GeoVision inc
The Vision of Security

Quick Start Guide

GV-Mobile Server V1.5.1

Thank you for purchasing GV-Mobile Server. This guide is designed to assist the new user in getting immediate results from the GV-Mobile Server. For advanced information on how to use the GV-Mobile Server, please refer to *GV-Mobile Server User's Manual* on our website.

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English
MBSV151-QG-A

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[Warranty]

[Technical Support Policy]

Contents

1. Introduction

Welcome to the *GV-Mobile Server Quick Start Guide*. In the following sections, you will learn about the basic installations and configurations. For more details, see *GV-Mobile Server User's Manual*.

Note: To upgrade GV-Mobile Server, see the instructions in *Note for Upgrading GV-Mobile Server*, *GV-Mobile Server User's Manual*.

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.

1.3 Software License

Free License	When installed and executed on the same server with 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.	

1.4 Compatible GV-IP Device & GV-Software

- **GV-IP Camera:** V1.09 or later
- **GV-Pad:** V1.07 or later
- **GV-IP Decoder Box:** V1.07 or later
- **GV-IP Decoder Box Plus:** V1.01 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-Eye:** V2.0 or later
- **GV-Recording Server / GV-Video Gateway:** V1.1.0.0 or later
- **GV-DVR / NVR:** V8.5.3 or later
- **GV-VMS:** V14.10 or later

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. You can install the USB driver and the GV-Mobile Server from Software DVD or GeoVision Website.

Installing from Software DVD

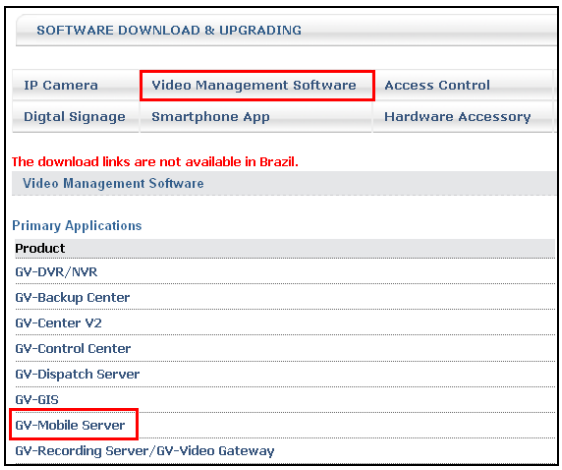
1. Insert Software DVD to the computer. It runs automatically and a window appears.
2. To install USB driver, select **Install or Remove GeoVision GV-Series Driver**.
3. To install .Net Framework 3.5, select **Download Microsoft .NET Framework 3.5**.
4. To install GV-Mobile Server, select **Install GeoVision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

