GeoVision inc.
The Vision of Security

Quick Start Guide

GV-IP Camera H.264

Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.

ICH264-QG-AB-EN

Every effort has been made to ensure that the information in this manual is accurate. GeoVision, Inc. makes no expressed or implied warranty of any kind and assumes no responsibility for errors or omissions. No liability is assumed for incidental or consequential damages arising from the use of the information or products contained herein. Features and specifications are subject to change without notice. Note that memory card slot (local storage) is not supported for Argentina.

GeoVision, Inc.
9F, No. 246, Sec. 1, Neihu Rd.,
Neihu District, Taipei, Taiwan
Tel: +886-2-8797-8377
Fax: +886-2-8797-8335
http://www.geovision.com.tw

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Safety Notice

For GV-CBW120 and GV-CBW220:
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

UL Certification for GV-MFD120/130/220/320/520
The GV-IPCAM H.264 uses a 3.0V CR2032 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

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Introduction

Welcome to the *GV-IPCam H.264 Quick Start Guide*. In this quick guide, you will find information on the installation and basic configurations of the **GV-IPCam H.264 series**.

Camera	Model No.		Description
Box Camera	GV-BX120D	Varifocal Lens	1.3 MP Low Lux, H.264, D/N, Auto Iris, f: 2.8 ~ 12 mm, F/1.4, 1/3'' CS Lens
	GV-BX130D-0	Varifocal Lens	1.3 MP H.264, D/N, Auto Iris, f: 2.8 ~ 12 mm, F/1.4, 1/3'' CS Lens
	GV-BX130D-1	Fixed Lens	1.3 MP H.264, D/N, Fixed Iris, f: 4 mm, F/1.5, 1/3'' CS Lens
	GV-BX140DW	Varifocal Lens	1 MP H.264, D/N WDR Pro, Fixed Iris, f: 2.8 ~ 12 mm, F/1.4, 1/3'' CS Lens
	GV-BX220D-2		2 MP, H.264 D/N, Auto Iris, f: 2.8 ~ 6 mm, F/1.3, 1/3'' CS Lens
	GV-BX220D-3		2 MP, H.264 D/N, Auto Iris, f: 2.8 ~ 12 mm, F/1.4, 1/3'' CS Lens

Camera	Model No.		Description
Box Camera	GV-BX320D-0	Varifocal Lens	3 MP, H.264 D/N, Auto Iris, f: 3.1 ~ 8 mm, F/1.2, 1/3'' CS Lens
	GV-BX320D-1		3 MP, H.264 D/N, Auto Iris, f: 2.8 ~ 6 mm, F/1.3, 1/3'' CS Lens
	GV-BX520D		5 MP, H.264 D/N, Manual Iris, f: 4.5 ~ 10 mm, F/1.6, 1/2'' CS Lens
	GV-BX1200-0F GV-BX1300-0F GV-BX1500-0F GV-BX2500-0F	Fixed Lens	1.3 MP Low Lux / 1.3 MP / 1.3 MP Super Low Lux / 2 MP Super Low Lux, H.264 D/N, Fixed Iris, f: 4 mm, F/1.5, 1/3'' CS Lens
	GV-BX1200-1F GV-BX1300-1F GV-BX1500-1F GV-BX2500-1F		1.3 MP Low Lux / 1.3 MP / 1.3 MP Super Low Lux / 2 MP Super Low Lux, H.264 D/N, Fixed Iris, f: 8 mm, F/1.6, 1/2.5'' CS Lens
	GV-BX1200-2F GV-BX1300-2F GV-BX1500-2F		1.3 MP Low Lux / 1.3 MP / 1.3 MP Super Low Lux, H.264, D/N, Fixed Iris, f: 12 mm, F/1.6, 1/2.5'' CS Lens
	GV-BX2400-0F GV-BX3400-0F	Varifocal Lens	2 MP / 3 MP, H.264 D/N, WDR Pro, Fixed Iris, f: 4 mm, F/1.5, 1/3'' CS Lens
	GV-BX2400-1F GV-BX3400-1F		2 MP / 3 MP, H.264 D/N, WDR Pro, Fixed Iris, f: 8 mm, F/1.6, 1/2.5'' CS Lens

Camera	Model No.		Description
Box Camera	GV-BX2400-2F GV-BX3400-2F	Varifocal Lens	2 MP / 3 MP, H.264 D/N, WDR Pro, Fixed Iris, f: 12 mm, F/1.6, 1/2.5'' CS Lens
	GV-BX1200-3V GV-BX1300-3V GV-BX1500-3V GV-BX2400-3V GV-BX2500-3V		1.3 MP Low Lux / 1.3 MP / 1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux, H.264 D/N, Auto Iris, f: 2.8 ~ 12 mm, F/1.4, 1/2.7" CS Lens
	GV-BX2400-4V GV-BX3400-4V		2 MP / 3 MP, H.264 D/N, WDR Pro, Auto Iris, f: 3 ~ 10.5 mm, F/1.4, 1/2.7" CS Lens
	GV-BX3400-5V		3 MP, H.264 D/N, WDR Pro, Auto Iris, f: 2.8 ~ 6 mm, F/1.3, 1/3'' CS Lens
	GV-BX5300-6V		5 MP, H.264 D/N, Manual Iris, f: 4.5 ~ 10 mm, F/1.6, 1/2'' CS Lens
	GV-BX1500-8F GV-BX2400-8F GV-BX2500-8F GV-BX3400-8F GV-BX5300-8F	Fixed Lens	1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro / 5 MP, H.264, D/N, Fixed Iris, f:2.8 mm, F/1.8, 1/2.5" CS Lens

Camera	Model No.		Description
Ultra Box Camera	GV-UBX1301-0F	Fixed Lens	1.3 MP, H.264 D/N, Fixed Iris, f: 2.8 mm, F/2.0, 1/3" M12 Lens
	GV-UBX1301-1F GV-UBX1301-2F		1.3 MP, H.264 D/N, Fixed Iris, f: 4 / 8 mm, F/1.6, 1/3" M12 Lens
	GV-UBX2301-0F		2 MP, H.264 D/N, Fixed Iris, f: 2.8 mm, F/2.0, 1/3" M12 Lens
	GV-UBX2301-1F GV-UBX2301-2F		2 MP, H.264 D/N, Fixed Iris, f: 4 / 8 mm, F/1.6, 1/3" M12 Lens
	GV-UBX3301-0F		3 MP, H.264 D/N, Fixed Iris, f: 2.8 mm, F/2.0, 1/3" M12 Lens
	GV-UBX3301-1F GV-UBX3301-2F		3 MP, H.264 D/N, Fixed Iris, f: 4 / 8 mm, F/1.6, 1/3" M12 Lens
Target Box Camera	GV-EBX1100-0F	Fixed Lens	1.3 MP, Low Lux, H.264 D/N , Fixed Iris, f: 2.8 mm, F/2.0, 1/2.7'' M12 Lens
	GV-EBX1100-2F		1.3 MP, Low Lux, H.264 D/N , Fixed Iris, f: 3.8 mm, F/1.8, 1/2.7'' M12 Lens

Camera	Model No.		Description
IR Arctic Box Camera	GV-BX120D-E	Varifocal Lens	1.3 MP Low Lux, H.264, D/N, Auto Iris, f: 2.8 ~ 12 mm, F/1.4, 1/3'' CS Lens
	GV-BX220D-E		2 MP, H.264 D/N, Auto Iris, f: 2.8 ~ 6 mm, F/1.3, 1/3'' CS Lens
	GV-BX320D-E		3 MP, H.264 D/N, Auto Iris, f: 2.8 ~ 6 mm, F/1.3, 1/3'' CS Lens
	GV-BX520D-E		5 MP, H.264 D/N, Manual Iris, f: 4.5 ~ 10 mm, F/1.6, 1/2'' CS Lens
	GV-BX1500-E		1.3 MP, Super Low Lux, H.264, D/N, Auto Iris, f: 3 ~ 10.5 mm, F/1.4, 1/2.7'' CS Lens
	GV-BX2400-E GV-BX3400-E		2 MP / 3 MP, H.264, D/N, WDR Pro, Auto Iris, f: 3 ~ 10.5 mm, F/1.4, 1/2.7'' CS Lens
	GV-BX5300-E		5 MP, H.264, D/N, Manual Iris, f: 4.5 ~ 10 mm, F/1.6, 1/2'' CS Lens
Mini Fixed Rugged Dome	GV-MDR120	Fixed Lens	1.3 MP Low Lux, H.264, Color, Fixed Iris, f: 4 mm, F/1.5, 1/3'' M12 Mount
	GV-MDR220 GV-MDR320 GV-MDR520		2 MP / 3 MP / 5 MP, H.264, Color, Fixed Iris, f: 2.54 mm, F/2.8, 1/2.5'' M12 Mount

Camera	Model No.		Description
Mini Fixed Rugged Dome	GV-MDR1500-0F GV-MDR2400-0F GV-MDR2500-0F GV-MDR3400-0F	Fixed Lens	1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro, H.264, Color, Fixed Iris, f: 2.1 mm, F/1.8, 1/3'' M12 Mount
	GV-MDR1500-1F GV-MDR2400-1F GV-MDR2500-1F GV-MDR3400-1F GV-MDR5300-1F		1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro / 5 MP, H.264, Color, Fixed Iris, f: 2.8 mm, F/2.0, 1/3'' M12 Mount
	GV-MDR1500-2F GV-MDR2400-2F GV-MDR2500-2F GV-MDR3400-2F GV-MDR5300-2F		1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro / 5 MP, H.264, Color, Fixed Iris, f: 3.8 mm, F/1.8, 1/3'' M12 Mount
	GV-MDR1500-3F GV-MDR2400-3F GV-MDR2500-3F GV-MDR3400-3F GV-MDR5300-3F		1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro / 5 MP, H.264, Color, Fixed Iris, f: 8 mm, F/1.6, 1/3'' M12 Mount
	GV-MDR1500-4F GV-MDR2400-4F GV-MDR2500-4F GV-MDR3400-4F GV-MDR5300-4F		1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro / 5 MP, H.264, Color, Fixed Iris, f: 12 mm, F/1.6, 1/3'' M12 Mount

Camera	Model No.		Description
Mini Fixed Dome	GV-MFD120	Fixed Lens	1.3 MP Low Lux, H.264, Color, Fixed Iris, f: 4.05 mm, F/1.5, 1/3'' M12 Mount
	GV-MFD130 GV-MFD220 GV-MFD320 GV-MFD520		1.3 MP / 2 MP / 3 MP / 5 MP, H.264, Color, Fixed Iris, f: 2.54 mm, F/2.8, 1/2.5'' M12 Mount
	GV-MFD1501-0F GV-MFD2401-0F GV-MFD2501-0F GV-MFD3401-0F GV-MFD5301-0F		1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro / 5 MP, H.264, Color, Fixed Iris, f: 2.8 mm, F/2.0, 1/3'' M12 Mount
	GV-MFD1501-1F GV-MFD2401-1F GV-MFD2501-1F GV-MFD3401-1F GV-MFD5301-1F		1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro / 5 MP, H.264, Color, Fixed Iris, f: 4 mm, F/1.5, 1/3'' M12 Mount
	GV-MFD1501-2F GV-MFD2401-2F GV-MFD2501-2F GV-MFD3401-2F GV-MFD5301-2F		1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro / 5 MP, H.264, Color, Fixed Iris, f: 8 mm, F/1.6, 1/3'' M12 Mount
	GV-MFD1501-3F GV-MFD2401-3F GV-MFD2501-3F GV-MFD3401-3F GV-MFD5301-3F		1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro / 5 MP, H.264, Color, Fixed Iris, f: 12 mm, F/1.6, 1/3'' M12 Mount

Camera	Model No.		Description
Mini Fixed Dome	GV-MFD1501-4F GV-MFD2401-4F GV-MFD2501-4F GV-MFD3401-4F	Fixed Lens	1.3 MP Super Low Lux / 2 MP WDR Pro / 3 MP WDR Pro, H.264, Color, Fixed Iris, f: 2.1 mm, F/1.8, 1/3'' M12 Mount
Target Mini Fixed Dome	GV-EFD1100-0F GV-EFD2100-0F	Fixed Lens	1.3 MP / 2 MP, Low Lux, H.264 D/N , Fixed Iris, f: 2.8 mm, F/2.0, 1/2.7'' M12 Lens
	GV-EFD1100-2F GV-EFD2100-2F		1.3 MP / 2 MP, Low Lux, H.264 D/N , Fixed Iris, f: 3.8 mm, F/1.8, 1/2.7'' M12 Lens
Bullet Camera	GV-BL120D GV-BL130D GV-BL220D GV-BL320D	Varifocal Lens	1.3 MP Low Lux / 1.3 MP / 2 MP / 3 MP H.264, D/N, Auto Iris, f: 3 ~ 9 mm, F/1.2, 1/2.7'', ø 14 mm
	GV-BL1200 GV-BL1300 GV-BL1500 GV-BL2400 GV-BL2500 GV-BL3400		1.3 MP Low Lux / 1.3 MP / 1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro, H.264, D/N, WDR Pro, Auto Iris, f: 3 ~ 9 mm, F/1.2, 1/2.7'', ø 14 mm
IR Arctic Bullet Camera	GV-BL2510-E	Motorized Varifocal Lens	2 MP Super Low Lux, H.264, D/N, Auto Iris, 3X Optical Zoom, f: 3 ~ 9 mm, F/1.2, 1/2.7'', ø 14 mm
	GV-BL5310-E		5 MP, H.264, D/N, Auto Iris, 2X Optical Zoom, f: 3 ~ 9 mm, F/1.2, 1/2.7'', ø 14 mm

Camera	Model No.		Description
Bullet Camera	GV-BL1210 GV-BL1510 GV-BL2410 GV-BL2510 GV-BL3410	Motorized Varifocal Lens	1.3 MP Low Lux / 1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro, H.264, D/N, Auto Iris, 3X Optical Zoom, f: 3 ~ 9 mm, F/1.2, 1/2.7'', ø 14 mm
	GV-BL5310		5 MP H.264, D/N, Auto Iris, 2X Optical Zoom, f: 4.5 ~ 9 mm, F/1.2, 1/2.7'', ø 14 mm
Ultra Bullet Camera	GV-UBL1211 GV-UBL1511 GV-UBL2411 GV-UBL2511 GV-UBL3411	Motorized Varifocal Lens	1.3 MP Low Lux / 1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro, H.264, Auto Iris, 3X Optical Zoom, f: 3 ~ 9 mm, F/1.2, 1/2.7'' ø 14 mm Lens Mount
	GV-UBL1301-0F	Fixed Lens	1.3 MP, Fixed Iris, f: 2.8 mm, F/2.0, 1/3'' M12 Lens Mount
	GV-UBL1301-1F GV-UBL1301-2F GV-UBL1301-3F		1.3 MP, Fixed Iris, f: 4 / 8 / 12 mm, F/1.6, 1/3'' M12 Lens Mount
	GV-UBL2401-0F		2 MP, Fixed Iris, WDR Pro, f: 2.8 mm, F/2.0, 1/3'' M12 Lens Mount

Camera	Model No.		Description
Ultra Bullet Camera	GV-UBL2401-1F GV-UBL2401-2F GV-UBL2401-3F	Fixed Lens	2 MP, Fixed Iris, WDR Pro, f: 4 / 8 / 12 mm, F/1.6, 1/3'' M12 Lens Mount
	GV-UBL3401-0F		3 MP, Fixed Iris, WDR Pro, f: 2.8 mm, F/2.0, 1/3'' M12 Lens Mount
	GV-UBL3401-1F GV-UBL3401-2F GV-UBL3401-3F		3 MP, Fixed Iris, WDR Pro, f: 4 / 8 / 12 mm, F/1.6, 1/3'' M12 Lens Mount
Target Bullet Camera	GV-EBL1100-1F GV-EBL2100-1F	Fixed Lens	1.3 MP / 2 MP, Low Lux, H.264 D/N , Fixed Iris, f: 6 mm, F/1.8, 1/2.7'' M12 Lens Mount
	GV-EBL1100-2F GV-EBL2100-2F		1.3 MP Low Lux, H.264 D/N , Fixed Iris, f: 3.8 mm, F/1.8, 1/2.7'' M12 Lens Mount

Camera	Model No.		Description
Fixed IP Dome	GV-FD120D GV-FD220D GV-FD320D	Varifocal Lens	1.3 MP Low Lux / 2 MP / 3 MP, H.264, D/N, Auto Iris, f: 3 ~ 9 mm, F/1.3, 1/3'' ø 14 mm Mount
	GV-FD1200 GV-FD1500 GV-FD2400 GV-FD2500 GV-FD3400		1.3 MP Low Lux / 1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro, H.264, D/N, Auto Iris, f: 3 ~ 9 mm, F/1.2, 1/2.7'' ø 14 mm Mount
	GV-FD5300		5 MP, H.264, D/N, Auto Iris, f: 4.5 ~ 10 mm, F/1.6, 1/2.5'' CS Mount
	GV-FD1210 GV-FD1510 GV-FD2410 GV-FD2510 GV-FD3410	Motorized Varifocal Lens	1.3 MP Low Lux / 1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro, H.264, D/N, Auto Iris, , 3x Optical Zoom, f: 3 ~ 9 mm, F/1.2, 1/2.7'' ø 14 mm Mount

Camera	Model No.		Description
Vandal Proof IP Dome	GV-VD120D (IK10+, Transparent Cover) GV-VD121D (IK10+, Smoked Cover) GV-VD122D (IK7, Transparent Cover) GV-VD123D (IK7, Smoked Cover)	Varifocal Lens	1.3 MP H.264, D/N, Low Lux, Auto Iris
	GV-VD220D (IK10+, Transparent Cover) GV-VD221D (IK10+, Smoked Cover) GV-VD222D (IK7, Transparent Cover) GV-VD223D (IK7, Smoked Cover)		2 MP H.264, D/N, Auto Iris
	GV-VD320D (IK10+, Transparent Cover) GV-VD321D (IK10+, Smoked Cover) GV-VD322D (IK7, Transparent Cover) GV-VD323D (IK7, Smoked Cover)		3 MP H.264, D/N, Auto Iris
	GV-VD1500 (IK10+, Transparent Cover) GV-VD2400 (IK10+, Transparent Cover) GV-VD2500 (IK10+, Transparent Cover) GV-VD3400 (IK10+, Transparent Cover)		1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro, H.264, D/N, Auto Iris

Camera	Model No.		Description
Vandal Proof IP Dome	GV-VD1530 GV-VD2430 GV-VD2530 GV-VD3430	High Power IR LEDs, Varifocal Lens	1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro, H.264, D/N, Auto Iris
	GV-VD1540 GV-VD2440 GV-VD2540 GV-VD3440	High Power IR LEDs, Motorized Varifocal Lens	1.3 MP Super Low Lux / 2 MP WDR Pro / 2 MP Super Low Lux / 3 MP WDR Pro, H.264, D/N, Auto Iris, 3X Optical Zoom, f: 3 ~ 9 mm, F/1.2, 1/2.7'' ø 14 mm Lens Mount
	GV-VD5340		5 MP, H.264, D/N, Auto Iris, 3X Optical Zoom, f: 3.3 ~ 9 mm, F/1.2, 1/2.7'' ø 14 mm Lens Mount
	GV-VD2540-E	High Power IR LEDs, Motorized Varifocal Lens, Extreme Temperature Tolerance	2 MP Super Low Lux, H.264, D/N, Auto Iris, 3X Optical Zoom, f: 3 ~ 9 mm, F/1.2, 1/2.7'' ø 14 mm Lens Mount
	GV-VD5340-E		5 MP, H.264, D/N, Auto Iris, 3X Optical Zoom, f: 3.3 ~ 9 mm, F/1.2, 1/2.7'' ø 14 mm Lens Mount

Camera	Model No.		Description
Advanced Cube Camera	GV-CA120 GV-CA220	Fixed Lens	1.3 MP / 2 MP, H.264, Fixed Iris, f:3.35 mm, F/2.4, 1/3'' M12 Lens
	GV-CAW120 GV-CAW220		1.3 MP / 2 MP, H.264, Wireless, Fixed Iris, f:3.35 mm, F/2.4, 1/3'' M12 Lens
Cube Camera	GV-CB120 GV-CB220	Fixed Lens	1.3 MP / 2 MP, H.264, Fixed Iris, f: 3.35 mm, F/2.4, 1/3'' M12 Lens
	GV-CBW120 GV-CBW220		1.3 MP / 2 MP, H.264, Wireless, Fixed Iris, f: 3.35 mm, F/2.4, 1/3'' M12 Lens
PT Camera	GV-PT130D GV-PT220D GV-PT320D	Fixed Lens	1.3 MP / 2 MP / 3 MP H.264 D/N, Fixed Iris

For a detailed user's manual, see *GV-IPCam H.264 User's Manual* on the Software CD.

