

GV-Mobile Server

User's Manual V1.5.1





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[Warranty]



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Contents

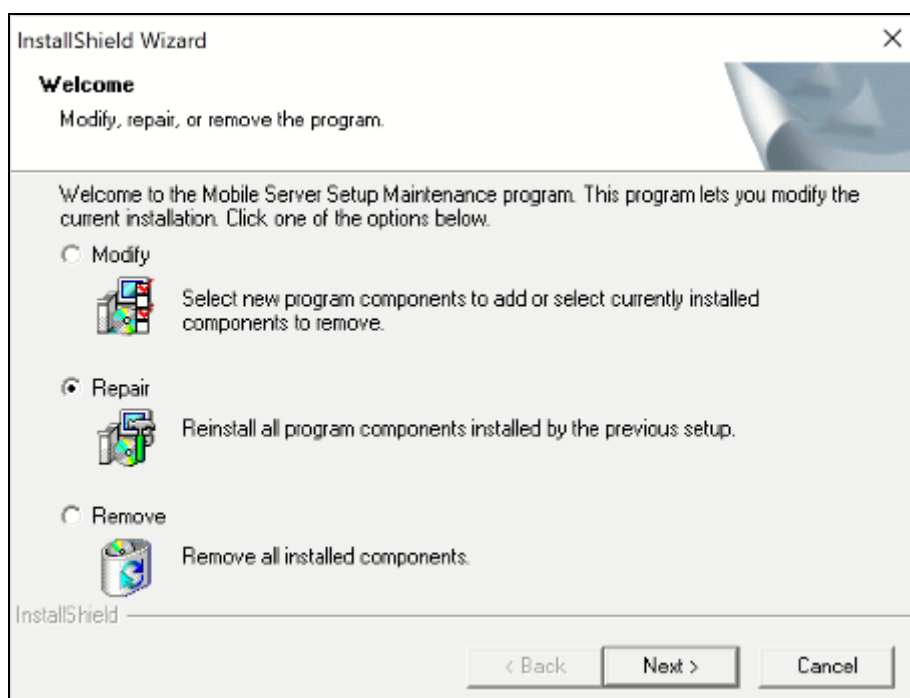
Naming Definition	2
Note for Upgrading GV-Mobile Server	2
Chapter 1 Introduction	3
1.1 Packing List	6
1.2 Minimum System Requirements	6
1.3 Options	9
1.4 Compatible GV-IP Device & GV-Software	10
Chapter 2 Installation	11
2.1 Installing the GV-Mobile Server	11
2.2 Starting the GV-Mobile Server	13
Chapter 3 Establishing Connections	15
3.1 Connecting to GV-DVR / NVR / VMS	15
3.1.1 Defining the User Privilege of GV-DVR / NVR / VMS	18
3.2 Connecting to GV-Recording Server / GV-Video Gateway	20
3.3 Connecting to IP Devices Directly	22
Chapter 4 Configuring the Channel	24
4.1 Setting the Individual Channel	24
4.2 Setting the Matrix Channel	27
Chapter 5 Accessing the Live View	31
5.1 Using GV-IP Decoder Box Series / GV-Pad	31
5.2 Using Mobile Devices	34
5.3 Using Third-Party Surveillance Software	37
5.4 Using Non-IE Browsers	39
Chapter 6 GV-Dynamic DNS Service	41
6.1 Installing Dynamic DNS	42
6.2 Registering Domain Name with DDNS	43
6.3 Starting Dynamic DNS	45
Chapter 7 Setting Up the Router	47
7.1 Registering a Domain Name for the Router	48
7.2 Opening Ports on the Router	49
Appendix	51
A. Installing .Net Framework 3.5 for Windows 10	51

Naming Definition

GV-DVR / NVR	GeoVision Analog and Digital Video Recording Software. GV-DVR also refers to GV-Multicam System or GV-Hybrid DVR.
GV-VMS	GeoVision Video Management System for IP cameras.

Note for Upgrading GV-Mobile Server

To upgrade GV-Mobile Server, run the Installer (setup. exe) included in the latest software downloads from our [website](#). Select **Repair** to start.



Chapter 1 Introduction

GV-Mobile Server is used to reduce CPU load and bandwidth consumption on IP video devices, and to distribute video sources to several clients for live streaming. Up to 64 video channels can be sent to GV-Mobile Server from GeoVision and third-party IP devices, as well as GV-Recording Server / Video Gateway. GV-Mobile Server supports up to four matrix channels, each with 36 cameras. Clients can then access the live view remotely using GV-IP Decoder Box, the GV-Eye app, the RTSP protocol, or non-IE browsers.

The advantages of GV-Mobile Server include:

- CPU loading and bandwidth usage reduced on IP video devices
- User-configurable frame rate, quality, codec type and resolution for each camera stream
- Remote access to live view using non-IE browsers
- Up to 64 channels
- Live view access of analog cameras (connected to GV-DVR)
- Up to 4 Matrix channels, each with 36 cameras
- Motion popup on Matrix View
- Dual streams
- Fisheye dewarping

Through GV-Mobile Server, the clients can:

- access GeoVision and third-party cameras connected to GV-DVR / NVR / VMS
- access GeoVision and third-party IP channels connected to GV-Video Gateway / GV-Recording Server
- directly access GeoVision and third-party devices

1. To encode channels from GV-DVR / NVR / VMS, install GV-Mobile Server on the same computer as GV-DVR / NVR / VMS.

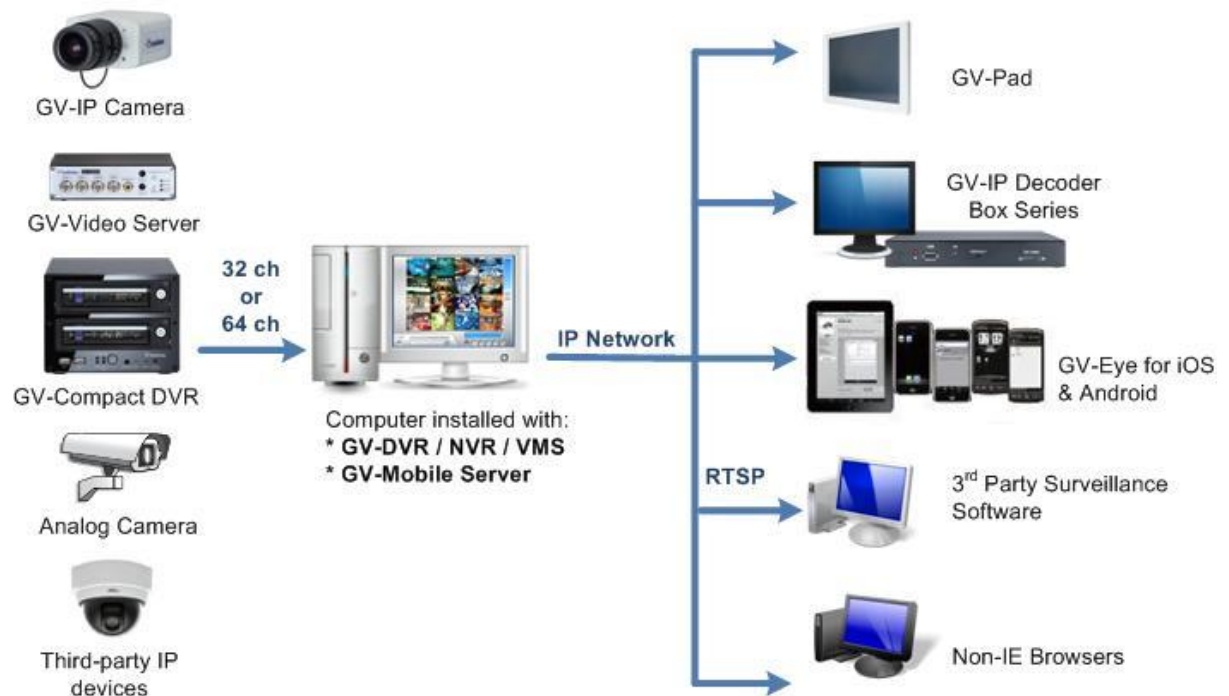


Figure 1-1

Note:

1. GV-DVR / NVR only supports up to 32 channels.
 2. GV-VMS and GV-NVR do not support analog cameras.
-

2. With a GV-USB Dongle, the GV-Mobile Server can be installed in any remote server. It can directly encode IP channels from GeoVision and third-party IP devices through ONVIF and PSIA protocols, as well as those from GV-Recording Server / GV-Video Gateway.

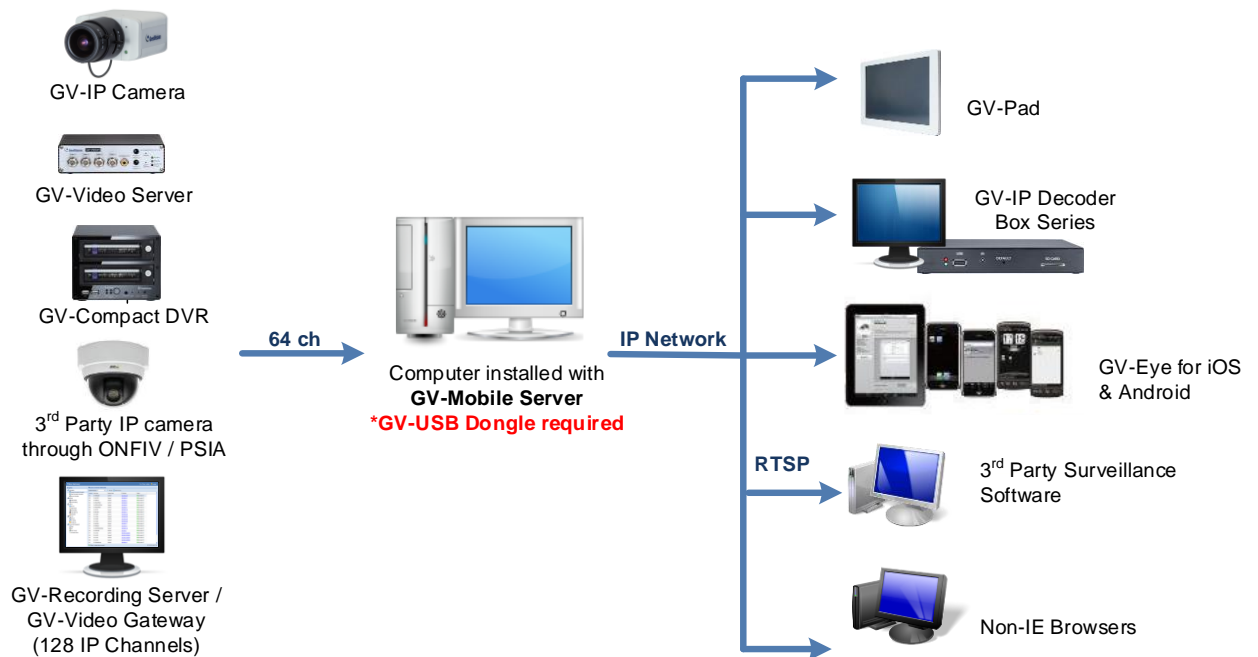


Figure 1-2

For each camera stream, you can set up different frame rate, codec and resolution. In addition, up to 36 cameras can be arranged into a matrix screen that counts as 1 channel when transmitting to clients. The matrix channels are also available in dual streams.

1.1 Packing List

- GV-USB Dongle for connection with GV-Recording Server / GV-Video Gateway, third-party IP devices and GV-IP Devices directly.
- Software DVD

1.2 Minimum System Requirements

Depending on the resolution, video compression format and the number of connected channels, **Standard Requirements** or **Advanced Requirements** shall be met.

Standard Requirements

OS	64-bit	Windows 10 / Server 2016
CPU		Core i5 6600K, 3.50 GHz
RAM		8 GB x 1
Hard Disk		1 GB or more for installation
Graphics Card		AGP or PCI-Express, 1024 x 768, 32-bit color
DirectX		9.0c
LAN		Gigabit Ethernet X 1
Hardware		Internal or external GV-USB Dongle

Advanced Requirements

OS	64-bit	Windows 10 / Server 2016
CPU		Core i7 6700 Processor, 3.40 GHz
RAM		8 GB x 2
Hard Disk		1 GB or more for installation
Graphics Card		AGP or PCI-Express, 1024 x 768, 32-bit color
DirectX		9.0c
LAN		Gigabit Ethernet x 2
Hardware		Internal or external GV-USB Dongle

Note:

1. The memory required may vary depending on the number of channels and resolution of videos received.
2. It is recommended to use the internal GV-USB Dongle to have the Hardware Watchdog function which restarts the PC when Windows crashes or freezes.

When you want to connect the number of channels listed below to the GV-Mobile Server, the advanced system requirements need to be met.

