

# GV-Control Center V4

## *User's Manual*





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# Contents

<b>Naming and Definition</b> .....	<b>v</b>
<b>GDPR Practice</b> .....	<b>v</b>
<b>GPU Decoding Specifications</b> .....	<b>vi</b>
<b>Note for Upgrading GV-Control Center</b> .....	<b>viii</b>
<b>Chapter 1 Introduction</b> .....	<b>1</b>
1.1 Minimum System Requirements.....	2
1.1.1 License .....	3
1.1.2 Compatible GeoVision & USAVision Products .....	3
1.2 Options.....	3
1.3 Overview .....	4
1.3.1 The Main Screen.....	4
1.3.2 The Host List .....	5
1.3.3 The Group List .....	6
1.3.4 The Layout List.....	7
<b>Chapter 2 Getting Started</b> .....	<b>8</b>
2.1 Installation .....	8
2.2 Login Account Settings .....	9
2.3 Hosts and Groups .....	10
2.3.1 Creating a Host .....	11
2.3.2 Creating a Group.....	13
2.4 Connecting to GV-NVR / VMS .....	14
2.4.1 The Control Center Server Window .....	14
2.4.2 Advanced Settings .....	16
<b>Chapter 3 Batch Management</b> .....	<b>18</b>
3.1 Configuring the IP Address .....	18
3.2 Renaming Devices .....	19
3.3 Connecting to Hosts with Identical Credentials .....	19
3.4 Updating Host Information .....	20
<b>Chapter 4 Live View</b> .....	<b>21</b>
4.1 The Live View Window .....	21
4.1.1 Quick Access to Other Functions on Live View .....	24
4.2 Live View Layouts .....	25
4.2.1 Arranging Layouts .....	25
4.2.2 Setting up Focus View .....	26
4.2.3 Setting up Scan Window .....	26
4.3 Fisheye View .....	28
4.3.1 Setting up Fisheye View.....	29

4.3.2	Object Tracking .....	31
4.3.3	Virtual PTZ Tour .....	33
4.4	Panoramic PTZ View .....	34
4.5	Adjusting Distorted View .....	35
4.6	Enabling QView Display .....	36
4.7	VMD Monitoring .....	37
4.7.1	Running VMD .....	38
4.7.2	The VMD Window .....	39
4.7.3	Dual-Monitor Display for Extra Channels .....	41
4.8	Audio Broadcast .....	43
4.8.1	Starting the Audio Broadcast .....	43
4.8.2	The Broadcast Service Window .....	43
4.9	Face Recognition Watch .....	45
4.10	AI Watch .....	46
4.11	ASManager View .....	48
4.11.1	Overview .....	48
4.11.2	Access and LPR Log .....	49
4.12	Position Settings .....	50
4.13	Search Log .....	51
4.13.1	Performing a Search .....	52
4.14	Event Rules .....	58
<b>Chapter 5</b>	<b>Playback .....</b>	<b>61</b>
5.1	Starting Playback .....	61
5.2	The Remote ViewLog Window .....	63
5.3	Backing Up Recorded Files .....	67
<b>Chapter 6</b>	<b>Remote DVR / Desktop .....</b>	<b>70</b>
6.1	Remote DVR .....	70
6.1.1	Running Remote DVR .....	70
6.2	Remote Desktop .....	72
6.2.1	Running Remote Desktop .....	72
6.2.2	File Transfer .....	73
6.3	Data Event Query .....	74
<b>Chapter 7</b>	<b>I/O Central Panel .....</b>	<b>75</b>
7.1	Running I/O Central Panel .....	75
7.2	The I/O Central Panel .....	76
7.3	Creating a Group for Cascade Triggers .....	77
7.3.1	Creating a Group .....	77
7.3.2	Editing a Group .....	78
7.3.3	Editing an I/O Device .....	79

7.4	I/O Monitoring.....	80
7.4.1	Watching Live View .....	80
7.4.2	Viewing Host Information .....	80
7.4.3	Playing Back Trigger Events .....	81
7.4.4	Starting I/O Monitoring .....	81
7.4.5	Disabling I/O Devices.....	82
7.4.6	Forcing Output .....	82
7.5	Configuring the I/O Central Panel.....	83
7.6	Accessing Connection Log .....	83
7.7	Setting Mode Schedule .....	84
7.7.1	Creating a Mode.....	84
7.7.2	Creating a Mode Schedule .....	85
7.8	Quick Link .....	86
7.9	Editing Background Image .....	87
7.10	Popping up Live View upon Input Trigger .....	88
<b>Chapter 8</b>	<b>Multi Monitors Applications.....</b>	<b>90</b>
8.1	Application Position .....	90
8.2	Setting up Multiple Live Views .....	93
8.3	Quick Zoom.....	94
8.4	Video Wall .....	95
8.4.1	Setting up Video Wall Server.....	97
8.4.2	The Video Wall List .....	99
8.4.3	Creating Video Wall Layout.....	100
8.4.4	Advanced Layout Settings .....	104
8.4.5	Activating the Channel and Layout.....	106
8.4.6	Setting Up a Zoom Window.....	107
8.4.7	Setting Up a Scan Window .....	109
8.4.8	Displaying Remote Monitor, Web Page and Playing Back Videos .....	112
8.4.9	Displaying Live View from Remote E-Map .....	118
8.4.10	Setting Up a VMD Window.....	119
8.5	Adding GV-IP Decoder Box for Remote Monitor Display .....	120
<b>Chapter 9</b>	<b>Other Applications.....</b>	<b>121</b>
9.1	Remote E-Map .....	121
9.1.1	Creating E-Map.....	121
9.1.2	The E-Map Editor Window .....	123
9.1.3	Setting up the Polygonal Area .....	124
9.1.4	Setting up the View Zone .....	125
9.1.5	The Remote E-Map Window .....	126
9.1.6	Configuring the Remote E-Map.....	127

9.1.7	Connecting to GV-ASManager .....	128
9.2	MultiLang Tool for Translated Text .....	129
9.3	Authentication Server .....	133
9.4	Multicast Setting .....	134
<b>Chapter 10</b>	<b>System Configuration .....</b>	<b>137</b>
10.1	General Settings.....	137
10.2	Live View Settings .....	138
10.3	Storyline Settings .....	139
10.4	SMTP Settings .....	140
10.5	System Log Settings.....	141
10.6	Exporting and Importing Settings.....	141
10.6.1	Exporting Settings .....	141
10.6.2	Importing Settings .....	142
10.7	Fast Key Settings .....	143
<b>Chapter 11</b>	<b>Account Management.....</b>	<b>144</b>
11.1	User.....	144
11.1.1	Editing Login Credentials.....	144
11.1.2	Creating User Accounts.....	144
11.1.3	Managing User Privileges.....	146
11.2	Security .....	148
11.3	Account Login After Forgotten Password .....	149
<b>Appendix A.</b>	<b>GV-USB Dongle Upgrade .....</b>	<b>151</b>
	Dongle Requirements .....	151
	Upgrading the Black Dongle .....	151
<b>Appendix B.</b>	<b>PTZ Control Using GV-Joystick and/or GV-Keyboard.....</b>	<b>153</b>
<b>Appendix C.</b>	<b>RTSP Streaming .....</b>	<b>154</b>
<b>Appendix D.</b>	<b>Specifications .....</b>	<b>155</b>

# Naming and Definition

<b>GV-Software</b>	GV-Software refers to all GeoVision applications that can be connected to and managed by GV-Control Center, which includes GV-NVR / VMS, GV-Recording Server, GV-ASManager, GV-AI FR, and GV-Live Streaming mobile app. See <i>1.1.2 Compatible GeoVision &amp; USAVision Products</i> .
<b>IP Devices</b>	IP devices refer to all GeoVision IP video devices, including GV-IP Camera, GV-Video Server, GV-Compact DVR, GV-IO Box, and GV-SNVR. See <i>1.1.2 Compatible GeoVision &amp; USAVision Products</i> .

## GDPR Practice

For details on how GeoVision Inc. is committed to helping users become GDPR (General Data Protection Regulation) compliant, visit the [GDPR Consent Request](#).

# GPU Decoding Specifications

GPU (Graphics Processing Unit) decoding is added to lower the CPU loading and to increase the maximum frame rate. GPU decoding can be performed on onboard and/or external GPU under the following specifications.

**Onboard GPU:** GPU decoding is only supported when using the following Intel CPUs:

For **H.264** Video Compression

- 2<sup>nd</sup> ~ 8<sup>th</sup> Generation Intel Core i3 / i5 / i7 Desktop Processors
- 9<sup>th</sup> ~ 14<sup>th</sup> Generation Intel Core i3 / i5 / i7 / i9 Desktop Processors
- Intel Core Ultra 5 / Ultra 7 / Ultra 9 Desktop Processors (Series 2)

For **H.265** Video Compression

- 6<sup>th</sup> ~ 8<sup>th</sup> Generation Intel Core i3 / i5 / i7 Desktop Processors
- 9<sup>th</sup> ~ 14<sup>th</sup> Generation Intel Core i3 / i5 / i7 / i9 Desktop Processors
- Intel Core Ultra 5 / Ultra 7 / Ultra 9 Desktop Processors (Series 2)

**External GPU:** GPU decoding is only supported when using:

- NVIDIA graphics cards with a compute capability of 3.0 or above and a memory of 2 GB or above. To look up the compute capability of the NVIDIA graphics cards, refer to: <https://developer.nvidia.com/cuda-gpus>

**Note:** Only one external NVIDIA graphics card is supported for GPU decoding, with up to 8 MP resolution.

**Onboard GPU + External GPU:** To have both the onboard and external GPU to perform GPU decoding, the GPUs must follow their respective specifications listed above.

Note:

1. If you have both onboard and external GPUs installed, the onboard GPU must be connected to a monitor for H.264 / H.265 GPU decoding.
2. For NVIDIA graphics cards, CUDA compute capability 5.0 or higher is required to ensure optimal performance.

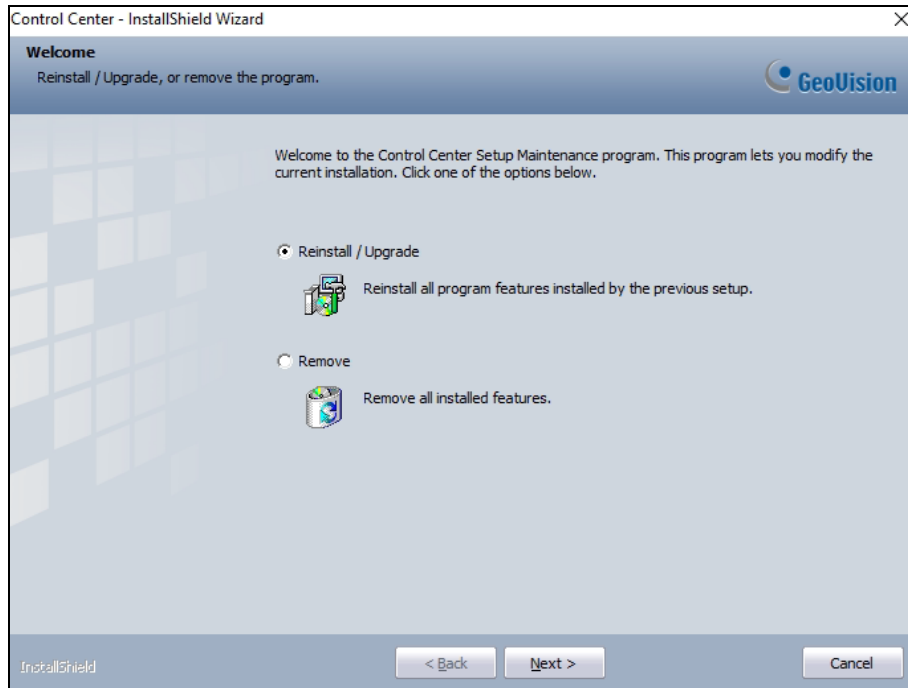
## Software Specifications for H.264 and H.265

GPU decoding is only supported under the following operating system, resolution, and codec.

		2 <sup>nd</sup> Gen	3 <sup>rd</sup> ~ 4 <sup>th</sup> Gen	6 <sup>th</sup> Gen	7 <sup>th</sup> Gen	8 <sup>th</sup> ~ 14 <sup>th</sup> Gen	Core Ultra Series 2
<b>OS</b>	<b>64-Bit</b>	Windows 8 / 8.1 / 10 / Server 2012 R2 / Server 2016 / Server 2019 / Server 2022			Windows 10 / Server 2016 / Server 2019 / Server 2022	Windows 10 / 11 / Server 2016 / Server 2019 / Server 2022	
<b>Resolution</b>		1 MP / 2 MP	1 MP / 2 MP / 3 MP / 4 MP / 5 MP / 8 MP / 12 MP				
<b>Codec</b>		H.264		H.265	H.264 / H.265		
<p><b>Note:</b> Make sure your PC meets the system requirements before installing or upgrading to Windows 11. See the <a href="#">Microsoft Website</a> for details.</p>							

# Note for Upgrading GV-Control Center

To upgrade GV-Control Center, run the **Installer** (setup.exe) included in the latest software downloads from our [website](#). Select **Reinstall / Upgrade** to start.



# Chapter 1 Introduction

GV-Control Center is a central monitoring station solution (CMS) that provides the CMS operator with these major features:

- Popup video alerts upon motion detection, input trigger, critical temperature and many more (See *4.7 VMD Monitoring*)
- Remote playback (See *Chapter 5 Playback*)
- Access client GV-NVR (See *6.1 Remote DVR*)
- Access the desktop of client GV-NVR / VMS and the operating system (See *6.2 Remote Desktop*)
- Central management of I/O devices from different hosts (See *Chapter 7 I/O Central Panel*)
- Display of 9 Live View windows, 100 camera channels for each Live View (See *8.2 Setting up Multiple Live Views*)
- Video Wall (See *8.4 Video Wall*)
- Remote E-Map (See *9.1 Remote E-Map*)
- Support for 31 languages on the user interface

## 1.1 Minimum System Requirements

Before installation, make sure your computer meets the following requirements.

<b>OS</b>	<b>64-bit</b>	Windows 10 / 11 / Server 2016 / Server 2019 / Server 2022
<b>CPU</b>		Core i7 2600K, 3.4 GHz
<b>RAM</b>		16 GB Dual Channels
<b>Hard Disk</b>		500 GB
<b>Processor Graphics</b>		Please see <i>GPU Decoding Specifications</i> above.
<b>DirectX</b>		9.0c
<b>LAN Card</b>		Gigabit Ethernet x 2

**Note:**

1. It is not recommended to install GV-Control Center and GV-Center V2 on the same PC. Running the two software together may result in a CPU overload error or system failure.
2. To display a megapixel IP channel across monitors, make sure the external graphics cards on a server are of the same brand, model, and driver version, and the capacity of the graphics cards is of NVIDIA GTS 450 or higher to ensure maximum efficiency.
3. When you find CPU usage is high or live view is unsmooth (dropping frames), you may need to increase CPU threads and memory, or decrease the number of connected cameras to improve the system performance.
4. For GV-Control Center to support up to 9 Live Views, with 100 camera channels for each Live View, higher PC specifications are required than the minimum requirements.

### **1.1.1 License**

For details, see the *License* section in the [datasheet](#).

### **1.1.2 Compatible GeoVision & USAVision Products**

For details, see the *Compatible GeoVision & USAVision Products* section and the notes in the *Specifications* section in the [datasheet](#).

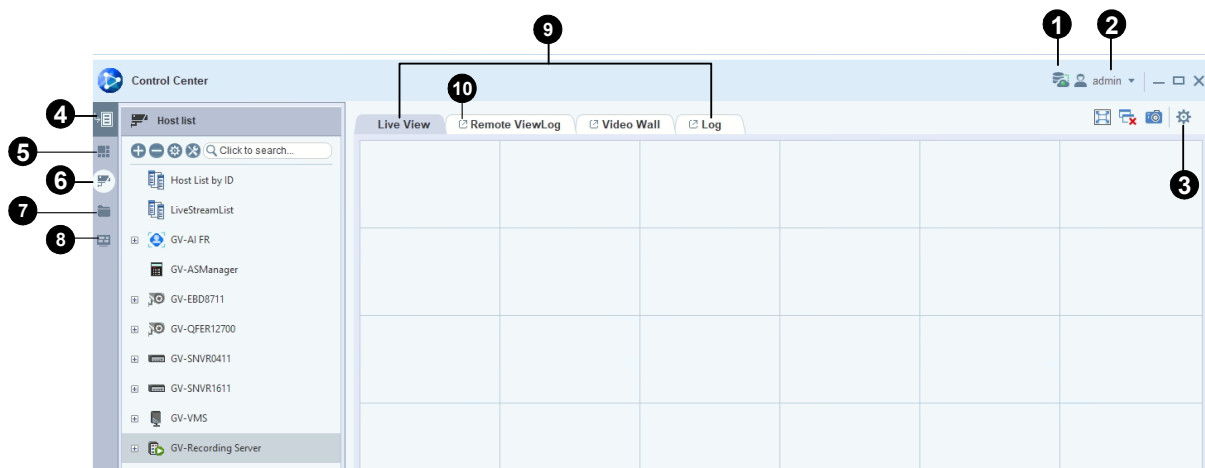
## **1.2 Options**


Optional devices can be purchased to assist your surveillance management.

For details, see the [datasheet](#).

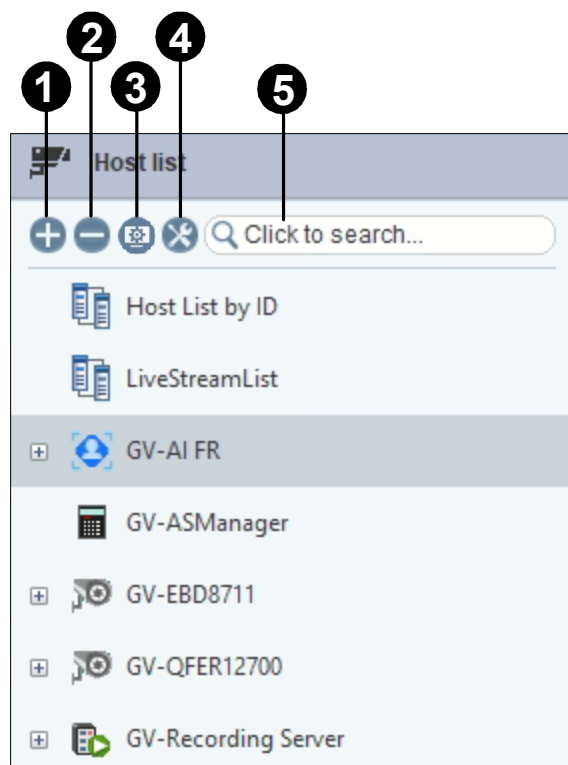
## 1.3 Overview

### 1.3.1 The Main Screen



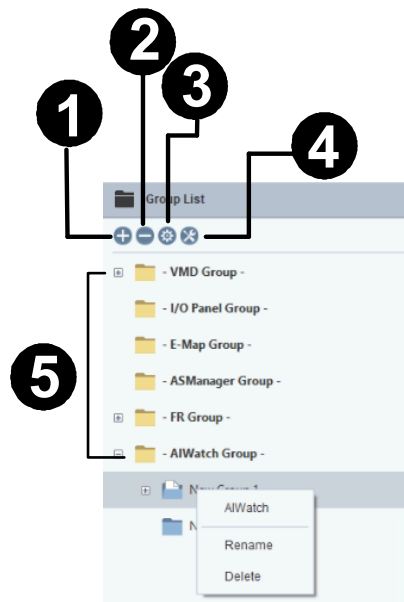
No.	Name	Description
1	Log Database Status	Display whether the log database is connected or not.
2	Login Account	Allows users to set up accounts and privileges, lock the session, switch accounts, and log out. See <i>2.2 Login Account Settings</i> .
3	Configure 	Access the general settings of the Control Center and other tools, import / export data, apply the current settings to other users, set up event rules, and search for bookmarked videos. See No. 6 in <i>4.1 Live View Window</i> .
4	List Mode	<b>List Mode -Tile</b> hides the 4 buttons of Layout, Host List, Group List and Video Wall while <b>List Mode - Cascade</b> displays the 4 buttons under the List Mode.
5	Layout	Open / hide the Layout list. See <i>1.3.4 The Layout List</i> .
6	Host List	Open / hide the Host List. See <i>1.3.2 The Host List</i> .
7	Group List	Open / hide the Group List. See <i>1.3.3 The Group List</i> .
8	Video Wall	Open / hide the Video Wall layout list. See <i>8.4 Video Wall</i> .
9	Live View, Remote ViewLog, Video Wall, Log	Display the live view, play back recordings, access Video Wall settings, and log data.
10	Move Tab to New Window	Move a tab to another window.

### 1.3.2 The Host List



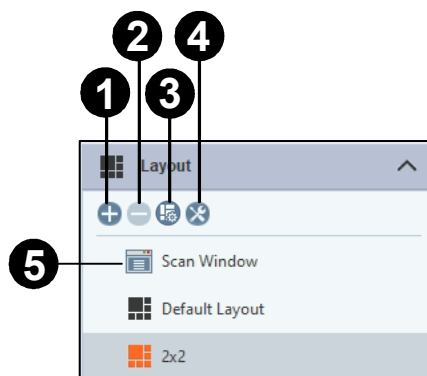
No.	Name	Description
1	Add	Add hosts and groups. To add GV-IP Speaker as a host, see <a href="#">GV-IP Speaker User's Guide</a> .
2	Delete	Delete hosts and groups.
3	Host Settings	Opens host connection settings. <ul style="list-style-type: none"> <li>■ <b>Auto Set IP Address:</b> See 3.1 <i>Configuring the IP Address</i>.</li> <li>■ <b>Upgrade Device Name:</b> See 3.2 <i>Renaming Devices</i>.</li> <li>■ <b>Change Host ID and Password:</b> See 3.3 <i>Connecting to Hosts with Identical Credentials</i>.</li> </ul>
4	Tools	<ul style="list-style-type: none"> <li>■ <b>Face Manager:</b> See <a href="#">GV-Face Manager User Guide</a>.</li> <li>■ <b>Broadcast Service:</b> See 4.8 <i>Audio Broadcast</i>.</li> <li>■ <b>Host Monitor:</b> Enable to display the camera connection status under GV-VMS hosts.</li> <li>■ <b>Recording Server Management Tool:</b> Click to launch. You must install it first from Utility on the <a href="#">GeoVision Website</a>.</li> </ul>
5	Search	Search for cameras in the list.

### 1.3.3 The Group List



No.	Name	Description
1	Add	Add groups.
2	Delete	Delete groups.
3	Group List Setting	<p>Opens Group List Settings:</p> <ul style="list-style-type: none"> <li>■ <b>Display Host Name in the Group List</b></li> <li>■ <b>Sort the Group List by Names</b></li> <li>■ <b>Application Startup Settings:</b> Select the applications to be started along with GV-Control Center's startup, including VMD System, I/O Central Panel, Remote E-Map, ASManager View, FR Watch, and AI Watch.</li> <li>■ <b>Listen Port:</b> Lists the ports for VMD, FR Watch, and AI Watch. These ports enable communication with SNVRs for event transmission and typically do not need adjustment unless already in use.</li> </ul>
4	Tools	<ul style="list-style-type: none"> <li>■ <b>Broadcast Service:</b> See 4.8 Audio Broadcast.</li> </ul>
5	Default Groups	<ul style="list-style-type: none"> <li>■ <b>VMD Group:</b> See 4.7 VMD Monitoring.</li> <li>■ <b>I/O Panel Group:</b> See Chapter 7 I/O Central Panel.</li> <li>■ <b>E-Map Group:</b> See 9.1 Remote E-Map.</li> <li>■ <b>ASManager Group:</b> See 4.11 ASManager View.</li> <li>■ <b>FR Group:</b> See 4.9 Face Recognition Watch.</li> <li>■ <b>AI Watch Group:</b> See 4.10 AI Watch.</li> </ul>

### 1.3.4 The Layout List



No.	Name	Description
1	Add	Add layouts or groups.
2	Delete	Delete layouts or groups.
3	Properties	<ul style="list-style-type: none"> <li>■ <b>Caption:</b> Configure the text overlay of the live view and playback.</li> <li>■ <b>Image Ratio:</b> Keep the image ratio of the live view and playback.</li> <li>■ <b>Force Substream:</b> Disabled by default. For multi-channel layouts, this option forces both live view and playback to use the sub stream when available, increasing the number of full-frame channels supported.</li> </ul>
4	Tools	<ul style="list-style-type: none"> <li>■ <b>Matrix Quick Zoom:</b> Display a camera view on the primary monitor when multiple monitors are used. See 8.3 <i>Quick Zoom</i>.</li> </ul>
5	Scan Window	Drag the Scan Window to a live view grid and then cameras to the grid to display the cameras in sequence. See 4.2.3 <i>Setting up Scan Window</i> .

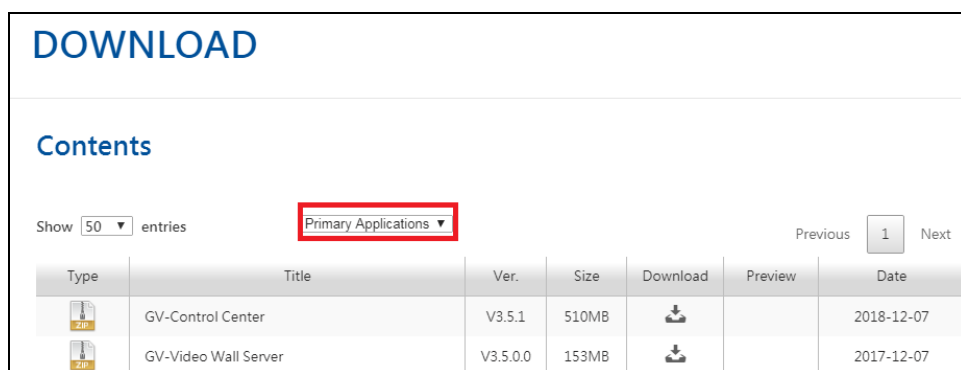
**Tip:** Right-click a layout to copy its settings to another user account, set it as the default layout, or configure its properties

# Chapter 2 Getting Started

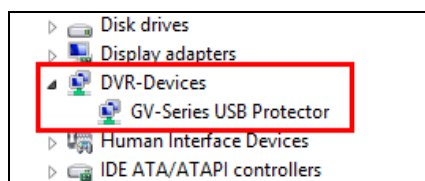
## 2.1 Installation

Follow the steps below to install GV-Control Center.

1. Go to the Download page of the [GeoVision Website](#).
2. To install GV-Control Center, select **Primary Applications** from the dropdown list to download the software.



3. If you are using a GV-USB Dongle for licensing, insert the dongle to your computer.
  - To install the USB device driver, select **Driver, F/W, Patch** from the dropdown list and download **GV-Series Card Driver / USB Devices Driver**.
  - To verify the driver is installed correctly, go to Windows Device Manager and expand **DVR-Devices**. You should see **GV-Series USB Protector**.



4. If you are using software license, click **Windows Start > Control Center > Register GV-Control Center Platform** to register the serial number purchased from GeoVision. For details, see *First-Time Licensing* in [GV-Software Licensing](#).

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**Note:** SQL Server installation is required to enable log data recording in GV-Control Center. There are two installation choices for SQL Server:

1. Install directly on the GV-Control Center server using the installer. For details, see this [technical notice](#).
  2. Install independently on a separate server. For details, see this [technical notice](#).
-

## 2.2 Login Account Settings

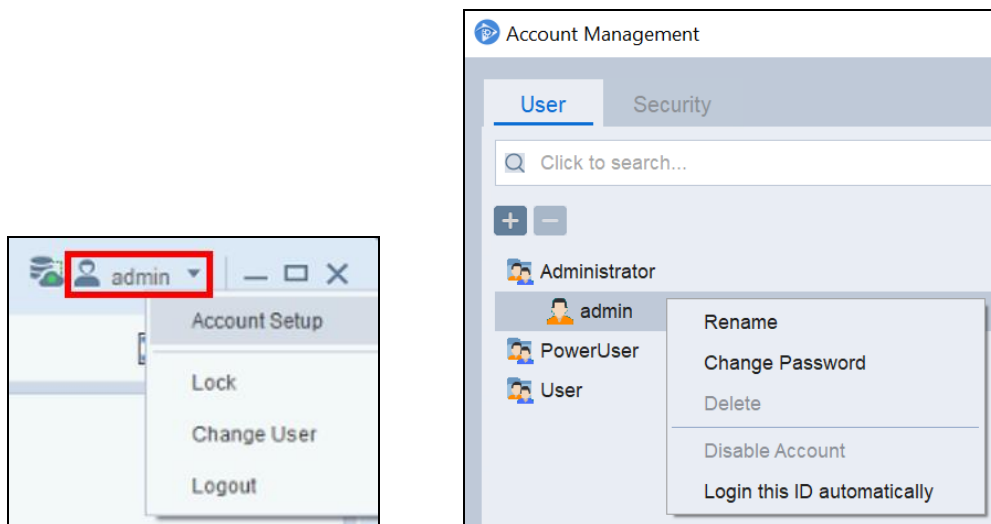
Upon first-time startup, the user will be prompted to set a login password for the Administrator account (default ID **admin**), which has access rights to all the settings of GV-Control Center. Click **OK**. You are logged in to GV-Control Center now.

---

**Tip:** To access the SQL settings after logging in to GV-Control Center, click **Configure** (top right of the main screen) > **Setup** > **System Configure** > the **System Log** tab.

---

To access account-related settings, click the **account ID** at the top right of the main screen > **Account Setup**. The Account Management dialog box appears. Right-click the Administrator account to access its settings.



Name	Description
Rename	Changes the username of the account.
Change Password	Changes the login password of the account.
Login This ID Automatically	Select to automatically log in as the selected account when starting GV-Control Center.

**Note:** See *Chapter 11 Account Management* for details on creating accounts, managing user privileges, and configuring security settings.

---

## 2.3 Hosts and Groups

You need to create hosts or groups before starting GV-Control Center services. To create hosts, you can use the **Search Host** function (**Add** button on the Host List > **Add Host**) to detect GV / UA devices and compatible third-party IP devices on the same LAN and add them to the Host List, or you can follow the steps in the following section.


---

**Note:**

1. To use the **Search Host** function to locate GV devices, it is required to open TCP port 5201 on the client NVR / VMS, TCP port 5202 on the Video Server and Compact DVR, and UDP port 5200 on GV-Control Center.
2. If antivirus software is installed, the **Search Host** function may be interfered and unable to detect any hosts. In this case, turn off the antivirus software and try again.

---

**IMPORTANT:**



If you are using software licensing, every time when you add a new host, you need to update the licensing by clicking the **Configure** button  (top right of the main screen) > **License Request Generator** > **Adjust registered license** > **OK** > **Agree License Agreement**.

---

### 2.3.1 Creating a Host


Create hosts for GV devices and software you like to monitor in GV-Control Center. The Host Settings dialog box may differ depending on the devices and software. The following steps demonstrate how to add an IP camera host.

1. On the Host List, click the **Add** button > **Add Host** > **Search Host**.
2. On the Host Settings dialog box, type the name, IP address, login ID and password of the host. Keep the communication port as default, unless otherwise necessary.

3. Click the **Update Information** button  to request the number of cameras, I/O devices of the host.
4. Optionally select **Stream 1** or **Stream 2** for live view display. By default, the Stream is set to **Auto**, and the received streaming is based on the streaming setting of the host. Select **Single Auto** for the received streaming to adapt when the live view sizes vary.
5. Click **OK**.
6. If you are using software licensing, every time when you add a new host, you need to update the licensing by clicking the **Configure** button  (top right of the main screen) > **License Request Generator** > **Adjust registered license** > **OK** > **Agree License Agreement**.

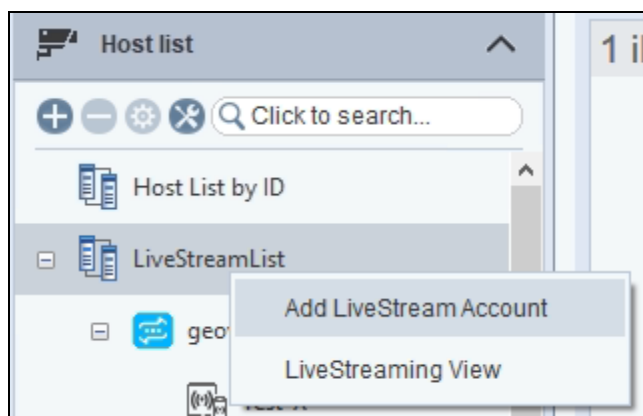
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**Tip:**

1. To access the Web interface of the camera / GV-Recording Server, click  on the Host Settings dialog box.
  2. To access the live view of the camera, drag and drop the camera from the Host List to any live view grids.
- 

**Note:**

1. To add a GV-NVR / VMS host, it is required to enable **Control Center Service** in the host; otherwise the message “Unable to Connect” will appear when accessing the live view. See *2.4 Connecting to GV-NVR / VMS*.
2. To add a UA-IP camera / UA-HD DVR / UA-NVR host, click the **Add** button > **Add Host** > **Add USAVision IP camera** / **Add USAVision HD DVR/NVR** on the Host List.
3. GV-Control Center supports IP video devices using RTSP, ONVIF and PSIA standards. To connect the IP device compatible with any of the standards, select **Protocol** from the **Brand** dropdown list. For details, see *Appendix C. RTSP Streaming*.
4. To add a camera channel from GV-Live Streaming app, right-click **Live Stream List** > **Add Live Streaming Account**, type **Account** e-mail and **Binding Code** of GV-Live Streaming account. For details, see *Connecting to GV-Software* in [GV-Live Streaming Installation Guide](#).



### 2.3.2 Creating a Group

You can group different hosts or cameras, by location or purpose, under the Host List or the Group List.

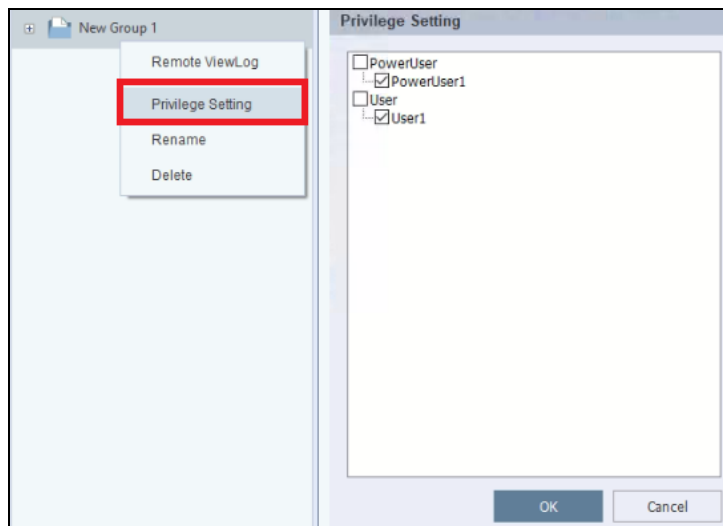
On the Group List, default group folders have already been created for specific functions such as **VMD** (Video Motion Detection), **I/O Panel**, **E-Map**, **ASManager** and **FR**. You can also create additional groups to apply Remote ViewLog, and Privilege Setting to the cameras within the group collectively.

To create a group:

1. On the Host List / Group List, click the **Add** button > **Add Group**.
2. Name the created group.
3. On the Host List, drag the desired hosts to the group.

---

**Note:** You can grant access to a group created in the Group List. By default, only Administrator has access. Log in with an Administrator account, right-click a group, select **Privilege Setting**, select **User** or **Power User** and select accounts to allow access to this group.



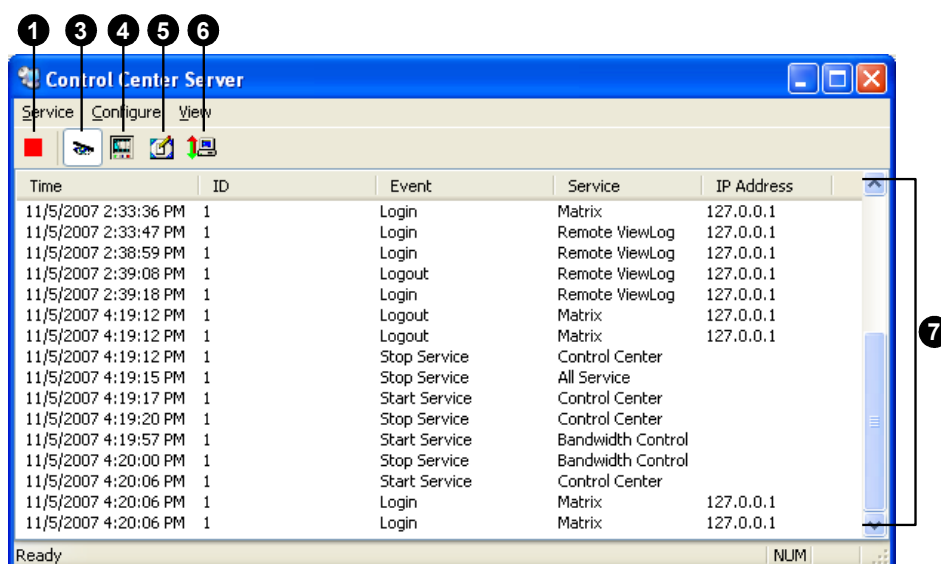
## 2.4 Connecting to GV-NVR / VMS

GV-Control Center supports several types of hosts. Only **GV-NVR / VMS** hosts need to be configured ahead to allow remote access from GV-Control Center. To configure GV-NVR / VMS, click the **Network** button on the main screen > **Control Center Server** (or **Control Center / ERM Service** for GV-VMS V18 / V20), and select **Start Default Service** or **Start All Service** to connect.

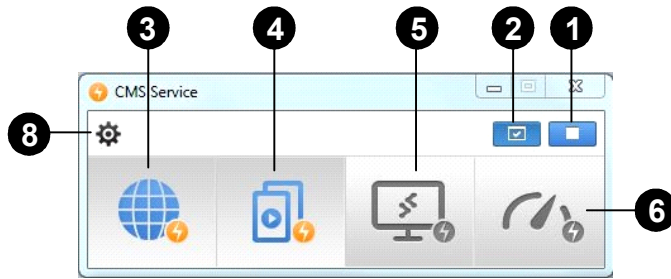
### 2.4.1 The Control Center Server Window

When GV-NVR / VMS starts Control Center Server as described above, the server will be minimized to the system tray. Click the server's icon to restore its window.

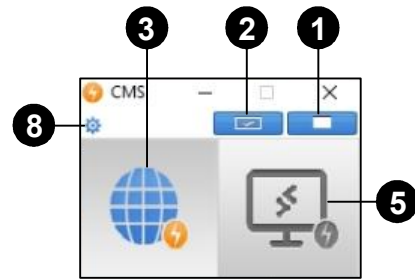
#### GV-NVR



GV-VMS V17




GV-VMS V18 / V20



No.	Name	Description
1	Stop All Service	Stop all Control Center Server services.
2	Start Default Service	Start all default services.
3	Start / Stop Control Center Service	Start / stop the services: Live View, I/O Central Panel and Remote DVR.
4	Start/Stop Remote ViewLog Service	Allow / deny GV-Control Center to access the recordings.
5	Start/Stop Desktop Service	Allows / deny GV-Control Center to control the desktop.
6	Start / Stop Bandwidth Control Service	Allows / deny the Bandwidth Control Server to control the bandwidth. See <i>Bandwidth Control</i> in the <a href="#">GV-DVR / NVR User's Manual</a> , <a href="#">GV-VMS User's Manual V17</a> , or <a href="#">GV-VMS User's Manual V18</a> .
7	Event List	Indicate login ID, event type, event time, service activated and IP address.
8	Configure	See <a href="#">2.4.2 Advanced Settings</a> .