Options

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

Accessory	Description
Power Adapter	The power adapter is available for all GV-IP Camera (except for IR Arctic Cameras, Mini Fixed Rugged Dome and GV-BL2510-E / 5310-E). For supported regions, see *Options* in *GV-IPCam H.264 User's Manual* on the Software CD.
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-PA481 PoE Adapter	The GV-PA481 PoE adapter is designed to provide power and network connection to GV-BX1200-E / 2400-E / 3400-E / 5300-E 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.
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* on the Software CD.

Accessory	Description
GV-WiFi Adapter	The GV-WiFi Adapter is a plug-and-play device designed to connect GV-BX1200 Series / 1300 series / 1500 series / 2400 series / 2500 series / 3400 series / 5300 series and GV-MFD1501 series / 2401 series / 2501 series / 3401 series / 5301 series to wireless network. This product complies with IEEE 802.11 b/g/n (Draft 3.0) standards for wireless networking.
GV-IR LED T2	A mountable infrared LED device that improves image performance of Box Cameras under low light conditions.
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.
Smoked Cover	The smoked cover is an IK7, tinted camera cover designed for GV-Fixed IP Dome to conceal the direction of the camera lens.

Note for Connecting to GV-System

The GV-IPCAM H.264 is designed to work with GV-System, a hybrid or digital video management system. Note the following when GV-IPCAM H.264 is connected to GV-System:

1. By default, the images are recorded to the memory card inserted to the **GV-IP Camera H.264** (except GV-IR Arctic Camera and Target Series, which are not equipped with a memory card slot).
2. Once the camera is connected to GV-System, the resolution set on GV-System will override the resolution set on the camera's Web interface. You can only change the resolution settings through the Web interface when the connection to GV-System is interrupted.

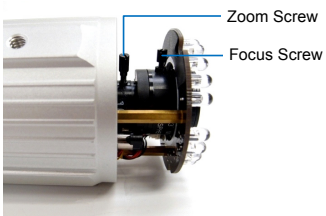
Note for Recording

1. By default, the images are recorded to the memory card inserted to the **GV-IP Camera H.264** (except GV-IR Arctic Camera and Target Series, which are not equipped with a memory card slot). Make sure the **Write recording data into local storage** option 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. For details, see *Video Settings*, *Administrator* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD).
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.

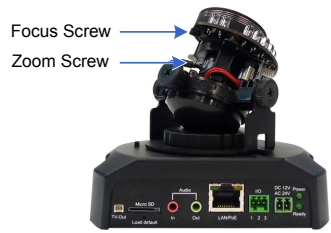
Note for Adjusting Focus and Zoom

When adjusting the Focus and Zoom Screws (on Box Camera, IR Arctic Box Camera, Mini Fixed Dome, Bullet Camera, Vandal Proof IP Dome and Fixed IP Camera), please do not over tighten the Focus and Zoom screws. The screws only need to be as tight as your finger can do it; don't bother using any tools to get them tighter. Doing so can damage the structure of lens.

For example,



Bullet Camera



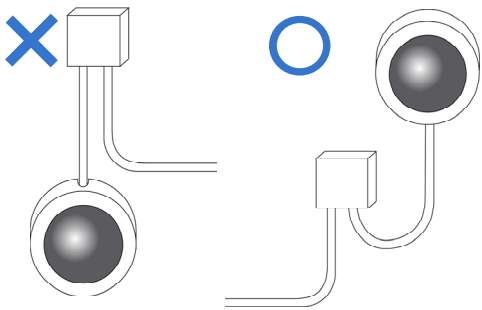
Fixed IP Camera

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

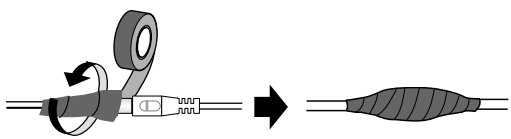
Note for Installing Camera Outdoor

When installing the **IR Arctic Box Camera**, **Bullet Camera**, **Ultra Bullet Camera**, **Target Bullet Camera**, **Vandal Proof IP Dome** or **Mini Fixed Rugged Dome** outdoor, be sure that:

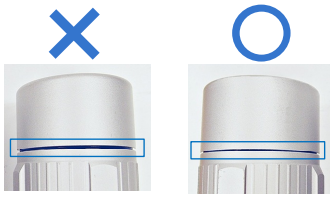
1. The camera is set up above the junction box to prevent water from entering the camera along the cables.



2. Any PoE, power, audio and I/O cables are waterproofed using waterproof silicon rubber or the like.



3. After opening the camera cover, ensure the screws are tightened and the cover is in place.



4. The silica gel bag loses it 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.
5. For each newly replaced silica gel bag, allow it to absorb moisture for at least 5 hours before operating the camera.

Note for Closing the Bullet Camera Cover

To ensure that the camera performs its full capacity against water and dust, adhere to the following guidelines when closing the Bullet Camera cover:

1. **Line up the dots**

   Tighten the camera cover until the dots on the cover and the body line up as indicated below.

2. **Make your own marks**

   For earlier models, you may not have dots on your camera. In this case, make your own marks on the camera cover and the body to note down the position.

Note for USB Storage and WiFi Adapter

Mind the following limitations and requirements for using USB storage and GV-WiFi Adapter:

1. The USB hard drive must be of 2.5'' or 3.5'', version 2.0 or above.
2. The USB hard drive's storage capacity must not exceed 2TB.
3. USB flash drives and USB hubs are not supported.
4. External power supply is required for the USB hard drive.
5. To connect a GV-WiFi Adapter, make sure it is connected before the camera is powered on.

1. Box Camera

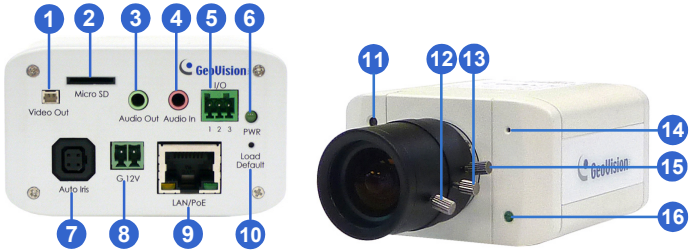
1.1 Packing List

- Box Camera
- Terminal Block
- Fixed Focal or Varifocal Megapixel Lens
- Six Lens Rings
- One Lens Ring (for GV-BX140DW only)
- Video Out Wire
- Camera Holder
- GV-IPCAM H.264 Software CD
- GV-IPCAM H.264 Quick Start Guide
- GV-NVR Software DVD
- GV-NVR Quick Start Guide

Note: Power adapter can be purchased upon request.

1.2 Overview

GV-BX120D / 130D Series / 140DW / 220D Series / 320D Series / 520D



Note:

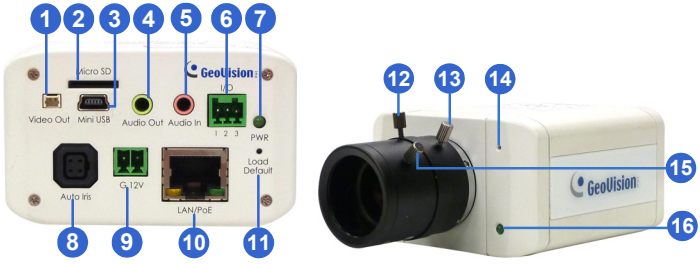
1. The Auto Iris Connector (No. 7) is only functional in GV-BX120D, GV-BX130D-0, GV-BX220D and GV-BX320D.
2. The Light Sensor (No. 11) is only available in GV-BX140DW. Keep the Light sensor unobscured for accurate light detection.
3. The Iris Screw (No. 13) is only available for GV-BX520D.
4. The Zoom Screw (No. 15) is not available for GV-BX130D-1.

No.	Name	Description
1	Video Out	Connects to a portable monitor for setting the focus and angle of Box Camera during initial installation.
2	Memory Card Slot	Receives a micro SD card (SD/SDHC, version 2.0, Class 10) to store recording data.
3	Audio Out	Connects a speaker for audio output.
4	Audio In	Connects a microphone for audio input.

No.	Name	Description
5	I/O Terminal Block	Connects I/O devices. For details, see *I/O Terminal Block*, *Box Camera* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD.
6	Power LED	Indicates the power is supplied. For detail, see the table below.
7	Auto Iris Connector	Plug the iris control cable to the connector.
8	DC 12V Port	Connects to power.
9	LAN / PoE	Connects to a 10/100 Ethernet or PoE.
10	Default	Resets all configurations to factory default. See *19. Restoring to Default Settings* later in the *Quick Start Guide*.
11	Light Sensor	Detects light to switch between day and night mode.
12	Focus Screw	Adjusts the focus of the camera.
13	Iris Screw	Adjusts the iris of the camera
14	Microphone	Records the sounds.
15	Zoom Screw	Adjusts the zoom of the camera
16	Status LED	Turns on when the unit is ready for use. For detail, see the table below.

LED	Description
Power LED turns green	The system powers on and succeeds to boot up.
Status LED turns green	The system is ready for use.

GV-BX1200 Series / 1300 Series / 1500 Series / 2400 Series / 2500 Series / 3400 Series / 5300 Series



Note:

1. The Auto Iris Connector (No. 8) is only functional for varifocal models of GV-BX1200 / 1300 / 1500 / 2400 / 2500 / 3400.
2. The Iris Screw (No. 12) is only available for GV-BX5300-6V.
3. The Zoom Screw (No. 13) is only available for varifocal models of GV-BX1200 / 1300 / 1500 / 2400 / 2500 / 3400 / 5300.

No.	Name	Description
1	Video Out	Connects to a portable monitor for setting the focus and angle of Box Camera during initial installation.
2	Memory Card Slot	Receives a micro SD card (SD/SDHC, version 2.0 only, Class 10) to store recording data.
3	Mini USB Slot	Connects to a GV-WiFi Adapter or a USB hard drive.
4	Audio Out	Connects a speaker for audio output.

No.	Name	Description
5	Audio In	Connects a microphone for audio input.
6	I/O Terminal Block	Connects I/O devices. For details, see *I/O Terminal Block*, *Box Camera* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD.
7	Power LED	Indicates the power is supplied. For detail, see the table below.
8	Auto Iris Connector	Plug the iris control cable to the connector.
9	DC 12V Port	Connects to power.
10	LAN / PoE	Connects to a 10/100 Ethernet or PoE.
11	Default	Resets all configurations of the GV-IPCAM H.264 to the default factory settings. See *19. Restoring to Default Settings* later in the *Quick Start Guide*.
12	Iris Screw	Adjusts the iris of the camera.
13	Zoom Screw	Adjusts the zoom of the camera.
14	Microphone	Records the sounds.
15	Focus Screw	Adjusts the focus of the camera.
16	Status LED	Turns on when the unit is ready for use. For detail, see the table below.

LED	Description
Power LED turns green	The system powers on and succeeds to boot up.
Status LED turns green	The system is ready for use.

1.3 Accessory Installation

1.3.1 C-Mount Lenses

When you use a C-mount lens, it requires a certain distance from the camera's imaging chip to focus the lens. Mount the supplied C-mount lens adapter / lens ring to the camera, and then attach the lens onto the camera body.

Box Camera

Three types of lens rings are provided for Box Camera:

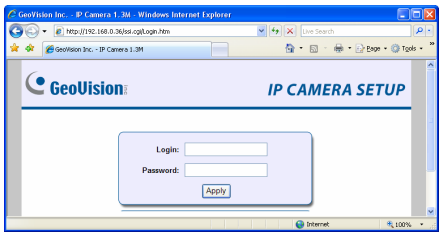
- 0.188 mm (transparent color) x 2
- 0.125 mm (black color with a glossy surface) x 2
- 0.254 mm (black color with a matt surface) x 2

For GV-BX140DW, a 0.125 mm lens ring is provided.

Note: These lens rings are specially designed for varifocal models of Box Camera. Besides the supplied lens rings, each varifocal model has already been installed with the necessary lens ring.

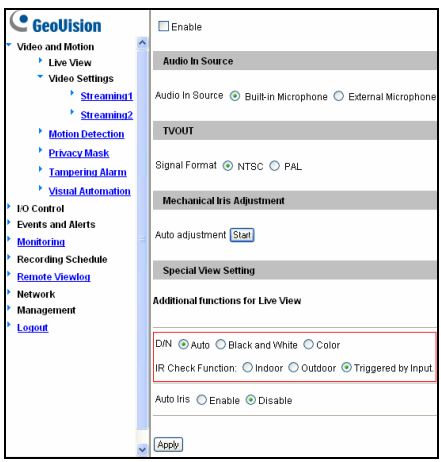
1.3.2 Infrared Illuminators (GV-IR LED / GV-IR LED T2)

1. Connect the infrared illuminator to the terminal block on the camera. See *I/O Terminal Block*, *Box Camera* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD, or *GV-IR LED User's Manual*.
2. Access the Web interface of the camera.

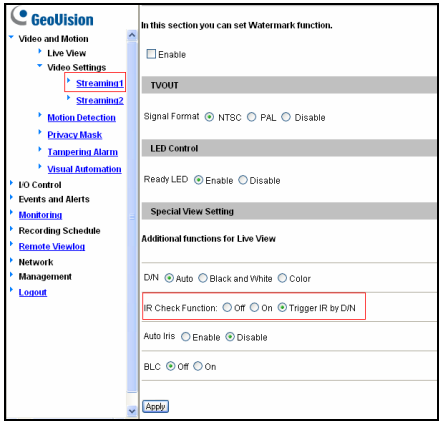


3. Select **Video and Motion**, select **Video Settings**, select **Streaming 1** and set the **IR Check Function** option to be **Trigger by Input** (for GV-IR LED) or **Trigger IR by D/N** (for GV-IR LED T2).

GV-IR LED



GV-IR LED T2



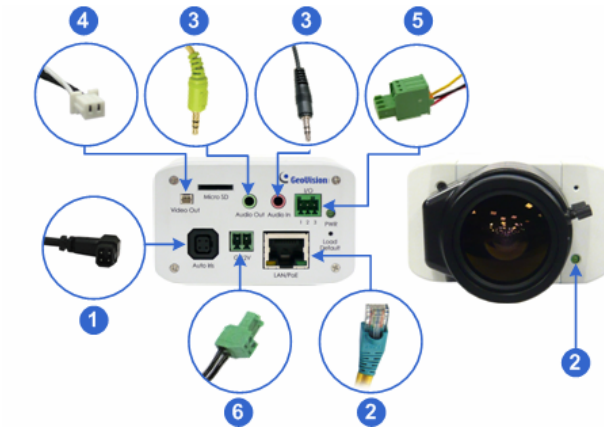
4. Click **Apply**.

For **Trigger by Input** and **Trigger IR by D/N** functions, see the *Video Settings section*, *Administrator Mode* Chapter in the *GV-IPCam H.264 User's Manual* in the Software CD.

1.4 Connecting the Camera

The Box Camera is designed for indoor use. Please make sure the installing site is shielded from rain and moisture.

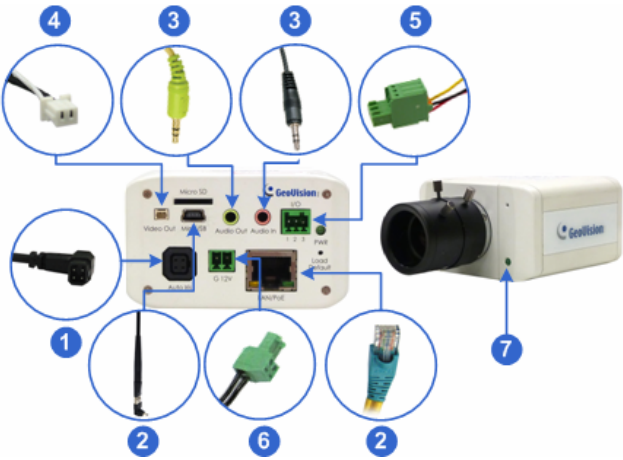
GV-BX120D / 130D Series / 140DW / 220D Series / 320D Series / 520D



1. If you are using an auto iris model, plug the iris control cable to the Auto Iris Connector on the camera.
2. Use a standard network cable to connect the camera to your network.
3. Optionally connect a speaker and an external microphone.
4. Optionally connect a monitor using a Video Out wire. Enable this function by selecting the signal format at the **TV Out** field on the Web interface. See *TV Out setting,* in the *Video Settings* section, *Administrator Mode* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD.

5. Optionally connect to input / output devices or an infrared illuminator. For details, see *Infrared Illuminator* and *I/O Terminal Block*, *Box Camera* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD.
6. Connect power using one of the following methods:
   - Plug the power adapter to the power port.
   - Use the Power over Ethernet (PoE) function and the power will be provided over the network cable.
7. The status LED of the camera will be on.
8. You are ready to access the live view and adjust the image clarity. See *13. Accessing the Camera* in the *Quick Start Guide*.

