Architectural and Engineering Specifications

GV-Box Camera

Revision Date: 4/10/2017

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.

Product covered in this document includes:
GV-BX4700 Series

The Box Camera is a series of indoor IP cameras consisting of fixed focal and varifocal models in different resolutions. The Box Camera supports lens replacement and features an automatic infrared-cut filter for day and night surveillance. The super low lux models are capable of displaying color live view in near darkness. Models equipped with a mini USB port can be connected wirelessly through a GV-WiFi Adapter (optional). The WDR Pro models can produce clear image for scenes with contrasting intensity of lights. Models using P-Iris allow 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-Box Camera

GV-BX4700-3V

GV-BX4700-8F

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-BX4700 Series	1/3” progressive scan super 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:

Models	Max. Resolution & Frame Rate
GV-BX4700 Series	2592 x 1520 at 20 fps (50 HZ) 2560 x 1440 at 25 fps (50 Hz) 2048 x 1520 at 25 fps (50 Hz)
	2592 x 1520 at 20 fps (60 HZ) 2560 x 1440 at 24 fps (60 Hz) 2048 x 1520 at 30 fps (60HZ)

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 connections supported for the camera over the network using the H.265 / H.264 codec is described as below.

Models	Max. Number of Connections
GV-BX4700 Series	8

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

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.
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, 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 surveillance or 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 only 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 and WDR, Defog, Denoise, Metering.

6. The camera shall support the super low lux function with which the camera can display color live views in near darkness.

Models	Minimum Illumination
GV-BX4700 Series	0.03 lux in color and 0.02 lux in B/W mode 0 lux with IR on

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

GV-BX4700 Series	**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

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

Models	S/N Ratio
GV-BX4700 Series	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”) for an external microphone and a 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), PSIA, QoS (DSCP), RTSP, SNMP, SMTP, TCP, UDP, UPnP, 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. QoS (DSCP) shall be supported to allow differentiated bandwidth control.
6. The camera shall be able to connect to WiFi. To initiate Wifi connection, the camera's wireless LAN shall be IEEE802.11 b/g/n. The antenna shall be external, and the security protocols shall be WEP, WPA-PSK (TKIP), WPA-PSK (AES), WPA2-PSK (TKIP), WPA2-PSK (AES).

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-BX4700-8F	Fixed lens	2.8 mm
GV-BX4700-3V	Varifocal lens	3 ~ 10.5 mm

2. The camera shall contain an IR-cut filter to switch the camera 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 as described below.

Models	Maximum Aperture
GV-BX4700-8F	F/1.4
GV-BX4700-3V	F/1.8

4. The camera shall be of CS lens mount.
5. The image format the camera shall be as described below.

Models	Image Format
GV-BX4700-8F	1/2.5
GV-BX4700-3V	1/2.7

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 each model shall be as described below.

Models	Dynamic Range
GV-BX4700 Series	Up to 120 dB

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

Models	Horizontal FOV
GV-BX4700-8F	104°
GV-BX4700-3V	78° ~ 31°

H. Mechanical Requirements

1. The camera shall be equipped with interface for 1 sensor input (dry contact) and 1 alarm output (200 mA, 5V DC).
2. The camera shall have a dimension (without the lens) of 75.5 x 75 x 54 mm (2.97” x 2.95” x 2.13”).
3. The weight of each model shall be as described below.

Models	Weight
GV-BX4700-8F	320 g (0.71 lb)
GV-BX4700-3V	350 g (0.77 lb)

4. The camera shall have a built-in temperature detector to detect the chipset temperature inside the camera.
5. The camera shall have a mini USB slot for connecting a compatible WiFi Adapter or a USB hard drive. The USB hard drive shall meet these requirements:
   - The USB hard drive shall be of 2.5” or 3.5”, version 2.0 or above.
   - The USB hard drive’s storage capacity shall not exceed 2TB.
   - USB flash drives and USB hubs are not supported.
   - The USB hard drive shall require external power supply.

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 IEEE 802.3af Power over Ethernet (PoE).
3. The maximum power consumption for the camera shall be 12V DC, 4.23 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 11 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-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. H.265 Box Camera
2. Terminal Block (2-Pin and 3-Pin)
3. Fixed Focal or Varifocal Megapixel Lens
4. Six Lens Rings (only for Varifocal Lens)
5. Video Out Wire
6. Camera Holder
7. Holder Screw x 2
8. GV-IPCAM Software DVD
9. GV-Software DVD
10. Warranty Card

O. Certifications and Approvals

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