GeoVision inc
The Vision of Security

GV-3D People Counter

User's Manual V1.03

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

3DPCV103-A-EN

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

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Firmware and Software Compatibility

The Asus Xtion Pro and GV-Web Report compatible with GV-3D People Counter are listed below

Models	Asus Xtion Pro	GV-Web Report
GV-3D People Counter V1.01	V5.3.26 and V5.7.9	V2.2.3.0 or later
GV-3D People Counter V1.02	V5.7.9 and V5.8.22	
GV-3D People Counter V1.03		V2.2.6.0 or later

Chapter 1 Introduction

The GV-3D People Counter integrates Asus Xtion Pro to count and analyze the number of people passing by the designated detection area. You can connect the GV-3D People Counter with a VGA or HDMI monitor for direct display of counting data and configuring device settings through on-screen display (OSD) menu. GV-3D People Counter comes with a built-in Web interface, the GV-Web Report Lite, for easy setup and looking up people counting data.

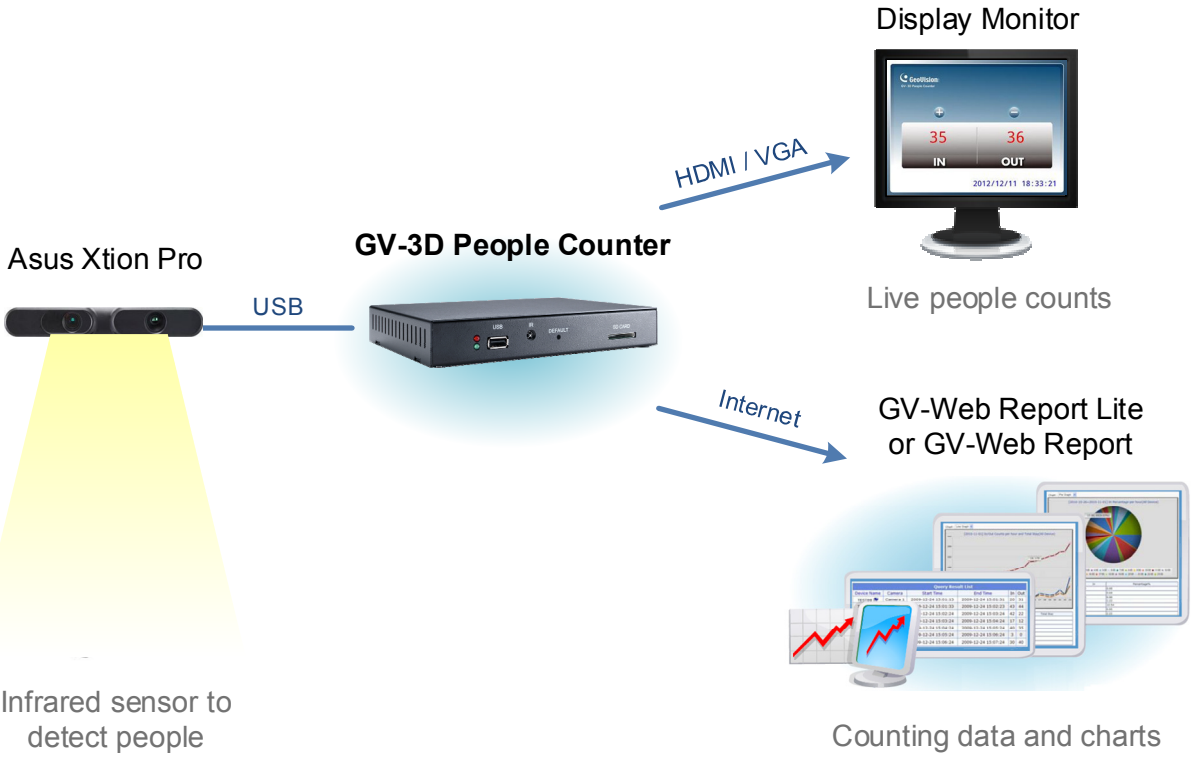


Figure 1-1

1.1 Features

- Counts the number of people (In and Out)
- Support for HDMI and VGA compatible monitors
- IR remote control to configure on-screen display (OSD) menu
- GV-Web Report Lite: Web interface to look up people counting data and charts
- Support for data compiling and chart analysis on GV-Web Report
- Audio alarm for traffic in wrong direction and exceeding maximum entries, exits or stays
- Content Designer to customize layout on display monitor
- SDHC card supported
- GPS positioning (optional GV-GPS Reciever and GV-Web Report software required)

1.2 Packing List

1. GV-3D People Counter × 1
2. IR remote control × 1
3. AC / DC adapter × 1 (12 V / 3 A, 36 W)
4. SD card x 1
5. Power cord x 1
6. Software CD x 1

1.3 Hardware Requirements

In order to detect people, GV-3D People Counter must be integrated with an Asus Xtion Pro of the following firmware versions.

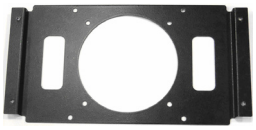
- **GV-3D People Counter V1.01:** Asus Xtion Pro V5.3.26 and V5.7.9
- **GV-3D People Counter V1.02 or later :** Asus Xtion Pro V5.7.9 and V5.8.22

In addition, the Asus Xtion Pro must be installed at a location where it will not be exposed to direct sunlight or IR LED.

1.4 Options

Optional devices can be purchased separately for GV-3D People Counter and Asus Xtion Pro. Contact your dealer for more information.

Options for GV-3D People Counter

Options	Details
Wall Mount Kit 	The Wall Mount Kit is used to mount the GV-3D People Counter to the wall. ● L-type brackets x 2 ● Small screws x 4
VESA Monitor Mount Kit  	The VESA Monitor Mount Kit is used to mount the GV-3D People Counter to the back of a VESA monitor. ● VESA monitor mount bracket x 1 ● L-type brackets x 2 ● Large screws x 4 ● Small screws x 8
Asus Xtion Pro 	The Asus Xtion Pro is a motion sensor used to detect the number of people who have walked through the detection area. The operating temperature is from 0°C ~ 40°C / 40°F ~ 104°F.
USB Extension Cable 	The 1.8 meters (5.9 feet) USB extension cable can extend the distance between the Asus Xtion Pro and the GV-3D People Counter. **Note:** You can connect multiple USB extension cables, but the total distance cannot exceed 5 meters (16.4 feet).
GV-GPS Receiver 	Receive the GPS signals for 3D People Counter positioning.

GV-Web Report	Through a Web browser, the GV-Web Report keeps track of and analyzes the people counting results and shows the latitude and longitude from up to 1000 units of GV-3D People Counters. Compatible version: For GPS funtion, V2.2.6.0 or later. For the others, V2.2.3.0 or later.

Options for Asus Xtion Pro

Options	Details
Asus Xtion Pro In-Ceiling Mount 	The In-Ceiling Mount is used to mount Asus Xtion Pro on the ceiling. ● Cover for in-ceiling mount x 1 ● Magnet x 2 ● Support bracket x 2 ● Black long screw x 2 ● Screw nut x 2
Asus Xtion Pro Wall Mount 	The Wall Mount is used for mounting Asus Xtion Pro on the ceiling or on a door frame. The length and angle of the mount can be adjusted to suit the installation site. The length is adjustable from 188 ~ 290 mm (7.40 ~ 11.42 in). ● Adjustable bracket x 1 ● Black long screw x 2 ● Screw nut x 2

1.5 Overview

This section identifies the components of the GV-3D People Counter.

1.5.1 Front View

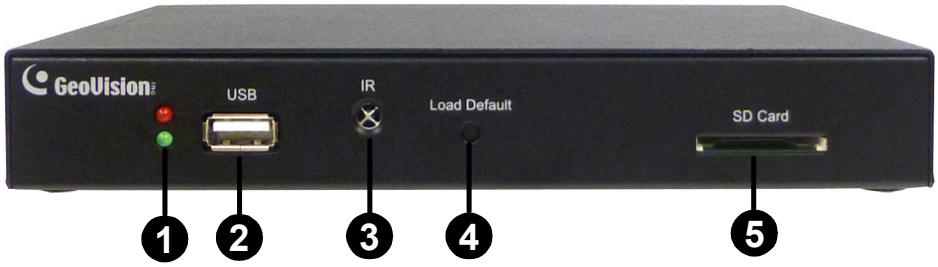


Figure 1-2

No.	Name	Function
1	LED Indicators	The **green** LED indicates the Asus Xtion Pro is connected. The **red** LED indicates the power is supplied.
2	USB	Connect to an Asus Xtion Pro or an optional GV-GPS Receiver.
3	IR	Built-in IR receiver to receive the IR signals from the IR remote control.
4	Default	Reset the GV-3D People Counter to the default factory settings.
5	SD Card Slot	Connect to a SD card for local storage and firmware upgrade.

Note:

1. If you want to connect both **Asus Xtion Pro** and **GV-GPS Receiver** to **GV-3D People Counter**, use an additional powered USB hub to expand the USB port for connection.
2. Choose an USB hub with a power adapter to avoid insufficient supply of power.

1.5.2 Rear View

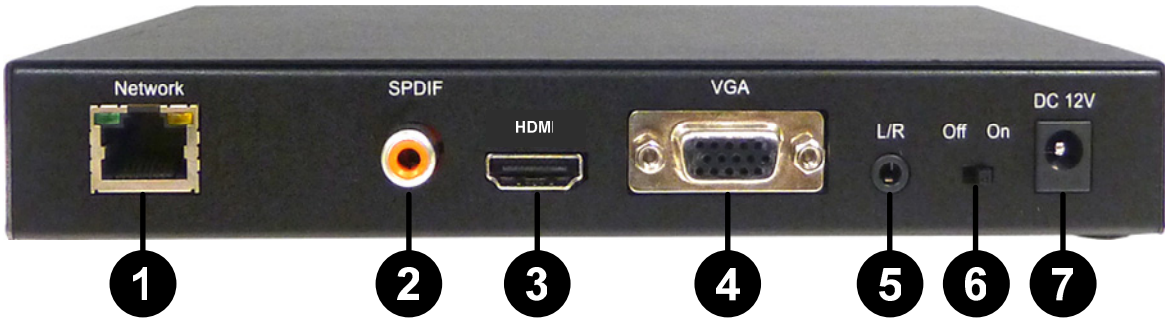


Figure 1-3

No.	Name	Function
1	Ethernet	Connect to an Ethernet.
2	SPDIF	Reserved (not functional).
3	HDMI	Connect to an HDMI supported display device.
4	VGA	Connect to a VGA monitor.
5	L/R	Connect to a speaker.
6	Power OFF/ON	Switch the power on or off.
7	DC 12V	Connect to power by using the supplied power adapter.

1.6 The IR Remote Control

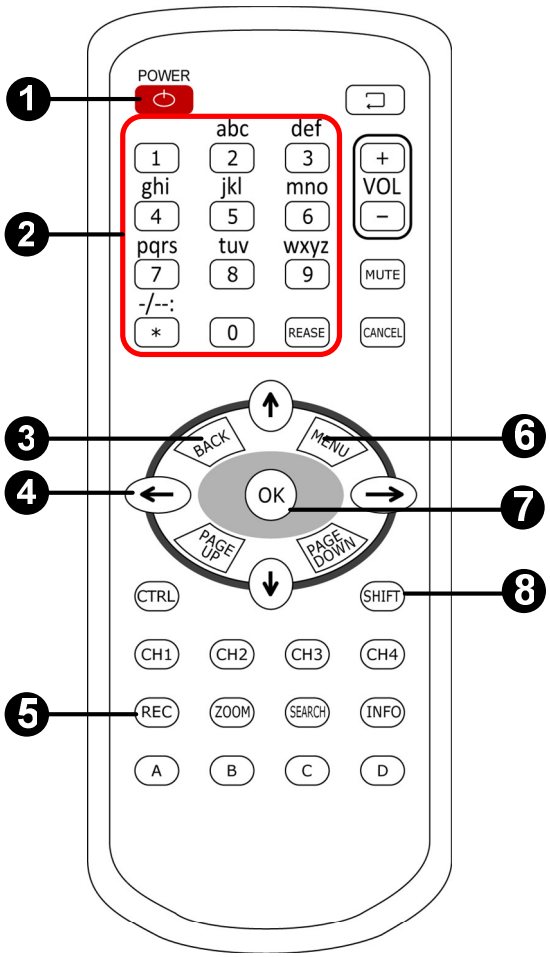


Figure 1-4

No.	Name	Function
1	Reboot	Reboot the device.
2	Number / Alphabets / Punctuation Marks	Enter the numbers, alphabets or punctuation marks.
3	Back	Exit the Setup Menu and return to the counting page.
4	Direction Arrows	Move up, down, right and left in the Setup Menu.
5	Rec	Save the settings in the Setup Menu.
6	Menu	Switch to the setup menu.
7	OK	Enter the setup options in the Setup Menu.

8	Shift	Press **Shift** and **0~7** to switch to one of the 8 resolutions below. Shift + 0 : VGA_640 x 480 Shift + 1 : VGA_1024 x 768 Shift + 2 : VGA_1280 x 768 Shift + 3 : VGA_1366 x 768 Shift + 4 : HDMI_480p Shift + 5 : HDMI_720p Shift + 6 : HDMI_1080i Shift + 7 : HDMI_1080p Note the resolution switch will cause the GV-3D People Counter to automatically reboot.

Chapter 2 Getting Started

2.1 Connecting the Device

The instructions below describe the basic connection required to operate GV-3D People Counter.

