

# GV-3D People Counter V2

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## *User's Manual*





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[Warranty]



[Technical Support Policy]

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# Firmware and Software Compatibility

The compatible versions of GV-VMS and GV-Web Report are listed below:

Model	GV-VMS	GV-Web Report
<b>GV-3D People Counter V2 V1.03 or later</b>	V18.1.1 or later	V3.0.1A or later
<b>Note:</b> For showing the people counting data on GV-VMS's live view, see <i>Video Analysis by Camera</i> in <i>GV-VMS User's Manual</i> .		

# Chapter 1 Introduction

The GV-3D People Counter V2 can count and analyze the number of people passing by or staying within a designated area with high precision and accuracy. With its Power over Ethernet and user-friendly interface, the counter is simple to use and easy to install. You can look up neatly compiled people counting data through its chart analyses with the support of GV-Web Report Lite, a built-in Web interface. Additionally, the counter also supports the alarm trigger when the predefined occupancy limit is reached.

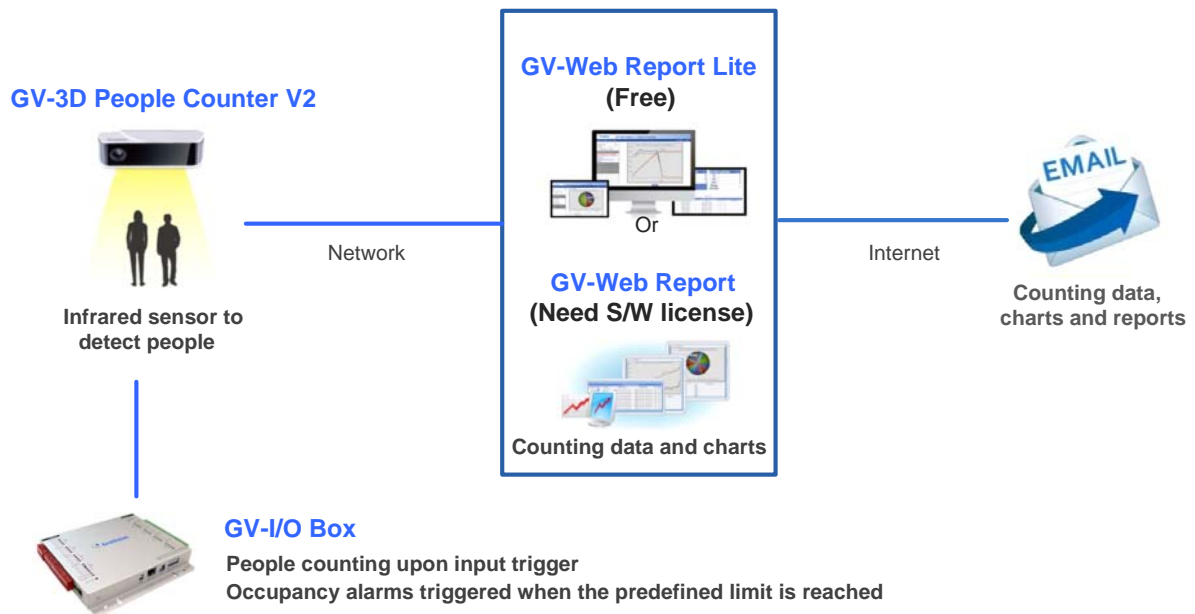


Figure 1-1

## 1.1 Packing List

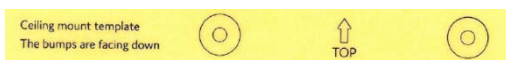
1. GV-3D People Counter V2



3. Ceiling Mount Kit



5. Installation Sticker x 2 (Wall mount / Ceiling mount)



7. Anchor x 2



9. Warranty Card

2. SDHC Micro SD card



4. Wall Mount Kit




6. Screw x 4



8. Download Guide

## 1.2 Optional Accessories

Optional accessories can expand the capabilities of your device. Contact your dealer for more information.

