GeoVision inc
The Vision of Security

Quick Start Guide

GV-VMS

Thank you for purchasing GV-VMS. This guide is designed to assist the new user in getting immediate results from the GV-VMS. For advanced information on how to use the GV-VMS, please refer to *GV-VMS User's Manual* online.

VMS1718-QG-D

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GeoVision, Inc.
9F, No. 246, Sec. 1, Neihu Rd.,
Neihu District, Taipei, Taiwan
Tel: +886-2-8797-8377
Fax: +886-2-8797-8335
http://www.geovision.com.tw

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Scan the following QR codes for product warranty and technical support policy:

[Warranty]

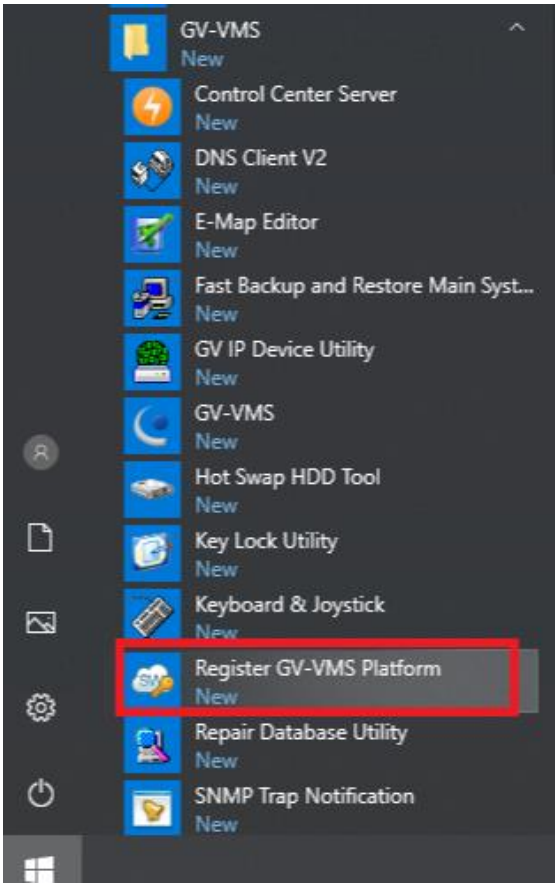
[Technical Support Policy]

GV-VMS Licensing

GV-VMS is a comprehensive video management system, and requires a purchased license starting from V18.1, that records up to 64 channels of GeoVision and/or third-party IP devices. Make sure your purchased *GV-Dongle* or *software license* has been inserted into or activated on the PC prior to running GV-VMS.

IMPORTANT:

1. For users who have purchased a software license, it must be registered through the **License Activation Tool** using the corresponding serial key. For details on software licensing, click here.



2. For users with GV-US dongle of earlier versions of GV-VMS, it must be upgraded to run V18.1 or later.

Contents

Chapter 1 Introduction

Welcome to the *GV-VMS Quick Start Guide.* Through this guide, you will learn the basic settings of GV-VMS. For the complete instructions, refer to *GV-VMS User's Manual*.

1.1 License

- **GV-VMS V17 (Free 32 GV Channels)**

GV-VMS V17 series supports connection of up to 64 IP channels, and up to 32 channels of GeoVision IP devices are for free. If you need to connect more than 32 channels of GeoVision IP devices or connect with third-party IP devices, additional licenses are required.

Supported Devices	Channels	License
GV-IP Devices Only	32 ch	No license required
	64 ch	**GV-VMS Pro** license required, 32 ch per license
GV + 3rd-Party IP Devices	16 ch	**Trial Version:** 16 channels of 3rd-Party IP devices
	32 ch	**3rd-Party** or **HD DVR** license required, in increments of 1 ch
	64 ch	2 licenses required: • **GV-VMS Pro** license, 32 ch per license. • **3rd-Party** or **HD DVR** license, in increments of 1 ch.

Note:

1. The licensing comes in two forms: *GV-USB dongle* and *software license*. The two are incompatible. If a GV-USB dongle has been inserted on the computer with the system, please remove it before using software licensing.
2. GV-USB dongle comes in internal and external dongles. Internal dongle is recommended for the Hardware Watchdog function, which restarts the PC when Windows crashes or freezes.
3. GeoVision offers a 60-day trial period that allows you to connect to 16 channels of third-party IP devices without license. Currently, you cannot remotely access the trial channels using remote applications.

Note for GV-VMS V17.4.5 or later:

1. The **HD DVR** license is only supported by GV-VMS V17.4.5 or later.
2. The **HD DVR** license is required for connecting UA-XVR and UA-XVL series (only **analog** channels supported)
3. The **3rd-Party** license is required for connecting UA-IP cameras.

GV-VMS V18 (for AI Integration)

GV-VMS V18.1 or later is a paid software for AI integration that supports connection of up to 64 IP channels, and can connect up to 32 channels of GeoVision IP devices upon initial purchase. If you need to connect more than 32 channels of GeoVision IP devices or connect with third-party IP devices, additional licenses are required.

Supported Devices	Channels	License
GV-IP Devices Only	32 ch	Initial license required
	64 ch	2 licenses required: • **GV-VMS V18.1 or later** initial license • **GV-VMS Pro** license, 32 ch per license
GV + 3rd-Party IP Devices	4 ch	**Trial Version:** 4 channels of 3rd party IP devices (30 days, a license key required)
	32 ch	2 licenses required: • **GV-VMS V18.1 or later** initial license • **3rd-Party** or **HD DVR** license, in increments of 1 ch
	64 ch	3 licenses required: • **GV-VMS V18.1 or later** initial license • **GV-VMS Pro** license, 32 ch per license • **3rd-Party** or **HD DVR** license, in increments of 1 ch

Note:

1. The licensing comes in two forms: *GV-USB dongle* and *software license*. The two are incompatible. If a GV-USB dongle has been inserted on the computer with the system, please remove it before using software licensing.
2. GV-USB dongle comes in internal and external dongles. Internal dongle is recommended for the Hardware Watchdog function, which restarts the PC when Windows crashes or freezes.
3. GV-VMS (V18.3.2 or later) automatically disables Memory Integrity on Windows 10/11 during the installation. Make sure to restart your PC after the installation is completed to ensure a successful operation of GV-VMS.
4. Please contact our sales representatives for the applicable license key of the trail version.

Note for GV-VMS V18.3.1 or later:

1. The **HD DVR** license is only supported by GV-VMS V18.3.1 or later.
2. The **HD DVR** license is required for connecting UA-XVR and UA-XVL series (only **analog** channels supported)
3. The **3rd-Party** license is required for connecting UA-IP cameras.

1.2 Minimum System Requirements

Below are the minimum PC requirements for connecting GV-VMS with 32 and 64 channels of GeoVision and 3rd party IP cameras (dual streams).

- **GV-VMS V17**

CPU	GV-VMS (Up to 32 Channels)	GV-VMS Pro (Up to 64 Channels)
OS	64-bit Windows 8 / 8.1 / 10 / 11 / Server 2012 R2 / Server 2016 / Server 2019	
CPU	4th Generation i5-4670, 3.4 GHz	4th Generation i7-4770, 3.4 GHz
Memory	8 GB RAM	16 GB RAM
Processor Graphics	To obtain the maximum frame rate possible, see *GPU Decoding* specifications here.	

Note:

1. To use the fisheye dewarping function, the graphic card must support DirectX 10.1 or above.
2. The system requirements are determined in round-the-clock recording mode with live view only, while remote connections and video analysis features being disabled.
3. H.265 decoding requires 6th Generation Intel Desktop Processor (Skylake) or above, which comes with onboard GPU.

- **GV-VMS V18**

CPU	GV-VMS (Up to 32 Channels)	GV-VMS Pro (Up to 64 Channels)
OS	64-bit Windows 10 / 11 / Server 2016 / Server 2019 / Server 2022	
CPU	4th Generation i5-4670, 3.4 GHz	4th Generation i7-4770, 3.4 GHz
Memory	8 GB RAM	16 GB RAM
Processor Graphics	To obtain the maximum frame rate possible, see *GPU Decoding* specifications here.	

Note:

1. To use the fisheye dewarping function, the graphic card must support DirectX 10.1 or above.
2. H.265 decoding and searching of face recognition events by face images require 6th Generation Intel Desktop Processor (Skylake) or above, which comes with onboard GPU.
3. PVD motion detection requires 11th Generation Intel Desktop Processor or above, which comes with onboard GPU.
4. For the expansion of more PVD motion detection channels, make sure your PC is installed with GV-AI Accelerator Module and compatible with the following system requirements:
   a. For PVD motion detection of up to **48** channels: PC RAM of at least 16 GB and 11th Generation Intel Desktop Processor or above.
   b. For PVD motion detection of up to **64** channels: PC RAM of at least 32 GB and 13th Generation Intel Desktop Processor or above.

5. The system requirements are determined in round-the-clock recording settings with live view only, while remote connections and video analysis being disabled.

1.3 Minimum Network Requirements

The data transmitting capacity of GV-VMS depends on the number of Gigabit connections available. The numbers of Gigabit network cards required to connect **64** channels are listed below according to the resolution and codec of the source video.

