

BANK

Safeguarding Your Best Interests

GVD

Standalone & Mini-Enterprise

NVR Series M4, M3, & M2

The Standalone and Mini-Enterprise are GVD's turnkey NVRs powered by the preinstalled HD NVR to deliver essential and high-end IP video surveillance. These NVRs are smartly designed to quickly join GVD's VMS 4.0 Suites, a cloud-based AI video system to manage up to 100,000 channels.

If your project is large and complex, you can choose to scale up to GVD VMS 4.0 Suites, a cloud-based AI video system capable of controlling 100,000 cameras while in the meantime brings hybrid storage for the flexible deployment of large video systems.





Product Highlights

■ Virtual Hard Disk (VHD)

GVD loads the NVR with a “virtual hard disk” (VHD), a Windows-based system image tool to take a snapshot of system status and NVR software settings, so it can recover your system within 5 minutes once a severe system failure or OS/software corruption occurs. This tool can reduce not only RMA but also the need for on-site support.

■ Redundancy

The NVR has some hardware components in pairs, including dual LAN ports and dual power units. Dual LAN ports can protect the NVR from losing data connection while dual power units ensure non-stop power supply. The NVR also uses dual watchdogs, in that a hardware watchdog is to monitor system health and a software watchdog is to make sure the critical programs run correctly. Also provided is RAID setup to prevent data loss in case of hard disk failure.

■ Bandwidth economy

Network bandwidth is the critical consideration when it comes to IP video surveillance system, especially when a large group of cameras is in there. To minimize the impact of limited bandwidth, the NVR adopts a variety of techniques such as TSE (Time Sector Engine), ROI, Turbo Mode, Adaptive Video Stream, Playout Control, Multicast, sub channels and so on to maintain video quality and fluent streams.

■ Dual-monitor display

The NVR extends the video view onto a secondary display. Max. 80 live video can be seen on two screens simultaneously. To handle HD video and large video data, the NVR takes advantage of the features such as TSE (Time Sector Engine), ROI, Turbo Mode, Adaptive Video Stream, Playout Control, Multicast, sub-channels and so on, to boost the display performance, even with limited bandwidth.

■ POS/ATM integration

To video-document cashier payment collection or ATM transaction, GVD NVR is made to integrate with eight cash registers or ATMs. Powerful data search (by number or by text) and alarm management are also provided to comply with EU standards and Unfallverhütungsvorschrift Kassen (UVV Kassen), a German federal regulation to ensure the safety of cashiers in finance institutions.

■ Region of Interest

The NVR features ROI (Region of Interest), which uses ePTZ for non-mechanic cameras to perform digital PTZ. You can use an ROI to get the extreme close-up of a small zone from a high-resolution video without losing high sharpness. Besides, ROIs can be saved with video patterns to facilitate video viewing.

■ Dual codec & sub channels

For a camera capable of substreams, GVD NVR allows multiple video profiles to send a lower-profile substream instead of the higher-profile mainstream over a congested network. Also, the software can record and store these substreams in reduced size of storage. The NVR also supports dual codec to allow different compressions for live video view, playback, and recording.

■ Video patterns

The NVR features a collection of video “patterns” to facilitate video display. A “pattern” is an onscreen grid with each division in it outputting an individual video, live or recorded, or showing a graphical file such as a floor plan. Four video playing modes are featured for a pattern to overcome limited network bandwidth and also to optimize CPU usage.

Software Features

Adaptive Video Stream

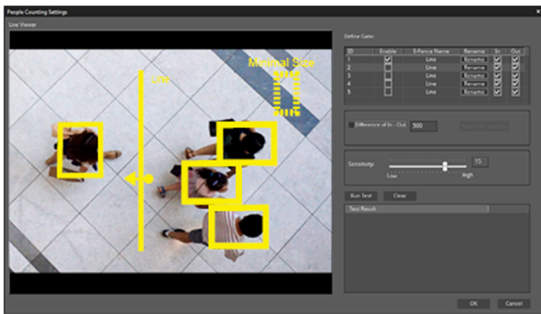
To ease CPU and network bandwidth from heavy loads, the NVR uses Adaptive Video Stream to transmit a low-profile sub-stream instead of the high-profile mainstream, on the condition that the viewer is small enough to allow proper image quality. Besides, the substreams can be recorded and stored in reduced storage size.