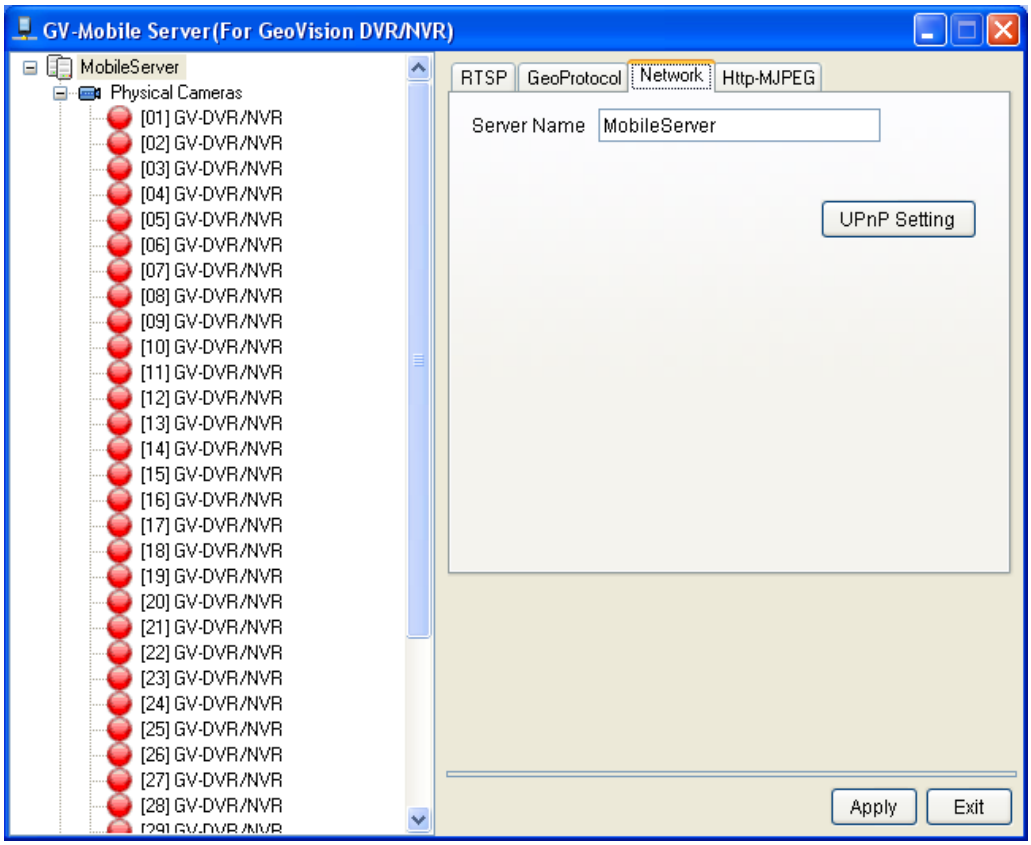


4. To download and install .Net Framework 3.5, go to: http://www.microsoft.com/en-us/download/details.aspx?id=21.

Note: If you are using Windows 10, see *How to install .Net Framework 3.5 for Windows 10* in *Appendix*, *GV-Mobile Server User's Manual*.

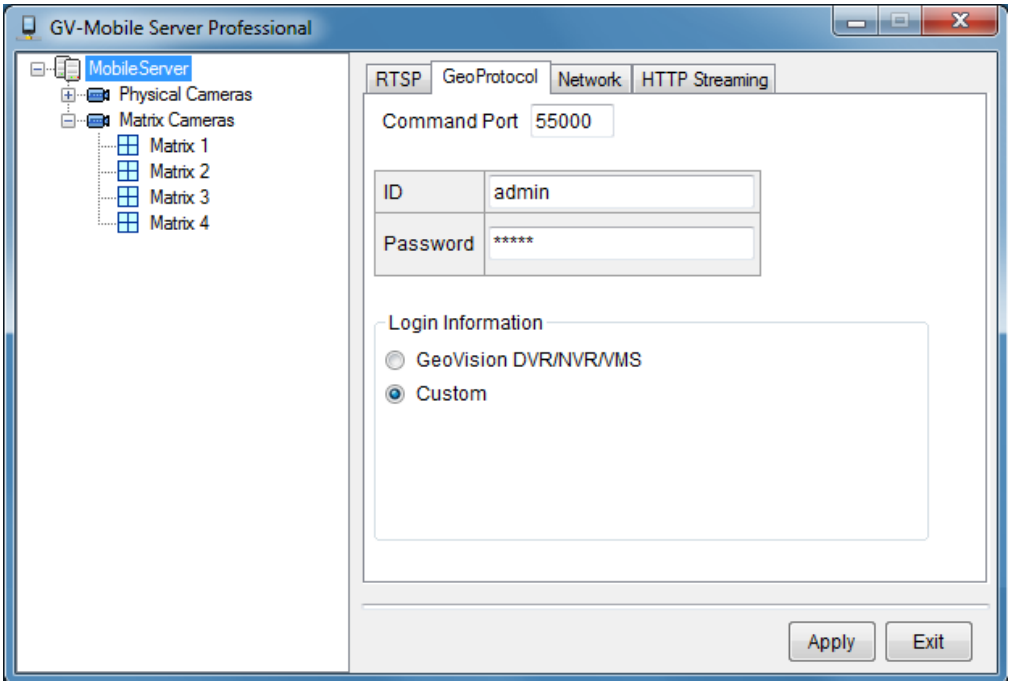
2.2 Starting the GV-Mobile Server

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.



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.

