INTRODUCTION

The GV-NVR (Network Video Recorder) records video and audio data over TCP/IP networks. With up to 32 channels of pure IP surveillance, the GV-NVR offers the same functions as GV-Series Surveillance System. From monitoring features to video analytics as well as integration with LPR, POS/ATM and Access Control systems, it stands as one of the most comprehensive IP surveillance software in the security market.

Combined with GeoVision IP camera, the GV-NVR takes advantage of a better image quality thanks to the progressive scan technology and allows advanced video features such as Picture-In-Picture and Picture-And-Picture. Compatibility with a wide range of third party IP cameras makes the GV-NVR the ultimate solution for pure IP surveillance environments.

Supported IP Camera List

VERSION 8.4 KEY FEATURES

Built upon comprehensive and easy-to-integrate hardware and supporting technologies, the GV-Surveillance and Video Management Platform is the core system platform that provides performance-optimized video monitoring and various advanced video analytics/control features to support many of enterprise's management functions. It is a scalable, extensible platform that can be customized and seamlessly integrated with other security system applications, such as:

1. POS/ ATM/ EAS for loss prevention
2. Access Control for building automation
3. License Plate Recognition system for law enforcement, entrance control and revenue collection
4. Megapixel IP devices for critical area and mobile object monitoring
5. Central Monitoring stations for high profile security areas in commercial, industrial and residential markets

In addition the remote management WebCam and versatile storage system framework offer high scalability and extensibility for future integration with other functions or systems at remote sites.

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VERSION 8.4 NEW FEATURES

- **Main System:**
  - Support for GV-FE110 fisheye camera and ImmerVision IMV1 Panomorph lens
  - Video compacting by keeping key frames only
  - Schedule center for compacting video, merging video, and fast backup and restore
  - Face count function
  - Compatibility with IP devices using ONVIF/PSIA standards
  - On demand display to automatically adjust live view resolution for dual-stream video
  - Economic mode to customize recording frame rate for IP devices
  - Listing tampering alarm events from GV-IP devices in system log
  - Round-the-clock audio recording
  - Support for AMR and AAC audio codec
  - Support for new PTZ cameras: VDI CT-58SPD, Bosch G3 and COP 15-CD55TW Pelco D
  - Support for new GeoVision IP cameras: GV-BL110D, GV-BX120D, GV-BX220D, GV-BX320D, GV-FE110, GV-PT110D and GV-PTZ010D
  - Support for more ACTi IP cameras: CAM-6610N, TCD-2500, TCM-1511, TCM-3511 and TCM-5611
  - Support for more Axis IP cameras: M1011, M3011, M3014, P1311, P1343, P1344, P1346, P3343, P3344, P5534 and Q1755
  - Support for more Canon IP cameras: VB-C500D and VB-C60B
  - Support for more CNB IP cameras: IVP4030VR KC1 and INS2000 KC1
  - Support for more D-Link IP cameras: DCS-3415, DCS-5230, DCS-6110 and DCS-3411
  - Support for more EtroVision IP cameras: EV6150A, EV6151A, EV6250A and EV8150A
  - Support for more MOBOTIX IP cameras: D12 and Q24
  - Support for Panasonic BB-HCM715
  - Support for more Pelco IP cameras: IXS0C and IXE20C
  - Support for more Sanyo IP cameras: VCC-HD2100P and VCC-HD2300P
  - Support for more Sony IP cameras: SNC-DH140, SNC-RH124 and SNT-EX104
  - Support for UDP NVC1000
  - Support for Vivotek IP cameras: FD7131, FD7132, FD7141, FD8161, FD8361, IP7130, IP7133, IP7137, IP7160, IP7330, IP8330, IP8332, IZ7151, PZ7122, SD7313 and SD7323

- **ViewLog**
  - Bookmark function

- **Center V2**
  - Event Chart
  - Display of Wiegand cardholder data from the GV-System
  - Playback using Remote ViewLog
  - QView for channel display on another monitor

- **Dispatch Server**
  - Event Chart
  - Playback using Remote ViewLog

- **VSM**
  - Event Chart
  - Up to 5 connections to VSM centers from one GV-System

- **Control Center**
  - Up to 2 monitors supported for VMD event pop-up
  - Audio broadcasting