Options	Details
<p data-bbox="295 544 544 577"><b>GV-GPS Receiver</b></p> 	<p data-bbox="660 645 1401 678">Receive GPS signals for 3D People Counter positioning.</p>
<p data-bbox="344 887 494 920"><b>GV-IO Box</b></p>	<p data-bbox="660 815 1409 987">GV-IO Box extends the uses of an IP device by providing input and output ports for triggering alarms such as light or buzzer. GV-IO Box is available in different models with different numbers of inputs and outputs.</p>
<p data-bbox="304 1099 534 1133"><b>GV-PoE Adapter</b></p>	<p data-bbox="660 1032 1417 1205">GV-PoE Adapter is designed to provide power to the IP device through a single Ethernet cable. Adopting the PoE adapter enables you to mount an IP device anywhere in a building where power outlets are not available.</p>
<p data-bbox="309 1285 529 1319"><b>GV-POE Switch</b></p>	<p data-bbox="660 1240 1409 1368">GV-POE Switch is designed to provide power along with network connection for IP devices, which is available in various models with different numbers and types of ports.</p>
<p data-bbox="309 1469 529 1503"><b>GV-Web Report</b></p>	<p data-bbox="660 1402 1409 1574">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 Counter V2.</p>

## 1.3 Overview

This section illustrates the components of GV-3D People Counter V2.

### 1.3.1 Bottom and Rear Views



Figure 1-2

No.	Name	Function
1.	Lens	Captures people's image.
2	Ethernet Port	A plug for PoE (IEEE 802.3af).
3	Default Button	Resets all configurations to factory default settings.
4	Terminal Block	The connectors for the sensor input, alarm output and GPS receiver, see <i>1.3.3 Auxiliary Device Connectors</i> .
5	Memory Card Slot	Inserts a micro SD card (SD/SDHC/SDXC/UHS-I, Class 10) to store recording data.



### 1.3.2 Terminal Block

The 8-pin terminal block, located on the rear panel, provides interfaces for connecting a digital input, a relay output and a GV-GPS Receiver.

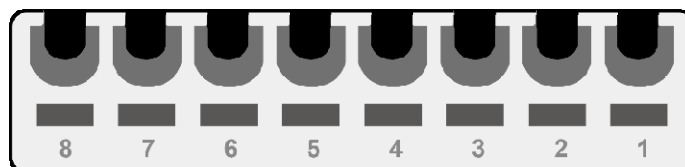


Figure 1-3

#### PIN Assignment

Pin	Function
1.	NO
2.	COM
3.	NC
4.	Digital Input
5.	Ground
6.	UART RX for GV-GPS Receiver
7.	UART TX for GV-GPS Receiver
8.	DC 5V Out for GV-GPS Receiver

# Chapter 2 Getting Started

## 2.1 Connecting the Device

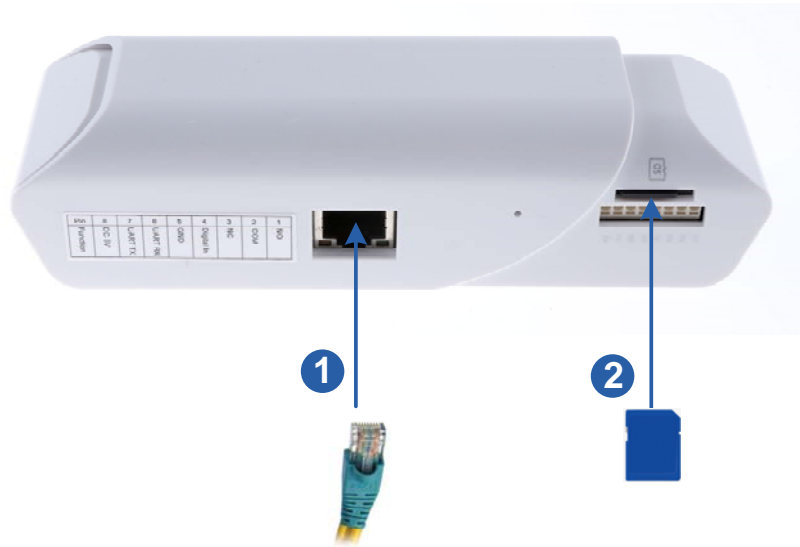


Figure 2-1

1. Plug a standard network cable or PoE to provide power supply and Internet connection.
2. Insert a micro SD card.

---

**Note:** GV-3D People Counter V2 only supports PoE. You may purchase GV-PA191 PoE adapter to connect to your router.

---

## 2.2 Restoring to Factory Default Settings

If for any reason the device is not responding correctly, you can restore it to its factory default settings.