Sub-channel 640 x 480 Main-channel 1920 x 1080

Video Content Analysis

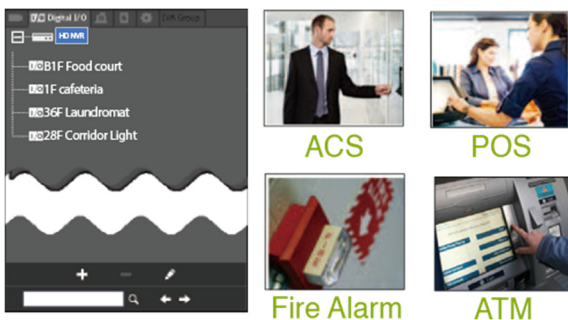
GVD's sophisticated Video Content Analysis features VMD (Video Motion Detection) to detect moving objects, E-Fence to identify objects crossing a virtual line in one or bi-directions, and People Counting to calculate how many people have crossed a virtual line in one or the other direction. Users can set up an interested VCA event for alarms and retrieve a VCA event with the powerful search feature.



People counting – Shoppers in a shopping mall

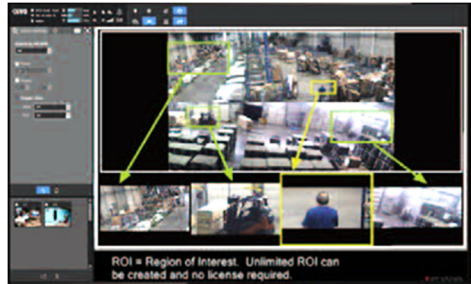
Quick 3rd-party integration

GVD NVR users don't need to invest much engineering effort to quickly integrate a 3rd-party system, such as point-of-sale, automated teller machines, or an access control system that includes door switches, door alarms, and so on. The NVR also features powerful data search and POS/ATM alarm management.



ROI & ePTZ

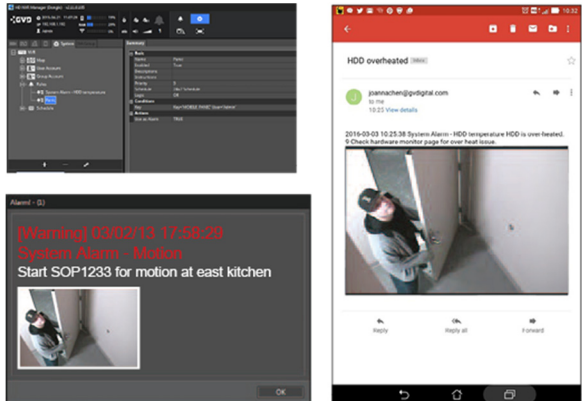
ROI (Region of Interest) uses ePTZ to allow a non-mechanic camera to perform PTZ. By an ROI, users can get the extreme close-up of a small zone from a high-resolution video without losing high sharpness. Besides, ROIs can be saved with patterns to facilitate video viewing.



The best of megapixel resolution

Alarm Rule Wizard

The Alarm Rule Wizard lets you decide which conditions to establish an event and which actions for the NVR to take. A variety of conditions can be set to establish an event, such as hardware health, video loss, motion detection, and so on. Once an alarm launches, a preset action such as an email notice or a pop-up window will be triggered to call your prompt attention.

