GV-IP Camera

Quick Start Guide

- Box Camera
- Ultra Box Camera
- Arctic Box Camera
- Target Box Camera

Caution

Risk of explosion if battery is replaced by an incorrect type.
Dispose of used batteries according to the instructions.

Safety Notice

The GV-IPCAM uses a Lithium battery as the power supply for its internal
real-time clock (RTC). The battery should not be replaced unless required!

If the battery does need replacing, please observe the following:
- Danger of Explosion if battery is incorrectly replaced
- Replace only with the same or equivalent battery, as recommended by
  the manufacturer
- Dispose of used batteries according to the manufacturer's instructions

Contents

Options

Optional devices can expand your camera's capabilities and versatility.
Contact your dealer for more information.

Device	Description
I/O Cable	The I/O cable is a multi-connector providing I/O, DC 12V power, and audio connectivity for the camera. Length: 106.8 cm (3.5 ft)
GV-Mount Accessories	The GV-Mount Accessories provide a comprehensive lineup of accessories for installation on ceiling, wall corner and pole. For details, see GV-Mount Accessories Installation Guide.
GV-PA191 PoE Adapter	The GV-PA191 PoE adapter is designed to provide power and network connection to the cameras over a single Ethernet cable.
GV-POE Switch	The GV-POE Switch is designed to provide power along with network connection for IP devices. The GV-POE Switch is available in various models with different numbers and types of ports.
Power Adapter	The power adapter is available for all Bullet Camera, Ultra Bullet Camera (except GV-BL2511-E / 5311-E), and Target Bullet Camera. Contact our sales representatives for the countries and areas supported.
GV-Relay V2	The GV-Relay V2 is designed to expand the voltage load of GV IP devices. It provides 4 relay outputs, and each can be set as normally open (NO) or normally closed (NC) independently as per your requirement.

Note for Adjusting Focus and Zoom

When adjusting the Focus and Zoom Screws on **Bullet Camera**, do not over tighten the Focus and Zoom screws. The screws only need to be as tight as your finger can do it. It is not necessary to use any tools to get them tighter. Doing so can damage the structure of lens.

For example,

Zoom Screw
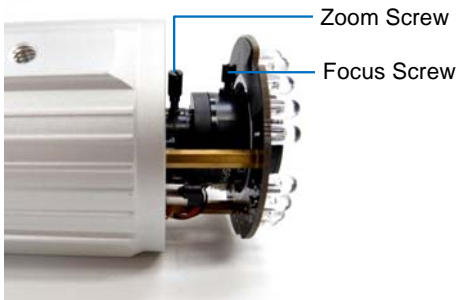
Focus Screw

The maximum torque value for all the zoom and focus screws is 0.049 N.m

Note for Installing Camera Outdoor

When installing the cameras outdoor, be sure that:

1. The camera is set up above the junction box to prevent water from entering the camera along the cables.
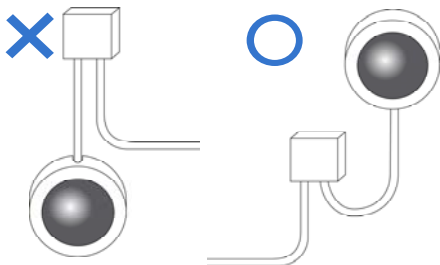
2. Any PoE, power, audio and I/O cables are waterproofed using waterproof silicon rubber or the like.
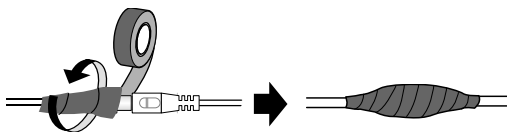
Note for Closing the Bullet Camera Cover

To ensure that the camera performs its full capacity against water and dust, tightly close and lock the camera cover as indicated below.

Note for Silica Gel Bags

1. The silica gel bag loses its effectiveness when the dry camera is opened. To prevent the lens from fogging up, replace the silica gel bag every time you open the camera, and conceal the gel bag in camera within 2 minutes of exposing to open air.

2. When the camera is shipped, a silica gel bag will be included inside the camera. For the first-time user, replace the silica gel bag prior to the installation to avoid foggy live view.

Note for Waterproofing Failures

To avoid waterproofing failures, do not open the screw on the camera body.

- The screw on Ultra Bullet Camera

- The screw on Target Bullet Camera

- The screw on GV-EBL2101 / 2111 / 3101 / 5101

- The screw on GV-BL3700 / 5700

Note for Recording

1. By default, the images are recorded to the memory card inserted in the **GV-IP Camera** (except GV-IR Arctic Box Camera, which is not equipped with a memory card slot). Make sure the **Write recording data into local storage option** (see *4.1.1 Video Settings*, *GV-IPCam Firmware Manua*l) is enabled. If this option is disabled, the camera will stop recording to the memory card while the live view is accessed through Web browsers or other applications.

2. Mind the following when using a memory card for recording:

   - Recorded data on the memory card can be damaged or lost if the data are accessed while the camera is under physical shock, power interruption, memory card detachment or when the memory card reaches the end of its lifespan. No guarantee is provided for such causes.

   - The stored data can be lost if the memory card is not accessed for a long period of time. Back up your data periodically if you seldom access the memory card.

   - Memory cards are expendable and their durability varies according to the conditions of the installed site and how they are used. Back up your data regularly and replace the memory card annually.

   - Replace the memory card when its read/write speed is lower than 6 MB/s or when the memory card is frequently undetected by the camera.

3. It is recommended to use memory cards of the following setting and specifications:

   - Apply a battery backup (UPS) to avoid power outage.

   - Use Micro SD card of MLC NAND flash, Class 10 for better performance.

Chapter 1 Bullet Camera (Part I)

The Bullet Cameras are specifically designed for outdoors and are weatherproof (IP66 or IP67). They are equipped with IR LEDs for infrared illumination in night vision applications. The models described in this chapter use **auto iris**, which allows for automatic control of exposure.

The **WDR Pro** models enhance the image by processing contrasting intensity of light. The **super low lux** models can produce color live view in near darkness. The **motorized varifocal lens** models allow the user to adjust the focus and zoom through the Web interface.

![GeoVision logo]

Model No.		Specifications	Description
GV-BL120D	Varifocal lens	Auto Iris, f: 3 ~ 9 mm, F/1.2, 1/2.7'' ø 14 mm Lens Mount	1.3 MP, H.264, Low Lux
GV-BL130D			1.3 MP, H.264
GV-BL220D			2 MP, H.264
GV-BL320D			3 MP, H.264
GV-BL1500			1.3 MP, H.264, Super Low Lux
GV-BL2400			2 MP, H.264, WDR Pro
GV-BL2500			2 MP, H.264, Super Low Lux
GV-BL3400			3 MP, H.264, WDR Pro
GV-BL1210	Motorized varifocal lens	Auto Iris, f: 3 ~ 9 mm, F/1.2, 1/2.7'' ø 14 mm Lens Mount	1.3 MP, H.264, Low Lux, 3X Optical Zoom
GV-BL2410			2 MP, H.264, WDR Pro, 3X Optical Zoom
GV-BL3410			3 MP, H.264, WDR Pro, 3X Optical Zoom
GV-BL5310		Auto Iris, f: 4.5 ~ 9 mm, F/1.2, 1/2.7'' ø 14 mm Lens Mount	5 MP, H.264, 2X Optical Zoom

1.1 Packing List

- Bullet Camera
- Self Tapping Screw x 3
- Plastic Screw Anchor x 3
- Torx Wrench x 2
- Sun-Shield Cover Kit (Sun-Shield Cover, Philips Head Screw x 2, Plastic Screw Spacer x 2 and Hexagon Screw x 2)
- Silica Gel Bag x 2
- 2-Pin Terminal Block
- Power Adapter
- Download Guide
- Warranty Card

Note: The power adapter can be excluded upon request.

![GeoVision logo]

1.2 Overview
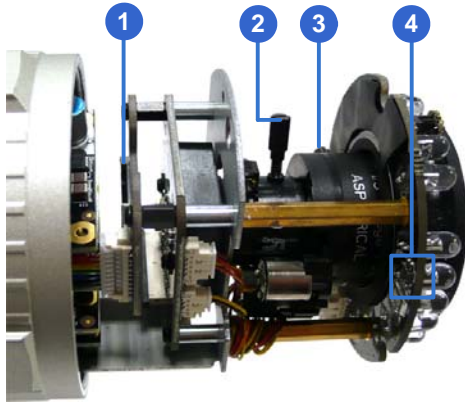
Figure 1-1

No.	Name	Description
1	Memory Card Slot	Receives a micro SD card (SD/SDHC, version 2.0 only, Class 10).
2	Zoom Screw	Holds the zoom lens in place.
3	Focus Screw	Holds the focus lens in place
4	Default Button	Resets all configurations to factory default. For details, see *1.4 Loading Factory Default*.

1.3 Installation

These instructions describe the basic installation of the Bullet Camera.

1.   Slide the cable clamp to the camera base.

Cable Clamp
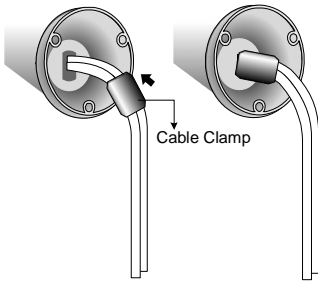
Figure 1-2

2.   Install the Bullet Camera to the wall.

Figure 1-3

3.   Remove the protection sticker from the camera's cover.

4.   Connect the power, network and other wires to the Bullet Camera.
      See *1.3.1 Connecting the Camera*.

5. Access the live view. For details, see *8.2 Accessing the Live View.*

6. Adjust angles of the camera body based on the live view. Three shafts can be adjusted. See *1.3.2 Adjusting the Angles.*

7. Loosen the camera's cover, adjust the focus of the camera and optionally insert a micro SD card (SD/SDHC, version 2.0, Class 10) into the SD card slot. See *1.3.3 Adjusting Lens and Inserting a Memory Card.*

8. Fasten the camera's cover.

9. Install the sun-shield cover to the Bullet Camera. For details, see *1.3.4 Installing the Sun-Shield Cover.*

1.3.1 Connecting the Camera

Wire Definition for Auto Iris Models

The **7-Pin Data Cable** provides connections for power, ground, 1 sensor input, 1 alarm output, audio input and audio output. The wires are illustrated and defined below:

Digital In (Red)
DC 12V+ / AC 24V + (Brown)
Digital Out (Orange)
DC 12V- / AC 24V - (Black)
GND (Yellow)
Audio In (Red)
Audio Out (Green)
Ethernet (PoE)
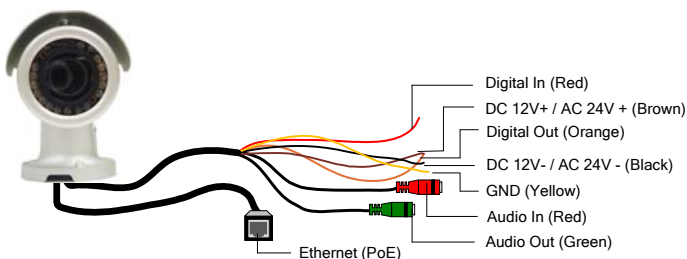
Figure 1-4