Resolution	Codec	Bitrate	No. of Connected Channels (without Matrix Views)	No. of Connected Channels (with Matrix Views)
CIF	H.264	1.21 Mbit/s	> 41	> 50
	H.265	-	-	-
VGA	H.264	2.81 Mbit/s	> 15	> 22
	H.265	1.19 Mbit/s	> 9	> 10
D1	H.264	4.5 Mbit/s	> 6	> 6
	H.265	-	-	-
1 MP	H.264	5.3 Mbit/s	> 8	> 7
	H.265	2.74 Mbit/s	> 3	> 3
2 MP	H.264	7.01 Mbit/s	> 10	> 11
	H.265	4.5 Mbit/s	> 1	> 2
3 MP	H.264	9.27 Mbit/s	> 9	> 11
	H.265	5.92 Mbit/s	> 1	> 1
4 MP	H.264	12.1 Mbit/s	> 13	> 14
	H.265	8.03 Mbit/s	> 1	> 1
5 MP	H.264	17.1 Mbit/s	> 14	> 14
	H.265	10.4 Mbit/s	> 1	> 1
8 MP	H.264	17.35 Mbit/s	> 5	> 5
	H.265	-	-	-
12 MP	H.264	14.59 Mbit/s	> 8	> 8
	H.265	-	-	-

Note:

1. These data may vary in different scenes (different data bitrates).
2. The test with matrix is conducted using two matrix views.

Software License

Free License	When installed and executed on the same server as GV-DVR / NVR / VMS
Maximum License	64 channels, 4 Matrix views
Increment for Each License	N/A
Optional Combinations	N/A
Dongle Type	Internal or external
Note: GV-DVR / NVR only supports up to 32 channels.	

1.3 Options

The optional device can be purchased to assist with your surveillance management.

Optional Device	Description
Internal GV-USB Dongle	An Internal GV-USB Dongle provides the hardware watchdog function to GV-Mobile Server by restarting the computer when Windows crashes.

1.4 Compatible GV-IP Device & GV-Software

- **GV-IP Camera:** V1.09 or later
- **GV-IP Decoder Box:** V1.07 or later
- **GV-IP Decoder Box Plus:** V1.01 or later
- **GV-Pad:** V1.07 or later
- **GV-Video Server VS02A / VS04A / VS04H / VS12:** V1.05 or later
- **GV-Video Server VS11:** V1.0 or later
- **GV-Video Server VS2400:** V1.01 or later
VS2420: V1.00 or later
- **GV-Compact DVR V2:** V1.07 or later
- **GV-Compact DVR V3 (4-Channel):** V1.01 or later
- **GV-Compact DVR V3 (8-Channel):** V1.00 or later
- **GV-DVR / NVR:** V8.5.3 or later
- **GV-Eye:** V2.0 or later
- **GV-Recording Server / GV-Video Gateway:** V1.1.0.0 or later
- **GV-VMS:** V14.10 or later

Chapter 2 Installation


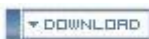
2.1 Installing the GV-Mobile Server

Before installing the GV-Mobile Server, you need to plug the **GV-USB Dongle** to the computer, and then install the **dongle driver**. You can install the driver and the GV-Mobile Server from Software DVD or GeoVision Website.

Installing from Software DVD

1. Insert Software DVD to the computer. It runs automatically and a window appears.
2. To install USB driver, select **Install or Remove GeoVision GV-Series Driver**.
3. To install .Net Framework 3.5, select **Download Microsoft .NET Framework 3.5**.
4. To install GV-Mobile Server, select **Install GeoVision Primary Applications** and click **GV-Mobile Server**.

Downloading from GeoVision Website

1. Go to the Software Download and Upgrading page of GeoVision Website:
http://www.geovision.com.tw/english/5_8_VMS.asp.
2. To install USB driver, select the **Video Management Software** tab, find the **Driver** section and click the **Download** icon  of **GV-Series Card Driver / GV-USB Devices Driver**.
3. To install GV-Mobile Server, select the **Video Management Software** tab, find the **Primary Applications** section and click the **Download** icon  of **GV-Mobile Server**.

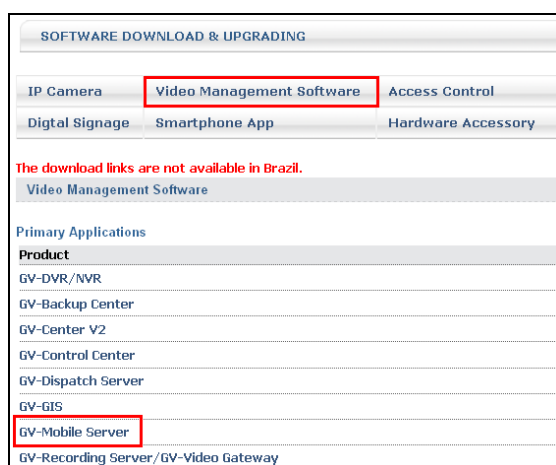


Figure 2-1

4. To download and install .Net Framework 3.5, go to:
<http://www.microsoft.com/en-us/download/details.aspx?id=21>.

Note: If you are using Windows 10, see *How to install .Net Framework 3.5 for Windows 10* in *Appendix*.

2.2 Starting the GV-Mobile Server

1. Go to Windows **Start**, point to **Programs**, select **GV-Mobile Server**, and then run **Mobile Server**. The GV-Mobile Server window appears.
2. To change the server name or to configure UPnP settings, click the **Network** tab. This page appears.

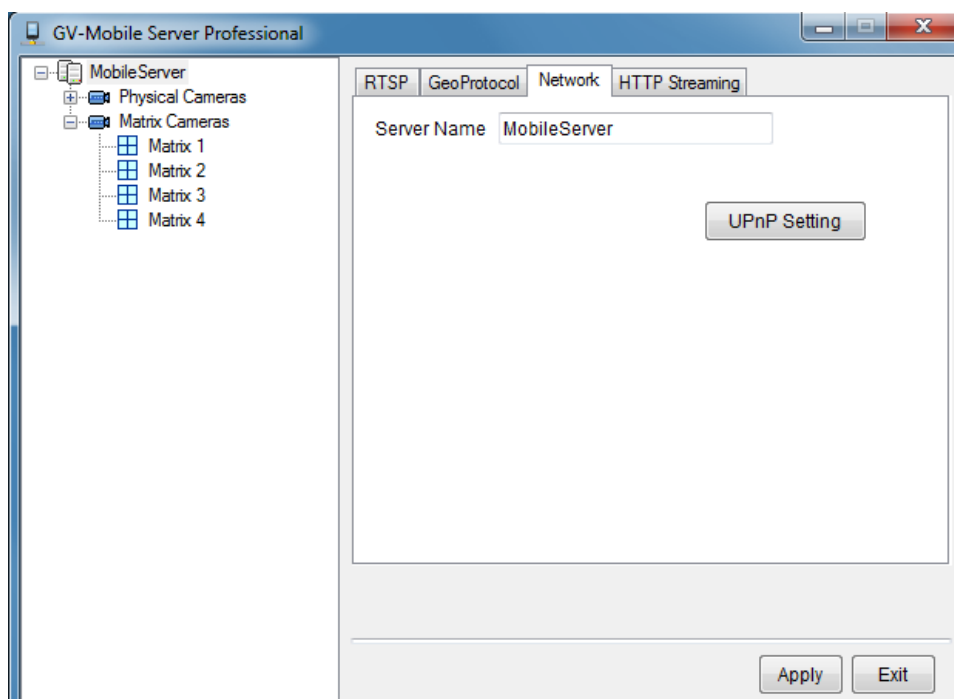


Figure 2-2

3. Type a new server name.
4. Click the **UPnP Setting** button to list the GV-Mobile Server in the network devices table for the operation system. Then you can connect to the GV-Mobile Server directly by clicking on the listed server.

- By default, the ID and password for logging on the GV-Mobile Server are **admin**, and the Command Port for client connection is **55000**. To customize these values, click the **GeoProtocol** tab to modify the Command Port, login ID and password. Select **Custom** in the Login Information section. You can also log on using the ID and password of GV-DVR / NVR / VMS. Select **GeoVision DVR/NVR/VMS** in the Login Information section.

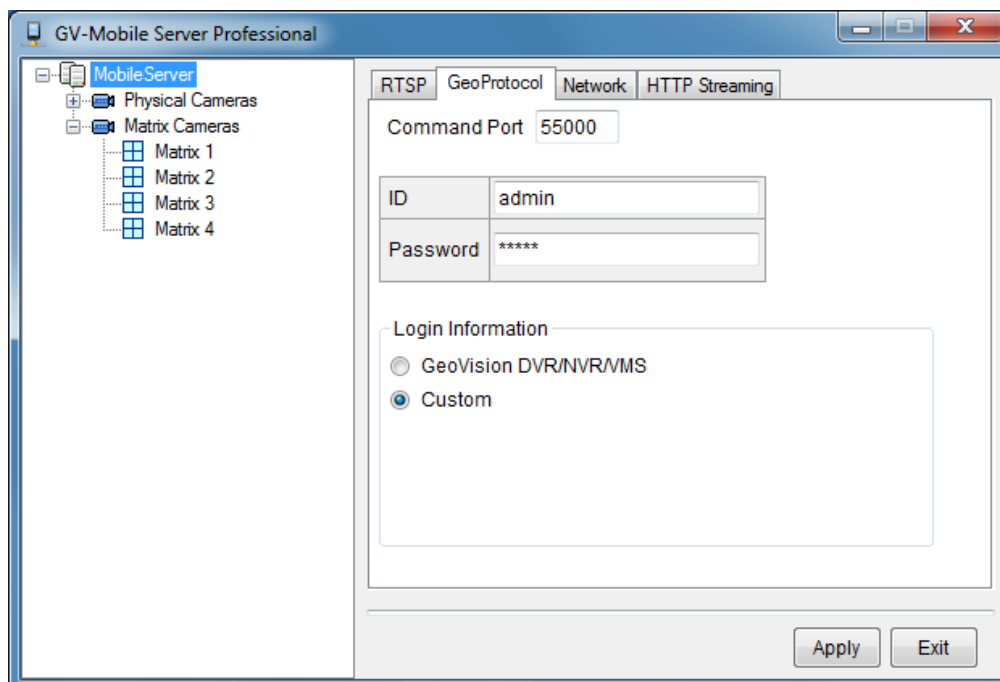


Figure 2-3

- Click **Apply**.

Note: You can set the user privilege on GV-DVR / NVR / VMS. For details, see [3.1.1 Defining the User Privilege Control of GV-DVR / NVR / VMS](#).

Chapter 3 Establishing Connections

3.1 Connecting to GV-DVR / NVR / VMS

The GV-Mobile Server can encode up to 32 channels from GV-DVR / NVR or up to 64 channels from GV-VMS. To configure connection to GV-DVR / NVR / VMS:

1. Select a camera from the left menu and click the **Stream Source** tab. This window appears.

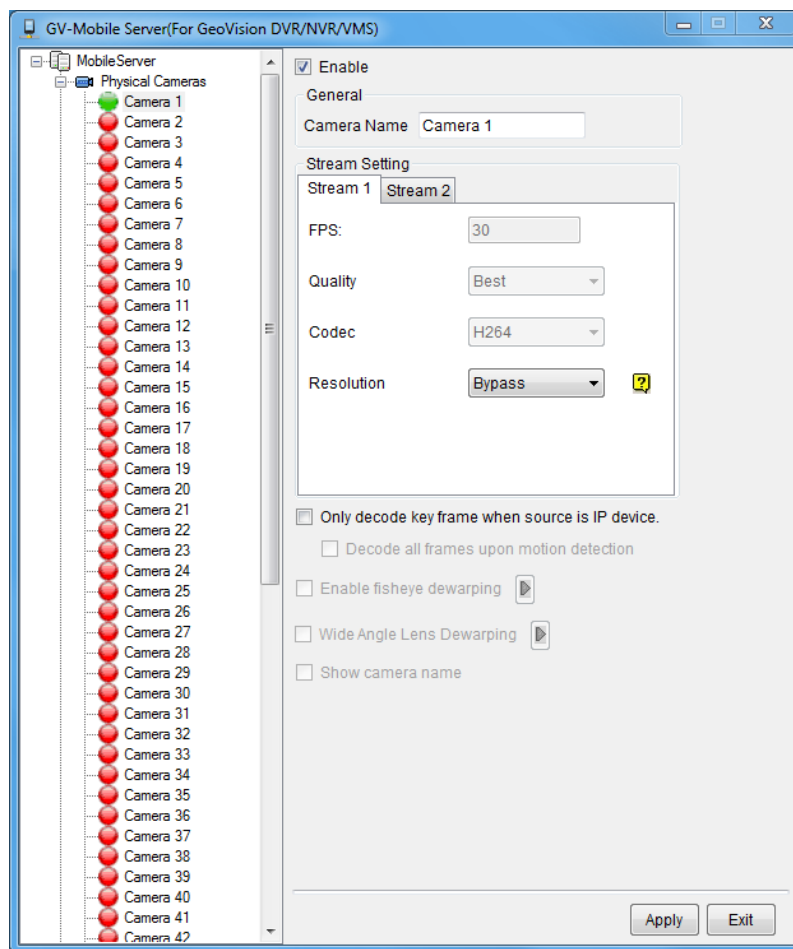



Figure 3-1

2. Type a name to describe the camera in the **Camera Name** field (Max. 31 characters).
3. Select **GV-DVR / NVR / VMS** for **Brand**. To decode key frames for IP source, select **Only decode key frame when source is IP device**. To decode all frames when a motion is detected and decode key frames when there is no motion, select **Decode all frames upon motion detection**.