- **GIS**
  - Input-triggered live view on mobile hosts

- **Accessory**
  - GV-Keyboard V3

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FULL FEATURE LIST

Monitoring

- Support for 32 channels in GV-System and CMS applications
- Digital Matrix, support maximum 8 monitors display
- Higher Screen Resolutions (1920 x 1200, 1680 x 1050, 1600 x 1200, 1280 x 800, 1440 x 900 and 1920 x 1080)
- Noise Tolerance for Motion Detection
- Report Generator
- Support for Cardholder data from GV-Video Server
- Touch Screen Support
- Full screen view
- Dual display operation for live monitoring and ViewLog playback on two monitors
- Screen pop-ups on motion or alarm activation
- Advanced Motion Detection
- Digital watermark
- Video lost detection
- On screen video loss message
- Video de-interlace filter
- E-map
- Windows lockup
- Image size indicator
- Synchronized video an audio
- Backlight compensation
- Video scaling filter
- AVI repair utility
- System log
- Support 1,000 accounts for logins and passwords
- Multi level passwords protection
- Use Microsoft Remote Desktop to control another GV-System
- Twin DVR
- Embedded I/O devices control
- Embedded PTZ control panel
- Support dynamic IP address
- Password Expiration Management
- System Idle Protection
- Spot Monitor Controller
- POS Live Viewer
- Photo-ID Integration (GV-WT)
- Authentication Server
- Colorful Mode to enhance video color

Intelligent Recording & Playback

- Recording trigger by round-the-clock, motion detection, alarm and schedule
- Adjustable recording quality and frame rate for each camera
- Pre-motion and post-motion recording
- Supports Windows XP / Server 2003 burning software
- Instant Playback
- Time Merge From Different Clips
- Splitting Files for Backup onto Multiple Discs
- Extracting Frames from a Video Clip During Playback
- Support for Daylight Saving Time (DST)
- Playback of GPS tracks from GV-Compact DVR and GV-Video Server

Audio

- 32 channels of live audio streaming and recording

Video Analytics

- Advanced Motion Detection (**)
- Face Detection
- Advanced Scene Change Detection (**)
- Advanced Unattended Object Detection (**)
- Advanced Missing Object Detection (**)
- Privacy Mask
- Enhanced Object Counting
- Intrusion Alarm
- People Counting
- Panorama View (**)
- Video Stabilization (**)
- Defog Function (**)
- Crowd Detection (**)
- Digital Object Tracking
- Face Count

Note: The feature with (**) mark needs to work with an AVP dongle which you need to purchase additionally.

Smart Search & Ease Playback

- Timeline Search
- Face Detection for Object Index
- Object search
- Index search
- Object Index
- Thumbnail browse for ease of search for specific frames within video footage
- Export a video footage within a specified time range
- Synchronized audio and video for both live and playback modes
- Continues playback of set frames A to B
- EXE format export, playable with any third-party players
- AVI format export in multiple screens mode
- DVD format export for Hybrid Card format files
- Option for recycling the input-triggered events (Never recycle function)
- Backup, save AVI and BMP functions accessible in LAN ViewLog
- Automatic refresh of the video event list in LAN ViewLog

Notification

- E-mail notification with attached video images on motion and alarm activation
- E-mail or telephone notification on video lost or I/O error
- Directs PTZ dome to a preset location on motion and alarm activation
- SMS alerts available in Main System, Center V2 and Vital Sign Monitor
- Alarms on objects that pass between predefined regions

WebCam - Remote Surveillance

- POS Live View via IE Browser
- 3G Mobile Phone Support (3GPP)
- SSL Encrypt Connection Support
- UPnP™ Support
- Control Panel on Single View to Provide Instant Information and Operation
- Support PIP, PAP, Defogging Live Videos, and Video Stabilizer in Single View
- Restricting Power User and User to Access WebCam Server at Specified Time Length
- Event List Query
- Download Center
- Drag-and-Drop Support for Camera, PTZ and I/O Icons on the 2 Windows of MPEG4 Encoder Viewer
- Remote E-Map
- Pop-up Live Images upon Input Trigger in Remote E-Map
- Multicast
- Audio Broadcast

Advanced I/O Control

- Visual Automation
- Virtual I/O Control
- One-Click I/O Status Control
- Multiple I/O Types Selection
- Latch Trigger Feature

Mobile Phone Application

- Support 4, 9, and 16 screen divisions
- PTZ control via directional buttons
- Channel switch via middle button
- Support for Nokia S60 3rd Edition