No.	Wire Color	Definition
1	Red	Digital In
2	Brown	DC 12V+ / AC 24V+
3	Orange	Digital Out
4	Black	DC 12V- / AC 24V-
5	Yellow	Ground
6	Red RCA	Audio in
7	Green RCA	Audio out

Note that the Audio In and Out connectors may also come as terminal blocks:

Digital In (Red)
DC 12V+ / AC 24V + (Brown)
Digital Out (Orange)
DC 12V- / AC 24V - (Black)
GND (Yellow)
Audio In (Brown)
Audio Out (Green)
Ethernet (PoE)
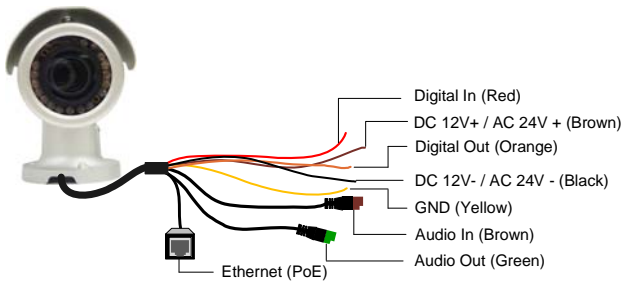
Figure 1-5

No.	Wire Color	Definition
1	Red	Digital In
2	Brown	DC 12V+ / AC 24V+
3	Orange	Digital Out
4	Black	DC 12V- / AC 24V-
5	Yellow	Ground
6	Brown terminal block	Audio in
7	Green terminal block	Audio out

Power Connection

Use one of the following methods to supply power to the camera.

- Use a Power over Ethernet (PoE) adapter to connect the camera to the network, and the power will be provided at the same time.

- Plug the power adaptor to the terminal block as shown below.

  - Insert the black wire of the Bullet Camera to the left pin (+) and the brown wire to the right pin (-).
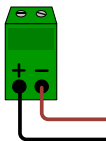
Figure 1-6

  - Connect the DC 12V Power Adapter to the Terminal Block.

Terminal Block   DC 12V Power Adaptor

Figure 1-7

I/O Device Connection

The camera supports one digital input and one digital output of dry contact.

I/O

Figure 1-8

Pin	Function
1	Digital Output
2	GND
3	Digital Input

For details on how to enable an installed I/O device, see *4.2 I/O Settings, GV-IPCam Firmware Manual*.

Voltage Load Expansion (Optional)

The camera can only drive a maximum load of **200mA 5V DC**. To expand the maximum voltage load to **10A 250V AC**, **10A 125V AC** or **5A 100V DC**, connect the camera to a GV-Relay V2 module (optional product). Refer to the figure and table below.

Output Devices

Connect to Power

Figure 1-9

GV-Relay V2	Bullet Camera
COM	Ground (Yellow)
DO1	Digital Out (Orange)

1.3.2 Adjusting the Angles

The Bullet Camera is designed to be adjustable in three shafts for easy and flexible installation.

First Shaft

You can adjust the camera body by 360 degrees to the right or the left.

1.   Unscrew the panning lock screw with the torx wrench.
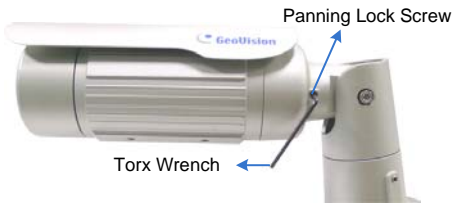
Figure 1-10

2.   Adjust the angle of camera body to the right or the left, and fasten the panning lock screw.

Figure 1-11

Second Shaft

You can adjust the camera body up and down by 90, 112.5, 135, 157.5 or 180 degrees by using the gears inside the camera body and the camera base.

1.   Unscrew the tilting lock screw with the torx wrench.

Figure 1-12

2.   Hold the camera body, and move the camera base to the right to separate the camera gears.
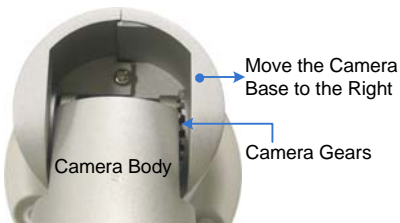
Figure 1-13

3.   Adjust the angle of camera body to 90°, 112.5°, 135°, 157.5° or 180°. Then move the camera base to the left to combine the gears.

Figure 1-14

4.   Fasten the tilting lock screw.

Third Shaft

You can adjust the camera base by 360°.

1.   Unscrew the base fixing screw with the torx wrench.

Figure 1-15

2. Adjust the angle of camera base, and fasten the base fixing screw.

Figure 1-16

1.3.3 Adjusting Lens and Inserting a Memory Card

To adjust the camera's zoom and focus or to insert a micro SD card
(SD/SDHC, version 2.0 only, Class 10), follow the steps below.

1.   Loosen the camera's cover.

Camera's Cover

Figure 1-17

For GV-BL2511-E / 5311-E, loosen the camera's cover and the screw
as indicated below.

Figure 1-18

2.   To adjust for image clarity, follow the steps below.

   •   For **models with zoom and focus screws**, pull out the camera and remove the silica gel bag to access its focus and zoom screws. Use GV-IP Device Utility to help you. For details, see *8.3 Adjusting Image Clarity*.

Figure 1-19

   •   For **motorized varifocal lens models**, adjust for image clarity through the Web interface. For details, see *Zoom*, *Focus Change*, and *Focus Mode* settings in *3.2.2 The Control Panel of the Live View Window, GV-IPCam Firmware Manual*.

3.   To insert a micro SD card, follow the steps below.

4.   Loosen the fixing screw.
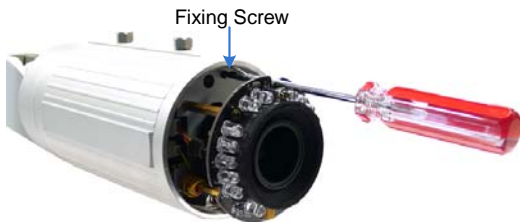
Figure 1-20

5.   Slightly pull out the camera module.

![GeoVision logo]

6.   Insert a micro SD card into the memory card slot.

Memory Card Slot
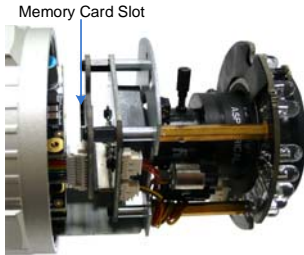
Figure 1-21

7.   Push the camera back and fasten the fixing screw.

8.   Insert a new silica gel bag to the camera module and fasten the camera's cover.

Silica Gel Bag

Figure 1-22

Silica Gel Bag

Figure 1-23 (GV-BL2511-E/5311-E)

1.3.4 Installing the Sun-Shield Cover

After setting up the Bullet Camera, now you can install the sun-shield cover to the camera.

1. Fasten the hexagon screws either on top or below the camera.

Hexagon Screws

Figure 1-24

2. Put the sun-shield cover on top of hexagon screws. Make sure to aim the rear hexagon screw at the edge of the sun-shield cover's aperture for optimal sun-shield performance.

Sun-Shield Cover

Figure 1-25

3. Fasten the Philips head screws with the plastic screw spacers.

Philips Head Screw

Plastic Screw Spacer
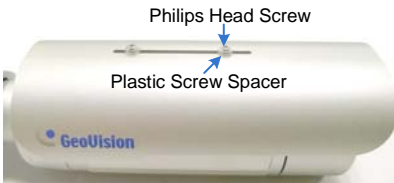
Figure 1-26

1.4 Loading Factory Default

You can restore factory default settings through the Web interface or directly on the camera.

1.4.1 Using the Web Interface

1. On the left menu of Web interface, select **Management** and select **Tools**. The Additional Tools dialog box appears.

2. Click the **Load Default** button in the System Settings section.
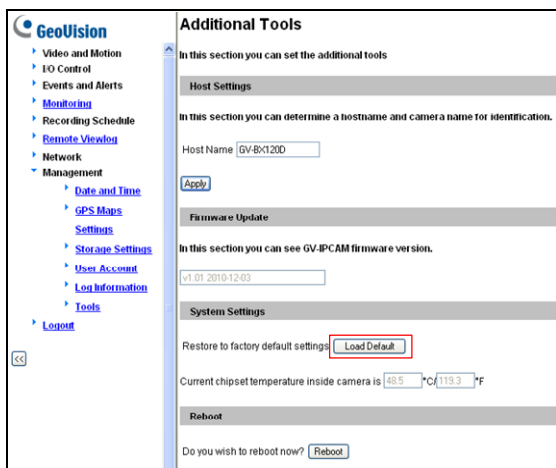
Figure 1-27

1.4.2 Directly on the Camera

1. Keep the power and network cables connected to the camera.

2. Loosen the camera's cover.

3. Press and hold the **default** button for 8 seconds.
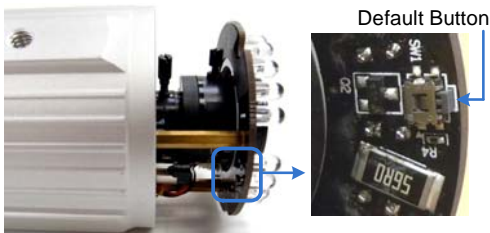
Figure 1-28

4. Release the **default** button. When the process of loading default settings is completed, the camera reboots automatically.

5. Replace the **Silica Gel Bag** and fasten the camera's cover immediately.

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Chapter 2 Bullet Camera (Part II)

The Bullet Cameras are specifically designed for outdoors. They are weatherproof (IP67) and equipped with IR LEDs for infrared illumination in night vision applications. The models described in this chapter use **P-Iris**, which allows for precise control of exposure, producing images with better clarity and contrast.

The **WDR Pro** models enhance the image by processing contrasting intensity of light. The **super low lux** models can produce color live view in near darkness. The **motorized varifocal lens** models allow the user to adjust the focus and zoom through the Web interface. The **arctic** models can withstand extreme temperatures (-40°C ~ 50°C / -40°F ~ 122°F).