Codec	Resolution	Bitrate Used (Mbps)	Total FPS for 64 ch	Gigabit Network Cards Required	Max. Channels Supported per Network Card
H.264	**1.3 MP**	5.05	1920	1	Max. 64 ch / card
	2 MP	7.01	1920	1	Max. 64 ch / card
	3 MP	10.48	1280	1	Max. 64 ch / card
	4 MP	11.65	960	2	Max. 50 ch / card
	5 MP	16.48	640	2	Max. 38 ch / card
	8 MP	17.14	1600	2	Max. 38 ch / card.
	12 MP	16.67	960	2	Max. 38 ch / card
H.265	**2 MP**	5.90	1920	1	Max. 64 ch / card
	3 MP	7.06	1920	1	Max. 64 ch / card
	4 MP	9.44	1600	1	Max. 64 ch / card
	5 MP	7.52	1920	1	Max. 64 ch / card
	8 MP	9.83	1280	1	Max. 64 ch / card
	12 MP	9.85	1280	1	Max. 64 ch / card
MJPEG	**1.3 MP**	32.36	1920	3	Max. 22 ch / card
	2 MP	44.96	1920	4	Max. 16 ch / card
	3 MP	38.73	1280	4	Max. 18 ch / card
	4 MP	40.35	960	4	Max. 17 ch / card
	5 MP	30.48	640	3	Max. 22 ch / card
	8 MP	58.52	1600	6	Max. 12 ch / card
	12 MP	65.98	960	6	Max. 11 ch / card
Note: The network requirements may vary depending on the bitrate of the streams.					

1.4 Installing GV-VMS

Before You Start

For optimal performance of your system, it is important to follow these recommendations before installing the GV-VMS:

- It is highly recommended to use separate hard disks; one for installing Windows OS and GV-VMS, while the other for storing recorded files and system logs.
- When formatting the hard disks, select NTFS as the file system.
- When GV-VMS is running, it is not recommended to perform disk defragmentation at the same time.
- Since the size of transmitted data from IP cameras may be quite large and reach beyond the transfer rate of a hard disk, you should note the total of recording frame rates that you can assign, as listed below:

Frame rate limit in a single hard disk

Video Resolution	H.264		H.265	
	Frame Rate (fps)	Bitrate (Mbps)	Frame Rate (fps)	Bitrate (Mbps)
1.3 MP (1280 x 1024)	660	5.05	N/A	N/A
2 MP (1920 x 1080)	660	7.01	660	5.90
3 MP (2048 x 1536)	440	10.48	660	5.35
4 MP (2048 x 1944)	330	11.65	550	7.74
5 MP (2560 x 1920)	220	16.48	660	6.73
8 MP (3840 x 2120)	550	14.13	440	9.83
12 MP (4000 x 3000)	330	14.47	440	9.85
Note: The data above was determined using the bitrate listed above, hard disks with average R/W speed above 110 MB/s.				

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

Installing GV-VMS

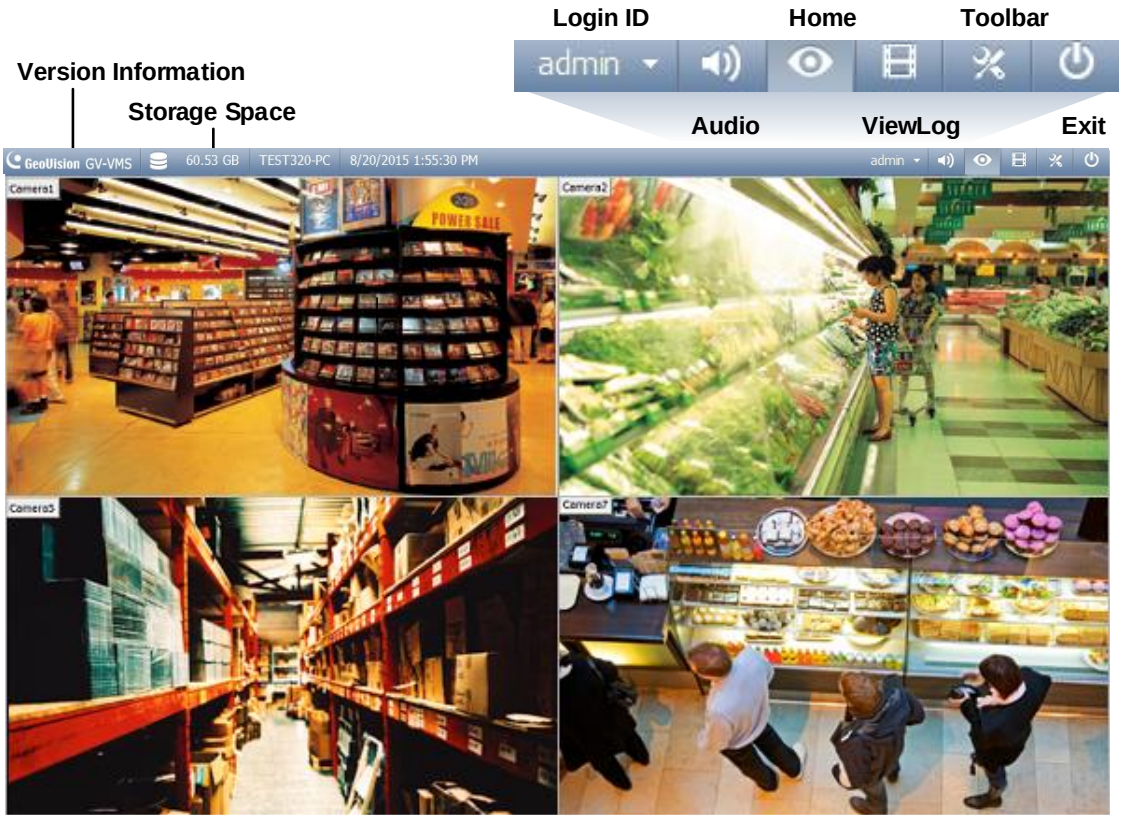
1. Download GV-VMS by selecting **Primary Applications** from the drop-down list and clicking **Download** of **GV-VMS** on GeoVision's website.
2. If you are using a USB dongle, insert the dongle to your computer. See *1.1 License* for connections requiring dongle license(s).
3. To install USB driver, select **Driver, F/W, Patch** from the drop-down list and click **Download** of **GV-Series Card Driver / GV-USB Device Driver**.
   - To verify the driver is installed correctly, go to Windows Device Manager and expand **DVR-Devices**. You should see the **GV-Series USB Protector**.

1.5 Running GV-VMS

1. When you run GV-VMS for the first time, the system will prompt you for a Supervisor ID and Password.
2. Type the desired **ID**, **Password** and a **Hint** to remind you of the password.
3. Optionally click **E-Mail List** to enter e-mail addresses used to receive the password when forgotten.
4. Click **OK**. The main screen of GV-VMS and a dialog box appears.
5. To choose how to save your system database, select **Microsoft Office Access Database** or **Microsoft SQL Server** and fill out the required fields.
6. Upon first-time starting of the GV-VMS, you are prompted with the **Automatic Setup** dialog box to assist you in quickly adding IP devices to the GV-VMS

1.6 Main Screen of GV-VMS

In the main screen of GV-VMS, the main setting buttons are located in the top-right corner.



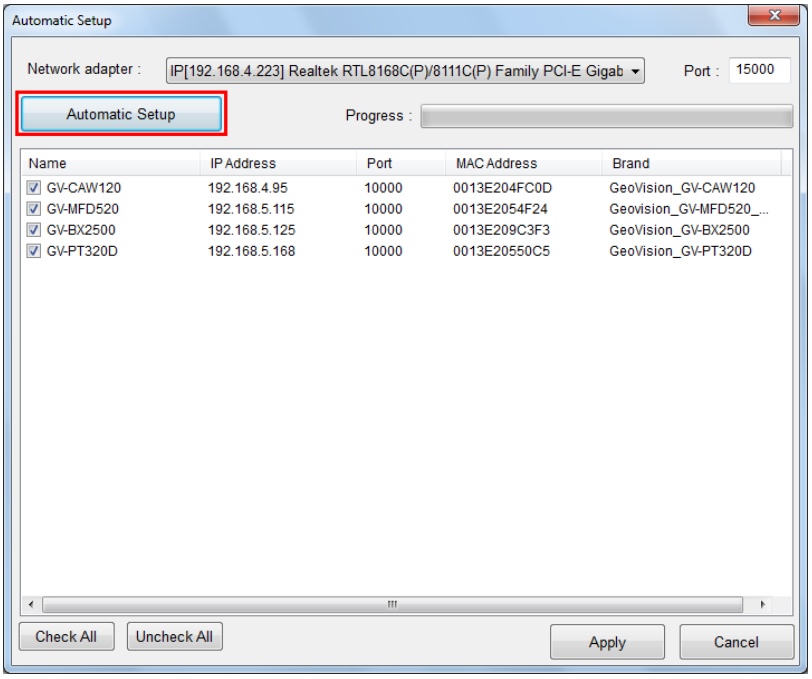
Name	Description
Login ID	Click to manage accounts and passwords for accessing GV-VMS.
Audio	Click to control the volume of your PC.
Home	Shows the live view of connected cameras.
ViewLog	Shows a timeline of recorded events for playback.
Toolbar	Brings up these options when **Home** is selected: • **Monitor:** Start / Stop monitoring, I/O monitoring and schedule monitoring • **Network:** Enable Webcam Server and connection to other GeoVision software. • **Tools:** Show / hide volume indicator and set up Object Index. • **Configure:** Set up camera, recording, system, schedule, video processing and I/O devices. • **Content List:** Configure live view layout, of cameras, I/O devices and E-Maps. Brings up these options when **ViewLog** is selected: • **Display Play Panel:** Display / Hide the ViewLog timeline. • **Tools:** Manage event search, system log, event backup and event export. • **Configure:** Apply video effects and text overlay during playback. • **Content List:** Manage playback layout and access camera list.
Exit	Click to Minimize or Exit GV-VMS.