GV-BX1200 Series / 1300 Series / 1500 Series / 2400 Series / 2500 Series / 3400 Series / 5300 Series



1. If you are using an auto iris model, plug the iris control cable to the Auto Iris Connector on the camera.
2. Connect to network using one of the following methods:
   - Wired Connection: Use a standard network cable to connect the camera to your network and optionally connect a USB hard drive to the mini USB port.
   - Wireless Connection: Optionally purchase and connect the GV-WiFi Adapter.
3. Optionally connect a speaker and an external microphone.
4. Optionally connect a monitor using a Video Out wire. Enable this function by selecting your signal format at the **TV Out** field on the Web interface. See *TV Out setting,* in the *Video Settings* section,

Administrator Mode Chapter, *GV-IPCam H.264 User's Manual* on the Software CD.

5. Optionally connect to input / output devices or an infrared illuminator. For details, see *Infrared Illuminator* and *I/O Terminal Block*, *Box Camera* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD.
6. Connect power using one of the following methods:
   - Plug the power adapter to the power port.
   - Use the Power over Ethernet (PoE) function and the power will be provided over the network cable.
7. The status LED of the camera will be on.
8. You are ready to access the live view and adjust the image clarity. See *16. Accessing the Camera* in the *Quick Start Guide*.

Note: For details on limitations and requirements of the mini USB port, refer to *Note for USB Storage and WiFi Adapter* at the beginning of this quick guide.

2. Ultra Box Camera

2.1 Packing List

- Ultra Box Camera
- Supporting rack
- Screw x 3
- Screw anchor x 3
- GV-IPCAM H.264 Software CD
- GV-IPCAM H.264 Quick Start Guide
- GV-NVR Software DVD
- GV-NVR Quick Start Guide

Note: Power adapter can be purchased upon request.

2.2 Overview

No.	Name	Description
1	Audio Out	Connects a speaker for audio output.
2	Default	Resets the camera to factory defaults. See *19 Restoring to Factory Default Settings* in the *Quick Start Guide*
3	LAN / PoE	Connects to a 10/100 Ethernet or PoE.
4	Microphone	Records sounds.
5	Memory Card Slot	Receives a micro SD card (SD/SDHC, version 2.0 only, Class 10) to store recording data.
6	DC 5V Terminal Block	Connects to power.

LED Indicator	Description
Status LED	The status LED turns on (green) when the system is ready for use.
Power LED	The power LED turns on (green) when power is supplied to the camera.

2.3 Installation

You can stand the Ultra Box Camera on a plain surface or install it to wall and ceiling. Follow the steps below to install, connect and adjust your Ultra Box Camera.

1. To install the device on the wall/ceiling, put the supporting rack on the desired location and make marks for screw anchors.

2. Drill the marks and insert the screw anchors.
3. Secure the supporting rack onto the wall/ceiling using the supplied screws.
4. Secure the camera onto the supporting rack and fasten the indicated screw.

5. Connect the network and power cables to the camera. See *2.4 Connecting the Camera* in the *Quick Start Guide*.
6. Access the live view. See *16.2 Accessing the Live View* in the *Quick Start Guide*.
7. Adjust the angle of the camera based on live view and fasten the indicated screw.

2.4 Connecting the Camera

1. Connect power using one of the following methods:
   - Plug the power adapter to the 5V terminal block. The power adapter is an optional device. For detail, see *Options* in the *Quick Start Guide*.
   - Use the Power over Ethernet (PoE) function and the power will be provided over the network cable.

   The power and status LEDs shall turn on (green).
2. Use a standard network cable to connect the camera to your network.
3. Optionally connect a speaker.
4. Insert a micro SD card (SD/SDHC, version 2.0 only, Class 10).
5. You are ready to access the live view, adjust the image clarity and configure the basics. See *16. Accessing the Camera* in the *Quick Start Guide*.

3. Target Box Camera

3.1 Packing List

- Target Box Camera
- Supporting rack
- Screw x 3
- Screw anchor x 3
- GV-IPCAM H.264 Software CD
- GV-IPCAM H.264 Quick Start Guide
- GV-NVR Software DVD
- GV-NVR Quick Start Guide

Note: Power adapter can be purchased upon request.

3.2 Overview

No.	Name	Description
1	Default	Resets the camera to factory defaults. See *19 Restoring to Factory Default Settings* in the *Quick Start Guide*.
2	LAN / PoE	Connects to a 10/100 Ethernet or PoE.
3	Microphone	Records sounds.
4	DC 12V Terminal Block	Connects to power.

LED Indicator	Description
Status LED	The status LED turns on (green) when the system is ready for use.
Power LED	The power LED turns on (green) when power is supplied to the camera.

3.3 Installation

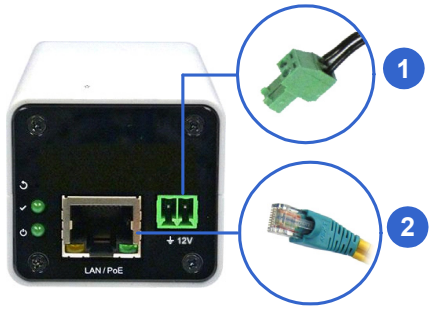
You can stand the Target Box Camera on a plain surface or install it to wall and ceiling. Follow the steps below to install, connect and adjust your Target Box Camera.

1. To install the device on the wall/ceiling, put the supporting rack on the desired location and make marks for screw anchors.

2. Drill the marks and insert the screw anchors.
3. Secure the supporting rack onto the wall/ceiling using the supplied screws.
4. Secure the camera onto the supporting rack and fasten the indicated screw.

5. Connect the network and power cables to the camera. See *3.4 Connecting the Camera* in the *Quick Start Guide*.
6. Access the live view. See *16.2 Accessing the Live View* in the *Quick Start Guide*.
7. Adjust the angle of the camera based on live view and fasten the indicated screw.

3.4 Connecting the Camera



1. Connect power using one of the following methods:
   - Plug the power adapter to the 12V terminal block. The power adapter is an optional device. For detail, see *Options* in the *Quick Start Guide*.
   - Use the Power over Ethernet (PoE) function and the power will be provided over the network cable.

   The power and status LEDs shall turn on (green).
2. Use a standard network cable to connect the camera to your network.
3. You are ready to access the live view, adjust the image clarity and configure the basics. See *16. Accessing the Camera* in the *Quick Start Guide*.

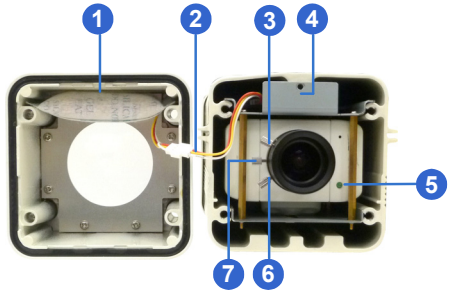
4. IR Arctic Box Camera

4.1 Packing List

- IR Arctic Box Camera
- Screw Anchor x 4
- Screw x 4
- Washer x 4
- Big Torx Wrench
- Small Torx Wrench
- Silica Gel Bag x 2
- GV-IPCAM H.264 Software CD
- GV-IPCAM H.264 Quick Start Guide
- GV-NVR Software DVD
- GV-NVR Quick Start Guide

Note: You can optionally purchase GV-PA481 PoE Adapter for GV-BX1500-E / 2400-E / 3400-E / 5300-E.

4.2 Overview



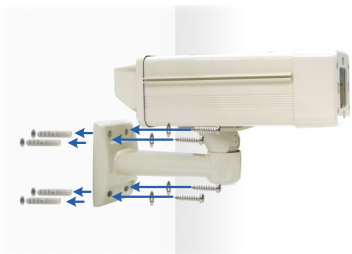
Note: The Iris Screw (no. 7) is only available in GV-BX520D-E / 5300-E.

No.	Name	Description
1	Silica gel bag	Desiccant that keeps the camera housing dry.
2	IR power plug	Supplies power to the built-in IR LEDs.
3	Focus Screw	Adjusts the focus of the camera.
4	Module screw	Holds the module in place.
5	Status LED	Turns on when the unit is ready for use.
6	Zoom Screw	Adjusts the zoom of the camera.
7	Iris Screw	Adjusts the iris of the camera.

4.3 Installation

The IR Arctic Box Camera is designed for outdoor use.

1. Mark the installation site and drill four holes for screw anchors.
2. Insert the supplied screw anchors.
3. Secure the camera to the wall using the supplied washers and screws.



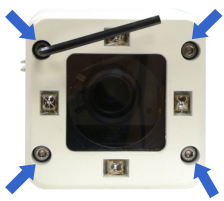
4. Connect the camera to the network and supply power via the PoE cable. See *4.4 Connecting the Camera* in the *Quick Start Guide*.
5. Access the live view. See *16.2 Accessing the Live View* in the *Quick Start Guide*.
6. Based on the live view, adjust the angle of the camera. Loosen the indicated screw with the supplied big torx wrench and adjust the joint.

Tilt Adjustment

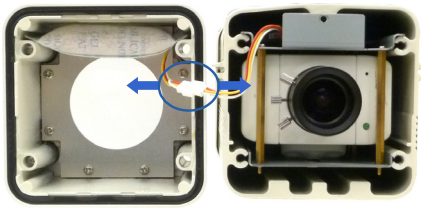
Pan Adjustment

7. Based on the live view, adjust the image clarity using the GV-IP Device Utility program. For details, see *16.3 Adjusting Image Clarity* in the *Quick Start Guide*.

   Unscrew the cover with the supplied small torx wrench.

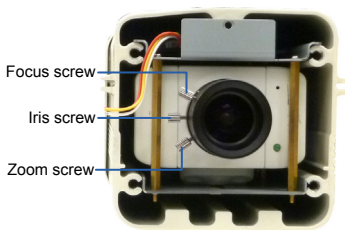


Hold the connectors and unplug them.

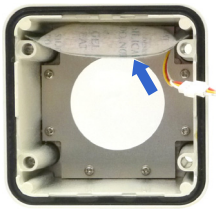


IMPORTANT: Unscrew and remove the cover carefully. Pulling the cover off may cause damages to the inner wiring of the camera.

Adjust the focus, zoom and iris screws.



8. Replace the silica gel bag. Paste the sticker to the front side of the silica gel bag. Press the sticker several times to make sure it adheres properly and paste the silica gel bag to the indicated place.



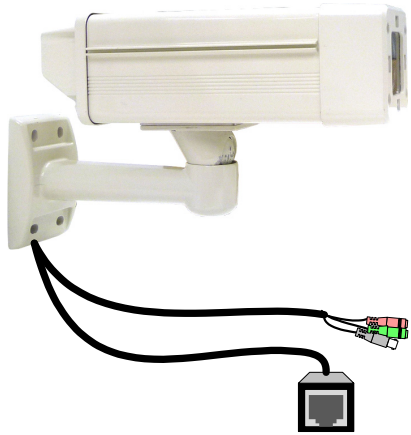
IMPORTANT:

1. The gel bag loses its effectiveness when the dry camera is opened. To prevent the lens from fogging up, you must replace the silica gel bag every time you open the camera and conceal the silica gel bag in the camera within 2 minutes of exposing to open air.
2. For each newly replaced silica gel bag, allow it to absorb moisture for at least 5 hours before operating the camera.

9. Refer to step 7 to plug the connectors and secure the camera cover.

4.4 Connecting the Camera

4.4.1 Wire Definition

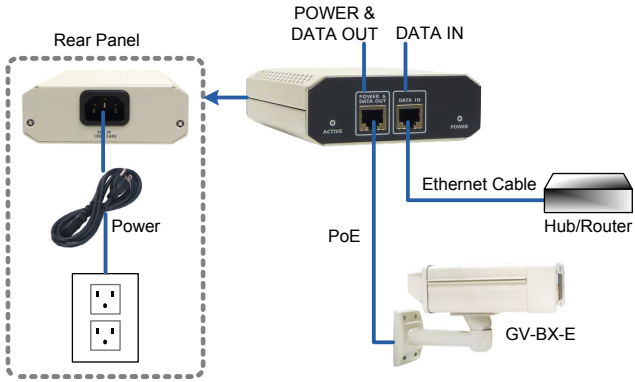


No.	Wire Color	Definition
1	Black (thick)	PoE
2	Black BNC	TV out
3	Green RCA	Audio Out
4	Pink RCA	Audio In

Follow the steps below to connect the camera:

1. Optionally connect a speaker (green) and an external microphone (pink).
2. Optionally connect a monitor using a Video Out wire. Enable this function by selecting your signal format at the **TV Out** field on the Web interface. See *Video Settings* section, *Administrator Mode* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD.

3. Optionally connect the camera's cable to the GV-PA481 PoE adapter as illustrated below. The power and network will be supplied simultaneously.



4. The status LED of the camera will be on.

Note: For using the IR Arctic Box Camera, ensure that you:

1. **enable the IR LED** function on the Web interface after loading the default settings.
2. **disable the status LED** to reduce reflection when a green light spot appears on the live view.

For details, see *Notice for Using the IR Arctic Box Camera* section, *IR Arctic Box Camera* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD.

5. Mini Fixed Dome & Mini Fixed Rugged Dome

5.1 Packing List

- Mini Fixed Dome or Mini Fixed Rugged Dome with 3 options for its LAN connector (M12, Waterproof or Non-Waterproof)
- Torx Wrench
- Self Tapping Screw x 2
- Screw Anchor x 2
- Cable Stopper
- 2-pin terminal block (for GV-MFD120 / 130 / 220 / 320 / 520)
- Short-Body RJ-45 Plug (for GV-MFD1501 series / 2401 series / 2501 series / 3401 series / 5301 series)
- USB / Audio Y-cable (for GV-MFD1501 series / 2401 series / 2501 series / 3401 series / 5301 series)
- Cable Connector (for GV-MDR series only)
- Installation Sticker (for GV-MDR series only)
- Silica Gel Bag x 2 (for GV-MDR series only)
- Ferrite core for vehicle installation (for GV-MDR series only)
- GV-IPCAM H.264 Software CD
- GV-IPCAM H.264 Quick Start Guide
- GV-NVR Software DVD
- GV-NVR Quick Start Guide

Note: Power adapter can be purchased for Mini Fixed Dome upon request.

5.2 Overview

GV-MFD120 / 130 / 220 / 320 / 520

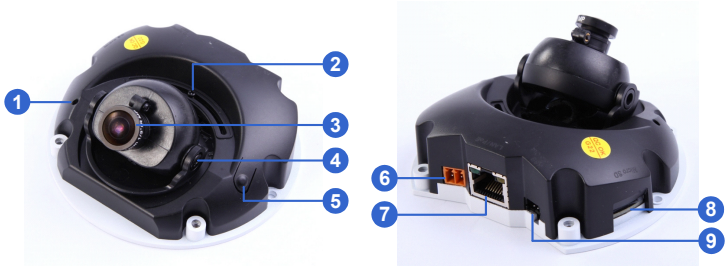
No.	Name	Description
1	Default Button	Resets the camera to factory default. See *19. Restoring to Default Settings* later in the *Quick Start Guide*.
2	Lens	Receives image inputs.
3	Tilt Screw	Loosens the screw to adjust tilt angle.
4	Built-In Microphone	Provides one-way audio.
5	Pan Screw	Loosens the screw to pan.
6	LED Indicators	See *LED Indicators* below.

No.	Name	Description
7	Memory Card Slot	Receives a micro SD card (SD/SDHC, version 2.0 only, Class 10) to store recording data.

LED Indicator

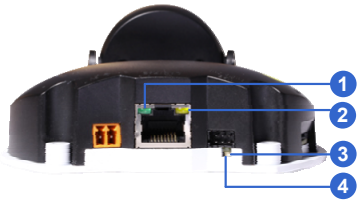
LED Name	Description
1. Link	Turns only when the network is connected.
2. ACT	Turns on when data are being transmitted.
3. PWR	Turns on when power is on.
4. SW RDY (Status)	Turns on when the system is ready.

GV-MFD1501 Series / 2401 Series / 2501 Series / 3401 Series / 5301 Series



No.	Name	Description
1	Microphone	Receives sound.
2	Pan Screw	Loosens the screw to pan.
3	Lens	Receives image inputs.
4	Tilt Screw	Loosens the screw to adjust tilt angle.
5	Default Button	Resets the camera to factory default. See *19 Restoring to Factory Default Settings*.
6	DC 5V Power Port	Connects to power.
7	LAN / PoE	Connects to a 10/100 Ethernet or PoE.
8	Memory Card Slot	Inserts a micro SD card (SD/SDHC, version 2.0, Class 10) to store recording data.
9	USB and Audio Out	Connects to an external hard disk drive and a speaker through the supplied Y cable.

Note: For details on limitations and requirements of the USB port, refer to *Note for USB Storage and WiFi Adapter* at the beginning of the Quick Guide.



LED Name	Description
1. Link	Turns on (green) when the network is connected.
2. ACT	Turns on (orange) when data are being transmitted.
3. Status	Turns on (red) when the system is ready.
4. Power	Turns on (green) when power is on.

GV-MDR

No.	Name	Description
1	Silica gel bag	Absorbs the moisture inside the camera.
2	Conceal paper	Prevents water or moisture from entering the camera.
3	Lens	Receives image inputs.
4	Rotation Disc	Rotates the camera lens.
5	Pan Disc	Pans the camera lens.
6	Tilt Screw	Loosens to tilt the camera.
7	Built-In Microphone	Provides one-way audio.
8	Default Button	Resets the camera to factory default. See *19. Restoring to Default Settings* later in the *Quick Start Guide*.

No.	Name	Description
9	Power and status LED	Turns red when the power is on. Flashes orange light twice when the system is ready.
10	LAN LED	Turns on when the network is connected.
11	Memory Card Slot	Receives a micro SD card (SD/SDHC, version 2.0 only, Class 10) to store recording data.

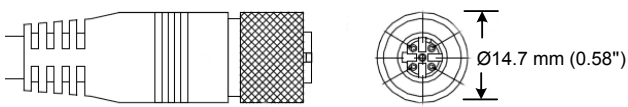
IMPORTANT: In case of damage and possible condensation inside the camera housing, be sure not to touch or remove the conceal paper.

LAN Connector

Three connector options are available for GV-MDR1500 series / 2400 series / 2500 series / 3400 series / 5300 series. Select an option based on your installation environment.

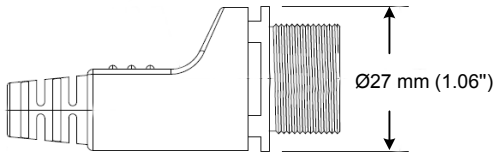
1. **Waterproof M12 4-Pin Female Connector**

   The M12 connector is used for motor vehicles.

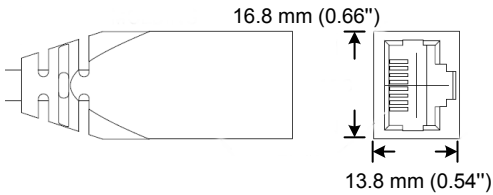


2. **Waterproof Connector**

For this connector type, see *6.4.2 GV-MDR* to install the supplied cable connector.



