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-VD4702 (H.265 model)
GV-VD4712 (H.265 model)
GV-VD5702 (H.265 model)

The Vandal Proof IP Domes are outdoor cameras equipped with a removable IR-cut filter for optimal day and night surveillance. The cameras adhere to IK10 vandal resistance and IP67 ingress protection. They support H.265 video codec to achieve better compression ratio while maintaining high quality picture. With its super low lux CMOS image sensor and WDR Pro, GV-VD4702 / 4712 is capable of providing a color live view in near darkness, and also under contrasting light intensities.

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-VD4702 / 4712	1/3” progressive scan super low lux CMOS
GV-VD5702	1/1.8” progressive scan low lux CMOS

2. The main stream shall utilize H.265 and H.264 video compression methods with the maximum resolution and frame rate as below:

GV-Vandal Proof IP Dome	Max. Resolution & Frame Rate
GV-VD4702 / 4712	2592 x 1520 at 20 fps 2560 x 1440 at 25 fps 2048 x 1520 at 25 fps (50 Hz) 2592 x 1520 at 20 fps 2560 x 1440 at 24 fps 2048 x 1520 at 30 fps (60 Hz)
GV-VD5702	2592 x 1944 at 30 fps (60 Hz) 2592 x 1944 at 25 fps (50 Hz)

3. The sub stream shall utilize H.265, H.264 and MJPEG video compression methods with a resolution up to 1280 x 1024 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 720 x 486 for NTSC, and up to 720 x 576 for PAL.
5. The maximum number of streams supported for the camera over the network, using the H.265 / H.264 codec is described as below.

GV-Vandal Proof IP Dome	Max. Number of Streams
GV-VD4702 / 4712 / 5702	8

Note when the camera is connected to the video management software GV-DVR / NVR / VMS, it shall take up two (2) streams and when the 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 / SDXC / UHS-I memory card (Class 10), an FTP server, GV-DVR / NVR / VMS, GV-Backup Center and GV-Recording Server.
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-DVR / NVR / VMS.

D. Video Requirements

1. The camera shall support Smart Streaming function, with which the bitrates will be automatically reduced in static scenes, significantly maximizing bandwidth and lowering file size. It works with compatible version of GV-DVR / NVR / VMS.
2. 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.
3. 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.
4. The camera shall have an automatic and manual shutter with the speed range of 1/5 – 1/16000 seconds.
5. The camera shall support the following image adjustment on the Web interface: image brightness, contrast, saturation, sharpness, gamma, white balance, flicker-less, image orientation, shutter speed, backlight compensation, D/N sensitivity, WDR Pro, defog, low lux enhancement, denoise and metering.
6. The motorized varifocal lens model, GV-VD4712, shall support remote focus change through the Web interface. The user shall be able to:
   - focus in and focus out.

- automatically focus using a quick focus (Normal Scan), partial focus of a selected region (Regional Scan) or a detailed, full-view focus (Full Scan).
- set up a manually adjusted focus for day mode and night mode.

7. The super low lux model, GV-VD4702 / 4712, shall be equipped with a super low lux CMOS sensor to display color live view in near darkness.
8. The camera shall have the minimum illumination as described below.

Models	Minimum Illumination
GV-VD4702 / 4712	0.03 lux in color mode 0.02 lux in B/W mode 0 lux in B/W mode with IR on
GV-VD5702	0.04 lux in color mode 0.03 lux in B/W mode 0 lux in B/W mode with IR on