Chapter 2 Getting Started

2.1 Adding IP Cameras to GV-VMS

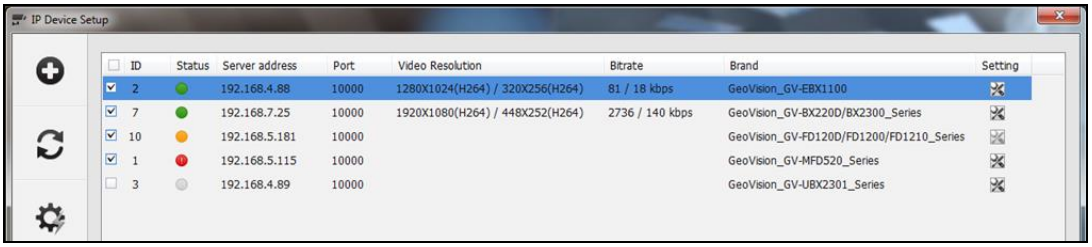
When logging in for the first time after installing GV-VMS, the **Automatic Setup** dialog box appears. Follow the steps below to add IP cameras.

1. Click **Automatic Setup** to search for IP cameras on the LAN. Then select / deselect the desired cameras and click **Apply**.



2. The default login information for cameras is **admin** / **admin**. Double-click the camera to modify the login info of cameras if needed.

3. Cameras added are now listed in the IP Device List.



Status icons illustrated:

🟢	**Connected**	The camera is connected.
🟠	**Connecting**	GV-VMS is trying to connect to the camera.

	Connection Failed	Unable to connect to the camera. Move the cursor onto the red icon to see the error message.
	Inactive Camera	The camera is inactive. Click the checkbox to connect.
	Started Monitoring	The camera is under monitoring.
	Pre-Rec Enabled	Pre-recording is enabled.

4. To adjust camera settings, click **Setup** next to the camera. Refer to *3.2 Configuring Camera Settings* for details.
5. Close the dialog box by clicking X in the top-right corner. When adding camera for the first time, the cameras will be automatically assigned to the live view grid.

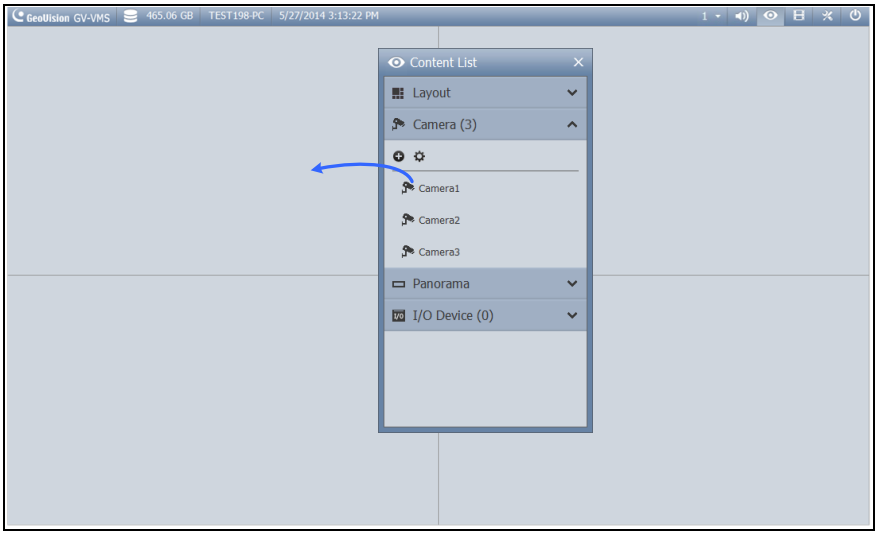
Note:

1. You can also access the IP Device Setup dialog box by clicking **Home** > **Toolbar** > **Configure** > **Camera Install**.
2. If your camera was not detected during the scan in Automatic Setup, you can click the **Manual Setup** button to type the camera connection information manually.

2.2 Accessing Camera Live View

After adding cameras, you can access camera live view by dragging the camera in the Content List to the live view grid.

Click **Home** > **Toolbar** > **Content List**. Then click **Camera** to see the list of cameras added, and drag the desired cameras to the live view grid.



For details, see *Chapter 4 Live View* in this Quick Start Guide.

2.3 Start Monitoring

After setting up cameras and the live view, be sure to start monitoring the cameras to activate the following functions.

- Recording (See *Section 3.1*)
- Video Analysis (See *Chapter 5*)
- I/O Applications (See *Section 7.1*)

To start monitoring of connected cameras, click **Toolbar**  > **Monitor**  > **Start All Monitoring** or select individual cameras.

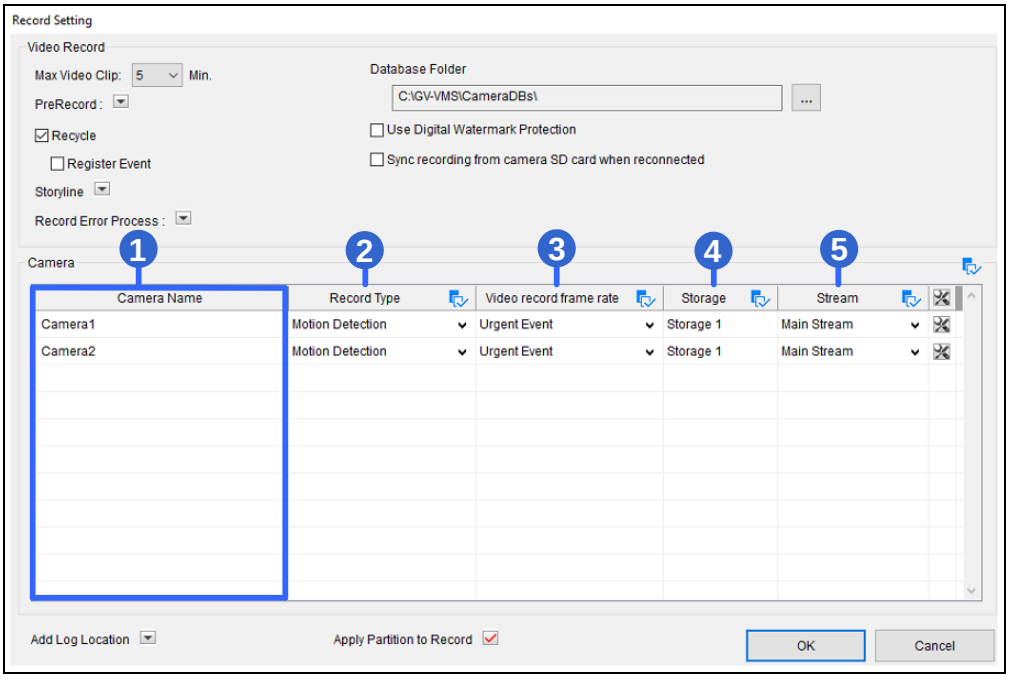
To see how to access recorded videos, refer to *Chapter 6 Video Playback and Backup*.

Note: If you have set a schedule, you can select **Start Schedule Monitoring**. The schedule takes precedence and the functions listed above will enable and disable accordingly. See *7.2 Setting up Schedules*.

Chapter 3 Camera Setup

3.1 Configuring Recording Settings

To configure the recording settings of connected cameras, click **Home** > **Toolbar** > **Configure** > **System Configure** > **Record Setting**.



1. Select the camera(s) you want to configure.
2. Under Record Type, select **Disable**, **Motion Detection** or **Round-the-Clock**.
3. You can set different recording frame rates. Select **Urgent Event** to record in full frame rate or **General Event** to record only the key frames.

   The frame rate for General Event and Urgent Event can be defined in the camera's General Setting page. See *General Setting* in *3.2 Configuring Camera Settings*. Normally, you would set a higher frame rate for Urgent Events (e.g. full frame) and a lower frame rate for General Events (e.g. key frame only).

Note: By default, the recording mode is set to Motion Detection and the Recycle function is enabled with the Recycle Threshold set to 32 GB.

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4. If there are more than one storage locations, click the ˅ next to **Storage** to specify where to store the recorded videos. To configure storage settings, click **Add Log Location**.

5. Under **Stream**, select the stream(s) you want to record. **Main and Sub Stream** is set to record both streams simultaneously. Select **Main Stream** to record high-resolution video images. Select **Sub Stream** to record lower-resolution video images.

For details on Motion Detection settings, see *Setting up Motion Detection*, Chapter 1, *GV-VMS User's Manual*.