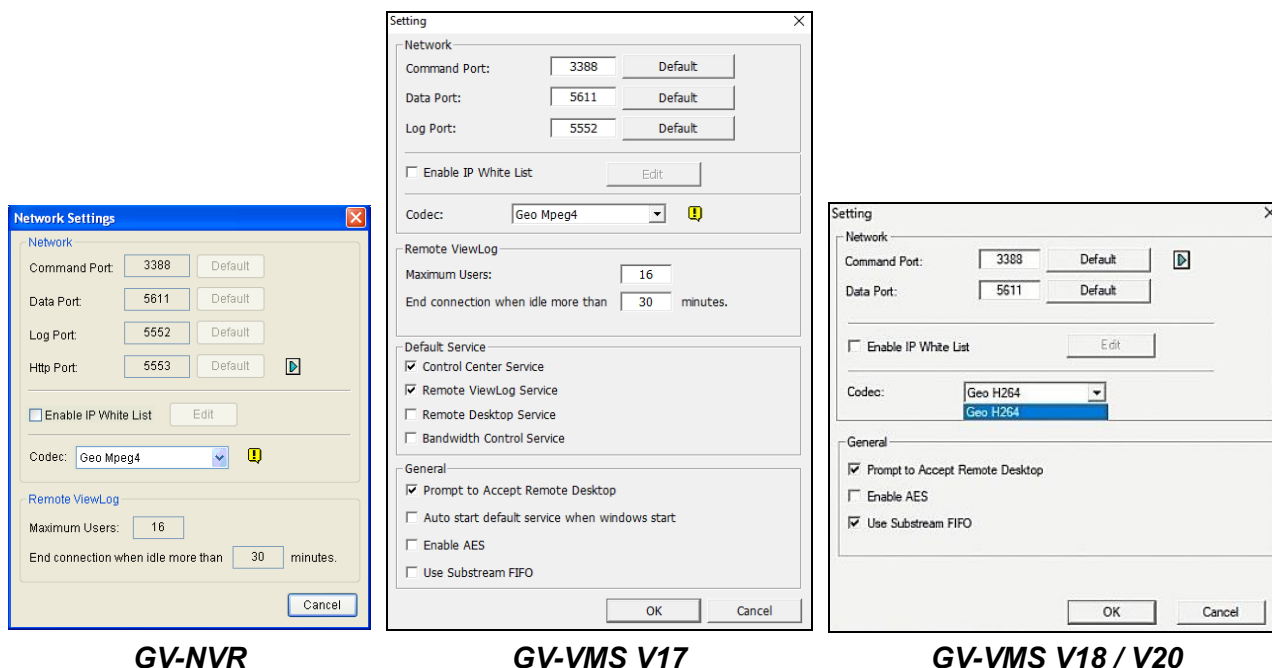
**Note:**

1. By default, the live streams of GV-NVR / VMS are compressed for better bandwidth control at the cost of increased CPU usage. The number of remote connections allowed from a single GV-NVR / VMS depends on the specs and the CPU usage of GV-NVR / VMS.
2. For GV-VMS V17.1 or later, optionally enable the **Substream FIFO** function in the **Configure** button  of CMS Service (see No. 8 in the above figure) for reduced CPU usage of GV-VMS and improved streaming quality at the cost of increased bandwidth. The number of remote connections allowed from a single GV-VMS depends on the amount of bandwidth available.
3. To access one GV-VMS host from multiple Control Center servers under the same LAN, the Multicast function is recommended. For details, see [9.4 Multicast Setting](#).

## 2.4.2 Advanced Settings

To configure Control Center Server, click the **Configure** button  on the window menu.

**[Network Settings]** Keep the communication ports as default, unless otherwise necessary.



- **Enable IP White List:** Limit access to GV-Control Center Server by assigning IP ranges.
- **Codec:** Set video compression to Geo Mpeg4 or Geo H264. Note that Remote Desktop does not support Geo H264 codec, and GV-VMS V20 does not support Geo Mpeg4 codec.
- **UPnP:** Only for GV-NVR. To automatically configure the three communication ports on your router, click the **Arrow** button beside Http Port for UPnP settings.
- **Remote ViewLog:** Set the maximum number of users to access the recordings for playback from 1 to 16, and also set the idle time after which to end the playback application.

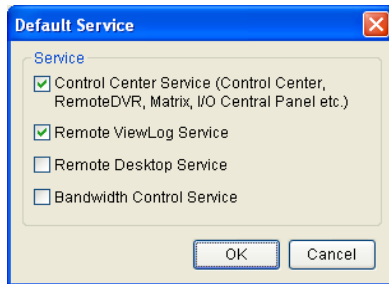
---

**Note:** To access Remote ViewLog settings in GV-VMS V18 / V20, click **Home**  > **Toolbar**  > **Network**  > **Remote ViewLog Service**.

---


**[Event Log Settings]** Set the log storage path and duration.

**[Default Service]** Select the desired services to set as default.



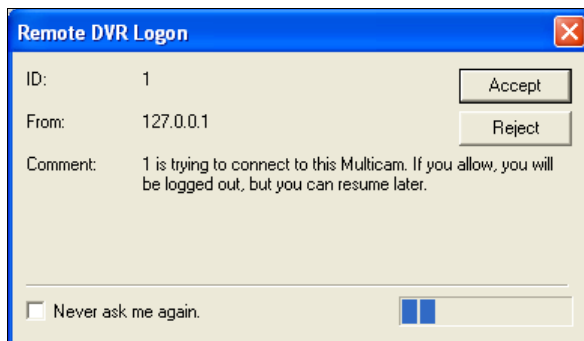
**GV-NVR**

---

**Note:** To access Default Service settings in GV-VMS V18 / V20, click **Home**  > **Toolbar**  > **Configure**  > **System Configure** > **Startup**. For details, see *Customizing Startup Settings* in Chapter 1 of the [GV-VMS User's Manual V18](#) or [GV-VMS User's Manual V20](#).

---

**[Prompt to accept]** The client can be prompted to allow or deny the connection when GV-Control Center attempts to access the GV-NVR system (Remote DVR Service), or the client's desktop and OS system (Remote Desktop Service).



**GV-NVR**

**[Auto start default service when Windows starts]** Automatically run the default services at Windows startup.

**[Hide when minimized]** Only for GV-NVR. Hide the minimized Control Center Server window to the system tray.

**[Enable AES]** Only for GV-VMS. Enable to secure live view and playback transmission through AES encryption.

**[Use Substream FIFO]** Only for GV-VMS. Enable to reduce CPU usage of GV-VMS and improve streaming quality at the cost of increased bandwidth.

# Chapter 3 Batch Management

The batch functions allow you to manage a mass number of hosts without the need to visit each host's interface. You can change IP addresses, rename devices, fill in identical login credentials, assign network storage devices to multiple hosts at a time.




## 3.1 Configuring the IP Address

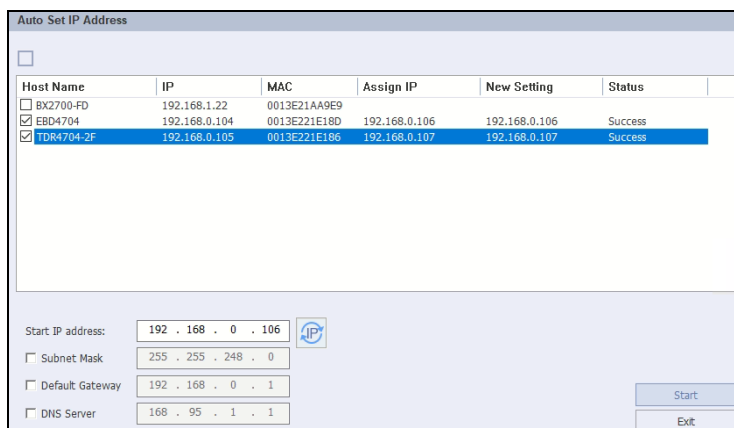
You can set the IP addresses of multiple hosts at a time, or just change the IP address of a single host.

---

**Note:** The batch management function is only supported by GV-Video Server, GV-IP Cameras, and UA-IP Cameras.

---

1. On the Host List, click **Tools**  > **Auto Set IP Address**. The Auto Set IP Address dialog box appears.
2. Select the devices to be configured from the **Host Name** column. To select all devices, click .
3. To assign consecutive IP addresses to multiple GV-IP Devices:
  - A. Configure **Start IP Address**, **Subnet Mask**, **Default Gateway** and **DNS Server**.
  - B. Click the button  to preview the new IP addresses in the **Assign IP** column..
5. To change the IP address of a single host, type the new IP address in the **Assign IP** field.
4. Click **Start** to apply the changes.




## 3.2 Renaming Devices

You can modify the device names of multiple hosts at a time, or just the device name of a single host.

---

**Note:** The batch management function is only supported by GV-Video Server, GV-IP Cameras, and UA-IP Cameras.


---

1. On the Host List, click **Tools**  > **Upgrade Device Name**. The Upgrade Device Name dialog box appears.
2. Select the devices to be configured from the **Host Name** column. To select all devices, click the square .
3. Type the new device name directly in the **Rename** field.
4. Click **Start** to apply the changes.

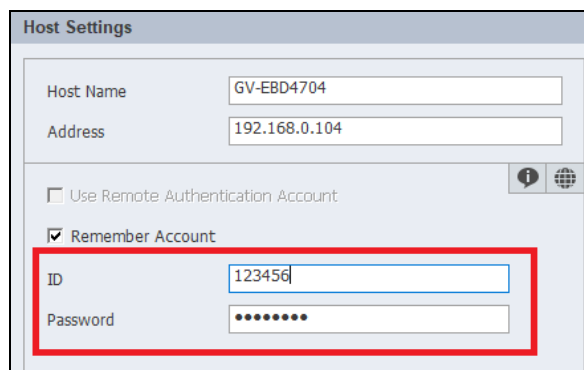
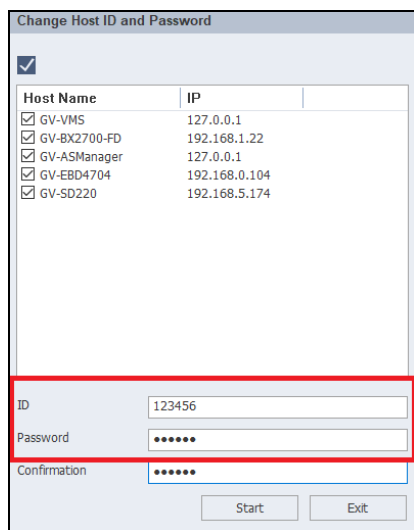
Upgrade device name						
<input checked="" type="checkbox"/>						
Host Name	IP	MAC	Rename	New Setting	Status	
<input checked="" type="checkbox"/> GV-BX2700-FD	192.168.1.22	0013E21AA9E9	Entrance	Entrance	Success	
<input checked="" type="checkbox"/> GV-SD220	192.168.5.174	0013E2FF13FC	Exit	Exit	Success	

## 3.3 Connecting to Hosts with Identical Credentials

When you have a mass number of hosts using the same ID and password, use the following method to fill in the login ID and password in the Host Settings dialog box at a time.

1. On the Host List, click **Tools**  > **Change Host ID and Password**.
2. Select hosts, type a common **ID** and **Password**. After confirming the password, click **Start** to apply the changes.

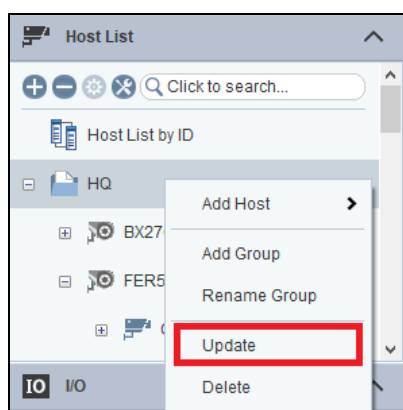
- The common ID and Password are filled in the Host Settings of the selected hosts, as illustrated below.



### 3.4 Updating Host Information

You can update the information of multiple hosts at a time, such as the connection status, the total number of cameras, input and output modules installed, and their names.

- On the Host List, use the Shift key to select multiple hosts, then right-click and select **Update**.

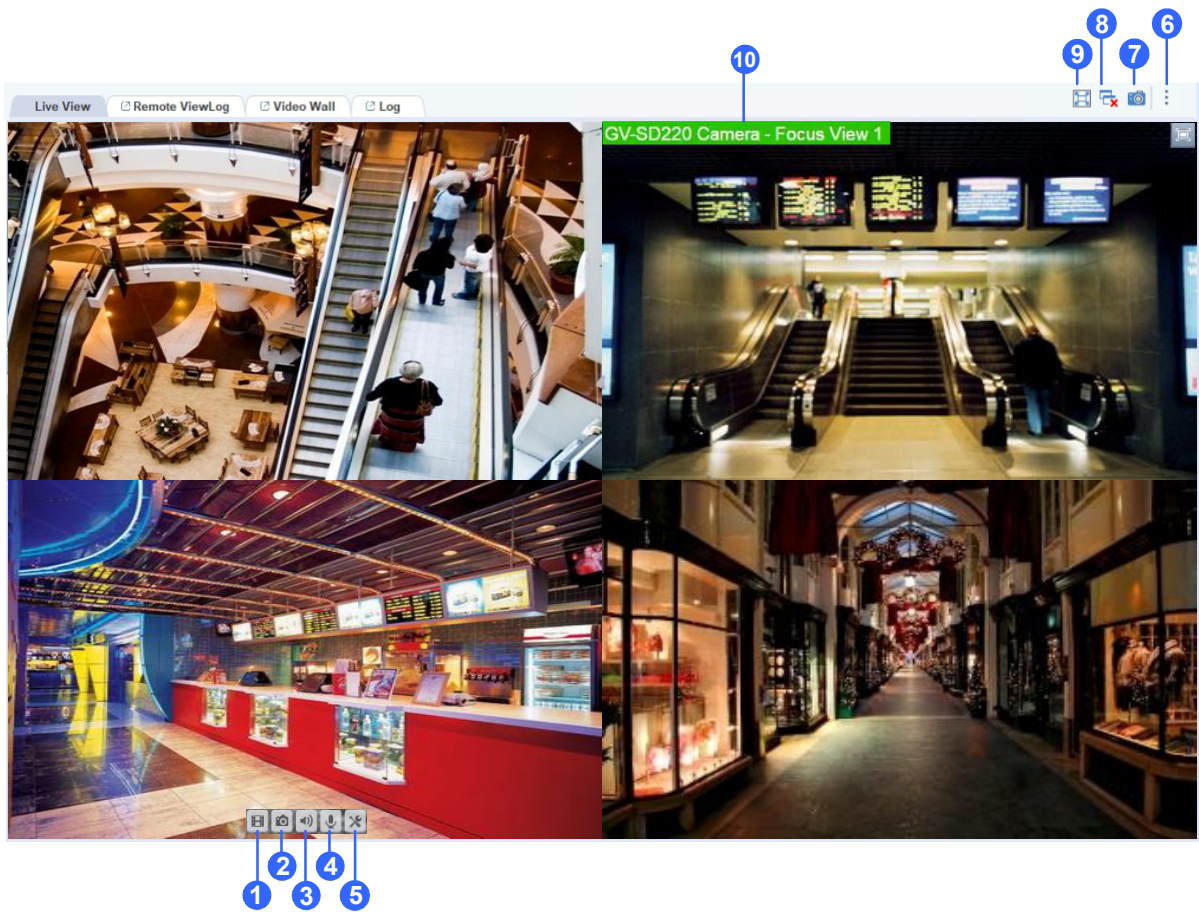











- The Update Host Information window appears, with the selected hosts listed and selected.
- Click **Update Information** to start updating the information from hosts.






# Chapter 4 Live View

## 4.1 The Live View Window

The Live View window displays live streams and gives you access to the displayed camera channels. You can monitor up to **100** channels simultaneously. To display live view, drag and drop cameras from the Host List to any live view grids.



No.	Name	Description
1	Instant Play 	Play back the recordings.
2	Snapshot 	Capture a snapshot of the selected channel.
3	Wave Out 	Receive live audio from the selected channel.
4	Microphone 	Use the camera to talk to the surveillance site. Note: The Microphone option in the Host List (right-click a host) is for talking to the host, not the site.
5	Live View Settings 	<ul style="list-style-type: none"> <li>■ <b>Monitor:</b> Enable / disable monitoring of the camera.</li> <li>■ <b>Wide Angle Lens Dewarping:</b> Enable the dewarping setting. See <i>4.5 Adjusting the Distorted View</i>.</li> <li>■ <b>Face Enroll:</b> Enroll faces to a GV face recognition camera from any live views. The settings are similar to those on GV-VMS. See <i>Enrolling Face Data from Live View / ViewLog</i> in Chapter 3 of the <a href="#">GV-VMS User's Manual V18</a> or <a href="#">GV-VMS User's Manual V20</a>.</li> <li>■ <b>Storyline:</b> Record a sequence of different camera views of a specific incident. On a camera view, select <b>Storyline</b> to start recording; to add another camera view, drag the camera view to the recording channel. To view the storyline clip, access <b>Log</b> &gt; the <b>Record</b> tab.</li> <li>■ <b>PTZ:</b> Only available for PTZ cameras. Enable PTZ functions.</li> <li>■ <b>Apply object detection rectangles:</b> Select to display the detection rectangles to highlight the detected objects.</li> <li>■ <b>Add to Bookmark:</b> Bookmark an image to watch later in the Remote ViewLog player. The function only works when the channel is recording. To search for and <b>play</b> back bookmarked videos, select the <b>Configure</b> button  (top right of the main screen) &gt; <b>Bookmark</b>.</li> <li>■ <b>Advanced Video Attributes:</b> Adjust the brightness, contrast, saturation and hue of live images.</li> <li>■ <b>Location on Host List:</b> Highlight the camera of the current live view on the Host List.</li> <li>■ <b>IMV1 Panomorph:</b> Dewarp the fisheye view. Note this option is only available for GV-IP Cameras installed with ImmerVision lenses and when the camera resolution is set to 1280 x 1024 or higher.</li> <li>■ <b>VR360:</b> Pan around the 360° image of GV-VR360. Click  or  to adjust the speed of the auto pan and click  to zoom in.</li> </ul>

	<ul style="list-style-type: none"> <li>■ <b>Properties:</b> <ul style="list-style-type: none"> <li>• <b>Caption:</b> Show the channel ID, host name or camera name on the live view.</li> <li>• <b>Keep Image Ratio:</b> Lock aspect ratio of the camera image.</li> </ul> </li> <li>■ <b>Close:</b> Remove the camera from the layout grid.</li> </ul>
6	<p>Configure </p> <ul style="list-style-type: none"> <li>■ <b>Setup:</b> Access System Configuration and Application Position settings.</li> <li>■ <b>Import Data / Export Data:</b> Export / import preference settings and user account data. The <b>preference settings</b> include configurations in Host List, Group List, System Configuration, Live View, Virtual PTZ, GV-Keyboard, E-Map, and Video Wall. <b>Save Configure to Other User:</b> The Administrator can apply the current configurations to Power User and User accounts, including the live view layout, Privilege Setting (see the Note in section 2.3.2), System Configuration (Chapter 10) and Application Position (section 8.1).</li> <li>■ <b>Event Rules:</b> Schedule actions based on event types. See 4.14 <i>Event Rules</i>.</li> <li>■ <b>Bookmark:</b> Search for and play back bookmarked videos.</li> <li>■ <b>GV-Keyboard / Joystick:</b> See <i>Appendix B. PTZ Control Using GV-Joystick and/or GV-Keyboard</i>.</li> <li>■ <b>IP Device Utility:</b> Access <a href="#">GV-IP Device Utility</a>.</li> <li>■ <b>License Request Generator:</b> Access <a href="#">License Activation Tool</a>.</li> <li>■ <b>Version Information:</b> Display the version number of GV-Control Center.</li> </ul>
7	<p>Snapshot</p> <p>Take snapshots of all live view channels currently displayed. The images are saved to the default path <b>C:\Control Center\Snapshot</b>. To change the storage path, click <b>Configure</b>  (top right of the main screen) &gt; <b>Setup</b> &gt; <b>System Configure</b> &gt; the <b>Live View</b> tab.</p>
8	<p>Close All Videos</p> <p>Close all live view channels.</p>
9	<p>Full Screen</p> <p>Extend the Live View window to full-monitor display.</p>
10	<p>Monitoring Status</p> <p>Channel color (gray) : Not monitoring</p> <p>Channel color (green) : Monitoring but not recording</p> <p>Channel color (red) : Recording</p>

---

### Note for Monitoring Status (No. 10):

1. This function is only supported by GV-NVR / VMS, GV-IP Cameras (**except** GV-ABL / ADR / AVD / EBD / TBL / TDR / TVD series, GV-SD2322-IR / 2722-IR / 3732-IR, GV-QSD series).
  2. For GV-NVR / VMS, make sure that the account used for connecting to GV-Control Center has the privilege to enable monitoring.
- 

### Note for GV-VR360:

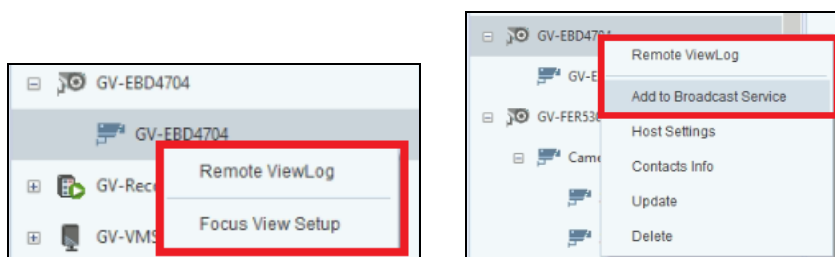
1. To view the dewarped image of GV-VR360, the graphics card must support DirectX 10.1 or above.
  2. Up to 2 GV-VR360 can be connected to one GV-Control Center with a total frame rate of 24 fps.
- 

## 4.1.1 Quick Access to Other Functions on Live View

The live view screen can be controlled using the actions below.

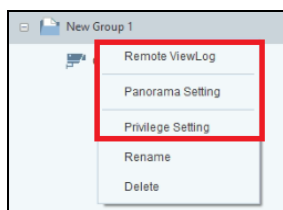
Actions	Functions
Mouse scroll	Zoom in or out on the live view.
Double-click	Display the live view in full screen.

In the **Host List**, right-click a **camera channel**, from a host, to access the following options, when enabled or supported:



Option	Functions
Focus View Setup	Create up to 7 close-up views for the camera. See <i>4.2.2 Setting Focus View</i> .
PTZ Setup	Enable PTZ functions. See <i>4.4 Panoramic PTZ View</i> .
Fisheye Option	Access fisheye dewarping settings. See <i>4.3 Fisheye View</i>
Remote ViewLog	Access the recordings of host. See <i>Chapter 5 Playback</i> .
Broadcast Service	Accesses Audio Broadcast settings. See <i>4.8 Audio Broadcast</i> .

In the **Group List**, right-click a **group**, to access the following options, when enabled or supported:

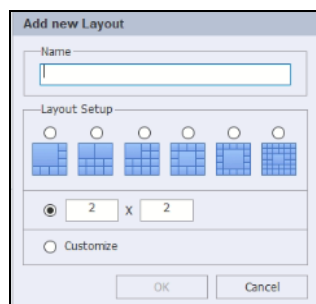




Option	Functions
Remote ViewLog	Access the recordings of grouped cameras. See <i>Chapter 5 Playback</i> .
Privilege Setting	See the Note in 2.3.2 <i>Creating a Group</i> .

## 4.2 Live View Layouts

### 4.2.1 Arranging Layouts

1. In the **Layout** list, click **Add** ➕ > **Add New Layout**. This dialog box appears.

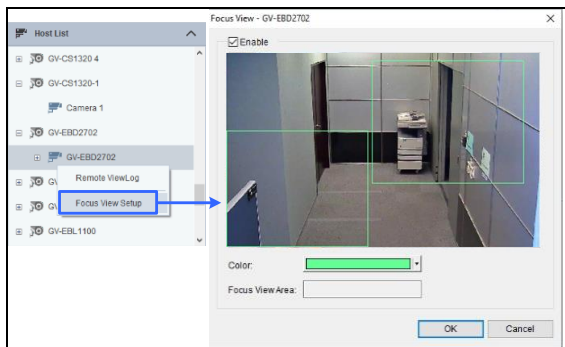


2. Name the new layout and select one of the three available methods under **Layout Setup** to define a layout and click **OK**.
3. If you select **Customize** in the step above, the **Customize Layout** dialog box appears.
  - a. Click **Reset**  to specify a dimension for the grid if needed.
  - b. To create a large grid, select multiple rectangles and click **Merge** .
  - c. Click **OK** when you are done.
4. To create multiple layouts, repeat steps 1-3. Once done, you can switch to the desired layout by double-clicking it on the **Layout** list.

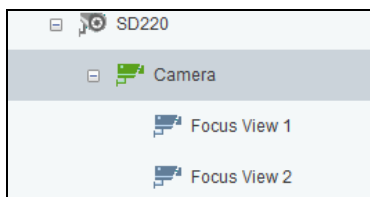
## 4.2.2 Setting up Focus View

You can create up to 7 close-up views per camera and drag the created close-up views to the live view grid.

1. In the Host List, right-click a camera from a host > **Focus View Setup**. This dialog box appears.



2. Click **Enable** and draw boxes on the camera view to create focus views. You can change the color of the box if needed.
3. Click **OK**. The created focus views are listed under the camera channel.



4. You can now drag the focus views to live view grids.

---

**Note:** This function is not supported by fisheye and PTZ cameras.

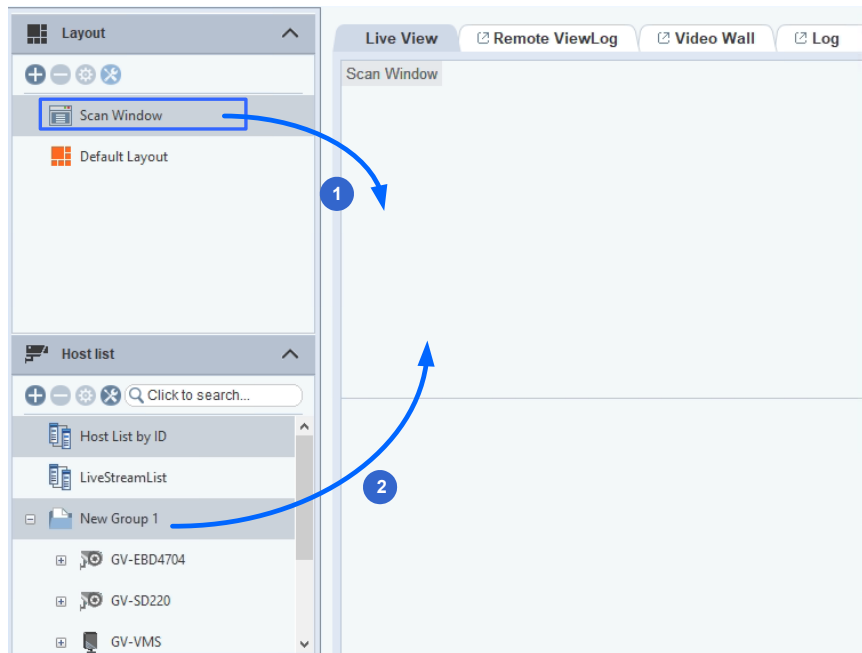
---


## 4.2.3 Setting up Scan Window

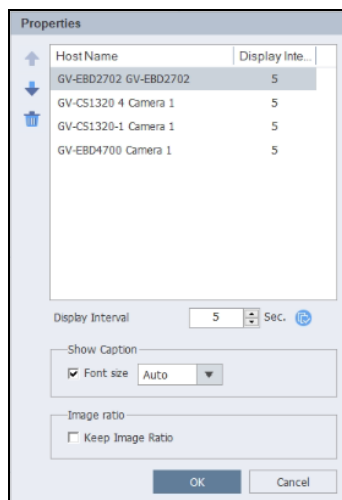
You can assign multiple cameras to a Scan Window, and each camera will be shown in sequence for the scan interval specified.




1. Drag **Scan Window** from the Layout list to a live view grid.

2. Drag the desired cameras / hosts into the Scan Window.



3. Move the cursor to the Scan Window, click **Tools**  > **Properties**. This dialog box appears.



4. To adjust the order of a camera, select a camera and click the Up  and Down  arrows.
5. To specify how many seconds to show the live view of each camera, set up the **Display Interval** for each camera. Optionally click  to apply the display interval to all cameras.
6. To show camera names on live view, select **Show Caption**.
7. To lock the original aspect ratio of the camera image, select **Keep Image Ratio**.
8. Click **OK**.

## 4.3 Fisheye View

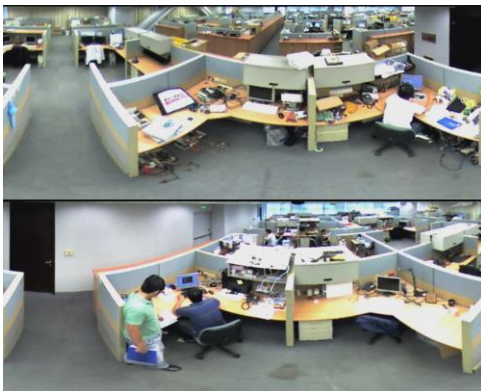
The circular fisheye view can be dewarped into the following four view modes, and you can drag PTZ views to different angles.



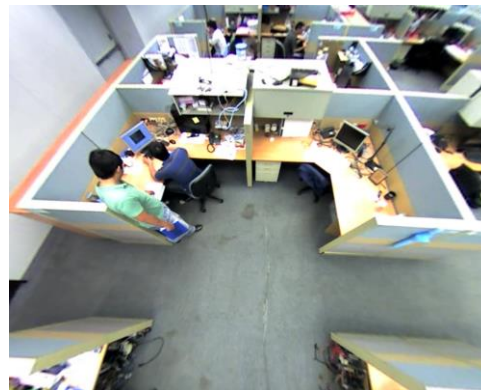
**Quad view:** 4 PTZ views



**360 degree:** 2 PTZ view & 1 360° view



**Dual 180 degree:** 2 180° views



**Single view:** 1 PTZ view

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### Note:

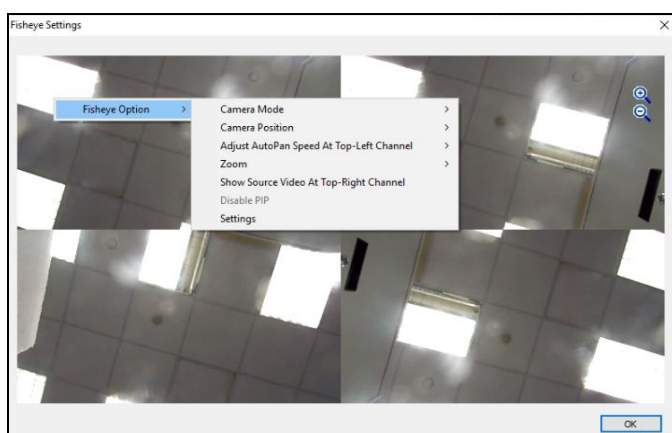
1. This function requires a graphics card supporting DirectX 10.1 or later.
  2. The following camera types are supported:
    - GV-Fisheye Camera
    - GV-IP Camera installed with an ImmerVision IMV1 Panorama Lens
-

### 4.3.1 Setting up Fisheye View

1. To enable the dewarped view, right-click a fisheye camera from the Host List > **Fisheye Option**. By default, the fisheye view is dewarped into Quad View.



2. To change the dewarped settings, right-click the fisheye view on the Fisheye Settings window > **Fisheye Option** to access the following options.



■ **Camera Mode:** You can choose among the following four view modes.

- **Quad view:** Composed of four PTZ views.
- **360 degree:** Composed of two PTZ views and one 360° panoramic view.
- **Dual 180 degree:** Composed of two 180° views.
- **Single view:** Composed of one PTZ view. Click on the inset window to watch a close-up view on the Live View window.

■ **Camera Position:** Select **Ceiling**, **Wall** or **Ground** according to installation scenarios.

■ **Adjust Auto Pan Speed at Top-Left Channel:** Select **low**, **medium**, or **high speed** to enable Auto Pan for one PTZ view at the rotation speed of your choice. This option is only available in **Quad view**, **360 degree** and **Single view**.

■ **Zoom:** Select **Zoom In** or **Zoom Out** and then click on the image.

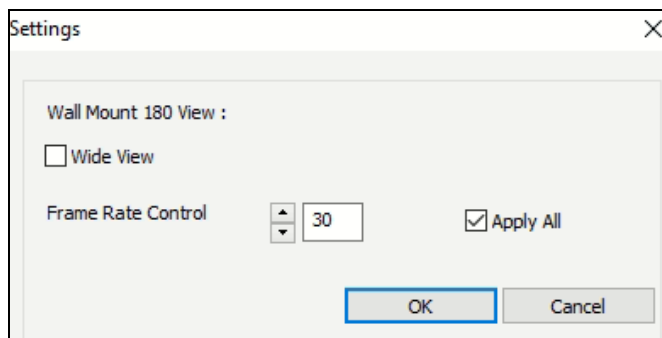
■ **Show Source Video at Top-Right Channel:** You can display the circular source image in the top-right quadrant when **Quad view** is selected.

■ **360 Degree Object Tracking:** Only available in **360 degree** mode. Track and

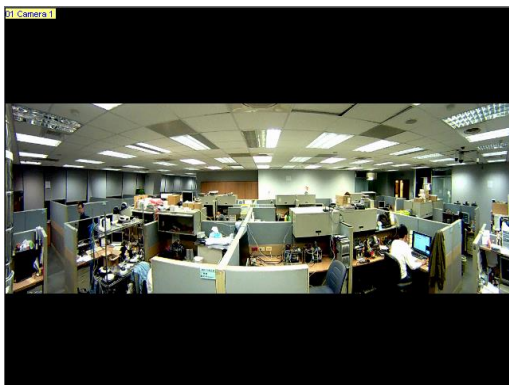
highlight detected motion in live view.

- **Tracking:** Enable the 360 Degree Object Tracking function.
- **Advanced Settings:** Define the mask region, object size, dwell time and schedule for object tracking. For details, see *4.3.2 Object Tracking*.
- **Guard Tour Setting:** Only available in **Single View** mode. Enable to set up a virtual PTZ tour using the defined preset points on live view. For details, see *4.3.3 Virtual PTZ Tour*.

■ **Settings:**



- **Wide View:** Increase the height of the 180-degree view when camera position is set to wall mount.



**Wide View Disabled**

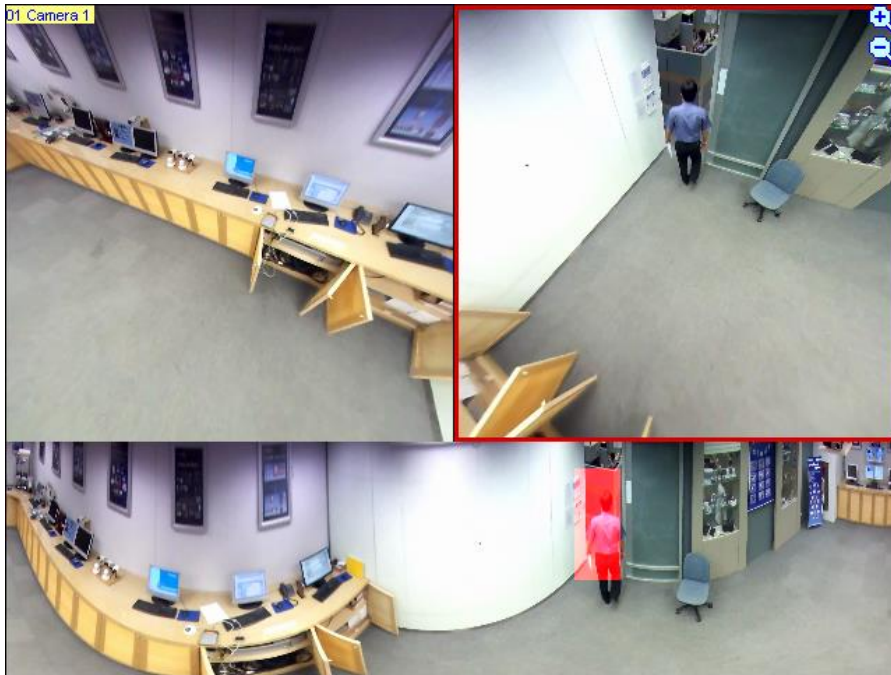


**Wide View Enabled**

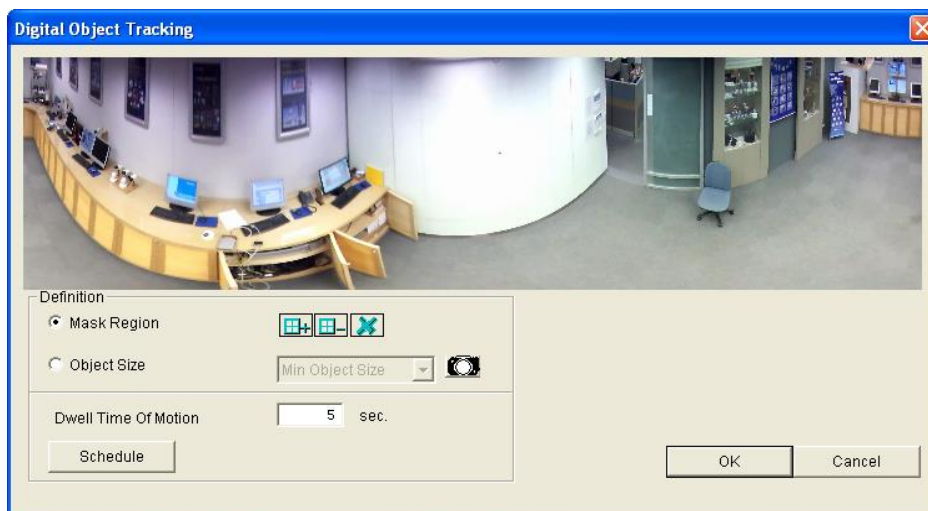
- **Frame Rate Control:** Limit the frame rate of fisheye view to the number specified. Select **Apply All** to apply the frame rate setting to all fisheye views.
3. Drag the dewarped fisheye views from the Host List to live view grids for display. And you can drag any PTZ view or 180-degree view to adjust the viewing angle.

### 4.3.2 Object Tracking

You can set up object tracking in the fisheye view to track a moving object. The function is only available when the view mode is set to **360 degree**. When motion is detected in the fisheye view, the top-right channel will start tracking the moving object, which is highlighted in the 360-degree view at the bottom.



1. Set the fisheye view to **360 degree** by following steps 1- 2 in *4.3.1 Setting up Fisheye View*.
2. On the Fisheye Settings dialog box, right-click the fisheye view > **Fisheye Option** > **360 Object Tracking** > **Advanced Settings**. This dialog box appears.



■ **Mask Region:** Use the mouse to outline a region where motion is ignored.

■ **Object Size:** Click the  button to pause the live view and then use the mouse

to outline the maximum and minimum size of the target object.

■ **Dwell Time of Motion:** When the target object stops moving, the highlighted region and the top-right channel will remain fixed for the number of seconds specified. Any new motion detected during the dwell time is ignored to prevent the camera view from frequently jumping from one region to another.

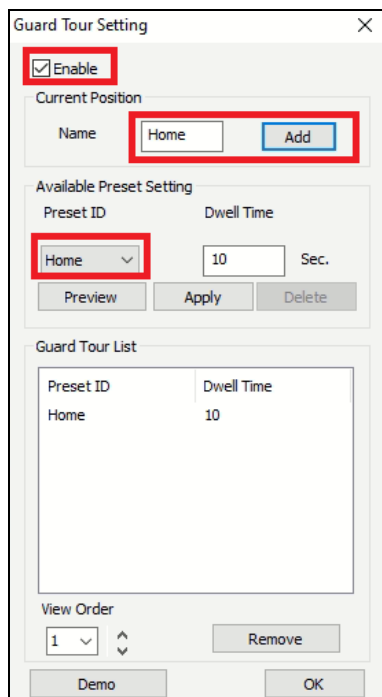
■ **Disable automatic zoom adjustment during 360 Object Tracking:** When disabled, the zoom ration will be kept constant as configured

3. To enable object tracking, on the Fisheye Settings window, right-click the fisheye view > **Fisheye Option > 360 Object Tracking > Tracking.**

### 4.3.3 Virtual PTZ Tour

You can set up a virtual PTZ tour to monitor important spots of your surveillance site. Before you start, make sure your fisheye camera has been set to **Single View** mode. For setting up the view mode, see the Camera Mode option, *4.3.1 Setting up Fisheye View*.

1. Set the fisheye view to **Single View** by following steps 1 - 2 in *4.3.1 Setting up Fisheye View*.
2. On the Fisheye Settings window, right-click on the fisheye view > **Fisheye Option** > **Guard Tour Setting**. The Guard Tour Setting dialog box appears along with the Fisheye Settings window.
3. On the Fisheye Settings window, move the live view to a desired starting point for the PTZ tour by clicking on the inset window at the bottom right.
4. Enable the settings, type a name for the current view and click **Add**. This view point (preset point) appears under Preset ID.



5. Specify the duration for the live view to stay at the preset point under **Dwell Time**. The default is **10** seconds.
6. Optionally click **Preview** to see a preview of the preset point.
7. Click **Apply**. The preset point is added to Guard Tour List.