Note:

1. For more accurate counting results, avoid placing the Asus Xtion Pro where it can be subjected to direct sunlight or exposed to IR LED.
2. You can only connect GV-3D People Counter to one display device through HDMI or VGA connector. The video signal will be unstable if multiple display devices are connected.

Figure 2-1

1. Connect a display device to VGA video connector or HDMI connector for video and audio alarm combined outputs.
2. Connect to a standard network cable.
3. If you use a VGA monitor, connect a speaker to L/R port for audio alarm.
4. Insert an SD card.
5. Connect the Asus Xtion Pro to the USB port of the GV-3D People Counter. The recommended installation height for Asus Xtion Pro is between 1.8 – 5 meters.
6. Connect to power using the supplied power adapter.
7. Switch the Power button to ON.

2.2 Restoring to Factory Default Settings

If you need to restore the GV-3D People Counter to factory default settings, follow the steps below:

1. Press and hold the **Default** button on the front panel.

Figure 2-2

2. Release the Default button when the green LED stops blinking. The GV-3D People Counter will automatically reboot after loading default.

Note: The power should always be on during the process of loading default.

2.3 Wall Mount - GV-3D People Counter (Optional)

You can separately purchase the Wall Mount Kit to mount GV-3D People Counter on a wall.

1. Unscrew the 4 screws on the back panel of the GV-3D People Counter.

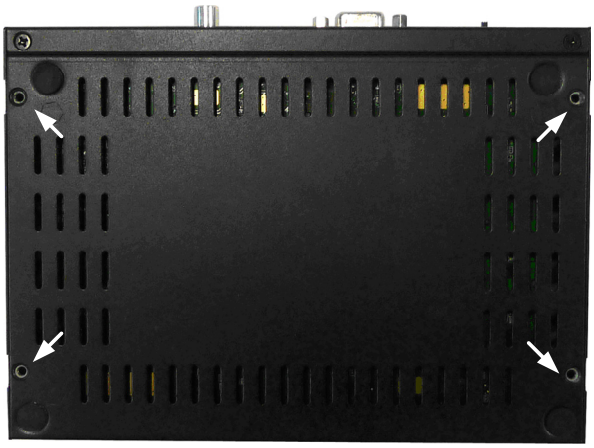


Figure 2-3

2. Use the 4 screws in the package to tighten the L-type brackets on the GV-3D People Counter.

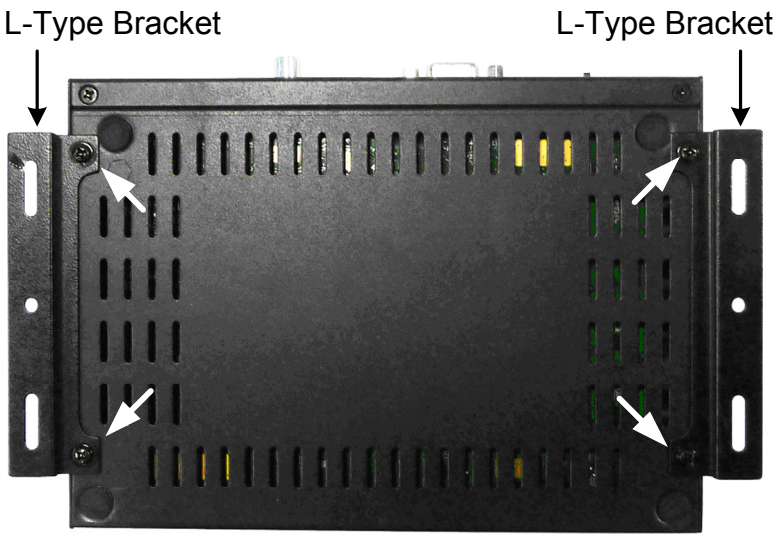


Figure 2-4

2.4 VESA Monitor Mount - GV-3D People Counter (Optional)

You can separately purchase the VESA Monitor Mount for installing GV-3D People Counter to the back of a VESA monitor.

1. Follow steps 1 and 2 in *2.2 Installing Wall Mount* to tighten the L-type brackets on the back panel of GV-3D People Counter.
2. Using the 4 large screws, tighten the VESA monitor mount bracket on the back of the computer monitor.

Figure 2-5

3. Use the 4 small screws to tighten the GV-3D People Counter and the VESA monitor mount bracket together.

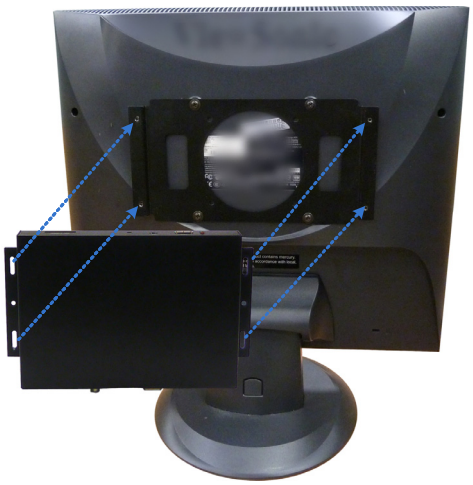


Figure 2-6

2.5 Mounts for Asus Xtion Pro (Optional)

You can separately purchase the optional mounting kits for Asus Xtion Pro. Before installing, note the following recommendations:

- When mounting on a ceiling, the thickness of the ceiling board should be between 0.5 – 3.0 cm / 0.2 – 1.18 in.
- The recommended installation height for Asus Xtion Pro is between 1.8 – 5 meters.

2.5.1 In-Ceiling Mount

You can use the in-ceiling mount to mount Asus Xtion Pro on the ceiling.

1. Cut a rectangular hole in the ceiling with the measurements of 20.5 x 4.36 cm / 8.07 x 1.72 in.

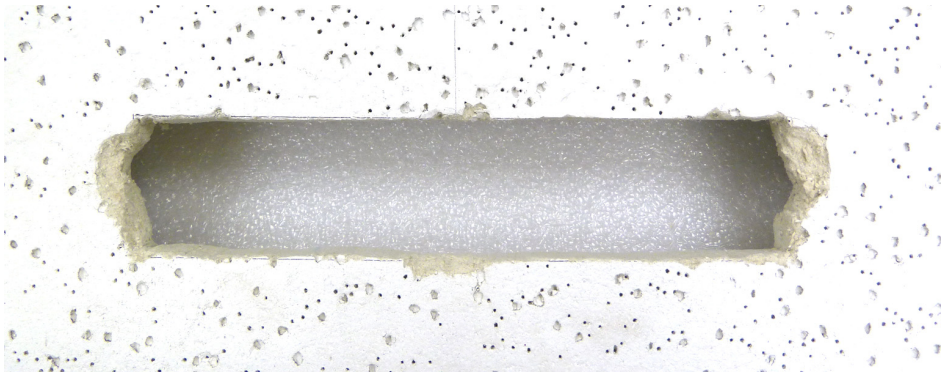


Figure 2-7

2. Remove the two round cover plates and unscrew the screw underneath the cover plate to remove the base.

Figure 2-8

3. Unscrew the screws on two ends of the Asus Xtion Pro.

Figure 2-9

4. Insert the 2 black screws into the screw nuts and assemble the 2 black screws with support brackets.

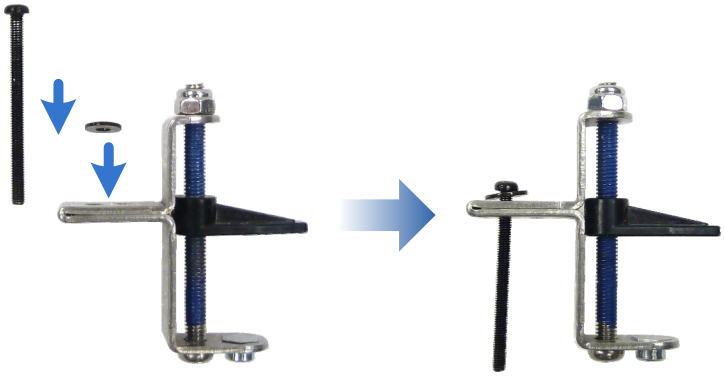


Figure 2-10

5. Assemble the support brackets with Asus Xtion Pro and tighten the screws.

Figure 2-11

6. Insert the Asus Xtion Pro into the hole in the ceiling board. Make sure the black plastic clips are pointing vertically against the support brackets and can pass through the hole.

Figure 2-12

7. After inserting, make the black plastic clips parallel with Asus Xtion Pro.

Figure 2-13

8. Tighten the screws to adjust the black plastic clips and make sure they can wedge the ceiling.

Figure 2-14

9. Put the magnets provided in the rectangular indentations on the cover for in-ceiling mount.

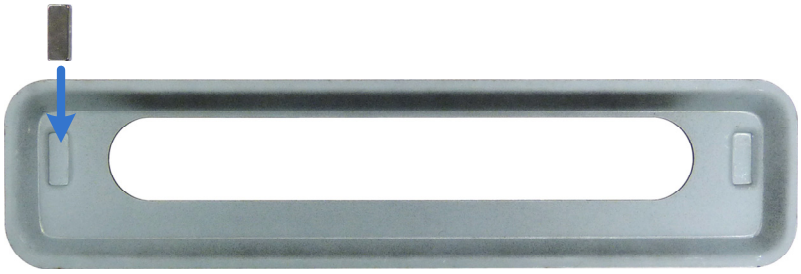


Figure 2-15

10. Place the cover for in-ceiling mount on Asus Xtion Pro. Make sure the two magnets on the cover are aiming at the metal on support brackets.

Figure 2-16

2.5.2 Wall Mount

The wall mount kit allows you to mount Asus Xtion Pro on the ceiling or on the door frame. The length and angle of the mount can be adjusted to suit the installation site. The length is adjustable from 188 ~ 290 mm (7.40 ~ 11.42 in).

1. Remove the two round cover plates and unscrew the screw underneath the cover plate to remove the base.

Figure 2-17

2. Unscrew the screws on two ends of the Asus Xtion Pro.

Figure 2-18

3. Thread the cable through the mount, and place the Asus Xtion Pro on the mount.

Figure 2-19

4. Insert the 2 supplied black screws into the screw nuts and tighten the screws.

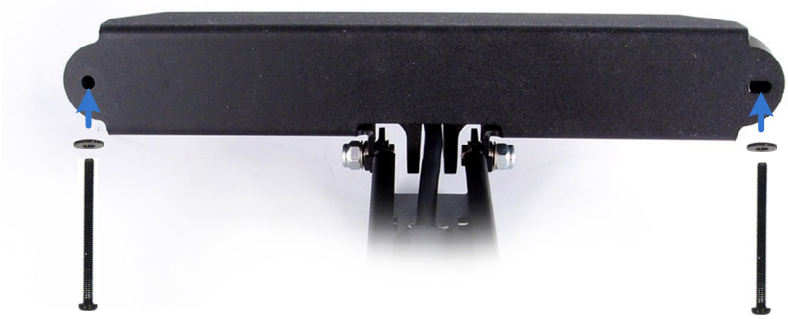


Figure 2-20

5. Secure the mount onto the ceiling or the door frame.

Figure 2-21

6. You can use screws A indicated below to adjust the length, and use screws B to adjust the angle of Asus Xtion Pro.

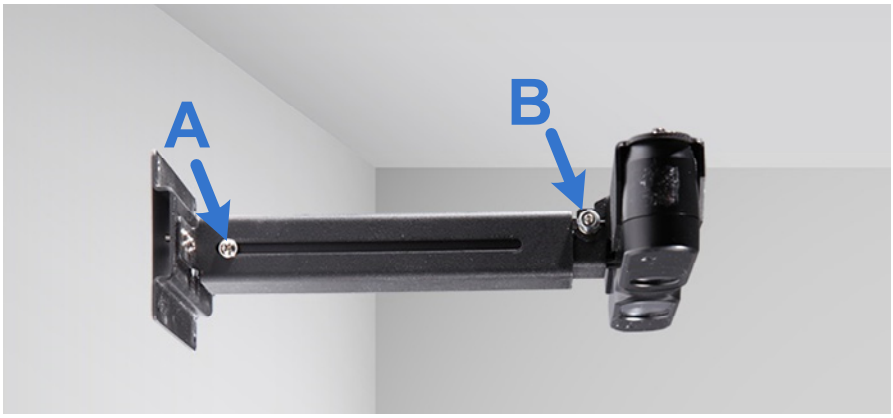


Figure 2-22

Chapter 3 The OSD Menu

After connecting the devices, turn the power switch on the GV-3D People Counter to ON and the window below appears.

Figure 3-1

To configure video output, network and time settings, press **Menu** on the remote control to enter the OSD (On-Screen Display) menu. There are three tabs in the setup menu: **Network**, **Info** and **Time Setup**.

Note: By default, the video output is set to VGA with 1024 x 768 resolutions. If you have connected an HDMI display device, use the IR remote control to press Shift + 0~7 to switch to the corresponding resolution.

3.1 Setting the Network

Under the **Network** tab, you can configure the IP address of the GV-3D People Counter. If installed in a LAN with the DHCP server, the GV-3D People Counter will use a dynamic IP address by default. If installed in a LAN without the DHCP server, the default IP address **192.168.0.100** will be applied.

