# 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-BL4713 (H.265 model) / GV-BL5713 (H.265 model)*

*The Bullet IP Cameras are specifically designed for outdoors. The cameras adhere to the IP67 standard and have full protection against dust and jets of water. The cameras can support H.265 video codec to achieve better compression ratio while maintaining high quality pictures at reduced network bandwidths. With the motorized focus/zoom, users can remotely adjust the focus and zoom from the Web interface. The super low lux model (GV-BL4713) is equipped with a super low lux image sensor, which allows the camera to provide a color live view in near darkness.*

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:

| GV-Vandal Proof IP Dome | Image Sensor |
|---|---|
| GV-BL4713 | 1/3” progressive scan super low lux CMOS |
| GV-BL5713 | 1/1.8” progressive scan low lux CMOS |

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

| Models | Max. Resolution & Frame Rate |
|---|---|
| GV-BL4713 | 2592 x 1520 at 20fps,<br>2560 x 1440 at 25 fps,<br>2048 x 1520 at 25 fps (50 Hz) |
| | 2592 x 1520 at 20 fps,<br>2560 x 1440 at 24 fps,<br>2048 x 1520 at 30 fps (60 Hz) |
| GV-BL5713 | 2592 x 1944 at 25 fps (50 Hz)<br>2592 x 1944 at 30 fps (60 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 20 fps for GV-BL4713 while 1024 x 768 at a maximum frame rate of 30 fps for GV-BL5713.

4. The maximum numbers of streams supported for the camera over the network, using the H. 265 / H.264 codec are described as below:

| Models | Max. Number of Streams |
|---|---|
| GV-BL4713 / 5713 | 8 |

Note when the camera is connected to GV-DVR / NVR / VMS or 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.

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 shall be sent 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 o 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 sill 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, defog, low lux enhancement, denoise and metering.
6. The camera, with its motorized varifocal lens, 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-BL4713) 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-BL4713 | 0.03 lux in color mode<br>0.02 lux in B/W mode<br>0 lux in B/W mode with IR on |
| GV-BL5713 | 0.04 lux in color mode<br>0.03 lux in B/W mode<br>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-BL4713** | **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-BL5713** | **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 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-BL4713 | Motorized varifocal lens with 4.3x optical zoom and P-iris | 2.8 ~ 12 mm |
| GV-BL5713 | Motorized varifocal lens with 2x optical zoom and P-iris | 4 ~ 8 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.

3. The maximum aperture of the camera shall be as below.

| Models | Max. Aperture |
|---|---|
| GV-BL4713 | F/1.7 |
| GV-BL5713 | F/1.63 |

4. The camera shall be of Ø14 mm lens mount.
5. The camera shall have the image format as below.

| Models | Image Format |
|---|---|
| GV-BL4713 | 1/2.7 inch |
| GV-BL5713 | 1/1.8 inch |

6. The camera shall support automatic gain control.
7. The camera shall be equipped with a WDR sensor to process scenes with contrasting intensity of lights.
8. The dynamic range for the camera shall be as below.

| Models | Dynamic Range |
|---|---|
| GV-BL4713 | 120 dB |
| GV-BL5713 | 72 dB |

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

| Models | Horizontal FOV |
|---|---|
| GV-BL4713 | 102° ~ 38° |
| GV-BL5713 | 90° ~ 50° |

10. The camera shall be equipped with 5 IR LEDs with the maximum IR distance of 60 m (196.85 ft).

H. Mechanical Requirements

1. The camera shall adopt a 3-axis design and be able to pan (0° ~ 360°), tilt (90° ~ 180°), and rotate (0° ~ 360°).
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 128.64 (diameter) x 406 (height) mm (5.06” x 15.98”).
4. The camera shall have a weight of 2.44 kg (5.38 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 and wall installation with the standard package.

I. Power Requirements
1. Power shall be connected using a 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 12.9 W for GV-BL4713 while 13 W for GV-BL5713.

J. Environmental Requirements
1. The camera shall be able to tolerate between -20°C ~ 50°C (-4°F ~ 122°F) at start-up and during operation.
2. The humidity shall be within the range of 10% to 90% with no condensation.
3. The ingression protection rating for the camera shall be IP67
4. The vandal resistance rating (IK code) shall be IK10 for metal casing.

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-Recording Server, GV-Backup Center
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. H.265 Bullet Camera
2. Stand Kit (Conduit Converter, PG21 Conduit Connector, RJ-45 Connector, M3 Screw x 2, Cable Tie)
3. Mounting Kit (M4 Screw x 3, Nut x 3, Plate x 3)
4. Screw Anchor x 3
5. Screw for Mounting Kit x 3
6. Hex Wrench x 1
7. 4 mm Wrench x 1
8. 2.5 mm Wrench x 1
9. Silica Gel Bag x 2
10. Ruler x 1
11. Installation Sticker x 1
12. Download Guide
13. Warranty Card

O. Certifications and Approvals

1. CE, FCC, RCM, RoHS Compliant