GV-GNVRC1620-P



- 16-channel video recording
- Connection to GV-Cloud VMS or GV-Center V2 supported
- AI deep learning: AI Perimeter Protection & Classification (Human, Vehicle)
- Up to 16 MP resolution
- Dual streams from H.265 and H.264
- 1-channel HDMI, 1-channel VGA; HDMI at up to 4K
- 2 SATA HDD, up to 10 TB
- Two-way audio capable
- 8 alarm inputs and 4 alarm outputs
- Camera-based AI analytics supported
- NVR-based AI analytics (Line Crossing, Region Entrance, Region Exiting, Region Intrusion, Face Detection, Face Recognition)
- Realtime AI Face Recognition (face search, face tracking on E-Map, attendance management)
- AcuSearch for instant multi-channel search for target faces or persons in recorded videos
- Smart device access (iOS and Android) with Push Notification support
- ONVIF cameras supported
- GV-VPN supported
- 31 languages supported

Introduction

GV-GNVRC1620-P is an H.264/H.265 Linux-embedded Standalone Network Video Recorder, which records video files directly to the internal hard drive. GV-GNVRC1620-P supports up to 16 IP camera channels for video surveillance. It has a 16-port built-in PoE+ (IEEE 802.3at), functioning to carry network and power to connected IP cameras. Featuring video output with up to 4K resolution, GV-GNVRC1620-P eliminates the need for a separate PC to view and play back video from the unit. Its USB ports allow you to connect a USB mouse and a flash drive to back up videos.

GV-GNVRC1620-P also features advanced AI functions, including face detection and face recognition, and various analysis functions for perimeter protection. When integrated with compatible AI-capable GV-IP cameras, it provides a wide range of analytics to meet your diverse perimeter protection and surveillance needs. With the Face Recognition functions, users can access the database for face tracking on E-Map and face attendance management to enhance the convenience and security of the surveillance environment.

GV-GNVRC1620-P supports connecting a regular camera to GV-Cloud VMS for cloud-based monitoring or to GV-Center V2 for central monitoring.

Specifications

System	
Operating system	Embedded Linux
No. of Drive Bay	2 (3.5” SATA HDD), up to 10 TB (5)
Video and Audio	
Compression	Audio: G.711 Video: H.264 / H.265
Resolution	16 MP, 12MP, 8 MP, 6 MP, 5 MP, 4 MP, 3 MP, 2 MP (1080P), 1.3 MP (960P), 1.0 MP (720P)

Decoding		
Live / Playback	AI Engine Off	16 MP @ 30 fps x 1 CH 8 MP @ 30 fps x 4 CH 3 MP @ 30 fps x 9 CH 2 MP @ 30 fps x 16 CH
	AI Engine On	16 MP @ 30 fps x 1 CH 5 MP @ 30 fps x 4 CH 2 MP @ 30 fps x 9 CH 720P @ 30 fps x 16 CH
Playback		16 CH max.
Operation		
Max. Bandwidth	Input	160 Mbps
	Output	128 Mbps
Playback Function		Fast forward/backward (2x, 4x, 8x, 16x, 32x) Slow forward (1/2x, 1/4x, 1/8x, 1/16x, 1/32x)
Live View Display		1 / 4 / 6 / 8 / 9 / 13 / 16
Web Browser		Safari V14.0 or above Firefox V87 or above Google Chrome V89 or above Edge V89 or above
Maintenance		Firmware upgrade through Local Interface, Web Browser, or GV-IP Device Utility
Interface		
Monitor	VGA	1 (1024 x 768, 1280 x 1024, 1920 x 1080)
	HDMI	1 (1024 x 768, 1280 x 1024, 1920 x 1080, 3840 x 2160)
Connector	Ethernet	1 port, RJ-45 10/100/1000 Mbps
	PoE	16 ports, RJ-45, PoE+ (IEEE 802.3at)
	USB	USB 2.0 x 1 (front) USB 3.0 x 1, USB 2.0 x 1 (rear)
	Audio In	1 RCA
	Audio Out	1 RCA
	RS-485	1 (for PTZ)
	Alarm Input/Out	8 in / 4 out
LED Indicator		3 LEDs: REC, NET, PWR
General		
Language		Arabic, Bulgarian, Chinese Traditional, Croatian, Czech, Dutch, English, French, German, Greek, Hungarian, Italian, Japanese, Korean, Lithuanian (Lithuania), Macedonian, Persian, Polish, Portuguese, Romanian, Russian, Serbian, Slovak, Slovenian, Spanish, Spanish (Latin America), Thai, Turkish, Ukrainian, Uzbek, Vietnamese
Dimensions (W x D x H)		380 x 268.5 x 45 mm (14.96 x 10.57 x 1.77 in)
Weight		2.7 kg (5.95 lb)
Rack Mount		Yes
Power	Power Adapter	Input: AC 100 ~ 240 V, 50 ~ 60 Hz Output: DC 48 V, 3.75 A
	PoE Switch	Max. 150 W in total
Power Consumption		20 W (excluding HDD and PoE power supply)
Operating Temperature		-10°C ~ 50°C (14°F ~ 122°F)
Humidity		0% ~ 90% RH (non-condensing)
Certification		CE, FCC, LVD, RoHS compliant