Model No.		Specifications	Description
GV-BL1501	Varifocal lens	P-Iris, f: 3 ~ 9 mm, F/1.2, 1/2.7'' ø 14 mm Lens Mount	1.3 MP, H.264, Super Low Lux
GV-BL2501			2 MP, H.264, Super Low Lux
GV-BL3401			3 MP, H.264, WDR Pro
GV-BL2702-3V		P-Iris, f: 2.8 ~ 12 mm, F/1.7, 1/2.7", ø 14 mm Lens Mount	2 MP, H.265, Super Low Lux, WDR Pro
GV-BL2702-4V		P-Iris, f: 6 ~ 50 mm, F/1.6, 1/2.7", ø 14 mm Lens Mount	
GV-BL2702-5V		P-Iris, f: 9 ~ 22 mm, F/2.0, 1/2.7", ø 14 mm Lens Mount	
GV-BL4702		P-Iris, f: 2.8 ~ 12 mm, F/1.7, 1/2.7", ø 14 mm Lens Mount	4 MP, H.265, Super Low Lux, WDR Pro
GV-BL1511	Motorized varifocal lens	P-Iris, f: 3 ~ 9 mm, F/1.2, 1/2.7'' ø 14 mm Lens Mount	1.3 MP, H.264, Super Low Lux, 3X Optical Zoom
GV-BL2511			2 MP, H.264, Super Low Lux, 3X Optical Zoom
GV-BL3411			3 MP, H.264, WDR Pro, 3X Optical Zoom

![GeoVision logo]

GV-BL5311		P-Iris, f: 4.5 ~ 9 mm, F/1.2, 1/2.7'' ø 14 mm Lens Mount	5 MP, H.264, 2X Optical Zoom
GV-BL4713		P-Iris, f: 2.8 ~ 12 mm, F/1.7, 1/2.7", ø 14 mm Lens Mount	4 MP, H.265, Super Low Lux, WDR Pro
GV-BL5713		P-Iris, f: 4 ~ 8 mm, F/1.63, 1/1.8", ø 14 mm Lens Mount	5 MP, H.265, Low Lux, WDR
GV-BL2511-E	Motorized varifocal lens, extreme temperature tolerance	P-Iris, f: 3 ~ 9 mm, F/1.2, 1/2.7'' ø 14 mm Lens Mount	2 MP, H.264, Super Low Lux, 3X Optical Zoom
GV-BL5311-E		P-Iris, f: 4.5 ~ 9 mm, F/1.2, 1/2.7'' ø 14 mm Lens Mount	5 MP, H.264, 2X Optical Zoom

2.1 Packing List

For GV-BL1501 / 2501 / 3401 / 1511 / 2511 / 3411 / 5311 / 2511-E /
5311-E, refer to the following packing list:

- Bullet Camera
- Self Tapping Screw x 3
- Plastic Screw Anchor x 3
- Torx Wrench x 3
- Sun-Shield Cover Kit (Sun-Shield Cover, Philips Head Screw x 2,
  Plastic Screw Spacer x 2, and Hexagon Screw x 2)
- Silica Gel Bag x 2
- 2-Pin Terminal Block
- 3-Pin Terminal Block
- Power Adapter
- Installation Sticker
- Ruler
- Stand Kit (Conduit Converter, PG21 Conduit Connector, RJ-45
  Connector, M3 Screw x 2, Cable Tie)
- Mounting Kit (M4 Screw x 3, Nut x 3, Plate x 3)
- Download Guide
- Warranty Card

Note:

1. The power adapter can be excluded upon request.
2. The Mounting Kit is used for wall corner and pole installations using
   GV-Mount300 / 310 / 400 / 410 (optional). For details, see *GV-Mount
   Accessories Installation Guide.*

![GeoVision logo]

For GV-BL2702 / 4702 / 4713 / 5713, refer to the following packing list:

- H.265 Bullet Camera
- Stand Kit (Conduit Converter, PG21 Conduit Connector, RJ-45 Connector, M3 Screw x 2, Cable Tie)
- Sun-Shield Cover Kit (Sun-Shield Cover, Philips Head Screws x 2, Plastic Screw Spacers x 2, Hexagon Screws x 2)
- Mounting Kit (M4 Screw x 3, Nut x 3, Plate x 3)
- Screw Anchor x 3
- Screw for Mounting Kit x 3
- Hex Wrench
- 4 mm Wrench
- 2.5 mm Wrench
- Silica Gel Bag x 2
- Ruler
- Installation Sticker
- Download Guide
- Warranty Card

Note:

1. GV-BL4713 / 5713 does not include the Sun-Shield Cover Kit in the packing list since the sun-shield cover is installed to the camera upon delivery.

2. The Mounting Kit is used for wall corner and pole installations using GV-Mount300 / 310 / 400 / 410 (optional). For details, see *GV-Mount Accessories Installation Guide.*

2.2 Overview

Twist off the camera cover to access the following:
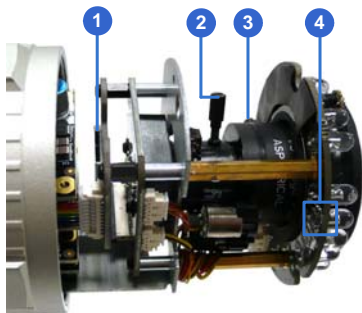
Figure 2-1

GV-BL4713 / 5713

For GV-BL4713 / 5713, twist off the camera cover and loosen the three screws on the front lid of the sun-shield cover to access the following:

Figure 2-2

No.	Name	Description
1	Memory Card Slot	Receives a micro SD card (SD/SDHC, version 2.0 only, Class 10).
2	Zoom Screw	Holds the zoom lens in place.
3	Focus Screw	Holds the focus lens in place
4	Default Button	Resets all configurations to factory default. For details, see *1.4 Loading Factory Default*.

Note:

1. The memory card slot of GV-BL2702 / 4702 / 4713 / 5713 supports micro SD card (SD/SDHC/SDXC/UHS-I, Class 10).

2. To insert an SD card into GV-BL4713 / 5713, loosen the screw indicated in the following left picture, and then open the sun-shield cover to access the SD card slot.

loosen this screw   open the sun-shield cover

Figure 2-3

To access the following interface, remove the camera base using the supplied torx wrench.

Figure 2-4

No.	Name	Description
1	LAN / PoE	Connects to a 10/100 Ethernet or PoE.
2	Audio In	Connects a microphone for audio input.
3	Audio Out	Connects a speaker for audio output.
4	I/O Terminal Block	Connects to I/O devices. For details, see *I/O Terminal*, *2.4 Connecting the Camera*.
5	DC 12V Port	Connects to power.

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2.3 Installation

Follow the steps below to install the Bullet Camera.

1. Paste the supplied sticker to the ceiling/wall. For wall installations, make sure the arrow on the sticker points toward the ceiling.

Mount template
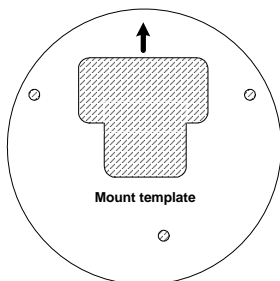
Figure 2-5

2. Drill the shaded area, and insert the screw anchor into the three holes.

3. Loosen the indicated screws with the supplied torx wrench to remove the base.

Figure 2-6

4. Loosen the indicated screws and remove the back plate.

Back Plate

Figure 2-7

5. Align and secure the black plate to the wall/ceiling with the supplied self-tapping screws.
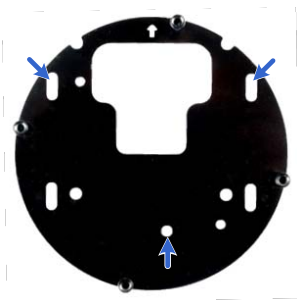
Figure 2-8

6. To use a pipe (optional), install the conduit converter using the supplied M3 screws.

Conduit Converter

PG21 Conduit Connector
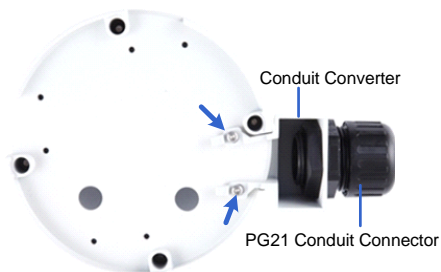
Figure 2-9

IMPORTANT: For GV-BL2511-E / 5311-E connected with a power adapter, only install the conduit converter to the indicated exit.

7. Install the Ethernet cable.

   A. Twist off and remove the cable seal and the conduit connector.

Conduit Connector
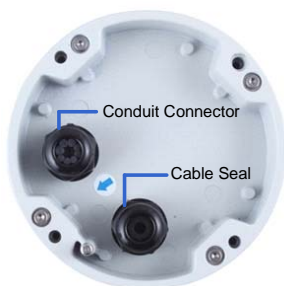
Cable Seal

Figure 2-10

B. Thread an Ethernet cable (with no RJ-45 connector on one end) from the back panel through the conduit converter (optionally installed at step 6) and then through the cable seal.

Figure 2-11

IMPORTANT: Use the supplied ruler and leave about 10 cm of the Ethernet cable between the connector and the cable seal.

C. Re-install the cable seal. Make sure it is installed tightly to waterproof the camera.

8. Thread wires into the camera.

A. Disintegrate the removed conduit connector. You should have 4 parts:

Figure 2-12

B. Remove the terminal block from the supplied power adapter.

C. Optionally thread audio wires, adapter wires, and I/O wires through the conduit converter and then through part 1, 2, 3, and 4 of the conduit connector.

Tip: To make the threading easier, it is advised to thread the wires in the order described here.

For part 2, there are 8 holes each labeled with its diameter. Remove the plugs and push the wires to the corresponding hole listed below:

Figure 2-13
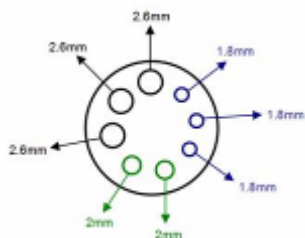
2.6 mm: Audio
2 mm: DC12V / AC24V
1.8 mm: DIDO

Figure 2-14

IMPORTANT:

- Use the supplied ruler and leave about 10 cm of audio, power, and I/O wires between their connectors and the cable seal.
- The plugs are used to prevent water from entering the camera housing. Keep the unused holes plugged and save the removed plugs for future use.
- Only thread the wires through their designated holes on the conduit connector to make sure the wires are properly sealed.

---

9. Install the base to the back plate on the wall.

10. Connect the wires to the camera.

    A. Install the terminal blocks to the power adapter and I/O devices. See *Power Connection* and *I/O Device Connections* in *2.4 Connecting the Camera.*

    B. Install the supplied RJ-45 connector to the Ethernet cable.

    C. Plug all the connectors to the camera panel.

11. Tie the wires with the supplied cable tie and re-install the base to the camera. You may need to rotate the base for the wires to fit.

Figure 2-15

12. Access the live view. For details, see *8.2 Accessing the Live View.*

13. Adjust the angles of the camera based on the live view. Three shafts can be adjusted. See *1.3.2 Adjusting the Angles*.

14. To adjust the focus and insert a micro SD card, see *1.3.3 Adjusting Lens and Inserting a Memory Card*.

15. Install the sun-shield cover. For details, see *1.3.4 Installing the Sun-Shield Cover*.

2.4 Connecting the Camera

Power Connection

Use one of the following methods to supply power to the camera. Note that
GV-BL2511-E / 5311-E do not support PoE.

- Use a Power over Ethernet (PoE) adapter to connect the camera to the network, and the power will be provided at the same time.