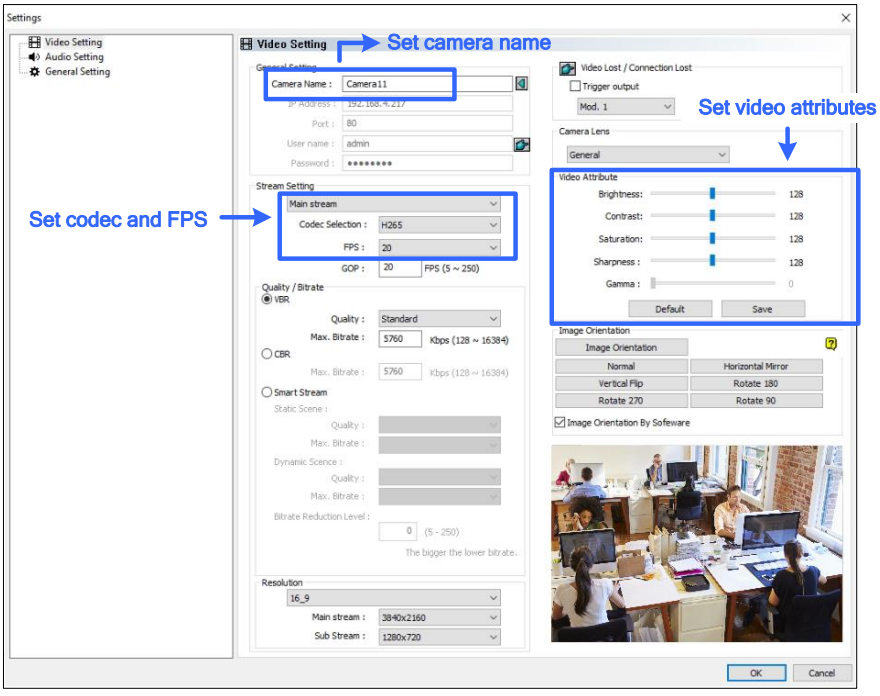
3.2 Configuring Camera Settings

To configure camera settings, click the **Setup** button of an active camera in the IP Device List. The settings available vary depending on the camera's firmware and whether the camera is connected or not.

There are three setup dialog boxes in the left menu of the camera's setting dialog box: **Video Setting**, **Audio Setting**, and **General Setting**. Clicking the Finger button to apply the same settings to all connected cameras.

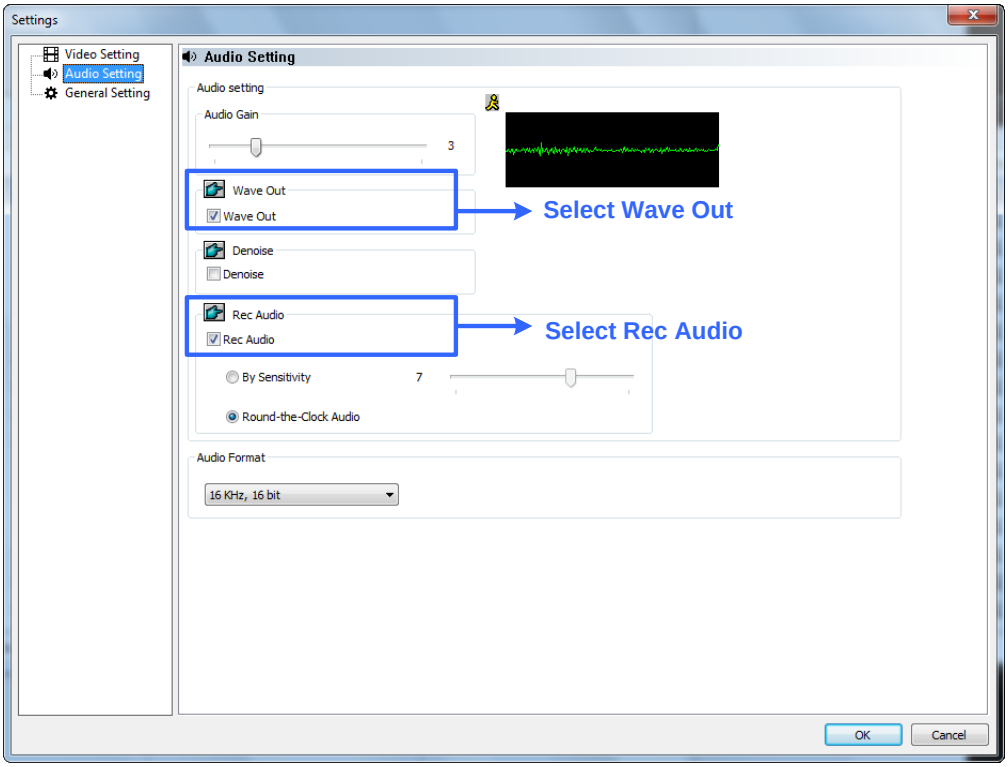
[Video Setting]

In Video Setting, you can configure the camera name, codec, frame rate, GOP, bitrate, resolution, trigger output, lens, video attributes and image orientation of the camera. Note that changes made to the Video Setting dialog box will change the settings on the IP camera.



[Audio Setting]

In Audio Setting, you can configure audio functions for live view and recording, which are disabled by default.

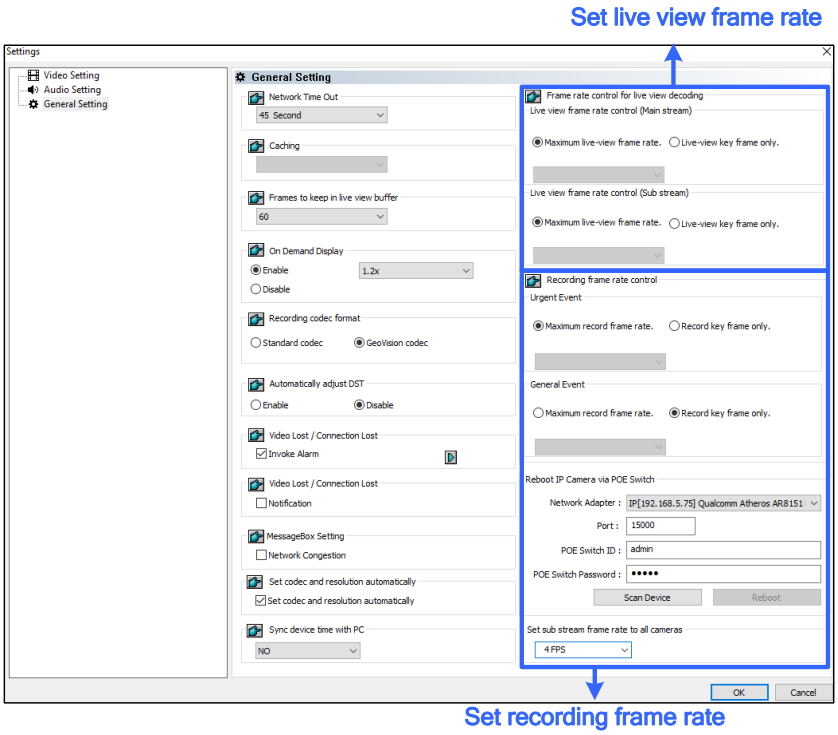


1. To listen to the audio around the camera, enable **Wave Out**.
2. To record the audio around the camera, enable **Rec Audio** and select **By Sensitivity** or **Round-the-Clock**.

Note: After Wave Out is enabled here, you can enable audio on the live view of the camera by clicking the **Tools** icon and select **Set to Wave Out**.

[General Setting]

In General Setting, you can configure network timeout, on-demand display, live view frame rate, and recording frame rate settings.



1. Under Live view frame rate control (Main / Sub Stream), you can set the live view frame rate.
   - When using **MJPEG**, every frame is a key frame, so you can specify the number of key frames to decode for live view.
   - When using **H.264 / H.265**, only 1 key frame is transmitted per Group of Pictures (GOP), so you can decode **Key frames only** to omit all intermediate frames or **Max. frame** to include key frames and all intermediate frames.

Note:

1. The **GOP** setting can be configured in the **Video Setting** page (*Video Setting*, *3.2 Setting Camera Setting*). A GOP of 30 means that there is 1 key frame for every 30 frames, so an IP device with a frame rate of 30 fps will have 1 key frame per second.
2. You can change the camera's main stream and sub stream to **H.264**, **H.265** or **MJPEG** in the **Video Setting** page (*Video Setting*, *3.2 Setting Camera Setting*). After changing codec, you need to click **OK** to apply the change before switching to the General Setting. Note that changing the camera's main stream and sub stream to **H.264**, **H.265** or **MJPEG** will affect the frame rate setting options under General Setting.

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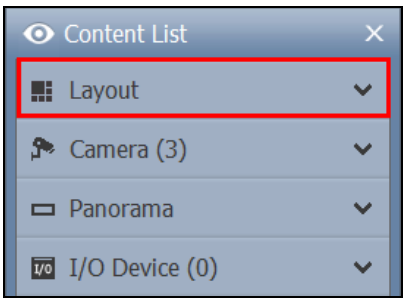
2. Under Recording frame rate control, define the recording frame rates for **Urgent event** and **General event**. Refer to the step above for details. Make sure the related settings are configured accordingly in the Recording Settings dialog box as described in step 3 of *3.1 Configuring Recording Settings*.

For details on Video Setting, Audio Setting, and General Setting, see *Configuring Individual IP Cameras*, Chapter 2, *GV-VMS User's Manual*.

Chapter 4 Live View

4.1 Arranging Live View Layouts

1. In the Content List, click **Layout**.

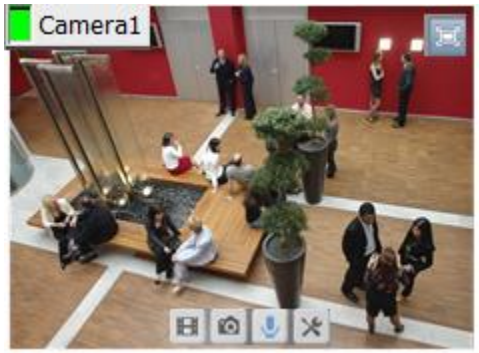


2. To add a layout, click **Add** and click **Add Layout**. The Add New Layout dialog box appears.
3. Name the new layout and select one of the three available methods under Layout Setup to define a layout and click **OK**.
4. If you select **Customize** in the step above, the Customize Layout dialog box appears.
   a. Click **Reset** to specify a dimension for the grid if needed.
   b. Select multiple squares and click **Merge** to create a larger square.
   c. Click **OK** when you are done.