3. **Non-waterproof (Smaller) Connector**



5.3 Installation

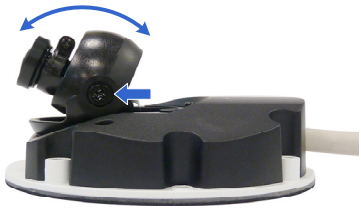
To install a Mini Fixed Dome, make sure the installing site is shielded from rain and moisture.

GV-MFD Series

1. Unscrew the housing cover using the supplied torx wrench.
2. Put the camera on the desired location and make 2 marks on the ceiling for screw anchors. If you want to run the cables inside the ceiling, make a round mark with a diameter of 2.5 cm.
3. Drill the marks and insert the screw anchors.
4. Secure the Mini Fixed Dome to the ceiling with the self-tapping screws.
5. Connect the camera to network and power. For details, see *5.4 Connecting the Camera* in the *Quick Start Guide*.
6. Access the live view. See *16.2 Accessing the Live View* in the *Quick Start Guide*.
7. Adjust the angles based on the live view.

   Pan Adjustment

Tilt Adjustment

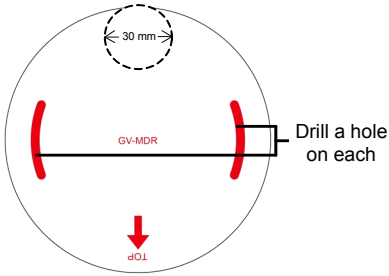


8. Insert a memory card (SD/SDHC, version 2.0 only, Class 10) into the memory card slot.

9. Adjust image clarity using the GV-IP Device Utility program. For details, see *16.3 Adjusting Image Clarity* in the *Quick Start Guide*.
10. Secure the housing cover using the supplied torx wrench.
11. Optionally conceal the cable opening with the supplied cable stopper.

GV-MDR Series

1. Paste the installation sticker on the desired location. The arrow should point toward the direction that the camera faces.
2. Drill one hole on each of the two curves for screw anchors. Drill the circle (30 mm in diameter) if you want to run the cable into the ceiling.



3. Insert the screw anchors.
4. Unscrew the housing cover using the supplied torx wrench.
5. Secure the camera body to the ceiling with the self-tapping screws.

6. Install the cable connector to waterproof the cable. You should have 5 parts:

A. Prepare an Ethernet cable with the RJ-45 connector on one end only.

B. Connect the Ethernet cable to the camera cable.

C. Paste the sticker to the camera cable and slide in all the components as shown below.

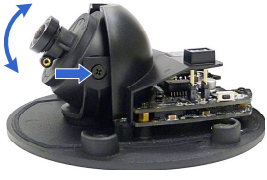
D. Move all the components toward the RJ-45 connector, fit item 4 to item 2, secure item 3 to the camera cable and finally secure item 5 to item 2 tightly.

IMPORTANT: Item 5 must be secured tightly to waterproof the cable.

7. Access the live view. See *16.2 Accessing the Live View* in the *Quick Start Guide*.
8. Adjust the angles based on the live view.

Pan Adjustment

Tilt Adjustment



Rotational Adjustment

9. Adjust image clarity using the GV-IP Device Utility program. For details, see *16.3 Adjusting Image Clarity* in the *Quick Start Guide*.
10. Insert a memory card (SD/SDHC, version 2.0 only, Class 10) into the memory card slot.
11. Replace the silica gel bag.

IMPORTANT:

1. The silica gel bag loses it 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. For each newly replaced silica gel bag, allow it to absorb moisture for at least 5 hours before operating the camera.

12. Secure the housing cover using the supplied torx wrench.
13. Optionally conceal the cable opening with the supplied cable stopper.

5.4 Connecting the Camera

Refer to the wire definition and illustrations below to connect the power and network.

5.4.1 Wire Definition

GV-MFD120 / 130 / 220 / 320 / 520

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

No.	Wire Color	Definition
1	Yellow	DC 12V+
2	Orange	GND
3	Gray	PoE, Ethernet

GV-MDR Series

Power and network connectivity is provided through a PoE cable.

Wire Color	Definition
Gray	PoE, Ethernet

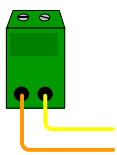
5.4.2 Power and Network Connection

Use one of the following methods to power on and connect your camera to network:

- **Wired connection with 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.
- **Wired connection with network cable (GV-MFD Series only):** Connect the camera with a standard network cable and use the power adapter to supply power. See *Powering On the Camera* below to assemble the terminal block with power adapter.
- **Wireless connection (GV-MFD1501 Series / 2401 Series / 2501 Series / 3401 Series / 5301 Series only):** Connect the camera with a GV-WiFi Adapter (optional accessory) and use the power adapter to supply power.

Powering On the GV-MFD120 / 130 / 220 / 320 / 520

1. Insert the orange wire of the camera to the left pin and the yellow wire to the right pin of the terminal block.

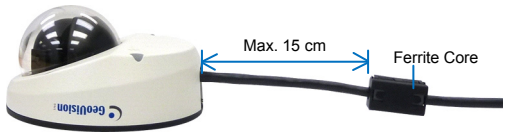


2. Connect the power adapter to the terminal block.

3. Connect the camera to network using a network cable.

5.4.3 Vehicle Installation

To install the **Mini Fixed Rugged Dome** on a vehicle, clip the ferrite core to the camera cable. The ferrite core must be attached as close as possible to the camera with the maximum distance of 15 cm.



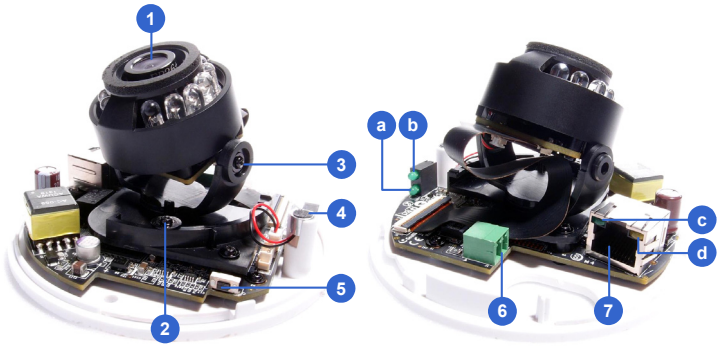
6. Target Mini Fixed Dome

6.1 Packing List

- Target Mini Fixed Dome
- Screw x 2
- Screw anchor x 2
- Focus adjustment clip
- GV-IPCAM H.264 Software CD
- GV-IPCAM H.264 Quick Start Guide
- GV-NVR Software DVD
- GV-NVR Quick Start Guide

Note: Power adapter can be purchased upon request.

6.2 Overview



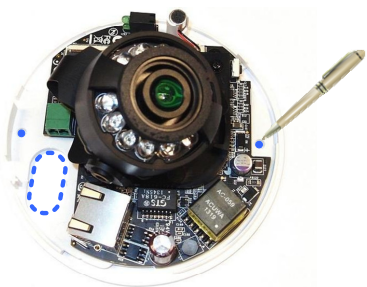
No.	Name	Description
1	Lens	Receives image inputs.
2	Pan Screw	Loosens the screw to adjust pan angle.
3	Tilt Screw	Loosens the screw to adjust tilt angle.
4	Microphone	Receives sound.
5	Default Button	Resets the camera to factory default. See *19 Restoring to Factory Default Settings*.
6	DC 12V Port	Connects to power.
7	LAN / PoE	Connects to a 10/100 Ethernet or PoE.
a	Power	Turns on (green) when power is on.
b	Status	Turns on (green) when the system is ready.
c	Link	Turns on (green) when the network is connected.
d	ACT	Turns on (orange) when data are being transmitted.

6.3 Installation

The Target Mini Fixed Dome can be installed on the wall or the ceiling. Before installing the camera, make sure the installing site is shielded from rain and moisture.

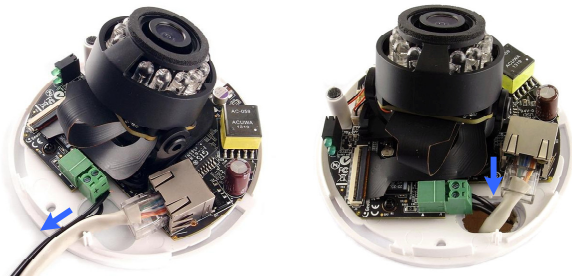
1. Open the housing cover by turning.

2. Place the camera where you want to install it and make 2 marks on the ceiling or the wall for screw anchors. If you want to run the cables inside the ceiling or the wall, make a round mark with a diameter of 2.5 cm.



3. Drill the marks and insert the screw anchors.

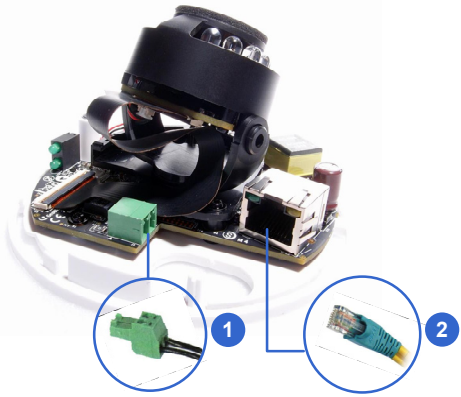
4. Thread the power and / or network cable(s) through the oval-shaped hole or the cable opening on the side, and connect the camera to network and power. For details, see *6.4 Connecting the Camera*.



5. Secure the Target Mini Fixed Dome to the ceiling or the wall with the self-tapping screws.
6. Access the live view. For details, see *16.2 Accessing the Live View* in the *Quick Start Guide*.
7. Loosen the tile screw and pan screw, adjust the angles based on the live view as needed, and tighten the screws again.

8. Adjust image clarity using the GV-IP Device Utility program. For details, see *16.3 Adjusting Image Clarity* in the *Quick Start Guide*.
9. Place the housing cover back and turn to secure it.

6.4 Connecting the Camera



1. Connect power using one of the following methods:
   - Plug the power adapter to the 12V terminal block. The power adapter is an optional device. For detail, see *Options* in the manual.
   - Use the Power over Ethernet (PoE) function and the power will be provided over the network cable.

   The power and status LEDs shall turn on (green).
2. Use a standard network cable to connect the camera to your network.
3. You are ready to access the live view, adjust the image clarity and configure the basics. See *16. Accessing the Camera* in the *Quick Start Guide*.

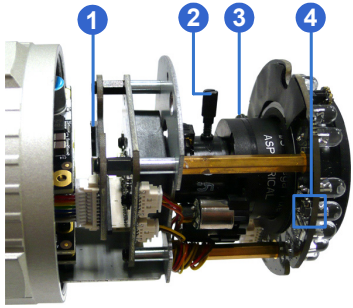
7. Bullet Camera

7.1 Packing List

- Bullet Camera
- Lens (Megapixel and Built-In 16 IR LEDs)
- Self Tapping Screw x 3
- Plastic Screw Anchor x 3
- Torx Wrench x 2
- Sun-Shield Cover Kit (Sun-Shield Cover, Philips Head Screws x 2, Plastic Screw Spacer x 2 and Hexagon Screw x 2)
- Silica Gel Bag x 2
- 2-Pin Terminal Block
- Power Adapter DC 12V, 3.5A (for GV-BL2510-E / 5310-E only)
- GV-IPCAM H.264 Software CD
- GV-IPCAM H.264 Quick Start Guide
- GV-NVR Software DVD
- GV-NVR Quick Start Guide

Note: Power adapter can be purchased upon request (except for GV-BL2510-E / 5310-E).

7.2 Overview

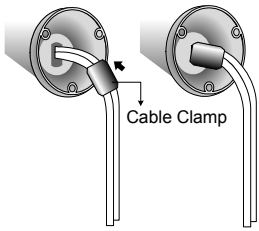


No.	Name	Description
1	Memory Card Slot	Receives a micro SD card (SD/SDHC, version 2.0 only, Class 10).
2	Zoom Screw	Holds the zoom lens in place.
3	Focus Screw	Holds the focus lens in place
4	Default Button	Resets all configurations to factory default. See *19. Restoring to Default Settings* later in the *Quick Start Guide*.

7.3 Installation

The Bullet Camera is designed for outdoor use and can be mounted on ceiling and wall.

1. Slide the cable clamp to the camera base.



2. Install the Bullet Camera to the wall / ceiling.

3. Remove the protection sticker from the camera's cover.
4. Connect the power, network and other cables to the camera. See *7.4 Connecting the Camera* in the *Quick Start Guide*.
5. Access the live view. See *16.2 Accessing the Live View* in the *Quick Start Guide*.
6. Adjust the angles of the camera body based on the live view. Three shafts can be adjusted. For details, see *7.3.1 Adjusting the Angles* in the *Quick Start Guide*.

7. Loosen the camera's cover, adjust the lens and focus, and insert a micro SD card (SD/SDHC, version 2.0 only, Class 10) into the memory card slot. See *7.3.2 Adjusting Lens and Inserting a Memory Card* in the *Quick Start Guide*.
8. Fasten the camera's cover.
9. Install the sun-shield cover to the Bullet Camera. For details, see *7.3.3 Installing the Sun-Shield Cover* in the *Quick Start Guide*.

7.3.1 Adjusting the Angles

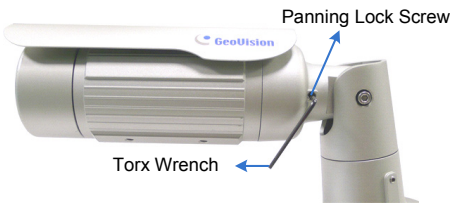
The Bullet Camera is designed to be adjustable in three shafts.

Tip: The three shafts are designed to offer easy and flexible ceiling / wall mount 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.



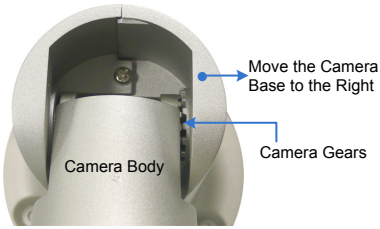
2. Adjust the angle of camera body to the right or the left, and fasten the panning lock screw.

Second Shaft

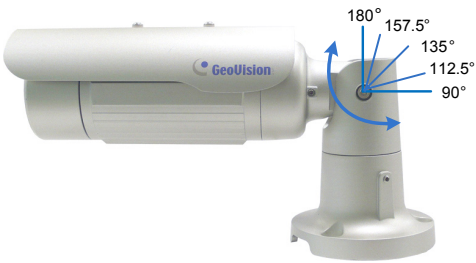
You can adjust the camera body up and down by 90, 112.5, 135, 157.5 or 180 degrees by using the gears inside the camera body and the camera base.

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

2. Hold the camera body, and move the camera base to the right to separate the camera gears.



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



4. Fasten the tilting lock screw.

Third Shaft

You can adjust the camera base by 360 degrees.

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

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

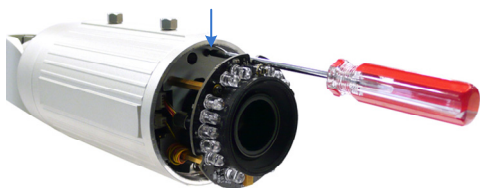
7.3.2 Adjusting Lens and Inserting a Memory Card

To adjust the camera's lens to produce a clear image and insert a micro SD card (SD/SDHC, version 2.0 only, Class 10) into the memory card slot, follow the steps below.

1. Loosen the camera's cover.

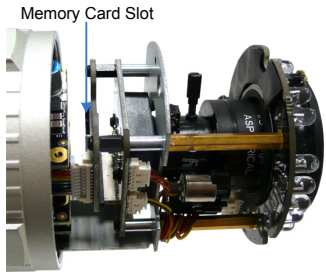
2. Remove the silica gel bag.

3. Adjust for image clarity using GV-IP Device Utility. For details, see *16.3 Adjusting Image Clarity* in the *Quick Start Guide*.
4. If you want to insert a memory card, follow the steps below.
   A. Loosen the fixing screw.



B. Slightly pull out the camera module.

C. Insert a micro SD card (SD/SDHC, version 2.0 only, Class 10) into the memory card slot.



D. Push the camera module back and fasten the fixing screw.

5. Insert a new silica gel bag to the camera module.

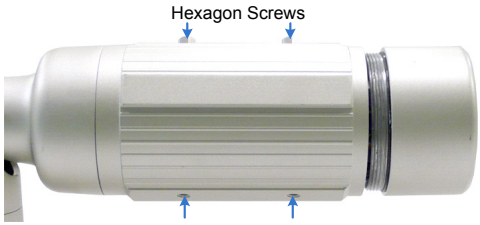
IMPORTANT:

1. The silica gel bag loses it 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. For each newly replaced silica gel bag, allow it to absorb moisture for at least 5 hours before operating the camera.

7.3.3 Inserting the Sun-Shield Cover

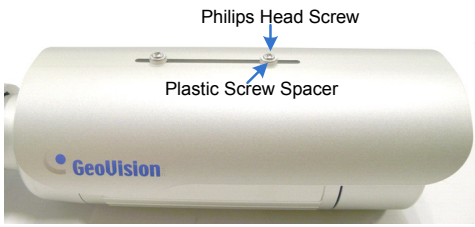
After setting up the Bullet Camera, now you can install the sun-shield cover to the camera.

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



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.

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

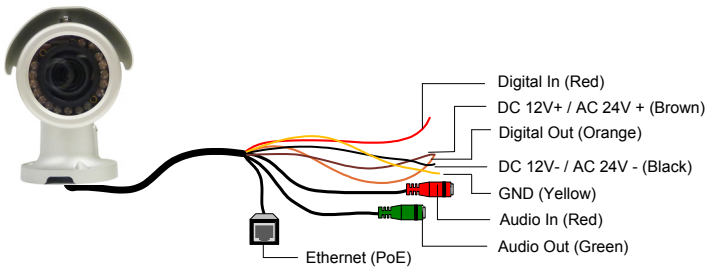


7.4 Connecting the Camera

Connect your Bullet Camera to power, network and the cables needed.

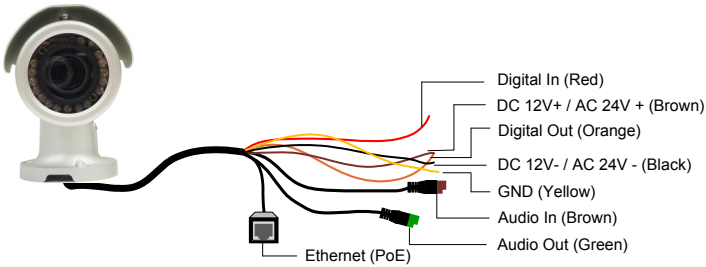
7.4.1 Wire Definition

The cable of the Bullet Camera is illustrated and defined below:



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:



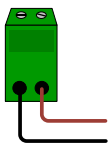
No.	Wire Color	Definition
1	Red	Digital In
2	Brown	DC 12V+ / AC 24V+
3	Orange	Digital Out
4	Black	DC 12V- / AC 24V-
5	Yellow	Ground
6	Brown terminal block	Audio in
7	Green terminal block	Audio out

7.4.2 Connecting the Power Cable

Use one of the following methods to supply power to the camera. Note that **GV-BL2510-E / 5310-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. The power adapter is an optional device. For detail, see *Options* in the *Quick Start Guide*.