- Plug the power adaptor to the terminal block as shown below. For all models (except GV-BL2511-E / 5311-E), insert the striped wire to the left pin (+); for GV-BL2511-E / 5311-E, insert the striped wire to the right pin (-).
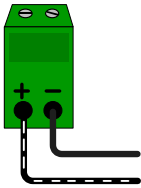
Figure 2-16 (All Models except GV-BL2511-E / 5311-E)
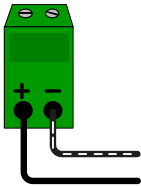
Figure 2-17 (GV-BL2511-E / 5311-E)

I/O Device Connection

The camera supports one digital input and one digital output of dry contact.
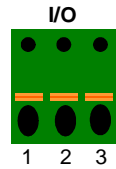
Figure 2-18

Pin	Function
1	Digital Output
2	GND
3	Digital Input

For details on how to enable an installed I/O device, see *4.2 I/O Settings, GV-IPCam Firmware Manual.*

I/O Cable (Optional)

For GV-BL2702 / 4702 / 4713 / 5713, you can optionally purchase an I/O cable for convenient connection.
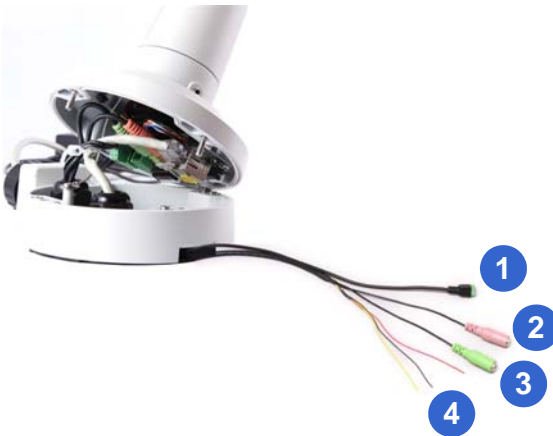
No.	Wire		Definition
1	2-pin Terminal Block		DC 12V
2	Pink RCA		Audio Input
3	Green RCA		Audio Output
4	Digital I/O	Red	Digital Output
		Black	GND
		Yellow	Digital Input

Note: To connect a power adapter to the I/O cable, take off the 2-pin terminal block on the adapter and connect the wires to the one on the I/O cable.

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Chapter 3 Bullet Camera (Part III)

The Bullet Cameras are specifically designed for outdoors. They are weatherproof (IP67) and equipped with IR LEDs for infrared illumination in night vision applications. They support H.265 video codec to achieve better video compression while maintaining high quality picture. The cameras use **P-Iris**, which allows for precise control of exposure, producing images with better clarity and contrast

Model No.		Specifications	Description
GV-BL3700	Varifocal Lens	P-Iris, f: 2.8 ~ 12 mm, F/1.7, 1/2.7", ø 14 mm Lens Mount	3 MP, H.265, Super Low Lux, WDR pro
GV-BL5700		P-Iris, f: 4 ~ 8 mm, F/1.65, 1/1.8", ø 14 mm Lens Mount	5 MP, H.265, Low Lux, WDR

3.1 Packing List

- H.265 Bullet Camera

- Sun-shield Cover

- Screw for Sun‑shield Cover x 2

- Screw for Supporting Rack x 3

- Screw Anchor x 3

- Silica Gel Bag x 2

- Washer x 2

- RJ-45 Connector x 2

- Hex Wrench

- Screw for Mounting Kit x 3

- Nut for Mounting Kit x 3

- Download Guide

- Warranty Card

Note: The Mounting Kit is used for wall corner and pole installations using GV-Mount300 / 310 / 400 / 410 (optional). For details, see *GV-Mount Accessories Installation Guide*.

![Geovision logo]

3.2 Overview
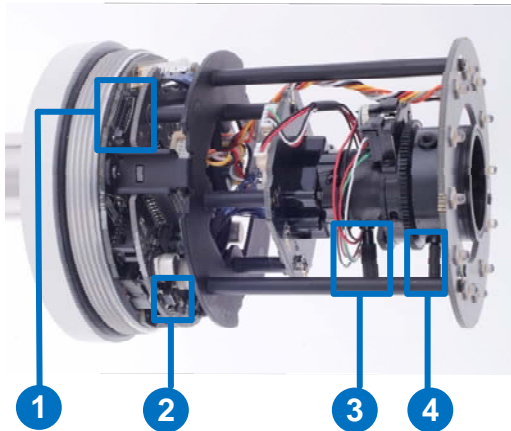
Figure 3-1

No.	Name	Description
1.	Memory Card Slot	Receives a micro SD card (SD/SDHC/SDXC/ UHS-I, Class 10). * UHS-II card type is not supported.
2.	Default Button	Resets all configurations to factory default. For details, see *3.5 Loading Factory Default*.
3.	Focus Screw	Holds the focus lens in place
4.	Zoom Screw	Holds the zoom lens in place.

3.3 Installation

You can install the camera to the ceiling or wall. Follow the steps below.

1.　Unscrew the camera body, remove the sun-shield mount, and loosen the camera cover from the camera.
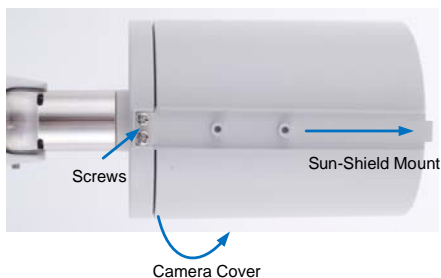
Figure 3-2

2.　Insert a micro SD card (SD/SDHC/SDXC/UHS-I, Class 10) into the card slot.

3.　Tape two silica gel bags to the camera module.
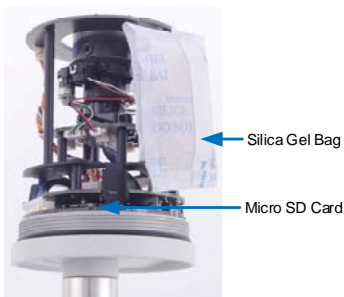
Figure 3-3

4. Secure the camera cover, fasten the sun-shield mount, and screw the camera body.

Sun-Shield Mount
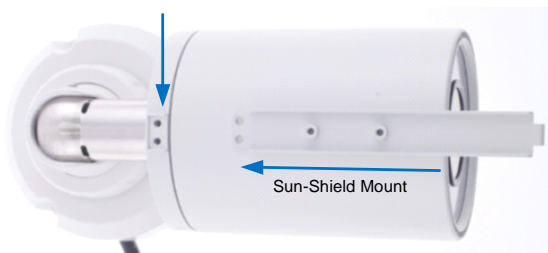
Figure 3-4

5. Slide the sun-shield cover onto the top of the camera. Adjust the position of the cover before fully securing the cover with the washer and the screw.

Figure 3-5

6.   Thread the Ethernet cable into the conduit connector.

A.   Remove the plug from the conduit connector.

Figure 3-6

B.   Disintegrate the removed conduit connector. Thread the
        Ethernet cable through the 3 parts.
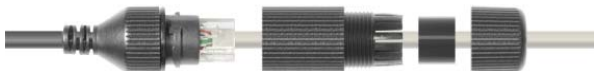
Figure 3-7

C.   Assemble the conduit connector.

Figure 3-8

Note: If you can't plug the self-prepared RJ-45 connector into the jack of
the conduit, it is suggested to use the supplied RJ-45 connector.

---

7. Install the camera to the wall or ceiling using the screw anchors and screws for supporting rack.

Figure 3-9

IMPORTANT: To avoid waterproofing failures, the top of the camera must be facing upward for wall mount.

TOP

---
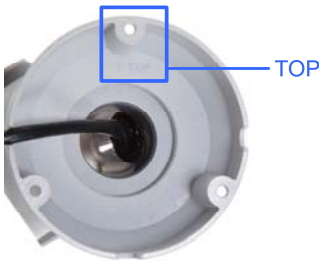
8. Connect the wires and cable connector to the camera. See *3.4 Connecting the Camera.*

9. Access the live view. For details, see *8.2 Accessing the Live View.*

10. Adjust angles of the camera body based on the live view.

3.3.1 Adjusting the Angles

The GV-BL3700 / 5700 is designed to be adjustable in two shafts for easy and flexible installation.

First Shaft

You can adjust the camera base by 360°.

1. Unscrew the base fixing screw with the hex wrench.

Figure 3-10

2. Adjust the angle of camera base, and fasten the base fixing screw with the hex wrench.

Figure 3-11

Second Shaft

You can adjust the camera body to the desired angle by tilting the camera module.

1.   Unscrew the tilting lock screw with the hex wrench.

Figure 3-12

2.   Adjust the angle of camera body to the desired angle.

Figure 3-13

3.   Fasten the tilting lock screw.

3.3.2 Adjusting Lens

To adjust the camera's zoom and focus, follow the steps below.

- Loosen the camera's cover. See *Figure 3-2.*

- To adjust for image clarity by adjusting the focus and zoom screws. For details, see *8.3 Adjusting Image Clarity*.
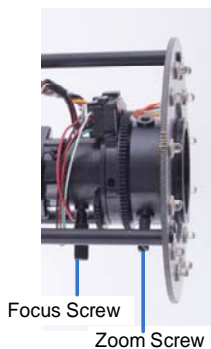
Figure 3-14

3.4 Connecting the Camera

3.4.1 Wire Definition

The **4-Pin terminal block** supports 1 digital input and 1 digital output of dry contact. For details on how to enable an installed I/O device, see *4.2 I/O Settings, GV-IPCam Firmware Manual*. The **5-Pin terminal block** provides power input, 1 audio input and 1 audio output. The wires are illustrated and defined below:
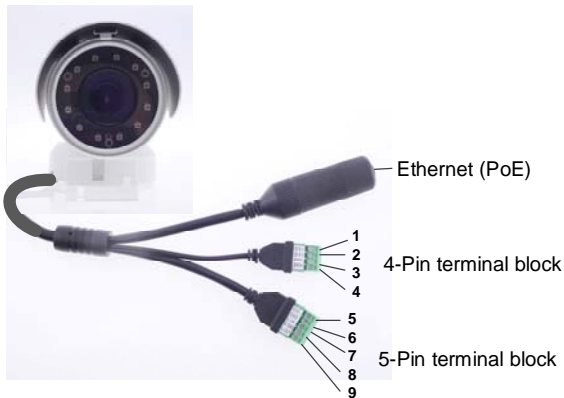
Figure 3-16

No.	Wire Name		Definition
1.	4-pin terminal block	DI -	Digital In -
2.		DI +	Digital in +
3.		DO -	Digital Out -
4.		DO+	Digital Out +
5.	5-pin terminal block	12V	12 V DC
6.		GND	DC 12V +
7.		L-IN	Audio in *Support passive microphones only
8.		A GND	Audio Ground
9.		L-OUT	Audio out
Wire	**Definition**		
RJ-45	Ethernet / PoE (IEEE 802.3af)		

Note: To connect an audio input/output device, cut its 3.5 mm audio jack, and connect the wires to **L-IN** and **A GND** for a microphone or **L-OUT** and **A GND** for a speaker.
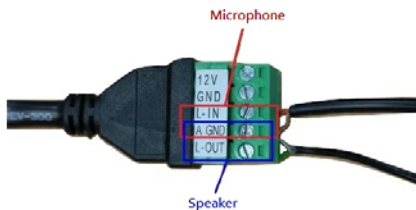
Figure 3-17

3.4.2. Power Connection

Use one of the following methods to supply power to the camera.