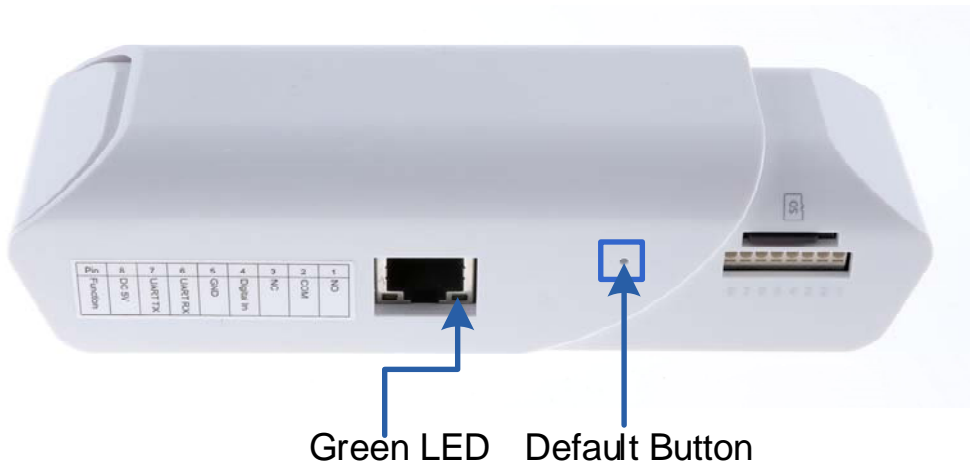


Figure 2-2

1. Press and hold the **Default** button on the rear panel.
2. Release the **Default** button when the green LED stops blinking. The device reboots automatically after loading the default settings.

---

**Note:**

1. The power supply should remain constant throughout the process of loading default.
  2. You can also reset the device using GV-IP Device Utility. See *Chapter 4 GV-IP Device Utility*.
-

## 2.3 Wall / Ceiling Mount

You can use the Wall / Ceiling Mount Kit to mount the device on a desired location.

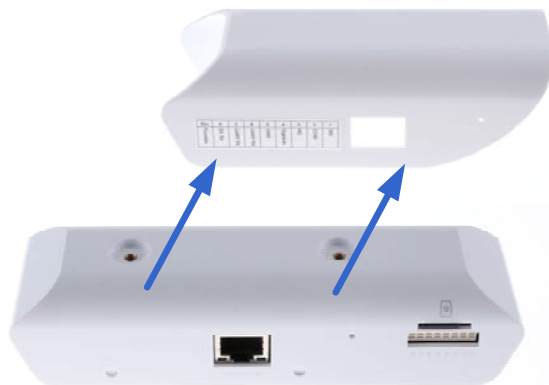
Wall Mount



Ceiling Mount



1. Remove the device's outer case.



*Figure 2-3*

- Secure the desired mounting kit to the designated position with 2 screws.

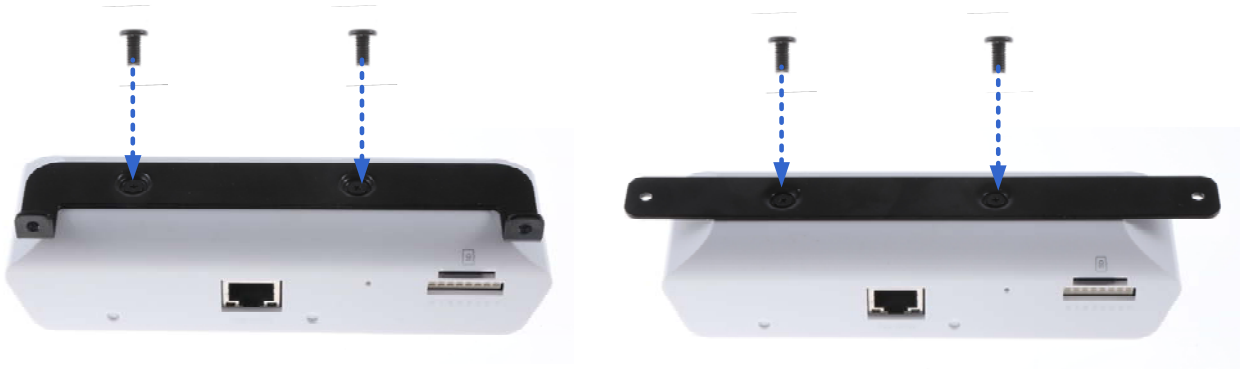


Figure 2-4

- Reassemble the outer case.



