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.

GeoVision inc

GV-VMS Trial Version

GV-VMS is a comprehensive video management system that records up to 64 channels of GeoVision and/or third-party IP devices. GeoVision offers a **60-day trial** period that allows you to connect to **16 channels of third-party IP devices** without license. A "Trial Version" watermark will appear on the live view and recorded files for the 16 channels of third-party IP devices.
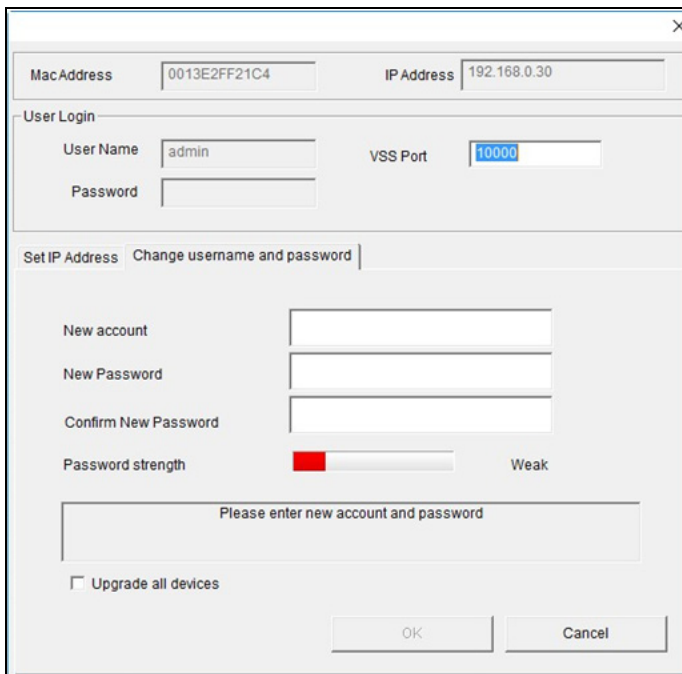

Note:
1. If you insert a dongle for third-party IP devices, the dongle license will override the trial version and the 16 trial channels will no longer be supported.
2. Currently, you cannot remotely access the trial channels using remote applications such as GV-Control Center, etc.

![GeoVision Inc. logo]

Creating Camera's Login Credentials

In order to connect to GV-VMS, after purchasing a new GV-IP camera or resetting your GV-IP camera, you need to set up a login username and password for that camera.

1. Download and install GV-IP Device Utility from Geovision's Website.

2. On the GV-IP Device Utility window, click **Search** 🔍 to search for your GV-IP camera.

3. Double-click your GV-IP camera in the GV-IP Device Utility list. This dialog box appears.

4. Click the **Change Username and Password** tab to type a new username and password.

5. Optionally click **Upgrade all devices** to use the same username and password on all other devices.

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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 supports connection of up to 64 IP devices, with connecting up to 32 GV-IP devices for free. If you need to connect more than 32 channels of GV-IP Devices or connect with third-party IP devices, license(s) 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 (60 days).
	32 ch	**3rd-Party** license required, in increments of 1 ch.
	64 ch	2 licenses required: • **GV-VMS Pro** license, 32 ch per license. • **3rd-Party** license, in increments of 1 ch.

Note:

1. 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.

2. For details on upgrading **GV-USB Dongle**, see *Chapter 8 Dongle* in the Quick Start Guide.

3. GV-VMS also allows users to license GV-VMS Pro and third-party cameras without using GV-USB dongle. For details, see the technical notice of **Software License**.

4. For a list of supported third-party IP camera models, please visit GeoVision's website.

1.2 Minimum System Requirements

	GV-VMS (Up to 32 Channels)	GV-VMS Pro (Up to 64 Channels)
OS	64-bit Windows 7 / 8 / 8.1 / 10 / Server 2008 R2 / Server 2012 R2 / Server 2016	
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, please see the *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 requires 6th Generation Intel Desktop Processor (Skylake) or above, which comes with onboard GPU.

3. 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	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
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 bit rate 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.

- Due to GV-VMS storing video files of multi channels simultaneously, the drive containing the video files will be fragmented with the files scattered all over the drive, therefore it is unnecessary to perform disk defragmentation regularly.

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

Frame rate limit in a single hard disk

Video Resolution	H.264		H.265	
	Frame Rate (fps)	Bit Rate (Mbit/s)	Frame Rate (fps)	Bit Rate (Mbit/s)
1.3 MP (1280 x 1024)	660	5.05	N/A	N/A
2 MP (1920 x 1080)	660	7.01	N/A	N/A
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	N/A	N/A
12 MP (4000 x 3000)	330	14.47	N/A	N/A
Note: The data above was determined using the bit rate listed above and 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 <u>GeoVision's website</u>.

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

When you run GV-VMS for the first time, the system will prompt you for a Supervisor ID and Password.

1. Type the desired **ID**, **Password** and a **Hint** to remind you of the password.

2. Optionally click **E-Mail List** to enter e-mail addresses used to receive the password when forgotten.

3. Click **OK**. The main screen of GV-VMS and a dialog box appears.

4. To choose how to save your system database, select **Microsoft Office Access Database** or **Microsoft SQL Server** and fill out the required fields.

5. 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**.
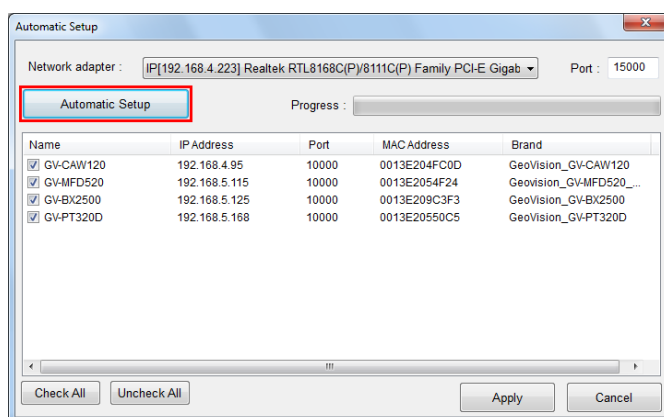
2. The default login information for cameras is **admin** / **admin**. Double-click the camera to modify the login info of cameras if needed.