- Use a Power over Ethernet (PoE) adapter to connect the camera to the network, and the power will be provided at the same time.

- Connect the wires of your power adapter to the DC 12V+ and DC 12V- pins of the 5-pin terminal blocks.

Figure 3-18

Voltage Load Expansion (Optional)

The camera can only drive a maximum load of **200mA 5V DC**. To expand the maximum voltage load to **10A 250V AC**, **10A 125V AC** or **5A 100V DC**, connect the camera to a GV-Relay V2 module (optional product). Refer to the figure and table below.
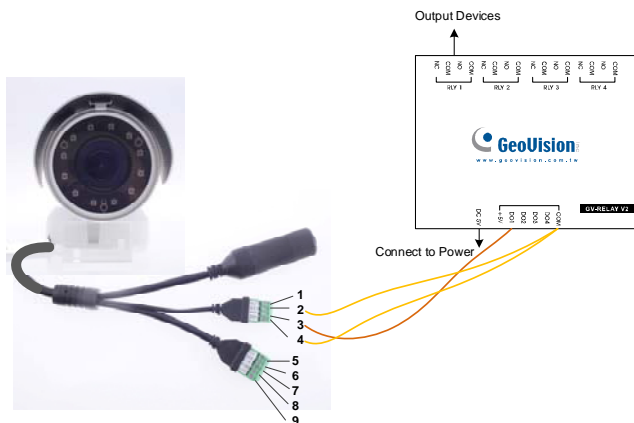
Figure 3-19

GV-Relay V2	Bullet Camera	
COM	4-Pin terminal block	Digital In +
		Digital Out +
DO1		Digital Out -

3.5 Loading Factory Default

3.5.1. Using the Web Interface

U You can restore factory default settings through the Web interface. For details, refer to *1.4.1 Using the Web Interface.*

3.5.2. Directly on the Camera

Press and hold the default button for about **5 seconds** to restore the factory default. After the ready LED blinks, release the default button. For details see *1.4.2 Directly on the Camera.*

Default Button

LED status
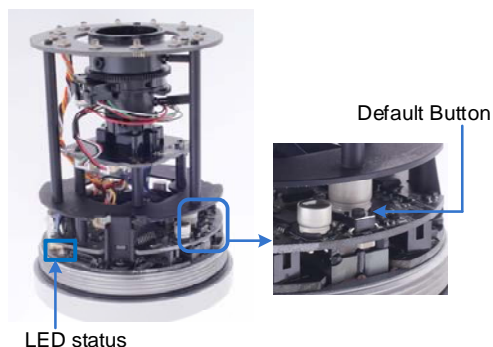
Figure 3-20

Chapter 4 Ultra Bullet Camera

The Ultra Bullet Camera is a series of light-weighted cameras designed for outdoor environments. The camera adheres to the IP67 standard and has full protection against dust and jets of water. The Ultra Bullet Cameras are available in motorized varifocal lens and fixed lens at 1.3, 2 and 3 megapixels. The **motorized varifocal lens** models allow the user to remotely adjust the focus and zoom through the Web interface. The **WDR Pro** models can enhance the live view by processing contrasting intensity of lights. The **super low lux** models are able to provide color live view in near darkness.

Model No.	Specifications	Description
GV-UBL1211	Varifocal Lens	1.3 MP Low Lux, H.264, 3X Optical Zoom
GV-UBL1511	Auto Iris, f: 3 ~ 9 mm, F/1.2, 1/2.7'' ø 14 mm Lens Mount	1.3 MP Super Low Lux, H.264, 3X Optical Zoom
GV-UBL2411		2 MP, H.264, WDR Pro, 3X Optical Zoom
GV-UBL2511		2 MP Super Low Lux, H.264, 3X Optical Zoom
GV-UBL3411		3 MP, H.264, WDR Pro, 3X Optical Zoom

Model No.	Specifications		Description
GV-UBL1301-0F		Fixed Iris, f: 2.8 mm, F/2.0, 1/3'' M12 Lens Mount	1.3 MP, Low Lux, H.264
GV-UBL1301-1F		Fixed Iris, f: 4 mm, F/1.5, 1/3'' M12 Lens Mount	
GV-UBL1301-2F GV-UBL1301-3F		Fixed Iris, f: 4 / 8 mm, F/1.6, 1/3'' M12 Lens Mount	1.3 MP, Low Lux, H.264
GV-UBL2401-0F		Fixed Iris, f: 2.8 mm, F/2.0, 1/3'' M12 Lens Mount	2 MP, H.264, WDR Pro
GV-UBL2401-1F	Fixed Lens	Fixed Iris, f: 4 mm, F/1.5, 1/3'' M12 Lens Mount	
GV-UBL2401-2F GV-UBL2401-3F		Fixed Iris, f: 8 / 12 mm, F/1.6, 1/3'' M12 Lens Mount	
GV-UBL3401-0F		Fixed Iris, f: 2.8 mm, F/2.0, 1/3'' M12 Lens Mount	3 MP, H.264, WDR Pro
GV-UBL3401-1F		Fixed Iris, f: 4 mm, F/1.5, 1/3'' M12 Lens Mount	
GV-UBL3401-2F GV-UBL3401-3F		Fixed Iris, f: 8 / 12 mm, F/1.6, 1/3'' M12 Lens Mount	

4.1 Packing List

- Ultra Bullet Camera (with Waterproof or Non-Waterproof LAN connector)
- Camera Stand
- Black Rubber
- Self Tapping Screw x 3
- Plastic Screw Anchor x 3
- Torx Wrench
- Sun-Shield Cover Kit (Sun-Shield Cover, Philips Head Screw x 2, Plastic Screw Spacer x 2 and Hexagon Screw x 2)
- Cable connector (for waterproof LAN connector only)
- Silica Gel Bag x 2
- 2-Pin Terminal Block
- Data cable
- Power Adapter
- Download Guide
- Warranty Card

Note: The power adapter can be excluded upon request.

4.2 Overview

Panel
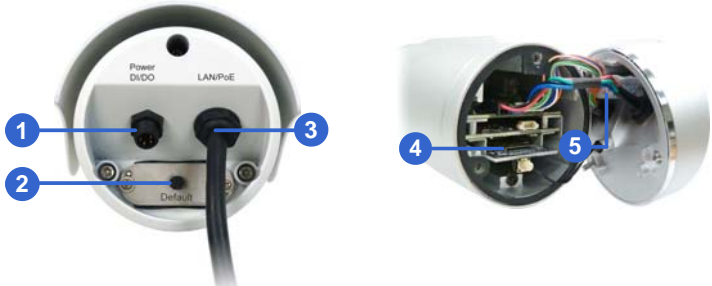
Figure 4-1

No.	Name	Description
1	Power & I/O Connector	Connects to the data cable. For details, see *4.3.2 Connecting the Camera*.
2	Default Button	Resets all configurations to factory default. For details, see *4.4 Loading Factory Default*.
3	LAN / PoE Cable	Connects to a 10/100 Ethernet or PoE.
4	Memory Card Slot	Receives a micro SD card (SD/SDHC, version 2.0 only, Class 10).
5	Silica gel bag	Desiccant that keeps the camera housing dry.

LAN Connector

The Ultra Bullet Camera provides two connector types. Select an option based on your installation environment.

- **Option 1 (Waterproof)**

Ø28.2mm(1.11")
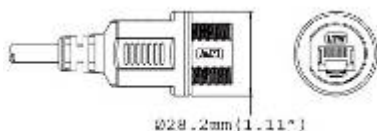
To waterproof the cable, install the supplied cable connector. See *4.3.1 Waterproofing the Cable*.

- **Option 2 (Smaller and non-waterproof)**

20.3mm(0.8")

16.8mm(0.66")

13.8mm(0.54")
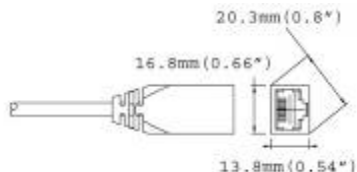
4.3 Installation

You can install the camera to the ceiling or wall. Follow the steps below.

1.   Optionally insert a micro SD card to the camera.

   A. Unscrew and open the back panel with the supplied torx wrench.

Figure 4-2

   B. Insert a micro SD card into the card slot and replace the silica
       gel bag (see Figure 4-1).

   IMPORTANT: Make sure the I/O connector is firmly plugged.

   C. Secure the back cover with the supplied torx wrench.

2.   Install the sun-shield cover to the camera.

A. Fasten the hexagon screw(s) on the top of the camera.

Hexagon Screws

Figure 4-3

B. Put the sun-shield cover on the top of the camera. For optimal sun-shield performance, make sure the rear hexagon screw is at the end of the opening.

Sun-Shield Cover

Figure 4-4

IMPORTANT: The GeoVision logo on the sun-shield cover should be closer to the front of the camera.

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C. Fasten the Philips head screws with the plastic screw spacers to mount the sun-shield cover onto the camera.

- Ceiling Mount: Fasten one Philips head screw to the top of the camera.
- Wall Mount: Fasten two Philips head screws to the top of the camera.

Philips Head Screw

Plastic Screw Spacer
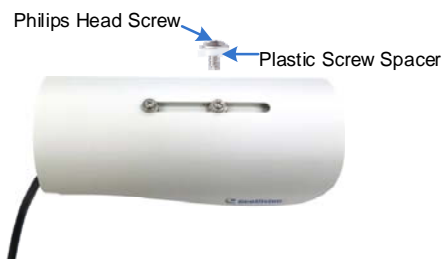
Figure 4-5

3. Install the camera stand.

A. Ceiling Mount: Secure the black rubber and the camera stand to the screw hole on the top.

Figure 4-   6

B. Wall Mount: Secure the black rubber and the camera stand to one of the screw holes on the bottom.

Figure 4-7

4. Use the screw anchors and self-tapping screws to secure the camera to the wall.

Figure 4-8

![GeoVision logo]

5. Remove the protection sticker from the camera's cover.

6. Connect the wires and cable connector to the camera. See *4.3.1 Waterproofing the Cable* and *4.3.2 Connecting the Camera.*

7. Access the live view. For details, see *8.2 Accessing the Live View.*

8. Adjust angles of the camera body based on the live view.

9. For varifocal models (GV-UBL1211 / 1511 / 2411 / 2511 / 3411), adjust the focus. For details, see *3.2.2 The Control Panel of the Live View Window, GV-IPCam Firmware Manual.*

4.3.1 Waterproofing the Cable

Waterproof the option 1 LAN / PoE cable (see *4.2 Overview*) using the supplied cable connector. The cable connector can be dissembled into 5 parts:

Figure 4-9

1.   Cut off the RJ-45 connector on one end of the Ethernet cable.

Figure 4-10

2.   Connect the Ethernet cable to the LAN / PoE connector (No. 3, Figure 4-1) on the camera.

3.   Slide the components through the Ethernet cable as shown below.

Figure 4-11

4.   Paste the item 1 sticker to item 2.

![GeoVision logo]

5.   Move all the components toward the LAN / PoE connector, fit item 4
      to item 2, secure item 3 to the LAN / PoE connector (Item A) and
      finally secure item 5 to item 2 tightly.

