Architectural and Engineering Specifications

GV-Panoramic PTZ IP 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-PPTZ14021
GV-PPTZ14031

The Panoramic PTZ IP Camera is a 2-in-1 hybrid camera that includes a 12 MP fisheye panoramic camera and a 2 MP IP Speed Dome. The fisheye camera allows you to monitor all angles of a location, while the speed dome can instantly point toward an area with just one click on the fisheye live view.

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

GV-Panoramic PTZ IP Camera

A. General Requirements

1. The camera shall be a dual-stream, day/night, panoramic fisheye camera integrated with a PTZ speed dome and equipped with the following image sensor:

Panoramic PTZ Camera	Image Sensor
Panoramic – Fisheye	1/1.7” progressive scan low lux CMOS
PTZ – Speed Dome	1/3” progressive scan low lux CMOS

2. The camera shall utilize H.265 (SD Only), H.264 and MJPEG video compression methods with the maximum resolution and frame rate as below:

Panoramic PTZ Camera	Max. Resolution & Frame Rate
Panoramic – Fisheye	4000 x 3000 at 15 fps (60/50 Hz)
PTZ – Speed Dome	1920 x 1080 at 30 fps (60 Hz) 1920 x 1080 at 50 fps (50 Hz)

3. The Panoramic PTZ Camera shall provide three Web interfaces: the fisheye interface, the speed dome interface and the integrated Web interface.

4. The maximum number of streams the camera shall support, using the H.264 codec, is described as below.

Panoramic PTZ Camera	Max. Number of Streams
Panoramic – Fisheye	8
PTZ – Speed Dome	8

5. When accessing the fisheye interface, it shall take up 1 fisheye stream. When accessing the speed dome interface, it shall take up 1 speed dome stream. When accessing the integrated Web interface, it shall take up 1 stream from both the fisheye and speed dome.
6. When GV-VMS connect to the camera, it shall take up 2 fisheye streams and 2 speed dome streams.
7. The camera shall provide administrator and guest account settings on the Web interface. The administrator account shall have full access to all the functions while the guest account shall only have access to the live view and network status information of the camera, on the fisheye, speed dome and integrated Web interfaces.

B. Operation Requirements

1. The camera's integrated interface shall provide the live view of both the speed dome and the fisheye camera. Under the integrated Web interface, the users shall be able to click the fisheye live view for the speed dome camera to point toward the area on the video.
2. The speed dome camera shall pan up to 360°and tilt from -15° to 195°.
3. The speed dome camera's speed shall range from 0.1° per second up to 460° per second with a pan accuracy of 0.2°.
4. The speed dome camera shall activate auto calibration when it detects any inaccuracy. Alternatively, the users shall be able to calibrate the camera manually.
5. The speed dome camera shall perform automatic functions, including preset, sequence, auto pan, cruise and tour.
6. The users shall be able to set up preset positions toward which the speed dome view moves. Up to 255 preset points shall be configured and saved.

7. The speed dome camera shall perform a pan movement of up to 360° endlessly to survey the surveillance area between two user-defined positions, called Auto Pan. The users shall be able to configure up to 8 sets of auto pan mode.
8. The users shall be able to set the dome view to move in a series of predefined movements, called a Sequence.
    a. Up to 8 Sequences shall be created, and one Sequence shall include up to 16 Preset Points.
    b. The users shall be able to specify the duration of the dome to stay at a Preset, ranging from 1 to 255 seconds.
9. The users shall be able to set up a route consisting of different directions, angles, and zooms for the speed dome camera to follow, called a Cruise. Up to 4 Cruises shall be created.
10. The users shall be able to set the camera to move in a combination of preset positions, sequences, cruises and auto pan, called a Tour. Up to 8 Tour routes shall be configured. The maximum number of Presets, Sequences, Auto Pan and Cruises for each Tour shall be 16.
11. The pan and tilt speed of the speed dome camera shall be proportional to zoom ratio.
12. The users shall be able to define the dome view movement when the camera reboots.
13. When the dome is idle for a period of time, a defined movement, such as automatic monitoring, shall be activated. The idle time shall be set from 0 to 120 minutes.
14. Dome movements, such as Preset, Sequence, Auto Pan, Cruise and Tour, shall be configured and activated manually or by schedule.

