GeoVision inc
The Vision of Security

GV-IP LPR Camera

User's Manual

- GV-LPR1200
- GV-LPC1200
- GV-LPC1100
- GV-IP LPR Cam 5R

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

IPLPRCAM-B

Every effort has been made to ensure that the information in this manual is accurate. GeoVision, Inc. makes no expressed or implied warranty of any kind and assumes no responsibility for errors or omissions. No liability is assumed for incidental or consequential damages arising from the use of the information or products contained herein. Features and specifications are subject to change without notice.

Note: No memory card slot or local storage function for Argentina.

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

October 2015

Preface

Welcome to the *GV-IP LPR Camera User's Manual*.

The GV-IP LPR Camera has a series of models designed to meet different needs. This manual is designed for the following models and firmware versions:

Models	Firmware Version
GV-IP LPR Camera 5R	1.01
GV-LPC1100	1.01
GV-LPC1200	1.0
GV-LPR1200	1.01

Note: GV-LPC1100 is also referred to as GV-IP LPR Camera 10R.

IMPORTANT: When using GV-LPC1200 / GV-LPR1200 for the first time, you need to remove the plastic insulation film under the battery and change the silica gel bag. For details, see *1.3.6 Replacing the Silica Gel Bag* and *1.3.7 Fitting the Battery*.

Contents

Naming Definition

GV-System	GeoVision Analog and Digital Video Recording Software. The GV-System also refers to **Multicam System**, **GV-NVR System**, **GV-DVR System** and **GV-Hybrid DVR System** at the same time.
GV-VMS	GeoVision Video Management System for IP cameras.
GV-DVR LPR	GeoVision License Plate Recognition System for GV-IP LPR cameras. It consists of the GV-System, the LPR Plugin and a GV-LPR Capture Dongle installed on a computer.

Options

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

Device	Description
GV-PA191 PoE Adapter	The GV-PA191 PoE adapter is designed to provide power and network connection to the cameras over a single Ethernet cable. The GV-PA191 PoE adapter is only available for GV-IP LPR Camera 5R.
GV-PA482 PoE Adapter	The GV-PA 482 PoE adapter is designed to provide power and network connection to the cameras over a single Ethernet cable. The GV-PA482 PoE adapter is only available for GV-LPC1100.
GV-PoE Switch	The GV-POE Switch can be used for data transmission only. It does not provide power to GV-IP LPR cameras.

Note for Connecting to GV-System / GV-VMS

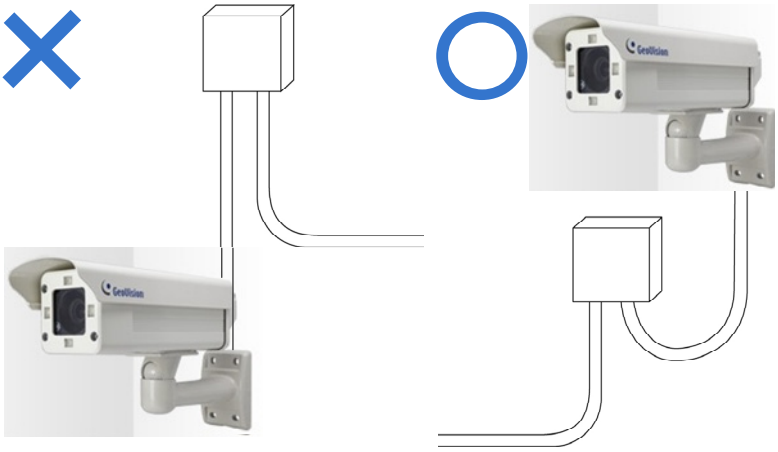
The GV-IP LPR Camera is designed to work with and record on GV-System / GV-VMS, a video management system.

Once the camera is connected to the GV-System / GV-VMS, the resolution set on the GV-System / GV-VMS will override the resolution set on the camera's Web interface. You can only change the resolution settings through the Web interface when the connection to the GV-System / GV-VMS is interrupted.

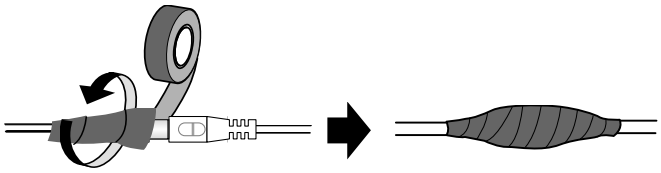
Note for Installing Camera Outdoor

When installing the GV-IP LPR Camera outdoor, mind the following:

1. Set the camera above the junction box to prevent water from entering the camera along the cables.



2. Waterproof the PoE, power and TV-out cables with waterproof silicon rubber or the like.



3. To prevent the lens from fogging up, replace the silica gel bag every time you open the camera, and conceal the gel bag in camera within 2 minutes of exposing to open air. The silica gel bag loses it effectiveness when the dry camera is opened.
4. The camera casing can be hot due to its IR LED. Make sure you unplug the power cable and allow the camera casing to cool down before handling the camera.

Chapter 1 Introduction

1.1 GV-IP LPR Camera 5R

Ideal for parking lot installation, the GV-IP LPR Camera 5R is a 1.3 MP B/W network camera designed for recognition of reflective license plates on vehicles traveling at 60 km/h (37 mph) or less. With its multiple LEDs and intelligent IR, the camera is able to automatically adjust its shutter speed to the scene and produce clear license plate capture under low-light conditions. The motorized varifocal lens take the advantage of its motorized focus / zoom in that the user can remotely adjust the focus and zoom through the Web interface. It is weather proof (IP67) and also able to work in environments with temperatures ranging from -20°C (-4°F) to 50°C (122°F).

The GV-IP LPR Camera 5R can be easily configured through its Web interface and you can record and play back recordings using the free GV-NVR software included in the standard package.

1.1.1 Features

- 1.3 megapixel B/W progressive scan CMOS
- Motorized varifocal lens for remote focus / zoom adjustment
- Dual streams from MJPEG or H.264
- Up to 30 fps at 1280 x 1024
- Maximum speed 60 km/h (37 mph)
- Recognition for reflective license plate only
- Ingress protection (IP67)
- Vandal resistance (IK10)
- Maximum IR distance 5 M (16.4 ft)
- Built-in fan
- Defog
- Motion detection
- Privacy mask
- Text overlay
- IP address filtering
- Power supplied through PoE (PoE+, IEEE 802.3 at)
- Support for iPhone, iPad, Android and 3GPP
- ONVIF (Profile S) conformant
- 30 languages on Web interface

1.1.2 System Requirements

To access the camera functions and settings 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 or later**, additional settings are required. For details, see Appendix C.
2. With non-IE browsers,
   A. Motion Detection, Text Overlay and two-way audio are not supported.
   B. The Play function is only available on the live view window (Figure 3-2).
   C. RTSP streaming must be kept as enabled. For more details, see *4.3.6 RTSP*.

Compatible Software Version

Model	Firmware Version	GV-System Version	GV-VMS	GV-ASManager
GV-IR LPR Camera 5R	V1.00	V8.5.8.0	N/A	V4.2
	V1.01	V8.5.9.0 or later	V14.10 or later	V4.22 or later
Note: The License Plate Recognition function is not supported on GV-VMS.				

1.1.3 Packing List

- GV-IP LPR Camera 5R
- Self Tapping Screw x 3
- Plastic Screw Anchor x 3
- Torx Wrench x 2
- Sun-Shield Cover Kit (1 Sun-Shield Cover, 2 Philips Head Screws, 2 Plastic Screw Spacers and 2 Hexagon Screws included)
- Silica Gel Bag x 1
- GV-IP LPR Camera Software CD
- GV-NVR Software DVD
- GV-ASManager Software DVD
- Warranty Card

1.1.4 Device Installation

1.1.4.1 Installation Guidelines

To produce quality image and to avoid software recognition errors, make sure you adhere to the guidelines when installing your GV-IP LPR Camera 5R. See *GV-LPR Camera Installation Guide*.

1.1.4.2 Installing the Camera

After you have read through the installation guides and chosen an installation site, follow the steps below to install the GV-IP LPR Camera 5R.

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

Figure 1-1

4. Remove the protection sticker from the camera's cover.
5. Connect the camera to the network and supply power via the PoE cable. See *1.1.5 Connecting the Camera*.
6. Access the live view. See *Getting Started*, Chapter 2.
7. Based on the live view, adjust the angle, zoom and focus of the camera of the camera. For adjusting three shafts, see *1.1.6 Adjusting the Angles.* For changing zoom and focus, see *Figure 3-4* in *3.3 The Control Panel of the Live View Window*.
8. Install the sun-shield cover to the camera. For details, see *1.1.8 Installing the Sun-Shield Cover*.

1.1.5 Connecting the Camera

It is suggested to use GV-PA191 PoE Adapter to connect the GV-IP LPR Camera 5R to the network. Follow the steps below for connection.

1. Connect the camera's cable to the GV-PA191 PoE Adapter as illustrated below. The power and network will be supplied simultaneously.

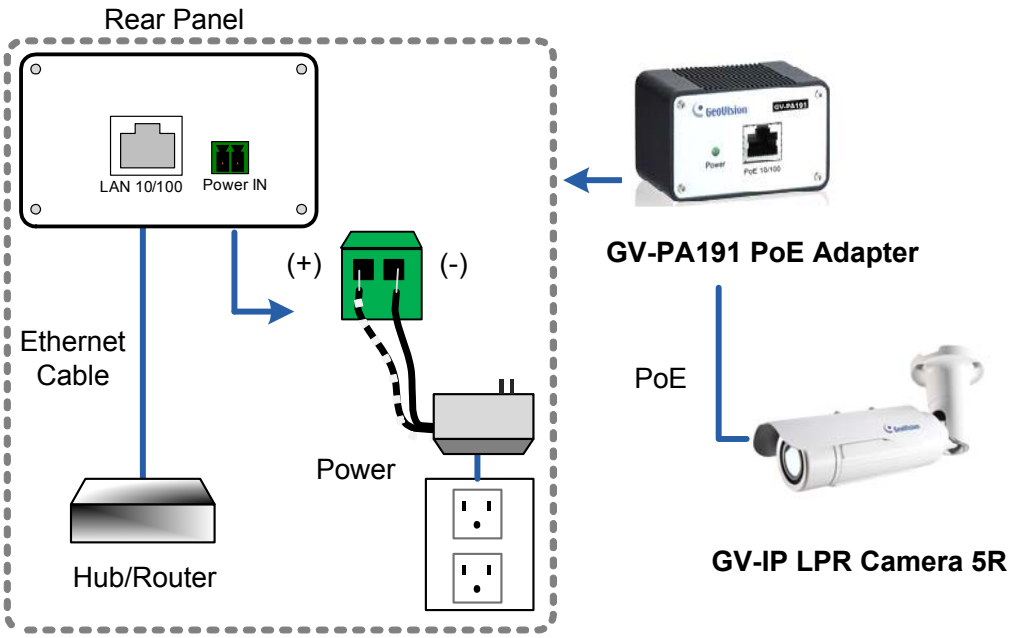


Figure 1-2

2. When the Power LED on the front panel of the GV-PA191 PoE Adapter turns green, you are ready to access the live view, adjust the image clarity and configure the basics. See *Getting Started*, Chapter 2.

Note: The GV-PA191 PoE Adapter (AC Power Adapter included) can be purchased upon request.

1.1.6 Adjusting the Angles

The GV-IP LPR Camera 5R is designed to be adjustable in three shafts for easy and flexible installation.

First Shaft

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

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

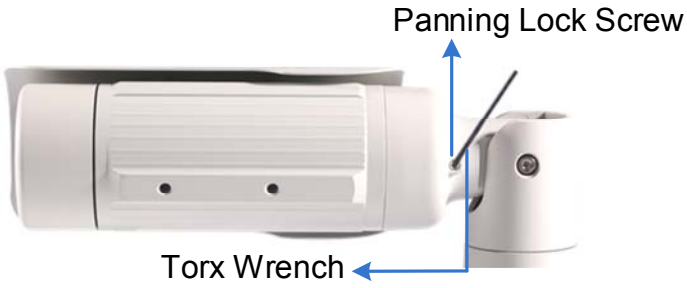


Figure 1-3

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

Figure 1-4

Second Shaft

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

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

Figure 1-5

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

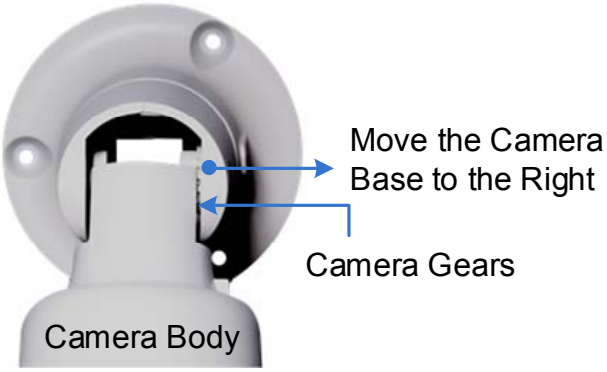


Figure 1-6

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

Figure 1-7

4. Fasten the tilting lock screw.

Third Shaft

You can adjust the camera base by 360°.

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

Figure 1-8

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

Figure 1-9

1.1.7 Replacing the Silica Gel Bag

To replace the original silica gel bag with a new one, follow the steps below.

1. Loosen the camera's cover.

Figure 1-10

2. Remove the silica gel bag.

Figure 1-11

3. Insert a new silica gel bag to the camera module and fasten the camera's cover within 2 minutes of opening the silica gel bag package.

IMPORTANT:

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

1.1.8 Installing the Sun-Shield Cover

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

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

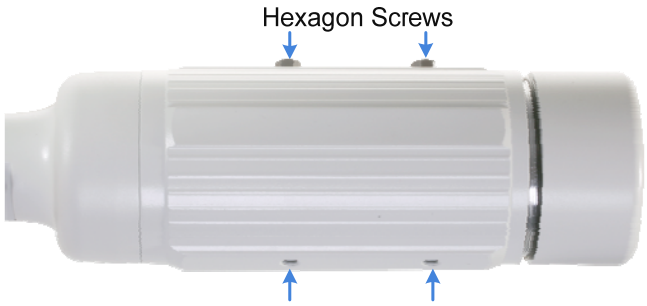


Figure 1-12

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

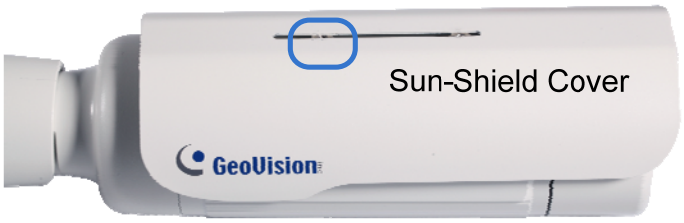


Figure 1-13

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

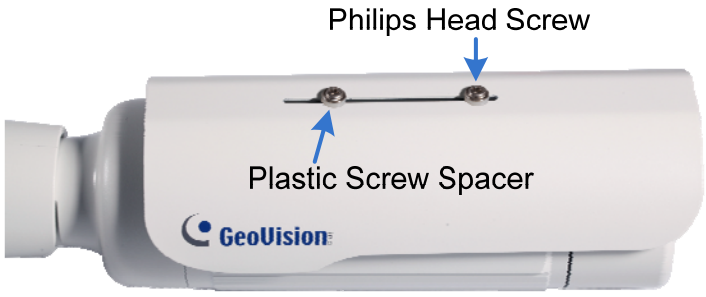


Figure 1-14

1.2 GV-LPC1100

The GV-LPC1100 is a 1.3 MP B/W network camera designed for recognition of reflective license plates on vehicles traveling at 120 km/h (75 mph) or less. With its multiple LEDs and intelligent IR, the camera is able to automatically adjust its shutter speed to the scene and produce clear license plate capture for one lane under low-light conditions. The motorized varifocal lens take the advantage of its motorized focus / zoom in that the user can remotely adjust the focus and zoom through the Web interface. It is weather proof (IP67) and also able to work in environments with temperatures ranging from -40°C (40°F) to 50°C (122°F).

The GV-LPC1100 can be easily configured through its Web interface and you can record and play back recordings using the free GV-NVR software included in the standard package.

1.2.1 Features

- 1.3 megapixel B/W progressive scan CMOS
- Motorized varifocal lens for remote focus / zoom adjustment
- Dual streams from MJPEG or H.264
- Up to 30 fps at 1280 x 1024
- Maximum speed 120 km/h (75 mph)
- Recognition for reflective license plate only
- Ingress protection (IP67)
- Vandal resistance (IK10)
- Maximum IR distance 10 m (32.8 ft)
- DC 48V, High PoE (PoE++, 120 W)
- Built-in heater and fan
- Support for TV-out
- Support for I/O (1 in / 1 out)
- Two-way audio
- Defog
- Motion detection
- Privacy mask
- Text overlay
- IP address filtering
- Support for iPhone, iPad, Android and 3GPP
- ONVIF (Profile S) conformant
- 30 languages on Web interface

1.2.2 System Requirements

To access the camera functions and settings 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 or later**, additional settings are required. For details, see Appendix C.
2. With non-IE browsers,
   A. Motion Detection, Text Overlay and two-way audio are not supported.
   B. The Play function is only available on the live view window (Figure 3-2).
   C. RTSP streaming must be kept as enabled. For more details, see *4.3.6 RTSP*.

Compatible Software Version

Model	Firmware Version	GV-System Version	GV-VMS	GV-ASManager
GV-LPC1100	V1.01	V8.5.9.0 + Patch	V14.10	V4.23
Note: The License Plate Recognition function is not supported on GV-VMS.				

1.2.3 Packing List

- The GV-LPC1100 camera
- Screw Anchor x 4
- Screw x 4
- Washer x 4
- Torx Wrench x 1
- GV-PA482 PoE Adapter

- Power Adapter (DC 48V, 2.5A, 120 W)
- AC Power Cord
- Silica Gel Bag x 1
- Adhesive tape for Silica Gel Bag x 1
- GV-IP LPR Camera Software CD
- GV-NVR Software DVD
- GV-ASManager Software DVD
- GV-LPR Camera Installation Guide
- Warranty Card

1.2.4 Device Installation

1.2.4.1 Installation Guidelines

To produce quality image and to avoid software recognition errors, make sure you adhere to the guidelines when installing your GV-LPC1100. See *GV-LPR Camera Installation Guide*.

1.2.4.2 Installing the Camera

After you have read through the installation guides and chosen an installation site, follow the steps below to install the GV-LPC1100.

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

Figure 1-15

4. Connect the camera for power and network connection. See *1.2.5 Connecting the Camera*.
5. Access the live view. See *Getting Started*, Chapter 2.

6. Based on the live view, adjust the angle, zoom and focus of the camera. Loosen the indicated screw with the supplied torx wretch and adjust the joint.

Figure 1-16

Tilt Adjustment

Figure 1-17

Pan Adjustment

Figure 1-18

1.2.5 Connecting the Camera

GV-IP LPR Camera supports three power specifications: DC 48V, High PoE (120 W).

Follow the steps below to connect your GV-LPC1100 to power, network and other wires needed.

1.2.5.1 PoE Connection

Use the supplied GV-PA482 PoE Adapter to connect the camera to the power and network at the same time. Two Ethernet cables are required for the connection.

1. Inset one end of the Ethernet cable into the **PoE 10/100** port on the GV-PA482. Connect the other end of the cable to your camera.
2. Insert one end of the Ethernet cable into the **LAN 10/100** port on the GV-PA482. Connect the other end of the cable to the hub or router connecting to your computer.

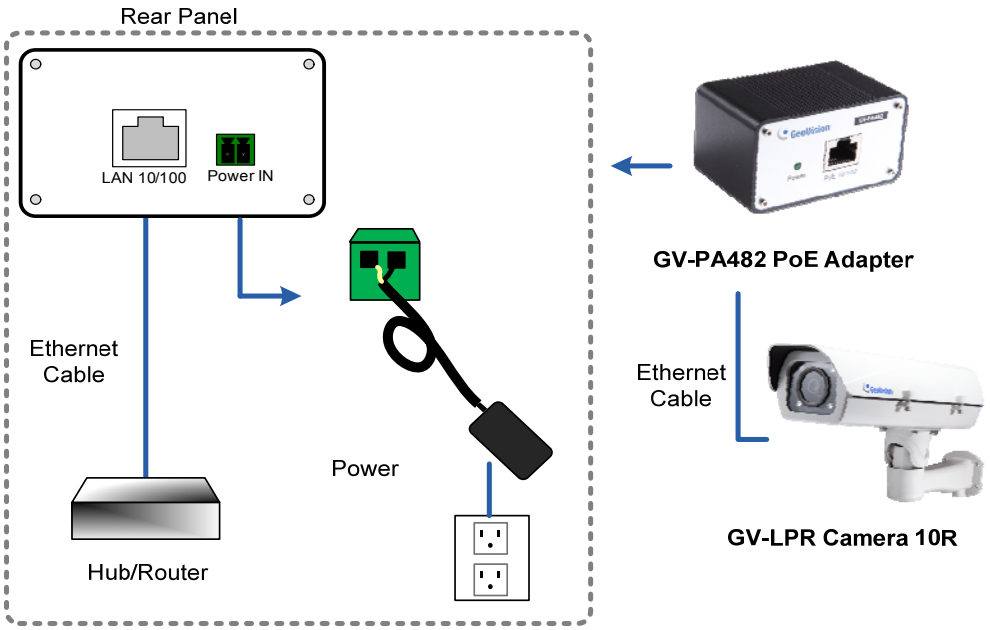


Figure 1-19

3. Insert the white wire of the supplied DC power adaptor into left-side pin of the terminal block on the GV-PA482, and the black wire to the right-side pin.
4. Attach the AC power cord to the DC power adaptor.
5. Connect the AC power cord to the power outlet.
6. When the Power LED on the front panel of the GV-PA482 turns green, you are ready to access the live view, adjust the image clarity and configure the basics. See *Getting Started*, Chapter 2.

1.2.5.2 Power Adapter Connection

Besides PoE connection, you can use the supplied DC power adaptor, and connect the camera to the power.

1. Plug the DC power adapter to the 2-pin terminal block on the camera by inserting the wire with white lines to the (+) pin and the black wire to the (-) pin.

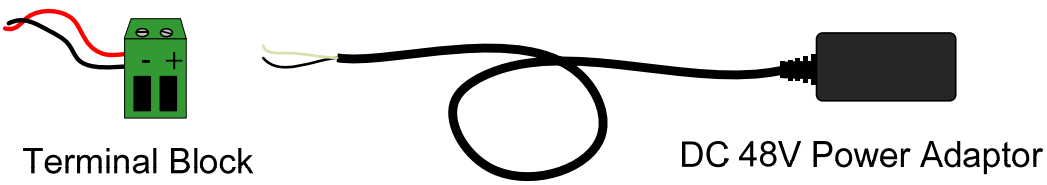


Figure 1-20

2. Attach the AC power cord to the DC power adaptor.
3. Connect the AC power cord to a power source.

1.2.5.3 Wire Definition

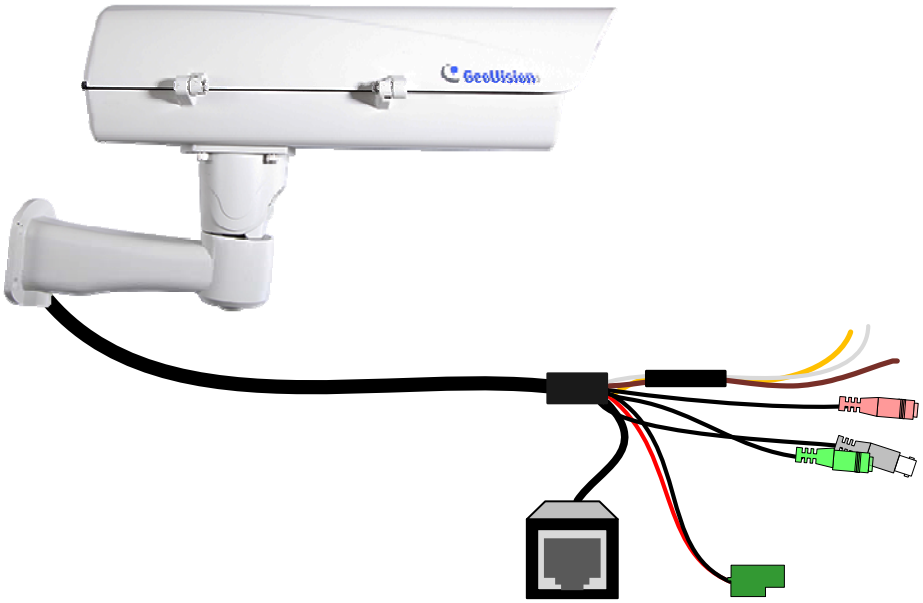


Figure 1-21

Camera

Wire	Definition
RJ-45	Ethernet
Black BNC	TV out
Green RCA	Audio Out
Pink RCA	Audio In
Brown	Digital Output
Yellow	Digital Input
White	GND
2-Pin Terminal Block	Power

1.2.6 Replacing the Silica Gel Bag

To replace the original silica gel bag with a new one, follow the steps below.

1. Loose the screws holding the camera's lid with the torx wrench.

Figure 1-22

2. Open the camera's lid and you will find a silica gel bag attached to the interior of the lid.

Figure 1-23

3. Remove the silica gel bag and place a new bag back to its original position.
4. Fasten the camera's lid within 2 minutes of replacing the silica gel bag.

IMPORTANT:

1. The silica gel loses its effectiveness when the dry camera is opened. To prevent the lens from fogging up, replace the silica gel bag every time when you open the camera and conceal the gel bag in the camera within two minutes of exposing to the open air.
2. For each newly replaced silica gel bag, allow it to absorb moisture for at least 5 hours before operating the camera.
3. GV-LPC1100 currently does not support recording to Micro SD card or Mini USB function.

1.3 GV-LPC1200 / LPR1200

The camera is a 1 MP B/W network camera designed for recognition of reflective license plates on vehicles traveling at 200 km/h (124.27 mph) or less. With its multiple high-power LEDs and intelligent IR, the camera is able to automatically adjust its shutter speed to the scene and produce clear license plate capture for one lane under low-light conditions. The motorized varifocal lens take the advantage of its motorized focus / zoom in that you can remotely adjust the focus and zoom through the Web interface. It is weather proof (IP67) and also able to work in environments with temperatures ranging from -40°C (-40°F) to 50°C (122°F).

GV-LPR1200 is also capable of recognizing the license plate numbers with the built-in LPR processor, comparing captured license plates with the database downloaded from the access control software GV-ASManager, and opening a gate or barrier when there is a match.

The camera can be easily configured through its Web interface and you can record and play back recordings using the free GV-NVR software included in the standard package.

1.3.1 Features

- Megapixel B/W progressive scan CCD
- Motorized varifocal lens for remote focus / zoom adjustment
- Dual streams from MJPEG or H.264
- Up to 30 fps at 1280 x 720
- Maximum speed 200 km/h (124.27 mph)
- Recognition for reflective license plate only
- Ingress protection (IP67)
- Vandal resistance (IK10 for metal casing)
- Maximum IR distance 20 m (65.6 ft)
- Built-in LPR processor to perform recognition (for GV-LPR1200 only)
- Built-in heater and fan
- Support for TV-out
- Support for I/O (2 in / 2 out)
- 10x optical zoom
- Two-way audio
- Recognized plate numbers export (for GV-LPR1200 only)
- Defog
- Motion detection
- Text overlay
- IP address filtering
- Support for iPhone, iPad, Android and 3GPP
- ONVIF (Profile S) conformant
- 30 languages on Web interface

1.3.2 System Requirements

To access the camera functions and settings through Web browser, ensure your PC is in good network connection and use the following Web browser:

- Microsoft Internet Explorer 7.x or later

Note: For users of **Internet Explorer 8 or later**, additional settings are required. For details, see Appendix C.

Compatible Software Version

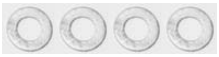
Model	Firmware Version	Compatible Software Version		
		GV-System	GV-VMS	GV-ASManager
GV-LPC1200	V1.0	V8.6.2.0 + Patch	V14.10 + Patch	V4.3
GV-LPR1200	V1.01			
Note: The License Plate Recognition function is not supported on GV-VMS.				

1.3.3 Packing List

- The GV-LPC1200 / LPR1200 camera
- Screw Anchor x 4

- Screw x 4

- Washer x 4



- Torx Wrench x 1

- Power Adapter (DC 12V, 5A)
- AC Power Cord

- Silica Gel Bag x 1
- Adhesive Tape for Silica Gel Bag x 1
- GV-IP LPR Camera Software CD
- GV-NVR Software DVD
- GV-ASManager Software DVD
- GV-LPR Camera Installation Guide
- Warranty Card

1.3.4 Installing the Camera

1.3.4.1 Installation Guidelines

To produce quality image and to avoid software recognition errors, make sure you adhere to the guidelines when installing your camera. See *GV-LPR Camera Installation Guide*.

1.3.4.2 Installing the Camera

After you have read through the installation guide and chosen an installation site, follow the steps below to install the camera.

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

Figure 1-24

4. Connect the camera for power and network connection. See *1.3.5 Connecting the Camera*.
5. Access the live view. See *Getting Started*, Chapter 2.

6. Based on the live view, adjust the angle, zoom and focus of the camera. Loosen the indicated screw with the supplied torx wretch and adjust the joint.

Figure 1-25

Tilt Adjustment

Figure 1-26

Pan Adjustment

Figure 1-27

1.3.5 Connecting the Camera

Follow the steps below to connect your camera to power.

1. Use a mini-flathead screwdriver to push the orange button, plug the DC power adapter to the 2-pin terminal block connected to the camera by inserting the wire with the white line to the (+) pin and the black line to the (-) pin. Then release the push button.

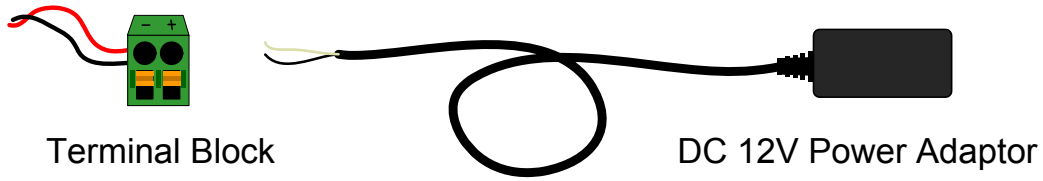


Figure 1-28

2. Attach the AC power cord to the DC power adaptor.
3. Connect the AC power cord to a power source.

Note: It may take longer for the camera to power on when under low temperature:

- -20 ~ 0°C (-4°F ~ 32°F): about 20 minutes
- -40 ~ -20°C (-40°F ~ 4°F): about 45 minutes

1.3.5.3 Wire Definition

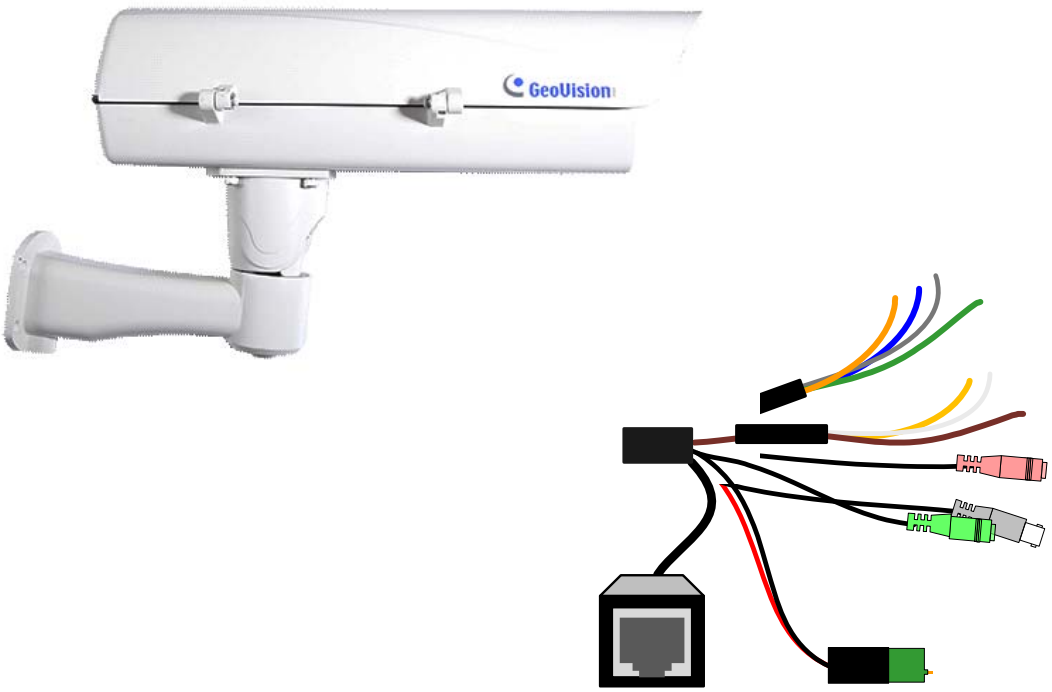


Figure 1-29

Camera

Wire	Definition
RJ-45	Ethernet
Black BNC	TV out
Green RCA	Audio Out
Pink RCA	Audio In
Brown	Digital Output 1
Yellow	Digital Input 1
White	GND
Orange	Digital Output 2
Blue	Digital Input 2
Green	RS-485+ (for GV-LPR1200 only)
Gray	RS-485- (for GV-LPR1200 only)
2-Pin Terminal Block	Power

1.3.6 Replacing the Silica Gel Bag

To replace the original silica gel bag with a new one, follow the steps below.

1. Loose the screws holding the camera's lid with the torx wrench.

Figure 1-30

2. Open the camera's lid and you will find a silica gel bag attached to the interior of the lid.

Figure 1-31

3. Remove the silica gel bag and place a new bag back to its original position.
4. Fasten the camera's lid within 2 minutes of replacing the silica gel bag.

IMPORTANT:

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

1.3.7 Fitting the Battery

The camera includes a 3V lithium battery to provide power to the camera settings and real-time clock circuitry.

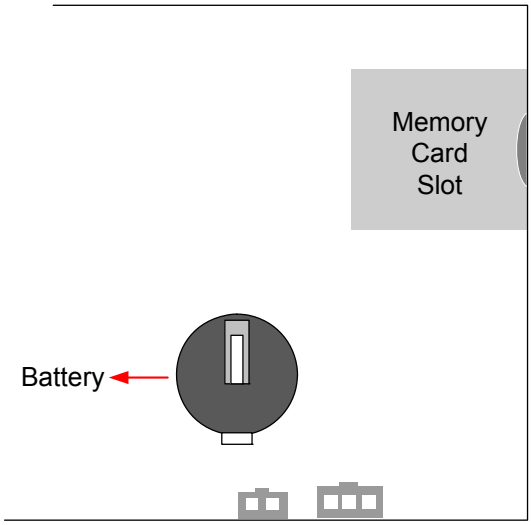


Figure 1-32

IMPORTANT:

1. Make sure the plastic insulation film under the battery is removed when you use the camera for the first time.
2. It is recommended to replace the battery annually.

