Architectural and Engineering Specifications

GV-Bullet Camera

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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-BL5311 (P-Iris model)

The Bullet Camera is specifically designed for outdoors, adhering to IP67 and IK10 protection standards. This camera is equipped with IR LEDs for infrared illumination in night vision applications and is equipped with removable IR-cut filter for day and night surveillance. This model using P-Iris allows for precise control of exposure, producing images with better clarity and contrast.

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

GV-Bullet Camera

A. General Requirements

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

Models	Image Sensor
GV-BL5311	1/2.5” 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:

Models	Max. Resolution & Frame Rate
GV-BL5311	2560 x 1920 at 10 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. The maximum number of streams supported for the camera over the network, using the H.264 codec, is described as below.

Models	Max. Number of Streams
GV-BL5311	6

When the camera is connected to video management or surveillance software GV-System (GV-DVR/NVR) or 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, 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 surveillance/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-Systems (GV-DVR/NVR), GV-Backup Center and 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 surveillance or 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, white balance, flicker-less, image orientation, backlight compensation, shutter speed, D/N sensitivity, WDR, defog, denoise, zoom, focus change, and metering.
5. The camera shall display color live views in near darkness, with minimum illumination of 0.15 lux for color.
6. The camera shall support three (3) aspect ratios: 4:3, 16:9 and 5:4.

GV-BL3411	**Main Stream**	**4:3**	2560 x 1920, 2048 x 1536 (Default), 1600 x 1200, 1280 x 960, 640 x 512, 320 x 256
		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-BL5311	45 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 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: HTTP, HTTPS, TCP, UDP, SMTP, FTP, DHCP, NTP, UPnP, DynDNS, 3GPP/ISMA, RTSP, PSIA, SNMP, QoS (DSCP), ONVIF (Profile S).
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-BL5311	Motorized varifocal lens with 2x optical zoom and P-iris	4.5 ~ 9 mm

2. The camera shall be equipped with a removable IR-cut filter to switch from color to monochrome mode automatically by sensing the illumination level or via an input device.
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 of 1/2.7 inch.
6. The camera shall support automatic gain control.

7. The dynamic range for each model shall be as described below.

Models	Dynamic Range
GV-BL5311	Up to 72 dB

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

Models	Horizontal FOV
GV-BL5311	70° ~ 39°

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

Models	Minimum Illumination
GV-BL5311	0.15 lux in color mode 0.10 lux in B/W mode 0 lux with IR on

10. The camera shall be equipped with 16 IR LEDs with the maximum IR distance described below.

Models	Maximum IR Distance
GV-BL5311	40 m (131 ft)

H. Mechanical Requirements

1. The camera shall be adjustable in three shafts. The camera body shall be 360° adjustable to the right or left and shall be vertically adjustable to 90°, 112.5°, 135°, 157.5° and 180°. The camera base shall be 360° adjustable.
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 (without the sun-shield cover) of 355.4 x 87.75 x 120 mm (14” x 3.45” x 4.72”).
4. The camera shall have a weight of 1.96 kg (4.32 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, wall, and conduit converter 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.
8. The camera shall support a rotating range of 0° ~ 360°, a panning range of 0° ~ 360°, and a tilting range of 90° ~ 180°.

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 12.48 W.

J. Environmental Requirements
1. The camera shall be able to tolerate between -20°C ~ 50°C (-4°F ~ 122 °F) at startup and during operation.
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 for metal casing.

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 surveillance or 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 viewing 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. Bullet Camera
2. Self Tapping Screw x 3
3. Plastic Screw Anchor x 3
4. Torx Wrench x 3
5. Sun-Shield Cover Kit (1 Sun-Shield Cover, 2 Philips Head Screws, 2 Plastic Screw Spacers and 2 Hexagon Screws included)
6. Silica Gel Bag x 2
7. 2-Pin Terminal Block
8. 3-Pin Terminal Block
9. Power Adapter
10. Installation Sticker
11. Ruler
12. Stand Kit (Conduit Converter, PG21 Conduit Connector, RJ-45 Connector, M3 Screw x 2, Cable Tie)
13. Mounting Kit (M4 Screw x 3, Nut x 3, Plate x 3)
14. GV-IPCAM H.264 Software DVD
15. GV-NVR Software DVD
16. Warranty Card

O. Certifications and Approvals

1. CE, FCC, RCM, RoHS Compliant