GeoVision inc
The Vision of Security

GV-IP Speed Dome

User's Manual
Firmware V1.02

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

ISDV102-A

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.

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

March 2012

Preface

Welcome to the *GV-IP Speed Dome User's Manual*.

There are two types of the GV-IP Speed Dome, **Indoor** and **Outdoor.** Each type also has a series of models designed to meet different needs:

Application	Model	Firmware Version
Indoor	GV-SD010-18X	V1.02
	GV-SD010-23X	
	GV-SD010-36X	
Outdoor	GV-SD010-S18X	
	GV-SD010-S23X	
	GV-SD010-S36X	

This *Manual* provides an overview of the GV-IP Speed Dome and its accessories. The instructions will guide you through the installation and use of the GV-IP Speed Dome as well.

Contents

Regulatory Notices

FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

Class A

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

CE Notice

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

RoHS Compliance

The Restriction of Hazardous Substances (RoHS) Directive is to forbid the use of hazardous materials of production. To meet the RoHS Directive requirements, this product is made to be RoHS compliant.

WEEE Compliance

This product is subject to the Waste Electrical and Electronic Equipment (WEEE) Directive and made compliant with the WEEE requirements.

Note for Connecting to GV-System

The GV-IP Speed Dome is designed to work with and record on GV-System, a hybrid or digital video management system. Once the GV-IP Speed Dome is connected to the GV-System, the resolution set on the GV-System will override the resolution set on the GV-IP Speed Dome's Web interface. The resolution settings on the Web interface will only be effective after the connection to the GV-System is interrupted.

Chapter 1 Introduction

1.1 Overview

To meet different needs, the GV-IP Speed Dome is offered in two types: **indoor** and **outdoor.** Through both web-based configurations, it is easy to configure and manage the GV-IP Speed Dome.

The GV-IP Speed Dome provides variable pan/tilt speeds ranging from a fast patrol of 400° per second to a slow ramble of 5° per second with 0.225° pan accuracy for fast and accurate tracking ability. The 360° endless rotation and -10°~190° tilt travel make tracking the object passing directly beneath the GV-IP Speed Dome. A maximum of 256 preset points can be programmed for precise location of target areas, and users can also define 8 sequences, 4 auto-pan modes and 4 cruise routes for the Dome to operate automatically.

The GV-IP Speed Dome provides 4 alarm inputs and 1 alarm relay output, and the alarm management can be done through the network as well.

Features:

- 18x, 23x, 36x optical zoom
- CIF and D1 resolution
- H.264, MPEG 4 and MJEPG video compression
- BNC out, 2-way audio
- 4 digital inputs, 1 relay output
- Preset speed up to 400°/sec
- Auto calibration
- Digital image flip
- Minimum illumination 0.01 lux (B/W)
- Wide dynamic range

1.2 System Requirements

To access GV-IP Speed Dome functions through Web browser, ensure your PC is in good network connection and use one of the following web browsers:

- Microsoft Internet Explorer 7.x or later
- Google Chrome
- Mozilla Firefox
- Safari

Note:

1. For users of **Internet Explorer 8**, additional settings are required. For details, see *Appendix D*.
2. With non-IE browsers,
   A. Motion Detection, Tampering Alarm, Visual Automation, Text Overlay, two-way audio and GPS map settings are not supported.
   B. Only the Play function is available on the live view window (Figure 5-1)
   C. RTSP streaming must be kept as enabled. For more details, see *5.3.6 RTSP / 3GPP*.

1.3 Packing List

1.3.1 GV-IP Speed Dome of Indoor Type

1		Dome Body
2		Hard Ceiling Mount and Decoration Ring
3		Optical Cover
4		Data Cable for Power Supply, Video, Audio and Alarm (Length: 1.3 m / 4.27 ft)
5	Power Adaptor	
6	GV-IP Speed Dome User's Manual	
7	GV-IP Speed Dome Software DVD	
8	GV-NVR Quick Start Guide	
9	GV-NVR Software DVD	

1.3.2 GV-IP Speed Dome of Outdoor Type

1.  +  Dome Body with Outdoor Mount Kit (which is attached to the Dome)

2.  Optical Cover

3.  Data Cable for Power Supply, Video, Audio and Alarm (Length: 5 m / 16.4 ft)

4.  Lubricant

5.  M3 Standard Screw (x 1), M3 Security Screw (x1), M5 Standard Screw (x1), M5 Security Screw (x1)

6.  Security Torx

7.  Waterproof Rubber

8. Power Adaptor
9. GV-IP Speed Dome User's Manual
10. GV-IP Speed Dome Software DVD
11. GV-NVR Quick Start Guide
12. GV-NVR Software DVD

Note:

1. Outdoor Mount Kit is different from optional Indoor Mount Kit. The two Kits cannot be replaced by each other.
2. Lightly rub a thin layer of lubricant onto the Waterproof Rubber of the Dome cover before attaching the Dome cover to the body.

1.4 Functional Panel

1.4.1 GV-IP Speed Dome of Indoor Type

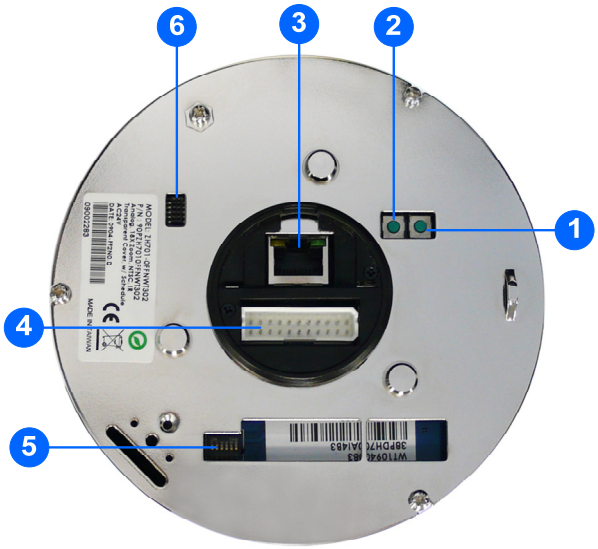


Figure 1-1

No.	Name	Function
1	Reset	Resets the GV-IP Speed Dome and keeps all current configurations.
2	Default	Restores all the settings, except PTZ settings, to the factory default values. For details see *6.3 Restoring to Factory Default Settings*.
3	Ethernet	A plug for inserting an Ethernet cable to build the network connection.
4	22-Pin Connector	For details, see *1.6 22-Pin Data Cable*.
5	Communication Switch	For details, see *1.5 Communication Switch.*
6	Reserved (for hardware firmware upgrade)	

1.4.2 GV-IP Speed Dome of Outdoor Type

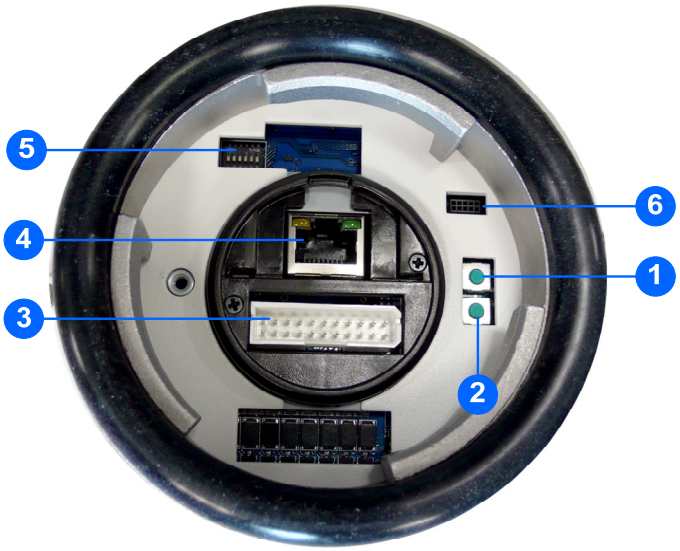


Figure 1-2

No.	Name	Function
1	Reset	Resets all configurations of GV-IP Speed Dome.
2	Default	Restores all the settings, except PTZ settings, to the factory default values. For details see *6.3 Restoring to Factory Default Settings*.
3	22-Pin Connector	For details, see *1.6 22-Pin Data Cable*.
4	Ethernet	A plug for inserting an Ethernet cable to build the network connection.
5	Communication Switch	For details, see *1.5 Communication Switch*.
6	Reserved (for hardware firmware upgrade)	

1.5 Preparing for Outdoor-Type Dome Setup

The GV-IP Speed Dome of outdoor type is equipped with the sunshield housing. Follow the steps below to complete the housing installation.

1. Unpack the package and take out the GV-IP Speed Dome.

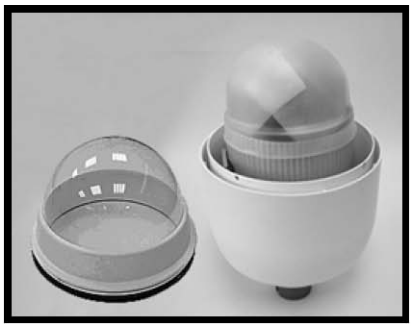


Figure 1-3

2. Rotate the top holder and take it off from the Dome body.

Figure 1-4

Figure 1-5

3. Remove the protective cover and PE sheet.

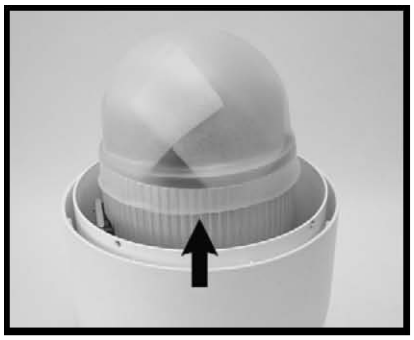


Figure 1-6

4. Lightly rub a thin layer of lubricant onto the waterproof rubber of the Dome cover before attaching the cover to the body.

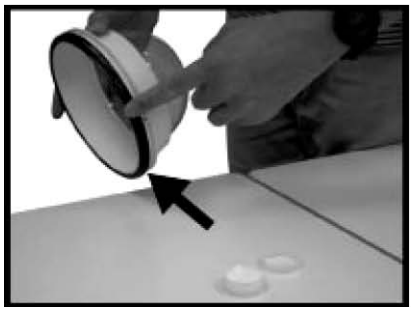


Figure 1-7

Note that the tiny protrusion on the cover must align with one of the four holes on the Dome body.

Figure 1-8

5. Gently press down the Dome cover with two hands on the side of it.

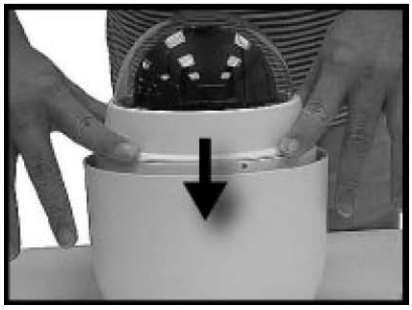


Figure 1-9

DO NOT press the cover as shown in the figure. This might damage the Dome.

Figure 1-10

6. Screw the Dome cover and body together.

Figure 1-11

1.6 Communication Switch

You can find the Communication Switch below in both indoor and outdoor types of GV-IP Speed Domes.

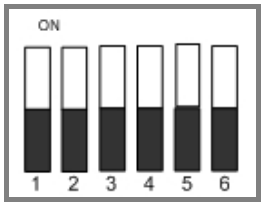


Figure 1-12

SW 1	Not Functional
SW 2	
SW 3	
SW 4	
SW 5	Default
SW 6	Not Functional

SW5 is used to restore all the PTZ settings to original default values. Follow the steps below to restore default PTZ values:

1. Disconnect the power to the Dome.
2. Push SW5 upward to ON.
3. Reconnect the power to the Dome. The process of loading default PTZ values is complete and you have to reset the Dome.
4. Disconnect the power to the Dome again.
5. Push SW5 downward to OFF.
6. Reconnect the power to the Dome. All the PTZ settings are returned to default values.

Note: It is recommended to use the Web interface to restore all the PTZ settings to the factory default values. For this operation, see *4.10 System Configuration*.

1.7 22-Pin Data Cable

With the 22-pin Data Cable, you can connect the power, microphone, speaker, TV monitor and I/O devices to the GV-IP Speed Dome. The Data Cable is illustrated as below.

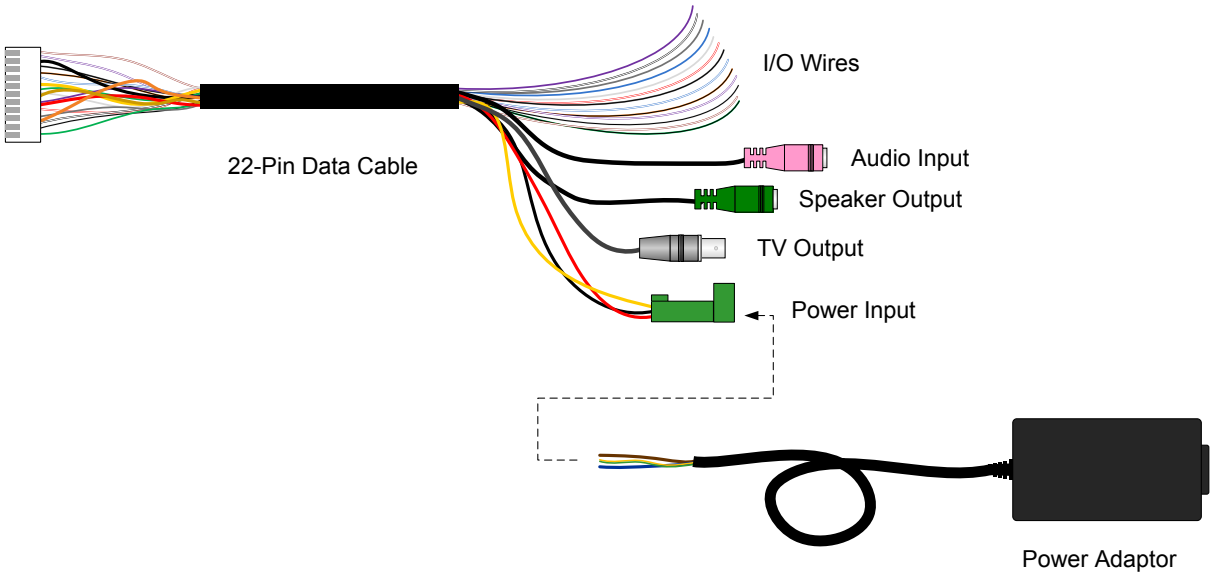


Figure 1-13

I/O Wire Definition

The I/O wires on the Data Cable allow you to connect 4 alarm input and 1 output devices. Connect the I/O devices based on the wire definition listed below.

No.	Wire	Definition
1	Red / White	Input 1
2	Gray	Input 2
3	Purple	Input 3
4	Blue	Input 4
5	White / Black	Not functional
6	Orange / Black	Not functional
7	Purple / White	Not functional
8	Gray / Balck	Not functional
9	Brown / White	Input GND
10	Blue / White	Not functional
11	Green / Black	Output (COM)
12	Black / White	Output (N/O)
13	White	Output (N/C)

Wire Definition for Power Input

Connect the three wires of Power Adaptor to the 3-pin terminal block of power input, based on the following wire assignments.

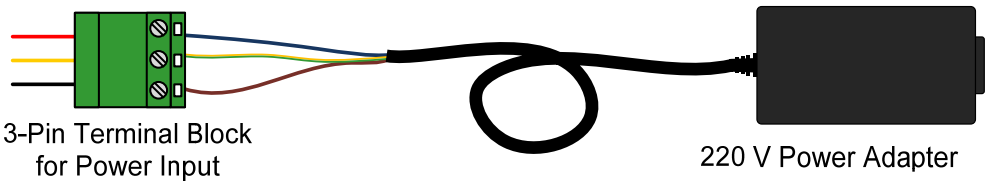


Figure 1-14

Wire Assignments for 220 V Power Adaptor

Wires of 3-Pin Terminal Block	Wires of Power Adaptor
Red	Blue
Yellow	Yellow
Black	Brown

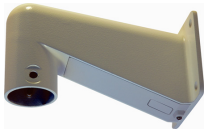
Wire Assignments for 110 V Power Adaptor

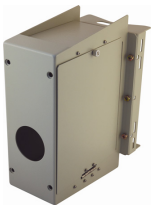
Wires of 3-Pin Terminal Block	Wires of Power Adaptor
Red	White
Yellow	Green
Black	Black

Note: When wiring the power cable, ensure the **Ground** wire inserted into the mid-pin of the terminal block.

1.8 Optional Accessories

Optional accessories can be ordered separately depending on the application requirements. Contact your dealer for more information.

Model Number	Name	Details
81-D7H03-ST1	Straight Tube (25 cm) 	Height: 250 mm / 9.8 in Diameter: 50 mm / 2 in Weight: 1 kg / 2.2 lb Supplied with rubber washer-8 x 1, pendent tube washer x 1, spring washer -8 x 1, waterproof rubber x 1, M8-12 screw x 1
81-D7H03-ST2	Straight Tube (50 cm) 	Height: 500 mm / 19.7 in Diameter: 50 mm / 2 in Weight: 1.8 kg / 4 lb Supplied with rubber washer-8 x 1, pendent tube washer x 1, spring washer -8 x 1, waterproof rubber x 1, M8-12 screw x 1
81-D7H03-WMP (w/ anti-drop wire) 81-D7H32-WMP (w/o anti-drop wire)	Mini Pendent Mount 	Dimensions (L x W x D): 184 x 104 x 115.2 mm / 7.24 x 4.09 x 4.54 in Weight: 0.6 kg (1.2 lb) Supplied with rubber washer-8 x 1, pendent tube washer x 1, spring washer-8 x 1, M8-12 screw x 1.
81-D7H03-WSP (w/ anti-drop wire) 81-D7H32-WSP (w/o anti-drop wire)	Standard Pendent Mount 	Dimensions (L x W x D): 348 x 104 x 138.6 mm / 13.7 x 4.1 x 5.5 in Weight: 1.5 kg / 3.3 lb Supplied with rubber washer-8 x 1, pendent tube washer x 1, spring washer-8 x 1, M8-12 screw x 1
81-D7H05-CST	Corner Plate Mount 	Dimensions (L x W x D): 222 x 204 x 117 mm / 8.7 x 8 x 4.6 in Weight: 2 kg / 4.4 lb Supplied with washer-8 x 4, spring washer x 4, M8-16 screw x 4, M8 nut x 4

81-D7H05-CTB	Corner Thin Box Mount 	Dimensions (L x W x D): 300 x 164 x 222 mm / 11.8 x 6.5 x 8.7 in
		Weight: 6.7 lb
		Supplied with washer x 4, M8-16 screw x 4, spring washer x 4 Power Box can be set inside the thin box.
81-D7H05-PTB	Pole Thin Box Mount 	Dimensions (L x W x D): 291 x 136 x 242 mm / 11.5 x 5.4 x 9.5 in
		Weight: 3.1 kg / 6.9 lb
		Supplied with M8-16 screw x 4, washer x 4, spring washer x 4, stainless steel straps x 4 Power Box can be set inside the thin box.
81-D7H05-PTD	Pole Thin Direct Mount 	Dimensions (L x W x D): 232 x 136 x 60 mm / 9.1 x 5.4 x 2.4 in
		Diameter: 112~114 mm / 4.4 ~ 5.5 in
		Weight: 0.7 kg / 1.6 lb
		Supplied with stainless steel strap x 4, M8-16 screw x 4, washer x 4
81-D7H05-WBM	Wall Box Mount 	Dimensions (L x W x D): 270 x 166 x 95 mm / 10.6 x 6.5 x 3.7 in
		Weight: 2.2 kg / 4.84 lb
		Supplied with M8-16 screw x 4, washer x 4, spring washer x 4 Power Box can be set inside the wall box.
81-D7H05-MK2	Indoor Mount Kit 	**Indoor use only**
		Height: 74 mm / 2.9 in
		Diameter: 140 mm / 5.5 in
		Weight: 0.3 kg / 0.7 lb
		Supplied with Waterproof Rubber, Hexagon Key, Lock Screw Plate, M5-8 screw x 1, M5-8 security screw x 1, M3-6 screw x 1

81-D7H06-HCM	Hard Ceiling Mount 	**Indoor use only (see Note later)**
		Height: 21.4 mm / 0.84 in
		Diameter of the three holes: 4.5 mm / 0.17 in
		Diameter of the bracket: 158 mm / 6.22 in
		Supplied with Fixing Plate and Red Sticker
81-D7H06-TBC	T-Bar Ceiling Mount 	**Indoor use only**
		Height: 160 mm / 6.3 in
		Diameter: 180 mm / 7.1 in
		Weight: 0.5 kg / 1.1 lb
81-DH701-S01	5.4" Smoke Cover 	**Indoor use only**
		Diameter: 137 mm / 5.4 in
81-DH801-S01	5.8" Smoke Cover 	**Outdoor use only**
		Diameter: 145 mm / 5.7 in
81-P1030-001	Power Box (Input: 110 -115V AC) 	**Outdoor use only** (see **Note** later)
		Dimensions (L x W): 185.5 x 147 mm / 7.3 x 5.8 in
		Weight: 2.6 kg / 5.8 lb
		Output: 24VAC 72VA
		Weatherproof (IP66)
81-P2030-001	Power Box (Input: 220 -230V AC) 	**Outdoor use only** (see **Note** later)
		Dimensions (L x W): 185.5 x 147 mm / 7.3 x 5.8 in
		Weight: 2.6 kg / 5.8 lb
		Output: 24VAC 72VA
		Weatherproof (IP66)

Note:

1. The **Hard Ceiling Mount** is a standard accessory for the Dome of indoor type. You may purchase the Mount optionally.
2. For details on Power Box, see *10. Optional Power Box*.

Chapter 2 Installing the GV-IP Speed Dome

With the proper accessories, GV-IP Speed Dome can adapt to environment requirements to be installed differently. The table below lists a variety of installation methods and the optional accessories you need to purchase for different installation methods.

Installation Method	Optional Accessories Needed	
	Indoor Type	**Outdoor Type**
Ceiling Mount		
Surface Mount	Standard package is enough	N/A
Flush Mount	T-Bar Ceiling Mount	N/A
Straight Tube Mount	Straight Tube Indoor Mount Kit	Straight Tube
Wall Mount		
Standard Pendent Mount	Standard Pendent Mount Indoor Mount Kit	Standard Pendent Mount
Mini Pendent Mount	Mini Pendent Mount Indoor Mount Kit	Mini Pendent Mount
Wall Box Mount	Wall Box Mount Indoor Mount Kit Standard/Mini Pendent Mount	Wall Box Mount Standard/Mini Pendent Mount
Corner Mount		
Corner Plate Mount	Corner Plate Mount Indoor Mount Kit Standard/Mini Pendent Mount	Corner Plate Mount Standard/Mini Pendent Mount
Corner Thin Box Mount	Corner Thin Box Mount Indoor Mount Kit Standard/Mini Pendent Mount	Corner Thin Box Mount Standard/Mini Pendent Mount
Pole Mount		
Pole Thin Direct Mount	Pole Thin Direct Mount Indoor Mount Kit Standard/Mini Pendent Mount	Pole Thin Direct Mount Standard/Mini Pendent Mount
Pole Think Box Mount	Pole Think Box Mount Indoor Mount Kit Standard/Mini Pendent Mount	Pole Think Box Mount Standard/Mini Pendent Mount

2.1 Ceiling Mount

There are three ceiling mounting methods: **Surface Mount**, **Flush Mount** and **Straight Tube Mount**. The Surface Mount and Flush Mount are only for the GV-IP Speed Dome of Indoor Type.

2.1.1 Surface Mount (Indoor Use Only)

Surface Mount is a standard installation method for the GV-IP Speed Dome of Indoor Type.

Figure 2-1

Necessary Items include:

- GV-IP Speed Dome (Indoor Type)
- Data Cable (supplied)
- Ethernet Cable
- Hard Ceiling Mount and Decoration Ring (supplied)
- Fixing Plate (supplied with Hard Ceiling Mount)

Follow the steps:

1. Screw the Fixing Plate to the GV-IP Speed Dome.

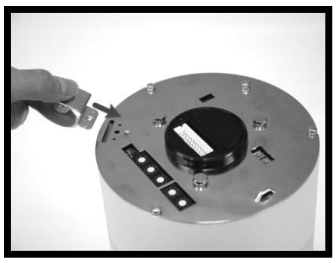


Figure 2-2

2. Remove the Decoration Ring from the Hard Ceiling Mount.

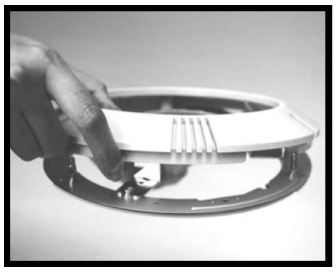


Figure 2-3

3. Attach the Hard Ceiling Mount to the ceiling. Mark the locations where all three ceiling holes should be drilled.
4. Drill the holes on the ceiling.
5. Fix the Hard Ceiling Mount to the holes on the ceiling with three screws as shown in the picture below.

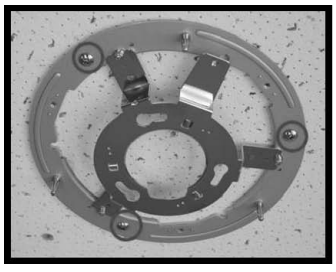


Figure 2-4

6. Run the Data and Ethernet cables through the center hole of the Hard Ceiling Mount and connect the cables to the GV-IP Speed Dome.

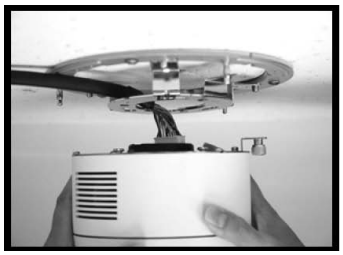


Figure 2-5

7. Attach the Dome body to the Hard Ceiling Mount and rotate the Dome body clockwise. Tighten the screw to fix the Dome body as shown in the picture below.

Figure 2-6

8. Fix the Decoration Ring to the bracket.

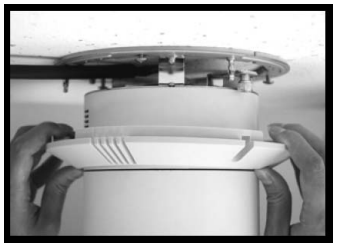


Figure 2-7

Note: Make sure the optical cover is removed before fixing the Decoration Ring to the bracket.

---

9. Place the optical cover back to the GV-IP Speed Dome.

2.1.2 Flush Mount (Indoor Use Only)

With the optional **T-Bar Ceiling Mount**, the GV-IP Speed Dome of Indoor Type can be mounted into the ceiling, revealing a small part of the Dome body.

Figure 2-8

Necessary items include:

- GV-IP Speed Dome (Indoor Type)
- Data Cable (supplied)
- Ethernet Cable
- T-Bar Ceiling Mount (optional)
- Red Sticker (supplied with T-Bar Ceiling Mount)
- Decoration Ring (supplied)

Follow the steps:

1. Disassemble the wing (as shown in the picture below) from the T-Bar Ceiling Mount, and take out the supplied screw in the small bag.

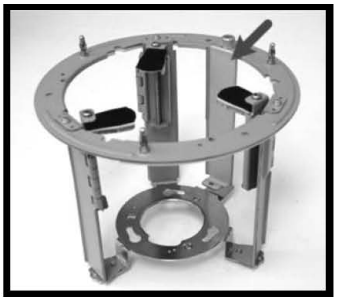


Figure 2-9

2. Attach the separated wing to the Dome body as shown in the picture below.

Figure 2-10

3. Place the Red Sticker on the ceiling plate, and cut the circle part out of the ceiling.

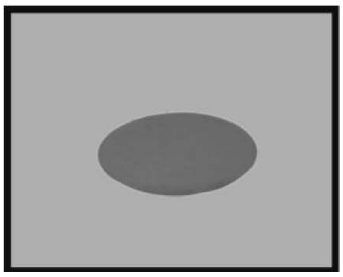


Figure 2-11

4. Put up the T-Bar Ceiling Mount into the ceiling opening.

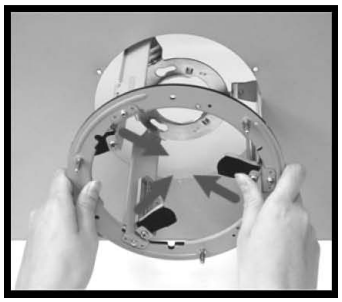


Figure 2-12

5. Rotate T-Bar wings of the hinge to fix the T-Bar at the edge of the ceiling opening.
6. Tighten the screws, and the T-Bar wings will attach to the ceiling.

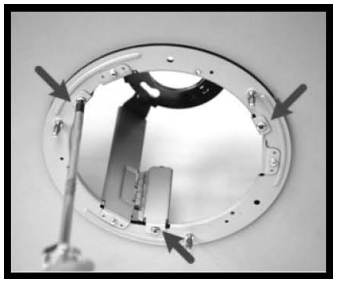


Figure 2-13

7. Run the Data and Ethernet cables down through the center hole of the T-Bar and connect cables to the GV-IP Speed Dome.

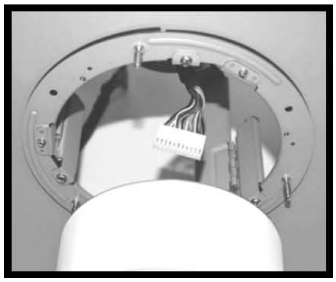


Figure 2-14

8. Mount the Dome body to the bracket and rotate it clockwise.

Figure 2-15

9. Tighten the screw to fix the GV-IP Speed Dome.

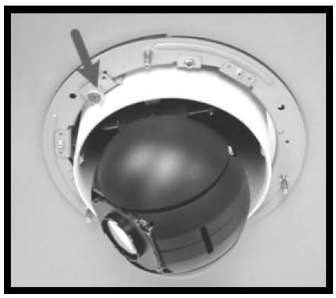


Figure 2-16

10. Fix the Decoration Ring to the bracket and then put the optical cover back.

Note: Make sure the optical cover is removed before fixing the Decoration Ring to the bracket.

2.1.3 Straight Tube Mount (Indoor Type)

With the optional **Straight Tube**, the GV-IP Speed Dome of Indoor Type can be suspended from the ceiling. The Straight Tube is available in two different lengths: **250 mm** and **500 mm**.

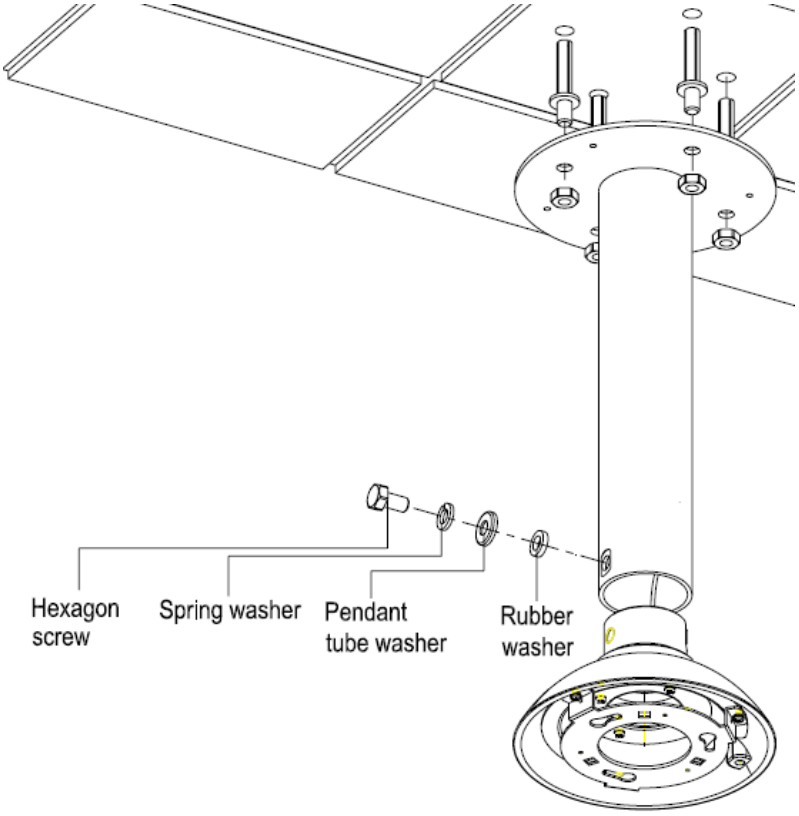


Figure 2-17

Necessary items include:

- GV-IP Speed Dome (Indoor Type)
- Data Cable (supplied)
- Ethernet Cable
- Indoor Mount Kit (optional)
- Straight Tube (optional)
- Screws and screw anchors for fixing the Straight Tube onto the ceiling (not supplied)

Follow the steps:

1. Ensure that the ceiling can support the weight of the GV-IP Speed Dome and Straight Tube.
2. Make a cable entry hole on the ceiling.
3. Fix the Straight Tube to the ceiling with proper screws and screw anchors.

4. Run the Data and Ethernet cables through the Straight Tube and the Indoor Mount Kit. Remember to block the cable entry hole with the supplied sponge to prevent insects from entering the tube.
5. Fix the Indoor Mount Kit to the Straight Tube with the supplied screws and washers.
6. Take out the Lock Screw Plate (supplied with Indoor Mount Kit) and attach it to the Dome back plate.

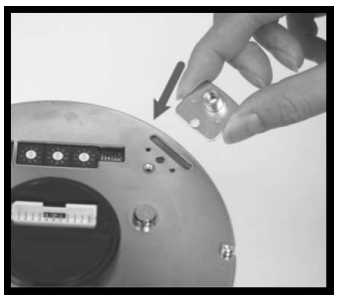


Figure 2-18

7. Fix the plate onto the Dome back with the supplied small screw.

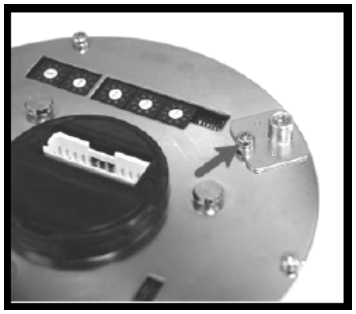


Figure 2-19

8. Connect the cables to the GV-IP Speed Dome.
9. Mount the Dome to the Indoor Mount Kit. Ensure the Dome is completely fixed, and the thread holes on the Lock Screw Plate and Indoor Mount Kit are aligned.
10. Tighten the supplied M5 Standard/Security Screw as shown in the picture below.

Figure 2-20

2.1.4 Straight Tube Mount (Outdoor Type)

With the optional **Straight Tube**, the GV-IP Speed Dome of Outdoor Type can be suspended from the ceiling. The Straight Tube is available in two different lengths: 250 mm and 500 mm.

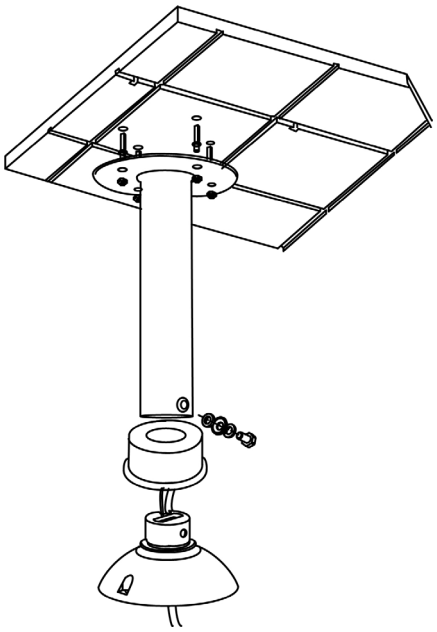


Figure 2-21

Necessary items include:

- GV-IP Speed Dome (Outdoor Type)
- Outdoor Mount Kit (supplied)
- Data Cable (supplied)
- Ethernet Cable
- Straight Tube (optional)
- Waterproof Rubber (supplied)
- M5 Standard/Security Screws (supplied)
- Screws and screw anchors for fixing the Straight Tube onto the ceiling (not supplied)

Follow the steps:

1. Ensure that the ceiling can support the weight of the GV-IP Speed Dome and Straight Tube.
2. Make a cable entry hole on the ceiling.
3. Fix the Straight Tube to the ceiling with proper screws and screw anchors.
4. Attach the Waterproof Rubber to the Straight Tube.
5. Run the Data and Ethernet cables through the Straight Tube. Remember to block the cable entry hole with the supplied sponge to prevent insects from entering the tube.