1. Insert the black wire of the Bullet Camera to the left pin and the brown wire to the right pin.



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

8. Ultra Bullet Camera

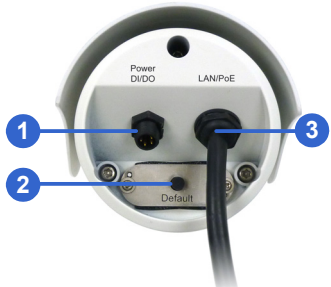
8.1 Packing List

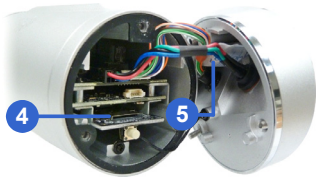
- Ultra Bullet Camera (with Waterproof or Non-Waterproof LAN connector)
- Camera Stand
- Black Rubber
- Self Tapping Screw x 3
- Plastic Screw Anchor x 3
- Torx Wrench
- Sun-Shield Cover Kit (Sun-Shield Cover, Philips Head Screw x 2, Plastic Screw Spacer x 2 and Hexagon Screw x 2)
- Cable connector (for waterproof LAN connector only)
- Silica Gel Bag x 2
- 2-Pin Terminal Block
- Data cable
- GV-IPCAM H.264 Software CD
- GV-IPCAM H.264 Quick Start Guide
- GV-NVR Software DVD
- GV-NVR Quick Start Guide

Note: Power adapter can be purchased upon request.

8.2 Overview

Panel



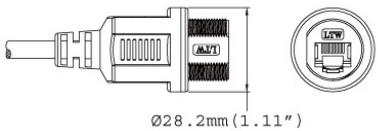


No.	Name	Description
1	Power & I/O Connector	Connects to the data cable. For details, see *8.4 Connecting the Camera* in the *Quick Start Guide*.
2	Default Button	Resets all configurations to factory default. See *19. Restoring to Default Settings* in the *Quick Start Guide*.
3	LAN / PoE Cable	Connects 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

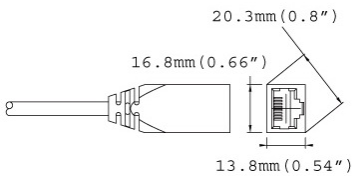
The Ultra Bullet Camera provides two connector types. Select an option based on your installation environment.

- **Option 1 (Waterproof)**



To waterproof the cable, install the supplied cable connector. See *8.4.1 Waterproofing the Cable* in the *Quick Start Guide*.

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

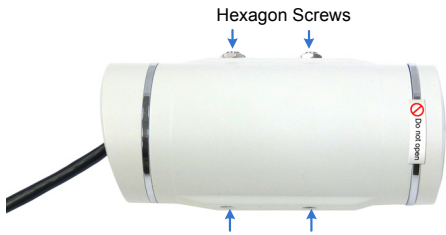


8.3 Installation

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

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

   A. Fasten the hexagon screws to the top or bottom of the camera.

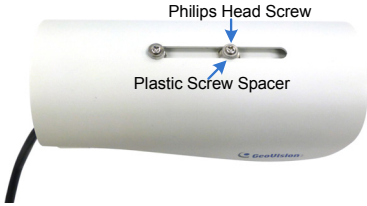


IMPORTANT: Do not open the front cover of the camera since this may impair its resistance to water. The warranty is void if the seal is broken.

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

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

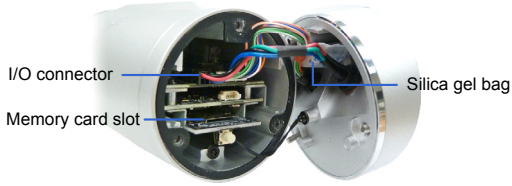
C. Fasten the Philips head screws with the plastic screw spacers.



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

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

B. Insert a micro SD card (SD/SDHC, version 2.0 only, Class 10) into the card slot.



C. Replace the silica gel bag.

IMPORTANT:

1. The silica gel loses its effectiveness when the dry camera is opened. To keep the interior dry, replace the silica gel bag every time you open the camera and conceal the gel bag in the camera within two minutes of exposing to the open air.
2. For each newly replaced silica gel bag, allow it to absorb moisture for at least 5 hours before operating the camera.
3. Make sure the I/O connector is firmly plugged.

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

3. Secure the black rubber and the camera stand to the bottom for wall mount or to the top of the camera for ceiling mount.

4. 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.

5. Remove the protection sticker from the camera's cover.
6. Connect the wires and cable connector to the camera. See *8.4 Connecting the Camera* and *8.4.1 Waterproofing the Cable* in the *Quick Start Guide*.
7. Access the live view. For details, see *16.2 Accessing the Live View* in the *Quick Start Guide*.
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 from the Web interface. For details, see *The Control Panel of the Live View Window* section*, Accessing the Camera* Chapter*, GV-IPCam H.264 User's Manual* on the Software CD.

8.4 Connecting the Camera

8.4.1 Waterproofing the Cable

Waterproof the option 1 LAN / PoE cable (see *8.2 Overview*) using the supplied cable connector. The cable connector can be dissembled into 5 parts:

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

2. Connect the Ethernet cable to the LAN / PoE connector.
3. Slide the components through the Ethernet cable as shown below.

4. Paste the item 1 sticker to item 2.

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.

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.

8.4.2 Wire Definition

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

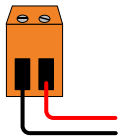
No.	Wire Color	Definition
1	Red	DC 5V
2	Green	Digital In
3	Blue	Digital Out
4	Black	Ground

8.4.3 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. The power adapter is an optional device. For detail, see *Options* in the *Quick Start Guide*.

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



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

- +

9. Target Bullet Camera

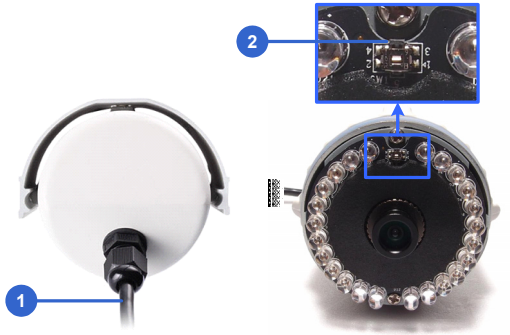
9.1 Packing List

- Target Bullet Camera
- Sun-Shield Cover
- Silica Gel Tape x 2
- Supporting Rack
- Screw x 4
- Screw Anchor x 3
- GV-IPCAM H.264 Software CD
- GV-IPCAM H.264 Quick Start Guide
- GV-NVR Software DVD
- GV-NVR Quick Start Guide

Note: Power adapter can be purchased upon request.

9.2 Overview

Panel



No.	Name	Description
1	Power Connector	Connects to the data cable. For details, see *9.4.1 Connecting the Camera*.
2	Default Button	Resets all configurations to factory default. See *19. Restoring to Factory Default Settings*.

IMPORTANT:

1. The silica gel loses its effectiveness when the camera is opened. If you open the camera to access the load default button, replace the silica gel tape by taping the new silica gel tape to the inside of the camera cover. Make sure you conceal the silica gel tape in the camera within two minutes of exposing to the open air.

2. For each newly replaced silica gel tape, allow it to absorb moisture for at least 5 hours before operating the camera.

9.3 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.

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.

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

4. Wall Mount:
   A. Insert and tighten the supplied screw on the sun-shield cover.
   B. Secure the supporting rack to the bottom.

5. 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.

6. Remove the protection sticker from the camera's cover.
7. Connect the wires and cable connector to the camera. See *9.4 Connecting the Camera* in the *Quick Start Guide*.
8. Access the live view. For details, see *19.2. Accessing the Live View*.
9. Adjust angles of the camera body based on the live view.

9.4 Connecting the Camera

9.4.1 Wire Definition

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

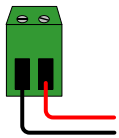
No.	Wire Color	Definition
1	Red	DC 12V
2	Black	Ground
3	Black (thick)	PoE, Ethernet

9.4.2 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 adaptor to the terminal block as shown below. The power adapter is an optional device. For detail, see *Options* in the *Quick Start Guide*.

  1. Insert the black wire of the data cable to the left pin and the red wire to the right pin.



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

10. Vandal Proof IP Dome (Part I)

The information in this chapter applies to GV-VD120D / 121D / 122D / 123D / 220D / 221D / 222D / 223D / 320D / 321D / 322D / 323D / 1500 / 2400 / 3400.

10.1 Packing List

- Vandal Proof IP Dome
- Screw Anchor x 4

- Ceiling Screw x 4

- T-Cap Screw x 3

- T-Cap x 3

- Focus Adjustment Cap

- Silica Gel Bag x 2
- Torx Wrench

- Blue Screw x 3

- Small Screw Cap x 3

- Plastic Clip x 3

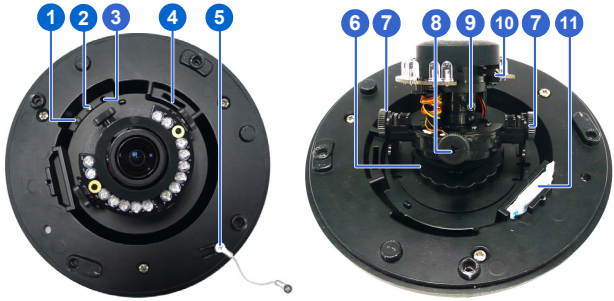
- 2-Pin Terminal Block

- GV-IPCAM H.264 Quick Start Guide
- GV-NVR Quick Start Guide
- GV-IPCam H.264 Software CD
- GV-NVR Software DVD

Note:

1. Focus Adjustment Cap is only needed and supplied for IK10+ models.
2. Power adapter can be purchased upon request.

10.2 Overview



No.	Name	Description
1	Power LED	Turns on (green) when the power is on and turns off when there is no power supply.
2	Status LED	Turns on (green) when the system operates normally and turns off when system error occurs.
3	Default Button	Resets to factory default. For details, see *19. Restoring to Default Settings* in the *Quick Start Guide*.
4	Memory Card Slot	Receives a micro SD card (SD/SDHC, version 2.0 only, Class 10) to store recording data.
5	Thread Lock	Locks the housing cover to the camera body to prevent the cover from falling.
6	Pan Disc	Loosens to pan the camera.
7	Tilt Screw	Loosen the screw to tilt the camera.
8	Rotational Screw	Loosens to adjust the camera angle.

No.	Name	Description
9	Zoom Screw	Adjusts the zoom of the camera.
10	Focus Screw	Adjusts the focus of the camera.
11	Silica Gel Bag	Absorbs moisture in the camera body.

10.3 Installation

The Vandal Proof IP Dome is designed for outdoors. With the standard package, there are two ways to install the Vandal Proof IP Dome: **hard-ceiling mount** and **in-ceiling mount**.

Note: You can also install the camera:

- on a power box (of the 4" square and double gang type) using the standard package
- to ceilings, wall corners (concave or convex), and poles using optional mounting kits

For details on these installations, see *GV-Mount Accessories Installation Guide* on the Software CD.

10.3.1 Hard-Ceiling Mount

1. Unpack the camera package and take out the camera body.

Unscrew the housing cover

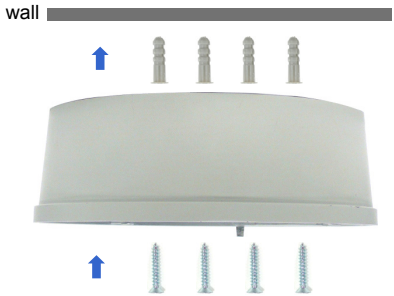
Unscrew thread lock

Unscrew the inner housing

Take out the camera body

2. Mark the position of four screw holes on the desired installation location, and drill holes in the marked locations. Drill the ellipse part if you wish to put the wires through it.

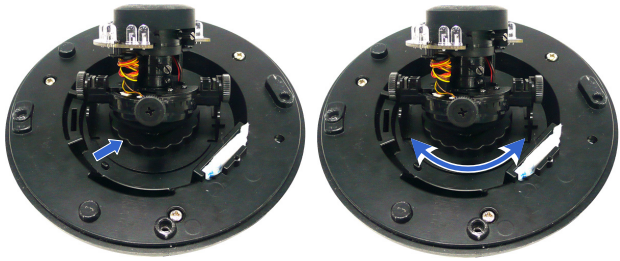
3. Insert the screw anchors to the 4 holes on the ceiling.
4. Secure the back cover to the ceiling with 4 ceiling screws.



5. Refer to step 1 to secure the camera body with inner housing.
6. Thread the cable through the conduit entry at the side of the back cover. Alternatively pass the wires through the ellipse hole at the bottom of the back cover.
7. Connect the network and power cables to the camera. See *10.4 Connecting the Camera* in the *Quick Start Guide*.
8. Access the live view. See *16.2. Accessing the Live View* in the *Quick Start Guide*.
9. Adjust the camera to a desired angle as illustrated below.

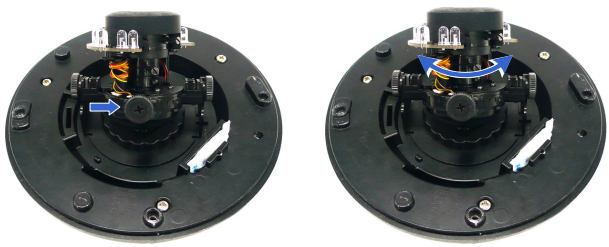
Tip: The 3-axis mechanism offers flexible and easy installation.

Pan Adjustment

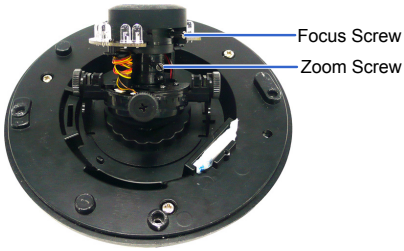


Tilt Adjustment

Rotational Adjustment



10. Hold the focus adjustment cap on top of the camera view and adjust for image clarity using the GV-IP Device Utility program. For details, see *16.3 Adjusting Image Clarity* in the *Quick Start Guide*.



11. Screw on the thread lock as shown in step 1.
12. Replace the silica gel bag.

Note: Adjust the black mask inside the housing cover to make sure the camera view is not obscured.

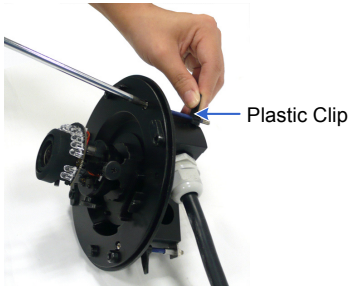
IMPORTANT:

1. The 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 silica gel bag to the camera within 2 minutes of exposing to open air.
2. For each newly replaced silica gel bag, allow it to absorb moisture for at least 5 hours before operating the camera.
3. Make sure the housing cover is properly secured to prevent water from entering and damaging the inner housing.

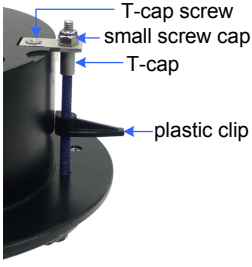
10.3.2 In-Ceiling Mount

1. Follow step 1 in the *Hard-Ceiling Mount* section to remove the housing cover, thread lock and back cover, and take out the camera body.
2. Cut out a circle with a diameter of 142 mm on the ceiling.
3. Insert a blue screw to the indicated holes on the camera body.

4. Screw in a plastic clip to the blue screw, hold it with one hand and use a screw driver to rotate the blue screw until the plastic clip moves half way down.



5. Secure a T-cap on top of the blue screw with a small screw cap and a T-cap screw. Do not tighten the small screw cap so that the plastic clip can move down freely.



6. Repeat steps 4 and 5 for the other two blue screws.

7. Insert the camera to the ceiling with the plastic screws moved inward.

8. Move the blue screws out and rotate the blue screw with a screw driver until the plastic clip and the bottom of the camera body clamps the ceiling tightly.

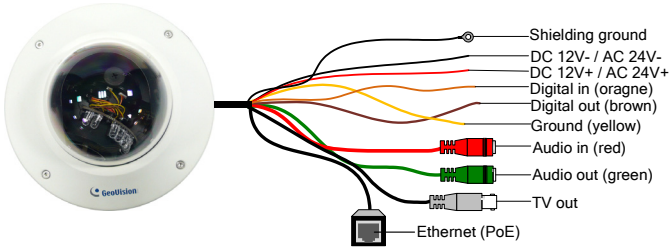
9. Connect the network and power cables to the camera. See *10.4 Connecting the Camera* in the *Quick Start Guide*.
10. Access the live view. See *16.2 Accessing the Live View* in the *Quick Start Guide*.
11. Follow steps 9 and 10 in the *Hard-Ceiling Mount* section to adjust the angle, focus and zoom of the camera.
12. Follow steps 11 and 12 in the *Hard-Ceiling Mount* section to secure the thread lock, replace the silica gel bag and secure the housing cover.

10.4 Connecting the Camera

Connect your Vandal Proof IP Dome to power, network and other cables.

10.4.1 Wire Definition

The cables for Vandal Proof IP Dome are illustrated and defined below.



No.	Wire Color	Definition
1	Black (thick)	Shielding Ground
2	Black (thin)	DC 12V- / AC 24V-
3	Red	DC 12V+ / AC 24V+
4	Orange	Digital In
5	Brown	Digital out
6	Yellow	Ground
7	Red RCA	Audio in
8	Green RCA	Audio out
9	Black BNC	TV out

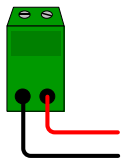
Note: To use the TV out function, connect the black BNC connector to a monitor and select your signal format (NTSC or PAL) at the **TV Out** field on the Web interface. For details, see *Video Settings*, *Administrator Mode* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD.

10.4.2 Connecting the Power Cable

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 adaptor to the terminal block as shown below. The power adapter is an optional device. For detail, see *Options* in the *Quick Start Guide*.

1. Insert the thin black wire of the Vandal Proof IP Dome to the left pin and the red wire to the right pin.



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

11. Vandal Proof IP Dome (Part II)

The information in this chapter applies to GV-VD1530 / 1540 / 2430 / 2440 / 2530 / 2540 / 2540-E / 3430 / 3440 / 5340 / 5340-E.