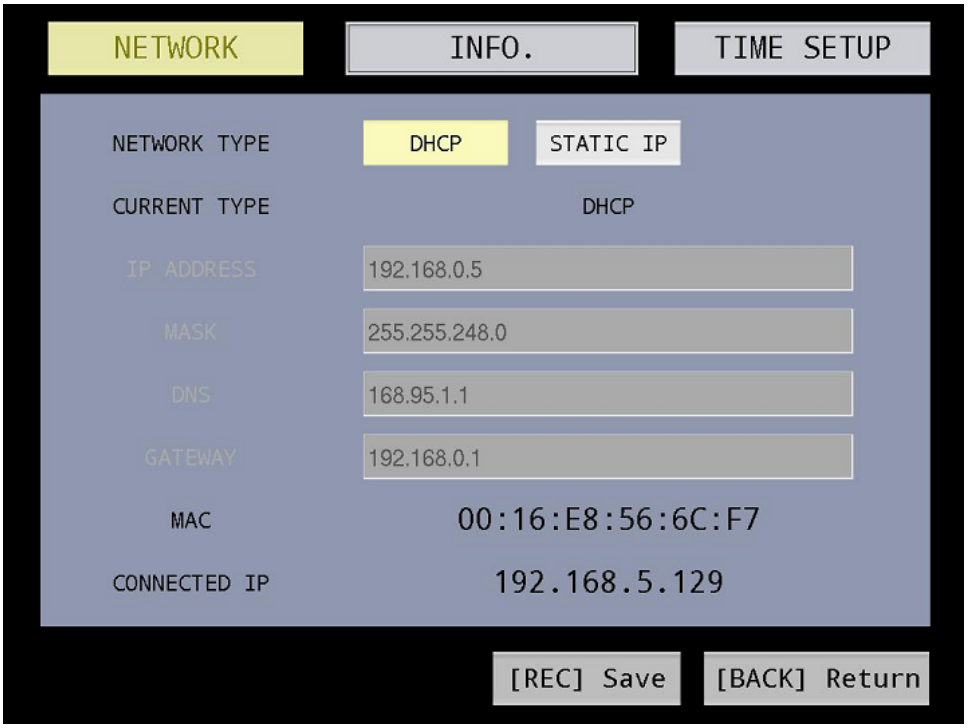


Figure 3-2

1. To assign a static IP address for the GV-3D People Counter, select **Static IP** and enter a fixed IP address, subnet mask, DNS and gateway.
2. To use a dynamic IP assigned by the DHCP Server, select **DHCP**. Once connected, the current IP address will be displayed next to **Connected IP**.
3. Press **[REC]** to save the settings. The GV-3D People Counter will reboot to apply the settings.

Note: You can also use the GV-IP Device Utility to set the IP address of the GV-3D People Counter. See *Chapter 6 GV-IP Device Utility* for details.

3.2 Setting the GV-3D People Counter

Under the **Info** tab, you can set up the login ID, password, device name, video output type and resolution. You can also update the firmware of the GV-3D People Counter.

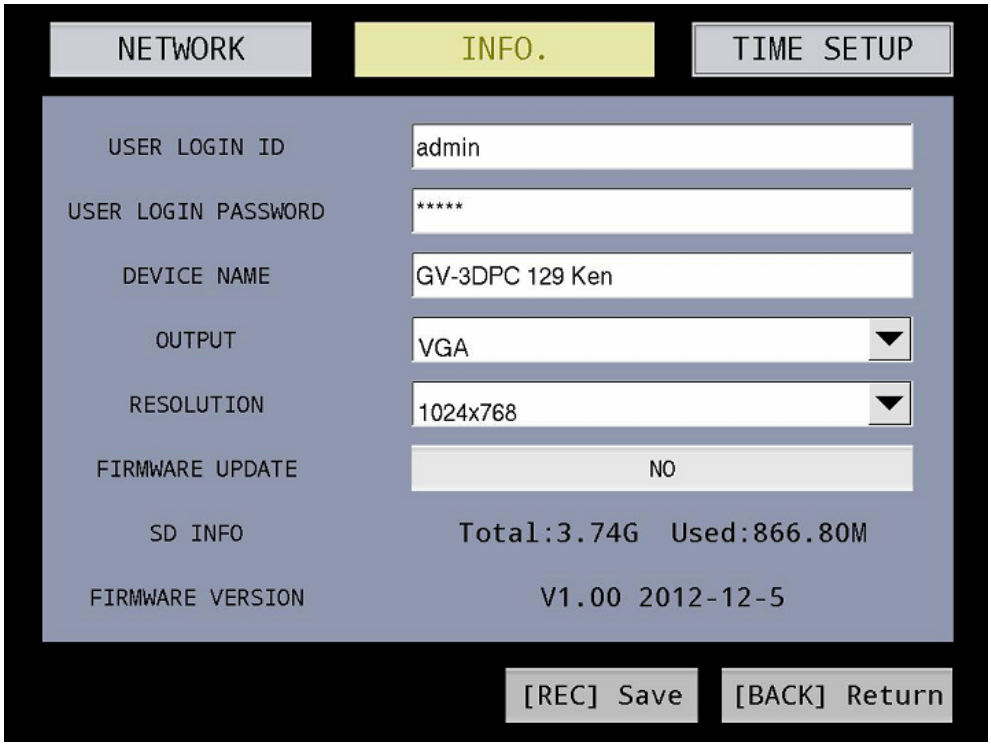


Figure 3-3

- **User Login ID / Password:** Set the ID and password to access the GV-3D People Counter.
- **Device Name:** Change the display name of the GV-3D People Counter if necessary.
- **Output:** Select **VGA** or **HDMI** according to the video output of the display monitor.
- **Resolution:** Select a screen resolution from the following options:

HDMI at 60 Hz	480p	720p	1080i	1080p
VGA at 60 Hz	640 x 480	1024 x 768	1280 x 768	1366 x 768

- **Firmware Update:** Before updating firmware, copy the firmware file to the root folder of the SD card and insert the SD card to the GV-3D People Counter. Make sure there is only one firmware file in the SD card. Select **Yes** and press **OK** to begin updating firmware. The device will restart after the firmware upgrade is complete.

Note:

1. By default, the video output is set to VGA with 1024 x 768 resolutions.
2. You need to allocate at least 50 MB in the device storage before upgrading the firmware.
3. You can also use the GV-IP Device Utility to rename the GV-3D People Counter and update the firmware. See *Chapter 6 GV-IP Device Utility* for details.

3.3 Adjusting Device Time

To adjust the time of the GV-3D People Counter, select the **Time Setup** tab and select **Adjustment**. Enter the correct time and press **[REC]** to save.

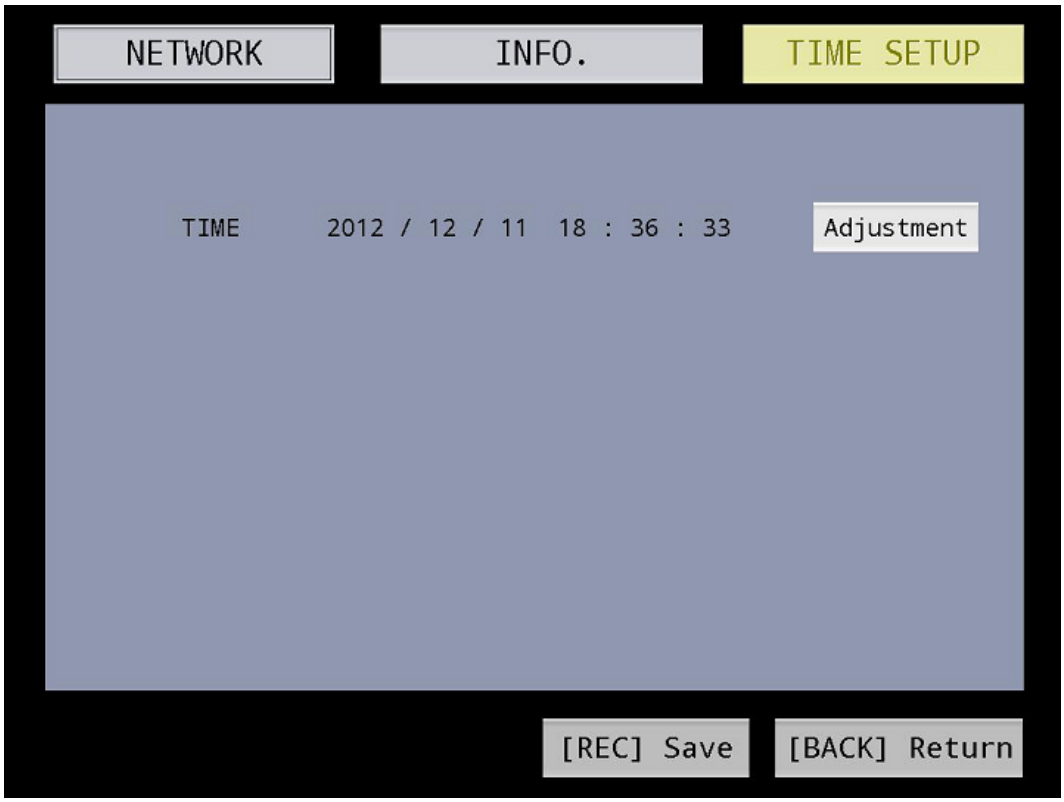


Figure 3-4

Note: If the GV-3D People Counter has been set to synchronize time with another server on the Detection Setting page of GV-Web Report Lite, you will not be able to adjust the device time on the OSD menu. For settings Time Sync, see *4.2.1 Detection Setting*.

Chapter 4 The Web Interface

After installing the GV-3D People Counter on the network, you can access GV-Web Report Lite to set up the Asus Xtion Pro and look up counting data. The GV-Web Report Lite is a Web server built in the GV-3D People Counter.

4.1 Accessing the GV-Web Report Lite

System Requirements

To access GV-3D People Counter through Web browser, ensure your PC is in good network connection, and use one of the following web browsers:

- Mozilla Firefox V16.0.2 or later
- Internet Explorer V11.0.10240.16603 or later

Logging In

1. In your Web browser, type the IP address or the domain name of the GV-3D People Counter in the **Location / Address** field.

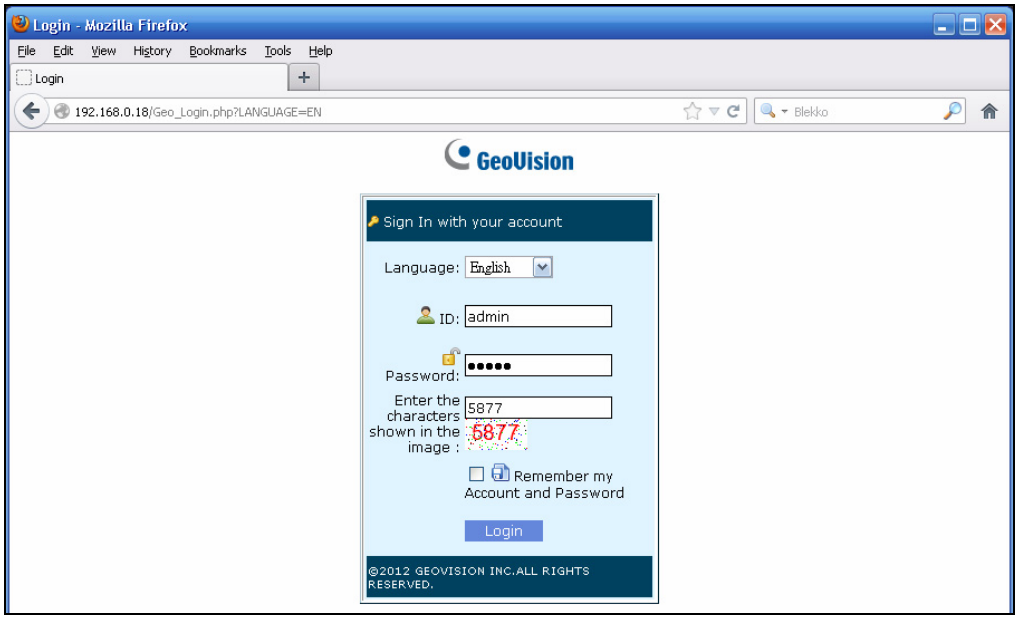


Figure 4-1

2. Select a different **Language** if needed.
3. Type the ID and password. The default ID and password are **admin**.
4. Type the characters shown in the image and click **Login**.

4.2 Setting the GV-3D People Counter

Once you have logged in to the GV-Web Report Lite, click the **Setup** tab on the top to see the page below. Clicking **Reset** at the bottom-right corner will reset the Setup page back to default values.

