Architectural and Engineering Specifications

GV-Vandal Proof IP Dome

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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-VD1500 / 2500 / 3400.

These Vandal Proof IP Domes are outdoor cameras designed with IK10+ vandal resistance and IP67 ingress protection. They provide superior night vision with their multiple IR LEDs. The super low lux models (GV-VD1500 / GV-VD2500) are able to display color live view in dear darkness. The WDR Pro model (GV-VD3400) can process scenes with contrasting intensity of lights.

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

GV-Vandal Proof IP Dome

A. General Requirements

1. The camera shall be a dual-stream, day/night, network camera equipped with the following image sensor:

GV-Vandal Proof IP Dome	Image Sensor
GV-VD1500	1/3” progressive scan super low lux CMOS
GV-VD2500	1/2.8” progressive scan super low lux CMOS
GV-VD3400	1/3.2” progressive scan CMOS

2. The main stream shall utilize H.264 and MJPEG video compression methods with the maximum resolution and frame rate as below:

GV-Vandal Proof IP Dome	Max. Resolution & Frame Rate
GV-VD1500	1280 x 1024 at 30 fps (60/50 Hz)
GV-VD2500	1920 x 1080 at 30 fps (60/50 Hz)
GV-VD3400	2048 x 1536 at 20 fps (60/50 Hz)

3. The sub stream shall utilize H.264 and MJPEG video compression methods with a resolution up to 640 x 512 at a maximum frame rate of 30 fps.

4. Live view shall be accessible through network and TV monitor using a video-out wire with BNC connector. The resolution for TV-out shall be up to 1280 x 1024 for single stream and up to 640 x 480 for dual streams.
5. The maximum numbers of streams supported for the camera over the network, using the H.264 codec are described as below.

GV-Vandal Proof IP Dome	Max. Number of Streams
GV-VD1500	8
GV-VD2500 GV-VD3400	6

Note when the camera is connected to GV-System (GV-DVR/NVR) or GV-VMS, video management software, it shall take up two (2) streams and when it is connected to IE browser or any other application, it shall take up one (1) stream.

6. The camera shall provide administrator and guest account settings on the Web interface. The administrator account shall have full access to all the functions, and the guest account shall only have access to camera live view and network status information.

B. Alarm and Notification Requirements

1. The camera shall be capable of motion detection.
2. A privacy mask function shall be provided for users to specify areas to be blocked off on the camera view for privacy purpose. The function shall also be supported through ONVIF/RTSP connection.
3. The camera shall support tampering alarm such that an E-mail notification or an output device shall be triggered when the camera is being tampered.
4. The camera shall support visual automation function such that the connected output devices can be triggered by clicking its image on the live view.
5. The camera shall be capable of triggering an output device or sending E-mail alert when recording errors occur and when the memory card is full.

6. The camera shall have E-mail and FTP ability for alert notification. When motion is detected, a captured still image will be sent by E-mail or to the FTP server.
7. The camera shall be capable of integration with video management software or a central monitoring station. The video or text alerts shall be sent upon alarm event.

C. Recording and Playback Requirements

1. The camera shall be capable of beginning recording according to a schedule, upon input trigger, and upon motion detection.
2. The camera shall be capable of storing recorded data on an inserted micro SD/SDHC memory card (version 2.0, Class 10), an FTP server, GV-System (GV-DVR/NVR), GV-Backup Center, GV-Recording Server, GV-VMS, and GV-NAS System.
3. Scheduled backup shall be supported when connected to a server installed with the GV-Backup Center program.
4. Pre-recording and post-recording functions shall be available.
5. Users shall be able to play back recorded data over network or on a video management software, GV-System (GV-DVR/NVR) or GV-VMS.

D. Video Requirements

1. The camera shall support both constant bitrate (CBR) and variable bitrate (VBR). For variable bitrate (VBR), the maximal bit rate shall be selectable to restrict the system from exceeding a specified bit rate.
2. The following white balance settings shall be selectable on the Web interface: auto, indoor, outdoor, fluorescent and manual. The manual white balance range shall be approximately 2800 degrees to 8500 degrees Kelvin.
3. The camera shall have an automatic and manual shutter with the speed range of 1/5 – 1/8000 seconds.
4. The camera shall support the following image adjustment on the Web interface: image brightness, contrast, saturation, sharpness, gamma, flicker-less, image orientation, backlight compensation, D/N sensitivity, WDR and defog.
5. GV-VD1500 / 2500 shall support the super low lux function with which the camera can display color live views in near darkness, with minimum illumination of 0.01 lux for 1 MP and 0.02 lux for 2 MP.

6. The camera shall support three (3) aspect ratios: 4:3, 16:9 and 5:4.

GV-VD1500	**Main Stream**	**4:3**	1280 x 960, 640 x 480, 320 x 240
		16:9	1280 x 720, 640 x 360, 448 x 252
		5:4	1280 x 1024 (Default), 640 x 512, 320 x 256
	Sub Stream	**4:3**	640 x 480, 320 x 240
		16:9	640 x 360, 448 x 252
		5:4	640 x 512, 320 x 256 (Default)
GV-VD2500	**Main Stream**	**4:3**	1600 x 1200, 1280 x 960, 640 x 480, 320 x 240
		16:9	1920 x 1080 (Default), 1280 x 720, 640 x 360, 448 x 252
		5:4	1280 x 1024, 640 x 512, 320 x 256
	Sub Stream	**4:3**	640 x 480, 320 x 240
		16:9	640 x 360, 448 x 252 (Default)
		5:4	640 x 512, 320 x 256
GV-VD3400	**Main Stream**	**4:3**	2048 x 1536 (Default), 1600 x 1200, 1280 x 960, 640 x 480, 320 x 240
		16:9	1920 x 1080, 1280 x 720, 640 x 360, 448 x 252
		5:4	1280 x 1024, 640 x 512, 320 x 256
	Sub Stream	**4:3**	640 x 480, 320 x 240 (Default)
		16:9	640 x 360, 448 x 252
		5:4	640 x 512, 320 x 256

7. The S/N ratio for the camera shall be as described below.

Models	S/N Ratio
GV-VD1500	55 dB
GV-VD2500	52 dB
GV-VD3400	47 dB

E. Audio Requirements

1. The camera shall support audio codec G.711.
2. The camera shall support two-way audio transmission.
3. The camera shall be equipped with RCA female connectors to support one external microphone and one speaker.

