Architectural and Engineering Specifications

GV-IP Speed 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-SD2723-IR / 2733-IR

The GV-IP Speed Dome is an outdoor camera designed with IK10 vandal resistance and IP66 ingress protection. It is also a network PTZ camera designed for image quality and adaptability in various environments. The camera offers images of 1080p at 50 fps and 20x / 30x optical zoom for GV-SD2723-IR / 2733-IR, capable of showing smooth live view with great detail. In low-light environments, image quality is promised with its image processing tools, such as IR Cut Filter (ICR), Wide Dynamic Range Pro (WDR Pro), Backlight Compensation and Noise Reduction.

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

GV-IP Speed Dome

A. General Requirements

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

GV- IP Speed Dome	Image Sensor
GV-SD723-IR / 2733-IR	1/3" progressive scan low lux CMOS sensor

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

GV- IP Speed Dome	Max. Resolution & Frame Rate
GV-SD2723-IR / 2733-IR	50Hz: 1920 x 1080 at 50 fps 60Hz: 1920 x 1080 at 30 fps

3. The sub stream shall utilize H.265, H.264 and MJPEG video compression methods with a resolution of up to 1280 x 720 at a maximum frame rate of 50/30 fps (50/60 Hz).
4. The maximum number of streams supported for the camera over the network using the H.264 codec is described as below.

GV- IP Speed Dome	Max. Number of Streams
GV-SD2723-IR / 2733-IR	8

When the camera is connected to GV-DVR / NVR or video management software GV-VMS, 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.

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

B. Operation Requirements

1. The camera shall pan up to 360° endlessly and tilt from -20° to 200°.
2. The camera's speed shall range from 0.1° per second to 400° per second with a pan accuracy of 0.2°.
3. The camera shall activate auto calibration when it detects any inaccuracy. Alternatively, the user shall be able to calibrate the camera manually.
4. The camera shall perform automatic functions, including preset, sequence, auto pan, cruise and tour.
5. The user shall be able to set up preset positions toward which the dome view moves to. Up to 255 preset points shall be configured and saved.
6. The camera shall perform a pan movement of up to 360° endlessly to survey the surveillance area between two user-defined positions, called Auto Pan. The user shall be able to configure up to 8 sets of auto pan mode.
7. The user shall be able to set the dome view to move in a series of predefined movements, called a Sequence.
    a. Up to 8 Sequences shall be created, and one Sequence shall include up to 16 Preset Points.
    b. The user shall be able to specify the duration of the dome to stay at a Preset, ranging from 1 to 255 seconds.
8. The user shall be able to set up a route consisting of different directions, angles, and zooms for the camera to follow, called a Cruise. Up to 4 Cruises shall be created.
9. The user shall be able to set the camera to move in a combination of preset positions, sequences, cruises and auto pan, called a Tour. Up to 8 Tour routes shall be configured. The combined total of Presets, Sequences, Auto Pan and Cruises allowed for each Tour is 16.
10. The pan and tilt speed of the camera shall be proportional to the zoom ratio.

11. The camera shall perform Mechanical Flip, in which the dome view rotates 200° when it is tilted to the maximum angle (vertically -10° or 90°) and is thus able to track objects continuously.
12. The user shall be able to define dome view movement when the camera reboots.
13. The camera shall be able to perform predefined dome movements after the dome is idle for a set period of time. The idle time set shall be between 0 and 120 minutes.
14. Dome movements, such as Preset, Sequence, Auto Pan, Cruise and Tour configured shall be activated manually or by schedule.

C. 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 up to 8 areas to be blocked off on the camera view for privacy purposes.
3. The camera shall be capable of triggering an output device or sending E-mail alerts when recording errors occur and when the memory card is full.
4. The camera shall support alert notification via E-mail and FTP. When motion is detected or when an input device is triggered, a captured snapshot shall be sent to E-mail recipients or its FTP server.
5. The camera shall be capable of integration with video management software or central monitoring stations. Video or text alerts shall be sent upon alarm events.

D. Recording and Playback Requirements

1. The camera shall be capable of commencing recording according to a schedule or upon input trigger and motion detection.
2. The camera shall be capable of storing recorded data to an inserted micro SD/SDHC/SDXC/UHS-I, Class 10 memory card, FTP server, GV-DVR / NVR, GV-VMS, GV-Backup Center, and GV-Recording Server.
3. Scheduled backup shall be supported when the camera is 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 the network or on a video surveillance or management software GV-DVR / NVR or GV-VMS.

E. 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 and manual. The manual white balance range shall be between approximately 2800 degrees to 8500 degrees Kelvin.
3. The camera shall have an automatic and manual shutter with a speed range of 1/6 – 1/30000 seconds.
4. The camera shall support the following image adjustments on the Web interface: image brightness, contrast, saturation, sharpness, white balance, flicker-less, shutter speed, image orientation, backlight compensation, D/N sensitivity, WDR and noise deduction.
5. The camera shall support one (1) aspect ratio: 16:9.