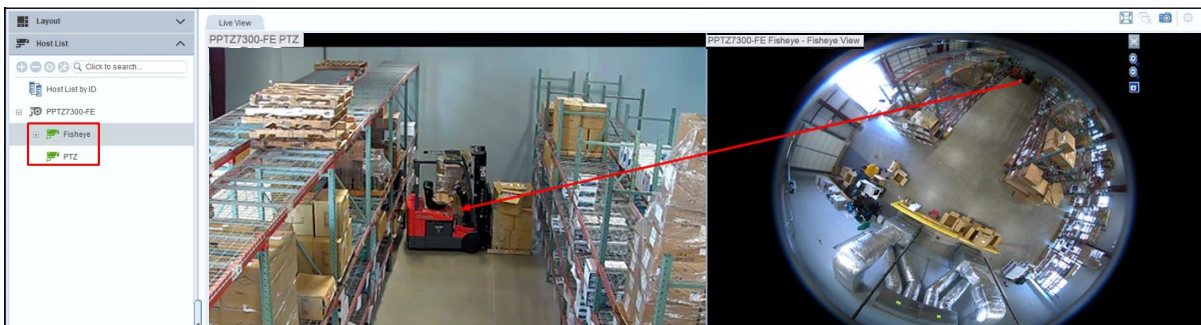
8. To add more preset points, repeat the steps above.
9. To change the order of the preset points, use the **View Order** dropdown list to move a preset point up or down the list.
10. Optionally, click **Demo** to watch a preview of the PTZ tour.
11. Select **OK** to start the PTZ tour. To stop the PTZ tour, disable the function on the Guard Tour Setting.

## 4.4 Panoramic PTZ View

With GV-Panoramic PTZ Camera, you can manually track a moving object on its dome view while monitoring all angles of a location through its fisheye view.



To do this:

1. Drag both the fisheye and PPTZ camera channels from the Host List onto the Live View window.
2. Click on any place on the fisheye view. The speed dome will automatically point to the designated area.



## 4.5 Adjusting Distorted View

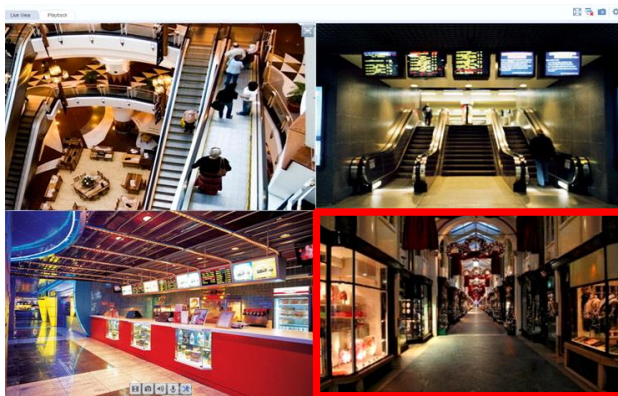
Live images may be curved near the corners. You can use the Wide Angle Lens Dewarping feature to adjust image distortion.

1. Click **Configure**  on the camera's live view, and enable **Wide Angle Lens Dewarping**.
2. Once enabled, click **Configure**  again > **Wide Angle Lens Settings**.
3. Move the slider at the bottom to correct the degree of dewarping.



## 4.6 Enabling QView Display


When having more than one monitor connected to your computer, you can click and project a live view onto another monitor as full screen, using the QView function.

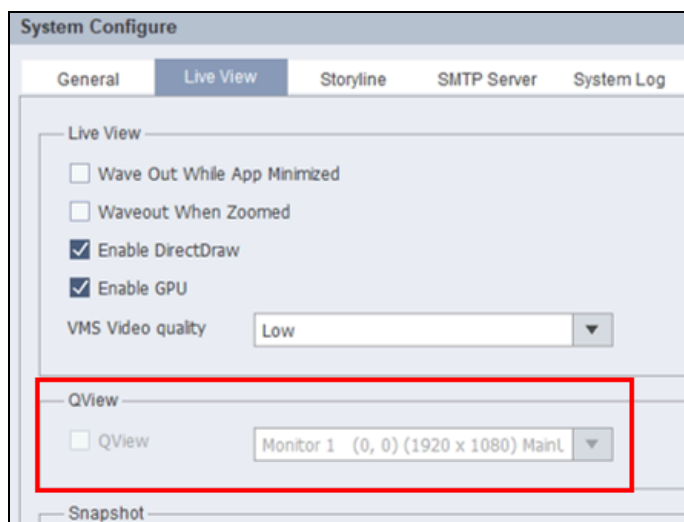


Click one live channel to be displayed on another monitor.



The selected channel is displayed on another monitor.

1. On the top right of the main screen, click **Configure** button  > **Setup** > **System Configure**. The System Configure dialog box appears.
2. Under the **Live View** tab, select **QView**, select one monitor, and click **OK**.



3. Click on the camera view you wish to project onto another monitor. The live view is displayed onto the monitor selected.
4. To switch to other channels, simply click on another channel.

## 4.7 VMD Monitoring

With the VMD (Video Motion Detection), the operator can be alerted with a pop-up display of live view when any of the following events occur:

### Basic Video Analysis Events

Motion Detection, I/O Detection, Temperature Alarm, Face Recognition

### Advanced Video Analysis Events

Crowd Detection, Advanced Unattended Object Detection, Advanced Scene Change Detection, Advanced Missing Object Detection

**AI Events:** Intrusion, Loitering, Average Speed, Hard Hat Detection, AI Guard Illegal Lane Change, People Motion, Vehicle Motion, PVD Motion, Intrusion Triggered by Sensor, Social Distancing Detection, Face Mask Detection, Crowd Detection, Cross Line, Leave Area, Enter Area, Reflective Vest Detection, Hard Hat or Vest Detection, Smoke Detection, Flame Detection, Smoke or Flame Detection, Wrong-Way Detection, Mandatory Crossroad Stopping, OCR Detection, Shoplifting Detection, Fall Down Detection, Vehicle Attributes Recognition Event, Queued Traffic Event, Time Waiting Event, Abnormal Audio Detection, Abnormal Temperature Detection, 3rd Party Events.

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### Note:

1. The VMD function does not support 3rd-party IP cameras.
  2. The VMD function currently supports the following SNVRs and HD DVRs:  
**SNVRs:** GV-SNVR0412 / 0812 / 1612 / 3203 / 6403, GV-TNVR1620-P  
**HD DVRs:** GV-TXVL1610
  3. GV-Control Center supports displaying VMD (video motion detection) channels to GV-Decoder Box Optimal's monitors. See 6.4 *Dynamic Alerts via Control Center VMD Motion Detection* in [GV-IP Decoder Box Series and Display User's Manual](#) for details.
-

## 4.7.1 Running VMD

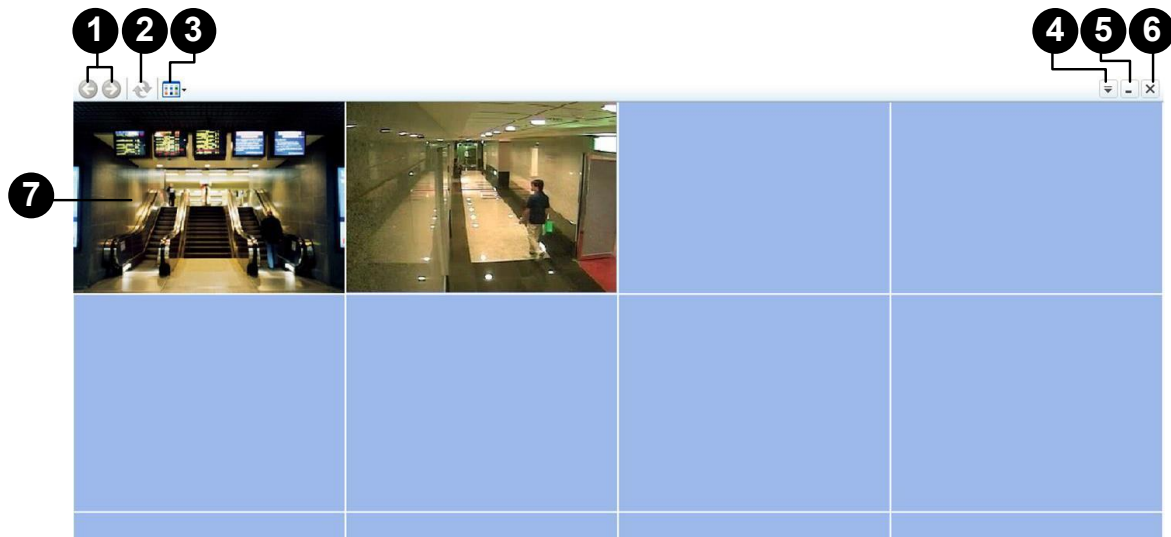
### To display pop-up events in the VMD window

1. Drag and drop the desired cameras from the Host List to the **VMD Group** in the Group List.
2. To select the event types for pop-up alerts, right-click the **VMD Group > Video Analysis**, and check the boxes for the desired event types under each camera. Motion Detection is selected by default.
3. To open the VMD window, right-click the **VMD Group > Execute VMD System**. When motion or the selected event is detected within the camera view, the live view will pop up in the VMD window.

### [Optional] To display the same pop-up events in full screen on a secondary monitor

4. Open the **Pop-up Viewer** (under No. 4 in 4.7.2 *The VMD Window*).
5. Select the secondary monitor for pop-up display.
6. Set the display mode to **Double Click** or **Newest**. See Pop-up Viewer under No. 4 in 4.7.2 *The VMD Window*.
7. Click **Close**. Depending on the selected mode, the live view will pop up in full screen on the secondary monitor either when motion or the selected event is detected within the camera view, or when you double-click the live view in the VMD window on the primary monitor.

## 4.7.2 The VMD Window



No.	Name	Description
1	Page Up & Down	Scroll the page up and down.
2	Refresh	Refresh the camera view. The feature is unavailable when the <b>Camera pops up in the user-defined position</b> option is enabled (right-click the <b>VMD Group &gt; VMD System Configuration</b> ).
3	Select Quad	Set the screen division. <ul style="list-style-type: none"> <li>■ <b>Image Quality:</b> Change the display quality to Best, Normal, or Low.</li> <li>■ <b>Host List:</b> Display the hosts added to the VMD group in tree view.</li> <li>■ <b>Pop-up Viewer:</b> Display pop-up events in full screen on a secondary monitor, while still showing them on the primary monitor. Choose a mode below. <ul style="list-style-type: none"> <li>• <b>Double Click:</b> Double-click a live view in the VMD window to show it on the secondary monitor.</li> <li>• <b>Newest:</b> Each new pop-up on the primary monitor also appears on the secondary monitor automatically.</li> </ul> </li> </ul> <p>When the event ends, the pop-up view on the primary monitor will close, but on the secondary monitor, it will remain for the specified Play Time.</p> <p><b>Note:</b> On the primary monitor, you may choose to set up a dwell time to define the duration of the pop-up view remaining on the screen after the event ends. For details, see the next items <b>System Configure</b> and <b>Event Popup</b> in Show System Menu.</p>
4	Show System Menu	

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4	Show System Menu	<ul style="list-style-type: none"> <li>■ <b>System Configure</b> <ul style="list-style-type: none"> <li>● <b>Enables DirectDraw:</b> Enable the DirectDraw function.</li> </ul> <p>The following monitoring options are for basic video analysis events.</p> <ul style="list-style-type: none"> <li>● <b>Dwell Time:</b> Define the duration of the pop-up view remaining on the primary monitor after the event ends, ranging from 3 to 60 seconds.</li> <li>● <b>Minimum Duration:</b> Define the interval of each event trigger.</li> <li>● <b>Invoke Alarm:</b> Enable the computer alarm upon each event.</li> <li>● <b>Temperature Monitoring:</b> Define the critical temperature at or beyond which the camera view will pop up.</li> </ul> </li> <li>■ <b>Event Popup:</b> Define the duration of the pop-up view remaining on the primary monitor after the event ends, ranging from 0 to 9999 seconds. By default, each pop-up remains for 60 seconds. This monitoring option is for advanced video analysis events.</li> <li>■ <b>Sound Scheme:</b> Define the alarm sound for different events.</li> <li>■ <b>Keep Image Ratio:</b> Display the video proportionally to its source.</li> <li>■ <b>Face Event Filter:</b> Filter and display face recognition events from GV-AI FR and GV-VMS based on the option of Show All / Show Identified Persons Only / Show Unknown Persons Only.</li> </ul>
5	Minimize	Minimize the VMD window in the Windows taskbar.
6	Exit	Close the window.
7	Popup View	<p>Right-click a pop-up view to have these settings:</p> <ul style="list-style-type: none"> <li>■ <b>Advanced Live View:</b> Open a separate window for further control.</li> <li>■ <b>Instant Playback:</b> Access the recordings of camera view.</li> </ul> <p>If the mode in Pop-up Viewer is set to Double-Click, double-click a pop-up view to display it in full screen on a secondary monitor.</p>

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**Note for Temperature Monitoring:**

1. The critical temperature refers to the interior temperature of the device, but not its operating temperature.
  2. This feature is only supported by certain GV-IP Cameras.
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### 4.7.3 Dual-Monitor Display for Extra Channels

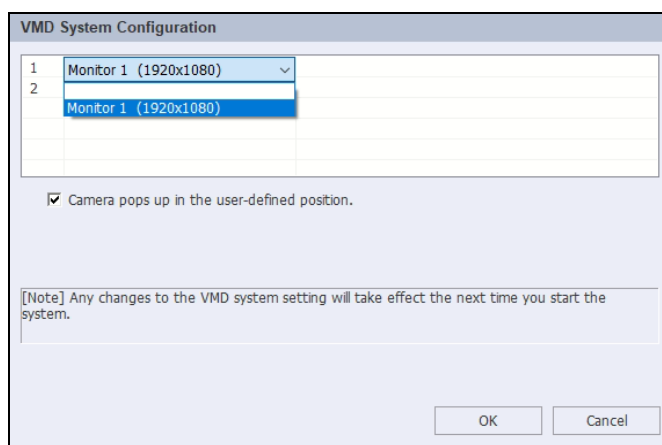
You can set up two monitors for VMD pop-up display when the channels cannot fit on one monitor.

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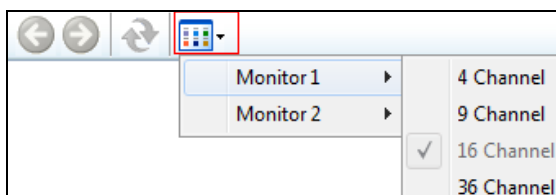
**Note:** For monitor resolution of 1280 x 1024 and above, up to **42** pop-up views can be displayed on a VMD window. For monitor resolution lower than 1280 x 1024, up to **36** pop-up views can be displayed on a VMD window.

---

1. In the Group List, right-click the **VMD Group > VMD System Configuration**. This dialog box appears.



2. Select two monitors from the dropdown lists as Monitor 1 and Monitor 2. Click **OK**.
3. To run the VMD, right-click the **VMD Group > Execute VMD System**.
4. To set the screen division of the two monitors, click the **Select Quad** button on the VMD window and select a screen division.



When the first monitor is full of pop-up camera views, the next pop-up camera view will go to the second monitor.

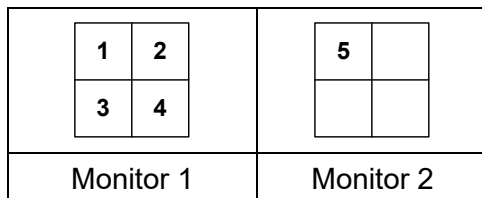
**Applications of two VMD windows:**

The position of pop-up camera views on the VMD windows varies when you enable or disable the **Camera pops up in the user-defined position** option in the VMD System Configuration dialog box (right-click **VMD Group** > **VMD System Configuration**).

- **When the option is disabled:** When multiple camera views are triggered simultaneously, the position of pop-up views on the VMD windows is based on the sequence order of events detected. When the first monitor is full of pop-up views, the next pop-up view will go to the second monitor.

**Example:**

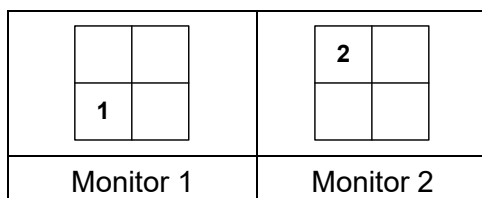
Both Monitor 1 and Monitor 2 are set to 4 screen divisions. When 5 camera views are triggered simultaneously, the first 4 camera views will pop on Monitor 1 and the last camera view will appear on Monitor 2.



- **When the option is enabled:** The position of pop-up views on the VMD windows is based on the order of cameras in the VMD Group.

**Example:**

In the VMD Group, Camera A is listed as the third camera and Camera B is the fifth. Both monitors are set to 4 screen divisions. When the two camera views are triggered simultaneously, Camera A images will pop up on the third square of Monitor 1 and Camera B images will appear on the first square of Monitor 2. Note the order of pop-up views is from left to right on the VMD window.





## 4.8 Audio Broadcast

The GV-Control Center operator can use the Audio Broadcast function to speak to multiple hosts at one time.

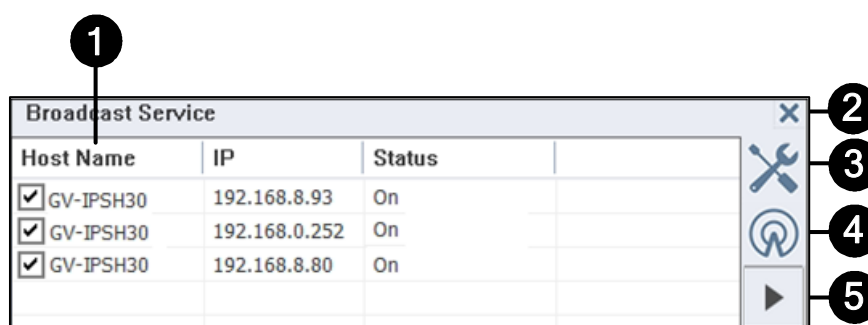
### Note:

1. The Audio Broadcast function supports both GV and third-party IP devices with speaker functions.
2. The Audio Broadcast function is also applicable to GV-IP Speaker models with GV-Control Center V4.2.0 or later. See [2. Adding to GV-Control Center / GV-Edge Recording Manager in \*GV-IP Speaker User's Guide\*](#) for details.

### 4.8.1 Starting the Audio Broadcast

1. On the Host List or the Group List, click **Tools**  > **Broadcast Service**. The Broadcast Service window appears.
2. On the Host List, right-click a host and select **Add to Broadcast Service**.
3. To start audio broadcasting to the hosts, click the **Start/Stop Broadcasting** button , and talk into the microphone connected to the computer of GV-Control Center.

### 4.8.2 The Broadcast Service Window



No.	Name	Description
1.	Host	Enable / disable the audio broadcasting with the host.
2.	Close	Close the window.

---

3.	Setup	<ul style="list-style-type: none"><li>■ <b>Select Audio File:</b> Locate a .wav or .mp3 file to play.</li><li>■ <b>Repeat Play File:</b> Select to repeat playing the selected audio.</li><li>■ <b>Always on top:</b> Always display the window on top of the screen.</li><li>■ <b>Opacity:</b> Select the opacity level of the window from 20% (fully transparent) to 100% (fully opaque).</li></ul>
4.	Start/Stop Broadcasting	Start / stop audio broadcasting.
5.	Play File	After selecting an audio file, click the button to start/stop playing.

---

## 4.9 Face Recognition Watch

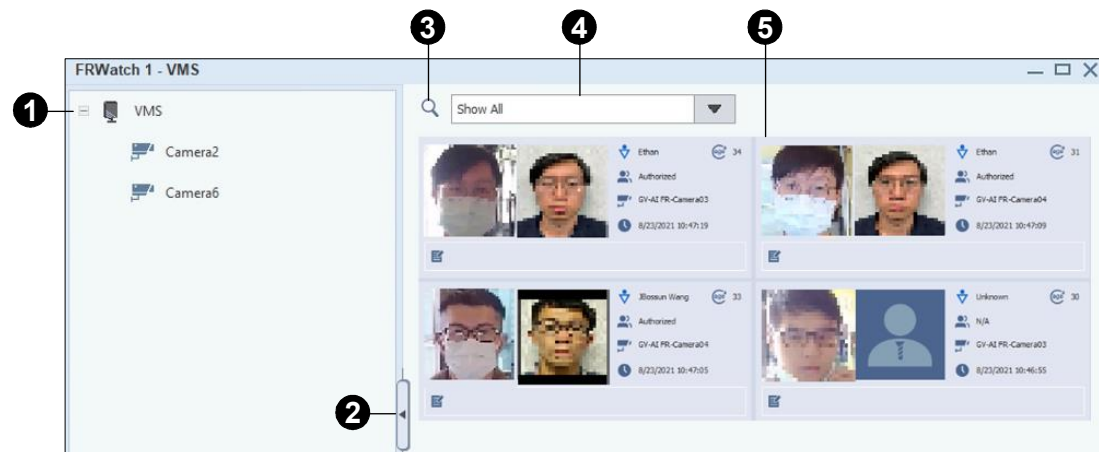
With Face Recognition Watch (FR Watch), the operator can monitor live face recognition events (FR events) and search event logs from the following hosts:

Host	Live FR Events	Search Log
GV-VMS (software)	O	O
GV-AI FR (software)	O	X
GV-FR Panel V2 (reader)	O	X
GV-TNVR1620-P (SNVR)	O	X

### Note:

1. The GV-VMS host integrates FR events from GV-Face Recognition Cameras.
2. Event search using Search Log is not supported for GV-AI FR, GV-FR Panel V2, and GV-TNVR1620-P.

1. Create a group under **FR Watch Group** in the Group List.
2. Drag and drop the desired cameras from the hosts into the created group.
3. Right-click the created group > **FR Watch**. The following window appears.



No.	Name	Description
1	Host List	Lists cameras organized under their respective hosts.
2	Collapse / Expand	Click to collapse or expand the Host List panel.
3	Search Log	Search for the host's event logs by defining the camera, time range, person's name, group, age, or gender. See 4.13 Search Log.
4	Filter	Select <i>All</i> , <i>Identified Persons Only</i> , or <i>Unknown Persons Only</i> on the host to display only matching live FR events.
5	FR Events	Displays live FR events from the host.

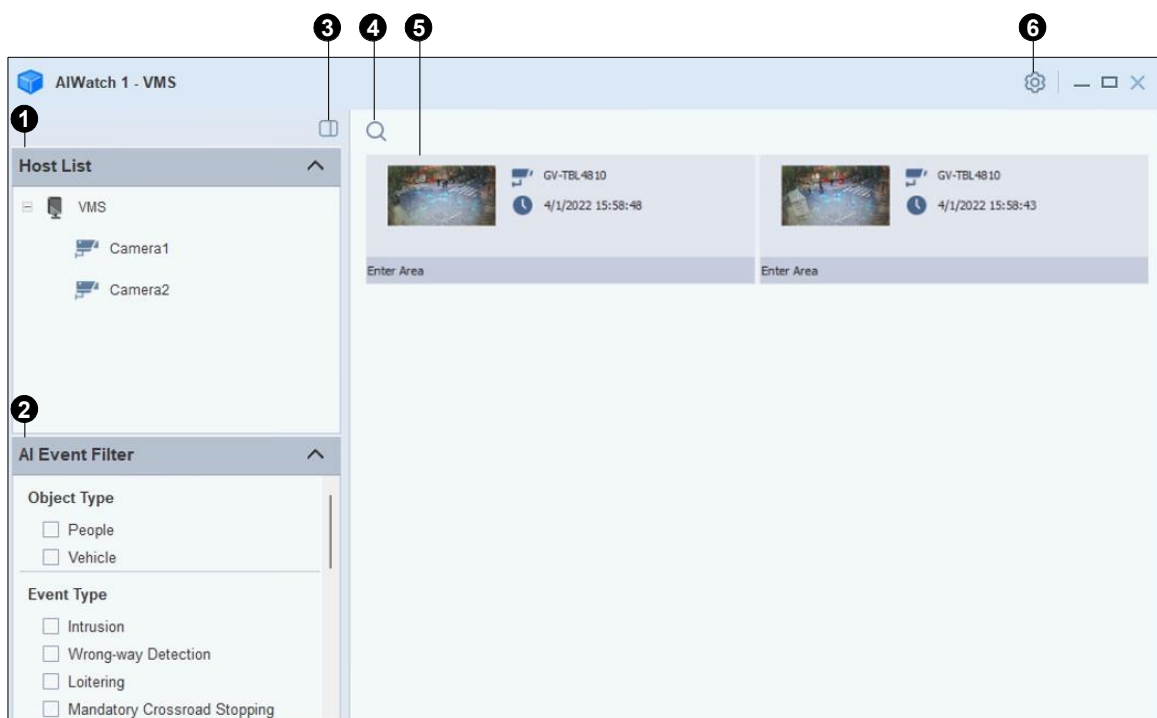
**Tip:** For instructions on displaying multiple FR Watch, AI Watch, or ASManager View windows upon startup, see [4.12 Position Settings](#).

## 4.10 AI Watch

With AI Watch, the operator can monitor AI events and search for event logs from the following hosts:

- **GV-VMS**
- **GV-SNVRs:** GV-SNVR3203 / 6403, GV-RNVRL810-P / 3240-N / 256G0-N, GV-TNVR1620-P
- **GV-HD DVRs:** GV-TXVL1610
- **UA-SNVRs:** UA-SNVR810-P / SNVR1620-P / SNVR3240-N (integrates AI events from UA-IP cameras with AI functions)
- **UA-HD DVRs:** UA-XVL1611 / XVR1620 (integrates AI events from UA-IP cameras with AI functions)

1. Create a group under **AI Watch Group** in the Group List.
2. Drag and drop the desired cameras from the GV-VMS / GV-SNVR / GV-HD DVR hosts or UA-IP cameras from the UA-SNVR / UA-HD DVR hosts into the created group.
3. Right-click the created group > **AI Watch**. The following window appears.



No.	Name	Description
1	Host List	Lists cameras organized under their respective hosts.
2	AI Event Filter	Select the desired object types and AI event types to display only matching detected events.
3	Collapse / Expand	Click to collapse or expand the Host List and AI Event Filter panels.
4	Search Log	Search for the host's event logs by defining the camera, time range, event type, or people / vehicle attributes. See <a href="#">4.13 Search Log</a> .
5	AI Events	Displays detected AI / PVD events from the host.
6	Settings	Enable real-time events to be removed from the display after a set time. Select from: <i>10 Minutes, 30 Minutes, 1 Hour, or 1 Day</i> .

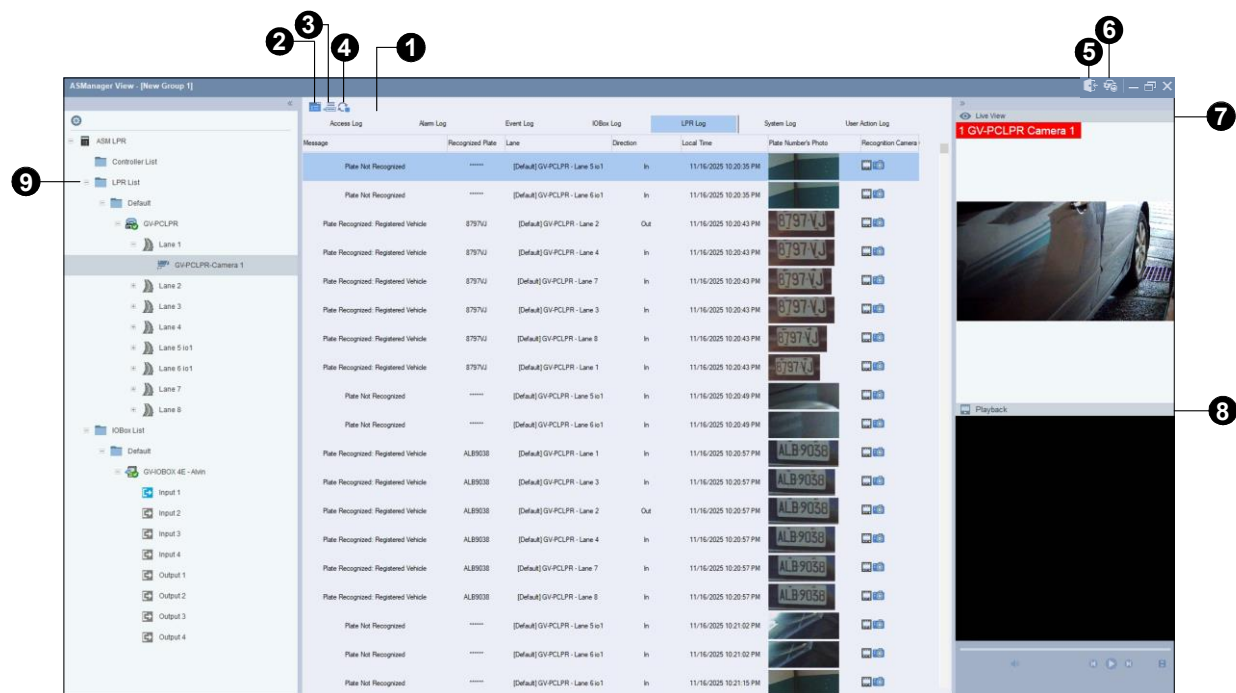
**Tip:** For instructions on displaying multiple FR Watch, AI Watch, or ASManager View windows upon startup, see [4.12 Position Settings](#).

## 4.11 ASManager View

### 4.11.1 Overview

With the ASManager View, the operator can monitor access control and LPR events from the **GV-ASManager** host, as well as lock/unlock a door, force LPR recognition, trigger an output device, and view access logs and LPR logs.

1. Create a group under the **ASManager Group** in the Group List.
2. Drag and drop the desired GV-ASManager host to the created group.
3. Right-click the created group > **ASManager View**. The following window appears.



No.	Name	Description
1.	Event Log	Display the event logs of the connected GV-ASManager.
2.	Filter	Filter the event logs by defining criteria.
3.	Auto Select List	Focus on the latest data display.
4.	Freeze List	Suspend the current data display.
5.	Access Log	Query for access logs by defining criteria. See the next subsection <i>Access and LPR Log</i> for details.
6.	LPR Log	Query for LPR logs by defining criteria. See the next subsection <i>Access and LPR Log</i> for details.
7.	Live View	Display up to 1 Live View from the cameras mapped to a door / lane.
8.	Playback	Play back the videos attached to the events if available.

## 9. Tree List



Right-click a controller / door / lane, an input device to access more functions, such as locking/unlocking a door, forcing LPR recognition and triggering an output device

**Tip:** For instructions on displaying multiple FR Watch, AI Watch, or ASManager View windows upon startup, see [4.12 Position Settings](#).

### 4.11.2 Access and LPR Log

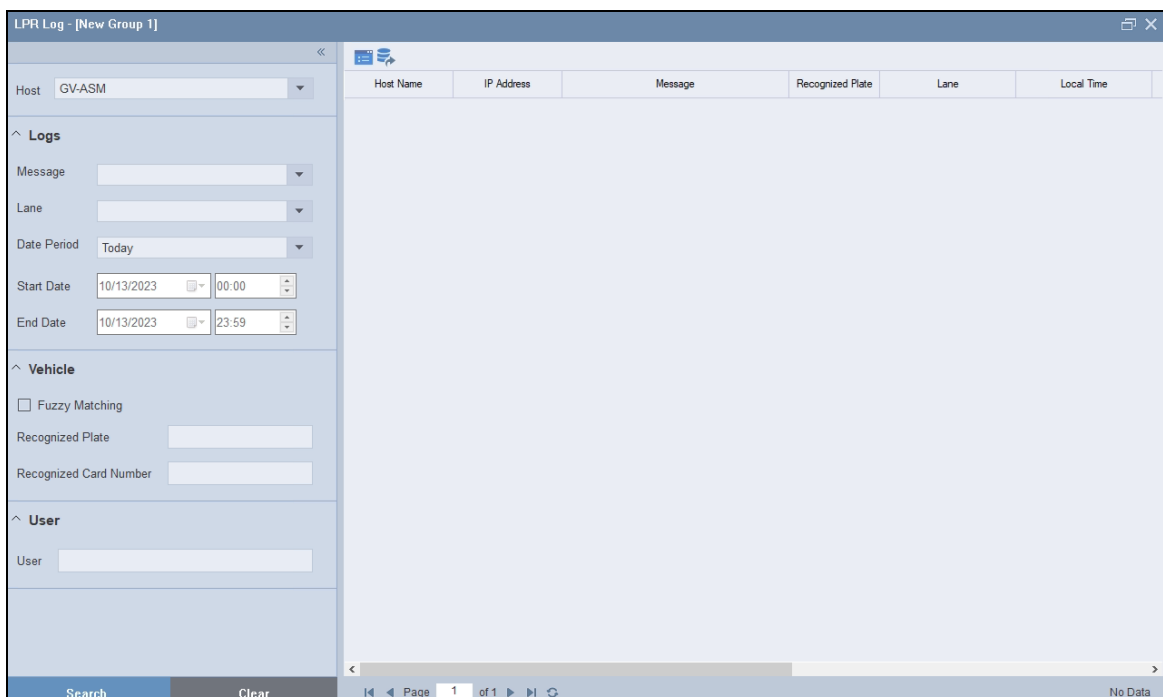
Using Access Log and LPR Log, you can look up records, see snapshots or recognized license plates, track the locations of vehicles, and play back recorded videos.

#### Defining Search Criteria

Click the Access Log icon  or LPR Log icon  (No. 5 and No. 6, [4.11.1 Overview](#)) to open the corresponding log page. The example below shows the LPR Log page.

- For Access Log, specify search criteria such as access control doors, areas (in or out), and card numbers.
- For LPR Log, you can narrow down the search results by specifying search criteria such as LPR lanes, date, license plates, and card numbers.

Once the search criteria are set, click **Search** to see the results.



The screenshot shows the 'LPR Log - [New Group 1]' window. On the left, there are search filters: Host (GV-ASM), Message, Lane, Date Period (Today), Start Date (10/13/2023 00:00), End Date (10/13/2023 23:59), Vehicle (Fuzzy Matching, Recognized Plate, Recognized Card Number), and User. The main area is a table with columns: Host Name, IP Address, Message, Recognized Plate, Lane, Local Time. The table is currently empty. At the bottom, there is a 'Search' button, a 'Clear' button, and a pagination bar showing 'Page 1 of 1' and 'No Data'.


## 4.12 Position Settings

To display multiple FR Watch, AI Watch, or ASManager View windows upon startup, follow the steps below.

---

**Note:** Upon startup, you may open up to 4 windows for each category (FR Watch 1–4, AI Watch 1–4, and ASManager View 1–4), and they can run simultaneously.

---

1. To enable FR Watch / AI Watch / ASManager View to be started along with GV-Control Center's startup, click **Group List Setting** under Group List (No. 3 in *1.3.3 The Group List*), and select **FR Watch**, **AI Watch**, or **ASManager View** under Application Startup Settings. Click **OK**.
2. To number the groups so that you can adjust the resolution and position of their windows later, right-click a group under FR Watch Group / AI Watch Group / ASManager Group > **Position Setting** > FRWatch / AI Watch / ASManager View 1, 2, 3, or 4.
3. Optionally adjust the resolution and position of the windows by right-clicking a group under FR Watch Group / AI Watch Group / ASManager Group > **Application Position**. Or, you can click **Configure**  > **Setup** > **Application Position** at the top right of the main screen. For details, see *8.1 Application Position*.
4. To enable the group to be started along with GV-Control Center's startup, right-click the group under FR Watch Group / AI Watch Group / ASManager Group > **Startup Group**.

The next time you start up GV-Control Center, the FR Watch, AI Watch, and ASManager View windows will be displayed according to the position you configured.

## 4.13 Search Log

The Search Log function enables post-event review and filtering of face events and AI / PVD events, using detailed criteria such as device, time range, event type, and specific face / people / vehicle attributes.

---

### Note:

1. For supported hosts for “Search Log – Face Recognition”, see the table in [4.9 Face Recognition Watch](#).
  2. By default, no event types are selected.
  3. Filtering by people and vehicle attributes is available only for GV-VMS V20 hosts. Under GV-VMS V20 hosts, filtering by people and vehicle attributes is supported only on cameras that provide video metadata. For the list of supported GV-IP cameras, see [Camera’s Video Metadata Supported by GV-VMS V20](#) in this [document](#).
  4. **For GV-VMS V18 / V20 hosts:** Before AI and PVD events can appear in the Search Log, ensure they are configured before recording, in the IP Cam Video Analysis and Advanced Motion Detection Setup dialog boxes in GV-VMS, respectively. Querying can only be done after recording, once these settings are in place.
    - For AI event setup, including face, people, and vehicle attribute detection, see [Video Analysis by Camera](#) in Chapter 3 of the [GV-VMS User’s Manual V18](#) or [GV-VMS User’s Manual V20](#). See **Face Detection** for face attributes, and **Video Metadata** for people and vehicle attributes (available in V20 only).
    - For PVD event setup, see [Setting Up Motion Detection](#) in Chapter 1 of the [GV-VMS User’s Manual V18](#) or [GV-VMS User’s Manual V20](#).
  5. The Search Log function is used to search for detection or recognition results. To enhance detection accuracy, refer to the camera’s user manual for various AI event settings. For **face searches**, you can adjust the Confidence parameter in the Search Log filter to refine the similarity of search results.
-

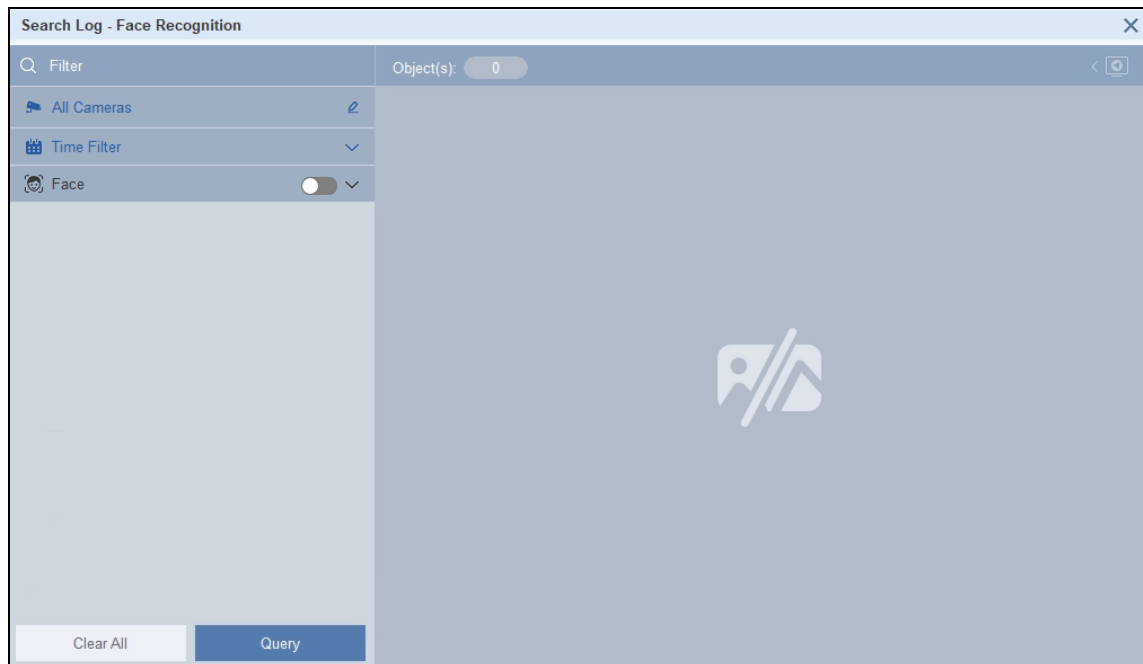
### 4.13.1 Performing a Search

You can search using face data or by filtering event types, people attributes, or vehicle attributes.

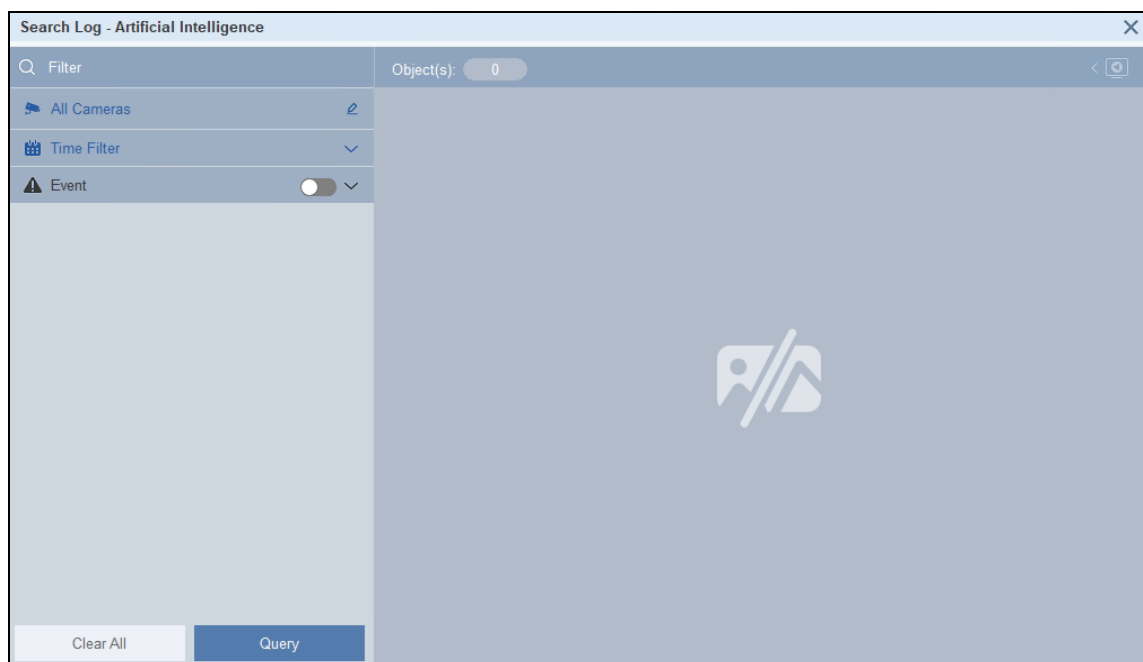
To begin the search, follow the steps below.


