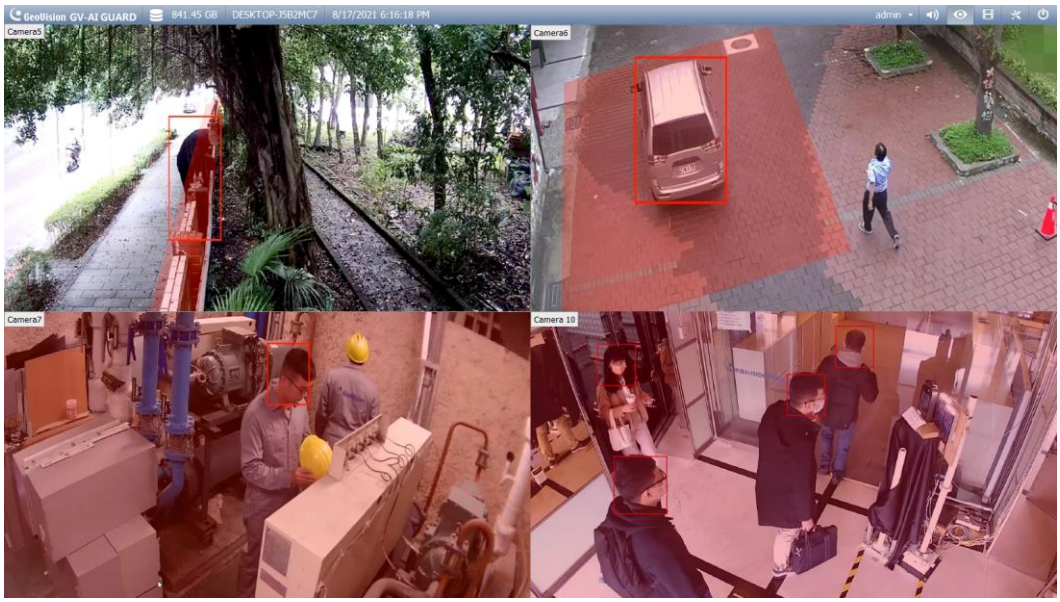
GV-AI Guard



Introduction

GV-AI Guard is a full-featured video management software powered by intelligent AI video analytics. It detects specific conditions, triggers alarms for intrusions and violations, and instantly alerts operators to potential risks—making it ideal for securing premises, improving road and construction site safety, and supporting public health through preventive safety measures.

Key Features

- **PVD Motion Detection** for identifying human and vehicle motion from other moving objects
- **Intrusion** for creating virtual fences
- **Loitering** for identifying unauthorized parking and pedestrian violations
- **Personal Protective Equipment Detection** to ensure compliance with safety gear requirements such as hard hats and vests
- **Face Mask Detection** to support public health and safety protocols
- **Social Distancing Detection** for alerting people not keeping a safe distance from each other
- **Crowd Detection** for detecting overcrowding of people or vehicles
- **Smoke/Flame Detection** for early fire alerts
- **Fall Down Detection** to enhance safety in healthcare environments (Plugin required)
- **Cross Line** to monitor movement across preset lines in specific directions
- **Enter & Leave Area** to track entry and exit activities within predefined zones
- **Counter** for people or vehicle counting
- **Mandatory Crossroad Stopping** for identifying vehicles that fail to stop at required points
- **Wrong-Way Detection** to alert on vehicles traveling in the wrong direction
- **Average Speed Detection** for vehicle speed violation
- **Vehicle Attributes Recognition** for providing comprehensive vehicle information to enhance access management and operational efficiency, supporting functions such as Entrance, Exit, Zone Monitor, and Queued Traffic control (Plugin required)
- **LPR recognition** for vehicle loitering, average speed detection, and vehicle attributes recognition for up to 14 countries/areas
- **AI Query** to filter AI and PVD events by cameras, time range, facial recognition, event types, person attributes, and vehicle attributes

Minimum System Requirements

OS	64-bit	Windows 10 / Windows 11 / Server 2016 / Server 2019 / Server 2022 / Server 2025
CPU[1] [2]		Intel Core i7-11700 Processor
Memory	PVD Motion Detection (Up to 16 Ch)	16 GB (8 GB x 2)
	Basic AI Analytics[7]	16 GB (8 GB x 2)
	Advanced AI Analytics[8]	32 GB (16 GB x 2)
	PVD Motion Detection (Up to 32 Ch with GV-AI Accelerator Module)[9]	32 GB (16 GB x 2)
Graphics Card		Intel UHD Graphics 750

IMPORTANT: The LPR recognition feature is currently not supported on systems using Intel Core Ultra Series 2 Desktop processors (Arrow Lake) due to compatibility concerns. Support for this feature is planned for GV-AI Guard V2.3 or later.