Figure 2-5

- Put the installation sticker to the wall with the arrow pointing up.
- Drill 2 holes according to the sticker and insert the 2 screw anchors to the 2 holes.
- Secure the device to the wall with 2 long screws.
- Optionally install the ground wire with the screw as shown below:

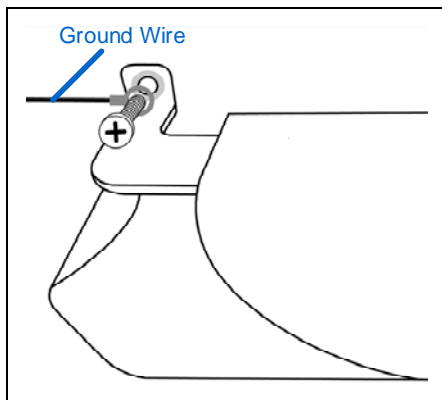


Figure 2-6

# Chapter 3 The Web Interface

Once the GV-3D People Counter V2 is connected to the network, you can view counting data by using its built-in Web interface, GV-Web Report Lite. When the device is connected to a network with DHCP, it will be automatically assigned with a dynamic IP address. To look up this IP address, use **GV-IP Device Utility** described in *Chapter 4 GV-IP Device Utility*.

However, if you do not have DHCP on your network, access the device by its default IP address **192.168.0.10**.

## 3.1 Accessing the GV-Web Report Lite

To access the device, **Microsoft Internet Explorer 10** or above is required.

Two types of users can log into the device: **Administrator** and **Guest**. The Administrator has full access to all system configurations, while the Guest can only access the **Device**, **Group**, **Log** and **Query** pages.

1. In your Web browser, type the IP address or the domain name of the device. This page appears.



Figure 3-1

2. Select the **Language**.
3. Type the default ID and password **admin**.
4. Type the characters shown in the image and click **Login**. The Counting Signage page appears, which will display real-time counting data after you set up the device.

5. Click **Setup** on the top left corner to set up the device.

GV-3D People Counter V2-B <small>[Reset]</small>	
In	27
Out	75
Stay	0

Figure 3-2

### 3.2 Setting the GV-3D People Counter V2

Once logging into GV-Web Report Lite, click **Setup** on the top left corner. In the Setup page, you can configure the network settings of the device and set up for counting people entering and leaving or record the dwell time of individuals staying within the designated area. Click **Reset** to restore all configurations of this page to its factory default settings.

#### 3.2.1 Selecting Detection Mode

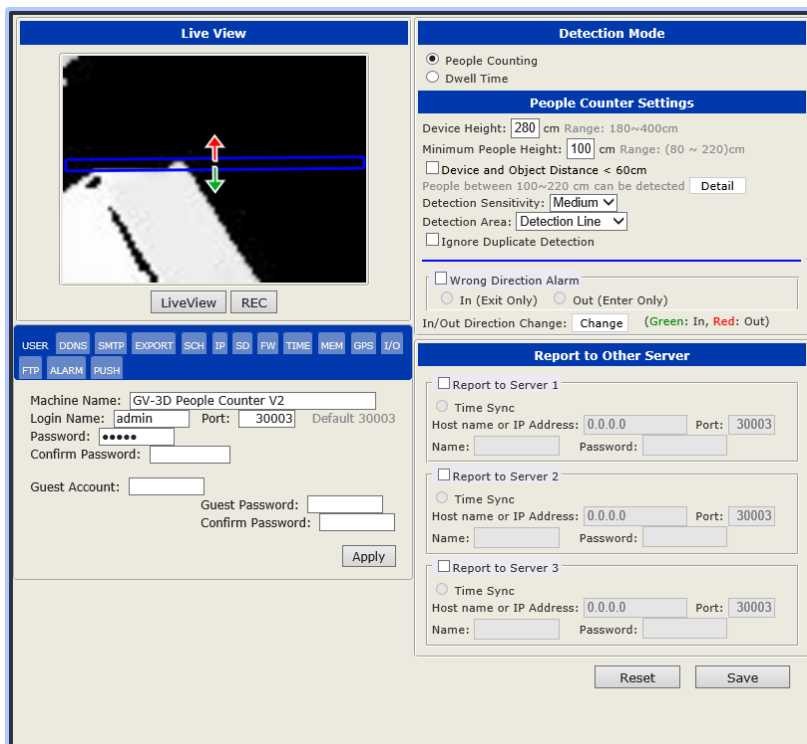


Figure 3-3

**[Detection Mode]** Choose the desired detection mode from People Counting or Dwell Time.

- **People Counting:** Counting and recording the number of people entering and leaving a designated area based on the directions set.