3. Cameras added are now listed in the IP Device List.
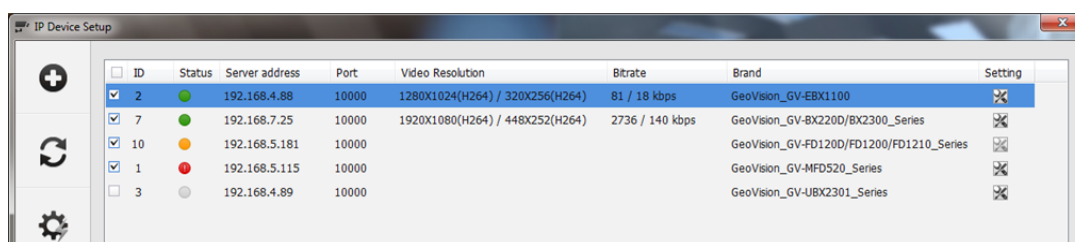
Status icons illustrated:

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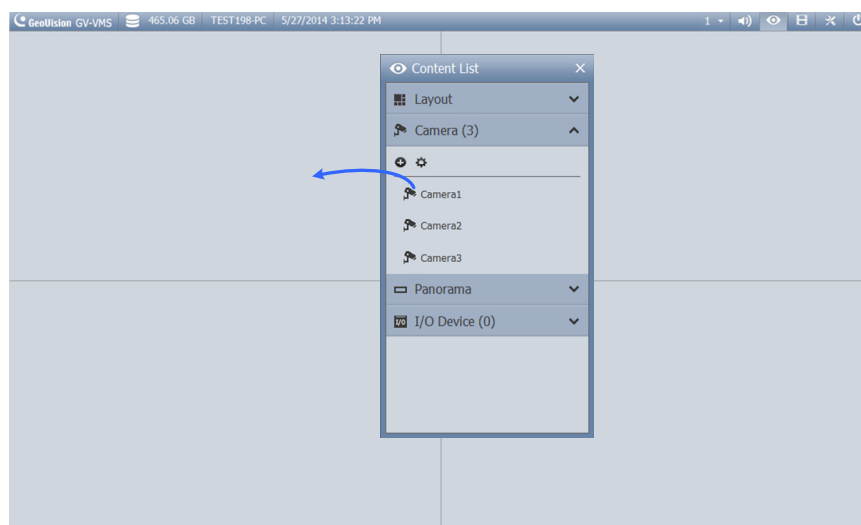
For details, see *Chapter 4 Live View* in this Quick Start Guide.

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*.

![GeoVision logo]

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**. This dialog box appears.
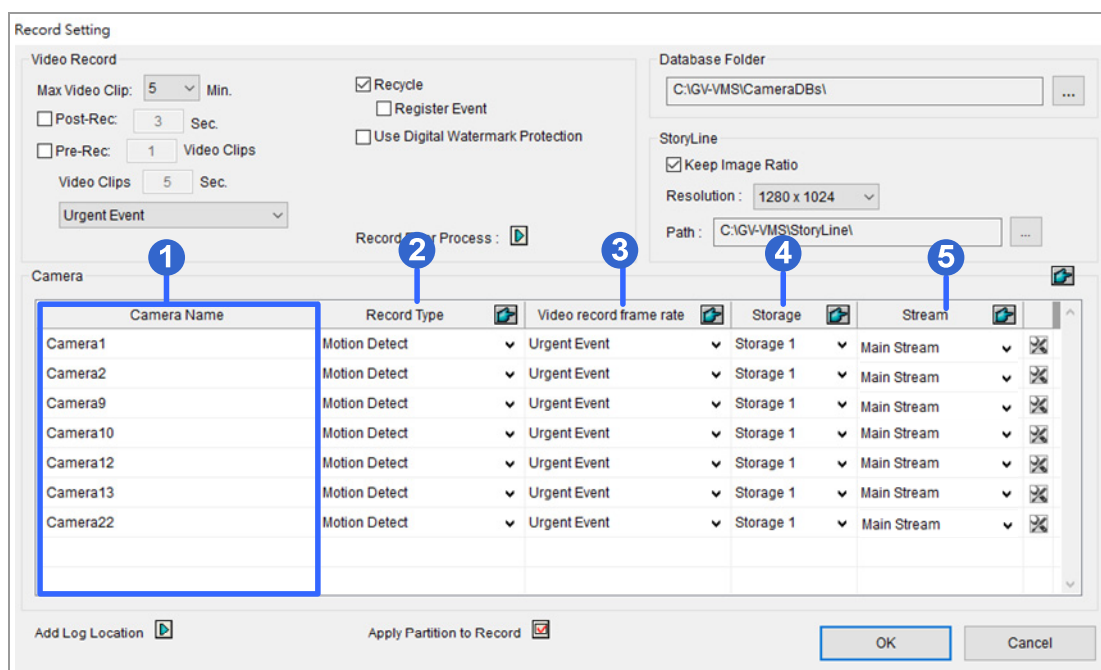
1. Select the camera(s) you want to configure.

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. By default, **Main Stream** is set to record high-resolution video images, while **Sub Stream** records lower-resolution video images. Select **Main Stream and Sub Stream** to record both streams simultaneously.

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.
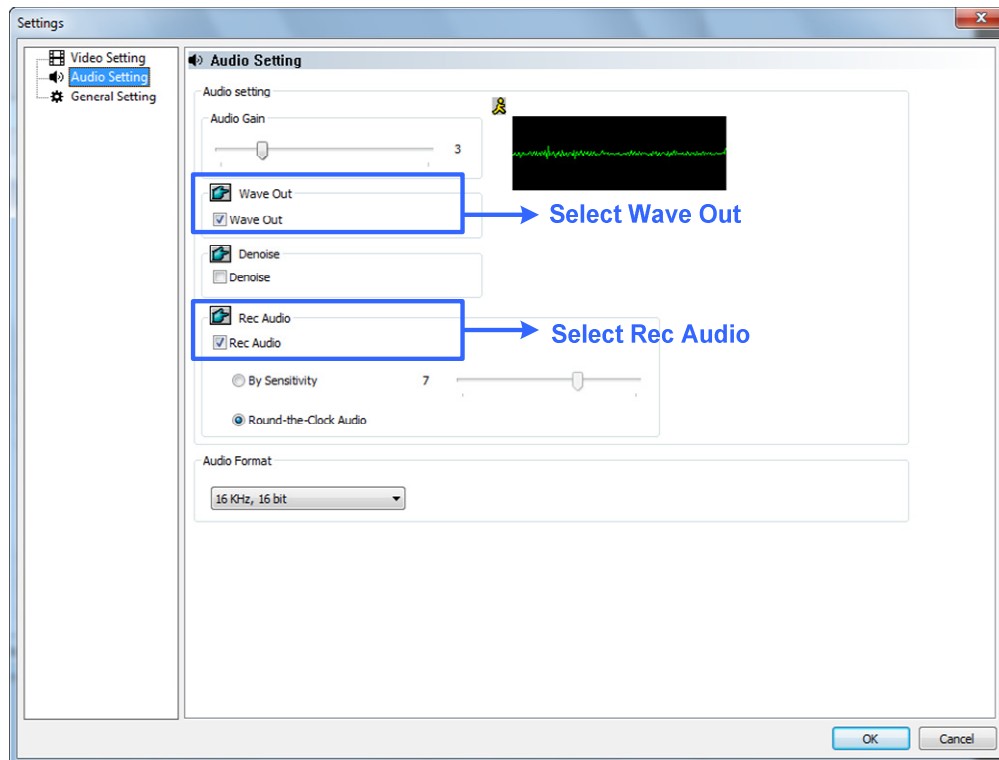
[Video Setting]