6. Run the cables through the Outdoor Mount Kit and join the Outdoor Mount Kit to the Straight Tube with the supplied screws and washers. Then adjust the Waterproof Rubber to the joint.
7. Connect the cables to the GV-IP Speed Dome.
8. Join the Dome to the Outdoor Mount Kit with the supplied M5 screw and washers.

2.2 Wall Mount

There are three wall mounting methods: Standard Pendent Mount, Mini Pendent Mount and Wall Box Mount. The three mounting methods are suitable for both indoor and outdoor installation.

2.2.1 Standard Pendent Mount

With the optional **Standard Pendent Mount**, the GV-IP Speed Dome can be installed on the wall.

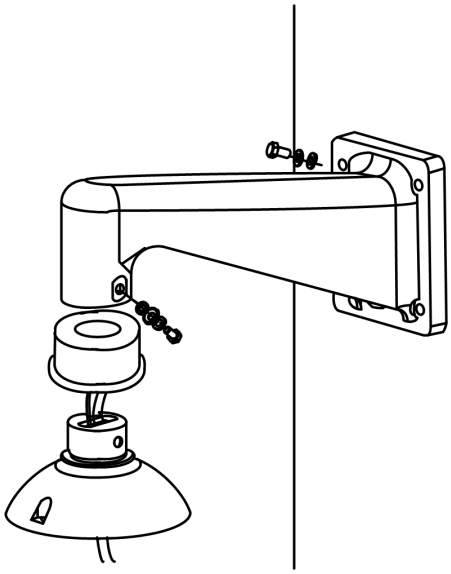


Figure 2-22

Necessary items for the Dome of Indoor Type:

- GV-IP Speed Dome (Indoor Type)
- Data Cable (supplied)
- Ethernet Cable
- Indoor Mount Kit (optional)
- Standard Pendent Mount (optional)
- Waterproof Rubber (supplied with Indoor Mount Kit)
- Screws and screw anchors for fixing the Standard Pendent Mount on the wall (not supplied)

Necessary items for the Dome of Outdoor Type:

- GV-IP Speed Dome (Outdoor Type)
- Outdoor Mount Kit (supplied)
- Data Cable (supplied)
- Ethernet Cable
- Standard Pendent Mount (optional)
- Waterproof Rubber (supplied)
- M5 Standard/Security Screw (supplied)
- Screws and screw anchors for fixing the Standard Pendent Mount on the wall (not supplied)

Follow the steps:

1. Make a cable entry hole on the wall to recess the Data and Ethernet cables. Otherwise, push up the cable entry board on the mounting plate of Standard Pendant Mount to place the cables as shown in the picture below.

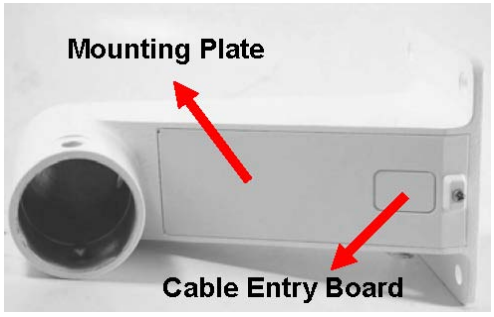


Figure 2-23

2. Fix the Standard Pendent Mount on the wall with proper screws and screw anchors.
3. Attach the Waterproof Rubber to the Standard Pendent Mount.
4. Run the Data and Ethernet cables through the Standard Pendent Mount.

5. To prevent insects from the GV-IP Speed Dome, block the cable entry hole with the supplied sponge in two ways. See the pictures below.

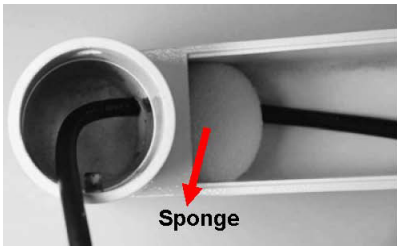


Figure 2-24-1

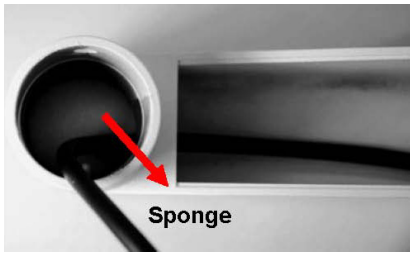


Figure 2-24-2

6. Run the cables through the Indoor/Outdoor Mount Kit, and join the Indoor/Outdoor Mount Kit to the Standard Pendent Mount with the supplied screws and washers. Then adjust the Waterproof Rubber to the joint.
7. Connect the cables to the GV-IP Speed Dome.
8. Join the Dome to the Indoor/Outdoor Mount Kit with the supplied screw and washers.

2.2.2 Mini Pendent Mount

The installation steps of the **Mini Pendent Mount** are the same as those of the Standard Pendent Mount. For details, see *2.2.1 Standard Pendent Mount*.

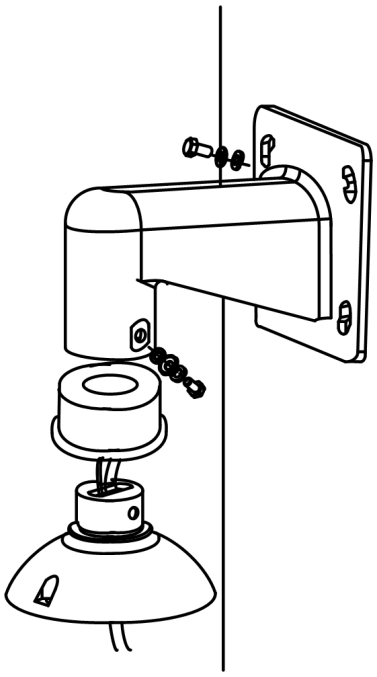


Figure 2-25

Necessary items for the Dome of Indoor Type:

- GV-IP Speed Dome (Indoor Type)
- Data Cable (supplied)
- Ethernet Cable
- Indoor Mount Kit (optional)
- Mini Pendent Mount (optional)
- Waterproof Rubber (supplied with Indoor Mount Kit)
- Screws and screw anchors for fixing the Mini Pendent Mount on the wall (not supplied)

Necessary items for the Dome of Outdoor Type:

- GV-IP Speed Dome (Outdoor Type)
- Outdoor Mount Kit (supplied)
- Data Cable (supplied)
- Ethernet Cable
- Mini Pendent Mount (optional)
- Waterproof Rubber (supplied)
- MS Standard/Security Screw (supplied)
- Screws and screw anchors for fixing the Mini Pendent Mount on the wall (not supplied)

2.2.3 Wall Box Mount

With the optional **Wall Box Mount** and **Standard/Mini Pendent Mount**, the GV-IP Speed

Dome can be installed on the wall.

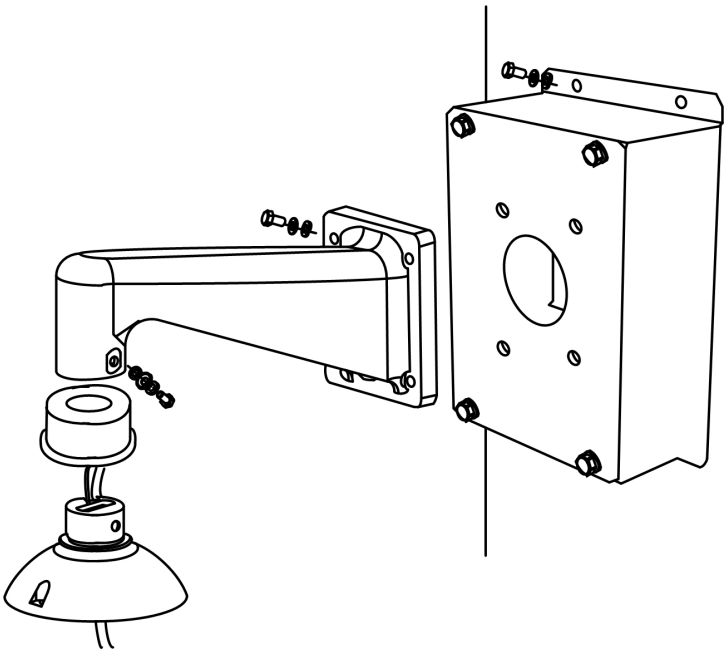


Figure 2-26

Necessary items for the Dome of Indoor Type:

- GV-IP Speed Dome (Indoor Type)
- Data Cable (supplied)
- Ethernet Cable
- Indoor Mount Kit (optional)
- Standard/Mini Pendent Mount (optional)
- Wall Box Mount (optional)
- Waterproof Rubber (supplied with Indoor Mount Kit)
- Screws and screw anchors for fixing the Wall Box Mount on the wall (not supplied)

Necessary items for the Dome of Outdoor Type:

- GV-IP Speed Dome (Outdoor Type)
- Outdoor Mount Kit (supplied)
- Data Cable (supplied)
- Ethernet Cable
- Standard/Mini Pendent Mount (optional)
- Wall Box Mount (optional)
- Waterproof Rubber (supplied)
- M5 Standard/Security Screw (supplied)
- Screws and screw anchors for fixing the Wall Box Mount on the wall (not supplied)

Follow the steps:

1. Make a cable entry hole on the wall to recess the cables.

2. Fix the Wall Box Mount on the wall with proper screws and screw anchors. Then run the Data and Ethernet cables through the hole on the Wall Box Mount.
3. Run the cables through the Standard/Mini Pendent Mount and fasten the Standard/Mini Pendent Mount onto the Wall Box Mount with the supplied screws and washers.
4. Block the cable entry hole with the supplied sponge to avoid insects entering the Pendent Mount. See Figure 2-24.
5. Attach the Waterproof Rubber to the Standard/Mini Pendent Mount.
6. Run the cables through the Indoor/Outdoor Mount Kit, and join the Indoor/Outdoor Mount Kit to the Standard/Mini Pendent Mount with the supplied screws and washers. Then adjust the Waterproof Rubber to the joint.
7. Connect the cables to the GV-IP Speed Dome.
8. Join the Dome to the Indoor/Outdoor Mount Kit with the supplied screw and washers.

2.3 Corner Mount

There are two corner mounting methods: Corner Plate Mount and Corner Thin Box Mount. The two mounting methods are suitable for both indoor and outdoor installation.

2.3.1 Corner Plate Mount

With the optional **Corner Plate Mount** and **Standard/Mini Pendant Mount**, the GV-IP Speed Dome can be mounted on the corner wall.

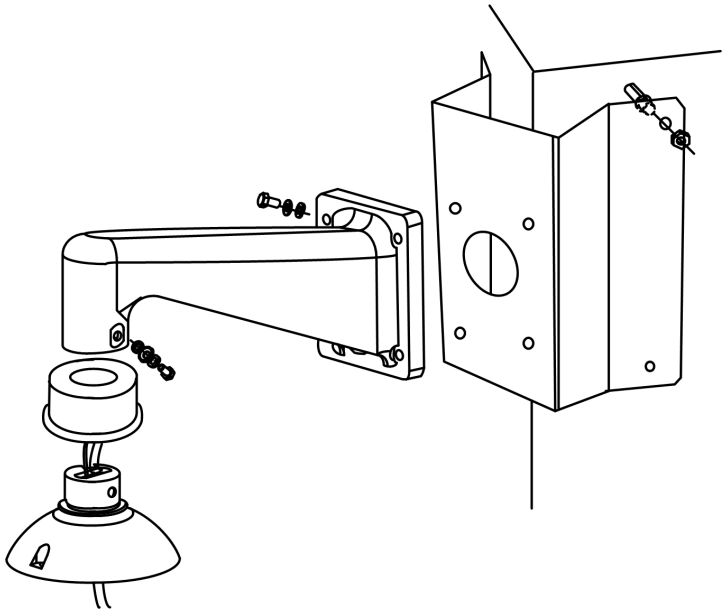


Figure 2-27

Necessary items for the Dome of Indoor Type:

- GV-IP Speed Dome (Indoor Type)
- Data Cable (supplied)
- Ethernet Cable
- Indoor Mount Kit (optional)
- Standard/Mini Pendent Mount (optional)
- Corner Plate Mount (optional)
- Waterproof Mount Kit (supplied with Indoor Mount Kit)
- Screws and screw anchors for fixing the Corner Plate Mount on the wall (not supplied)

Necessary items for the Dome of Outdoor Type:

- GV-IP Speed Dome (Outdoor Type)
- Data Cable (supplied)
- Ethernet Cable
- Standard/Mini Pendent Mount (optional)
- Corner Plate Mount (optional)
- Waterproof Rubber (supplied)
- M5 Standard/Security Screw (supplied)
- Screws and screw anchors for fixing the Corner Plate Mount on the wall (not supplied)

Follow the steps:

1. Make a cable entry hole on the wall to recess the cables.
2. Fix the Corner Plate Mount on the corner of the wall with proper screws and screw anchors. Then run the Data and Ethernet cables through the hole on the Corner Plate Mount.
3. Run the cables through the Standard/Mini Pendent Mount and fasten the Standard/Mini Pendent Mount onto the Corner Plate Mount with the supplied screws and washers.
4. Block the cable entry hole with the supplied sponge to avoid insects entering the Pendent Mount. See Figure 2-24.
5. Attach the Waterproof Rubber to the Standard/Mini Pendent Mount.
6. Run the cables through the Indoor/Outdoor Mount Kit, and join the Indoor/Outdoor Mount Kit to the Standard/Mini Pendent Mount with the supplied screws and washers. Then adjust the Waterproof Rubber to the joint.
7. Connect the cables to the GV-IP Speed Dome.
8. Join the Dome to the Indoor/Outdoor Mount Kit with the supplied M5 screw and washers.

2.3.2 Corner Thin Box Mount

With the optional **Corner Thin Box** and **Standard/Min Pendent Mount,** the GV-IP Speed Dome can be mounted on the corner wall.

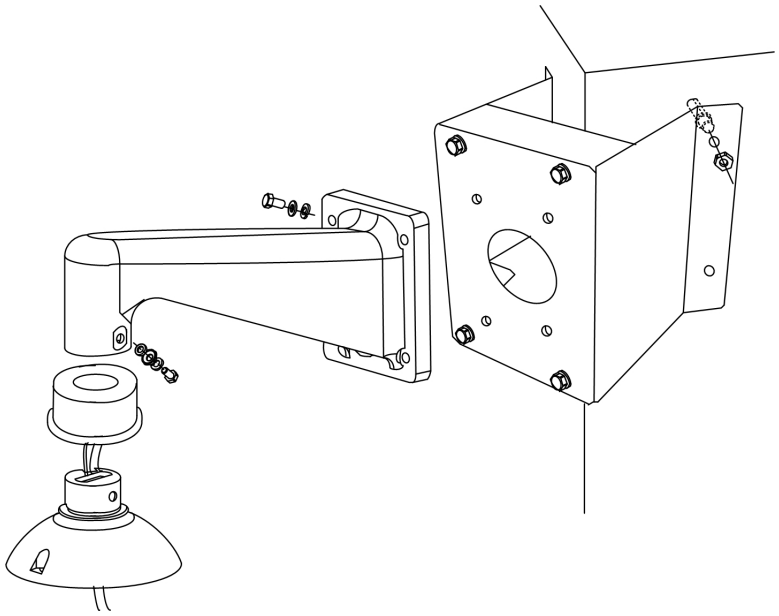


Figure 2-28

Necessary items for the Dome of Indoor Type:

- GV-IP Speed Dome (Indoor Type)
- Data Cable (supplied)
- Ethernet Cable
- Indoor Mount Kit (optional)
- Standard/Mini Pendent Mount (optional)
- Corner Thin Box (optional)
- Waterproof Rubber (supplied with Indoor Mount Kit)
- Screws and screw anchors for fixing the Corner Thin Box to the wall (not supplied)

Necessary items for the Dome of Outdoor Type:

- GV-IP Speed Dome (Outdoor Type)
- Outdoor Mount Kit (supplied)
- Data Cable (supplied)
- Ethernet Cable
- Standard/Mini Pendent Mount (optional)
- Corner Thin Box (optional)
- Waterproof Rubber (supplied)
- M5 Standard/Security Screw (supplied)
- Screws and screw anchors for fixing the Corner Thin Box to the wall (not supplied)

Follow the steps:

1. Make a cable entry hole on the wall to recess the cables.
2. Fix the Corner Thin Box on the corner of the wall with proper screws and screw anchors. Then run the Data and Ethernet cables through the hole on the Corner Thin Box.
3. Run the cables through the Standard/Mini Pendent Mount and fasten the Standard/Mini Pendent Mount onto the Corner Thin Box with the supplied screws and washers.
4. Block the cable entry hole with the supplied sponge to prevent insects from entering the Pendent Mount.
5. Attach the Waterproof Rubber to the Standard/Mini Pendent Mount.
6. Run the cables through the Indoor/Outdoor Mount Kit, and join the Indoor/Outdoor Mount Kit to the Standard/Mini Pendent Mount with the supplied screws and washers. Then adjust the Waterproof Rubber to the joint.
7. Connect the cables to the GV-IP Speed Dome.
8. Join the Dome to the Indoor/Outdoor Mount Kit with the supplied M5 screw and washers.

2.4 Pole Mount

There are two pole mounting methods: Pole Thin Direct Mount and Pole Thin Box Mount. The two mounting methods are suitable for both indoor and outdoor installation.

2.4.1 Pole Thin Direct Mount

With the optional **Pole Thin Direct Mount** and **Standard/Mini Pendent Mount**, the GV-IP Speed Dome can be installed on a pole.

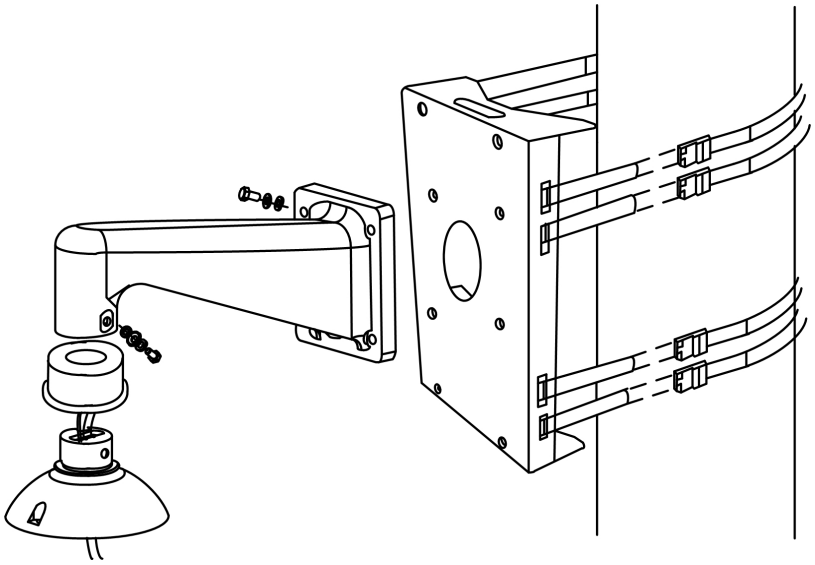


Figure 2-29

Items needed for the Dome of Indoor Type:

- GV-IP Speed Dome (Indoor Type)
- Data Cable (supplied)
- Ethernet Cable
- Indoor Mount Kit (optional)
- Standard/Mini Pendent Mount (optional)
- Pole Thin Direct Mount (optional)
- Waterproof Rubber (supplied with Indoor Mount Kit)
- Stainless Steel Straps (supplied with Pole Thin Direct Mount) for fixing the Pole Thin Direct Mount to the wall

Necessary items for the Dome of Outdoor Type:

- GV-IP Speed Dome (Outdoor Type)
- Outdoor Mount Kit (supplied)
- Data Cable (supplied)
- Ethernet Cable
- Standard/Mini Pendent Mount (optional)
- Pole Thin Direct Mount (optional)
- Waterproof Rubber (supplied)
- M5 Standard/Security Screw (supplied)
- Stainless Steel Straps (supplied with Pole Thin Direct Mount) for fixing the Pole Think Direct Mount to the wall

Follow the steps:

1. Fasten the Pole Thin Direct Mount on a pole with supplied Stainless Straps.
2. Run the Data and Ethernet cables through the hole on the Pole Thin Direct Mount.
3. Run the cables through the Standard/Mini Pendent Mount and fasten the Standard/Mini Pendent Mount onto the Pole Thin Direct Mount with the supplied screws and washers.
4. Block the cable entry hole with the supplied sponge to prevent insects from entering the Pendent Mount. See Figure 2-24.
5. Attach the Waterproof Rubber to the Standard/Mini Pendent Mount.
6. Run the cables through the Indoor/Outdoor Mount Kit and join the Indoor/Outdoor Mount Kit to the Standard/Mini Pendent Mount with the supplied screws and washers. Then adjust the Waterproof Rubber to the joint.
7. Connect the cables to the GV-IP Speed Dome.
8. Join the Dome to the Indoor/Outdoor Mount Kit with the supplied M5 screw and washers.

2.4.2 Pole Thin Box Mount

With the optional **Pole Thin Box Mount** and **Standard/Mini Pendent Mount**, the GV-IP Speed Dome can be installed on a pole.

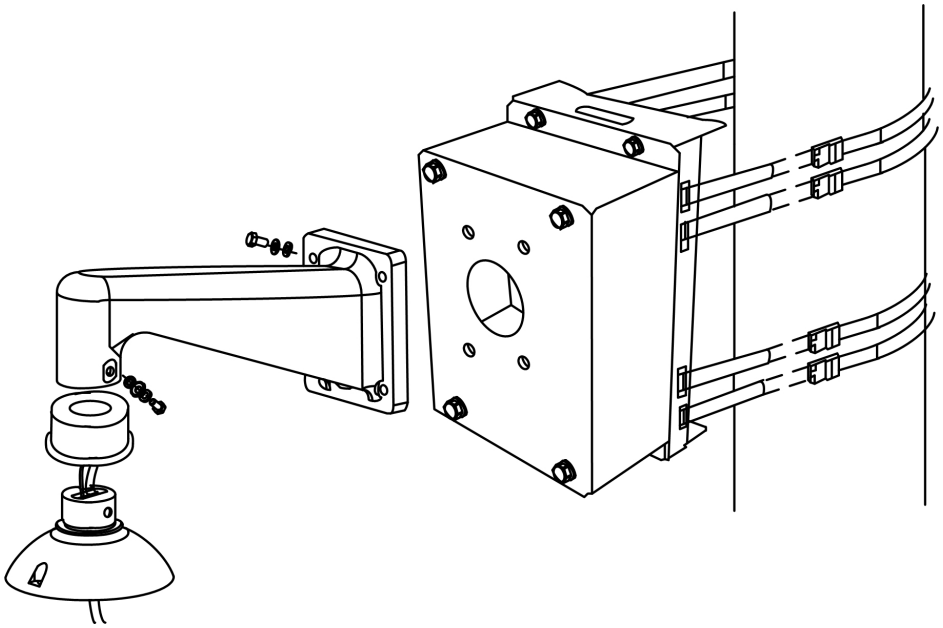


Figure 2-30

Necessary items for the Dome of Indoor Type:

- GV-IP Speed Dome (Indoor Type)
- Data Cable (supplied)
- Ethernet Cable
- Indoor Mount Kit (optional)
- Standard/Mini Pendent Mount (optional)
- Pole Thin Box Mount (optional)
- Waterproof Rubber (supplied with Indoor Mount Kit)
- Stainless Steel Straps (supplied with Pole Thin Box Mount) for fixing the Pole Thin Box Mount to the wall

Necessary items for the Dome of Outdoor Type:

- GV-IP Speed Dome (Indoor Type)
- Data Cable (supplied)
- Ethernet Cable
- Standard/Mini Pendent Mount (optional)
- Pole Thin Box Mount (optional)
- Indoor Mount Kit (supplied)
- Waterproof Rubber (supplied with Indoor Mount Kit)
- Stainless Steel Straps (supplied with Pole Thin Box Mount) for fixing the Pole Thin Box Mount to the wall

Follow the steps:

1. Fasten the Pole Thin Box Mount on a pole with the supplied stainless straps.
2. Run the Data and Ethernet cables through the hole on the Pole Thin Box Mount.
3. Run the cables through the Standard/Mini Pendent Mount and fasten the Standard/Mini Pendent Mount onto the Pole Thin Box Mount with the supplied screws and washers.
4. Block the cable entry hole with the supplied sponge to prevent insects from entering the Pendent Mount. See Figure 2-24.
5. Attach the Waterproof Rubber to the Standard/Mini Pendent Mount.
6. Run the cables through the Indoor/Outdoor Mount Kit and join the Indoor/Outdoor Mount Kit to the Standard/Mini Pendent Mount with the supplied screws and washers. Then adjust the Waterproof Rubber to the joint.
7. Connect the cables to the GV-IP Speed Dome.
8. Join the Dome to the Indoor/Outdoor Mount Kit with the supplied M5 screw and washers.

Chapter 3 Accessing the GV-IP Speed Dome

Two types of users are allowed to log in the GV-IP Speed Dome: Administrator and Guest. The Administrator has unrestricted access to all system configurations, while the Guest only has the access to live images and network status.

3.1 Accessing Your Surveillance Images

Once installed, your GV-IP Speed Dome is accessible on a network. Follow these steps to access your surveillance images:

1. Start the Internet Explorer browser.
2. Enter the IP address or domain name of the GV-IP Speed Dome in the **Location/Address** field of your browser.

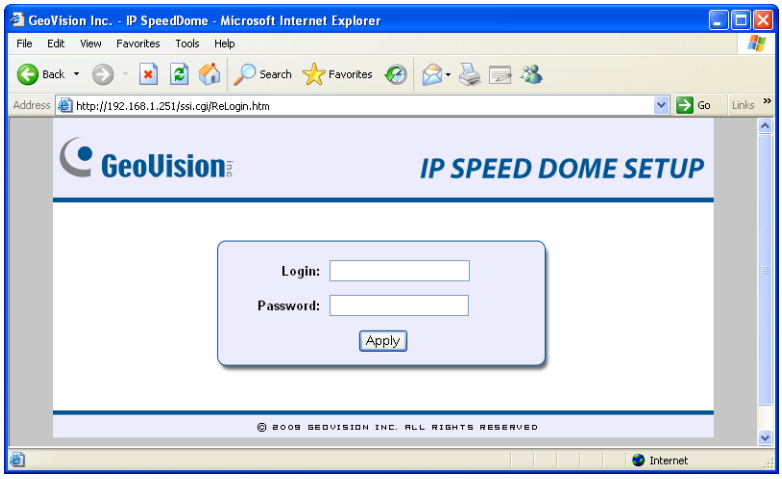


Figure 3-1

3. Enter the login name and password.
   - The default login name and password for Administrator are **admin**.
   - The default login name and password for Guest are **guest**.
4. A video image, similar to the example in Figure 3-2, is now displayed in your browser.

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

3.2 Functions Featured on the Main Page

This section introduces the features of the Live View window and Network Status on the main page. The two features are accessible by both Administrator and Guest.

Main Page of Guest Mode

▼ Video and Motion

▼ Live View

► Camera 1

▼ Network

► Status

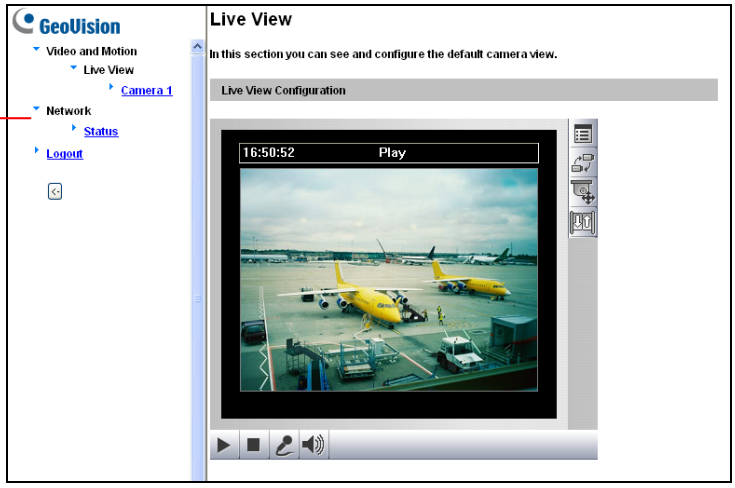


Figure 3-2

3.2.1 The Live View Window

In the left menu, click **Live View**, and then select **Camera 1** to see the live video.

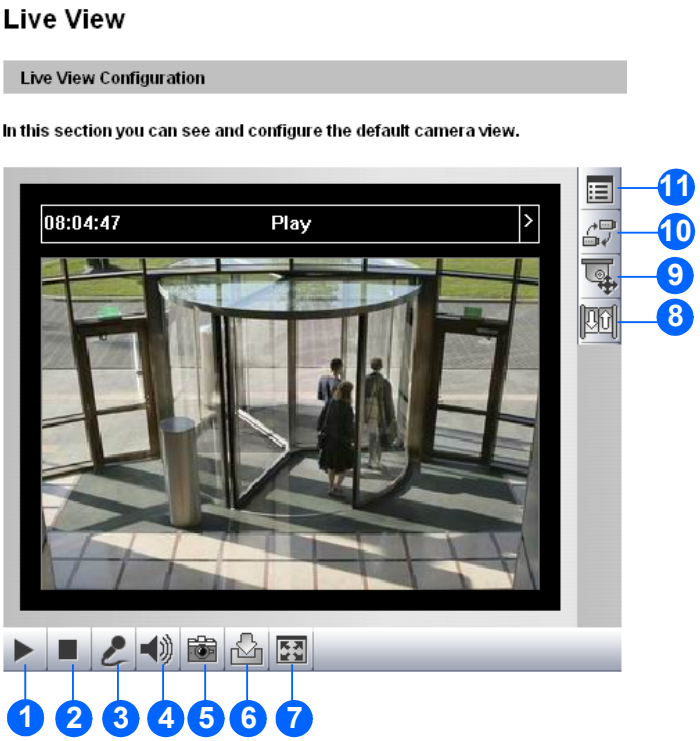


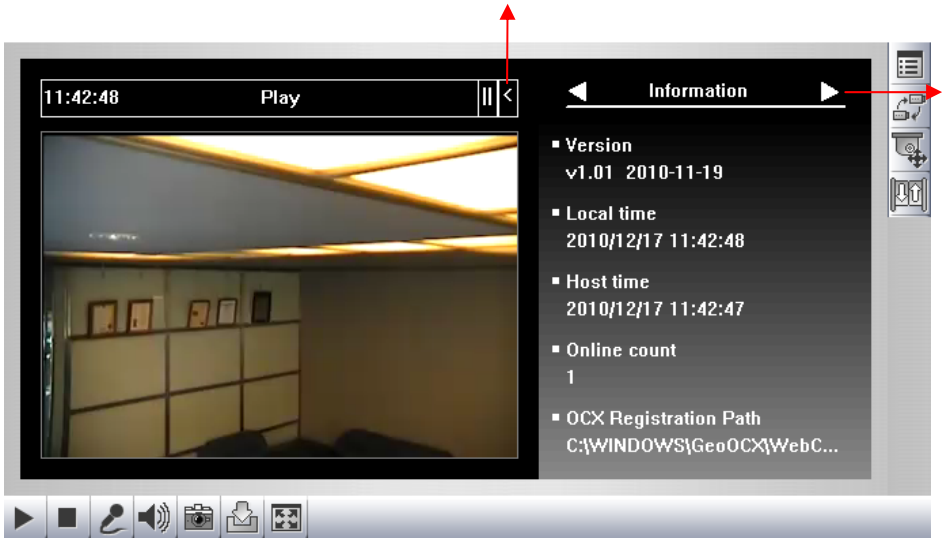
Figure 3-3

No.	Name	Function
1	Play	Plays live video.
2	Stop	Stops playing video.
3	Microphone	Talks to the surveillance area from the local computer.
4	Speaker	Listens to the audio around the camera.
5	Snapshot	Takes a snapshot of live video. --- See *3.2.3 Snapshot of a Live Video*.
6	File Save	Records live video to the local computer. --- See *3.2.4 Video Recording*.
7	Full Screen	Switches to full screen view. Right-click the image to have these options: **Snapshot**, **Full Screen**, **Resolution**, **Zoom In, Zoom Out**, **Wide Angle Lens Dewarping**, **PIP**, **PAP** and **Google Maps**. --- See *3.2.5 Picture-in-Picture and Picture-and-Picture View.*
8	I/O Control	Starts the I/O Control Panel. --- See *3.2.14 I/O Control*.
9	PTZ Control	Starts the PTZ Control Panel and the Visual PTZ. --- See *3.2.12 PTZ Control* and *3.2.13 Visual PTZ*.
10	Change Camera	Sets the desired camera for display.
11	Show System Menu	Brings up these functions: **Alarm Notify**, **Video and Audio Configuration, Remote Config**, **Show Camera Name** and **Image Enhance**. --- See *3.2.7 Alarm Notification*, *3.2.8 Video and Audio Configuration*, *3.2.9 Remote Configuration*, *3.2.10 Camera Name Display* and *3.2.11 Image Enhancement* respectively.

3.2.2 The Control Panel of the Live View Window

To open the control panel of the Live View window, click the arrow button on top of the viewer. You can access the following functions by using the right and left arrow buttons on the control panel.

Click the arrow button to display the control panel.



Click the right and left arrow buttons to change the page of the control panel.

Figure 3-4

Tip: The administrator can also use the latest GV-IP Device Utility and click the camera's IP address to access the live view and adjust camera image settings.

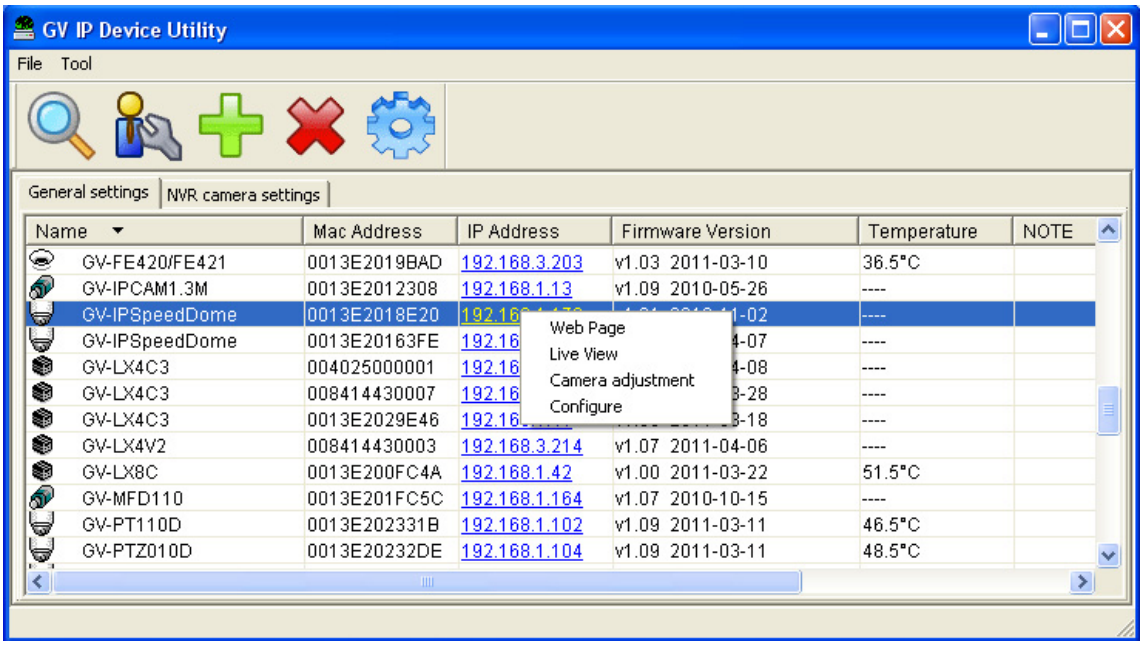


Figure 3-5

[Information] Displays the version of the GV-IP Speed Dome, local time of the local computer, host time of the GV-IP Speed Dome, the number of users logging in to the GV-IP Speed Dome and the OCX registration path.