4. If the camera is a fisheye camera, select **Enable fisheye dewarping**. And click  to open the FisheyeConfig window. Right-click the image to configure the following fisheye settings.

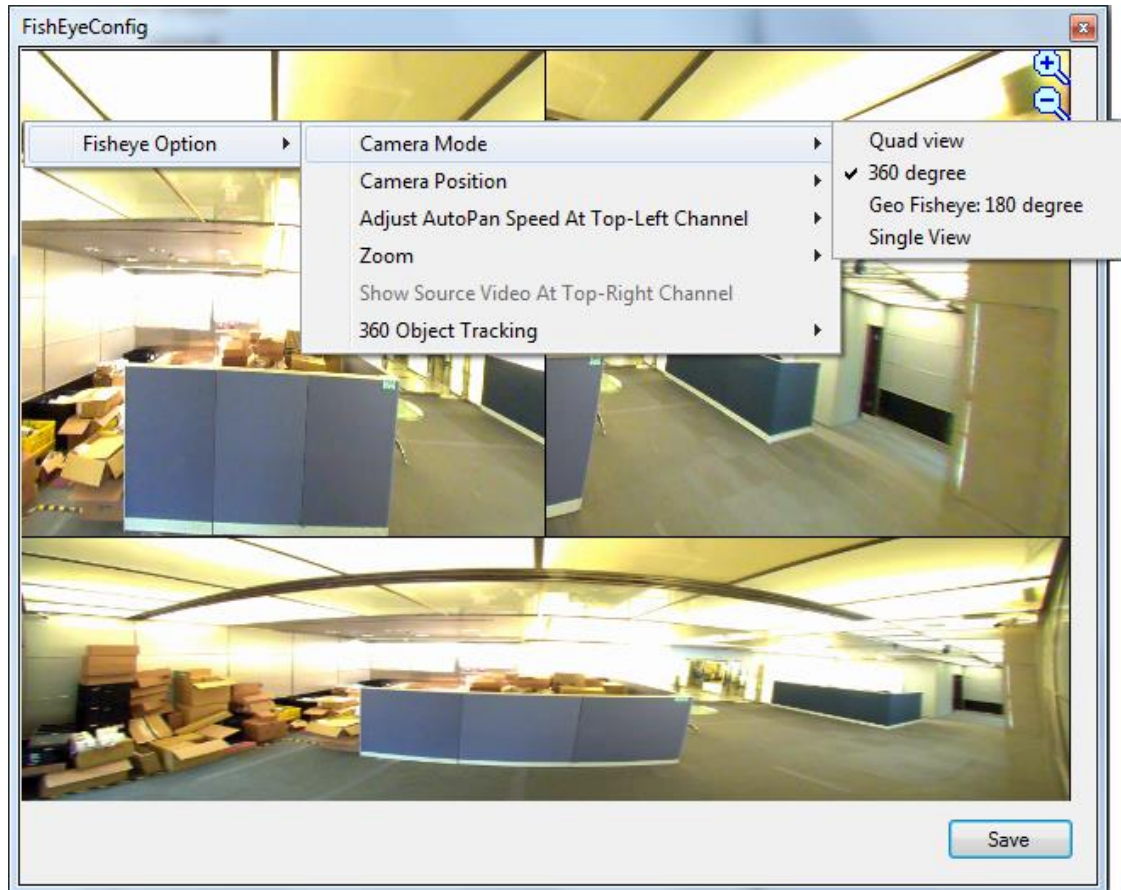


Figure 3-2

- **Camera Modes:** You can choose among four view modes.
 - **Quad view:** Composed of four PTZ views.
 - **360 degree:** Composed of two PTZ view and one 360° panoramic view.
 - **Dual 180 degree:** Composed of two 180° views.
 - **Single view:** Composed of one PTZ view.
- **Camera Position:** Select **Ceiling**, **Wall** or **Ground** according to where the camera is mounted.
- **Adjust AutoPan Speed At Top-Left Channel:** Select low, medium, or high speed to enable Auto Pan for one PTZ view at the rotation speed of your choice. This option applies to **Quad view**, **360° degree** and **Single view**.
- **Zoom:** Select **Zoom In** or **Zoom Out** and then click on the image.

3 Establishing Connections

- **Show Source Video at Top-Right Channel:** Shows the circular source image in the top-right quadrant when **Quad view** is selected.
 - **360 degrees Object Tracking:** Tracks moving objects under 360 degree view.
5. To show the camera name specified in Step 2 on the live view, select **Show camera name**.
 6. Click **Apply**.

When the camera is connected, the red icon turns green. You can right-click the camera icon to access the live view.

Note: To enable **Decode all frames upon motion detection**, you must enable **Only decode key frame** when source is IP device first.

3.1.1 Defining the User Privilege of GV-DVR / NVR / VMS

On GV-DVR / NVR / VMS, you can alter the setting of user privileges to determine which user account can access Video, Audio, PTZ, Monitor Start / Stop, and I/O Output Control from GV-Eye.

To set up the user privilege:

1. Access the Password Setup dialog box.
 - For GV-DVR / NVR, click the **Configure** button, select **System Configure**, select **Password Setup**, select **Local Account Edit** and select the **Webcam** tab.
 - For GV-VMS, click the account ID, click **Password Setup**, and select **Local Account Edit** and select the **Webcam / Mobile** tab.
2. Select or deselect **Video**, **Audio**, **PTZ**, **Monitor Start / Stop**, and **I/O Output Control** of specific cameras to allow or deny the user the function.

For instance, firstly, on the Password Setup dialog box of GV-DVR / NVR, you can deny User1 the access of PTZ. Then, when you log on GV-Eye with the ID and password of User1 and connect to GV-Mobile Server, you will see that User1 cannot access PTZ on GV-Eye.

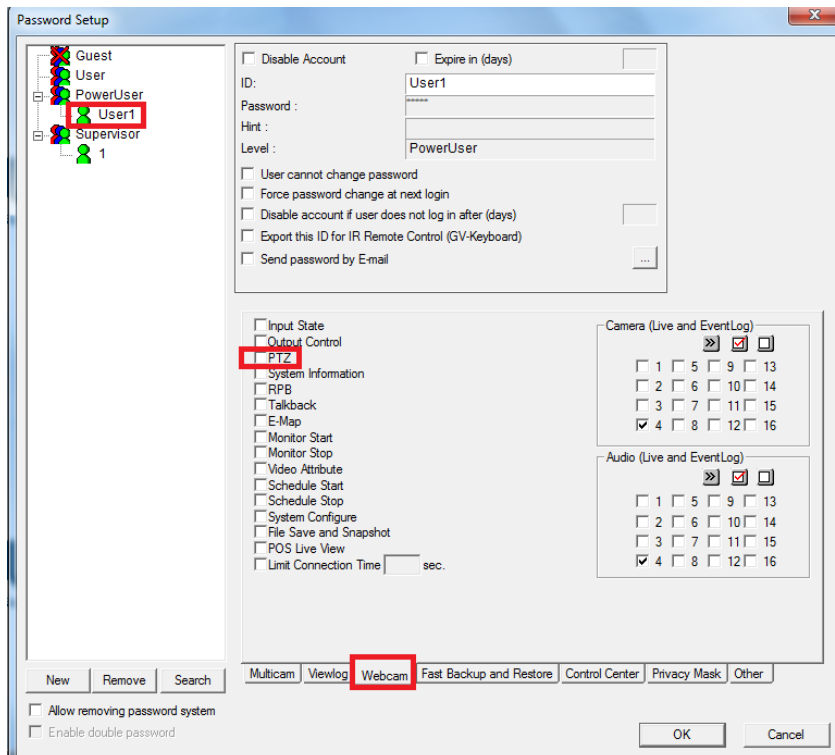


Figure 3-3

3. On GV-Mobile Server, select **GeoVision DVR / NVR / VMS**.

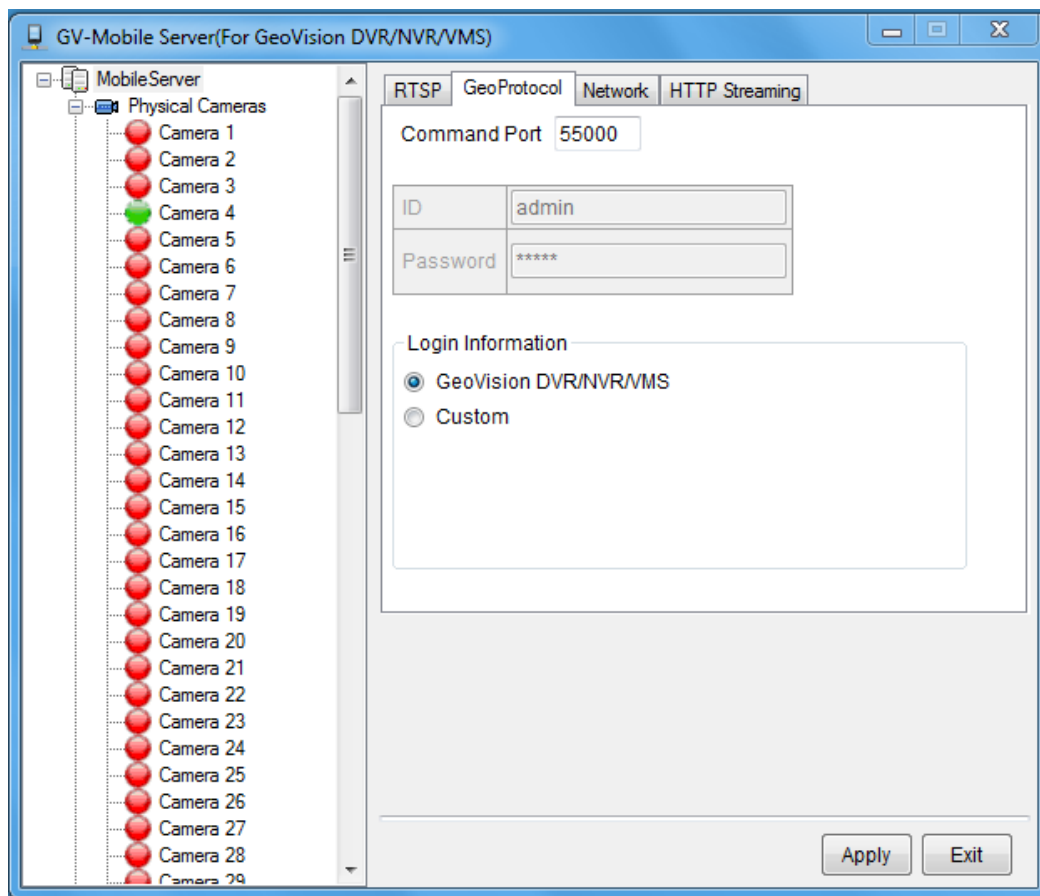


Figure 3-4

Log on GV-Eye with the ID and password of GV-DVR / NVR / VMS.