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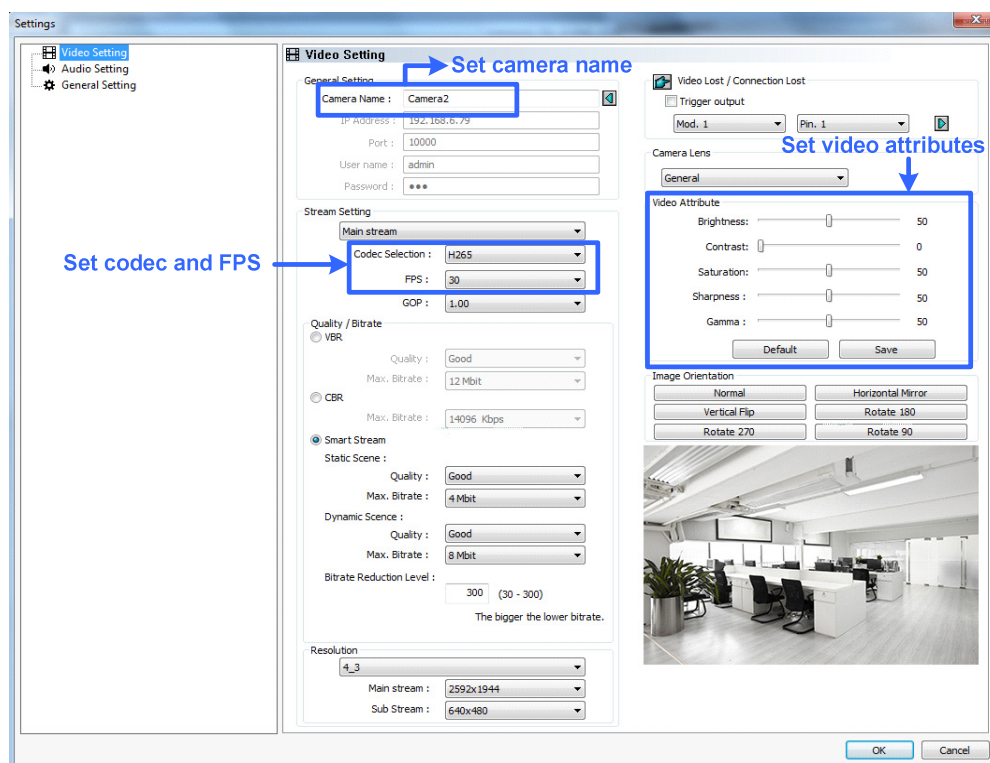
[Audio Setting]

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


1. To enable audio in camera live view, select **Wave Out**.

2. To enable audio recording, select **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 setting, on-demand display, live view frame rate, and recording frame rate settings.

Set live view frame rate

Set recording frame rate
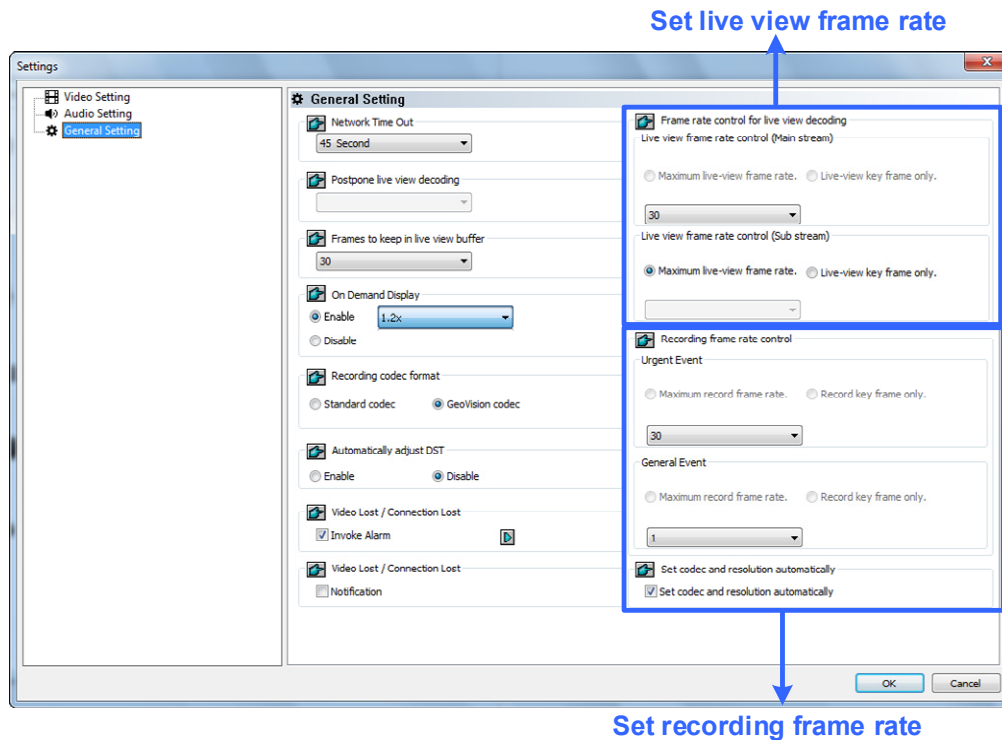
1. Under Live view frame rate control (Main / Sub Stream), you can set the live view frame rate.

    *   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 Configuring Camera Settings*). 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 Configuring Camera Settings*). 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.

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, see [The behavior of the talk back button], *Configuring General Settings* in *GV-VMS User's Manual*.
Tools ⚒	Includes the following options: • **Monitor:** Starts monitoring of the camera. • **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. (See *Storyline* in *GV-VMS User's Manual*)
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.
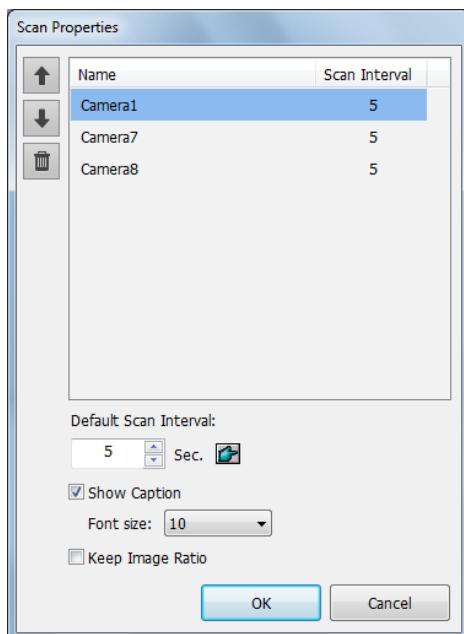
4.2.2 Scan Window