1.3.8 Installing a Mini USB Cable

To use UMTS-compatible devices, you need to prepare a Mini USB-to-USB cable with the size of the Mini USB end smaller than 1 cm for threading and install it into the camera. Follow the steps for installation.

Figure 1-33

1. Loose 2 screws to open the camera's lid and 4 screws to remove the camera mount with the torx wrench.

Figure 1-34

2. Rotate to remove the indicated cap and remove the plug.

Figure 1-35

3. Take out the conduit connector inside the housing. Remove and disintegrate the connector. You should have 3 parts.

Figure 1-36

4. Make a side slit to part 1 with a cutter knife.

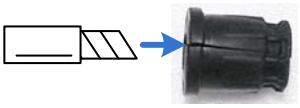


Figure 1-37

5. Thread the cable through part 3 and part 2, push the cable with the Mini USB end into part 1, thread through the camera bottom and plug it to the Mini USB port on the circuit board.

Figure 1-38

6. Re-install the connector and the cap (part 3) tightly to make sure the camera is watertight.

Note: Fill the gap between the Mini USB-to-USB cable and the conduit connector to waterproof the cable before securing the camera.

Figure 1-39

Chapter 2 Getting Started

2.1 Looking Up the IP Address

By default, your camera is assigned with an unused IP address by the DHCP server when the camera is connected to the network. This IP address remains unchanged unless you unplug or disconnect your camera from the network.

Note: If your router does not support DHCP, the default IP address will be **192.168.0.10**. In this case, it is strongly suggested to modify the IP address to avoid IP address conflict with other GeoVision IP device on the same LAN. To change the IP address, see *Changing the IP Address* later in this section.

Follow the steps below to find out the IP address of your camera:

1. Install the GV-IP Device Utility program from the Software DVD.

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

---

2. On the PC desktop, select **Start**, point to **Programs** and select **GV IP Device Utility** to execute the program. The GV-IP Device Utility window appears and automatically searches for the GV-IP devices on the same LAN.

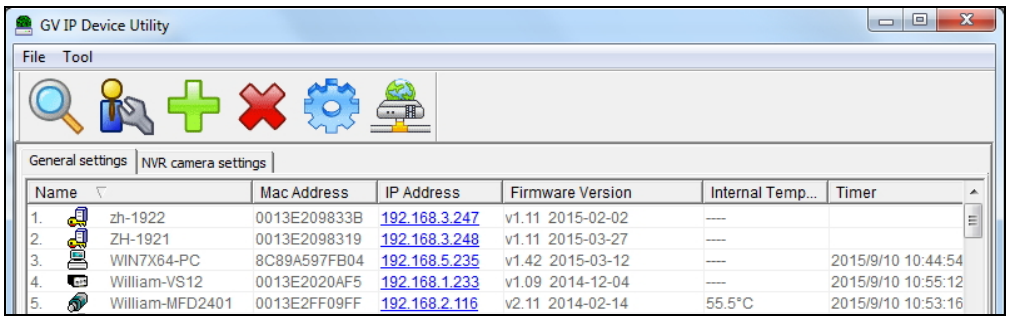


Figure 2-1

3. Click the **Name** or **Mac Address** column to sort.

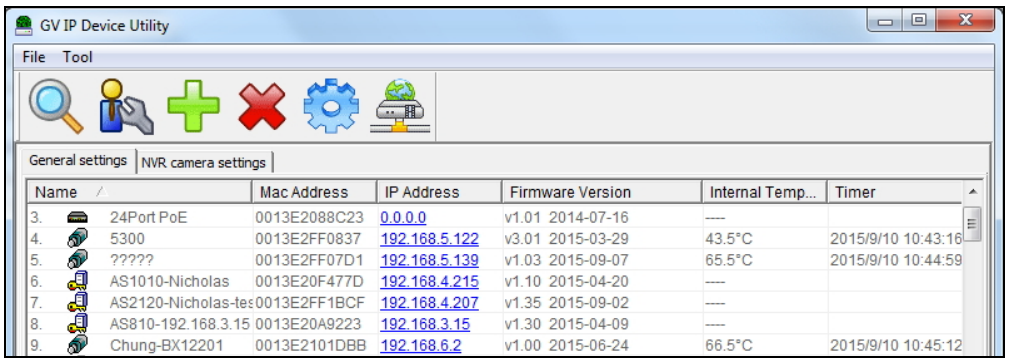


Figure 2-2

4. Find the Mac Address of the camera, click its IP address and select **Web Page**.

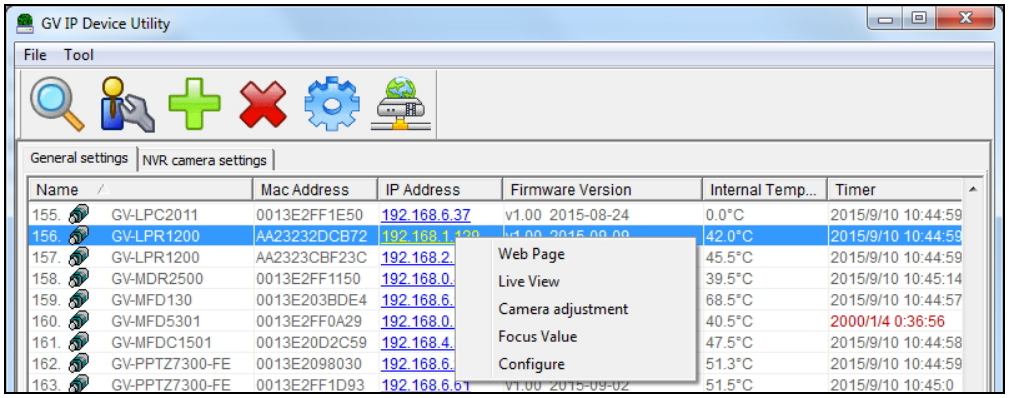


Figure 2-3

5. The login page appears.

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

2.2 Changing the IP Address

To modify the static IP address or set the camera to a public dynamic IP address, log in the Web interface to access the network setting page.

1. Open your Web browser, and type in the IP address.
   - For static network connection, type the default IP address http://192.168.0.10
   - For DHCP connection, follow steps in *2.1 Looking Up the IP Address* to look up the current IP address.
2. In both Login and Password fields, type the default value **admin**. Click **Apply**.
3. In the left menu, select **Network** and then **LAN** to begin the network settings. This page appears.

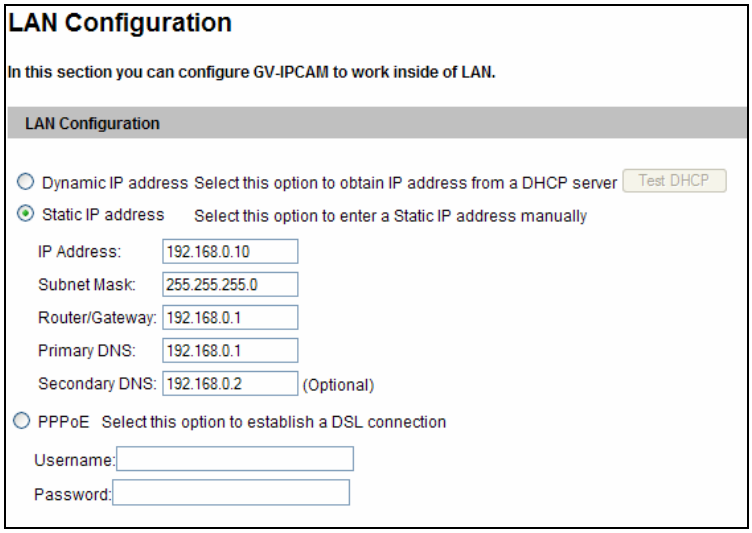


Figure 2-4

4. Select **Static IP address** or **PPPoE** and type the required network information.
5. Click **Apply**. The camera is now accessible by entering the assigned IP address on the Web browser.

IMPORTANT:

1. If your camera uses a public dynamic IP address via PPPoE, use the dynamic DNS Service to obtain a domain name linked to the camera's changing IP address first. For details on Dynamic IP Address and PPPoE, see *4.7.2 Advanced TCP/IP* and *4.6.1 LAN Configuration.*
2. If **PPPoE** is enabled and you cannot access the camera, you may have to reset it to the factory default and then perform the network settings again. To restore the factory settings, see *5.3 Restoring to Factory Default Settings.*

2.2 Configuring the Basics

Once you have installed and logged in the camera, you are ready to configure some of its primary settings through the Web interface:

- Date and time adjustment: see *4.7.1 Date and Time Settings*.
- Login and privileged passwords: see *4.7.3 User Account*.
- Network gateway: see *4.5 Network*.
- Camera image adjustment: see *3.3 The Control Panel of the Live View Window*.
- Video format, resolution and frame rate: see *4.1.1 Video Setting.*

Chapter 3 Accessing the Camera

This section introduces the features of the Live View window for you to access the camera. Two types of user levels are allowed to log in the camera: Administrator and Guest. The Administrator has full access to all system configurations while the Guest can only access the live view and network status.

3.1 Accessing Your Surveillance Images

Follow these steps to access your surveillance images:

1. Open the Internet Explorer browser.
2. Enter the IP address or domain name of the camera in the **Location/Address** field of your browser. To look up the IP address, see *2.1 Looking Up the IP Address*.

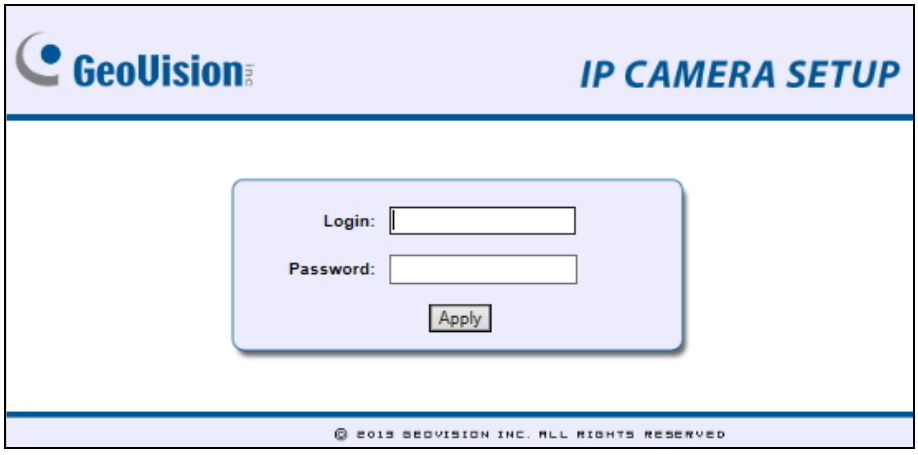


Figure 3-1

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 on 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 The Live View Window

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

Figure 3-2

No.	Name	Function
1	Play	Plays live video.
2	Stop	Stops playing video.
3	Microphone	Talks to the surveillance area from the local computer. Note this function is not available for **GV-IP LPR Camera 5R**.
4	Speaker	Listens to the audio around the camera. Note this function is not available for **GV-IP LPR Camera 5R**.
5	Snapshot	Takes a snapshot of live video. --- See *3.4 Snapshot of a Live Video*.
6	File Save	Records live video to the local computer. --- See *3.5 Video Recording*.

No.	Name	Function
7	Full Screen	Switches to full screen view. Right-click the image to have these options: **Snapshot**, **Full Screen**, **Resolution**, **PIP** and **PAP**. --- See *3.6 Picture-in-Picture and Picture-and-Picture View.*
8	Show System Menu	Brings up these functions: **Alarm Notify**, **Video and Audio Configuration, Remote Config**, **Show Camera Name** and **Image Enhance**. --- See *3.7 Alarm Notification*, *3.8 Video and Audio Configuration*, *3.9 Remote Configuration*, *3.10 Camera Name Display* and *3.11 Image Enhancement* respectively.
9	PTZ Control	Enables the PTZ Control Panel or the Visual PTZ. The performable functions are **Zoom In** / **Out**, **Focus In** / **Out**, and **Auto Focus**. Note the **Auto Focus** function only works for GV-IP LPR Camera 5R and GV-LPC1100 while GV-LPC1200 / GV-LPR1200 can automatically focus.
10	I/O Control	Enables the I/O Control Panel or the Visual Automation. Note this function is only supported by cameras with I/O function. --- See *3.12 I/O Control*.
11	Recognition Result	Displays the snapshots of the recognition results when the camera recognizes a license plate. Note this function is only supported by GV-LPR1200.

3.3 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.

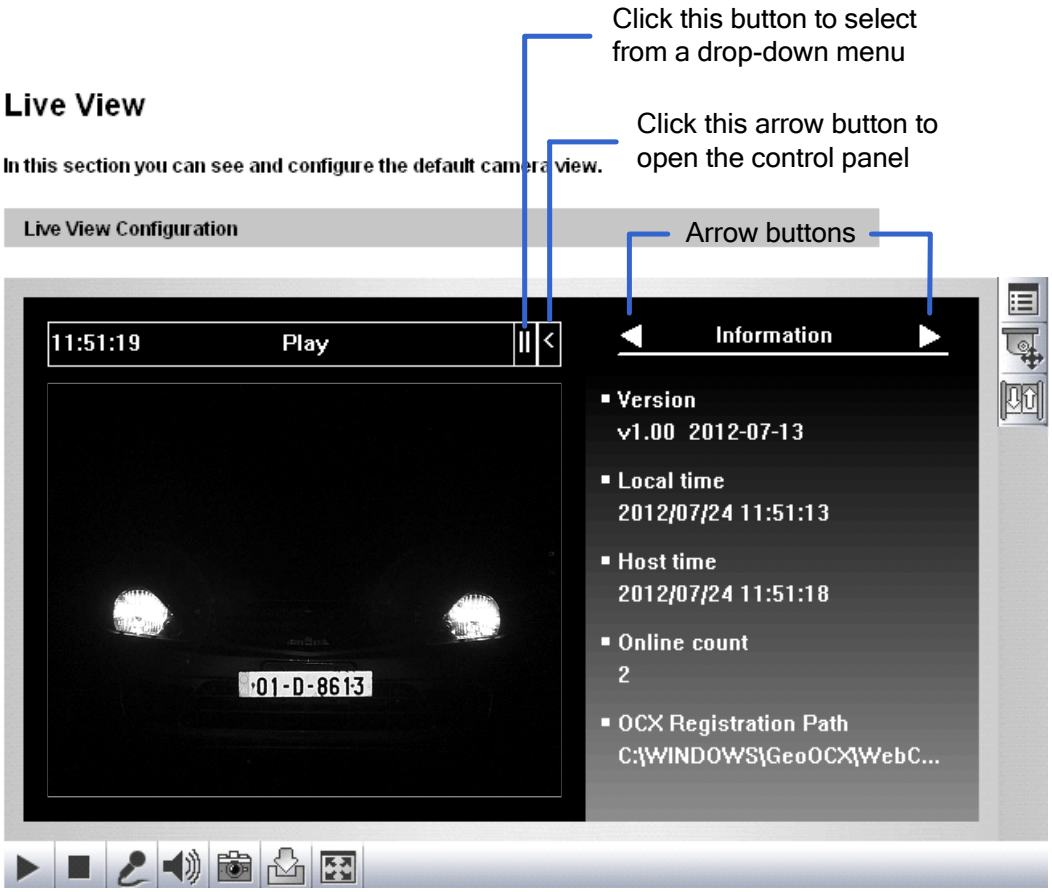


Figure 3-3

[Information] Displays the version of the camera, local time of the local computer, time of the camera, the number of users logging in to the camera and the OCX registration path.

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

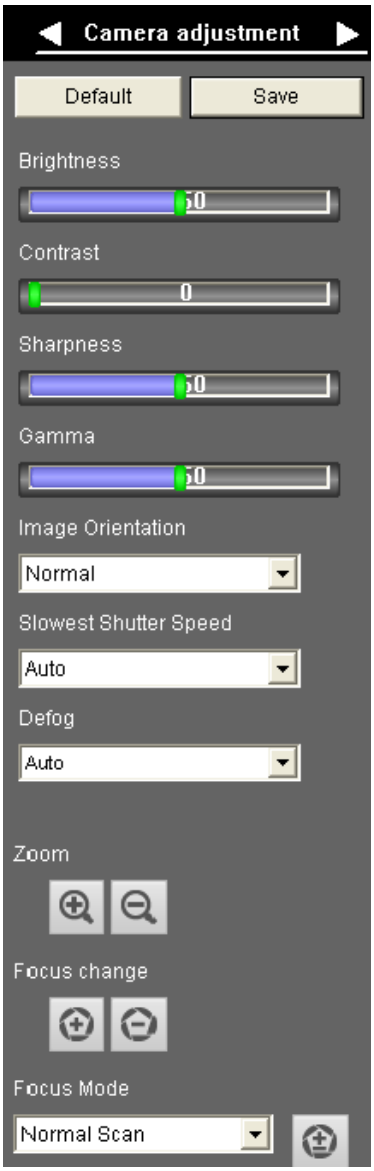
[Audio] Displays the audio data rates when the microphone and speaker devices are enabled.

[I/O Control] Note this function is only supported by cameras with I/O function. 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 motion detection. For this function to work, you must configure the Alarm Notify settings first. See *3.7 Alarm Notification*.

[Camera Adjustment] Adjusts the image quality settings. Click **Save** to store the changes to the settings.

GV-IP LPR Camera 5R / GV-LPC1100



GV-LPC1200 / GV-LPR1200

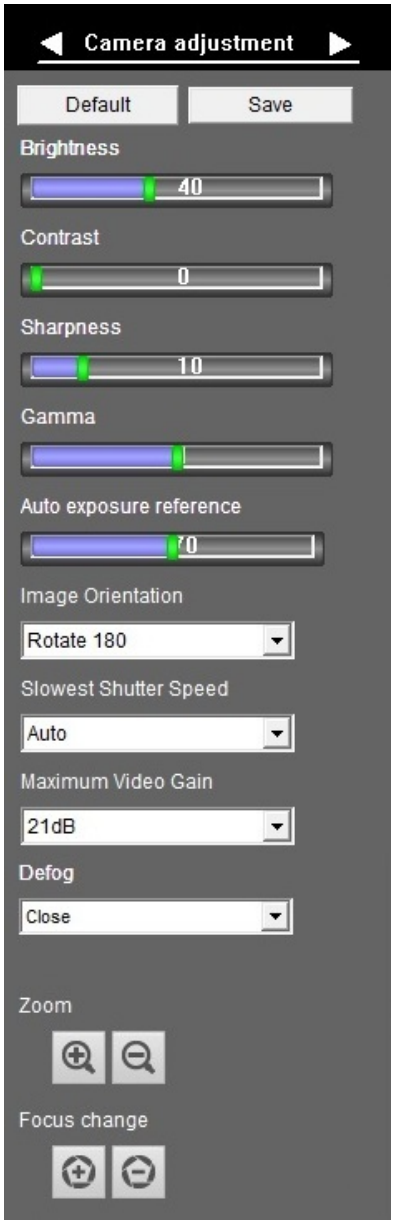


Figure 3-4

- **Brightness:** Adjusts the brightness of the image.
- **Contrast:** Adjusts the relative differences between one pixel and the next.
- **Sharpness:** Adjusts the sharpness of the image.
- **Gamma:** Adjusts the relative proportions of bright and dark areas.

- **Auto Exposure Reference:** Adjusts the exposure of the image. Note this function is only available for **GV-LPC1200** and **GV-LPR1200**.
- **Image Orientation:** Change the image orientation on the Live View window.
- **Slowest Shutter Speed:** Sets the shutter speed. Shutter speed controls the amount of the lights enters the image sensor and directly impacts the quality of image presentation. A slow shutter speed allows higher light exposure that creates a brighter overall image by blurring moving objects and bringing out background details, and a faster shutter speed lowers color and image clarity in order to capture motions. The minimum shutter speed ranges from 1/500 to 1/8000 sec for **GV-IP LPR Camera 5R** and **GV-LPC1100** or from 1/250 to 1/2000 sec for **GV-LPC1200** and **GV-LPR1200**. Select **Auto** for automatic shutter control or select a shutter speed value.
- **Maximum Video Gain:** Changes the maximum gain level. Note this function is only available for **GV-LPC1200** and **GV-LPR1200**.
- **Defog:** Select **Auto** to automatically enhance the visibility of images. Select **Close** to disable the function.
- **Zoom:** Click the **Zoom In** and **Zoom Out** buttons to adjust the apparent distance of the scene.
- **Focus Change:** Click the **Focus In** and **Focus Out** buttons to adjust the focus. To focus automatically, click the **Focus Mode** button.
- **Focus Mode:** Select **Normal Scan**, **Regional Scan** or **Full Scan** and then click the Start button to automatically adjust the camera focus. The **Normal Scan** mode focuses the camera the fastest. The **Regional Scan** mode focuses the area selected on the live view. The **Full Scan** mode performs a detailed checkup and applies the best focus. Note this function is only available for **GV-IP LPR Camera 5R** and **GV-LPC1100**.

[Internal Temperature] Shows the current internal temperature of the camera and the normal temperature range.

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

3.4 Snapshot of a Live Video

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

1. Click the **Snapshot** button (No. 5, Figure 3-2). 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 to display the camera name and/or the date, the text color and image quality for the snapshot.
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*.

3.5 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 3-2). 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 3-2).

3.6 Picture-in-Picture and Picture-and-Picture View

The Live View window 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 3-5

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 3-6

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, display/hide or to change the frame color of the navigation boxes, right-click the live view, 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.

3.7 Alarm Notification

When a motion is detected, you can be alerted by a pop-up live video and view up to four captured images.

Figure 3-7

To configure this function, click the **Show System Menu** button (No. 8, Figure 3-2), and select **Alarm Notify**. This dialog box appears.

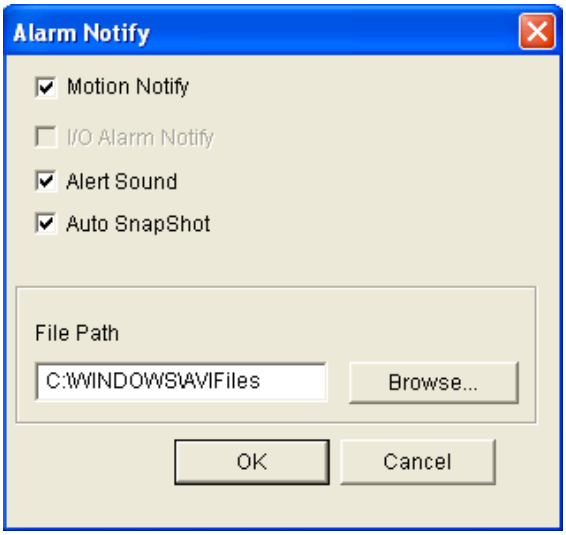


Figure 3-8

- **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 the device properly. *See 4.2.1 Input Setting*. Note this function is only available for cameras with I/O function.
- **Alert Sound:** Activates the computer alarm on motion.
- **Auto Snapshot:** The snapshot of live video is taken every 5 seconds on motion.
- **File Path:** Assigns a file path to save the snapshots.

3.8 Video and Audio Configuration

You can enable the microphone and speaker for two-way audio communication and adjust the set the number of frames to keep for live view buffer.

Click the **Show System Menu** button (No. 8, Figure 3-2), and select **Video and Audio Configuration**.

- **Camera:** Sets the number of frames to keep in live view buffer. Keeping more frames for live view buffer can ensure a smooth live view, but the live view will be delayed for the number of seconds specified.

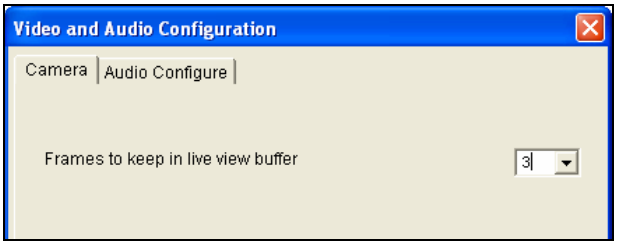


Figure 3-9

- **Audio Configure:** You can enable the microphone and speaker and adjust the audio volume. Note this setting is not available for **GV-IP LPR Camera 5R**.

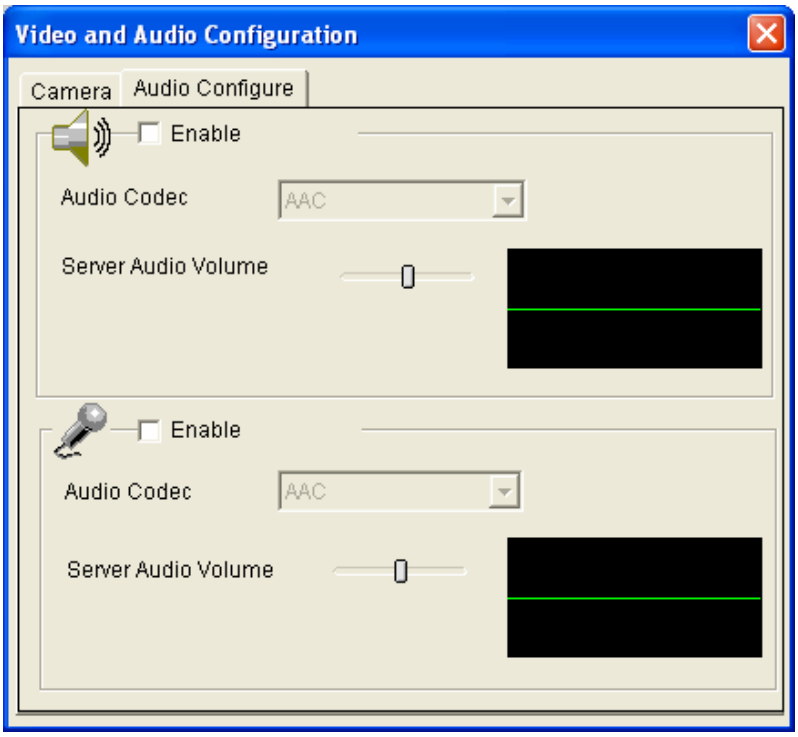


Figure 3-10

3.9 Remote Configuration

You can upgrade the device firmware over the network. Click the **Show System Menu** button (No. 8, Figure 3-2), 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 5 Advanced Applications*.

3.10 Camera Name Display

To display the camera name on the image, click the **Show System Menu** button (No. 8, Figure 3-2), and select **Show Camera Name**.

3.11 Image Enhancement

To enhance the image quality of live video, click the **Show System Menu** button (No. 8, Figure 3-2), and select **Image Enhance**. This dialog box appears.

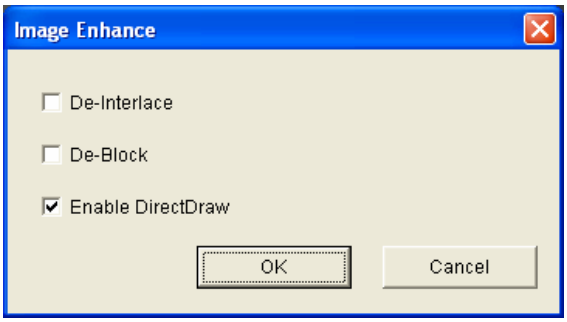


Figure 3-11

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

3.12 I/O Control

Note this function is only supported by cameras with I/O function. The I/O Control window provides a real-time graphic display of camera status, I/O status, and alarm events. Additionally, you can remotely force output to be triggered.

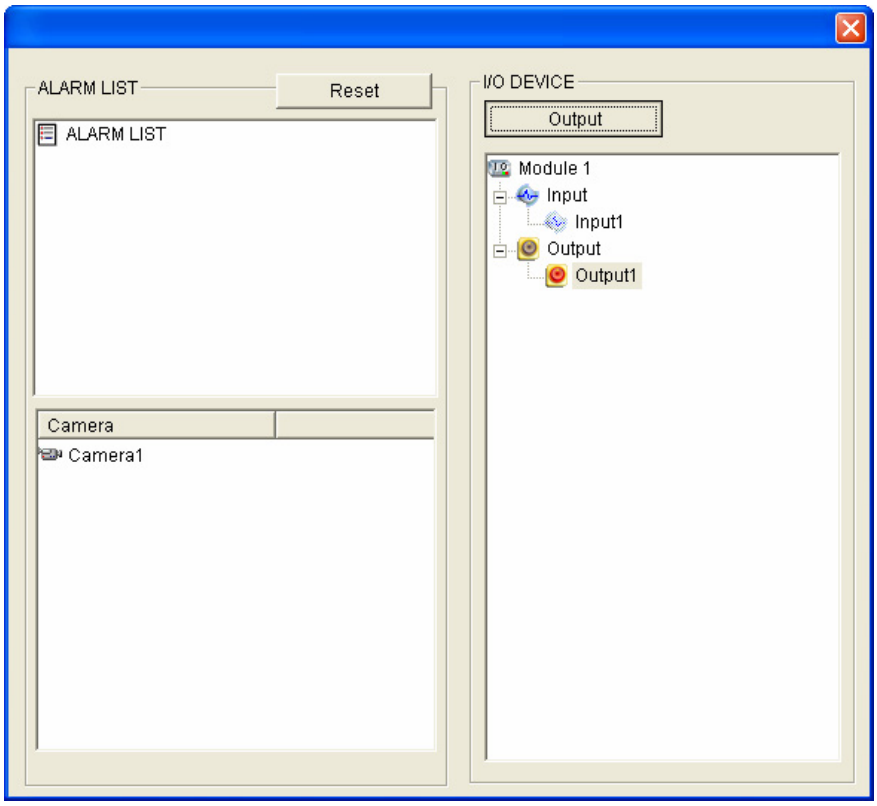


Figure 3-12

- To display the I/O control window, click the **I/O Control** button (No. 11, Figure 3-2) and select **I/O Control**.
- 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.

3.13 Visual Automation

Note this function is only supported by cameras with I/O function. The Visual Automation allows you to change the current state of the electronic device by simply clicking on its image, e.g. turning the light ON. This feature is only available when the Visual Automation is set ahead by the Administrator. For details, see *4.1.5 Visual Automation.*

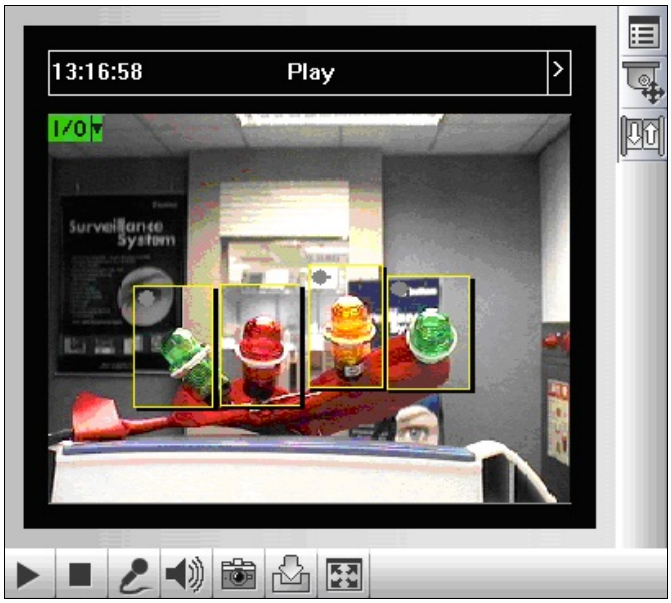


Figure 3-13

- To access this feature, click the **I/O Control** button (No. 10, Figure 3-2) and select **Visual Automation**.
- To change the style of the set areas, click the green **I/O** button on the top left corner. You will have these options:
  - **Show All:** Displays all set areas.
  - **Rect Float:** Embosses all set areas.
  - **Set Color:** Changes the frame color of all set areas

Chapter 4 Administrator Mode

The Administrator can access and configure your camera over the network. The configuration categories include: **Video and Motion**, **Events and Alerts**, **Monitoring**, **Recording Schedule**, **Network** and **Management**.

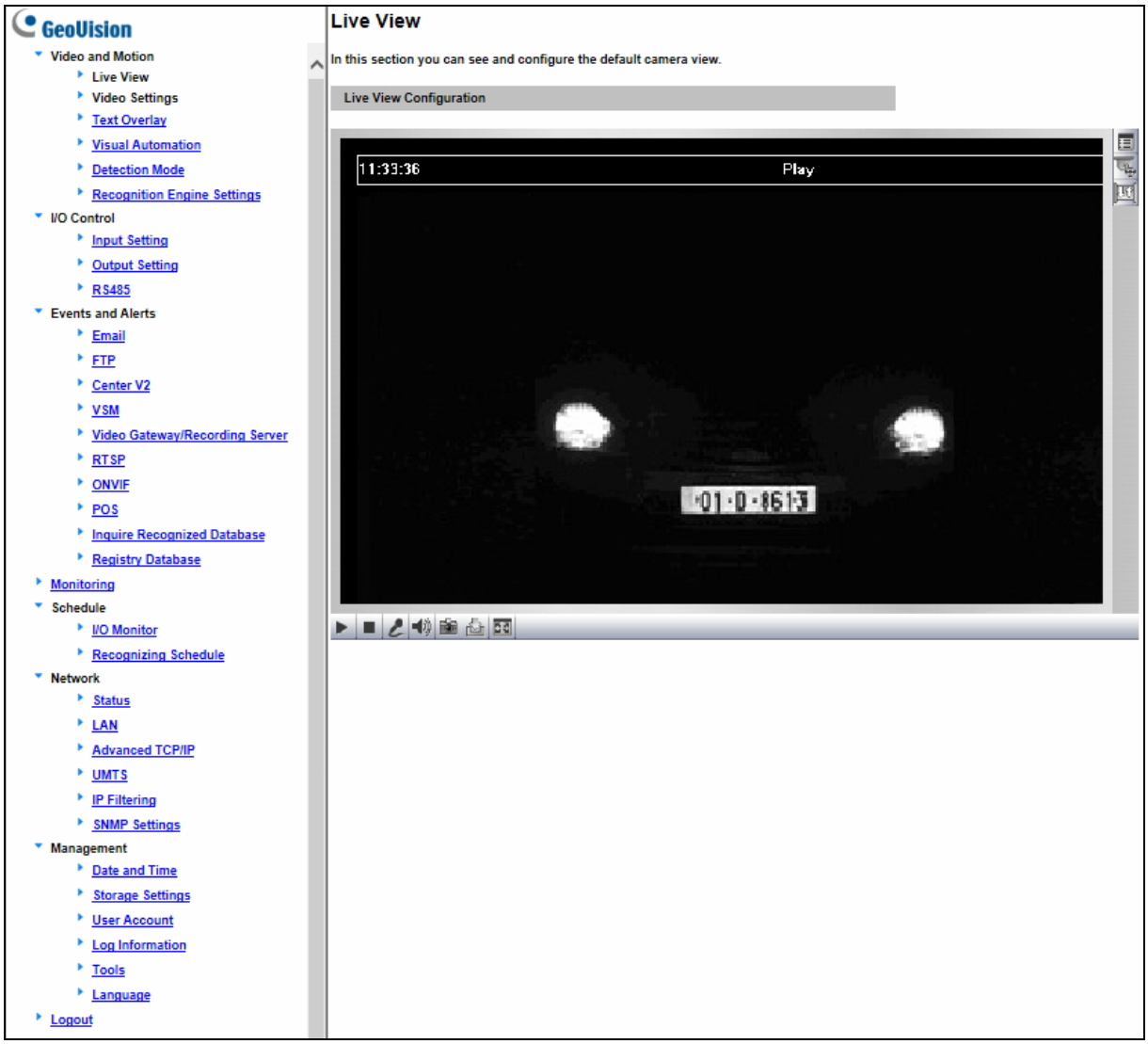


Figure 4-1

Corresponding Section for Configuration Menu

Find the topic of interest by referring to the indicated section.