Note:

1. Video, Audio, PTZ and Monitor Start / Stop user privilege control from GV-Eye are supported by GV-DVR / NVR V8.7.1.0 or later and GV-VMS V16.10.3.0 or later.
 2. I/O output user privilege control from GV-Eye is only supported by GV-DVR / NVR V8.7.2.0 or later and GV-VMS V16.10.3.0 or later.
-

3.2 Connecting to GV-Recording Server / GV-Video Gateway

With a GV-USB Dongle, GV-Mobile Server can encode up to 64 IP channels from GV-Recording Server / GV-Video Gateway. To configure connection to GV-Recording Server / GV-Video Gateway:

1. Select a camera from the left menu and click the **Stream Source** tab. This window appears.

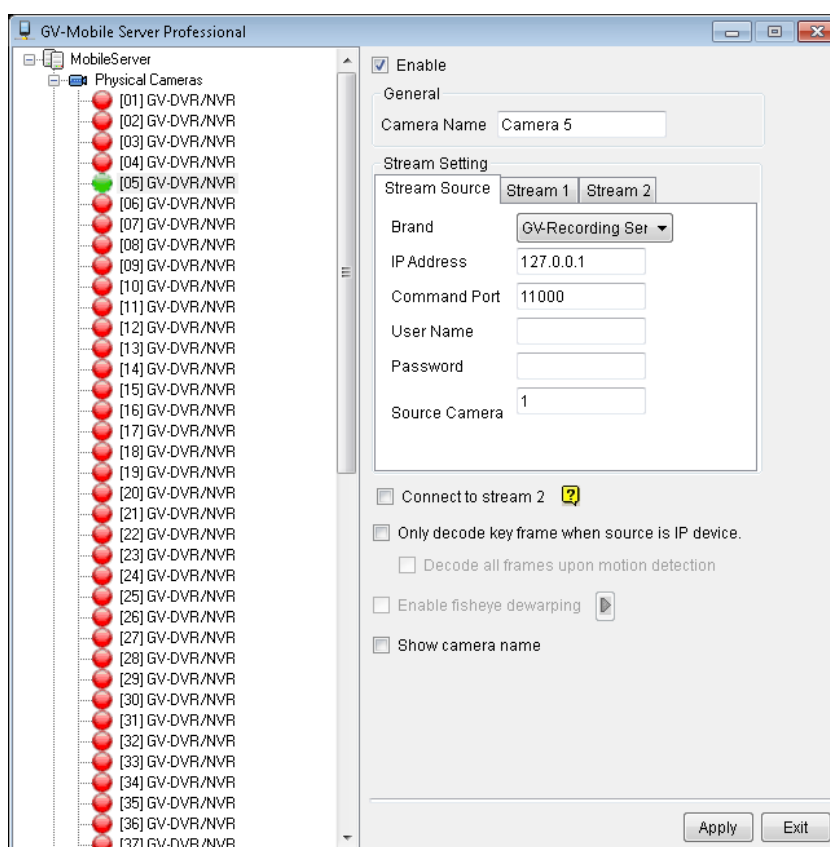



Figure 3-5

2. Type a name to describe the camera in the **Camera Name** field (Max. 31 characters).
3. Configure the connection settings.
 - A. Select **GV-Recording Server** for **Brand**.
 - B. Type the **Command Port**, **IP Address**, **User Name** and **Password** of the GV-Recording Server / GV-Video Gateway. The default command port for GV-Recording Server / GV-Video Gateway is **11000**.
 - C. Type the camera number for live viewing in **Source Camera**. The default setting is 1.

4. If your GV-IP device supports dual streams, GV-Mobile Server connects to stream 1 by default. Select **Connect to stream 2** to decode the other stream.
5. To decode key frames for IP source, select **Only decode key frame when source is IP device**. To decode all frames when a motion is detected and decode key frames when there is no motion, select **Decode all frames upon motion detection**.
6. If the camera is a fisheye camera, select **Enable fisheye dewarping**. And click  to open the FisheyeConfig window. To configure dewarping settings, right-click the image in the window. For details on fisheye dewarping settings, see step 5 of *3.1 Connecting to GV-DVR / NVR / VMS*.
7. To show the camera name specified in Step 2 on the live view, select **Show camera name**.
8. Click **Apply**.

When the camera is connected, the red icon turns green. You can right-click the camera icon to access the live view.

Note:

1. **Connect to stream 2** is only supported for GV-IP device. Since the stream 2 of GV-IP device is with lower resolution, selecting stream 2 for decoding decreases the loading of your GV-Mobile Server.
 2. To enable **Decode all frames upon motion detection**, you must enable **Only decode key frame when source is IP device** first.
 3. The TCP/IP Connection port (active connection port) on the GV-Recording Server / GV-Video Gateway must match the Command port setting (default 11000) here.
-

3.3 Connecting to IP Devices Directly

Using a GV-USB Dongle, GV-Mobile Server can encode up to 64 IP channels directly from GeoVision IP devices and also third-party IP devices (through ONVIF or PSIA protocol). To configure connection to IP devices:

1. Select a camera from the left menu and click the **Stream Source** tab. This window appears.

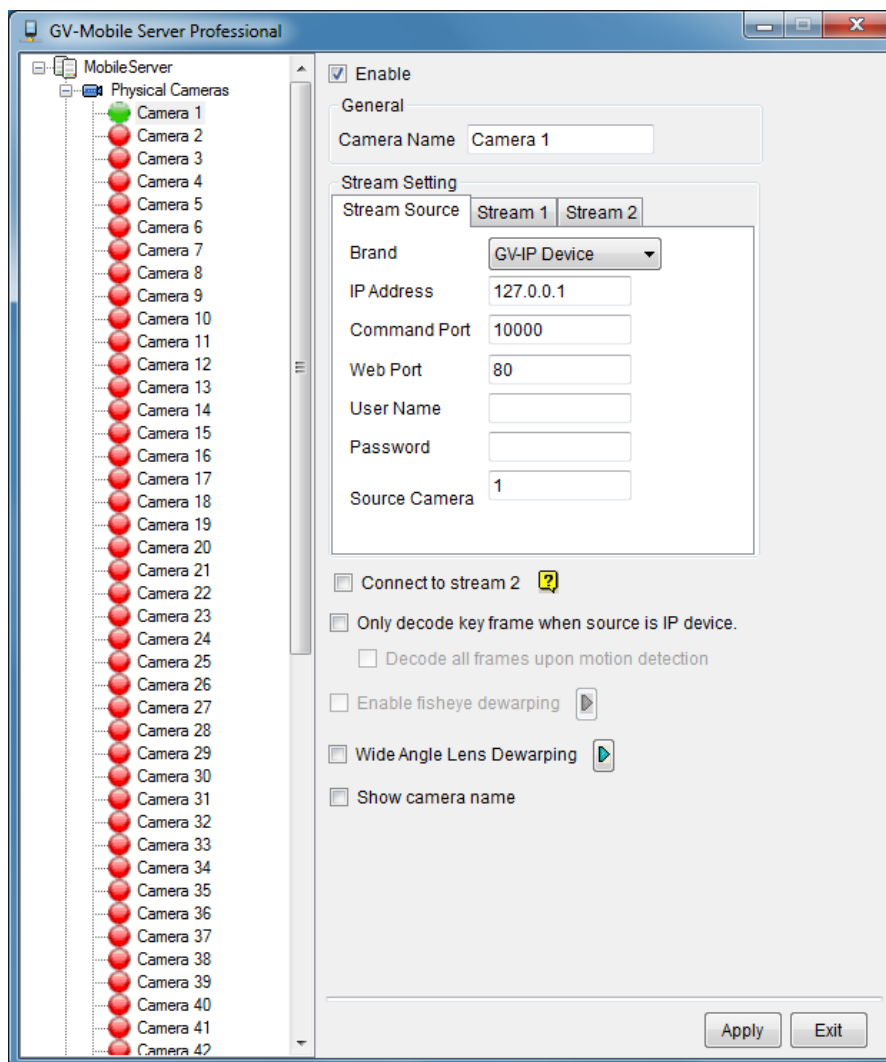



Figure 3-6

2. Type a name to describe the camera in the **Camera Name** field (Max. 31 characters).

3. Configure the connection settings.
 - A. Select **GV-IP Device** for **Brand**. To connect to a third-party IP device, select **ONVIF** or **PSIA** for **Brand**.
 - B. Type the **IP Address**, **User Name** and **Password** of the IP device. The default command port for GeoVision IP device is **10000** and **80** for third-party IP devices connected through ONVIF / PSIA.
 - C. Type the camera number for live viewing in **Source Camera**. The default setting is 1.
4. If your GV-IP device supports dual streams, GV-Mobile Server connects to stream 1 by default. Select **Connect to stream 2** to decode the other stream.
5. To decode key frames for IP source, select **Only decode key frame when source is IP device**. To decode all frames when a motion is detected and decode key frames when there is no motion, select **Decode all frames upon motion detection**.
6. If the camera is a fisheye camera, select **Enable fisheye dewarping**. And click  to open the FisheyeConfig window. To configure dewarping settings, right-click the image in the window. For details on fisheye dewarping settings, see step 5 of 3.1 *Connecting to GV-DVR / NVR / VMS*.
7. To show the camera name specified in Step 2 on the live view, select **Show camera name**.
8. Click **Apply**.

When the camera is connected, the red icon turns green. You can right-click the camera icon to access the live view.

Note:

1. **Connect to stream 2** is only supported for GV-IP device. Since the stream 2 of GV-IP device is with lower resolution, selecting stream 2 decreases the loading of your GV-Mobile Server.
 2. To enable **Decode all frames upon motion detection**, you must enable **Only decode key frame when source is IP device** first.
-

Chapter 4 Configuring the Channel

4.1 Setting the Individual Channel

For each individual channel, you can set up two streams, each with different frame rates, video qualities, codec and resolutions. The maximum resolution supported for a stream is D1 (704 x 480).

Note: The maximum resolution supported for Stream 1 of GV-IP Device with H.264 selected is 704 x 480. When selecting **Connect to stream 2** and H.264, since the stream 2 is used for decoding, the maximum resolution is 640 x 480.

1. In the left menu, click a camera channel. The setting page for that camera appears.

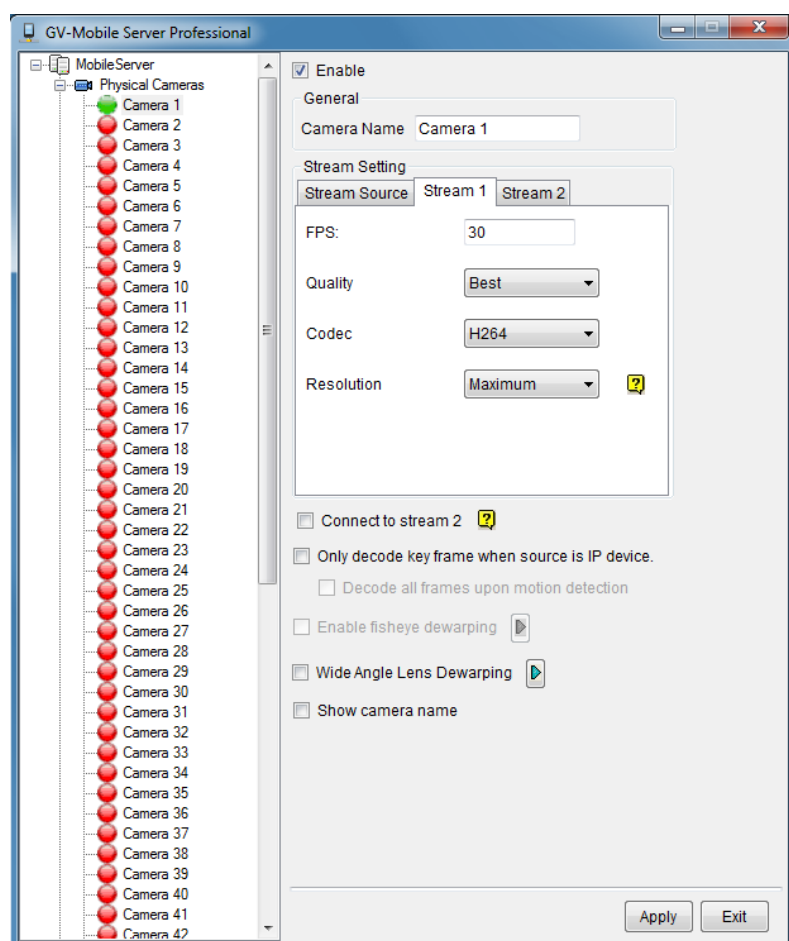


Figure 4-1


2. Type a name to describe the camera in the **Camera Name** field (Max. 31 characters).

3. Under Stream Setting, the following settings are available for the **Stream 1** and **Stream 2**. When a client connects to any stream of the camera, the settings will be applied to the transmitted camera view.

- **FPS:** Specifies the frames per second.
- **Quality:** Set the image quality to **Best**, **Better** or **General**.
- **Codec:** Select a codec type from **H.264**, **MPEG4** or **H.265**. To select **H.265**, first select **Bypass** to receive and distribute H.265 video stream without decoding and encoding on GV-Mobile Server.

Note: For the codec of both Stream 1 and Stream 2, if you select **MPEG4**, the resolution will be 640 x 480, 320 x 240, and 160 x 120.