GV-SD2723-IR / 2733-IR	**Main Stream**	1920 x 1080 (Default), 1280 x 720, 640 x 360
	Sub Stream	1280 x 720, 640 x 360 (Default), 448 x 256

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

Models	**S/N Ratio**
GV-SD2723-IR / 2733-IR	50 dB (AGC off)

7. The camera shall be able to switch between day and night modes based on a set schedule.

F. Audio Requirements

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

G. Networking Requirements

1. The camera shall be equipped with a 10/100 M 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 of additional viewer software.
3. The camera shall support the following network protocols: DHCP, DNS, DynDNS, FTP, HTTP, HTTPS, ICMP, IPv4, IPv6, 3GPP/ISMA, NTP, ONVIF (Profile S), QoS (DSCP), RTCP, RTP, RTSP, SMTP, SNMP, SSL, TCP, UDP, UPnP and Multicast
4. Port settings of the camera shall be configurable.
5. The camera shall be able to filter specific IP addresses to restrict or allow access from.
6. QoS (DSCP) shall be supported to allow differentiated bandwidth control.

H. Lens Requirements

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

Models	Optical Zoom	Focal Length
GV-SD2723-IR	20x	4.7 ~ 94 mm
GV-SD2733-IR	30x	4.3 ~ 129 mm

2. The camera shall be equipped with a removable IR-cut filer to switch from color to monochrome mode automatically based on the illumination level.
3. The maximum aperture of the camera shall be F/1.6.
4. The camera shall support automatic and manual gain control. In the case of manual gain control, the user shall be able to change the white balance values by adjusting the R Gain (red color of images) and B Gain (blue color of images) values.
5. The camera shall be equipped with a WDR sensor to process scenes with contrasting intensity of lights.
6. The dynamic range of the camera shall be as described below.

Models	Dynamic Range
GV-SD2723-IR / 2733-IR	Up to 120 dB

7. The horizontal field of view of the camera shall be as described below.

Models	Horizontal FOV
GV-SD2723-IR	55.4° ~ 2.9°
GV-SD2733-IR	58.9° ~ 2.11°

8. The camera shall support the low lux function with which the camera can display color live views in near darkness, with minimum illumination values of 0. 5 lux for color and 0.1 lux for B/W.

I. Mechanical Requirements

1. The camera shall support zoom functions as described below:

Models	Optical Zoom	Digital Zoom
GV-SD2723-IR	20x	32x
GV-SD2733-IR	30x	

2. The camera shall be equipped with an interface supporting 4 sensor inputs (dry contact) and 1 alarm output (4A, 30V DC / 250V AC).
3. The camera shall have dimensions of Ø 201.7 (diameter) x 293.2 mm (height) / 7.94” x 11.54”.
4. The camera shall have a weight of 5.6 kg (12.3 lb).
5. The camera shall have a built-in temperature detector to detect the chipset temperature inside the camera.
6. The camera shall support wall installation with the standard package.

J. Power Requirements

1. Power shall be connected using the power adapter or the Power over Ethernet (PoE) function.
2. The camera shall be capable of receiving power from 24V AC ± 10%, 3A , 24V DC ± 10%, 3.75A , and High PoE++ (90 W) .
3. The maximum power consumption for the camera shall be 85 W, in which 33 W shall be consumed once the heater is activated.
4. A compatible PoE adapter shall be required for applying the PoE function.

K. Environmental Requirements

1. The camera shall tolerate temperatures between -40°C ~ 70°C (-40°F ~ 158 °F).

2. The humidity shall be within the range of 10% ~ 90% with no condensation.
3. The camera shall comply with IP66 protection classification.
4. The camera shall comply with IK10 vandal resistance for metal casing.
5. The camera shall be equipped with 2 heaters, and they shall be activated when the following temperatures are met:

GV- IP Speed Dome	Heater 1	Heater 2
GV-SD2723-IR / 2733-IR	On: 28°C (82.4°F); Off: 33°C (91.4°F)	On: 17°C (62.6°F); Off: 22°C (71.6°F)

6. The camera shall be equipped with 1 fan, and it shall be activated when the following temperatures are met:

GV- IP Speed Dome	Fan On	Fan Off
GV-SD2723-IR / 2733-IR	55°C (131°F)	50°C (122°F)

L. System Requirements

1. The camera shall be accessible through Web browsers including Microsoft Internet Explorer (version 7.x or later), Google Chrome, Mozilla Firefox and Safari.

M. 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.

N. Applications

1. The camera shall support the following software for network storage:
   - Video surveillance or management software: GV-DVR / NVR and GV-VMS
   - Backup and recording software: GV-Backup Center and GV-Recording Server

2. The camera shall support smart device access using mobile application GV-Eye 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.

O. Packing List shall include:
1. GV-IP Outdoor Speed Dome
2. Pendant Tube
3. Hex Key x 2
4. Rubber Ring
5. RJ-45 Connector
6. Data Cable
7. Download Guide
8. Warranty Card

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