1. Click **Search Log** in the FR Watch or AI Watch window (No. 3 in *4.9 Face Recognition Watch* or No. 2 in *4.10 AI Watch*). The Search Log dialog box appears.

In FR Watch:



In AI Watch:




2. To filter by camera model, click the  icon at the right of the All Cameras field. In the Camera List dialog box, select one or more cameras to include in the search.
3. Define a time range in the **Time Filter**.
4. You must select at least one of the categories to filter events: *Face*, *Event*, *People*, and *Vehicle*. Use the Filter dropdown list to refine the results for these categories, or configure the corresponding filter options in the lower section of the left panel as described below.

After completing the preliminary steps above, continue with the specific search method that applies, described in the following subsections.

## FR Watch: Searching by Face Data

In the “Search Log – Face Recognition” window in **FR Watch**, follow the steps below to search by face data.

1. Enable the **Face** filter. You can search recorded recognition events for both identified and unknown individuals by uploading a reference face image (*Face Matching*), or by name or group (*Face ID*), provided the name is first enrolled in the face database. You can also filter by face attributes such as age group and gender.

- **Face Matching:** Click the  button to upload a reference face image from your PC and search for similar recognition events. Optionally, adjust the **Confidence** parameter to set the minimum similarity threshold for search results compared to the uploaded face image.

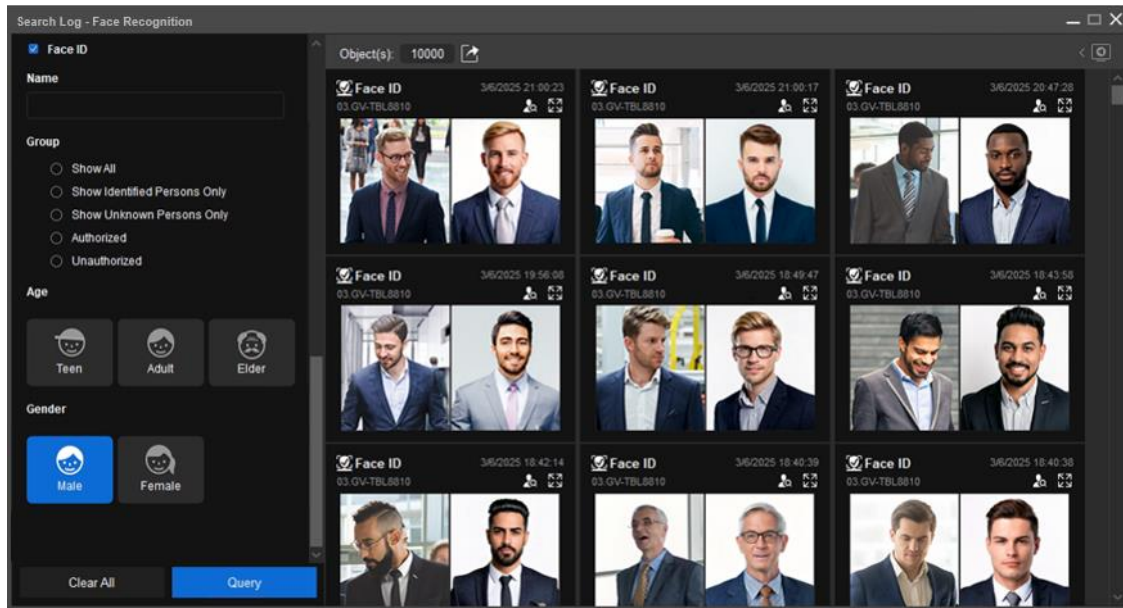
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**Note:** To search recognition events across multiple GV-VMS hosts using *Face Matching*, add cameras from those hosts to the same FR Watch Group before uploading a reference face image and performing the search.

---


- **Face ID:** To search recognition events by name or group, first enable **Face ID**, then enter a person’s *Name* (if enrolled in the face database) or select their *Group*. Available groups include *Show All*, *Show Identified Persons Only* (those successfully recognized from the face database), and *Show Unknown Persons Only*.
- **Age Group / Gender:** Filter recognition events by face attributes such as *Age Group* and *Gender*, which are automatically estimated during detection. The search returns results that match all selected attributes simultaneously. For example, selecting **Male** and **Adult** shows only adult males. You can also select multiple values within one attribute to broaden results – for instance, **Male** with **Teen + Adult + Elder** returns all male age groups.

2. Click **Query**. The matching face events are displayed.






If you are using **Face Matching**, a red number in parentheses appears at the top of each event, indicating the similarity level between the search results and the uploaded reference image. The similarity percentage ranges from the set Confidence parameter up to 100.



3. By clicking an event snapshot, you can view its playback and event details.
4. Click the  icon on the snapshot of a recognition event to use it as a reference for searching other similar recognition events. This function allows you to find past occurrences of the same person based on facial similarity.

### Tip:

1. In the Event Playback panel, click **View by ViewLog**  beside the playback controls to view the playback in ViewLog. To return to the Search Log window, click **Maximize** in the minimized Search Log window at the bottom left of the screen .
2. To export query results, click the  icon beside the object count.
  - **CSV:** Saves as an Excel file and an image folder.
  - **PDF:** Saves as a PDF file.
  - **HTML:** Saves as an HTML file.

**Note:** The maximum number of query results is 10,000.

## AI Watch: Searching by Event Types, People Attributes, or Vehicle Attributes

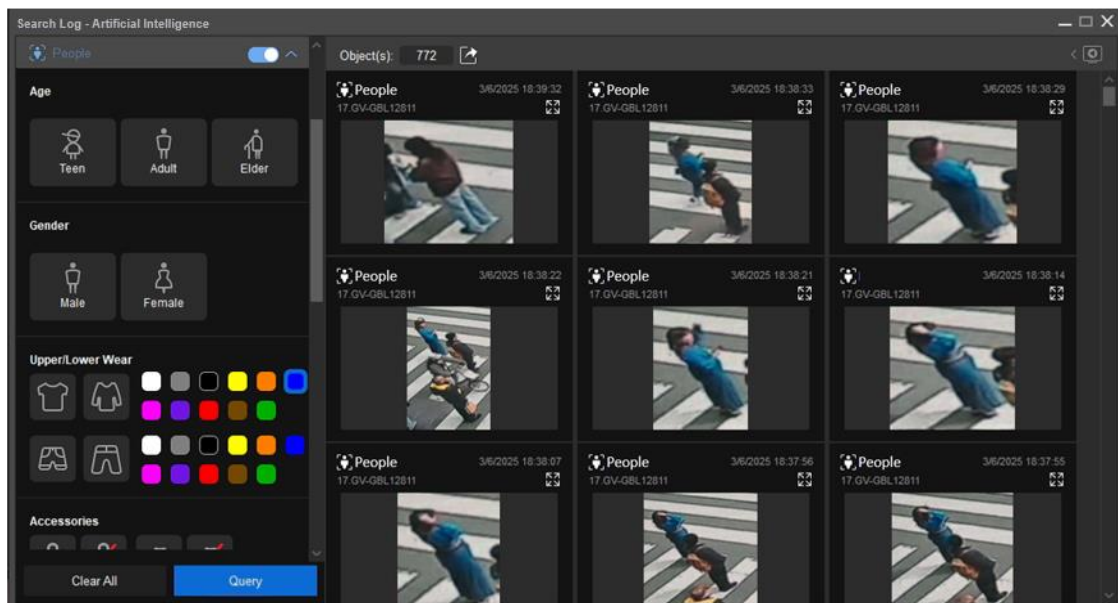
In the “Search Log – Artificial Intelligence” window in **AI Watch**, follow the steps below to search by event types, people attributes, or vehicle attributes.

1. Enable the **Event** filter and select the desired AI event types. The search returns results that match any of the selected event types. For example, selecting **Intrusion** and **Cross Line** will return both Intrusion and Cross Line events.

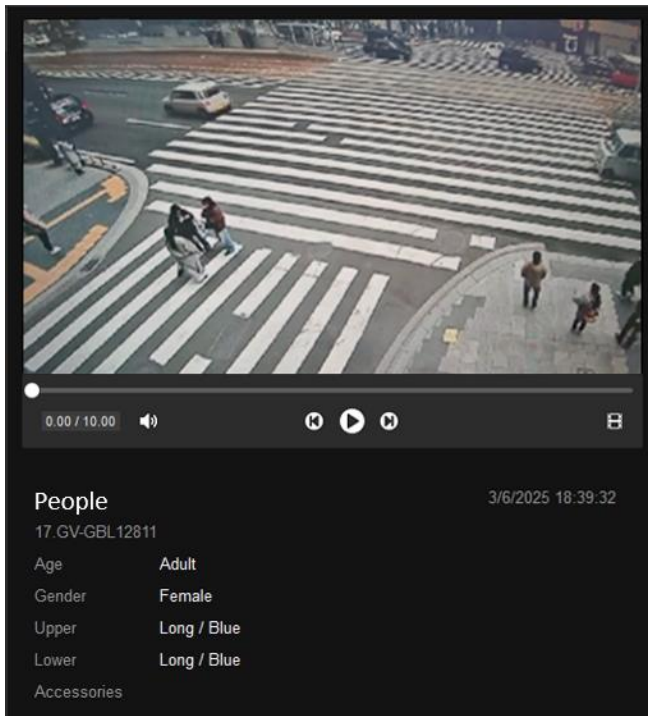
Alternatively, enable **People** or **Vehicle** and filter by their respective attributes. The search returns results that match all selected attributes simultaneously. For example, selecting **Male** and **Adult** shows only adult males. You can also select multiple values within one attribute to broaden results – for instance, **Male** with **Teen + Adult + Elder** returns all male age groups. Available attributes include:

- **People:** *Age, Gender, Upper/Lower Wear, and Accessories.*
- **Vehicle:** *Type, Color, and Brand.*

2. Click **Query**. The matching events are displayed. In the example below, the people attributes are filtered by blue upper wear.



- By clicking an event snapshot, you can view its playback and event details.




---

#### Tip:

- In the Event Playback panel, click **View by ViewLog**  beside the playback controls to view the playback in ViewLog. To return to the Search Log window, click **Maximize** in the minimized Search Log window at the bottom left of the screen .
  - To export query results, click the  icon beside the object count.
    - CSV:** Saves as an Excel file and an image folder.
    - PDF:** Saves as a PDF file.
    - HTML:** Saves as an HTML file.
- 


**Note:** The maximum number of query results is 10,000.

---

## 4.14 Event Rules

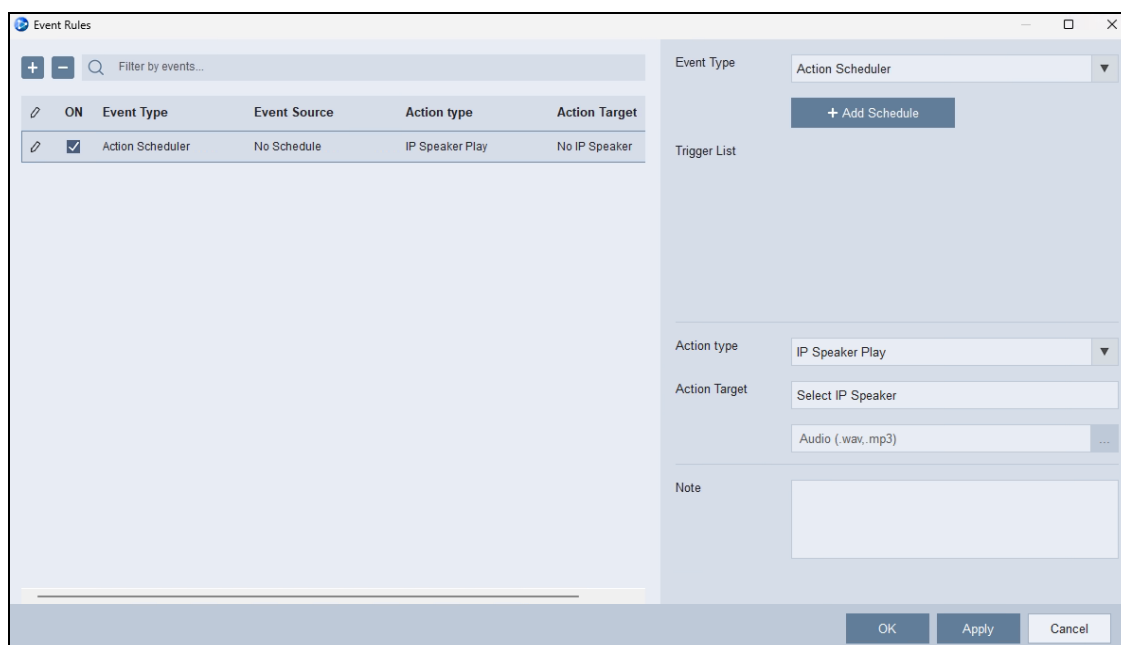
With Event Rules, the operator can schedule times and alarm actions – such as activating IP speakers, displaying camera views via GV-Decoder Box, and triggering outputs – based on event types.


---

**Note:** To activate IP speakers through event rules, you must first add the GV-IP Speaker to the Broadcast Service by right-clicking it in the Host List and selecting **Add to Broadcast Service**. Then click the **Start/Stop Broadcasting** button  to enable broadcasting. Broadcasting must remain enabled when configuring event rules. For details, see [4.8 Audio Broadcast](#).

---

1. Click **Configure**  > **Event Rules**. This window appears.



2. To add an event rule, click  at the top left. The right panel appears.

**[Event Type / Source]** Select a trigger type or source to activate event alerts: I/O Trigger, Camera Motion, Face Recognition, or AI Events.

Use Action Scheduler to schedule IP speaker broadcasting or output trigger times. For details on using Action Scheduler to schedule IP speaker broadcasting, see [2.5 Scheduling Broadcasting and Dynamic Alerts via Event Triggers](#) in [GV-IP Speaker User's Guide](#).

### Action Scheduler:

- (a) Click **Add Schedule**. The Schedule Setting window appears.
- (b) Set a time on any day of the week or on any date. You can preview the selected time

and date at the top of the window.

- (c) Click **OK**. The schedule is added to the Trigger List.
- (d) You can add multiple schedules to the Trigger List by repeating Steps (a) to (c).

#### IO Trigger:

- (a) Click **Select IO Pin** under Event Source. The Select I/O Device window appears.
- (b) Select checkboxes for hosts, modules, or inputs/outputs by expanding each level as needed. Multiple selections are allowed.
- (c) Click **OK**. The total number of selected IO pins is displayed under Event Source.
- (d) Click **Schedule**. All time periods are selected by default. Click or drag to select/deselect time slots, using the left mouse button to select, right to deselect.
- (e) Click **OK**.

#### Camera Motion / Face Recognition / AI Events:

- (a) Click **Select Camera** under Event Source. The Select Camera window appears.
- (b) Select checkboxes for hosts or cameras by expanding each level as needed. Multiple selections are allowed.
- (c) Click **OK**. The total number of selected cameras is displayed under Event Source.
- (d) Click **Schedule**. All time periods are selected by default. Click or drag to select/deselect time slots, using the left mouse button to select, right to deselect.
- (e) Click **OK**.

**[Action Type]** Select how the system responds to defined event types: triggering an IP speaker, displaying live camera view on decoder boxes, or activating an output device.

**[Action Target]** Specify the IP speaker, decoder box, or output device according to the selected Action Type.

#### IP Speaker Play:

- (a) Click **Select IP Speaker** under Action Target, and select the checkbox for an IP speaker.
- (b) Click **OK**. The total number of selected IP cameras is displayed under Action Target.
- (c) Click  and select an audio file for playback.

#### Camera Live View on Decoder Box:

- (a) Click **Select Decoder Box** under Action Target, and select the checkbox for a decoder box.
- (b) Click **OK**. The total number of selected decoder boxes is displayed under Action Target.

#### Output Trigger:

- (a) Click **Select IO Pin** under Action Target. The Select I/O Device window appears.
- (b) Select checkboxes for hosts, modules, or outputs by expanding each level as needed. Multiple selections are allowed.
- (c) Click **OK**. The total number of selected IO pins is displayed under Action Target.


3. To complete the setup, click **OK**.

After you complete the configuration, event rules will appear in red the next time you open the Event Rules window if an Event Source or an Action Target is not specified, or if a GV-IP Speaker has not been added to the Broadcast Service.

# Chapter 5 Playback

You can remotely play back recordings from the connected hosts in GV-Control Center.

There are two ways to play back recordings:

- **Instant Playback:** To play back at a predefined duration, select **Instant Play**  on a live view.
- **Remote ViewLog:** To play back from any time period within the host's timeline, use the Remote ViewLog player by selecting the **Remote ViewLog** tab on the main screen.

---

## Note:

1. **Remote playback from SD card** is not supported for the following models: GV-ABL / TBL Series, GV-ADR / TDR Series, GV-AVD / TVD Series, GV-EBD Series, GV-FER5702, GV-QFER12700, GV-QSD5730 / 5731-IR, GV-SD2322-IR / 2722-IR / 3732-IR, and UA-IP cameras.
2. For the GV-NVR / VMS host, make sure **Remote ViewLog Service** (under Control Center Service) is enabled to grant permission for remote playback.
3. A maximum of 16 channels playback is supported by the following SNVR models: GV-SNVR3203 / 6403, UA-SNVR810-P, UA-SNVR1620-P, UA-SNVR3240-N.

---

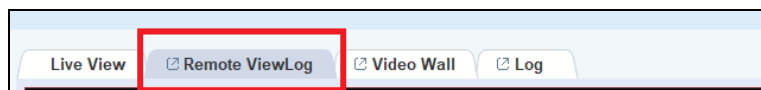
## Note for GV-SNVR:

1. The Instant Playback and audio recording backup are not supported by GV-SNVR.
  2. Only one channel of the following SNVR models can be backed up: GV-SNVR3203, GV-SNVR6403.
  3. When using Remote ViewLog, you cannot play back the recordings of GV-SNVR with other hosts together in one layout.
- 

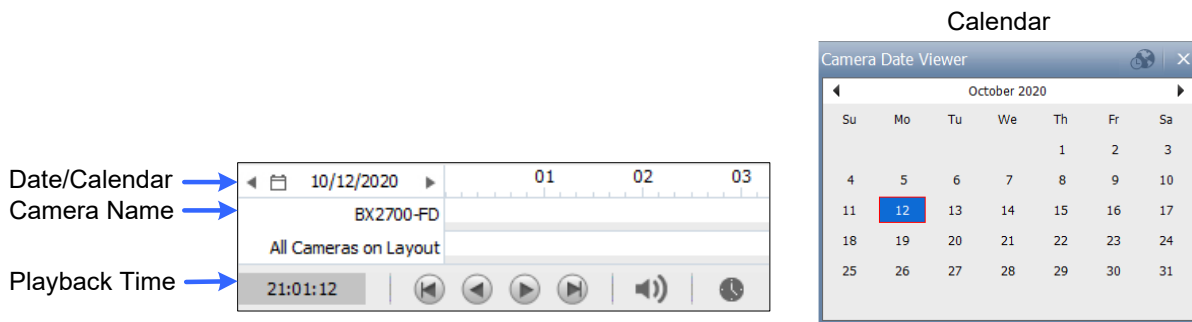
## 5.1 Starting Playback

To start the remote playback:

1. Select the **Remote ViewLog** tab on the main screen.



2. Right-click a host / camera / group from the Host List or the Group List, and select **Remote ViewLog**. Or just drag and drop your desired camera / group to the Remote ViewLog window.
3. On the timeline, click the arrows or click on the date to select a date with recordings, which are highlighted in blue, from a pop-up calendar.



4. Click **Play** .

---

**Tip:**

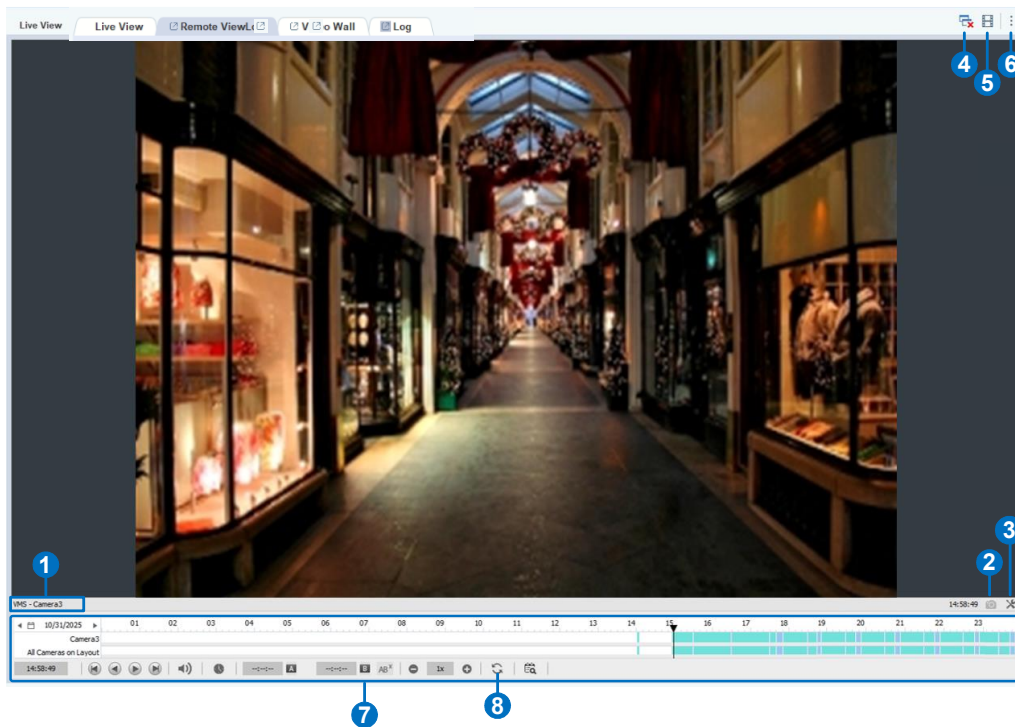
1. To customize the screen division of the Remote ViewLog window, use the Layout list (see 1.3.4 *The Layout List*) and drag the defined layout to the Remote ViewLog window.
2. To zoom in and out of a single channel, double-click the channel in the Remote ViewLog window.




---


**Note:** The playback layout only supports the cameras from the same host except for GV-VMS / NVR / Recording Server hosts.

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## 5.2 The Remote ViewLog Window

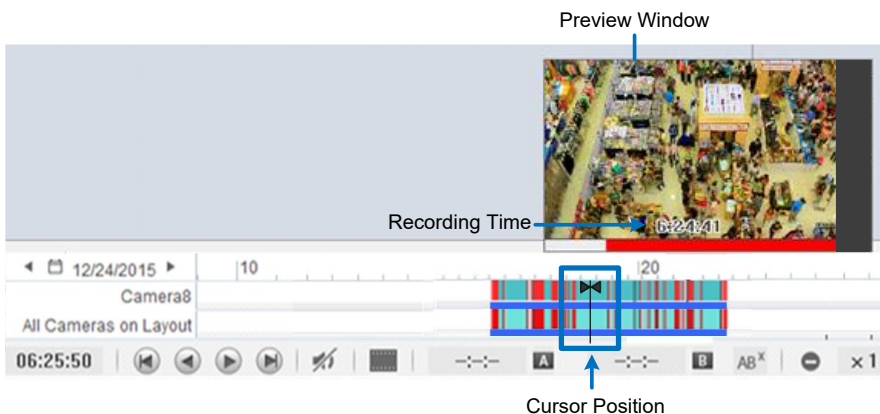


No.	Name	Descriptions
1.	Camera Name	Indicate the host and camera names of the channel.
2	Snapshot 	Take a snapshot of the recordings.
3	Playback Settings 	<p>Access the following options when supported:</p> <ul style="list-style-type: none"> <li>■ <b>Close Channel:</b> Close the playback channel.</li> <li>■ <b>Video Effects:</b> Apply video effects to the recordings.</li> <li>■ <b>Heat Map Settings:</b> Search for and display the heat map videos recorded on GV-VMS.</li> <li>■ <b>Add to Bookmark:</b> Create a bookmarked video.</li> <li>■ <b>Keep Image Ratio:</b> Lock the camera view to its original ratio.</li> <li>■ <b>Web POS Search:</b> Search for recordings of POS events.</li> </ul>
4	Close All Videos	<p>Close all live view channels.</p> <p>Access the following options:</p> <ul style="list-style-type: none"> <li>■ <b>Search Object Index:</b> Search for Object Index videos recorded in GV-NVR / VMS.</li> </ul>
5	Playback Menu	<ul style="list-style-type: none"> <li>■ <b>Bookmark:</b> Search for and play back bookmarked videos.</li> </ul> <p>To create a bookmark, click the <b>Configure</b> button  on a playback view (No. 3) and select <b>Add to Bookmark</b>.</p>

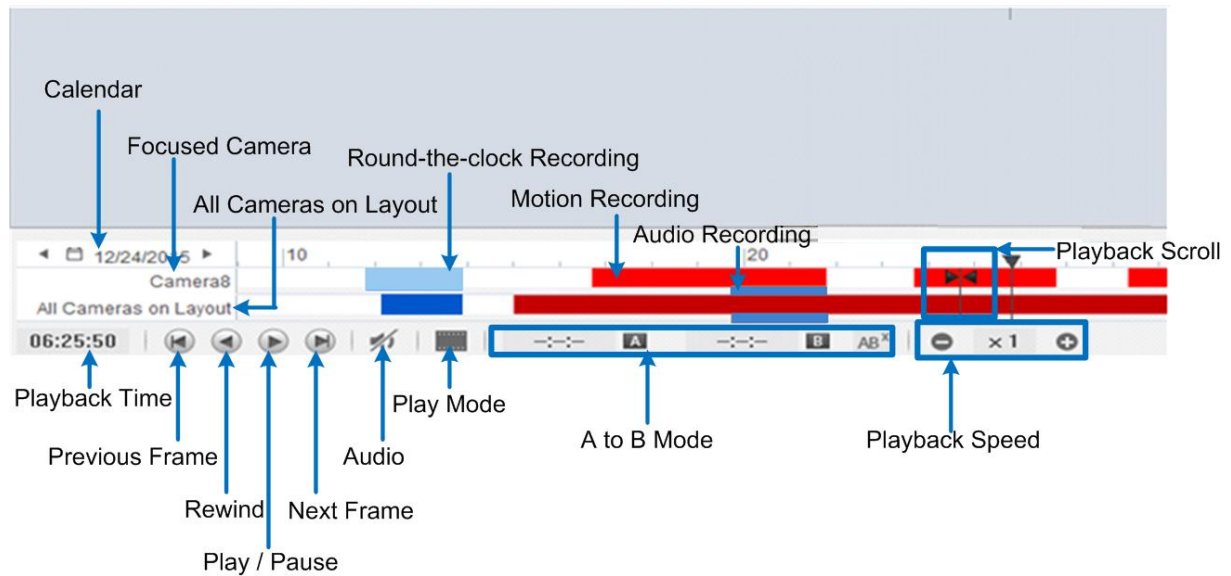
		<ul style="list-style-type: none"> <li>■ <b>Print:</b> Print the current camera view.</li> <li>■ <b>Backup:</b> Back up recordings.</li> <li>■ <b>Display Merging List:</b> Display the merging events of recordings.</li> <li>■ <b>Play Setting:</b> Access audio de-noise and GPU decoding.</li> <li>■ <b>Display Options:</b> Adjust the display settings.</li> <li>■ <b>Path for Cache:</b> Display the cache directory.</li> </ul>
6	Configure 	Access the general settings of the Control Center and other tools, import / export data, apply the current settings to other users, set up event rules, and search for bookmarked videos. See No. 6 in <i>4.1 Live View Window</i> .
7	Timeline Player	See <i>Timeline Player</i> described below.
8	Refresh Timeline	Click to update the timeline information in Remote ViewLog, which does not refresh automatically.

## Preview Window

Move the cursor on the timeline to see a preview of the recording. Click on the timeline to pause all channels at the selected time. To change the size of the preview, click **Playback Menu**  (No. 5 in *5.2 The Remote ViewLog Window*) > **Play Setting**.




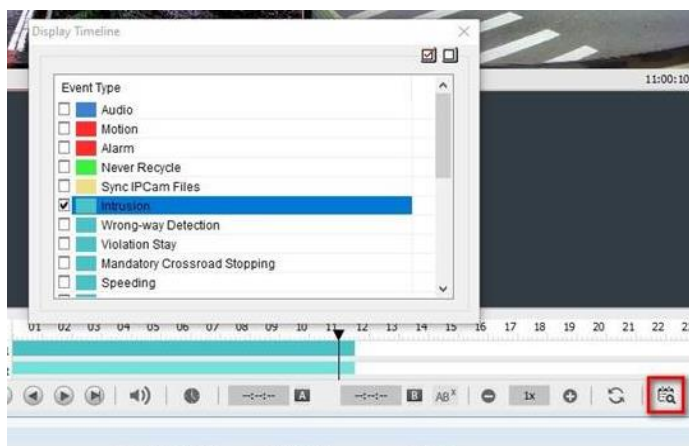
## Timeline Player




### Colors in the timeline:

- **Red:** Motion / IO event recordings
- **Blue:** Audio recordings
- **Yellow:** Recordings retrieved from the SD cards of cameras when reconnecting after a temporary disconnection
- **Turquoise:** AI event / PVD Motion event recordings
- **Green:** Never Recycle recordings

**Tip:** Click **Filter**  to display different event types in different colors on the timeline. To change an event type's color, click its color box in the window. Note that this function is only available for GV-VMS V17.4.6 or later / V18.3.2 or later / V20.0.0 or later / GV-AI Guard V2.0.





## Playback Mode Option

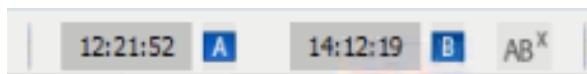
By default, the Remote ViewLog is set to play back video in the Real Time mode. To change playback modes, click  on the Timeline Player.



- **Frame by Frame (without audio):** Play back video frame by frame without audio; however, playback can be delayed depending on the bandwidth and computer performance.
- **Real Time:** Play back video on real time. Despite saving rendering time, this method drops frames.

## A to B Playback Mode

When playing back videos, you can set a start and an end frame for auto-playing:

1. To set the start frame, click  and double-click a time on the timeline.
2. To set the end frame, click  and double-click a time on the timeline.
3. The start time and end time are displayed besides A and B as illustrated below.



4. Click  to start playing back from frame A to B repeatedly.
5. To cancel this playback mode, click .

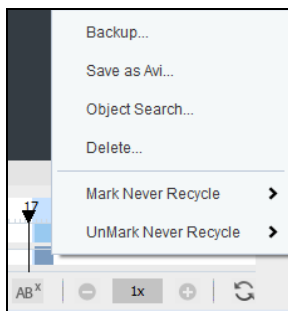
## Changing the Displayed Date on the Timeline

You can directly drag the timeline to search for and view the recordings of a previous or next day.


1. Scroll the mouse wheel forth to enlarge the timeline. The default display of the timeline is 24 hours.
2. Click and drag the timeline back and forth. The timeline jumps between the recording days.

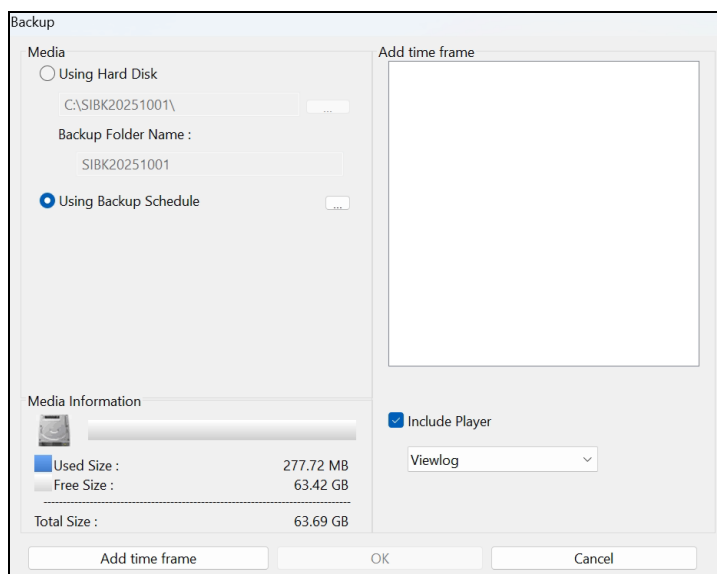


**Tip:** Right-click on the timeline and drag a period of recording time to have a quick access to the following functions for **GV-VMS / NVR / Recording Server** hosts: Backup, Save as AVI, Object Search, Delete (recording files), Mark / Unmark Never Recycle.



### 5.3 Backing Up Recorded Files

1. Click **Playback Menu**  (No. 4 in 5.2 *The Remote ViewLog Window*) > **Backup**. The Backup dialog box appears.

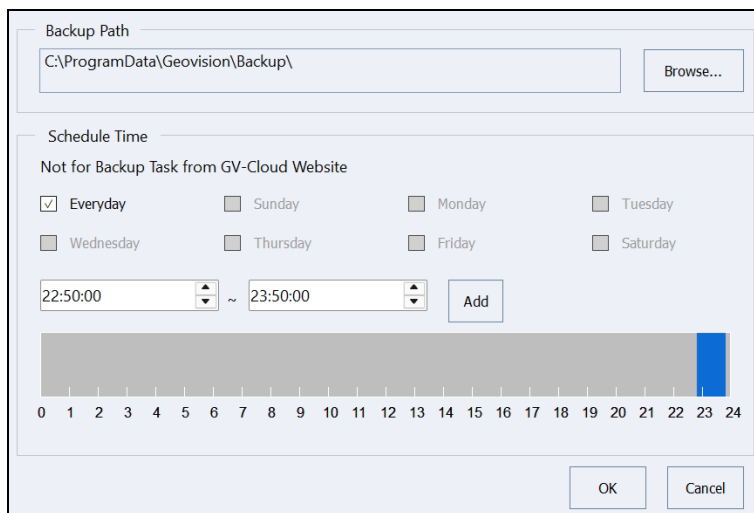


**Backup dialog box**

2. Select the destination media to back up files.

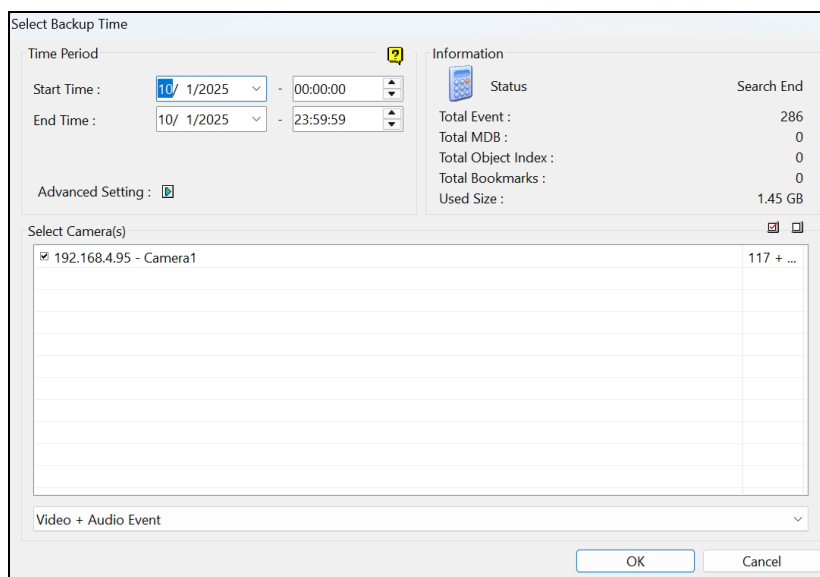
**[Media]**

- **Using Hard Disk:** Click the [...] button to select the desired hard disk.
  - **Backup Folder Name:** Type a desired name for the backup folder.
- **Using Backup Schedule:** Allows users to schedule backups to the local disk. Click the [...] button. This dialog box appears. Choose a destination path for storing recorded videos and specify when the backup should run, including the days and time periods.




**[Media Information]** Indicates free and used space on the local disk.

3. Click the **Add Time Frame** button to specify the time range of recorded videos to be backed up and define which files to back up. The Select Backup Time dialog box appears.



**[Time Period]** Specify the time range of recorded videos to be backed up.

**[Information]** Indicates the number of backup files and their total size. (Total MDB refers to the System Log files.)

**[Advanced Setting]:** Click  to choose which files to back up:

- **Database Files:** Backs up the System Log files.
- **Object Index Files:** Backs up the Object Index files.
- **Never-Recycle Events Only:** Only backs up the never-recycle events.
- **Unmark these events to be recycled after the backup is complete:** After the backup is complete, the never-recycle events will be unmarked for recycling.
- **Include daylight saving rollback events:** Backs up the events recorded during Daylight Saving Time.
- **Bookmarked Files:** Backs up the bookmarked files.

**[Select Camera(s)]** Select the camera(s) for backup. The number of video and audio files of each camera is indicated respectively, e.g., “Camera 1 1+0” means Camera 1 has 1 video file and 0 audio file.


- **Video + Audio dropdown list:** Select the types of video events for backup.

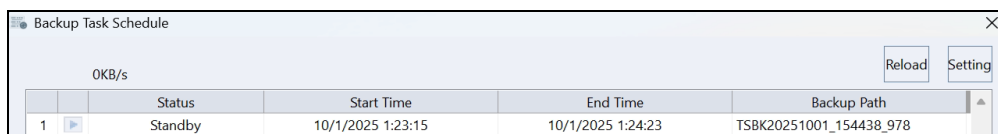
4. Click **OK** to add the time frame. You can repeat step 3 to create up to 10 periods of time.
5. To include the player to the backup files, select **Include Player** at the bottom right of the Backup dialog box, and select **ViewLog** or **Single Player**. By default, **ViewLog** is selected. If no player is selected, you can only play the backup files at the computer installed with GeoVision codec.
6. Click **OK** in the Backup dialog box to start the backup.

---

**Note:** For details on the ViewLog player, see *5.1 Starting Playback* and *5.2 The Remote ViewLog Window*.

---

**Tip:** If you select **Using Backup Schedule** and a schedule is created, click the **Show Backup Task Schedule** icon  from the Windows system tray to view the backup status.



	Status	Start Time	End Time	Backup Path
1	Standby	10/1/2025 1:23:15	10/1/2025 1:24:23	TSBK20251001_154438_978

# Chapter 6 Remote DVR / Desktop

## 6.1 Remote DVR

The Remote DVR service allows GV-Control Center to remotely access and configure client GV-NVR settings. This feature reduces the number of trips to each client's system.

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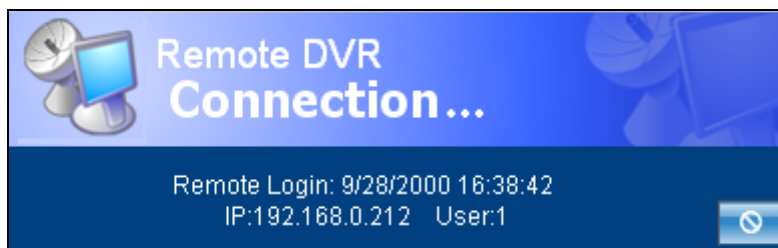
**Note:**


1. The Remote DVR service is not supported by GV-VMS.
  2. The Remote DVR service does not support the control of audio output, PTZ, and I/O devices.
- 



### 6.1.1 Running Remote DVR

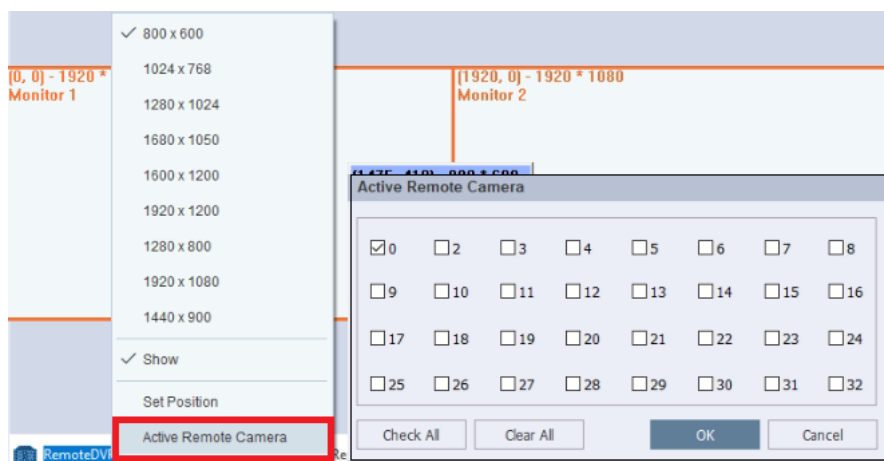
1. Enable **Remote DVR** (under **Control Center Service**) in client GV-NVR.
2. In GV-Control Center, click an NVR on the Host List and select **Remote DVR**.