11.1 Packing List

- Vandal Proof IP Dome
- Torx Wrench

- 3-Pin Terminal Block

- Audio wires

- Power Adapter

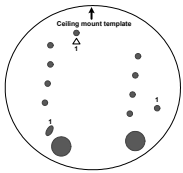
- TV out wire

- Focus Adjustment Cap (for GV-VD1530 / 2430 / 2530 / 3430 only)

- RJ-45 Connector x 2

- Back Plate

- Installation sticker



- Screw Anchor x 4

- Long Screw x 4

- Flat Screw

- Short Screw x 2

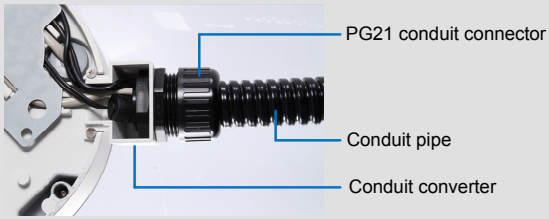
- Silica Gel Bag
- Sticker (for Silica Gel Bag)
- Ruler
- Conduit Converter

- GV-IPCAM H.264 Software CD

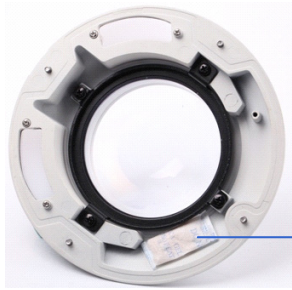
- GV-IPCAM H.264 Quick Start Guide
- GV-NVR Quick Start Guide
- GV-NVR Software DVD

Note:

1. Power adapter can be purchased upon request.
2. You can choose to run the wires through a conduit pipe. After you have threaded all the wires, install the supplied conduit converter with a self-prepared PG21 conduit connector and conduit pipe (of 1/2'', 3/4'' or 1'') to the camera. Do not use a 1/2'' pipe if you use the power adapter for power supply because the adapter can not be thread through.



11.2 Overview



No.	Name	Description
1	LED Indicators	The power LED (top) turns on (green) when the power is on and turns off when there is no power supply. The status LED (bottom) turns on (green) when the system operates normally and turns off when system error occurs.
2	Audio In	Connects to a microphone for audio output.
3	LAN / PoE	Connects to a 10/100 Ethernet or PoE.
4	Default Button	Resets to factory default. For details, see *19. Restoring to Default Settings* in the *Quick Start Guide*.
5	Video Out	Connects to a portable monitor for setting the focus and angle of the camera during initial setup.
6	Memory Card Slot	Inserts a micro SD card (SD/SDHC, version 2.0 only, Class 10) to store recording data.
7	Audio Out	Connects to a speaker for audio output.
8	DC 12V / AC 24V	Connects to power.
9	I/O Terminal Block	Connects to an I/O device.
10	Rotational Screw	Loosens to rotate the camera.
11	Cable seal	Waterproofs the Ethernet cable.
12	Tilt Screw	Loosen the screw to tilt the camera.
13	Conduit Connector	Waterproofs the audio, TV out, power adapter and I/O wires.
14	Silica Gel Bag	Absorbs moisture in the camera body.

11.3 Installation

The Vandal Proof IP Dome is designed for outdoors. With the standard package, you can install the camera on the ceiling.

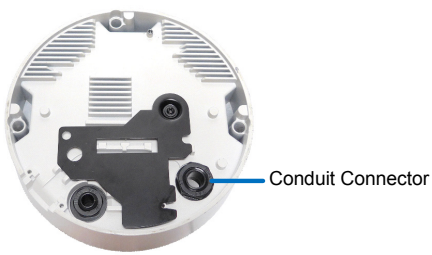
Note: You can also install the camera:

- on a power box (of the 4" square and double gang type) using the standard package
- to ceilings, wall corners (concave or convex), and poles using optional mounting kits

For details on these installations, see *GV-Mount Accessories Installation Guide* on the Software CD.

IMPORTANT: When installing the Vandal Proof IP Dome near the corner, maintain at least 25 cm away from the walls to avoid reflection problems.

1. Remove the housing cover with the supplied torx wrench.
2. Thread wires into the camera.
   A. Unscrew the conduit connector from the back.



B. Unplug the conduit connector inside the housing and disintegrate the connector. You should have 4 parts:

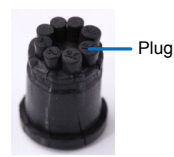
C. Remove the terminal block from the power adapter.

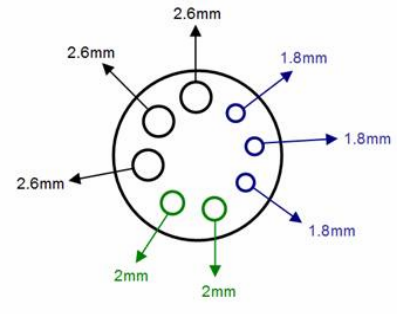
D. Thread the audio wires (optional), TV out wire (optional), adapter wires and I/O wires (optional) through the conduit entry and then through part 1, 2, 3 and 4 of the conduit connector.

Tip:

1. To make the threading easier, it is advised to thread the wires in the order described here.
2. Use a pair of pliers to help you pull the wires through the camera.

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:





2.6 mm: Audio, BNC

2 mm: DC12V / AC24V

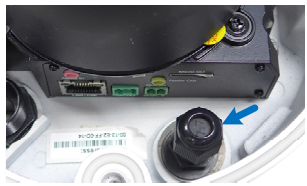
1.8 mm: DIDO

IMPORTANT:

1. Use the supplied ruler and leave about 10 cm of power and I/O wires between their connectors and the cable seal; leave at least 11 cm of audio/TV-out wires between their connectors and the cable seal.
2. 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.
3. Only thread the wires through their designated holes on the conduit connector to make sure the wires are properly sealed.

3. Install the Ethernet cable.

   A. Rotate to remove the indicated cap and the plug inside.



   B. Thread an Ethernet cable (the end with no RJ-45 connector) from the back panel through the cable seal

IMPORTANT:

1. Use the supplied ruler and leave about 11 cm of the Ethernet cable between the connector and the cable seal.
2. Make sure the cable seal surrounds the wires tightly inside the housing and at the rear of the camera.

   C. Re-install the cap. Make sure the cap is installed tightly to waterproof the camera.

4. Connect the wires to the camera.

   A. Install the terminal blocks to the power adapter and I/O devices. See *11.4 Connecting the Camera* in the *Quick Start Guide*.

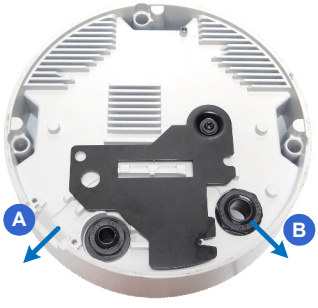
   B. Install the supplied RJ-45 connector to the Ethernet cable.

C. Plug all the connectors to the camera panel.

Tip: Unscrew the indicated screws and lift the camera to help you connect the wires.

D. Arrange the wires in the conduit connector and re-install it to the camera.

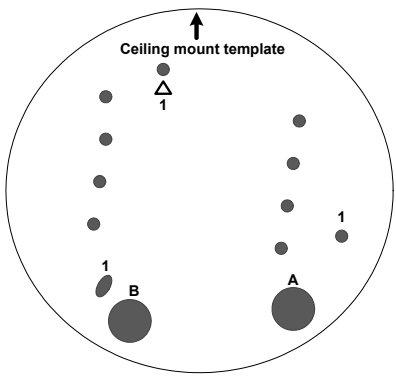
5. Sort out the wires at the back. You can have the wires come out from position A, B or both. The instructions here describe sorting wires for position A.



From the back of the camera housing, unscrew and rotate the plate to one side, sort out the wires and secure the plate back.

6. Secure the back plate to the ceiling.

   A. Paste the sticker to the ceiling. The arrow on the sticker indicates the direction that the camera faces.



   B. Drill 3 holes for screws. The recommended ones are indicated as '1'.

   C. Insert the screw anchors to the 3 holes.

D. Depending on how you want to run the wires (see step 5). Drill the right hole (on the installation sticker) for position A and the left for position B or both if required.

E. Secure the back plate to the ceiling with long screws.

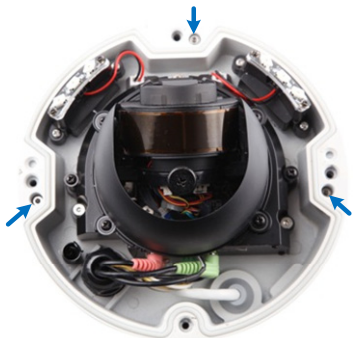
7. Secure the camera to the ceiling.

A. Secure the safety lock to the camera using a short screw. Use flat screw for number 1 and small screw for number 2.

B. Thread all the wires into the ceiling and connect them.

Note: To use the TV out function, connect the black BNC connector to a monitor and select your signal format (NTSC or PAL) at the **TV Out** field on the Web interface. For details, see *Video Settings*, *Administrator Mode* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD.

C. Secure the camera using the torx wrench



8. Access the live view. See *16.2 Accessing the Live View* in the *Quick Start Guide*.
9. Adjust the camera's angle, focus and zoom of the camera.

Pan Adjustment

Tilt Adjustment

Rotational Adjustment

10. Replace the silica gel bag and secure the camera cover using the torx wrench.

IMPORTANT:

1. The 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 silica gel bag within 2 minutes of exposing to open air.
2. For each newly replaced silica gel bag, allow it to absorb moisture for at least 5 hours before operating the camera.
3. Make sure the housing cover is properly secured to prevent water from entering and damaging the inner housing.
4. If the center of the camera view is less than 25° to the ceiling, or lower than the grey line (as illustrated below), disassemble the indicated ring so the view is not obstructed. However, with the ring disassembled, slight reflections may occur.

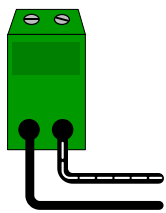
11.4 Connecting the Camera

Connect your Vandal Proof IP Dome to power, network and other wires needed.

11.4.1 Connecting the Power Cable

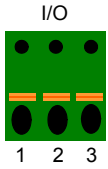
There are two ways to supply power to the camera:

- 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 terminal block by inserting the wire with white lines to the right pin and the other wire to the left pin. The power adapter is an optional device. For detail, see *Options* in the *Quick Start Guide*.



11.4.2 Connecting the I/O Device

The Box Camera support one digital input and one digital output of dry contact.



Pin	Function
1	Digital Output
2	GND
3	Digital Input

For details on how to enable an installed I/O device, see *I/O Settings*, *Administrator Mode* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD.

12. Fixed IP Dome

12.1 Packing List

12.1.1 Packing List for Hard-Ceiling Mount

- Fixed IP Dome
- Torx Wrench

- Mounting Plate

- Short Screw Anchor x 3

- Ceiling Screw x 3

- Plate Screw x 3

- TV-out Wire

- Sticker
- GV-IPCam H.264 Software CD
- GV-IPCAM H.264 Quick Start Guide
- GV-NVR Software DVD
- GV-NVR Quick Start Guide

Note: Power adapter can be purchased upon request.

12.1.2 Packing List for In-Ceiling Mount

- In-Ceiling Housing Cover

- Mounting Plate

- Mounting Bracket x 3

- Copper Pillar x 3

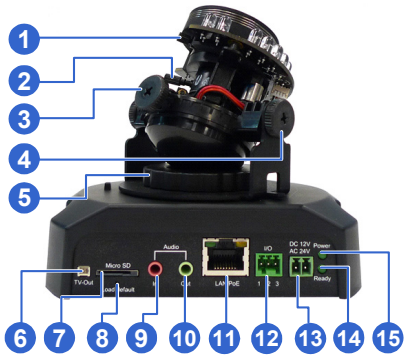
- Copper Pillar Screw x 6

- Bracket Screw x 3

- Thread Lock Screw

- Housing Cover Thread
- Sticker (In-Ceiling Mount)

12.2 Overview



No.	Name	Description
1	Focus Screw	Adjusts the focus of the camera.
2	Zoom Screw	Adjusts the zoom of the camera.
3	Rotational Screw	Loosens to adjust the camera angle.
4	Tilt Screw	Loosens the screw to tilt the camera.
5	Pan Disc	Loosens to pan the camera.
6	Video Out	Connects to a portable monitor for setting the focus and angle of Fixed IP Dome during initial installation.
7	Memory Card Slot	Receives a micro SD card (SD/SDHC, version 2.0 only, Class 10) to store recording data.
8	Default Button	Resets to factory default. For details, see *19. Restoring to Default Settings* in the *Quick Start Guide*.
9	Audio In	Connects a microphone for audio input.

No.	Name	Description
10	Audio Out	Connects a speaker for audio output.
11	LAN / PoE	Connects to a 10/100 Ethernet or PoE.
12	I/O Terminal Block	Connects to I/O devices. For details, see *Fixed IP Dome* Chapter in the *GV-IPCam H.264 User's Manual* on the Software CD.
13	DC 12V Port	Connects to power.
14	Status LED	Turns on (green) when the system operates normally and turns off when system error occurs.
15	Power LED	Turns on (green) when the power is on and turns off when there is no power supply.

12.3 Installation

The Fixed IP Camera is designed for indoors. With the standard packing, there are three ways to install the Fixed IP Camera: **hard-ceiling mount**, **in-ceiling mount** and **wall-surface mount**.

Note: You may also install the camera to ceilings, wall corners (concave or convex), and poles using the optional mounting kits. For details, see *GV-Mount Accessories Installation Guide* on the Software CD.

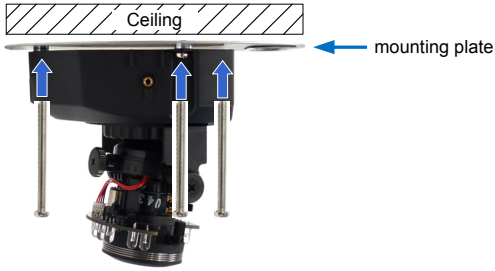
12.3.1 Hard-Ceiling Mount

1. Paste the supplied sticker onto a desired location on the ceiling. Drill the three red dots and the ellipse mark only if you wish to run the wires into the ceiling.
2. Unpack the camera package and take out the camera body.

Use the torx wrench to loosen the housing cover at the front and the back

Take out the camera body

3. Secure the camera body and the mounting plate to the ceiling with the three ceiling screws.



4. Connect the network and power cables to the camera. See *12.4 Connecting the Camera* in the *Quick Start Guide*.
5. Access the live view. See *16.2 Accessing the Live View* in the *Quick Start Guide*.
6. Adjust the camera to a desired angle as illustrated below.

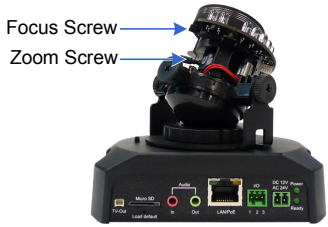
Tip: The 3-axis mechanism offers flexible and easy ceiling / wall installation.

Pan Adjustment

Tilt Adjustment

Rotational Adjustment

7. Adjust for image clarity using the GV-IP Device Utility program. For details, see *16.3 Adjusting Image Clarity* in the *Quick Start Guide*.



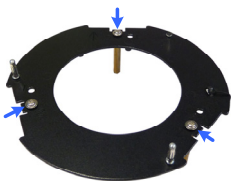
8. Secure the housing cover as shown in step 2. Remove the indicated part when necessary.

Note: Adjust the black mask inside the housing cover to make sure the camera view is not obscured.

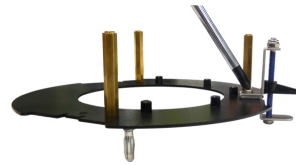
12.3.2 In-Ceiling Mount

1. Follow step 2 in the *Hard-Ceiling Mount* section to remove the housing cover and take out the camera body.
2. Paste the supplied sticker onto a desired location on the ceiling and cut a circle on the ceiling along the edge of the sticker.
3. On the mounting plate, locate the 3 holes labeled as 1 and insert the 3 copper pillars from the back side.

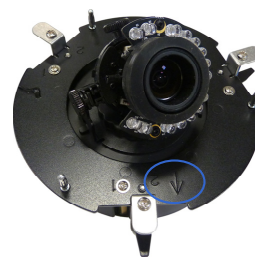
4. From the side with the numbering, secure the copper pillars with 3 copper pillar screws.



5. Place the 3 mounting brackets at the indent next to the copper pillars (labeled as 2 on the mounting plate) and secure them using the 3 bracket screws.



6. Place the mounting plate on the camera body with the copper pillars inserted in the locations indicated below. The arrow on the mounting plate should be pointing toward the front of the camera.



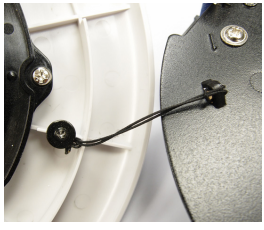
7. From the bottom of the camera, secure the copper pillars using the 3 copper pillar screws.
8. Place the camera into the ceiling opening.

9. On the back side, make sure the black plastic clips are slightly above the ceiling board and pointing outward.

Back Side

Front Side

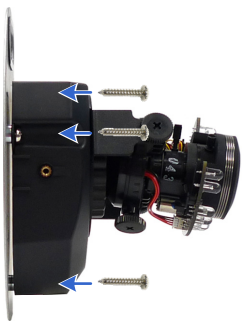
10. Tighten the bracket screws from the front side of the camera.
11. Connect the network and power cables to the camera. See *12.4 Connecting the Camera* in the *Quick Start Guide*.
12. Access the live view. See *16.2 Accessing the Live View* in the *Quick Start Guide*.
13. Follow steps 6 and 7 in the *Hard-Ceiling Mount* section to adjust the angle, focus and zoom of the camera.
14. Use the housing cover thread and the thread lock screw to attach the housing cover to the camera body.



15. Place the housing cover on the camera body with the GeoVision logo pointing toward the front of the camera.

12.3.3 Wall-Surface Mount

1. Follow step 2 in the *Hard-Ceiling Mount* section to remove the housing cover and take out the camera body.
2. Paste the supplied sticker onto a desired location on the wall. Drill the three red dots, and the ellipse mark only if you wish to run the wires into the wall.
3. Insert the short screw anchors and secure the camera and the mounting plate with three plate screws.



4. Connect the network and power cables to the camera. See *12.4 Connecting the Camera* in the *Quick Start Guide*.
5. Access the live view. See *16.2 Accessing the Live View* in the *Quick Start Guide*.

6. Follow steps 6 and 7 in the *Hard-Ceiling Mount* section to adjust the angle, focus and zoom of the camera.
7. Follow step 8 in the *Hard-Ceiling Mount* section to secure the housing cover.

