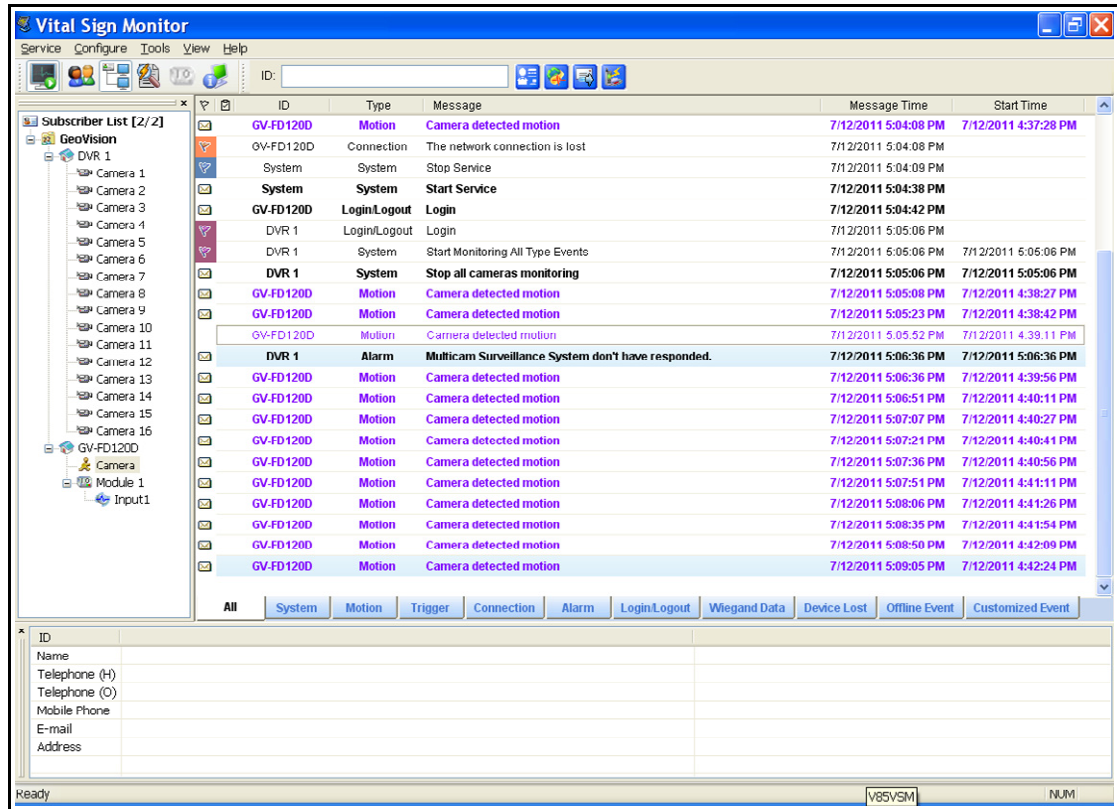


# Architectural and Engineering Specifications

## GV-VSM

Revision Date: 05/09/2013



The screenshot displays the Vital Sign Monitor (VSM) software interface. The main window shows a list of system events with columns for ID, Type, Message, Message Time, and Start Time. A left-hand pane shows a tree view of the system configuration, including a list of cameras (Camera 1 to Camera 16) and a DVR unit (DVR 1). The status bar at the bottom indicates the system is 'Ready' and the window title is 'V85VSM'.

ID	Type	Message	Message Time	Start Time
GV-FD120D	Motion	Camera detected motion	7/12/2011 5:04:08 PM	7/12/2011 4:37:28 PM
GV-FD120D	Connection	The network connection is lost	7/12/2011 5:04:08 PM	
System	System	Stop Service	7/12/2011 5:04:09 PM	
System	System	Start Service	7/12/2011 5:04:38 PM	
GV-FD120D	Login/Logout	Login	7/12/2011 5:04:42 PM	
DVR 1	Login/Logout	Login	7/12/2011 5:05:06 PM	
DVR 1	System	Start Monitoring All Type Events	7/12/2011 5:05:06 PM	7/12/2011 5:05:06 PM
DVR 1	System	Stop all cameras monitoring	7/12/2011 5:05:06 PM	7/12/2011 5:05:06 PM
GV-FD120D	Motion	Camera detected motion	7/12/2011 5:05:08 PM	7/12/2011 4:38:27 PM
GV-FD120D	Motion	Camera detected motion	7/12/2011 5:05:23 PM	7/12/2011 4:38:42 PM
GV-FD120D	Motion	Camera detected motion	7/12/2011 5:05:52 PM	7/12/2011 4:39:11 PM
DVR 1	Alarm	Multicam Surveillance System don't have responded.	7/12/2011 5:06:36 PM	7/12/2011 5:06:36 PM
GV-FD120D	Motion	Camera detected motion	7/12/2011 5:06:36 PM	7/12/2011 4:39:56 PM
GV-FD120D	Motion	Camera detected motion	7/12/2011 5:06:51 PM	7/12/2011 4:40:11 PM
GV-FD120D	Motion	Camera detected motion	7/12/2011 5:07:07 PM	7/12/2011 4:40:27 PM
GV-FD120D	Motion	Camera detected motion	7/12/2011 5:07:21 PM	7/12/2011 4:40:41 PM
GV-FD120D	Motion	Camera detected motion	7/12/2011 5:07:36 PM	7/12/2011 4:40:56 PM
GV-FD120D	Motion	Camera detected motion	7/12/2011 5:07:51 PM	7/12/2011 4:41:11 PM
GV-FD120D	Motion	Camera detected motion	7/12/2011 5:08:06 PM	7/12/2011 4:41:26 PM
GV-FD120D	Motion	Camera detected motion	7/12/2011 5:08:35 PM	7/12/2011 4:41:54 PM
GV-FD120D	Motion	Camera detected motion	7/12/2011 5:08:50 PM	7/12/2011 4:42:09 PM
GV-FD120D	Motion	Camera detected motion	7/12/2011 5:09:05 PM	7/12/2011 4:42:24 PM