Profile Management

- Selectable GUI Skin
- Custom Start-Up Splash Screen, Non-Active Video & Video Lost Screen
- Customizing System Features
- Easy Configuration Backup & Restore
- Custom DVR Setting's Template

Remote Monitoring Software

- WebCam
- Remote Playback System
- G-View for WinCE PDA
- I-Mode
- BlackBerry phones

IT Technology

- RSA Network Security
- Authentication Server: central control of password settings in local GV-DVRs

Central Monitoring Station (CMS)

- Center V2
- Vital Sign Monitor
- Dispatch Server
- Control Center
- GV-GIS (Geographic Information System)

Integration Solution

- Point-Of-Sale
- EAS Integration
- Access Control
- Megapixel Integration
- Licence Plate Recognition
- Central Monitoring Station

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VERSION 8.4 GV-NVR Specifications

NVR		
Model	**GV-NVR (GV)**	**GV-NVR**
Video Input	4, 8, 12, 16, 20, 24, 28, 32	1, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32
Audio Input	4, 8, 12, 16, 20, 24, 28, 32	1, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32
Video Compression	MJPEG, MPEG4, H.264	
Video Resolution	From CIF to 5 Mega pixel	
Networking	TCP / IP, LAN, WAN, Internet, Modem Dial-up, Modem-to-Modem, ISDN	
Backup Device	HDD, NAS, CD-R / R-W, DVD+R / +RW, DVD+R (DL), ZIP, JAZ, Blu-ray, GV-Storage System	
Mobile Phone / PDA	Symbian S60 (2.X~3.X), Windows Mobile (5.0~6.1), Blackberry (4.2.1~4.7), iPhone (2.2~3.1)	
Language	Czech / Danish / English / French / German / Hebrew / Hungarian / Italian / Japanese / Polish / Portuguese / Russian / Serbian / Simplified Chinese / Spanish / Traditional Chinese	

Minimum System Requirements		
OS	32-bit	Windows XP, Windows Vista, Windows 7, Windows Server 2008
	64-bit	Windows 7, Server 2008
CPU		Core 2 Duo, 2.4 GHz / Core 2 Quad, 2.4 GHz / Core i7, 2.8 GHz
RAM		2 X 1 GB Dual Channels / 2 x 2 GB Dual Channels (see IMPORTANT 2)
VGA		ATI X 1300

Important :

1. To connect **IP cameras with H.264** codec and **GV-IP Speed Dome** (no matter which codec you select), the minimum CPU requirement of Core 2 Quad can only support up to 8 channels. With CPU of Core i7 or higher, you can record up to 32 channels but note the following limit for live viewing:
   • For live viewing of 32 channels, you need to lower the resolution and change the codec to MPEG 4 or MJPEG.
2. For the users of 32-bit Windows, the memory limit of GV-NVR is 1.7 GB with 2 GB RAM. For the users of 64-bit Windows, the memory limit of GV-NVR is 1.7 GB with 2 GB RAM and 3 GB with 4 GB RAM. If the high memory issue persists, the GV-NVR will become unstable.

Frame rate limit in a single hard disk

Since the size of transmitted data from IP cameras may be quite large and reach beyond the transfer rate of a hard disk, you should note the total of recording frame rates that you can assign to a single hard disk, as listed below:

Video resolution	MJPEG		H.264		MPEG4	
	Frame Rate	Bit Rate	Frame Rate	Frame Rate	Bit Rate	Frame Rate
2560x1920 (5M)	30 fps	102.26Mbit/s	240 fps	21.24Mbit/s	-	-
2560x1600 (4M)	60 fps	73.49Mbit/s	240 fps	15.28Mbit/s	-	-
2048x1536 (3M)	60 fps	64.73Mbit/s	480 fps	10.52Mbit/s	-	-
1600x1200 (2M)	120 fps	41.16Mbit/s	480 fps	9.16Mbit/s	-	-
1280x960 (1.3M)	200 fps	30.04Mbit/s	480 fps	5.77Mbit/s	480 fps	6.30Mbit/s
640x480 (VGA)	480 fps	11.42Mbit/s	640 fps	2.54Mbit/s	640 fps	3.27Mbit/s
320x240 (CIF)	480 fps	5.16Mbit/s	640 fps	0.75Mbit/s	640 fps	1.03Mbit/s

Note: The above data was determined using the bit rate listed above and hard disks with average R/W speed above 80MB/s.