Figure 4-12

IMPORTANT: Item 5 must be secured tightly to waterproof the
LAN / PoE connector.

6.   Prepare an RJ-45 connector, reconnect the RJ-45 connector to the
      cable, and then connect the camera to network.

4.3.2 Connecting the Camera

Wire Definition

The camera's 4-pin data cable provides connections for power, ground, 1 sensor input and 1 alarm output. The wires are defined below:

Figure 4-13

No.	Wire Color	Definition
1	Red	DC 5V
2	Green	Digital In
3	Blue	Digital Out
4	Black	Ground

Power Connection

Connect the camera to power using one of the following methods:

- Use a Power over Ethernet (PoE) adapter to connect the camera to the network, and the power will be provided at the same time.

- Plug the power adaptor to the terminal block as shown below.

  1. Insert the black wire of the data cable to the left pin (-) and the red wire to the right pin (+).
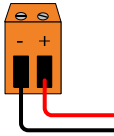
Figure 4-14

  2. Connect the DC 5V power adapter to the terminal block.

Terminal Block   DC 5V Power Adaptor

Figure 4-15

Voltage Load Expansion (Optional)

The camera can only drive a maximum load of **200mA 5V DC**. To expand the maximum voltage load to **10A 250V AC**, **10A 125V AC** or **5A 100V DC**, connect the camera to a GV-Relay V2 module (optional product). Refer to the figure and table below.
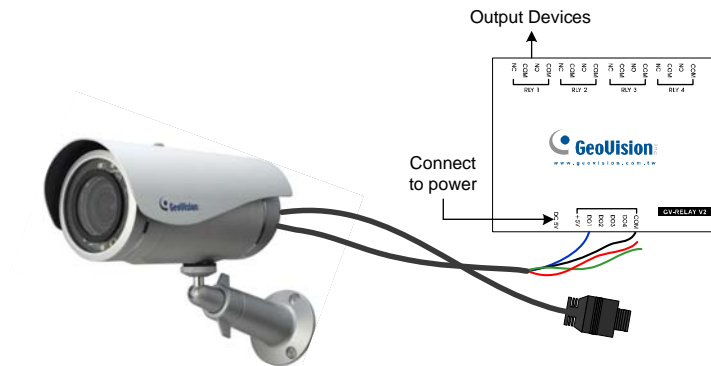
Figure 4-16

GV-Relay V2	Ultra Bullet Camera
DO1	Digital Out (Blue)
COM	Ground (Black)

4.4 Loading Factory Default

4.4.1 Using the Web Interface

You can restore factory default settings through the Web interface. For details, refer to *1.4.1 Using the Web Interface.*

4.4.2 Directly on the Camera

Press and hold the default button for about **8 seconds** to store the factory default. For details see *1.4.2 Directly on the Camera*.

Default button
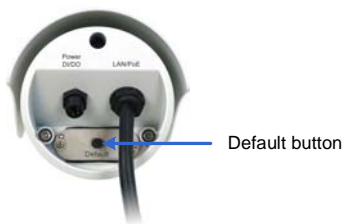
Figure 4-17

Chapter 5 Target Bullet Camera (Part I)

The Target Bullet Camera is a series of light-weighted cameras designed for outdoor environments. The camera adheres to the IP67 standard and has full protection against dust and jets of water. The camera offers an entry-level surveillance solution with all the essential features and excellent image quality.

Model No.		Specifications	Description
GV-EBL1100-1F GV-EBL2100-1F	Fixed Lens	Fixed Iris, f: 6 mm, F/1.8, 1/2.7", ø 14 mm Lens Mount	1.3 MP / 2 MP, H.264, Low Lux
GV-EBL1100-2F GV-EBL2100-2F		Fixed Iris, f: 3.8 mm, F/1.8, 1/2.7", ø 14 mm Lens Mount	

5.1 Packing List

- Target Bullet Camera
- Sun-Shield Cover
- Silica Gel Tape x 2
- Supporting Rack
- Screw for supporting rack x 3
- Screw Anchor x 3
- Screw for sun-shield cover
- Washer
- Terminal Block
- Download Guide
- Warranty Card

Note: Power adapter can be purchased upon request.

5.2 Overview

Figure 5-1

No.	Name	Description
1	Power Connector	Connects to the data cable. For details, see *5.4 Connecting the Camera*.
2	Default Button	Resets the camera to factory default. For details, see *5.5 Loading Factory Default*.

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5.3 Installation

You can install the camera to the ceiling or wall. Follow the steps below.

1. Slide the sun-shield cover onto the top of the camera.

Figure 5-3

Note: The GeoVision logo on the sun-shield cover should be closer to the front of the camera.

---

2. Line up the screw hole on the camera with the opening on the sun-shield cover.

Figure 5-4

3. Ceiling Mount: Secure the supporting rack to the opening on the sun-shield cover

Figure 5-5

4. Wall Mount:

    A. Insert and tighten the supplied screw and washer on the sun-shield cover.

    B. Secure the supporting rack to the bottom.

Figure 5-6

5.   Thread the Ethernet cable into the conduit connector. For details,
      see *step 6, 3.3 Installation.*

Figure 5-7

Note: The size of RJ-45 connector must be within 14 mm to plug into the
jack of the conduit.

Unfit size of RJ45 Connector

---

6. Install the camera to the wall or ceiling using the screw anchors and self-tapping screws. You can also stand the camera on a plain surface.

Figure 5-8

7. Remove the protection sticker from the camera's cover.
8. Connect the wires and cable connector to the camera. See *5.4 Connecting the Camera.*
9. Access the live view. For details, see *8.2 Accessing the Live View.*
10. Adjust angles of the camera body based on the live view.

![GeoVision logo]

5.4 Connecting the Camera

5.4.1 Wire Definition

The data cable provides connections for power, ground and network access. The wires are defined below:

Figure 5-9

No.	Wire Color	Definition
1	Red	DC 12V
2	Black	Ground
3	Black (thick)	PoE, Ethernet

5.4.2 Power Connection

There are two ways to supply power to the camera:

- Use a Power over Ethernet (PoE) adapter to connect the camera to the network, and the power will be provided at the same time.

- Plug the power adapter to the 12V terminal block as shown below. The power adapter is an optional device.

1. Insert the black wire of the data cable to the left pin (-) and the red wire to the right pin (+).

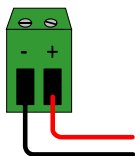*Figure 5-10*

2. Connect the DC 12V power adapter to the terminal block.

Terminal Block   DC 12V Power Adaptor

Figure 5-11

Note: The Power Adaptor is not supplied in the packing list. You need to self-prepare this item.

5.5 Loading Factory Default

5.5.1 Using the Web Interface

3.   On the left menu of Web interface, select **Management** and select **Tools**. The Additional Tools dialog box appears.

4.   Click the **Load Default** button of **Restore to factory default settings** or **Restore to factory default settings (Except network)** in the System Settings section.

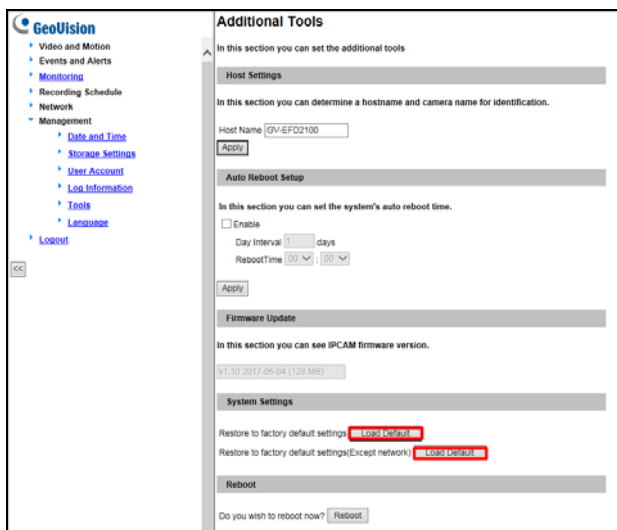*Figure 5-12*

Note: The **Restore to factory default settings (Except network)** option is to restore the factory default settings without changing the camera's network settings.

5.5.2 Directly on the Camera

Press and hold the default button for about **8 seconds** to restore the factory default. For details see *1.4.2 Directly on the Camera*.
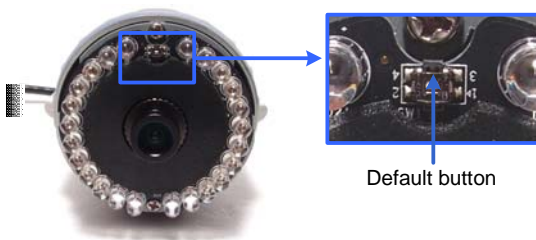

Figure 5-13

Chapter 6 Target Bullet Camera (Part II)

The Target Bullet Camera is a light-weighted camera designed for outdoor environments. It adheres to the IP67 standard and has full protection against dust and jets of water. The camera also allows automatic and precise control of exposure using its P-iris, producing images with better clarity and contrast. It offers an entry-level surveillance solution with all the essential features and excellent image quality.

Model No.		Specifications	Description
GV-EBL2101	Varifocal Lens	P-Iris, f: 3 ~ 9 mm, F/1.7, 1/2.7", ø 14 mm Lens Mount	2 MP, H.264, Super Low Lux
GV-EBL2111	Motorized Varifocal Lens	P-Iris, f: 2.8 ~ 12 mm, F/1.7, 1/2.7", ø 14 mm Lens Mount	2 MP, H.264, Super Low Lux
GV-EBL3101	Varifocal Lens	P-Iris, f: 2.8 ~ 12 mm, F/1.7, 1/2.7", ø 14 mm Lens Mount	3 MP, H.264, Super Low Lux
GV-EBL5101	Varifocal Lens	P-Iris, f: 2.8 ~ 12 mm, F/1.7, 1/2.7", ø 14 mm Lens Mount	5 MP, H.264 , Low Lux

6.1 Packing List

- Target Bullet Camera

- Sun-shield Cover

- Silica Gel Bag x 2

- Screw for Supporting Rack x 3

- Screw Anchor x 3

- Screw for Sun-shield Cover x 2

- Washer x 2

- Terminal Block

- Screw for Mounting Kit x 3

- Nut for Mounting Kit x 3

- Hex Wrench

- Download Guide

- Warranty Card

Note: Power adapter can be purchased upon request.