4.1 Video and Motion	4.1.1 Video Settings 4.1.1.1 Streaming 1/2 4.1.1.2 Recognition Result 4.1.2 Motion Detection / Detection Mode 4.1.3 Privacy Mask 4.1.4 Text Overlay 4.1.5 Visual Automation 4.1.6 Recognition Engine Settings
4.2 I/O Control	4.2.1 Input Settings 4.2.2 Output Settings 4.2.3 RS485
4.3 Events and Alerts	4.3.1 Email 4.3.2 FTP 4.3.3 Center V2 4.3.4 VSM (Vital Sign Monitor) 4.3.5 GV-Video Gateway / GV-Recording Server 4.3.6 RTSP 4.3.7 ONVIF 4.3.8 POS 4.3.9 Inquire Recognized Database 4.3.10 Registry Database
4.4 Monitoring	4.4.1 Monitoring Settings
4.5 Schedule	4.5.1 I/O Monitor Settings 4.5.2 Recognizing Schedule Settings
4.6 Network	4.6.1 LAN Configuration 4.6.2 Advanced TCP/IP 4.6.3 UMTS 4.6.4 IP Filtering 4.6.5 SNMP Settings
4.7 Management	4.7.1 Date and Time Settings 4.7.2 Storage Settings 4.7.3 User Account 4.7.4 Log Information 4.7.5 Tools 4.7.6 Language

4.1 Video & Motion

The camera supports dual streams, Streaming 1 and Streaming 2, which allow separate codec and resolutions settings for a single video transmission. In a bandwidth-limited network, such as mobile phone surveillance, this dual-stream feature allows you to view live video in lower resolution (Streaming 2), and record in highest resolution (Streaming 1) at the same time.

Comparison between Stream 1 and Stream 2:

<table>
<tr><th>Video Setting Options</th><th>Stream 1</th><th>Stream 2</th></tr>
<tr><td>Video Signal Type</td><td colspan="2">Different codec, resolutions and frame rates can be applied to Stream 1 and 2.</td></tr>
<tr><td>Watermark Setting</td><td rowspan="4">Yes</td><td rowspan="4">Not configurable. Settings in Stream 1 will be automatically applied to Stream 2.</td></tr>
<tr><td>Audio Codec</td></tr>
<tr><td>TV Out Setting</td></tr>
<tr><td>Status LED Control</td></tr>
</table>

4.1.1 Video Settings

4.1.1.1 Streaming 1/2

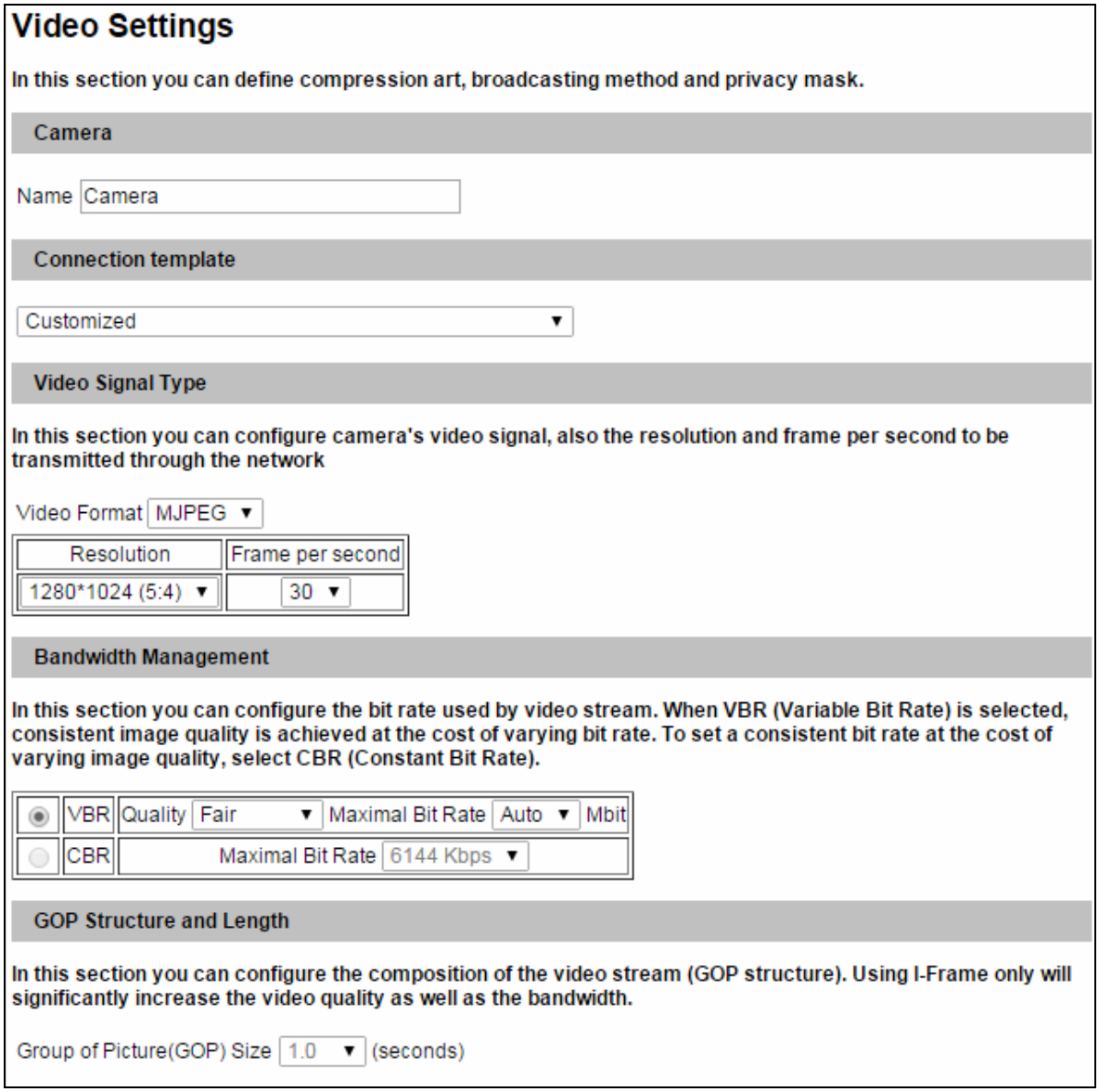


Figure 4-2A

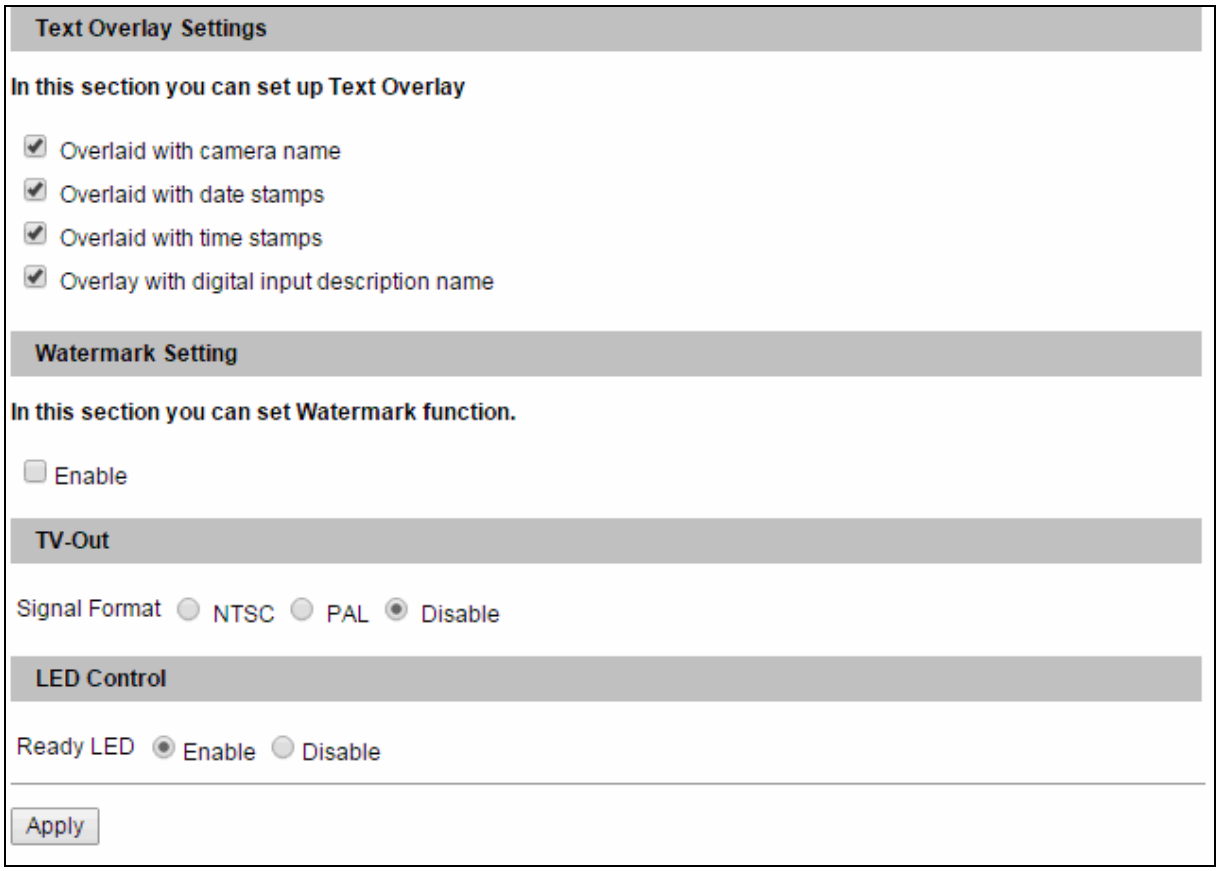


Figure 4-2B

[Name]

Rename the camera. The camera name will appear on the Live View. To display the camera name, see *3.10 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.

[Video Signal Type]

Select the codec type, resolution and frame rate. Choose H.264 or MJPEG for the main stream/sub stream. The supported resolutions are listed blow:

Default Codec / Models	Main Stream	Sub Stream
GV-IP LPR Camera 5R GV-LPC1100 GV-LPC1200	MJPEG	H.264
GV-LPR1200	H.264	H.264

Video Resolution for GV-IP LPR Camera 5R, GV-LPC1100		
Main Stream	4:3	1280 x 960, 640 x 480, 320 x 240
	16:9	1280 x 720, 640 x 360, 448 x 252
	5:4	1280 x 1024, 640 x 512, 320 x 256
Sub Stream	4:3	640 x 480, 320 x 240
	16:9	640 x 360, 448 x 252
	5:4	640 x 512, 320 x 256
Video Resolution for GV-LPC1200 / GV-LPR1200		
Main Stream	16:9	1280 x 720
Sub Stream	16:9	640 x 360

[Bandwidth Management]

When using the H.264 codec, it is possible to configure the bitrate settings to control bandwidth usage.

- **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: **Standard**, **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. The default value is 6 MB
- **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]

Set the maximum number of seconds between every key frame.

[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 name of the selected input on live and recorded videos. Note this function is not available for **GV-IP LPR Camera 5R**.

[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 *5.4 Verifying Watermark*.

[TV Out]

Select the signal format for the video output of the camera as either **NTSC** or **PAL**. This function is disabled by default. Note this function is not available for **GV-IP LPR Camera 5R**.

Note: For smooth live view display of **GV-IP LPR Camera 5R / GV-LPC1100** on TV monitor, the video resolution must be of 1280 x 1024 or lower. If dual streams are enabled, the sub stream must be set to 640 x 480.

[LED Control]

- **Ready LED:** Select **Disable** if you do not wish to use the Status LED. Note this function is only available for **GV-LPC1100**.

4.1.1.2 Recognition Result

Note the function is only supported by **GV-LPR1200**. This function allows you to display the recognized plate number, the date and time of recognition, or a desired text on the images of the recognition results.

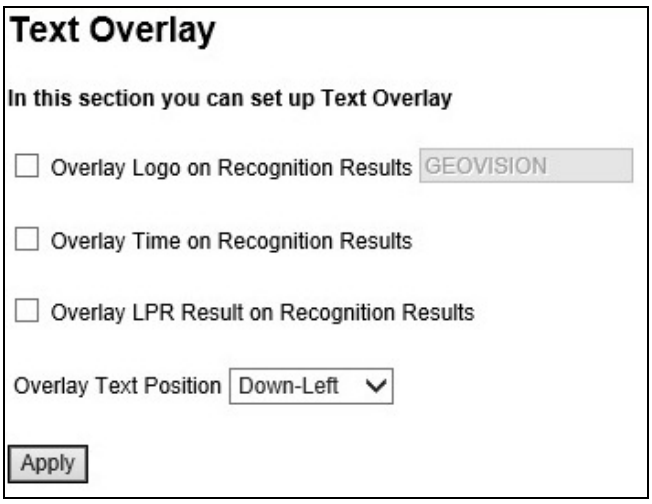


Figure 4-3A

Figure 4-3B

- **Overlay Logo on Recognition Results:** Includes a desired text or description on recognition results.
- **Overlay Time on Recognitions Results:** Includes date stamps on recognition results.
- **Overlay LPR Result on Recognition Results:** Includes the recognized plate number on recognition results.
- **Overlay Text Position:** Select a position from the drop-down list to overlay the text on recognition results.

4.1.2 Motion Detection / Detection Mode

4.1.2.1 GV-IP LPR Camera 5R / GV-LPC1100 / GV-LPC1200

Motion detection is used to generate an alarm whenever movement occurs within the scene. You can configure up to 8 detection zones with different sensitivity values. Create at least one detection zone to enable this function.

Figure 4-4a ***GV-IP LPR Camera 5R / GV-LPC1100***

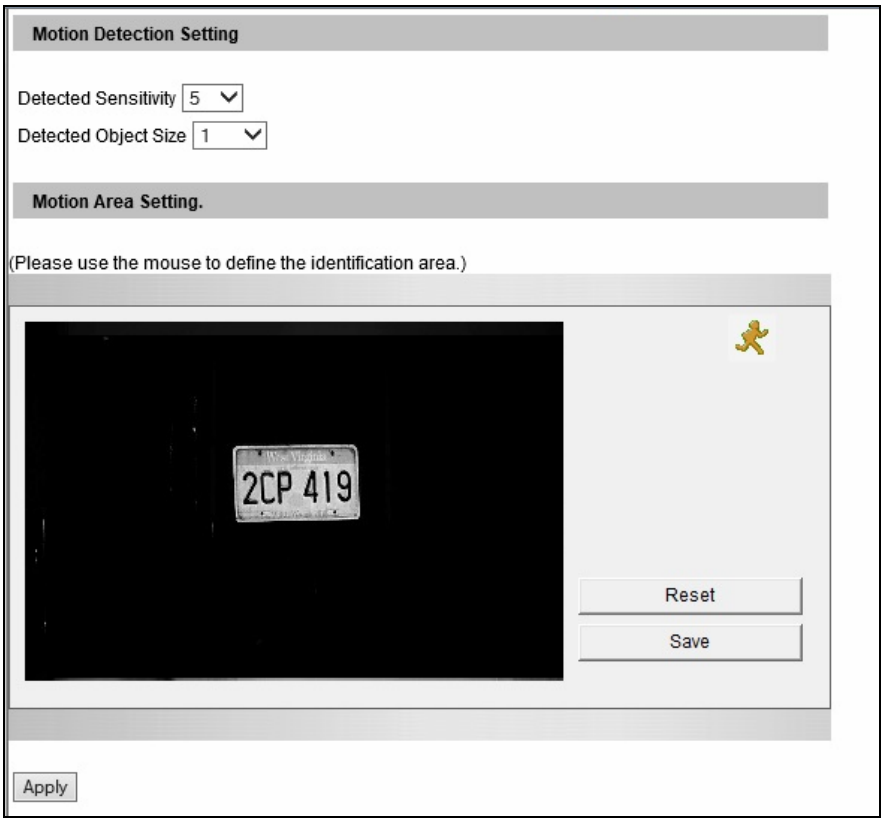


Figure 4-4b ***GV-LPC1200***

1. Select a **Sensitivity** value. There are 10 sensitivity levels. The higher the value, the more sensitive the camera is to motion. The default sensitivity value is **9** for GV-IP LPR Camera 5R / GV-LPC1100 and **5** for GV-LPC1200.
2. For GV-LPC1200, you can select an **Object Size** to define the normal size of your targeted object. The default value is set to 1. The higher the value, the bigger the object's size is.
3. Define a detection zone by dragging 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 1 and 2.
5. Click **Save** to save the above settings, or click **Reset** to clear all the selected areas.
6. For the camera to ignore environmental changes such as rain or snow, select the **Ignore environmental changes**. This option is not available for GV-LPC1200.
7. To reduce video noise when the lighting condition changes, select **Noise Tolerance**. This option is not available for GV-LPC1200.

8. If you want to trigger the alarm output when motion is detected, select **Output 1** and click the **Apply** button. To activate the output settings, you must also start **Input** monitoring manually or by schedule. For related settings, see *4.4 Monitoring*. This option is not available for GV-LPC1200.
9. Click the **Apply** button.

4.1.2.2 GV-LPR1200

For GV-LPR1200, you can set the detection mode to activate license plate recognition by motion detection or sensor triggers. You can define up to 8 detection areas for motion detection and plate recognition.

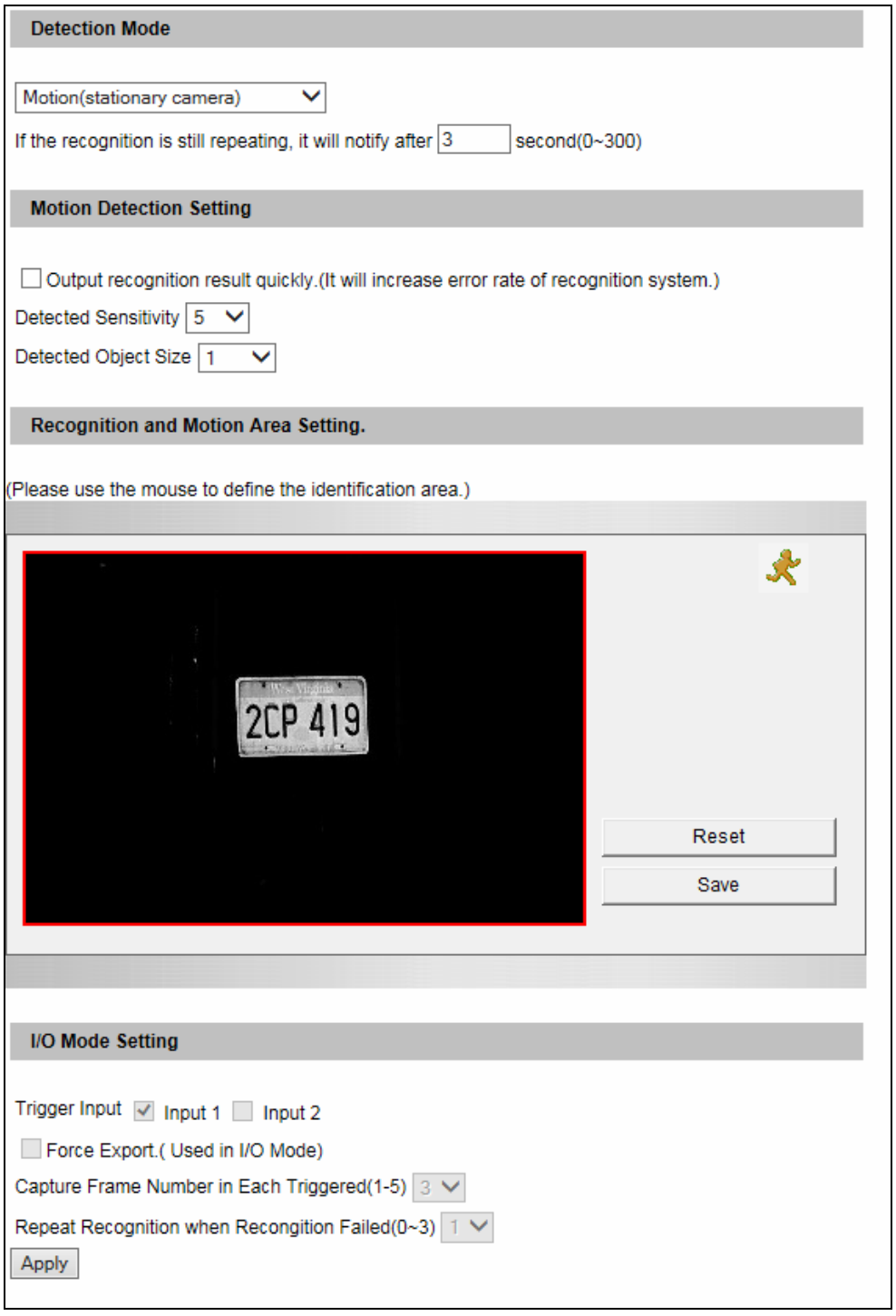


Figure 4-5

[Detection Mode] From the drop-down list on top left, select a method to activate license plate recognition.

- **Disable:** Deactivate recognition.
- **Motion (Stationary Camera):** Activate recognition by motion detection. Select this mode if your camera is fixed at one place.
- **Motion (Mobile Camera):** Activate recognition by motion detection. Select this option if your camera is not fixed at one place or is installed on a vehicle.
- **Motion (Continuous Recognition):** Activate round-the-clock recognition.
- **Parking (I/O):** This option is designed for parking areas. The recognition is activated by input triggers at the parking area. Select which inputs will trigger recognition in the **I/O Mode Setting** section below.
- **Parking (Motion):** This option is designed for parking areas. The recognition is activated by motion detection at the parking area. Select this option if the parking area is without a gate installed to trigger the recognition.
- **If the recognition is still repeating, it will notify after the specified second:** Select this option to avoid multiple recognition results for the same license plate due to the position of the camera. Specify the duration of a recognition result to be displayed if the next license plate recognized is the same as the previous one.

[Motion Detection Setting]

- **Output recognition result quickly (It will increase error rate of recognition system):** Select this option if you want to have a faster recognition result at the cost of accuracy. This option is suitable for a large amount of traffic and the frames received will go through a fast recognition process (approximately at the processing rate of 1 frame per second).
- **Detected Sensitivity:** Select the sensitivity level of motion detection from the drop-down list. The default value is set to 5. The higher the value, the more sensitive the system is to the motion.
- **Detected Object Size:** Select the value of the targeted object's normal size. The default value is set to 1. The higher the value, the bigger the object's size is.

[Recognition and Motion Area Setting] To configure the area of motion detection and plate recognition, first click **Reset** to clear the default setting. Then drag the mouse button to select an area of the image. You can define up to 8 areas to outline your detection areas. Every time when an area is selected, you will be prompted for confirmation.

Click **Save** to save the defined areas.

[I/O Mode Setting]

- **Trigger Input:** Select to trigger **Input 1** or **Input 2**.
- **Force Export (Used in I/O Mode):** Select to display the symbol ****** to represent unknown license plates even though the recognition fails. If the option is not selected, the recognition failure will not be recorded.
- **Capture Frame Number in Each Triggered (1~5):** Select the number of image frames from 1 to 5 to be captured when the recognition is activated by input trigger.
- **Repeat Recognition when Recognition Failed (0~3):** Select the number of recognitions from 1 to 3 to be performed after the recognition fails and being activated by input trigger.

Click **Apply** to take effect.

For the related settings of input devices, see *4.2.1 Input Setting*.

4.1.3 Privacy Mask

Note the function is only supported by **GV-IP LPR Camera 5R** and **GV-LPC1100**. The Privacy Mask can block out sensitive areas from view, covering the areas with dark boxes in both live view and recorded clips. This feature is ideal for privacy protection on locations with private information, keyboard sequences (e.g. passwords), and any place you would like to keep inaccessible to view.

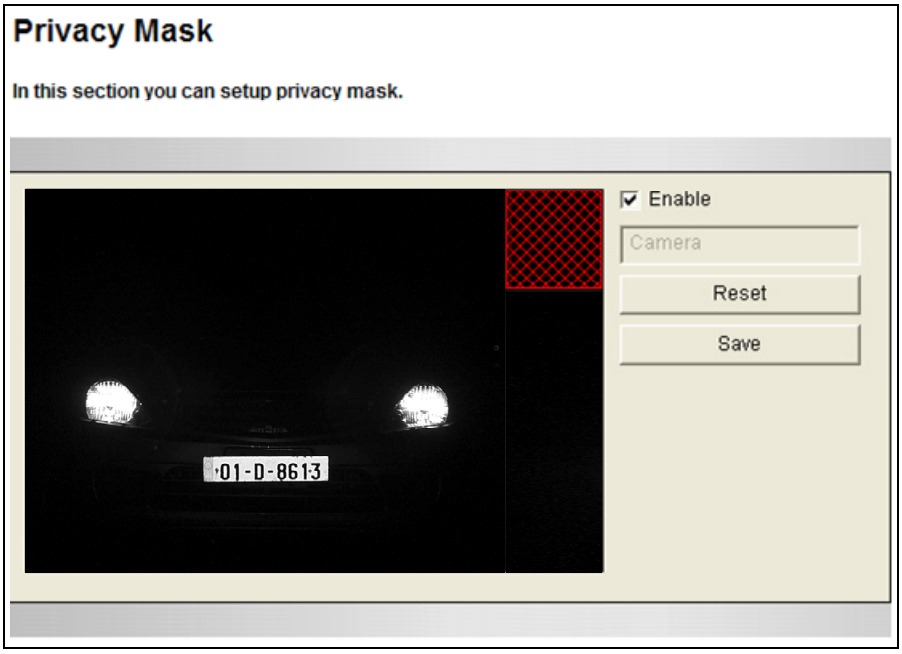


Figure 4-6

1. Select the **Enable** option.
2. Drag the area(s) where you want to block out on the image. Click **Add** when you are prompted to confirm the setting.
3. Click the **Save** button to save all the settings.

4.1.4 Text Overlay

The Text Overlay allows you to overlay any text in any place on the camera view. Up to 16 text messages can be created on one camera view. The overlaid text will be saved in the recordings.

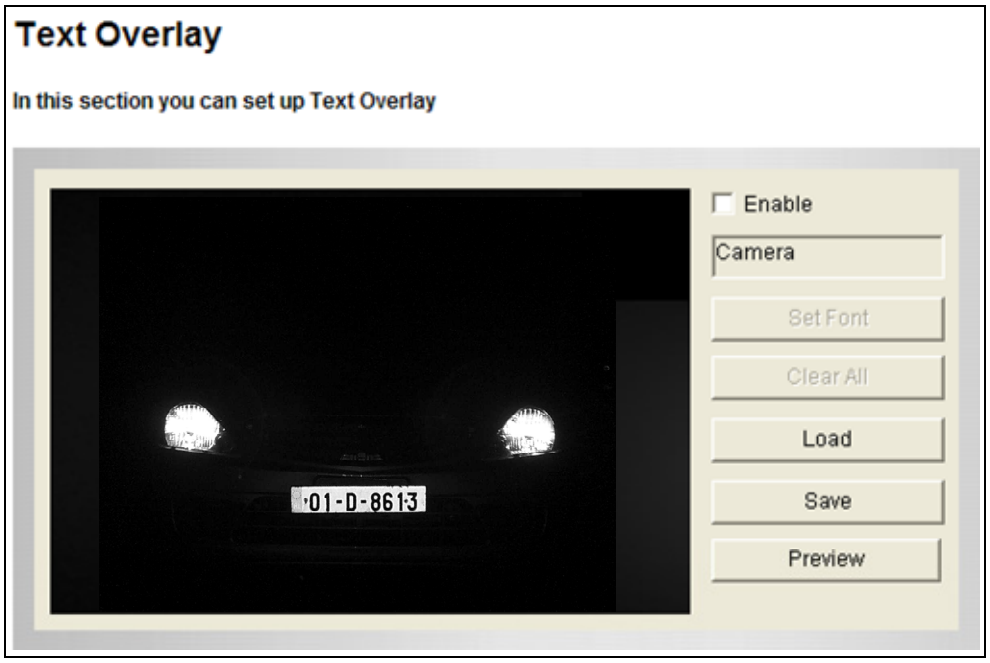


Figure 4-7

1. Select the **Enable** option.
2. Click **Set Font** to set up the font, font style and font size in a pop-up window.
3. Click any place on the image. This dialog box appears.

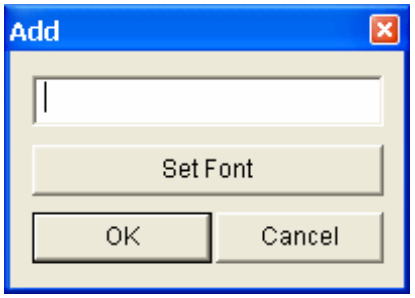


Figure 4-8

4. Type the desired text, and click **OK**. The text is overlaid on the image.
5. Drag the overlaid text to a desired place on the image.
6. Click **Set Font** to modify the font settings.
7. Click **Save** to apply the settings, or click **Load** (Undo) to revert to the last saved setting.
8. Click **Preview** to see how the text will appear on the image. Click **Close** to end the preview.

4.1.5 Visual Automation

Note this function is only supported by cameras with I/O function. This intuitive feature helps you automate any electronic device by triggering the connected output device. When you click on the image of the electronic device, you can simply change its current state, e.g. light ON.

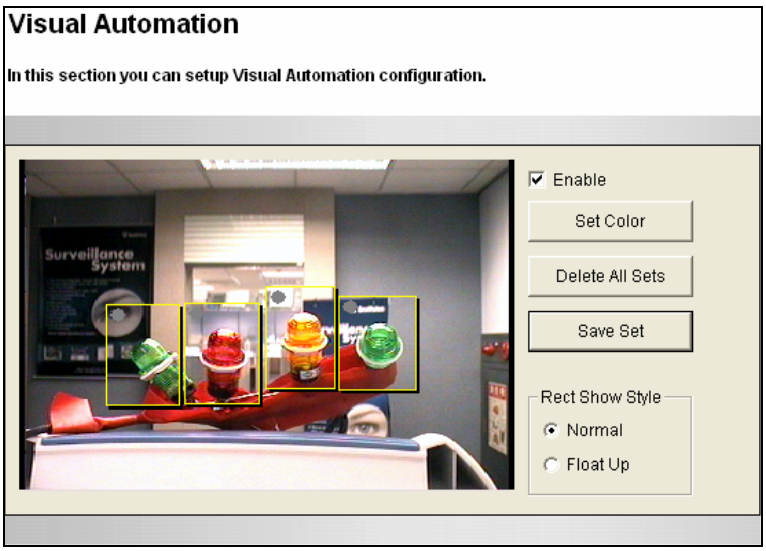


Figure 4-9

1. Select the **Enable** option.
2. Drag an area on the image of the electronic device. This dialog box appears.

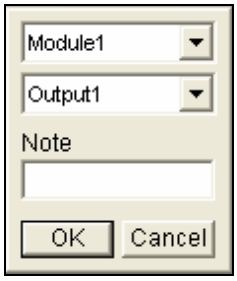


Figure 4-10

3. Assign the connected module and output device. In the Note field, type a note to help you manage the device. Click **OK** to save the settings.
4. To change the frame color of the set area, click the **Set Color** button.
5. To emboss the set area, select **Float Up**; or keep it flat by selecting **Normal**.
6. Click the **Save Set** button to apply the settings.
7. To perform the function, see *3.13 Visual Automation*.

4.1.6 Recognition Engine Settings

Note this function is only available for **GV-LPR1200**. You can adjust the recognition engine to improve the recognition process and increase the accuracy.