A message appears. Click **Yes** if you want to automatically assign the cameras to the new layout.

4.2 Functions on the Live View

Place the mouse cursor on the camera live view to see the icons below.



Icons	Functions
Instant Play	Plays back the video recorded.
Snapshot	Captures a snapshot of the current live view.
Talk Back Toggle / Push-to-Talk	Talk to the surveillance site. For details, refer to [The behavior of the talk back button] in *1.6.1 Configuring General Setting*, GV-VMS User's Manual.
Tools	Includes the following options: • **Monitor:** Starts monitoring of the camera. • **Measure temperature:** For GV-VMS V18.3.2 or later and GV-TMEB5800 only. After the thermography rules are set up on the camera Web interface, select this option to trigger the alarms when the detected temperature exceeds the pre-defined threshold. • **Properties:** - **Show Caption:** Shows camera name on live view using the specified font size. - **Keep Image Ratio:** Locks aspect ratio of the camera image. • **Close:** Removes the camera from the layout grid. The following options are available when related function is enabled: • **Set to Wave Out:** Enables live view audio. (See *[Audio Setting]* in *Section 3.2*) • **PTZ Control:** Enables PTZ functions. (See *Section 4.4*) • **Add to bookmark:** Bookmarks a scene to watch later in ViewLog. This function is only available when the channel is recording. • **Storyline:** Records a sequence of short video clips of a specific incident.

Zoom 	Switches the live view to full screen. If there is a designated Zoom window, clicking the Zoom button will replace the live view in the zoom window instead.
Volume Indicator 	Display an audio volume indicator on the top-left corner of the camera live view. Click **Home**  > **Toolbar**  > **Tools**  > **Audio** > **Show Volume Indicator**.

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

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

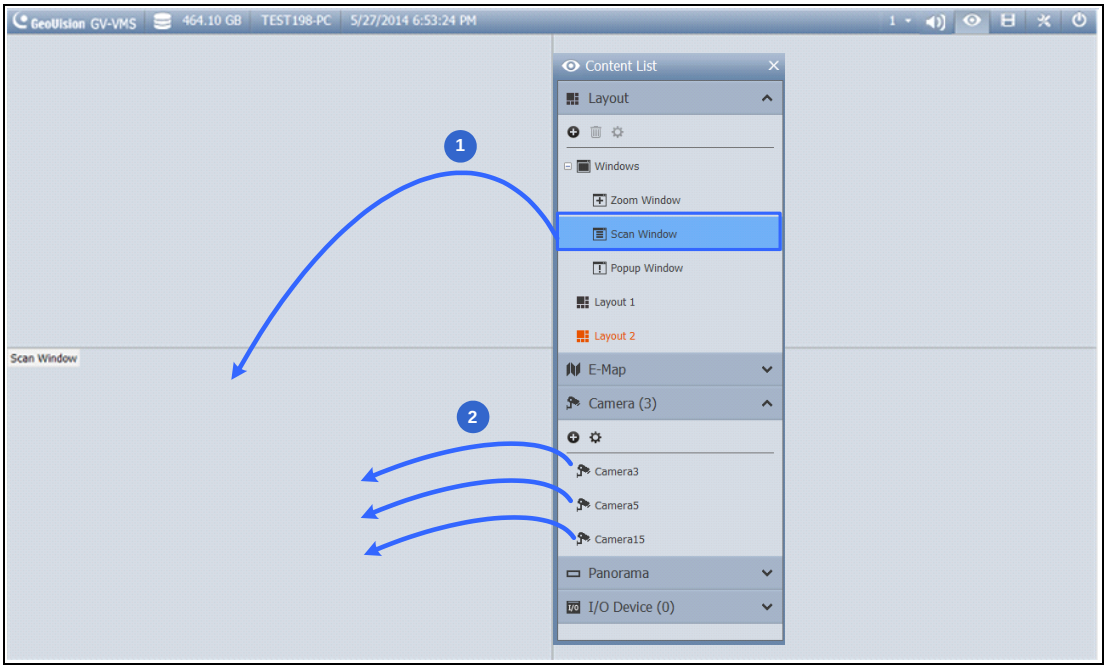
4.2.1 Zoom Window

1. To designate a Zoom Window to see a close-up view of the camera without changing the live view layout, click **Layout** > **Windows** in the Content List and drag **Zoom Window** to a live view grid.
2. Move the mouse cursor to a camera live view and click **Zoom**  in the top-right corner. The camera live view is displayed in the Zoom Window.
3. To remove the camera from the Zoom window, place the cursor on the live view, click **Tools**  and select **Close**. To change the live view grid back to a normal window, repeat this step again to close the Zoom Window.

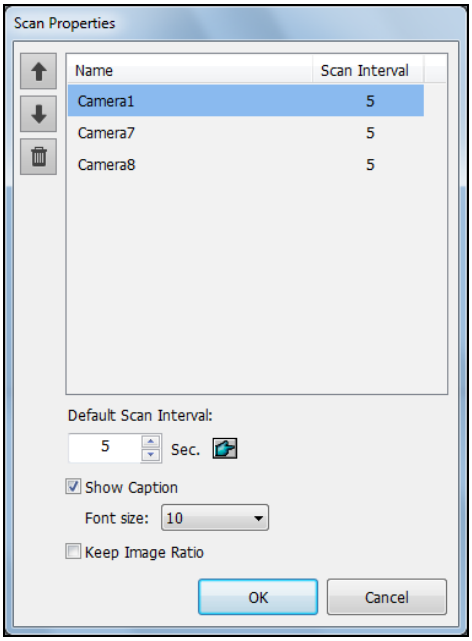
4.2.2 Scan Window

1. To assign multiple cameras to a Scan Window, to be shown in sequence, click **Layout** > **Windows** in the Content List and drag **Scan Window** to a live view grid.

2. Drag multiple cameras into the Scan Window.



3. Move the cursor to the Scan Window, click **Tools** and select **Properties**.



4. To adjust the order of a camera, click **Up** and **Down** .

5. To specify how many seconds to show the live view, click and adjust the **Scan Interval** of each camera. Optionally click the **Finger** to apply this Scan Interval to all cameras.

4.2.3 Popup Window

You can designate a Popup Window to display live images of cameras, upon events, on a separate monitor. For this function to work, you must first create a live view layout on another monitor.

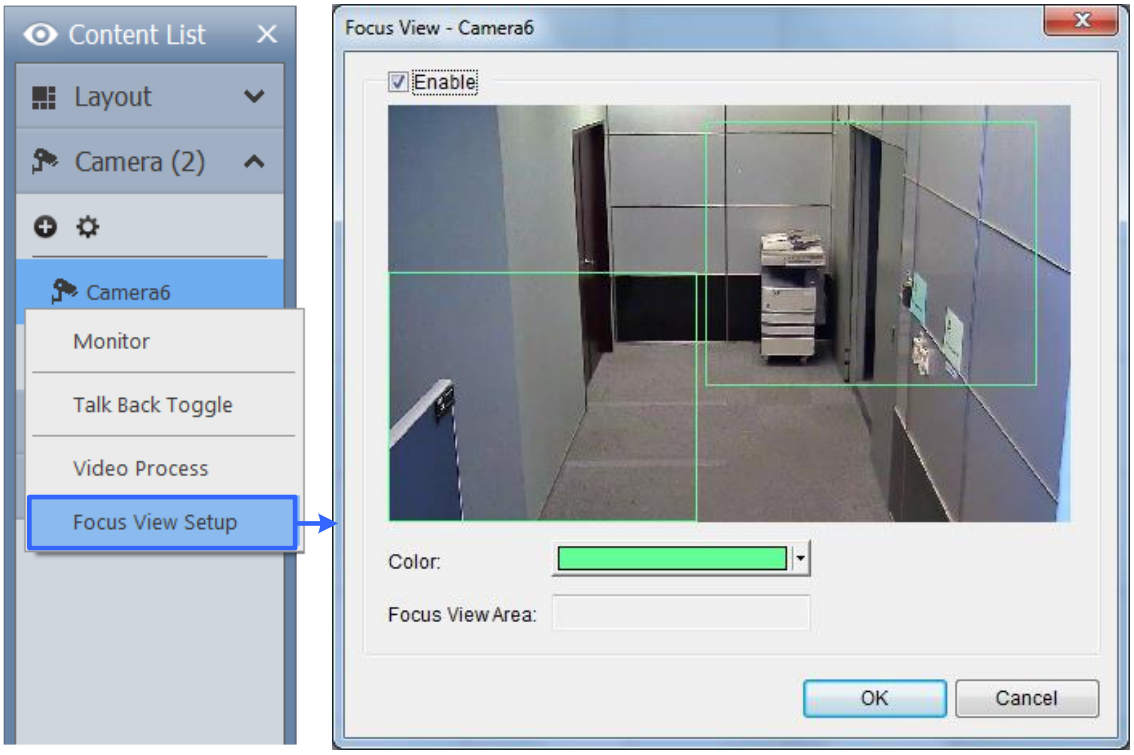
1. In the Content List, click **Layout** > **Add** > **Add Layout** to create a new layout.
2. After clicking **OK**, select a desired monitor from the **Apply to…** list to activate the layout on the designated monitor.
3. In the Content List, click **Windows** > **Add** > **Add camera popup window** to select the cameras to be displayed in the Popup Window.
4. Rename the Popup Window if necessary and drag the Popup Window from the Content List to the layout created in Step 3.