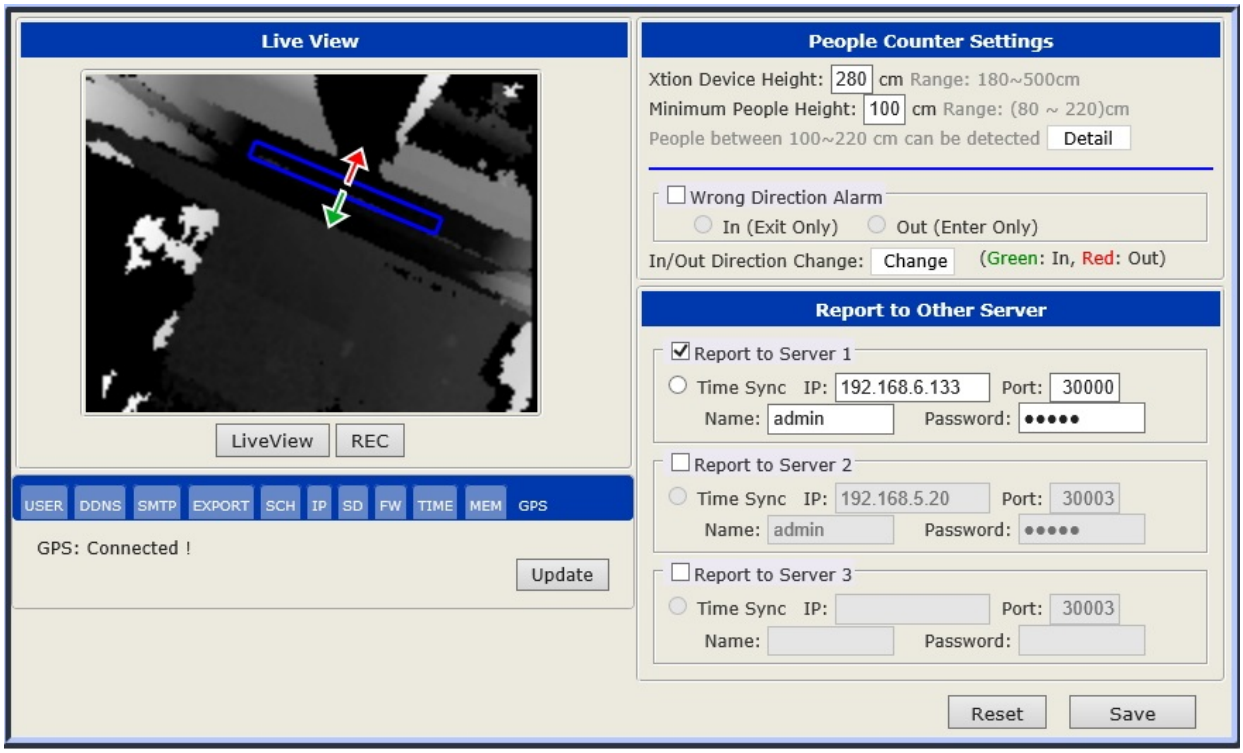


Figure 4-2

[Live View] Draw a box on the live view to mark the boundary of the detection zone. Subjects moving across the blue box toward the red arrow will be counted as Out. Subjects moving across the blue box toward the green arrow will be counted as In. To change the direction of the arrows, you can click the **Change** button after Direction Change to the right of the live view.

- **Live View:** Click to see the live image of the detection area captured by the infrared sensor of the Asus Xtion Pro. The live image is in black and white.
- **REC:** Records the live view for 30 seconds. Only one video can be stored in the SD card at a time. The existing recording will be overwritten by the new recording.
- **Download Recorded File:** You can download the recorded file and provide the recording to service personnel for troubleshooting.

4.2.1 General Settings

Under the live view, the following setting tabs are available: User, DDNS, SMTP, Export, SCH, IP, SD, FW, Time and MEM.

[User]

- **Machine Name:** Change the display name of the GV-3D People Counter if necessary.
- **Login Name / Password:** Change the login name or password for accessing the GV-3D People Counter if necessary. The default login name and password are **admin**.
- **Port:** Modify the port or keep the default 30003. When connecting to other servers, GV-3D People Counter must use the same port as the servers.
- **Output:** Select **VGA** or **HDMI** according to the video output of the display monitor.
- **Resolution:** Select the screen resolution of the display monitor.
- **Timezone:** Set the time zone of the GV-3D People Counter.

[DDNS]

DDNS (Dynamic Domain Name System) provides a convenient way of accessing GV-3D People Counter with a dynamic IP address. DDNS assigns a domain name to the GV-3D People Counter, so that the Administrator does not need to check if the IP address assigned by DHCP Server or ISP (in xDSL connection) has changed.

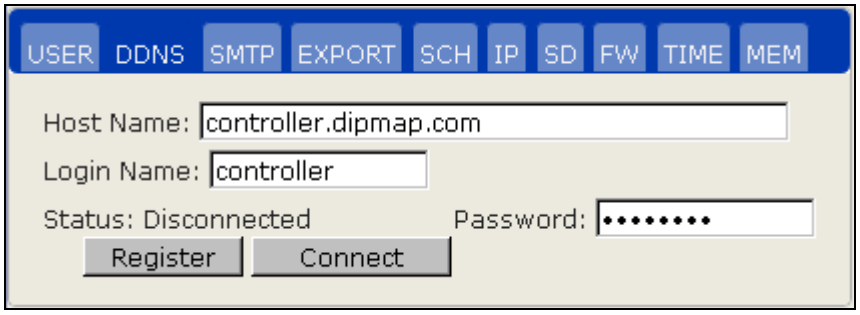


Figure 4-3

1. Click **Register** to register a GeoVision DDNS Server or apply for a Host Name from other DDNS service provider's website.
2. Type the **Host Name** used to link to the GV-3D People Counter.
3. Type the **Name** and **Password** used to enable the service from the DDNS.
4. Click **Connect**.

[SMTP]

You can receive a daily report of the counting results by e-mail. First, set up your mail server on this page and then go to the Export tab to enable the function.

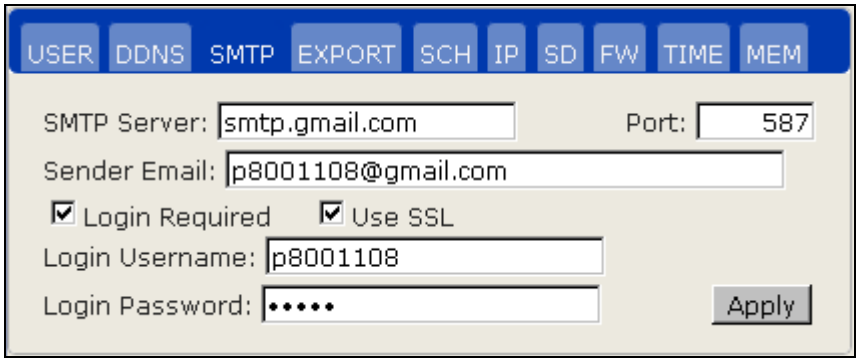


Figure 4-4

- **SMTP Server:** Type your SMTP Server's URL address or IP address.
- **Port:** The default port for most SMTP servers is 25. However webmail Yahoo and Hotmail generally use differently SMTP port. In this case, check your e-mail provider for the SMTP port number.
- **Sender Email:** Type the sender's e-mail address.
- **Login Required:** If your mail server needs login authentication, select the checkbox and type your login username and password.
- **Use SSL:** Select this option if the SMTP server needs a secure connection.

[Export]

To automatically receive a report of the counting data everyday, select **Enable Auto Export** and type the **Recipient E-mail**. Use the **Auto Export Time** drop-down list to select what time to receive the report and click **Apply**. Make sure you set up the mail server under the SMTP tab.

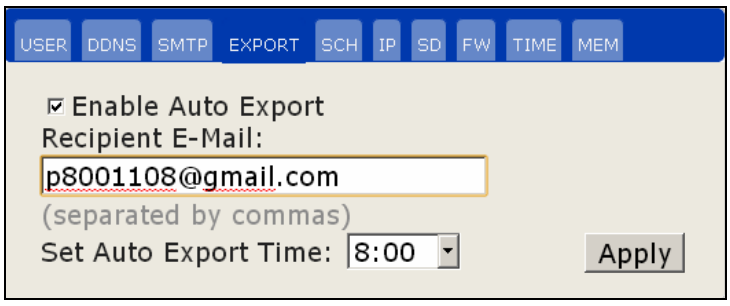


Figure 4-5

After you have completed the Export settings, you shall receive the report in a zip file at the appointed time. The report within is as the figure below.

	A	B	C	D	E	F
1	DeviceName	Time	InCount	OutCount	StayCount	IntruderCount
2	GV-3D People Counter 1	6/16/2013 0:00	15	13	2	0
3	GV-3D People Counter 1	6/16/2013 1:00	20	13	9	0
4	GV-3D People Counter 1	6/16/2013 2:00	11	15	5	0
5	GV-3D People Counter 1	6/16/2013 3:00	12	13	4	0

Figure 4-6

[SCH]

To enable people counting only during certain time of the day, click the checkbox and specify a time period. You can set up to 3 schedules.

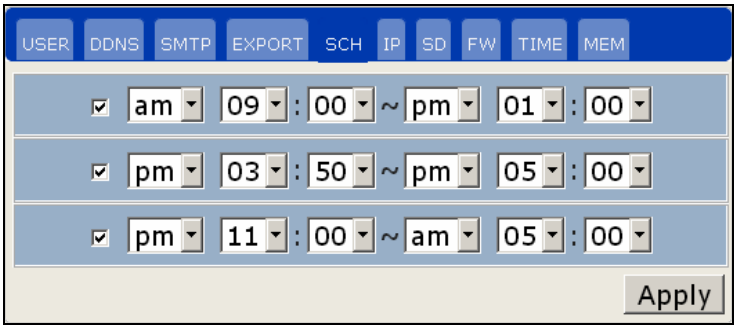


Figure 4-7

[IP]

According to your network environment, select a **Network Type**.

- **DHCP:** Select if your network environment has a DHCP server which can assign a dynamic IP to your device.
- **Static IP:** To set up a fixed IP address, type the **IP** address, subnet **Mask**, **DNS** and **Gateway** of the static IP.

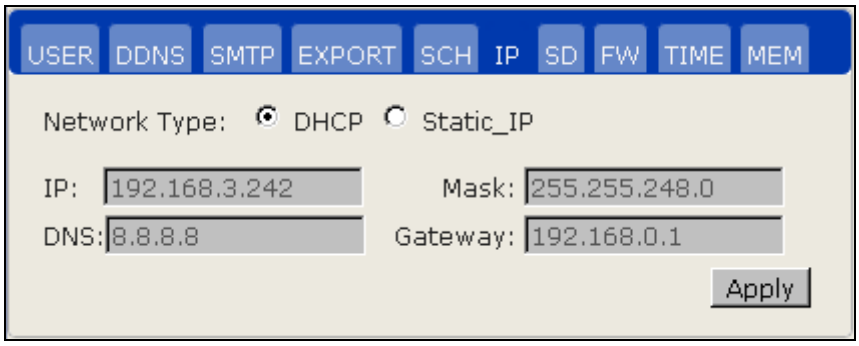


Figure 4-8

[SD]

You can see the size of the inserted SD card, size of space used by current database and size of free space. To clear the content of the SD card, click **Reset Database**.

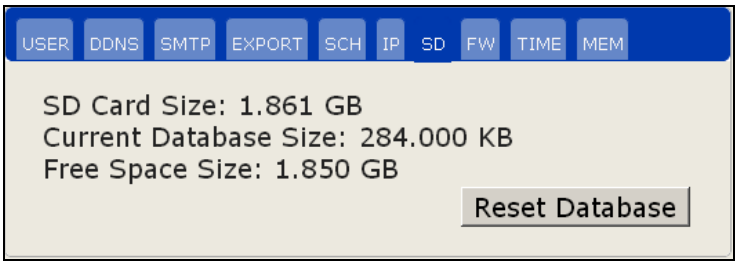


Figure 4-9

[FW]

You can download the latest firmware from the GeoVision's Website at http://www.geovision.com.tw/english/5_3_3D.asp. Upload the downloaded file and click **Apply**.

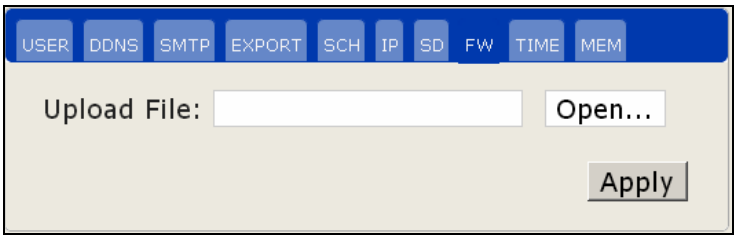


Figure 4-10

[TIME]

To automatically synchronize the device time with the server time everyday, select **Enable NTP Server Time SYNC**. Scroll down the drop-down list to select when the device shall synchronize everyday at hourly basis. To manually set the device time, click the calendar icon to select the date and type the hour, minute and second. Click **Apply**.

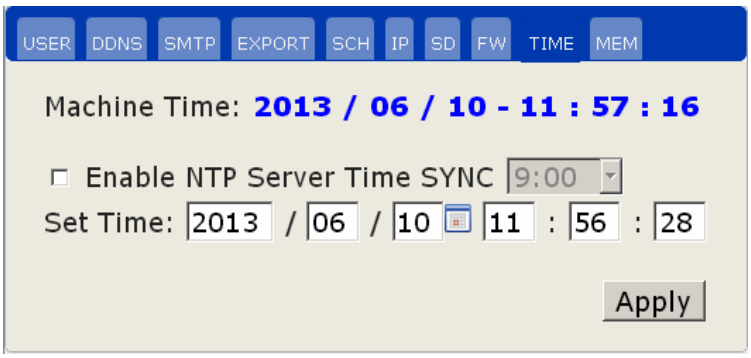


Figure 4-11

[MEM]

By default, the counting result on the monitor is reset to zero at 12:00 midnight everyday. To set a different reset time, use the **Counting value reset** drop-down list to select a different time and click **Apply**. After you have modified the reset time, you can also click **Sync DB** and the monitor will now display the counting results from the new reset time. For example, if you change the reset time to 19:00 and click **Sync DB**, the counting results accumulated from the previous 19:00 will be displayed on the monitor.

By default, the device starts counting In / Out from zero each time you restart the device. To keep the record of the In / Out value of the device, select **Keep the counting (in / out) value.** Click **Apply** and restart the device.