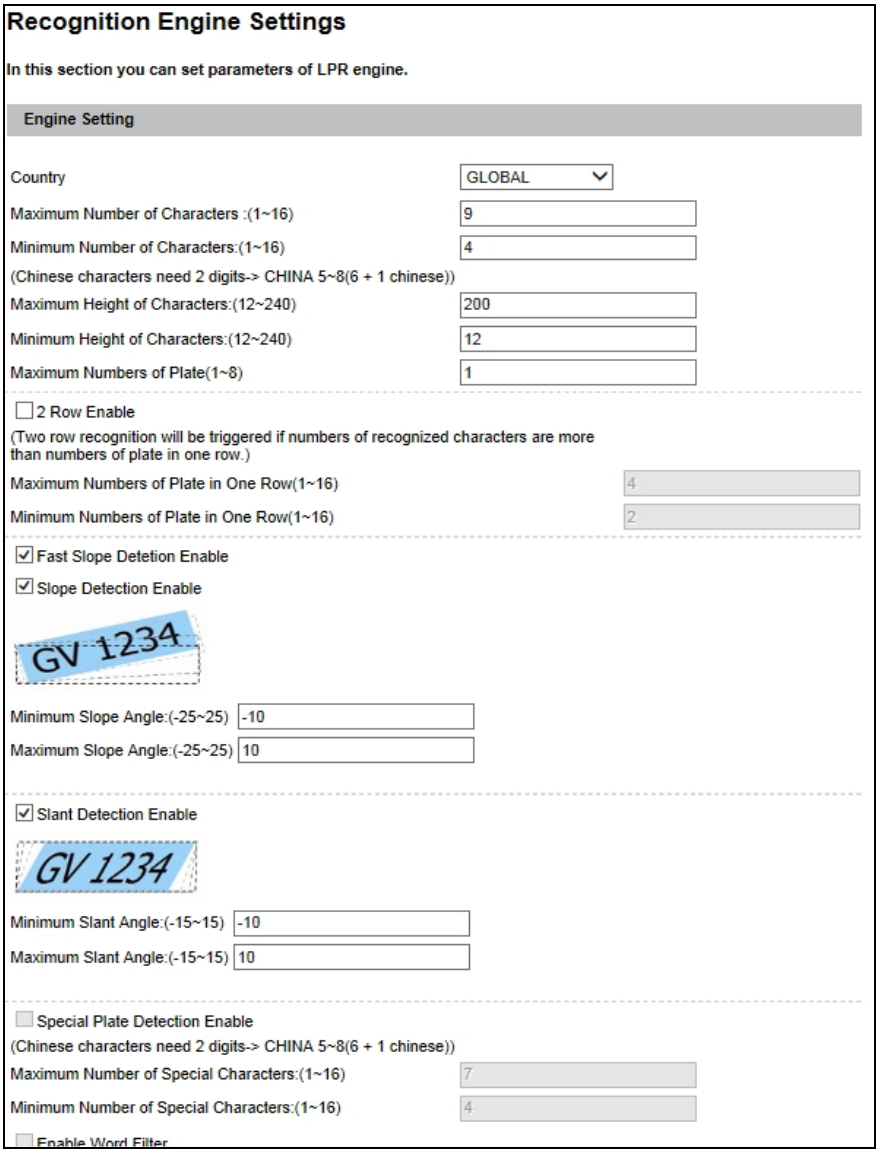


Figure 4-11

[Engine Setting]

- **Country:** Select a recognition engine to be set up.
- **Maximum number of characters:** Set the maximum number of characters allowed on the license plate to activate the recognition process. If the number of characters exceeds the limit, the system will not start the recognition.
- **Minimum number of characters:** Set the minimum number of characters allowed on the license plate to activate the recognition process. If the number of characters does not reach the minimum requirement, the system will not start the recognition.

- **Maximum height of characters:** You can set the maximum height of characters on the license plate in pixels to activate the recognition process.
- **Minimum height of characters:** Set the minimum height of characters on the license plate in pixels to activate the recognition process.
- **Maximum number of plates:** Set the maximum number of plates to be recognized simultaneously.
- **Two Row Enable:** This option can recognize two rows of characters on license plates. Note this option is only available on the engine version of V5000 or later.
- **Maximum numbers of plate in one row:** Set the maximum number of characters in one row allowed on the license plate to activate the recognition process. If the number of characters exceeds the limit, the system will not start the recognition.
- **Minimum numbers of plate in one row:** Set the minimum number of characters in one row allowed on the license plate to activate the recognition process. If the number of characters does not reach the minimum requirement, the system will not start the recognition.
- **Fast Slope Detection Enable:** This option can increase the recognition speed by 10 % but decrease the accuracy by 3%.
- **Slope Detection Enable:** The license plate tilting in a horizontal direction can be detected.
  - **Minimum angle of slope:** Set the minimum tilt angle to be allowed to activate the recognition process.
  - **Maximum angle of slope:** Set the maximum tilt angle to be allowed to activate the recognition process.
- **Slant Detection Enable:** The license plate tilting in a vertical direction can be detected.
  - **Minimum angle of slant:** Set the minimum tilt angle to be allowed to activate the recognition process.
  - **Maximum angle of slant:** Set the maximum tilt angle to be allowed to activate the recognition process.
- **Special Plate Detection Enable:** This option can recognize Traditional Chinese characters. This option and the following sub options are only available for the Taiwan recognition engine.
  - **Maximum number of characters:** Set the maximum number of special characters allowed on the license plate to activate the recognition process. If the number of characters exceeds the limit, the system will not start the recognition.

- **Minimum number of characters:** Set the minimum number of special characters allowed on the license plate to activate the recognition process. If the number of characters does not reach the minimum requirement, the system will not start the recognition.
- **Enable Word Filter:** Enable the recognition for the character "軍" on license plates of military vehicles. Note this option is only available on the engine of Taiwan.
- **Special Enable Moto Enable:** Enable the recognition for motorcycle license plate.
- **Alphabet Filter Enable:** Select this option to filter out extraneous alphabetical characters around the license plate and increase recognition accuracy.
- **Digit Filter Enable:** Select this option to filter out extraneous numerical characters around the license plate and increase recognition accuracy.

The following options can be enabled to avoid misidentification of certain characters in some countries.

- **I to 1 Enable:** Always identify the character "I" as "1" (one).
- **1 to I Enable:** Always identify the character "1" as "I" (letter I).
- **0 to O Enable:** Always identify the character "0" as "O" (letter O).
- **Q to 0 Enable:** Always identify the character "Q" as "0" (zero). Note this option is only available on the engine version of V5000 or later.
- **Enable Color Inverse:** Enable the recognition for both license plates of "white characters on black background" and "black characters on white background". By default, this option is enabled. Note this option is only available on the engines of China and Global.
- **Enable Gray Scale Inverse:** Enable the recognition for the license plate of "white characters on black background" only. By default, this option is disabled. Note this option is only available on the engines of China and Global.

- **Enable TC:** This function is only used to recognize the first Simplified Chinese character on China license plates. A China license plate consists of Simplified Chinese characters, English letters and numbers.
  - **WeightChar:** Emphasizes the analysis of a Simplified Chinese character, such as the character "沪".
  - **WeightCharRate(0-10):** Defines the rate of occurrence of the weighted character. The higher the rate is defined, the more possible the weighted character will be recognized.
  - **AutoChinese:** Adds the weighted character to the recognition result if the camera does not recognize any Simplified Chinese character.

- **FixChinese:** Overwrites with the weighted character regardless of whether the first Simplified Chinese character is recognized.

[Rule Setting] You can set up recognition rules to increase recognition accuracy. The rule can only consist of letters A and D, and its length must equal that of the license plate number. Use “A” and “D” to represent one alphabetical character and one numerical character of your license plate number respectively. For example, if the license plate is “ABC123” you can type “AAADDD” in one of the Rule fields. Up to 5 rules can be set.

- **(When rule settings are A) 0 to D:** Always identify the letter “O” as letter “D”. This is the default setting. It is useful to avoid misidentification in some countries’ license plates which is hard to distinguish between letter “O” and letter “D”. Select this option to activate a concurrent condition with the rules that you have set. For instance, if the rule entered in the field is “AADDD“, the recognition result will be “AD123” for license plate which appears to be “A0123”
- **(When rule settings are A) 0 to O:** Always identify the letter “O” as letter “O”. Select this option to activate a concurrent condition with the rules that you have set. For instance, if the rule entered in the field is “AAADDA“, the recognition result will be “IBZ02O” for license plate which appears to be “IBZ020”

4.2 I/O Control

Note this function is only supported by cameras with I/O function. You can connect your camera to other I/O devices with the I/O wires for extensible connection. Strip the desired wires first, and connect the auxiliary devices with the right wires according to the assignments to the wires in *1.3.5.3 Wire Definition*.

4.2.1 Input Settings

To activate the sensor input, select **Enable**.

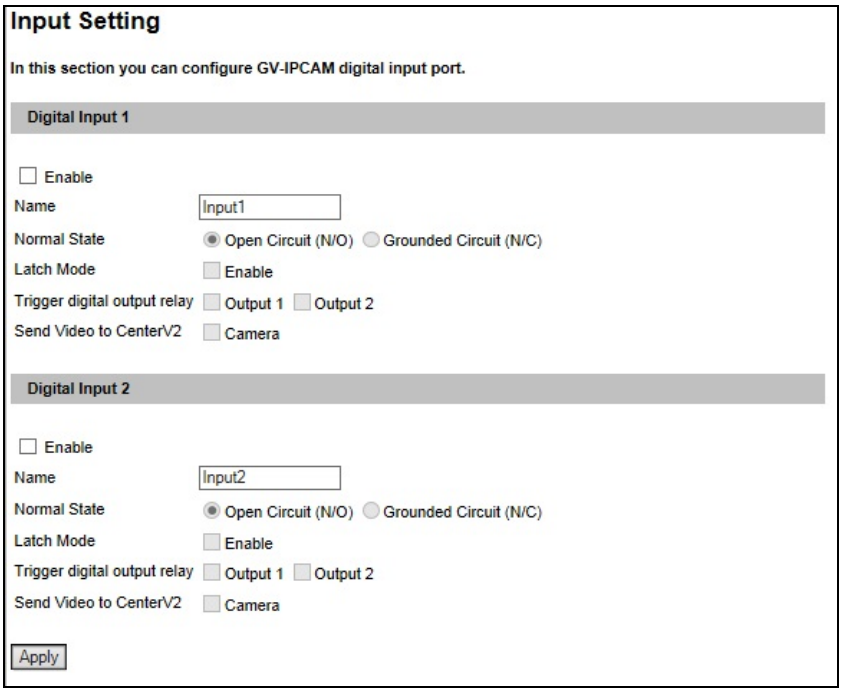


Figure 4-12

- **Normal State:** You can set the input state to trigger actions by selecting **Open Circuit (N/O)** or **Grounded Circuit (N/C)**.
- **Latch Mode:** Enable this option to have a momentary output alarm.
- **Trigger digital output relay:** When this option is enabled, the output will be triggered once the input is activated.
- **Send Video to Center V2:** Enable this option to send the images to Center V2 when the input is triggered.

Note:

1. The cameras with I/O function support dry-contact input devices.
2. The functions “triggering the output”, “Recording starts when the input is triggered” and “sending video to Center V2” only work after you start **Input** monitoring manually or by schedule. To configure the input monitoring, see *4.4 Monitoring.*

4.2.2 Output Settings

To start the output device, select **Enable**.

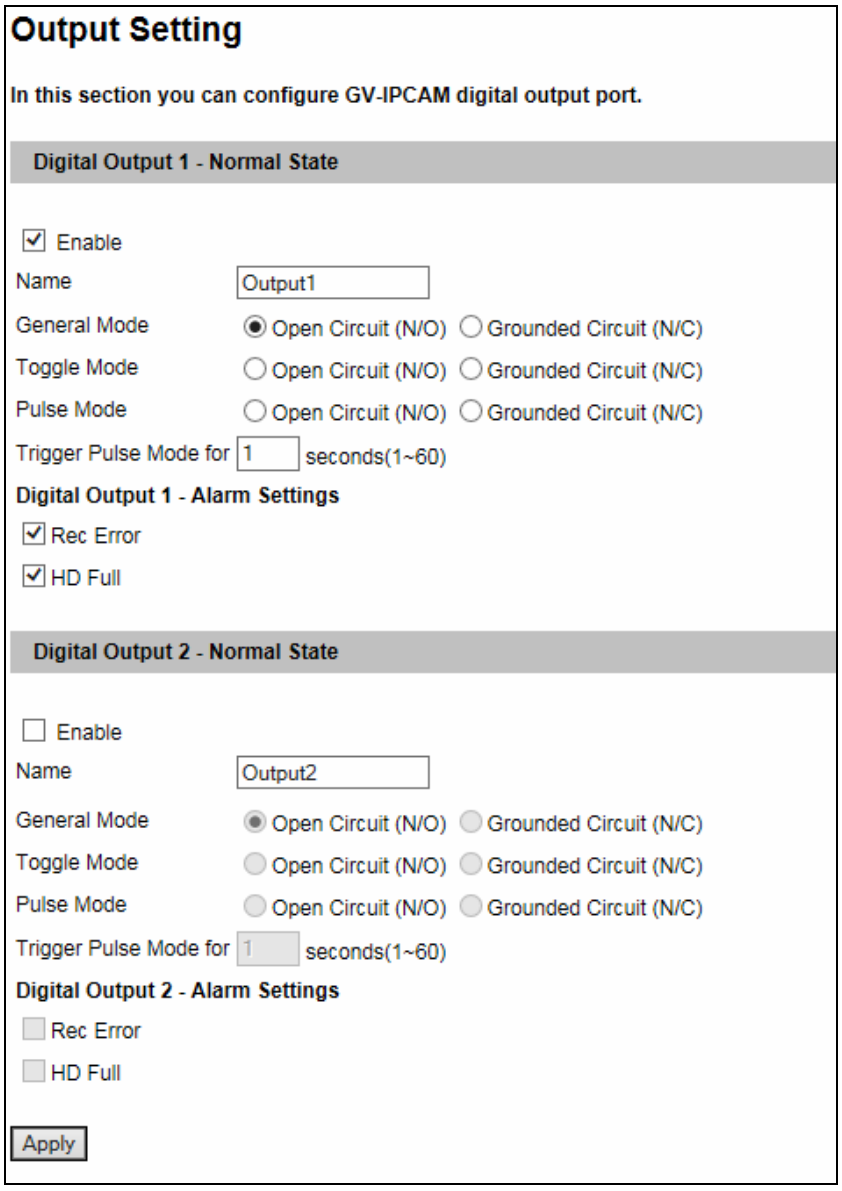


Figure 4-13

- **General Mode:** Choose the output signal that mostly suits the device you are using: **Open Circuit (N/O)**, **Grounded Circuit (N/C)**.
- **Toggle Mode:** The output continues to be triggered until a new input trigger ends the output.
- **Pulse Mode:** The output is triggered for the amount of time you specify in the **Trigger Pulse Mode for x Seconds** field.

[Alarm Settings] You can choose to automatically trigger the digital output under these conditions: memory card write error (Rec Error) and full memory card (HD Full). Note that memory card related functions are only supported by **GV-LPR1200**.

4.2.3 RS485

Note this function is only supported by **GV-LPR1200**. To export recognition data through RS-485, select **Enable**. GV-LPR1200 uses a baud rate of 9600.

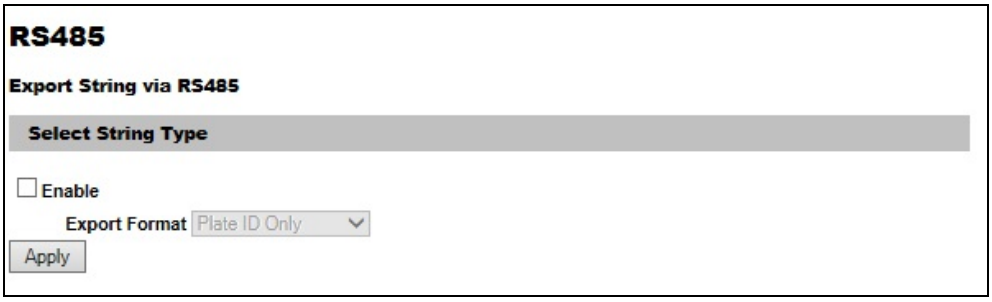


Figure 4-14

[Select String Type]

- **Export Format:** Select the desired recognition results from the drop-down list to export, including Plate Only, Plate ID and Time, and Plate File Name.

4.3 Events & Alerts

For motion and alarm events, the Administrator can set up two types of alert:

1. Send a captured image by e-mail or FTP. See *4.3.1 E-Mail* and *4.3.2 FTP*.
2. Notify Center Monitoring Stations such as Center V2, VSM (Vital Sign Monitor), by video or text alerts.

To enable above alerts, you must also set the following features:

- Motion Detection (See *4.1.2 Motion Detection / Detection Mode*)
- For e-mail and FTP alerts, it is required to start monitoring (See *4.4 Monitoring*).

4.3.1 E-mail

When a motion is detected, the camera can send an e-mail alert, containing a captured image to a remote user.

Important: To send e-mail alert upon motion, make sure you also enable the Motion Detection / Detection Mode function. For setup details, see *4.1.2 Motion Detection / Detection Mode*.

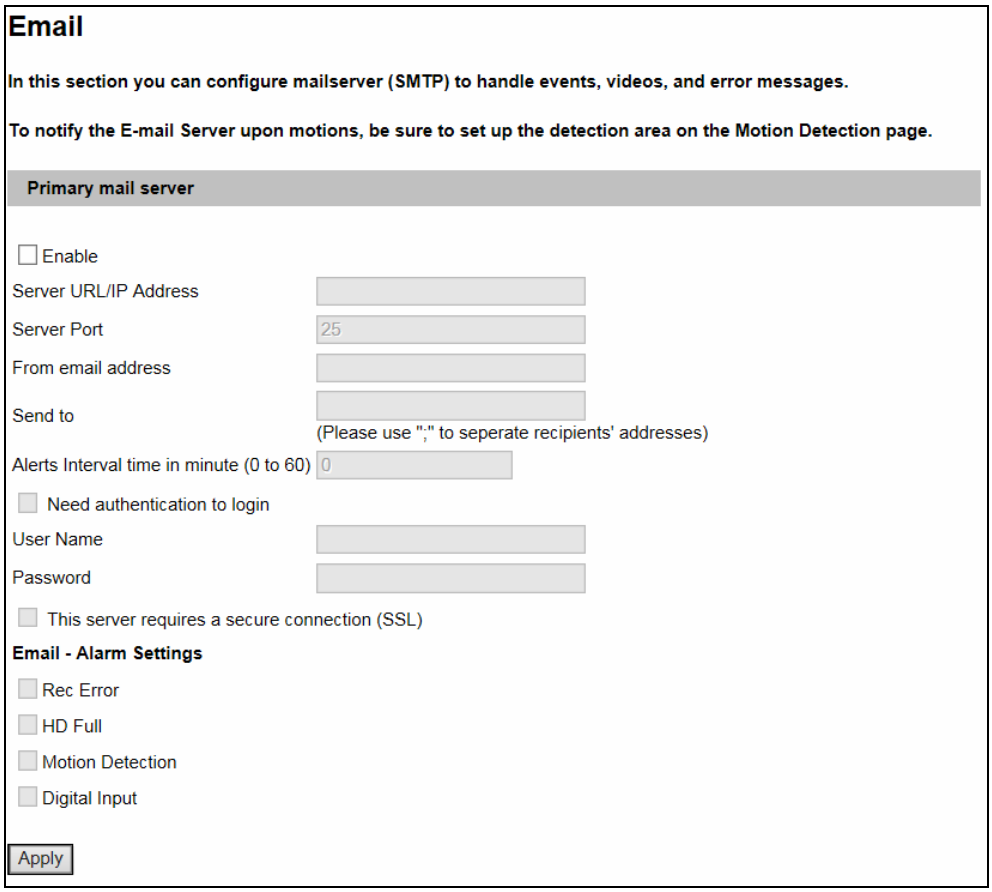


Figure 4-15

To enable the e-mail functions:

1. Select **Enable** to set up e-mail notifications.
2. **Server URL/IP Address:** Type the SMTP Server's URL address or IP address.
3. **Server Port:** Type the SMTP Server's port number or keep the default value **25**.
4. **From email address:** Type the sender's e-mail address.
5. **Send to:** Type the e-mail address(s) you want to send alerts to.

6. **Alerts interval time in minute:** Specify the interval between e-mail alerts. The valid interval is from 0 to 60 minutes. This option is useful for frequent event occurrence. Any event detected during the interval period will be ignored.
7. If the SMTP Server needs authentication, select **Need authentication to login** and type a valid **Username** and **Password** to log in the SMTP server. If the SMTP Server needs a secure connection (SSL), select **This server requires a secure connection**.
8. **Email-Alarm Settings:** Select an event to automatically send an e-mail alert.
   - **Rec Error:** Sends an e-mail alert upon a memory card writing error. This function is only supported by **GV-LPR1200**.
   - **HD Full:** Sends an e-mail alert when the memory card is full. This function is only supported by **GV-LPR1200**.
   - **Motion Detection:** Sends an e-mail alert when the camera detects a motion.
   - **Digital Input:** Sends an e-mail alert upon a trigged input event. Note this function is only supported by cameras with I/O function.
9. Click **Apply**.
10. In the left menu, select **Monitoring** and click the **Start** button to start monitoring.

4.3.2 FTP

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

Important: To send FTP alert upon motions, be sure to set up the detection area on the Motion Detection page. For details, see *4.1.2 Motion Detection / Detection Mode*.

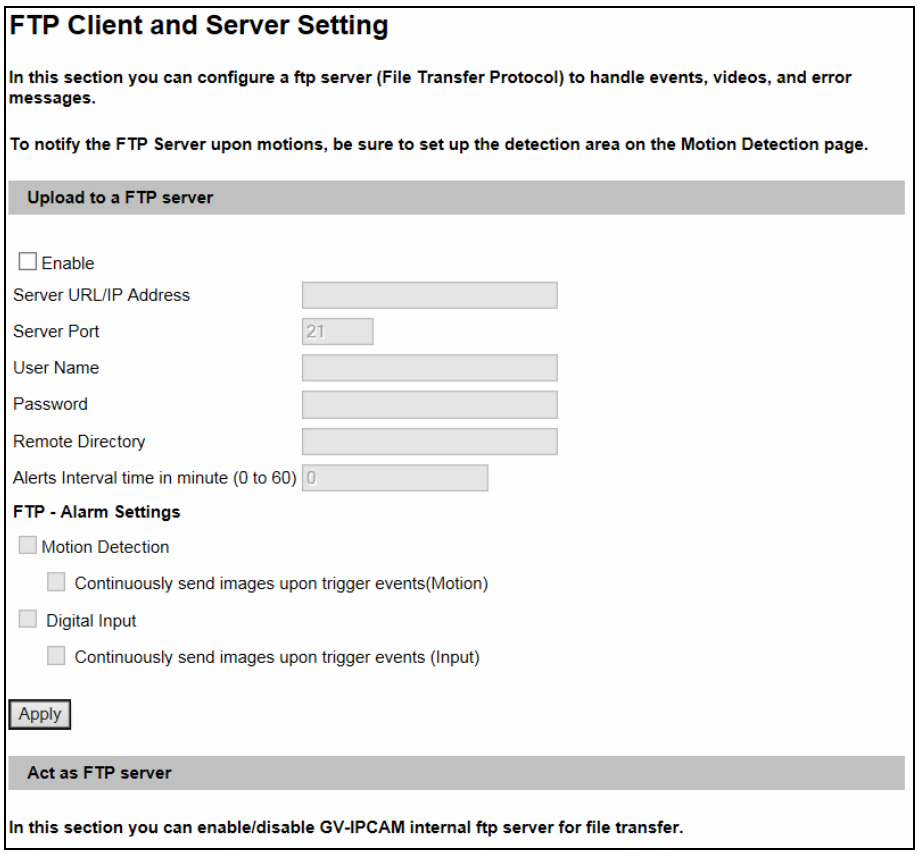


Figure 4-16

[Upload to a FTP server]

1. Select **Enable** to set up the FTP function.
2. **Server URL/IP Address:** Type the URL address or IP address of the FTP Server.
3. **Server Port:** Type the port number of the FTP Server or keep the default value **21**.
4. Type the **Username** and **Password** of the FTP Server.
5. **Remote Directory:** Type the name of the storage folder on the FTP Server.
6. **Alerts interval time in minute:** Specify the interval between FTP alerts. The interval can be between 0 and 60 minutes. The option is useful for frequent event occurrence. Any event triggers during the interval period will be ignored.

7. **FTP-Alarm Settings:**
   - **Motion Detection:** Select to automatically send a snapshot to the FTP Server upon motion detection. Select **Continuously send images upon trigger events (Motion)** to upload a series of snapshots to the FTP Server upon motion detection.
   - **Digital Input:** Select to automatically send a snapshot to the FTP Server when a digital input is triggered. Select **Continuously send images upon trigger events (Input)** to upload a series of snapshots to the FTP Server upon input trigger events.
8. In the left menu, select **Monitoring** and click the **Start** button to start monitoring.

[Act as FTP server] The function is only supported by **GV-LPR1200**.

1. **Enable FTP access to the GV-IP Cam:** Select to allow the camera to act as an FTP server for users to download AVI files.
2. **Use alternative port:** The default port is set to 21.

4.3.3 Center V2

The central monitoring station Center V2 can be notified of a motion event 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.

Important: To notify the Center V2 Server upon motion events, be sure to set up the detection area on the Motion Detection page. For details, see *4.1.2 Motion Detection / Detection Mode* and *7.1 Center V2*.

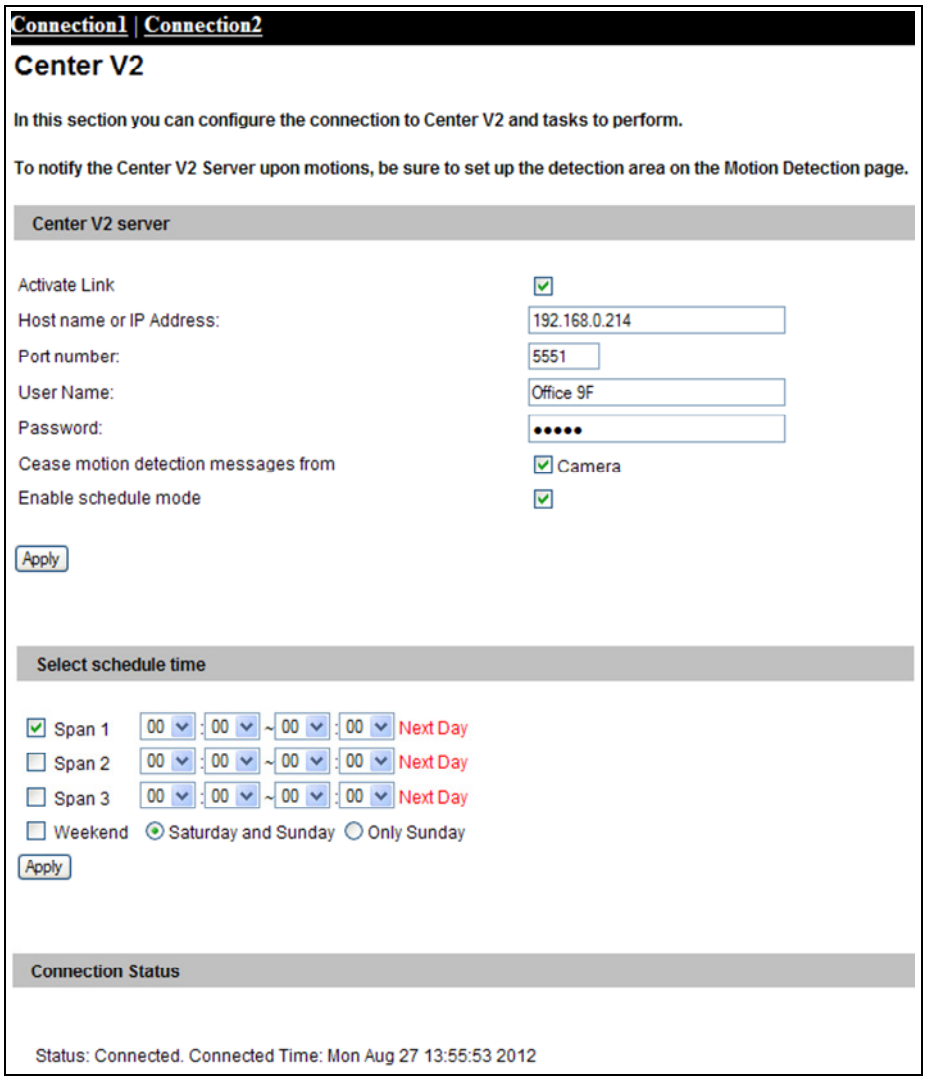


Figure 4-17

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 *7.1 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.
7. To establish connection to the second Center V2, click the **Connection 2** tab and repeat the above steps for setup.

You can also find on this Center V2 settings page:

- **Cease motion detection messages from:** Stops notifying Center V2 of motion detection.
- **Enable schedule mode:** Starts the monitoring through Center V2 based on the schedule you set in the **Select Schedule Time** section.

[Select schedule time]

- **Span 1- Span 3:** Enable recording (upon motion events) at up to 3 different time frames for a day, represented by Span 1 to Span 3.
- **Weekend:** Enable recording (upon motion events) for both Saturday and Sunday or for Sunday only.

4.3.4 VSM (Vital Sign Monitor)

The central monitoring station VSM can be notified of a motion event by text alerts. Up to **two** Vital Sign Monitor servers can be connected. For live monitoring through VSM, you must already have a subscriber account on each of the VSM server.

IMPORTANT: To notify the Vital Sign Monitor upon motions, be sure to set up the detection area on the Motion Detection page. For details, see *4.1.2 Motion Detection / Detection Mode* and *7.2 Vital Sign Monitor*.

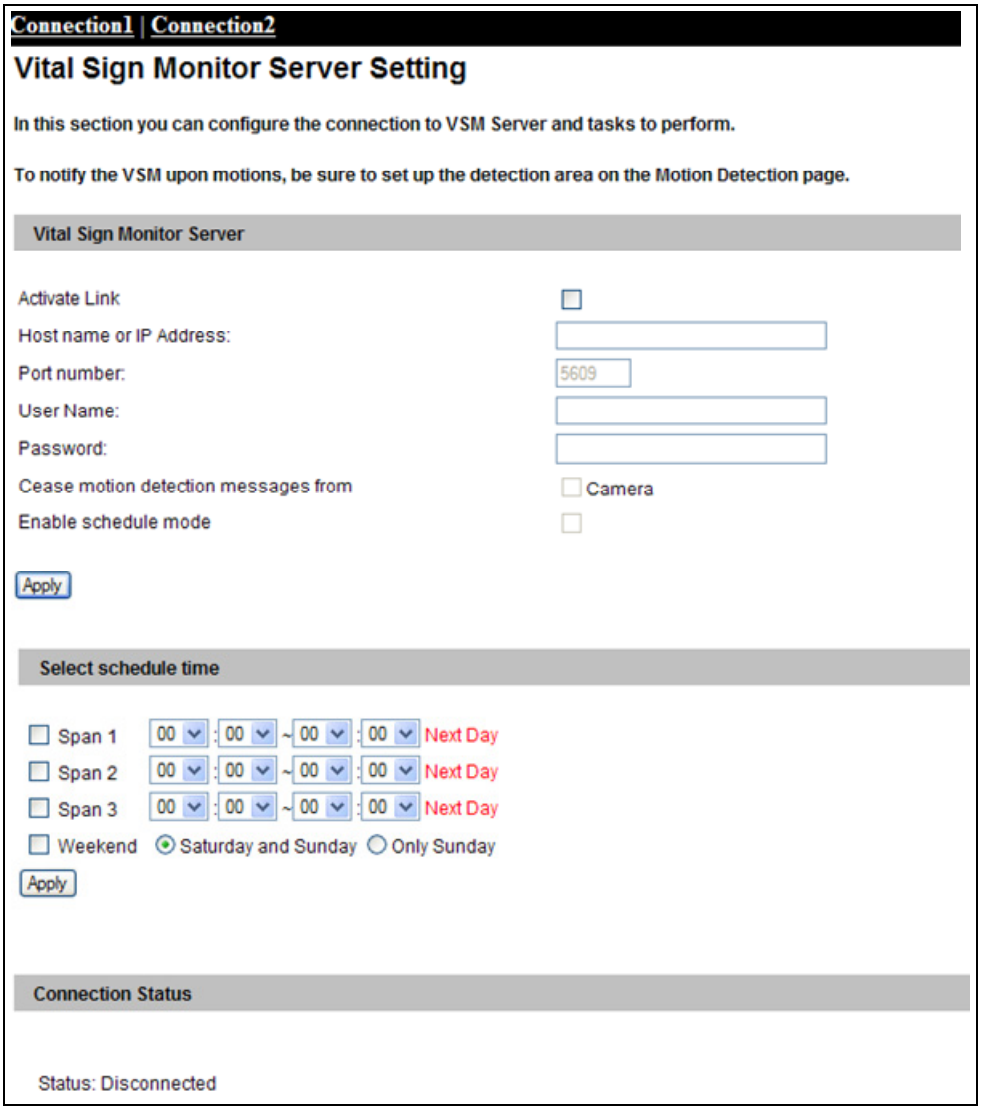


Figure 4-18

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 *7.2 Vital Sign Monitor.*
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.
7. To establish connection to the second VSM, click the **Connection 2** tab and repeat the above steps for setup.

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

- **Cease motion detection messages from:** Stops notifying VSM of motion detection.
- **Enable schedule mode:** Starts the monitoring through VSM based on the schedule you set in the **Select Schedule Time** section. For schedule setup, refer to *4.3.3 Center V2*.

4.3.5 GV-Video Gateway / GV-Recording Server

The GV-Video Gateway and GV-Recording Server are video streaming servers designed for large-scale video surveillance deployments. The GV-Video Gateway / GV-Recording Server (with recording capability) can receive up to 128 channels from various IP video devices, and distribute up to 300 channels to its clients. With the GV-Video Gateway / GV-Recording Server, the desired frame rate can be ensured while the CPU loading and bandwidth usage of the IP video devices are significantly reduced.

The camera 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 GV-Video Gateway / GV-Recording Server with the user name and password specified below.

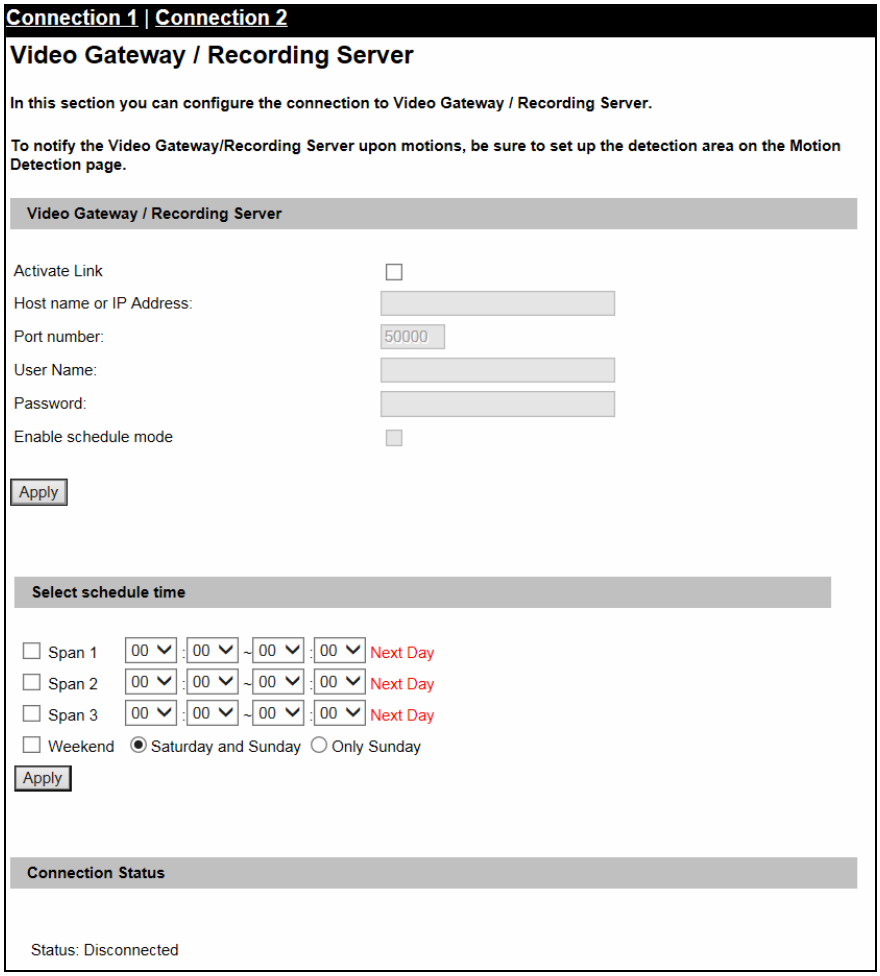


Figure 4-19

To enable connection to GV-Video Gateway / GV-Recording Server:

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

You can also find the option:

- **Enable schedule mode:** Starts the monitoring through GV-Video Gateway / GV-Recording Server based on the schedule you set in the **Select Schedule Time** section. For schedule setup, refer to *4.3.3 Center V2*.