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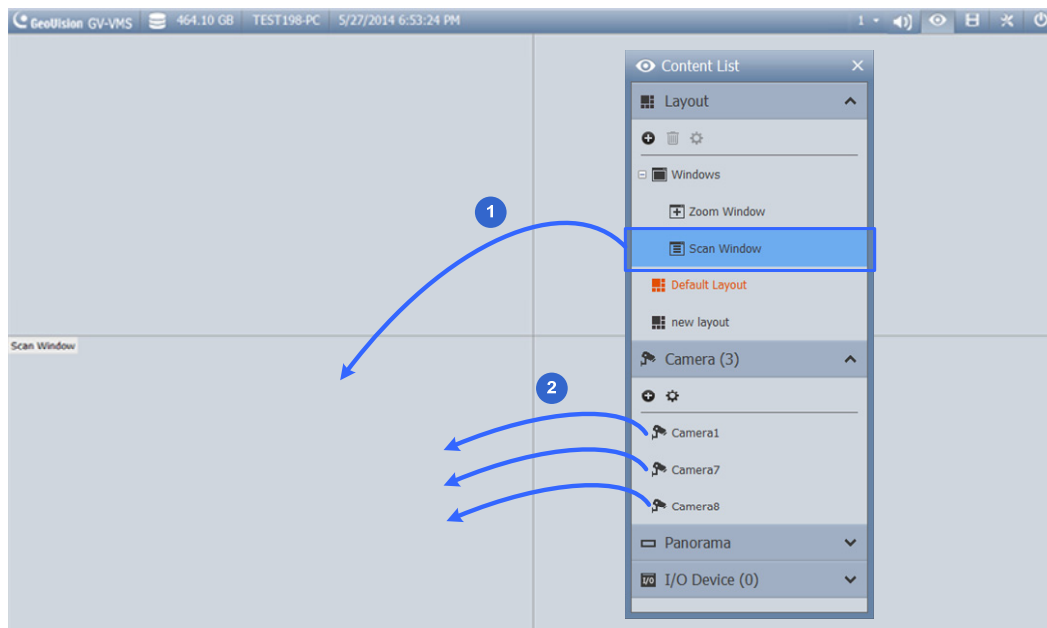
3. Move the cursor to the Scan Window, click **Tools** ⚒ and select **Properties**.

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.
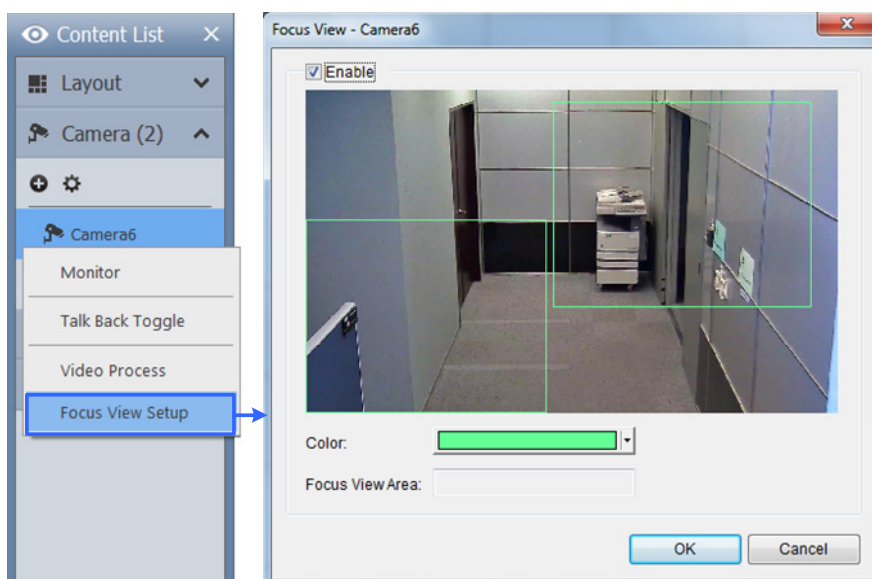
2. Click **Enable** and draw a box on the camera view to create a focus view. You can create multiple focus views if needed.

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.

PIP View (Picture-in-Picture)

You can zoom in on a camera by placing mouse cursor on its live view and scrolling the mouse. An inset window appears in the camera view with a navigation box inside.
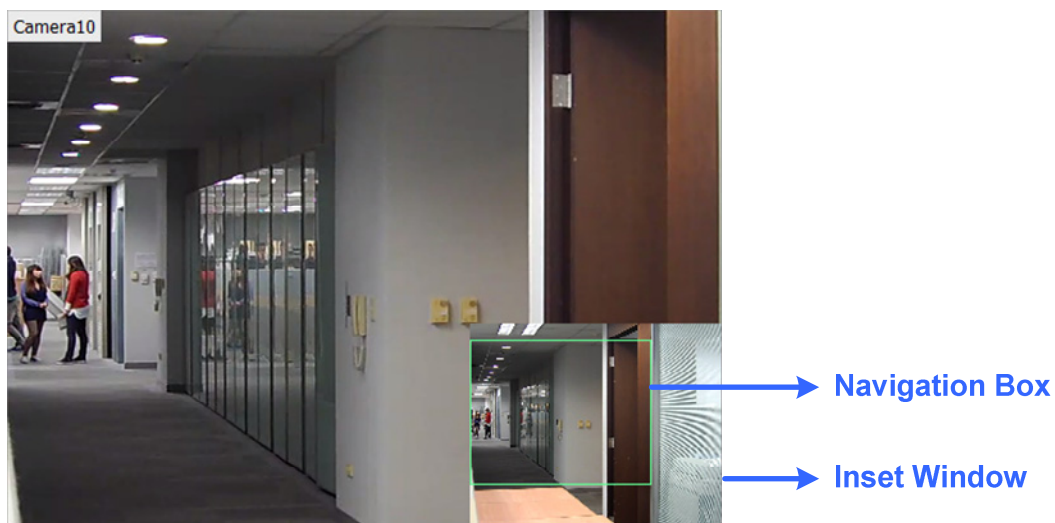

Move the navigation box around in the inset window to have a close-up view of the selected area.

4.3 Setting up Fisheye Cameras

1. In the Content List, drag the entire fisheye camera to the live view grid to see the circular source image, or expand the camera and drag one of the dewarped fisheye images to the live view grid.

Circular source image

Dewarped fisheye image

Individual views of the dewarped fisheye image
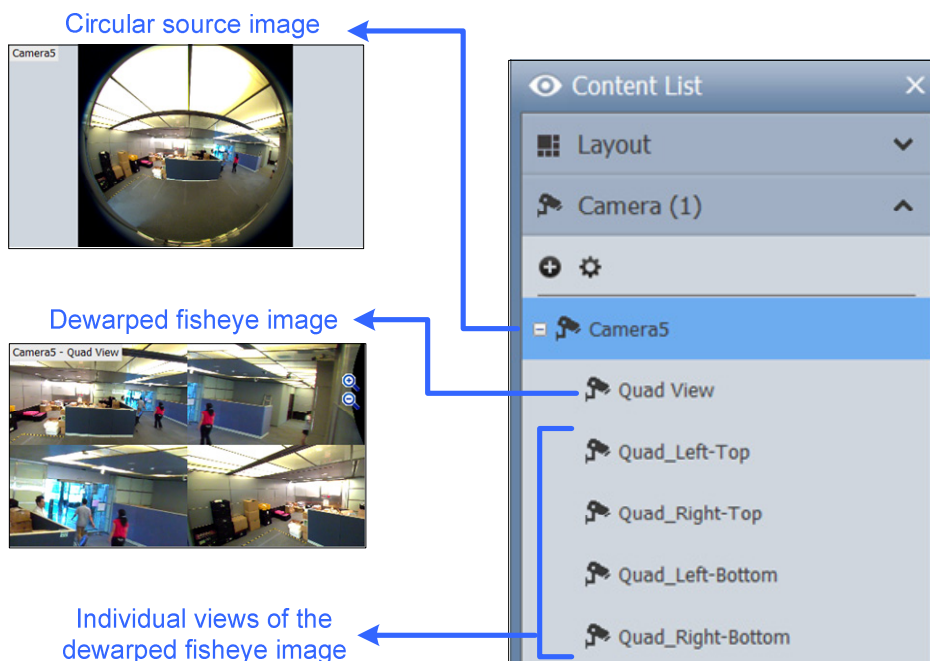
2. To change the fisheye mode or access other fisheye settings, right-click the fisheye camera and select **Fisheye Settings**.