If the connection is established, the main screen of client GV-NVR will be displayed on GV-Control Center's desktop. At the same time, the client will have the following message, indicating GV-NVR is in use and has been locked.



If the client wants to interrupt the connection, click the button  at the bottom right corner.

**Tip:** If you want to minimize the bandwidth used while viewing client GV-NVR, you can connect to some cameras only. Before connecting to the client, in GV-Control Center, click **Configure**  (top right of the main screen) > **Setup** > **Application Position**. On the Application Position window, right-click the **Remote DVR** icon  > **Activate Remote Camera** to select and deselect cameras.




## 6.2 Remote Desktop

The Remote Desktop enables the GV-Control Center operator to remotely access the GV-NVR / VMS desktop. The operator of GV-Control Center has full control over the surveillance system and Windows operation system of the client.

### 6.2.1 Running Remote Desktop

1. Enable **Remote Desktop Service** (under **Control Center Service**) in GV-NVR / VMS.
2. In GV-Control Center, click a NVR / VMS on the Host List and select **Remote Desktop**.

When the connection is established, the client's desktop will appear in a separate window on the Control Center's desktop. If the client is using multiple monitors, click the **Monitor** icon  to switch between them.


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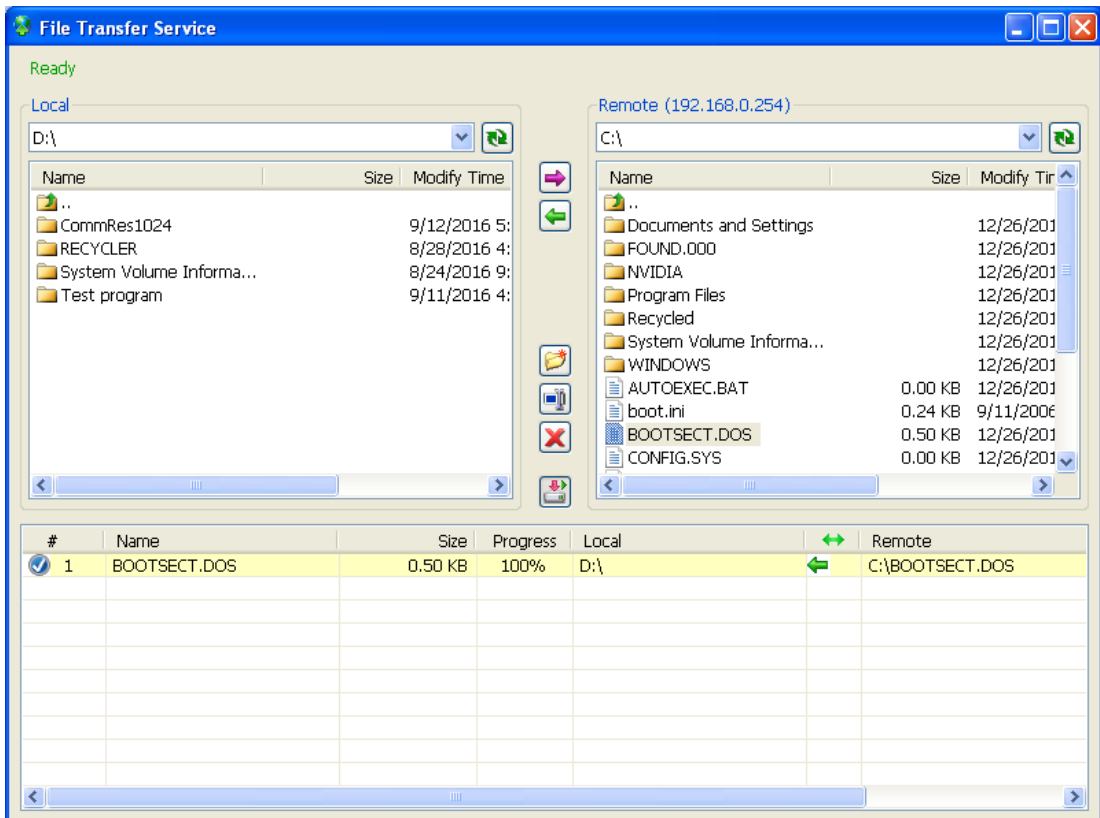
**Note:** The **Monitor** button is only supported by GV-VMS 15.10.1.0 or later.

---

## 6.2.2 File Transfer

The File Transfer function is for transferring files easily between GV-Control Center and the client.

1. Run **Remote Desktop**.
2. Click the **File Transfer** button  on the upper left corner of the Remote Desktop. The File Transfer Service dialog box appears.
3. Select the desired file to transfer to **Local** (GV-Control Center) or **Remote** (the client).




---

**Note:** The size of one single file for transfer cannot exceed 4GB, but there is no size limit for multiple files.

---

## 6.3 Data Event Query

You can query events from client GV-NVR / VMS by defining search criteria. The search results can be displayed in text or in a graph. You can also export your search results in the form of text, html or excel.

1. Enable **WebCam Server** in GV-NVR / VMS.
2. In GV-Control Center, click a NVR / VMS on the Host List and select **Event Data Query**.
3. In the Event List Query page, you can define search criteria, and click the Video icon for event playback if available.

The screenshot shows the 'Event List Query' interface. At the top, there are tabs for 'Monitor', 'System', 'Login', 'Counter', 'POS', 'Merge', 'Backup', 'Delete', 'Notification', 'VO', and 'Playback'. Below the tabs is a search criteria section with dropdown menus for 'Event Type', 'Device', 'Information', and 'Note', and a date range selector set to '2021/08/02 00:00:00' to '2021/08/02 23:59:59'. There is a 'DST Rollback' checkbox. Below the search criteria are buttons for 'Go', 'Export', and 'Graph'. The main area contains a table of search results with columns: ID, Time, Device, Information, Event Type, Note, DST Rollback, and Video. The first row is highlighted. To the right of the table is a video playback window showing a blue screen with a playback control bar at the bottom.

ID	Time	Device	Information	Event Type	Note	DST Rollback	Video
254	8/2/2021 3:06:16 AM	26 ABL8712		Motion	0		
496	8/2/2021 3:36:39 AM	26 ABL8712		Motion	0		
648	8/2/2021 4:09:02 AM	26 ABL8712		Motion	0		
785	8/2/2021 4:37:25 AM	26 ABL8712		Motion	0		
955	8/2/2021 4:58:41 AM	26 ABL8712		Motion	0		
959	8/2/2021 5:07:48 AM	26 ABL8712		Motion	0		
1109	8/2/2021 5:38:11 AM	26 ABL8712		Motion	0		
2723	8/2/2021 9:01:15 AM	26 ABL8712		Motion	0		
2726	8/2/2021 9:01:50 AM	26 ABL8712		Motion	0		
2739	8/2/2021 9:04:14 AM	26 ABL8712		Motion	0		
2746	8/2/2021 9:04:56 AM	26 ABL8712		Motion	0		
2751	8/2/2021 9:05:39 AM	26 ABL8712		Motion	0		
2755	8/2/2021 9:06:20 AM	26 ABL8712		Motion	0		
2760	8/2/2021 9:06:58 AM	26 ABL8712		Motion	0		
2779	8/2/2021 9:10:46 AM	26 ABL8712		Motion	0		
2782	8/2/2021 9:11:26 AM	26 ABL8712		Motion	0		
2788	8/2/2021 9:12:02 AM	26 ABL8712		Motion	0		

Annotations in the image:

- Query Categories: Points to the top navigation tabs.
- Define Search Criteria: Points to the search filters and date range.
- Export Search Results: Points to the 'Export' button.
- Graph Search Results: Points to the 'Graph' button.
- Search Results: Points to the table of event data.
- Video icon indicates the event is attached with a video allowed for playback: Points to the video icon in the first row of the table.
- Playback Window: Points to the video player on the right.

# Chapter 7 I/O Central Panel

The I/O Central Panel provides a central management solution for I/O devices from different hosts. Its major features include:

- Group I/O devices from different hosts
- Trigger I/O devices in cascade mode
- Monitor different I/O cascade configurations at different times of the day
- Provide quick access to triggered I/O devices by a Quick Link window

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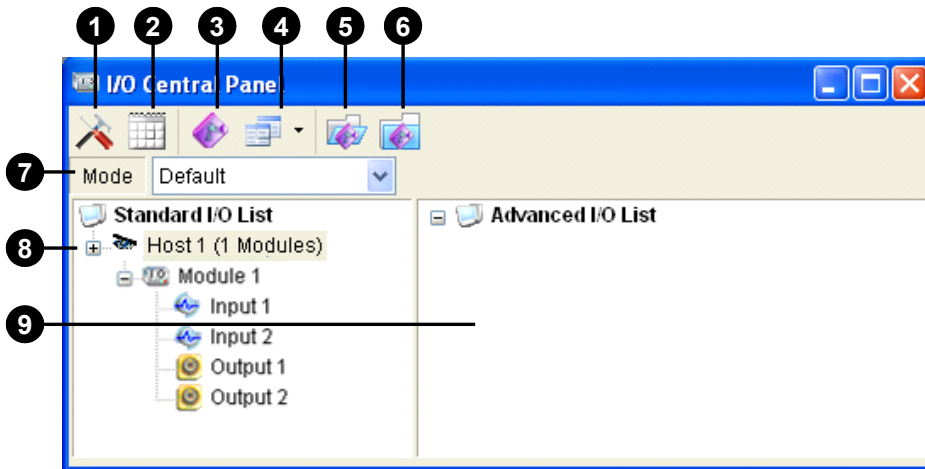
**Note:**

1. Configurations in the Advanced I/O Panel of the client GV-NVR / VMS and in the I/O Central Panel of GV-Control Center may conflict. It's recommended that the client clean up the settings in the Advanced I/O Panel and render I/O control to GV-Control Center.
  2. The I/O Central Panel only supports GV-IP Devices.
- 

## 7.1 Running I/O Central Panel

1. Drag and drop the desired hosts from the Host List to the **I/O Panel Group** in the Group List.
2. Right-click **I/O Panel Group** > **I/O Central Panel**.
3. When connections to hosts are established, the I/O Central Panel appears on the Control Center's desktop.

## 7.2 The I/O Central Panel

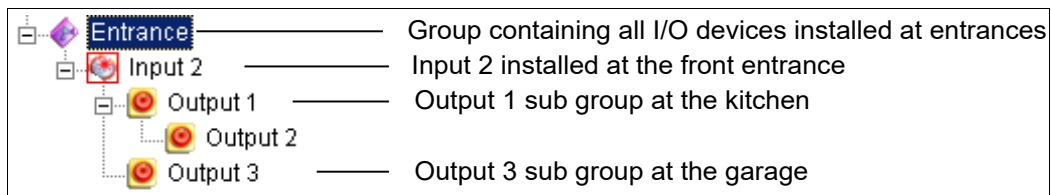


No.	Name	Description
1	Configure	Access Panel and Schedule settings.
2	Mode Schedule	Start /stop Mode Schedule.
3	Toggle Quick Link	Display the Quick Link window for quick access to triggered I/O devices.
4	Advanced I/O List Style	Display the Advanced I/O List in various styles: View/Edit, Icon and Detail.
5	Expand Tree Row	Expand tree branches.
6	Collapse Tree Row	Collapse tree branches.
7	Mode	Configure various cascade modes.
8	Standard I/O List	Display connected I/O modules. To rename an input or output, right-click it > <b>Rename</b> .
9	Advanced I/O List	Group I/O devices in cascade mode.

## 7.3 Creating a Group for Cascade Triggers

You can group I/O devices by function or geography. Further, the group allows cascade triggers, meaning that the trigger actions of one trigger can activate another trigger.

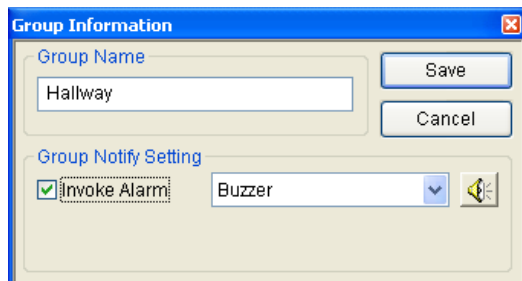
For example, you might have a group called “Entrance” that contains all I/O devices installed at entrances. The “Entrance” group might contain other sub groups, each of which contains just the related I/O devices in various geographic locations:



When Input 2 is triggered, it will trigger Output 1 and Output 3 sub-groups, and Output 1 will trigger Output 2 in a cascade series.

### 7.3.1 Creating a Group

1. Right-click on **Advanced I/O List > Add A Group**. This dialog box appears.



2. Name the group, and enable **Invoke Alarm** to trigger computer alarm upon I/O trigger.
3. Click **Save**.
4. To create a cascading hierarchy, drag the desired inputs/outputs from the **Standard I/O List** to the group.

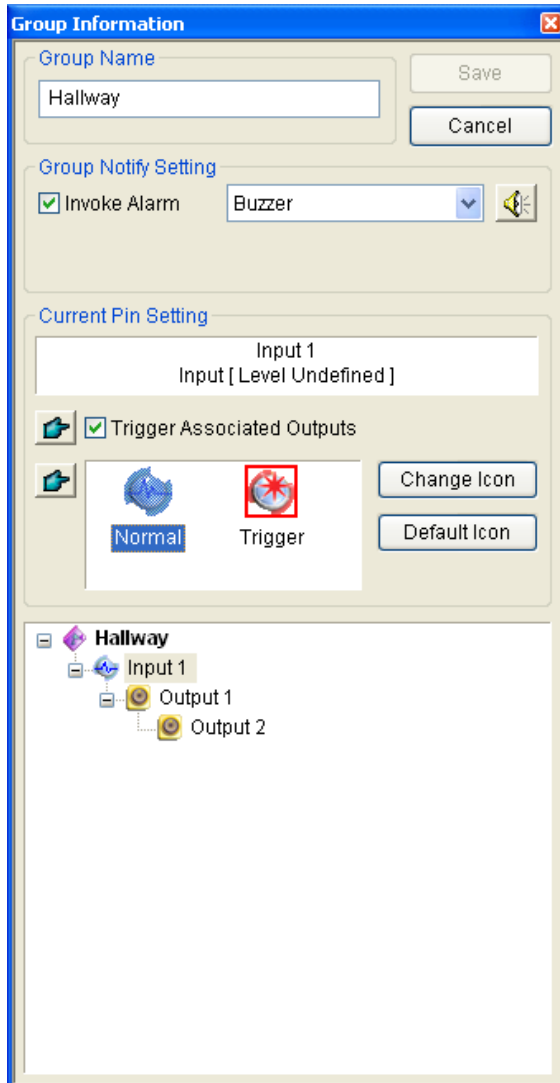
---

**Note:** In the cascading hierarchy, each input can only be used once while the same output can be used repeatedly.

---

### 7.3.2 Editing a Group

To modify group settings, right-click a group in the Advanced I/O List > **View/Edit**. This dialog box appears.

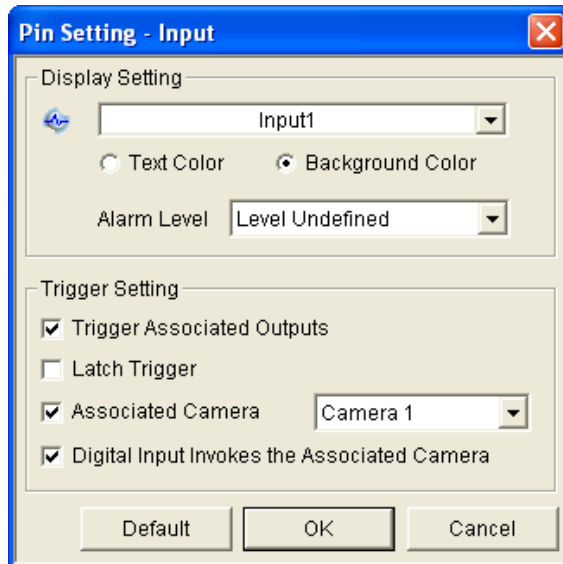


**[Current Pin Setting]** To enable this option, highlight an I/O device from the group list at the bottom of the dialog box.

- **Trigger Associated Outputs:** Trigger outputs in cascade mode. Click the **Finger** tab to apply the change to all I/O devices at the same group.
- **Change Icon:** To enable this option, select one of two displayed icons: Normal or Trigger. Click the **Change Icon** tab to change an icon. Click the **Finger** tab to apply the change to all I/O devices at the same group.

### 7.3.3 Editing an I/O Device

In addition to editing groups, you can also edit the settings of an individual I/O device. Right-click an input or output in the Advanced I/O List > **Setting**. This dialog box appears.



**[Display Setting]** Define the nature of I/O devices by color. Note that the setting only affects the **Detail** style of the Advanced I/O List.

- **Alarm Level:** Click the dropdown list, and select one of the six default colors: Fire, Smog, Vibration, Intruder, Motion and Emergency. For the Level Undefined option, select **Text Color** or **Background Color**, and then click the Input/Output dropdown list to change its color.

---

**Tip:** To modify the naming for default alarm levels, see [7.5 Configuring the I/O Central Panel](#).

---

#### **[Trigger Setting]**

- **Trigger Associated Outputs:** Trigger outputs in cascade mode.

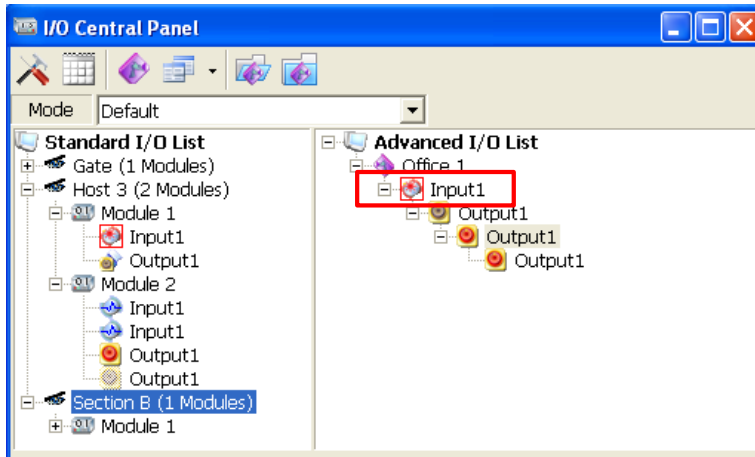
The following options are only available when an Input is selected:

- **Latch Trigger:** Instead of a lasting output alarm, the option provides a momentary alarm when the input is triggered in cascade mode.
- **Associated Camera:** Associate a camera with the input. When this option is enabled, you can click the input under the Advanced I/O List and select **View Associate Camera** to view its associated camera view.
- **Digital Input Invoke Associated Camera:** Enable to pop up the associated camera view when the input is triggered. See [7.10 Popping up Live View After Input Trigger](#).

## 7.4 I/O Monitoring

You can watch live view, play back recordings, and access host information directly from the I/O Central Panel. This allows the operator to quickly check the host status when I/O events occur.

In the Advanced I/O List, operators can manage I/O monitoring for groups or individual I/O devices, and force outputs as needed.

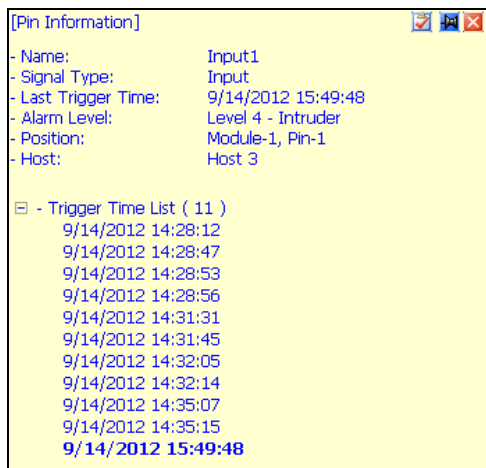


### 7.4.1 Watching Live View

On the I/O Central Panel, click an input > **View Associated Camera** to watch its corresponding camera view. For this function, you need to enable **Associated Camera** in 7.3.3 *Editing an I/O Device*.

### 7.4.2 Viewing Host Information

You can access information on host name, alarm level and a history of trigger events. Right-click an input in the Advanced I/O List > **Information**. The Pin Information dialog box will appear.



### 7.4.3 Playing Back Trigger Events

To play back recordings, click an input in the Advanced I/O List > **Instant Play**.

Alternatively, you can play back a specific trigger event. Right-click an input in the Advanced I/O List > **Information**, select an event from the Trigger Time List, and select **Instant Play**.

---

**Note:** To allow the remote playback, the following functions must be enabled ahead:

- **NVR / VMS:** Enable recording and **Remote ViewLog Service**
  - **GV-IP Devices:** Enable recording and **ViewLog Server**
- 

### 7.4.4 Starting I/O Monitoring

You can start or stop I/O monitoring for groups or individual inputs/outputs by right-clicking an item in the Advanced I/O List and selecting **Start Monitoring** or **Stop Monitoring**.

You can also pause I/O monitoring for groups. Right-click a group in the Advanced I/O List, and select **Pause Monitoring**. This function is designed for output groups set to **Toggle** mode; when selected, the group's inputs are reset, while outputs continue alarming. For details on the Toggle mode, see *6.1.3 Latch Trigger* in [GV-VMS User's Manual V18](#) or [GV-VMS User's Manual V20](#).

## 7.4.5 Disabling I/O Devices

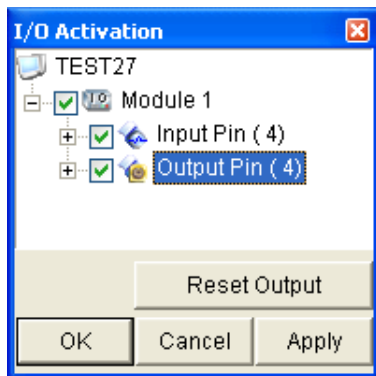
You can disable any I/O devices without interrupting the I/O monitoring.

---

**Note:** This function also supports client GV-IP Devices of these firmware versions:  
 GV-Compact DVR (Firmware V1.43 or later), GV-IP Camera (Firmware V1.05 or later),  
 GV-Video Server (Firmware V1.45 or later)

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1. In the Standard I/O List, right-click a host > **I/O Enable Setting**. This dialog box appears.

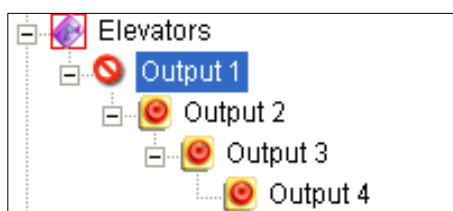


2. Uncheck to disable an input or output.
3. Click **OK**.

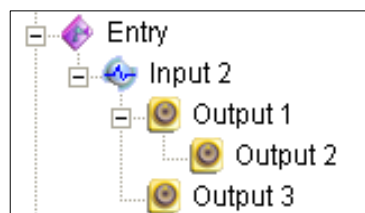
## 7.4.6 Forcing Output

To manually force an output device, click the output and select **Force Output**.

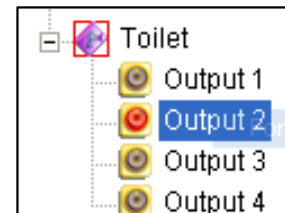
- In the Standard I/O List, you can force the output individually.
- In the Advanced I/O List, considering cascade triggers, you can only manually force the output at the top level, e.g., Figure A. Outputs at sub levels cannot be forced manually, e.g., Figure B.
- If the output is not in a cascading hierarchy, you can force it manually, e.g., Figure C.



**Figure A**




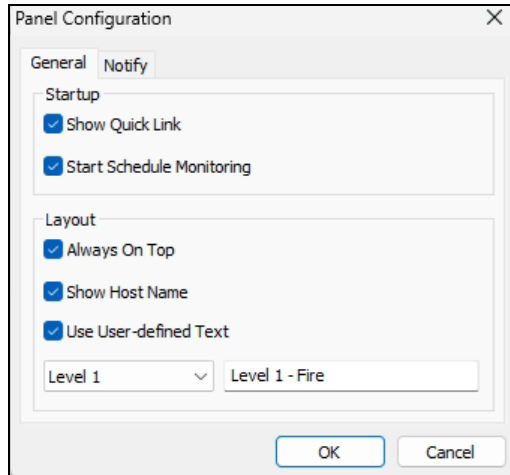
**Figure B**



**Figure C**

## 7.5 Configuring the I/O Central Panel

On the panel toolbar, click the **Configure** button  > **Panel Setting**. This dialog box appears.




### [Startup]

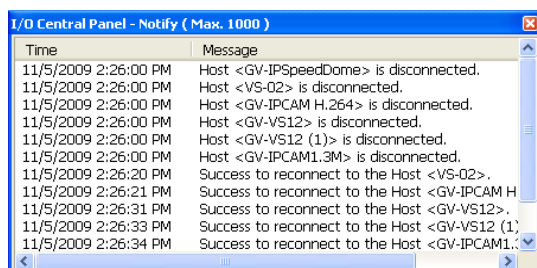
- **Show Quick Link:** Open the Quick Link window upon panel startup.
- **Start Schedule Monitoring:** Start Mode Schedule upon the panel startup. For details, see *7.7.2 Creating a Mode Schedule*.

### [Layout]

- **Always On Top:** Always displays the I/O Central Panel on top of the Main Screen.
- **Show Host Name:** Display the host name of each I/O device in the Advanced I/O List.
- **Use User-defined Text:** Allow you to modify the text of Alarm Level (see the figure under *7.3.3 Editing an I/O Device*).

## 7.6 Accessing Connection Log

You can access the connection status of hosts. On the panel toolbar, click the **Configure** button  > **View Notification**. This dialog box will appear. The maximum of 1000 messages will be logged for reference.

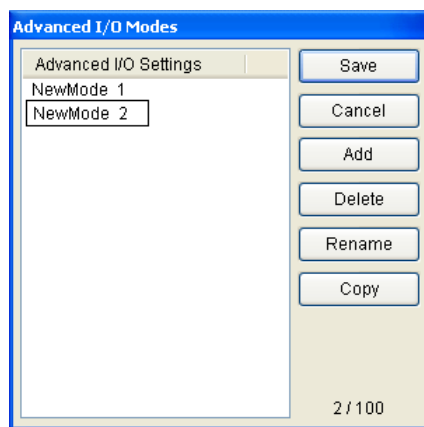


## 7.7 Setting Mode Schedule

The Mode Schedule allows you to monitor surveillance sites using different I/O cascade configurations according to the scheduled time. For example, you may want I/O cascade triggers one way during business hours and another way for non-business hours. Modes can be switched automatically at a scheduled time.

### 7.7.1 Creating a Mode


1. Click the **Mode** dropdown list (No. 7, 7.2 *The I/O Central Panel*) > **Mode Edit**. This dialog box appears.

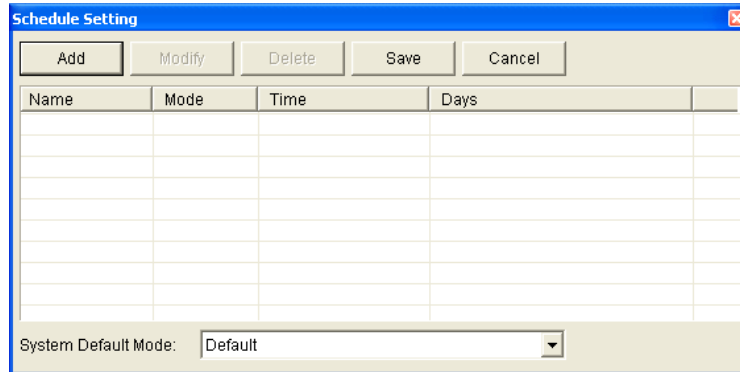


2. Click **Add**, and name the created mode. You can create up to 100 modes.
3. Click **Save** to return to the panel.
4. Select the created mode from the **Mode** dropdown list, and create the groups in the Advanced I/O List.

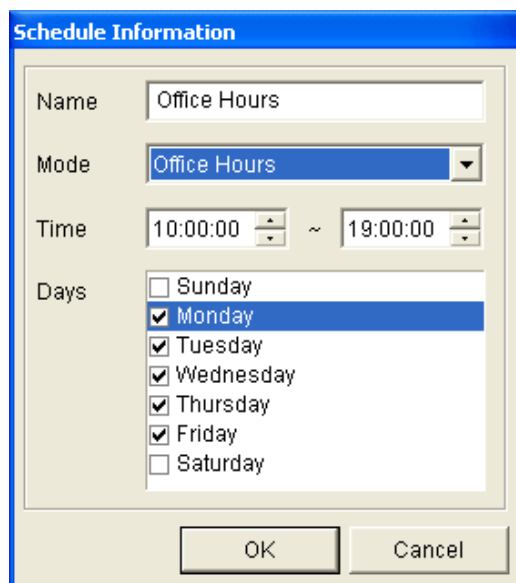
## 7.7.2 Creating a Mode Schedule

Define the times and days you like the panel to switch modes.

1. On the panel toolbar, click the **Configure** button  > **Schedule Setting**. This dialog box appears.




2. Click **Add** to create a schedule. This dialog box appears.

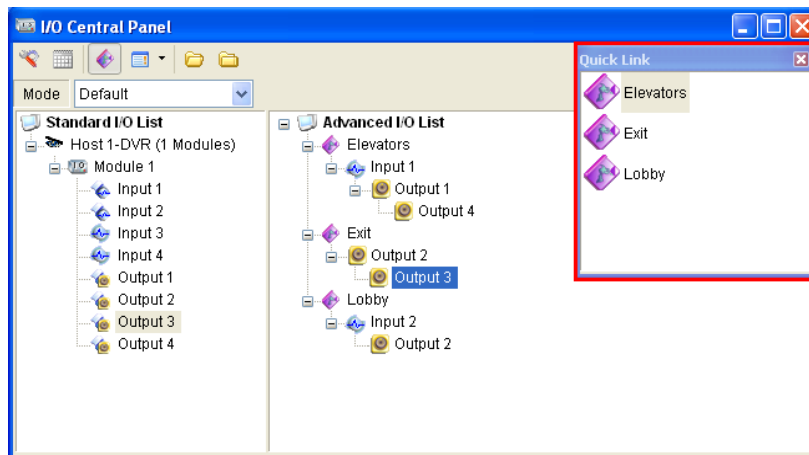


3. Name the schedule, select a Mode, and define time and day(s) to run the mode.
4. Click **OK**, and click **Save** to return to the panel.
5. To start the mode schedule, click the **Mode Schedule** button (No. 2, 7.2 *The I/O Central Panel*) > **Mode Schedule Start**.

## 7.8 Quick Link


The Quick Link window provides a quick access to triggered I/O devices. It is a separate window displaying all the groups established in the Advanced I/O List. The group icon flashes when any included I/O device is triggered. Clicking the flashing icon will bring you to the I/O location in the Advanced I/O List.

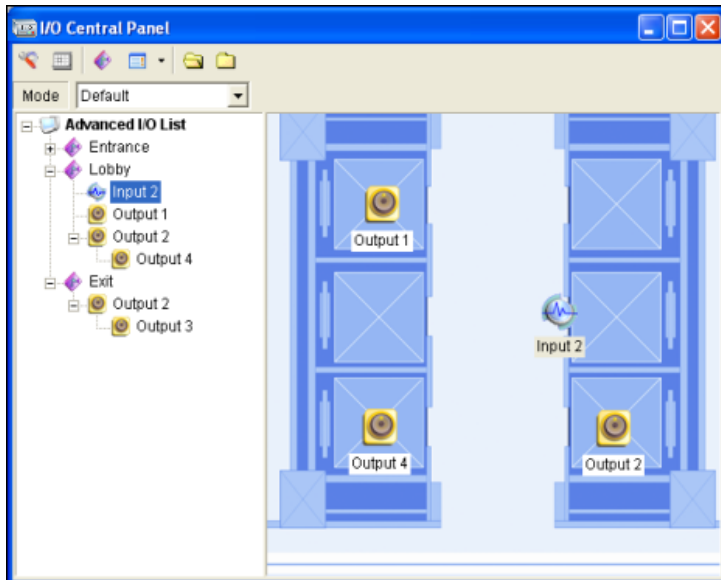
- To open the window, click the **Toggle Quick Link** button  on the panel toolbar.
- To open the window upon the panel startup, enable the **Show Quick Link** option in 7.5 *Configuring the I/O Central Panel*.



## 7.9 Editing Background Image


With the Background Image feature, you can import a floor plan to lay out the locations of the I/O devices. This feature works in the **Icon** style of the Advanced I/O List.

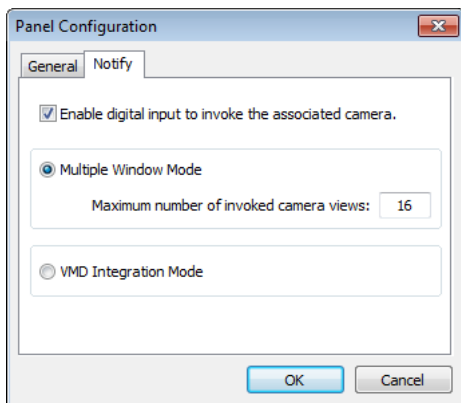
1. To switch to the Icon style, click the **Advanced I/O List Style** button  on the panel toolbar > **Icon**.
2. Select a group in the Advanced I/O List.
3. Right-click on the right screen > **Background Image** to import a graphic file.
4. Drag the I/O icons to the desired locations on the imported map.
5. To add images to another group, repeat steps 2 to 4.



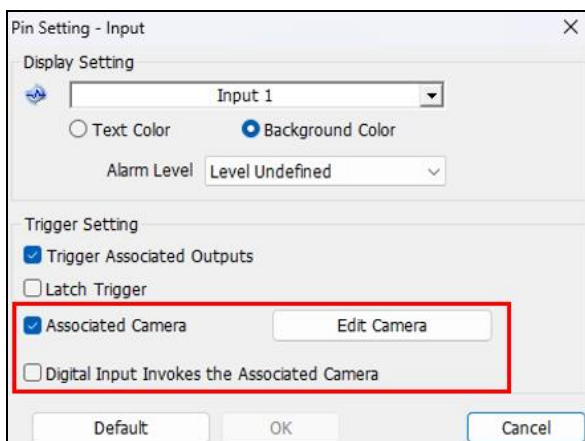
## 7.10 Popping up Live View upon Input Trigger

The operator can be alerted by a pop-up live view after an input device is triggered. One input device can trigger up to 4 camera views and a total of 16 camera views can be accessed on the I/O Control Panel simultaneously.

1. On the panel toolbar, click the **Configure** button  > **Panel Setting** > the **Notify** tab. This dialog box appears.



2. By default, the camera view is popped up in a separate window. Specify the **Maximum Number of Invoked Camera Views** that can be displayed when multiple input devices are triggered simultaneously. Up to 16 camera views can be accessed.
3. Select **Enable digital input to invoke the associated camera** to activate the function.
4. If you want to pop up the camera view on the VMD window, select **VMD Integration Mode**. For this option, you must also enable the VMD window.
5. To map a camera to an input device, right-click an input device in the Advanced I/O List > **Setting**. This dialog box appears.



6. Select **Associated Camera** and assign up to four cameras from the dropdown list.
7. Select **Digital Input Invokes the Associated Camera**.
8. Click **OK**. When the input is triggered, the associated camera view will pop up.

---

**Tip:** You can use a GV-Keyboard to switch the audio (microphone and speaker) of the pop-up view on or off.

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# Chapter 8 Multi Monitors Applications


## 8.1 Application Position

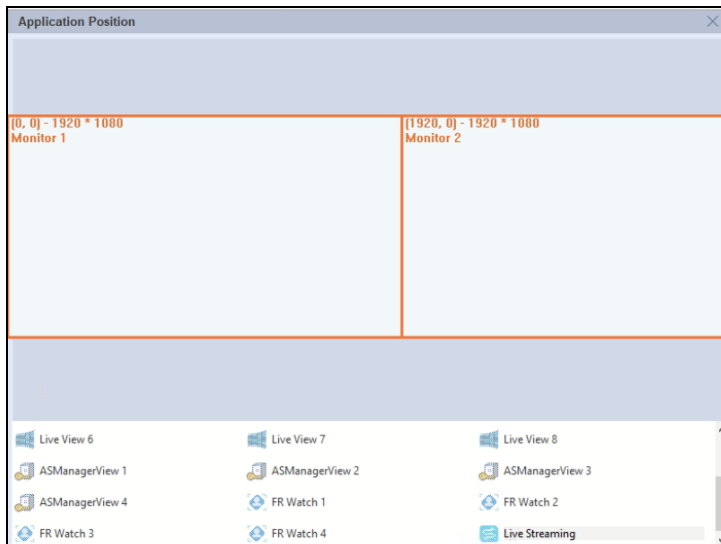
The Application Position helps you adjust the resolution and position of multiple application windows in GV-Control Center.

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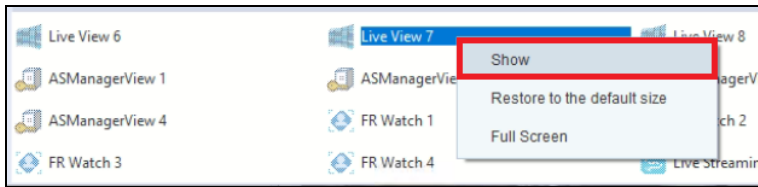
**Note:** If GV-Control Center is displayed on a widescreen monitor, you can also utilize this feature to help you arrange the positions of multiple application windows.

---

1. On the top right of the main screen, click **Configure**  > **Setup** > **Application Position**. The Application Position window appears.



2. Right-click an application icon, select **Show** to display its window on the monitor and manually drag the window to the desired position.




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**Tip:** You can freely move and place a window between or among monitors.

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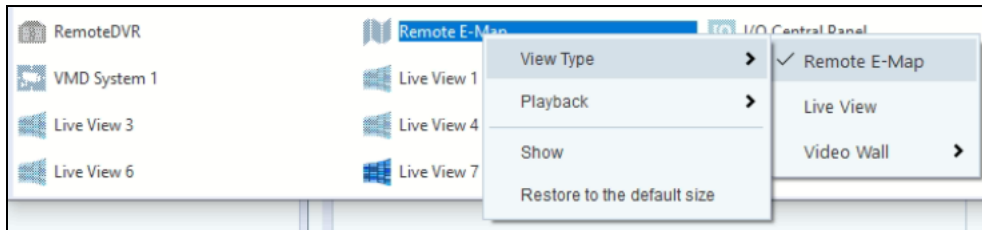
3. To adjust the window's resolution and access other settings, right-click the application window or its icon at the bottom.



The following options are available based on the application you select:

- **Resolution:** Select the resolution of the application window.
- **Show:** Select / unselect to display or hide the application window on or from the monitor.
- **Activate Remote Camera:** For Remote DVR only. Select the cameras of client GV-NVR to have remote access.
- **Shut down when the Control Center is closed:** For I/O Central Panel only. Select to inactivate the I/O Central Panel when GV-Control Center is closed.
- **Always apply specified position:** For I/O Central Panel only. Select to always show the I/O Central Panel at the specified position upon startup.
- **Set Position:** Define coordinates of the application window.

The following options are only available for Remote E-Map:



- **View Type:** Define the display position of live view enabled from Remote E-Map.
    - **Remote E-Map:** Enabled by default. Select for the camera view to appear in a separate window.
    - **Live View:** Select for the camera view to appear on the Live View window.
    - **Video Wall:** Select for the camera view to appear on the Video Wall.
  - **Playback:**
    - **Remote E-Map:** Enabled by default. Select to play back recordings in a separate window.
    - **Control Center:** Select to play back recordings in the Remote ViewLog window.
4. Re-activate the application for the settings to apply.

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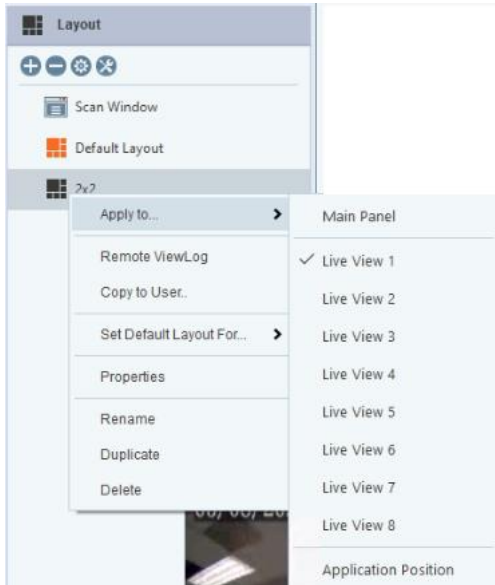
**Note:** GV-Control Center memorizes the position of the application window according to the latest arrangement on the monitor. When you select **Show** again, the application window is hidden from the Application Position interface, but not from the monitor the application window set.