12.4 Connecting the Camera

1. Use a standard network cable to connect the camera to your network.
2. Optionally connect a speaker and an external microphone.
3. Optionally connect a monitor using a Video Out wire. Enable the function by selecting the signal format in the **TV Out** field in the Web interface. See *TV Out setting,* in the *Video Settings* section, *Administrator Mode* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD.
4. Optionally connect to input / output devices. For details, see *I/O Terminal Block*, *Fixed IP Dome* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD.
5. Connect power using one of the following methods:
   - plugging the power adapter to the power port. The power adapter is an optional device. For detail, see *Options* in the *Quick Start Guide*.
   - using the Power over Ethernet (PoE) function and the power will be provided over the network cable.
6. The status LED of the camera will be on.

13. Cube Camera

13.1 Packing List

- Cube Camera

- Supporting Rack

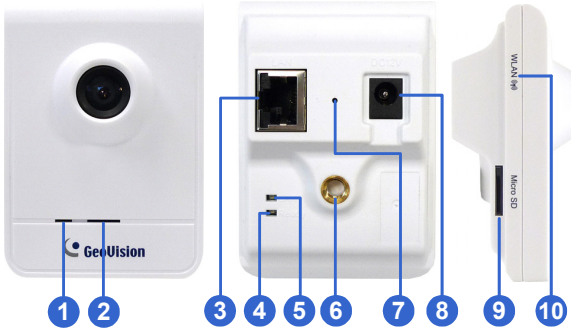
- Screw x 3

- Screw Anchor x 3

- GV-IPCAM H.264 Quick Start Guide
- GV-IPCam H.264 Software CD
- GV-NVR Quick Start Guide
- GV-NVR Software DVD

Note: Power adapter can be purchased upon request.

13.2 Overview



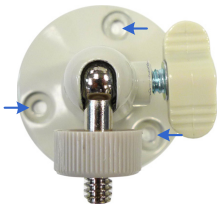
No.	Name	Description
1	Microphone	Receives sounds.
2	Speaker	Plays sounds.
3	LAN	Connects to a 10/100 Ethernet.
4	Status LED	Turns red when the system powers on. Turns orange when the system is ready.
5	LAN LED	Turns green when the camera is connected to the Internet. Turns blue when the wireless service is enabled (for GV-CBW120 / 220 only).
6	Stand screw	Connects to the Supporting Rack.
7	Default Button	Resets to factory default. For details, see *19. Restoring to Default Settings* in the *Quick Start Guide*.
8	Power Port	Connects to the power adapter.
9	Memory Card Slot	Receives a micro SD card (SD/SDHC, version 2.0 only, Class 10) to store recording data.

No.	Name	Description
10	Wireless LAN Receiver	Indicates that the camera supports wireless connection (for GV-CBW120/220 only).

13.3 Installation

Follow the steps below to install, connect to and adjust your Cube Camera.

1. Put the supporting rack on the desired location and make marks for screw anchors.



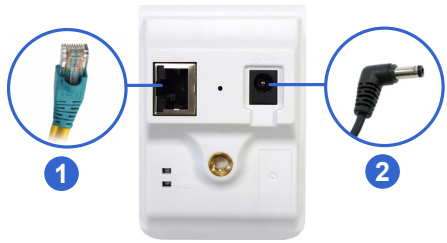
2. Drill the marks and insert the screw anchors.
3. Secure the supporting rack onto the wall using the supplied screws.
4. Screw the camera onto the supporting rack and fasten the indicated screw.

5. Connect the network and power cables to the camera. See *13.4 Connecting the Camera* in the *Quick Start Guide*.
6. Access the live view. See *16.2 Assigning the Live View* in the *Quick Start Guide*.

7. Adjust the angles of the camera based on live view and fasten the indicated screw.

8. For GV-CBW120/220, to connect to the Internet through wireless service, follow the steps in *16.2.3 Configuring the Wireless Connection* in the *Quick Start Guide*.

13.4 Connecting the Camera



1. Use a standard network cable to connect the camera to your network.
2. Power on using the power adapter. The power adapter is an optional device. For detail, see *Options* in the *Quick Start Guide*.
3. The status LED of the camera will be orange. Then you can set the IP address for the unit. See *16. Accessing the Camera* in the *Quick Start Guide*.

IMPORTANT: Be sure to use the GeoVision power adapter to power up the camera. To use your own power cable, make sure you look up the power source value indicated at the camera's back panel.

14. Advanced Cube Camera

14.1 Packing List

- Cube Camera

- Supporting Rack

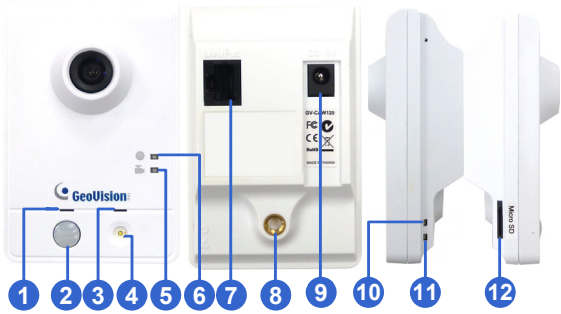
- Screw x 3

- Screw Anchor x 3

- GV-IPCAM H.264 Quick Start Guide
- GV-IPCam H.264 Software CD
- GV-NVR Quick Start Guide
- GV-NVR Software DVD

Note: Power adapter can be purchased upon request.

14.2 Overview



No.	Name	Description
1	Speaker	Plays sounds for tampering and motion alarm, and listens to the audio around the camera. To set up alarm sound, see *Speaker* section, *Administrator Mode* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD.
2	PIR sensor	Passive infrared sensor.
3	Microphone	Receives sounds.
4	White Illumination LED	When the PIR sensor detects the movement, the white illumination LED lights up in a low light scene. To set up the LED, see *Video Settings* section, *Administrator Mode* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD.
5	Monitoring LED	Reflects monitoring status of the camera. See the below table.
6	Live View LED	Reflects live view status of the camera. See the below table.
7	LAN / PoE	Connects to a 10/100 Ethernet or PoE.

No.	Name	Description
8	Stand screw	Connects to the Supporting Rack.
9	Power port	Connects to the power adapter.
10	Ready LED	Reflects system status of the camera. See the below table.
11	LAN LED	Reflects LAN status of the camera. See the below table.
12	Memory Card Slot	Receives a micro SD card (SD/SDHC, version 2.0 only, Class 10) to store recording data.

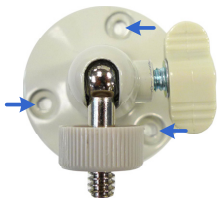
IMPORTANT: The White Illumination LED can reach high temperatures. Be sure not to touch the LED with bare hand.

LED	Status	Description
Live View		• Turns on orange light when you see the live view.
Monitoring		• Turns on red light when you start monitoring.
Ready		• Turns on green light when the system is ready. • Flashes green light when you load default value.
LAN		• Turns on green light when you connect the LAN Network. • Turns on blue light when you connect the Wi-Fi Network (for GV-CAW120 / 220 only).

14.3 Installation

Follow the steps below to install, connect to and adjust your Advanced Cube Camera.

1. Put the supporting rack on the desired location and make marks for screw anchors.



2. Drill the marks and insert the screw anchors.
3. Secure the supporting rack onto the wall using the supplied screws.
4. Screw the camera onto the supporting rack and fasten the indicated screw.

5. Connect the network and power cables to the camera. See *14.5 Connecting the Camera* in the *Quick Start Guide.*
6. Access the live view. See *16.2 Accessing the Live View* in the *Quick Start Guide*.
7. Adjust the angle of the camera based on live view and fasten the indicated screw.

8. For GV-CAW120/220, to connect to the Internet through wireless service, follow the steps in *16.2.3 Configuring the Wireless Connection* in the *Quick Start Guide*.

14.4 Connecting the Camera

1. Use a standard network cable to connect the camera to your network.
2. Connect power using one of the following methods:
   - Plug the power adapter to the power port. The power adapter is an optional device. For detail, see *Options* in the *Quick Start Guide*.
   - Use the Power over Ethernet (PoE) function and the power will be provided over the network cable.
3. When the ready LED of the camera shines green, the camera is ready for use.

Note: PoE function is only supported for GV-CA120 and GV-CA220.

15. PT Camera

15.1 Packing List

- GV-PT130D/220D/320D

- Mounting Base

- Mounting Cover

- Wall Mount Bracket

- Screw Anchor x 3

- Long Screw x 3

- Short Screw x 3

- Round Screw x 3

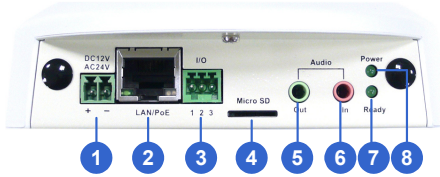
- Terminal Block
- Washer x 3

- GV-IPCAM H.264 Software CD
- Washer x 3

- GV-NVR Software DVD
- GV-NVR Quick Start Guide

Note: Power adapter can be purchased upon request.

15.2 Overview



No.	Name	Description
1	DC 12V / AC 24V Terminal Block	Connects to a DV 12V or AC 24V Power Adapter.
2	LAN / PoE	Connects to a 10/100 Ethernet or PoE.
3	I/O Terminal Block	Connects to I/O terminal device. For details, see *I/O Terminal Block*, *PTZ Camera* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD.
4	Memory Card Slot	Receives a micro SD card (SD/SDHC, version 2.0 only, Class 10) to store recording data.
5	Audio Out	Connects a speaker for audio output.
6	Audio In	Connects a microphone for audio input.
7	Status LED	Turns green when the system operates normally and turns off when system error occurs.
8	Power LED	Turns green when the power is on and turns off when the power is off.
9	Focus Ring	Manually rotates this ring left or right to adjust focus.
10	IR	Turns on to automatically illuminate a surveillance area by infrared light to produce clearer images during the night.
11	Microphone	Records the sounds.
12	Default	Resets to system default settings. For details, see *19. Restoring to Default Settings* in the *Quick Start Guide*.

15.3 Installation

The GV-PT series is designed for indoor usage. Make sure that the installing location is shielded from rain and moisture. There are two ways to install the camera: **Ceiling Mount** and **L-Shaped Wall Mount.**

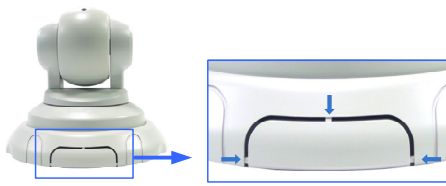
15.3.1 Ceiling Mount

1. Use the mounting base to make 3 marks on the wall for screw anchors.

2. Drill the marks and insert 3 screw anchors.
3. Attach the mounting base with the PT Camera with 3 short screws.

4. Fix the mounting base (now with the PT Camera attached) to the wall with 3 long screws.

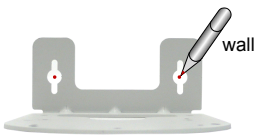
5. Put on the mounting cover. To fit the installation environment, you can cut the parts indicated by arrows to make an opening for wires and cables.



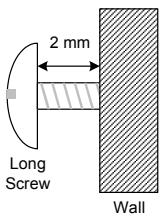
15.3.2 L-Shaped Wall Mount

You may wall-mount the GV-PT series with or without the mounting cover.

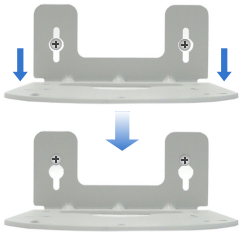
1. Take the wall mount bracket and make 2 marks on the wall for screw anchors.



2. Drill the marks and insert 2 screw anchors.
3. Insert the long screws and leave enough distance (approximately 2 mm) to hang the wall mount bracket later.



4. Hang the wall mount bracket on the screws and push the wall mount bracket downward. Make sure the long screws are tightened.



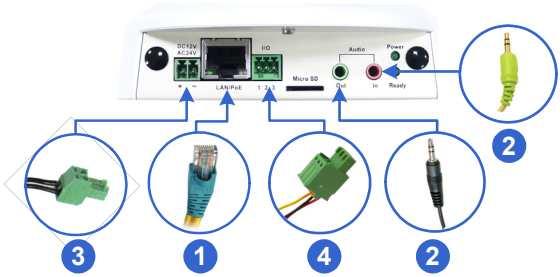
5. **Without Mounting Cover**

- Attach the wall mount bracket with the PT Camera using 3 washers and 3 round screws.

With Mounting Cover

- To install the mounting cover, attach the mounting base to the camera and then put on the mounting cover. See steps 3 and 5 in *15.3.1 Ceiling Mount*.
- Attach the wall mount bracket with the PT Camera using 3 round screws.

15.4 Connecting the Camera



1. Use a standard network cable to connect the camera to your network.
2. Optionally connect a speaker and an external microphone.
3. Connect power using one of the following methods:
   - plugging the power adapter to the power port. The power adapter is an optional device. For detail, see *Options* in the *Quick Start Guide*.
   - using the Power over Ethernet (PoE) function to provide power over the network cable.
4. Optionally connect to an input / output device. For details, see *I/O Terminal Block*, *PTZ Camera* Chapter, *GV-IPCam H.264 User's Manual* on the Software CD.
5. The status LED of the camera will be on.
6. Access the camera See *16. Accessing the Camera* in the *Quick Start Guide*.
7. Adjust for image clarity using GV-IP Device Utility. For details, see *16.3 Adjusting Image Clarity* in the *Quick Start Guide*.

16. Accessing the Camera

16.1 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 7.x or later

Note: For the users of **Internet Explorer 8**, additional settings are required. For details, see *Appendix A* in *GV-IPCam H.264 User's Manual* on the Software CD.

16.2 Accessing the Live View

Access or configure your camera according to the camera type and its firmware version:

Camera Type & Firmware Version	Default Connection Type
• GV-IPCAM H.264 with **firmware V1.07 or later** (except GV-PT110D, GV-PTZ010D) • Target Series	**DHCP** An unused IP address is automatically assigned by the DHCP server to the camera when the camera is connected to the network. Refer to ***13.2.1 Checking the Dynamic IP Address*** to look up the IP address. However, if the camera is installed in a LAN without DHCP server, access the camera by its default IP address **192.168.0.10** and see ***16.2.2 Configuring the IP Address*** in the *Quick Start Guide* for more detail.
• GV-IPCAM H.264 with **firmware V1.06 or earlier** • GV-PT110D • GV-PTZ010D	**Static** The default IP address **192.168.0.10** will be automatically assigned when the camera is connected to the network. To avoid IP conflict with other GeoVision IP devices, it is advisable to re-assign a different IP address. See ***16.2.2 Configuring the IP Address*** in the *Quick Start Guide* for more detail.

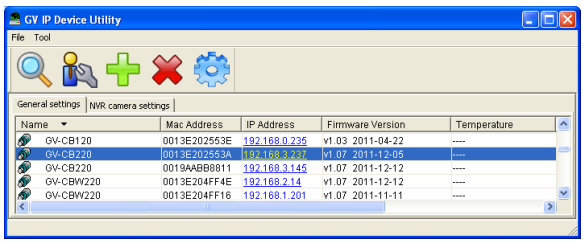
16.2.1 Checking the Dynamic IP Address

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

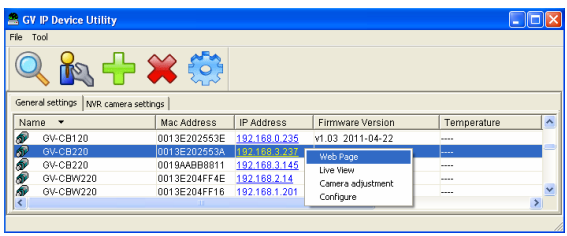
1. Install the GV-IP Device Utility program included on the *GV-IPCAM H.264 software CD*.

Note: The PC installed with GV-IP Device Utility must be under the same LAN with the GV-IPCAM H.264 you wish to configure.

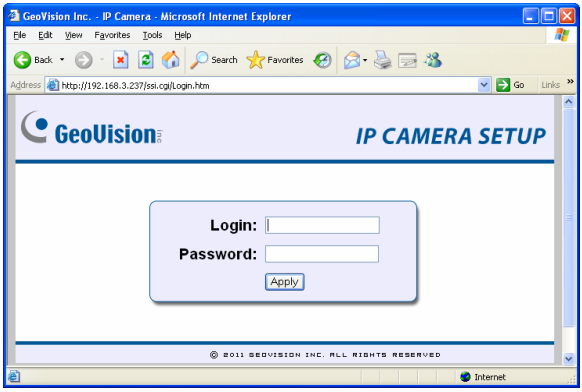
2. On the GV-IP Utility window, click the button to search for the IP devices connected in the same LAN. Click the **Name** or **Mac Address** column to sort.



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



4. The login page appears.

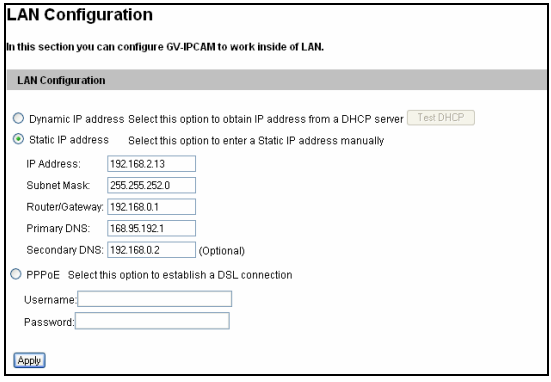


5. Type the default ID and password **admin** and click **Apply** to log in.

16.2.2 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.



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.

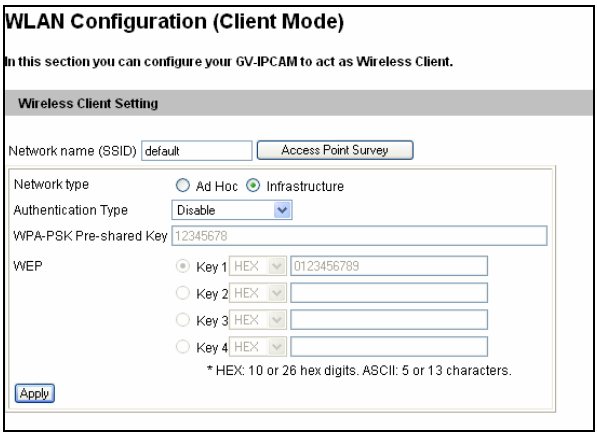
IMPORTANT:

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 *16.2.1 Checking the Dynamic IP Address* in the *Quick Start Guide*. 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 H.264 User's Manual* on the Software CD.
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 *19. Restoring to Default Settings* in the *Quick Start Guide*.

16.2.3 Configuring the Wireless Connection

You may create wireless connection to the Internet for GV-BX1200 series / 1300 series / 1500 series / 2400 series / 3400 series / 5300, GV-MFD1501 Series / 2401 series / 3401 series / 5301 series, GV-CBW120 / 220 and GV-CAW120/220.

1. To set up the wireless LAN for the first time, power on and connect a standard network cable to the camera.
2. An IP address will be automatically assigned to the camera. Use GV IP Device Utility to search for the device. For details, see *16.2.1 Checking the Dynamic IP Address* in the *Quick Start Guide*.
3. Configure the wireless settings.
   A. On the Web interface, select **Network**, select **Wireless** and **Client Mode**. This dialog box appears.



