Architectural and Engineering Specifications

GV-Video Server

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The document is written using industry standard formatting and language, and is designed for use by architects, consultants, and specifying engineers who are preparing bid specifications for security cameras, surveillance systems and access control systems.

The electronic version of these specifications may be copied into the appropriate sections of a complete bid specification by using the "cut and paste" method. They are written to highlight the features and specifications of GeoVision products. Section headings mention specific models only for clarity – these may be deleted after insertion into the complete specification.

Products covered in this document include:
GV-VS2400

GV-VS2400 is a powerful H.264 Video Server with compact size and supports 4-channel TVI 1080p / 720p and analog 960H / D1 real-time video. It can be fully integrated with GV-DVR / NVR / VMS to form a powerful IP surveillance solution. GV-VS2400 converts analog signals into high-resolution digitized images of up to 2 megapixels and supports over 50 PTZ models to fulfill various project demands. It can record videos to a local USB storage, performing as a compact video recorder. It is also able to trigger Tampering Alarm alerts when cameras are tampered with, which can prevent criminal activities.

The video server shall work with the following software for surveillance use.

- ***GV-DVR / NVR / VMS:*** *video surveillance or management software*
- ***GV-Control Center, GV-Center V2 and GV-Vital Sign Monitor:*** *central monitoring station software*
- ***GV-Eye:*** *mobile app for live view and playback*
- ***GV-Backup Center:*** *remote backup software*
- ***GV-Recording Server:*** *large-scale video streaming and recording server*

All specifications are subject to change without prior notice. *For more information on GeoVision products, please visit www.geovision.com.tw.*

GV-Video Server

A. General Requirements

1. The video server shall support four channels and dual streams in converting videos from analog signals into high-resolution digitized images of up to 2 megapixels.
2. The video server shall support TVI / CVBS signal.
3. The main / sub stream shall utilize H.264 video compression methods with maximum resolutions and frame rates listed below.

Video Input	**NTSC**	**NTSC**	**PAL**	**PAL**
Video Resolution	HD, TVI 1920 x 1080	SD 960 x 480	HD, TVI 1920 x 1080	SD 960 x 576
Frame rate	30 fps	30 fps	25 fps	25 fps

4. The maximum number of streams supported for the video server over the network using the H.264 codec shall be sixteen (16) streams. When the video server is connected to IE browser or any other application, it shall take up one (1) stream. When the video server is connected to video surveillance or management software, it shall take up two (2) streams.
5. The Web interface shall provide administrator and guest level settings. The administrator account shall have full access to all the functions, and the guest account shall only have access to the cameras' live video and network status information.
6. The video server shall support PTZ cameras through RS-485 connections and coaxial cables.
7. Features such as live view, snapshots and PTZ control shall be accessible using the mobile app from iOS and Android devices.

B. Alarm and Notification Requirements

1. The video server shall be capable of motion detection.
2. The video server shall be able to ignore environmental changes such as rain or snow when detecting motion.
3. The video server shall be able to ignore video noise when the light intensity changes.
4. The video server shall support tampering alarm such that an E-mail notification or an output device is triggered when the camera is being tampered with.
5. The video server shall be capable of triggering four output devices when encountering: video lost, tampering alarm, recording start, recording stop, recording error and hard disk full.
6. The video server shall be capable of sending e-mail alerts when encountering: video lost, tampering alarm, recording error, motion detection and input device trigger. A captured image shall be attached with the e-mail when motion is detected or an input device is triggered.
7. The video server shall support FTP alerts. A captured image shall be sent to the FTP server as a notification when motion is detected or an input device is triggered.
8. The video server shall support monitoring through central monitoring stations. When motion is detected or an input device is triggered, a video or a text message shall be sent from the video server.

C. Live View Requirements

1. The video server shall support privacy mask to allow users to specify areas of the image to be blocked off on the live view and recorded clips for privacy purpose.
2. The video server shall support visual automation by which users can change the status of an output device directly on the live view image.
3. The video server shall support text overlay on the live and recorded videos. The overlaid text shall include camera name, date, time, triggered input name and/or customized text.

D. Recording and Playback Requirements

1. The video server shall be capable of recording videos according to a schedule, upon input trigger, and upon motion detection.
2. Pre-recording and post-recording functions shall be available.
3. The video server shall be capable of recording videos on a USB storage device or a FTP server.
4. Users shall be able to play back recorded data on the video surveillance or management software or over the network.
5. Scheduled backup of recordings to a remote computer shall be supported.