- **Resolution:** Select a resolution.
 - When **Maximum** is selected, the resolution will be D1. When connecting to stream 2 of GV-IP Device, the Maximum will be VGA. If the camera's maximum resolution is lower than D1 or VGA, the maximum resolution will be applied.
 - When **Bypass** is selected, the original resolution and codec received by GV-Mobile Server will be applied. Note that fisheye dewarping is not supported when **Bypass** is selected. The **Bypass** option is only available for stream 1.
4. Click **Apply**.
5. In the left menu, right-click a camera channel to access the options below:
- **View Encode Stream 1:** Watch the camera view according to the settings you specify in step 3 for stream 1.
 - **View Encode Stream 2:** Watch the camera view according to the settings you specify in step 3 for stream 2.

6. Camera images can sometimes appear curved toward the edges of the view. To correct the distortion towards the edge of the camera view, select **Wide Angle Lens Dewarping**. To enable this function, do not select **Bypass** in the resolution drop-down list of Stream 1.
 - A. Select **Wide Angle Lens Dewarping** and click the  button. This dialog box appears.

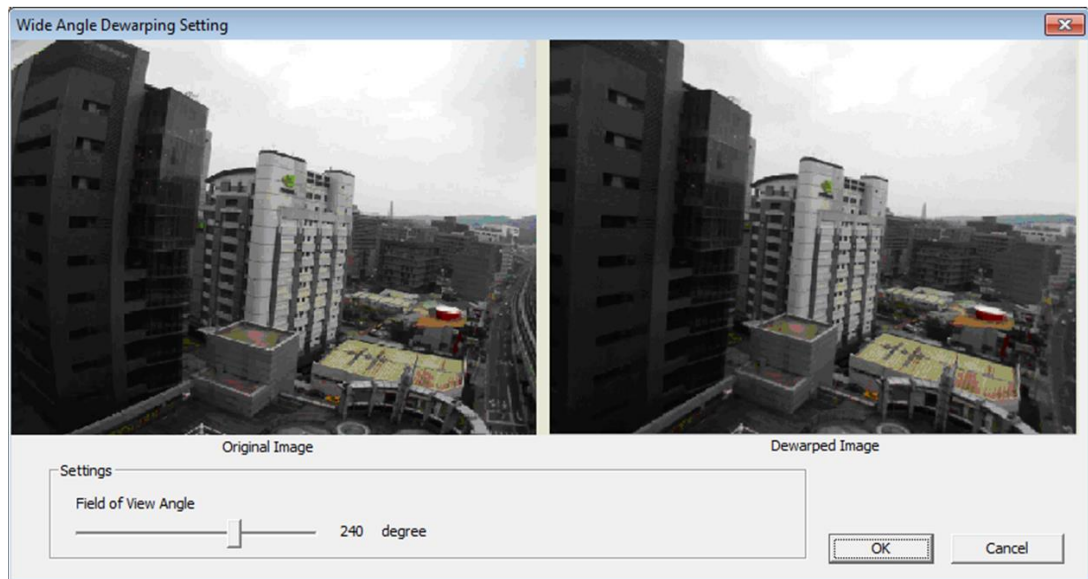


Figure 4-2

- B. Move the slider to adjust the degree of warping. The adjusted view is shown on the right.
- C. Click **OK**.
- D. Click **Apply**.
- E. Right-click a camera channel, select **View Encoded Stream 1** or **View Encoded Stream 2** to view the dewarping effect.

4.2 Setting the Matrix Channel

On GV-Mobile Server, you can set up to four matrix channels, each with up to 36 cameras. You can also change the parameters (frame rates, codec video quality, and resolution) for a channel's first and second streams. The maximum resolution supported by a matrix channel is 1.3 MP (1280 x 1024).

To Set up the Matrix

1. In the left menu, click a matrix channel. This window appears.

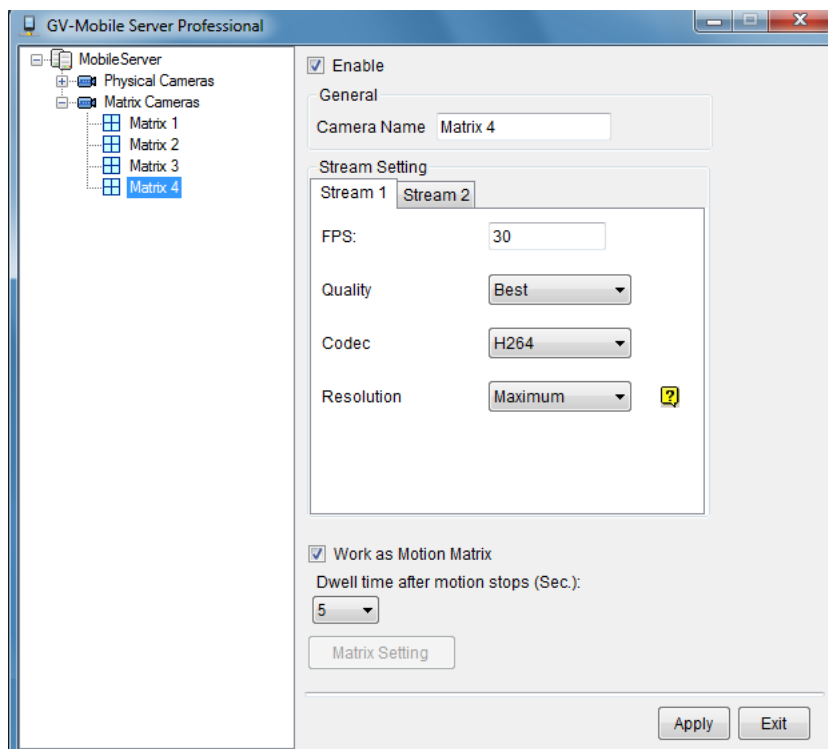


Figure 4-3

2. Complete the settings for **Stream 1** and **Stream 2** of the matrix channel. When a client connects to any stream of the matrix channel, the settings will be applied to the transmitted matrix view. Refer to *Setting Individual Channel* section above for details.

Note:

1. When Maximum is selected, the resolution of the matrix channel will be 1.3 M.
 2. Matrix only supports the codec of H.264 and MPEG4 for encoding.
-

3. Click the **Matrix Setting** button to arrange the matrix. This Video Mix Editor window appears.
4. Select a screen division and select the display ratio. The display ratio selected will be applied to the matrix view in GV-Mobile Server.

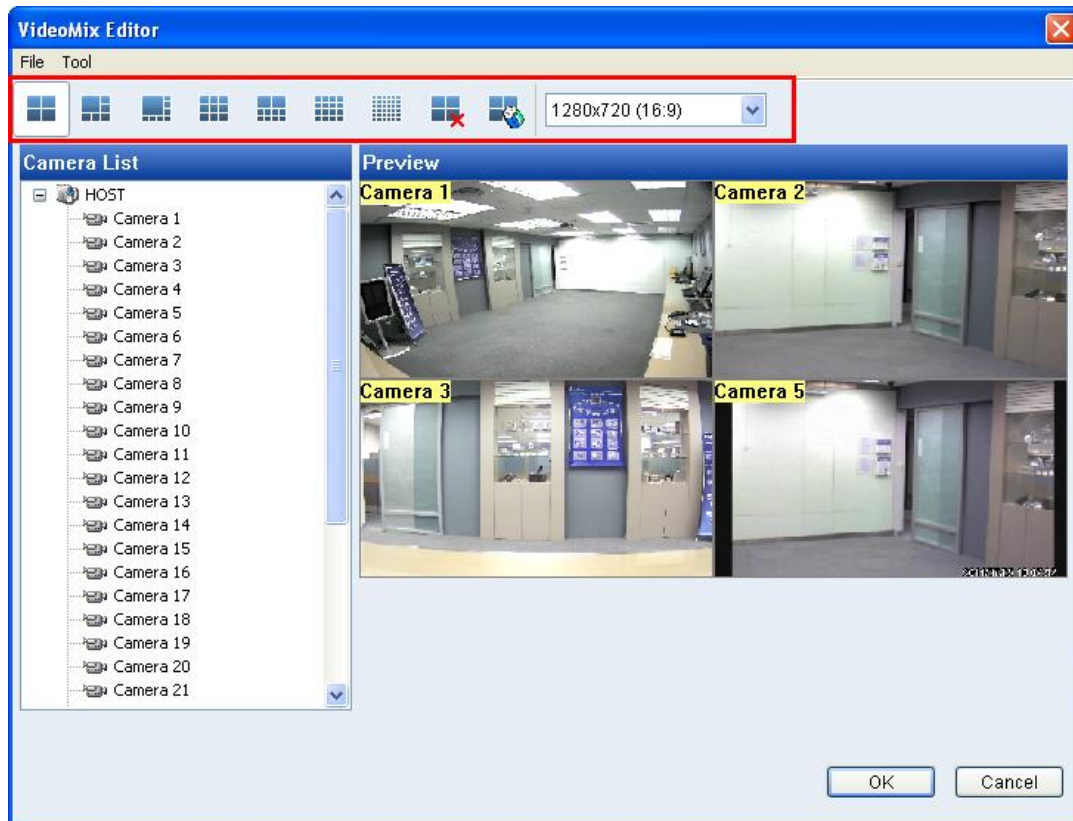


Figure 4-4

5. Drag and drop cameras from the Camera List to the desired positions on the divisions.
6. Click **OK** and then click **Apply**.
7. In the left menu, right-click the Matrix channel to access the options below:
 - **View Encode Stream 1:** Watch the matrix view according to the settings you specify in step 2 for stream 1.
 - **View Encode Stream 2:** Watch the matrix view according to the settings you specify in step 2 for stream 2.

To Set up Motion Popup for Matrix View

In Matrix 4, a **Matrix Motion** function is supported to pop up live view on matrix view when a motion is detected. Follow the below steps to enable this function:

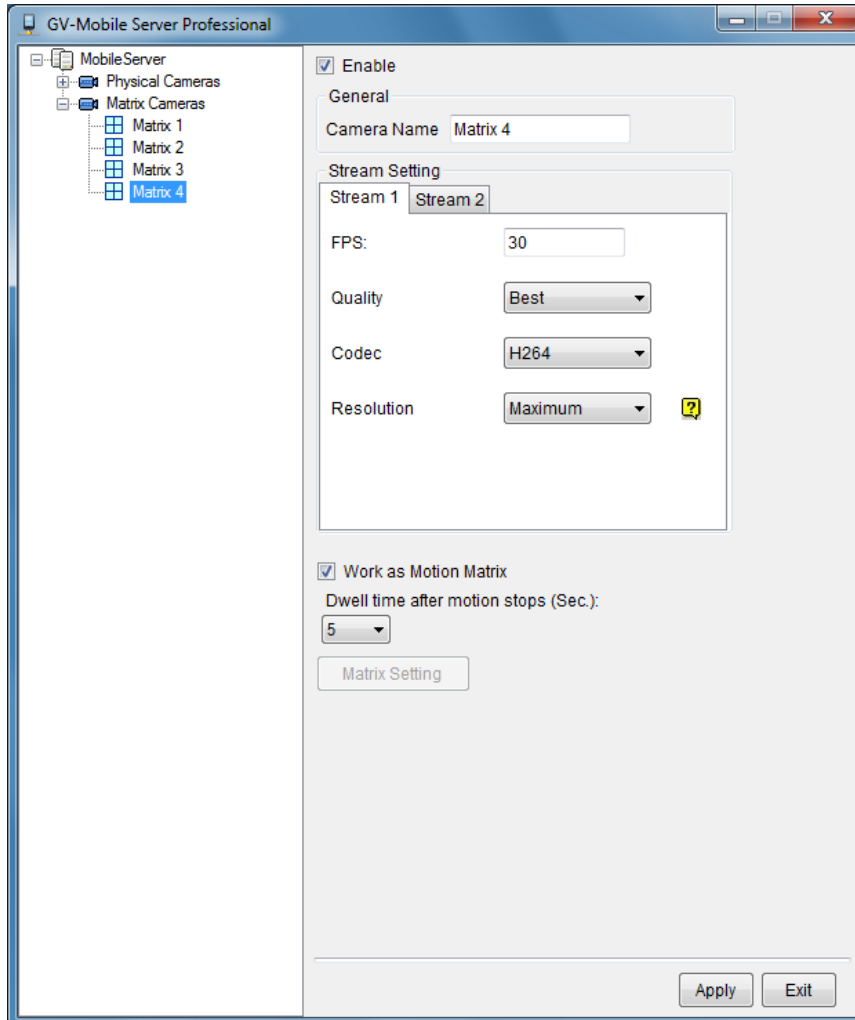


Figure 4-5

1. In the left menu, click **Matrix 4**.
2. Complete the settings for **Stream 1** and **Stream 2** of the matrix channel. When a client connects to any stream of the matrix channel, the settings will be applied to the transmitted matrix view. Refer to *4.1 Setting the Individual Channel* section above for details.
3. Select **Work as Matrix Motion** to pop up live view on the matrix view upon motion.
4. Click the **Dwell time after the motion stops** drop-down list to set the time to remain the live view after the motion stops.