To refresh the In / Out value manually, type the numbers in the **In =** and **Out =** fields. Click **Apply** and restart the device.

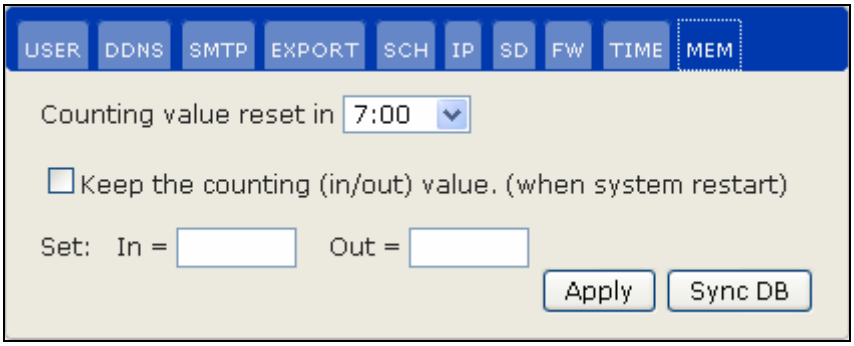


Figure 4-12

Note: These counting settings only affect the numbers displayed on the monitor. It will not affect the counts logged into the system.

[GPS]

You can only see the connection status between GV-GPS Receiver and GV-3D People Counter on GV-Web Report Lite. To see the latitude and longitude of GV-3D People Counter, the optional GV-Web Report software is required. For details, see *Chapter 4, Section 4.3, GV-Web Report User's Manual*.

Note: The GV-GPS Funtion is only supported by GV-Web Report V2.2.6.0.

4.2.2 People Counter Settings

For more precise counting results, specify the height of the Asus Xtion Pro and the minimum people height.

1. Type the height of the installed Asus Xtion Pro in the **Xtion Device Height** field. Depending on how high the Asus Xtion Pro is installed, the detectable height range for people will vary.
2. In the **Minimum People Height** field, type the minimum people height you want to detect.
3. Click the **Detail** button to see an illustration of the detectable height range and the dimension of the detection area based on the height you specified.

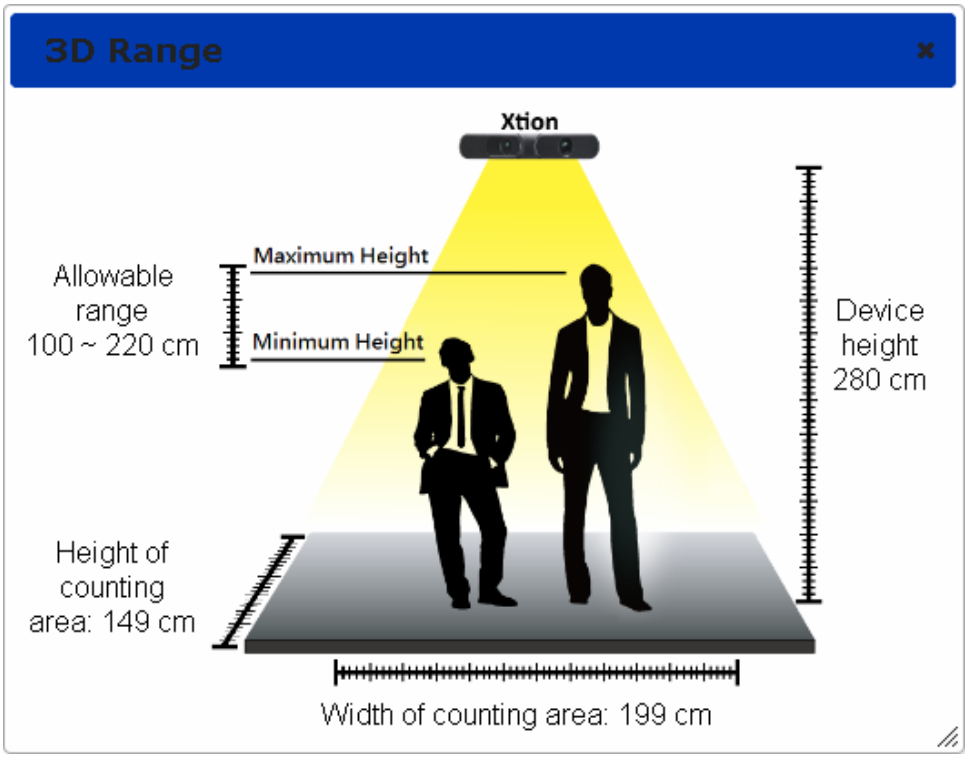


Figure 4-13

- **Wrong Direction Alarm:** Enable if the detection area is exit only or entrance only, and an audio alarm will sound when GV-3D People Counter detects people going in the wrong direction.
- **Direction Change:** To reverse the direction of the In and Out arrows in the Live View screen, click the **Change** button.

After configuring People Counter Settings, click the **Save** button.

4.2.3 Report to Other Servers

You can send People Counting data to up to three other GV-Web Report Lite server and / or GV-Web Report for data collection and analysis. To see how to look up data collected by the GV-Web Report Lite, refer to *4.3 Accessing People Counting Data*.

1. Select **Report to Server**.
2. Type the **IP** address of the GV-Web Report Lite or GV-Web Report.
3. Modify the default **Port** 30003 of necessary.
4. Type the **Name** and the **Password** to access the GV-Web Report Lite or GV-Web Report.
5. If you click **Time Sync** under one of the servers, the time of the current GV-3D People Counter will be synchronized with the selected server. To cancel time synchronization, double-click the selected radio button.

Note:

1. GV-3D People Counter is only compatible with GV-Web Report V2.2.3.0 or later.
2. Dynamic domain name is not supported in the **IP** field.

4.3 Accessing People Counting Data

After setting up the GV-3D People Counter to start collecting data, you can access the people counts, tables and charts. Use one of the following tabs in GV-Web Report Lite to look up the data.

- **Device**: Displays the counted data and graphs from all connected GV-3D People Counter. The data is updated every minute.
- **Group:** You can group the connected GV-3D People Counter and see the data of the set group.
- **Log:** Allows you to look up the data of a specified time period from the selected GV-3D People Counter.
- **Query:** Provides the daily, weekly, monthly and yearly people counting graphs and tables.

4.3.1 Device

The data on the main page of the Device page is updated every minute from the GV-3D People Counter. The page displays the people counts and graphs of all connected devices.

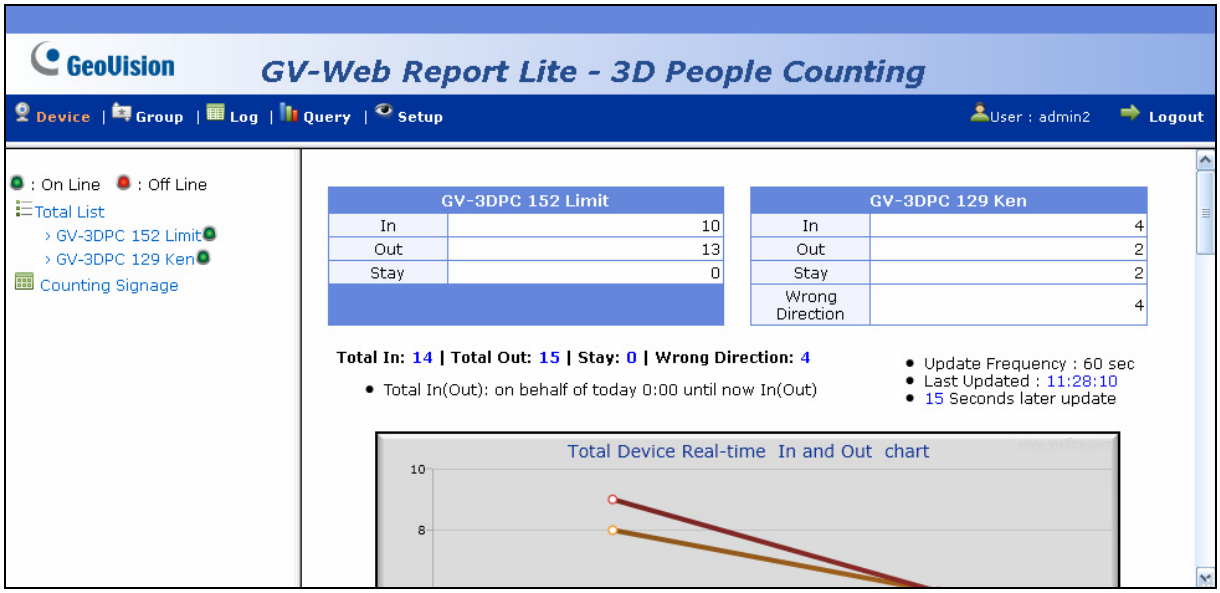


Figure 4-14

The tables on the main page show the following information for each GV-3D People Counter.

- **In:** The number of people entered on that day since 0:00 or since the start of schedule.
- **Out:** The number of people exited during the day.
- **Stay:** The number of people remaining. That is subtracting the number of **Out** from the number of **In**.
- **Wrong Direction:** If you have enabled the Wrong Direction Alarm in the Setup page, the number of people moving in the wrong direction during the day will be shown.

The **Total In**, **Total Out**, **Stay** and **Wrong Direction** below the tables are the total number of people counted from all connected GV-3D People Counter.

On the left menu, these options are available:

- **Total List:** Select a device to access its individual counts. A green mark indicates that the device is now connected to GV-Web Report Lite; otherwise a red mark appears.
- **Counting Signage:** Access the number of people counted on the day and the recent records of entries and exits. When people move in the wrong direction, the alarm will sound. The 20 more recent records will be listed at the bottom and the record will be highlighted in one of the following colors.
  - Green (number of In detected > number of Out detected)
  - Red (number of Out detected > number of In detected)
  - Yellow (number of Out detected = number of In detected)

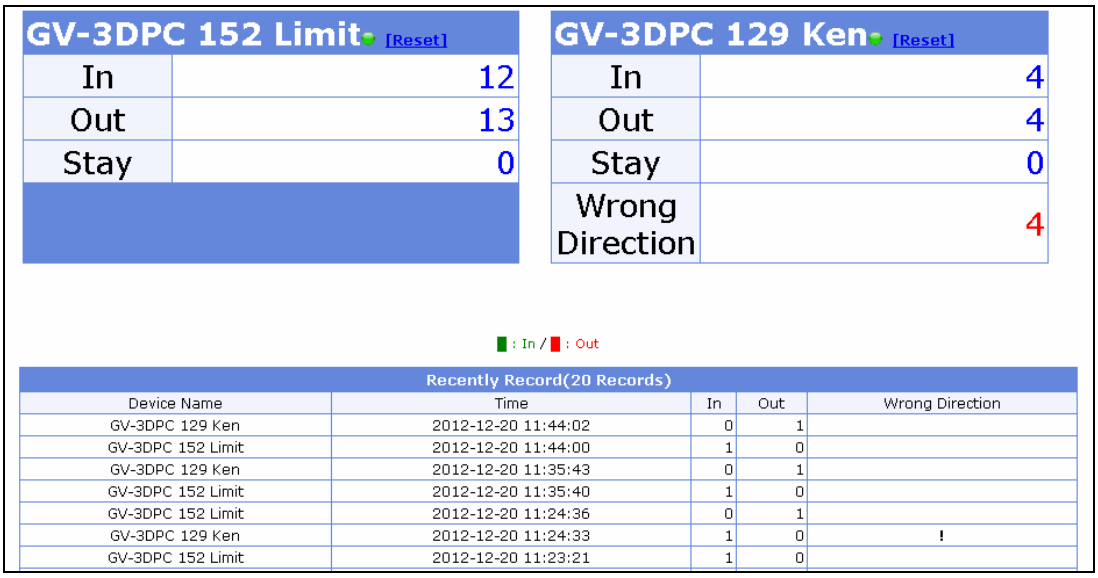


Figure 4-15

4.3.2 Group

On the Group page, you can group the connected GV-3D People Counter, and see the people counts of the set group. You can also set up the maximum number of people entered, left and remaining to activate the computer alarm when the number is exceeded. E-mail notification can be activated when the number of people remaining reaches the pre-defined maximum.

To set up a group:

1. Select **Add Group** from the left menu. This page appears.

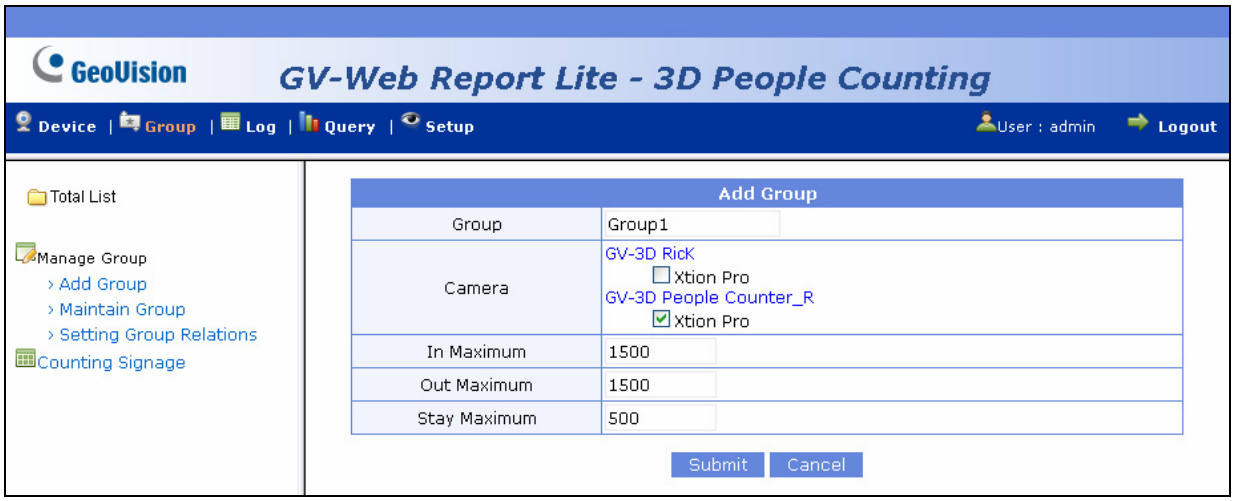


Figure 4-16

2. Name the group.
3. Select the GV-3D People Counter you want to include in the group.
4. In the **Maximum In** field, set the maximum number of people that can enter during the day before activating the computer alarm.
5. In the **Maximum Out** field, set the maximum number of people that can leave during the day before activating the computer alarm.
6. In the **Maximum Stay** field, set the maximum number of people that can remain during the day before activating the computer alarm, sending a notification e-mail or triggering an output device.
7. Click **Submit**.