4.2.4 Focus View and PIP

Focus View

You can create up to 7 close-up views per camera and place these created close-up views inside live view grid. This function is not supported for Fisheye and PTZ Cameras.

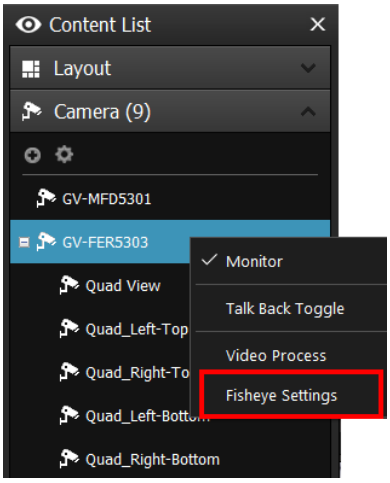
1. In the Content List, right-click a camera and select **Focus View Setup**. This dialog box appears.



2. Click **Enable** and draw a box on the camera view to create a focus view. You can create multiple focus views if needed.
3. Optionally click the **Color** drop-down list to change the color of the box.
4. Click **OK**. The created focus views are listed under the camera.
5. You can now drag the focus views to live view grids.

4.3 Setting up Fisheye Cameras

1. From the Content List, drag the fisheye camera (circular source image) or one of the dewarpped fisheye images (e.g. Quad View) to the live view grid.
2. To change the fisheye settings, right-click the fisheye camera from the Content List and select **Fisheye Settings**. The Fisheye Setting dialog box appears.

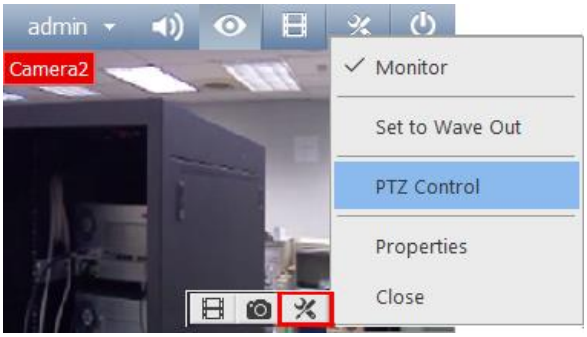


3. Right-click on the Fisheye Setting dialog box, point to **Fisheye Option** to access settings.

For details on the fisheye functions, see *3.18.1 Fisheye View*, *GV-VMS User Manual*.

4.4 Setting up PTZ Cameras

1. Move the cursor to the camera live view and click **Tools** .
2. Click **PTZ Control** to enable PTZ function.



3. You can control GV-IP Speed Domes using the following actions:
   - **Double-Click:** The camera will center on the spot you clicked.
   - **Drag:** You can select Random Move or Center Move after right-clicking the live view.

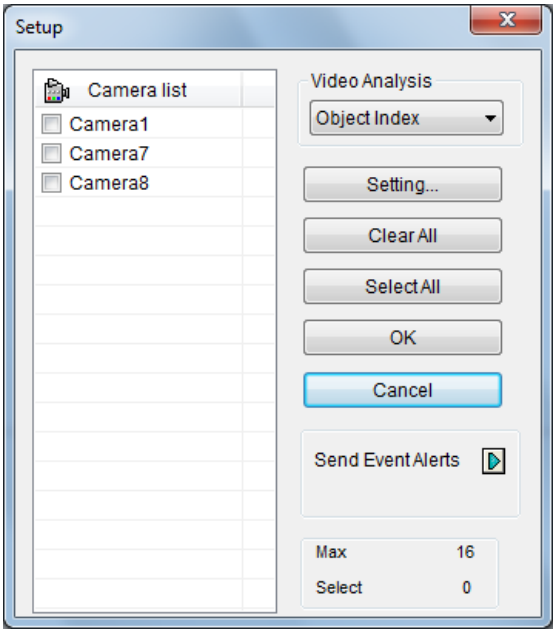
- **Random Move:** Drag a line on the live view and the camera will move toward the direction you dragged.
- **Center Move:** Drag a box on the live view and the camera will zoom in on the area you dragged.

For details, see *1.11.1 Accessing PTZ Control Panel and Auto Functions*, *GV-VMS User Manual*.

Chapter 5 Video Processing

GV-VMS offers a number of video processing functions. To configure video processing functions, follow the steps below.

1. Click **Home** > **Toolbar** > **Configure** > **Video Process**. This dialog box appears.



2. Select a function under **Video Analysis**.
3. In the Camera List, select the camera(s) you want to configure.
4. Click the **Setting** button to access the configuration page.
5. To send e-mail notification upon video analysis events, click next to **Send Event Alerts**.

For details on event alert functions, see *3.21 Event Alert through E-mail Notification*, *GV-VMS User's Manual*.

The following Video Processing functions are only enabled when you **start monitoring** on the cameras.

- Object Index/Monitor Setup
- Counter / Intruder Alarm Setting
- Crowd Detection
- Advanced Unattended Object Detection
- Advanced Scene Change Detection
- Advanced Missing Object Detection
- Face Count
- Text Overlay Setting
- Heat Map
- Video Analysis by Camera (IPCVA)

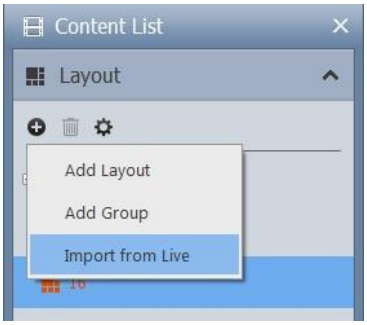
If you have set an AVP schedule, Video Processing functions will be enabled according to the schedule regardless of monitoring. See *7.2 Setting up Schedules* on how to set a schedule.

For details on video processing functions, see *Chapter 3 Video Analysis*, *GV-VMS User's Manual*.

Chapter 6 Video Playback and Backup

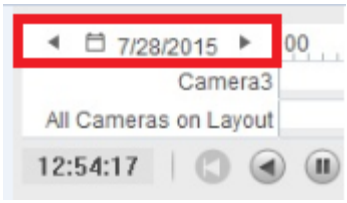
6.1 Playing Back Recorded Videos

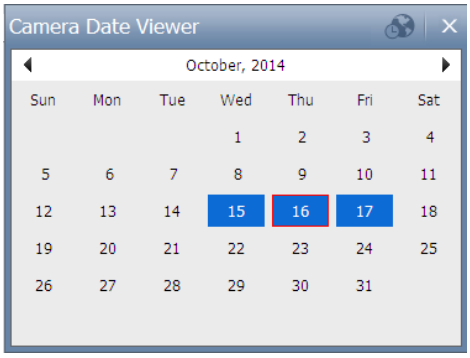
1. Select **ViewLog** > **Toolbar** > **Content List** . The Content List appears.
2. Select **Add** > **Import from Live** to import current live views to the playback screen.



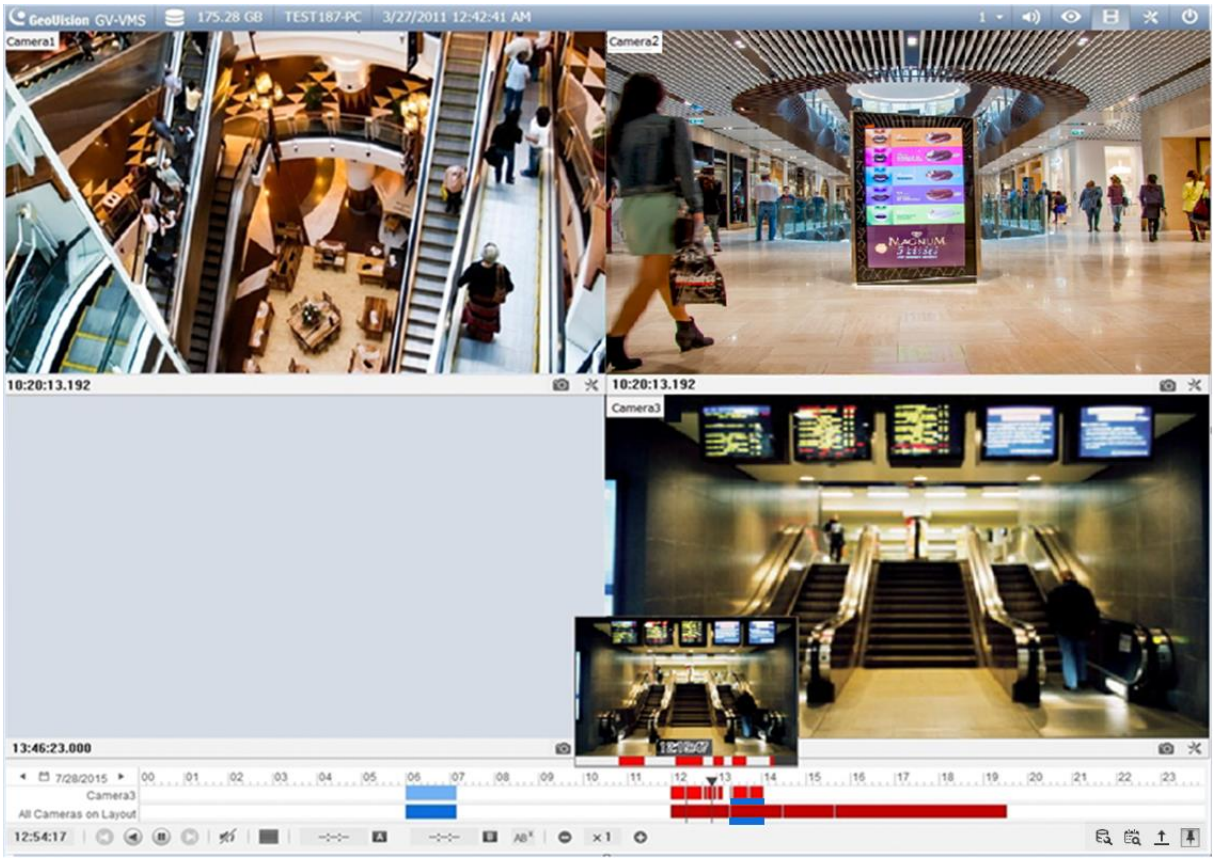
3. Optionally drag and drop more cameras from the Content List to the playback screen.