4.3.6 RTSP

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

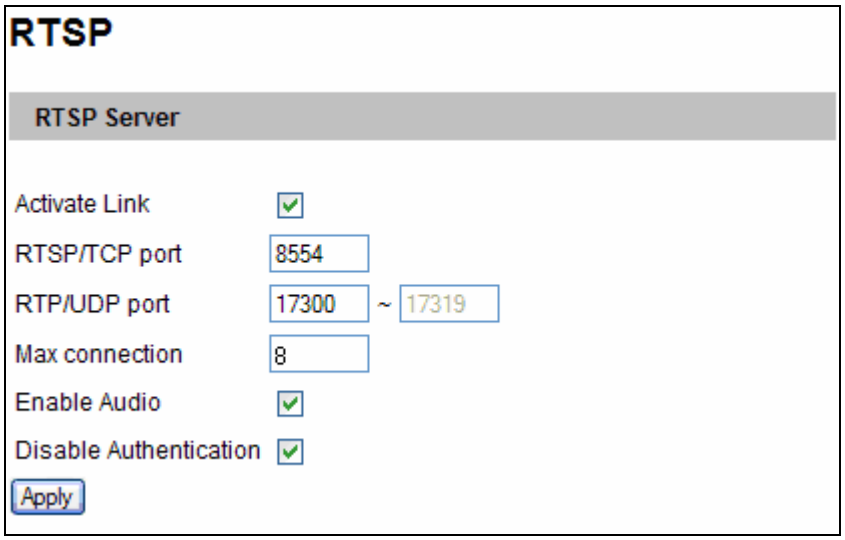


Figure 4-20

- **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 your camera. The maximum value is **8**.
- **Enable Audio:** This option is enabled by default. Select to enable audio streaming through RTSP. Note this function is not available for **GV-IP LPR Camera 5R**.
- **Disable Authentication:** Authentication is disabled by default, with which the ID and password of your camera are not required when accessing live view through the RTSP command.

For details on remote monitoring with mobile phones, see *Smart Device Connection*, Chapter 8. For RTSP command, see *Appendix B RTSP Protocol Support*.

4.3.7 ONVIF

Note this function is only supported by **GV-LPC1200** and **GV-LPR1200**. Configure the ONVIF settings for a third-party DVR.

Figure 4-21

- **Enable Authentication:** The ID and password of the camera are required to access the camera by a third-party DVR through ONVIF.
- **Enable Discovery Mode:** Allows the third-party DVR to browse this camera. This function is enabled by default.

4.3.8 POS

Note this function is only available for **GV-LPR1200**. When the alarm events of motion detection and sensor trigger occur, the GV-System can get alerts with recognized license plate overlaid on the live images. This application is illustrated below.

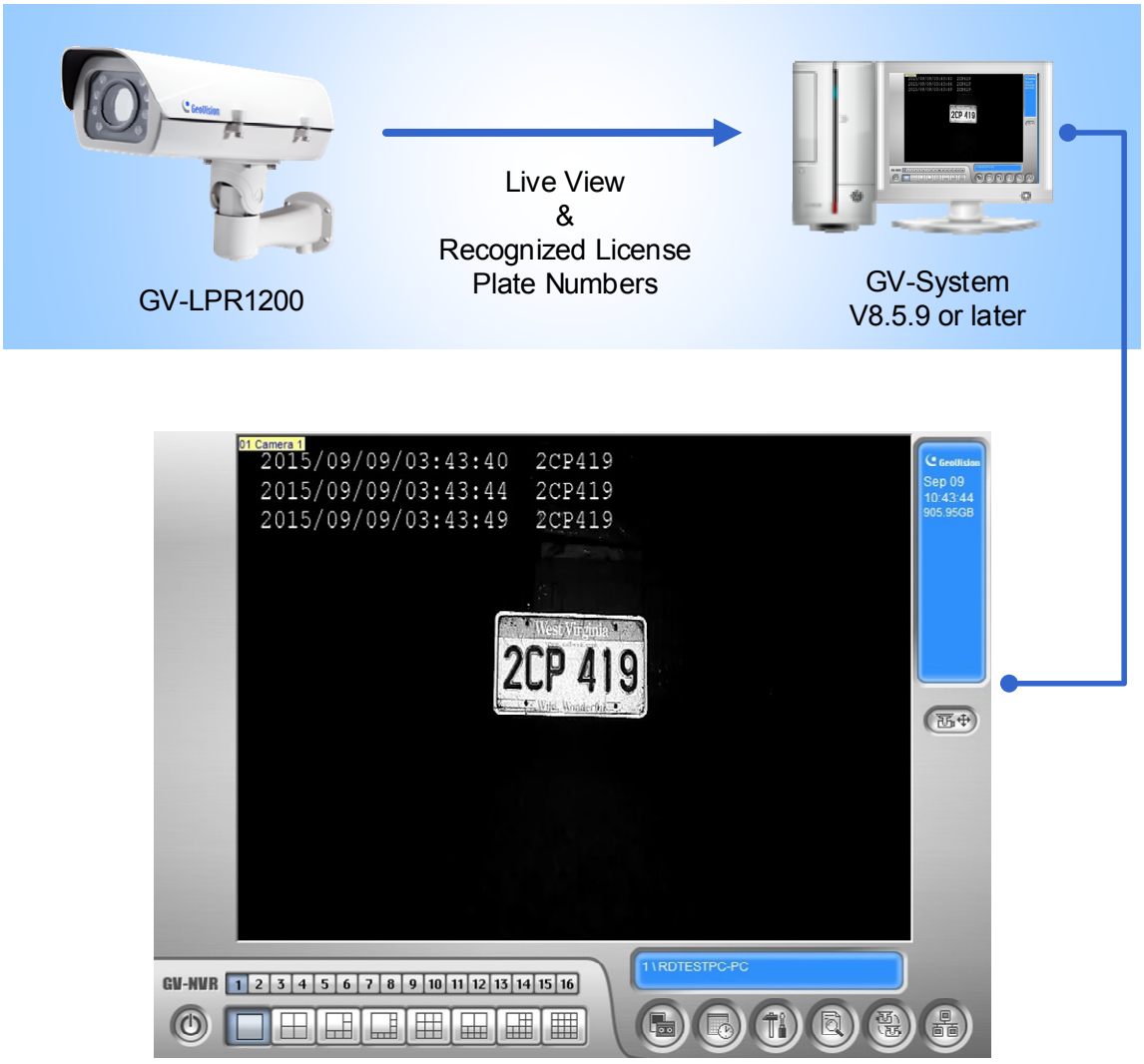


Figure 4-22

Note: This application is only supported by GV-System V8.5.9 or later.

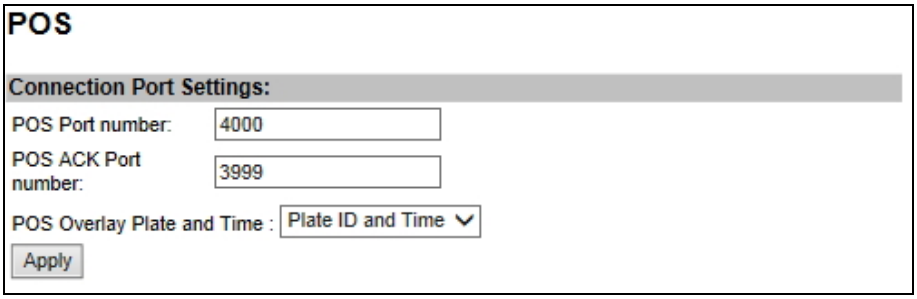


Figure 4-23

[Connection Port Settings] Both of **POS Port** and **POS ACK Port** are used for transmitting recognition results to GV-System. The default port numbers are **4000** and **3999** respectively.

- **POS Overlay Plate and Time:** Select whether the recognition results will contain Plate ID and Time or only Plate ID when they are transmitted to GV-System.

The GV- LPR1200 will be added to GV-System through the POS device settings. To set up the GV-LPR1200 on GV-System, see *7.3 POS Device Setup*, *GV-DVR User's Manual* on GV-NVR Software DVD.

4.3.9 Inquire Recognized Database

Note this function is only available for **GV-LPR1200**. You can enquire the history of a plate number from the database stored in a memory card.

Note: Make sure you have inserted a memory card that contains the database of recognized license plate numbers.

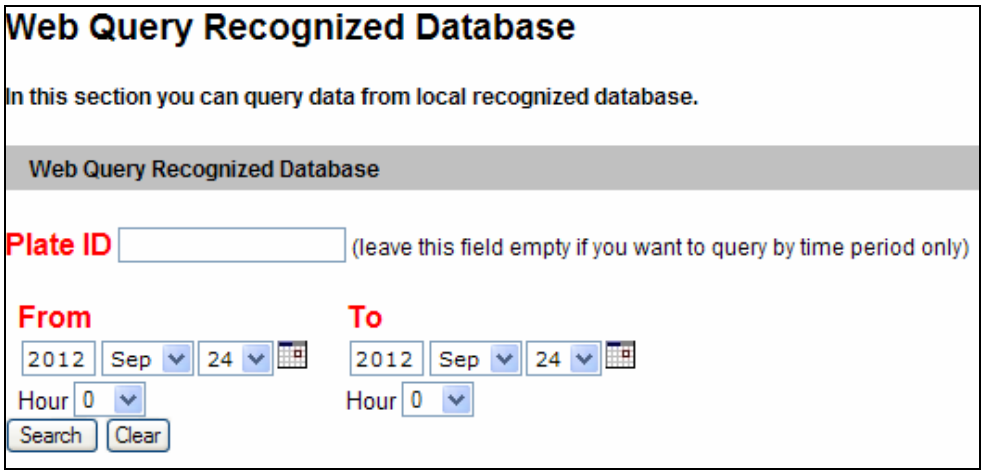


Figure 4-24

1. Type a car plate number in the Plate ID field. The entries are case-sensitive.
2. Specify a start time and an end time by typing the year and using the drop-down lists.
3. Click the **Search** button to start matching.

Tip: To list all the license plates captured during a period, leave the **Plate ID** field blank and specify the time period.

4.3.10 Registry Database

Note this function is only available for **GV-LPR1200**. You can automatically activate an output, for example, opening a gate when a captured license plate matches a number from the database based on the selected matching criterion.

This vehicle database is transmitted from GV-ASManager and saved on the memory card. To set up the connection with the GV-ASManager for database download, see *GV-ASManager Connection*, Chapter 9.

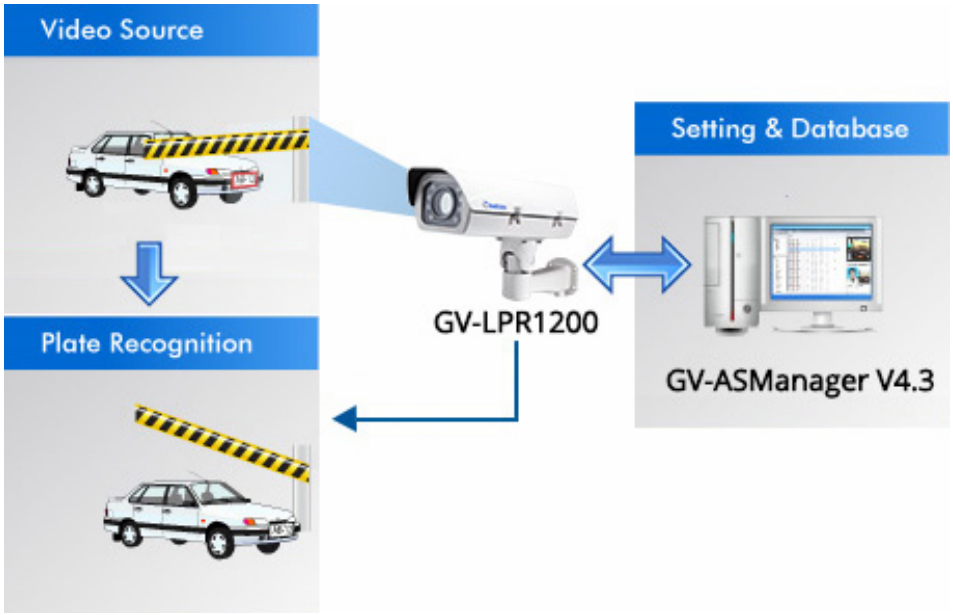


Figure 4-25

To use this function:

- Make sure a memory card is inserted to the camera and the storage settings are configured. For detail, see *4.7.2 Storage Settings*.
- Make sure the camera is connected with GV-ASManager to download the vehicle database, or the inserted memory card already contained the vehicle database.
- Make sure the output settings of the gate or barrier are configured and enabled. The gate or barrier must be connected to **output 1** of GV-LPR1200. For detail, see *4.2.2 Output Settings*.

Note: This function is only supported for GV-ASManager V4.3 or later.

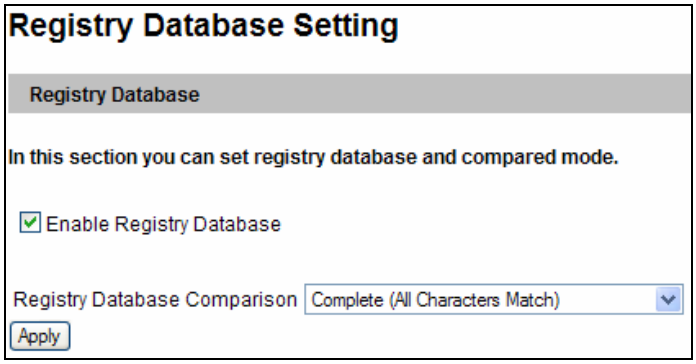


Figure 4-26

1. Select **Enable Registry Database**.
2. Select one comparison type for **Registry Database Comparison** using the drop-down list. The detected license plate will trigger the output under the selected condition:
   - **Complete (All Characters Match):** The detected license plate matches every character of a license plate in database.
   - **Like (One Character Mismatch):** The detected license plate matches all except one character of a license plate in the database.
   - **Somewhat Like (Two Characters Mismatch):** the detected license plate matches two characters of a license plate in the database.
3. Click **Apply**.

To set the Recognition Engine, recognition conditions, and recognition sensitivity for example, see *4.1.2 Motion Detection / Detection Mode* and *4.1.6 Recognition Engine Settings*.

To open a gate when the detected license plate is recognized as a registered vehicle, see *4.2.2 Output Settings* to see how to set a gate as the output device.

4.4 Monitoring

Configure the monitoring settings for your camera.

4.4.1 Monitoring Settings

You can start monitoring manually, by schedule or by input trigger. Note this function is not available for **GV-IP LPR Camera 5R**.

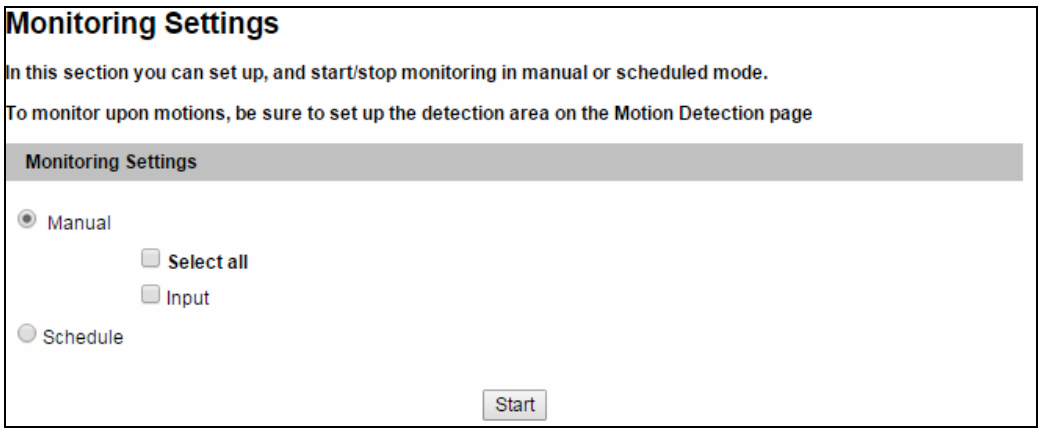


Figure 4-27

[Manual] Manually activates motion detection and I/O monitoring. Select one of the following options and click the **Start** button.

- **Select all**: Manually starts both motion detection and I/O monitoring.
- **Input**: Note this function is only supported for cameras with I/O function. Manually starts I/O monitoring. When the sensor input is triggered, its associated camera and output will be activated for recording and alerting.

[Schedule] The system starts motion detection and I/O monitoring according to the schedule you have set.

4.5 Schedule

Note this function is only supported by cameras with I/O function.The schedule is provided to activate I/O monitoring on a specific time each day.

4.5.1 I/O Monitoring Settings

You can set the schedule for I/O monitoring.

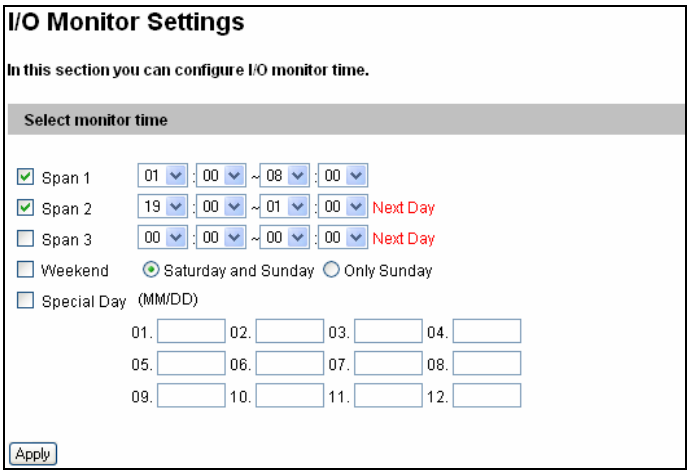


Figure 4-28

- **Span 1- Span 3:** Set different time frames during the day to enable I/O monitoring. Each day can be divided into 3 time frames, represented by Span 1 to Span 3.
- **Weekend:** Enable this option to start I/O monitoring all day on the weekend and define whether your weekend includes **Saturday and Sunday** or **Only Sunday**.
- **Special Day:** Enable I/O monitoring on a specified day.

4.5.2 Recognizing Schedule Settings

Note this function is only available for **GV-LPR1200**. You can set the schedule for recognizing license plates.

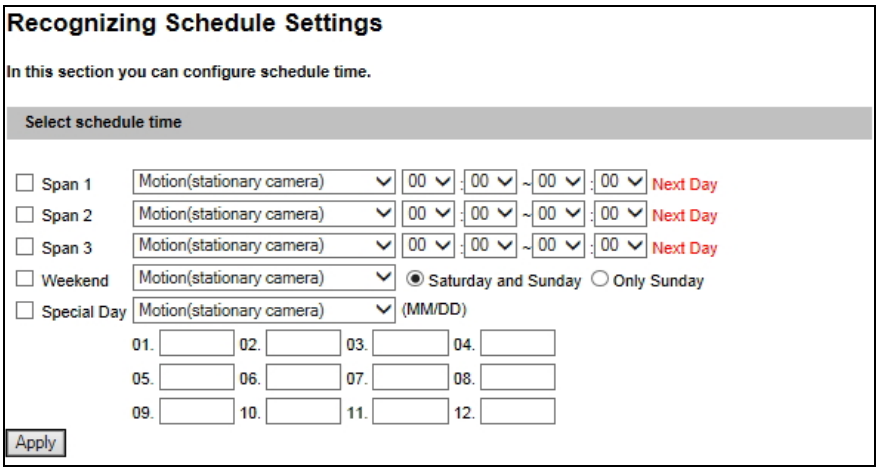


Figure 4-29

Select a method for license plate recognition from the drop-down list on top left and set different time frames during the day to enable I/O monitoring.

- **Span 1- Span 3:** Set a different recognition mode for each time frame during the day. Each day can be divided into 3 time frames, represented by Span 1 to Span 3. The time frame settings will work from Monday through Sunday.
- **Weekend:** Enable this option to have a whole-day recognition on the weekend and select a recognition mode to be used. Define whether your weekend includes **Saturday and Sunday** or **Only Sunday**.
- **Special Day:** Set the recognition mode on a specified day.

Note: If the settings for Special Day conflict with those for Span 1-3 or Weekend, the Special Day settings will get priority.

4.6 Network

The Network section includes some basic but important network configurations that enable your camera to be connected to a TCP/IP network.

4.6.1 LAN Configuration

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

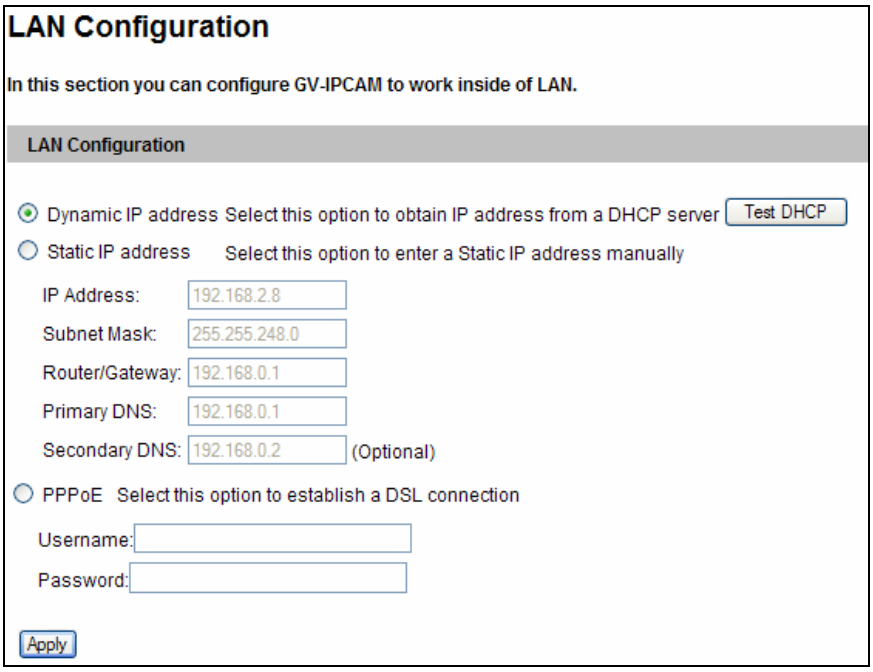


Figure 4-30

[LAN Configuration]

- **Dynamic IP address:** The network environment has a DHCP server which will automatically assign a dynamic IP address to the camera. Click the **Test DHCP** button to see the currently assigned IP address or look up the address using GV-IP Device Utility.
- **Static IP address:** Assign a static IP or fixed IP to the camera. Type the camera'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

- **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, first use the DDNS function to obtain a domain name linking to the camera's changing IP address.

For details on Dynamic DNS Server Settings, *see 4.6.2 Advanced TCP/IP.*

4.6.2 Advanced TCP/IP

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

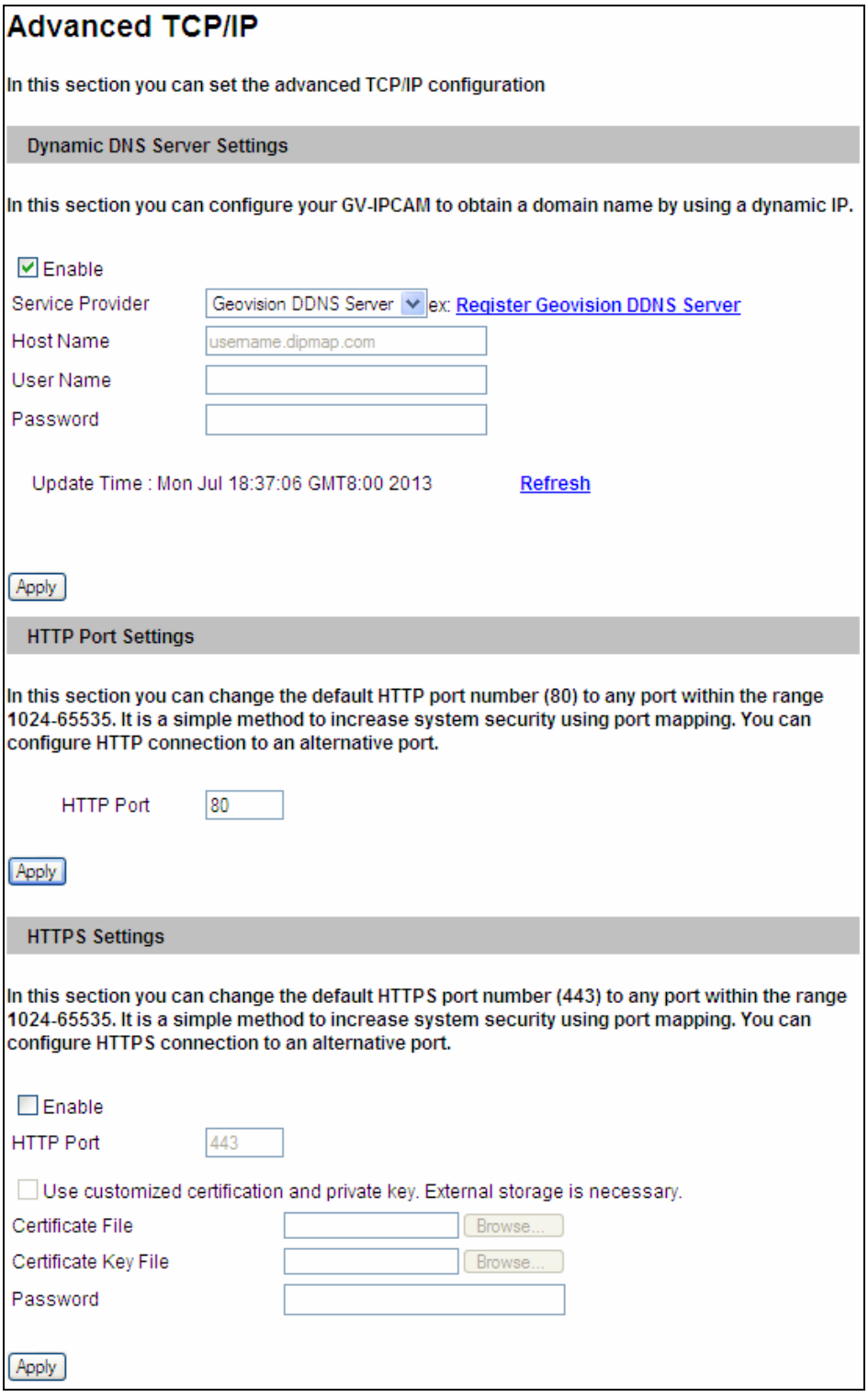


Figure 4-31A

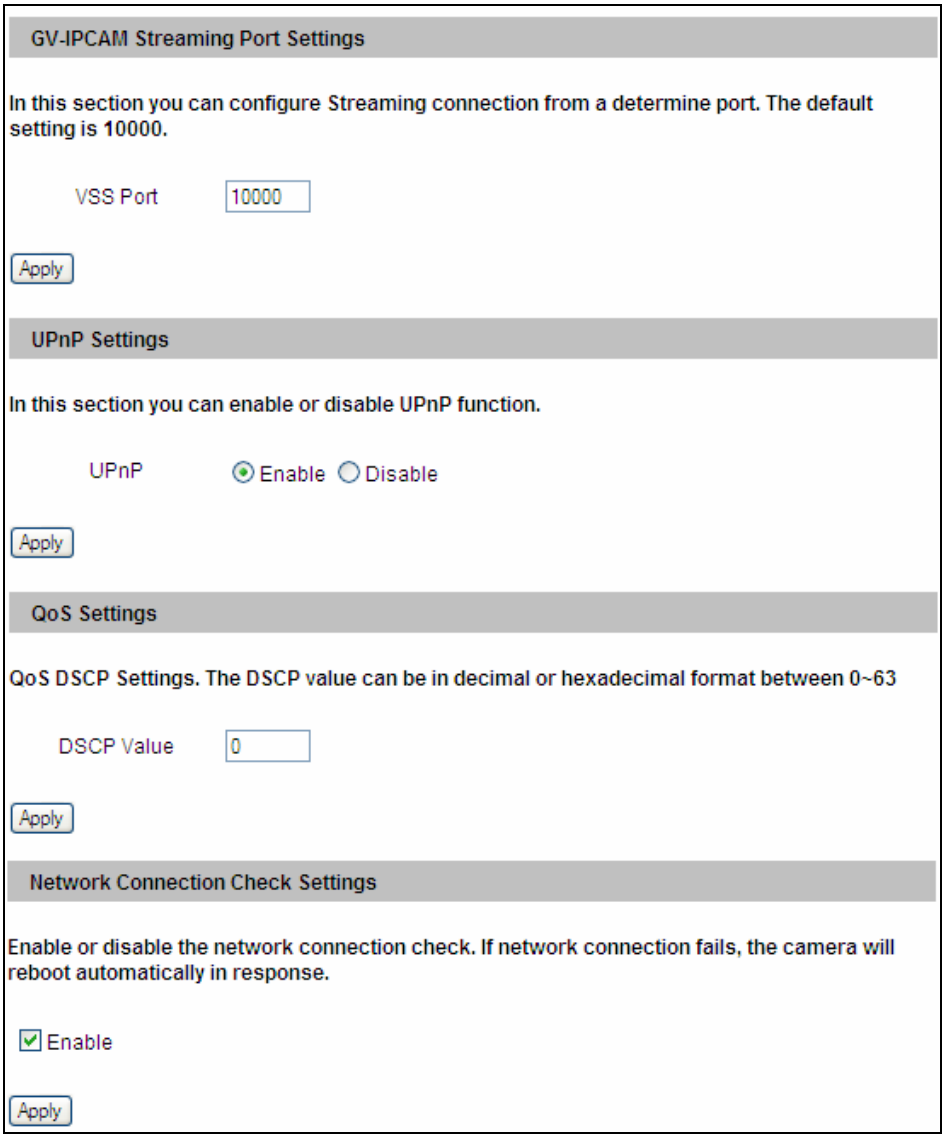


Figure 4-31B

[Dynamic DNS Server Settings]

DDNS (Dynamic Domain Name System) provides a convenient way of accessing the camera when using a dynamic IP. DDNS assigns a domain name to the camera, 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, you should apply for a Host Name from the DDNS service provider's website. There are 2 providers listed in the camera: 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 your camera. 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 your camera to the Web. For security integration, the Administrator can hide the server from the general HTTP port by changing the default HTTP port **80** to a different port one within the range of **1024** through to **65535**.

[HTTPS Settings]

By enabling the Hypertext Transfer Protocol Secure (HTTPS) settings, you can access the camera through a secure protocol. Note the customized certification function is currently not supported in **GV-IP LPR Camera 5R / GV-LPC1100**.

[Camera Streaming Port Settings]

The VSS port enables connecting your camera 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 camera directly by clicking on the camera listed in the network devices table. This function is enabled by default.

[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 your camera, all network routers must support QoS and QoS must be enabled on these devices. To enable the QoS on the camera, 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 the camera 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.

[Network Connection Check Settings]

When the network connection check is enabled, the camera will check for Internet connection and reboots automatically when it is disconnected from the Internet. This function is enabled by default.

4.6.3 UMTS

Note this function is only supported by **GV-LPC1200** and **GV-LPR1200**. UMTS stands for Universal Mobile Telephone System. UMTS is a third-generation (3G) broadband, packet-based transmission of text, digitized voice, video, and multimedia at data rates up to 2 megabits per second. UMTS offers a consistent set of services to mobile computer and phone users, no matter where they are located in the world.

After an UMTS-compatible wireless device is attached to the USB port and the UMTS function is enabled, the camera can have Internet access. For supported mobile broadband devices, see *Appendix D*.

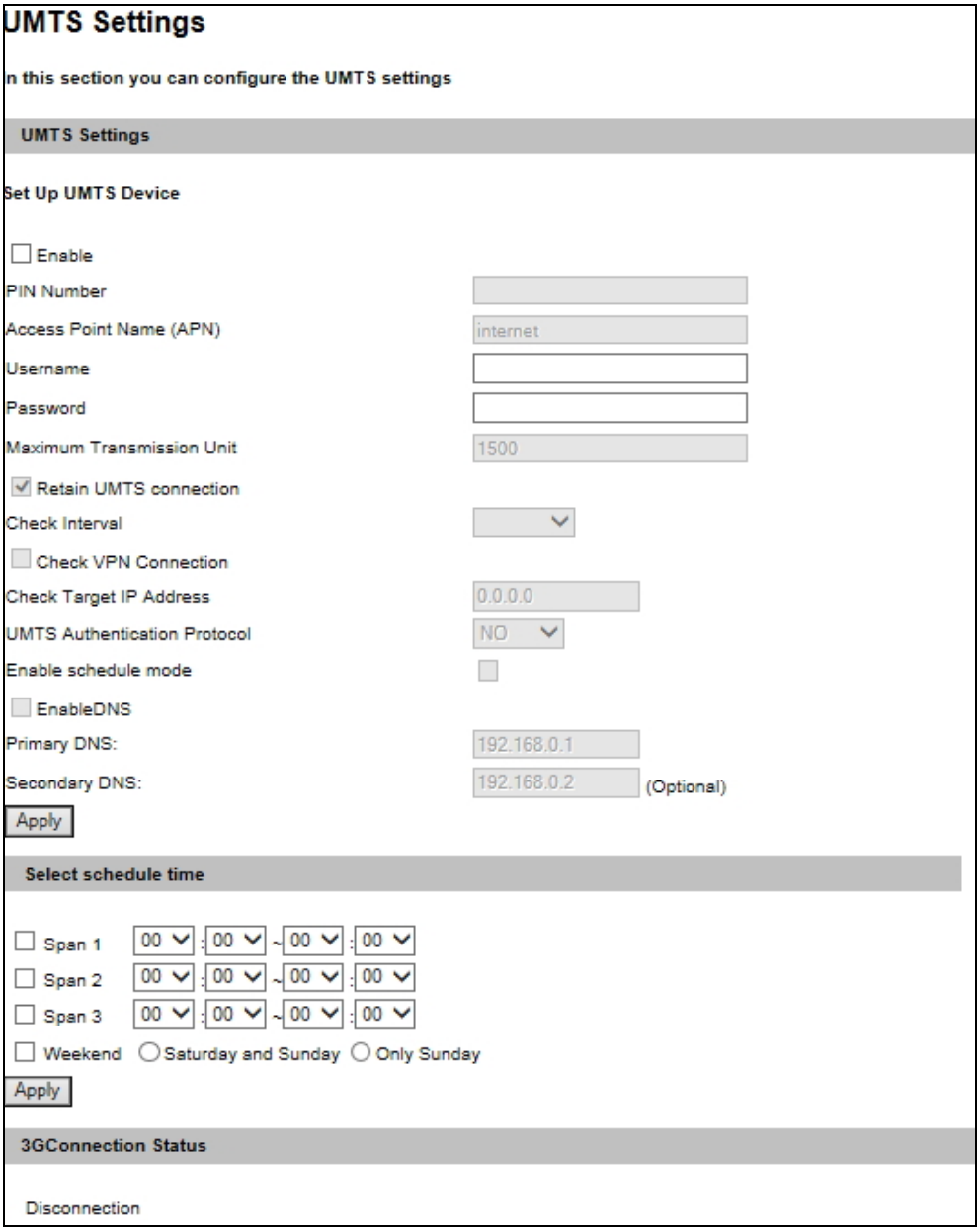


Figure 4-32

Note: You need to prepare a Mini USB-to-USB cable and install in the camera. See *1.3.8 Installing a Mini USB Cable*.