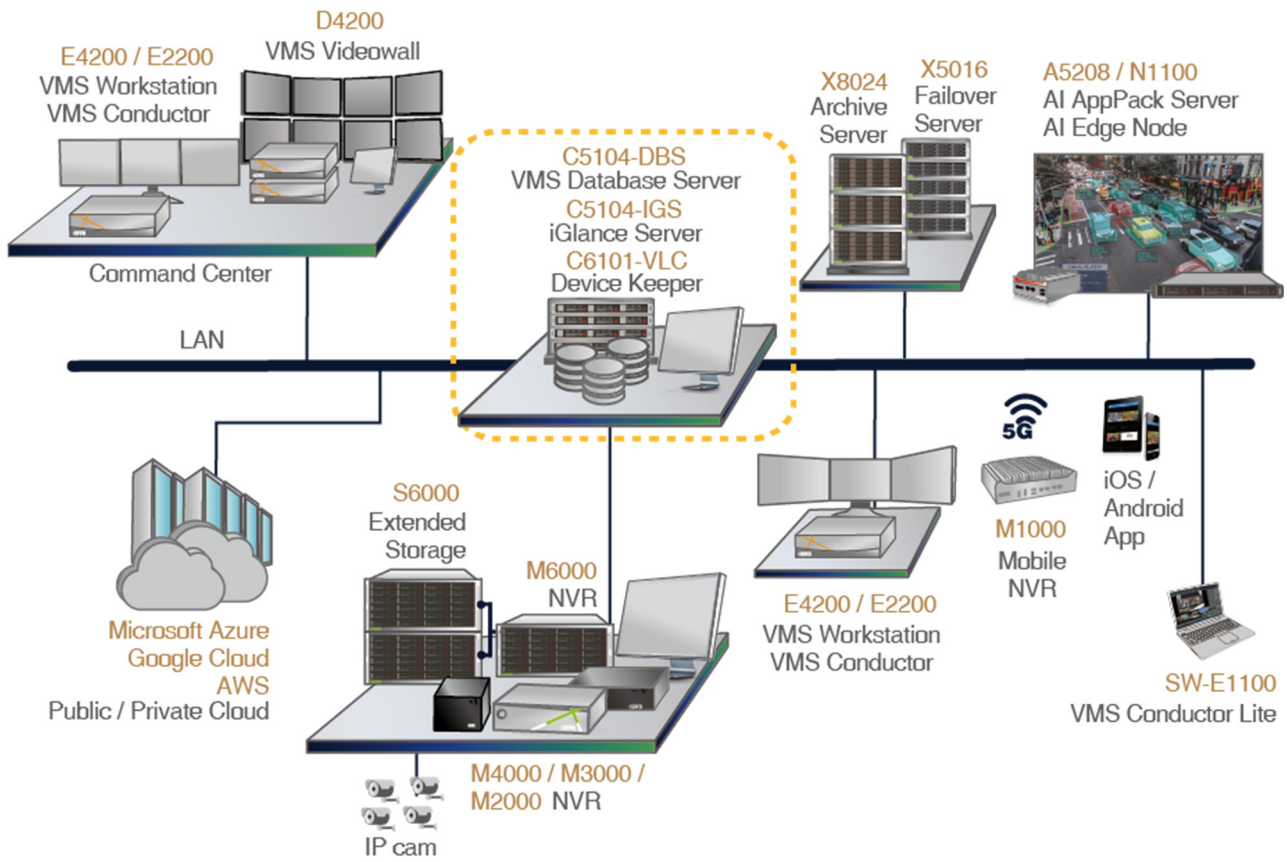


Panoramic (Fisheye) dewarp & ePTZ

GVD's software dewarp feature can bring different dewarp features from various camera manufacturers to an established standard of GVD's. So users can quickly get the distortion-free video from their panoramic cameras without additional settings. GVD's software dewarp is the total solution to panoramic dewarp.