C. 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 up to 8 areas to be blocked off on the camera view for privacy purpose. For the speed dome, the function shall be available in the PTZ Configuration.
3. The fisheye camera shall support tampering alarm such that an e-mail notification or an output device shall be triggered when it is tampered with.

4. The fisheye camera shall support visual automation function such that the connected output devices can be triggered by clicking its predefined image on the live view.
5. The camera shall have e-mail and FTP ability for alert notification. When motion is detected or input triggered, a captured still image shall be sent by e-mail or to the FTP server.
6. The camera shall be capable of integration with video management software or central monitoring stations. Videos or text alerts shall be sent upon alarm events.

D. Recording and Playback Requirements

1. The camera shall be capable of starting recording according to a schedule, or upon input trigger and motion detection.
2. The camera shall be capable of storing recorded data on an inserted SD/SDHC/SDXC/UHS-I memory card (version 2.0, Class 10), an inserted Micro SD/SDHC/SDXC/UHS-I memory card (version 2.0, Class 10), an FTP server, GV-Backup Center, GV-Recording Server and GV-VMS.
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-VMS.
6. Users shall be able to play back the hemispherical source image with 360° view angle when accessing the fisheye view.

E. Video Requirements

1. The camera shall support Smart Streaming function (FE Only), with which the bitrates shall be automatically reduced in static scenes, thereby significantly optimizing bandwidth usage and lowering file size. It shall work with compatible versions of GV-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 and manual. The manual white balance range shall be approximately 2800 degrees to 8500 degrees Kelvin.
4. The camera shall have a shutter speed as described below:

Panoramic PTZ Camera	Shutter Speed
Panoramic – Fisheye	Automatic, Manual (1/25 ~ 1/16000 sec.)
PTZ – Speed Dome	Automatic, Manual (1/6 ~ 1/30000 sec.)

5. The camera shall support the following image adjustments on the Web interface: image brightness, contrast, saturation, sharpness, gamma, white balance, flicker-less, shutter speed, D/N sensitivity, backlight compensation, denoise, and metering.
6. The camera shall display color and black and white live views in near darkness with the following minimum illumination.

Panoramic PTZ Camera	Minimum Illumination
Panoramic – Fisheye	Color: 0.1 lux, B/W: 0.05 lux
PTZ – Speed Dome	Color: 0.5 lux, B/W: 0.1 lux

7. The camera shall support the aspect ratios of 4:3, 20:19 and 16:9.

Panoramic - Fisheye	**Main Stream**	**4:3**	4000 x 3000 (Default)
		20:19	2896 x 2768
	Sub Stream	**4:3**	1024 x 768 (Default), 640 x 480
		20:19	960 x 912, 640 x 608
PTZ - Speed Dome	**Main Stream**	**16:9**	1920 x 1080 (Default), 1280 x 720, 640 x 360
	Sub Stream		1280 x 720, 640 x 360 (Default), 448 x 256

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

Panoramic PTZ Camera	S/N Ratio
Panoramic – Fisheye	52 dB
PTZ – Speed Dome	50 dB (AGC Off)

F. 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 an external microphone and a speaker.

G. 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 of viewer software.
3. The camera shall support the following network protocols: DHCP, DNS, DynDNS, FTP, HTTP, HTTPS, ICMP, IPv4, IPv6, Multicast, NTP, ONVIF (Profile S), RTP, RTCP, RTSP, SMTP, SSL, TCP, UDP, UPnP.
4. Port settings of the camera shall be configurable.
5. The camera shall be able to filter specific IP addresses to restrict or allow access to the camera.