F. Networking Requirements

1. The camera shall be equipped with a 10/100 Ethernet, RJ-45 connector as a network interface.
2. The camera shall be built with a Web server with which the live view is accessible using Web browsers, without the need for special viewer software.
3. The camera shall support the following network protocols: DHCP, DynDNS, FTP, HTTP, HTTPS, NTP, ONVIF (Profile S), PSIA, QoS (DSCP), RTSP, SMTP, TCP, UDP, UPnP and 3GPP/ISMA.
4. Port settings shall be configurable.
5. The camera shall be able to filter or allow specific IP addresses to restrict access to the camera.
6. QoS (DSCP) shall be supported to allow differentiated bandwidth control.

G. Lens Requirements

1. The camera shall be equipped with a lens of the lens type and focal length as below.

Models	Lens Type	Focal Length
GV-VD1500 GV-VD2500 GV-VD3400	Varifocal lens	3 ~ 9 mm

2. The camera shall be equipped with a removable IR-cut filer.
3. The maximum aperture of the camera shall be F/1.2.
4. The camera shall be of ø 14 mm lens mount.

5. The camera shall have the image format as below..

Models	Image Format
GV-VD1500	1/3 inch
GV-VD2500 GV-VD3400	1/2.7 inch

6. The camera shall support automatic gain control.
7. The *WDR Pro* model (GV-VD3400) shall be equipped with a WDR sensor to process scenes with contrasting intensity of lights.
8. The dynamic range for each model shall be as described below.

Models	Dynamic Range
GV-VD1500	Up to 72 dB
GV-VD2500	
GV-VD3400	Up to 100 dB

9. The horizontal field of view for each model shall be as described below.

Models	Horizontal FOV
GV-VD1500	90° ~ 32°
GV-VD2500	103° ~ 36°
GV-VD3400	86° ~ 31°

10. The camera shall have the minimum illumination as described below.

Models	Minimum Illumination
GV-VD1500	0.01 lux in color mode 0.01 lux in B/W mode 0 lux in B/W mode with IR on
GV-VD2500	0.02 lux in color mode 0.02 lux in B/W mode 0 lux in B/W mode with IR on
GV-VD3400	0.08 lux in color mode 0.05 lux in B/W mode 0 lux in B/W mode with IR on

11. The camera shall be equipped with 10 IR LEDs with the maximum IR distance of 30 m (98.4 ft).

H. Mechanical Requirements

1. The camera shall adopt a 3-axis design and be able to pan (0° ~ 350°), tilt (10° ~ 90°) and rotate (0° ~ 340°).
2. The camera shall be equipped with interface for 1 sensor input (dry contact) and 1 alarm output (200 mA, 5V DC).
3. The camera shall have a dimension of Ø 165 (diameter) x 125 (height) mm (6.49” x 4.92”).
4. The camera shall have a weight of 1.7 kg (3.75 lb).
5. The camera shall have a built-in temperature detector to detect the chipset temperature inside the camera.
6. The camera shall support ceiling installation with the standard package.
7. The camera shall contain an IR-cut filter to switch the camera from color to monochrome mode automatically by sensing the illumination level or via an input device.

I. Power Requirements

1. Power shall be connected using the supplied power adapter or the Power over Ethernet (PoE).
2. The camera shall be capable of receiving power from 12V DC / 24V AC and IEEE802.3af Power over Ethernet (PoE).
3. The maximum power consumption shall be 12 W.

J. Environmental Requirements

1. The camera shall be able to tolerate between -30°C ~ 50°C (-22°F ~ 122 °F).
2. The humidity shall be within the range of 10% to 90% with no condensation.
3. The camera shall comply with IP67 protection classification.
4. The camera shall comply with IK10+ vandal resistance.

K. System Requirements

1. The camera shall be accessible through Web browsers including Microsoft Internet Explorer (version 7.0 or later), Google Chrome, Mozilla Firefox and Safari.

L. Language Requirements

1. The camera 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. Applications

1. The camera shall support the following software for network storage:
   - Video management software: GV-System (GV-DVR/NVR), GV-VMS
   - Backup and Recording software: GV-Backup Center, GV-Recording Server
   - NAS system: GV-NAS System
2. The camera shall support smart device access using GV-Eye mobile app. for live view display and remote playback.
3. The camera shall allow remote access from central management stations, such as GV-Control Center, GV-Center V2 and GV-Vital Sign Monitor.

N. Packing List shall include:

1. GV-Vandal Proof IP Dome
2. Torx Wrench
3. Power Adapter
4. Screw Anchor x 4
5. Ceiling Screw x 4
6. Blue Screw x 3
7. T-cap Screw x 3
8. Small Screw Cap x 3
9. T-Cap x 3
10. Plastic Clip x 3
11. Focus Adjustment Cap
12. 2-Pin Terminal Block
13. Silica Gel Bag x 2
14. GV-IPCAM H.264 Software DVD
15. GV-IPCAM H.264 Quick Start Guide

16. GV-NVR Software DVD
17. GV-NVR Quick Start Guide

O. Certifications and Approvals

1. CE, FCC, RCM, RoHS Compliant