Note:

1. For AI analytics and PVD motion detection, 11th Generation Intel Core i7 / i9 processors or above are required, and the function utilizes the integrated GPU, which only works when a monitor is connected to the onboard GPU.
2. Only Intel Core processors are compatible with GV-AI Guard; other brands of CPU do not work with GV-AI Guard.
3. GV-AI Guard does not support virtual machine installation.
4. To use fisheye dewarping, the graphics card must support DirectX 10.1 or above.
5. H.265 decoding and searching of face recognition events by face images requires 6th Generation Intel Desktop Processor (Skylake) or above, which comes with the onboard GPU.
6. Basic AI Analytics
   - Under minimum system requirements, GV-AI Guard supports basic AI analytics for up to **16** channels.
7. Advanced AI Analytics
   - Under minimum system requirements, GV-AI Guard supports advanced AI analytics for up to **8** channels.
8. PVD Motion Detection
   - To expand PVD motion detection to **32** channels, ensure your PC has at least 32 GB RAM and GV-AI Accelerator Module installed. Only one unit of GV-AI Accelerator Module is supported. For details, see *Options* below.
9. The system requirements are determined in round-the-clock recording settings with live view only, while remote connections and video analysis are disabled.

Recommended Hard Disks

GeoVision software performance tests are conducted using **enterprise-grade 7200 RPM** HDDs with an average read/write speed of **110 MB/s**. If you are using HDDs with different specifications, we recommend conducting performance tests in your actual installation environment to ensure their read/write speed meets your application requirements.

Licenses

GV-AI Guard supports recording of up to 32 camera channels, with **16 channels for Basic AI Analytics** or **8 channels for Advanced AI Analytics**. It is a premium software solution that requires a **GV-USB Dongle** with at least one AI Analytics channel for activation.

Once GV-AI Guard is activated, **16-channel PVD motion detection** becomes available. To expand PVD motion detection to 32 channels, a GV-AI Accelerator Module is required.

Category	Type	Feature	Max. CH	Note
Platform License	AI Analytics	Basic AI Analytics (by key frame)	16	• This is a premium software that requires a GV-USB Dongle (1) with at least 1 AI license channel for activation. • Once GV-AI Guard is activated, **16-channel PVD motion detection** becomes available. To expand PVD motion detection to 32 channels, a GV-AI Accelerator Module is required.
		Advanced AI Analytics (by full frame)	8	• **Each Advanced function** uses 2 AI license channels. • **Vehicle Attributes Recognition (Queued Traffic)** uses 2 AI license channels. • **Vehicle Attributes Recognition (Zone Monitor)** uses 2 AI license channels.
Additional License	LPR-Related Event	Average Speed Detection	32	Average Speed Detection requires min. 2 LPR-Related Event license channels to operate, with max. 16 sets of Average Speed Detection functions enabled.
		Loitering LPR	16	An optional feature included with Basic/Advanced Loitering.
		Vehicle Attributes Recognition (Entrance)	8	Entrance requires 2 AI license channels and 1 LPR-Related Event license to operate.
		Vehicle Attributes Recognition (Exit)	4	Exit must be paired with Entrance, each requiring 2 AI license channels and 1 LPR-Related Event license. A paired Exit function thus requires 4 AI license channels and 2 LPR-Related Event licenses.
	DL LPR	Deep Learning License Plate Recognition	8	For GV-LPR Plugin use
	3rd-Party IP Device(3)	-	32	
	HD DVR(2)	-	32	
Increment per license type			1	

Note:

1. GV-USB Dongle comes in internal and external dongles. Internal dongle is recommended for its Hardware Watchdog function, which automatically restarts the PC when Windows is unresponsive.
2. The **HD DVR** license is supported only by GV-AI Guard V2.0 or later and is required for connecting UA-HD DVRs (**analog** channels only).
3. The **3rd-Party** license is required for connecting UA-IP cameras and other 3rd-party IP devices.