---

## 8.2 Setting up Multiple Live Views

After arranging the positions of multiple Live Views on monitors (8.1 Application Position), follow the instructions below to apply a layout and cameras to each Live View.

1. Right-click the desired layout > **Apply to**, and select a **Live View** for the layout to be applied to.



2. To disable the Live View from the monitor, unselect the Live View.
3. Drag and drop cameras / groups to the Live View for display.

---

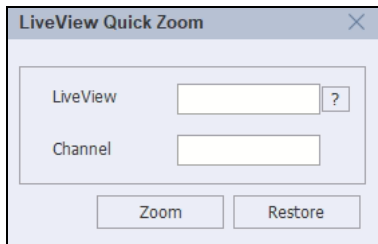
### Note:


1. For GV-Control Center to support up to 9 Live Views, with 100 camera channels for each Live View, higher PC specifications are required than the minimum system requirements.
  2. According to your screen divisions, the Live View will reduce the received resolution as close to the division size as possible. For GV-IP Devices, the JPEG stream of 704 x 480 or smaller will be changed to the MPEG stream of similar size; the JPEG stream higher than 704 x 480 will remain as JPEG stream. The mechanism is designed to reduce CPU usage and save bandwidth.
-

## 8.3 Quick Zoom

When you are monitoring live views on multiple monitors, the Quick Zoom feature allows you to call back a desired camera view to display on the primary monitor for instant inspection.

1. On the Layout List, click **Tools**  > **Live View Quick Zoom**. This dialog box appears.



2. To identify the monitor number, click the **Identify** button . The monitor number is displayed on the live views. Following is an example of running four live views in four separate monitors. Click the **Identify** button again to disable the number.

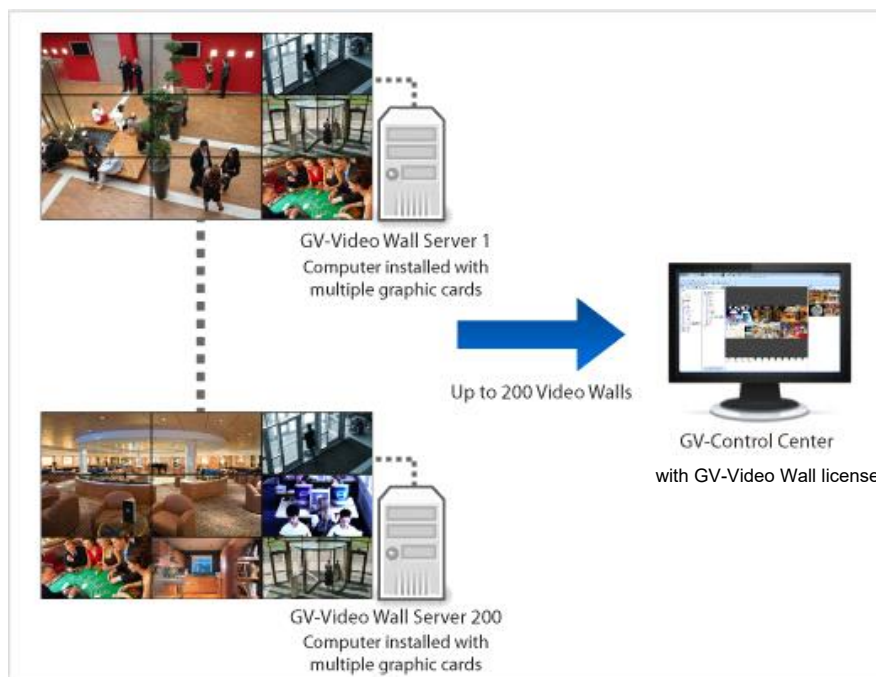


3. To display the desired camera view on the primary monitor, type its monitor number in the Matrix field and the camera channel. Click **Zoom**.
4. To return to the previous live view, click **Restore**.

## 8.4 Video Wall

GV-Video Wall is an establishment of multiple monitors on a server, blending and displaying various video sources and applications at the same time. GV-Control Center supports up to **200** GV-Video Wall servers, each with a different layout. On each Video Wall, you can:

- display up to **288** IP channels
- freely adjust the size and position of each channel, whether it be within or across monitors
- create up to **16** Zoom Windows, which display channels through manual activation
- create up to **16** Scan Windows, which are capable of displaying up to **64** channels in turn, at custom time interval
- display up to **16** web pages using Web Windows
- play back up to **16** videos using Media Windows
- play back up to **16** videos using Remote ViewLog
- display live views enabled from Remote E-Map
- display live views in up to **16** screen divisions upon event detection using the VMD Window
- display up to **288** channels of customized view region of a remote monitor



## An application of the Video Wall

GV-Video Wall allows you to display different applications and live views, such as Remote E-Map, GIS, Vital Sign Monitor, Remote Desktop and Remote ViewLog, on the defined monitors.

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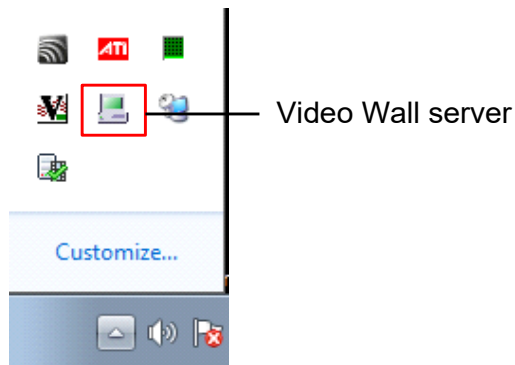
### Note:

1. GV-Video Wall license is required for the function to be activated.
  2. The number of monitors supported depends on the capability of graphic cards installed in the Video Wall server.
  3. For the minimum system requirements of GV-Video Wall, see *1.1 Minimum System Requirements*.
-

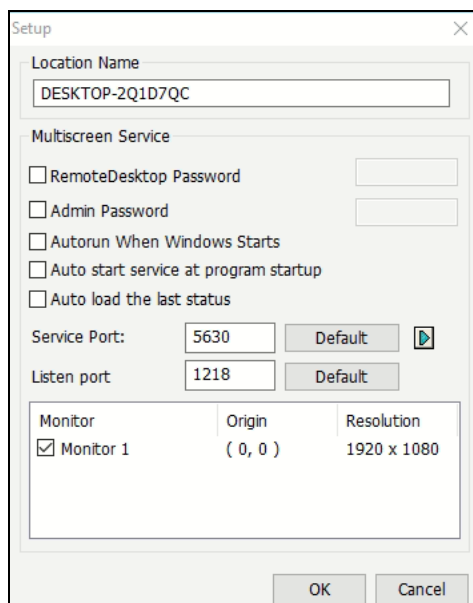
### 8.4.1 Setting up Video Wall Server

You can build the Video Wall server on a dedicated server or with GV-Control Center. Follow the steps below to install and set up the Video Wall server.

1. Download and install **GV-Video Wall Server** from our [website](#).
2. The Video Wall server icon is minimized to the system tray.




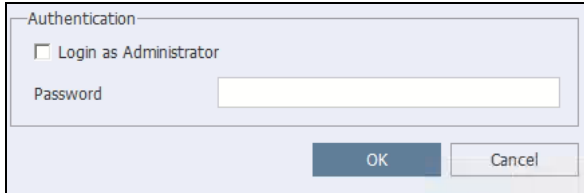
3. Right-click the Video Wall server icon and select **Configure**. This dialog box appears.




- **Location Name:** Display the name of the local server.
- **Remote Desktop password:** Define a password for accessing the desktop of GV-Video Wall from GV-Control Center.
- **Admin Password:** Define a password for accessing the GV-Video Wall settings.

---

**Note:** To prevent other users from configuring GV-Video Wall at the same time, set up **Admin Password** in GV-Video Wall. Then in GV-Control Center, click the **Host Settings** button  in the Video Wall list, and set up the same Admin Password.



The image shows a Windows-style dialog box titled "Authentication". It contains a checkbox labeled "Login as Administrator" which is currently unchecked. Below the checkbox is a text input field labeled "Password". At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

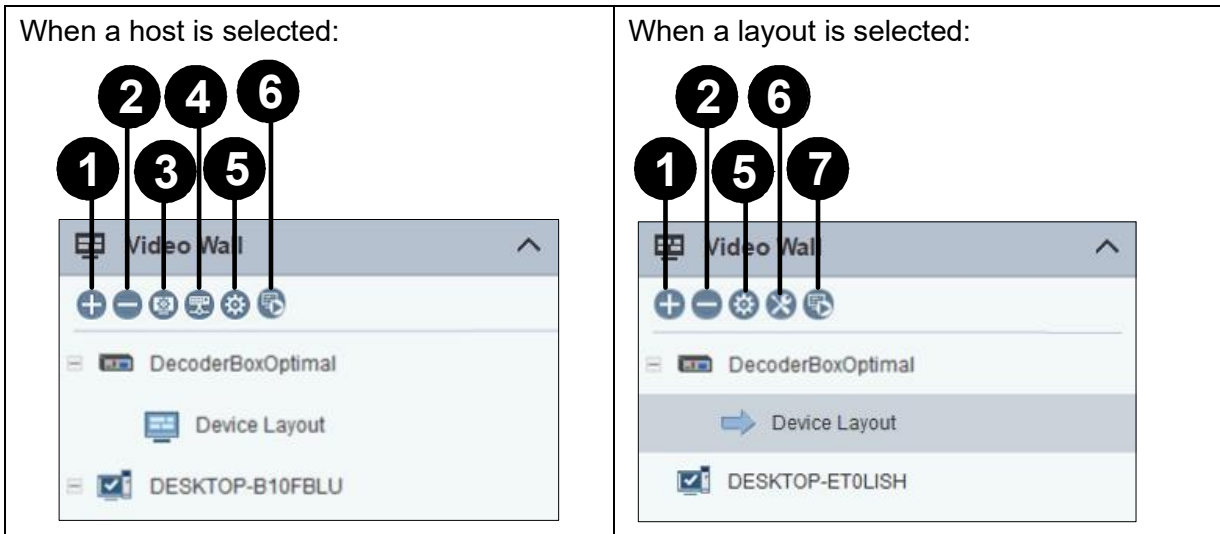
- 
- **Auto run when Windows starts:** Start the Video Wall service upon Windows startup.
  - **Auto start service when program starts up:** Start the Video Wall service upon the startup of Video Wall program.
  - **Auto load the last status:** Automatically load the previous Video Wall settings.
  - **Service port:** Correspond to the Connect port 5630 in GV-Control Center.
  - **Listen port:** Correspond to the Search Server port 1218 in GV-Control Center.
  - **Monitor:** Display the monitors connected to the GV-Video Wall server.
4. Select the monitors to be used and click **OK**.
  5. Right-click the Video Wall server icon  and select **Start Service**.

---

**Note:** In GV-Control Center, the **Video Wall Server** program is installed, launched and activated by default.

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### 8.4.2 The Video Wall List

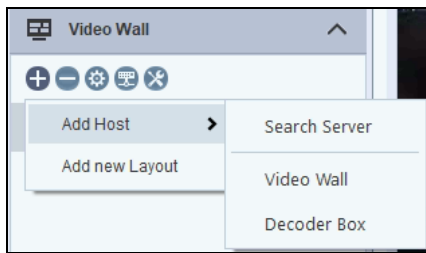


No.	Name	Description
1	Add	Add the hosts and layouts of the GV-Video Wall server or GV-IP Decoder Box.
2	Delete	Delete the hosts and layouts of the GV-Video Wall server or GV-IP Decoder Box.
3	Host Settings	Opens Host Settings, including layout, caption, network and authentication settings.
4	Connect / Disconnect	Connect/disconnect from a GV-Video Wall server or GV-IP Decoder Box.
5	Video Wall Setting	Opens Video Wall and Decoder Box Settings, including shutdown on exit, autorun on start, and layout settings.
6	Tools	Automatically set up IP addresses and names for GV-IP Decoder Box.
7	Apply the Selected Layout	Applies the selected layout to the host.

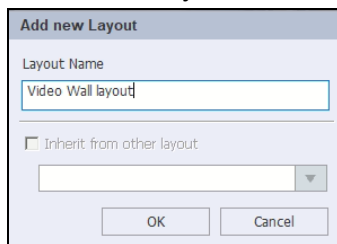
### 8.4.3 Creating Video Wall Layout

Follow the steps below to add the GV-Video Wall server you have set up and configure its layout in GV-Control Center.

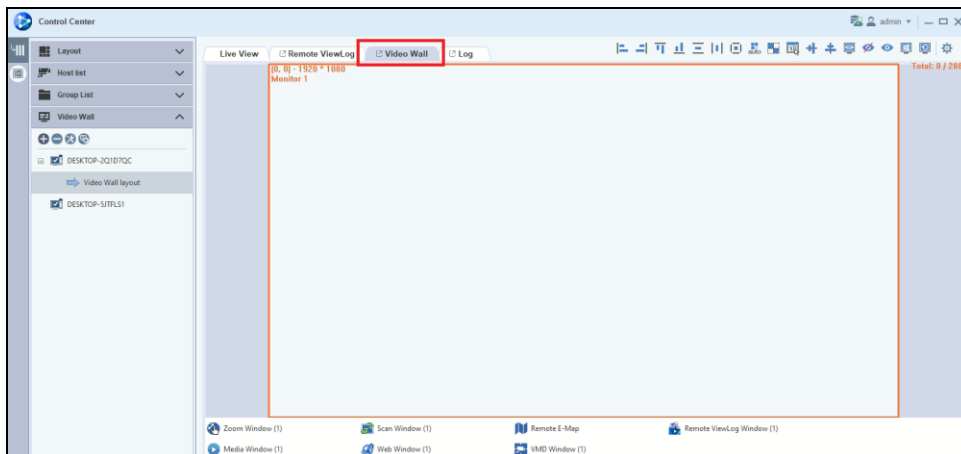
1. In the Video Wall list, click the **Add Host** button, and select **Search Server** to locate GV-Video Wall servers on the same LAN or **Video Wall** to manually add a GV-Video Wall server.



2. To create a layout, click the **Add** button > **Add New Layout**. This dialog box appears.

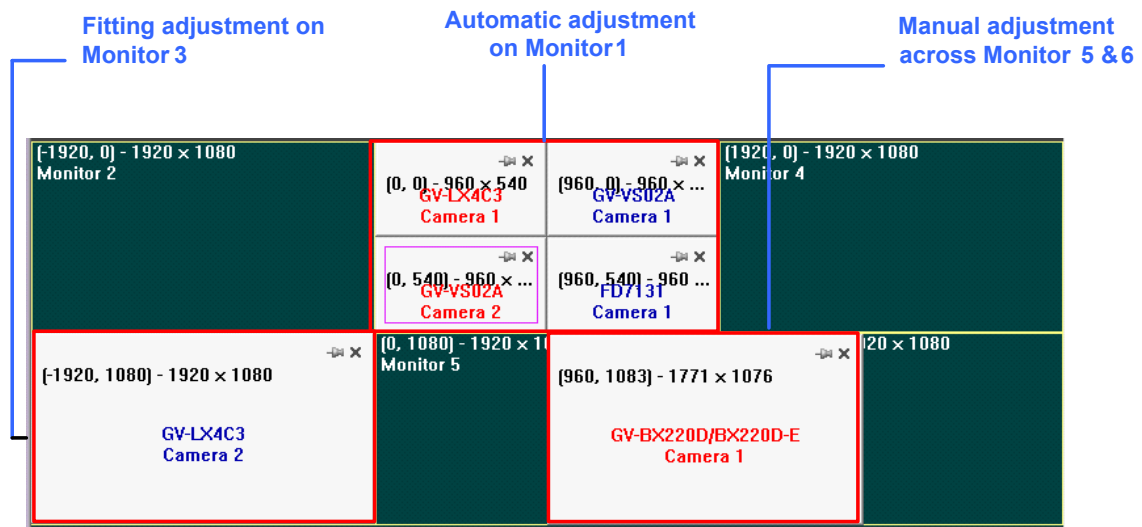


3. Name the layout and click **OK**. The monitor(s) from the GV-Video Wall are displayed in GV-Control Center.



4. Drag and drop hosts / groups to the monitor(s) of the GV-Video Wall.

- Adjust the channel size and position. The following is an example of 6 monitors from the GV-Video Wall.



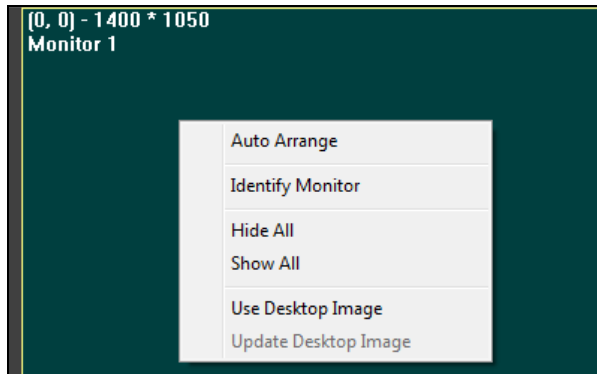
- Manual adjustment:** Drag the four corners of a channel to adjust its size and re-position. For example, the GV-BX220D/BX220D-E channel is manually placed across Monitors 5 and 6.
- Automatic adjustment:** Right-click space on a desired monitor and select **Auto Arrange**. The channels on the selected monitor are automatically reshaped to equal size and arranged in order (of being added to the monitor). For example, four channels are automatically sorted on Monitor 1.
- Fitting adjustment:** Right-click a channel and select **Fit to Screen**, the channel will fit the nearest monitor. For example, GV-LX4C3 is fitted to Monitor 3.

---

**Tip:**

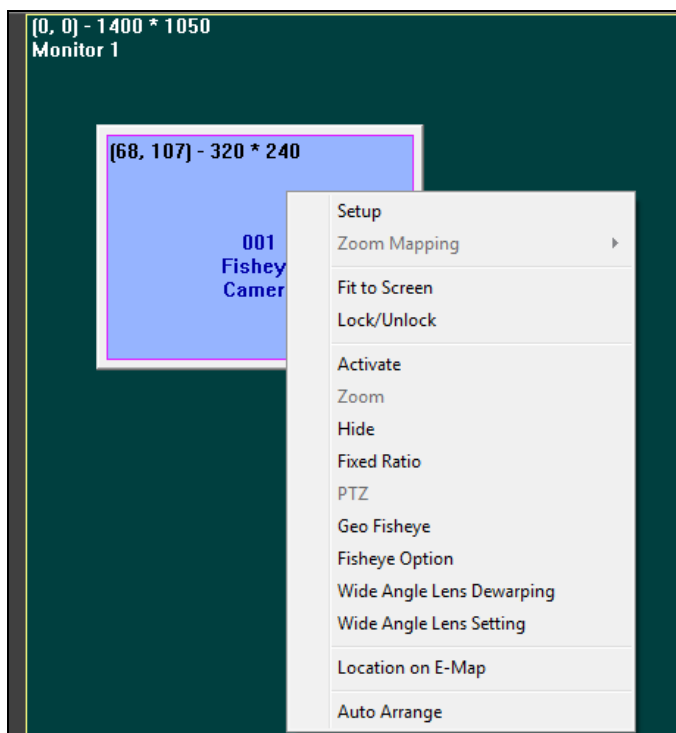
- To set multiple channels to the same size, drag your mouse to highlight the channels, right-click one of the channels and then select **Setup**. Define the width and height.
  - Double-click a channel for it to extend to full-monitor size. For example, a channel placing across two monitors will be extended to fit the two monitors.
-

6. Right-click space of a monitor to access the following options:



- **Auto Arrange:** See *Automatic adjustment* in step 5.
- **Identify Monitor:** Show the monitor number.
- **Hide All:** Inactivate and hide all the channels on the monitor.
- **Show All:** Show all the channels on the monitor.
- **Use Desktop Image:** Use the desktop image on the monitor. And select **Update Desktop Image** to refresh the desktop image from the Video Wall server.

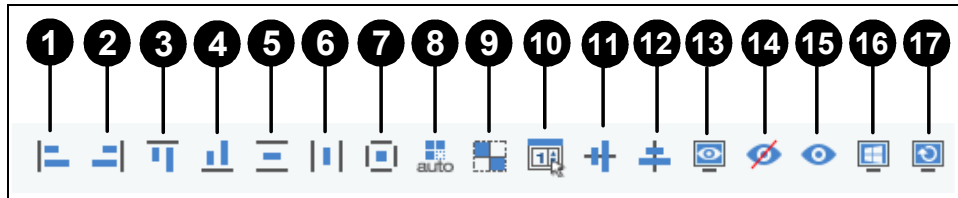
7. Right-click a channel to access the following options:



- **Setup:** Define the position, size and captions of the channel.
- **Zoom Mapping:** See *Setting up a Zoom Window* later in this section.
- **Fit to Screen:** See *Fitting adjustment* in step 5.
- **Lock/Unlock:** Lock or unlock the channel at its current position.
- **Activate:** Activates the channel on the GV-Video Wall.
- **Zoom:** See *Setting up a Zoom Window* later in this section.
- **Hide:** Inactivate and hide the channel. To show a hidden channel, right-click its icon at the bottom of the layout and select **Show**.
- **Fixed Ratio:** Set the camera view proportional to its source image.
- **Geo Fisheye:** Only for the fisheye camera. Activate the display settings configured in **Fisheye Option**.
- **Fisheye Option:** Only for the fisheye camera. Define fisheye display settings. For detail, see *4.3 Fisheye View*.
- **Wide Angle Lens Dewarping:** Enable dewarping to the channel.
- **Wide Angle Lens Setting:** Define the degree of dewarping. See *4.5 Adjusting Distorted View*.
- **Location on E-Map:** Show the position of the channel on Remote E-Map.
- **Auto Arrange:** See *Automatic adjustment* in step 5.

## 8.4.4 Advanced Layout Settings

You may also use the controls on the Layout Tool to adjust the channel layout and size.



No.	Name	Description
1	Align Left	Aligns the selected channels to the left of the reference channel. Drag-select desired channels and the last selected one will be the reference channel.
2	Align Right	Aligns the selected channels to the right of the reference channel. Drag-select desired channels and the last selected one will be the reference channel.
3	Align Top	Aligns the selected channels to the top of the reference channel. Drag-select desired channels and the last selected one will be the reference channel.
4	Align Bottom	Aligns the selected channels to the bottom of the reference channel. Drag-select desired channels and the last selected one will be the reference channel.
5	Make Same Width	Makes the selected channels the same width as the reference channel. Drag-select desired channels and the last selected one will be the reference channel.
6	Make Same Height	Makes the selected channels the same height as the reference channel. Drag-select desired channels and the last selected one will be the reference channel.
7	Make Same Size	Makes the selected channels the same size as the reference channel. Drag-select desired channels and the last selected one will be the reference channel.
8	Auto Layout	Automatically reshapes the channels to equal size and rearranges the channels in order.
9	View Gridlines	Shows or hide the auxiliary lines to precisely position the channels.
10	Settings	Contains settings for monitor selection and channel division.

---

11	Expand Horizontally	Reshapes and aligns the selected channels horizontally to the reference channel. Drag-select desired channels and the last selected one will be the reference channel.
12	Expand Vertically	Reshapes and aligns the selected channels vertically to the reference channel. Drag-select desired channels and the last selected one will be the reference channel.
13	Identify Monitor	Shows the monitor number.
14	Hide All	Inactivates and hides all the channels.
15	Show All	Show all the channels on the layout.
16	Use Desktop Image	Use the desktop image on the layout
17	Update Desktop Image	Refreshes the Video Wall with desktop image. This option is only available when Use Desktop Image is enabled.

---

## 8.4.5 Activating the Channel and Layout

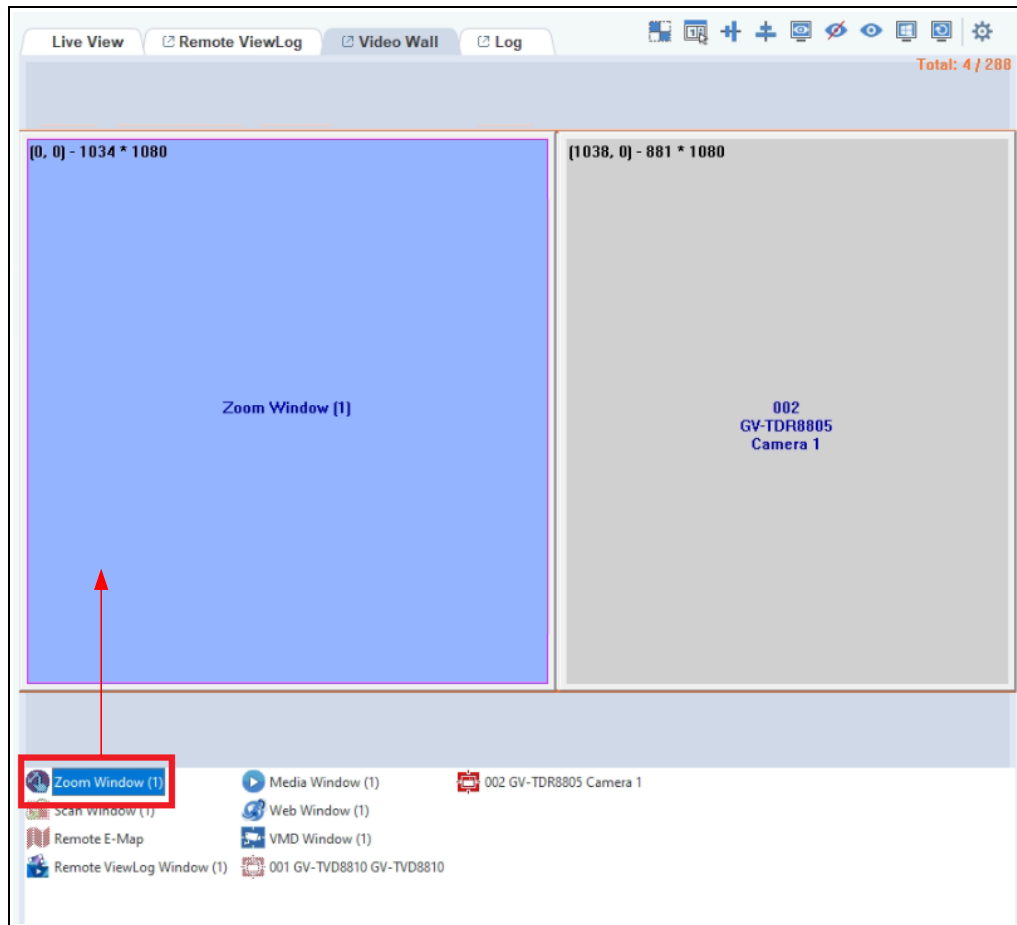
After you have set up at least one layout, you can activate a channel at a time or all the channels of a layout at once. The activated channel or layout will be displayed on the Video Wall.

- To activate a channel, right-click the channel and select **Activate**. You can repeat this operation with another desired channel.

## 8.4.6 Setting Up a Zoom Window

A Zoom Window is a window reserved for displaying zoomed channels. Up to **16** Zoom Windows can be established.

1. Drag the **Zoom Window** icon from the Channel List at the bottom to a desired monitor. The **Zoom Window (1)** is created by default.



2. Adjust the position and size of the created Zoom Window. For details, see Step 5 in 8.4.3 *Creating Video Wall Layout*.
3. Make sure the channels intended for zoomed view are activated. Right-click the channel and select **Activate**.
4. Right-click the channel again and select **Zoom**. The channel is displayed on the Zoom Window.
5. To disable zooming, right-click the channel and select **Zoom** again.
6. When the Zoom Window already displays a zoomed view, you can replace the view by right-clicking another channel and selecting **Zoom**.

7. To add another Zoom Window, right-click the space in Channel List, select **Add Zoom Window**, drag the new Zoom icon to a desired monitor. To display on the new Zoom Window, right-click a channel and select **Zoom Mapping** to select the window.
8. To delete a Zoom Window, right-click its icon on the Channel List and select **Remove**.

---

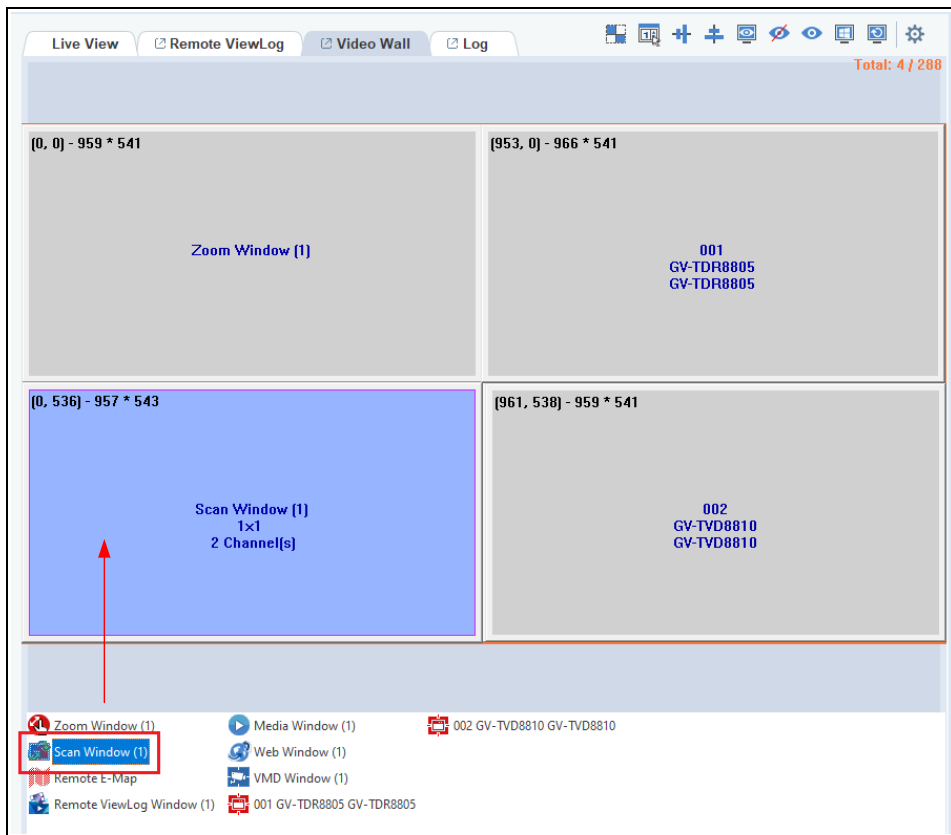
**Note:**

1. To set the size of Zoom Window proportional to the source video, right-click the window and select **Fixed Ratio**.
  2. To operate the Zoom Window using GV-Keyboard V3, see [2.6 GV-Video Wall](#) in the [GV-Keyboard V3 User's Manual](#).
-

## 8.4.7 Setting Up a Scan Window

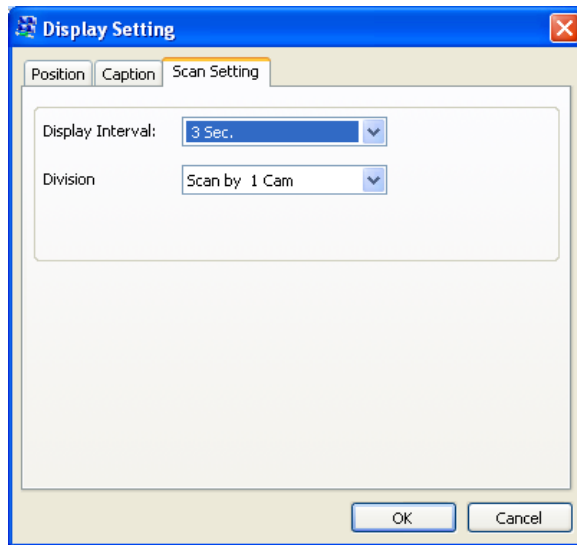
With a Scan Window, you can reserve a portion of the Video Wall to display a group of channels in turn. Up to **16** Scan Windows can be established and a Scan Window can display up to **64** channels in turn.

1. Establish a Group with the channels for scan display.
2. Drag a **Scan Window** icon from the Channel List to a desired monitor. **Scan Window (1)** is created by default.



3. Adjust the position and size of the created Scan Window. For details, see Step 5 in 8.4.3 *Creating Video Wall Layout*.

4. To configure the scan display settings, right-click the Scan Window, select **Setup**. This dialog box appears.



#### [Scan Setting]

- **Display Interval:** displays channels at the specified interval. The default is 3 seconds.
- **Division:** the channels are displayed in the specified divisions.

---

**Note:** For megapixel channels, it is strongly recommended to set the Display Interval to at least 10 seconds to compensate for longer connection and processing time.

---

5. Drag and drop the established group to the Scan Window.
6. To activate scan display, right-click the Scan Window and select **Activate**. The channels are displayed by turn on the Scan Window at the specified interval.
7. To inactivate scan display, right-click the Scan Window and select **Activate** again.
8. To add another Scan Window, right-click the space in Channel List, select **Add Scan Window** and repeat Steps 1 to 6.
9. To remove a Scan Window, right-click its icon in Channel List and select **Remove**.

**To zoom a Scan Window**

1. If only one Zoom Window is set up, right-click the activated Scan Window and select **Zoom**. The channels are displayed in turn on the Zoom Window and disappear on the original Scan Window.
2. If more than one Zoom Windows are set up, right-click the activated Scan Window, select **Zoom Mapping**, select a Zoom Window. The channels are displayed in turn on the selected Zoom Window and disappear on the original Scan Window.
3. To disable zooming, right-click the activated Scan Window and select **Zoom** again. The channels return to the original Scan Window.

---




**Note:** To operate the Scan Window using GV-Keyboard V3, see [2.6 GV-Video Wall in the GV-Keyboard V3 User's Manual](#).

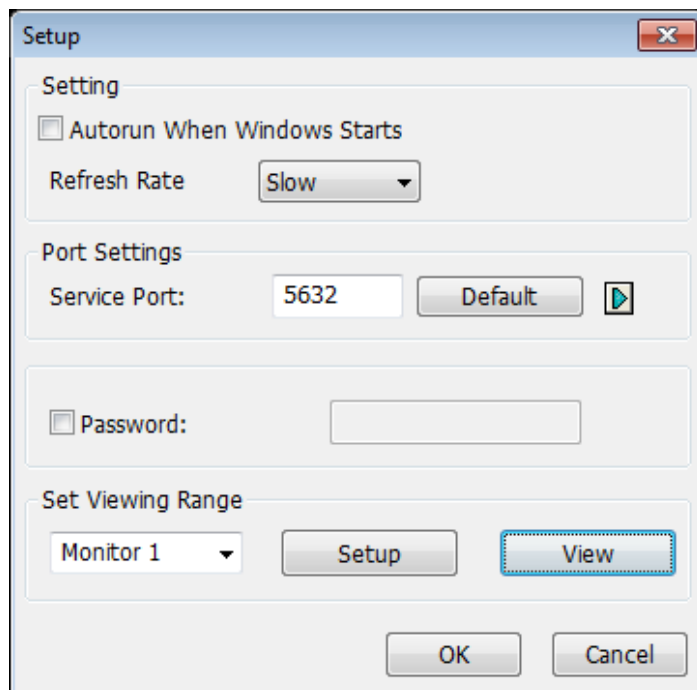
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## 8.4.8 Displaying Remote Monitor, Web Page and Playing Back Videos

### Displaying a Remote Monitor on Video Wall

You can display customized view region of a remote monitor as a channel on Video Wall. Up to **288** Remote Monitor channels can be displayed.

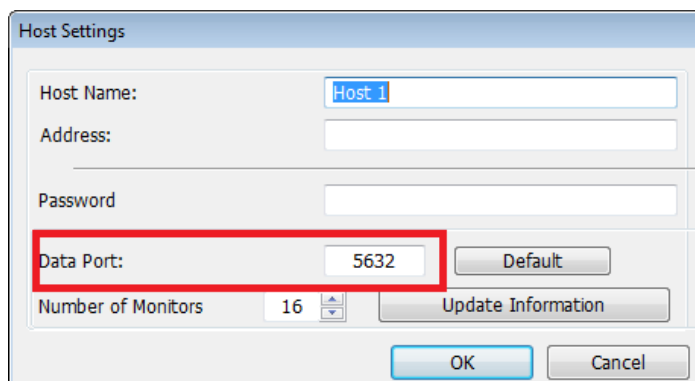
1. Install the Remote Desktop server to the remote server you intend to access.
  - A. Insert the Software DVD to the server, select **Install GeoVision Paid Software** and click **Yes** to accept the License Agreement.
  - B. Click **GV-Remote Desktop Service** and follow the on-screen instructions. The Remote Desktop server is installed shortly and automatically enabled. The RDS icon  appears in the system tray.
2. Define the display area of the remote server and access other settings.
  - A. Right-click the RDS icon  and select **Stop Service**.
  - B. Right-click the RDS icon  again and select **Configure**. This dialog box appears.



- **Autorun When Windows Starts:** automatically activates Remote Desktop Service when Windows starts.
  - **Refresh Rate:** defines how quickly this remote server refreshes while being accessed. By default, the **Slow** option is selected.
  - **Service Port:** corresponds to the Data port for Remote Desktop Service in Control Center Server. By default it is 5632.
  - **Password:** sets a password requirement for any remote access of this server.
- C. If the remote server contains more than one monitor, select a monitor using the drop-down list under Set Viewing Range.
- D. To define the display area, select **Setup** and draw a square on the monitor. These options appear.
- **Save:** Saves the selected display area.
  - **Abort:** Gives up the configuration.
  - **Full Screen:** Sets the display area to full screen.
- E. After you have defined the display area, click **Save** to store the configuration.
- F. Right-click the RDS icon  and select **Start Service**.


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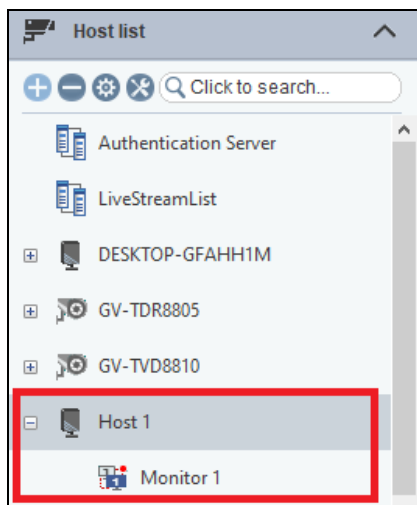
**Tip:** To access the Data port in Control Center Server, right-click **Remote Desktop Service** from the Host List and select **Add Remote Desktop**.



The image shows a 'Host Settings' dialog box with the following fields and controls:

- Host Name: Host 1
- Address: (empty)
- Password: (empty)
- Data Port: 5632 (highlighted with a red box) with a 'Default' button next to it.
- Number of Monitors: 16 (with a dropdown arrow)
- Buttons: 'Update Information', 'OK', and 'Cancel'.

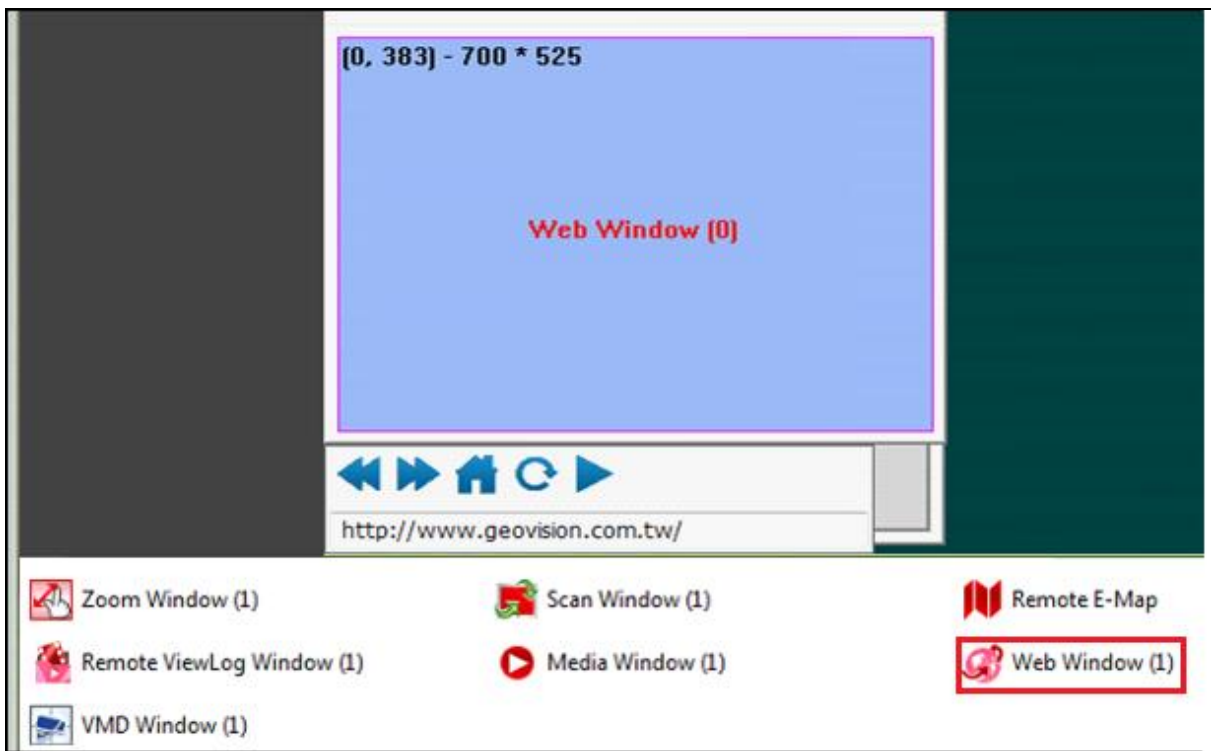
3. Add and connect the Remote Desktop server to Control Center.
  - A. On the Control Center's Host List, click the **Add** button > **Add Host** > **Add Remote Desktop**. Type the IP of the remote desktop. Optionally, you can set up a password for remote access in the field of **Password**.
  - B. On the upper right corner of the **Device Information** section, click the **Update Information** button .
  - C. The remote server and the installed monitors are shown in the Host List and connected to Control Center. In this example, the remote server contains one monitor.