- **Dwell Time:** Record the dwell time of persons staying within a designated area.

**[Live View]** Draw a box on the live view to mark the boundary of the detection zone.

- For People Counting, people moving across the blue box in the direction of the red and green arrows will be respectively counted as *Out* and *In*.

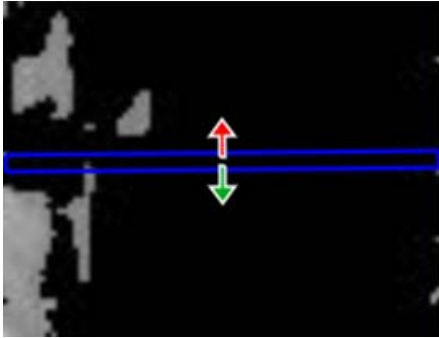


Figure 3-4

- For Dwell Time, a timer is set on every person entering the designated area, which only stops and records the dwell time upon the person leaving the area.



Figure 3-5

- **Live View:** Click to see the black and white live image of the detection area captured by the infrared sensor of the device.
- **REC:** Record 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 the maintenance attendants for troubleshooting. The function appears after you record live view.

---

**Note:**

1. **People Counting** and **Dwell Time** cannot function simultaneously.
  2. For **Dwell Time**, make sure enough space is left outside the edges of the designated area for determining the detected persons to be fully out of the area upon leaving.
-



### 3.2.2 People Counter Settings

In this panel, you can modify people counter settings, detection settings, and reverse the direction of entrance on Live View.

Figure 3-6

- **Device Height:** Type the height of the installed device. Depending on the height where the device is installed, the range of detectable height for people varies.
- **Minimum People Height:** Type the minimum height for a person to be detected.
- **Device and Object Distance < 60 cm:** Select this option when the distance of the installed device and targets is lower than 60 cm. Once the option is selected, the detection range will be reflected below.
- **Detail:** Click the button to see an illustration of the detectable range and the dimensions of the detection area based on the height you specified.

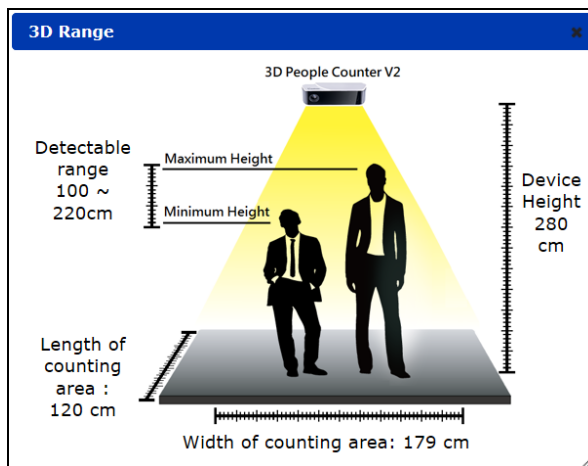


Figure 3-7

- **Detection Sensitivity:** Adjust the detection sensitivity at **Low**, **Medium** or **High**.
- **Detection Area:** Select **Detection Line** and drag a line on the image to distinguish directions for people moving across the defined line. Select **Mask Area** and drag image masks to conceal certain area on the live view. People moving across the defined mask position will not make a count.
- **Ignore Duplicate Detection:** Only for **People Counting**, enable to minimize repeated counting of people who lingers around the detection zone. Once enabled, a mask appears on the live view and people who lingers within the defined area only make a single count.
- **Wrong Direction Alarm:** Only for **People Counting**, enable if the detection area is for exit only or entrance only, a wrong direction count will be recorded in GV-Web Report Lite under **Counting Signage** when people are detected to be moving in the wrong direction. See *3.3.1 Device*.
- **In/Out Direction Change:** Only for **People Counting**, 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.