3. Right-click the camera view and select **Fisheye Option** to access the fisheye functions.
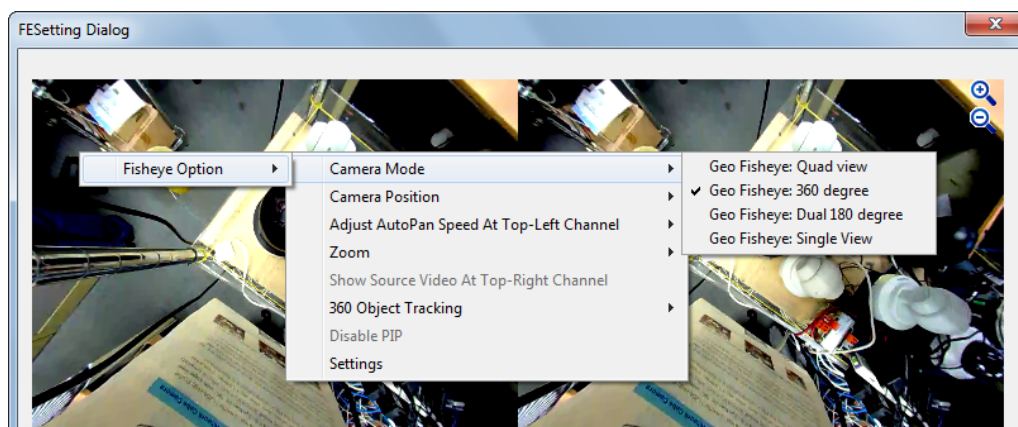
For details on the fisheye functions, see *Fisheye View*, Chapter 3, *GV-VMS User Manual*.

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. Move the cursor to the live view to see the PTZ control panel.
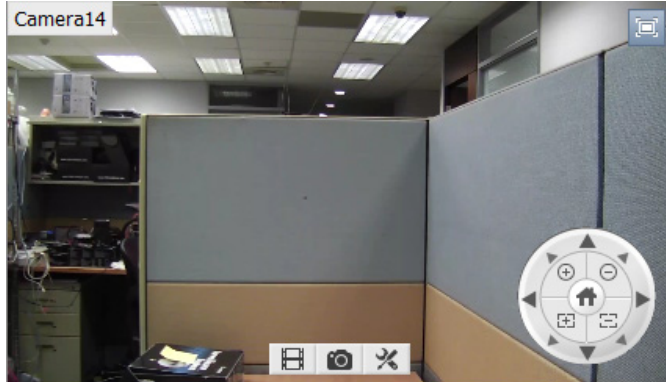
4. In the PTZ control panel, click **Home** 🏠 to access advanced PTZ functions, such as Preset Go, Cruise, Sequence and Tour.

5. In the Content List, right-click a PTZ camera and select **PTZ Setup** to configure PTZ speed and PTZ Idle Protection functions.

For details on the PTZ functions, see *PTZ Camera*, Chapter 1, *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.
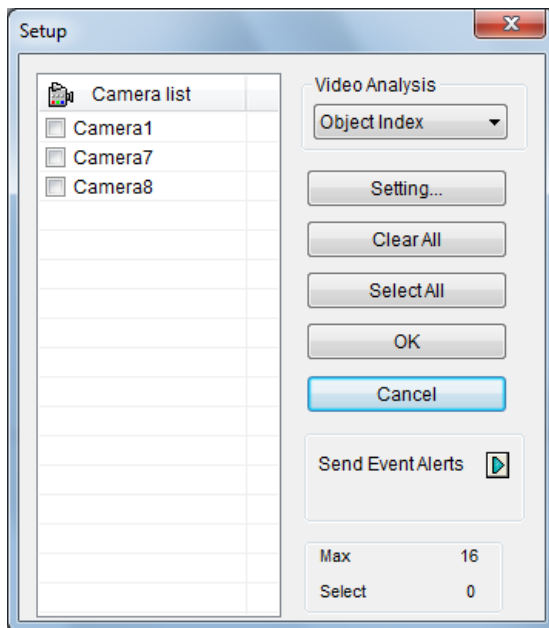
2. Select a function under **Video Analysis**.

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**.

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), Face Recognition

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
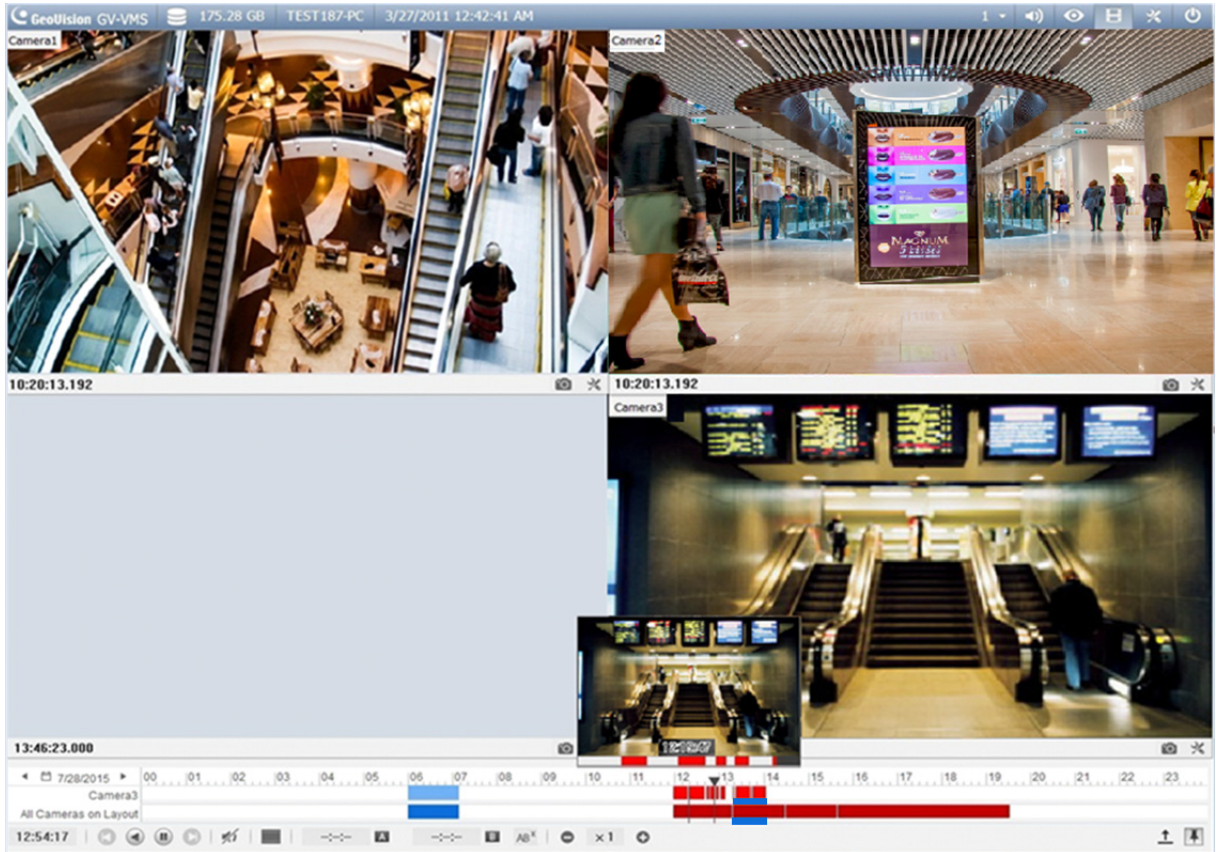
6.1 Playing Back Recorded Videos