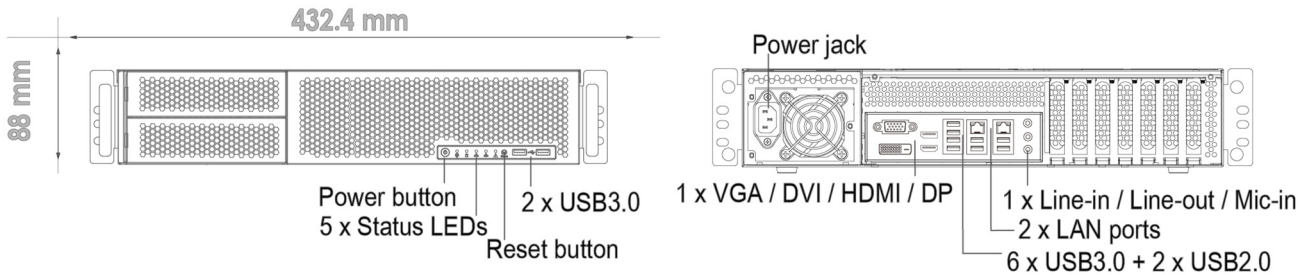


System Architecture

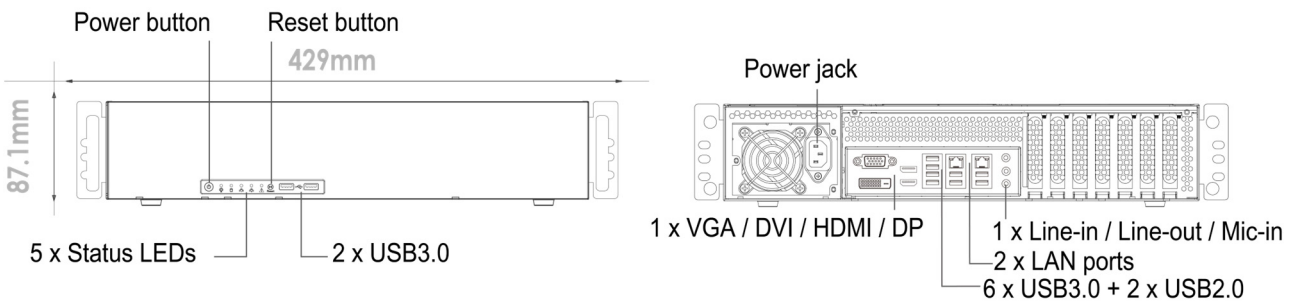


Dimensions

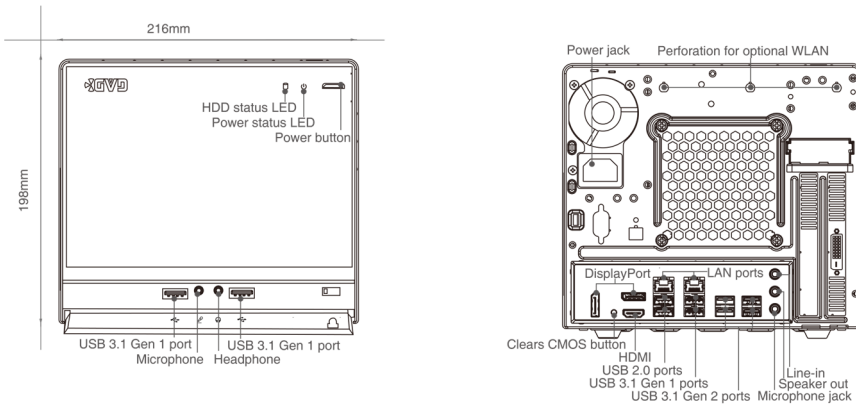
M4106



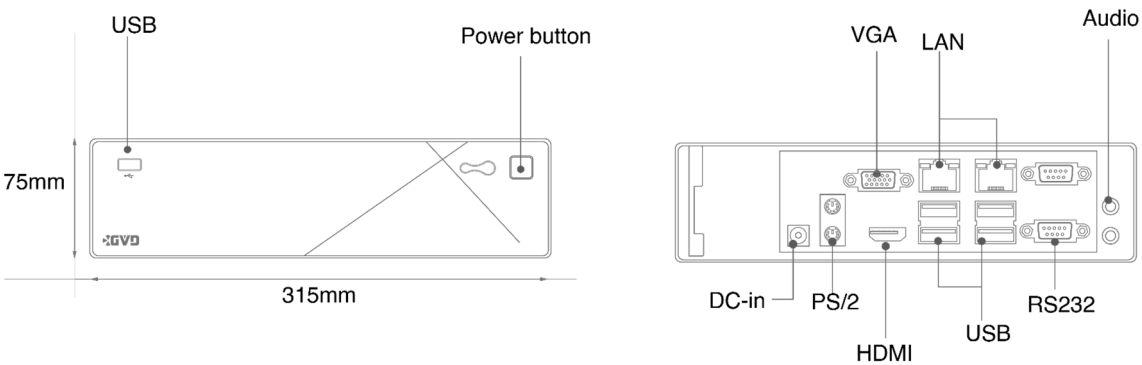
M4108



M3104



M2002



Hardware Specifications

M41-Series



Product		M4108-VE	M4108-IR-VE	M4106-VE
Description		Mini Enterprise NVR		
System	CPU	Intel® Celeron® G Series, 2 Core		
	Memory	8G		
	Operating System	Windows® 10 IoT Enterprise		
	Watchdog	Hardware watchdog & software watchdog		
Storage	Interface	3.5" SATA HDD		
	Hard disk trays	8 pcs		6 pcs
	Storage capacity	8 x 10TB		6 x 10TB
	RAID level	N/A	RAID 0, 1, 5, 10	N/A
Display	Output	1 x VGA, 1x DVI-D, 1 x HDMI, 1 x DisplayPort		
	Multi-displays	2 x HD displays or 1 x HD + 1 x 4K displays		
	Local disp. resolution	4096 x 2304	4K Monitor	
Interface	USB port	Front: 2 x USB3.0; Rear: 6 x USB3.0 & 2 x USB2.0		
	Audio port	Rear: 1x mic-in, 1x line-out, 1 x line-in		
	Serial COM port	N/A		
Network	LAN port	2 x Gigabit Ethernet		
Power	PSU	400W		500W
	Voltage	100~240V		
	Consumption (w/o HDD)	135W		
Environment	Operating temp.	0°C~40°C (32°F~104°F)		
	Storage temp.	-10°C~60°C (14°F~140°F)		
	Operating humidity	0%~90%		
	Storage humidity	5%~95%		
Mechanic	Certification	CE, FCC, EN50130, BIS		CE, FCC
	Dimensions (w/o handles)	429(W) x 87.1(H) x 540(D) mm		432.4 (W) x 88 (H) x 504 (D) mm
	Net weight (w/o HDD)	9.56 kg		

Hardware Specifications

M30-Series



Product		M3104-VE	M3004-VE EOL
Description		Standalone NVR	
System	CPU	Intel® Celeron® G Series, 2 Core	Intel® Celeron® G1820
	Memory	8G	4G
	Operating System	Windows® 10 IoT Enterprise	Windows® 7 Embedded
	Watchdog	Hardware watchdog & software watchdog	
Storage	Interface	3.5" SATA III HDD	3.5" SATA HDD
	Hard disk trays (bays)	4 pcs	
	Storage capacity	4 x 10TB	