[Video] Displays the current video codec, resolution and data rate.

[Audio] Displays the audio data rates when the microphone and speaker devices are enabled.

[I/O Control] Provides a real-time graphic display of the input and output status. You can force the output to be triggered by double-clicking its icon.

[Alarm Notify] Displays the captured images by sensor triggers and/or motion detection. For this function to work, you must configure the Alarm Notify settings first. See *3.2.8 Alarm Notification*.

[Camera Adjustment] Allows you to adjust the image quality.

[GPS] Positions the GV-IP Speed Dome on Google maps. For details, see *5.7.2 GPS Maps Settings*.

[Download] Allows you to install programs from the hard drive.

3.2.3 Snapshot of a Live Video

To take a snapshot of live video, follow these steps:

1. Click the **Snapshot** button (No. 5, Figure 3-3). The Save As dialog box appears.
2. Specify **Save in**, type the **File name**, and select **JPEG** or **BMP** for **Save as Type**. You may also choose whether to display the name and date stamps on the image.
3. Click the **Save** button to save the image in the local computer.

Note: You can also obtain a snapshot of the live view without logging in the user interface by executing the CGI command. See *Appendix A*.

3.2.4 Video Recording

You can record live video for a certain period of time to your local computer.

1. Click the **File Save** button (No. 6, Figure 3-3). The Save As dialog box appears.
2. Specify **Save in**, type the **File name**, and move the **Time Period** scroll bar to specify the time length of the video clip from 1 to 5 minutes.
3. Click the **Save** button to start recording.
4. To stop recording, click the **Stop** button (No. 2, Figure 3-3).

3.2.5 Wide Angle Dewarping

The live view can be curved especially near the corners. Use this function to correct the warping of live view.

1. Right-click the live view to display a drop-down list.
2. Select **Wide Angle Dewarping** and **Configure**. The Wide Angle Dewarping Setting window appears.

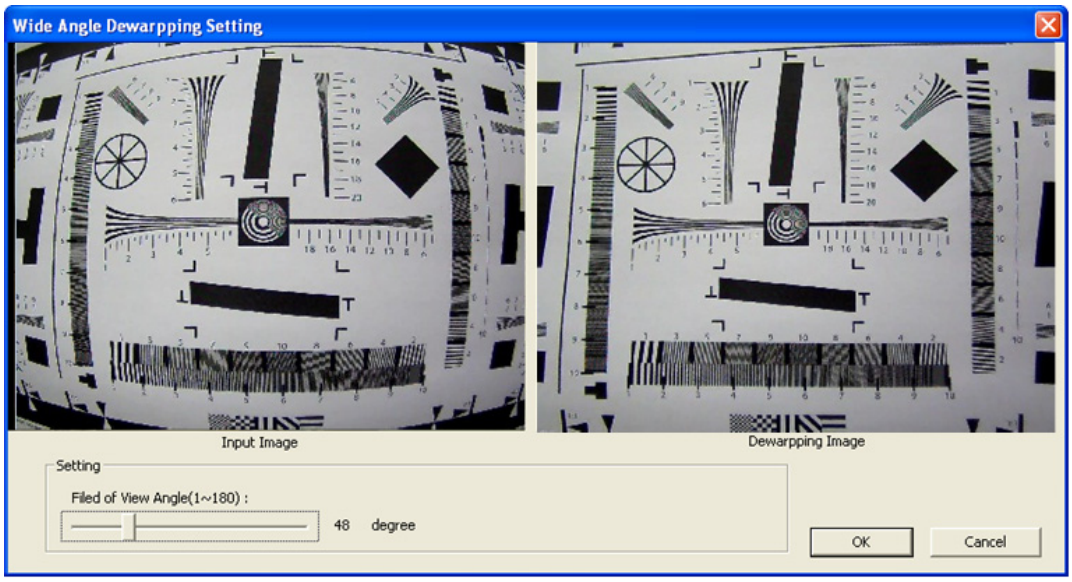


Figure 3-6

3. Move the slider at the bottom to correct the degree of warping. The adjusted view is shown on the right. Click **OK** to close this window.
4. To enable this configuration, right-click on the live view, select **Wide Angle Dewarping** and **Enable**.

3.2.6 Picture-in-Picture and Picture-and-Picture View

The full screen mode provides two types of close-up views: **Picture-in-Picture (PIP)** and **Picture-and Picture (PAP)**. The two views are useful to provide clear and detailed images of the surveillance area.

Picture-in-Picture View

With the Picture-in-Picture (PIP) view, you can crop the video to get a close-up view or zoom in on the video.

Figure 3-7

1. Right-click the live view and select PIP. An inset window appears.
2. Click the insert window. A navigation box appears.
3. Move the navigation box around in the inset window to have a close-up view of the selected area.
4. To adjust the navigation box size, move the cursor to any of the box corners, and enlarge or diminish the box.
5. To exit the PIP view, right-click the image and click **PIP** again.

Picture-and-Picture View

With the Picture-and-Picture (PAP) view, you can create a split video effect with multiple close-up views on the image. A total of 7 close-up views can be defined.

Figure 3-8

1. Right-click the live view and select PAP. A row of three inset windows appears at the bottom.
2. Draw a navigation box on the image, and this selected area is immediately reflected in one inset window. Up to seven navigation boxes can be drawn on the image.
3. To adjust a navigation box size, move the cursor to any of the box corners, and enlarge or diminish the box.
4. To move a navigation box to another area on the image, drag it to that area.
5. To add more navigation box, to display or hide the drawn navigation box(es) or to change the frame color of the navigation box, select **Mega Pixel Setting** and click one of these options:
   - **Enable Add-Focus-Area Mode**: Allows the user to add navigation boxes to the image.
   - **Display Focus Area of PAP Mode:** Displays or hides the navigation boxes on the image
   - **Set Color of Focus Area:** Changes the color of the box frames.
6. To delete a navigation box, right-click the desired box, select **Focus Area of PAP Mode** and click **Delete**.
7. To exit the PAP view, right-click the image and click **PAP** again.

3.2.7 Alarm Notification

After input triggers and motion detection, you can be alerted by a pop-up live video and view up to four captured images.

Figure 3-9

To configure this function, click the **Show System Menu** button (No. 11, Figure 3-3), and select **Alarm Notify**. This dialog box appears.

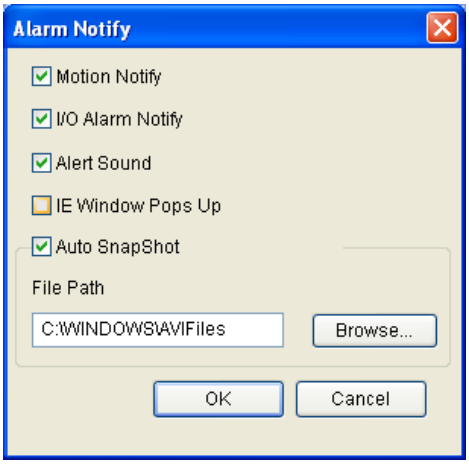


Figure 3-10

- **Motion Notify:** Once motion is detected, the captured images are displayed on the control panel of the Live View window.
- **I/O Alarm Notify:** Once the input device is triggered, the captured images are displayed on the control panel of the Live View window. For this function to work, the Administrator needs to install the input device properly. See *5.2.1 Input/Output Settings*.
- **Alert Sound:** Activates the computer alarm on motion and input-triggered detection.
- **IE Window Pops up:** The minimized Live View window pops up on motion and input-triggered detection.
- **Auto Snapshot:** The snapshot of live video is taken every 5 seconds on motion and input-triggered detection.
- **File Path:** Assigns a file path to save the snapshots.

3.2.8 Video and Audio Configuration

You can enable the microphone and speaker for two-way audio communication and adjust the audio volume. To change audio configuration, click the **Show System Menu** button (No. 11, Figure 3-3), and select **Video and Audio Configuration**.

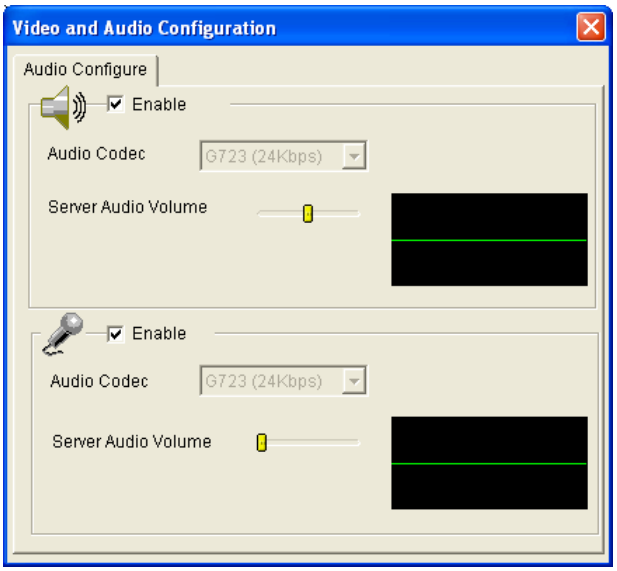


Figure 3-11

3.2.9 Remote Configuration

You can upgrade the device firmware over the networkt. Click the **Show System Menu** button (No. 11, Figure 3-3), and select **Remote Config**. The Remote Config dialog box will appear.

[Firmware Upgrade] In this tab, you can upgrade the firmware over the network. For details, see *Chapter 6 Advanced Applications*.

3.2.10 Camera Name Display

To display the camera name on the image, click the **Show System Menu** button (No. 11, Figure 3-3), and select **Show Camera Name**.

3.2.11 Image Enhancement

To enhance the image quality of live video, click the **Show System Menu** button (No. 11, Figure 3-3), and select **Image Enhance**. This dialog box appears.

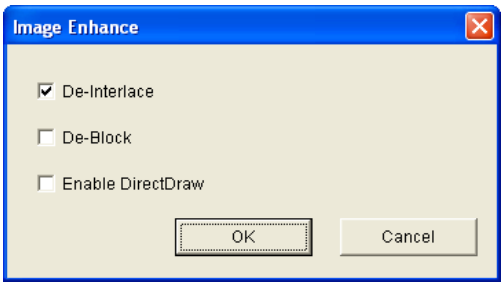


Figure 3-12

- **De-Interlace:** Coverts the interlaced video into non-interlaced video.
- **De-Block:** Removes the block-like artifacts from low-quality and highly compressed video.
- **Enable DirectDraw:** Activates the DirectDraw function.

3.2.12 PTZ Control

To open the PTZ Control Panel, click the **PTZ Control** button (No. 9, Figure 3-3) and select **PTZ Control Panel**.

With the control panel, the Guest can carry out Pan, Tilt, Zoom, Focus and Iris functions as well as pre-defined movements. Meanwhile the Administrator can use the control panel to set presets, cruise routes, auto pan modes and define other PTZ settings. For details see *Chapter 4 PTZ Control Panel.*

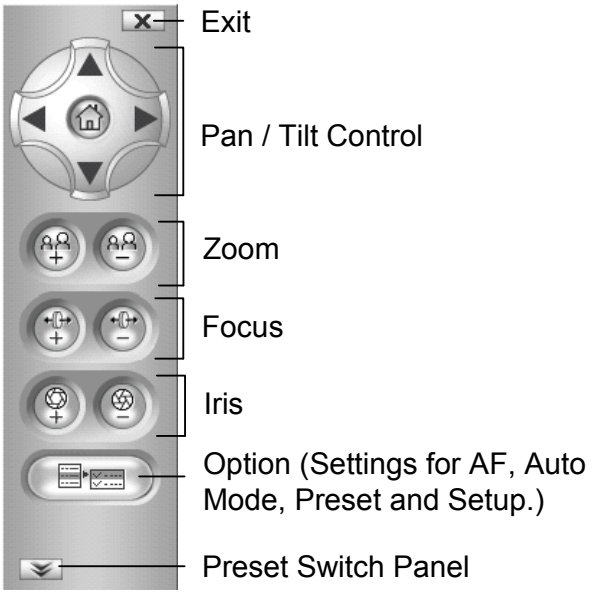


Figure 3-13

3.2.13 Visual PTZ

In additional to the PTZ Control Panel, you can display a visual PTZ Control Panel on the image.

Figure 3-14

- To access this feature, click the **PTZ Control** button (No. 9, Figure 3-3) and select **Visual PTZ**.
- To change the panel settings, click the green **PTZ** button on the top left corner. You will have these options:

  [PTZ Control Type]

  - **Type 1:** In this mode when you place the mouse arrow on the four directions, i.e. north, south, east, west, the speed indicator of five levels will appear. Click and hold on the required level of movement and the camera will move as per the specific speed.
  - **Type 2:** In this mode with the mouse click, the PTZ control panel will appear. The movement of the camera will depend on the speed of the mouse movement.

  [Configure]

  - **Set Color:** Changes the color of the panel. Three kinds of colors are available: **Red**, **Green** and **Blue**.
  - **Transparent Degree:** Adjusts the transparency level of the panel. Ten levels range from 10% (fully transparent) to 100% (fully opaque).

3.2.14 I/O Control

The I/O Control window provides real-time graphic displays of camera and I/O status, and alarm events. Additionally, you can force output to be triggered.

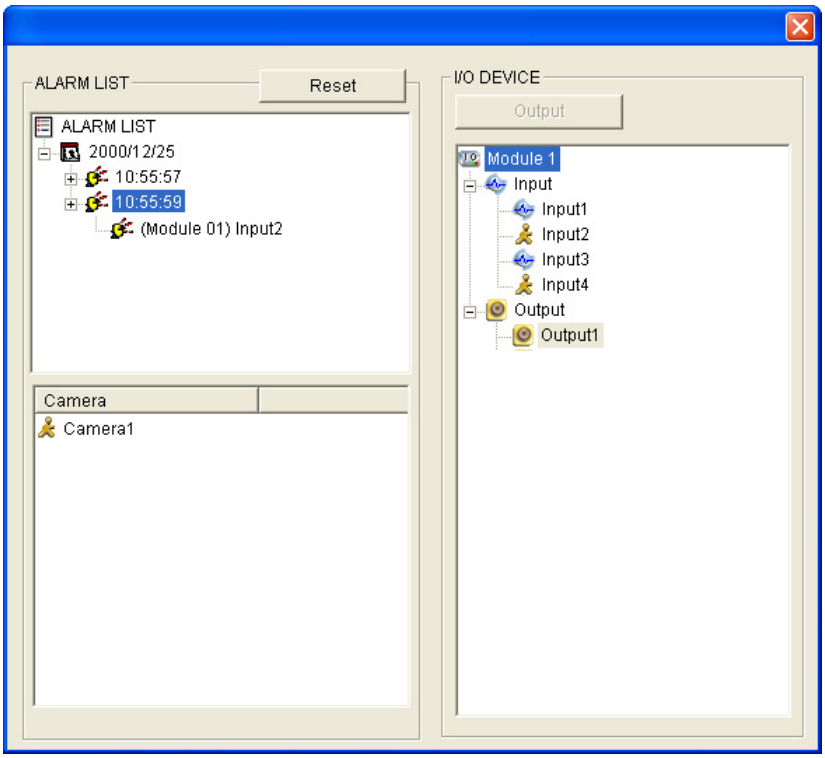


Figure 3-15

- To display the I/O control window, click the **I/O Control** button (No. 8, Figure 3-3).
- The Alarm List is displayed in three levels. The first level indicates date, the second indicates time, and the third indicates alarm ID. Clicking the **Reset** button will clear the list.
- To trigger an output device, highlight an output and then click the **Output** button.

3.2.15 Network Status

To view the network status, in the left menu, click **Network** and select **Status**.

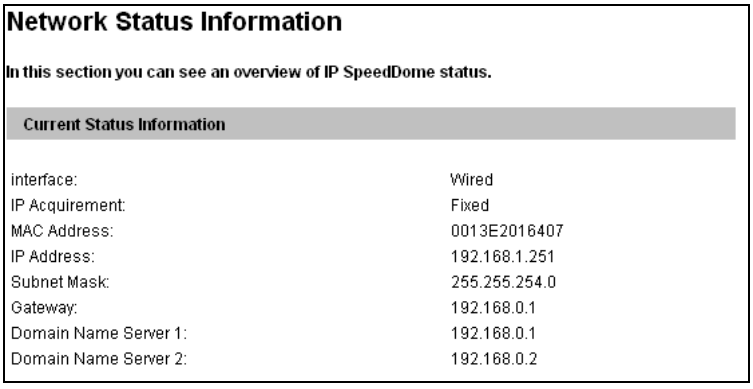


Figure 3-16

Chapter 4 PTZ Control Panel

The PTZ Control Panel allows users to operate the focus, zoom and iris functions. Furthermore, the Administrator can use the PTZ Control Panel to adjust the image settings and plan dome movements, such as preset, cruise, auto pan and sequence.

Calling Up the PTZ Control Panel:

Click the **PTZ Control** button (No. 9, Figure 3-3) on the Live View window and select **PTZ Control Panel**. The PTZ Control Panel will appear.

The figure below illustrates the functions included in the **Option** button of the PTZ Control Panel. The **Auto** option includes the controls of cruise, sequence and auto pan. The **Setup** option allows the Administrator to adjust the Dome's parameters.

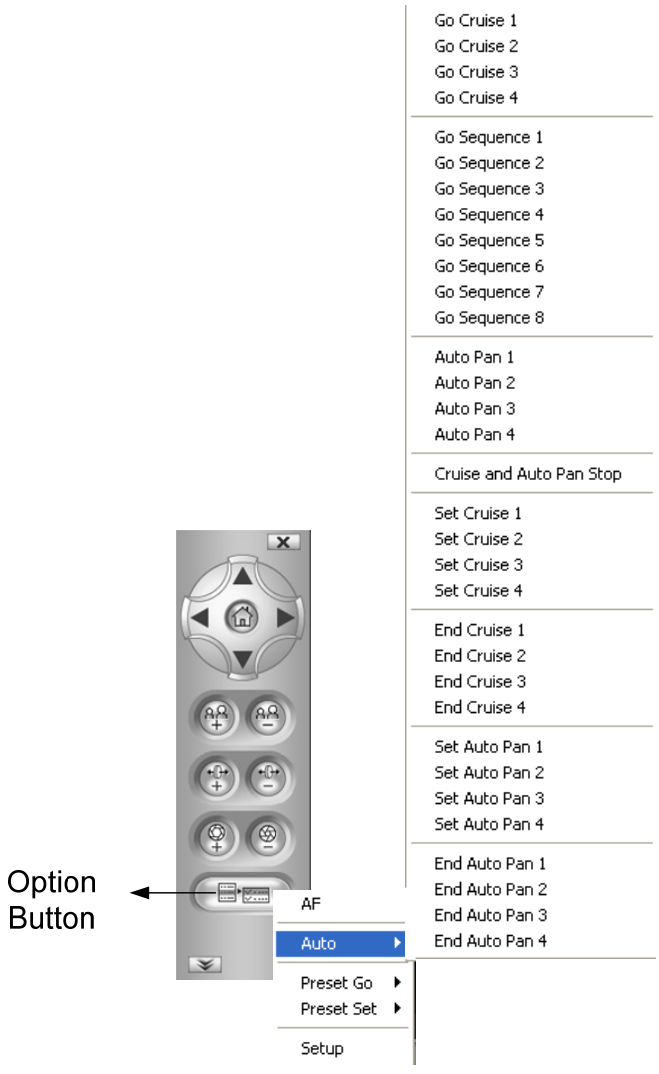


Figure 4-1

Accessing the PTZ Settings Dialog Box:

1. Click **Option** (Figure 4-1) on the PTZ Control Panel and select **Setup**. The PTZ Settings dialog box appears.

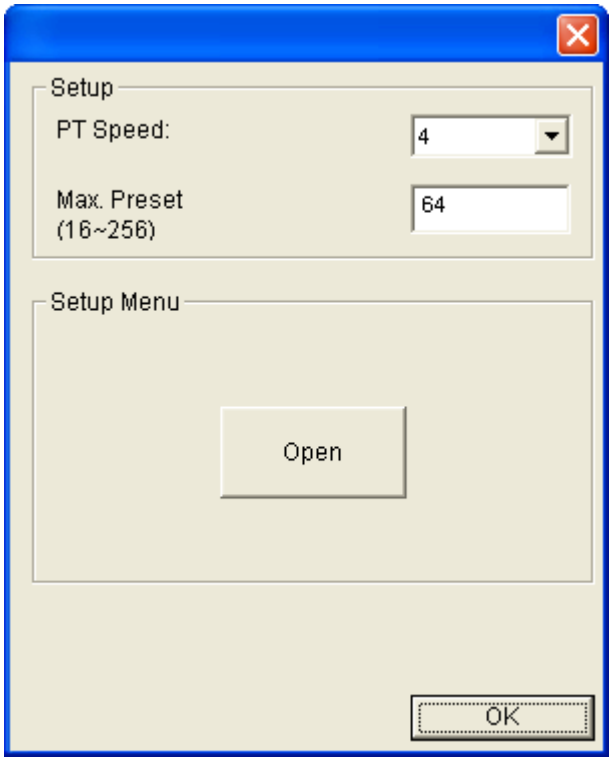


Figure 4-2

2. The **PT Speed** determines the speed at which PTZ will turn from left to right and tilt up and down. The drop-down list contains 5 speed settings: 1 is the slowest speed and 5 the fastest speed.
3. The **Max Preset** value determines the number of Preset points allowed to be configured and accessed. The maximum number of Preset points can be set from 16 to 256 points.
4. Click **OK** to save and exit the setup.

4.1 Preset Settings

Up to 256 presets can be set up.

Setting Up a Preset

1. To set up a preset position, use the direction keys on the PTZ Control Panel to move the Dome to a desired position in Live View.
2. To save the preset position, click **Option** (Figure 4-1) on the PTZ Control Panel, click **Preset Set**, and select the desired preset number.
3. To create more preset positions, repeat Steps 1 and 2, and select a different preset number.

Using a Preset

To move the GV-IP Speed Dome to a defined preset position, click **Option** (Figure 4-1) on the PTZ Control Panel, click **Preset Go**, and select a **Preset** number which has been previously set.

4.2 Cruise Settings

You can set a route which is made up of different directions, angles, and zooms for the GV-IP Speed Dome to follow. Up to 4 Cruises can be created.

Setting Up a Cruise Route

1. Click **Option** (Figure 4-1) on the PTZ Control Panel, click **Auto** and select **Set Cruise 1**.
2. Use direction keys and zoom in / out keys to set the desired route path and zoom.
3. When you are finished with setting up a Cruise 1 route, click **Option** (Figure 4-1), click **Auto** and select **End Cruise 1**.
4. To set up another Cruise route, repeat Steps 1 to 3, and select a different Cruise number.

Starting and Stopping a Cruise Route

To start the GV-IP Speed Dome on a defined Cruise route, click **Option** (Figure 4-1) on the PTZ Control Panel, click **Auto** and select a **Go Cruise** number which has been previously set.

To stop a Cruise route in action, click on a direction key, home key, zoom button or focus button on the PTZ Control Panel.

4.3 Auto Pan Mode Settings

You can set the GV-IP Speed Dome to stay on a panning mode to survey the horizontal view. Up to 4 Auto Pan modes can be created.

Setting Up an Auto Pan Mode

1. Set the Dome up and down direction first. The height position of the Dome view has to be set first because the height direction moved after setting the Auto Pan number will do nothing.
2. Select the panning direction from left to right or vice versa. The default value is from left to right. Click **Option** (Figure 4-1) on the PTZ Control Panel, select **Setup**, click **Open**, and select **Advanced** located under PTZ Setting on the left menu to select the panning direction. See “Auto Pan” in *4.5 PTZ Setting- Advanced*.
3. Click **Option** (Figure 4-1) on the PTZ Control Panel, click **Auto** and select **Set Auto Pan 1**.
4. Use left and right direction keys to set the start and end points of the panning mode.
5. When you finish the setting, click **Option** (Figure 4-1), click **Auto** and select **End Auto Pan 1**.
6. To create another Auto Pan mode, repeat Steps 1 to 3, and select a different Auto Pan number.

Starting and Stopping an Auto Pan Mode

To start the GV-IP Speed Dome on an Auto Pan mode, click **Option** (Figure 4-1) on the PTZ Control Panel, click **Auto** and select an **Auto Pan** number which has been previously set.

To stop an Auto Pan mode in action, click on a direction key, home key, zoom button or focus button on the PTZ Control Panel.

4.4 PTZ Setting- Sequence Settings

To automatically move the Dome based on a predefined route, create a Sequence by linking up a number of presets points. Up to 8 Sequences can be created. A minimum of 2 preset points must be selected for a Sequence route to work.

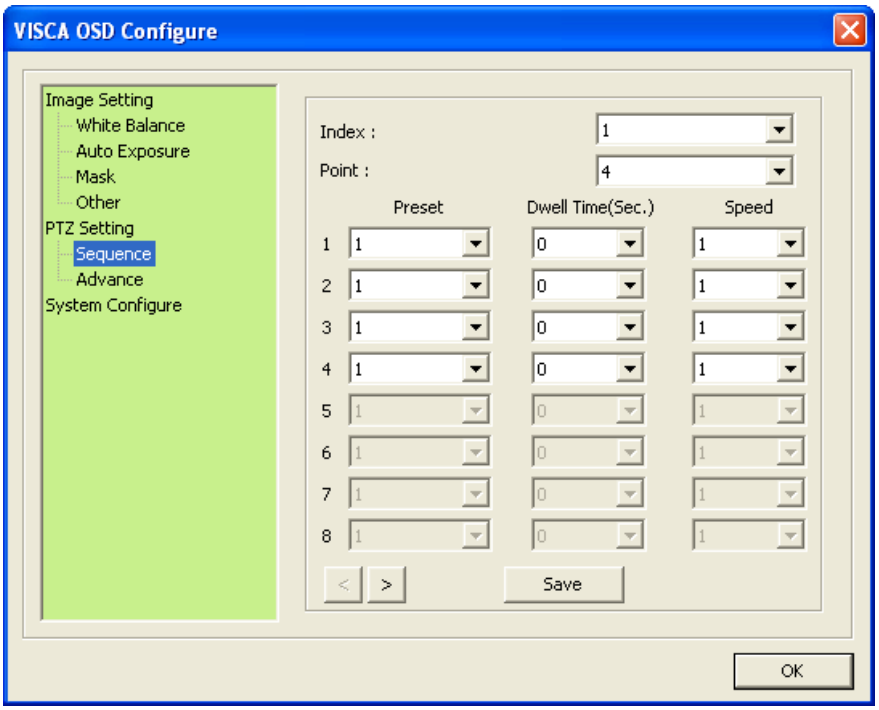


Figure 4-3

Setting Up a Sequence Route

1. Follow the steps in *Accessing the PTZ Settings Dialog Box* above and click **Open** to display the **VISCA OSD Configure** dialog box, click **Sequence** located under **PTZ Setting** on the left menu.
2. Use the **Index** drop-down list to select the Sequence group number to be configured. Up to 8 Indexes (Sequence groups) can be created.
3. One Sequence group can include up to 32 Preset Points. Use the **Point** drop-down list to select the number of Preset Points allowed in this Sequence group.
4. Use the **Preset** drop-down list to select the Presets for this Sequence group.
5. Use the **Dwell Time** drop-down list to set the duration time for the Dome to stay at this Preset. The duration time ranges from 0 to 127 seconds.
6. Use the **Speed** drop-down list to set the speed at which the Dome travels from one Preset to another.
7. To create another Sequence group, repeat Steps 1 to 6, and select a different Index number.
8. Click **Save** to complete the settings.

Starting and Stopping a Sequence Route

To start the GV-IP Speed Dome on a Sequence route, click **Option** (Figure 4-1) on the PTZ Control Panel, click **Auto** and select a **Go Sequence** number which has been previously set.

To stop a Sequence route in action, click on a direction key, home key, zoom button or focus button on the PTZ Control Panel.

4.5 PTZ Setting- Advanced

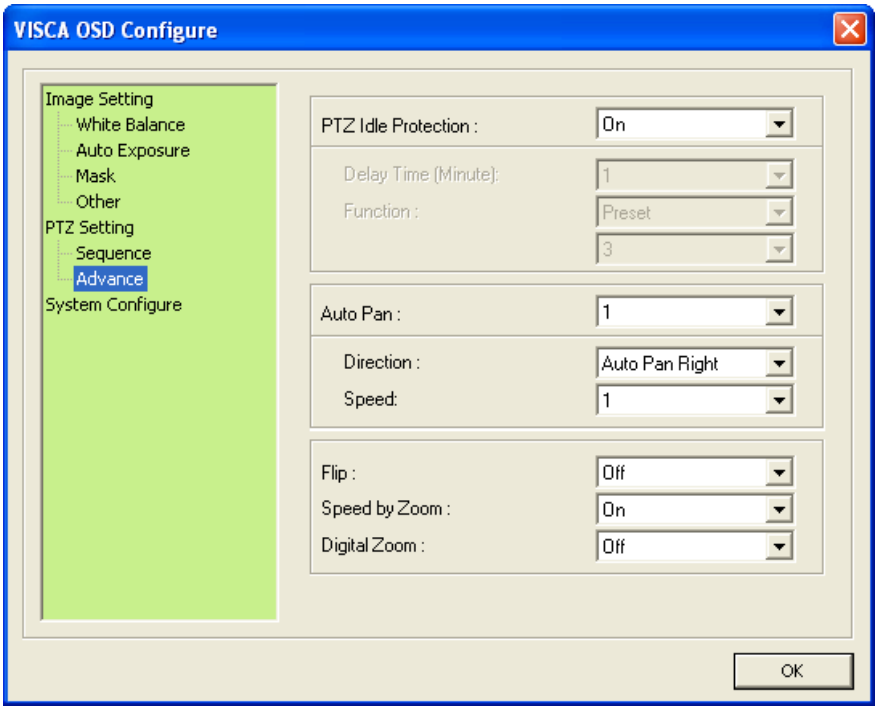


Figure 4-4

- **PTZ Idle Protection:** When the Dome idles for a period of time, users can select a function mode to ensure constant monitoring. After the idle time, the selected function mode will be automatically activated. To configure and enable this function, follow these steps:

  1. Use the **PTZ Idle Protection** drop-down list to select **Setup**.
  2. Use the **Delay Time (Minute)** drop-down list to select the time length allowed for the Dome to remain stationary. The time length can be set from 1 to 128 minutes.
  3. Use the **Function** drop-down list to select the desired function mode. The modes include:

     ⊙ **Preset:** When the Delay Time is up, the Dome will automatically move to the chosen Preset point. To configure a Preset, see *4.1 Preset Settings*.

- ⊙ **Sequence:** When the Delay Time is up, the Dome will automatically perform the selected Sequence number. To configure a Sequence, see *4.4 PTZ Settings-Sequence Settings*.
- ⊙ **Auto Pan:** When the Delay Time is up, the Dome will automatically perform the selected Auto Pan number. To configure an Auto Pan, see *4.3 Auto Pan Mode* Settings.
- ⊙ **Cruise:** When the Delay Time is up, the Dome will automatically perform the selected Cruise number. To configure a Cruise, see *4.2 Cruise Settings.*

4. Use the **PTZ Idle Protection** drop-down list to select **On** to enable this function. If you want the Dome to adopt the selected function mode immediately, select **Go Now**.

- **Auto Pan:** An Auto Pan moves between points at 180 degrees. The panning direction can be of choice.
  - ⊙ **Direction:** Select the panning direction from right to left or vice versa.
  - ⊙ **Speed:** Select the panning speed. The greater value indicates faster speed.
- **Flip:** With the options of Mechanic Flip and Image, the Dome can tilt to continuously track an object even when it passes under the Dome.
  - ⊙ **Mechanic Flip:** As the Dome tilts to the maximum angle, it will pan 180 degrees and continue tilting to track objects.
  - ⊙ **Image:** Image represents digital flip. Users can keep tracking objects seamlessly without delay with software control. Under the mode, almost no delay occurs in comparing with that under the Mechanic Flip mode.
    Note the Mask function will be automatically disabled if this option is selected.
- **Speed by Zoom:** If this option is set to be **ON**, the pan/tilt speed will be automatically adjusted by internal algorithm when zooming. The larger zoom ratio leads to the lower rotating speed.
- **Digital Zoom:** With this option, users can enable or disable the 12x Digital Zoom. The Digital Zoom will be activated after the Optical Zoom level is fully reached.

Note: The difference between optical and digital zoom is that optical zoom uses the lens within the camera to draw the image closer to achieve the desired effect. Optical zoom remains the same quality and full resolution of the zoomed image. On the other hand, digital zoom takes a portion of an image and expands the partial image to the full size of the original image; therefore, the image quality will be reduced.

4.6 Image Setting- White Balance

The White Balance control offers different options to adjust the color ratios. On the models GV-SD010-18X, GV-SD010-36X, GV-SD010-S18X and GV-SD010-S36X, all of the following options are available. On the models GV-SD010-23X and GV-SD010-S23X, only **Auto** and **Manual** are available.

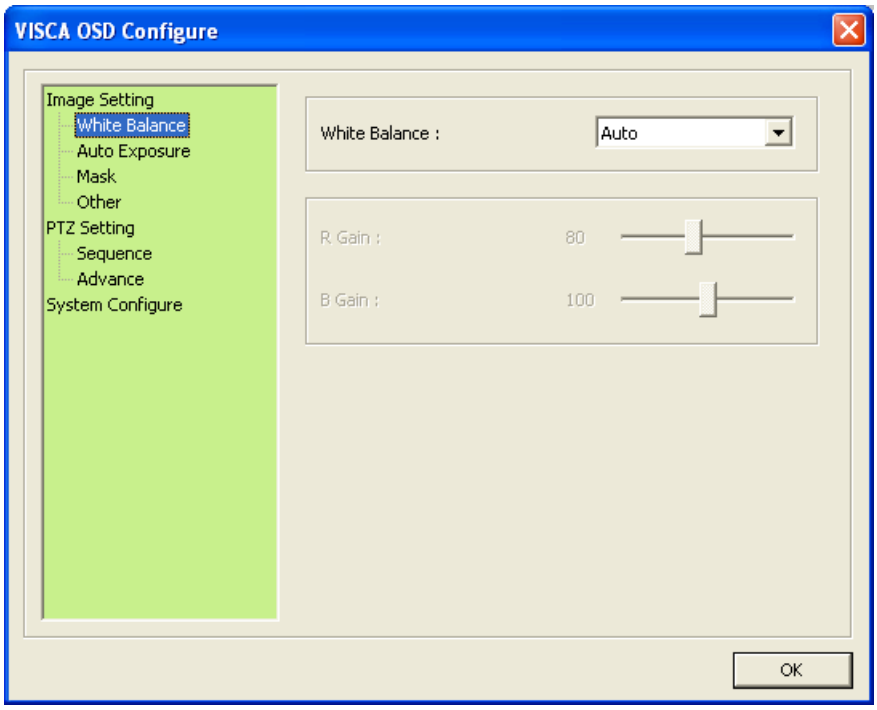


Figure 4-5

- **Auto:** The Dome automatically adjusts the color to be closest to the image you are viewing.
- **Indoor:** The preset White Balance value for indoor lighting.
- **Outdoor:** The preset White Balance value for outdoor lighting.
- **ATW:** ATW (Auto Tracing White Balance) allows the Dome to constantly adjust for optimal color reproduction.
- **Manual:** The White Balance values can be manually changed by moving the sliders to adjust **R Gain** (red color of images) and **B Gain** (blue color of images) values.