### 3.2.3 Report to Other Servers

You can send people counting data to up to three other GV-Web Report Lite servers and / or GV-Web Report for data collection and analyses. To query data collected by the GV-Web Report Lite, see *3.3 Accessing People Counting Data*.

1. Select **Report to Server**.
2. Type the **IP** address of the GV-Web Report (Lite).
3. Modify the default **Port** 30003 if necessary.
4. Type the **Name** and the **Password** to access the GV-Web Report (Lite).
5. If you click **Time Sync**, the current device time will be synchronized with the selected server.
6. Click **Save**.

Once you click **Save**, your device (e.g. GV-3D People Counter V2-B) will send counting data to the designated device (e.g. GV-3D People Counter V2-A) and the Machine Name of your device will appear in the left menu of the designated device.



Figure 3-8

---

**Note:** GV-3D People Counter V2 is only compatible with GV-Web Report V3.0.0.0 or later.

---

### 3.2.4 General Settings

The panel below the Live View allows you to manage various settings, such as network, device settings and more, from the following tabs: **User**, **DDNS**, **SMTP**, **Export**, **SCH**, **IP**, **SD**, **FW**, **Time**, **MEM**, **GPS**, **I/O**, **FTP**, **ALARM** and **Push**.

#### [User]

- **Machine Name:** Modify the display name of the device.
- **Login Name / Password:** Modify the login credentials of the administrator account. The default login name and password are **admin**.
- **Port:** Modify the port or keep the default value 30003. When connecting to another server, the device must use the same port as the server.
- **Guest Account / Password:** Modify the login credentials of the guest account. The default login name and password are **guest**.

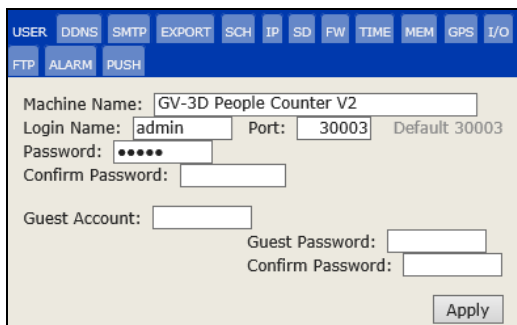


Figure 3-9

#### [DDNS]

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

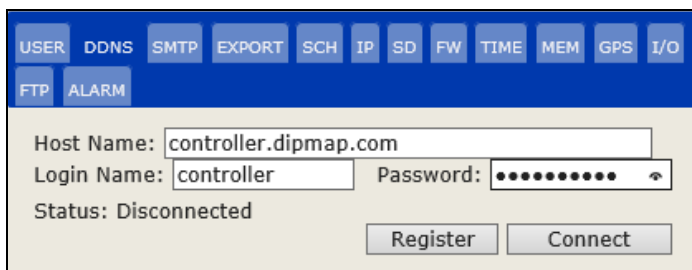


Figure 3-10

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 connect to the device.
3. Type the **Name** and **Password** used to enable the service from the DDNS.
4. Click **Connect**.

### [SMTP]

You can send a report of counting results from a specified E-mail address. For this function to work, make sure the mail server is properly configured, and the **Enable Auto Export** function in the **Export** tab is enabled.

Figure 3-11

- **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 in the **Login Username** and the **Login Password** fields.
- **Use SSL:** Select this option if the SMTP server needs a secure connection.
- **Test Email:** Click to send a test e-mail to the specified e-mail address. Make sure to configure the E-mail address in **Recipient E-mail** under **Export** as well.

### [Export]

To automatically receive an e-mail report of the counting data, select **Enable Auto Export** and type the **Recipient E-mail**. Specify the time to receive the report from the **Auto Export Time** drop-down list and click **Apply**. For this function to work, make sure the mail server is properly configured in the **SMTP** tab.

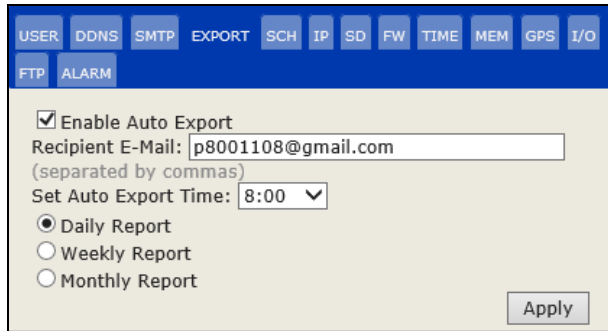


Figure 3-12

After completing the **Export** settings, you shall receive the report in a zip file at the appointed time. The format of the report is shown as the figure below.

