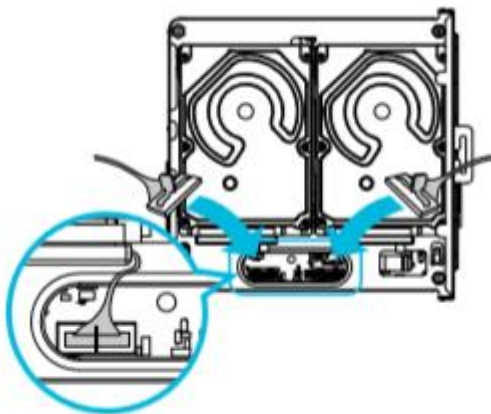
Figure 3-12

Chapter 4   Troubleshooting

GV-Mini System (Rev. B) stops responding (aka "crashed" or "froze")

1. Check if your mouse and keyboard are working properly.

   - If they cease functioning, following steps 2 and 3 to restart the system.

   - If they work, open the Task Manager (Ctrl+Alt+Del) and end the task of a non-responding program.

2. Push the Power button for 10 to 20 seconds until the GV-Mini System (Rev. B) turns off.

3. Push the Power button again to turn the GV-Mini System (Rev. B) back on.

GV-Mini System (Rev. B) is unable to start.

If your GV-Mini System (Rev. B) is unable to start after you push the Power button, try these steps:

1. Remove the AC power adapter from the DC Jack.

2. Wait for 30 seconds before plugging the AC power adapter back in.

3. Push the Power button to see if the GV-Mini System (Rev. B) can start.

No screen image

If your GV-Mini System (Rev. B) is able to start properly but images cannot be displayed on the connected monitor(s), try these steps:

1. Check if the blue power LED is lit.

Figure 4-1

2. Use a different monitor output and see if it works.

GV-Mini System (Rev. B) suffers virus attack.

GV-Mini System (Rev. B) is designed and optimized for Windows 10 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-Mini System (Rev. B) suffers virus attack, try rebuilding the operating system and the software. Refer to *3.3 System Restoration.*

How can I find more help?

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

2. Write us at support@geovision.com.tw

Appendix

A. Frame Rate Limit for GV-NVR / VMS

The total of recording frame rates that you can assign to a single hard disk for GV-NVR / VMS recording is listed as below:

Frame Rate Limit in a Single Hard Disk				
Video resolution	H.264		H.265	
	Frame Rate (fps)	Bitrate (Mbit/s)	Frame Rate (fps)	Bitrate (Mbit/s)
1.3 MP	660	5.05	N/A	N/A
2 MP	660	7.01	N/A	N/A
3 MP	440	10.48	660	5.35
4 MP	330	11.65	550	7.74
5 MP	220	16.48	660	6.73
8 MP	550	14.13	N/A	N/A
12 MP	330	14.47	N/A	N/A
Note: The data for GV-NVR / VMS were obtained using the bit rate listed above and hard disks with average R/W speed above 110 MB/s, with the model of Core i7 and 16 GB RAM.				

![GeoVision Inc. logo]

B. Total Frame Rate and Max. No. of Channels Supported

for GV-NVR / VMS

For GV-IP Camera (Dual Streams)

GV-NVR

Video	Dual-stream Resolution		Max. Frame	Channel	Total Frame
Resolution	Stream 1 (H.264)	Stream (H.264)	Rate / Camera		Rate / System
1.3 MP	1280 x 1024	320 x 256	30 fps	32	960 fps
2 MP	1920 x 1080	448 x 252	30 fps	32	960 fps
3 MP	2048 x 1536	320 x 240	20 fps	32	640 fps
5 MP	2560 x 1920	320 x 240	10 fps	32	320 fps
8 MP	3840 x 2160	1280 x 720	25 fps	32	800 fps
12 MP	4000 x 3000	1024 x 768	15 fps	32	480 fps

Video	Dual-stream Resolution		Max. Frame	Channel	Total Frame
Resolution	Stream 1 (H.265)	Stream (H.264)	Rate / Camera		Rate / System
1 MP	1280 x 720	640 x 360	30 fps	32	960 fps
2 MP	1920 x 1080	640 x 360	30 fps	32	960 fps
3 MP	2048 x 1536	640 x 480	30 fps	32	960 fps
4 MP	2560 x 1440	640 x 360	25 fps	32	800 fps
5 MP	2592 x 1944	640 x 480	30 fps	32	960 fps

GV-VMS

Video Resolution	Dual-stream Resolution		Max. Frame Rate / Camera	Channel	Total Frame Rate / System
	Stream 1 (H.264)	Stream (H.264)			
1.3 MP	1280 x 1024	320 x 256	30 fps	64	1920 fps
2 MP	1920 x 1080	448 x 252	30 fps	64	1920 fps
3 MP	2048 x 1536	320 x 240	30 fps	64	1920 fps
5 MP	2560 x 1920	320 x 240	25 fps	64	1600 fps
8 MP	3840 x 2160	1280 x 720	25 fps	64	1600 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 (H.264)			
1 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 480	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

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

GV-NVR

Video Resolution	Single-Stream Resolution (H.264)	Max. Frame Rate / Camera	Channel	Total Frame Rate / System
1.3 MP	1280 x 1200	15 fps	32	480 fps
2 MP	1440 x 1376	15 fps	32	480 fps
3 MP	2048 x 1536	15 fps	32	480 fps
4 MP	2048 x 1944	15 fps	27	405 fps
5 MP	2560 x 1920	10 fps	32	320 fps
8 MP	2896 x 2768	25 fps	12	300 fps
12 MP	4000 x 3000	15 fps	13	195 fps

GV-VMS

Video Resolution	Single-Stream Resolution (H.264)	Max. Frame Rate / Camera	Channel	Total Frame Rate / System
1.3 MP	1280 x 1200	15 fps	61	915 fps
2 MP	1440 x 1376	15 fps	57	855 fps
3 MP	2048 x 1536	15 fps	36	540 fps
4 MP	2048 x 1944	15 fps	27	405 fps
5 MP	2560 x 1920	10 fps	41	410 fps
8 MP	2896 x 2768	25 fps	12	300 fps
12 MP	4000 x 3000	15 fps	13	195 fps

For Third-Party Camera (Single Stream GPU Decode)

GV-NVR

Video Resolution	Single-Stream Resolution (H.264)	Max. Frame Rate / Camera	Channel	Total Frame Rate / System
1.3 MP	1260 x 1024	30 fps	32	960 fps
2 MP	1920 x 1080	30 fps	32	960 fps
3 MP	2048 x 1536	20 fps	32	640 fps
4 MP	2048 x 1944	15 fps	32	480 fps
5 MP	2560 x 1920	10 fps	32	320 fps
8 MP	3840 x 2160	30 fps	10	300 fps
12 MP	4000 x 3000	15 fps	14	210 fps

GV-VMS

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:

1. The test data shown in the tables above were obtained using Core i7 and 16 GB RAM.

2. 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 disables.