5. By default, the ID and password for logging in 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.



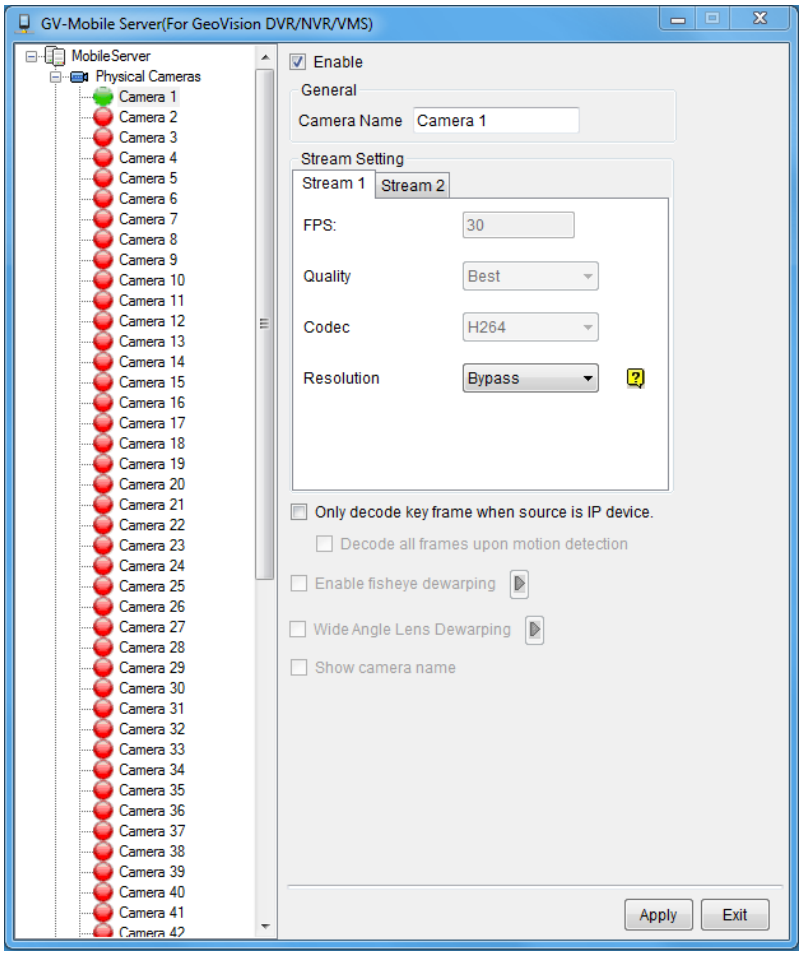
6. Click **Apply**.

3. Establishing Connections

3.1 Connecting to GV-DVR / NVR / VMS

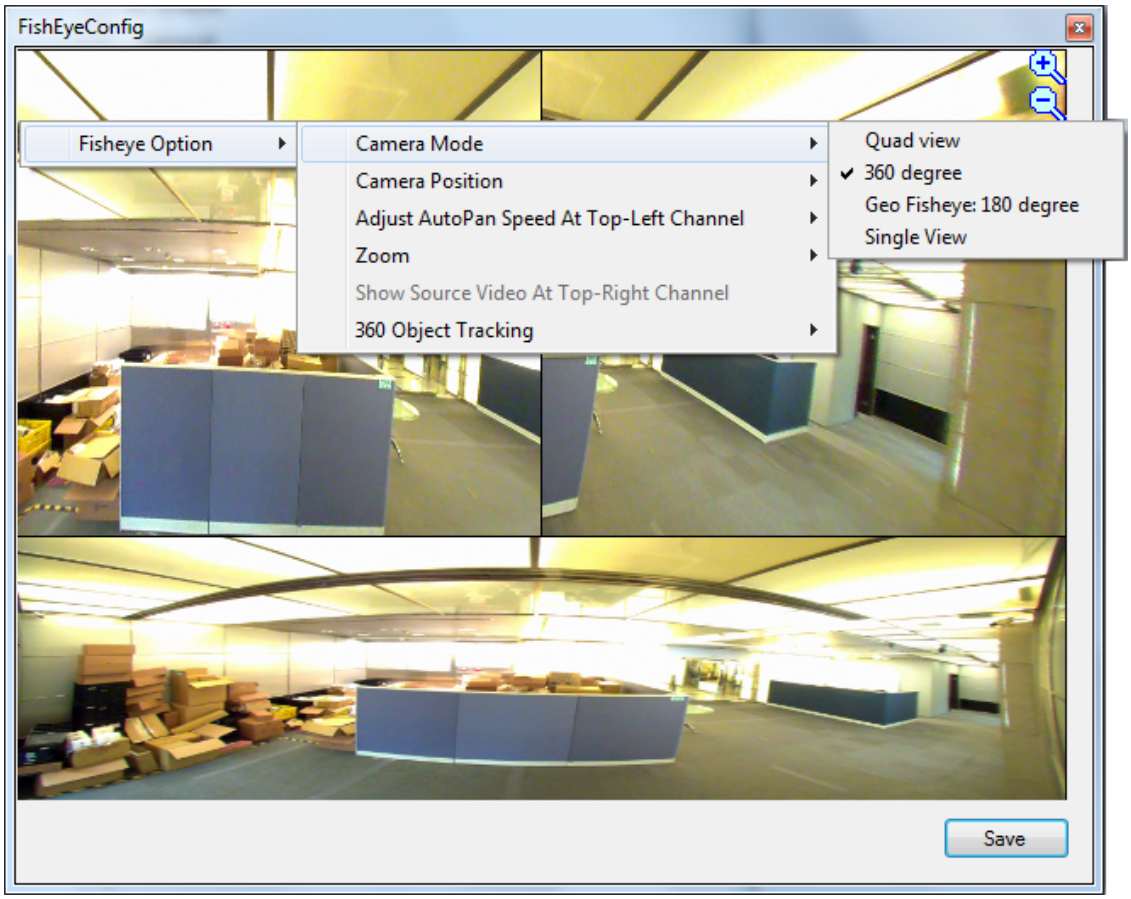
The GV-Mobile Server can encode up to 32 channels from GV-DVR / NVR or up to 64 channels from GV-VMS. To configure connection to GV-DVR / NVR / VMS:

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



2. Type a name to describe the camera in the **Camera Name** field (Max. 31 characters).
3. Select **GV-DVR / NVR** for **Brand**.
4. 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**.

5. 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 fisheye settings.



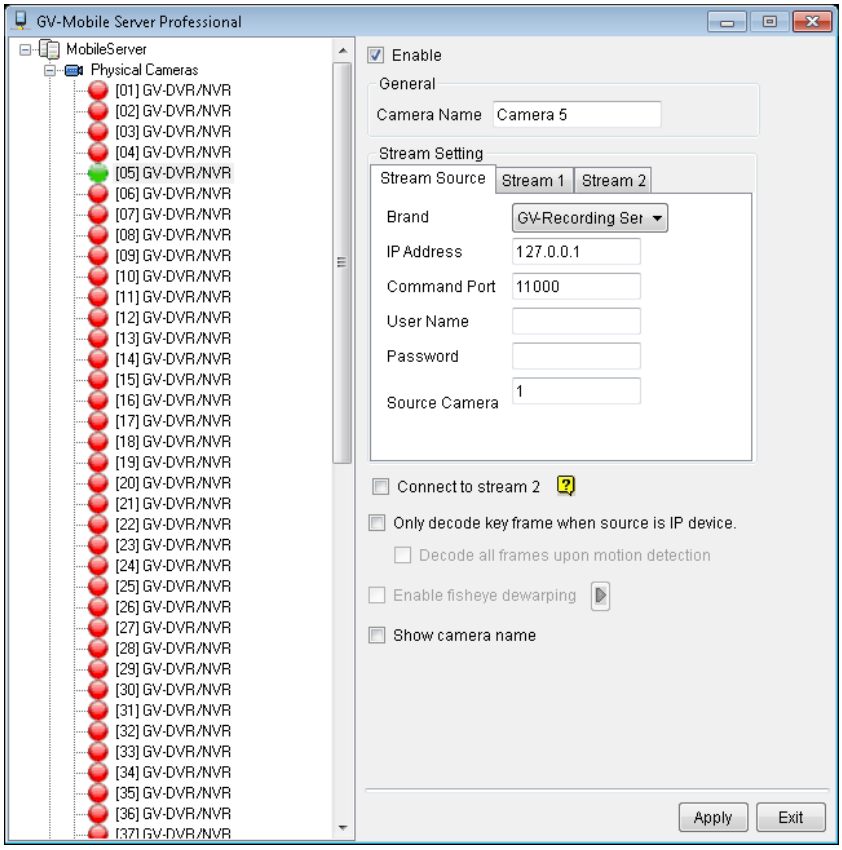
6. To show the camera name specified in Step 2 on the live view, select **Show camera name**.
7. Click **Apply**.

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.

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

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



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.
7. To show the camera name specified in Step 2 on the live view, select **Show camera name**.
8. Click **Apply**.