6.2 Overview
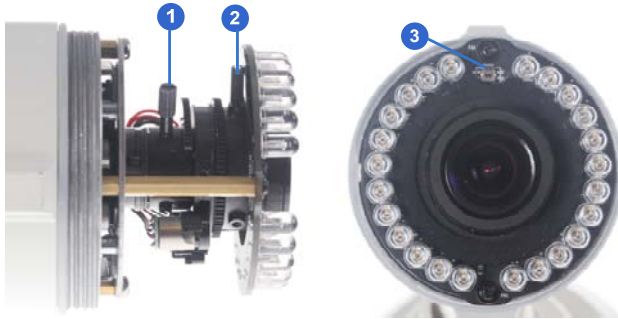
Figure 6-1

No.	Name	Description
1	Zoom Screw	Holds the zoom lens in place.
2	Focus Screw	Holds the focus lens in place
3	Default Button	Resets all configurations to factory default. For details, see *6.5 Loading Factory Default*.

6.3 Installation

You can install the camera to the ceiling or wall. Follow the steps below.

1. Replace the Silica Gel Bag.

   A. Remove the camera cover from the camera.

Figure 6-2

   B. Loosen the camera's screws and the hexagon pillars as indicated below.

Figure 6-3

C.   Take out the camera from the camera body

Figure 6-4

D.   Cut the 2 silica gel bags apart with scissors, and place the new silica gel bags at the lower half of the camera body.

Figure 6-5

2.   Secure the 2 hexagon pillars to the upper and lower holes of camera module as indicated below.

Figure 6-6

3. Secure the camera cover.
4. Slide the sun-shield cover onto the top of the camera. You can also secure the sun shield cover onto the back of the camera. Adjust the position of the cover before fully securing the cover with the washer and the screw.

Figure 6-7

Note:

1. The GeoVision logo on the sun-shield cover should be closer to the front of the camera.

2. There are two holes for the screws at the back of the camera. You only need to fasten one screw to secure the sun shield cover.

---

5.   Thread the Ethernet cable into the camera. For details, see step 6,
      3.3 *Installation.*

Figure 6-8

Note: The size of RJ-45 connector must be within 14 mm to plug into the
jack of the conduit.

Unfit size of RJ45 Connector

6. Install the camera to the wall or ceiling using the screw anchors and screws for supporting rack.

Figure 6-9

IMPORTANT: To avoid waterproofing failures, the top of the camera must be facing upward for wall mount.

TOP
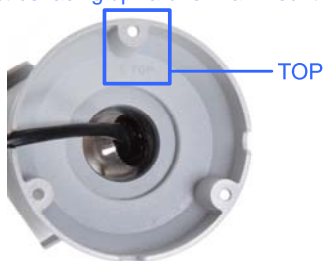
7. Connect the wires and cable connector to the camera. See *6.4 Connecting the Camera*.
8. Access the live view. For details, see *8.2 Accessing the Live View*.
9. Adjust angles of the camera body based on the live view.

6.3.1 Adjusting the Angles

The Target Bullet Camera is designed to be adjustable in two shafts for easy and flexible installation.

You can adjust the camera base by 360° and the camera body to the desired angle by tilting the camera module. For details, see *3.3.1 Adjusting the Angles.*
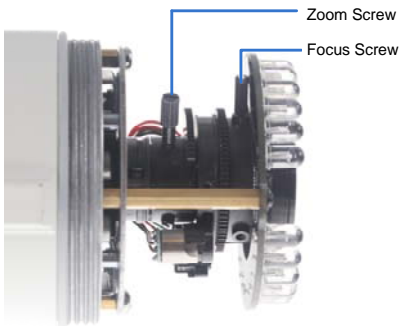
Figure 6-10

6.3.2 Adjusting Lens

To adjust the camera's zoom and focus, follow the steps below.

1.   Loosen the camera's cover. See *Figure 6-2*.
2.   To adjust for image clarity by adjusting the focus and zoom screws.
      For details, see *8.3 Adjusting Image Clarity.*

Figure 6-11

6.4 Connecting the Camera

6.4.1 Wire Definition

The data cable provides connections for power, ground and network access. The wires are defined below:

Figure 6-12

No.	Wire Color	Definition
1	Red	DC 12V
2	Black	Ground
3	Black (thick)	PoE, Ethernet

6.4.2 Power Connection

For details, see *5.4.2 Power Connection*.

Note: The Power Adaptor is not supplied in the packing list. The Power adapter can be purchased upon request.

![GeoVision logo]

6.5 Loading Factory Default

6.5.1 Using the Web Interface

You can restore factory default settings through the Web interface. For details, see *5.5.1 Using the Web Interface*.

6.5.2 Directly on the Camera

Press and hold the default button for about **8 seconds** to load the factory default. For details, see *1.4.2 Directly on the Camera*.
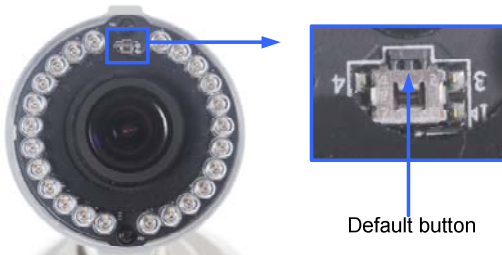

Default button

Figure 6-13

Chapter 7 Target Bullet Camera (Part III)

The Target Bullet Camera is a light-weighted cameras designed for outdoor environments. It adheres to the IP67 standard and has full protection against dust and jets of water. The camera comes with a built-in micro SD card slot for local storage. The camera can support H.265 video codec to achieve better compression ratio while maintaining high quality pictures at reduced network bandwidths. The camera is capable of providing a color live view not only in near darkness but also under contrasting light intensities with its super low lux CMOS image sensor and WDR pro.

Model No.		Specifications	Description
GV-EBL2702-1F	Fixed Lens	Fixed Iris, f: 6 mm, F/2.0, 1/2.7", M12 mm Lens Mount	2MP, H.265, Super Low Lux, WDR Pro
GV-EBL2702-2F		Fixed Iris, f: 3.8 mm, F/1.8, 1/2.7", M12 mm Lens Mount	
GV-EBL2702-3F		Fixed Iris, f: 2.8 mm, F/2.0, 1/2.7", M12 mm Lens Mount	
GV-EBL4702-1F		Fixed Iris, f: 6 mm, F/2.0, 1/2.7", ø 12 mm Lens Mount	4 MP, H.265, Super Low Lux, WDR Pro
GV-EBL4702-2F		Fixed Iris, f: 3.8 mm, F/1.8, 1/2.7", ø 12 mm Lens Mount	

GV-EBL4702-3F		Fixed Iris, f: 2.8 mm, F/2.0, 1/2.7", ø 12 mm Lens Mount	
GV-EBL4711	Motorized varifocal lens	P-Iris, f: 2.7 ~ 12 mm, F/1.6, 1/2.7", ø 14 mm Lens Mount	4 MP, H.265, Super Low Lux, WDR Pro

7.1 Packing List

- H.265 Bullet Camera

- Sun-shield Cover

- Silica Gel Bag x 2

- Screw for Supporting Rack x 3

- Screw Anchor x 3

- Screw for Sun-shield Cover x 2

- Washer x 2

- Terminal Block

- Hex Wrench

- Screw for Mounting Kit x 3

- Nut for Mounting Kit x 3

- Download Guide

- Warranty Card

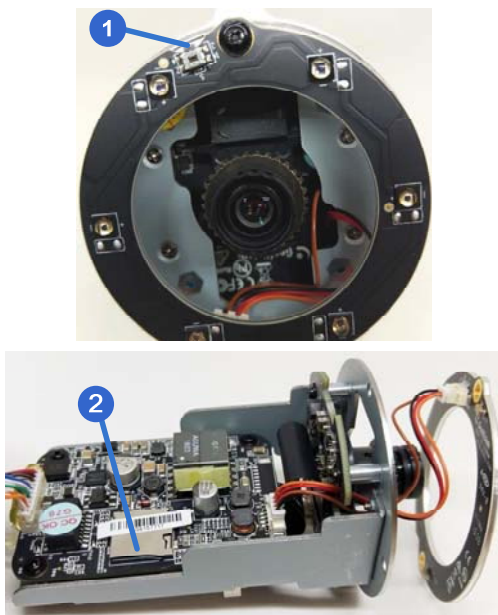**Note:** Power adapter can be purchased upon request.

7.2 Overview

Figure 7-1

No.	Name	Description
1	Default Button	Resets all configurations to factory default. For details, see *7.5 Loading Factory Default*.
2	Memory Card Slot	Inserts a micro SD card (SD/SDHC/SDXC/UHS-I) to store recording data. Note UHS-II card type is not supported.

Note: GV-EBL2702 Series does not support SDXC cards.

![GeoVision logo]

7.3 Installation

To install the camera to the ceiling or wall, you need to open the camera body, insert the memory card, replace silica gel bag, install the sun-shield cover, waterproof the cable, and adjust the camera angles. For details see *6.3 Installation* and *6.3.1 Adjusting the Angles*.

Note:

1. To avoid replacing the silica gel bag and installing the camera all over again, make sure the SD card is installed properly in the first place.

2. When installing the sun-shield cover, it is suggested to align the front cover edge vertically with the camera lens cover in order to avoid light reflex effects.

Figure 7-2

7.4 Connecting the Camera

7.4.1 Wire Definition

The data cable provides connections for power, ground and network access. For details, refer to *6.4.1 Wire Definition*.

7.4.2 Power Connection

For details, see *5.4.2 Power Connection*.

Note: The Power Adaptor is not supplied in the packing list. Power adapter can be purchased upon request.

![GeoVision logo]

7.5 Loading Factory Default

7.5.1 Using the Web Interface

You can restore factory default settings through the Web interface. For details, see *5.5.1 Using the Web Interface*.

7.5.2 Directly on the Camera

Press and hold the default button for about **8 seconds** to load the factory default. For details, see *1.4.2 Directly on the Camera*.

Figure 7-3

Chapter 8 Accessing the Camera

8.1 System Requirement

To access the GV-IP Camera through the Web browser, ensure your PC connects to the network properly and meets this system requirement:

•   Microsoft Internet Explorer 8.0 or later

Note: For the users of **Internet Explorer 8**, additional settings are required. For details, see *Appendix A* in *GV-IPCAM Firmware Manual*.

8.2 Accessing the Live View

When the camera is connected to a network with a DHCP server, it will be automatically assigned with a dynamic IP address. See *8.2.1 Checking the Dynamic IP Address* to look up this IP address.

However, if you do not have a DHCP server on your network, access the camera by its default IP address **192.168.0.10** and see *8.2.2 Configuring the IP Address* for more detail.

Note: The default ID and Password of the GV-IP Camera is **admin**.

8.2.1 Checking the Dynamic IP Address

Follow the steps below to look up the IP address and access the Web interface.