8. To organize multiple groups into subgroups, click **Setting Group Relations** in the left menu. Drag and drop a group under another group to make it a subgroup.

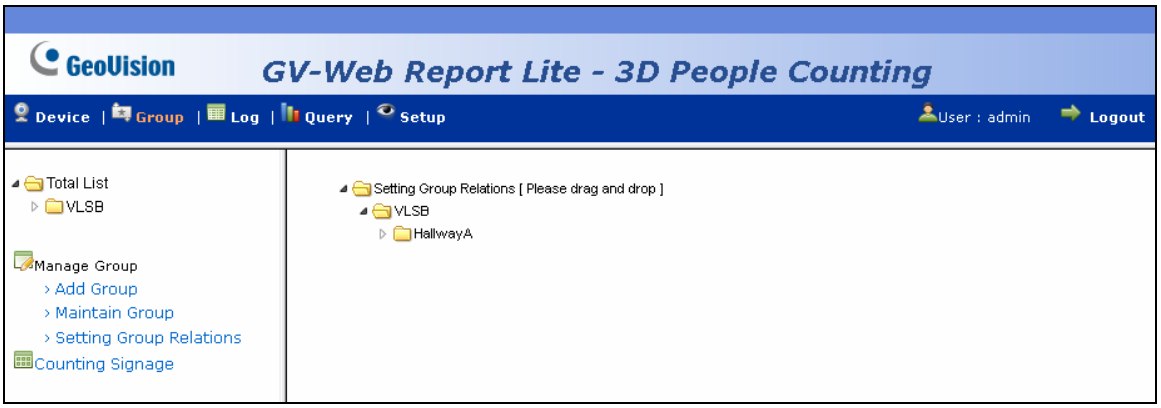


Figure 4-17

On the left menu of the Group page, you can find these options:

- **Total List:** Access the people counts of the set groups updated every minute.
- **Counting Signage:** Access the people counts of the set groups updated in real time. When the limit of **Maximum In**, **Maximum Out** or **Maximum Stay** is reached, the warning texts will be displayed on the page and the computer alarm will be activated too.

4.3.3 Log

On the Log page, you can look up the people counts per hour of a specified time period from the selected GV-3D People Counter or group.

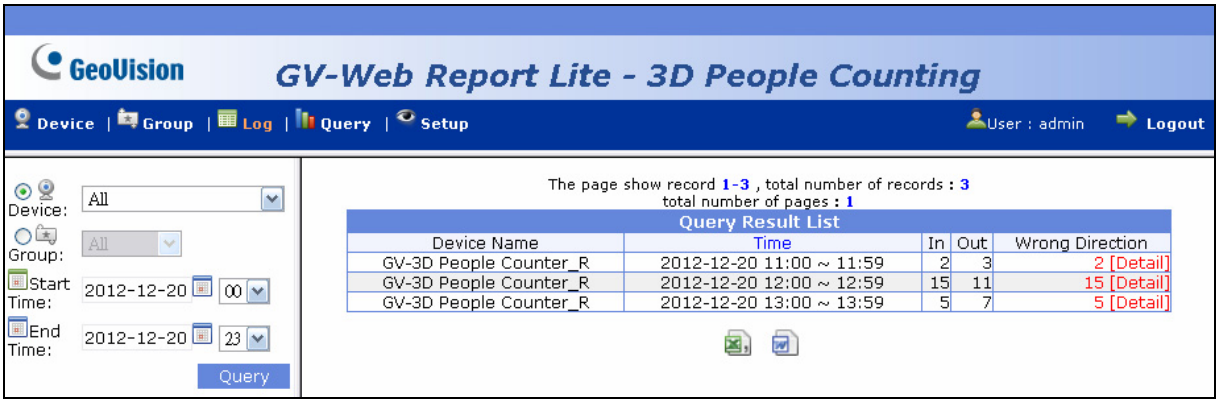


Figure 4-18

To search the log data:

1. Select a specific GV-3D People Counter from the **Device** drop-down list or a created group from the **Group** drop-down list.
2. Specify **Start Time** and **End Time** of the log data.
3. Click **Query** to display the search results.

To back up the search results in EXCEL or WORD, click the icons at the bottom of the Query Result List. Under Wrong Direction, you can click **[Detail]** to see the time of the wrong entry or exit during that hour.

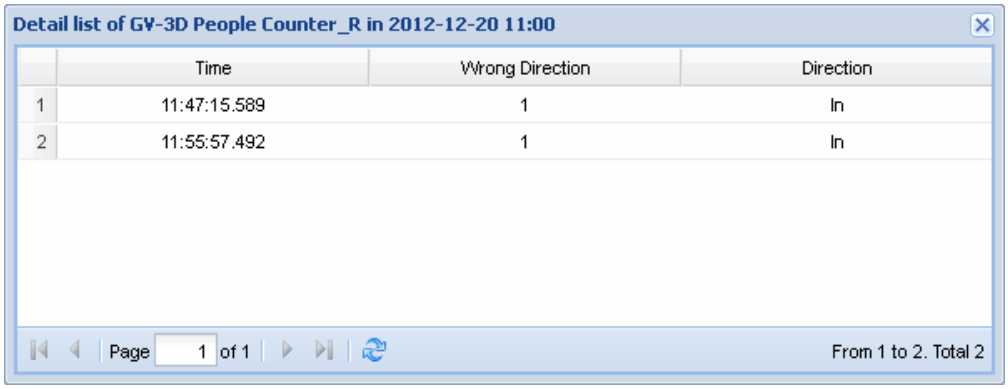
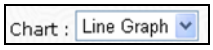


Figure 4-19

4.3.4 Query

The Query page provides you with the daily, weekly, monthly and yearly people counting graphs and tables.

To search the counting data, select a GV-3D People Counter from the **Device** drop-down list or a created group from the **Group** drop-down list, specify a date, and select the options below. Use the **Chart** drop-down list 

to choose to display the data using bar graph, line graph or pie graph.

To back up the search results in EXCEL or WORD, click the icons at the bottom of the Query Result List.

Note: Pie graph is not available for the following types of data:

- In/Out Counts per hour and Total Stay
- Total In, Out and Stay per Hour
- In Counts per Hour
- Out Counts per Hour
- Total Stay per Hour

[Daily Report] Display the counting report of the specified date.

- **In/Out Counts per hour and Total Stay:** The hourly number of people entered and left, and the total number of people remaining until now.
- **Difference between In and Out per hour:** The hourly number of people remaining.
- **Total In, Out and Stay per hour:** The total number of people entered, left and remaining during the day.

The following figure is an example of the **In/Out Counts per hour and Total Stay** option. The value 12, 15 indicates the count of remaining people until 12 pm is 15.

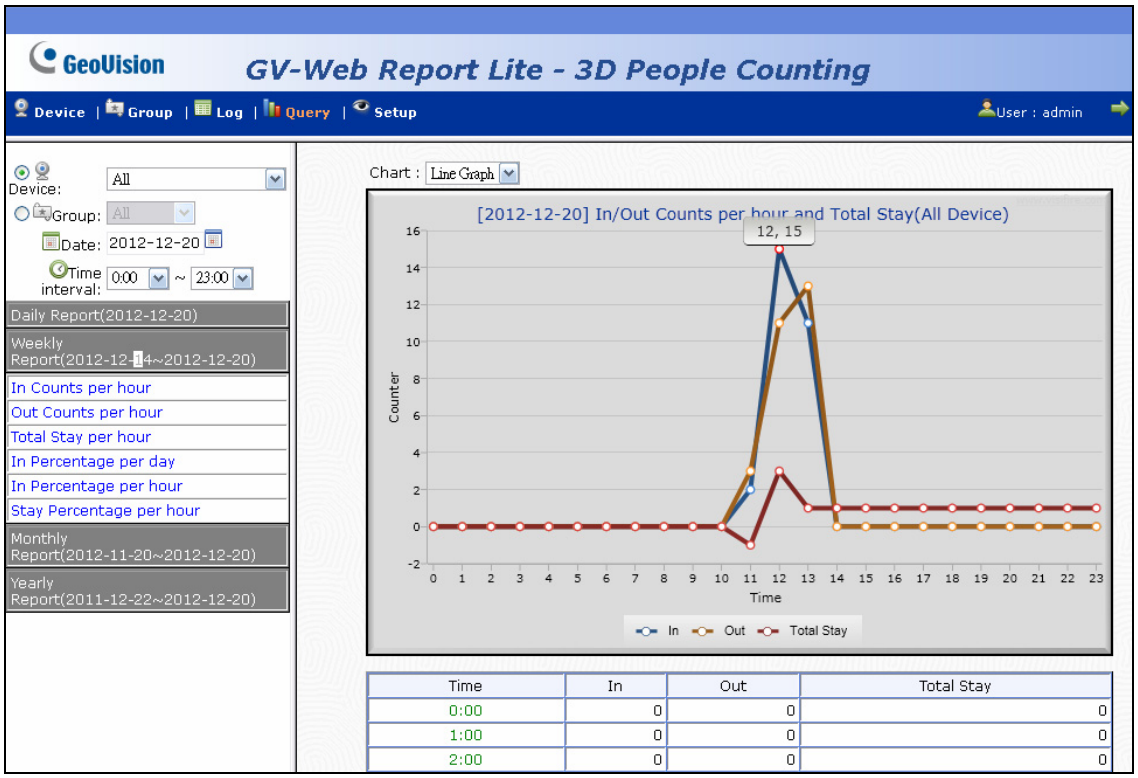


Figure 4-20

[Weekly Report] Display the weekly report that contains the data of 7 days before your specified date.

- **In Counts per hour:** The hourly number of people entered for the week.
- **Out Counts per hour:** The hourly number of people left for the week.
- **Total Stay per hour:** The hourly number of people remaining for the week.
- **In Percentage per day:** The daily percentage of people entered for the week.
- **In Percentage per hour:** The hourly percentage of people entered for the week.
- **Stay Percentage per hour:** The hourly percentage of people remaining for the week.

The following figure is an example of the **In Percentage per day** option. The value 2012-12-20 (Thu), 29 (26.85%) indicates the total number of entered people on 2012/12/20 is 29. The number takes up 26.85 percent of the total people entered for the week.

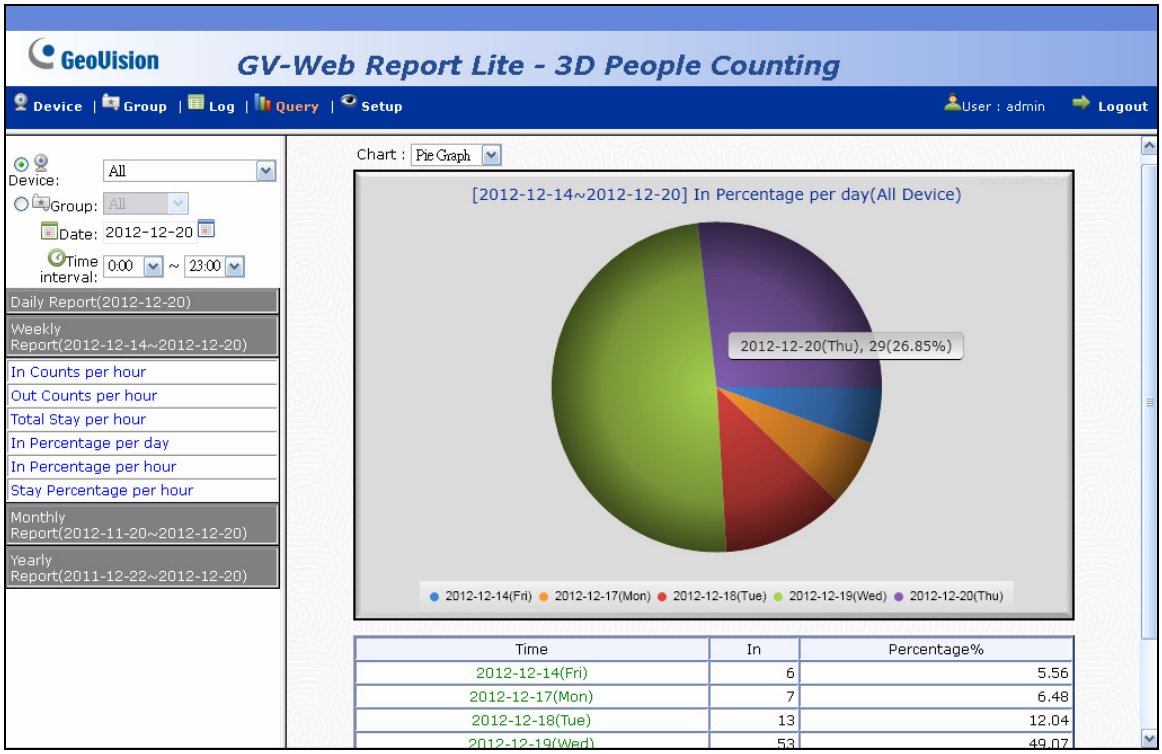


Figure 4-21

[Monthly Report]

- **In Percentage per day:** The daily percentage of people entered in the month.
- **In Percentage per hour:** The hourly percentage of people entered in the month.
- **Stay Percentage per hour:** The hourly percentage of people remaining in the month.