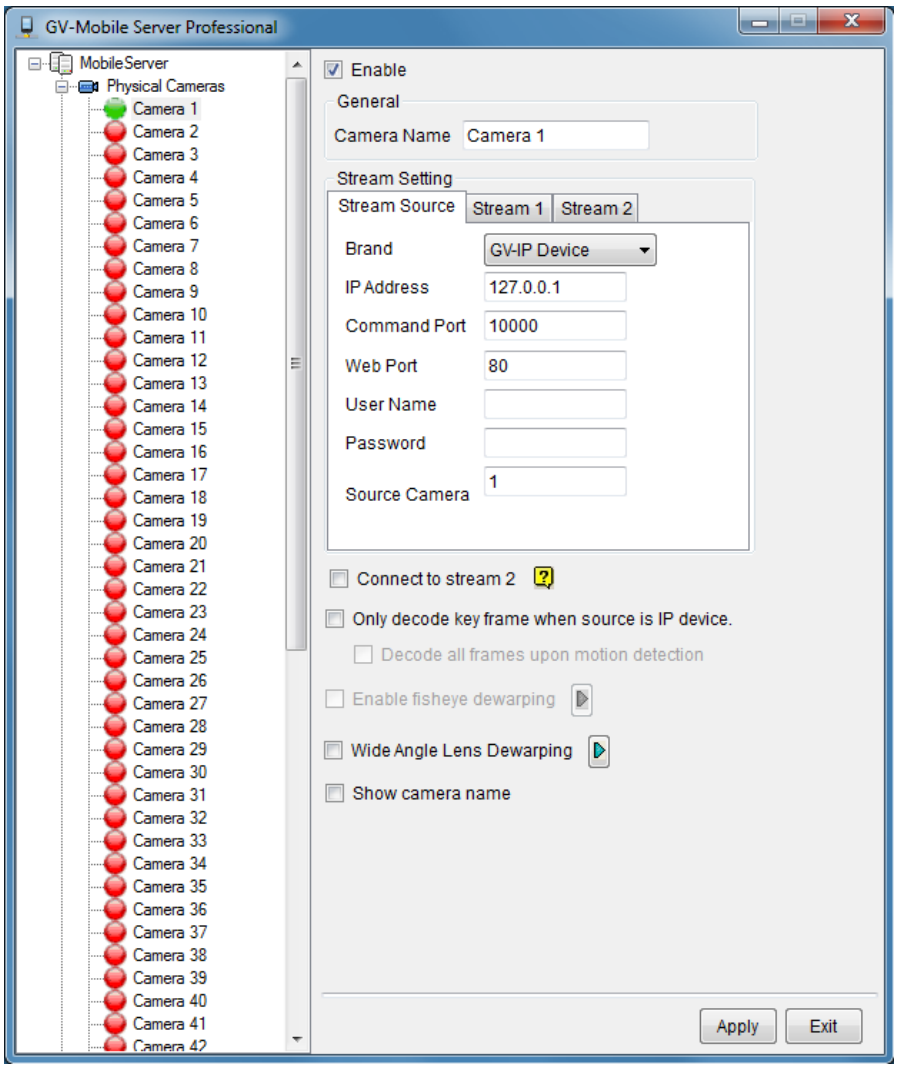
When the camera is connected, the red icon turns green. You can right-click the camera icon to access the live view.

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

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



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.
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.

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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.

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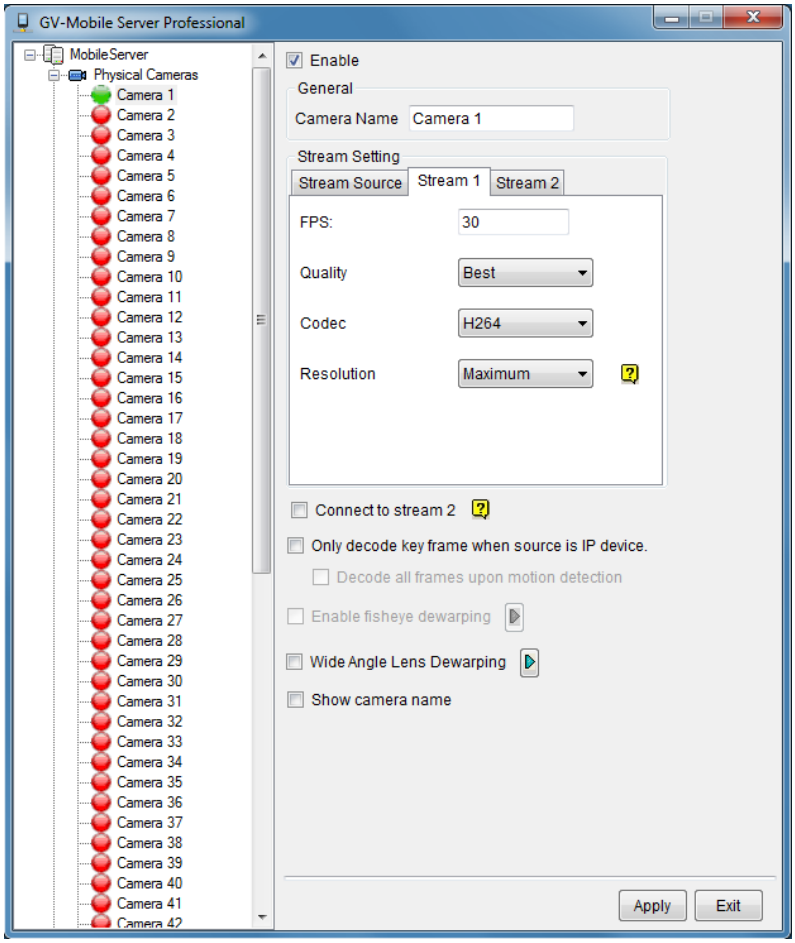
1. In the left menu, click a camera channel. The setting page for that camera appears.