4.7 Image Setting- Auto Exposure

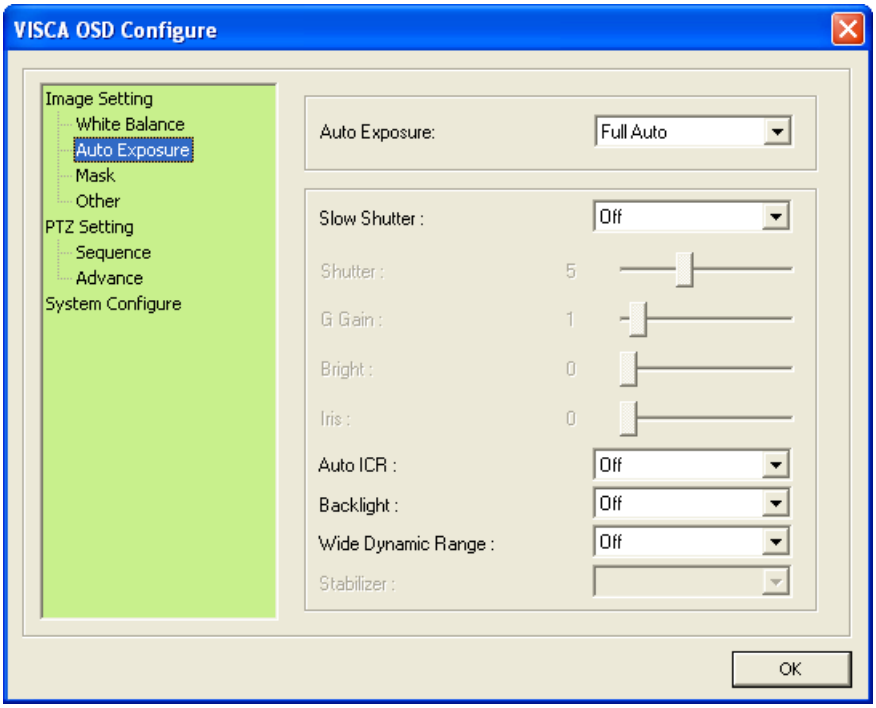


Figure 4-6

- **Auto Exposure:** Defines how Auto Exposure works.

  On the models GV-SD010-18X, GV-SD010-36X, GV-SD010-S18X and GV-SD010-S36X, you have options of Full Auto, Manual, Shutter Priority, Iris Priority and Bright Priority.
  On the models GV-SD010-23X and GV-SD010-S23X, you have options of Full Auto, AGC Priority, Shutter Priority and Iris Priority.

The options included in Auto Exposure:

⊙ **Full Auto:** All exposure controls work together automatically. You can also freely adjust Slow Shutter, Auto ICR, Backlight and Wide Dynamic Range settings.

⊙ **Manual:** Users can adjust Slow Shutter, Shutter, G Gain and Iris values.

- This option is only available on the models GV-SD010-18X, GV-SD010-36X, GV-SD010-S18X and GV-SD010-S36X.

⊙ **AGC Priority:** The AGC takes main control of exposure, and both Shutter and Iris function automatically with AGC. You can freely adjust G Gain and Backlight settings.

- This option is only available on the models GV-SD010-23X and GV-SD101-S23X.

⊙ **Shutter Priority: The shutter speed takes main control of exposure, and both IRIS and AGC function automatically with shutter speed.**

- On the models GV-SD010-18X, GV-SD010-36X, GV-SD010-S18X and GV-SD010-S36X, you can freely adjust Slow Shutter and Shutter settings.
- On the models GV-SD010-23X and GV-SD010-S23X, you can freely adjust Shutter and Backlight settings.

⊙ **Iris Priority:** The Iris takes main control of exposure, and both AGC and Shutter function automatically with Iris.

- On the models GV-SD010-18X, GV-SD010-36X, GV-SD010-S18X and GV-SD010-S36X, you can freely adjust Iris and Slow Shutter settings.
- On the models GV-SD010-23X and GV-SD010-S23X, you can also freely adjust Iris and Backlight settings.

⊙ **Bright Priority:** The brightness control adjusts Iris and AGC using an internal algorithm. Brightness is controlled by Gain when the light condition is dark and by Iris when the light condition is bright.

- On the models GV-SD010-18X, GV-SD010-36X, GV-SD010-S18X and GV-SD010-S36X, you can freely adjust Slow Shutter and Bright settings.
- On the models GV-SD010-23X and GV-SD010-S23X, the Bright Priority is unavailable.

■ **Slow Shutter:** The shutter speed determines how long the image sensor is exposed to light. To see clear images in low light conditions, such as at night, enable this option by selecting **Auto** for slow shutter speed.

- On the models GV-SD010-23X and GV-SD010-S23X, this option is only available when Full Auto is selected for Auto Exposure.

■ **Shutter:** The option adjusts the shutter speed. This option is available when Manual or Shutter Priority is selected for Auto Exposure. The higher the value the slower the shutter speed. For details see *Appendix B Shutter Speed*.

■ **G Gain:** The option adjusts the red color of images. This option is available when Manual or AGC Priority is selected for Auto Exposure.

■ **Bright:** The option adjusts the brightness of images. This option is available when Bright Priority is selected for Auto Exposure.

■ **Iris:** The option adjusts the iris level. This option is available when Manual or Iris Priority is selected for Auto Exposure.

■ **Auto ICR:** ICR (IR Cut Filter Removal) is used to remove blocking of transmission of the infrared light. Select this option to automatically turn ICR on or off. You can also manually adjust ICR (see *4.9 Image Setting-Other*). This option is only available when Full Auto is selected for Auto Exposure.

■ **Backlight:** This option prevents the center object from being too dark in surroundings where excessive light is behind the object.

- On the models GV-SD010-18X, GV-SD010-36X, GV-SD010-S18X and GV-SD010-S36X, this option is only available when Full Auto is selected for Auto Exposure.

- **Wide Dynamic Range (WDR):** This option can simultaneously capture images in both bright and dark areas. This option is only available when Full Auto is selected for Auto Exposure.

Note: Only on the models GV-SD010-23X and GV-SD010-S23X, the Backlight will be turned off automatically when WDR is enabled because WDR has better effects than Backlight compensation.

4.8 Image Setting- Mask

To block out sensitive areas from view, use Masks to cover these areas. Depending on the model you purchase, up to 8 or 24 masks can be created. The mask will stay at the position where it is created and will not follow the Dome view around. The mask size will stay relative to the zoom, so the mask size increases when zoomed in and decreases when zoomed out. For example, a mask is set in the middle of the camera view, and then the Dome pans to the left. As the Dome pans to the left, the mask will gradually move to the right and out of view. When the Dome moves from left back to the right side, the mask will gradually appear back into view.

Note:

1. It is highly recommended to set the mask area at least twice bigger (in height and width) than the object that you want to cover it with a protective mask.
2. When the Mask is enabled, the Picture Flip is automatically disabled. For Picture Flip, see *4.9 Image Setting-Other*.

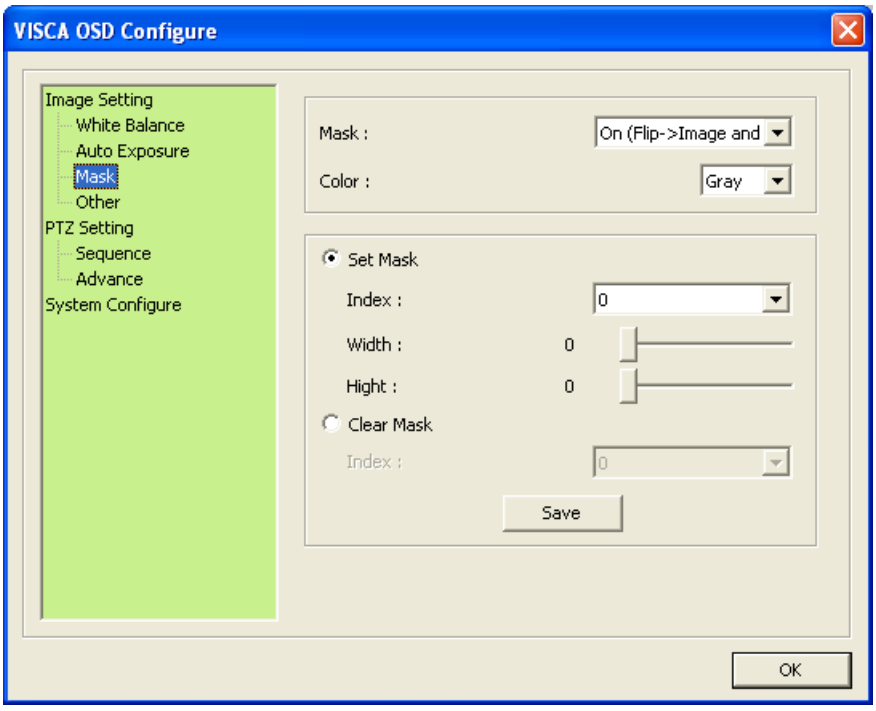


Figure 4-7

1. Use the **Mask** drop-down list to select **On**.
2. Set the color of the Mask. The available color choices vary from model to model.
3. Select **Set Mask**.
4. Use the **Index** drop-down list to number the Mask.
5. Use the sliders to set the **Width** and **Height** of the Mask, and click **Save**. The mask then appears in the center of the camera view.
6. To create another Mask, exit to the Live View window (Figure 3-2) and move the Dome to another desired view. Then repeat Steps 1 to 5 and select a different Index number.
7. To delete a Mask, select **Clear Mask**, use the **Index** drop-down list to select the desired Mask number, and then click **Save**.

4.9 Image Setting- Other

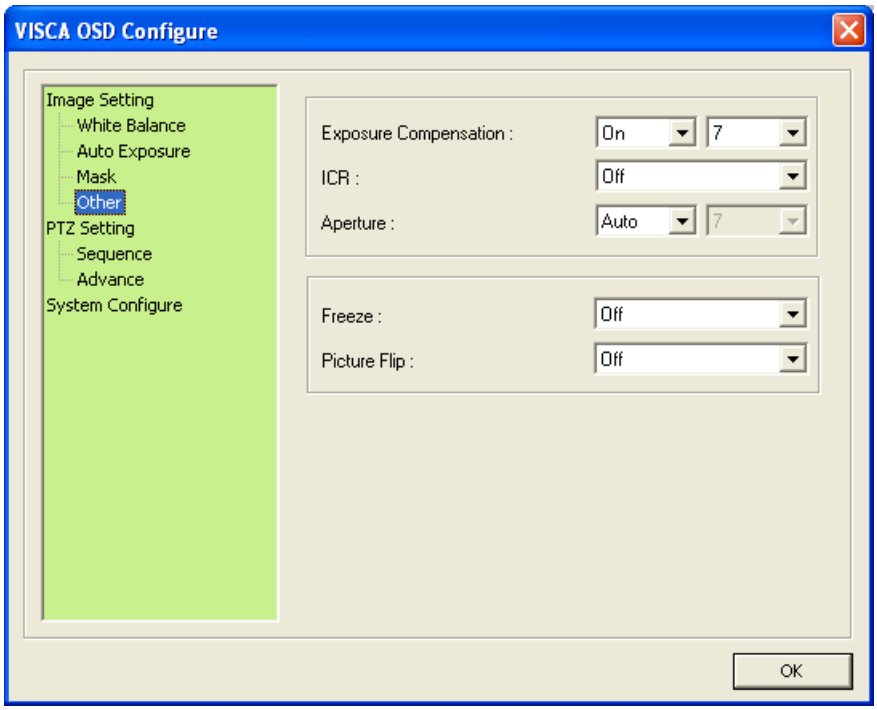


Figure 4-8

- **Exposure Compensation:** Adjust the brightness for auto exposure. The selectable values are from 0 to 7.
- **ICR:** Turn **IR Cut Filter Removal** on or off. To automatically adjust ICR, see *4.7 Image Setting-Auto Exposure*.
- **Aperture:** Adjust the enhancement of object edges.
  - On the models GV-SD010-18X, GV-SD010-36X, GV-SD010-S18X and GV-SD010-S36X, you can manually adjust the level from 0 to 15.
  - On the models GV-SD010-23X and GV-SD010-S23X, you can select either **Auto** mode or **Manual** mode. Under the Manual mode, the adjustable levels range from 0 to 15.
- **Freeze:** Skip showing camera images while traveling from one preset to another.
- **Picture Flip:** Rotate the image 180 degrees. The function is automatically disabled when the Mask is enabled (see *4.8 Image Setting-Mask*).

4.10 System Configuration

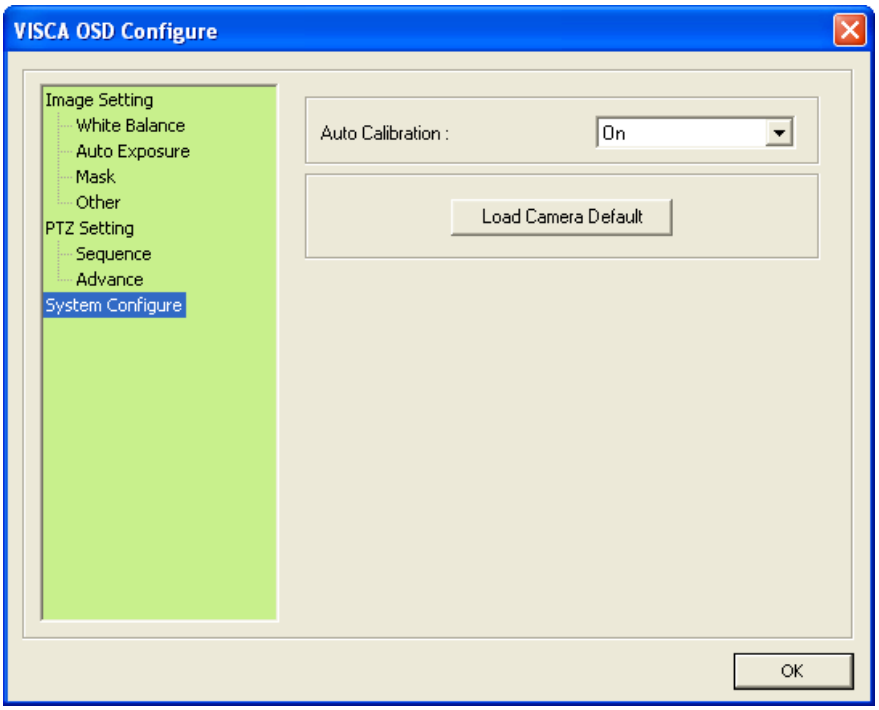


Figure 4-9

- **Auto Calibration:** There are one horizontal point and one vertical infrared rays check point in the GV-IP Speed Dome. During installation or maintenance, the Dome's position may be moved. Therefore, the relative distance between the original set point and the check point will be changed. If Auto Calibration is enabled, the Dome will automatically detect the matter and reset the horizontal point back to the original position.
- **Load Camera Default:** Click the button to restore all PTZ settings to the factory default values. You can also use the Communication Switch on the Dome to restore default PTZ values (see *1.5 Communication Switch*).

Chapter 5 Configuration Menu

The Administrator can configure the GV-IP Speed Dome over the network. The configuration includes these categories: **Video and Motion**, **Digital I/O and PTZ**, **Events and Alerts**, **Monitoring**, **Recording Schedule**, **Network** and **Management**.

Figure 5-1

List of Menu Options

Find the topic of interest by referring to the section number prefixed to each option. The available options vary among camera models.

5.1 Video and Motion	5.1.1 Video Settings 5.1.2 Motion Detection
5.2 Digital I/O and PTZ	5.2.1 Input / Output Settings 5.2.2 PTZ Settings
5.3 Events and Alerts	5.3.1 Email 5.3.2 FTP 5.3.3 Center V2 5.3.4 VSM 5.3.5 Video Gateway / Recording Server 5.3.6 RTSP / 3GPP
5.4 Monitoring	
5.5 Recording Schedule	5.5.1 I/O Monitoring Settings
5.6 Network	5.6.1 LAN 5.6.2 Advanced TCP/IP 5.6.3 IP Filter
5.7 Management	5.7.1 Date and Time Settings 5.7.2 GPS Maps Settings 5.7.3 User Account 5.7.4 Log Information 5.7.5 Tools

5.1 Video & Motion

The GV-IP Speed Dome supports dual streams allowing you to set up two different codec and resolutions for a single video transmission. In a limited bandwidth network, such as mobile phone surveillance, the dual-stream function allow you to have the sub stream with lower resolution and codec for live view, and the main stream with highest resolution 704 x 480 and codec H.264 for recording at the same time. Two setting pages Streaming 1 and Streaming 2 are provided for separate setup.

Comparison between Stream 1 and Stream 2:

Video Setting Options	Stream 1	Stream 2
Watermark Setting	Yes	No option. Once this function is enabled in Stream 1, the settings in Stream 1 will be automatically applied to Stream 2.
Video Resolution	Different resolutions can be applied to Stream 1 and 2.	

5.1.1 Video Settings

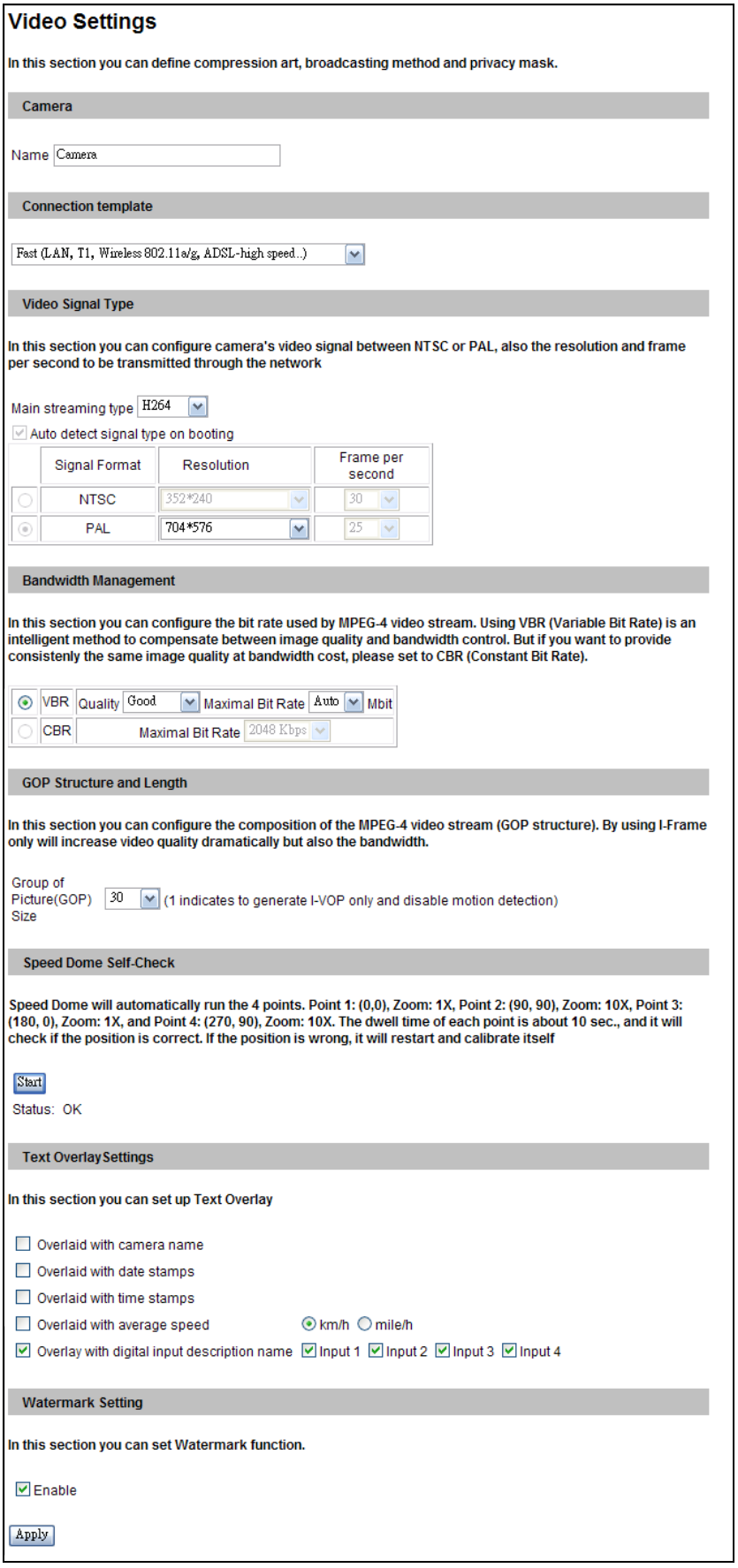


Figure 5-2

[Name]

Rename the camera. The camera name will appear on the Live View. To display the camera name, see *3.2.11 Camera Name Display*.

[Connection Template]

Select the type of your network connection. Unless you select **Customized**, this option will automatically bring up the recommended video resolution, frame rate, bandwidth and GOP size.

Due to the bandwidth limitation for mobile phone connections, only the video resolution 360 x 240 (360 x 288) or 352 x 240 (352 x 288) is supported. Note that your mobile phone must support the video resolution you wish to select.

Connection template for mobile phone connections:

3GPPv7, Msview V2, Msview V3, Ssview V3 and GView V2 Supported	
Resolution	**Frame Rate**
NTSC 352 x 240	5
PAL 352 x 288	5

[Video Signal Type]

- **Main streaming type:** The GV-IP Speed Dome supports three types of codecs: H.264, MPEG4 and MJPEG for Streaming 1 and Streaming 2.
- **Auto detect signal type on booting:** Automatically detects the type of video input (NTSC or PAL).

Three types of resolutions are available:

NTSC	**PAL**
704 x 480	704 x 576
704 x 480 de-interlaced	704 x 576 de-interlaced
352 x 240	352 x 288

The following frame rate options are available.

Format	**Frame Rate**
NTSC	1, 2, 3, 5, 7.5, 10, 15, 30
PAL	1, 2.5, 5, 8, 12.5, 25

[Bandwidth Management]

When using MPEG-4 or H.264, it is possible to control the bitrate, which in turn allows the amount of bandwidth usage to be controlled.

- **VBR (Variable Bitrate):** The quality of the video stream is kept as constant as possible at the cost of a varying bitrate. The bandwidth is much more efficiently used than a comparable CBR. Set the image quality to one of the 5 standards: **Poor**, **Fair**, **Good**, **Great** and **Excellent**.
- **Maximal Bit Rate:** When the system bitrate exceeds the specified Maximal Bit Rate, the system will automatically lower its bitrate so as not to exceed it. Select one of the bitrates from the drop-down list or select **Auto** if you do not want to enable this function.
- **CBR (Constant Bitrate):** CBR is used to achieve a specific bitrate by varying the quality of the stream. The bitrates available for selection depend on the image resolution.

[GOP Structure and Length]

When using MPEG-4 or H.264, it is possible to set the number of frames between every key frame. The maximum number is 1 key frame for every 120 frames.

[Speed Dome Self Check]

This function allows you to perform a trail and calibration on the GV-IP Speed Dome. See the same function of **Auto Calibration** in *4.10 System Configuration.*

[Text Overlay Settings]

- **Overlaid with camera name:** Includes camera names on live and recorded videos.
- **Overlaid with date stamps:** Includes date stamps on live and recorded videos.
- **Overlaid with time stamps:** Includes time stamps on live and recorded videos.
- **Overlaid with digital input description name:** Includes the names of selected inputs on live and recorded videos.

[Watermark Setting]

Enable this option to watermark all recordings. The watermark allows you to verify whether the video has been tampered while it was recorded. See *6.4 Verifying Watermark*.

5.1.2 Motion Detection

Motion detection is used to generate an alarm whenever movement occurs in the video image. You can configure up to 8 areas with different sensitivity values for motion detection.

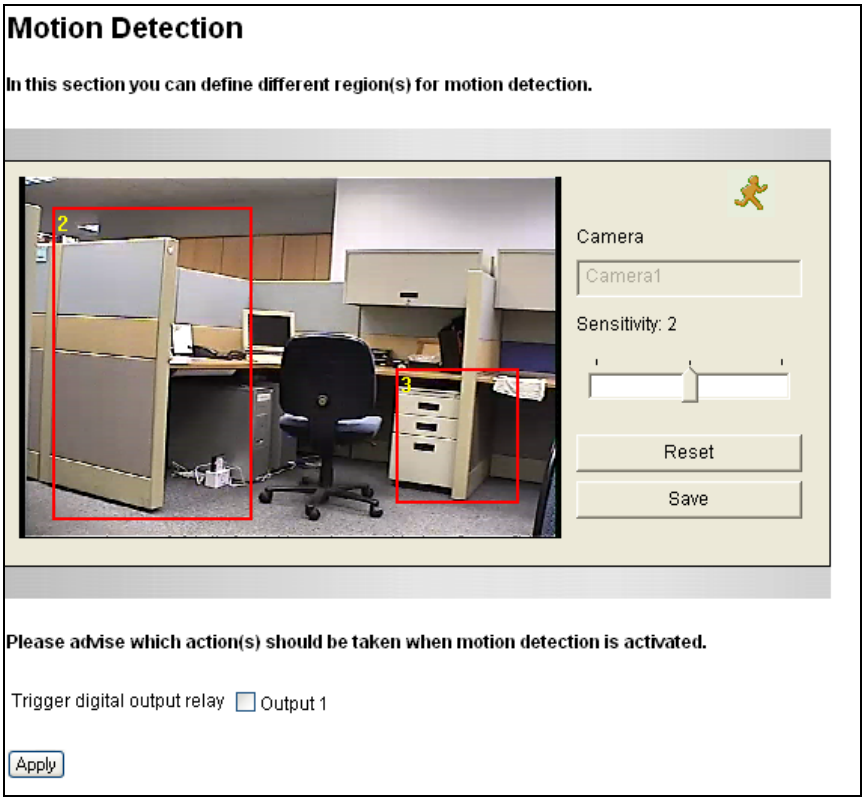


Figure 5-3

1. The default sensitivity value is 2 for the whole area. To define a different sensitivity value, click **Reset**.
2. Select the desired sensitivity by moving the slider. There are three values. The higher the value, the more sensitive the camera is to motion.
3. Drag an area on the image. Click **Add** when you are prompted to confirm the setting.
4. To create several areas with different sensitivity values, repeat Steps 2 and 3.
5. Click **Save** to save the above settings.
6. To trigger the alarm output when motion is detected, select the output (Output 1) and click the **Apply** button. To activate the output settings, you must also start **Camera** monitoring manually or by schedule. For related settings, see *5.4 Monitoring*.

5.2 Digital I/O & PTZ

5.2.1 Input / Output Settings

This section introduces how to configure the I/O devices connected to the GV-IP Speed Dome.

5.2.1.1 Input Setting

The GV-IP Speed Dome can connect up to 4 input devices.

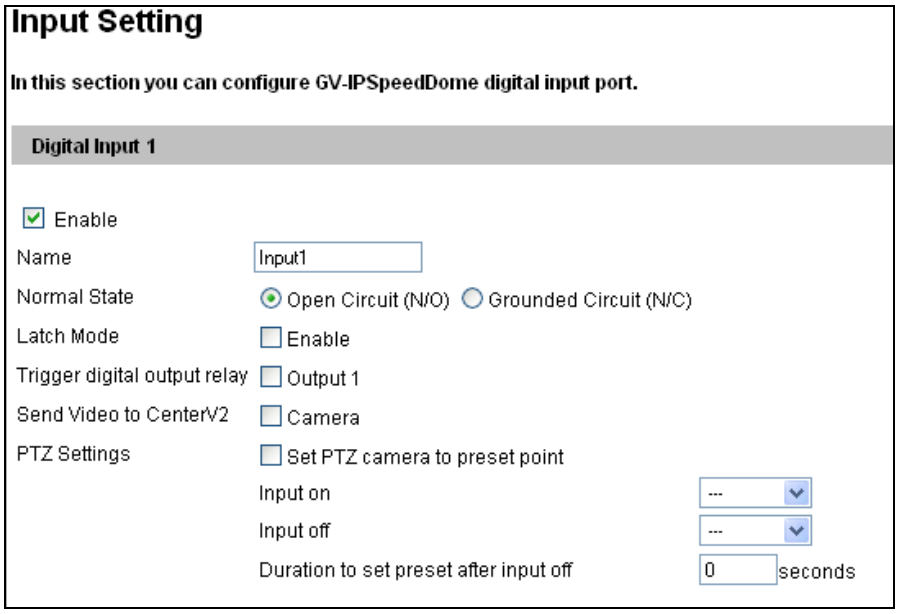


Figure 5-4

- **Name:** Edit the input name.
- **Normal State:** Set up the input state to trigger actions by selecting Open Circuit (N/O) or Grounded Circuit (N/C).
- **Latch Mode:** Enable the mode to have a momentary output alarm.
- **Trigger Digital Output Relay:** Select the output to be triggered once the input is activated.
- **Send Video to Center V2:** Select the camera to send the images to Center V2 when the input is triggered.
- **Set PTZ camera to preset point:** This option allows you to direct the GV-IP Speed Dome to a preset point upon input trigger.
  - **Input on:** Direct the GV-IP Speed Dome to a preset point when the input is triggered.
  - **Input off:** Direct the GV-IP Speed Dome to another preset point when the triggered input is off.

- **Duration to set preset after input off x seconds:** Specify the amount of time the GV-IP Speed Dome stays in “Input on” preset point before moving to “Input off” preset point.

Note: The input settings only function after you start **Input** monitoring manually or by schedule. To configure the input monitoring, see *5.4 Monitoring*.

For related PTZ settings, see *Chapter 4 PTZ Control Panel*.

5.2.1.2 Output Setting

The GV-IP Speed Dome can connect 1 output device.

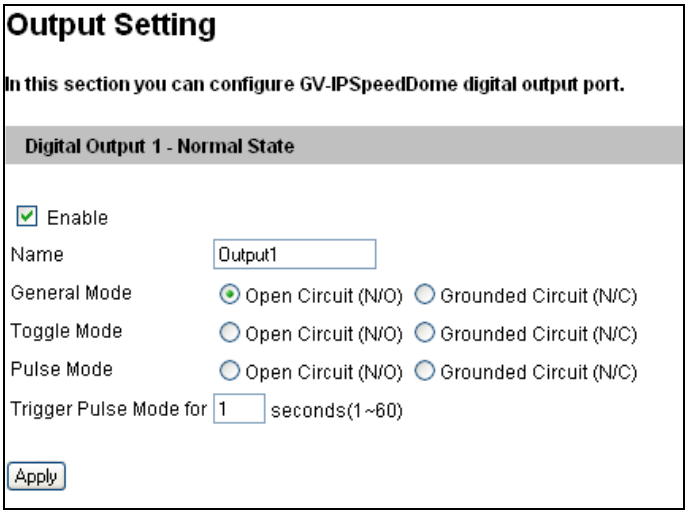


Figure 5-5

Select **Enable** to start the output device. Choose the output signal that mostly suits the device you are using: N/O (Open Circuit), N/C (Grounded Circuit), N/O Toggle, N/C Toggle, N/O Pulse and N/C Pulse. For **Toggle** output type, the output will remain on once it is triggered until the next trigger. For **Pulse** output type, the output is triggered for the amount of time you specify in the Toggle Pulse Mode for x Seconds field.

5.2.2 PTZ Settings

A PTZ configuration dialog box is provided for you to configure and control the GV-IP Speed Dome. For details, see *Chapter 4 PTZ Control Panel*.

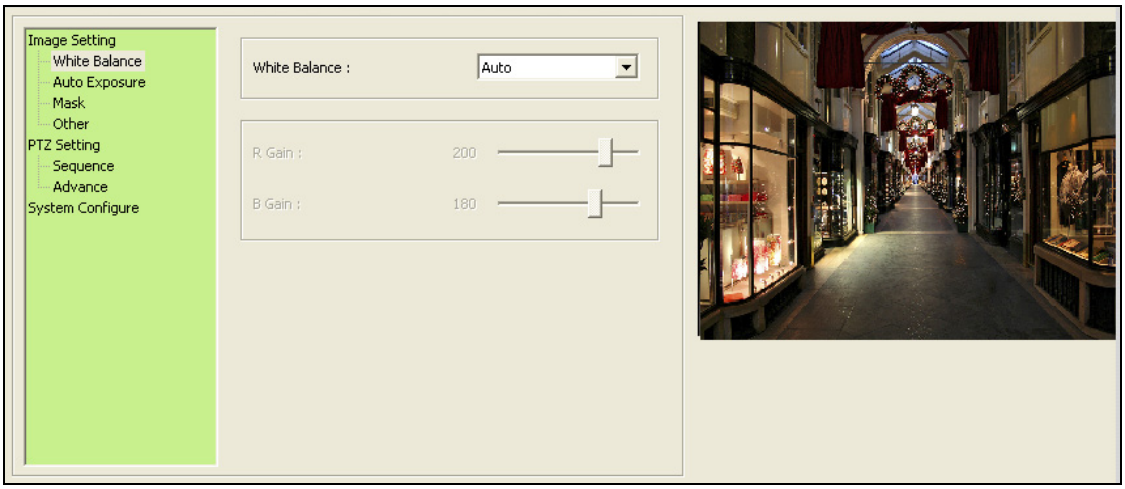


Figure 5-6

5.3 Events & Alerts

For the events of motion detection or I/O trigger, the Administrator can set up two triggered actions:

1. Send a captured still image by e-mail or FTP.
2. Notify Center Monitoring Stations such as Center V2, VSM or GV-GIS, by video or text alerts.

To have above triggered actions, you must also set the following features:

- Motion Detection (See *5.1.2 Motion Detection*)---optional
- Input Setting (See *5.2.1 Input/Output Settings*)
- For e-mail and FTP alerts, it is required to start monitoring (See *5.4 Monitoring*).

Note: The Motion Detection function is an optional setting and is activated by default.

5.3.1 E-mail

After a trigger event, the GV-IP Speed Dome can send an e-mail to a remote user containing a captured still image.

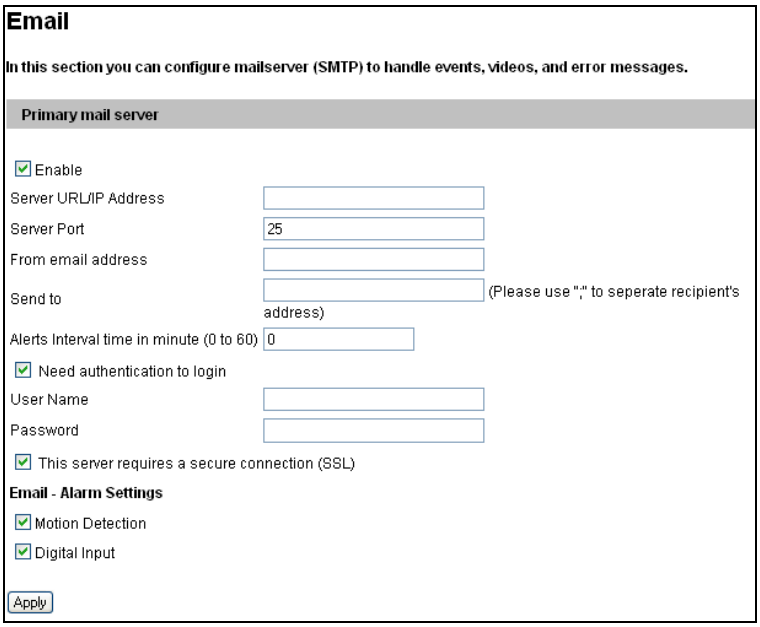


Figure 5-7

[Enable] Select to enable the e-mail function.