## Definitions

The GV-VSM described in the document shall be one of GeoVision's central monitoring station (CMS) software that brings multiple systems, including GV-DVR/NVR, GV-IP Camera, GV-Video Server and GV-Compact DVR together into an integrated interface, allowing the operator to monitor and manage multiple systems from one point of control. When events occur, the GV-VSM shall be able to receive text notifications, activate local output/alarms (installed at the GV-VSM) and notify subscribers with e-mail/SMS.

- The specifications and functions described in this document are based on GV-VSM version 8.5.6.
- The GV-DVR/NVR, GV-IP Camera, GV-Video Server or GV-Compact DVR that is connected to the GV-VSM for central management is referred as subscriber in this document.

All specifications are subject to change without notice.

## A. Notifications

1. Upon events, the GV-VSM shall be able to receive text notifications, activate local output/alarm and send e-mail/SMS to inform the subscriber.
2. The GV-VSM shall support Event List, which shall be a window on GV-VSM's main screen that shows text notifications when events occur and the related information including flag, alarm report, user ID, event type, event message, message time (the time at which the event message is received by GV-VSM) and start time (the time at which the event occurred at the subscriber's site). The Event List window shall also support:
  - a. event tabs with which the administrator can click to sort events by type.
  - b. a "Customized Event" tab with which the administrator can click to instantly display events of the selected types.
  - c. event marking with flags.
  - d. customizable text color with which the administrator can have important event types highlighted or alert levels distinguished.

3. GV-VSM shall be able to:
  - a. receive text notifications upon events
  - b. activate alarm/output installed at the GV-VSM upon events
  - c. inform subscribers with e-mail/SMS upon events
  - d. manually activate alarm/output installed at the subscribers
4. When the subscribers do not log in or log out during the specified time, the administrator shall be able to receive text notifications and/or informed with output/alarm, and the subscriber shall be able to receive SMS/e-mail.
5. The administrator shall be able to manage event notifications using Event Log Browser. With Event Log Browser, the administrator shall be able to:
  - a. browse event entries based on criteria such as date, events with alarm reports, flagged events, events from a particular subscriber, event type, message time (the time at which the event message is received by GV-VSM) and start time (the time at which the event occurred at the subscriber's site).
  - b. back up alert messages to CDs or DVDs.
  - c. print event logs based on selected criteria.
6. The administrator shall be able to set up a minimum duration for Motion and Connection Lost events. Minimal duration shall be the minimal time period the event must persist for GV-VSM and its subscriber to be informed of the event by outputs, e-mail or SMS.
7. The administrator shall be able to specify how long the alert message stays red on the Event List.
8. The administrator shall be able to define the minimum duration between two alert messages on Event List upon motion/video lost events.
9. The administrator shall be notified when a subscriber's device temperature exceeds the specified temperature.
10. The GV-VSM shall support up to two GV-Failover Server which provide continuous monitoring when GV-VSM is interrupted.

11. The GV-VSM shall be able to generate statistical analysis on events based on selected criteria.

## **B. Playback**

1. The administrator shall be able to play back recordings saved at the subscribers using Remote ViewLog player.
2. Remote ViewLog player shall be able to:
  - a. play back frame by frame, the key frame or in real time.
  - b. play back fisheye view in different modes (quad view, 360 degree, dual 180 and Single View).
  - c. play back in PAP (Picture-And-Picture) or PIP (Picture-In-Picture) view.
  - d. turn on/off sounds or reduce audio noise.
  - e. adjust image quality with scaling (smoothens mosaic squares), deblocking (removes block-like artifacts), defog (improves visibility), stabilizer (improves stability) and Wide Angle Lens Dewarping (corrects distortion).