- **PIN number:** Type the PIN number that is provided by your network operator.
- **Access Point Name (APN):** Type Access Point Name that is provided by your network operator.
- **Username:** Type a valid username to enable the UMTS service from your network operator.
- **Password:** Type a valid password to enable the UMTS service from your network operator.
- **Maximum Transmission Unit (MTU):** Type the Maximum Transfer Unit. The default value is 1500.
- **Retain UMTS Connection:** Select this option to check the UMTS connection status and use the drop-down list to specify the desired time length for checking frequency. The camera will rebuild the connection if disconnection is detected.
- **Check VPN Connection:** Select this option to check the VPN (Virtual Private Network) connection status. To check the IP address, type the target IP address in the **Check Target IP Address** field.
- **UMTS Authentication Protocol:** Use the drop-down list to select the UMTS Authentication Protocol provided by your network operator.
- **Enable Schedule Mode:** Starts the UMTS connection automatically based on the schedule you set in the Select Schedule Time section. See *4.5.2 Recognizing Schedule Settings* for the same settings.
- **3G Connection Status:** Indicates the connection status of UMTS or VPN.

4.6.4 IP Filtering

The Administrator can set IP filtering to restrict access to the camera.

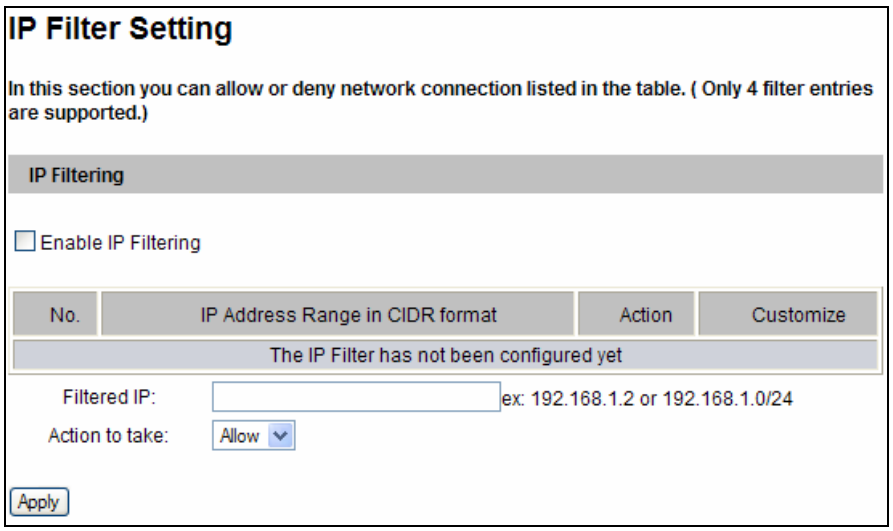


Figure 4-33

To enable the IP Filter function:

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

4.6.5 SNMP Settings

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

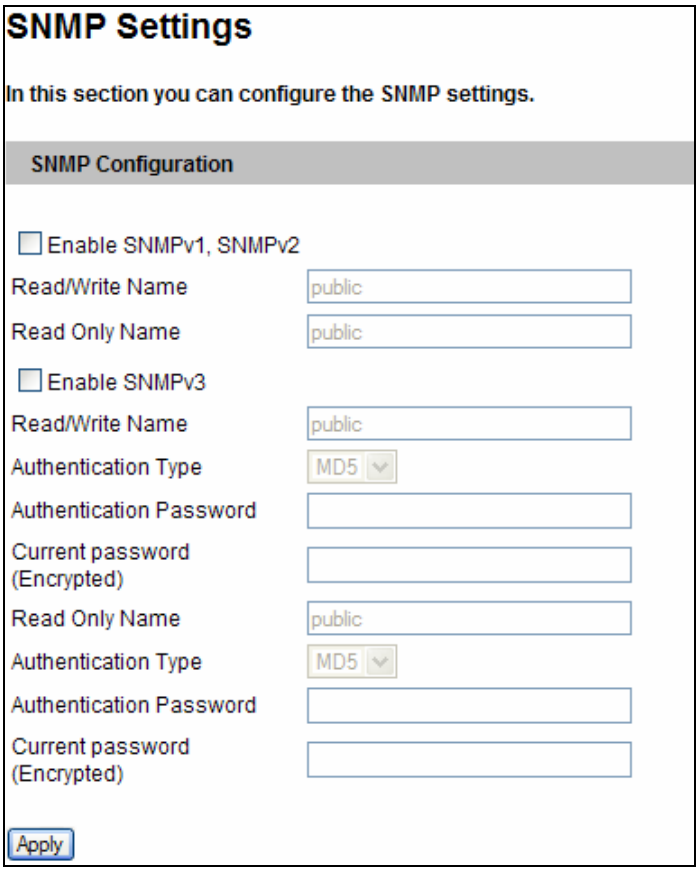


Figure 4-34

To allow management of SNMP software:

1. Select **Enable SNMPv1 SNMPv2c** to enable the function.
2. To enable access to **Read/Write Name**, type a community string. This will serve as a password to allow read and write access to the camera from the SNMP software.
3. To enable **Read Only Name**, type a community string to allow read-only access to the camera from the SNMP software.
4. For a more secured connection, select **Enable SNMPv3** to enable SNMP version 3.
5. To enable access to **Read/Write Name**, type a community string.
6. Select an **Authentication Type** to be used for SNMP requests.
7. Type the **Authentication Password** and **Current Password (Encrypted)**. You will need to type these passwords in the SNMP software to be able to access the camera.

8. To enable access to **Read Only Name**, type a community string to allows read-only access to the camera, and set up the **Authentication Type**, **Authentication Password** and the **Current Password (Encrypted)**.
9. Click **Apply** to save the settings.

4.7 Management

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

4.7.1 Date and Time Settings

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

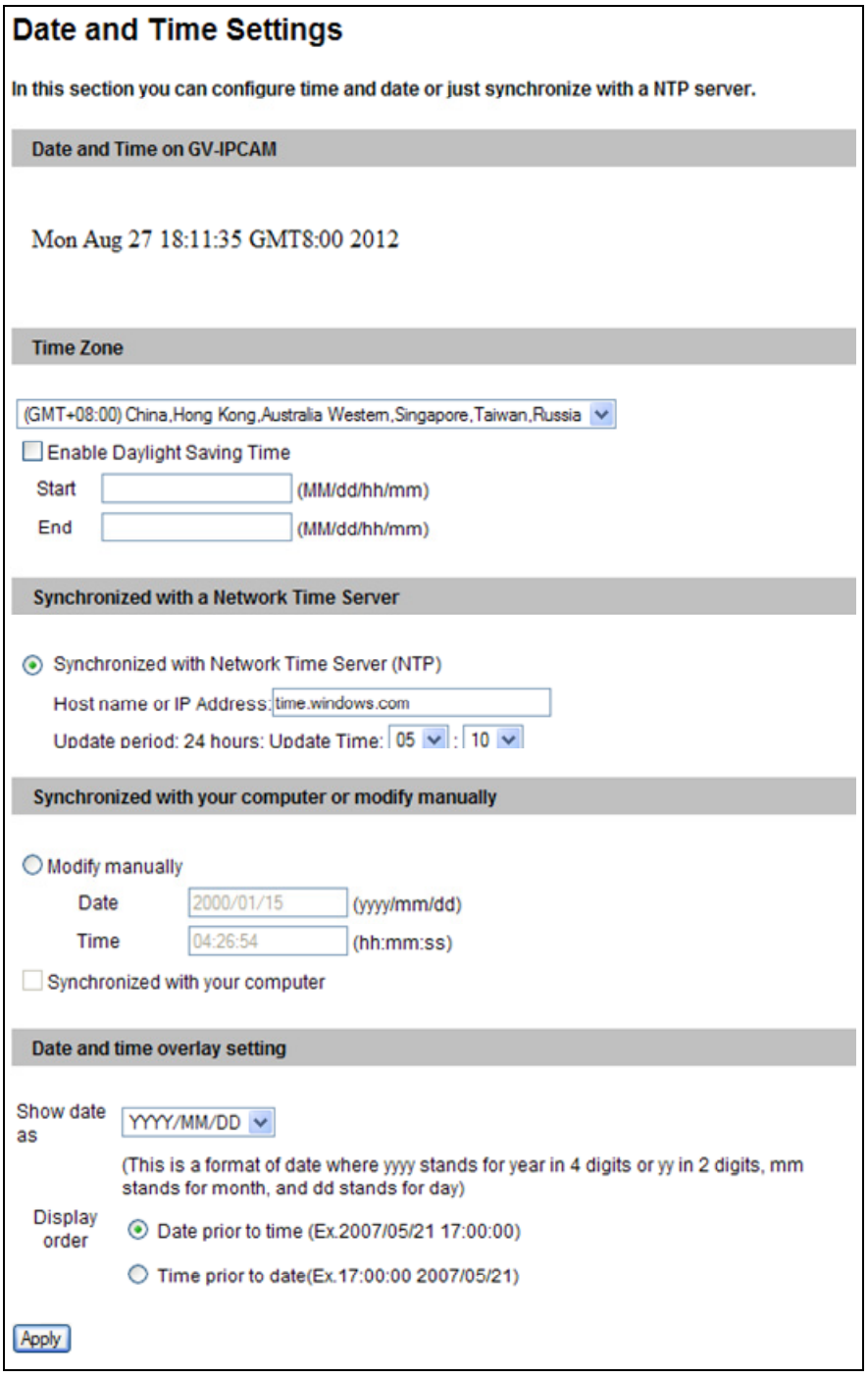


Figure 4-35

[Date & Time on GV-IPCAM] Displays the current date and time on the camera.

[Time Zone] Sets the time zone for local settings. Select **Enable Daylight Saving Time** to automatically adjust the camera 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 camera 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 camera date and time or synchronize its 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 4-2B.

Note: When connecting to GV-System (V8.5.7.0 or later), the Daylight Saving Time of the camera can be synchronized automatically with that of GV-System by enabling **Automatically adjust DST** (Configure button < Camera Install < IP Camera Install).

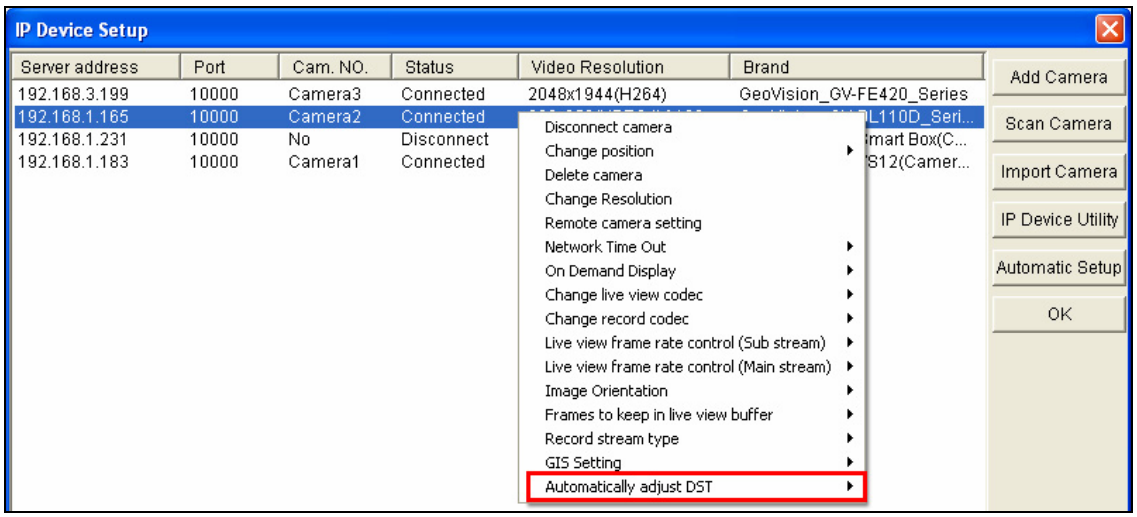


Figure 4-36

GV-System: Configure button > Camera Install > IP Camera Install

GV-VMS: Toolbar > Configure > Camera Install > Setup button > General Setting

---

4.7.2 Storage Settings

Note this function is only supported by **GV-LPR1200**. You can store the recognition results or images to the memory card slot in the camera. The image is stored in the JPEG compressed format.

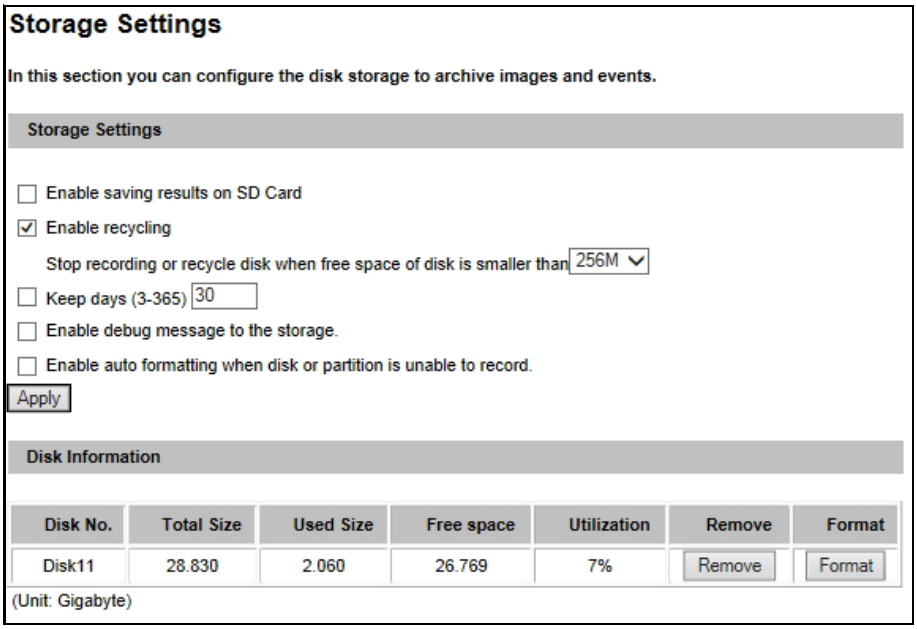


Figure 4-37

Note: The captured images may be lost if you do not remove the memory card properly.

[Storage Settings]

- **Enable saving results on a memroy Card:** Enable this option to save the recognition results or images to the memory card.
- **Enable recycling:** If this option is checked, the system will overwrite the oldest stored files when the space of the memory card is lower than the specified space. If this option is not checked, the system will stop recording when the specified space is reached.
- **Keep days (3-365):** Specify the number of days to keep the files from **3** day to **365** days. When both **Keep days** and **Enable recycling** are selected, the system applies whichever condition comes first. For example, if the specified smallest amount of storage space comes earlier than the designated keep days, then recycle is applied first.
- **Enable debug message to the storage:** Debug message (see *4.7.4 Log Information*) is deleted after reboot. Select this option to store log information to an inserted storage device.

- **Enable auto formatting when disk or partition is enabled to record:** Select this option for the camera to automatically format the storage device when there is error during saving recognition results or images.

4.7.3 User Account

You can change the login name and password of Administrator and Guest accounts.

- 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**.
- To remain logged in after reboot, select **Disable auto logout after reboot**.
- The default FTP Server login name and password are **lprftpserver**. Note the FTP function is only supported by **GV-LPR1200**.

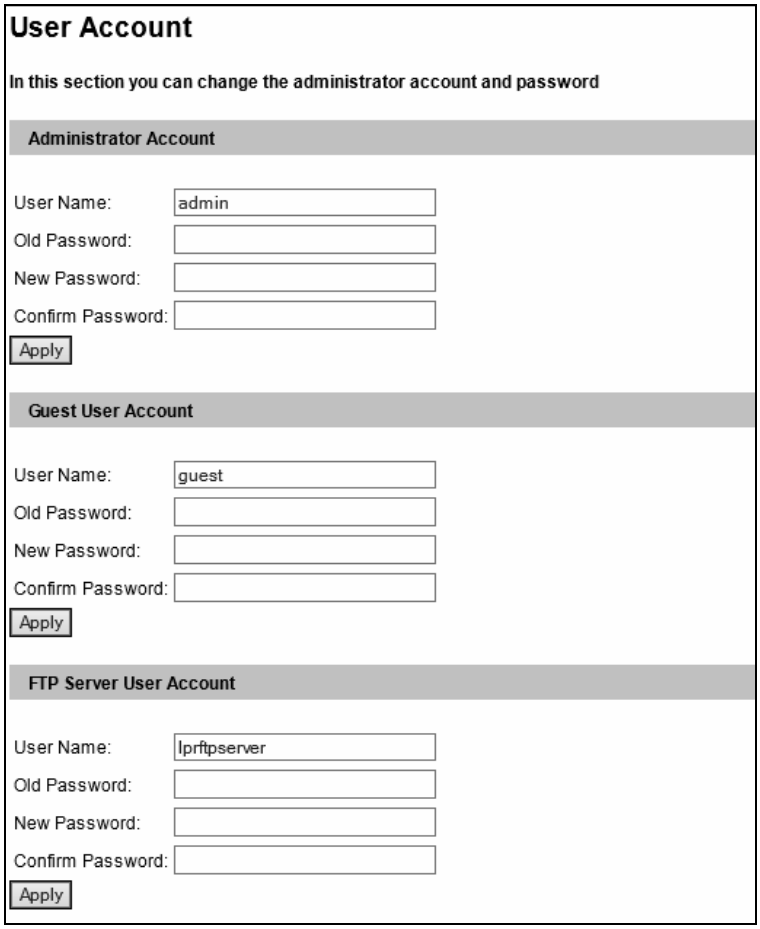


Figure 4-38

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

4.7.4 Log Information

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

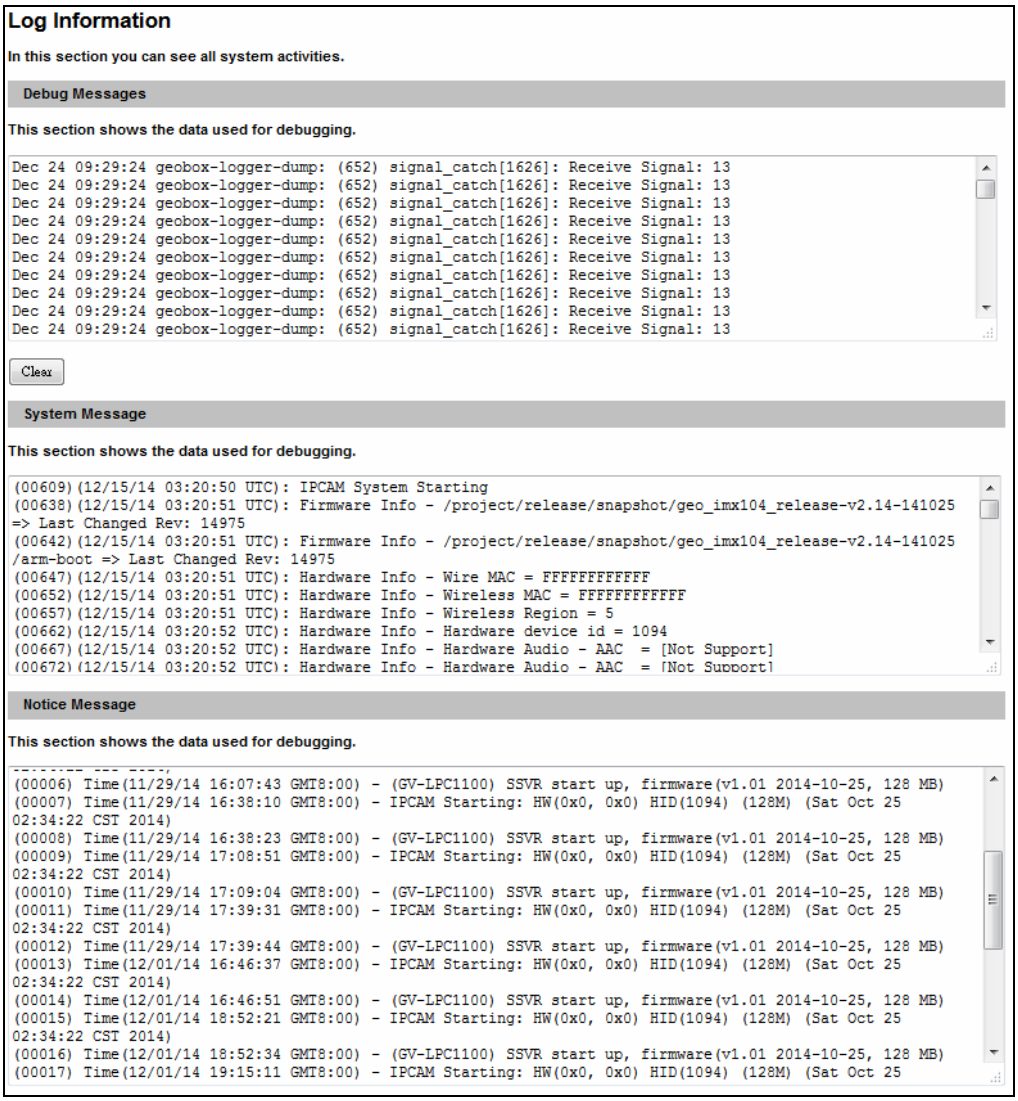


Figure 4-39

4.7.5 Tools

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

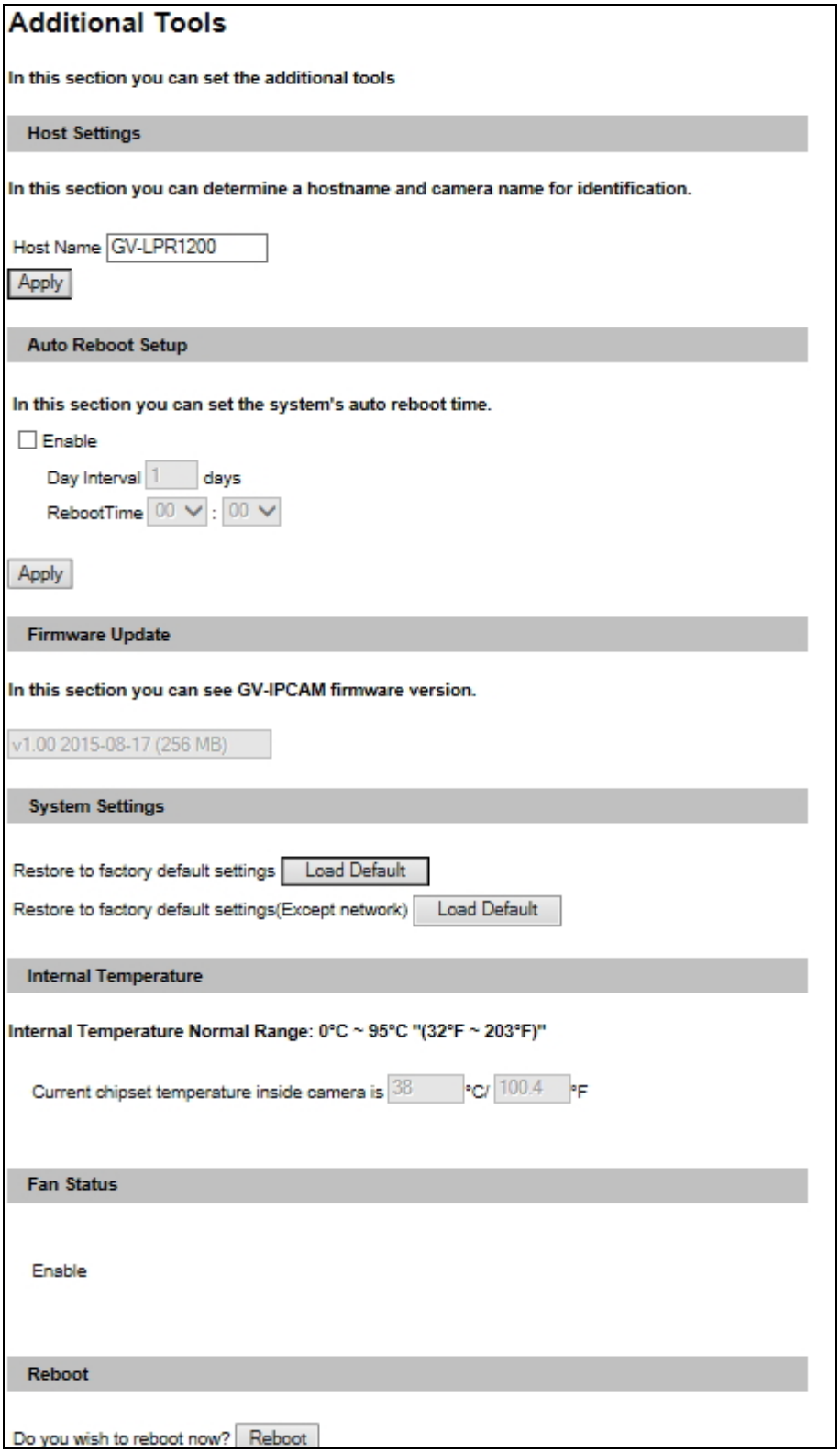


Figure 4-40

[Host Settings] Enter a descriptive name for the camera.

[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.
- **Reboot Time:** Use the drop-down list to specify the time for automatic reboot.

[Firmware Update] This field displays the firmware version of the camera.

[System Settings] Click a **Load Default** button to restore the factory default settings with the network settings restored or not restored.

Note: After applying the default function, the default network connection will be DHCP or fixed IP (**192.168.0.10**) if the router does not support DHCP. Re-configure your network settings if necessary.

[Internal Temperature] This field displays the current chipset temperature inside the camera.

[Fan Status] This field shows whether the fan of the camera is enabled or not. Note this function is only supported by **GV-LPC1200 / GV-LPR1200**.

[Reboot] Click the **Reboot** button to reset the software configuration of the camera.

4.7.6 Language

You can select the language for the Web interface.

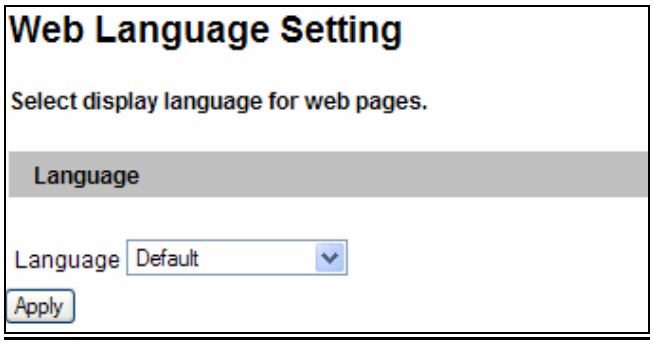


Figure 4-41

Use the Language drop-down list to select a language for the Web interface. By default, the language on the Web interface will be the same with the one used for the operating system.

Chapter 5 Advanced Applications

This chapter introduces more advanced applications.

5.1 Upgrading System Firmware

GeoVision periodically updates the latest firmware to the company website. You can update your camera firmware through the Web interface or GV-IP Device Utility included in 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.

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

---

2. Do not turn the power off within 10 minutes after the firmware has been updated.
3. If you use GV-IP Device Utility for firmware upgrade, the computer used to upgrade firmware must be under the same network as the camera.
4. Stop monitoring the camera.
5. Stop all the remote connections including Center V2, VSM (Vital Sign Monitor), ViewLog Server and 3GPP/RTSP.
6. Stop the connection to GV-System.
7. If firmware upgrade fails, you will need to restore the camera to its default settings. For details, see *5.3 Restoring to Factory Default Settings*.

5.1.1 Using the Web Interface

1. In the Live View window, click the **Show System Menu** button (No. 8, Figure 3-2) and select **Remote Config**. This dialog box appears.

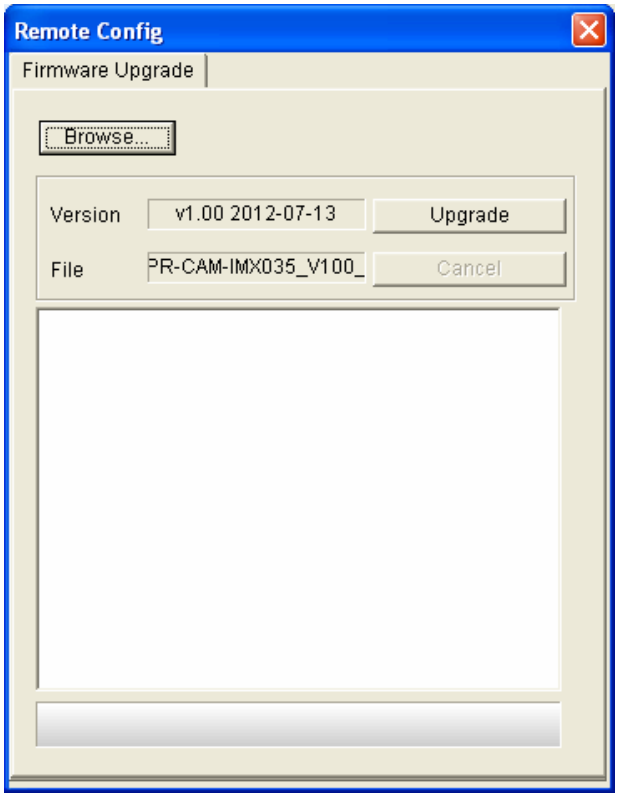


Figure 5-1

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

5.1.2 Using the GV-IP Device Utility

The GV-IP Device Utility provides a direct way to upgrade the firmware to multiple cameras. Note the computer used to upgrade firmware must be under the same network with the cameras.

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

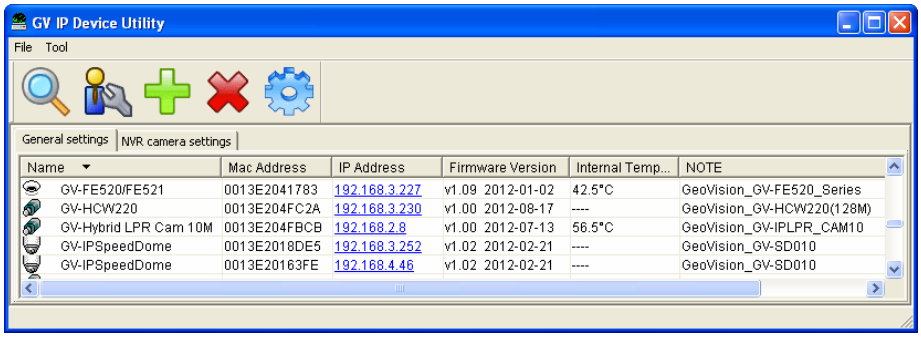


Figure 5-2

3. Click the **Search** button to locate the IP devices on the LAN or click the **New** button and assign the IP address to locate a camera on the network. Or highlight one IP device in the list and click the **Delete** button to remove it.

4. Click on the IP address of the camera and select **Configure**. This dialog box appears.

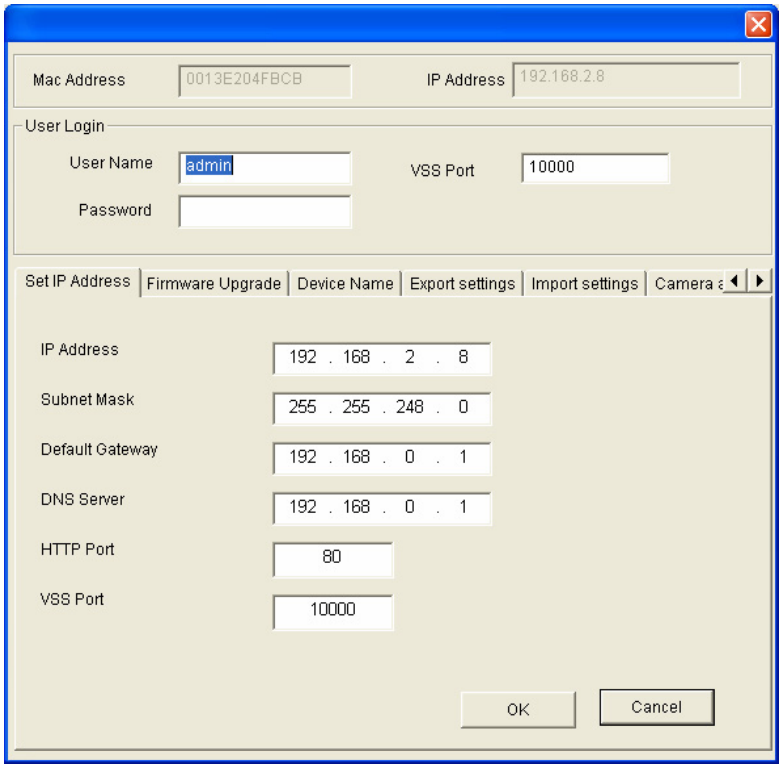


Figure 5-3

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

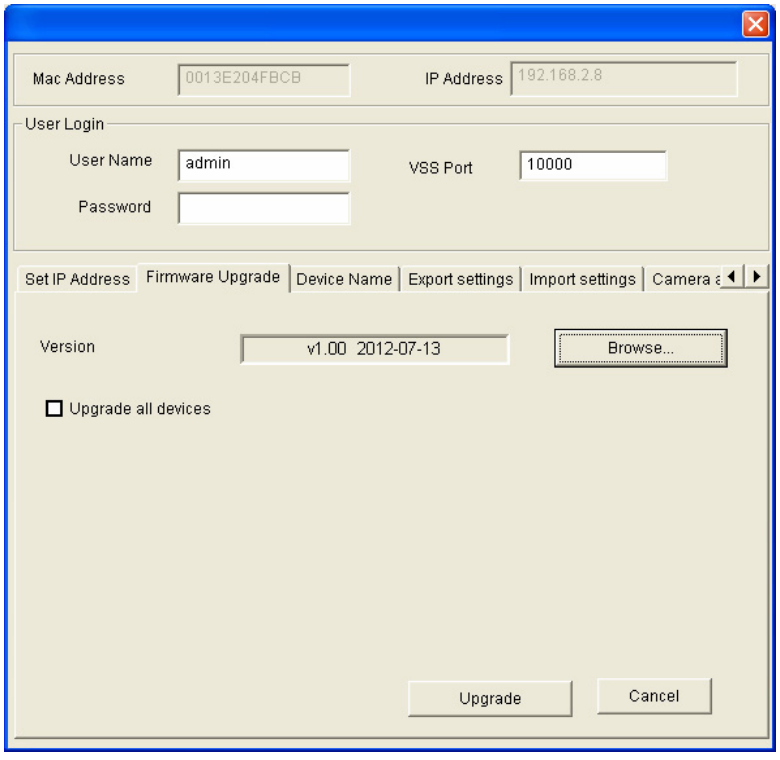


Figure 5-4

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

6. If you like to upgrade all the cameras in the list, check **Upgrade all devices**.
7. Type **Password**, and click **Upgrade** to start the upgrade.