H. 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-PPTZ14021 / PPTZ14031 – Fisheye	Fixed	1.505 mm
GV-PPTZ14021 – Speed Dome	20x Zoom Lens	4.7 ~ 94 mm
GV-PPTZ14031 – Speed Dome	30x Zoom Lens	4.3 ~ 129 mm

2. The speed dome shall be equipped with a removable IR-cut filter to switch from color to monochrome mode automatically based on the illumination level detected.

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

Panoramic PTZ Camera	Maximum Aperture
Panoramic – Fisheye	F/2.0
PTZ – Speed Dome	F/1.6

4. The camera shall support the following gain control.

Panoramic PTZ Camera	Gain Control
Panoramic – Fisheye	Automatic
PTZ – Speed Dome	Automatic, Manual

5. The horizontal field of view of the camera shall be as described below.

Panoramic PTZ Camera	Horizontal FOV
Panoramic – Fisheye	180°
PTZ – Speed Dome	58.9° ~ 2.11°

6. The speed dome camera shall be equipped with a WDR Pro sensor to process scenes with contrasting intensity of lights.
7. The dynamic range of the camera shall be as described below.

Panoramic PTZ Camera	Dynamic Range
Panoramic – Fisheye	Up to 72 dB
PTZ – Speed Dome	Up to 100 dB

I. Mechanical Requirements

1. The speed dome shall pan and tilt up to the following angles.

Panoramic PTZ Camera	Travel Angle
PTZ – Speed Dome	Pan Travel 360° Tilt Travel -15° ~ 195°

2. The camera shall be equipped with an interface supporting 4 sensor inputs (dry contact) and 1 alarm output (4A 30V DC / 250V AC).
3. The camera body shall have a dimension of Ø 332.81 x 211.63 x 277.36 mm (13.10” x 8.33” x 10.91”) using Pendant Tube Mount.
4. The camera shall have a weight of 3.3 kg (7.27 lb).
5. The camera shall have a built-in temperature detector to detect the chipset temperature inside the camera.
6. The camera shall support wall mount installation (pendant tube mount) with the standard package.

J. Power Requirements

1. Power shall be connected using the power adapter or the Power over Ethernet (PoE) function.
2. The camera shall be capable of receiving power from 24V DC / 24V AC and High Power over Ethernet (PoE++, 53W).
3. The maximum power consumption shall be 57.2 W.

K. Environmental Requirements

1. The camera shall be able to tolerate temperatures between -40°C ~ 50°C (-40°F ~ 122 °F) at startup and during operation.
2. The humidity tolerance of the camera 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.
5. The camera shall be equipped with 2 heaters, and they shall be activated when the following temperatures are met:

Heater 1	**Heater 2**
On: 15°C (59°F); Off: 18°C (64.4°F)	On: 3°C (37.4°F); Off: 8°C (46.4°F)

6. The camera shall be equipped with 1 fan, and it shall be activated when the temperature is above 55°C (131°F) or below 15°C (59°F).

L. System Requirements

1. The camera shall be accessible through Web browsers including Microsoft Internet Explorer (version 8.x or later), Google Chrome, Mozilla Firefox and Apple Inc. Safari.

M. 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.

N. Applications

1. The camera shall support the following software for network storage:
   - Video surveillance or management software: GV-VMS
   - Backup and Recording software: GV-Backup Center and GV-Recording Server
2. The camera shall allow remote access from central management stations, such as GV-Center V2 and GV-Vital Sign Monitor.

O. Certifications and Approvals

1. CE, FCC, RCM, RoHS Compliant

P. Packing List shall include:

1. Panoramic PTZ IP Camera
2. Data Cable
3. Pendant Tube (GV-Mount207)
4. 3 mm Hex Key
5. 4 mm Hex Key
6. 5 mm Hex key
7. Torx Wrench
8. Rubber Ring
9. RJ-45 Connector
10. Desiccant Pack x 2
11. Download Guide
12. Warranty Card