<table>
<tr><td colspan="3">AI Integrated Function</td></tr>
<tr><td rowspan="2">AI Analytics</td><td>AI by Camera</td><td>Face Event: Face Detection
Smart Event:
- Perimeter Protection: Line Crossing, Region Intrusion, Region Entrance, Region Exiting (all with Human & Vehicle classification)
- Target Counting by Line, Target Counting by Area, Video Metadata (all with Human & Vehicle classification)
- Loitering Detection, Illegal Parking Detection, Crowd Density Detection, Fire Detection, Temperature Detection, Heat Map
- People Counting
- LPR
* These functions are supported only when the GV-GNVR is connected to the compatible AI cameras listed in the Compatible GV-IP Cameras for Camera-Based AI Analytics section below.</td></tr>
<tr><td>AI by NVR</td><td>Face Event: Face Detection, Face Recognition
Smart Event:
- Perimeter Protection: Line Crossing, Region Intrusion, Region Entrance, Region Exiting (all with Human & Vehicle Classification)
* AI by NVR channel limitations: Each of the following counts as 1 instance:
1. Face Recognition by NVR for Compatible AI Cameras x 3 CH
2. Face Detection by NVR x 1 CH
3. Perimeter Detection by NVR x 1 CH
<table>
<tr><th>Resolution</th><th>Picture Comparison Disabled</th><th>Picture Comparison Enabled</th></tr>
<tr><td>2 MP</td><td>Up to 2 instances simultaneously</td><td rowspan="2">Up to 1 instance</td></tr>
<tr><td>4 MP</td><td>Up to 1 instance</td></tr>
</table>
* AI by NVR supports up to 4 MP resolution.
* AI by NVR is available only when its engine is enabled.
* Face Event and Smart Event cannot be processed by the camera at the same time (Smart Event enabled by default), but can be processed by the NVR AI engine at the same time if the channel limitations above are met.
* For compatible non-AI cameras, some AI by NVR features may not be fully supported at this stage. Additional support will be provided in future releases.</td></tr>
<tr><td colspan="2">Video Metadata</td><td>People: Gender, Age, Top / Bottom (Type, Color), Accessories (Hat, Bag, Face Mask, Glasses)
Vehicle: Type, Color, Brand, Model
Non-Motor Vehicle: Type
*This function is supported only on compatible AI cameras that provide video metadata. For the list of supported cameras, see this document.</td></tr>
<tr><td colspan="2">Face Recognition</td><td>Face Search, Face Tracking on E-Map, Face Attendance Management
Face Database:
- Up to 32 face groups
- Up to 1000 face pictures if each picture is ≤ 15 KB</td></tr>
<tr><td colspan="2">AcuSearch</td><td>Human Face / Body Search: Face or body image-based video search</td></tr>
<tr><td colspan="3">Network</td></tr>
<tr><td colspan="2">Protocol</td><td>802.1X authentication (EAP-TLS, EAP-MD5), DDNS, DHCP, FTP, HTTP, HTTPS, IPv4, IPv6, PPPoE, RTCP, RTP, RTSP, SMTP, SNMP, UDP, UPnP</td></tr>
<tr><td colspan="3">Remote Monitoring</td></tr>
<tr><td colspan="2">Access from Web Browser</td><td>Live View, Image Snapshot, Digital PTZ, Playback, Smart Search (Face / People / Attribute / Vehicle Search), System Configuration</td></tr>
</table>

Application	
Software Supported	GV-Control Center (V4.3.2 or later, coming soon), GV-Edge Recording Manager Windows Version (V2.3.3 or later), GV-VPN (V1.2.0 or later), GV-Center V2 (V20.1.0.2 or later), GV-Dispatch Server (V20.1 or later), GV-Cloud VMS (V1.8.0 or later), GV-IP Device Utility (V9.0.8 or later)
Smart Device Access	GV-Eye for iOS and Android (V3.7.1 or later)
Remote Connection	Up to 2 simultaneous remote client connections, with max. 24-channel Live View across all clients

Note:

1. GV-GNVR supports connecting IP cameras to either GV-Cloud VMS or GV-Center V2, but not both at the same time.
2. While connecting IP cameras to GV-Cloud VMS through GV-GNVR, video playback is currently not supported.
3. Local and Web fisheye dewarping both support dewarped display for only 1 channel at a time.
4. Certain GV-IP cameras are not supported by the GV-GNVR. See the technical notice for details.
5. For optimal system efficiency, we recommend using enterprise-level hard disk drives. For a list of verified HDDs, see the GV-SNVR HDD Compatibility Table.
6. Specifications are subject to change without notice.

