Architectural and Engineering Specifications

GV-Mini Fixed 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-MFD2700 Series / 4700 Series

The GV-MFD2700 Series / 4700 Series offers an indoor, fixed, mini-sized network camera with 3-axis mechanism for easy and flexible installation. The camera can support H.265 video codec to achieve better compression ratio while maintaining high picture quality at reduced network bandwidths. The camera can process scenes with contrasting intensity of lights and produce clear image using the built-in WDR Pro. The camera is equipped with a Super Low Lux CMOS 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-Mini Fixed Dome 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-MFD2700 Series	1/2.8” progressive scan super low lux CMOS
GV-MFD4700 Series	1/3” progressive scan super low lux CMOS

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

Models	Max. Resolution & Frame Rate
GV-MFD2700 Series	1920 x 1080 at 25 fps (50 Hz) 1920 x 1080 at 30 fps (60 Hz)
GV-MFD4700 Series	2592 x 1520 at 20 fps (50 / 60 Hz) 2560 x 1440 at 25 fps (50 Hz)

3. The sub stream shall utilize H.265, H.264 and MJPEG video compression methods with a resolution up to 640 x 360 at a maximum frame rate of 30 fps.
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-MFD2700 Series	8
GV-MFD4700 Series	

5. 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.

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. The function shall also be supported through ONVIF/RTSP connection.
3. The camera shall support tampering alarm such that an E-mail notification, an alarm or an output device shall be triggered when the camera is being tampered with.
4. The camera shall support visual automation function such that the connected output devices can be automated from 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 be capable of sending E-mail alert when recording errors occur and when the memory card is full.
7. 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.
8. 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 memory card (version 2.0, Class 10), an FTP server, GV-DVR / NVR / VMS, GV-Backup Center, GV-Recording Server, 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 management software, GV-DVR / NVR / 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 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.
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 50/60 Hz, image orientation, shutter speed, backlight compensation, D/N sensitivity, WDR, defog, super low lux, denoise, and metering.
6. The camera shall support the super low lux function with which the camera can display color live views in near darkness.
7. The camera shall be equipped with a WDR sensor to process scenes with contrasting intensity of lights.
8. The camera shall support three (3) aspect ratios: 4:3, 16:9 and 5:4.

GV-MFD2700 Series	**Main Stream**	**4:3**	1280 x 960, 640 x 480
		16:9	1920 x 1080 (Default), 1280 x 720, 640 x 360
		5:4	1280 x 1024, 640 x 512
	Sub	**4:3**	1024 x 768, 640 x 480, 320 x 240

	Stream	**16:9**	1280 x 720, 640 x 360 (Default), 448 x 256
		5:4	1280 x 1024, 640 x 512, 320 x 256
GV-MFD4700 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

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

Models	S/N Ratio
GV-MFD2700 Series	56 dB
GV-MFD4700 Series	50 dB

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

Models	Minimum Illumination
GV-MFD2700 Series	0.005 lux in color and 0.004 lux in B/W mode 0 lux with IR on
GV-MFD4700 Series	0.003 lux in color and 0.002 lux in B/W mode 0 lux with IR on

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 contain a built-in microphone.
4. 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, 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-MFD2700-0F GV-MFD4700-0F	Fixed lens	2.8 mm
GV-MFD2700-2F GV-MFD4700-2F		3.8 mm
GV-MFD2700-6F GV-MFD4700-6F		2.3 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.
3. The camera shall have an electronic day/night function.
4. The maximum aperture of the camera shall be as below.

Models	Max. Aperture
GV-MFD2700-0F GV-MFD4700-0F	F/2.0
GV-MFD2700-2F GV-MFD4700-2F	F/1.8

GV-MFD2700-6F GV-MFD4700-6F	F/2.2

5. The camera shall be of M12 lens mount.
6. The camera shall have the image format of 1/2.7" inch.
7. The camera shall support automatic gain control.
8. The dynamic range for each model shall be as described below.

Models	Dynamic Range
GV-MFD2700 Series	Up to 130 dB
GV-MFD4700 Series	Up to 120 dB

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

Models	Horizontal FOV
GV-MFD2700-0F	100°
GV-MFD2700-2F	72°
GV-MFD2700-6F	140°
GV-MFD4700-0F	96°
GV-MFD4700-2F	72°
GV-MFD4700-6F	129°

H. Mechanical Requirements

1. The camera shall adopt a 3-axis design and be able to pan (-45° ~ 45°), tilt (0° ~ 70°), and rotate (0° ~ 360°).
2. The camera shall have a dimension of ø 110 x 72.83 mm (4.33" x 2.86").
3. The camera shall have a weight of 200 g (0.44 lb).
4. The camera shall have a built-in temperature detector to detect the chipset temperature inside the camera.
5. The camera shall be equipped with interface for 1 sensor input (dry contact) and 1 alarm output (200 mA 5V DC).

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 6.5 W for GV-MFD2700 and 7.5 W for GV-MFD4700.

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 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-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. H.265 Mini Fixed IP Dome
   2. Screw x 2

3. Screw Anchor x 2
4. Focus Adjustment Ring
   (only for GV-MFD2700-0F/2F and GV-MFD4700-0F/2F)
5. Installation Sticker
6. Audio and I/O extended cable
7. Torx Wrench
8. GV-IPCAM Software DVD
9. GV-NVR Software DVD
10. Warranty Card

O. Certifications and Approvals

1. CE, FCC, RCM, RoHS Compliant