A	B	C	D	E	F
DeviceName	Time	InCount	OutCount	StayCount	IntruderCount
GV-3D People Counter V2	7/20/2017 0:00	15	13	2	0
GV-3D People Counter V2	7/20/2017 1:00	20	13	9	0
GV-3D People Counter V2	7/20/2017 2:00	11	15	5	0
GV-3D People Counter V2	7/20/2017 3:00	12	13	4	0

Figure 3-13

### [SCH]

To enable people counting only during the specified period within a day, click the checkbox and specify a time period. You can set up to 3-time frames.

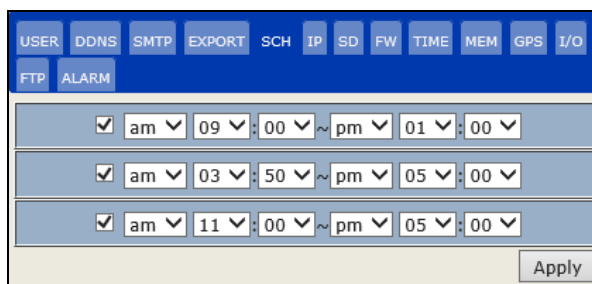


Figure 3-14

[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. By default, this option is enabled.
- **Static IP:** To set up a fixed IP address, type the **IP** address, subnet **Mask**, **DNS** and **Gateway** of the static IP.
- **PPPoE:** Establish the connection to your ISP. In **Username / Password**, Type the username and password provided by the ISP to establish the connection. However, if the IP address provided by your ISP is dynamic, use the DDNS function to obtain a domain name linking to the unit's changing IP address before enabling the PPPoE function. For details on Dynamic DNS Server Settings, see *DDNS* in 3.2.4 *General Settings*.

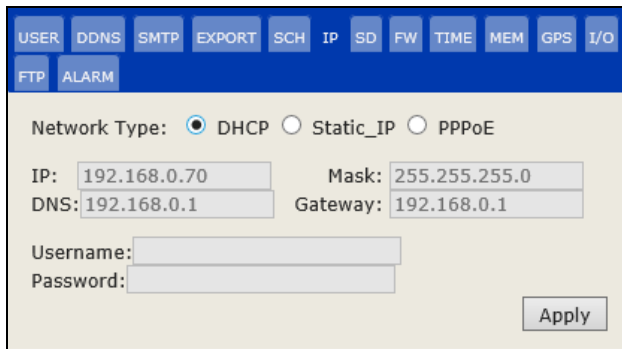


Figure 3-15

[SD]

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

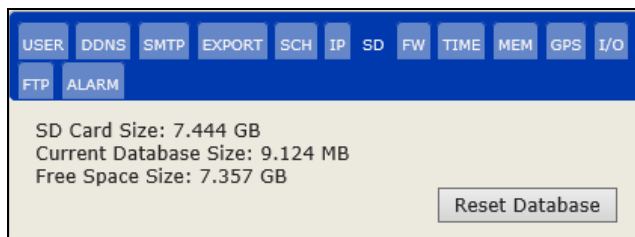


Figure 3-16

---

**Note:** Make sure to insert a functioning SD card in order for the People Counting function to work.

---

## [FW]

GeoVision periodically releases updated firmware on the [website](#). Upload the new firmware and click **Apply**.

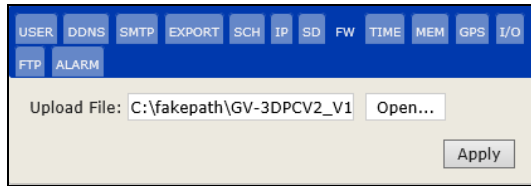



Figure 3-17

---

**Note:** Make sure to insert a functioning SD card before firmware upgrade. If the SD card is damaged, you will see an error message “open db failed” after firmware upgrade.

---

## [TIME]

To automatically synchronize the device time with the server time every day, select **Enable NTP Server Time SYNC**. From the drop-down list, specify the time period when the synchronization is to take place every day. To manually set the device time, click the calendar icon  to select the date, type the specific time into the time field, and click **Apply**.

