Architectural and Engineering Specifications

GV-Advanced Cube 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-CA120/220 Series

The Advanced Cube Camera integrates the passive infrared (PIR) sensor and the alarm LED to illuminate the scene automatically when the motion is detected. It is small, light, and easy-to-use for indoor security.

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

GV-Advanced Cube 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-CA120	1/2.5” progressive scan CMOS
GV-CA220	

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-CA120	1280 x 1024 at 30 fps (60/50 Hz)
GV-CA220	1920 x 1080 at 30 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 numbers of streams supported for the camera over the network, using the H.264 codec are described as below.

Models	Max. Number of Streams
GV-CA120	8
GV-CA220	6

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.

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 be capable of sending E-mail alert when recording errors occur and when the memory card is full.
   5. 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.
   6. 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 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-Recording Server, GV-Backup Center, GV-VMS, and GV-NAS System.
   3. Pre-recording and post-recording functions shall be available.
   4. 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, white balance, flicker-less, image orientation, shutter speed, backlight compensation, denoise, metering, WDR and defog.
5. The camera shall support three (3) aspect ratios: 4:3, 16:9 and 5:4.

GV-CA120	**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-CA220	**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

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

Models	S/N Ratio
GV-CA120	45 dB
GV-CA220	

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 a built-in microphone.
4. The camera shall be equipped with a built-in speaker.

F. Networking Requirements

1. 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.
2. 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).
3. Port settings shall be configurable.
4. The camera shall be able to filter or allow specific IP addresses to restrict access to the camera.
5. 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-CA120	Fixed lens	3.35 mm
GV-CA220		

2. The camera shall have an electronic day/night function.
3. The maximum aperture of the camera shall be as below.

Models	Max. Aperture
GV-CA120	F/2.4
GV-CA220	

4. The camera shall be of M12 (pitch 0.5 mm) lens mount.
5. The camera shall have the image format as below.

Models	Image Format
GV-CA120	1/3 inch
GV-CA220	

6. The camera shall support automatic gain control.

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

Models	Dynamic Range
GV-CA120	Up to 72 dB
GV-CA220	

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

Models	Horizontal FOV
GV-CA120	67°
GV-CA220	77°

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

Models	Minimum Illumination
GV-CA120	0.15 lux in color mode 0.10 lux in B/W mode
GV-CA220	0 lux in B/W mode with IR on

H. Mechanical Requirements

1. The camera shall have a dimension of 65.8 x 99.8 x 39 mm (2.59” x 3.92” X 1.54”)
2. The camera shall have a weight of 100 g (0.2 lb).
3. The camera shall support ceiling, wall and desk installation with the standard package.
4. The camera shall be equipped with a built-in PIR sensor and a white illumination LED with the maximum detecting distance of 5 m (16.4 ft). When the PIR sensor detects the movement, the white illumination LED shall light up in a low light scene.
5. The camera shall be supported on a vertically adjustable rack.
6. The camera shall be designed for indoor installation.

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 5V DC and IEEE 802.3af Power over Ethernet (PoE).
3. The maximum power consumption shall be 7 W.

J. Environmental Requirements

1. The camera shall be able to tolerate between 0°C ~50°C (32°F ~ 122°F) at startup and during operation.
2. The humidity shall be within the range of 10% to 90% with no condensation.

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. Advanced Cube Camera
2. Supporting Rack
3. Screw x 3
4. Screw Anchor x 3
5. Power Adapter
6. GV-IPCAM H.264 Quick Start Guide
7. GV-IPCAM H.264 Software DVD
8. GV-NVR Quick Start Guide
9. GV-NVR Software DVD

O. Certifications and Approvals

1. CE, FCC, RCM, RoHS Compliant