4. Drag the monitor to the Channel List of the Video Wall Server you wish to monitor the remote desktop and configure the position and size of the remote desktop on Video Wall. For details, see Step 5 in 8.4.3 *Creating Video Wall Layout*.

## Displaying Web Pages on Video Wall


You can display and operate up to **16** web pages on the Video Wall.



Controls on the Web Window:

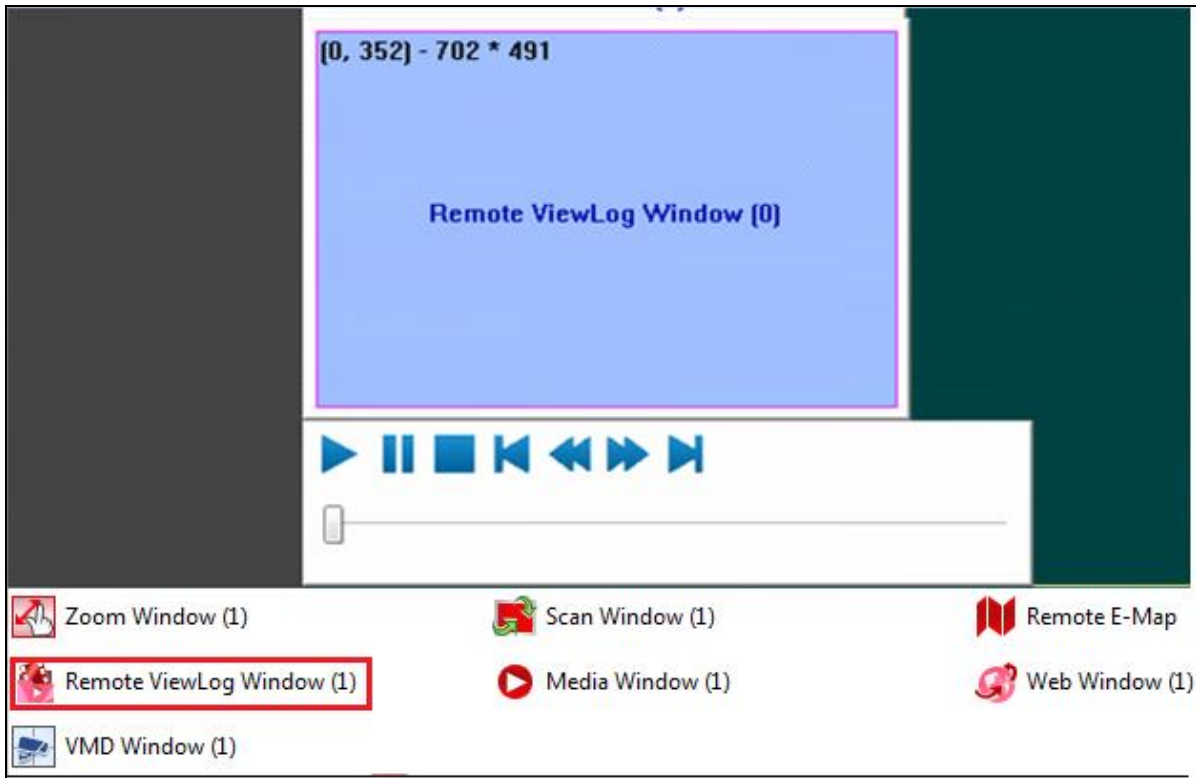
Icon	Function
	Click to go back to the previous page.
	Click to go to the next page.
	Click to go to the home page.
	Click to refresh the Web page.
	Click to link to the specified Web address.

Follow the steps below to display a Web page on Video Wall:

1. Drag and drop the **Web Window** icon to the layout.
2. Adjust the size and position of the Web Window. For details, Step 5 in *8.4.3 Creating Video Wall Layout*.
3. Type the Web address in the blank and click .
4. To add another Web Window, right-click the space in Channel List and select **Add Web Window**.
5. To delete a Web Window, right-click its icon in Channel List and select **Remove**.

## Video Playback on Video Wall

You can display and play back up to **16** recordings (of last 5 minutes) on Video Wall.



1. Drag and drop the **Remote ViewLog Window** icon to the layout.
6. Adjust the size and position of the Remote ViewLog Window. For details, Step 5 in 8.4.3 *Creating Video Wall Layout*.
2. Drag and drop a camera from the Host List to the Remote ViewLog Window for playback. Events recorded from the previous 5 minutes are played back on the Video Wall.
3. To add another Remote ViewLog Window, right-click the space in Channel List and select **Add Remote ViewLog Window**.
4. To delete a Remove ViewLog Window, right-click the icon in Channel List and select **Remove**.

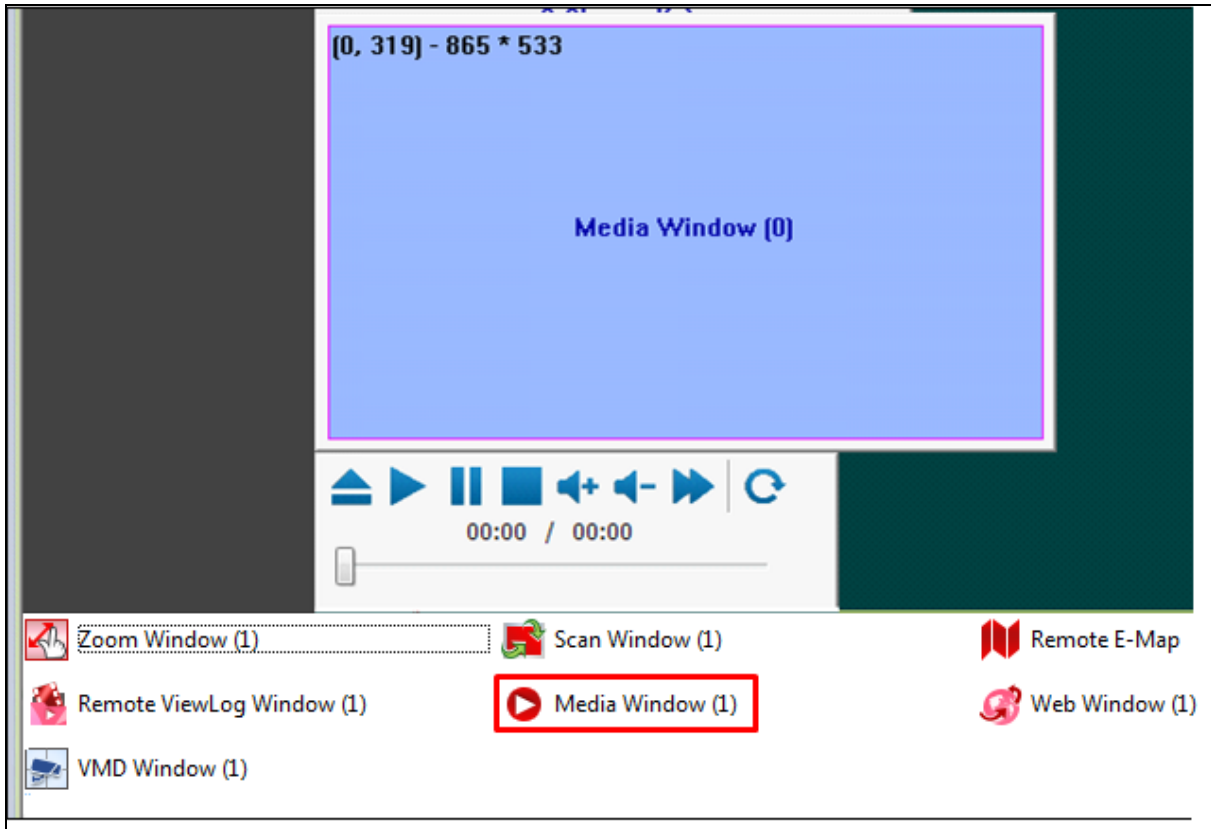
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**Note:** Make sure you have enabled **Remote ViewLog service** on the GV-IP Devices and GV-NVR / VMS for this application.

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### Video Playback on Video Wall with Media Window

You can play back and display up to **16** media files on Video Wall. File types supported by Microsoft Media Player are supported for playback in Media Window.

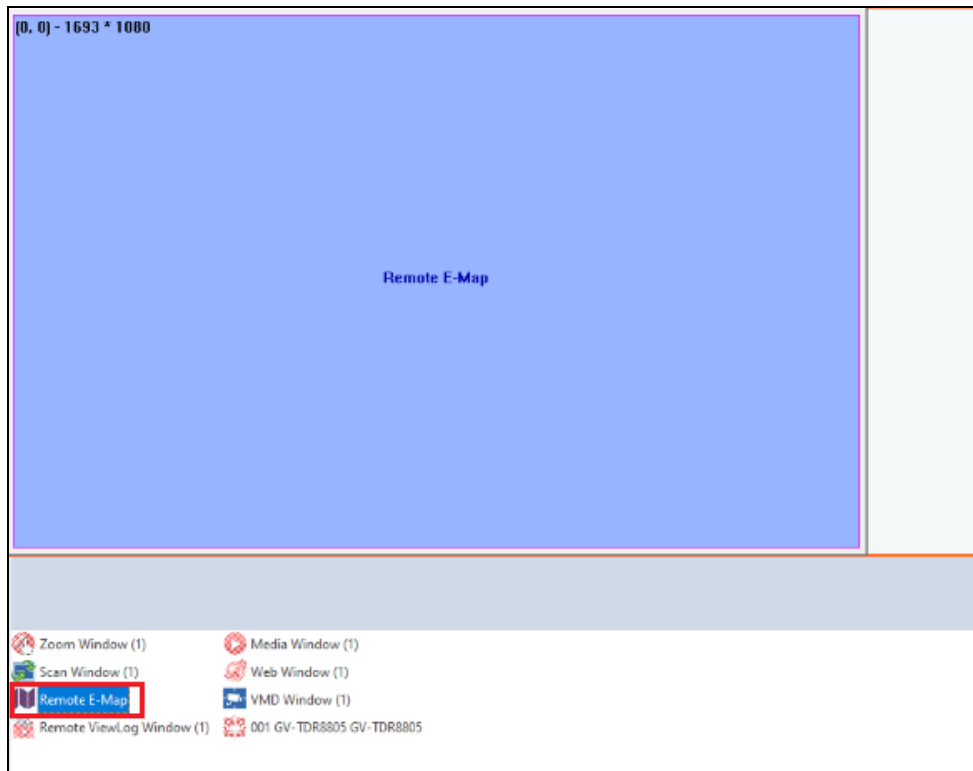


1. Drag and drop the **Media Window** icon to the layout.
7. Adjust the size and position of the created Media Window. For details, Step 5 in 8.4.3 *Creating Video Wall Layout*.
2. Click the **Browse** button  to browse a file for playback. The recording is played back shortly.
3. To add another Media Window, right-click the space in Channel List and select **Add Media Window**.
4. To delete a Media Window, right-click its icon in Channel List and select **Remove**.

## 8.4.9 Displaying Live View from Remote E-Map

The Video Wall can be used to display live views enabled from Remote E-Map.

- Make sure you have selected **Video Wall** for Remote E-Map's view type. For details, see Step 3 in *8.1 Application Position*.
- Adjust the E-Map channel size and position on the Video Wall. See Step 5 in *8.4.3 Creating Video Wall Layout*.



- Right-click the E-Map channel to access more settings. See Step 7 in *8.4.3 Creating Video Wall Layout*.

---

**Tip:** You can have 1, 4, 9 or 16 divisions within the Remote E-Map channel by right-clicking the channel, selecting **Setup** and then **Division**.

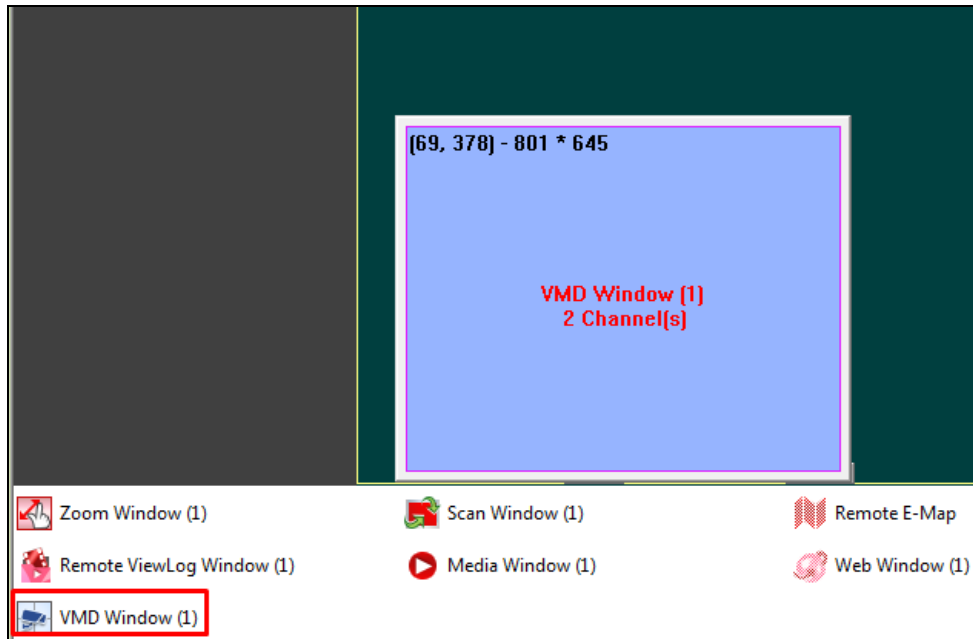
---

- When the layout is activated, live views from E-Map will be displayed on the Video Wall.

### 8.4.10 Setting Up a VMD Window

Pop-up live views can be displayed in up to **16** screen divisions on the VMD window immediately whenever assigned video analysis events, e.g. motion detection, occur.

1. Establish a Group with the channels for the pop-up display.
2. Drag and drop the **VMD Window** icon to the layout.



3. To configure the display setting including the position, caption and screen divisions, right-click the created VMD Window and select **Setup**.
4. Drag and drop the established group to the VMD Window.
5. To activate pop-up display, right-click the VMD Window and select **Activate**. A live view will pop up upon the assigned video analysis events.
6. To create another VMD Window, right-click the space in Channel List, select **Add VMD Window** and repeat Steps 1 to 6.
7. To remove a VMD Window, right-click its icon and select **remove**.

## 8.5 Adding GV-IP Decoder Box for Remote Monitor Display

You can add a GV-IP Decoder Box to GV-Control Center to be assigned the desired camera channels for remote monitor display. For details, see *6.2 Integration to GV-Control Center / GV-Edge Recording Manager* in [GV-IP Decoder Box Series and Display User's Manual](#).

# Chapter 9 Other Applications

## 9.1 Remote E-Map

The Remote E-Map is to monitor cameras and I/O devices on a map. The Remote E-Map can:

- illustrate the location of cameras and I/O devices with icons
- illustrate the surveillance zone of cameras
- signal motion and I/O events with blinking camera icons or blinking map areas
- play back recordings via camera icons.

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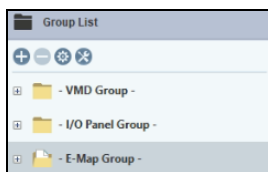
### Note:

1. Third-party cameras are not supported by the Remote E-Map.
  2. The Remote E-Map also supports the access control software GV-ASManager for monitoring vehicle lanes and doors. For which events to trigger a blinking icon on E-Map and specifications, see [9.1.7 Connecting to GV-ASManager](#).
  3. The Remote E-Map supports casting camera views, by specified channels or upon motion events, to GV-IP Decoder Box Optimal. For details, see [6.3 Dynamic Alerts via Control Center E-Map](#) in [GV-IP Decoder Box Series and Display User's Manual](#).
- 

### 9.1.1 Creating E-Map

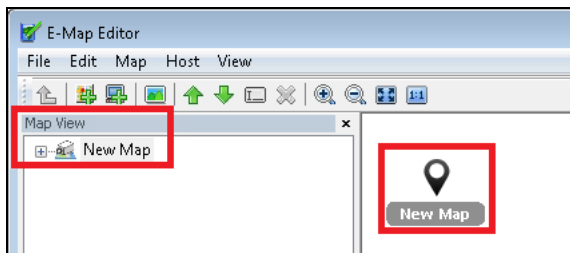
To create an E-Map file, follow the steps below.

1. Drag the desired hosts from the Host List to the **E-Map Group**.



2. To create a map for the group of hosts, right-click **E-Map Group** > **E-Map Editor**.

- Click the **Add Map** button on the toolbar. A New Map file is created in Map View and the Floor Plan window separately.



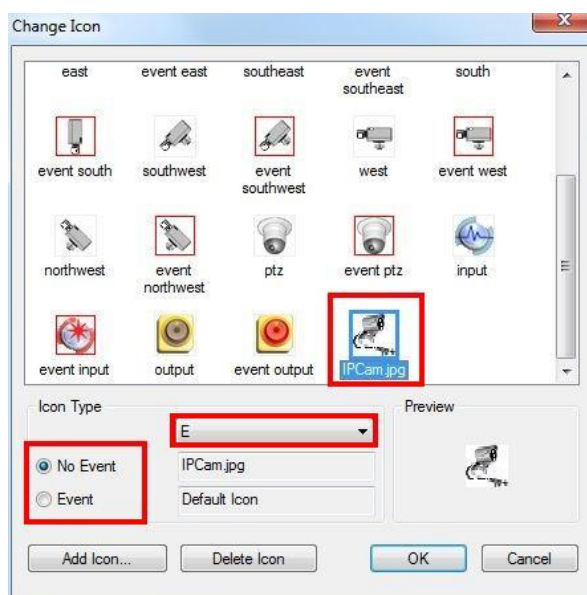
- Click the **New Map** file in Map View, and click the **Load Map** button (No. 4, 9.1.2 *The E-Map Editor Window*) to import a graphic file. The file opens in the Floor Plan window.
- Drag and drop the icons from Host View (No. 15, 9.1.2 *The E-Map Editor Window*) onto the map in the Floor Plan window.
- To change the orientation of the default camera icon, right-click the camera from the Host View, and select an orientation.
- To change the camera / IO icon to your own, right-click the camera / IO from the Host View, and add your own icon.

---

**Note:** Make sure the icon file is of 32 x 32 pixels or smaller.

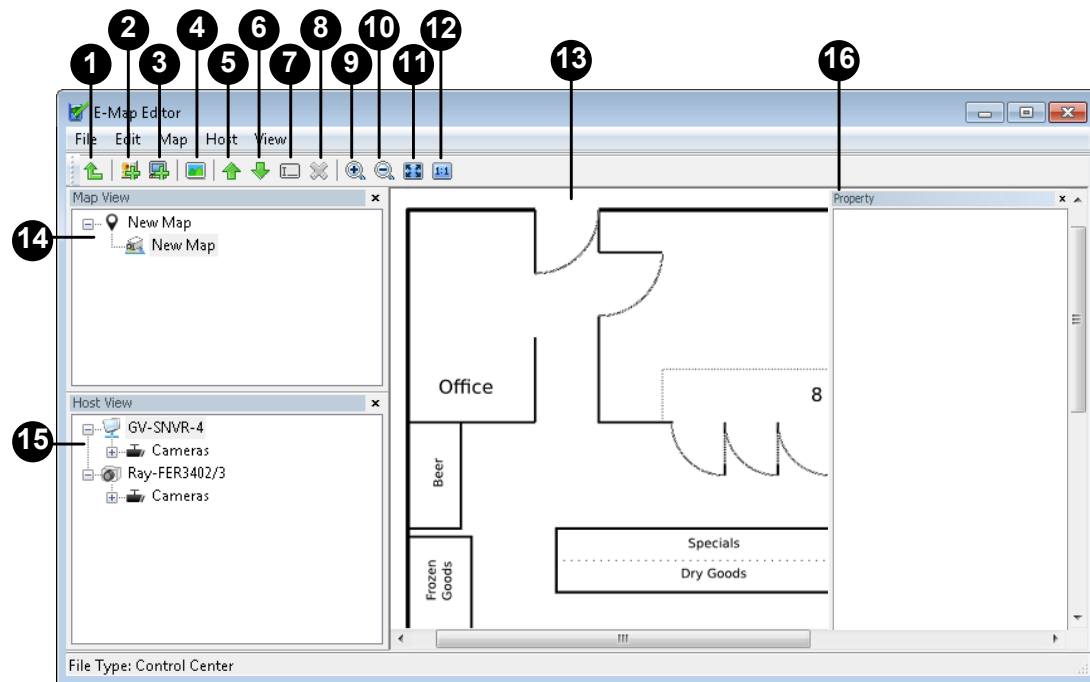
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Define the condition that the icon appears by selecting **No Event** or **Event** and select the icon orientation using the drop-down list. You can set different icons for an event and no-event situation. In this example, the icon of IPCam.jpg appears on the map when no event occurs and when an event occurs, the icon changes to the default one.



- Click **File** in the window menu, and select **Save to Control Center** to save the created map file to the Control Center folder or **Save to File** to save the file to another directory.

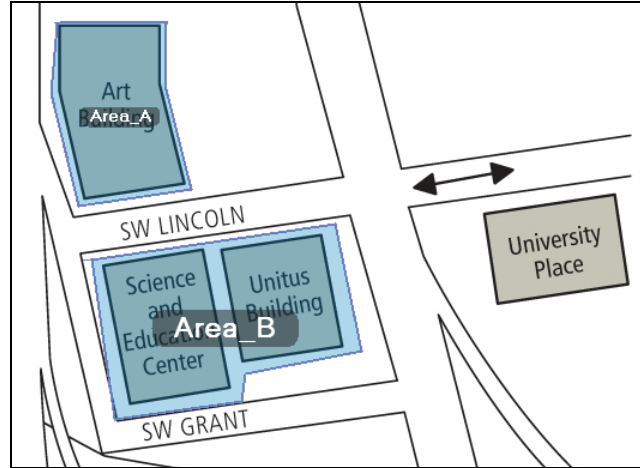
## 9.1.2 The E-Map Editor Window



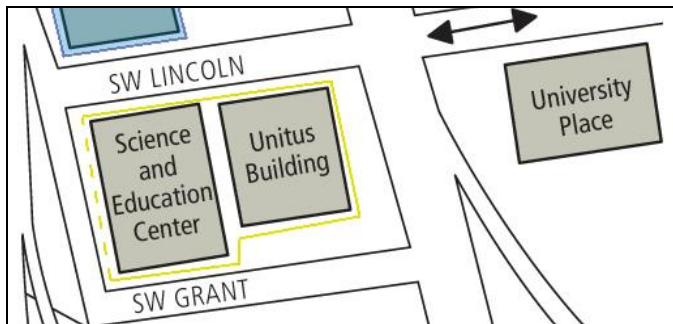
No.	Name	Description
1	Up	Return to the previous map file.
2	Add Map	Add a map file.
3	Add Host	Add a host folder in the Host View.
4	Load Map	Import a floor plan.
5	Move Up	Move the selected map up in the list.
6	Move Down	Move the selected map down in the list.
7	Rename	Rename a map file / folder.
8	Delete	Delete a map file / folder.
9	Zoom In	Zoom in on the floor plan.
10	Zoom Out	Zoom out on the floor plan
11	Fit to Screen	Fit the floor plan to the E-Map Editor Window.
12	Actual Size	Show the floor plan in its original size.
13	Floor Plan	The window displays the imported graphic file.
14	Map View	Tree view of map files / folders.
15	Host View	Tree view of host folders.
16	Property	Adjust the property of view zone

### 9.1.3 Setting up the Polygonal Area

The Polygonal Map function helps you quickly locate a triggered device. Draw an area on the map and it will flash when any device within the area is triggered.



1. In the E-Map Editor window, click to highlight a map or an I/O icon, and select **Edit Polygonal Map** or **Edit Polygonal IO**.
2. Click on the map to start drawing a polygonal shape, indicated by a yellow dotted line.

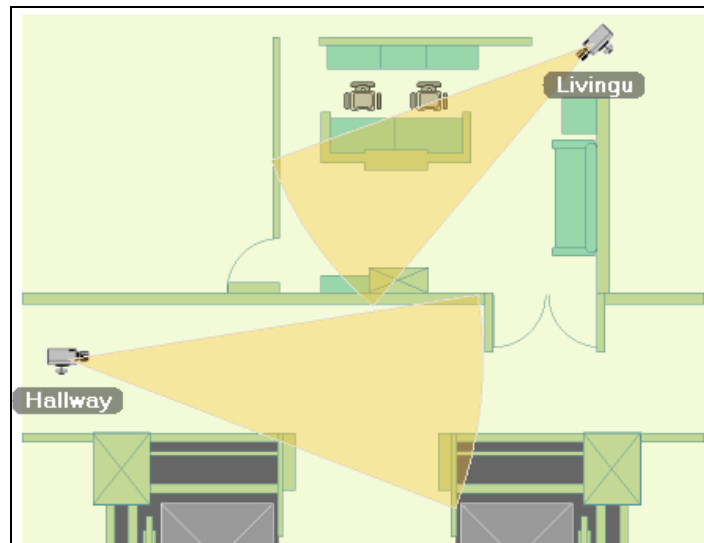


3. After closing the shape, right-click the map and select **Finish**.


The enclosed area will be colored in blue. When a device placed within the polygonal map is triggered, the blue area will flash in blue and red.

### 9.1.4 Setting up the View Zone

The View Zone function illustrates the monitored area of each camera on the E-Map.

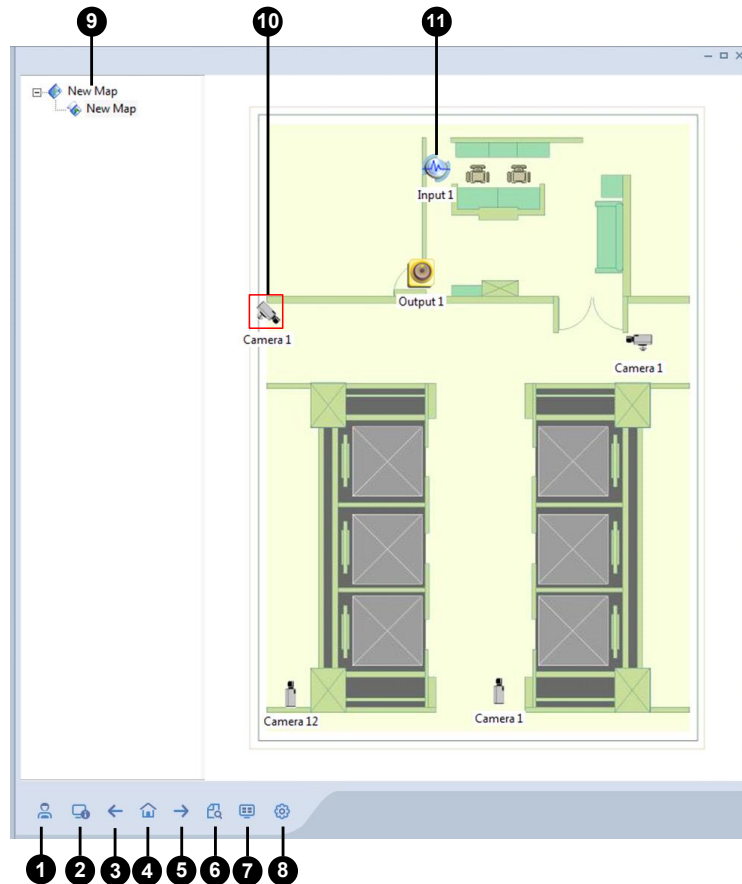


1. In the E-Map Editor window, click to highlight a camera icon, and select **Edit View Zone**.
2. Move the mouse to adjust the size and direction of the monitored area.
3. Right-click the map and select **Finish** to finalize the zone.
4. You can also adjust the property of the view zone from the Property menu.

Property	
Name	Camera 1
Direction	 ▼
View Angle(Degree)	30
View Radius(Pixels)	222

## 9.1.5 The Remote E-Map Window

You can monitor events using the E-Map. When any events are detected on connected hosts, the associated camera or input icon on the E-Map will flash to alert the operator. Clicking the camera icon will bring up its live view for immediate investigation. To open the monitoring Remote E-Map window, right-click **E-Map Group > Remote E-Map**.

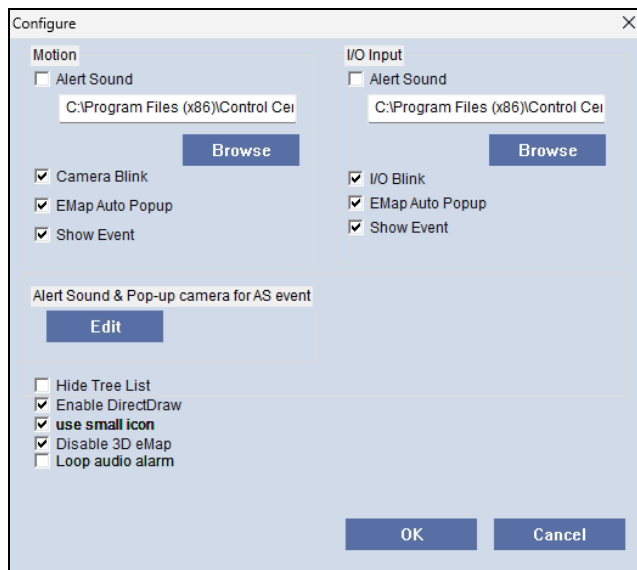


No.	Name	Description
1	Login	Log in up to 500 hosts.
2	Host Information	View the information of incoming events upon motion detected and I/O devices triggered.
3	Previous	Go to the previous map file.
4	Home	Back to the top of the tree view.
5	Next	Go to the next map file.
6	ViewLog	Access the Remote ViewLog function.
7	Decoder Box	Click and select the Decoder Box to which you want to cast the channels. For details, see 6.3 <i>Dynamic Alerts via Control Center E-Map</i> in <a href="#">GV-IP Decoder Box Series and Display User's Manual</a> .

8	Configure	Configure the Remote E-Map.
9	Tree List	The list displays all created map files and folders.
10	Blinking Icon	The blinking icon represents a triggered camera or I/O device.
11	Output Icon	Click to manually force the output device.

### 9.1.6 Configuring the Remote E-Map

Click the **Configure** button (No. 7, 9.1.5 *The Remote E-Map Window*) to access the following settings.



- **Alert Sound:** Assign a .wav file to alert the operator when cameras or input devices are triggered.
- **Camera Blink, I/O Blink:** When cameras or input devices are triggered, the icons will flash in the map.
- **EMap Auto Popup:** When cameras or input devices are triggered, the associated map will automatically pop up when the Remote E-Map window is minimized.
- **Show Event:** Display the information of triggered events in the Host Information window.
- **Alert Sound & Pop-Up Camera for AS Event:** Click **Edit** to configure advanced settings for AS events.
  - ⊙ **AS Event List:** Select a GV-ASManager door event.
  - ⊙ **Alert Sound:** Assign a .wav file to alert the operator when the selected door event occurs on GV-ASManager.
  - ⊙ **Blink:** When the selected door event is triggered, the icon will flash on the map.
  - ⊙ **Pop-up camera for AS event:** When the selected door event occurs on GV-ASManager, the associated live view will pop up in the Remote E-Map window.

- **Hide Tree List:** Hide the tree list.
- **Enable DirectDraw:** Enabled by default to speed up graphics rendering. Some graphics cards might not support DirectDraw and can produce distorted frames. In such case, disable the function.
- **Use Small Icon:** Display smaller icons for cameras and I/O devices.
- **Disable 3D EMap:** Disable the 3D E-Map function.
- **Loop Audio Alarm:** When **Alert Sound** is enabled, the assigned .wav file will play repeatedly until manually stopped by the operator.

### 9.1.7 Connecting to GV-ASManager

You can create an E-Map for access control software GV-ASManager, and place the icons of vehicle lanes and doors on a map. When the following door events occur, you can configure the associated icons to flash and the live view to pop up if a camera is mapped. For details, see the previous subsection *9.1.6 Configuring the Remote E-Map*.

- Door Open
- Forced Open
- Duress
- Tamper
- Fire Alarm
- Held open
- Access Denied
- Tailgating

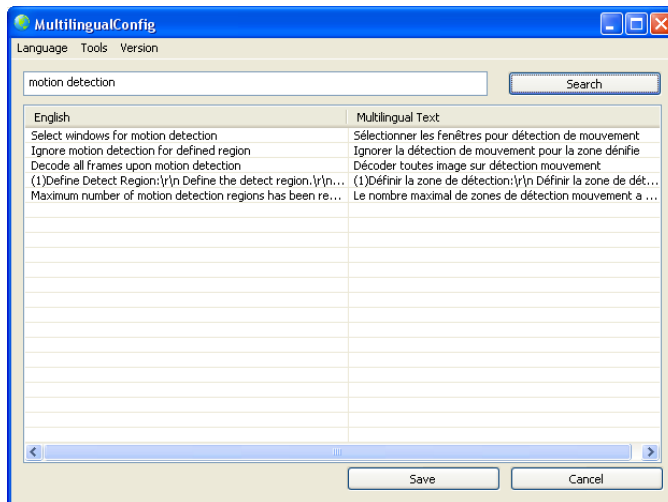
---

**Note:**

1. Make sure the **Remote Monitor Server** is enabled on GV-ASManager to allow remote access from GV-Control Center.
  2. Currently, the icon of vehicle lanes does not support any event alerts. You can only right-click the icon to access live view.
  3. When creating an E-Map, you can map up to 2 cameras for each Door and up to 7 cameras for each Vehicle Lane (including 4 Recognition Cameras and the first 3 Overview Cameras).
-



- In the **Search** field, type all or part of the text in English or the target language and click **Search**.

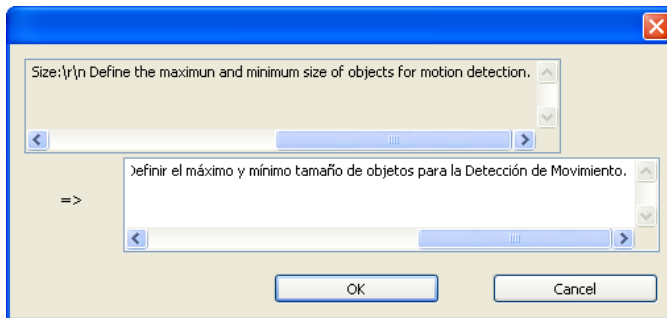



---

**Note:**

- The search is case sensitive.
  - Before making any revision, click **Tools** and select **Revision Note** to read the revision instructions.
- 

- Double-click the text you want to revise. This dialog box appears.



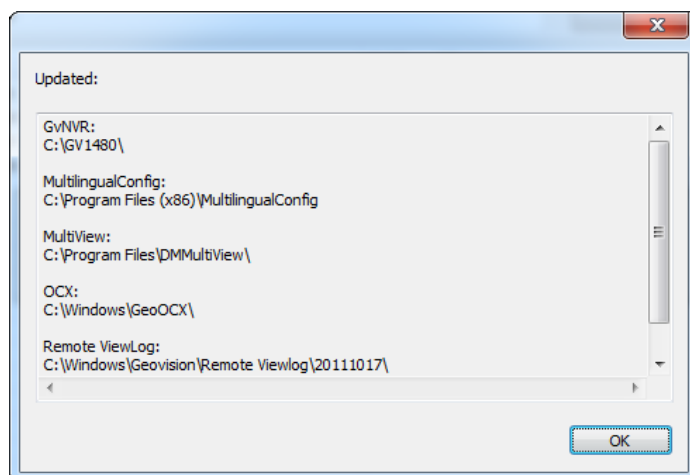
- Revise the translated text and click **OK**.
- 

**Tip:**

- The text may contain symbols such as %d or \n that instruct the application to perform certain functions. Be careful not to change the symbols in the translated text.
  - It is recommended to revise an entire sentence at a time instead of simply searching a single word and replacing the word in all other strings.
-

**Applying the revised text:**

1. To apply the revised translation to the application, click **Save**. For the following applications, the system will automatically locate the corresponding files on your computer and replace with the revised translation.
  - GV-Control Center V3.0 or later
  - GV-Video Wall Server V3.0 or later
  - GV-NVR / VMS
  - Remote ViewLog
  - GV-IP Device Utility
  - Multi View
  - Remote E-Map
  - Center V2
  - Vital Sign Monitor
  - Dispatch Server
  - GV-GIS
  - MCamCtrl Utility
  - POS Text Sender
  - Authentication Server
  - SMS Server
  - Audio Broadcast
  - Multicast
  - TwinDVR System
  - Bandwidth Control Client Site
  - Backup Viewer
  - Mobile Server
2. After applying the revision, a dialog box appears to show which applications have been revised. Click **OK**.



3. The message “*Do you want to apply the revised multilingual texts to another folder?*” appears. If the storage path for the application has been changed or if the associated application is not listed in the dialog box, click **Yes** and select the folder of the application.

To export or send the revised text:

1. To export the revision as an executable file, click **Tools, Export, and Export executable file**. You can copy the .exe file to another computer and apply the same translation revision by running the .exe file.
2. To report the translation revision back to GeoVision,
  - If your default mail client is Outlook, Outlook Express, or Mozilla Thunderbird, click **Tools, Export and Send Report** to send the revision.
  - If your default mail client is not set up or supported, click **Tools, Export, and Export text file**, and email the exported text file to [gvlocalize@geovision.com.tw](mailto:gvlocalize@geovision.com.tw)

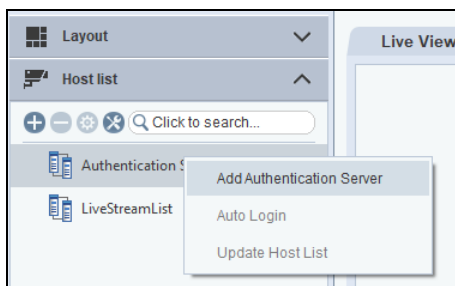
## 9.3 Authentication Server

GV-Control Center can integrate with the Authentication Server to access a specified group of GV-NVR / VMS hosts and thus the connected cameras of these hosts, through an Authentication user account.

For details on the settings of GV-Authentication Server, see *Authentication Server* in Chapter 9 of the [GV-VMS User's Manual V18](#) or [GV-VMS User's Manual V20](#).

Follow the steps below to connect GV-Control Center to GV-Authentication Server.

1. On the Host List, right-click **Authentication Server** > **Add Authentication Server**. The Use Remote Authentication Account dialog box appears.



2. Under **Network Setting**, type the IP address of the Authentication Server.
3. Under **Server Login**, type the Authorized ID, Authorized Password, and Client Name of the Authentication Server.
4. Under **User Account**, type the Account ID and Password created on the Authentication Server. Optionally select **Save Account** to enable GV-Control Center to memorize the ID and Password of the Authentication Server.

 A screenshot of the 'Use Remote Authentication Account' dialog box. It is divided into three sections:
 

- Network Setting:** Contains 'IP Address' (text input) and 'Port' (text input with '3663' and a refresh icon).
- Server Login:** Contains 'ID', 'Password', and 'Client Name' (text inputs).
- User Account:** Contains a 'Save Account' checkbox (unchecked), 'ID', and 'Password' (text inputs).

 At the bottom are 'OK' and 'Cancel' buttons.

5. Click **OK**. A list of hosts assigned to the user account created on the Authentication Server will be displayed in the Host List.