Optional Licenses

Optional Combination	1. GV-AI Guard + GV-POS S/W Capture (with options of 4 serial POS and 32 network POS devices) 2. GV-AI Guard + GV-POS Text Sender (with options of 1, 2, 4, 8, 12, and 32 ports)

Specifications

GV-AI Guard supports recording of up to 32 camera channels, with **16 channels for Basic AI Analytics** or **8 channels for Advanced AI Analytics**.

Video Resolution		Up to 12 Megapixels per channel
Video Codec		H.264, H.265
Frame Rate	Basic AI Analytics / PVD Motion Detection	By Key Frame (each channel detected once per second)
	Advanced AI Analytics	By Full Frame
Recording Channels		Up to 32 Ch
AI Analytics Channels		- **PVD Motion Detection:** Up to 16 Ch / Up to 32 Ch (requires GV-AI Accelerator Module) - **Basic AI Analytics:** Up to 16 Ch - **Advanced AI Analytics:** Up to 8 Ch - **Average Speed Detection:** Up to 32 Ch - **Vehicle Attributes Recognition (Entrance, Zone Monitor, Queued Traffic):** Up to 8 Ch - **Vehicle Attributes Recognition (Exit):** Up to 4 Ch
AI Analytics Functions		- **Basic AI Analytics:** Crowd Detection, Face Mask Detection, Fall Down Detection, Intrusion, Loitering, Personal Protective Equipment (PPE) Detection, Smoke/Flame Detection, Social Distancing Detection - **Advanced AI Analytics:** Counter, Cross Line, Enter Area, Intrusion, Leave Area, Loitering, Mandatory Crossroad Stopping, Vehicle Attributes Recognition (Zone Monitor, Queued Traffic), Wrong-Way Detection. - **LPR-Related Events:** Average Speed Detection, Loitering LPR, Vehicle Attributes Recognition (Entrance, Exit) * Fall Down Detection and Vehicle Attributes Recognition require the corresponding plugin to be installed.
LPR Recognition Coverage		Europe, France, Germany, Hungary, Israel, Italy, Myanmar, Netherlands, Slovakia, Taiwan, UK, USA (California, Georgia), Vietnam *LPR recognition must work with Loitering LPR, Average Speed Detection, or Vehicle Attributes Recognition.
Detection Objects (1)		Humans / Vehicles (Car, Bus, Truck, Bicycle, Motorcycle)
Max. Number of Detected Objects		- **PVD Motion Detection, Loitering, Intrusion, Social Distancing Detection, Crowd Detection:** 30 per channel - **Face Mask Detection, Hard Hat Detection:** 10 per channel - **Advanced AI Analytics:** 30 per channel
Event Alerts		Alarm Output, E-mail, Computer Audio Alarm, Telegram Notify
Languages		Chinese Traditional, English

Note:

1. For details on supported object types and vehicle brands, see the document.
2. All specifications are subject to change without notice.

GPU Decoding Specifications

GPU (Graphics Processing Unit) decoding can lower the CPU loading and increase the total frame rate supported by your system. GV-AI Guard supports only Intel onboard GPU:

- 11th -14th Generation Intel Core i7 / i9 Desktop Processors
- Intel Core Ultra 7 / Ultra 9 Desktop Processors (Series 2)

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Options

Optional Devices	Description
GV-AI Accelerator Module	GV-AI Accelerator Module is equipped with an M.2 M key connector and is compatible with 11th Gen CPUs or later versions. The module allows you to increase the number of channels for PVD motion detection. See *GV-AI Accelerator Module's datasheet* for details.
GV-Data Capture V3.1	GV-Data Capture 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 supports both DC and AC output voltages, with optional support for Ethernet module and 4E additionally supporting PoE connection.
GV-IP Speaker	GV-IP Speaker plays audio received over the network, supporting both live speeches to deter intruders and pre-recorded messages for alerts and announcements.
GV-Joystick V3	GV-Joystick V3 facilitates PTZ camera control. It is compatible not only with GeoVision software, but also with any third-party software that supports the HID standard.
GV-NET I/O Card V3.2	GV-NET/IO card V3.2 provides 4 inputs and 4 relay outputs. It supports both DC and AC output voltages and provides a USB port as well.