## **C. I/O Control**

1. The administrator shall be able to monitor GV-DVR/NVR subscriber's I/O devices in real time. More specifically, the GV-VSM administrator shall be able to:
  - a. view the status
  - b. arm or disarm I/O devices
  - c. force output devices
2. The administrator shall be able to manually trigger alarm/output installed at the GV-VSM and have the alarm/output automatically triggered when events occur.

## **D. Account Management**

1. An administrator account shall be able to establish administrator and user accounts with different accessibility to the system.
2. The GV-VSM shall support up to 1000 subscribers depending on the server specifications. See *G. System Requirements* in this document for details.
3. The GV-VSM shall be able to disconnect from selected subscribers if the subscriptions expire.
4. The administrator shall be able to group subscriber accounts.
5. The administrator shall be able to view a subscriber's information including video storage settings, available storage space, storage space used, device temperature, camera status (motion, video lost, monitoring on/off, and trigger on/off) and I/O device status.
6. The administrator shall be able to show storage and monitoring information (camera and I/O) of multiple subscribers.

## **E. System Settings**

1. The GV-VSM shall support the following features about connection:
  - a. Each GV-DVR/NVR subscriber shall be able to connect to 5 GV-VSM for simultaneous monitoring.
  - b. Each GV-IP Camera, GV-Video Server or GV-Compact DVR subscriber shall be able to connect up to 2 GV-VSM for simultaneously monitoring
  - c. The administrator shall be able to define the interval for re-connection when GV-DVR/NVR subscriber disconnects.
2. The GV-VSM shall support 31 languages: Arabic, Bulgarian, Czech, Danish, Dutch, English, Finnish, French, German, Greek, Hebrew, Hungarian, Indonesian, Italian, Japanese, Lithuanian, Norwegian, Persian, Polish, Portuguese, Romanian, Russian, Serbian, Simplified Chinese, Slovakian, Slovenian, Spanish, Sweden, Thai, Traditional Chinese, and Turkish.

3. For server system Windows XP Service Pack 2 or above, the GV-VSM shall support UPnP which allows automatic port configuration to the router.

## **F. Utilities**

The GV-VSM shall be bundled with the following utilities:

1. Fast Backup and Restore shall be available to back up and restore system settings.
2. MultiLang Tool shall be available for language editing of the user interface.
3. GV IP Device Utility shall be available to allow automatic detection of IP devices in the Local Area Network and quick access to IP device functions.
  - a. The administrator shall be able to access camera live view, adjust video attributes and monitor camera temperature.
  - b. The administrator shall be able to set the IP address of the device, upgrade firmware, export/import device settings and reboot the device.
  - c. The administrator shall be able to obtain the MAC addresses of the detected IP devices.

## G. System Requirements

- The minimum system requirements for GV-VSM shall adhere to the details below:

### Standard Requirements

<b>OS</b>	<b>32-bit</b>	Windows XP / Vista / 7 / Server 2008
	<b>64-bit</b>	Windows 7 / Server 2008
<b>CPU</b>	Pentium 4, 3.0 GHz with Hyper-Threading	
<b>RAM</b>	2 x 512 MB Dual Channels	
<b>Hard Disk</b>	1 GB or above	
<b>Graphic Card</b>	AGP or PCI-Express, 800 x 600 (1280 x 1024 recommended), 32-bit color	
<b>DirectX</b>	9.0c	
<b>Hardware</b>	Internal or External GV-USB Dongle	

### Advanced Requirements (Connects to 100 subscribers or more)

<b>OS</b>	<b>32-bit</b>	Windows XP / Vista / 7 / Server 2008
	<b>64-bit</b>	Windows 7 / Server 2008
<b>CPU</b>	Core 2 Duo, 2.4 GHz	
<b>RAM</b>	2 x 1 GB Dual Channels	
<b>Hard Disk</b>	1 GB or above	
<b>Graphic Card</b>	AGP or PCI-Express, 800 x 600 (1280 x 1024 recommended), 32-bit color	
<b>DirectX</b>	9.0c	
<b>Hardware</b>	Internal or External GV-USB Dongle	

- To ensure the downloading efficiency, the following bandwidth depending on the number of subscribers connected:

<b>Number of Subscribers</b>	<b>Recommended Bandwidth</b>
100	512 Kbps
500	2 Mbps
1000	4 Mbps

## H. Software Protection Dongles

1. An internal or external GV-USB dongle shall be required.
2. The GV-USB dongle shall be available in two types: internal and external. The internal dongle shall be able to restart the PC when the system (Windows) crashes or freezes.
3. The GV-USB dongle shall be available in the following combinations:
  - VSM
  - VSM + Control Center
  - VSM + Control Center + Video Wall
  - VSM + Center V2
  - VSM + Dispatch Server
4. A dongle shall be upgradable to support more applications. For example, a dongle for GV-VSM shall be expandable to also support GV-Control Center.
5. Using more than one dongle that supports different applications on one server shall be possible.