- **Sever URL/IP Address:** Type the SMTP Server's URL address or IP address.
- **Server Port:** Type the SMTP Server's port number. Or keep the default value 25.
- **From email address:** Type the sender's e-mail address.
- **Send to:** Type the e-mail address(s) you want to send alerts to.
- **Alerts Interval time in minute:** Specify the interval between e-mail alerts. The interval is configurable between 0 and 60 minutes. Any event triggers during the interval period will be ignored. This option is useful for events with high occurrence.

[Need authentication to login] If the SMTP Server needs authentication, select this option and type the valid username and password.

[This server requires a secure connection (SSL)] If the SMTP Server supports the secure connection SSL, select this option. The option is only available after you select **Need authentication to login**.

[Email – Alarm Settings]

You can choose to automatically send the e-mail for alarm under these conditions: motion detected and digital input triggered.

5.3.2 FTP

You can also send the captured still image to a remote FTP server for alerts.

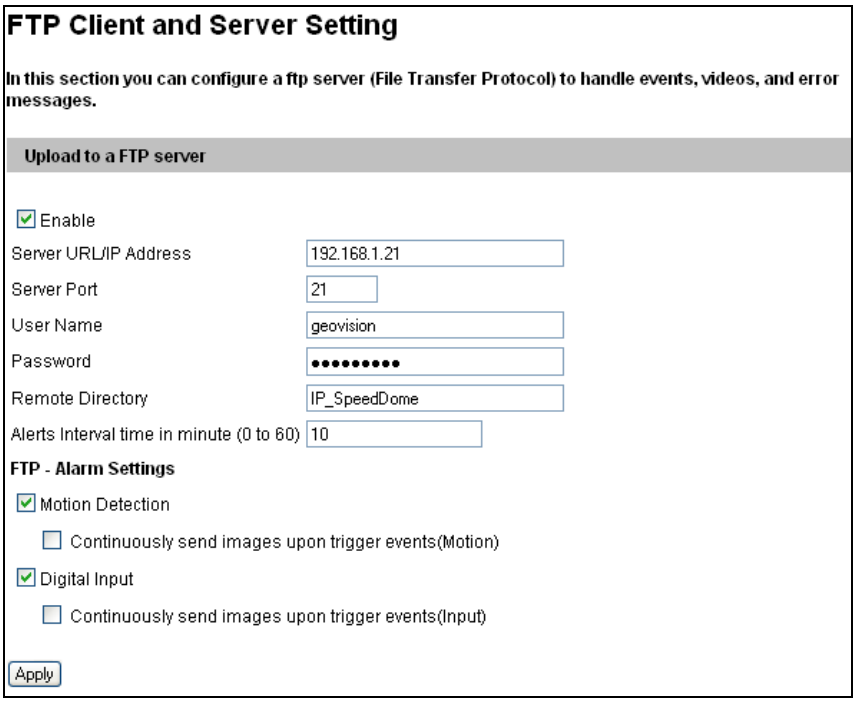


Figure 5-8

[Upload to a FTP Server]

- **Enable:** Select to enable the FTP function.
- **Server URL/IP Address:** Type the URL address or IP address of the FTP Server.
- **Server Port:** Type the port number of the FTP Server. Or keep the default value 21.
- **User Name:** Type a valid user name to log into the FTP Server.
- **Password:** Type a valid password to log into the FTP Server.
- **Remote Directory:** Type the name of the storage folder on the FTP Server.
- **Alerts Interval time in minute:** Specify the interval between FTP alerts. The interval is configurable between 0 and 60 minute(s). Any event triggers during the interval period will be ignored. The option is useful for events with high occurrence.

[Alarm Settings]

- **Motion Detection:** Once the motion is detected in the camera view, a still image will be sent to the FTP Server.
  - **Continuously send images upon trigger events (motion):** A sequence of snapshot images are uploaded to the FTP Server when motion is detected in the camera view.
- **Digital Input:** Once the input is triggered, a still image will be sent to the FTP Server.
  - **Continuously send images upon trigger events (input):** A sequence of snapshot images are uploaded to the FTP Server when the input is triggered.

For the related settings to send FTP alerts, see *5.1.2 Motion Detection*, *5.2.1 Input / Output Settings* and *5.4 Monitoring*.

5.3.3 Center V2

After a motion or an I/O triggered event, the central monitoring station Center V2 can be notified by live videos and text alerts. Up to two Center V2 servers can be connected. For live monitoring through Center V2, you must already have a subscriber account on each of the Center V2 server.

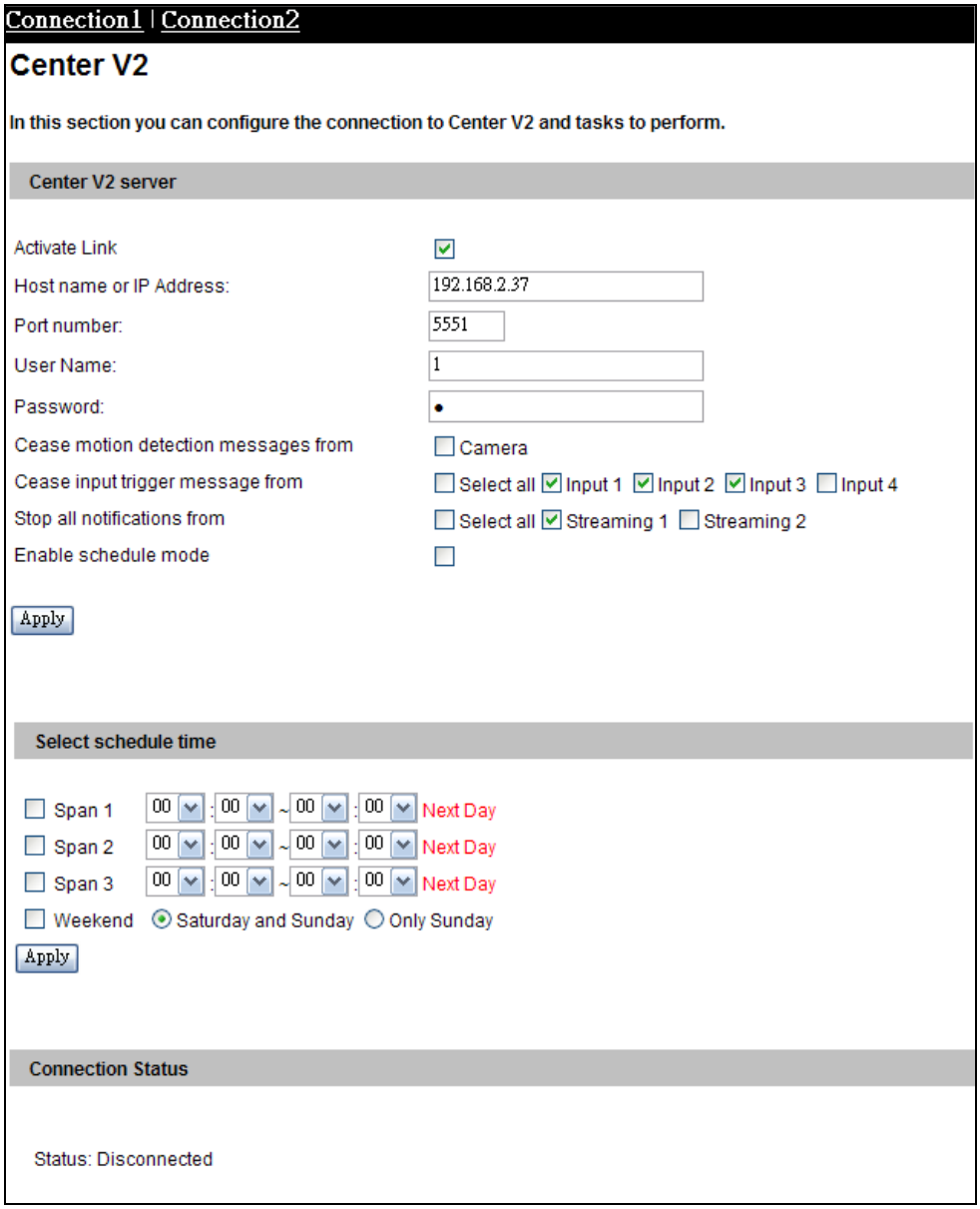


Figure 5-9

To enable the Center V2 connection:

1. **Activate Link:** Enable the monitoring through Center V2.
2. **Host Name or IP Address:** Type the host name or IP address of Center V2.
3. **Port Number:** Match the port to **Port 2** on Center V2. Or keep the default value 5551. For details, see *8.1 Center V2.*

4. **User Name:** Type a valid user name to log in to Center V2.
5. **Password:** Type a valid password to log in to Center V2.
6. Click **Apply**. The Connection Status should display “Connected” and connected time.

These options you can also find on this Center V2 settings page:

- **Cease motion detection messages from:** Stops notifying Center V2 of motion detection.
- **Cease input trigger messages from:** Stops notifying Center V2 of input trigger from selected input(s).
- **Stop all notifications from:** Stops notifying Center V2 of all alerts from the selected streams.
- **Enable schedule mode:** Starts the monitoring through Center V2 based on the schedule you set in the **Select Schedule Time** section. Refer to *5.5 Recording Schedule* for the same settings.

For related settings to activate the monitoring through Center V2, see *5.1.2 Motion Detection*, *5.2.1 Input / Output Setting*, and *8.1 Center V2.*

5.3.4 VSM

After a motion or an I/O triggered event, the central monitoring station VSM can be notified by text alerts. Up to two VSM servers can be connected. For live monitoring through VSM, you must already have a subscriber account on each of the VSM server.

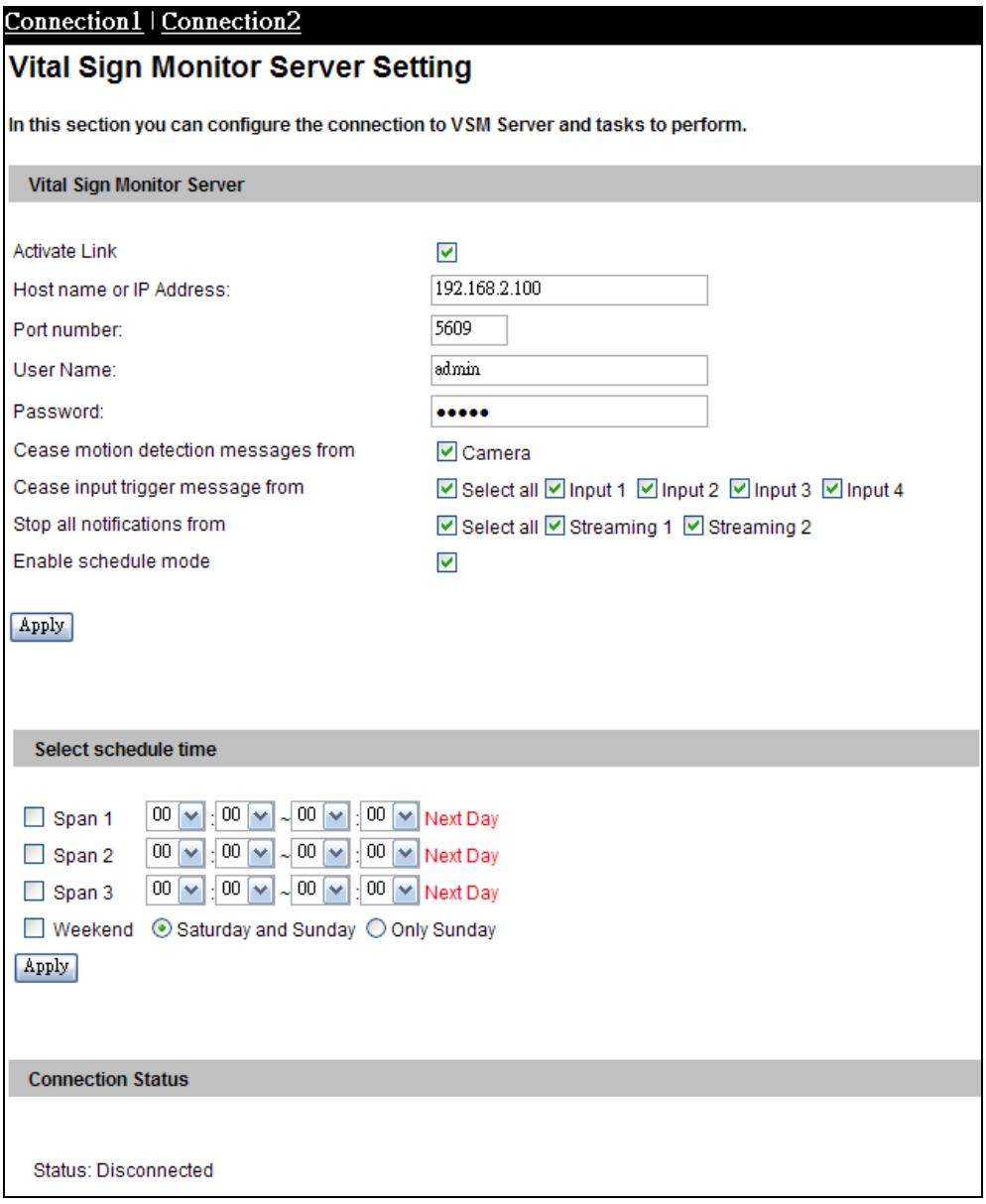


Figure 5-10

To enable the VSM connection:

1. **Activate Link:** Enable the monitoring through VSM.
2. **Host Name or IP Address:** Type the host name or IP address of VSM.
3. **Port Number:** Match the port to **Port 2** on VSM. Or keep the default value 5609. For details, see *8.2 VSM.*

4. **User Name:** Type a valid user name to log into VSM.
5. **Password:** Type a valid password to log into VSM.
6. Click **Apply.** The Connection Status should display “Connected” and connected time.

These options you can also find on this VSM setting page:

- **Cease motion detection messages from:** Stops notifying VSM of motion detection.
- **Cease input trigger messages from:** Stops notifying VSM of input trigger from selected input(s).
- **Stop all notifications from:** Stops notifying VSM of all alerts from the selected streams.
- **Enable schedule mode:** Starts the monitoring through VSM based on the schedule you set in the **Select Schedule Time** section. Refer to *5.5 Recording Schedule* for the same settings.

For related settings to activate the monitoring through VSM, see *5.1.2 Motion Detection*, *5.2.1 Input / Output Settings,* and *8.2 VSM*.

5.3.5 Video Gateway / Recording Server

The GV-IP Speed Dome can be connected with up to two GV-Video Gateway / GV-Recording Server. To send the video images to the GV-Video Gateway or GV-Recording Server, you must already have an account on each of the Video Gateway / Recording Server with the user name and password specified below. Follow the steps below to set up the connection.

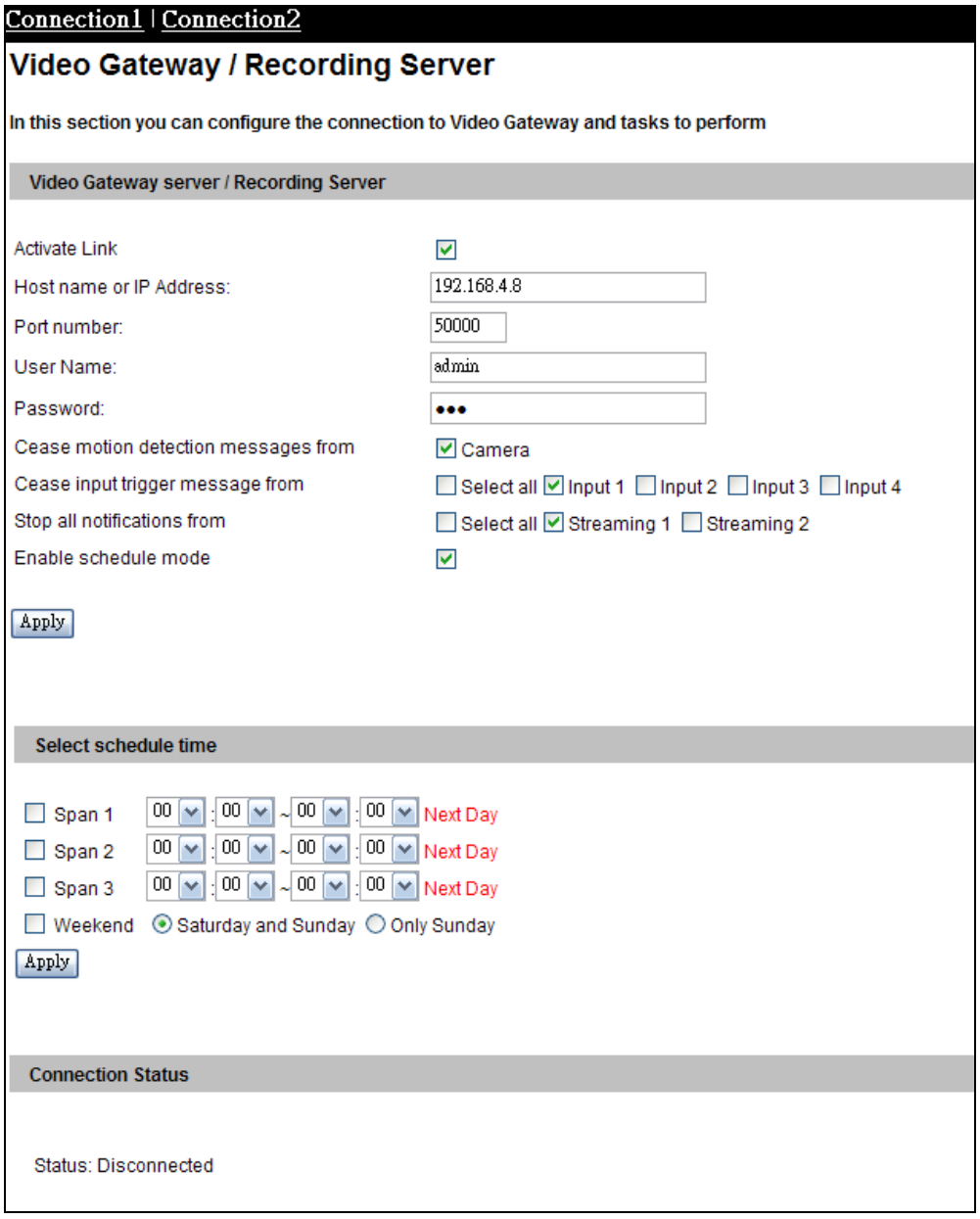


Figure 5-11

To enable connection to Video Gateway / Recording Server:

1. **Activate Link:** Enable the monitoring through Video Gateway / Recording Server.
2. **Host Name or IP Address:** Type the host name or IP address of the Video Gateway / Recording Server.
3. **Port Number:** Match the communication port specified on Video Gateway / Recording Server. Or keep the default value 50000.
4. **User Name:** Type a valid user name to log into Video Gateway / Recording Server.
5. **Password:** Type a valid password to log into Video Gateway / Recording Server.
6. Click **Apply.** The Connection Status should display “Connected” and connected time.

You can also find on this Video Gateway / Recording Server settings page:

- **Enable schedule mode:** Starts the monitoring through Video Gateway based on the schedule you set in the **Select Schedule Time** section. Refer to *5.5 Recording Schedule* for the same settings.

Note: The three functions, **Cease motion detection messages from, Cease input trigger message from** and **Stop all notifications from**, are not functional.

5.3.6 RTSP / 3GPP

The RTSP / 3GPP Server enables video and audio streaming to your 3G-enabled mobile phone.

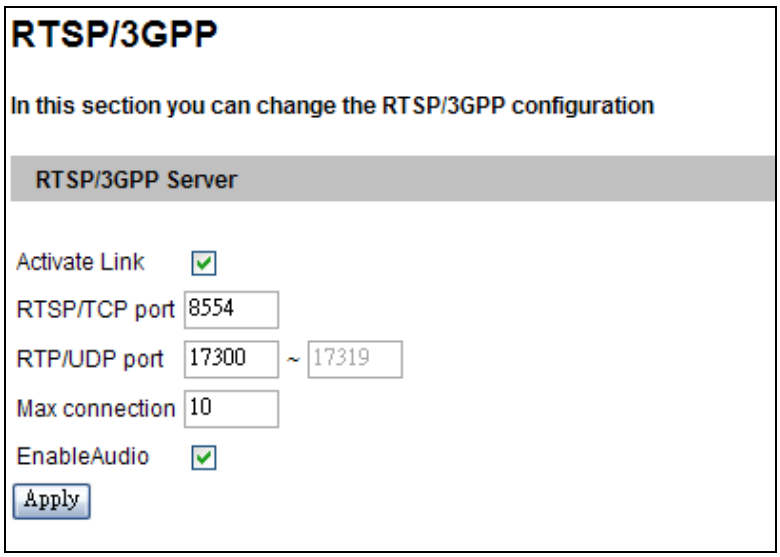


Figure 5-12

- **Activate Link:** Enable the RTSP / 3GPP service.
- **RTSP/TCP Port:** Keep the default value 8554, or modify it if necessary.
- **RTP/UDP Port:** Keep the default range from 17300 to 17319, or modify it if necessary. The number of ports for use is limited to 20.
- **Max Connection:** Set the maximum number of RTSP and 3GPP connections to the GV-IP Speed Dome. The maximum value is 10.
- **Enable Audio:** Enable audio streaming.

For details on remote monitoring with mobile phones, see *9.4 3G Mobile Phone*.

For RTSP command, see *Appendix C RTSP Protocol Support*.

5.4 Monitoring

You can start I/O monitoring manually or by schedule.

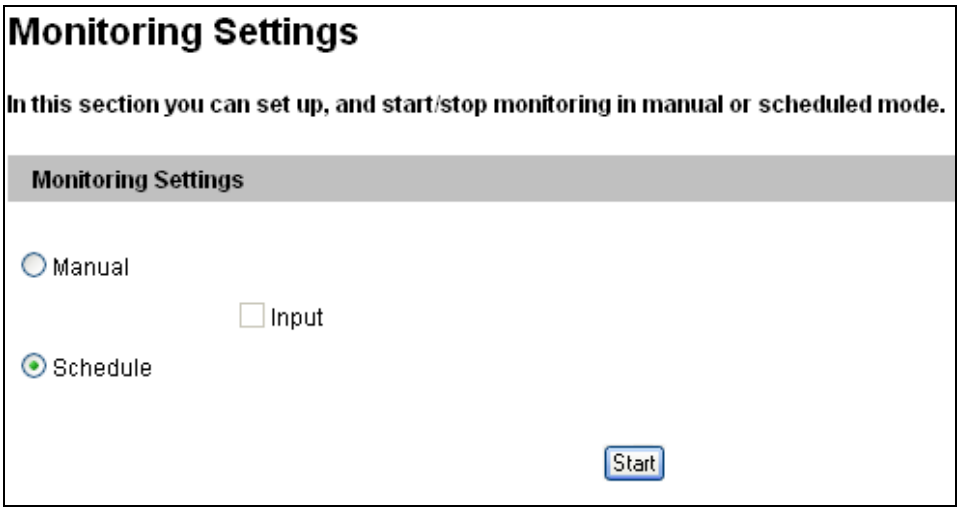


Figure 5-13

[Manual] Activates I/O monitoring. Select **Manual** and select **Input**. Click the **Start** button to apply the settings.

- **Input:** Manually starts I/O monitoring. When the sensor input is triggered, its associated output will be activated for alerting, the GV-IP Speed Dome will be activated to send video to Center V2, and/or direct the GV-IP Speed Dome to a preset point. To configure the input and output settings, see *5.2.1 Input / Output Settings.*

[Schedule] The system starts I/O monitoring according to the schedule you have set. For schedule settings, see *5.5 Recording Schedule*.

5.5 Recording Schedule

The schedule is provided to activate I/O monitoring on specified time periods or on special days.

5.5.1 I/O Monitoring Settings

You can set the I/O Monitoring Schedule Settings to enable I/O monitoring.

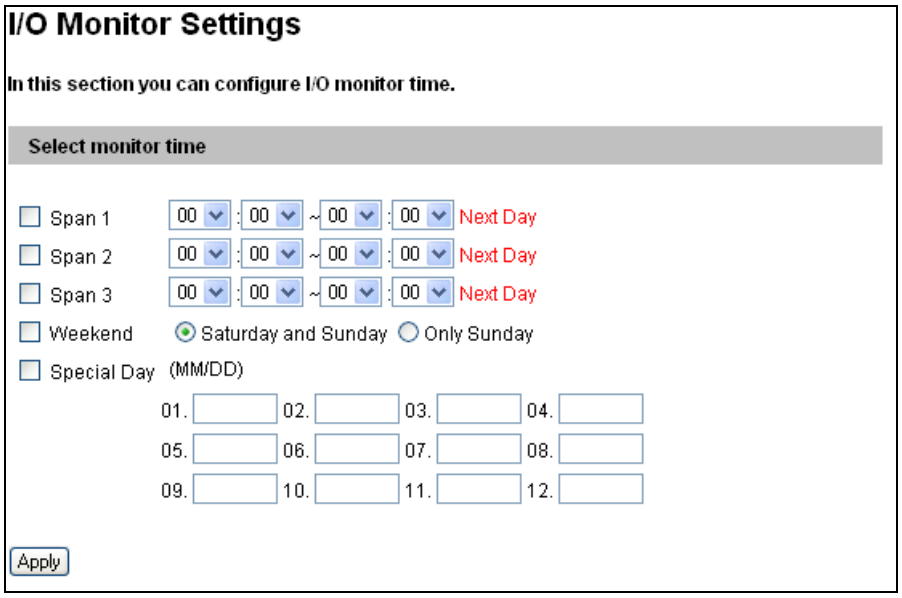


Figure 5-14

- **Span 1-3:** Set different time frames during the day to start I/O monitoring. Each day can be divided into 3 time frames, represented by Span 1 to Span 3. The time frame you specify is effective from Monday through Sunday.
- **Weekend:** If you want to have the whole-day monitoring for the weekend, select **Weekend**, and then define whether your weekend includes **Saturday and Sunday** or **Only Sunday**.
- **Special Day:** Enable I/O monitoring on a specified day.

5.6 Network

The Network section includes some basic but important network configurations that enable the GV-IP Speed Dome to be connected to a TCP/IP network.

5.6.1 LAN

According to your network environment, select among Static IP, DHCP and PPPoE.

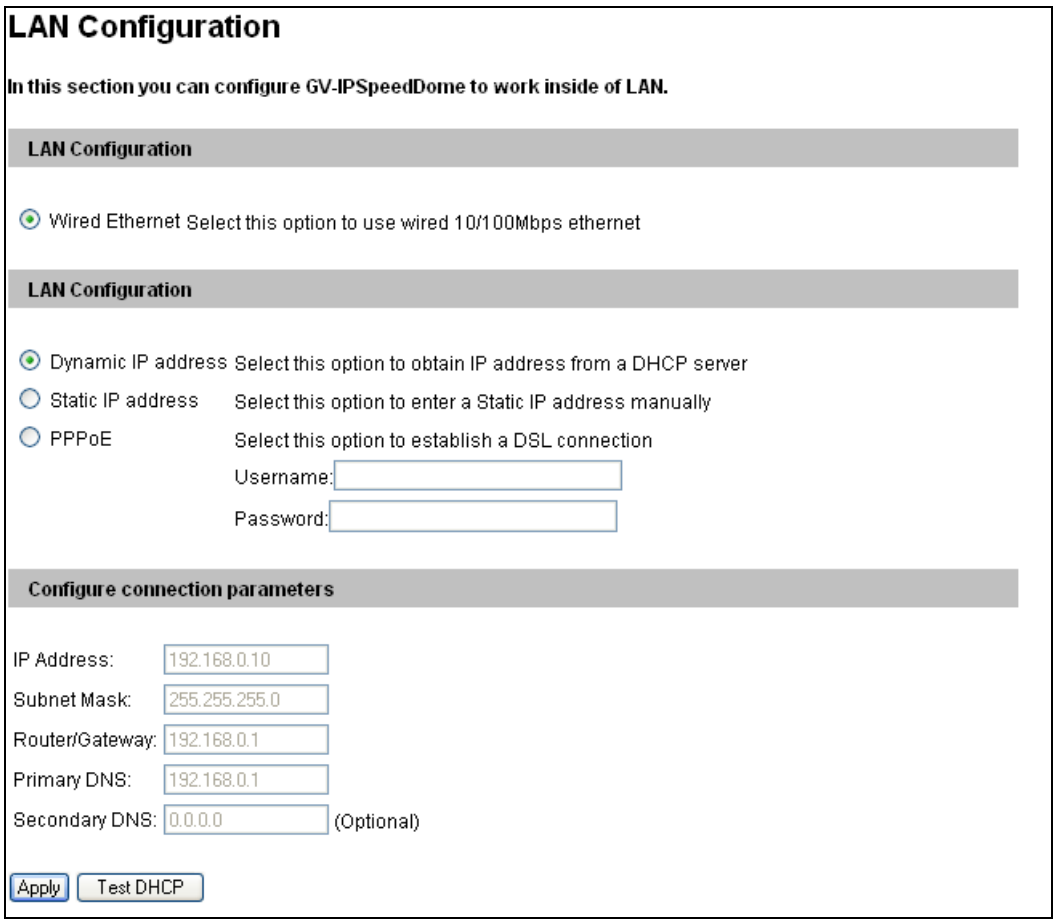


Figure 5-15

[LAN Configuration]

The GV-IP Speed Dome supports the **Wired** Ethernet connection of 10/100 Mbps.

[LAN Configuration]

- **Dynamic IP address:** The network environment has a DHCP server.

  This option should only be enabled if you know which IP address the GV-IP Speed Dome will get from the DHCP server, or you have obtained a domain name from the DDNS service provider that always links to the unit's changing IP address.

- **Static IP address:** Assign a static IP or fixed IP to the GV-IP Speed Dome. Type the GV-IP Speed Dome's TCP/IP and DNS parameters in the "Configure connection parameters" section below.

- **PPPoE:** The network environment is xDSL connection. Type the Username and Password provided by ISP to establish the connection.

  If you use the xDSL connection with dynamic IP addresses, you must use the DDNS function to obtain a domain name linking to the unit's changing IP address first.

[Configure connection parameters]

Type the GV-IP Speed Dome's IP address, Subnet Mask, Router/Gateway, Primary DNS server and Secondary DNS server.

Parameters	Default
IP address	192.168.0.10
Subnet Mask	255.255.255.0
Router/Gateway	192.168.0.1
Primary DNS server	192.168.0.1
Secondary DNS server	192.168.0.2

For details on Dynamic DNS Server Settings, *see 5.6.2 Advanced TCP/IP.*

5.6.2 Advanced TCP/IP

This section introduces the advanced TCP/IP settings, including DDNS Server, HTTP port, streaming port and UPnP.

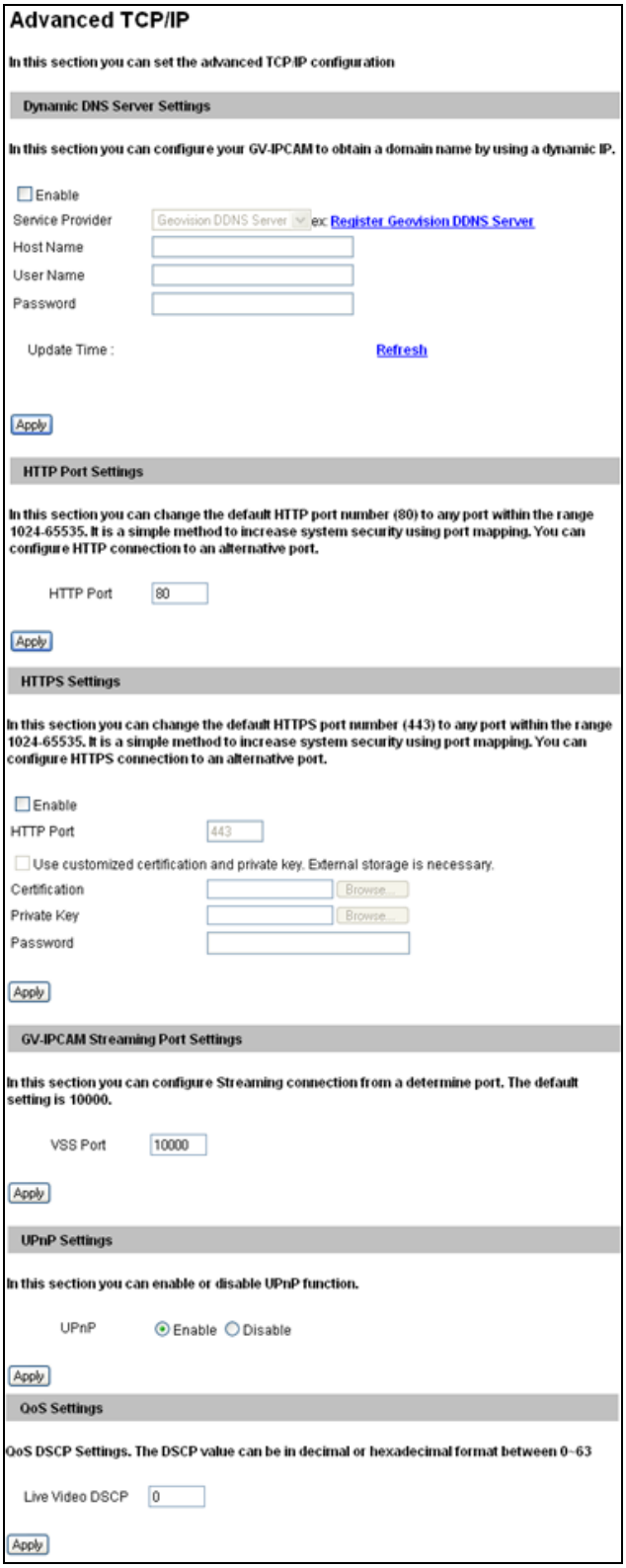


Figure 5-16

[Dynamic DNS Server Settings]

DDNS (Dynamic Domain Name System) provides a convenient way of accessing the GV-IP Speed Dome when using a dynamic IP. DDNS assigns a domain name to the GV-IP Speed Dome, so that the Administrator does not need to go through the trouble of checking if the IP address assigned by DHCP Server or ISP (in xDSL connection) has changed.

Before enabling the DDNS function, the Administrator should apply for a Host Name from the DDNS service provider's website. There are 2 providers listed in the GV-IP Speed Dome: GeoVision DDNS Server and DynDNS.org.

To enable the DDNS function:

1. **Enable:** Enable the DDNS function.
2. **Service Provider:** Select the DDNS service provider you have registered with.
3. **Host Name:** Type the host name used to link to the GV-IP Speed Dome. For the users of GeoVision DDNS Server, it is unnecessary to fill the field because the system will detect the host name automatically.
4. **User Name:** Type the user name used to enable the service from the DDNS.
5. **Password:** Type the password used to enable the service from the DDNS.
6. Click **Apply**.

[HTTP Port Settings]

The HTTP port enables connecting the GV-IP Speed Dome to the Web. For security integration, the Administrator can hide the server from the general HTTP port by changing the default HTTP port of 80 to a different port number within the range of 1024 through 65535.

[HTTPS Settings]

By enabling the Hypertext Transfer Protocol Secure (HTTPS) settings, you can access the camera through a secure protocol. You can use self-generated Certificate and Private Key or the ones verified by the SSL authority. Click **Browse** to locate the Certificate and Private Key files and type the password if the .pem files are protected by password. Click **Apply**. The Web interface will be restarted and you will need to log in again.