4. On the timeline, click the arrows or the date to select a date from a pop-up calendar.





5. Click on the timeline to select a time with video recordings. You can scroll the mouse to zoom in and out on the timeline.
   - **Blue** areas: video recorded in round-the-clock mode and other alarm events.
   - **Red** areas: videos recorded in motion, intrusion, IO event and other alarm events.
   - **Green** areas: never recycle events.
   - **Yellow** areas**:** video recordings retrieved form the SD cards of cameras when reconnecting after a temporary disconnection.
   - **Turquoise** areas (for V18.3.2 or later)**:** video recorded in AI and PVD Motion events.

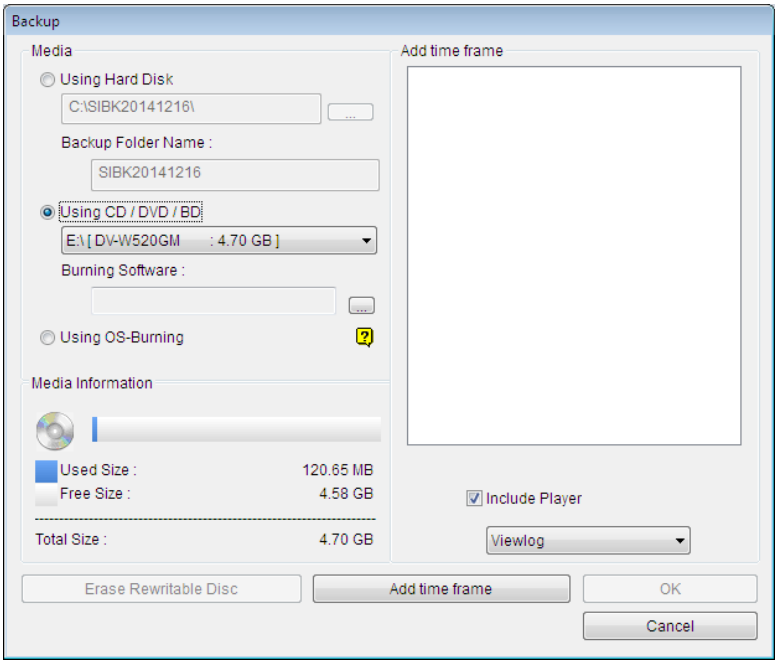


6. Use the playback control buttons to play back recordings. Place the cursor on the buttons to see the name of the function.
7. Click **Play**  to start playing back.

For details, see *Chapter 4 Video Playback, GV-VMS User's Manual*.

6.2 Backing Up Recorded Videos

1. In **ViewLog**, click **Toolbar** > **Tools** > **Backup**. This dialog box appears.



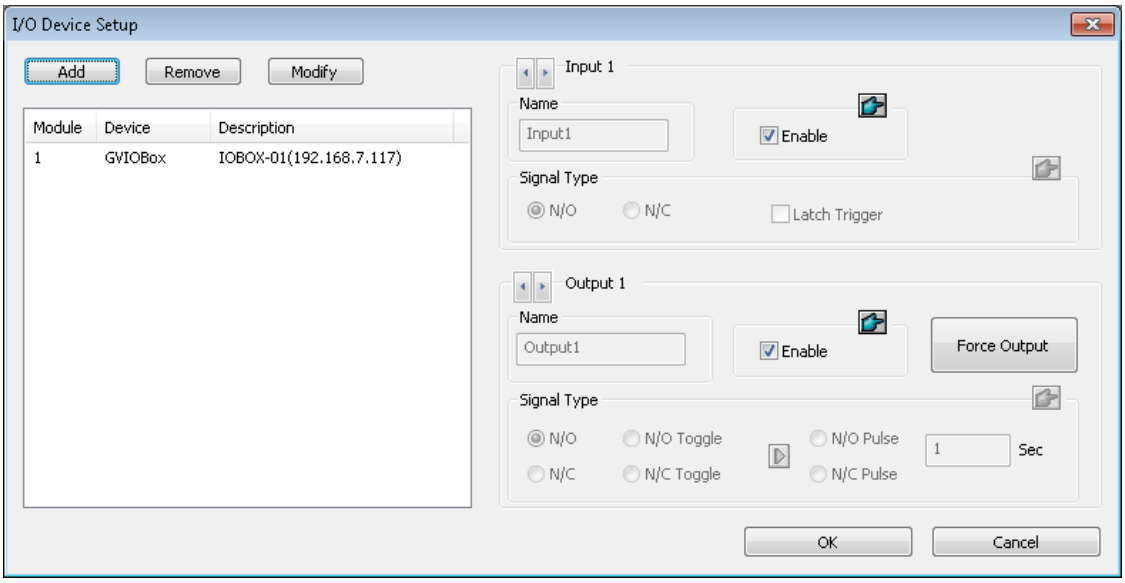
2. Select a destination media to back files using **Hard Disk**, **CD / DVD / BD** or **OS-Burning**.
3. Click the **Add Time Frame** button to define a time period and which files to back up.
4. To include the player to the backup files, select **Include Player** at the right bottom of the Backup dialog box and select **ViewLog** or **Single Player**.
5. Click **OK** on the Backup dialog box to start the backup.

For details on backing up files, see *5.2 Backing Up Recorded Files, GV-VMS User's Manual*.

Chapter 7 Other Important Features

7.1 Setting up I/O Functions

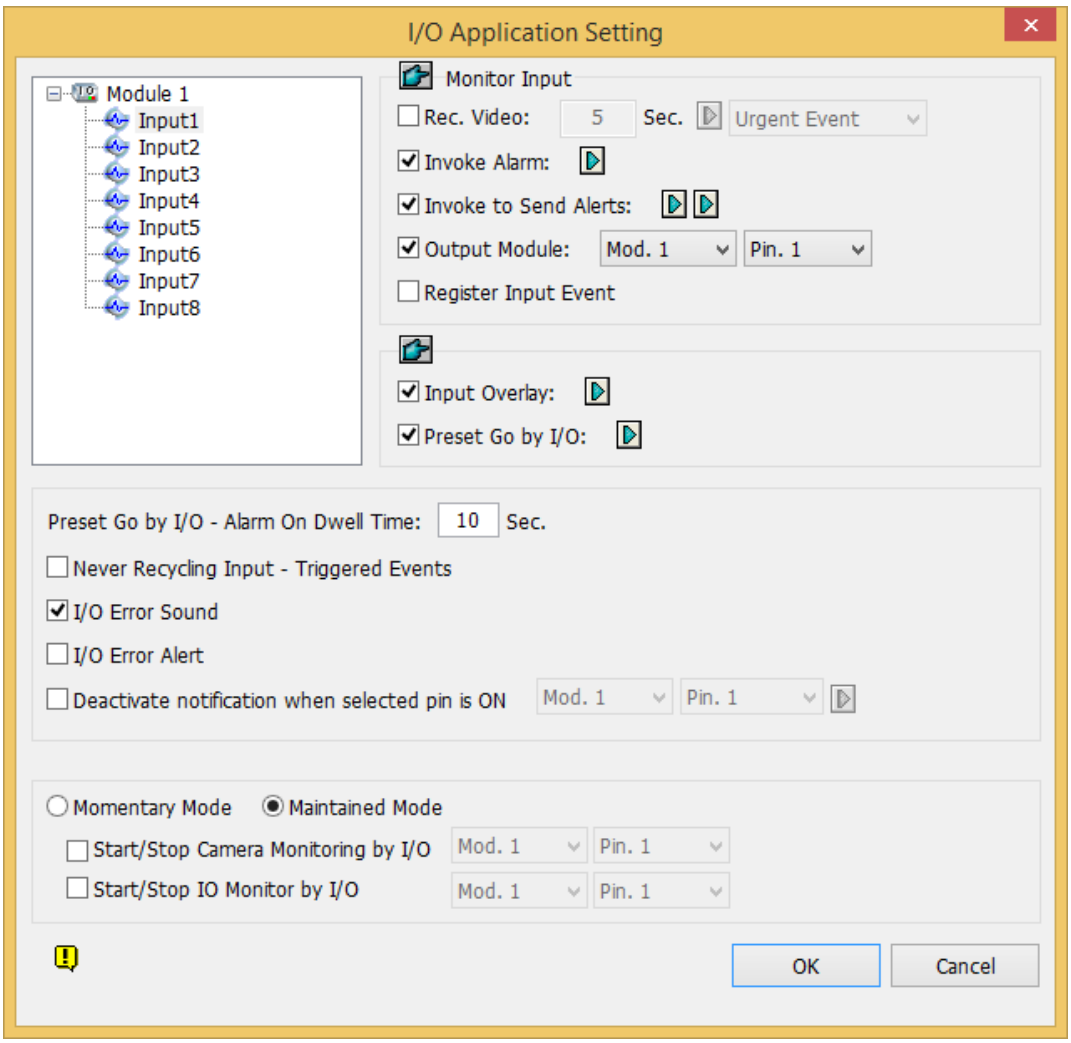
1. To set up I/O devices on GV-VMS, click **Home** > **Toolbar** > **Configure** > **Accessories** (if available) > **I/O Device** (if available) > **I/O Device Setup**.