Note:

1. When you enable Work as Matrix Motion, the Matrix Setting button will be grayed out because all the channels are added to the Matrix to detect motion.
 2. Matrix Motion only supports a quad view.
-

Chapter 5 Accessing the Live View

5.1 Using GV-IP Decoder Box Series / GV-Pad

There are two ways to access GV-Mobile Server channels from GV-IP Decoder Box series / GV-Pad:


- To add channels **one by one**, see *Displaying Channels by Browsing* in this section.
- To add **multiple channels** at a time, *Displaying Channels Using GV-IP Device Utility* in this section.

Note: The GV-Mobile Server, GV-IP Decoder Box series / GV-Pad and GV-IP Device Utility must be installed under the same LAN.

IMPORTANT: The camera login credentials for the GV-IP Decoder Box series / GV-Pad must match those of the GV-Mobile Server. If you have changed the GV-Mobile Server's default ID and password "admin", you must first change the camera username and password on the GV-IP Decoder Box series / GV-Pad before connecting to the cameras from GV-Mobile Server. Below is the camera setting interface on GV-IP Decoder Box series:



To Access Channels by Browsing

1. On the GV-Mobile Server window (Figure 2-3), change the Command Port to **10000**.
2. On the main menu of GV-IP Decoder Box Series / GV-Pad, select the **Search Camera** icon  to search for GV-IP cameras, ONVIF cameras, and GV-Mobile Server under the same LAN.

3. Select a live view layout. Use the GV-IP Decoder Box Optimal interface as an example:



Figure 5-1

4. Drag and drop a camera from GV-Mobile Server to a live view grid. To select multiple cameras at a time, click **Select Multiple Cameras** at the top and select more than one camera from the camera list.

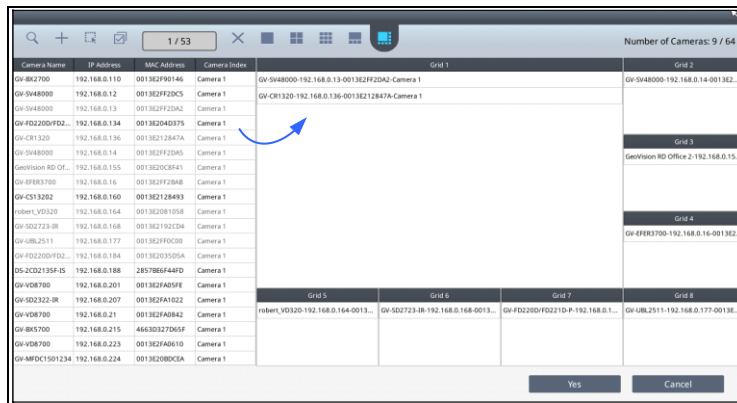


Figure 5-2

5. To change the camera settings, hold for right-clicking on a camera in the grid and select **Edit** to modify.
6. Click **Yes** to apply the settings.

The added camera channels will be displayed on the monitor and be looped at an interval of 30 seconds by default. To change the looping interval, hold for right-clicking on a camera and select **Edit**.

Note: The GV-IP Decoder Box Series supports Stream 1 and H.264 codec only.

To Access Channels Using GV-IP Device Utility

1. Run **GV-IP Device Utility** downloaded from [GeoVision's website](#). When started, the utility will automatically search for all GV devices under the same LAN.
2. Click on the IP address of your GV-IP Decoder Box, and select **Connect Setting**. A login window appears.

3. Type the username and password of your GV-IP Decoder Box, and click **OK**.

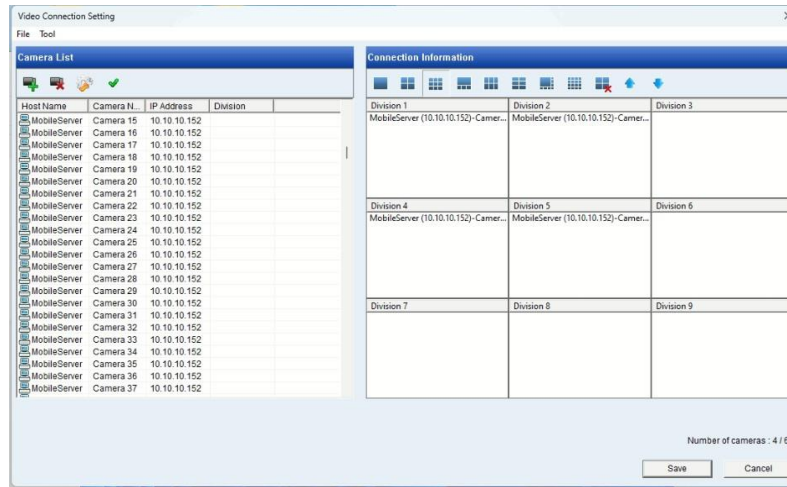





Figure 5-3

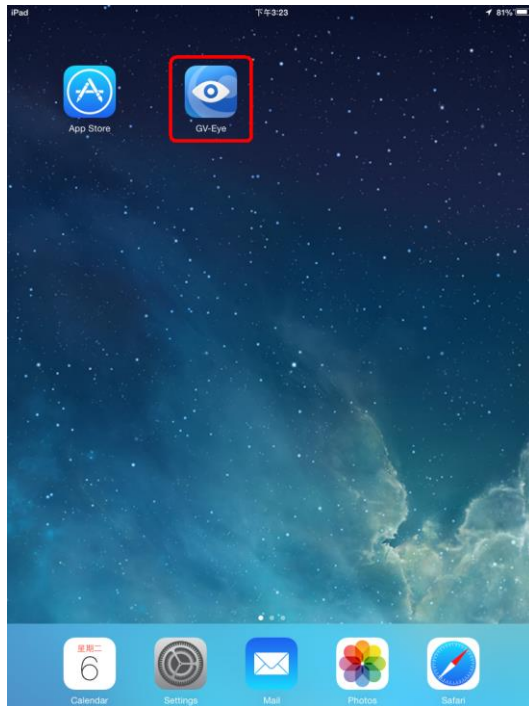
4. Use the Camera List toolbar to add, remove, or configure a camera in the Camera List.
5. Under Connection Information, select a live view layout.
6. Add cameras to the Connection Information divisions.
 - A. Drag and drop cameras from the Camera List to the Connection Information divisions.
 - B. Change camera display order using the **Move Up**  and **Move Down**  buttons.
 - C. To remove a selected camera, click the **Remove**  button.
7. Click **Save**.

The added camera channels will be displayed on the monitor and be looped at an interval of 30 seconds by default. To change the looping interval, hold for right-clicking on a camera and select **Edit**.

5.2 Using Mobile Devices

Follow the steps below to access GV-Mobile Server channels from an Android mobile device, iPhone, iPod Touch and iPad. For detailed instructions, see the latest document from the GeoVision's website: http://www.geovision.com.tw/english/5_4.asp

1. Download **GV-Eye** app from App Store. The **GV-Eye** icon appears on the desktop.



GV-Eye icon on iPad

Figure 5-5

2. Tap the **Add** button  to create connection.

3. Type the connection information, login username and password of the GV-Mobile Server.

< Add Device Save

Wifi Search ☐

[Scan QR code](#)

Device Info

Name Mobile Server

IP Address 192.168.0.146

WebPort 80

Port 55000

Username admin

Password •••••

Update Indexes

Max Index 68

Figure 5-6

- **Name:** Name the GV-Mobile Server.
- **IP Address:** Type the domain name or public IP address of the GV-Mobile Server.
- **Port:** Type the default port number 55000, or modify the port number to match the command port on the GV-Mobile Server.
- **Username:** Type the login username of the GV-Mobile Server. The default value is **admin**.
- **Password:** Type the login password of the GV-Mobile Server. The default value is **admin**.

4. Tap the **Update Device Info** button. The GV-Mobile Server is added to the connection list. Click the GV-Mobile Server on the list to access live images.

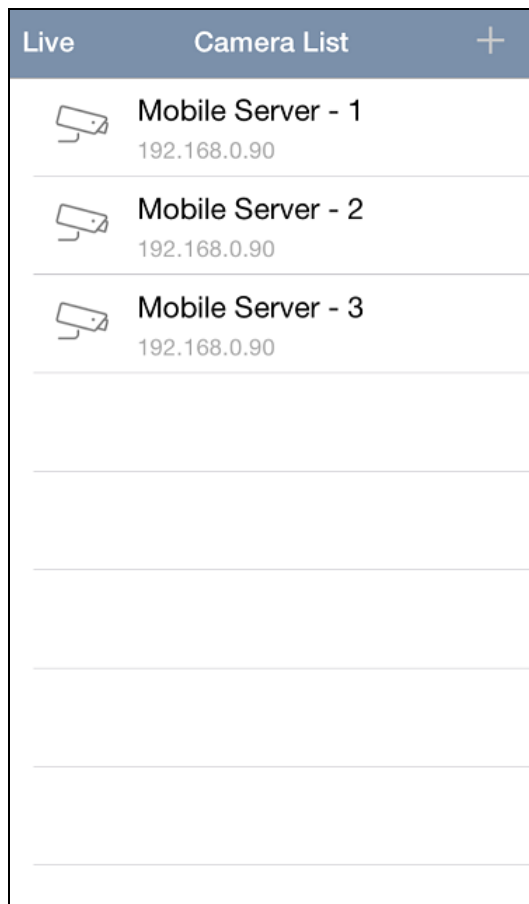


Figure 5-7

5.3 Using Third-Party Surveillance Software

To allow third-party software to connect to GV-Mobile Server through RTSP protocol, complete the settings below.

1. Click the **RTSP** tab. This window appears.

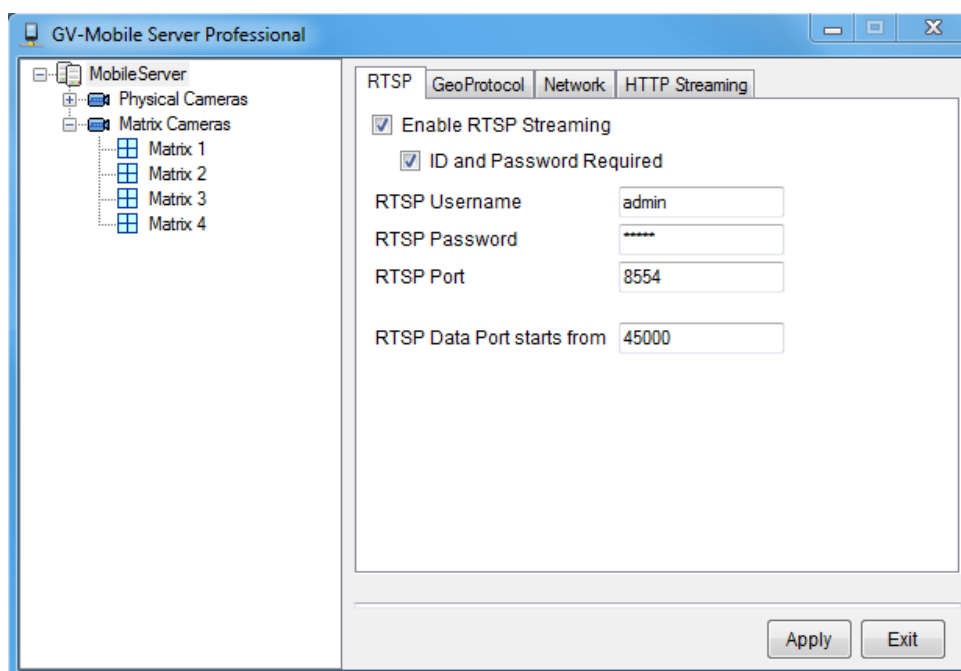


Figure 5-8

2. Click **Enable RTSP Streaming**.
3. For a more secure connection, select **ID and Password Required** and type an **RTSP Username** and **RTSP Password**.
4. Modify the default **RTSP Port** 8554 if necessary. By default, RTSP data port starts from 45000.
5. Click **Apply**.

Use the RTSP commands below to connect:

No ID and password required:

rtsp://<IP of the GV-Mobile Server>:<Port>/<CamNo_StreamNo>

For example, **rtsp:// 192.168.3.111:8554/cam1_stream2**

ID and password required:

rtsp://<ID>:<Password>@<IP of the GV-Mobile Server>:<Port>/<CamNo_StreamNo>

For example, **rtsp://admin:1234@192.168.3.111:8554/cam1_stream2**

Note: The 4 matrix channels can be accessed using camera number 65 to 68. For example, the RTSP command for the second matrix channel may be

rtsp://admin:1234@192.168.3.111:8554/cam65_stream1

To create a matrix channel, see *4.2 Setting Matrix Channels*.