Note: The .pem file format is supported by Certificate and Private Key.

[IP Speed Dome Streaming Port Settings]

The VSS port enables connecting the GV-IP Speed Dome to the GV-System. The default setting is 10000.

[UPnP Settings]

UPnP (Universal Plug & Play) is a networking architecture that provides compatibility among networking equipment, software and peripherals of the 400+ vendors that are part of the Universal Plug and Play Forum. It means that they are listed in the network devices table for the operating system (such as Windows XP) supported by this function. Enabling this function, you can connect to the GV-IP Speed Dome directly by clicking on the GV-IP Speed Dome listed in the network devices table.

[QoS Settings]

The Quality of Service (QoS) is a bandwidth control mechanism that guarantees delay-sensitive data flows such as voice and video streams, obtain a certain amount of bandwidth to keep the streaming smooth.

To apply QoS to GV-IP Speed Dome, all network routers must support QoS and QoS must be enabled on these devices. To enable the QoS on GV-IP Speed Dome, enter a Differentiated Services Code Point (DSCP) value. This value is a field in an IP packet that enables different levels of services for the network traffic. When the video stream from GV-IP Speed Dome reaches a router, the DSCP value will tell the router what service level should be applied, e.g. the bandwidth amount. This value ranges from 0 to 63 in decimal format. The default value is 0 which means QoS is disabled. Click **Apply** to finish.

5.6.3 IP Filter

The Administrator can set IP filtering to restrict access to the GV-IP Speed Dome.

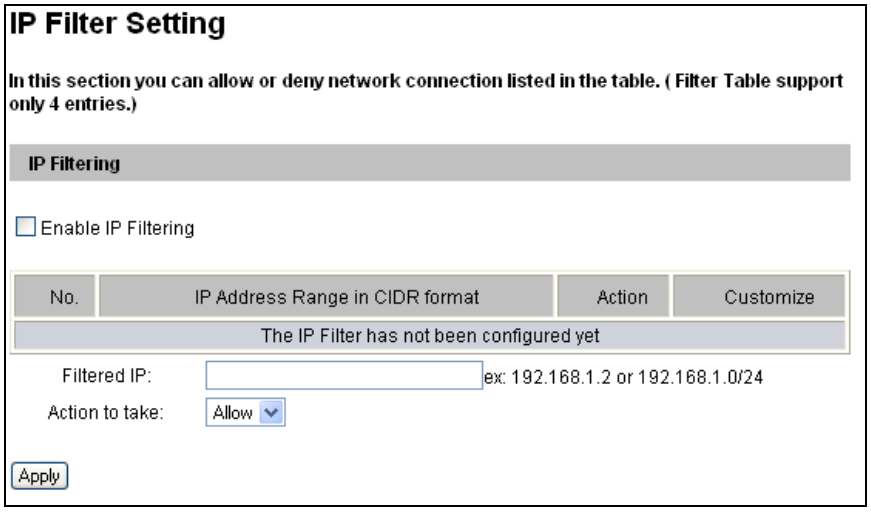


Figure 5-17

To enable the IP Filter function:

1. **Enable IP Filtering:** Enable the IP Filtering function.
2. **Filtered IP:** Type the IP address you want to restrict the access.
3. **Action to take:** Select the action of **Allow** or **Deny** to be taken for the IP address(es) you have specified.
4. Click **Apply**.

5.6.4 SNMP Settings

The Simple Network Management Protocol (SNMP) allows you to monitor the status of the IP Speed Dome through SNMP network management software.

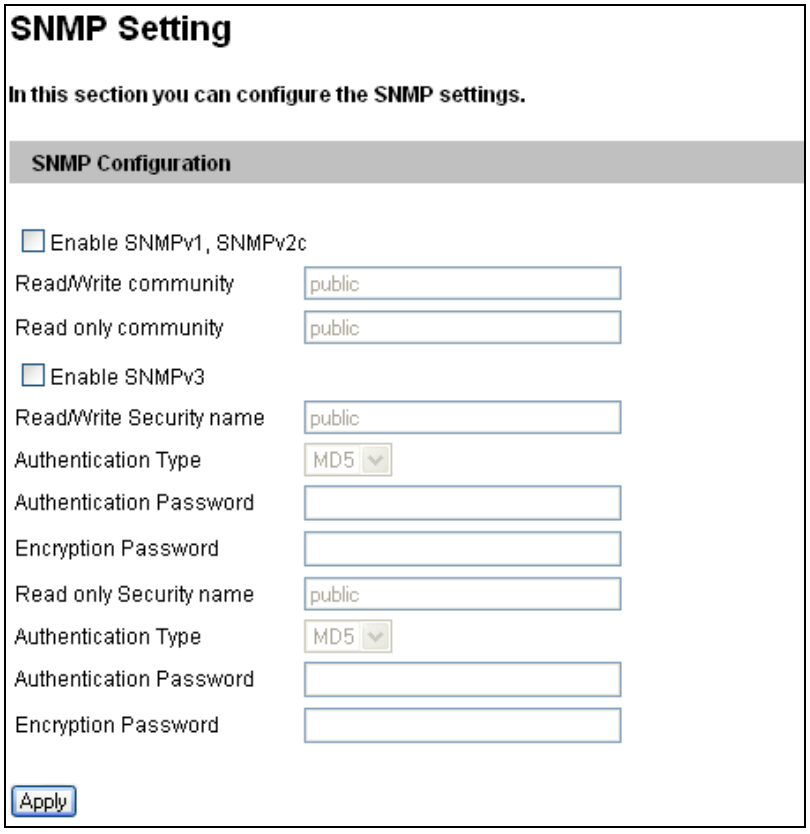


Figure 5-18

1. Select **Enable SNMPv1 SNMPv2c** to enable the function.
2. To enable access to **Read/Write community**, type a community string. This will serve as a password to allow read and write access to the IP Speed Dome from the SNMP software.
3. To enable **Read only community**, type a community string to allow read-only access to the IP Speed Dome from the SNMP software.
4. For a more secured connection, select **Enable SNMPv3** to enable SNMP version 3.
5. To enable access to **SNMPv3 Read/Write community**, type a community string.
6. Select an **Authentication Type** to use for SNMP requests.
7. Type the **Authentication Password** and **Encryption Password**. You will need to type these passwords in the SNMP software to be able to access the IP Speed Dome.
8. To enable access to **SNMPv3 Read only community**, follow steps 5 – 7.
9. Click **Apply** to save the settings.

5.7 Management

The Management section includes the settings of data and time, GPS Maps and user account. Also you can view the firmware version and execute certain system operations.

5.7.1 Date and Time Settings

The date and time settings are used for date and time stamps on the image.

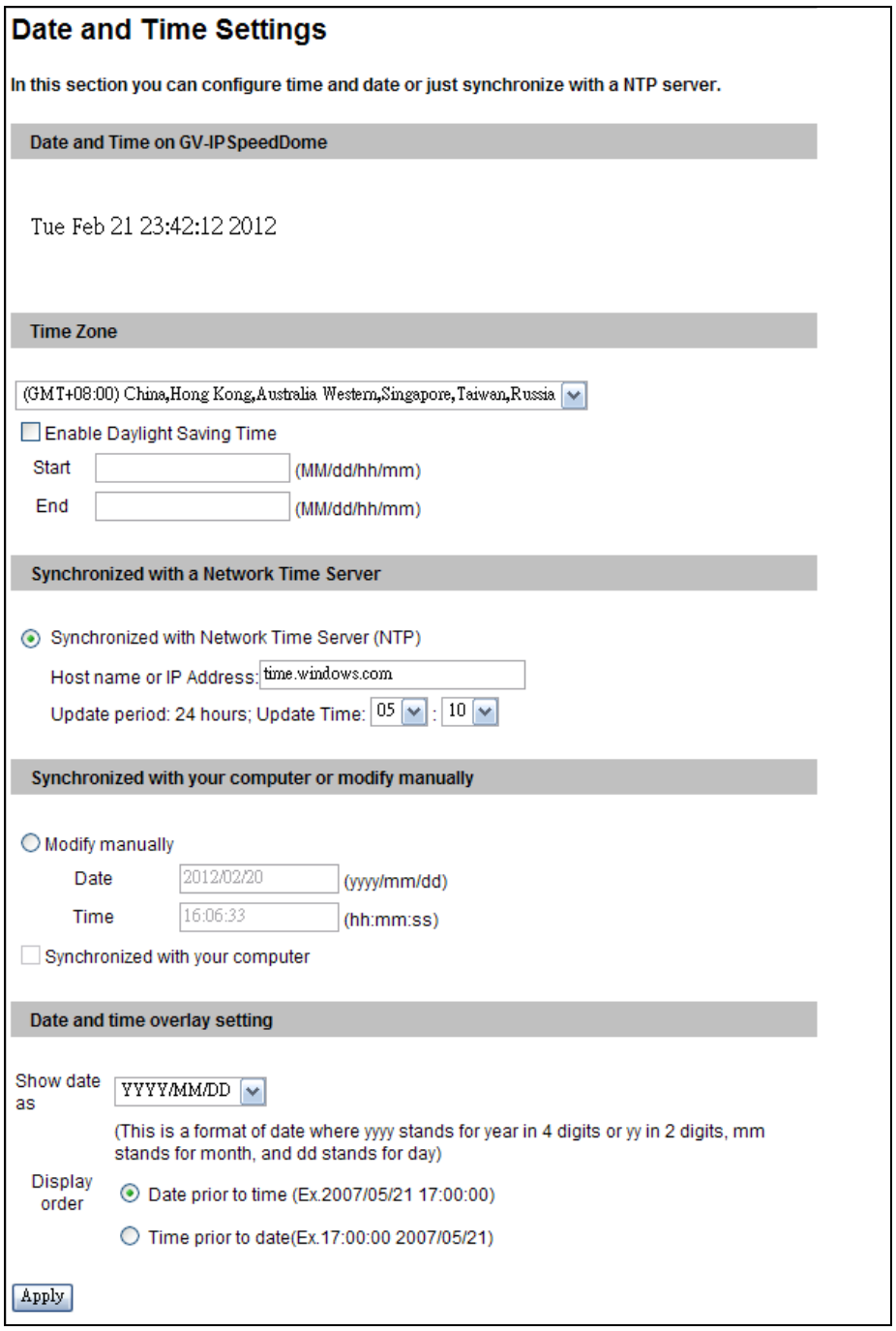


Figure 5-18

[Date & Time on GV-IP Speed Dome] Displays the current date and time on the GV-IP Speed Dome.

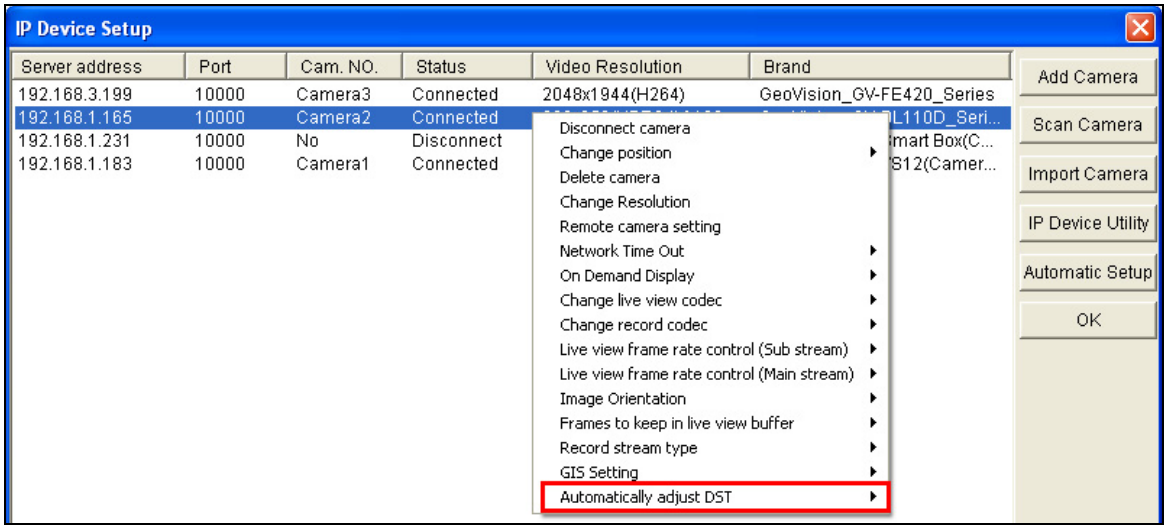
[Time Zone] Sets the time zone for local settings. Select **Enable Daylight Saving Time** to automatically adjust the GV-IP Speed Dome for daylight saving time. Type the Start Time and End Time to enable the daylight saving function.

[Synchronized with a Network Time Server] By default, the GV-IP Speed Dome uses the timeserver of time.windows.com to automatically update its internal clock every 24 hours. You can change the host name or IP setting to the timeserver of interest. To change the time of automatic update, use the drop-down lists to specify the time.

[Synchronized with your computer or modify manually] Manually changes the GV-IP Speed Dome's date and time. Or, synchronize the GV-IP Speed Dome's date and time with those of the local computer.

[Date and time overlay setting] Select the display format of date and time stamps on the image. For this function to work, you must also enable the **Overlaid with date stamps** and **Overlaid with time stamps** options in Figure 5-2.

Note: When connecting to GV-System V8.5 or later, the Daylight Saving Time of GV-Speed Dome can be synchronized automatically with that of GV-System by enabling **Automatically adjust DST**. (Configure button < Camera Install < IP Camera Install)



5.7.2 GPS Maps Settings

The Maps Settings allows you to see the location of your GV-IP Speed Dome on Google maps, without the need of a GPS device.

To see the location of your GV-IP Speed Dome on maps:

1. It is required to sign up for a Google Maps API key before using the Google Maps. Click **Link to the Google Maps API**.

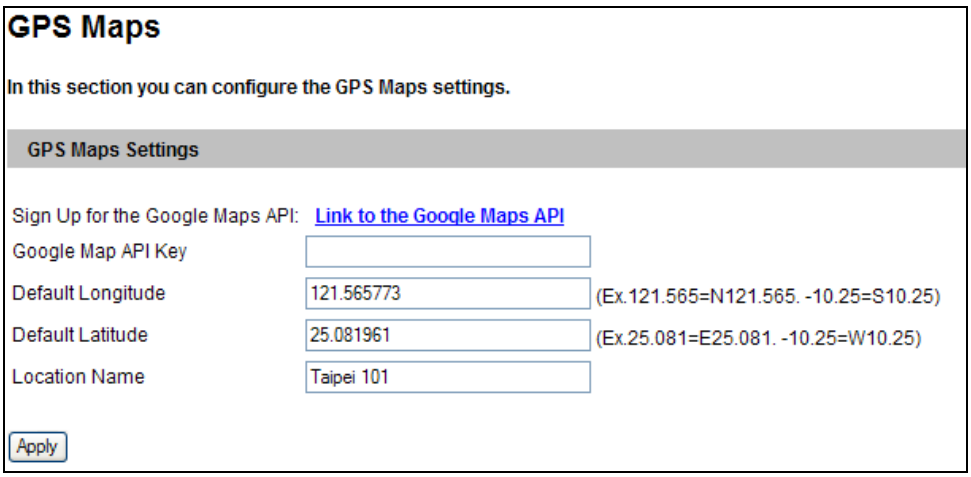


Figure 5-19

2. Enter the registered Maps API Key, the longitude and latitude of your GV-IP Speed Dome location, and location name. Click **Apply** to enable this function.
3. Open the control panel of the Live View window.

Figure 5-20

4. Click **Open**. A warning message appears.

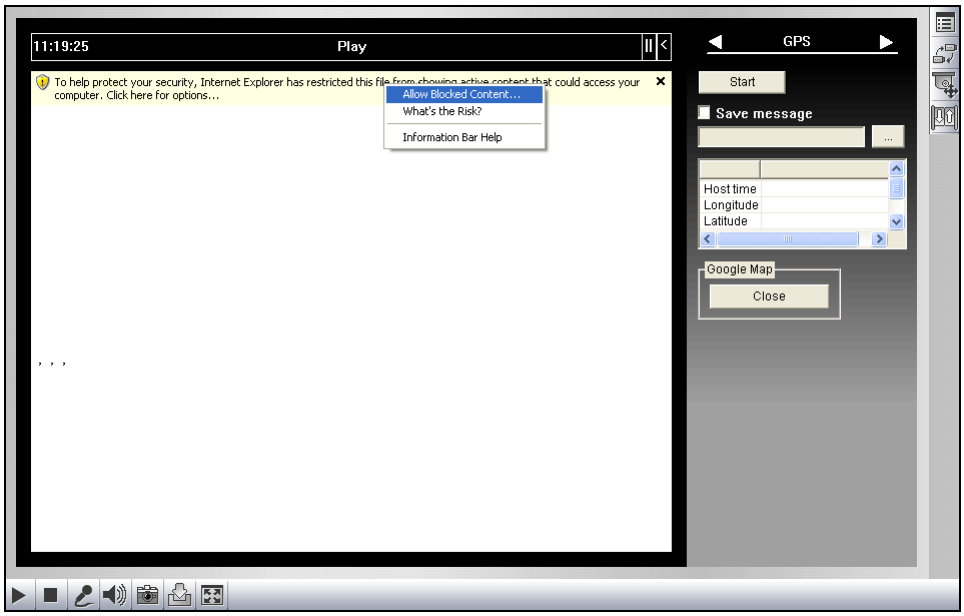


Figure 5-21

5. Right-click the warning message and select **Allow Blocked Content**. The map will be displayed. The icon indicates the location of your GV-IP Speed Dome. In the upper right corner you have options to view different map formats, such as Satellite and Hybrid.

Figure 5-22

6. You can also display the coordinates of the GV-IP Speed Dome on live view. For details, see *3.2.7 Geographical Coordinates Display*.

5.7.3 User Account

You can change the login name and password of Administrator, Guest and FTP Server User.

- The default Administrator login name and password are **admin**.
- The default Guest login name and password are **guest**. To allow a Guest user log in without entering the username and password, select **Disable authentication for guest account**.
- The default FTP Server login name and password are **ftpuser**.

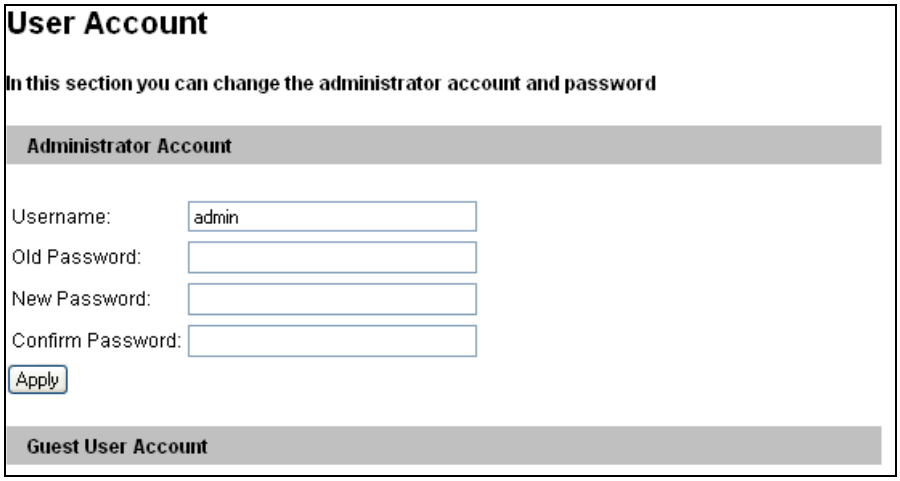


Figure 5-23

Note: You can also access this User Account interface simply by executing a CGI command. See *Appendix A*.

5.7.4 Log Information

The log contains dump data that is used by service personnel for analyzing problems.

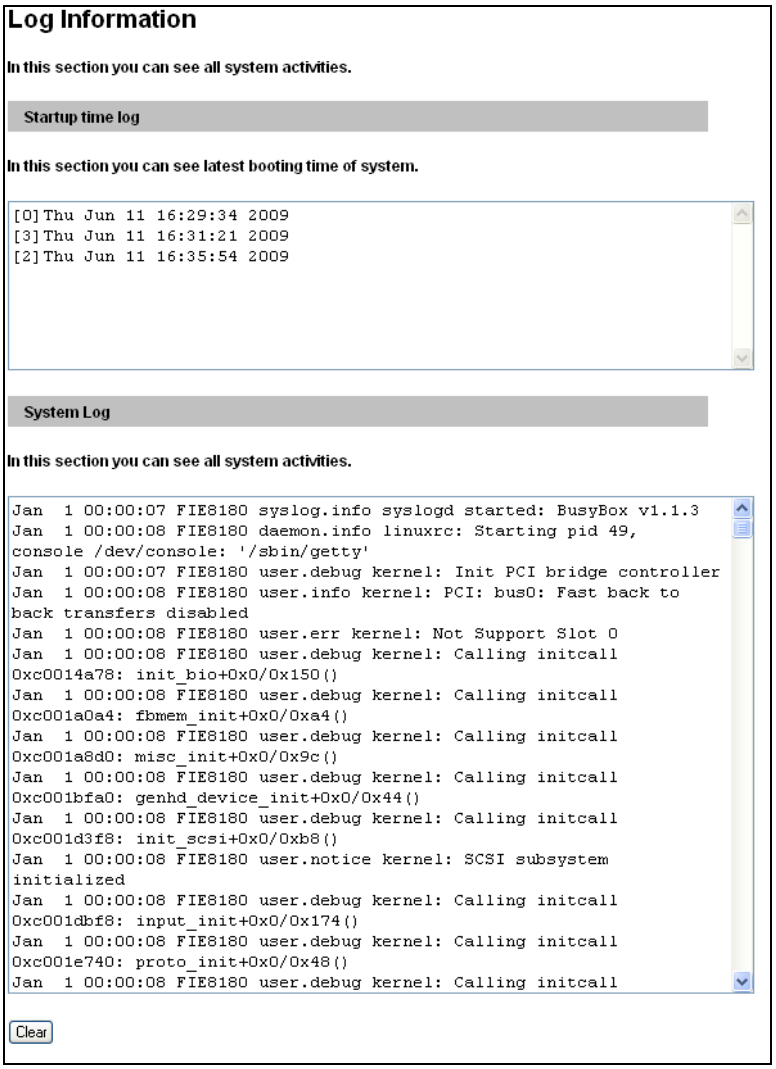


Figure 5-24

5.7.5 Tools

This section allows you to execute certain system operations and view the firmware version.

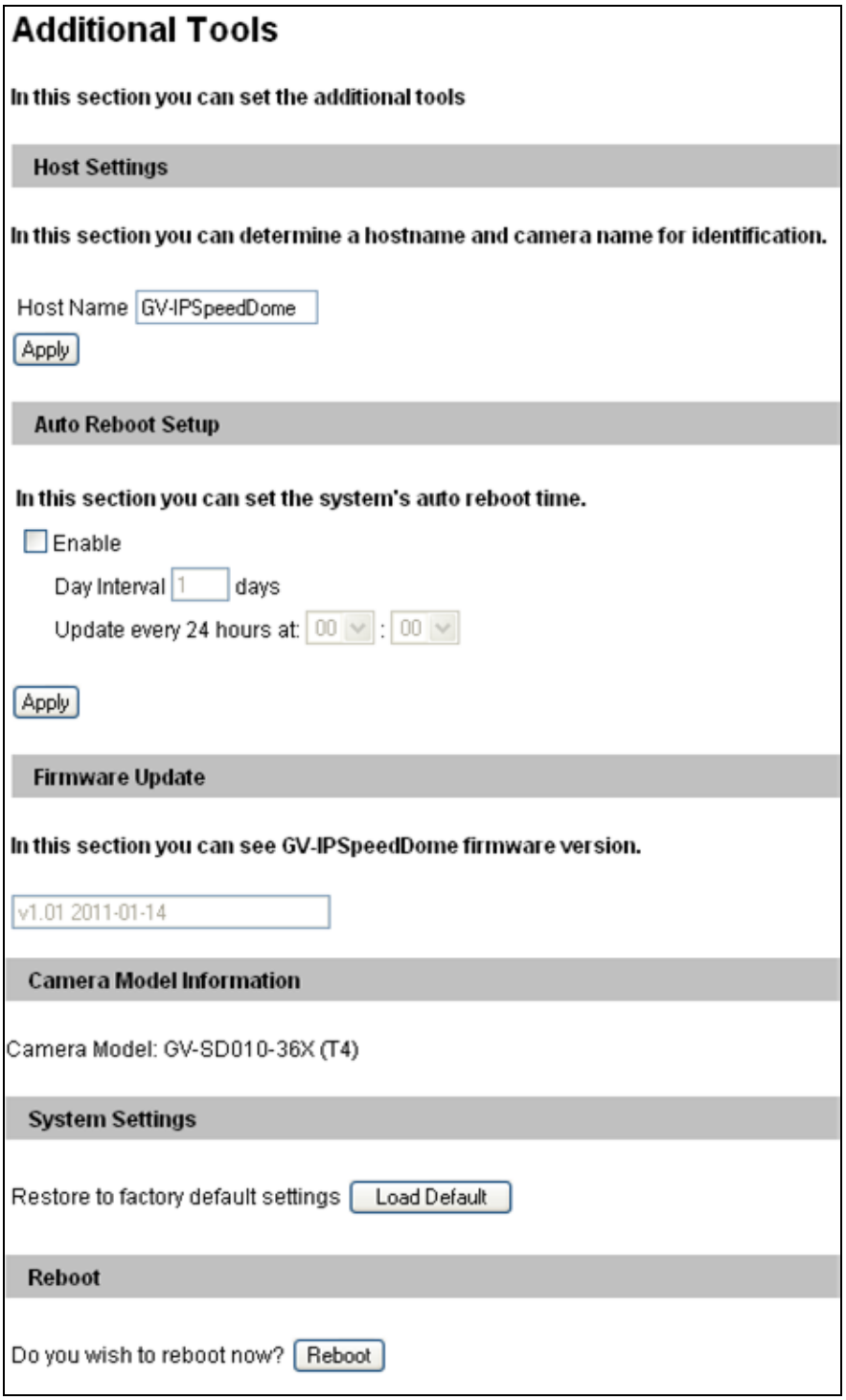


Figure 5-25

[Host Settings] Enter a descriptive name for the GV-IP Speed Dome.

[Auto Reboot Setup] Select **Enable** to activate automatic reboot and specify the time for reboot in the sub fields below.

- **Day Interval:** Type the day interval between the reboots.
- **Update time at:** Use the drop-down list to specify the time for automatic reboot.

[Firmware Update] This field displays the firmware version of the GV-IP Speed Dome.

[Camera Model Information] This field displays the model name of the GV-IP Speed Dome.

[System Settings] Clicking the **Load Default** button will make the GV-IP Speed Dome restore factory default settings.

Note: After applying the default function, you will need to configure the GV-IP Speed Dome's network setting again.

[Reboot]

Clicking the **Reboot** button will make the GV-IP Speed Dome perform the software reset.

Chapter 6 Advanced Applications

This chapter introduces more advanced applications.

6.1 Upgrading System Firmware

GeoVision will periodically release the updated firmware on the website. The new firmware can be simply loaded into the GV-IP Speed Dome by using the Web interface or the **IP Device Utility** included on the Software DVD.

Important Notes before You Start

Before you start updating the firmware, please read these important notes:

1. While the firmware is being updated, the power supply must not be interrupted.
2. Do not turn the power off within 10 minutes after the firmware has been updated.
3. If you use the IP Device Utility for firmware upgrade, the computer used to upgrade firmware must be under the same network as the GV-IP Speed Dome.

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

6.1.1 Using the Web Interface

1. In the Live View window, click the **Show System Menu** button (No. 11, Figure 3-3) and select **Remote Config** This dialog box appears.

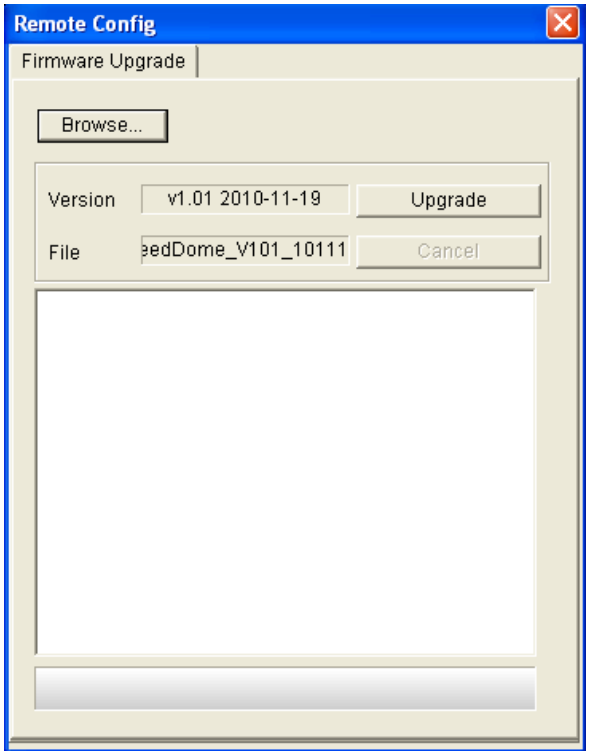


Figure 6-1

2. Click the **Browser** button to locate the firmware file (.img) saved at your local computer.
3. Click the **Upgrade** button to start upgrading.

6.1.2 Using the IP Device Utility

The IP Device Utility provides a direct way to upgrade the firmware to multiple GV-IP Speed Domes. Note the computer used to upgrade firmware must be under the network of the GV-IP Speed Dome.

1. Insert the Software DVD, select **IP Device Utility**, and follow the onscreen instructions to install the program.
2. Double-click the **IP Device Utility** icon created on your desktop. This dialog box appears.

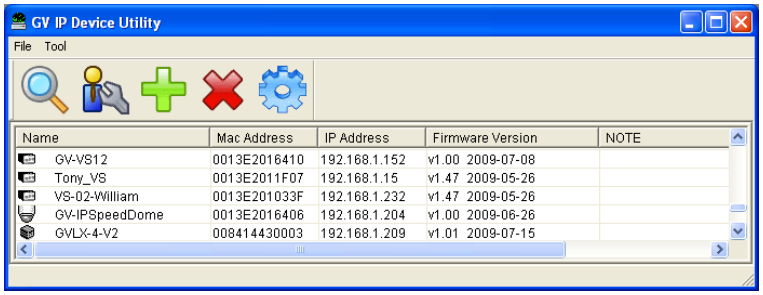


Figure 6-2

3. Click the **Search** button to locate the available GV-IP Speed Domes on the same LAN. Or click the **New** button and assign the IP address to locate a GV-IP Speed Dome on the Internet. Or highlight one GV-IP Speed Dome in the list and click the **Delete** button to remove it.
4. Double-click one GV-IP Speed Dome in the list. This dialog box appears.

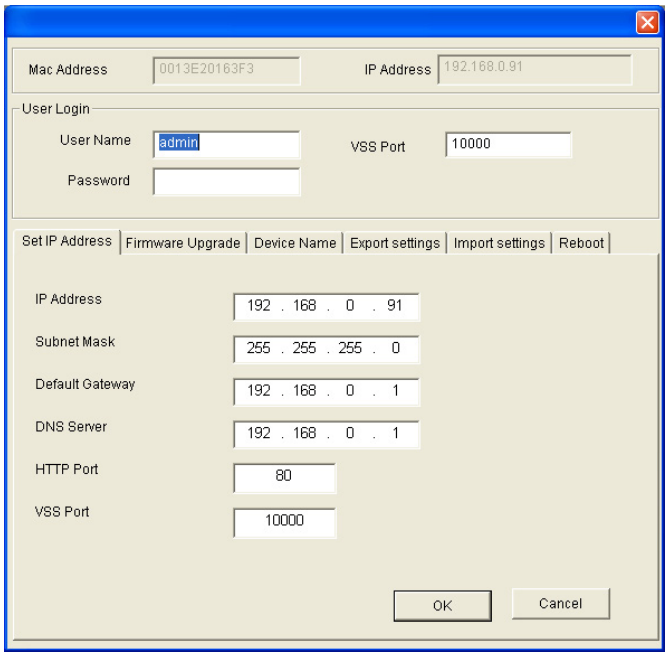


Figure 6-3

5. Click the **Firmware Upgrade** tab. This dialog box appears.

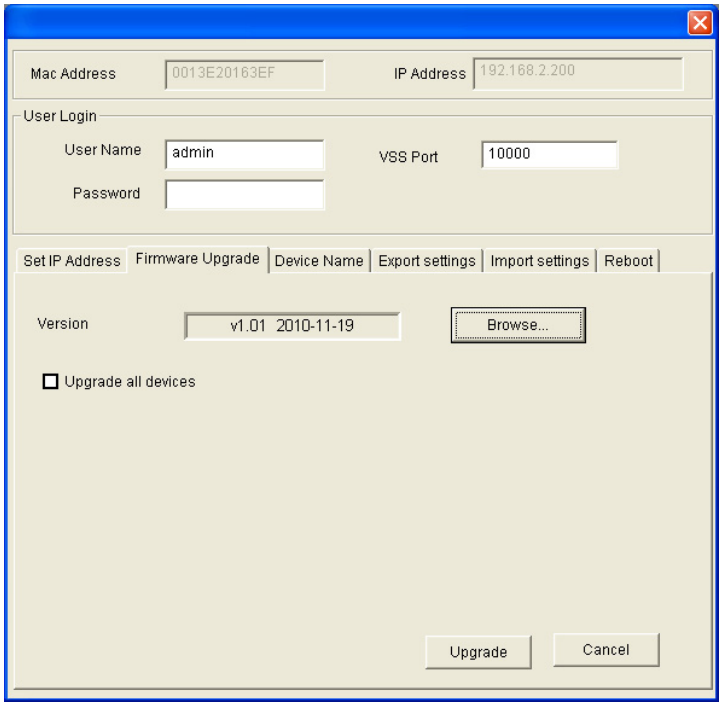


Figure 6-4

6. Click the **Browse** button to locate the firmware file (.img) saved at your local computer.
7. If you like to upgrade all the GV-IP Speed Domes in the list, check **Upgrade all devices**.
8. Type **Password**, and click **Upgrade** to process the upgrade.

6.2 Backing Up and Restoring Settings

With the IP Device Utility included on the Software DVD, you can back up the configurations in the GV-IP Speed Dome, and restore the backup data to the current unit or import it to another unit.

To back up the settings:

1. Run **IP Device Utility** and locate the desired GV-IP Speed Dome. See Steps 1-3 in *6.1.2 Using the IP Device Utility.*
2. Double-click the GV-IP Speed Dome in the list. Figure 6-3 appears.
3. Click the **Export Settings** tab. This dialog box appears.

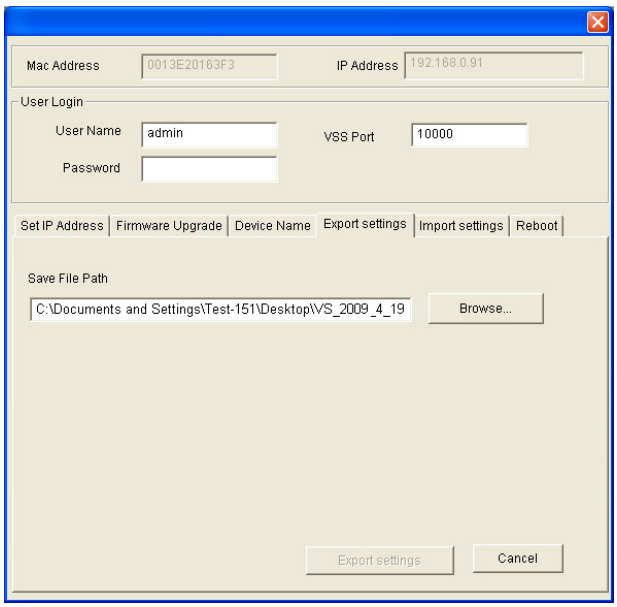


Figure 6-5

4. Click the **Browse** button to assign a file path.
5. Type **Password**, and click **Export Settings** to save the backup file.