Compatible GV-IP Cameras for Camera-Based AI Analytics

- GV-BX2802, BX4802
- GV-GBL4900, GBL4911, GBL12811, GBLF2802, GBLF4802, GBLF4813, GBLN4800, GBLP8900
- GV-GEB4900, GEBF2802, GEBF4802, GEBF4813, GEBF4911, GEBN4800, GEBP8900
- GV-GDR2801, GDR4900, GDRF4800, GDRN4800
- GV-GFER6900, GFER12800
- GV-GPTZ4810
- GV-GVD4810, GVD4910, GVD12810
- GV-GTMB5831 (coming soon)
- GV-TMEB5800
- GV-3D People Counter V3
- GV-LPR4913 (coming soon)

Compatible GV-IP Devices for GV-GNVR Applications

- Parking Lot Management –GV-LPR4913 (coming soon)
- People Flow Statistics – GV-3D People Counter V3

Topology Diagrams

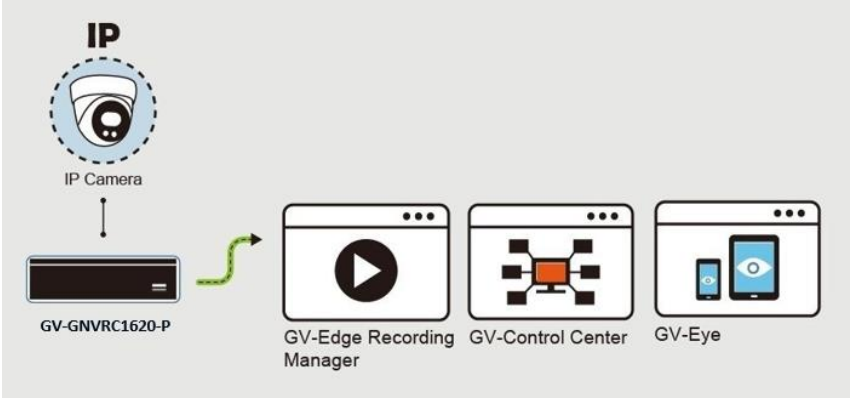
GV-Cloud VMS



GV-Center V2



GV-Edge Recording Manager / GV-Control Center / GV-Eye



GV-Cloud VMS Licenses

To use GV-GNVRC1620-P with GV-Cloud VMS, select the license that best meets your surveillance requirements. GV-Cloud VMS provides three license options: **Basic**, **Standard**, and **Premium**. For details on GV-Cloud VMS licenses, see the datasheet.

Basic, Standard, and Premium Licenses

Camera Resolution	Basic	Standard	Premium
16 / 12 / 8 / 5 / 4 / 2 / 1 MP	16 CH		

Note: The cloud backup feature of the Premium License is currently not supported for GV-GNVRC1620-P.

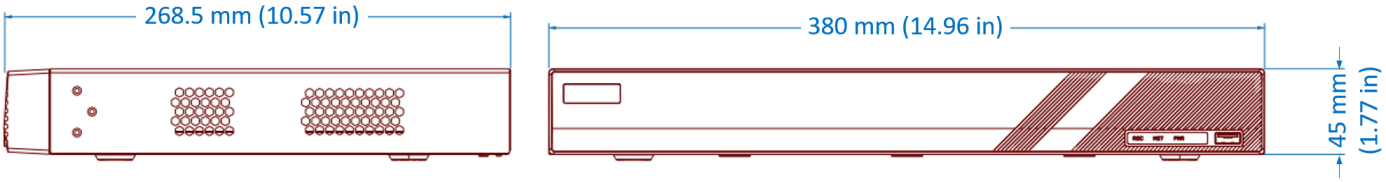
Packing List

1. GV-GNVRC1620-P
2. SATA Cables x 2
3. Screw Kit (HDD Screws x 8, Rack Mount Screws x 6, Phoenix Terminal Blocks x 4)
4. Rack Mounting Brackets x 2
5. USB Mouse
6. Power Adapter
7. Power Cord
8. Download Guide

Accessories

GV-POE Switch	GV-POE Switch is designed to provide power along with network connection for IP devices. It is available in various models with different numbers and types of ports.

Dimensions



Rear Panel