1.   Install the GV-IP Device Utility program from
      http://www.geovision.com.tw/download/product/

---

2.   On the GV-IP Utility window, click the 🔍 button to search for the
      IP devices connected in the same LAN. Click the **Name** or **Mac**
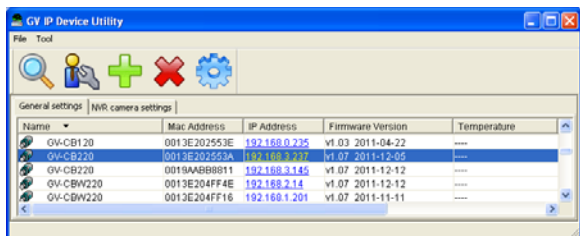
      Address column to sort.

Figure 8-1

3. Find the camera with its Mac Address, click on its IP address and select **Web Page**.
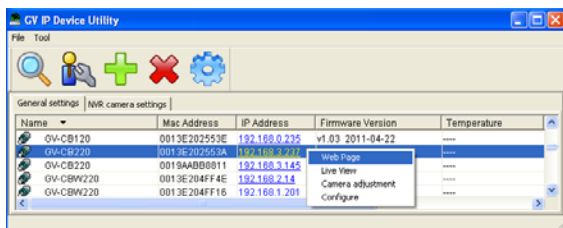

Figure 8-2
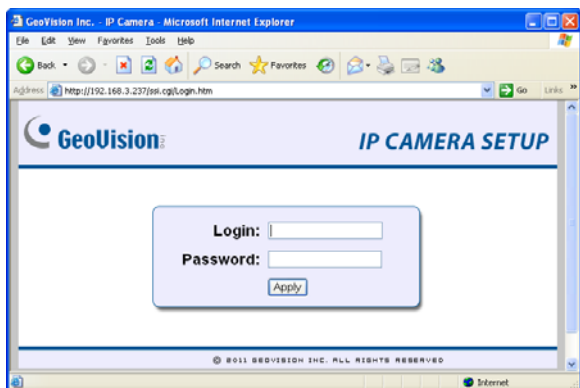
4. The login page appears.

Figure 8-3

5. Type the default ID and password **admin** and click **Apply** to log in.

8.2.2 Configuring the IP Address

Follow the steps below to configure the IP address.

1. Open your Web browser, and type the default IP address
    http://192.168.0.10.

2. In both Login and Password fields, type the default value **admin**.
    Click **Apply**.

3. In the left menu, select **Network** and then **LAN** to begin the network
    settings.

LAN Configuration

In this section you can configure GV-IPCAM to work inside of LAN.

LAN Configuration

○ Dynamic IP address Select this option to obtain IP address from a DHCP server [Test DHCP]

◉ Static IP address   Select this option to enter a Static IP address manually

   IP Address: 192.168.2.13

   Subnet Mask: 255.255.252.0

   Router/Gateway: 192.168.0.1

   Primary DNS: 168.95.192.1

   Secondary DNS: 192.168.0.2   (Optional)

○ PPPoE   Select this option to establish a DSL connection

   Username:

   Password:

[Apply]

Figure 8-4

4. Select **Static IP address**, **Dynamic IP address** or **PPPoE** and type
    the required network information.

5. Click **Apply**. The camera is now accessible by entering the
    assigned IP address on the Web browser.

6. To enable the updating of images in Microsoft Internet Explorer, you
    must set your browser to allow ActiveX Controls and perform a one-
    time installation of GeoVision's ActiveX component onto your
    computer.

IMPORTANT:

1. If **Dynamic IP Address** or **PPPoE** is enabled, you need to know which IP address the camera will get from DHCP server or ISP to log in. If your camera is installed in the LAN, use the GV-IP Device Utility to look up its current dynamic IP address. See *8.2.1 Checking the Dynamic IP Address*. If your camera uses a public dynamic IP address via PPPoE, use the dynamic DNS Service to obtain a domain name that is linked to the camera's changing IP address first. For details, see *LAN Configuration* and *Advanced TCP/IP* sections, *Administrator Mode* Chapter in the *GV-IPCAM Firmware Manual*.

2. If **Dynamic IP Address** or **PPPoE** is enabled and you cannot access the camera, you may have to reset the camera to its factory default and then perform the network settings again. To restore factory settings, see *1.4 Loading Factory Default.*

8.3 Adjusting Image Clarity

You can adjust the image clarity using the GV-IP Device Utility. Make sure that you have connected your GV-IPCAM to the network and install the GV-IP Device Utility program under the same LAN.

Note: This feature only applies to the cameras that allow manual focus adjustment.

1. Make sure you have installed the GV-IP Device Utility program from http://www.geovision.com.tw/download/product/.

2. On the GV-IP Utility window, click the 🔍 button to search for the IP devices connected in the same LAN. Click the IP Address of the camera you desire. A drop-down list appears.
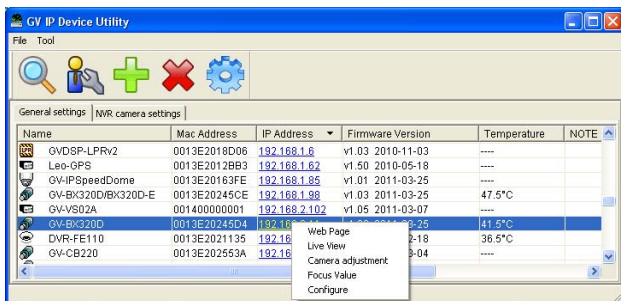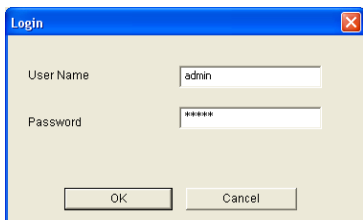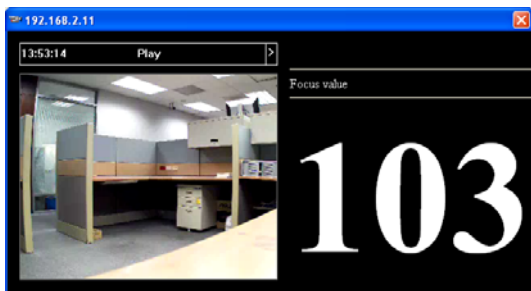

Figure 8-5

3. Select **Focus Value**. The Login dialog box appears.

Figure 8-6

4. Type the user name and password of the camera selected. The default is **admin** for both user name and password. This window appears.

Figure 8-7

5. Adjust the **Zoom Screw** and the **Focus Screw** of the camera slowly until the focus value reaches the maximum.

Note:

1.   For locations of adjustment screws and rings in each model, see *Locations of Adjustment Screws*, section, *Getting Started* Chapter, *GV-IPCAM Firmware Manual*.

2.   Do not over tighten the screws. The screws only need to be as tight as your fingers can get them to be. Do not bother using any tool to get them tighter. Doing so can damage the structure of lens.

3.   The maximum focus value may vary when the environment changes.

Chapter 9 The Web Interface

Live View

In this section you can see and configure the default camera view.

Live View Configuration

Live View

In this section you can see and configure the default camera view.

Live View Configuration

Figure 9-1

No.	Name	Function
1	Play	Plays live video.
2	Stop	Stops playing video.
3	Microphone	Broadcasts to the surveillance site from a remote PC. Note this function is not available for **Ultra Bullet Camera** and **Target Series**. For **Cube Camera** and **Advanced Cube Camera**, click the **Push to talk** button (from the pop-up menu) for the camera to switch between audio transmission and reception, where only one party can speak at a time.
4	Speaker	Transfers sounds of the surveillance site to a remote PC. Note this function is not available for, **Mini Fixed Rugged Dome**, **Ultra Bullet Camera**, **Target Bullet Camera**, and **Target Mini Fixed Rugged Dome**.
5	Snapshot	Takes a snapshot of live video.
6	File Save	Records live video to the local computer.
7	Full Screen	Switches to full screen view. Right-click the image to see additional options.
8	Control Panel	Displays the camera information, video settings, audio data rate, I/O device status, images captured upon alarm, and GPS location of the camera. Also allows you to adjust image quality and install the program from the hard drive.
9	Show System Menu	Brings up these functions: Alarm Notify, Video and Audio Configuration, Remote Config, Show Camera Name and Image Enhance.

No.	Name	Function
10	PTZ Control Panel	Enables the PTZ Control Panel or the Visual PTZ. Note this function is supported by **PTZ Camera** and **PT Camera**, and only partially supported by **GV-IP Cameras with motorized varifocal lens**.
11	I/O Control	Enables the I/O Control Panel and Visual Automation. Note this function is not available in **Mini Fixed Dome**, **Mini Fixed Rugged Dome**, **Cube Camera**, **Advanced Cube Camera** and **Target Series**.
12	LED Control	Click to turn the Alarm LED on and/or adjust the brightness sensitivity. Note this function is only available for **Advanced Cube Camera**.
13	Alarm Speaker	Click to sound the alarm and/or adjust its volume. To sound the alarm upon motion or tampering events, see *Speaker* section, *Administrator Mode* Chapter, *GV-IPCAM Firmware Manual*. Note this function is only available for **Advanced Cube Camera**.

Chapter 10 Upgrading System Firmware

GeoVision periodically releases updated firmware on the website. The new firmware can be simply loaded into the GV-IPCAM by using the Web interface or IP Device Utility.

IMPORTANT:

1. To update the camera firmware from versions earlier than V2.07 to the latest version, **back up the files in the storage device to another device** before the upgrade.

2. While the firmware is being updated,

   A) the power supply must not be interrupted, and

   B) do not unplug the Ethernet cable if the cable is the source of power supply (Power over Ethernet or PoE supported).

3. Do not turn the power off within 10 minutes after the firmware is updated.

4. If you use the IP Device Utility for firmware upgrade, the computer used to upgrade firmware must be under the same network of the camera.

5. Since the firmware adopts different storage format from V2.07 onward, be sure to re-format the storage device after firmware upgrade. If you have not done so, this warning message appears when you view the Monitoring or Storage Settings' Web interface.
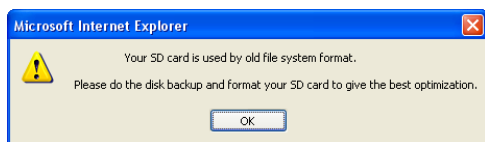

Figure 10-1

1. Stop these operations: monitoring of the camera, connection to GV-DVR / NVR / VMS and remote connections to Center V2, Vital Sign Monitor, ViewLog Server and 3GPP/RTSP.

2. In the Live View window, click the **Show System Menu** button and select **Remote Config**. This dialog box appears.
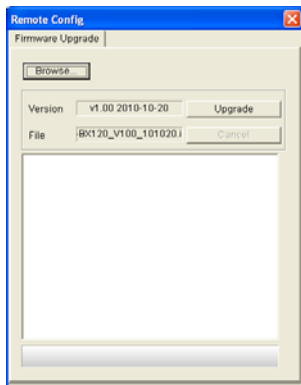

Figure 10-2

3.   Click the **Browse** button to locate the firmware file (.img) saved at
     your local computer.

4.   Click the **Upgrade** button to start the upgrade.

WARNING: The interruption of power supply during updating causes
not only update failures but also damages to the camera. In this case,
please contact our sales representatives and send your device back to
GeoVision for repair.