5.2 Backing Up and Restoring Settings

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

To back up the settings

1. Run **GV IP Device Utility** and locate the desired camera. See Steps 1-3 in *5.1.2 Using the GV-IP Device Utility.*
2. Double-click the camera in the list. Figure 5-3 appears.
3. Click the **Export Settings** tab. This dialog box appears.

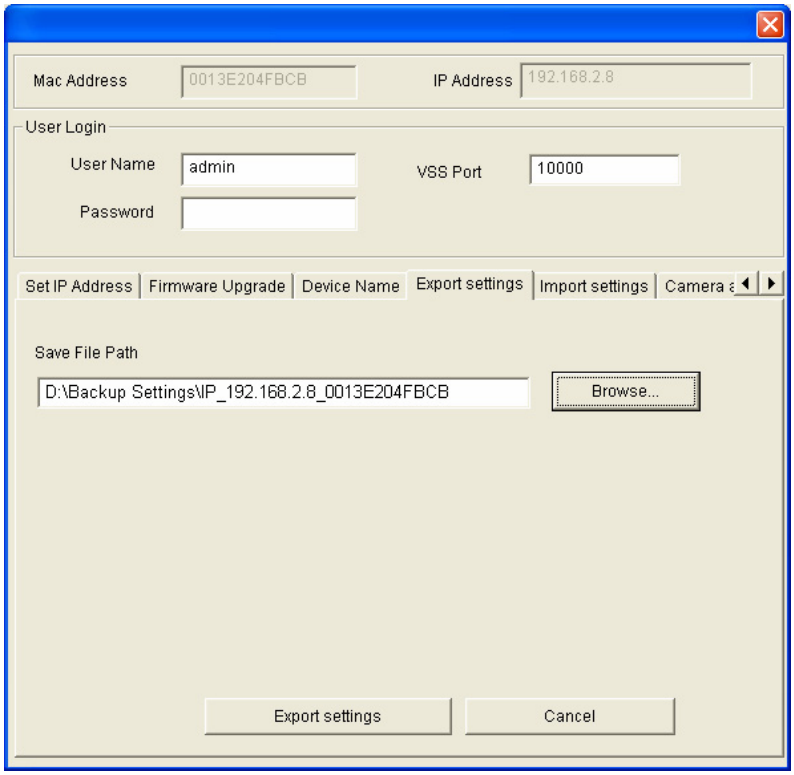


Figure 5-5

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 5-3, click the **Import Settings** tab. This dialog box appears.

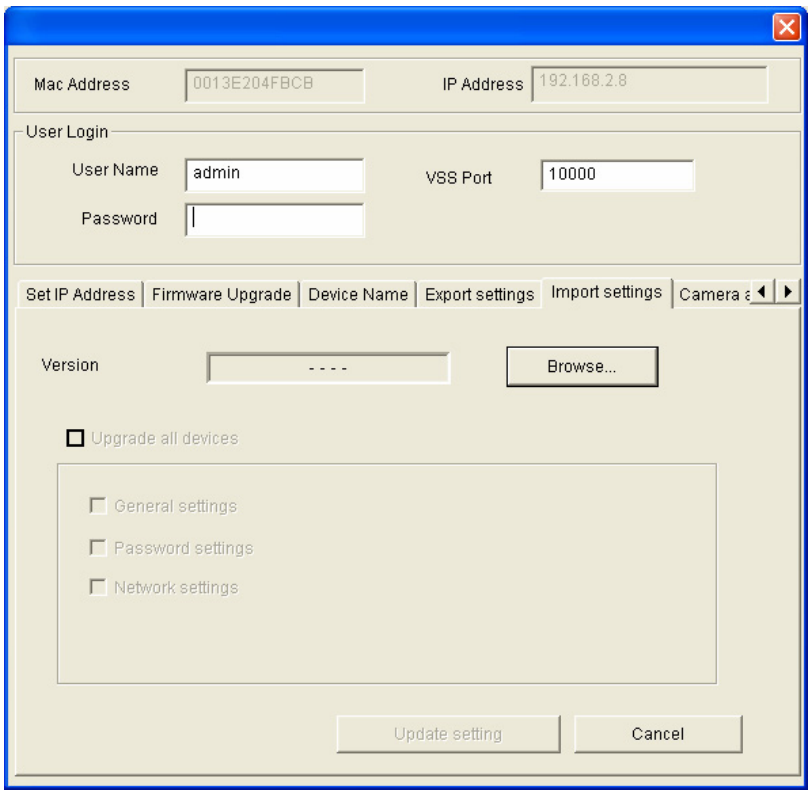


Figure 5-6

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.

5.3 Restoring to Factory Default Settings

To restore the factory default settings, you can use the camera's Web interface or operate directly on the camera.

5.3.1 Using the Web Interface

Follow the steps below to restore the factory default settings through the camera's Web interface.

1. In the left menu of the Web interface, Click **Tools**.
2. In **System Settings** field, click the **Load Default** button to restore the factory default settings.

5.3.2 Directly on the Camera

You can alternatively press the default button inside the camera.

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

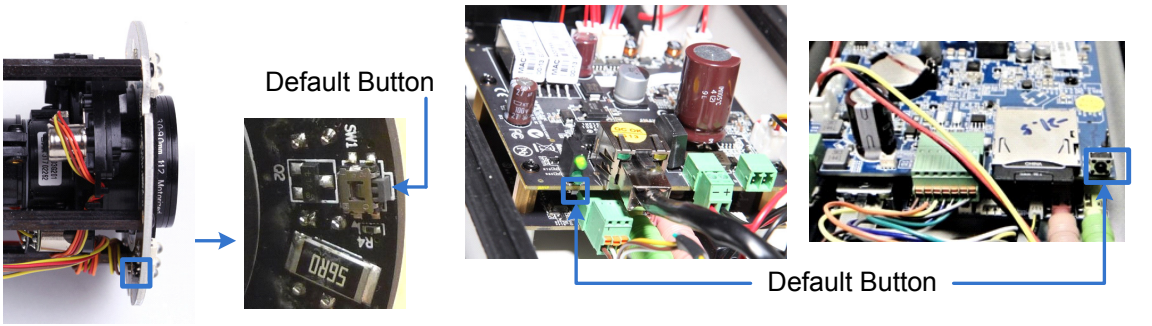


Figure 5-7

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

5.4 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*, *4.1.1 Video Settings*.

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

5.4.1 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 3-2) to start recording on the local computer.
2. Locate recorded files on the GV-System.

5.4.2 Running Watermark Proof

1. Install **Watermark Proof** from the GV-IP LPR Camera Software CD. 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.

5.4.3 The Watermark Proof Window

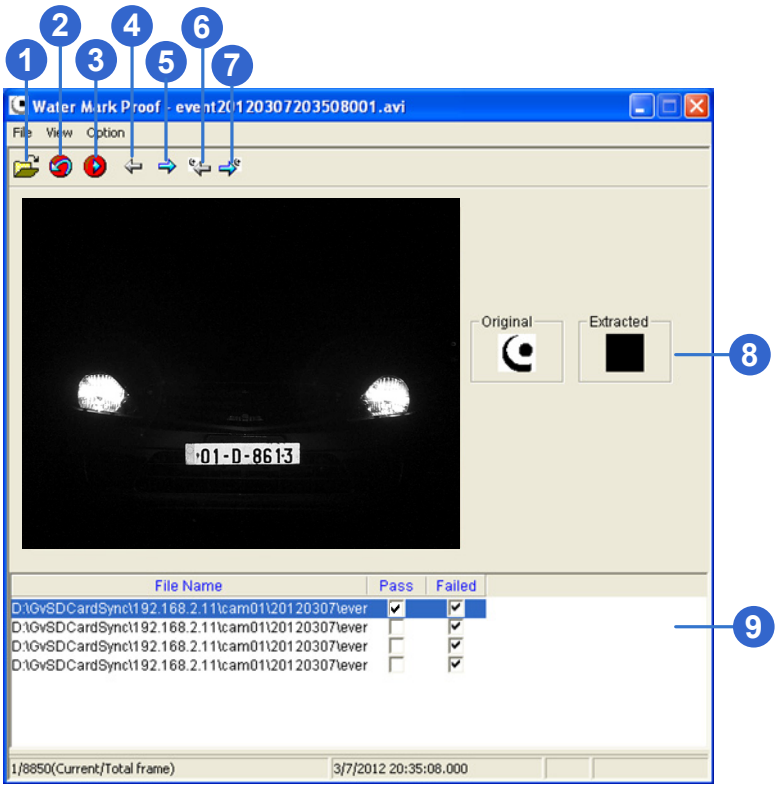


Figure 5-8

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 6 DVR Configurations

The GV-IP LPR Camera can deliver live view images, date and time or even recognized plate numbers to the GV-System (GV-DVR/NVR) / GV-VMS for security surveillance. The following is the integration specifications:

- Regarding the compatible GV-System and GV-VMS versions for your camera, refer to *System Requirements* in Chapter 1 for respective cameras.
- The camera allows for up to **8** streams of connection.
- When a camera 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. When GV-LPR1200 is connected to GV-ASManager, it takes up **2** streams.

Note:

1. By default, the camera is in dual streams and will take up 2 streams when connected to GV-System / GV-VMS.
2. GV-System can turn out to be a license plate recognition system GV-DVR LPR when installed with LPR Plugin program and GV-LPR Capture Dongle. The recognition function is not supported on GV-VMS.

- The hardware compression and the “Pre-Recording Using RAM” feature cannot work on the videos from the camera. For details about the “Pre-Recording Using RAM” feature, see *System Configuration*, Chapter 1,*DVR User’s Manual* on the GV-NVR Software DVD.

6.1 Setting Up IP Cameras on GV-System

Follow the steps below to manually connect your camera to GV-System.

Note: The following instructions are based on V8.5.7.0 software and user interfaces.

1. On the GV-System's main screen, click the **Configure** button, select **System Configure**, select **Camera Install** and click **IP Camera Install**. This dialog box appears.

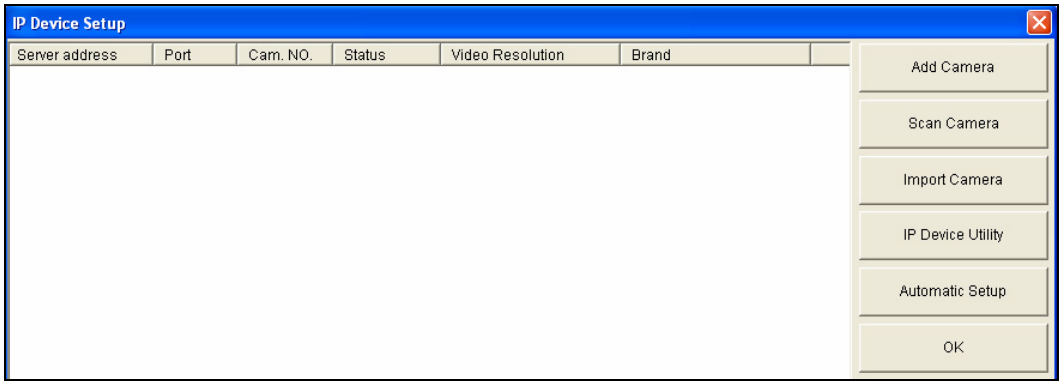


Figure 6-1

- 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 GV-IP Device Utility, click **Import Camera**.
- To map IP devices through the GV-IP Device Utility program, click **IP Device Utility**.
- To add all IP cameras within the IP address range, click **Automatic Setup**.

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

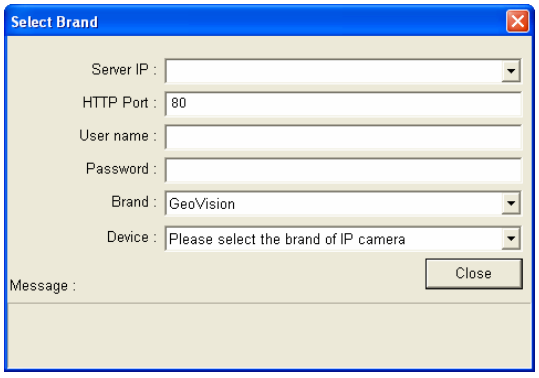


Figure 6-2

3. Type the IP address, username and password of the camera. Modify the default HTTP port if necessary.

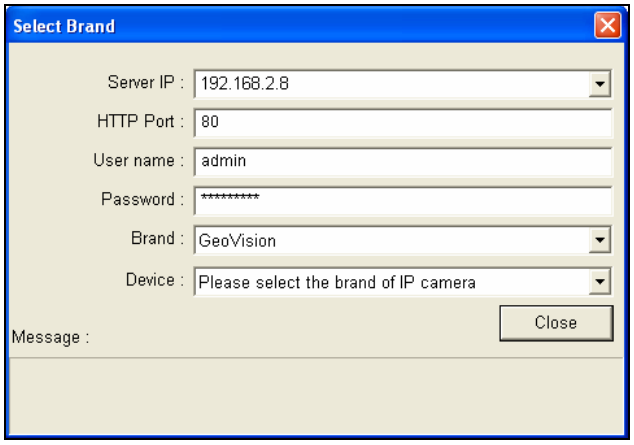


Figure 6-3

4. Select **GeoVision** from the Brand drop-down list and select your camera from the Device drop-down list. This dialog box appears.

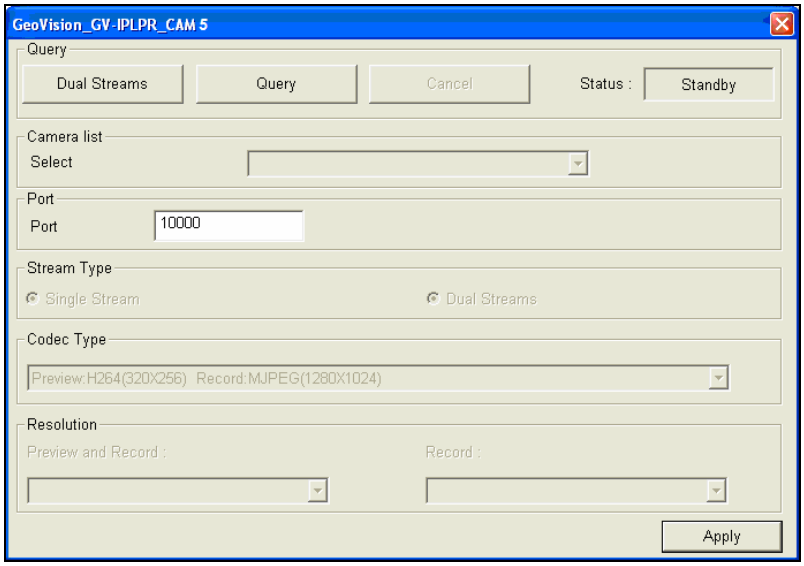


Figure 6-4

- **Dual Streams:** Click this button to set the codec type to MJPEG in the main stream and to H.264 in the sub stream with the resolutions listed below.
- **Port:** Modify the video streaming port number if necessary.
- **Stream Number:** Click the **Query** button and select **Single Stream** or **Dual Streams**.
- **Codec type:** The live view codec and resolution settings are displayed here.
- **Resolution:** Select resolutions for preview and recording.

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

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

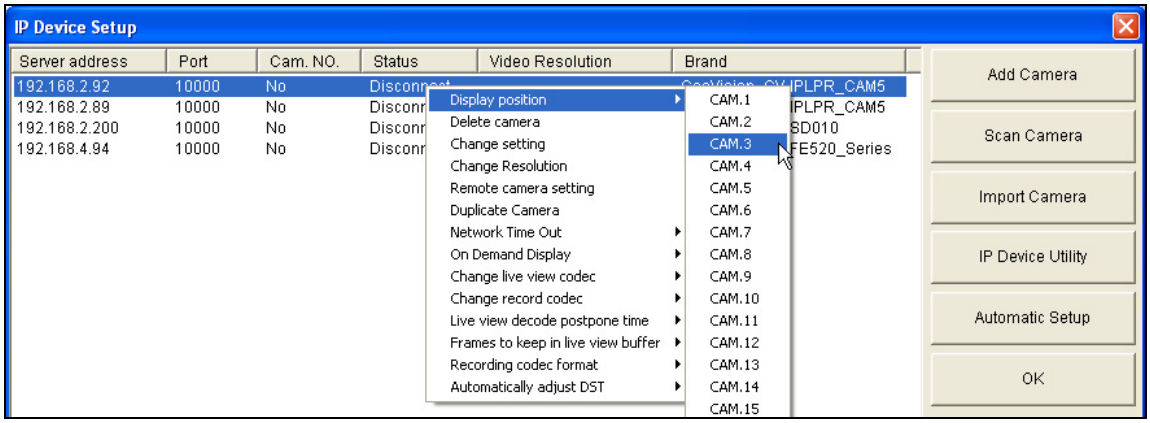


Figure 6-5

7. The Status column now should display “Connected”. Click **OK**. The dome view is displayed on the selected channel of GV-System.

6.1.1 Customizing Camera Settings

After the camera is connected and assigned with a display channel, you can configure the camera's settings such as frame rate, codec type and resolution. Right-click the camera to see the following list of options:

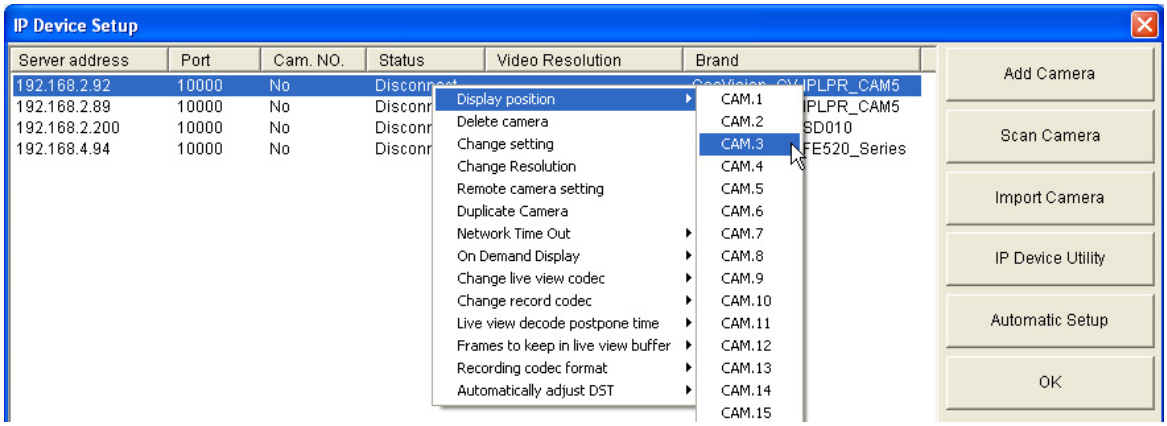


Figure 6-6

- **Change Setting:** Changes the IP address, port number, username and password of the camera. This function is only available when the camera is disconnected.
- **Change Resolution:** Changes the display ratio, live view resolution and record resolution.
- **Remote camera setting:** Accesses the configuration interface of the connected camera.
- **Network Time Out:** When network disconnection exceeds the specified time period, the camera status will be displayed as Connection Lost.
- **On Demand Display:** Enables automatic adjustment of live view resolution and produces good image quality without causing high CPU usage.
- **Change live view codec:** Changes the live view codec.
- **Change record codec:** Changes the recording codec.
- **Live view decode postpone time:** Specifies the number of milliseconds to postpone live view decoding. When network connection with the camera is unstable or when the time length between frames is not evenly distributed, postponing the live view decoding will make the video smoother.
- **Frames to keep in live view buffer:** Specifies the number of frames to keep in the live view buffer.
- **Recording Codec Format:** Specifies whether to record in standard or GeoVision type of JPEG, H.264 codec.

- **Automatically Adjust DST:** If enabled, the time on the camera's Web interface will be synchronized with the time of the GV-System when DST period starts or ends on the GV-System.

6.2 Setting Up IP Cameras on GV-VMS

Follow the steps below to manually connect your camera to GV-VMS.

Note:

1. The License Plate Recognition function is not supported on GV-VMS.
2. The following instructions are based on V14.10 software and user interfaces.

1. To access the IP Device Setup page, click **Home**, select **Toolbar**, click **Configure** and select **Camera Install**.

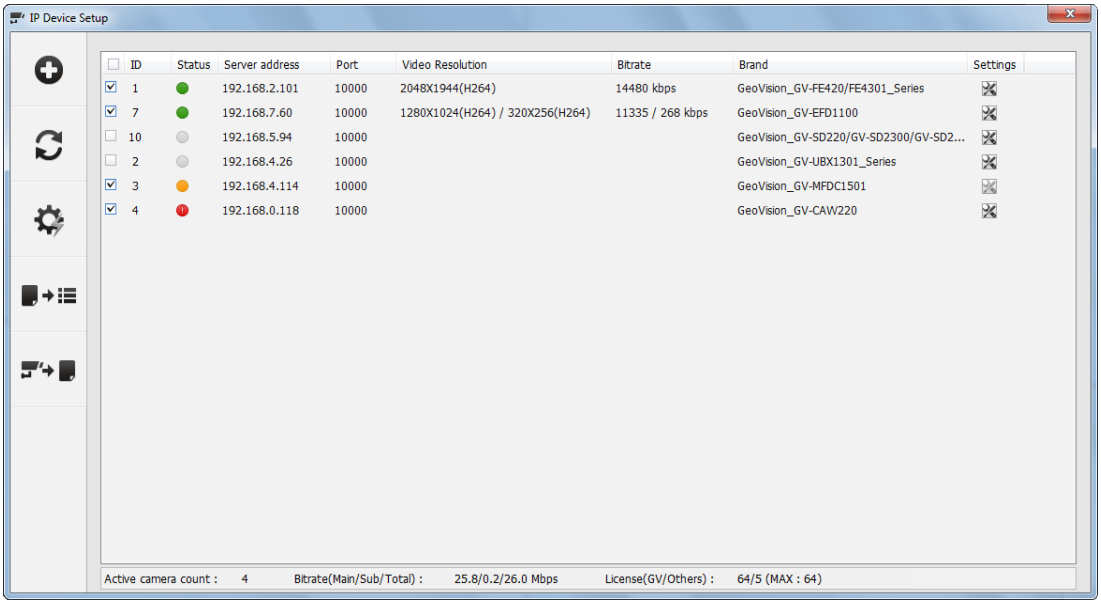


Figure 6-7

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

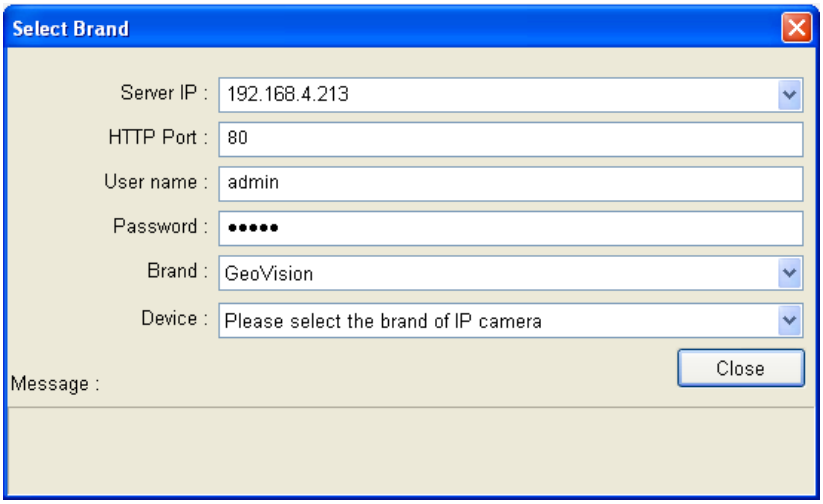


Figure 6-8

3. Type the IP address, username and password of the IP camera. Modify the default HTTP port **80** if necessary.
4. Select a camera brand and model name from the **Brand** and **Device** drop-down lists respectively. This dialog box appears.

Note: For the GV-IP LPR Camera 5R, select **GV-IPLPRCam5.**

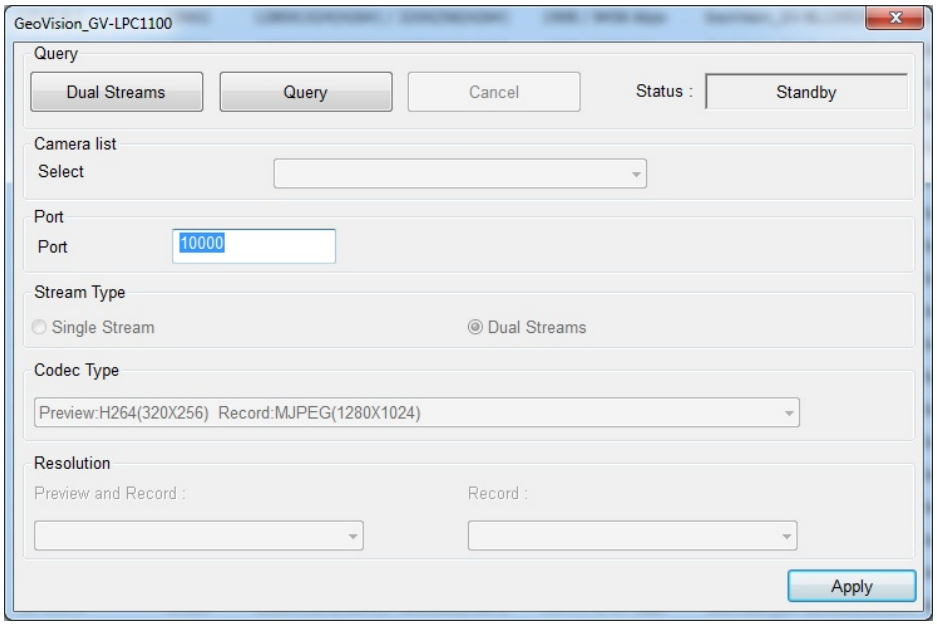


Figure 6-9

5. In the dialog box, configure the options which may vary depending on camera brands.
   - **Dual Streams:** The camera is set to dual streams by default. Select this option to apply the dual-streaming settings (lower resolution for live view and higher resolution for recording) if the camera supports dual streams.
   - **Query:** Detect and apply the current codec and resolution setting on the camera. This function may not be available for some third-party cameras.
     - **Camera list**: Select a camera number.
     - **Port:** Modify the video streaming port number if necessary.
   - **Stream Type:** You may have the option of **Single Stream** or **Dual Streams** depending on camera models.
   - **Codec Type:** You may have different codec options depending on camera models. If the selected camera supports dual streaming, the live view codec and recording codec can be set differently.
   - **Resolution:** You may select the different resolutions for live view and recording.
6. Click **Apply** to add the IP camera to the IP Device List.
7. To connect the added camera, click the box besides the **ID** column. Upon successful connection, the **Status** icon shows green, with the video resolution and bit rate being displayed in the correspondent columns.

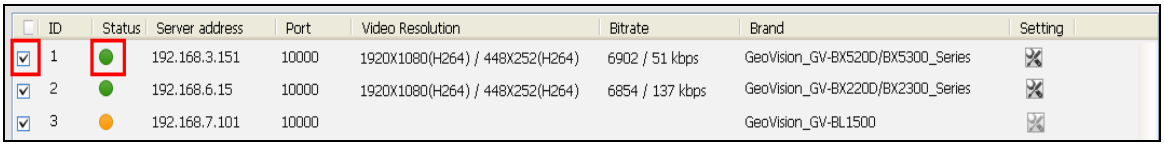


Figure 6-10

6.3 Remote Monitoring with Multi View

Note that Multi View is only supported by **GV-IP LPR Camera 5R / GV-LPC1100**. You can monitor the live view of the camera using the Multi View.

Connecting to the Camera

The Multi View program is available in the GV-System applications, and is also included in 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 IP 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, GV-IP Speed Dome** from the Device drop-down list. Type the host name, IP address, user name and password of the camera. Modify the default VSS port **10000** if necessary.

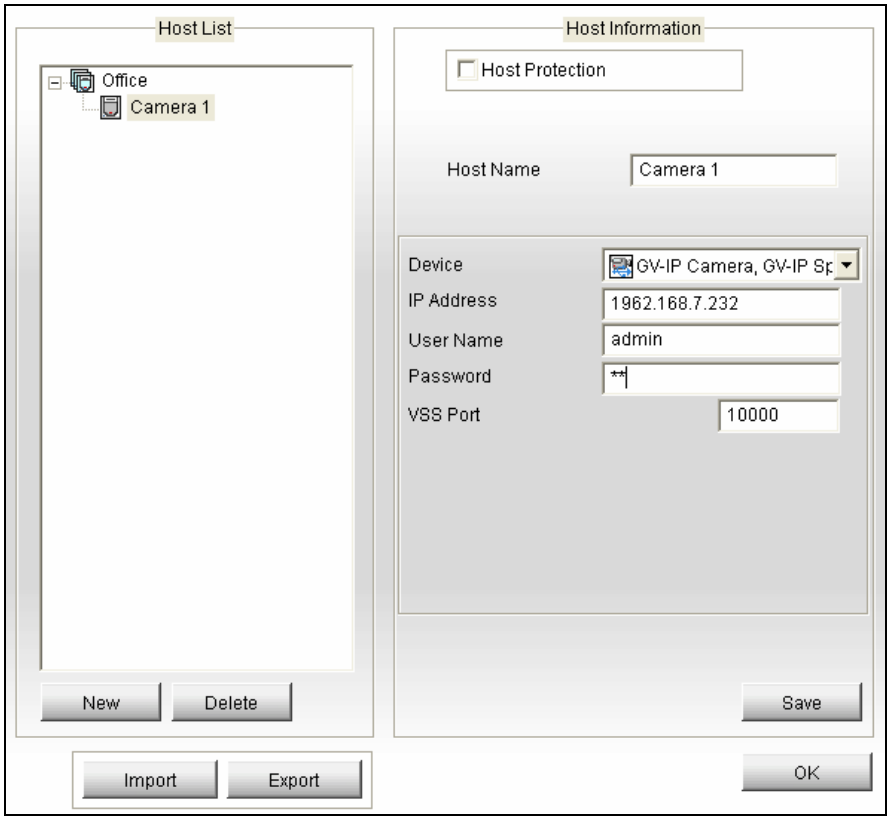


Figure 6-11

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 GV-NVR Software DVD.

6.4 Remote Monitoring with E-Map

You can use the Remote E-Map to monitor the camera.

Creating an E-Map for the Camera

With the E-Map Editor, you can create an E-Map for the camera. 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 from 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.

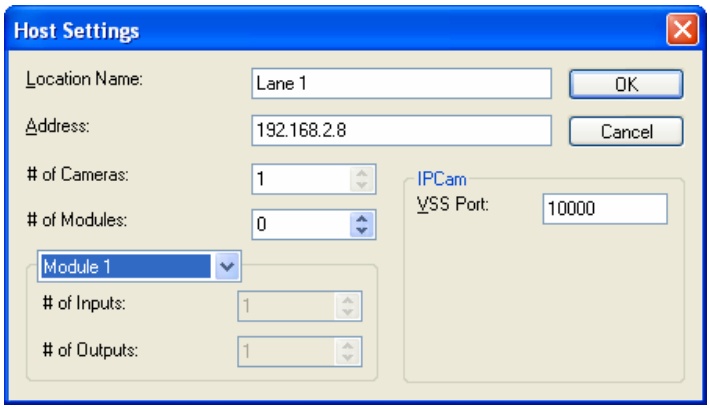


Figure 6-12

6. Give the camera a location name, and type its IP address (or domain name). Keep the default VSS port **10000**, or modify it to match that of the camera.
7. Click **OK** to save the settings.
8. Expand the created host folder. Drag and drop the camera icon onto the imported E-Map.
9. Close the E-Map Editor. Click **Yes** when you are prompted 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 GV-NVR Software DVD.

Connecting to the Camera

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 **Remote 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 camera host to access its videos. The valid user name and password are required to log in the camera.

For details on the Remote E-Map functions, see *The Remote E-Map Window,* Chapter 9, *DVR User's Manual* on the GV-NVR Software DVD.

Chapter 7 CMS Configurations

This section introduces the related settings to enable connecting to the camera in the central monitoring stations Center V2 and VSM and Dispatch Server.

7.1 Center V2

The Center V2 can monitor the camera.

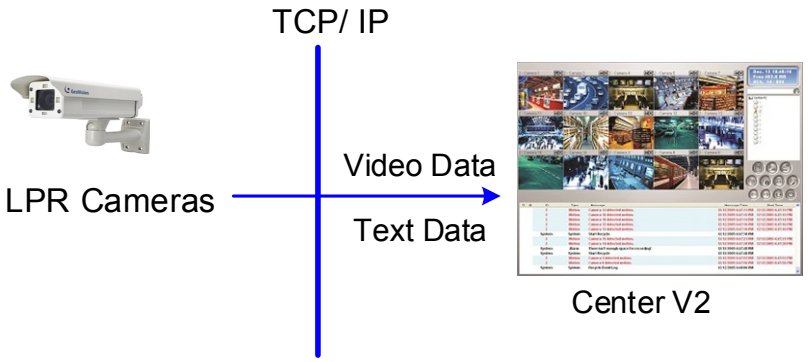


Figure 7-1

- To set the appropriate port connecting to the camera, 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 camera.