	RAID level	NA	
Display	Output	1 x HDMI; 2 x DisplayPort	1 x VGA, 1 x HDMI, 1 x DisplayPort
	Local display resolution	4K	1920 x 1200
Interface	USB port	Front: 2 x USB3.0; Rear: 6 x USB3.1 + 2 x USB2.0;	Front: 2 x USB2.0; Rear: 2 x USB2.0 + 2 x USB3.0
	Audio port	Rear: 1 x mic-in, 1 x line-out, 1 x line-in	
	Serial COM port	N/A	2 x RS232
Network	LAN port	2 x Gigabit Ethernet	
Power	Voltage	100~240 Vac, 50-60 Hz	
	PSU	500W	--
	Consumption (w/o HDD)	110W	115W
Environment	Operating temp.	0°C~40°C (32°F~104°F)	
	Storage temp.	-10°C~60°C (14°F~140°F)	
	Operating humidity	0%~90%	
	Storage humidity	5%~95%	
Mechanic	Form factor	Tiny Cube	Tower standalone
	Dimensions(W)x(H)x(D)	216 x 198 x 332 mm	200 x 205 x 320 mm
	Chassis	Black aluminium chassis; Front panel: brushed aluminium	SECC, Front panel: ABS
	Certification	CE, FCC	
	Net weight w/o HDD	3.5 Kg	5.86 Kg

Hardware Specifications

M2002



Product		M2002
Description		Standalone NVR
System	CPU	Intel® Celeron® J1900
	Memory	4G
	Operating System	Windows® 10 IoT Enterprise
	Watchdog	Hardware watchdog & software watchdog
Storage	Interface	3.5" SATA HDD
	Hard disk trays (bays)	2 pcs
	Storage capacity	2 x 10TB
	RAID level	NA
Display	Output	1 x VGA, 1 x HDMI
	Local display resolution	1920 x 1200
Interface	USB port	Front: 1 x USB2.0; Rear: 4 x USB2.0
	Audio port	Front: 1 x mic-in, 1 x line-out, 1 x line-in
	Serial COM port	1 x RS232 (onboard header)
Network	LAN port	2 x Gigabit Ethernet
Power	Voltage	100~240 Vac, 50-60 Hz
	Consumption (w/oHDD)	30W
Environment	Operating temp.	0°C~40°C (32°F~104°F)
	Storage temp.	-10°C~60°C (14°F~140°F)
	Operating humidity	0%~90%
	Storage humidity	5%~95%
Mechanic	Form factor	Standalone
	Dimensions(W)x(H)x(D)	315 x 75 x 200 mm
	Chassis	NA
	Certification	CE, FCC, BIS
	Net weight w/o HDD	1.85 Kg