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

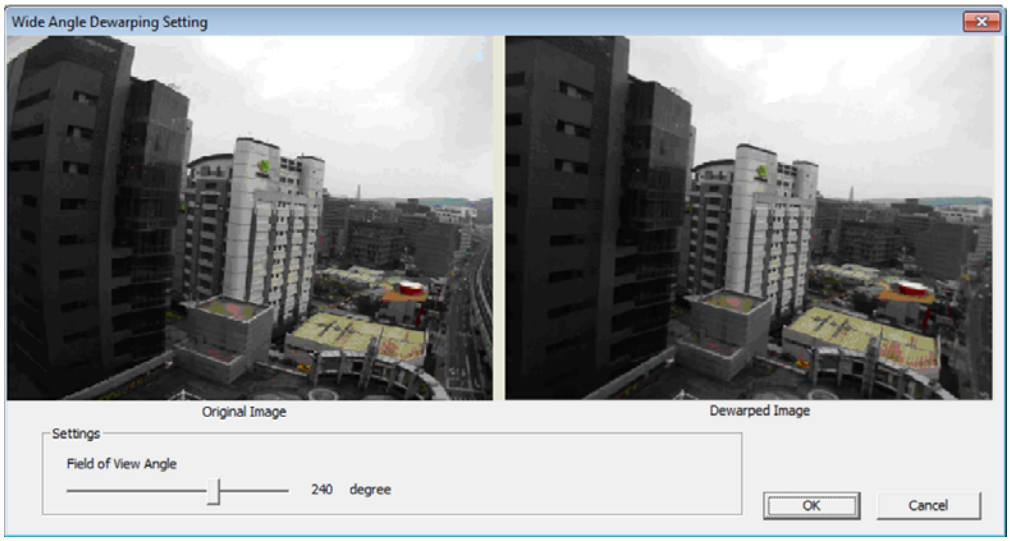
3. Under Stream Setting, the following settings are available for the **Stream 1** and **Stream 2**. When a client connects to any stream of the camera, the settings will be applied to the transmitted camera view.
   - **FPS:** Specifies the frames per second.
   - **Quality:** Set the image quality to **Best**, **Better** or **General**.
   - **Codec:** Select a codec type from **H.264** or **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.



   B. Move the slider to adjust the degree of warping. The adjusted view is shown on the right.

   C. Click **OK**.

   D. Click **Apply**.

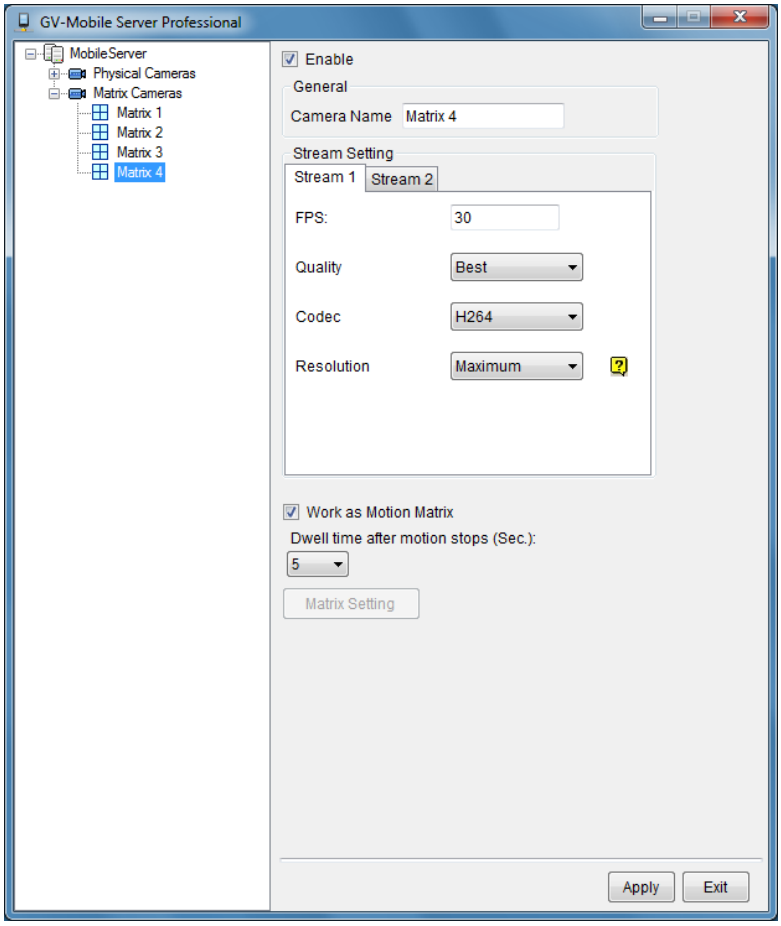
   E. Right-click a camera channel, select **View Encoded Stream 1** or **View Encoded Stream 2** to view the dewarping effect.