1. To access recorded videos, click **ViewLog** in the top-right corner.

2. Open the Content List by clicking **Toolbar** > **Content List**.

3. Click **Layout** in the Content List, click the **Add** button ⊕, and select **Add Layout** to create a new layout or select **Import from Live** to import existing layouts from live view.

4. You can also drag cameras onto the screen from the Content List if needed.

5. On the left of the timeline, select a date.
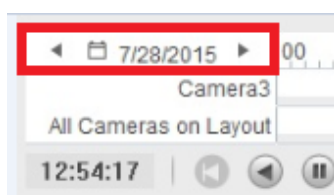
6. Click on the timeline to select a time with video recordings. You can scroll the mouse to zoom in and out on the timeline.

- **Light Blue** areas: videos recorded in round-the-clock mode.
- **Red** areas: motion and other alarm events.
- **Dark Blue** areas**:** audio recorded during motion and other alarm events.
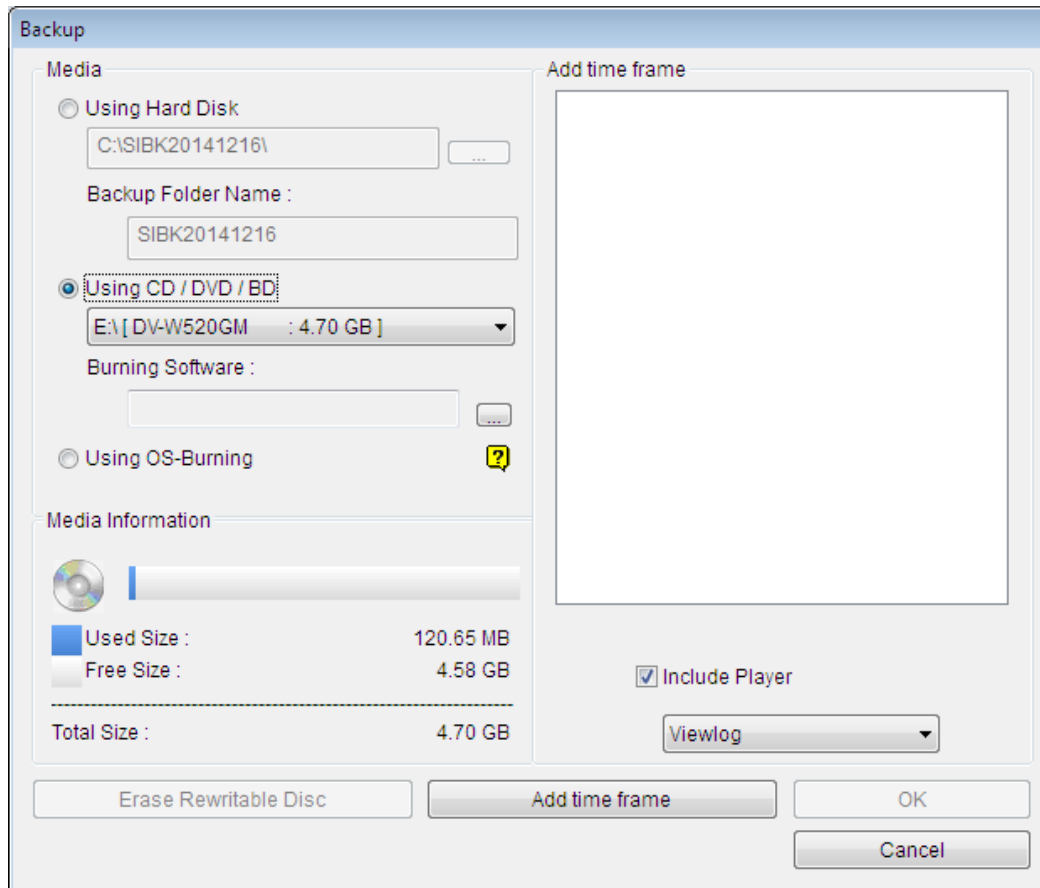

7. Use the playback control buttons to play back recordings. Place the cursor on the buttons to see the name of the function.
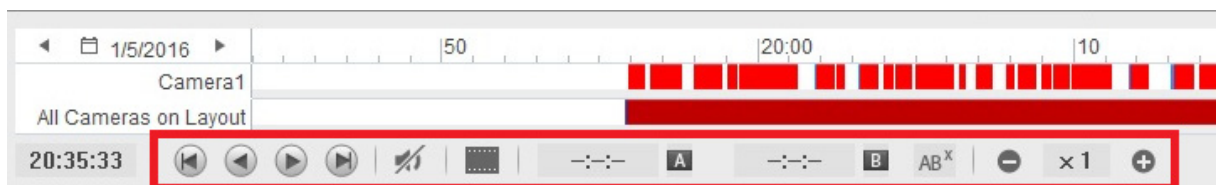
For details on the ViewLog player, see *Chapter 4 Video Playback*, *GV-VMS User's Manual*.

6.2 Backing Up Recorded Videos

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


2. Click **Add time frame** to select the time period and the cameras you want to back up and click **OK**.

3. Select a media to back up the recorded files using **Hard Disk**, **CD / DVD / BD** or **OS-Burning**. The supported software for burning to CD / DVD / BD is Nero Burning Rom version 9 or before.

4. To include the ViewLog player to the backed up files, select **Include Player** at the bottom-right of the dialog box. If no player is selected, you can only play the recordings using computer installed with GV-VMS or GeoVision video codec.

For details, see *Chapter 5 Backup, Deletion and Repair*, *GV-VMS User's Manual*.