Software Specifications



Software	M4108	M4106-VE	M3104-VE M3004 EOL	M2002	
Description	NVR Manager				
Video Recording	IP cam license	VE: 24,32,48,64 IR-VE: 16,24	24,32,48	8,16,24	4, 8, 12, 16
	Recording rate	VE: Max. 256Mbps IR-VE: Max. 128Mbps	Max. 192Mbps	Max. 128Mbps	Max. 64Mbps
	Rec. resolutions	D1, 1.3~20 megapixels			
	Recording mode	Full-time recording, manual recording, recording by schedule, event, alarm, video motion detection			
	Video codec	H.265, H.264, MPEG4, M-JPEG, MxPEG			
	Audio codec	G.711, G.726, AAC			
	Streaming type	Unicast & Multicast			
Video display & management	Local Display (AVS enabled)	VE: 480fps@D1 IR-VE: 420fps@D1, 240fps@Full HD	480fps@D1	300fps@D1	330fps@D1
	No. of live video streams	128		64	
	Display pattern	1, 2, 3, 4, 5, 6, 8, 9, 12, 13, 16, 18, 24, 25, 36, 48, 64			
	Live-view operation	ROI, ePTZ, corridor mode, software de-warp, digital zoom in/out, onscreen PTZ			
	ONVIF	ONVIF Profile-S			
	Synchronous playback	Up to 16 channels			
	Playback controls	Forward/backward playback, pause, jump to next/previous frame, go to date, speed controls, go to some time later/ago (0.5/1/5 minutes)			
	Video export	Via USB (*.AVI, *.AVA & *.MKV supported), digital watermark			
	Video search	By time, alarm, event, missing object, foreign object, E-Fence, people counting, transaction data from POS			
	PTZ	Controlling device	Mouse, K205 Keyboard		
Operation		Direction controls, zoom in/out, preset, patrol			
VCA	Features	E-Fence, video motion detection, people counting, missing/foreign object search			
	Event search	Search for a missing or foreign object; search for an event of people counting, video motion, or E-Fence			
	Trigger source	Video loss, sensor trigger, HDD crash, system crash, abnormal transaction from POS, E-Fence, video motion detection, people counting			
	Reaction	User-definable text message, video pattern popup, e-mail, output alarm signal, trigger recording, PTZ preset			
	Setup	A Rule Wizard for flexible setup			
Alarm	Trigger source	Video loss, sensor trigger, HDD crash, system crash, abnormal transaction from POS, E-Fence, video motion detection, people counting			
	Reaction	User-definable text message, video pattern popup, e-mail, output alarm signal, trigger recording, PTZ preset			
	Setup	A Rule Wizard for flexible setup			
	DI / DO points	48 x inputs; 48 x outputs			
Remote Access Clients	Web client	IE 9.0, 10.0, 11.0			
	App client	iOS 10 and above; Android 5.0 and above			
	PC thin client	VMS (E4200), CMS (SW-E2200-CW03), CMS Lite (E90-Window 8 & 10)			
	Number of clients	5			
POS	License	8 units			
	Integration	Integrable with all brands via POS filters			
	Transaction data view	Pattern-view with both transaction data and relevant videos			
	Data search/retrieval	Search by time, keyword or price to retrieve transaction data with relevant video			
	POS alarm	Alarm setup by item or value; supporting popup alarm, email alarm, text message alarm, etc.			

Software Specifications



Software		M4108	M4106-VE	M3104-VE M3004 EOL	M2002
System	System update	NVR software update			
	Backup & recovery	Yes, by VHD (virtual hard disk)			
	Event logs	Event logs of system, cameras, users, etc.			
	Languages	20+ languages are supported, including English, Spanish, French, Dutch, Italian, Japanese, Chinese, etc.			