5.4 Using Non-IE Browsers

You can watch live view in MJPEG codec using non-IE browsers such as Google Chrome, Firefox and Safari. This function is also supported to see live view through iPhone, iPod Touch, or iPad.

To Enable MJPEG Stream

1. Click the **Http Streaming** tab. This window appears.

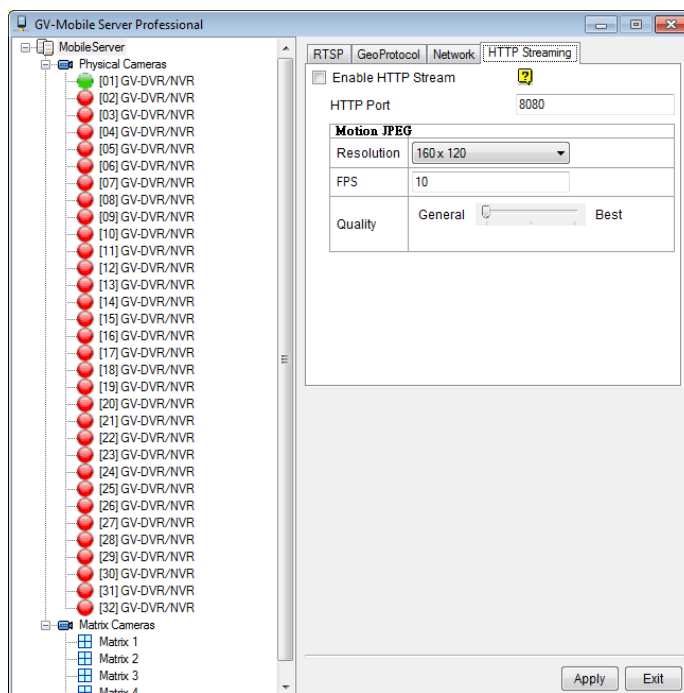


Figure 5-9

2. Select **Enable HTTP Stream**.
3. Modify the default **HTTP Port** 8080 if necessary.
4. Set the **Resolution** using the drop-down list.
5. Set an **FPS** from 1-30 fps and **Quality** to **General**, **Medium** or **Best**.
6. Click **Apply**.

After completing the setting, you can now use the address below to access live view with non-IE browsers:

http://<GV-Mobile Server IP>:<Http Port>/app/mj.html

For example, **http://127.0.0.1:8080/app/mj.html**

To Enable HTTP Live Streaming on iPhone, iPad or iPod Touch

1. On your device, tap the **Safari** browser on the main page.

2. Use the address below to access live view:

http:// <GV-Mobile Server IP>:<Http Port>/app/list.html

For example, **http://127.0.0.1:8080/app/list.html**

3. When your device is successfully connected to the GV-Mobile Server, this page appears.

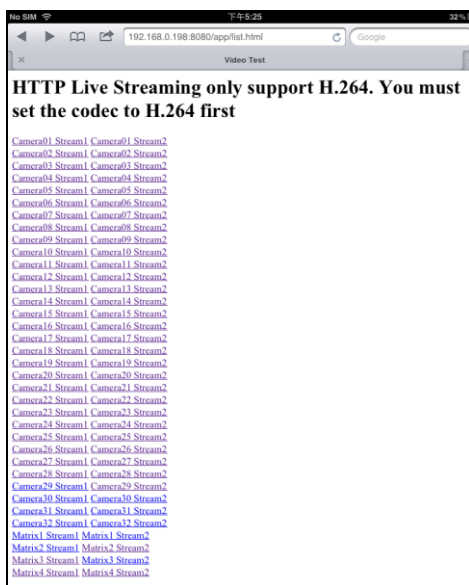


Figure 5-10

4. Click the camera channel to see live view. This page appears.

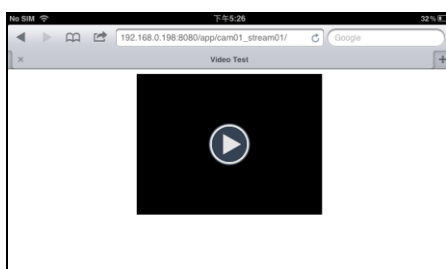


Figure 5-11

5. Tap the play icon to start live viewing.

Chapter 6 GV-Dynamic DNS Service

The GV-Dynamic DNS is an application that allows you to register domain names that always point to your GV-Mobile Server. This application is only necessary when your GV-Mobile Server is using a dynamic IP address. GV-Dynamic DNS will update GV-Mobile Server's IP address to DNS Server every 10 minutes. Therefore, even if your GV-Mobile Server's IP address changes, you can still locate it by using the registered domain name.

Note: GV-Dynamic DNS uploads IP addresses over the Internet through ports 80 and 81. If your GV-Mobile Server is connected behind a router or firewall, make sure ports 80 and 81 are enabled. Dynamic DNS will only upload global IP addresses. If your GV-Mobile Server is using virtual IP, NAT port mapping should be done first.

IMPORTANT: The GV-Dynamic DNS service is provided purely as a favor to you. We hope it simplifies the process of trying to connect an IP video device to the network. GeoVision does not and cannot warrant that the DDNS service will be uninterrupted or error free. Please read Terms of Service carefully before using the service. Besides GeoVision, you can also obtain the free DDNS service from these providers: DynDNS.org and No-IP.com.


6.1 Installing Dynamic DNS

You can install Dynamic DNS from the Software DVD or GeoVision Website.

Installing from Software DVD

1. Insert the Software DVD to your computer. It runs automatically, and a window appears.
2. Click **Install GeoVision Supplemental Utilities**.
3. Click **GV-Dynamic DNS Service V2**, and follow the on-screen instructions.

Downloading from GeoVision Website

1. Go to the Software Download and Upgrading page of GeoVision Website:
http://www.geovision.com.tw/english/5_8_VMS.asp.
2. To install Dynamic DNS, find the **Supplemental Utilities** section and click the **Download** icon  of **GV-Dynamic DNS Service**.

Supplemental Utilities	
Product	
GV-Audio Broadcast	Allows a host to speak to other hosts using the same broadcast IP address within LAN.
GV-Authentication Server	Manages the account and password of multiple DVR/NVR systems.
GV-Backup Viewer	Accesses the recordings and log data backed up at the storage system from a remote PC.
GV-Bandwidth Control Client Site	Controls and monitors the network traffic of the WebCam servers.
GV-Dynamic DNS Service	Uses a registered domain name to access GeoVision products with dynamic IP addresses.
GV-E-Map Server	Allows you to create multiple e-maps for GV IP devices and DVR/NVR systems.

Figure 6-1

6.2 Registering Domain Name with DDNS

1. Run **DNSClientV2.exe**. This dialog box appears.

DNSClient V2

Hostname:
 [Ex: xxxxxx.gvdip.com]
 Please ensure your hostname which may be .gvdip[xx].com. xx may be from 01 to 99.

Password:

☒ Obtain an IP address automatically
☐ Use the following IP address

127 . 0 . 0 . 1

☒ Run at startup

Email Setting Save

Register

Figure 6-2

2. Click **Register**. The register page appears.

GV-Dynamic DNS Service V2

Register

Username:

Password:

Re-type Password:

Enter the characters as they are shown in the box below.

Word Verification

This step helps us prevent automated registrations.

Send Refresh

Figure 6-3

3. Type a username. The username can be up to 16 characters. The username accepts “a ~ z”, “0~9”, and “-”, but does not accept space or “-” as the first character.
4. Type a password. The password is case-sensitive and must be at least 6 characters. Re-type the password for confirmation.
5. In the Word Verification section, type the code within the box. In this example, the code you should enter is 4NCXRC. Word verification is not case-sensitive.
6. Click the **Send** button. The following message appears.

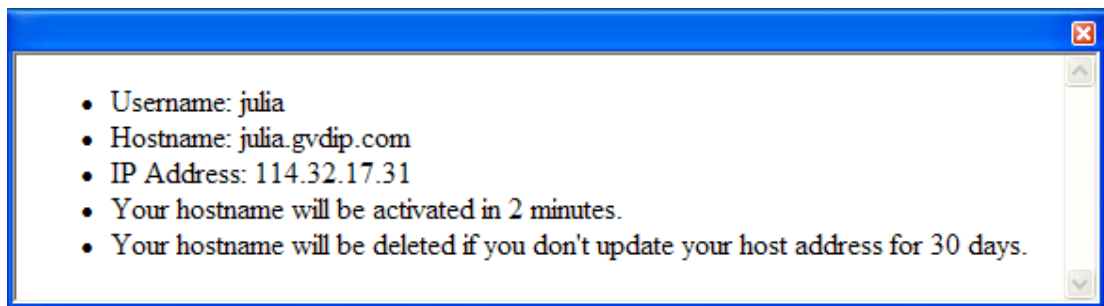


Figure 6-4

- **Username:** The username you registered. In this example the username is “julia”.
- **Hostname:** The hostname you created. Hostname is made by registered username and “gvdip.com”. In this example, the hostname is “http://julia.gvdip.com”. This will be the domain name used to log into GV-Mobile Server.
- **IP Address:** Your GV-Mobile Server’s current IP address. This IP address is updated every 10 minutes.

Note:

1. Before you can register a domain name with Dynamic DNS Service provided by GeoVision, it is required to run GV-Mobile Server in the background.
 2. If you install and use Dynamic DNS Service from the software DVD of GV-DVR / NVR, make sure your GV-DVR / NVR is of V8.5.6 or later.
-

6.3 Starting Dynamic DNS

After registering a domain name with GV-Dynamic DNS, you can enable the DDNS function on the GV-Mobile Server. Run **DDNSClientV2.exe** from the Windows Start menu and make sure GV-Mobile Server is also running in the background. This dialog box appears.

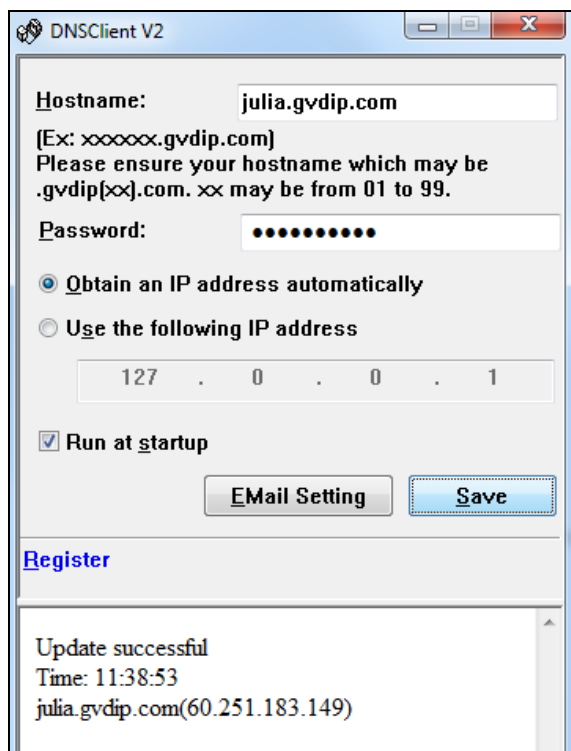


Figure 6-5

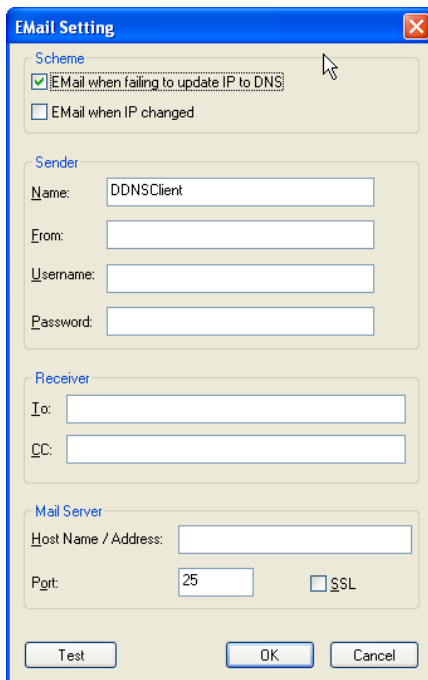
- **Username:** Type the username used to enable the service from the DDNS.
- **Password:** Type the password used to enable the service from the DDNS.
- **Obtain an IP address automatically:** The DDNS server will use any available IP address from GV-Mobile Server or the router.
- **Use the following IP address:** If your GV-Mobile Server or router has more one IP address, you can assign one IP address for the connection. It is highly suggested to assign the fixed IP address. If the assigned IP address is dynamic, the DDNS will not be able to access your GV-Mobile Server when the IP address is changed.
- **Run at startup:** Select this option to automatically run DDNS service at Windows startup.
- **E-mail Setting:** See *Setting up E-mail Notification* later.