Chapter 7 Other Important Features
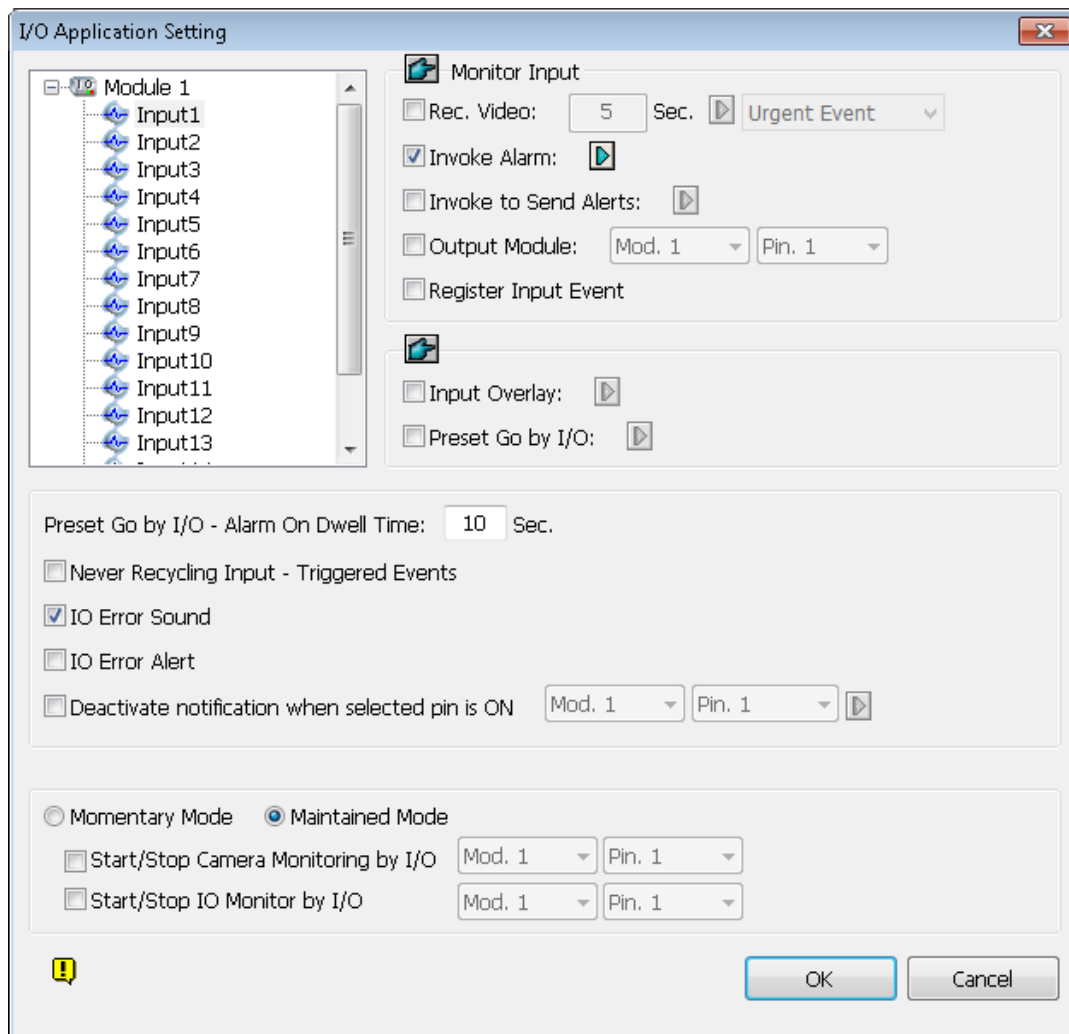
7.1 Setting up I/O Functions

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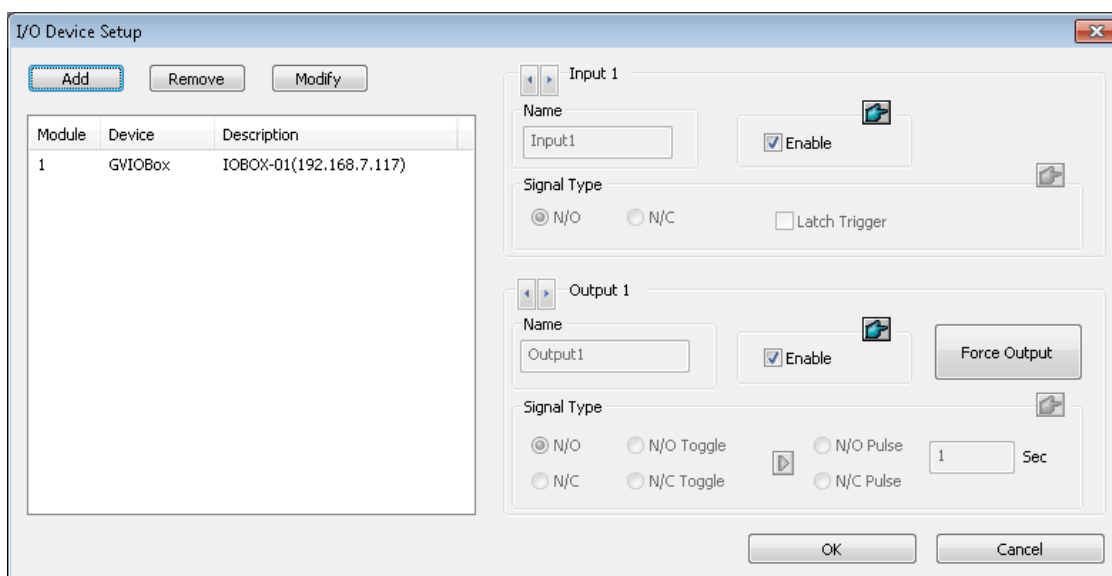
Note: The **Accessories** option only appears when GV-Keyboard or GV-Joystick has been set up on the GV-VMS. The **I/O Device** option only appears after at least one I/O device has been added.

2. Click **Add**. Then select the type of device you want to add and configure its connection settings.

3. For I/O devices connected through USB, you can configure **Signal Type** and **Latch Trigger** on GV-VMS.

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![GeoVision logo]

4. After the I/O devices are added, select **Toolbar** ![icon] > **Configure** ![icon] > **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** ![icon] > **Toolbar** ![icon] > **Monitor** ![icon] > **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.
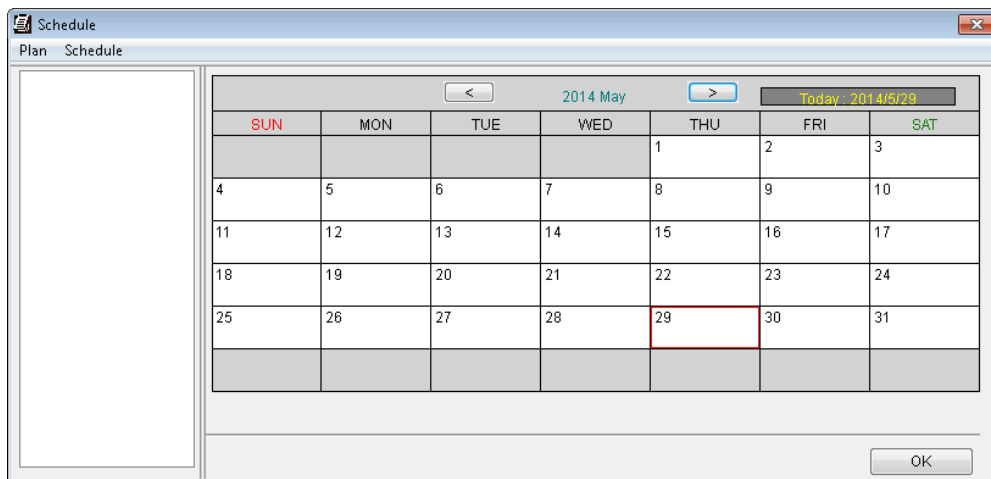
2. Click **Schedule** and select **Setup Wizard**. The Setup Wizard dialog box appears.