To restore the settings:

1. In Figure 6-3, click the **Import Settings** tab. This dialog box appears.

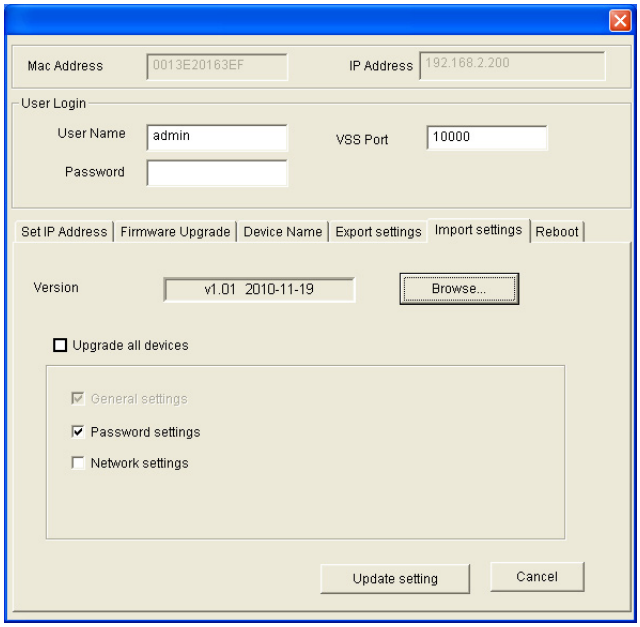


Figure 6-6

2. Click the **Browse** button to locate the backup file (.dat).
3. Select **Upgrade all devices** to import the settings into the same type of device in the same LAN. To import password settings and/or network settings, select **Password Settings** and/or **Network settings**.
4. Click the **Upgrade setting** button to start restoring.

6.3 Restoring to Factory Default Settings

The settings of GV-IP Speed Dome are divided into two categories: PTZ settings and other settings. Therefore the operations of restoring the two setting categories to original default values are separate and different.

To restore all settings, except PTZ settings, to default values:

Use the Reset and Default buttons on the GV-IP Speed Dome to perform this action.

1. Press and then release the **Reset** button (No. 1, Figure 1-1 and Figure 1-2) immediately.
2. Press and hold the **Default** button (No. 2, Figure 1-1 and Figure 1-2) until the Ethernet plug lights out. It may take up to 30 seconds.
3. Release the **Default** button. The loading of default settings is complete, and the Dome starts rebooting itself.

Note: Before the Dome completes the reboot, do not unplug the power cable; otherwise the loading of default values will fail.

To restore PTZ settings to default values:

There are two methods to perform this action. It is highly recommended to use the **Load Camera Default** button on the Web interface. For this see *4.10 System Configuration*. If it does not work, use the Communication Switch on the GV-IP Speed Dome. For this see *1.5 Communication Switch.*

6.4 Verifying Watermark

The watermark is an encrypted and digital signature embedded in the video stream during the compression stage, protecting the video from the moment of creation. Watermarking ensures that an image is not edited or damaged after it is recorded. To enable the watermark function, see [Watermark Setting], *5.1.1 Video Settings*.

The Watermark Proof is a watermark-checking program. It can verify the authenticity of the recording before you present it in court.

6.4.1 Accessing AVI Files

To verify watermark, access the recorded AVI files by one of the following methods:

1. Use the File Save function (No. 6, Figure 3-3) to start recording on the local computer.
2. Locate recorded files on the GV-System.

6.4.2 Running Watermark Proof

1. Install **Watermark Proof** from the Software DVD. After installation, a **WMProof** icon is created on your desktop.
2. Double-click the created icon. The Water Mark Proof window appears.
3. Click **File** from the menu bar, select **Open** and locate the recording (.avi). The selected recording is then listed on the window. Alternatively, you can drag the recording directly from the storage folder to the window.
4. If the recording is unmodified, a check mark will appear in the **Pass** column. On the contrary, if the recording is modified or does not contain watermark during recording, a check mark would appear in the **Failed** column. To review the recording, double-click the listed file on the window.

6.4.3 The Watermark Proof Window

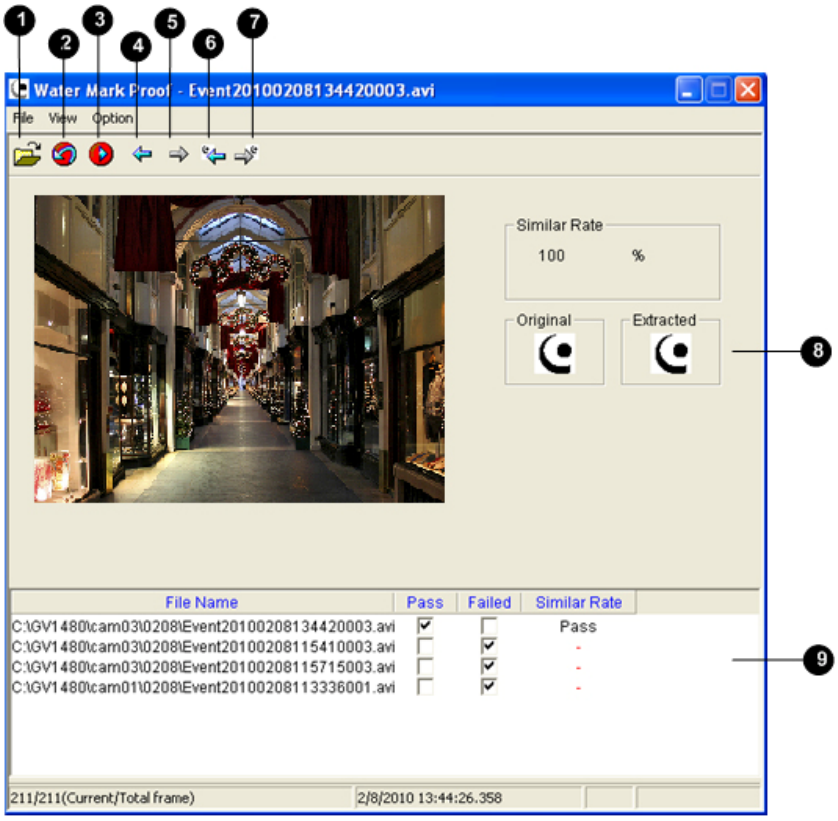


Figure 6-7

The controls in the window:

No.	Name	Description
1	Open File	Opens the recording.
2	First Frame	Goes to the first frame of the file.
3	Play	Plays the file.
4	Previous Frame	Goes to the previous frame of the file.
5	Next Frame	Goes to the next frame of the file.
6	Previous Watermarked Frame	Goes to the previous frame that contains watermark.
7	Next Watermarked Frame	Goes to the next frame that contains watermark.
8	Original vs. Extracted	The Extracted icon should be identical with the Original icon. If not, it indicates the recording has been tampered.
9	File List	Displays the proof results.

Chapter 7 DVR Configurations

The GV-System provides hybrid solution, integrating the digital videos from GV-IP Speed Dome with other analog videos. For the digital videos, the GV-System provides the complete video management, such as video viewing, recording, playback, alert settings and almost every feature of the system. Following is the integration specifications:

- GV-System version **8.4** or later is required.
- When a GV-IP Speed Dome is connected to IE browser or any other applications, it takes up 1 stream; when it is connected to GV-System, it takes up 2 streams.

Note:

1. The above maximum number of streams is based on the camera's maximum resolution (704 x 480 / 704 x 576) and the codec H.264.
2. By default, GV-IP Speed Dome is in dual streams and will take up 2 streams when connected to GV-System.

- The hardware compression and the "Pre-Recording Using RAM" feature cannot work on the videos from GV-IP Speed Dome. For details about the "Pre-Recording Using RAM" feature, see "System Configuration", Chapter 1, *DVR User's Manual* on the Surveillance System Software DVD.

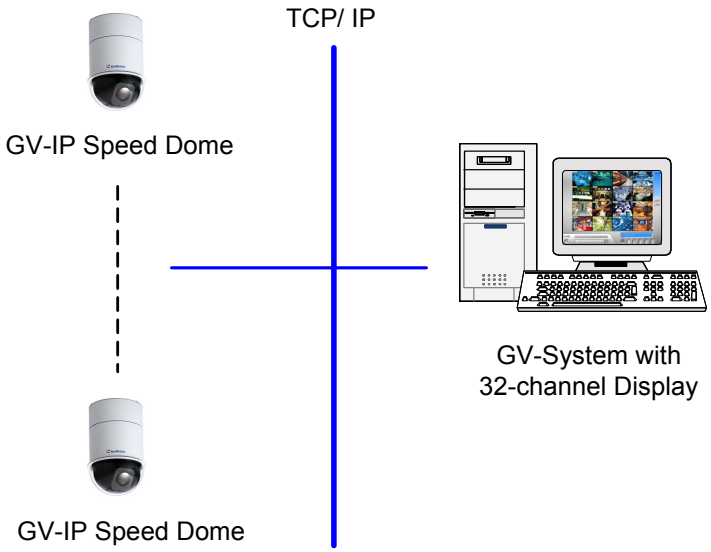


Figure 7-1

7.1 Setting Up IP Cameras

To set up IP cameras on the GV-System, follow these steps:

Note: The following instructions are based on V8.4 software and user interfaces.

1. On the main screen, click the **Configure** button, select **General Setting**, select **Camera / Audio Install** and click **IP Camera Install**. This dialog box appears.

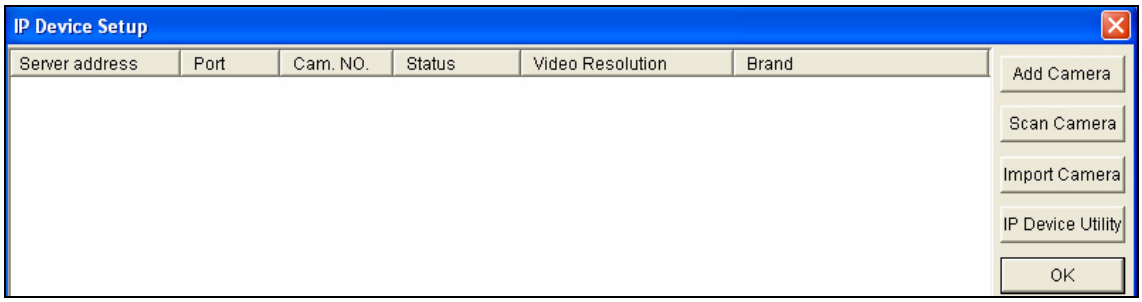


Figure 7-2

- To automatically set up an IP camera, click **Scan Camera** to detect any IP cameras on the same LAN.
- To manually set up an IP camera, click **Add Camera**.
- To import IP cameras from the IP Device Utility, click **Import Camera**.
- To map IP devices through the GV IP Device Utility program, click **IP Device Utility**.

The following steps are the example of manual setup.

2. Click **Add Camera**. This dialog box appears.

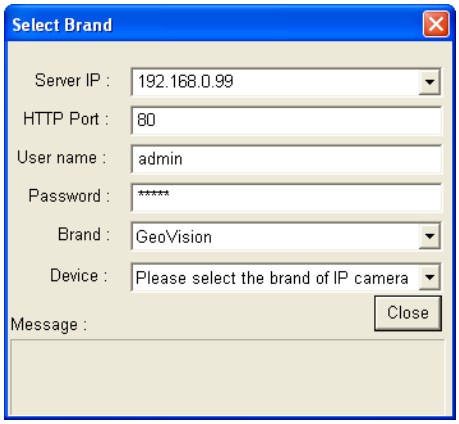


Figure 7-3

3. Type the IP address, username and password of the GV-IP Speed Dome. Modify the default HTTP port if necessary.
4. Select **GeoVision** from the **Brand** drop-down list and select **GV-SD010** from the **Device** drop-down list. This dialog box appears.

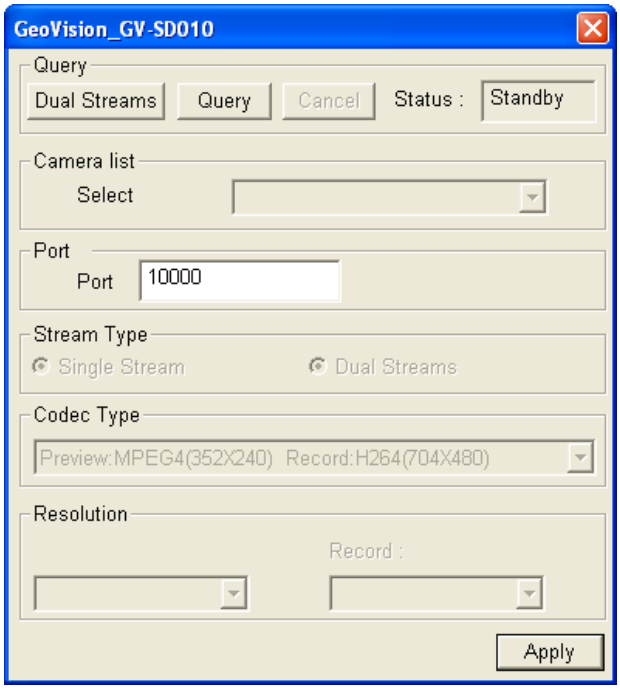


Figure 7-4

- **Dual Stream:** Click this button to set the codec type to H.264 in the main stream and to MPEG4 in the sub stream with the resolutions listed below.

Camera	Resolution	
	Main Stream (H.264)	Sub Stream (MPEG4)
GV-SD010	704 x 480	352 x 240

- **Port:** Modify the video streaming port number if necessary.
- **Stream Number:** You have the option of single streaming only or both single and dual streaming.
- **Codec type:** You have the option of MPEG4, JPEG, or H.264. If the selected camera supports dual streaming, the preview codec and recording codec can be set differently.
- **Resolution:** Select resolutions for preview and recording.

5. Click **Apply**. The IP camera is added to the list.

6. Click the listed camera, and select **Display position** to map the IP camera to a channel on the GV-System.

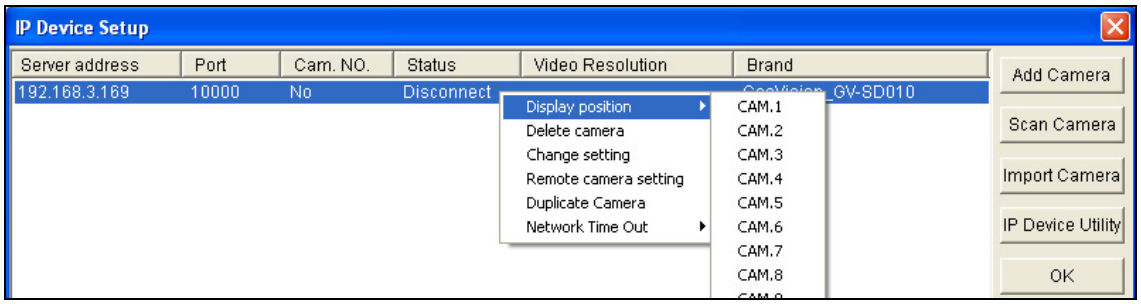


Figure 7-5

7. The Status column now should display “Connected”. Click **OK**.

Previewing Video and Setting Audio

To preview video and activate audio recoding, highlight the desired GV-IP Speed Dome and select **Preview & Audio Setting**. This dialog box appears.

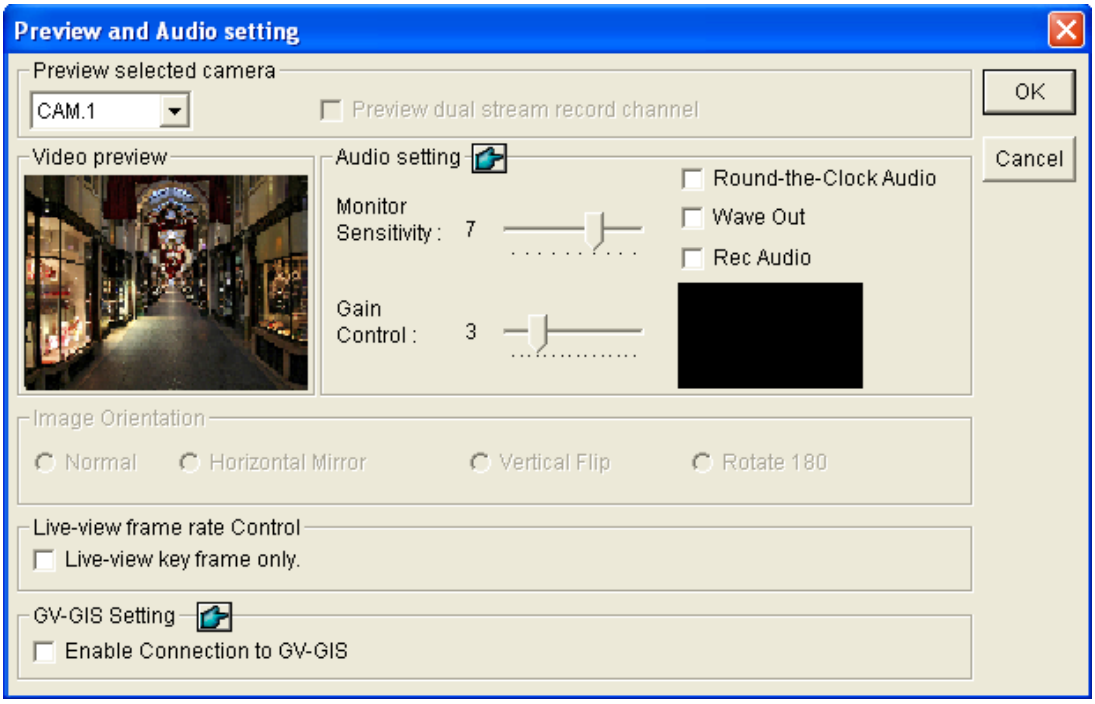


Figure 7-6

[Preview selected camera]

- **Drop-down List:** Select the desired camera for live preview.
- **Preview dual stream record channel:** The option is only available when the dual stream is set, i.e. the cameras for live view and recording are configured differently (Figure 7-4). Check this option for recording preview.

[Audio Setting]

- **Monitor Sensitivity:** Adjusts the sensitivity of the audio that will be detected. The higher the value, the more sensitive the system is to the surrounding sound.
- **Gain Control:** Increases or decreases the gain of the microphone.
- **Round-the-Clock Audio:** Enables round-the-clock audio recording. For this function to work, you also need to enable **Rec Audio**.
- **Wave Out:** Enable this option to listen to live audio from the GV-IP Speed Dome.
- **Rec Audio:** Enable this option to activate the audio recording.

[Image Orientation] You can adjust the image orientation of the camera according to your preference.

- **Normal:** Select to view the camera image as it is.
- **Horizontal Mirror:** Select to view the mirror image of the camera image.
- **Vertical Flip:** Select to view the camera image flipped vertically.
- **Rotate 180:** Select to view the camera image rotated by 180 degrees.

[Live-view Frame Rate Control] Sets the frame rate of live view to reduce the CPU usage.

- **Maximum live-view frame rate:** This option is available when the recording codec of the IP camera is set to **JPEG**. Select the frame rate of live view from 1 to 30 fps.
- **Live-view key frame only:** This option is available when the recording codec of the IP camera is set to **MPEG4** or **H.264**. You can choose to view the video of key frames instead of all frames on the live view. This option is related to the GOP setting of the IP camera. For example, if the GOP value is set to 30, there is only one key frame among 30 frames. For the GOP setting, see *5.1.1 Video Settings*.

[GV-GIS Setting]

Records the video with the GPS data. To record the GPS data, remember to also enable the GIS function of the GV-System (Configure button < Accessories < Enable Local GIS).

7.2 Remote Monitoring with Multi View

You can use the Multi View to monitor the video and I/O devices connected from the GV-IP Speed Dome.

Connecting to GV-IP Speed Dome

The Multi View program is available in the GV-System applications, and also included on the Software DVD as an independent program. The following is an example of running the Multi View through WebCam Server on the GV-System.

1. To enable the remote access to the GV-System, click the **Network** button, select **WebCam Server** to display the Server Setup dialog box, and click **OK** to start the WebCam server.
2. At the local computer, open the Web browser and type the address of the GV-System. The Single View page appears.
3. Select **Multi View** and the desired viewing resolution. The valid user name and password are required for login. For the first-time user, you will be directed to the Download page. Install the Multi View program before you can run it.
4. On the Multi View window, click the **Edit Host** button. The Edit Host window appears.
5. To create a host, click the **New** button. You need to create a group before creating a host.
6. Select **GV-IP Camera** from the Device drop-down list. Type the host name, IP address, user name and password of the GV-IP Speed Dome. Modify the default VSS port **10000** if necessary.

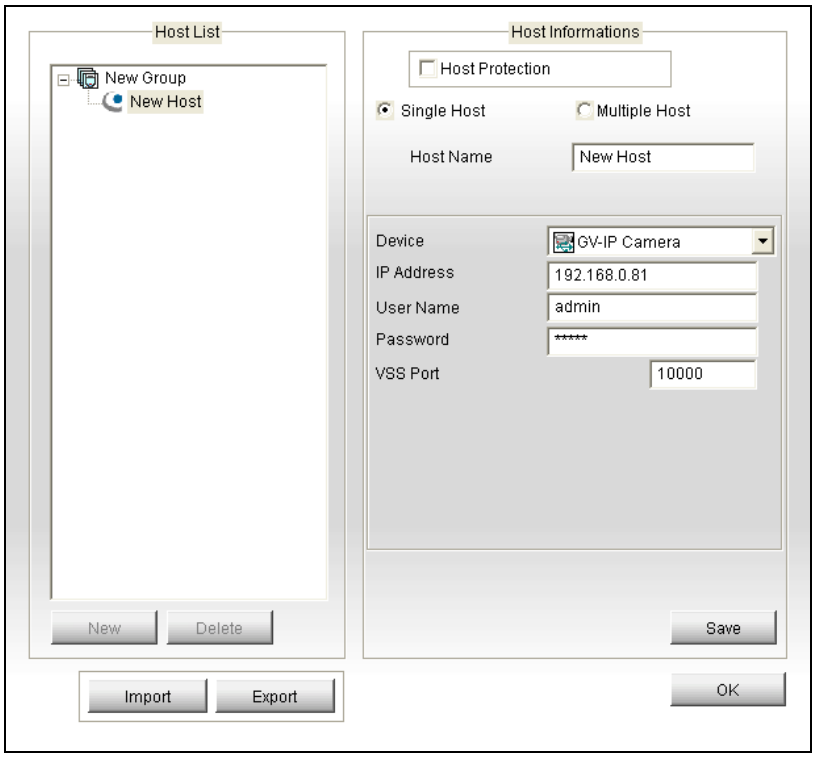


Figure 7-7

7. Click **Save** to establish connection.

For details on the Multi View functions, see “Multi View Viewer”, Chapter 8, *DVR User’s Manual* on the Surveillance System Software DVD.

7.3 Remote Monitoring with E-Map

You can use the Remote E-Map to monitor the video and I/O devices connected from the GV-IP Speed Dome.

Creating an E-Map for the GV-IP Speed Dome

With the E-Map Editor, you can create an E-Map for the GV-IP Speed Dome and I/O devices connected to the Dome. The E-Map Editor is available in the two applications: Main System and E-Map Server. The following is an example of running the E-Map Editor included in the Main System.

1. Go to Windows **Start** menu, point to **Programs**, select **GV folder** and click **E-Map Editor**.
2. To create an E-Map, click the **Add Map** button on the toolbar. A New Map file appears.
3. Double-click the New Map file, and click the **Load Map** button on the toolbar to import a graphic file.
4. To create a host, click the **Add Host** button on the toolbar and select **Add Video Server**.
5. Right-click the created New Host in the Host View, and select **Host Settings**. This dialog box appears.

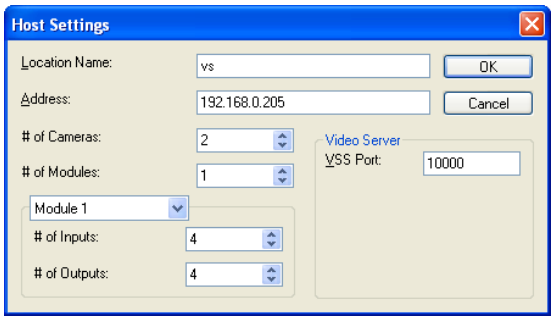


Figure 7-8

6. Give the GV-IP Speed Dome a location name, and type its IP address (or domain name). Keep the default VSS port **10000**, or modify it to match that of GV-IP Speed Dome.
7. Click **OK** to save the settings.
8. Expand the created host folder. Drag and drop the icons of cameras and I/O devices onto the imported E-Map.
9. Close the E-Map Editor. Click **Yes** when you are promoted to save the file.

For details on creating an E-Map file on the E-Map Server, see “E-Map Server”, Chapter 9, *DVR User’s Manual* on the Surveillance System Software DVD.

Connecting to GV-IP Speed Dome

Depending on where you save the created E-Map file (GV-System, E-Map Server or Control Center), the steps to open the Remote E-Map window for monitoring may vary slightly. The following is the connection example when you store the E-Map file in the GV-System.

1. To enable the remote access to the GV-System, click the **Network** button, select **WebCam Server** to display the Server Setup dialog box, and click **OK** to start the WebCam server.
2. At the local computer, open the web browser and type the address of the GV-System. The Single View page appears.
3. Select **Emap**. The valid user name and password are required for login. For the first-time user, you will be directed to the Download page. Install the E-Map program before you can run it.
4. On the Remote E-Map window, click the **Login** button and select the GV-IP Speed Dome host to access its videos and I/O devices. The valid user name and password are required to log in the GV-IP Speed Dome.

For details on the Remote E-Map functions, see “The Remote E-Map Window”, Chapter 9, *DVR User’s Manual* on the Surveillance System Software DVD.

Chapter 8 CMS Configurations

This section introduces the related settings to enable connecting to the GV-IP Speed Dome in the central monitoring stations Center V2 and VSM and Dispatch Server.

8.1 Center V2

The Center V2 can monitor the video and I/O devices connected from the GV-IP Speed Dome.

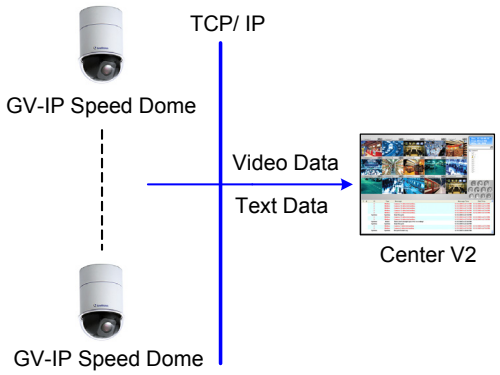


Figure 8-1

- To set the appropriate port connecting to the GV-IP Speed Dome, click the **Preference Settings** button, select **System Configure**, click the **Network** tab, and check **Accept connections from GV-Compact DVR, Video Server & IP Cam**. Keep the default port **5551** for the Port 2 option, or modify it to match the Center V2 port on the GV-IP Speed Dome.

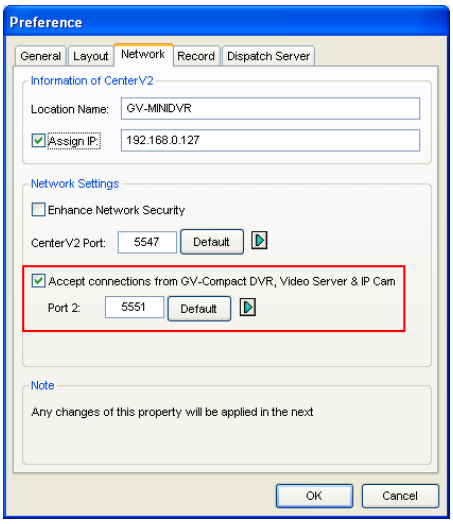


Figure 8-2

To define how to display the received video on motion detection and input trigger from the GV-IP Speed Dome, click the **Preference Setting** button and select **System Configure**. This dialog box appears.

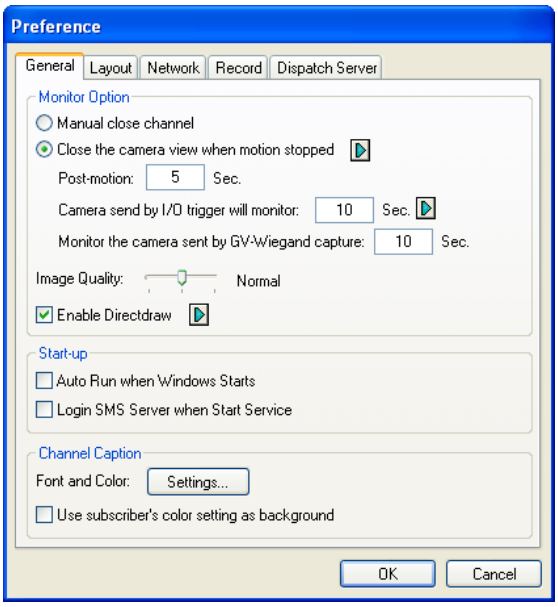


Figure 8-3

- **Manual close channel:** Closes the triggered camera view manually.
- **Close the camera view when motion stopped:** Closes the triggered camera view automatically when motion stops.
- **Post Motion:** Specify the duration of the camera view remaining on the monitoring window after motion stops.
- **Camera send by I/O trigger will monitor:** Specify the duration of the camera view remaining on the monitoring window when an I/O device is triggered.

  To keep the camera view remaining on the monitoring window even after the alarm is finished, click the right-arrow button, and uncheck **Latch Trigger**. Then the camera view will keep remaining on the monitoring window for the specified time. For example, the alarm is triggered for 5 minutes and you set 10 minutes, which means the total display time will be 15 minutes.

For further information on how to mange the received video from the GV-IP Speed Dome, see *GV-CMS Series User's manual.*

8.2 VSM

The VSM can monitor the video and I/O devices connected from the GV-IP Speed Dome.

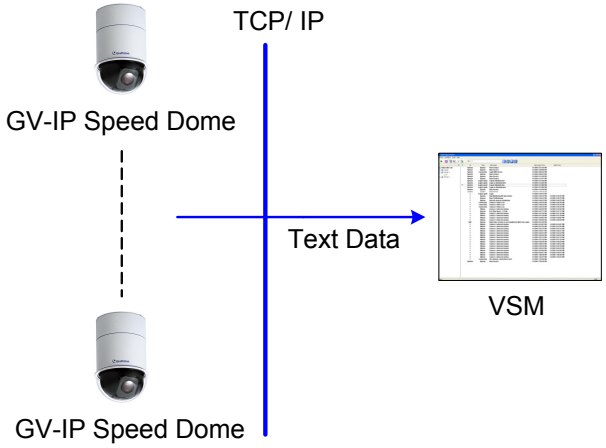


Figure 8-4

- To set the appropriate port connecting to the GV-IP Speed Dome, click **Configure** on the window menu, and select **System Configure** to display this dialog box. In the Connective Port field, keep the default value **5609** for the Port 2 option, or modify it to match the VSM port on the GV-IP Speed Dome.

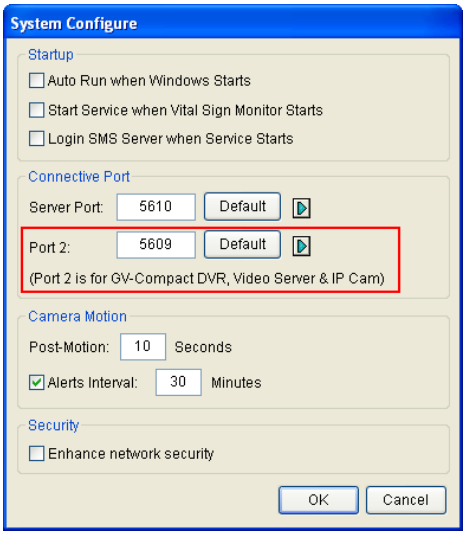


Figure 8-5

For further information on how to mange the received video from the GV-IP Speed Dome, see *GV-CMS Series User's manual*.

8.3 Dispatch Server

The Dispatch Server can manage the video and I/O devices connected from the GV-IP Speed Dome, and distribute them to the Center V2.

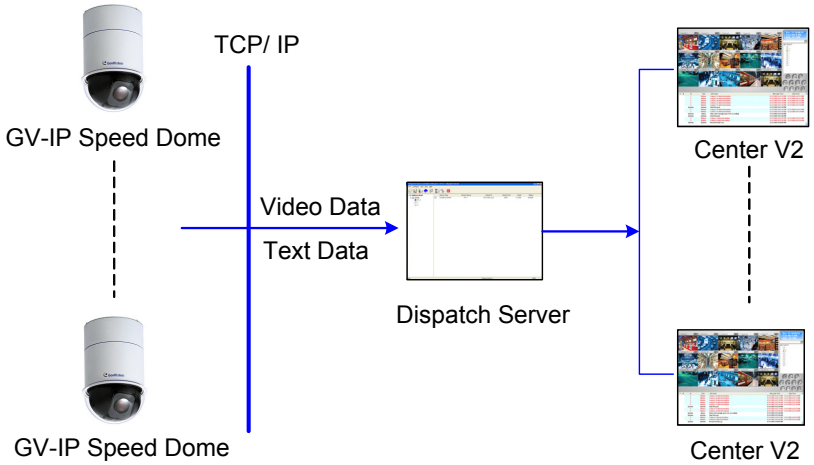


Figure 8-6

➢ To enable connecting to the GV-IP Speed Dome, click the **Server Setting** button on the toolbar, and enable **Allow Video Server Login as Subscriber from Port**. Keep the default port **5551**, or modify it to match the Center V2 port on the GV-IP Speed Dome.

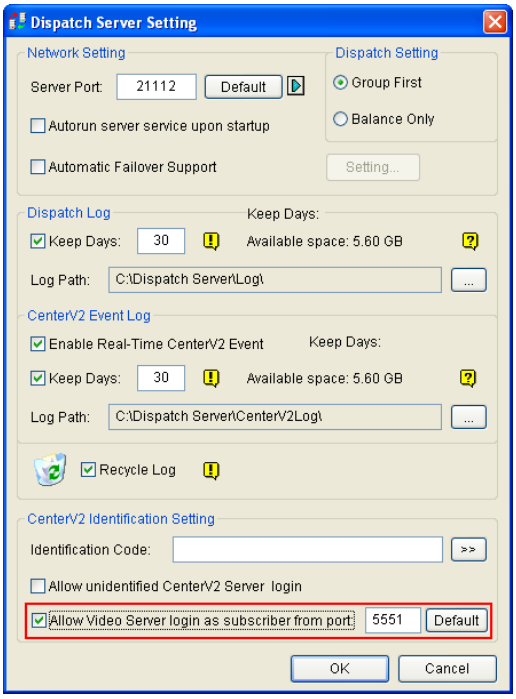


Figure 8-7

For further information on how to mange the received video from the GV-IP Speed Dome, see *GV-CMS Series User's manual*

Chapter 9 Mobile Phone Connection

Using a PDA, Smartphone or 3G-enabled mobile phone, you can receive live video streaming from the GV-IP Speed Dome. The charts below list the GV mobile applications supporting the GV-IP Speed Dome.