After completing the settings above, click **Save**. The connection information will be displayed.

Note: The DNS Client will not upload IP address unless GV-Mobile Server is running. If the IP address of your GV-Mobile Server is not updated for more than 30 days, your host name will be deleted automatically.

Setting up E-mail Notification

You can set up E-mail settings to receive e-mail notification. In the DNS Client V2 dialog box, click **E-mail Setting**. The E-mail Setting dialog box appears.



The E-mail Setting dialog box is titled "E-mail Setting" and contains the following sections:

- Scheme:**
 - ☒ EMail when failing to update IP to DNS
 - ☐ EMail when IP changed
- Sender:**
 - Name: DDNSClient
 - From: [Empty text box]
 - Username: [Empty text box]
 - Password: [Empty text box]
- Receiver:**
 - To: [Empty text box]
 - CC: [Empty text box]
- Mail Server:**
 - Host Name / Address: [Empty text box]
 - Port: 25
 - ☐ SSL

At the bottom, there are three buttons: Test, OK, and Cancel.

Figure 6-6

[Scheme] Select to receive e-mail notification when failed to update IP to DDNS or when IP has changed.

[Sender] Type the name, e-mail address, username and password of the sender.

[Receiver] Type the recipient's e-mail address. For multiple recipients, add a semicolon between each e-mail address.

[Mail Server] Type the host name or address of your mail server. You can keep the default port 25 or type your own if the mail server uses a different port. Select **SSL** if your e-mail server requires the SSL authentication for connection.

Click the **Test** button to send a test e-mail and see whether the setup is correct.

Chapter 7 Setting Up the Router

Your GV-Mobile Server and other devices may be installed on a local area network (LAN), with a router connected to a broadband modem, as illustrated below. The router will typically assign private IP address to the connected devices such as 192.168.x.x. You cannot see the devices outside from the Internet by using the private IP address 192.168.x.x. What you use on the Internet is the public IP address from the ISP, which is the IP address of your router.

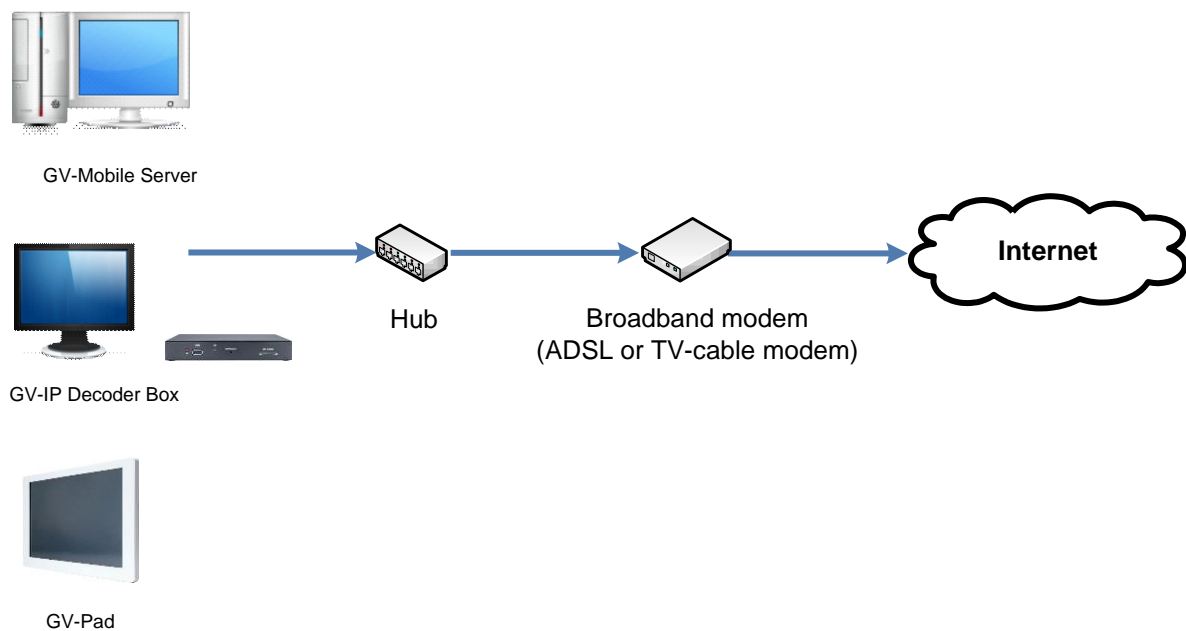


Figure 7-1

7.1 Registering a Domain Name for the Router

If your router is receiving a dynamic IP address from the ISP, you may register a domain name linking to the ever-changing IP address of the router. Most broadband routers support a dynamic DNS service such as www.dyndns.org. Check your router's Web interface and document for the Dynamic DNS settings.

The following example is the **Dynamic DNS** settings on the D-Link DIR-825 router. The dynamic IP address of the router will be always directed to the domain name: **mobileserver.dlinkddns.com**.



DIR-825	SETUP	ADVANCED	TOOLS	STATUS	SUPPORT
ADMIN TIME SYSLOG EMAIL SETTINGS SYSTEM FIRMWARE DYNAMIC DNS SYSTEM CHECK SCHEDULES English	<h3>DYNAMIC DNS</h3> <p>The DDNS feature allows you to host a server (Web, FTP, Game Server, etc...) using a domain name that you have purchased (www.whateveryournameis.com) with your dynamically assigned IP address. Most broadband Internet Service Providers assign dynamic (changing) IP addresses. Using a DDNS service provider, your friends can enter your host name to connect to your game server no matter what your IP address is.</p> <p>Sign up for D-Link's Free DDNS service at</p> <p> <input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/> </p> <h4>DYNAMIC DNS</h4> <p>Enable Dynamic DNS : <input checked="" type="checkbox"/></p> <p>Server Address : <input type="text" value="www.dlinkddns.com(Free)"/> <input type="button" value="Select Dynamic DNS Server"/></p> <p>Host Name : <input type="text" value="mobileserver.dlinkddns.com"/></p> <p>Username or Key : <input type="text" value="mobileserver"/></p> <p>Password or Key : <input type="password" value="....."/></p> <p>Verify Password or Key : <input type="password" value="....."/></p> <p>Timeout : <input type="text" value="576"/> (hours)</p> <p>Status : Disconnect</p>				<h4>Helpful Hints ...</h4> <p>To use this feature, you must first have a Dynamic DNS account from one of the providers in the drop down menu.</p> <p>More...</p>

Figure 7-2

Note: Another alternative is to purchase a fixed public IP address from your ISP.

7.2 Opening Ports on the Router

To have more features of GV-Mobile Server, you need to open the following ports on the router.

Port type	Value	Description
HTTP	8080	To access live view with non-IE browsers. For details see <i>5.5 Using Non-IE Browsers</i> .
RTSP	8554	To access live view with third-party surveillance software. For details see <i>5.4 Using Third-Party Surveillance Software</i> .
Command	55000	To access live view with mobile phone viewers. For details see <i>5.1 Using GV-IP Decoder Box Series / GV-Pad</i> , <i>5.2 Using iPhone / iPod Touch / iPad</i> , <i>5.3 Using Android Smartphone / Tablet</i> .

In the following example of D-Link DIR-825 router, the port forwarding settings are in the **Advanced** tab. We correlate the public ports (HTTP, RTSP and Command ports) with the private IP address of the GV-Mobile Server (192.168.0.100).

DIR-825 // SETUP ADVANCED TOOLS STATUS SUPPORT

VIRTUAL SERVER

The Virtual Server option allows you to define a single public port on your router for redirection to an internal LAN IP Address and Private LAN port if required. This feature is useful for hosting online services such as FTP or Web Servers.

Save Settings Don't Save Settings

24 -- VIRTUAL SERVERS LIST

	Name	IP Address	Port	Traffic Type	Schedule
<input checked="" type="checkbox"/>	Mobile Server-HTTP	192.168.0.100	8080	TCP	Always
<input checked="" type="checkbox"/>	Mobile Server-RTSP	192.168.0.100	8554	TCP	Always
<input checked="" type="checkbox"/>	Mobile Server-Comm	192.168.0.100	55000	TCP	Always

Helpful Hints ...

Check the **Application Name** drop down menu for a list of predefined server types. If you select one of the predefined server types, click the arrow button next to the drop down menu to fill out the corresponding field.

You can select a computer from the list of DHCP clients in the **Computer Name** drop down menu, or you can manually enter the IP address of the computer at which you would like to open the specified port.

Select a schedule for when the virtual server will be enabled. If you do not see the schedule you want in

Figure 7-3

[Non-IE browsers]

After you open HTTP port 8080 on the router, you can use the address below to access live view with non-IE browsers:

http://<Router's IP or domain name>:<Http Port>/app/mj.html

For example, **http://mobileserver.dlinkddns.com:8080/app/mj.html**

[RTSP command]

After you open RTSP port 8554 on the router, you can use the command below to access live view:

No ID and password required:

rtsp://< Router's IP or domain name >:<Port>/<CamNo_StreamNo>

For example, **rtsp://mobileserver.dlinkddns.com:8554/cam1_stream2**

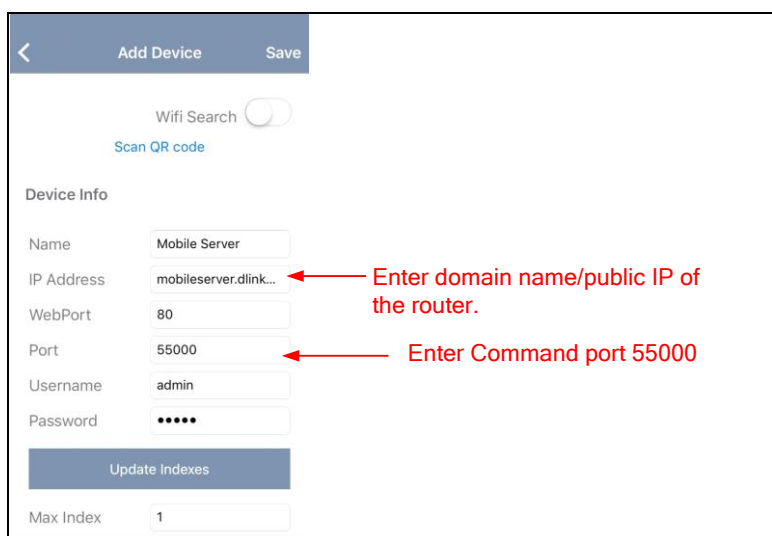
ID and password required:

rtsp://<ID>:<Password>@<IP of the GV-Mobile Server>:<Port>/<CamNo_StreamNo>

For example, **rtsp://admin:1234@mobileserver.dlinkddns.com:8554/cam1_stream2**

[Mobile Phone Viewer]

After you open Command port 55000 on the router, you can use the GV mobile phone viewer to access live view. We use the **GV-Eye** login page to illustrate how to enter the IP address and port value. For details see *5.2 Using iPhone / iPod Touch / iPad*.



The screenshot shows the 'Add Device' screen in the GV-Eye mobile app. At the top, there are buttons for '<', 'Add Device', and 'Save'. Below these is a 'Wifi Search' toggle switch and a 'Scan QR code' link. The 'Device Info' section contains the following fields:

- Name: Mobile Server
- IP Address: mobileserver.dlink... (with a red arrow pointing to it and the text 'Enter domain name/public IP of the router.')
- WebPort: 80
- Port: 55000 (with a red arrow pointing to it and the text 'Enter Command port 55000')
- Username: admin
- Password: •••••
- Update Indexes button
- Max Index: 1

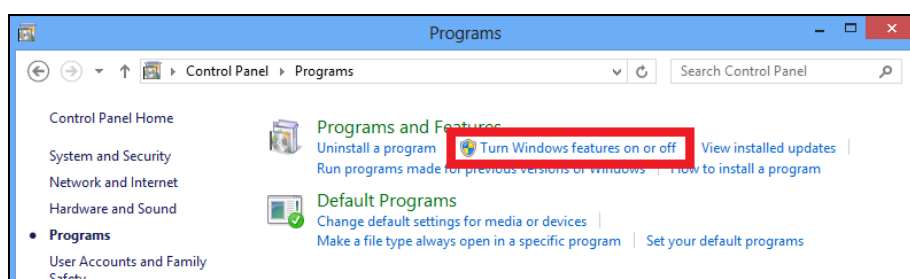
Figure 7-4

Appendix

A. Installing .Net Framework 3.5 for Windows 10

Follow the steps below to manually install **.Net Framework 3.5** for Windows 10.

1. Click **Control Panel** from the Start menu.
2. Click the **Programs** icon.
3. Select **Turn Windows features on or off** under the Programs and Features title.



4. Select **.Net Framework 3.5 (includes .Net 2.0 and 3.0)** and click the **OK** button.