E. Video Requirements

1. The video server shall support both constant bitrate (CBR) and variable bitrate (VBR).
2. The image brightness, contrast, hue, sharpness and saturation shall be adjustable through the Web interface.
3. The camera shall support the image resolutions listed below.

Resolution	**NTSC HD**	**Main Stream**	1920 x 1080 (Default), 1280 x 720, 640 x 360, 448 x 252 for TVI Signal
		Sub Stream	640 x 360, 448 x 252 for TVI Signal
	NTSC SD	**Main Stream**	960 x 480, 720 x 480 (Default), 480 x 240, 360 x 240 for Analog Signal
		Sub Stream	480 x 240, 360 x 240 (Default) for Analog Signal
	PAL HD	**Main Stream**	1920 x 1080 (Default), 1280 x 720, 640 x 360, 448 x 252 for TVI Signal
		Sub Stream	640 x 360, 448 x 252 (Default) for TVI Signal
	PAL SD	**Main Stream**	960 x 576, 720 x 576 (Default), 480 x 288, 360 x 288 for Analog Signal
		Sub Stream	480 x 288, 360 x 288 (Default) for Analog Signal

F. Audio Requirements

1. The video server shall support the audio codec G.711.
2. The video server shall support two-way audio on Camera 1.

G. Network Requirements

1. The video server shall support 10/100/1000 Base-T Ethernet, 802.11b/g/n Wireless LAN and mobile broadband.
2. A built-in Web server shall be incorporated that allows users to watch the camera view using IE, Firefox, Chrome, Safari, Edge without the need for special viewer software.
3. The video server shall support the following network protocols: DHCP, DynDNS, FTP, HTTP, HTTPS, 3GPP/ISMA, NTP, ONVIF (Profile S), QoS (DSCP), RTSP, SMTP, SNMP, TCP, UDP, UPnP.
4. The video server shall support the following mobile broadband connectivity: HSDPA, UMTS, EDGE, GPRS and GSM.
5. Port settings shall be configurable.
6. The video server shall be capable of setting IP filtering to restrict access to the camera.
7. QoS (DSCP) shall be supported to allow differentiated bandwidth control.
8. The video server shall be capable of automatic connection to WiFi when both WiFi and 3G/4G are available.

H. Mechanical Requirements

1. The interface shall support 4 digital inputs and 4 digital outputs for sensor and alarm purposes.
2. The interface shall support 4 video inputs for 4 analog cameras.
3. The interface shall support 1 audio input and 1 audio output of 3.5 mm (0.14") stereo phone jack.
4. The interface shall support 2 USB 2.0 ports for the use of USB storage devices, firmware upgrade, WiFi adaptor or wireless mobile broadband modem.
5. The interface shall support RS-485 for PTZ camera connection.
6. The video server shall have the dimensions of 174 x 145 x 40 mm / 6.85 x 5.7 x 1.57 in.
7. The video server shall have a weight of 0.73 kg / 1.61 lb.
8. The video server shall support 1 external hard disk (2.5"or 3.5") of up to 4 TB capacities.

9. The video server shall support video signal transmission with a distance of up to 300 m (984 ft). When transmitting video signals over a long distance, it is highly recommended to use 5C-FB coaxial cables or above to minimize the degradation of image quality.

I. Power Requirements
   1. Power shall be provided using the supplied power adaptor.
   2. The video server shall be capable of receiving power from 12V, 3.0A.
   3. The power consumption of the video server shall be 36 W.

J. Environmental Requirements
   1. The operating temperature shall be within the range of -20°C ~ 50°C / -4°F ~ 122°F.
   2. The humidity shall be within the range of 0% to 85% with no condensation.

K. System Requirements
   1. The video server shall be accessible through Web browsers including Microsoft Internet Explorer (version 8.0 or later), Google Chrome, Mozilla Firefox, Safari and Microsoft Edge.

L. Language Requirements
   1. The video server shall support 31 languages on the Web interface, including 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, Swedish, Thai, Traditional Chinese and Turkish.

M. Certifications and Approvals
   1. CE, FCC, RCM, RoHS Compliant

N. Packing List shall include:

1. GV-VS2400
2. AC Power Cord
3. Power Adaptor
4. Download Guide
5. Warranty Card

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