[Yearly Report]

- **In Percentage per month:** The monthly percentage of people entered in the year.
- **Out Percentage per hour:** The hourly percentage of people entered in the year.
- **Stay Percentage per hour:** The hourly percentage of people remaining in the year.

Chapter 5 Content Designer

Using the Content Designer, you can customize the screen layout for display monitor to show the in counts, out counts, stay counts and the current time.

5.1 Minimum System Requirements

The minimum system requirements to install and run the Content Designer:

OS Supported	**32-bit**	Windows XP / 7
	64-bit	Windows XP / 7
CPU		Pentium 4, 3.0 GHz
RAM		1 GB
HDD		80 GB
VGA		AGP or PCI-Express, 800 x 600 (1280 x 1024 recommended), 32-bit color
DirectX		9.0c
.NET Framework		3.5

5.2 Installing the Content Designer

Follow the steps below to install the Content Designer:

1. Insert the Software CD to your computer. It runs automatically and a window pops up.

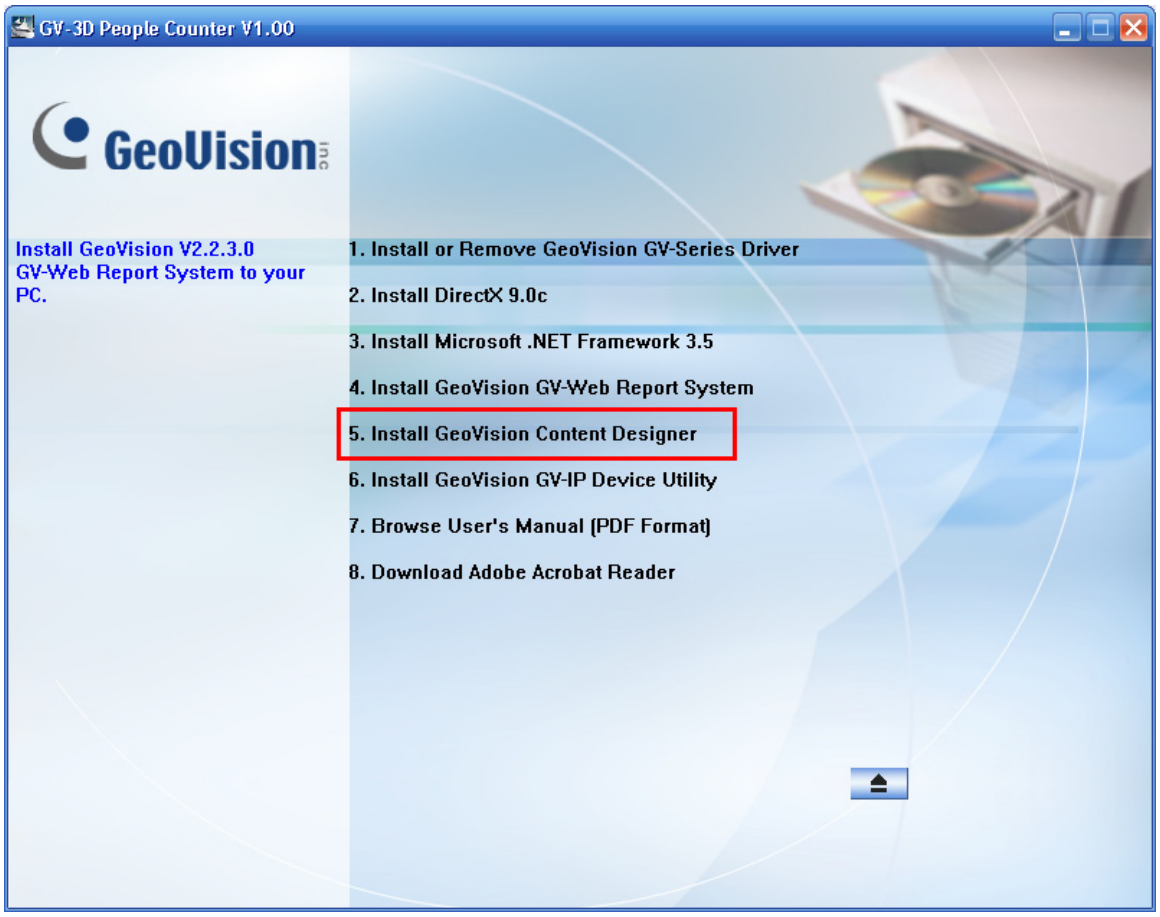


Figure 5-1

2. Select **Install DirectX 9.0c** and follow the on-screen instructions.
3. Select **Install Microsoft .NET Framework 3.5** and follow the on-screen instructions.
4. Select **GeoVision Content Designer** and follow the on-screen instructions.

5.3 Creating a Screen Layout

1. To create a project, click **File** on the menu bar and select **New Scenario**.
2. Select **GV-3D People Counter** and a screen resolution. The screen resolution must match the resolution you set for the display monitor.

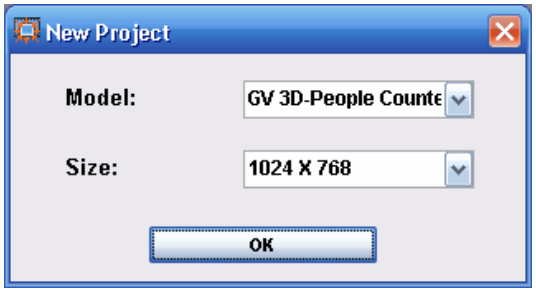


Figure 5-2

Note: The following resolutions for HDMI and VGA video outputs are available:

HDMI at 60 Hz	480p	720p	1080i	1080p
VGA at 60 Hz	640 x 480	1024 x 768	1280 x 768	1366 x 768

For HDMI 480p, select 720 x 480; for HDMI 720p, select 1280 x 720; for HDMI 1080p and 1080i, select 1920 x 1080.

---

3. On the top-left corner, click the **Background Image** icon and click **Browse** to select a picture in PNG, JPEG or BMP format to be the background image.

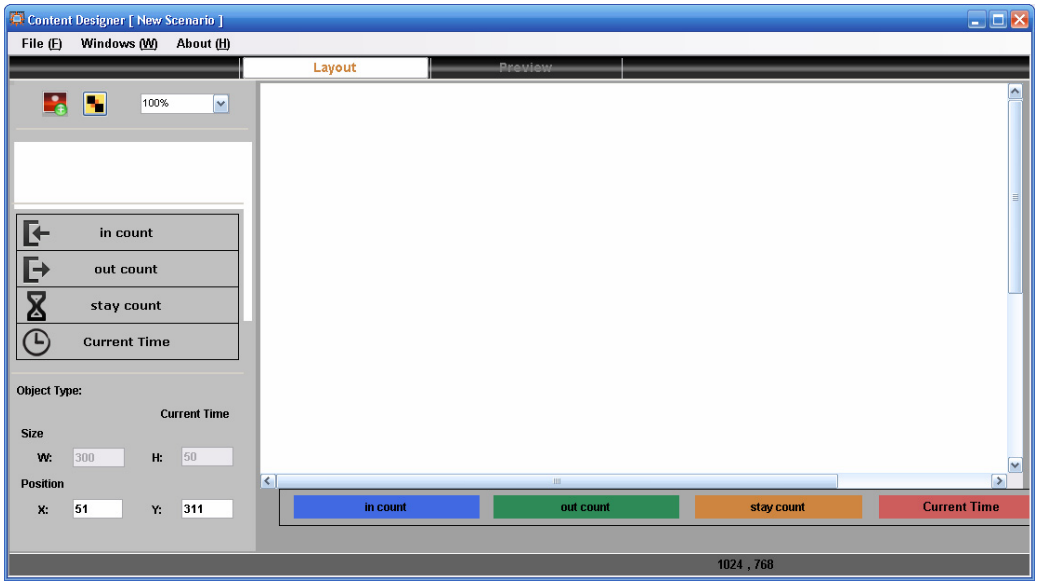


Figure 5-3

Note: The **In Count**, **Out Count**, **Stay Count** and **Current Time** will be shown on the display monitor as numbers only. If you wish to label the counting data, you will need to add a background picture with text added where the data will be shown. For example:

Figure 5-4

4. On the left side, click the **In Count**, **Out Count**, **Stay Count** and **Current Time** icons to add these objects to the main screen.

Figure 5-5

5. You can adjust the size and position of the objects using the **Size** and **Position** fields in the bottom-left corner or drag and drop the object boxes. To resize the box for Current Time, double-click the object and select from a list of pre-defined resolutions.

5.4 Exporting the Screen Layout to GV-3D People Counter

1. To preview the created screen layout, click **Preview**

on the main screen.
2. To save the screen layout, click **File** and select **Output Scenario**.
3. Click to browse the location to save the screen layout. The screen layout will be saved in a folder named **3DPeopleCounter**.

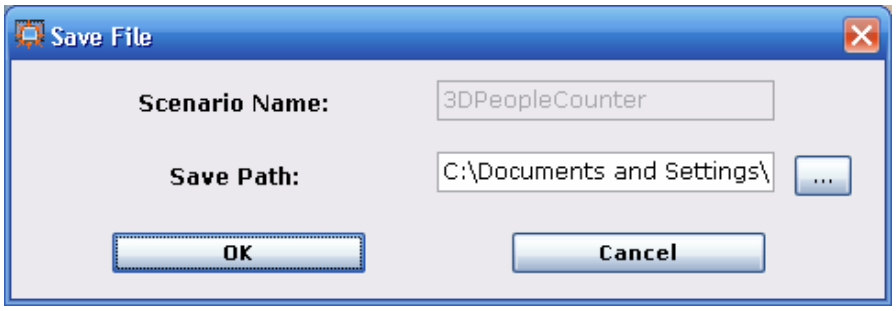


Figure 5-6

4. In a SD card, create a folder named **Scenario** and copy the **3DPeopleCounter** folder to the **Scenario** folder.
5. Turn off the GV-3D People Counter, insert the SD card, and restart the GV-3D People Counter to apply the new screen layout.

Chapter 6 GV-IP Device Utility

GV-IP Device Utility can detect GV-3D People Counter in the LAN and allows you to quickly set the IP address of the device, upgrade firmware and reboot the device.

6.1 Installing GV-IP Device Utility

1. Insert the Software CD to your computer. It runs automatically, and this window appears.

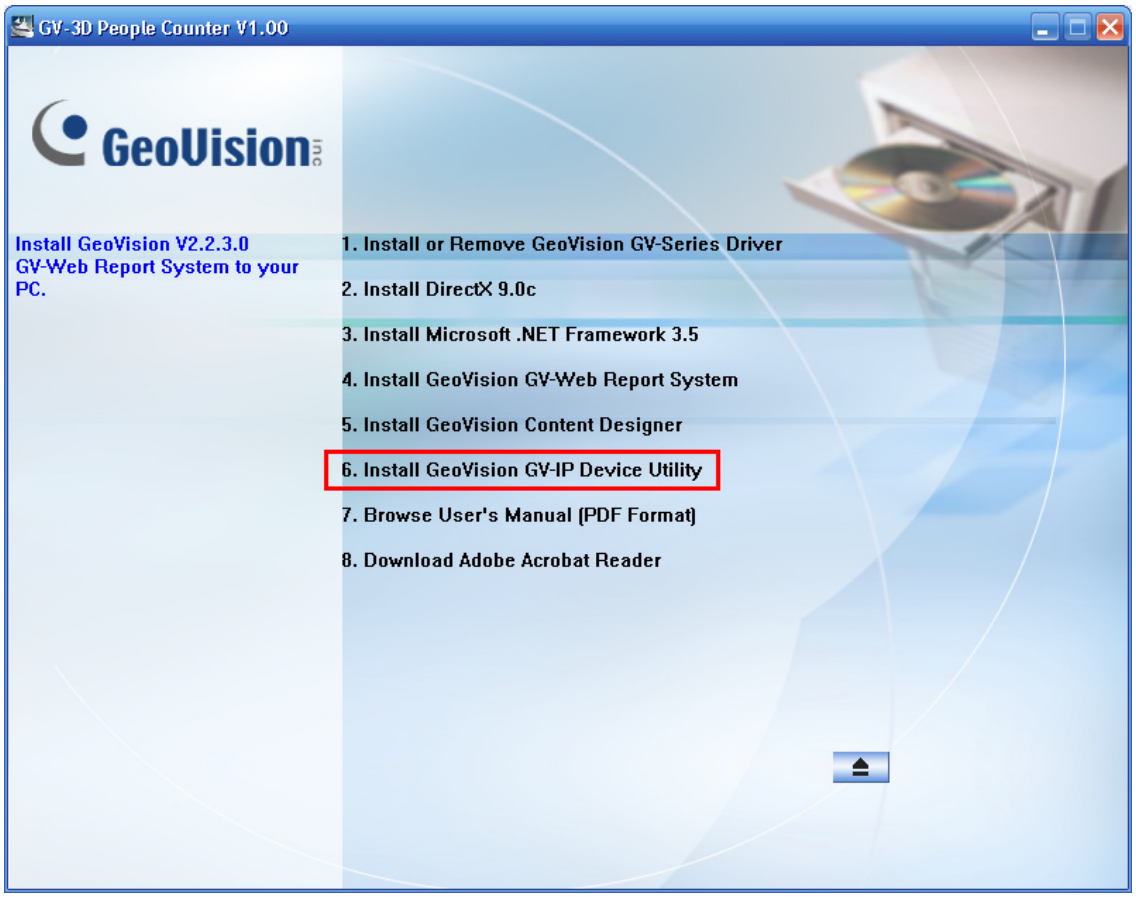


Figure 6-1

2. Select **Install GV-IP Device Utility**, and follow the on-screen instructions.

6.2 Setting the GV-3D People Counter

1. To start the GV-IP Device Utility, go to Windows **Start**, point to **Programs** and select **GV IP Device Utility**. The window below appears and automatically searches for any GV-IP device under LAN.