4.2 Setting the Matrix Channel

You can establish up to 4 matrix channels on GV-Mobile Server, each consisting of up to 36 cameras. You can also set up different settings (frame rates, codec video quality and resolution) for stream 1 and stream 2 of a channel. The maximum resolution supported for 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.



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 MP.
2. Matrix only supports the codec of H.264 and MPEG4 for encoding.

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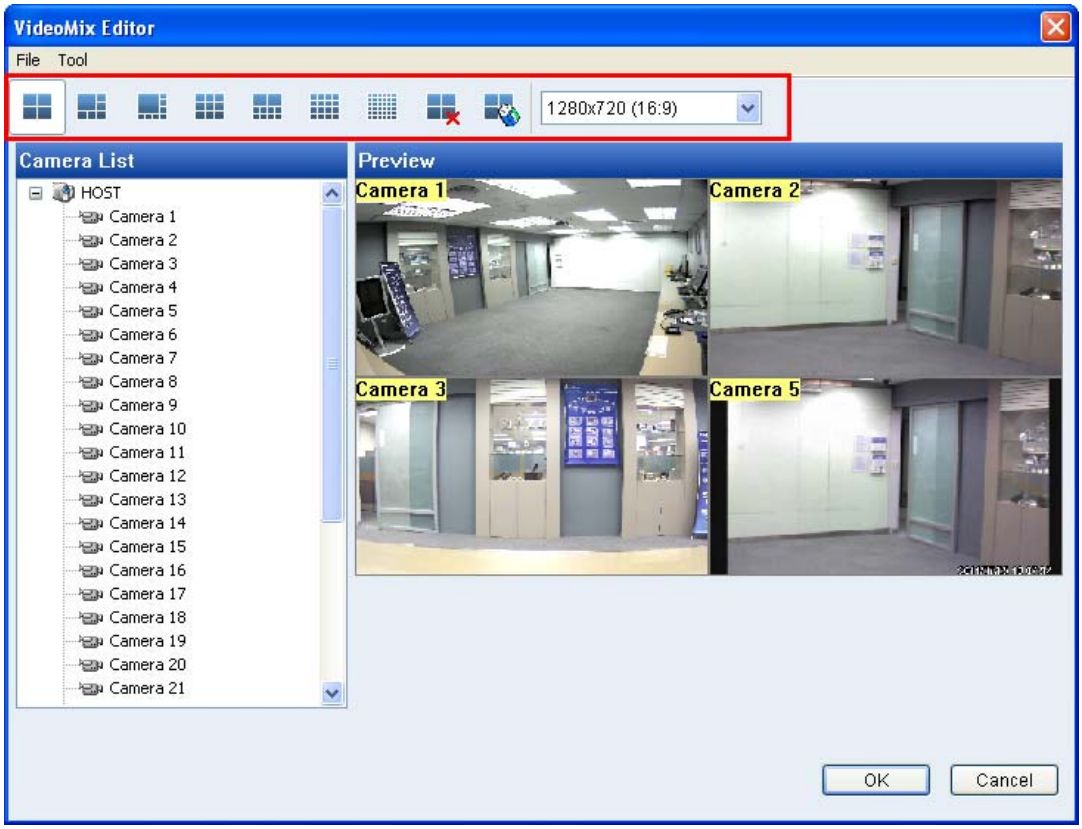
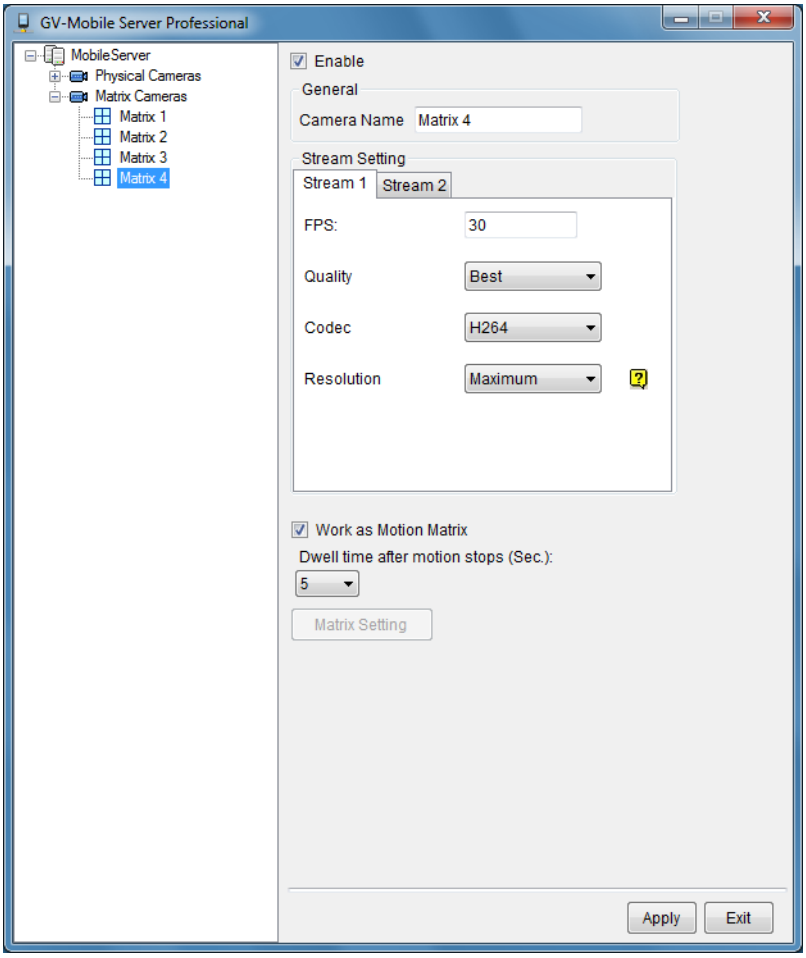
3. Click the **Matrix Setting** button to arrange the matrix. This window appears.