Note: The **Accessories** option only appears when GV-Keyboard or GV-Joystick has been set up on the GV-VMS. The **I/O Device** option only appears after at least one I/O device has been added.

2. Click **Add**. Then select **IO Box (USB)**, **GV IP Device**, or **IO Box (IP)** and configure its connection settings.
3. For I/O devices connected through USB, you can configure **Signal Type** and **Latch Trigger** on GV-VMS.

4. After the I/O devices are added, select **Toolbar** > **Configure** > **Accessories** (if available) > **I/O Device** > **I/O Application Setup**. This dialog box appears.



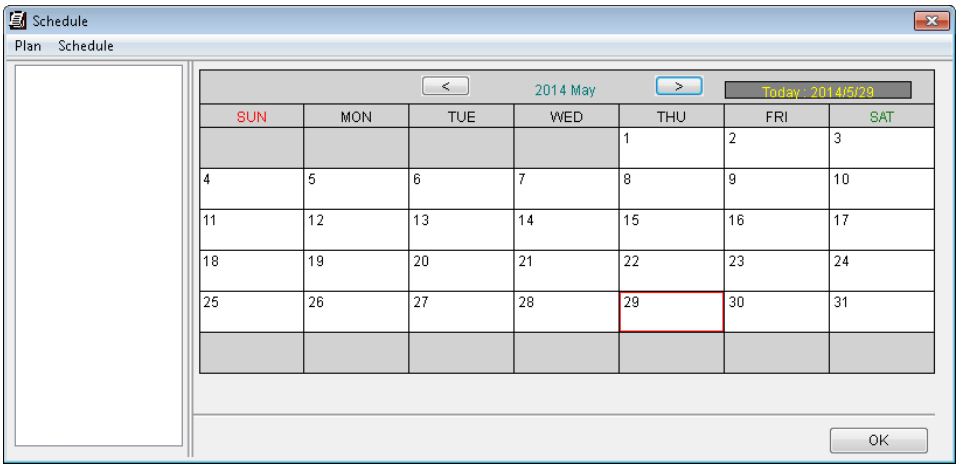
5. Select an input and specify the actions to take when the input is triggered.
6. Click **OK** to apply the settings.
7. To activate I/O functions, click **Home** > **Toolbar** > **Monitor** > **I/O Monitoring** or **Start All Monitoring**.

For details on I/O setup, see *Chapter 6 I/O Applications*, *GV-VMS User's Manual*.

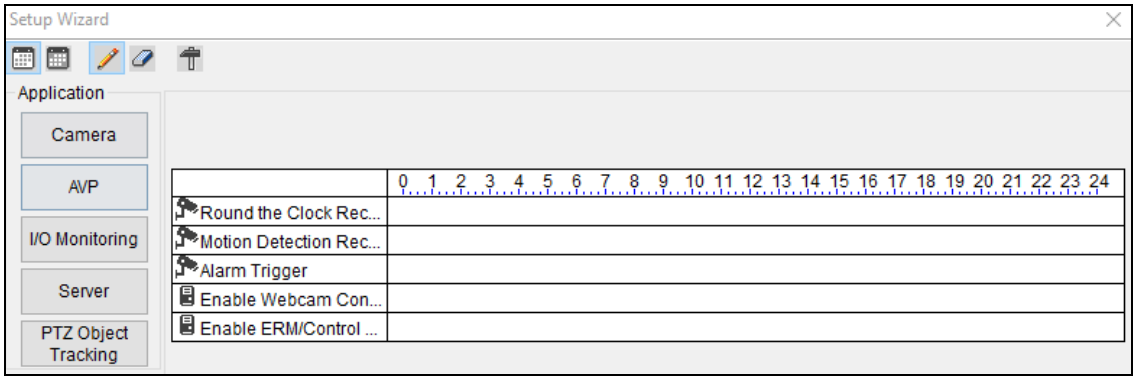
7.2 Setting up Schedules

You can create a schedule to enable and disable recording, video analysis, I/O monitoring, connection with Center V2 / Vital Sign Monitor / WebCam Server / Mobile Service / GV-Edge Manager and PTZ object tracking at specific times each day.

1. Click **Home** > **Toolbar** > **Configure** > **Schedule Edit**. This dialog box appears.

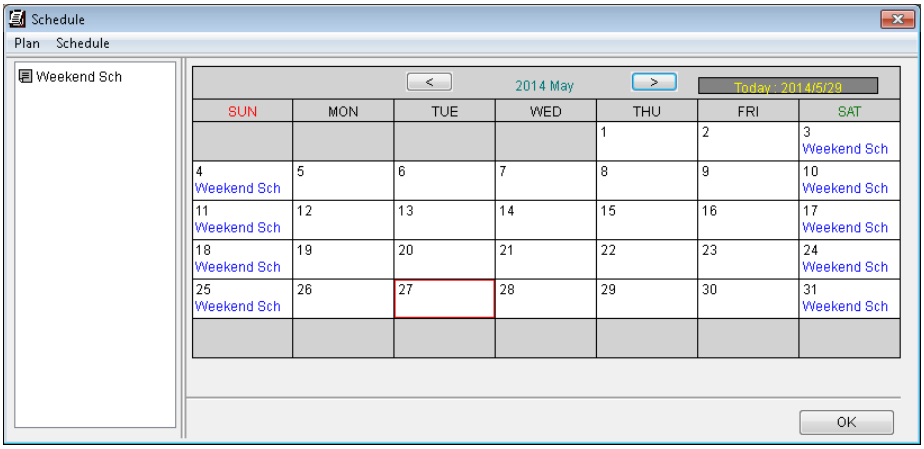


2. Click **Schedule** and select **Setup Wizard**. The Setup Wizard dialog box appears.
3. Specify when to apply the schedule plan and click **Next**.
4. Name the schedule plan and click **Next**.
5. Select a button on the left (**Camera**, **AVP**, **I/O Monitoring**, **or Server** or **PTZ Object Tracking**) and drag across the timeline to enable it during that time.



To set a recording schedule, click **Camera**, select a camera and click and drag on the desired time periods to specify how the camera is monitored throughout the day.

6. Click **Next** and **Finish** when you are done. The plan created appears on the calendar.



Tips:

1. You can add multiple plans to the calendar.
2. You can also add a plan to the calendar by dragging an existing plan and dropping it on a date in the calendar.

7. Click **Home** > **Toolbar** > **Monitor** > **Start Schedule Monitoring**.

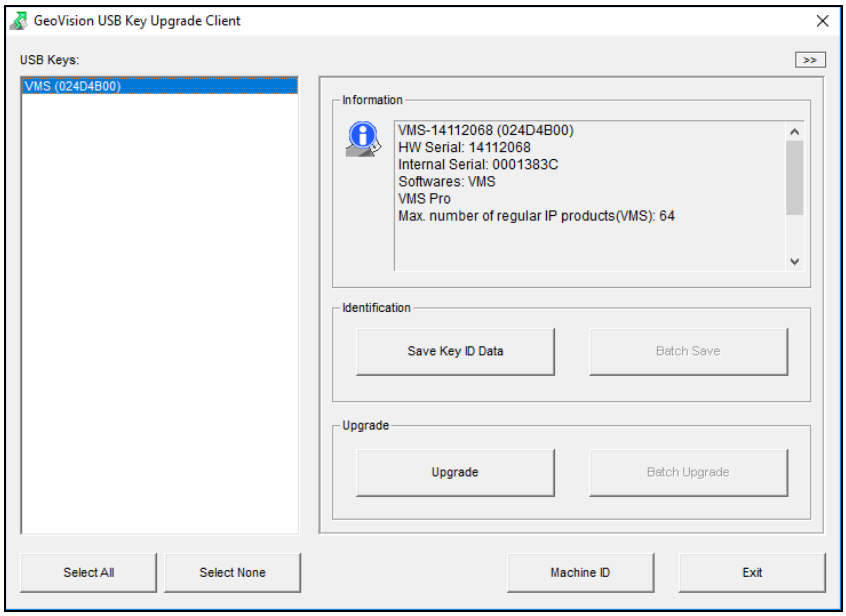
For details on setting schedule, see *1.8 Schedule*, *GV-VMS User's Manual*.

Chapter 8 Dongle Upgrade

GV-USB Dongle can be upgraded to include more functions or enhance the system. You need to collect the data from your dongle and send it back to GeoVision for an upgrade. The upgrade is charged services. To upgrade your dongle, follow these 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 software 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 will be 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 “VMS-7116442.out”.
6. Send this data file to GeoVision at 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 to be sent back is named “VMS-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.