Handheld Device View	OS Supported	Default Port	Settings on GV-IP Speed Dome's Web interface
GV-GView V2	Windows Mobile 5.0 and 2003 for Pocket PC; Windows Mobile 6.0 / 6.1 / 6.5 Classic and Professional	Data Port: 8866 VSS Port: 10000	Video Settings → 3GPPv7, MSViewV2/V3, SSViewV3 and GViewV2 Supported
GV-MSView V2	Windows Mobile 5.0 and 2003 for Smartphone Windows Mobile 6.0 / 6.1 / 6.5 Standard and Professional	Data Port: 8866 VSS Port: 10000	Video Settings → 3GPPv7, MSViewV2/V3, SSViewV3 and GViewV2 Supported
GV-MSView V3	Windows Mobile 6.0 / 6.1 / 6.5 Standard and Professional	Data Port: 8866 VSS Port: 10000	Video Settings → 3GPPv7, MSViewV2/V3, SSViewV3 and GViewV2 Supported
GV-SSView V3	Nokia S60 2nd Edition and 3rd Edition for Smartphone	Data Port: 8866 VSS Port: 10000	Video Settings→ 3GPPv7, MSViewV2/V3, SSViewV3 and GViewV2 Supported
3GPP	Mobile phones with players supporting RTSP	TCP Port: 8554 UDP Port: 17300~17380	Video Settings → 3GPPv7, MSViewV2/V3, SSViewV3 and GViewV2 Supported
GV-Eye V1.0 (Android)	Android V2.2 to 4.0	Data Port:8866 HTTP Port: 80 VSS Port: 10000	N/A
GV-Eye / HD V1.1.2 (iPad / iPhone / iPod Touch)	iPhone OS 4.3.3 or above	VSS Port: 10000	N/A

Chart 1

Note:

1. For the 3G-enabled mobile phone, you can receive live video from the GV-IP Speed Dome without installing any GV mobile applications.
2. When users try to connect to the GV-IP Speed Dome via these mobile applications, they can only access the live view function. The remote playback, I/O control and PTZ control functions are not available.

Supported Resolution and Codec						
Handheld Device View	**GV-GView V2**	**GV-MSView V2/ V3**	**GV-SSView V3**	**3GPP Viewer**	**GV-Eye V1.0 (Android)**	**GV-Eye / HD V1.1.2 (iPad / iPhone / iPod Touch)**
MPEG4	320 x 240 or below			320 x 240 or below	720 x 480 or below	
MJPEG	X	X	X	X	1920 x 1080 or below	
H.264	X	X	X	X		
Note: A “X” mark indicates the mobile phone application does not support the codec. The live view will not be displayed on the mobile phone if you select the unsupported codec.						

9.1 PDA

GV-GView V2 is a remote view application for Pocket PC device. It can run on the PDA with Windows Mobile operating system. For the supported operating system version, see *Chart 1*.

When GV-GView V2 detects the big screen panel of the mobile phone, images from the GV-IP Speed Dome will be horizontally rotated for a better view. Resolution is set to be CIF by default.

9.1.1 Installing GV-GView V2

You can install GV-GView V2 program from the following download link or from the Surveillance System Software DVD.
Download Link: http://www.geovision.com.tw/english/5_4.asp

1. Insert the Surveillance System Software DVD to the computer. It runs automatically, and a window pops up.
2. Click **Install V 8.4.0.0 System**, and then click **Microsoft PDA Viewer V2**.
3. Follow the on-screen instructions to complete the installation. The default installation directory is **C:\Microsoft PDA Viewer V2**.
4. Through the synchronization program such as **ActiveSync**, install **GViewV2.exe** from the installation directory to your PDA. Consult your PDA user's manual for how to install a program to the PDA.

9.1.2 Activating the GV-GView Function

To allow remote access to the GV-IP Speed Dome, you must select **3GPPv7, MSView V2/V3** or **SSView V3 and GView V2 Supported** to be the connection type in the Connection Template field on the Video Settings page. See "Connection Template" in *5.1.1 Video Settings* for details.

9.1.3 Connecting to GV-IP Speed Dome

Once GV-GView V2 is installed on your PDA, you can use it to monitor your GV-IP Speed Dome. Make sure your PDA has wireless LAN adapter properly in place with access to the Internet.

1. Execute **GV-GView V2** on your PDA.

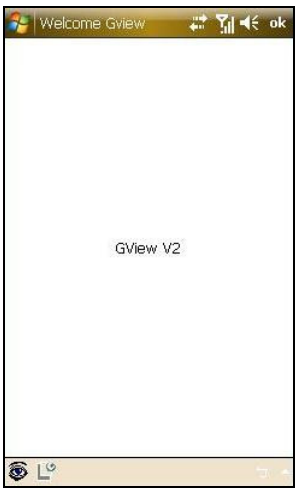


Figure 9-1

2. Click the  button located at the lower left corner. The login screen appears.

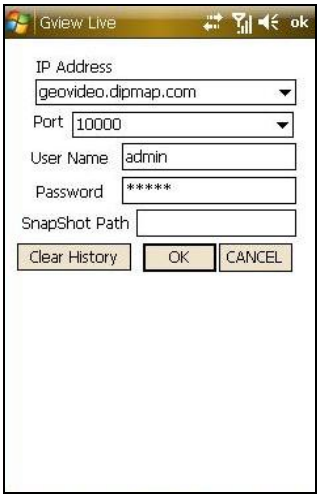


Figure 9-2

3. Enter the IP address of your GV-IP Speed Dome, port value (default value is 10000), a username and a password. Then click **OK**.
4. Once the connection is established, the live image will appear.

9.2 Windows Smartphone

With the GV-MSView V2 / V3 application, you can monitor your GV-IP Speed Dome remotely through a Windows-based smartphone. For the supported operating system version, see *Chart 1*.

9.2.1 Installing GV-MSView V2 / V3

You can install GV-MSView V2 / V3 program from the following download link or from the Surveillance System Software DVD.
Download Link: http://www.geovision.com.tw/english/5_4.asp

1. Insert the Surveillance System Software DVD to the computer. It runs automatically, and a window pops up.
2. Click **Install V 8.4.0.0 System**, and then click **Microsoft Smartphone Viewer V2** or **Microsoft Smartphone Viewer V3**.
3. Follow the on-screen instructions to complete the installation. The default installation directory is **C:\SmartPhone Viewer V2** or **C:\SmartPhone Viewer V3**.
4. Through the synchronization program such as **ActiveSync**, install **MsviewV2.exe** or **MsviewV3.exe** from the installation directory to your smartphone. Consult your smartphone user's manual for how to install a program to the smartphone.

9.2.2 Activating the GV-MSView V2 / V3 Function

To allow remote access to the GV-IP Speed Dome, you must select **3GPPv7, MSViewV2/V3, SSViewV3 and GViewV2 Supported** to be the connection type in the Connection Template field on the Video Settings page. See "Connection Template" in *5.1.1 Video Settings for details*.

9.2.3 Connecting to GV-IP Speed Dome

The following operations may vary slightly for different modules.

1. Execute **MSViewV2.exe** or **MSViewV3.exe** on your smartphone.

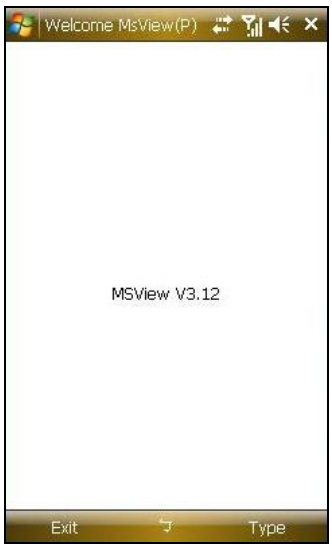


Figure 9-3

2. Click **Type** and then **Live**.

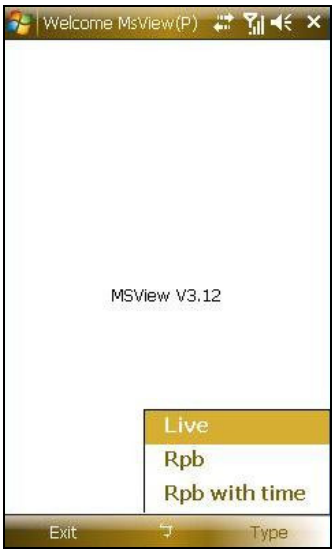


Figure 9-4

3. On the login screen, enter the IP address of your GV-IP Speed Dome, port value (default value is 10000), a username and a password. Then click **Control** and select **Connect**.

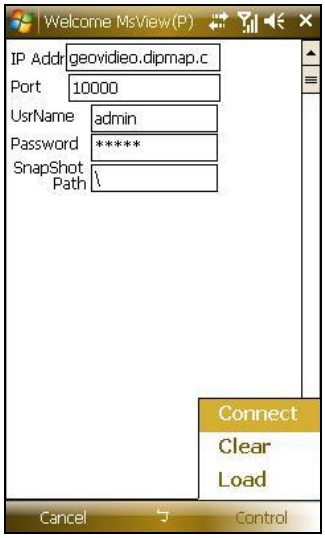


Figure 9-5

4. Once the connection is established, the live image will appear. You can use the scroll key on your smartphone to navigate camera channels.

Figure 9-6

9.3 Symbian Smartphone

With the GV-SSView V3 application, it's also possible to monitor your GV-IP Speed Dome remotely through a Symbian-based smartphone. For the supported operating system version, see *Chart 1*.

Note: For the user of GV-System version 8.3.2, the GV-SSView V3 application does not support the connection to GV-IP Speed Dome.

9.3.1 Installing GV-SSView V3

You can install GV-SSView V3 program from the following download link or from the Surveillance System Software DVD.
Download Link: http://www.geovision.com.tw/english/5_4.asp

1. Insert the Surveillance System Software DVD into the computer. It runs automatically, and a window pops up.
2. Click **Install V 8.4.0.0 System**, select **Symbian Smartphone Viewer V3 (For Nokia S60 2nd and 3rd)**.
3. Follow the on-screen instructions to complete the installation. The default installation directory is **C:\Symbain SmartPhone Viewer V3**.
4. Through the synchronization program such as **Nokia PC Suite**, install **SSviewV3.exe** from the installation directory to your smartphone. Consult your smartphone user's manual for how to install a program to the smartphone.

9.3.2 Activating the GV-SSView V3 Function

To allow remote access to the GV-IP Speed Dome, you must select **3GPPv7, MSViewV2/V3, SSViewV3 and GViewV2 Supported** to be the connection type in the Connection Template field on the Video Settings page. For details, see "Connection Template" in *5.1.1 Video Settings*.

9.3.3 Connecting to GV-IP Speed Dome

The following operations may vary slightly for different modules.

1. Execute **SSView** on your smartphone.
2. When the message *SSView V3* appears, select **Options** and select **Live Connect**. The login screen appears.

Figure 9-7

3. Enter the IP address of your GV-IP Speed Dome, port value (default value is 10000), a username and a password. Then click **Options** and select **Connect**.
4. Once the connection is established, the live image will appear.

Figure 9-8

9.3.4 Quick Connection

The IP addresses of connected GV-IP Speed Domes can be stored for quick connection in the future. Press the **[<]** and **[>]** buttons on the mobile device to select the desired GV-IP Speed Dome for connection.

9.4 3G Mobile Phone

Without installing any GV applications, you can use a 3G mobile phone to access GV-IP Speed Dome directly.

9.4.1 Activating the 3G Mobile Phone Function

To allow remote access to the GV-IP Speed Dome, first you must select **3GPPv7, MSViewV2/V3, SSViewV3 and GViewV2 Supported** to be the connection type in the Connection Template field on the Video Setting page, and then enable the 3GPP Server on GV-IP Speed Dome. See *5.1.1 Video Settings* and *5.3.6 3GPP / RTSP* for details.

9.4.2 Connecting to the GV-IP Speed Dome

1. Open the Internet browser in the mobile phone, and enter the IP address of your GV-IP Speed Dome, a user name and a password. Then click **Apply** to connect.

Figure 9-9

2. After the connection is established, an image similar to this example appears.

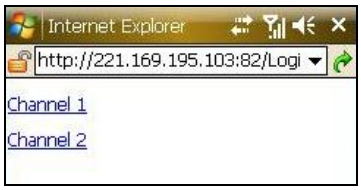


Figure 9-10

3. Select the desired channel. Its live image will appear.

Figure 9-11

9.5 Android Smartphone

With GV-Eye V1.0.0 for Android, you can connect to GV-IP Speed Dome using Android version 2.2 – 4.0 to remotely watch live view and take snapshots.

Download GV-Eye from Android Market and install the application. The GV-Eye icon will appear on the desktop.

Figure 9-12

9.5.1 Connecting to GV-IP Speed Dome

1. Tap the **GV-Eye** icon on the main page.
2. Tap the Menu button to access the following functions.

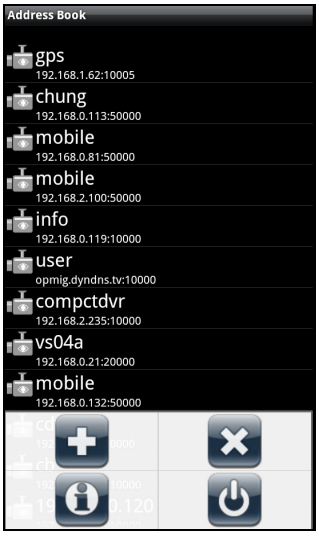


Figure 9-13

- **Add** the connection information of a GV-IP Device to the address book.
- **Delete all** entries in the address book.
- Displays the **Installation Guide**.
- **Exit** the application.

3. Tap the **Add** button and type the name, IP address, port number, user name and password of the GV-IP Speed Dome.

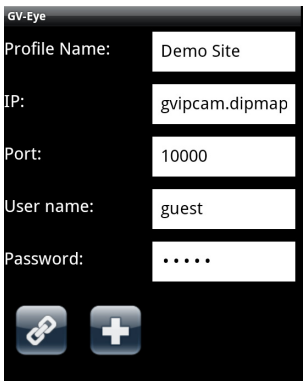


Figure 9-14

4. You can press the Menu button on the mobile phone and tap the **Setting** button to see the version number of GV-Eye or tap the **Address Book** button to see the address book.
5. Tap the **Add** button to save the connection information to the address book or tap the **Connection** button to connect to the IP Speed Dome.

9.5.2 Accessing Live View

You can press the menu button to see or hide the connection information.

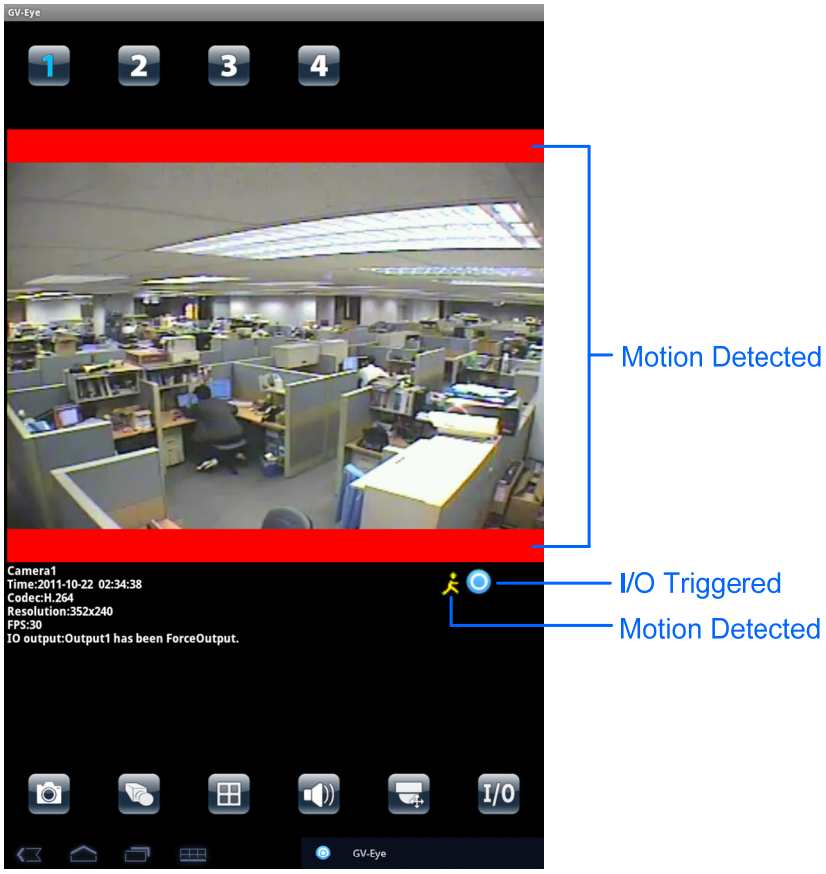


Figure 9-15

The following function buttons are available:

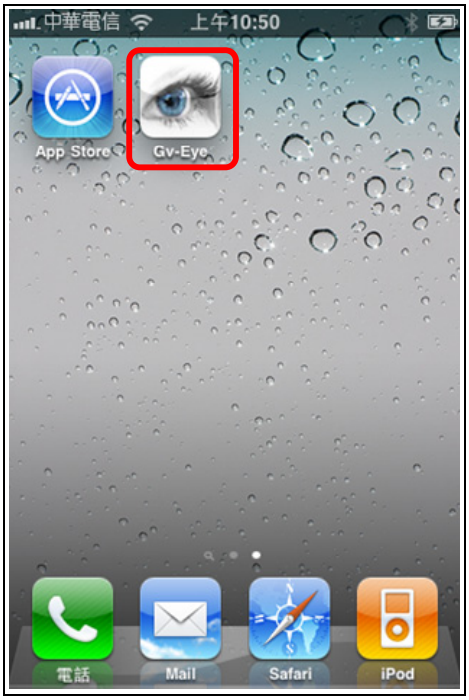
Icon	Name	Function
1 2 3 4	Channel number	This function is only supported by GV-Video Server and GV-Compact DVR.
	Snapshot	Saves the current image in the mobile device
	Dual Stream	Switches between the video streams if the GV-IP device supports dual streams.
	Screen division	This function is only supported by GV-Video Server and GV-Compact DVR.
	Audio	Enables or disables the audio function. G.711 and G.723 audio codec are supported.

	PTZ Control	Enables the PTZ function. A message will appear. Tap OK if you want to be able to use touch panel to control the PTZ function in addition to using the PTZ control buttons on the bottom of the screen. •  : Moves the camera toward different directions. •  : Moves the camera back to Home position. •  : Zooms in and out. •  : Adjusts the focus. •  : Auto adjusts focus. •  : Adjusts the iris. •  : Moves the camera to a preset point by typing the preset number. •  : See more PTZ function buttons. •  : Exits the PTZ mode.
	I/O Device	Tap a number to force the output device to be triggered. The I/O icon  will appear briefly when I/O is triggered.

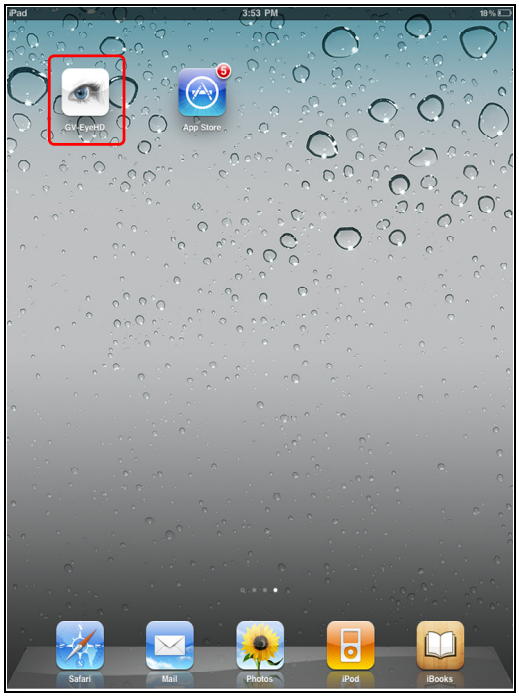
9.6 iPhone, iPod Touch and iPad

With GV-Eye / HD for iPhone, iPod Touch and iPad, you can connect to GV-IP Speed Dome to remotely watch live view, force output devices to be triggered and take snapshots. GV-Eye is designed for iPhone and iPod Touch, while GV-Eye HD is designed for iPad.

Download GV-Eye V1.1.2 / HD V1.1.2 from **App Store** and install the application. The **GV-Eye / GV-EyeHD** icon will appear on the desktop.



GV-Eye icon on iPnone / iPod Touch



GV-Eye HD icon on iPad

Figure 9-16

9.6.1 Connecting to GV-IP Speed Dome

To connect your iPhone, iPod Touch or iPad to the GV-IP Speed Dome, follow these steps:

1. Click the **GV-Eye** icon 

on the desktop of your phone. The welcome page appears.

2. Tap the **Add** button. This page appears.

Figure 9-17

3. Enter the Host name, Domain/IP address, port number, username and password to log in to the GV-IP Speed Dome.

4. Tap the **Save** button. The GV-IP Speed Dome is now added to the IPCam list and will be available the next time you access GV-Eye. You can tap the **Edit** button and then select an IP speed dome to edit existing device login information.

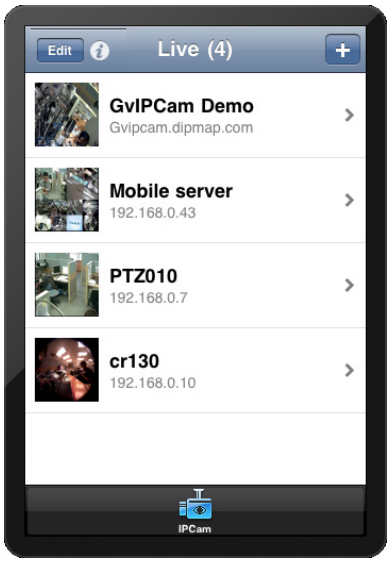


Figure 9-18

9.6.2 Accessing Live View

You can tap the information button at the top-right corner to see the connection information.

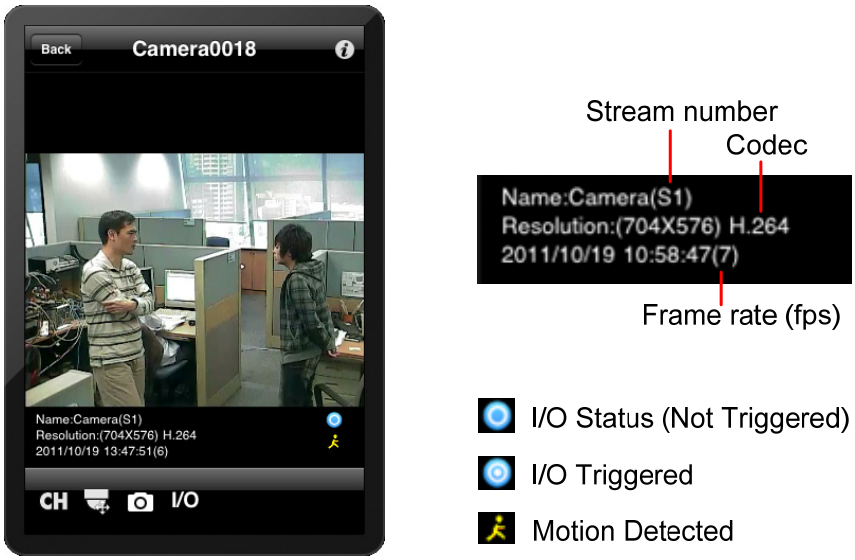


Figure 9-19

The buttons below are available when the iPhone, iPod Touch or iPad is positioned vertically.

Icon	Name	Function
CH	Screen division	Displays up to four channels on the same page if the GV-IP device supports multiple channels.
	PTZ control	Enables PTZ control. Drag across the camera live view screen to adjust the camera position. The following buttons are available: • : Zooms in and out. • : Adjusts the focus. • : Moves the camera back to Home position. • : Adjusts the iris. (GV-SD010 only) • : Moves the camera to a preset point by typing the preset number.
	Snapshot	Saves the current image in the mobile device.
I/O	I/O Device	Tap a number to force the output device to be triggered. The I/O icon will be highlighted briefly when I/O is triggered.

Note: The PTZ control and I/O device functions are only accessible on devices with PTZ control and I/O devices.

Chapter 10 Optional Power Box

The optional Power Box contains one AC 24V adapter and two terminal blocks for communication and power supply. With an IP66 case, the Power Box is ideal for outdoor installation environment. For operating in different installation environment, two types of power inputs are available: **AC 100~115V** and **AC 220~230V**.

10.1 Power Box Overview

Below is the explanation based on the number marked on the figure.

Figure 10-1

1 & 2: Commutation Signal Terminal Block

1 (J1)		2 (J6)	
Pin	**Definition**	**Pin**	**Definition**
RX+	Audio GND	RX+	Audio GND
RX-	Audio Out	RX-	Audio Out
TX+	Audio In	TX+	Audio In
TX-	Audio GND	TX-	Audio GND
ISOG	Not Functional	ISOG	Not Functional
VGND	Video GND	VGND	Video GND
VIDEO	Video	VIDEO	Video

3 & 4: Power Signal Terminal Block

3 (J5)		4 (J2)	
Pin	**Definition**	**Pin**	**Definition**
1	AC 24V	1	AC 24V
2	FG	2	FG
3	AC 24V	3	AC 24V

5: Power Plug AC Plug In.

6: Power Adaptor

7: Power Supply Voltage Switch Select the correct power input between 100V and 115V or 220V and 230V to meet your environment requirement.

Note: One Power Box can only work with one GV-IP Speed Dome of either indoor or outdoor type. It is not allowed to connect multiple GV-IP Speed Domes to one Power Box.

10.2 Installation

1. Screw the lid off the unit.
2. Remove the cushion in the Power Box.

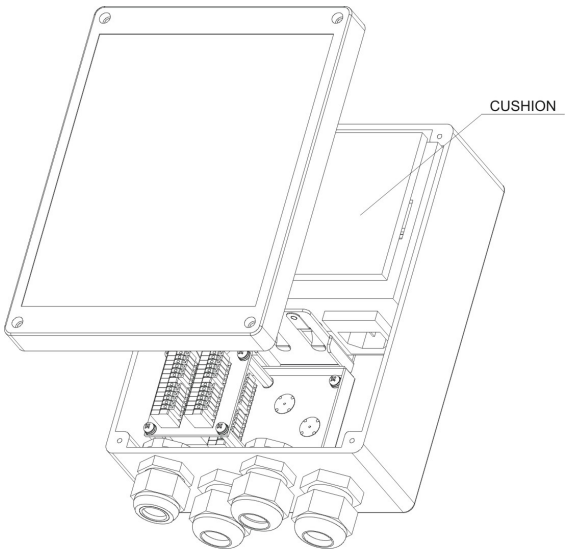


Figure 10-2

3. Refer to the pin assignment of Power Box mentioned earlier for connecting the commutation and power wires.
4. Adjust the power supply switch to the appropriate voltage.
5. Power on the unit.

10.3 Optional Power Box Specifications

Electrical	
Power Source	AC 100~115V / 220~230V at 50-60 Hz
Input Current	1.0A
Output Current	AC 24V (max AC 29V), 3.0A max.

Mechanical	
Environment	Indoor / Outdoor
Wall Mounting Option	Bracket plate
Dimensions (H x W x D)	187 x 147 x 76 mm; 7.36 x 5.78 x 3 in
Mounting area (H x W)	187 x 147 mm; 7.36 x 7.16 in
Weight	2 kg
Enclosure Material	Impact resistant polycarbonate non-metallic
Flammability Rating	UL 94V-1
Color	Light gray
Cover Fasteners	4 captive screws

Environmental	
Waterproof Standard	IP66
Operating Temperature	-40°C ~ 50°C; -40°F ~ 122°F
Storage Temperature	-40°C ~ 50°C; -40°F ~ 122°F
Relative Humidity	0 ~ 95% non-condensing

GV-IP Speed Dome Specifications

Type		Indoor			Outdoor		
Model		**GV-SD010-18X**	**GV-SD010-23X**	**GV-SD010-36X**	**GV-SD010-S18X**	**GV-SD010-S23X**	**GV-SD010-S36X**
Camera							
Image Sensor		1/4" Exview CCD	1/4" Progressive CCD	1/4" Exview CCD	1/4" Exview CCD	1/4" Progressive CCD	1/4" ExviewCCD
Optical Zoom		18x	23x	36x	18x	23x	36x
Digital Zoom		12x					
Effective Pixels	**NTSC**	380k					
	PAL	440k					
Horizontal Resolution	**NTSC**	530 TVL	540 TVL	530 TVL	530 TVL	540 TVL	530 TVL
	PAL	530 TVL	540 TVL	530 TVL	530 TVL	540 TVL	530 TVL
Scanning System		NTSC / PAL					
Synchronization		Internal / Line Lock					
Video Output		1.0 Vp-p / 75 Ω, BNC					
S/N Ratio		> 50 dB (AGC Off)					
Minimum Illumination		0.07 lux; 0.01 lux (B/W)	0.1 lux; 0.01 lux (B/W)	0.1 lux; 0.01 lux (B/W)	0.07 lux; 0.01 lux (B/W)	0.1 lux; 0.01 lux (B/W)	0.1 lux; 0.01 lux (B/W)
Focal Length		4.1 ~ 73.8 mm	3.6 ~ 82.8 mm	3.4 ~ 122.4 mm	4.1 ~ 73.8 mm	3.6 ~ 82.8 mm	3.4 ~ 122.4 mm
Focus Mode		Auto / Manual					
White Balance		Auto / Manual					
Iris Control		Auto / Manual					
Electronic Shutter	**NTSC**	1/1 ~ 1/10k s	1/2 ~ 1/30k s	1/1 ~ 1/10k s	1/1 ~ 1/10k s	1/2 ~ 1/30k s	1/1~ 1/10k s
	PAL	1/1 ~ 1/10k s	1/1.5 ~ 1/30k s	1/1 ~ 1/10k s	1/1 ~ 1/10k s	1/1.5 ~ 1/30k s	1/1 ~ 1/10k s
AGC Control		Auto / Manual					
Back Light Compensation		On / Off					
Video							
Video Codec		H.264, MPEG4, MJPEG					
Video Resolution	**NTSC**	704 x 480, 704 x 480 de-interlaced, 352 x 240					
	PAL	704 x 576, 704 x 576 de-interlaced, 352 x 288					
Frame Rate		30 fps (NTSC) / 25 fps (PAL) at D1					
Audio							
Audio input/output		2-way audio, stereo jack, Ø 35 mm					
Audio Codec		G.711					
Network							
Interface		10/100 Base-T Ethernet, RJ-45 connector					
Protocol		HTTP, HTTPS, TCP, UDP, SMTP, FTP, DHCP, NTP, UPnP, DynDNS, 3GPP/ISMA, RTSP, PSIA, QoS (DSCP), SNMP					
Web Interface							
Installation & Management		Web-based configuration					
Firmware Upgrade		Remote upgrade through Web Browser IP Device Utility included in the Software DVD					
Access from Web Browser		live view, video recording, PTZ control, preset setting, bandwidth control, image snapshot, digital I/O control, 2-way audio, Picture-in-Picture (PIP), Picture-and-Picture (PAP), Wide Angle Lens Dewarping (WALD)					

Type	Indoor			Outdoor		
Model	**GV-SD010-18X**	**GV-SD010-23X**	**GV-SD010-36X**	**GV-SD010-S18X**	**GV-SD010-S23X**	**GV-SD010-S36X**
Operation						
Pan Travel	360° endless					
Tilt Travel	-10° ~ 190°					
Manual Speed	0.5° ~ 90°/s					
Preset	256					
Preset Accuracy	0.225°					
Preset Speed	5° ~ 400°/s					
Sequence	8					
Auto Pan	4					
Cruise	4					
Proportional Pan & Tilt	On / Off (Pan and tilt speed proportional to zoom ratio)					
Resume after Power Loss	Yes					
Home Function	Preset, Sequence, Auto pan, Cruise					
Auto Flip	Digital / Mechanical / Off					
Digital Slow Shutter	On / Off					
Motion Detection	On / Off					
Wide Dynamic Range	On / Off					
Day/Night: Mechanical IR Cut Filter	On / Off					
Image Inverse	On / Off					
Image Freeze	On / Off					
Alarm Input	4					
Alarm Output	1					
Alarm Reaction	Preset, Sequence, Auto pan, Cruise					
General						
Operating Temperature	0°C ~ 40°C; 32°F ~ 104°F			-45°C ~ 50°C; -49°F ~ 122°F		
Waterproof Standard	N/A			IP66 standard (Outdoor series)		
Dimensions	Ø 131 x 226 mm; 5.2 x 8.9 in			Ø 172 x 302.5 mm; 6.7 x 11.9 in / Ø 190 x 302.5 mm; 7.5x 11.9 in (with sunshield)		
Weight	1.6 kg; 3.5 lbs			2.6 kg; 5.7 lbs		
Power Source	**NTSC**	**Input**	100 / 115V AC, 0.63A, 50-60HZ	**Input**	100 / 115V AC, 1.6A, 50-60HZ	
		Output	24V AC ± 10%, 1.5A	**Output**	24V AC ± 10%, 3A	
	PAL	**Input**	220 / 230V AC, 50 / 60HZ, 0.2A	**Input**	220 / 230V AC, 50 / 60HZ, 0.4A	
		Output	24V AC ± 10%, 1.5A	**Output**	24V AC ± 10%, 3A	
Power Consumption	20 W			65 W (with Heater)		
Heater	N/A			On: -7°C / 19.4°F ; Off: 3°C / 37.4°F		
Fan-On Threshold	35°C / 95°F					
Humidity	20% ~ 90% (non-condensing)					
Regulatory	CE, FCC, RoHS					
Applications						
Network Storage	GV-NVR, GV-System, GV-Recording Server					
3G Mobile Phone	Built-in player for 3GPP / ISMA					
Live Viewing	IE , GV-MultiView					
CMS Server support	GV-Control Center, GV-Center V2, GV-VSM, GV-GIS					

Appendix

A. The CGI Command

With GV-IP Speed Dome, you can obtain a snapshot of the live view or access the User Account Web interface simply by executing CGI commands. For a GV-IP Speed Dome with the following details:

IP address: 192.168.2.11
Username: admin
Password: admin
Desired Stream: 1

- To obtain a snapshot of live view, type the following into your web browser:

http://192.168.2.11/PictureCatch.cgi?username=admin&password=admin&channel=1

- To access the User Account Web interface, type the following into your web browser:

http://192.168.2.11/ConfigPage.cgi?username=admin&password=admin&page=UserSetting

B. Shutter Speed

Unit: 1/second

Shutter Value	GV-SD010-18X GV-SD010-S18X GV-SD010-36X GV-SD010-S36X		GV-SD010-23X GV-SD010-S23X	
	NTSC	PAL	NTSC	PAL
21	10000	10000		
20	6000	6000		
19	4000	3500		
18	3000	2500		
17	2000	1750		
16	1500	1250		
15	1000	1000		
14	725	600	30000	30000
13	500	425	10000	10000
12	350	300	4000	4000
11	250	215	2000	2000
10	180	150	1000	1000
09	125	120	500	500
08	100	100	250	250
07	90	75	180	150
06	60	50	120	100
05	30	25	60	50
04	15	12	30	25
03	8	6	15	12
02	4	3	8	6
01	2	2	4	3
00	1	1	2	1.5

C. RTSP Protocol Support

The GV-IP Speed Dome supports RTSP protocol for both video and audio streaming. For RTSP command, enter:

rtsp://<IP of the GV-IP Speed Dome:8554/<CH No.>.sdp

For example, rtsp://192.168.3.111:8554/CH001.sdp

Note:

1. The RTSP streaming provides source video images of 352 x 240 / 352 x 288 only.
2. The RTSP server must be enabled on the Web interface. See Figure 5-12.
3. Only VLC and QuickTime players are supported for streaming video via RTSP protocol.

D. Settings for Internet Explorer 8

If you use Internet Explorer 8, it is required to complete the following setting.

1. Set the Security to **Medium-high (default)**.
2. Enable **Allow previously unused ActiveX controls to run without prompt**.
3. Disable **Only allow approved domains to use ActiveX without prompt**.