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

GV-VD4702 / 4712	**Main Stream**	**4:3**	2048 x 1520, 1600 x 1200, 1280 x 960, 640 x 480
		16:9	2592 x 1520, 2560 x 1440 (Default), 2304 x 1296, 1920 x 1080, 1280 x 720, 640 x 360
		5:4	1280 x 1024, 640 x 512
	Sub Stream	**4:3**	1024 x 768, 640 x 480, 320 x 240
		16:9	1280 x 720, 640 x 360 (Default), 448 x 256
		5:4	1280 x 1024, 640 x 512, 320 x 256
GV-VD5702	**Main Stream**	**4:3**	2592 x 1944 (Default), 2048 x 1536, 1600 x 1200, 1280 x 960, 640 x 480
		16:9	2592 x 1520, 2304 x 1296, 1920 x 1080, 1280 x 720, 640 x 360
		5:4	1280 x 1024, 640 x 512
	Sub Stream	**4:3**	1024 x 768, 640 x 480 (Default), 320 x 240
		16:9	1280 x 720, 640 x 360, 448 x 256
		5:4	1280 x 1024, 640 x 512, 320 x 256

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

Models	S/N Ratio
GV-VD4702 / 4712 GV-VD5702	50 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 stereo phone jacks (3.5 mm / 0.14”) 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), QoS (DSCP), RTSP, SNMP, 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-VD4702	Varifocal lens with P-iris	2.8 ~ 12 mm
GV-VD5702		4 ~ 8 mm
GV-VD4712	Motorized varifocal lens with 4.3x optical zoom and P-iris	2.8 ~ 12 mm

2. The camera shall be equipped with a removable IR-cut filer to switch from color to monochrome mode automatically by sensing the illumination level.

3. The camera shall have the maximum aperture as below.

Models	Maximum Aperture
GV-VD4702	F/1.7
GV-VD4712	F/1.4
GV-VD5702	F/1.63

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-VD4702 / 4712	1/2.7”
GV-VD5702	1/1.8”

6. The camera shall support automatic gain control.
7. The WDR Pro model, GV-VD4702 / 4712, shall be equipped with a WDR Pro 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-VD4702 / 4712	Up to 120 dB
GV-VD5702	Up to 72 dB

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

Models	Horizontal FOV
GV-VD4702	102° ~ 36°
GV-VD4712	90° ~ 35°
GV-VD5702	90° ~ 48°

10. The camera shall be equipped with 4 high-power 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 (0° ~ 75°) 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 160 (diameter) x 108.4 (height) mm (6.2” x 4.27”).
4. The camera shall have a weight of 1.15 kg (2.54 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.

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 and IEEE802.3af Power over Ethernet (PoE).
3. The maximum power consumption shall be 6.4 W for GV-VD4702, 8.16 W for GV-VD4712, and 7.3 W for GV-VD5702.

J. Environmental Requirements

1. The varifocal lens model, GV-VD4702 / 5702 shall be able to tolerate between -20°C ~ 50°C (-4°F ~ 122 °F) at startup and -30°C ~ 50°C (-22°F ~ 122 °F) during operation.
2. The motorized varifocal lens model, GV-VD4712, shall be able to tolerate between -20°C ~ 50°C (-4°F ~ 122 °F) at startup and during operation.
3. The humidity shall be within the range of 10% to 90% with no condensation.
4. The camera shall comply with IP67 protection classification.
5. 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 8.0 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-DVR / NVR / VMS
   - Backup and Recording software: GV-Backup Center, GV-Recording Server
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-H.265 Vandal Proof IP Dome
2. Screw x 4
3. Screw Anchor x 4
4. TV-Out Wire
5. Audio Wire x 2
6. I/O Cable
7. Installation Sticker
8. Conduit Converter
9. PG21 Conduit Connector
10. RJ-45 Connector
11. Waterproof Rubber Sets
    (for RJ-45 Cat.5 and DC 12V / for RJ-45 Cat.6)
12. Torx Wrench
13. Big Concave Hexagon Wrench
14. Small Concave Hexagon Wrench
15. Silica Gel Bag
16. Sticker (for Silica Gel Bag)
17. Ruler
18. Download Guide
19. Warranty Card

O. Certifications and Approvals

1. CE, FCC, RCM, LVD, RoHS Compliant