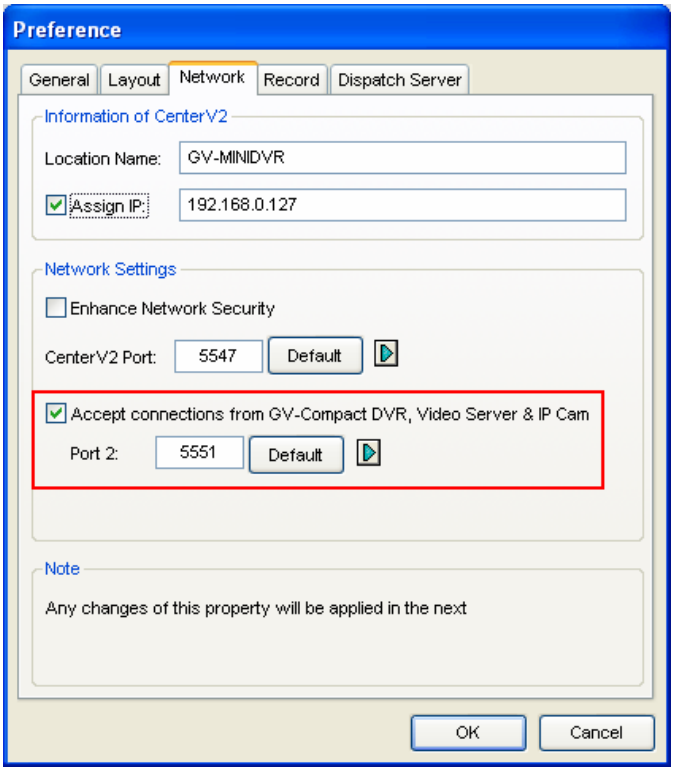


Figure 7-2

➢ To define how to display the received video on motion detection, click the **Preference Settings** button and select **System Configure**. This dialog box appears.

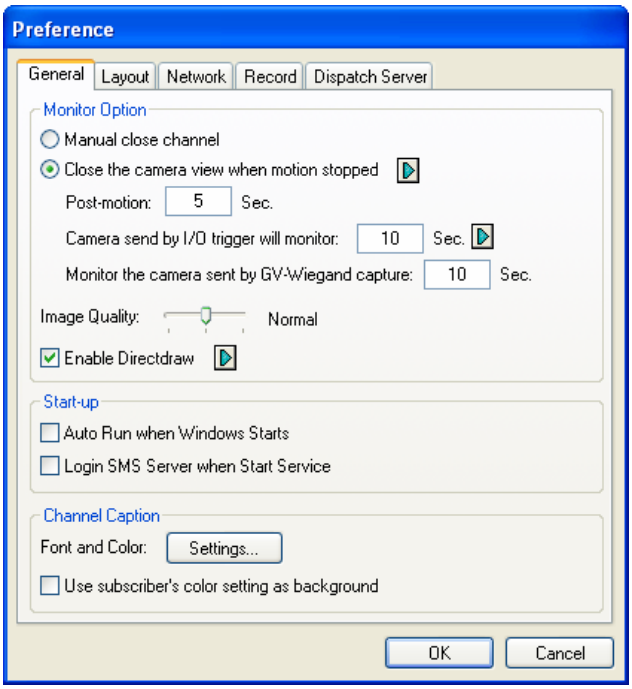


Figure 7-3

- **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:** This feature is functional for cameras with I/O function only.

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

7.2 Vital Sign Monitor

The Vital Sign Monitor can monitor the camera.

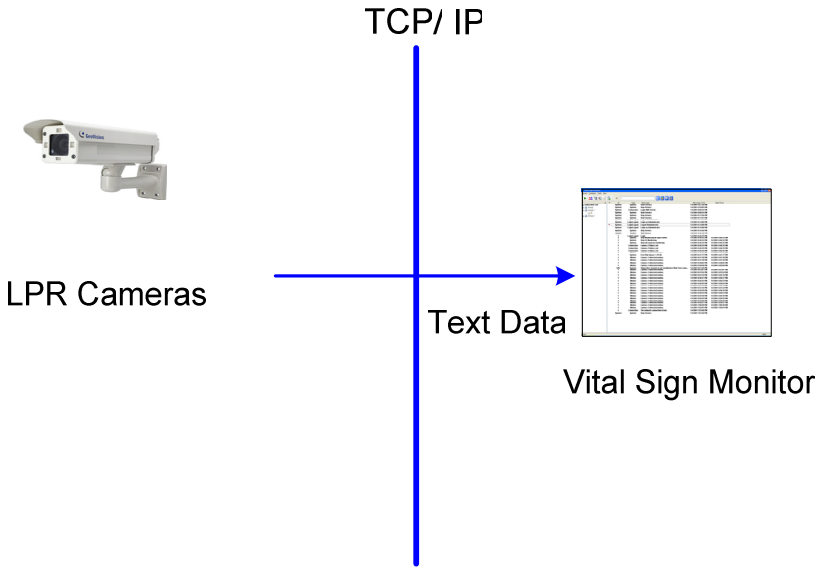


Figure 7-4

- To set the appropriate port connecting to the camera, 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 camera.

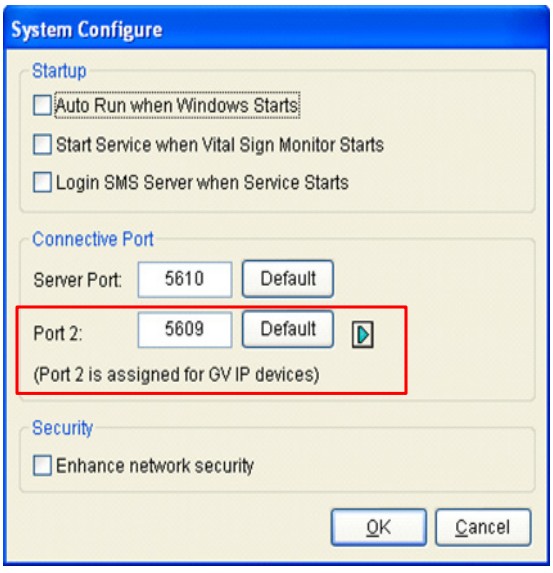


Figure 7-5

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

7.3 Dispatch Server

The Dispatch Server can manage the camera and distribute them to the Center V2.

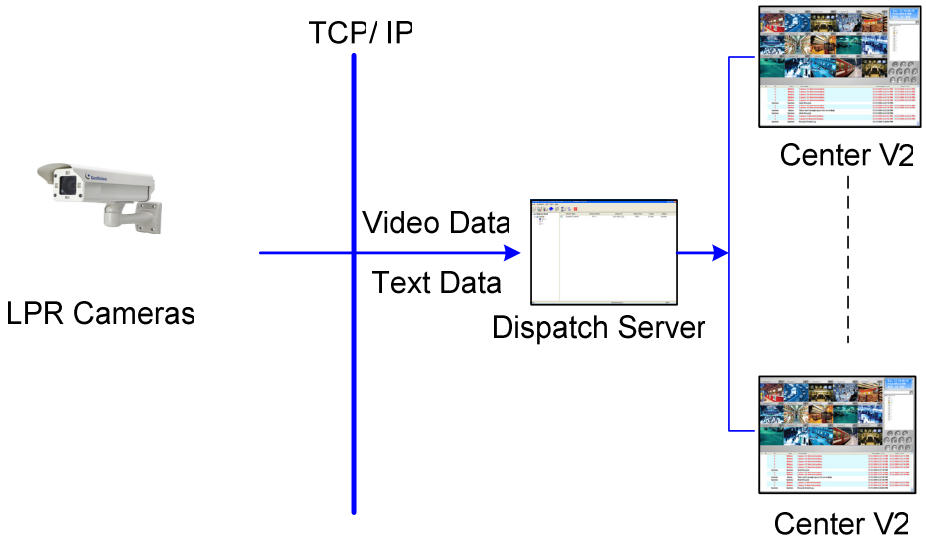


Figure 7-6

- To enable connecting to the camera, click the **Server Setting** button on the toolbar, and enable **Allow GV IP devices to login as subscriber from Port**. Keep the default port **5551**, or modify it to match the Center V2 port on the camera.

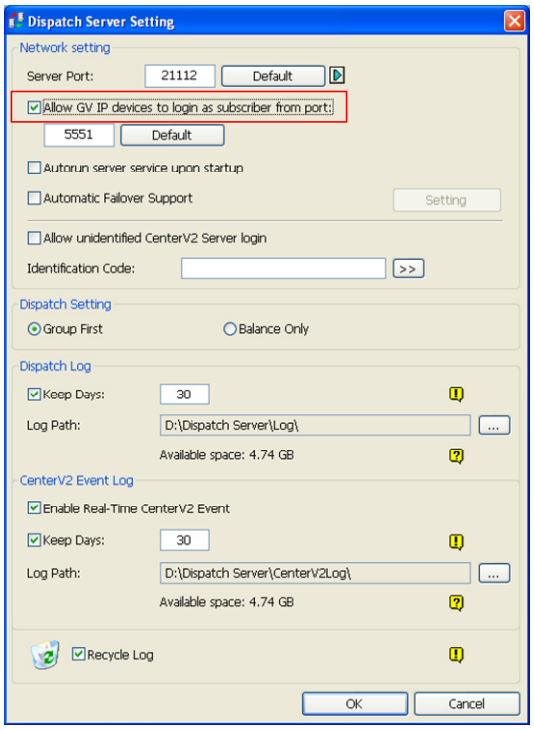


Figure 7-7

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

Chapter 8 Smart Device Connection

You can access the live view on your mobile devices using the mobile application GV-Eye. Android Smartphone, tablet, iPad, iPhone and iPod Touch are supported.

For details on system requirements, installation and setup, visit our website:

http://www.geovision.com.tw/english/5_8_App.asp

Chapter 9 GV-ASManager Connection

GV-LPR1200 and GV-DVR LPR can recognize license plates detected in the video source, and send the LPR results to GV-ASManager. Access can be granted when the detected license plate numbers match the vehicles registered in GV-ASManager's database. Before setting up GV-LPR1200 on GV-ASManager, see *4.3.10 Registry Database* to enable the Registry Database for data comparison.

Note:

1. GV-LPR1200 is only compatible with GV-ASManager V4.3.0.0 or later.
2. For GV-IP LPR Camera 5R / GV-LPC1100 / GV-LPC1200, you can connect the camera to GV-DVR LPR system to perform the license recognition.

Follow the steps below to add GV-LPR1200 to GV-ASManager.

1. On the menu bar, click **Setup** and select **Devices**. This dialog box appears.

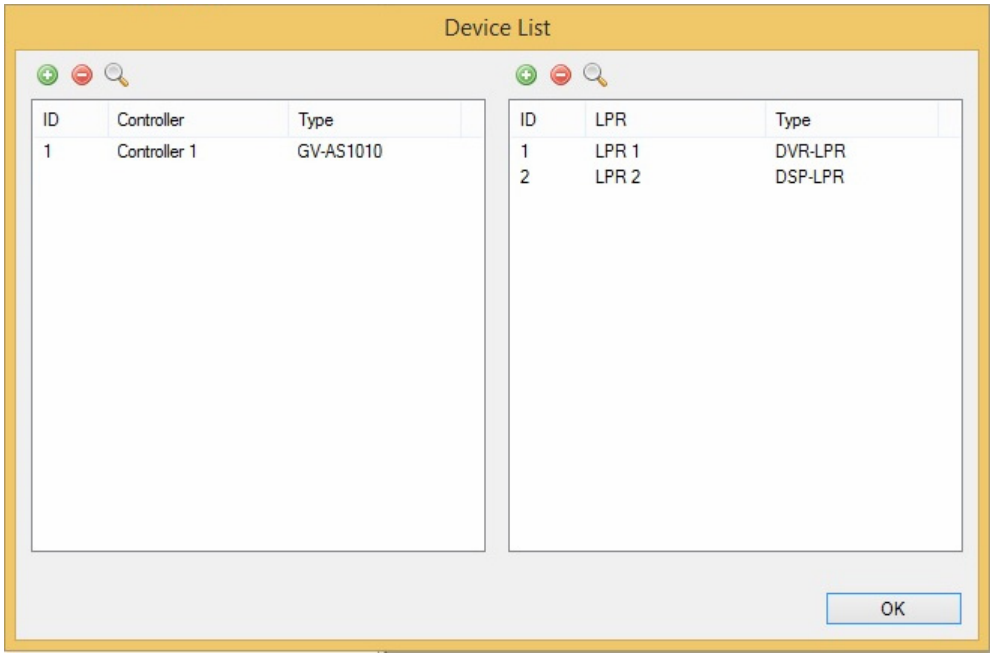


Figure 9-1

Note: You can also click the **Search** button to search for GV-LPR1200 detected under the same LAN.

2. On the right pane for LPR, click the **Add** button. This dialog box appears.

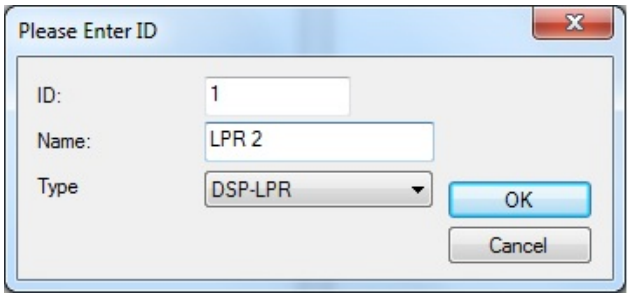


Figure 9-2

3. Type an **ID** number and **Name** for the LPR.
4. Use the drop-down list to select **DSP-LPR**.
5. Click **OK**. The LPR Setup page appears.

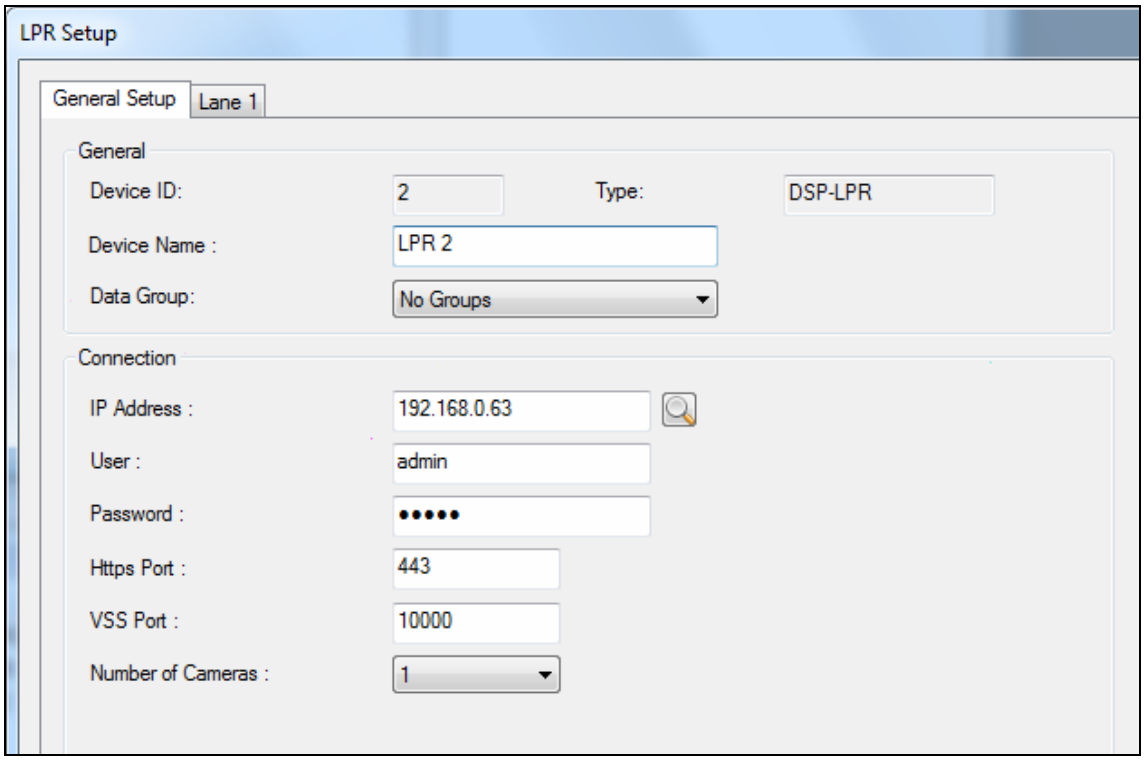


Figure 9-3

6. Assign the GV-LPR1200 to a **Data Group** if needed or select **No Groups** to disable the data group function. You can then allow or forbid a user to read / write / execute the functions assigned under the data group. Refer to *8.1 Setting Up System User*, Chapter 8 in *GV-ASManager User Manual* for more details.
7. Under Connection, type the **IP Address**, **User** name and **Password** of the GV-LPR1200. You can also click the **Search** button  to search for GV-LPR1200 detected in the same LAN.
8. You can modify the following settings if necessary.
   - **Https Port:** The default Https port is 443.
   - **VSS Port:** The default VSS port is 10000.

For the details on connecting GV-LPR1200 to GV-ASManger, see *13.3.2 Step 2: Adding GV-GV-DSP LPR to GV-ASManager* and *13.3.3 Step 3: Configuring a Channel*, Chapter 13 in *GV-ASManager's User Manual*.

For details on creating a vehicle database, see *13.4 Adding Vehicles*, Chapter 13 in *GV-ASManager's User Manual*.

Specifications

GV-IP LPR Camera 5R

Camera		
Image Sensor		1/3'' B/W progressive scan CMOS
Picture Elements		1280 (H) x 1024 (V)
Shutter Speed		Automatic, Manual (1/500 ~ 1/8000 sec)
White Balance		Auto / Manual (2800K ~ 8500K)
S/N Ratio		50 dB
Max. Speed		60 km/h (37 mph)
Lens		
Megapixel		1.3 MP
Lens Type		Motorized varifocal lens
Focal Length		3 ~ 9 mm
Maximum Aperture		F/1.2
Mount		Ø14 mm
Image Format		1/2.7''
Operation	**Focus**	Auto Focus
	Zoom	3X Optical Zoom
	Iris	DC drive
IR LED Quantity		12
Max. IR Distance		5 m (16.4 ft.)
Operation		
Video Compression		H.264, MJPEG
Video Stream		Dual streams from H.264 and MJPEG
Frame Rate		30 fps at 1280 x 1024 *The frame rate and the performance may vary depending on the number of connections and data bitrates (different scenes)
Image Setting		Brightness, Contrast, Sharpness, Gamma, Image Orientation, Shutter Speed, Defog, Zoom, Focus Change
Audio Support		N/A

Video Resolution		
Main Stream	**4:3**	1280 x 960, 640 x 480, 320 x 240
	16.9	1280 x 720, 640 x 360, 448 x 252
	5:4	1280 x 1024, 640 x 512, 320 x 256
Sub Stream	**4:3**	640 x 480, 320 x 240
	16.9	640 x 360, 448 x 252
	5:4	640 x 512, 320 x 256
TV-Out		N/A
Network		
Interface		10/100 Base-T Ethernet, RJ-45 connector
Protocol		DHCP, DynDNS, FTP, HTTP, HTTPS, NTP, ONVIF (Profile S), PSIA, QoS (DSCP), RTSP, SMTP, SNMP, TCP, UDP, UPnP, 3GPP/ISMA
Mechanical		
Temperature Detector		Yes
Camera Angle Adjustment	**Pan**	0° ~ 360°
	Tilt	90° ~ 180°
	Rotate	0° ~ 360°
Connectors	**Power**	PoE
	Ethernet	RJ-45
	Audio	N/A
	Digital I/O	N/A
LED Indicator		No
General		
Operating Temperature		-20°C ~ 50°C (-4°F ~ 122°F)
Humidity		10% ~ 90% (non-condensing)
Power Source		PoE+ (IEEE802.3at)
Max. Power Consumption		16.6 W
Dimensions	**Camera Body**	289.02 x 87.75 x 148.95 mm (11.4 x 3.45 x 5.86”)
	Cable Length	1 m (3.28 ft)
	Max. Cable Diameter	ø 7.1 mm (0.28”)
	Max. Connector Diameter	ø 25.2 mm (0.99”)
Weight		1.4 kg (3.08 lb)

General	
Ingress Protection	IP67
Vandal Resistance	IK10 for metal casing
Fan	Constantly On
Regulatory	CE, FCC, C-Tick, RoHS compliant
Power over Ethernet	
PoE Standard	IEEE 802.3at Power over Ethernet / PD
PoE Power Supply Type	End-Span
PoE Power Output	DC 48V, 345mA (16.6 W Max.)
Web Interface	
Installation & Management	Web-based configuration
Firmware Upgrade	Remote upgrade through Web Browser or GV-IP Device Utility included in the Software DVD
Access from Web Browser	Live View, Video Quality, Bandwidth Control, Image Snapshot, Picture in Picture, Picture and Picture, Privacy Mask, Text Overlay
Language	Arabic / Bulgarian / Czech / Danish / Dutch / English / Finnish / French / German / Greek / Hebrew / Hungarian / Indonesian / Italian / Japanese / Lithuanian / Norwegian / Persian / Polish / Portuguese / Romanian / Russian / Serbian / Simplified Chinese / Slovakian / Slovenian / Spanish / Swedish / Thai / Traditional Chinese / Turkish
Applications	
Network Storage	GV-System (GV-DVR/NVR), GV-VMS, GV-Recording Server
Smart Device Access	- GV-Eye for Android and iOS - Embedded 3GPP/ISMA browser
Live Viewing	IE, GV-MultiView
CMS Server support	GV-Control Center, GV-Center V2, GV-Vital Sign Monitor
Note: All specifications are subject to change without notice.	

GV-LPC1100

Camera		
Image Sensor		1/3'' B/W progressive scan CMOS
Picture Elements		1280 (H) x 1024 (V)
Shutter Speed		Automatic, Manual (1/500 ~ 1/8000 sec)
White Balance		Auto / Manual (2800K ~ 8500K)
S/N Ratio		50 dB
Max. Speed		120 km/h (75 mph)
Lens		
Megapixel		1.3 MP
Lens Type		Motorized varifocal lens
Focal Length		9 ~ 22 mm
Maximum Aperture		F/1.2
Mount		Ø14 mm
Image Format		1/2.7"
Operation	**Focus**	Auto Focus
	Zoom	3X Optical Zoom
	Iris	P-Iris
IR LED Quantity		4 high power IR LEDs
IR Distance		8 ~ 10 m (26.2 ~ 32.8 ft)
Operation		
Video Compression		H.264, MJPEG
Video Stream		Dual streams from H.264 and MJPEG
Frame Rate		30 fps at 1280 x 1024 *The frame rate and the performance may vary depending on the number of connections and data bitrates (different scenes)
Image Setting		Brightness, Contrast, Sharpness, Gamma, Image Orientation, Shutter Speed, Defog
Audio Compression		G.711, AAC (Optional)
Audio Support		Two-way audio

Video Resolution		
Main Stream	**4:3**	1280 x 960, 640 x 480, 320 x 240
	16.9	1280 x 720, 640 x 360, 448 x 252
	5:4	1280 x 1024, 640 x 512, 320 x 256
Sub Stream	**4:3**	640 x 480, 320 x 240
	16.9	640 x 360, 448 x 252
	5:4	640 x 512, 320 x 256
TV-Out		NTSC, PAL BNC connector (640 x 480 resolution)
Network		
Interface		10/100 Base-T Ethernet, RJ-45 connector
Protocol		DHCP, DynDNS, FTP, HTTP, HTTPS, NTP, ONVIF (Profile S), PSIA, QoS (DSCP), RTSP, SMTP, SNMP, TCP, UDP, UPnP, 3GPP/ISMA
Mechanical		
Temperature Detector		Yes
Camera Angle Adjustment	**Pan**	0° ~ 360°
	Tilt	90° ~ 180°
Connectors	**Power**	DC 48V, High PoE (PoE++, 120 W)
	Ethernet	RJ-45
	Audio	1 In (externally connecting a microphone) 1 Out (Stereo phone jack, 3.5 mm / 0.14”)
	Digital I/O	1 In / 1 Out
	TV-Out	BNC connector (640 x 480 resolution) *The TV-Out function only works in 640 x 480 resolution. For TV-Out to work properly, you must set the video resolution to 1280 x 1024 or lower. If both streams are enabled, the Sub Stream must be set to 640 x 480.
LED Indicator		N/A

General		
Operating Temperature		-40°C ~ 50°C (-40°F ~ 122°F)
Humidity		10% ~ 90% (non-condensing)
Power Source		DC 48V 2.5A, High PoE (PoE++, 120 W)
Max. Power Consumption		50 W
Dimensions	**Without support rack**	406 x 145 x 109 mm (16" x 5.7" x 4.3")
	Cable Length	1 m (3.28 ft)
Weight	**With rack**	3.32 kg (7.32 lb)
	Without support rack	2.62 kg (5.78 lb)
Ingress Protection		IP67
Vandal Resistance		IK10 for metal casing
Heater On		-40°C ~ 8°C (-40°F ~ 46.4°F)
Fan		Constantly On
Regulatory		CE, FCC, C-Tick, RoHS compliant
Power over Ethernet		
PoE Standard		High Power Over Ethernet / PD
PoE Power Supply Type		Mid-Span
PoE Power Output		DC 48V, 2.5A (120 W Max.)
Web Interface		
Installation & Management		Web-based configuration
Firmware Upgrade		Remote upgrade through Web Browser GV-IP Device Utility included in the Software DVD
Access from Web Browser		Live View, Video Quality, Bandwidth Control, Image Snapshot, Audio, Picture in Picture, Picture and Picture, Privacy Mask, Text Overlay
Language		Arabic / Bulgarian / Czech / Danish / Dutch / English / Finnish / French / German / Greek / Hebrew / Hungarian / Indonesian / Italian / Japanese / Lithuanian / Norwegian / Persian / Polish / Portuguese / Romanian / Russian / Serbian / Simplified Chinese / Slovakian / Slovenian / Spanish / Swedish / Thai / Traditional Chinese / Turkish

Application	
Network Storage	GV-System (GV-DVR/NVR), GV-VMS, GV-Recording Server
Smart Device Access	- GV-Eye for Android and iOS - Embedded 3GPP/ISMA browser
Live Viewing	IE, GV-MultiView
CMS Server support	GV-Control Center, GV-Center V2, GV-Vital Sign Monitor
GV-PA482	
PoE Standard	High Power Over Ethernet (PoE++) / PSE
PoE Power Output	DC 48V, 2.5A (120 W Max.)
Ethernet Cable Length	Max 100 m (32.8 ft) from GV-PA482 to IP device, CAT5e
Power Input	AC 100V ~ 240V, 2.5A
Operating Temperature	-10°C ~ 50°C (14°F ~ 122°F)
Dimensions (L x W x H)	43 x 69 x 40 mm (1.69 x 2.72 x 1.57”)
Weight	130 g (0.29 lb)
Note: All specifications are subject to change without notice.	

GV-LPC1200 / LPR1200

Camera		
Image Sensor		Megapixel B/W progressive scan CCD
Picture Elements		1280 (H) x 720 (V)
Shutter Speed		Automatic: 1/1000 ~ 1/10000 sec Manual: 1/250 ~ 1/2000 sec
S/N Ratio		52 dB
Max. Speed		200 km/h (124.27 mph)
Lens		
Megapixel		1 MP
Lens Type		Motorized varifocal lens
Focal Length		94 mm
Maximum Aperture		F/3.5
Image Format		1.3”
Angel of View (Tele)	**Diagonal**	3.6
	Horizontal	3.1
	Vertical	1.8
Operation	**Focus**	Auto
	Zoom	10X optical zoom
	Iris	Auto
IR LED Quantity		8 high power IR LEDs
IR Distance		10 ~ 20 m (32.8 ~ 65.6 ft)
Operation		
Video Compression		H.264, MJPEG
Video Stream		Dual streams from H.264 and MJPEG
Frame Rate		30 fps at 1280 x 720 *The frame rate and the performance may vary depending on the number of connections and data bitrates (different scenes)
Image Setting		Brightness, Contrast, Sharpness, Gamma, Image Orientation, Shutter Speed, Defog, Maximum Video Gain
Audio Compression		G.711, AAC (Optional)
Audio Support		Two-way audio

Video Resolution		
Main Stream		1280 x 720 (16:9)
Sub Stream		640 x 360 (16:9)
TV-Out		BNC connector (640 x 480 resolution)
Network		
Interface		10/100/1000 Base-T Ethernet, RJ-45 connector
Protocol		DHCP, DynDNS, FTP, HTTP, HTTPS, NTP, ONVIF (Profile S), PSIA, QoS (DSCP), RTSP, SMTP, SNMP, TCP, UDP, UPnP, 3GPP/ISMA
Mechanical		
Temperature Detector		Yes
Camera Angle Adjustment	**Pan**	0° ~ 330°
	Tilt	0° ~ 90°
Connectors	**Power**	DC 12V
	Ethernet	RJ-45
	Audio	1 In (microphone jack, 3.5 mm / 0.14”) 1 Out (stereo phone jack, 3.5 mm / 0.14”)
	Digital I/O	2 In / 2 Out
	RS-485	**For GV-LPR1200 recognition data output only:** RS-485+ / RS-485-
	Local Storage	**For GV-LPR1200 only:** Micro SD card slot (SD/SDHC, SD version 2.0 only, Class 10) * **SDXC** and **UHS-I** card types are not supported. * GV-LPR1200 does not record videos to the memory card.
	TV-Out	BNC connector (640 x 480 resolution)
	Mini USB	Mini USB port on the circuit board (for UMTS)
LED Indicator		N/A

General		
Operating Temperature		-40°C ~ 50°C (-40°F ~ 122°F)
Humidity		10% ~ 90% (non-condensing)
Power Source		DC 12V, 5A
Max. Power Consumption		54 W
Dimensions	**Without support rack**	406 x 145 x 109 mm (16" x 5.7" x 4.3")
	Cable Length	1 m (3.28 ft)
Weight	**With rack**	3.32 kg (7.32 lb)
	Without support rack	2.62 kg (5.78 lb)
Ingress Protection		IP67
Vandal Resistance		IK10 for metal casing
Heater On		-40°C ~ 5°C (-40°F ~ 41°F)
Fan		Constantly On
Regulatory		CE, FCC, RCM, RoHS compliant
Region of License Plate		**For GV-LPR1200 only:** Australia / Austria / Belgium / Brazil / Bulgaria / Chile / China / Columbia / Cyprus / Czech / France / Germany / Guernsey / Hungary / Ireland / Italy / Israel / Mexico / New Zealand / Hong Kong / Norway / Holland / Poland / Portugal / Qatar / Russia / South Africa / Spain / Taiwan / UK / USA / Slovakia / Argentina
Web Interface		
Installation & Management		Web-based configuration
Firmware Upgrade		Remote upgrade through Web Browser GV-IP Device Utility included in the Software DVD
Access from Web Browser		Live View, Video Quality, Bandwidth Control, Image Snapshot, Audio, Picture in Picture, Picture and Picture, Text Overlay
Language		Arabic / Bulgarian / Czech / Danish / Dutch / English / French / German / Greek / Hebrew / Hungarian / Indonesian / Italian / Japanese / Lithuanian / Norwegian / Persian / Polish / Portuguese / Romanian / Russian / Serbian / Simplified Chinese / Slovakian / Slovenian / Spanish / Swedish / Thai / Traditional Chinese / Turkish

Application	
Network Storage	GV-System (GV-DVR/NVR), GV-VMS, GV-Recording Server
Smart Device Access	- GV-Eye for Android and iOS - Embedded 3GPP/ISMA browser
Live Viewing	IE, GV-Edge Recording Manager
CMS Server support	GV-Control Center, GV-Center V2, GV-Vital Sign Monitor
LPR Management	GV-ASManager
Note: All specifications are subject to change without notice.	

Appendix

A. The CGI Command

You can obtain a snapshot of the live view or access the User Account Web interface simply by executing CGI commands. Follow the details below:

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 settings on the Web interface, type the following into your Web browser:

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

B. RTSP Protocol Support

The cameras support RTSP protocol for both video and audio streaming. For RTSP command, enter:

rtsp://<IP of the GV-IP LPR Camera:8554/<CH No.>.sdp

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

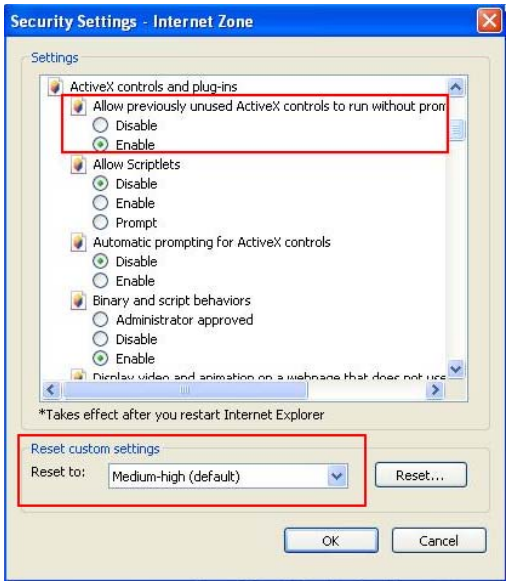
Note:

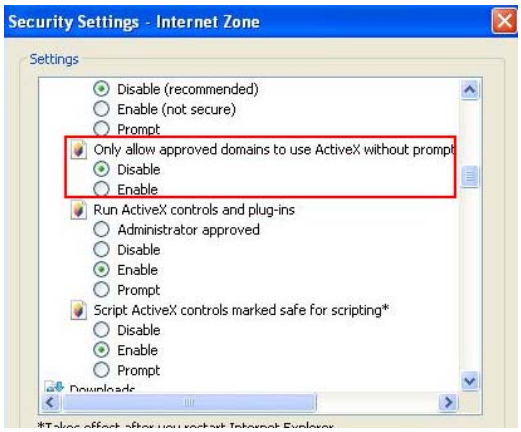
1. The RTSP server must be enabled on the Web interface. See Figure 4-20.
2. Only VLC and QuickTime players are supported for streaming video via RTSP protocol.

C. Settings for Internet Explorer 8 or later

If you use Internet Explorer 8 or later, 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**.





D. Supported UMTS Protocol (3G Modem)

Brand	Model
Huawei	E220, E392
	E169, E1692, E156, EC189, E1752, E1756, E1756C, E169C
Novatel	MC998D
	USB760, USB727, MC950D
ONDA	MSA523HS
ZTE	MF100