4. Select a type of screen division and select the display ratio. The display ratio selected will be applied to the matrix view in GV-Mobile Server.
5. Drag and drop the camera numbers 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:



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.

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5. Accessing the Live View

5.1 Using GV-IP Decoder Box / GV-Pad

To view GV-Mobile Server channels from GV-IP Decoder Box / GV-Pad, see *5.1 Using GV-IP Decoder Box / GV-Pad* in *GV-Mobile Server User's Manual*.

5.2 Using Mobile Devices

To view GV-Mobile Server channels from Android or iOS devices, install **GV-Eye** app from Google Play or App Store. For detailed instructions, see the latest document from the GeoVision's website: http://www.geovision.com.tw/english/5_4.asp

5.3 Using Third-Party Surveillance Software

To allow third-party software to connect to GV-Mobile Server through RTSP protocol:

1. Click the **RTSP** tab in GV-Mobile Server and click **Enable RTSP Streaming**.
2. For a more secure connection, select **ID and Password Required** and type an **RTSP Username** and **RTSP Password**.
3. Modify the default **RTSP Port** 8554 if needed. By default, RTSP data port starts from 45000.
4. Click **Apply**.

Use the RTSP commands below to connect:

- **No ID and password required:**

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

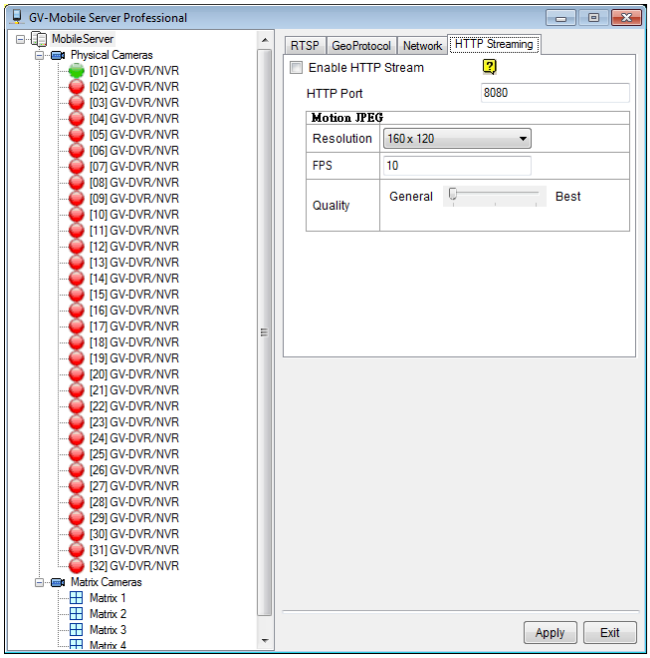
  For example, **rtsp://admin:1234@192.168.3.111:8554/cam1_stream2**

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**

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.

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



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**

This function is also supported for accessing live view through iPhone, iPod Touch, or iPad. For details, s*ee 5.4 Using Non-IE Browsers* in *GV-Mobile Server User's Manual*.