3. Select the days you want to apply the schedule to and click **Next**.

4. Name the schedule plan and click **Next**.

5. Select a button on the left (**Camera**, **AVP**, **I/O Monitoring**, **Server** or **PTZ Object Tracking**) and drag across the timeline to enable it during that time.
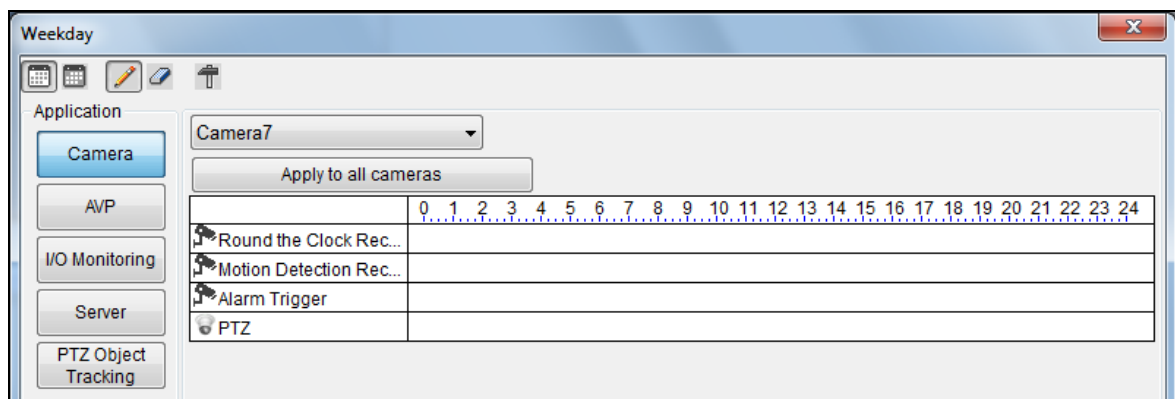
To set a recording schedule, click **Camera**, select a camera and click and drag on the desired time periods to specify how the camera is monitored throughout the day.

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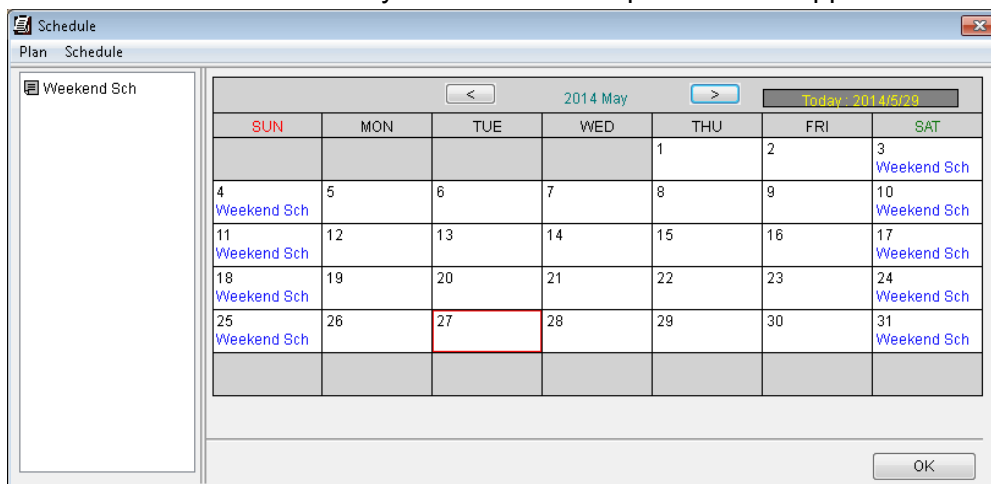
Tips:

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.

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7. Click **Home** 👁 > **Toolbar** 🛠 > **Monitor** 🖥 > **Start Schedule Monitoring**.

For details on setting up a schedule, see *Schedule*, Chapter 1, *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.
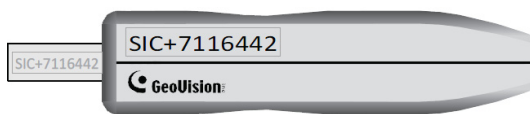
2.   Insert the dongle to the computer.

3.   In the software folder, double-click **GVUsbKeyUpClient.exe**. This dialog box appears.
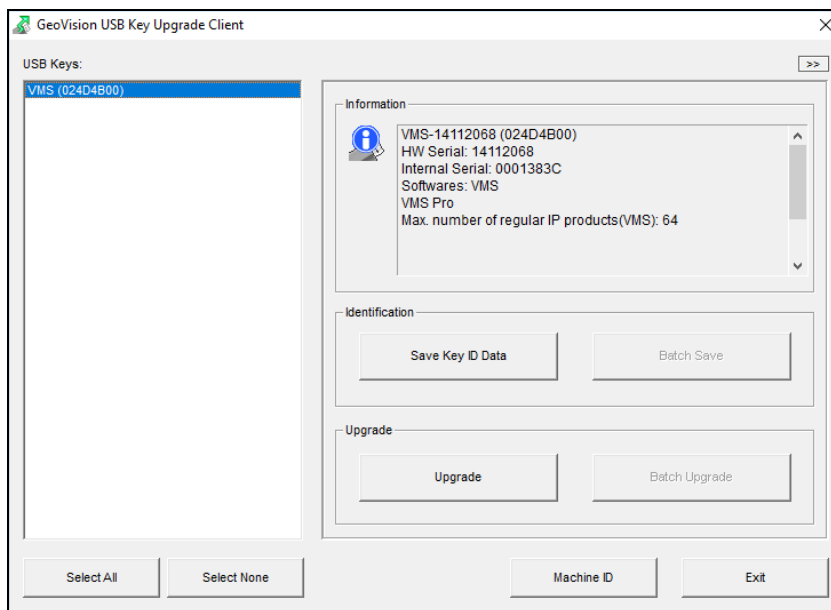
4.   To retrieve the data from the dongle, click **Select All**. The information of the dongle will be displayed in the information field. Note the displayed number of **HW Serial** should be the same as that on the dongle.

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.