   B. Type the Network Name (SSID) or click the **Access Point Survey** button to search and select for the available Access Points/wireless stations.

C. Select **Ad-Hoc** or **Infrastructure** for the Network type.

D. Select the **Authentication Type** using the drop-down list. You can also obtain this information by clicking the **Access Point Survey** button.

E. Type the **WPA-PSK Pre-shared Key** or **WEP** depending on the encryption setting for the Access Point.

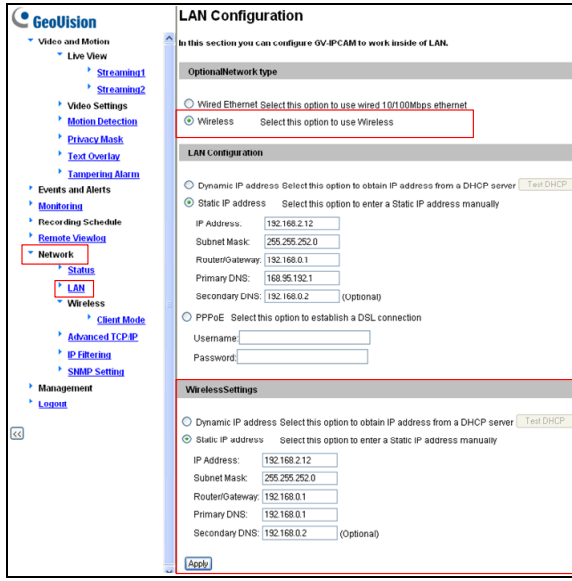
F. Click **Apply** to save the configuration.

Note:

1. Your encryption settings must match those used by the Access Points or wireless stations with which you want to associate.
2. When **Ad Hoc** is used, only **WEP** encryption is supported.
3. When you lose the wireless access, you can still access the unit by connecting it to a LAN and using the GV IP Device Utility to search for the device.

4. Enable wireless LAN.

   A. On the Web interface, select **Network** and **LAN**. This page appears.



   B. Select **Wireless** for Optional Network Type.

   C. To use a dynamic IP address assigned by the DHCP server, select **Dynamic IP address**. To use a fixed IP address, select **Static IP address** and type the IP address information.

5. Click **Apply**. The camera will start creating a wireless connection to the access point.

Note: For GV-CBW120/220 and GV-CAW120/220, the LAN LED (No. 5, *13.2 Overview* and No.11, *14.2 Overview* in the *Quick Start Guide*) turns blue when the connection is established.

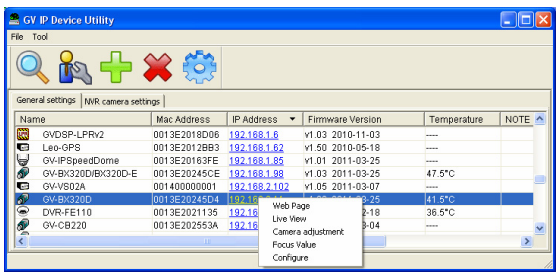
6. Unplug the Ethernet cable.

16.3 Adjusting Image Clarity

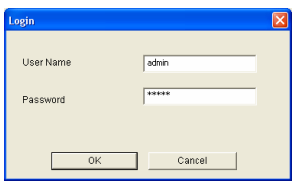
You can adjust the image clarity using the GV-IP Device Utility. Make sure that you have connected your GV-IPCAM H.264 to the network and install the GV-IP Device Utility program under the same LAN.

Note: This feature is only supported by **Box Camera**, **IR Arctic Box Camera**, **Bullet Camera**, **Mini Fixed Dome**, **Mini Fixed Rugged Dome**, **Target Mini Fixed Dome**, **Vandal Proof IP Dome**, and **Fixed IP Dome**.

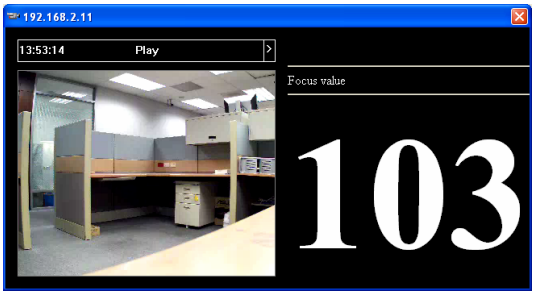
1. Make sure you have installed the GV-IP Device Utility program included on the *GV-IPCAM H.264 software CD*.
2. On the GV-IP Utility window, click the button to search for the IP devices connected in the same LAN. Click the IP Address of the camera you desire. A drop-down list appears.



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



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



5. For IK10+ models (**GV-VD120D / 121D** / **220D / 221D** / **320D / 321D / 1500** / **2400 / 3400 / 1530 / 2430 / 2530 / 3430**), hold the supplied Focus Adjustment Cap over the camera view. For details, see *16.3.1 Using Focus Adjustment Cap* in the *Quick Start Guide* for details.
6. For **Mini Fixed Dome**, **Mini Fixed Rugged Dome** and **Target Mini Fixed Dome**, hold the camera cover close to the lens for precise focus adjustment.
7. Adjust the **Zoom Screw** and the **Focus Screw** of the camera slowly until the focus value reaches the maximum.

Note:

1. 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.
2. The maximum focus value may vary when the environment changes.

16.3.1 Using Focus Adjustment Cap

There are two types of Focus Adjustment Caps for **GV-VD120D / 121D / 220D / 221D / 320D / 321D / 1500 / 2400 / 3400 / 1530 / 2430 / 2530 / 3430**.

Focus Adjustment Cap Type I:

Hold the Focus Adjustment Cap on top of the camera view, keep it close to the lens and slightly tilt to one side to adjust the image.

Focus Adjustment Cap Type II:

Hold the Focus Adjustment Cap on top of the camera view and keep it close to the camera.

Do not leave a distance between the Focus Adjustment Cap and the camera.

17. The Web Interface

Live View

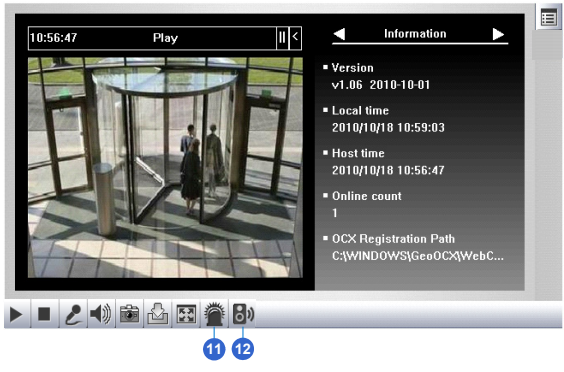
In this section you can see and configure the default camera view.

Live View Configuration

Live View

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

Live View Configuration



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 **GV-MFD120D / 130D / 220D / 320D / 520D**, **Mini Fixed Rugged Dome**, **Ultra Bullet Camera**, and **Target Bullet Camera**.
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.

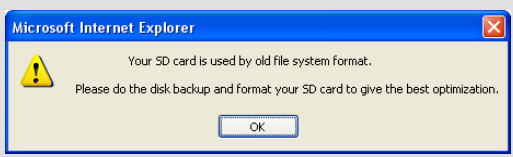
No.	Name	Function
10	I/O Control	Enables the I/O Control Panel and Visual Automation. Note this function is not available in **Mini Fixed Dome**, **Mini Fixed Rugged Dome**, **Cube Camera**, **Advanced Cube Camera** and **Target Series**.
11	LED Control	Click to turn the Alarm LED on and/or adjust the brightness sensitivity. Note this function is only available for **Advanced Cube Camera**.
12	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 H.264 User's Manual* on the Software CD. Note this function is only available for **Advanced Cube Camera**.

18. Upgrading System Firmware

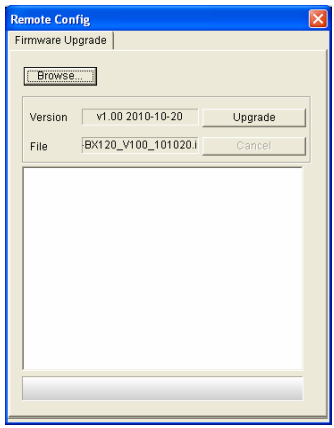
GeoVision periodically releases updated firmware on the website. The new firmware can be simply loaded into the GV-IPCAM H.264 by using the Web interface or IP Device Utility included in the software CD.

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:



1. Stop these operations: monitoring of IPCam H.264, connection to GV-System and remote connections to Center V2, VSM, 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.



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.

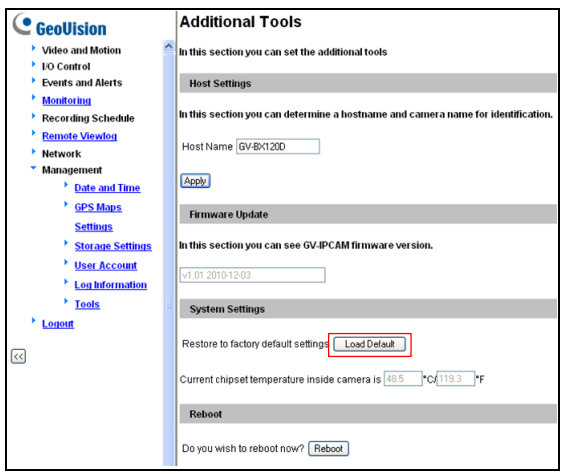
WARNING: The interruption of power supply during updating causes not only update failures but also damages to the camera. In this case, please contact your sales representative and send your device back to GeoVision for repair.

19. Restoring to Default Settings

GeoVision periodically releases updated firmware on the website. You can restore factory default settings through the Web interface or directly on the camera.

19.1 Using the Web Interface

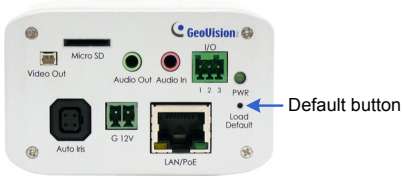
1. On the left menu of Web interface, select **Management** and select **Tools**. The Additional Tools dialog box appears.
2. Click the **Load Default** button in the System Settings section.



19.2 Directly on the Camera

Box Camera

1. Keep the power and network cables connected to the camera.
2. Use a pin to press and hold the **default** button on the back panel of the camera.

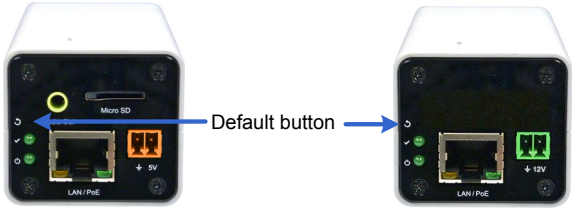


3. Release the **default** button when the **status LED** blinks. This shall take about 8 seconds.

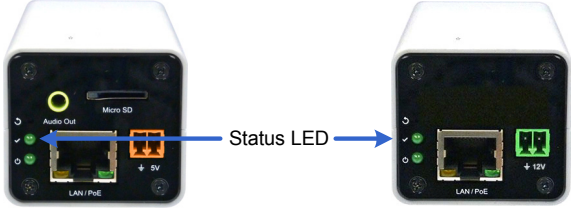
4. When the **status LED** fades, the process of loading default settings is completed and the camera reboots automatically.

Ultra Box Camera and Target Box Camera

1. Keep the power and network cables connected to the camera.
2. Use a pin to press and hold the **default** button on the back panel of the camera.



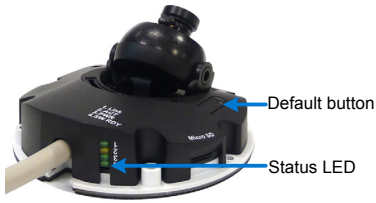
3. Release the **default** button when the **status LED** blinks. This shall take about 8 seconds.



4. When the **status LED** fades, the process of loading default settings is completed and the camera reboots automatically. When the status LED turns on (green), the camera is ready for use.

Mini Fixed Dome

1. Keep the power and network cables (or PoE) connected to the camera.
2. Press and hold the default button.
   - **GV-MFD120 / 130 / 220 / 320 / 520**

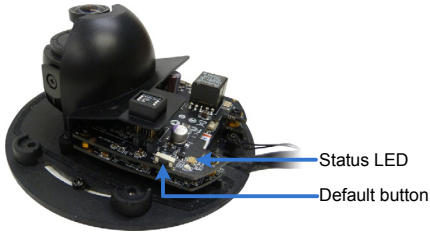


   - **GV-MFD1501 Series / 2401 Series / 3401 Series / 5301 Series**

3. Release the **default** button when the **status LED** blinks. This shall take about 8 seconds.
4. When the **status LED** fades, the process of loading default settings is completed and the camera reboots automatically.

Mini Fixed Rugged Dome

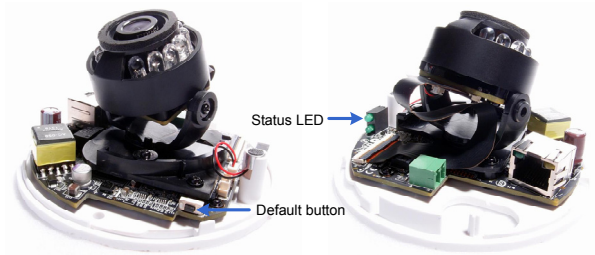
1. Keep the power and network cables connected to the camera.
2. Press and hold the **default** button.



3. Release the **default** button when the **status LED** blinks. This shall take about 8 seconds.
4. When the **status LED** fades, the process of loading default settings is completed and the camera reboots automatically.

Target Mini Fixed Dome

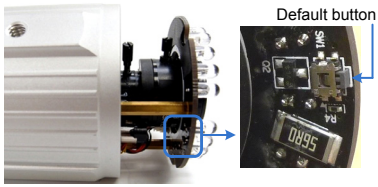
1. Keep the PoE cable connected to the camera.
2. Press and hold the **default** button for about 8 seconds.



3. Release the **default** button when the **status LED** blinks.
4. When the **status LED** fades, the process of loading default settings is completed and the camera reboots automatically.

Bullet Camera

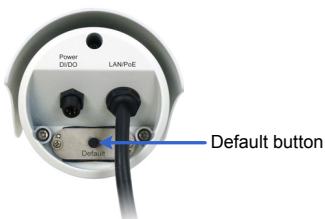
1. Keep the power and network cables connected to the camera.
2. Loosen the camera's cover and remove the **Silica Gel Bag**.
3. Press and hold the **default** button for 8 seconds.



4. Release the **default** button. When the process of loading default settings is completed, the camera reboots automatically.
5. Insert a new **Silica Gel Bag** and fasten the camera's cover immediately.

Ultra Bullet Camera

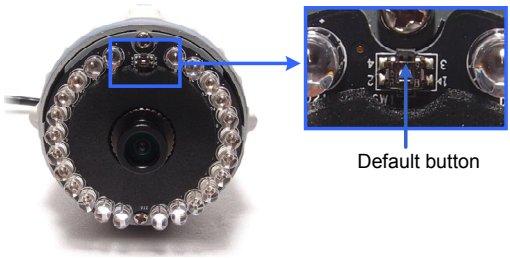
1. Keep the power and network cables (or PoE) connected to the camera.
2. Press and hold the **default** button.



3. Release the **default** button when the **status LED** blinks. This shall take about 8 seconds.
4. When the **status LED** fades, the process of loading default settings is completed and the camera reboots automatically.

Target Bullet Camera

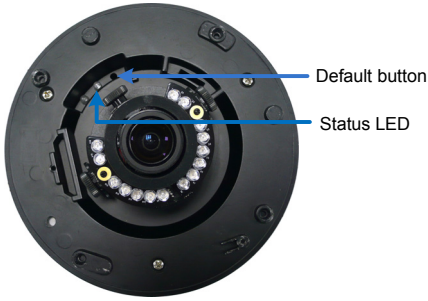
1. Keep the power and network cables (or PoE) connected to the camera.
2. Loosen the camera's cover.
3. Press and hold the **default** button for about 8 seconds.

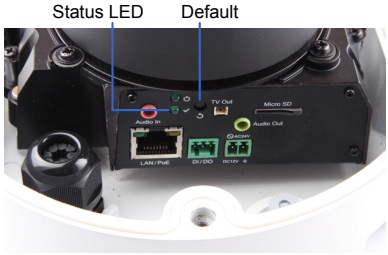


4. Release the **default** button. When the process of loading default settings is completed, the camera reboots automatically.
5. Replace the **Silica Gel Tape** inside the camera cover and fasten the camera's cover immediately.

Vandal Proof IP Dome

1. Keep the power and network cables (or PoE) connected to the camera.
2. Use a pin to press and hold the **default** button on the inner housing.

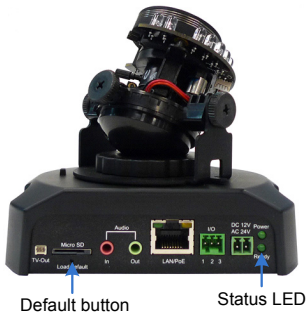




3. Release the **default** button when the **status LED** blinks. This shall take about 8 seconds.
4. When the **status LED** fades, the process of loading default settings is completed and the camera reboots automatically.

Fixed IP Dome

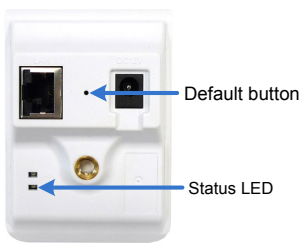
1. Keep the power and network cables (or PoE) connected to the camera.
2. Use a pin to press and hold the **default** button on the panel.



3. Release the **default** button when the **status LED** blinks. This shall take about 8 seconds.
4. When the **status LED** fades, the process of loading default settings is completed and the camera reboots automatically.

Cube Camera

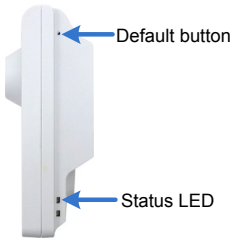
1. Keep the power and network cables connected to the camera.
2. Use a pin to press and hold the **default** button on the panel.



3. Release the **default** button when the **status LED** blinks. This shall take about 8 seconds.
4. When the **status LED** turns orange, the process of loading default settings is completed and the camera is ready for use.

Advanced Cube Camera

1. Keep the power and network cables connected to the camera.
2. Use a pin to press and hold the **default** button on the panel.



3. Release the **default** button when the **status LED** blinks. This shall take about 8 seconds.
4. When the **status LED** turns green, the process of loading default settings is completed and the camera is ready for use.

PT Camera

1. Keep the power and network cables connected to the camera.
2. Use a pin to press and hold the **default** button on the panel.

3. Release the **default** button when the **status LED** blinks. This shall take about 8 seconds.
4. When the **status LED** turns orange, the process of loading default settings is completed and the camera is ready for use.