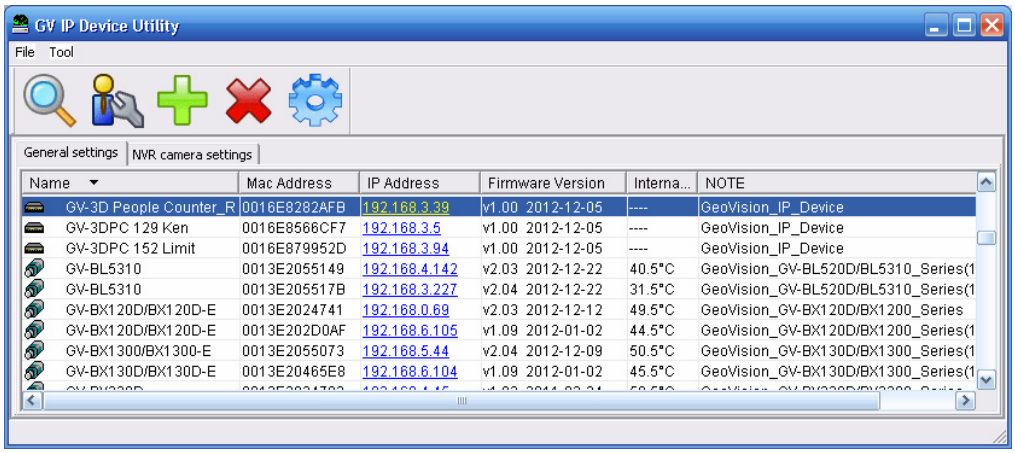


Figure 6-2

2. Double-click a GV-3D People Counter. This dialog box appears.

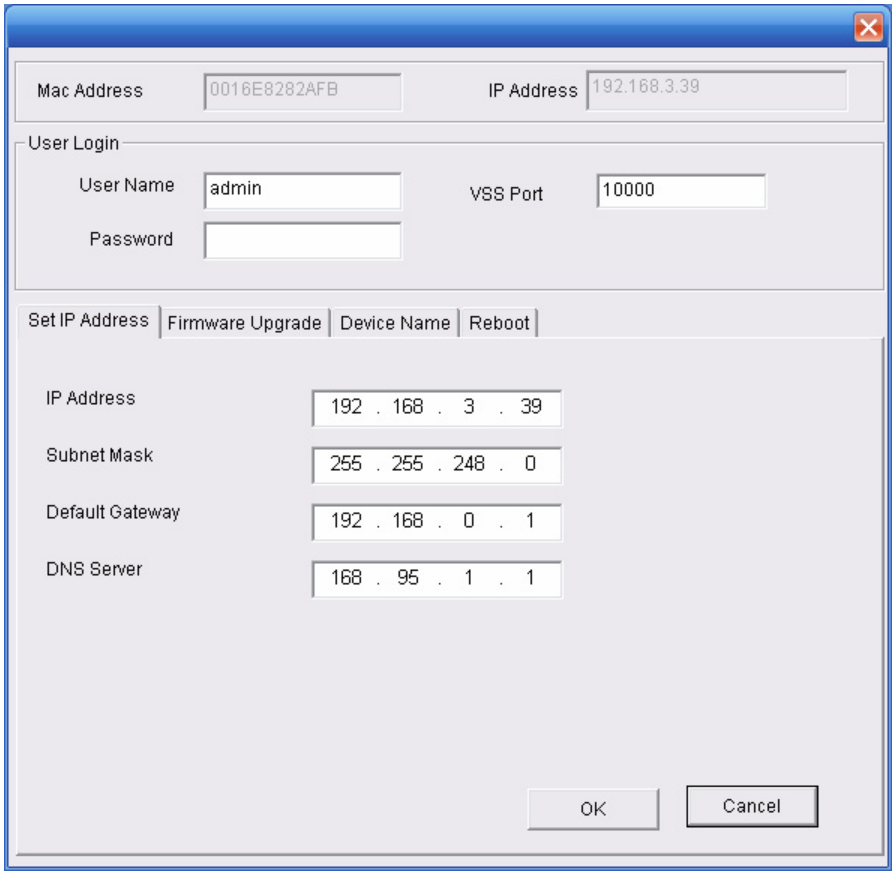


Figure 6-3

3. Click the different tabs to access the following settings:
   - **Set IP Address:** Type the IP address, subnet mask, default gateway and DNS server of the GV-3D People Counter.
   - **Firmware Upgrade:** To upgrade the firmware, click **Browse** to specify the path of the firmware file and click **Upgrade** to proceed. You can select **Upgrade all devices** to upgrade all other GV-3D People Counter of the same username and password.
   - **Device Name:** Renames the GV-3D People Counter.
   - **Reboot:** Reboots the GV-3D People Counter.

Specifications

GV-3D People Counter

Video Output	**HDMI**	480p, 720p, 1080i, 1080p
	VGA	640 x 480, 1024 x 768, 1280 x 768, 1366 x 768
Audio		3.5 mm Jack (for alarm)
IR Remote Control		Yes
Local Storage		SDHC card slot (4-32 G, Class 4 or above, FAT32 format)
Ethernet		10/100 Ethernet
Power Adapter		12V / 3A DC Jack (Max. 36 W)
Supported Browser		Mozilla Firefox, Google Chrome
Operating Temperature		0°C ~ 40°C (32 °F ~ 104 °F)
Operating Humidity		20 % ~ 80 % (with no condensation)
Dimensions (W x H x D)		182.3 × 28.9 × 131 mm (7.18 × 1.14 × 5.16 in)
Weight		615 g (1.36 lb)
Regulatory		CE, FCC compliant
Language	**OSD**	English
	Web Interface	English, Russian, Traditional Chinese, Simplified Chinese

All specifications are subject to change without prior notice.

Asus Xtion Pro

Max. Power Consumption		2.5 W
Operating Distance		0.6 – 5 m (1.97 – 16.40 in)
Operating Environment		Indoor
Operating Temperature		0°C ~ 40°C / 40°F ~ 104°F
Angle of View	**Diagonal**	70°
	Horizontal	58°
	Vertical	45°
Interface		USB 2.0

All specifications are subject to change without prior notice.

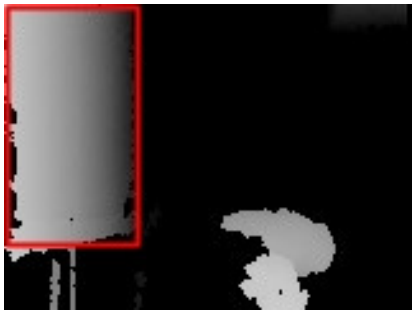
Appendix

Optimal Installation

To increase the accuracy of people counting results, be sure to install the Asus Xtion Pro with the correct lighting conditions and avoid placing IR LED nearby. The recommended installation height for Asus Xtion Pro is between 1.8 – 5 meters.

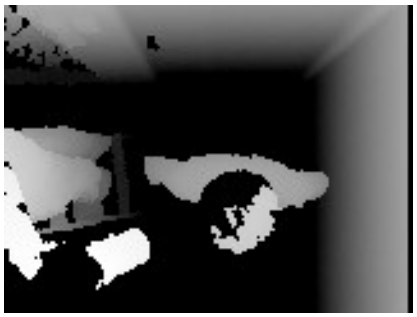
Avoid Direct Sunlight

Direct sunlight on the detection area may show up as a white region on the live view and interferes with people counting results.



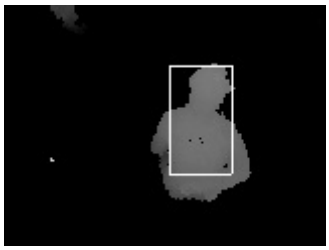
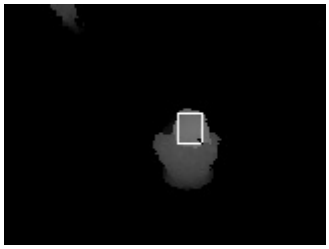
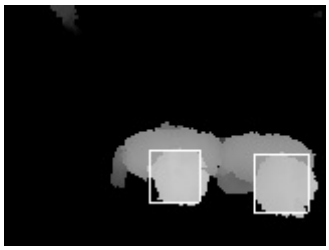
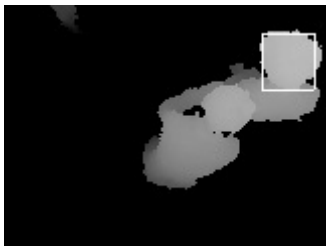
Avoid IR LED

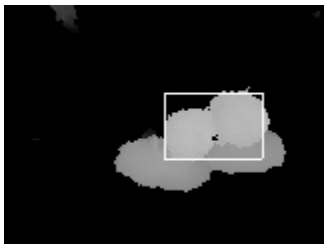
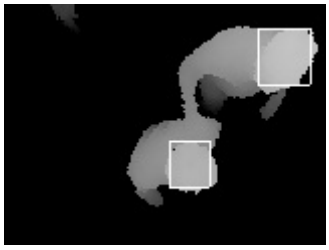
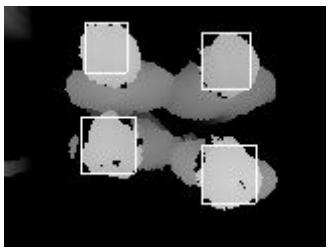
IR LED from the left of the view interferes with the IR sensor of the Asus Xtion Pro and causes part of the person's head to appear dark.



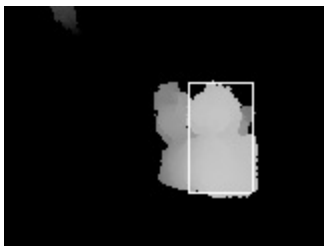
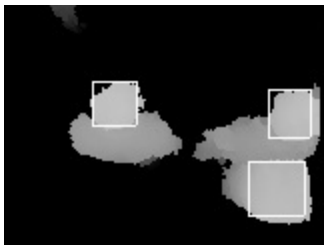
Detection Limitations

There are situations that may cause GV-3D People Counter to falsely detect the number of people. Below are examples of situations that may or may not result in false detection.

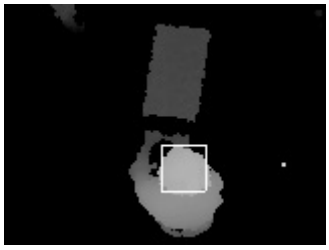
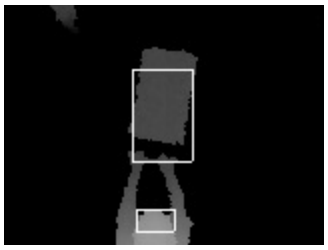
✓		Actual: 1 Counted: 1	Standing upright
✓		Actual: 1 Counted: 1	Leaning forward
✓		Actual: 1 Counted: 1	Squatting down
✓		Actual: 2 Counted: 2	Shoulder to shoulder
✗		Actual: 2 Counted: 1	Head leaning on shoulder

✗		Actual: 2 Counted: 1	Head to head
✓		Actual: 2 Counted: 2	One hand on shoulder
✓		Actual: 4 Counted: 4	Multiple people

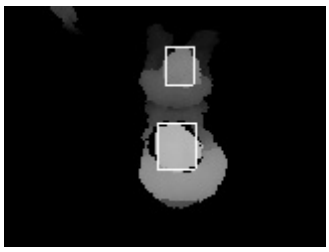
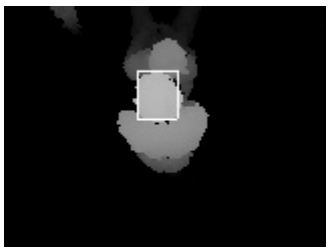
Carrying a large backpack:

✓		Actual: 1 Counted: 1	Backpack in close contact with the person's head.
✗		Actual: 2 Counted: 3	Backpack at a distance from the person's head.

Pushing a cart:

✓		Actual: 1 Counted: 1	Cart close to the person's body.
✗		Actual: 1 Counted: 2	Cart away from the person's body. **Tip:** Set a minimum detection height that is higher than the cart to avoid false detection.

Pushing a wheelchair:

✓		Actual: 2 Counted: 2	The person pushing the wheelchair is standing upright.
✗		Actual: 2 Counted: 1	The person pushing the wheelchair leans over and overlaps with the wheelchair user.