## 9.4 Multicast Setting

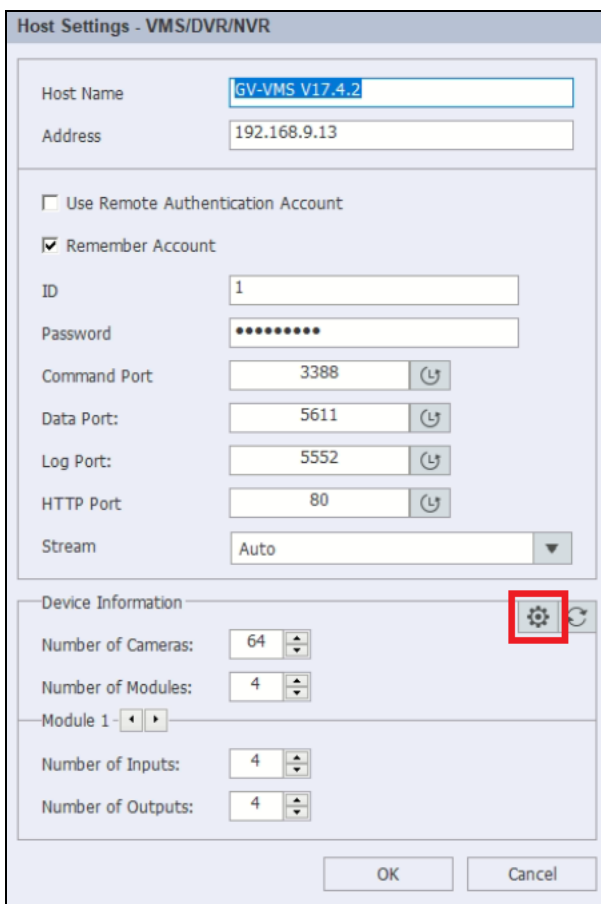
In a multicast environment, a GV-VMS can send a single stream to multiple Control Center servers on the LAN, thereby significantly reducing the VMS server's workload.

---

**Note:** The multicast function is only supported by GV-VMS V17.1 or later.

---

1. Add a GV-VMS host to one GV-Control Center (On the Host List, click the **Add** button > **Add Host**, and then select the **Video Management Software** catalog and the **VMS/DVR/NVR** product).



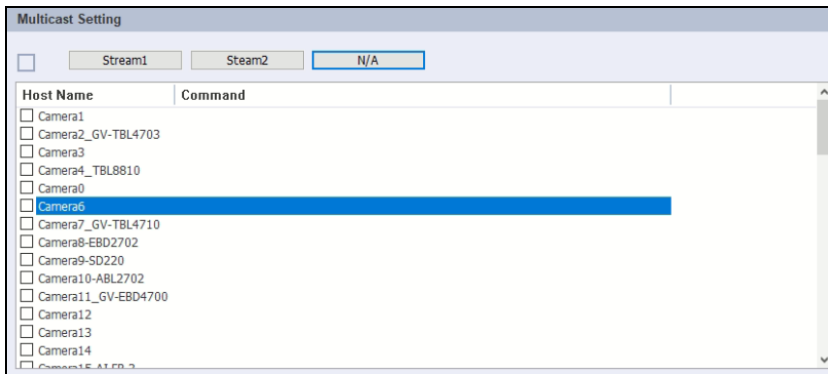
The image shows a 'Host Settings - VMS/DVR/NVR' dialog box. It contains the following fields and options:




- Host Name: GV-VMS V17.4.2
- Address: 192.168.9.13
- Use Remote Authentication Account
- Remember Account
- ID: 1
- Password: [masked]
- Command Port: 3388
- Data Port: 5611
- Log Port: 5552
- HTTP Port: 80
- Stream: Auto
- Device Information section (highlighted with a red box):
  - Number of Cameras: 64
  - Number of Modules: 4
  - Module 1: [dropdown]
  - Number of Inputs: 4
  - Number of Outputs: 4

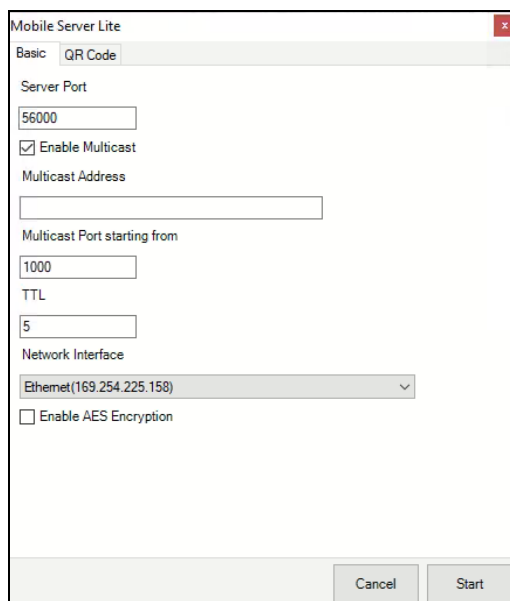
At the bottom of the dialog are 'OK' and 'Cancel' buttons.

2. Click the **Multicast Setting** button .

3. Select IP cameras to be streamed to the GV-Control Center, and select **Stream 1** (main stream) or **Stream 2** (sub stream) for live view display. Click **OK**.



4. Add the GV-VMS host to other GV-Control Centers to enable multicasting, as described above.
5. On the main screen of the GV-VMS, click **Home**  > **Toolbar**  > **Network**  > **Mobile Service**. This dialog box appears.






- ⊙ **Server Port:** Change the default port 56000 if necessary.
- ⊙ **Enable Multicast:** Enable the multicast function on the GV-VMS.
- ⊙ **Multicast Address:** Define a multicast address in the range of 239.0.0.0 to 239.255.255.255.
- ⊙ **Multicast Port Start:** Change the default port 1000 if necessary.
- ⊙ **TTL:** Change the default TTL (time to live) value 5 if necessary.
- ⊙ **Network Interface:** Select a network address.
- ⊙ **Enable AES Encryption:** Enable AES encryption to secure data and video transmission.

6. Click **Start**. The GV-VMS is now multicasting the live stream of selected IP cameras to multiple GV-Control Centers.

---

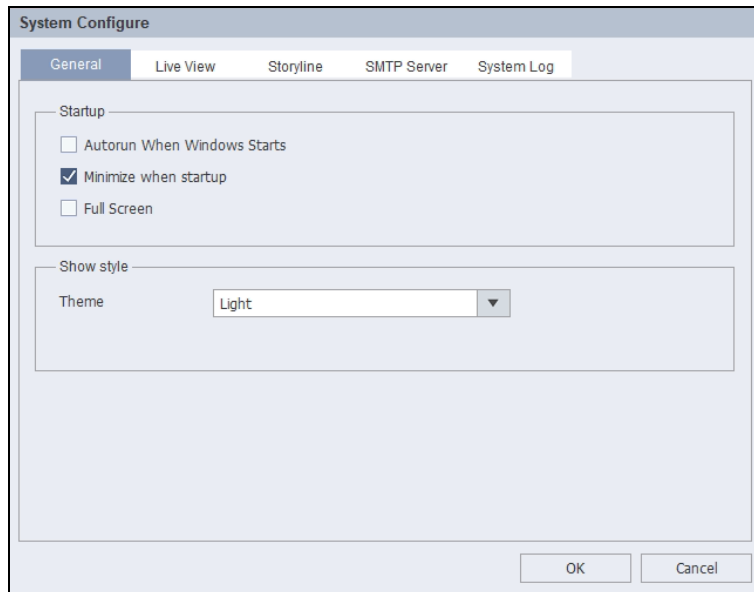
**IMPORTANT:**

1. The multicast setting only enables the live stream of GV-VMS to GV-Control Center. To have full Control Center services, on the main screen of GV-VMS, click **Home**  > **Toolbar**  > **Network**  > **Control Center Server** > **Control Center Service**).
  2. The live view display will inherit the settings from the multicast environment if both the Control Center Server and the multicast setting are enabled at the same time.
-

# Chapter 10 System Configuration

On the top right of the main screen, click **Configure**  > **Setup** > **System Configure** to have system configuration settings.

## 10.1 General Settings



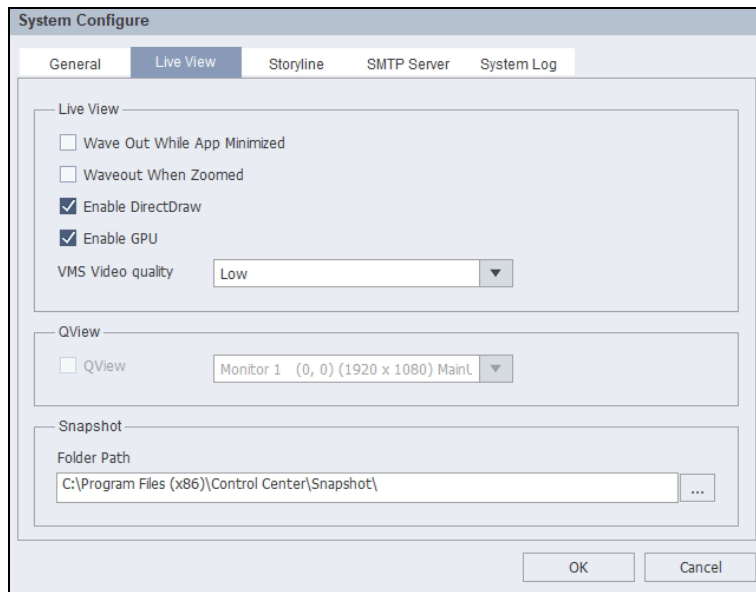
### [Startup]

- **Autorun When Windows Starts:** Automatically run GV-Control Center at Windows startup.
- **Minimize when startup:** Automatically minimize the GV-Control Center window to the taskbar upon startup.
- **Full Screen:** Automatically launches GV-Control Center in full screen mode upon startup.

### [Show style]

- **Theme:** Set the color theme of user interfaces to Light or Dark.

## 10.2 Live View Settings



### [Live View]

- **Wave Out While App Minimized:** Automatically receives live audio from the surveillance site when GV-Control Center is minimized to the taskbar.
- **Wave Out When Zoomed:** Automatically receives live audio from the surveillance site when zooming in on its live view, when available.
- **Enable DirectDraw:** Enabled by default. Enhances live view video performance.
- **Enable GPU:** Enabled by default. Uses GPU decoding to reduce CPU load and increase the maximum frame rate.
- **VMS Video Quality:** Select the stream quality from GV-VMS hosts (Low, Medium, or High). Higher quality increases network bitrate usage.

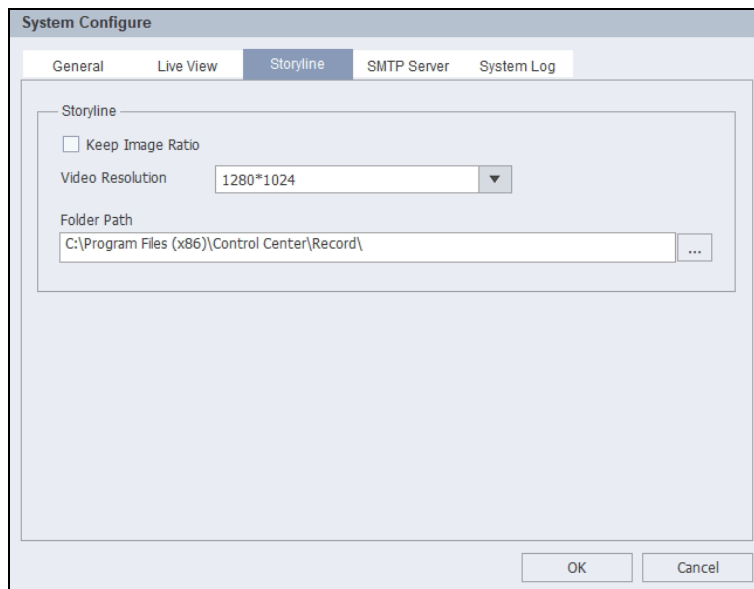
### [QView]

- **QView:** When at least two monitors are connected, enable QView to project a live view onto another monitor as soon as the live channel is clicked. See *4.6 Enabling QView Display*.

### [Snapshot]

- **Folder Path:** Define the storage paths for snapshots.


## 10.3 Storyline Settings

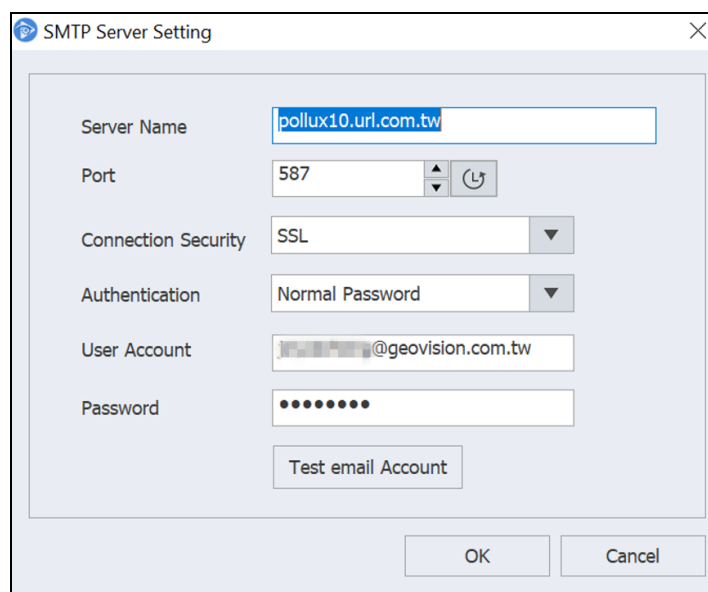
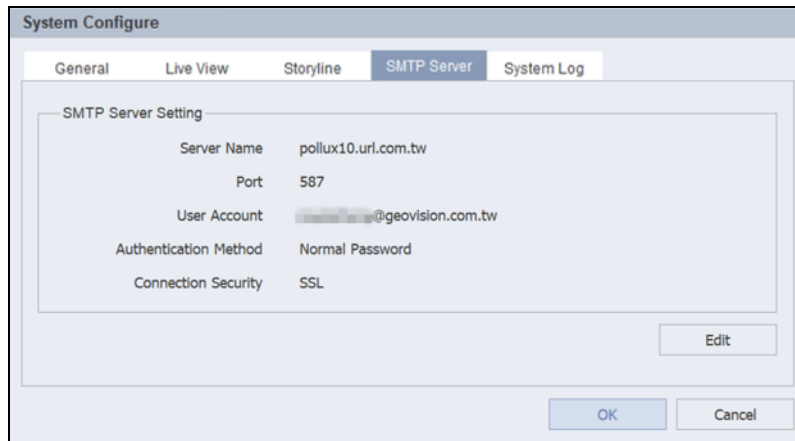


### [Storyline]

- **Keep Image Ratio:** Set the camera view proportional to its source image.
- **Video Resolution:** Set the resolution of the camera view.
- **Folder Path:** Define the storage paths for recordings.

## 10.4 SMTP Settings

On the main screen, click **Configure**  > **Setup** > **System Configure** > **SMTP Server**, and then click **Edit** to set up the outgoing email server, as below.



To configure the outgoing email server:

1. Obtain the SMTP server hostname and port number from your email provider.
2. Select **SSL** or **TLS** if the server requires a secure connection.
3. Enable authentication, and type your account name and password if login credentials are needed.
4. Click the **Test Email Account** button to send a test email and verify the setup. If the email fails to send, review and correct the above settings.

## 10.5 System Log Settings

The settings allow you to set up a SQL Server account for recording the system log. For details, see 2. *Setting up GV-Control Center* in this [technical notice](#).

The screenshot shows the 'System Configure' dialog box with the 'System Log' tab selected. The 'ODBC Service Settings' section includes the following fields:

- Activation: Enable (dropdown menu)
- Address: PC\SQLEXPRESS (text field)
- Name: SQLExpress (text field)
- Account: sa (text field)
- Password: (empty text field)

Below these fields, there is a checkbox labeled 'Keep Days' which is unchecked, followed by a text field containing '90' and the label 'Day(s)'. At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

## 10.6 Exporting and Importing Settings

### 10.6.1 Exporting Settings

You can back up the settings in the Host List and live view window.

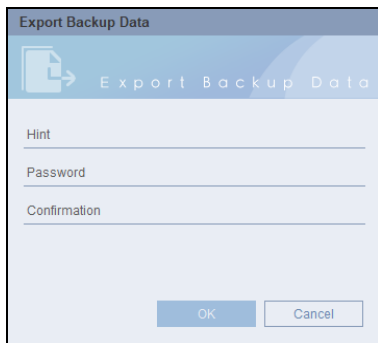
1. On the main window, click **Configure**  > **Export Data**. This dialog box appears.

The screenshot shows the 'Export Data' dialog box. It contains two checked checkboxes:

- Preference Settings
- Account

At the bottom of the dialog are 'OK' and 'Cancel' buttons.

2. Select which data to export and click **OK**. This dialog box appears.




3. Set up a password for the exported settings. This password is required when the settings are being imported.
4. Click **OK** to confirm. Select a storage location and modify the file name if necessary.
5. Click **Save**.

The settings are successfully backed up.

## 10.6.2 Importing Settings

You can import the previously exported settings.

1. On the main window, click **Configure**  > **Import Data**. A notification message appears.
2. Click **Yes** to confirm. Locate a previously backed-up file and click **Open**. The password request appears.
3. Type the password and click **OK**.
4. Select which data to import and click **OK**.

The settings are successfully imported.

## 10.7 Fast Key Settings

On the main screen, click **Configure**  > **Setup** > **Fast Key Config** to enable hotkeys, as below. The **General** tab is for the Main UI, **PTZ** for Live View, and **Playback** for playback.

Fastkey Config

General PTZ Playback

Hotkey	Function
<input type="checkbox"/> Ctrl+1...8	Live View1...8
<input type="checkbox"/> F,f	Full Screen
<input type="checkbox"/> Ctrl+F1/F2/F3/F4	Live View/Remote View/Log/Video Wall/Log
<input type="checkbox"/> F1/F2/F3/F4	Layout/Host List/Group List/Video Wall
<input type="checkbox"/> Z,z	Minimize
<input type="checkbox"/> X,x	Exit
<input type="checkbox"/> O,o	Change User
<input type="checkbox"/> P,p	Logout
<input type="checkbox"/> B,b	Broadcast Service
<input type="checkbox"/> I,i	I/O Central Panel

OK Cancel

Fastkey Config

General PTZ Playback

Hotkey	Function
<input type="checkbox"/> Up	Move up
<input type="checkbox"/> Down	Move down
<input type="checkbox"/> Left	Pan Left
<input type="checkbox"/> Right	Pan Right
<input type="checkbox"/> NumPad 1~9	1~9
<input type="checkbox"/> Alt+z	Zoom
<input type="checkbox"/> F7	Monitor Start/Monitor Stop
<input type="checkbox"/> M,m	Wave Out
<input type="checkbox"/> N,n	Microphone
<input type="checkbox"/> Page Up	Previous Camera
<input type="checkbox"/> Page Down	Next Camera
<input type="checkbox"/> Alt+s	Snap Shot
<input type="checkbox"/> Home	Zoom In
<input type="checkbox"/> End	Zoom Out
<input type="checkbox"/> Insert	Focus In
<input type="checkbox"/> Delete	Focus Out
<input type="checkbox"/> A,a	Auto Focus
<input type="checkbox"/> H,h	Home

OK Cancel

Fastkey Config

General PTZ Playback

Hotkey	Function
<input type="checkbox"/> Enter	Play
<input type="checkbox"/> Back	Rewind
<input type="checkbox"/> Space	Pause
<input type="checkbox"/> *	Speed Up
<input type="checkbox"/> /	Speed Down
<input type="checkbox"/> Page Up	Prev Frame
<input type="checkbox"/> Page Down	Next Frame

OK Cancel

# Chapter 11 Account Management

This chapter covers account settings in GV-Control Center, including account creation, user privilege management, and security configuration.

## 11.1 User


To access account-related settings, click the **account ID** at the top right of the main screen > **Account Setup**. The Account Management dialog box appears. The **User** tab allows editing login credentials, creating user accounts, and managing user privileges.

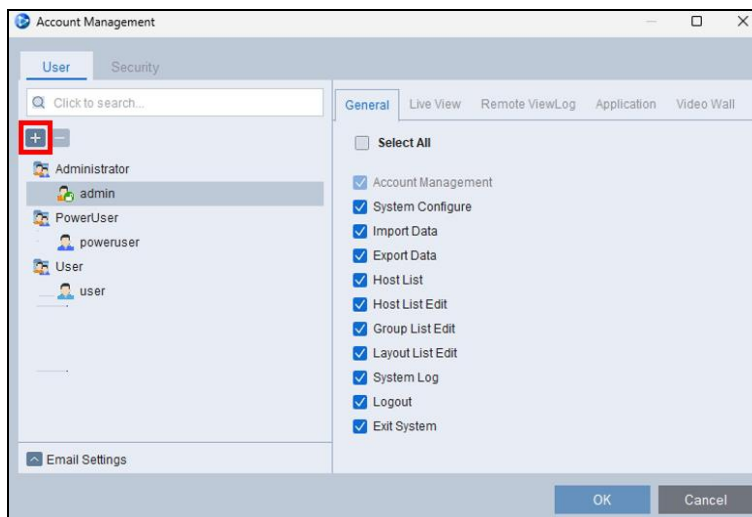
### 11.1.1 Editing Login Credentials

See 2.2 *Login Account Settings* for details on changing the username and password of the account, and enabling automatic login.

### 11.1.2 Creating User Accounts

You can create user accounts.

1. Click the  icon at the left to create an Administrator, Power User, or User account. See 11.1.3 *Managing User Privileges* for the differences between the user types.



2. Type the username and password, confirm the password, and type the password hint.

**Account Password Setting**

Change Password

\_\_\_\_\_

New Password

For security, your new password must be at least 8 characters long and include characters from at least 3 of the following 4 categories: uppercase letters (A-Z), lowercase letters (a-z), digits (0-9), and non-alphanumeric characters (~!@#%&\*( )\_+=[]\{}|;:'",./<>?). Your username must not be used as a password.

Confirmation

\_\_\_\_\_

Hint

\_\_\_\_\_

OK Cancel

---

**Note:** For security, your new password must be at least 8 characters long and include characters from at least 3 of the following 4 categories: uppercase letters (A-Z), lowercase letters (a-z), digits (0-9), and non-alphanumeric characters (~!@#%&\*( )\_+=[]\{}|;:'",./<>?). Your username must not be used as a password.

---

3. To enable users to receive a reset email if they forget their password, select the user, expand the **Email Setting** option at the bottom left, and type the user's email address. See *10.4 SMTP Settings* for details on setting up the outgoing email server.

### 11.1.3 Managing User Privileges

Different user types have varying initial access levels, which can be adjusted by Administrator account users as needed.

The following user types are available.

1. **Administrator:** Full access to all features by default.
2. **Power User:** No access to Account Management, which cannot be enabled. Initially restricted from specific settings — all configurable later.
3. **User:** No access to Account Management, which cannot be enabled. Initially restricted from specific settings — all configurable later.

---

**Note:** Live View Setting manages access to all controls in the Live View window. These privileges – Monitor Start / Stop, Advanced Video Attributes, and PTZ Control – become available to Administrator account users in Account Management only after Live View Setting is enabled.

---

Administrator account users can adjust user privileges across 5 tabs: General, Live View, Remote ViewLog, Application, and Video Wall.

**General:**

General Live View Remote ViewLog Application Video Wall

Select All

- Account Management
- System Configure
- Import Data
- Export Data
- Host List
- Host List Edit
- Group List Edit
- Layout List Edit
- System Log
- Logout
- Exit System

**Live View:**

General Live View Remote ViewLog Application Video Wall

Select All

- Live View
- Wave Out
- Microphone
- Snap Shot
- Live View Setting
- Monitor Start
- Monitor Stop
- Advanced Video Attributes
- PTZ Control

**Remote ViewLog:**

General Live View Remote ViewLog Application Video Wall

Select All

- Remote ViewLog
- Instant Play
- Delete Remote ViewLog Data
- Backup/Export Remote ViewLog Data

**Application**

General Live View Remote ViewLog Application Video Wall

Select All

- RemoteDVR
- Remote Desktop
- Execute VMD System
- Exit VMD System
- Execute Remote E-Map
- Exit Remote E-Map
- Execute I/O Central Panel
- Exit Remote E-Map
- Execute Broadcast Service
- Exit Broadcast Service
- Execute Panorama
- Exit Panorama
- Edit I/O Central Panel
- Execute Face Enroll Manager
- FR Watch Log
- Execute FR Watch
- Exit FR Watch
- Execute ASManager View

- ExitASManager View
- Operate ASManagerView Devices
- AI Watch Log
- Execute AI Watch
- ExitAI Watch

**Video Wall:**

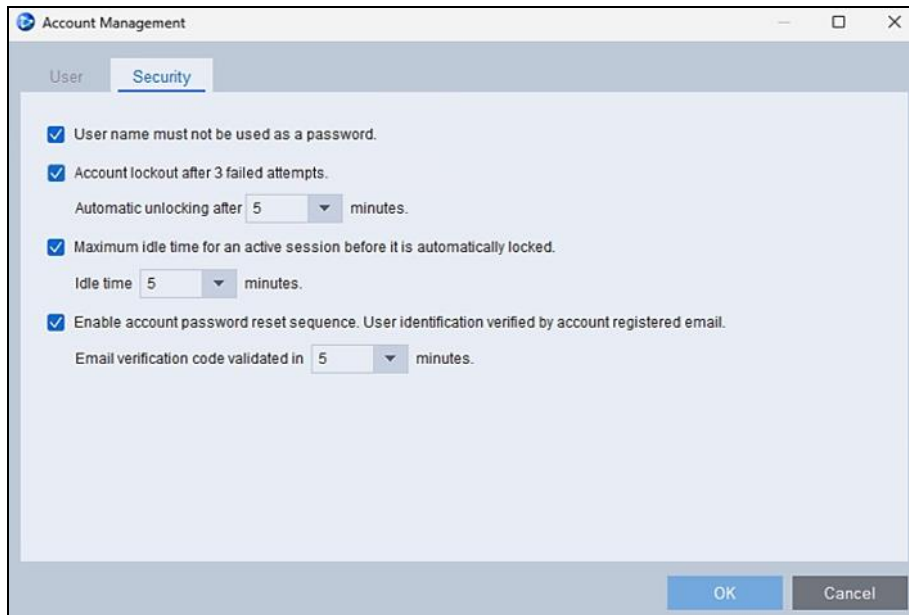
General Live View Remote ViewLog Application Video Wall

Select All

- Edit Hosts
- Remote Control
- Edit Layouts
- Control Layout

## 11.2 Security

To access account-related settings, click **Account Settings** on the main screen > **Account Setup** > **Security**. The **Security** tab allows configuring security settings.



- **Disallow Username as Password:** The username cannot be used as a password.
- **Login Attempt Lockout:** The account will automatically lock after 3 failed attempts. Define the lockout duration as 5, 15, or 30 minutes. The account will automatically unlock after the defined duration.
- **Session Idle Lock:** Specifies the maximum idle time for an active session before it is automatically locked. Options include 1, 5, 10, or 15 minutes of inactivity.
- **Enable Password Reset Sequence:** Enables the password reset sequence. User identification is verified via the account's registered email. The email verification code is valid for 1, 5, 10, 15, or 30 minutes.

## 11.3 Account Login After Forgotten Password

To enable users to regain access after forgetting their passwords, users must configure the outgoing email server, enter the recipient email address, enable the password reset sequence, and follow the password reset sequence.

### Step 1: Configure Outgoing Email Server:

See *10.4 SMTP Settings* for details on configuring the outgoing email server.

### Step 2: Enter Recipient Email Address

See Step 3, *11.1.2 Creating User Accounts* for details on entering the recipient's email address to enable password reset verification emails.

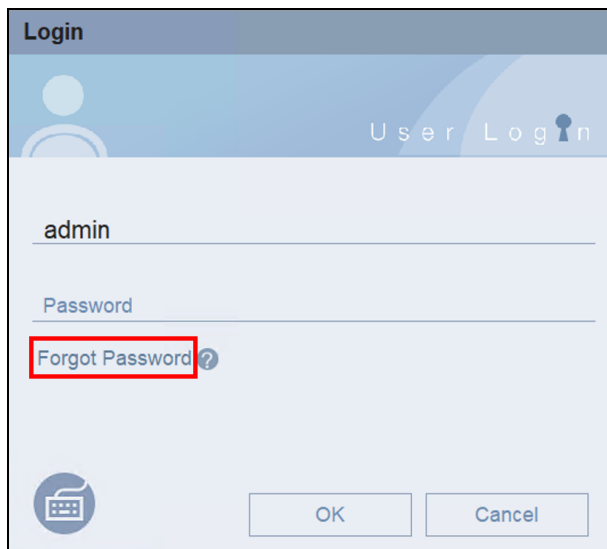
### Step 3: Enable Password Reset Sequence

See *Enable Password Reset Sequence* in *11.2 Security* for details on enabling the account password reset sequence.

### Step 4: Regain Access After Forgetting Password

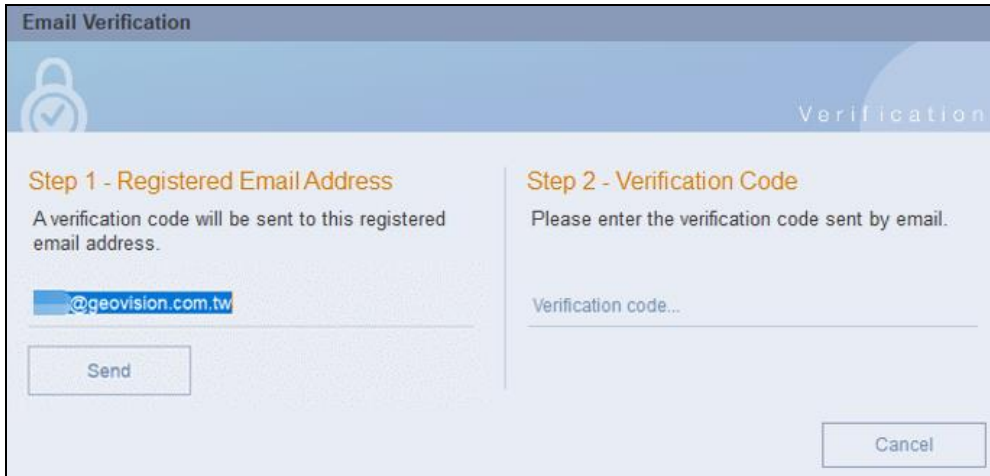
To regain access to GV-Control Center after forgetting your password, follow the steps below.

1. On the Login page, type the username and click **Forgot Password**.



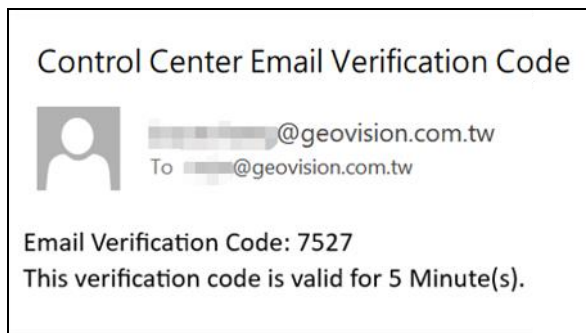
The screenshot shows a 'Login' dialog box with a light blue header and a white body. The header contains a user icon and the text 'User Login'. Below the header, there are two input fields: the first contains the username 'admin', and the second is labeled 'Password'. Below the password field, there is a link labeled 'Forgot Password?' with a question mark icon, which is highlighted with a red rectangular box. At the bottom of the dialog, there is a keyboard icon on the left and two buttons labeled 'OK' and 'Cancel' on the right.

- In the **Email Verification** dialog box, the previously registered email address appears. Click **Send**.

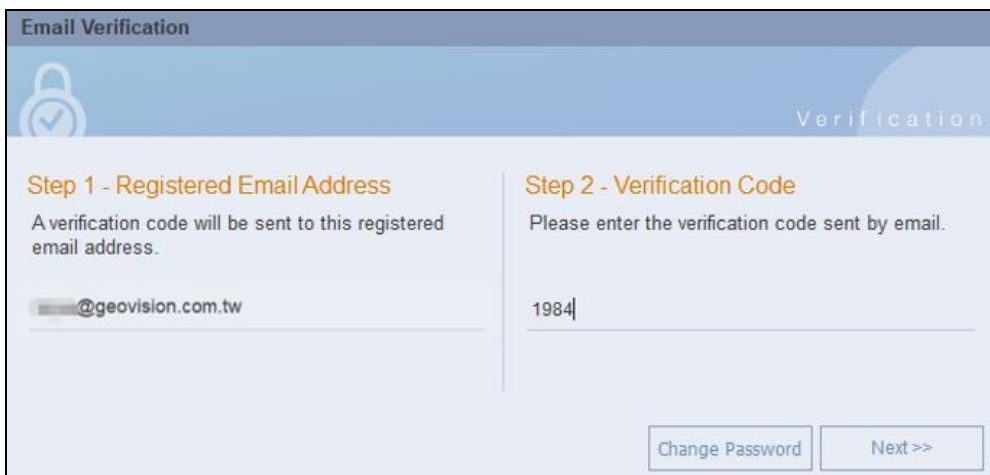


The screenshot shows the 'Email Verification' dialog box. The title bar reads 'Email Verification' and 'Verification'. The main area is divided into two steps. Step 1, 'Registered Email Address', contains the text 'A verification code will be sent to this registered email address.' Below this is a text input field containing a partially masked email address ending in '@geovision.com.tw'. A 'Send' button is located below the input field. Step 2, 'Verification Code', contains the text 'Please enter the verification code sent by email.' Below this is a text input field labeled 'Verification code...'. A 'Cancel' button is located at the bottom right of the dialog box.

- Check your email to see the verification code.



- In the Email Verification dialog box, type the Verification code. Optionally, click **Change Password** to reset the password. Click **Next**, and you can successfully log in.



The screenshot shows the 'Email Verification' dialog box at Step 2, 'Verification Code'. The text 'Please enter the verification code sent by email.' is displayed above a text input field containing the code '1984'. Below the input field are two buttons: 'Change Password' and 'Next >>'. The 'Send' button from Step 1 is no longer visible.

# Appendix A. GV-USB Dongle Upgrade

Note the following requirements and limitations for the Control Center:

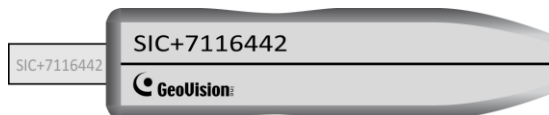
## Dongle Requirements

- An appropriate GV-USB dongle is required.
- It is required to install drivers for the GV-USB dongle to work.
- GV-USB dongle can be upgraded to include more functions, e.g. video wall.
- Using more than one GV-USB dongles of different software on the same computer is possible. However, **GV-Control Center** and **GV-Center V2** cannot be run together.

## Upgrading the Black Dongle

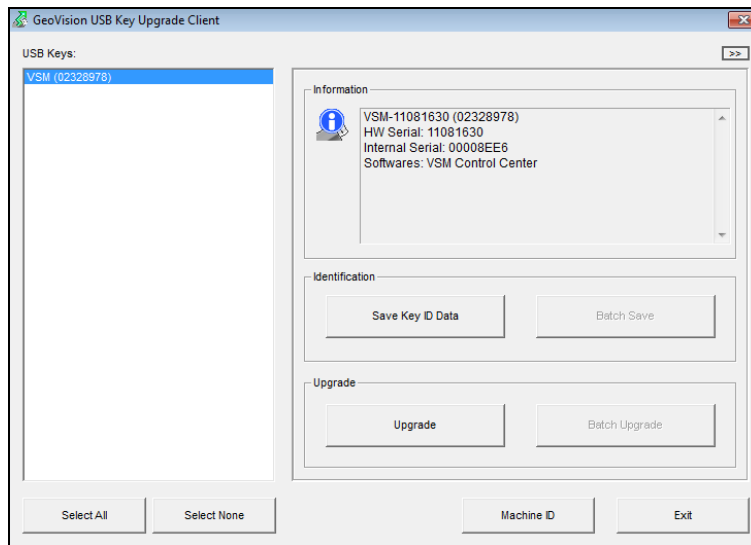
GV-USB dongle can be upgraded to include more functions for enhancing the system. You need to collect the data from your dongle and send it back to GeoVision for an upgrade. The upgrade is a charged service. To upgrade your dongle, follow the following steps:

1. Each dongle has its own serial number. Find it on the side of the dongle. Later this serial number will be used in naming the files for upgrading.



2. Insert the dongle to the computer.


3. In the GV folder, double-click **GVUsbKeyUpClient.exe**. This dialog box appears.

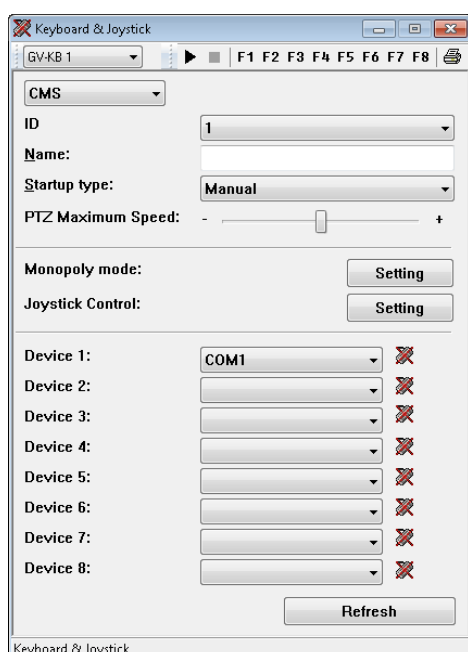



4. To retrieve the data from the dongle, click **Select All**. The information of the dongle is displayed in the information field. Note the displayed number of “HW Serial” should be the same as that on the dongle.
5. To save the data to your local computer, click **Save Key ID Data**. If you have more than one dongle to upgrade, click **Batch Save**. Different dongle data will be saved as separate files. The file will be named after the serial number on the dongle and saved as **\*.out**. For example, if a dongle serial number is 7116442, the file is named “NVR-7116442.out”.
6. Send this data file to GeoVision at [sales@geovision.com.tw](mailto:sales@geovision.com.tw). The GeoVision will examine the data file and send an **\*.in** file back to you. The file name also includes the serial number of that dongle. In this example, the data file you will receive is named “NVR-7116442.in”.
7. After you receive the updated file, insert the correct dongle matching the .in file you receive, and then run **GVUsbKeyUpClient.exe**.
8. Click **Select All** to read the dongle, click **Upgrade** and then open the updated file to upgrade the dongle. You can also select more than one dongle in the list and click **Batch Upgrade** to upgrade them at the same time. Make sure these dongles match the updated files you receive.

## Appendix B. PTZ Control Using GV-Joystick and/or GV-Keyboard

You need to run the following program in the background when using the GV-Joystick or GV-Keyboard to control PTZ. Up to **8** GV-Joysticks and/or GV-Keyboards can be used for PTZ control in Live View and Matrix.

1. On the top-right corner of the main screen, click **Configure**  > **GvKeyboard/Joystick**. The Keyboard & Joystick dialog box appears.



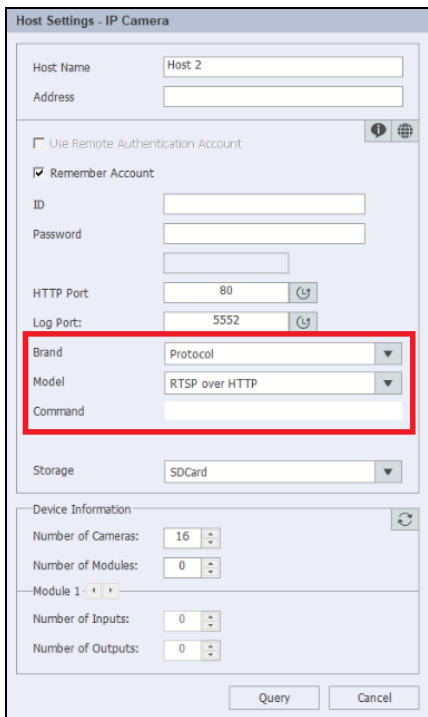
2. In the Device field,
  - For GV-Keyboard V3, select the **COM** port connected to the device.
  - For GV-Joystick V2 / V3, select **GeoVision Joystick** connected to the device.
3. Click the **Start Service** button . Then you can use the GV-Joystick or GV-Keyboard to control the camera.
4. If more than one GV-Joystick or GV-Keyboard is connected, repeat Step 2 to set up the device.

For details on how to use the devices, see [GV-Keyboard V3 User's Manual](#), [GV-Joystick V2 User's Manual](#), or [GV-Joystick V3 Installation Guide](#).

## Appendix C. RTSP Streaming

GV-Control Center supports IP video devices using RTSP standard. To connect the IP device compatible with RTSP standard:

1. Select **Protocol** from the **Brand** dropdown list.



2. Select one of the following options from the **Model** dropdown list.
  - **GV\_HTTP\_SDK\_RTSP**: Only for GeoVision SDK users, the RTSP protocol uses a HTTP port for video streaming from cameras.
  - **RTSP over HTTP**: The RTSP protocol uses a HTTP port for video streaming from cameras.
  - **RTSP over TCP**: The RTSP protocol uses a TCP port for video streaming from cameras.
  - **RTSP over UDP**: The RTSP protocol uses an UDP port for video streaming from cameras.
3. On the Command box, type the RTSP link address. For the RTSP command, please consult the documentation of your camera. For example:  
For an AXIS IP camera, type  
RTSP://<IP of the IP camera>/<codec>/media.amp

## Appendix D. Specifications

For details on GV-Control Center specifications, see the [datasheet](#).

For details on GV-Video Wall specifications, see the [datasheet](#).