The frame rate limit is based on the resolution of video sources. The higher video resolutions, the lower frame rates you can assign to a single hard disk. In other words, the higher frame rates you wish to record, the more hard disks you need to install. For the information of recording frame rates, you may consult the user's manual of the IP camera that you wish to connect to.

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GV-DONGLE POLICY

Dongle Type

An appropriate USB dongle is required for the computer to run the Hybrid and NVR solutions. There are three types of USB dongles available for both Hybrid and NVR solutions.

1. **NVR (GV) Dongle:** This is used only for GeoVision IP video devices, including GV-IP Camera, GV-Compact DVR and GV-Video Server.
   - The dongle options include: 4, 8, 12, 16, 20, 24, 28, 32 IP channels.
2. **NVR Dongle:** This is used for third-party IP devices.
   - The dongle options include: 1, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32 IP channels.
3. **Combo Dongle:** This is used for a mix of GeoVision and third-party IP video devices.

It is required to install drivers from the software CD for above three dongles to work.

The three dongles can be upgraded to include the AVP (Advanced Video Process) functions.

Hybrid Solution Description

1. **Specifications of the Hybrid solution.** The Hybrid solution provides you 8 free IP channels for GeoVision IP video devices, with the limit of 32 channels in total.

   For example:

   Number of analog channels + 8 free GV IP channels + Number of channels in USB dongle (NVR(GV), NVR or Combo Dongle) <= 32 channels.
2. **Connection of GeoVision IP devices to GV-System.** To receive the video streaming of 8 channels or less from GeoVision IP video devices, there is no need to use an extra USB dongle. If more than 8 GV IP channels are required, you need a NVR (GV) Dongle.
   - The dongle options include: 4, 8, 12, 16, 20, 24 IP channels.

   In this case, the total number of channels for your Hybrid system is: Number of analog channels + 8 free GV IP channels + Number of channels in your NVR (GV) Dongle <= 32 channels.
3. **Connection of third-party IP devices to GV-System.** To implement the Hybrid solution with third-party IP video devices, you need a **NVR Dongle**.
   - The dongle options include: 1, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32 IP channel(s).

   In this case, the total number of channels for your Hybrid system is: Number of analog channels

   (+ 8 free GV IP channels) + Number of channels in your **NVR Dongle** <= 32 channels.
4. **Connection of both GV and third-party IP devices to GV-System.** To implement the Hybrid solution with a mix of GeoVision and third-party IP video devices, you need a **Combo Dongle**.
   - The dongle options are the combined options of **NVR (GV) Dongle** and **NVR Dongle**. Inform your sales representative the exact number of third-party IP channels and additional GV IP channels you need, so the **Combo Dongle** can be delivered upon your requirements.

   For example, you need 8 third-party IP channels plus 8 additional GV IP channels, so the number of channels in the requested Combo Dongle is 16. The total number of channels for your Hybrid system will be: Number of analog channels + 8 free GV IP channels + Number of channels in your **Combo Dongle** (e.g. 16) <= 32 channels.

NVR Solution Description

1. **Specifications of the NVR solution:** When an appropriate USB dongle is attached to GV-NVR System, it can support up to 32 IP video channels.
2. **Connection of Geovision IP devices to GV-NVR.** To implement the GV-NVR solution with GeoVision IP video devices, you need a **NVR (GV) Dongle**.
   - Dongle options include: 4, 8, 12, 16, 20, 24, 28, 32 IP channels.
3. **Connection of third-party IP devices to GV-NVR.** To implement the GV-NVR solution with third-party IP video devices, you need a **NVR Dongle**.
   - Dongle options include: 1, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32 IP channel(s).
4. **Connection of both GV and third-party IP devices to GV-System**. To implement the NVR solution with a mix of GeoVision and third-party IP video devices, you need a **Combo Dongle**.
   - The dongle options are the combined options of **NVR (GV) Dongle** and **NVR Dongle**. Inform your sales representative of the exact number of GV IP channels and third-party IP channels you need, so the **Combo Dongle** can be delivered upon your requirements.

   For example, you need 12 GV IP channels plus 8 third-party IP channels. Therefore, the number of channels in the requested Combo Dongle is 20, and the total number of channels for your NVR system is 20.

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