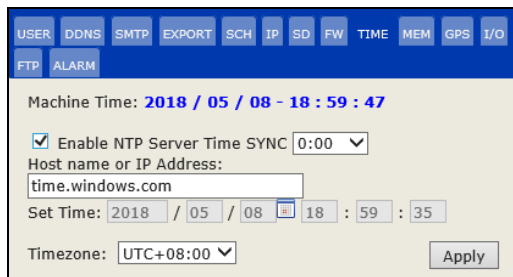


Figure 3-18

## [MEM]

By default, the counting result is reset to zero at 12:00 midnight everyday. To set a different reset time, specify the time period from the drop-down list next to **Counting value reset** and click **Apply**. After modifying the reset time, you can also click **Sync DB** and the GV-Web Report Lite synchronizes the counting results to the last updated result. 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 in the Counting Signage of GV-Web Report Lite.

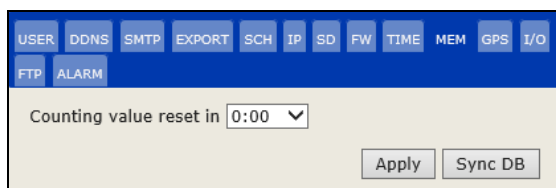


Figure 3-19



**[GPS] Only for People Counting**

Select **Enable GPS** to activate GV-GPS function. You can set the frequency for GV-3D People Counter V2 to download GPS information from GV-GPS. The interval is between 1~180 seconds. The connection status (Connected / Disconnected) is displayed in **Status**.

Figure 3-20

---

**Note:** The GV-GPS data is only accessible and supported by GV-Web Report V2.2.6.0.

---

**[I/O] Only for People Counting**

- **Enable Input / Output:** Enable the input and output device.
- **Normal State:** Set an input state to trigger actions.
- **Trigger digital output relay:** Trigger an output upon detection of a related input.
- **Trigger input for people counting:** Start people counting upon the input trigger.
- **Trigger Pulse Mode for x seconds (1~60):** Type the amount of time the triggered output lasts.

Figure 3-21

### [FTP]

The GV-3D People Counter V2 can act as an FTP server for external IP devices to download the recorded files saved on the memory card.

- **Enable FTP access to the GV-3D People Counter V2:** Allow external IP devices to access the device as a FTP server.
- **Use Alternative Port:** The default port is 21.

Under **FTP Server User Account**, type the default username **ftpuser** and password **123456** when you are prompted for authentication.

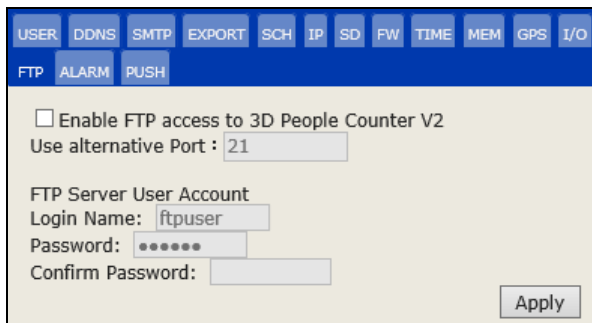


Figure 3-22

### [ALARM] Only for People Counting

Click **Enable Occupancy Detection** to trigger an alarm output as the number of occupants exceeds the limit of **Maximum Occupancy**, ranging from 1~65535 people.

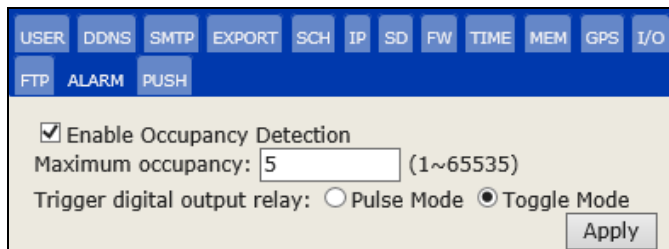


Figure 3-21

- **Pulse Mode:** The triggered output duration is as set up in the I/O tab (see *Figure 3-18*).
- **Toggle Mode:** The triggered output will last as long as the number of occupants is greater than or equal to the Maximum Occupancy.

---

**Note:** The counting data of multiple devices can be combined to trigger occupancy alarms. For details, see [3.3.2 Group](#).

---

**[PUSH]**

Select **Enable Push Report** and type the **URL** of the server you want to send the notification data to along with its port number.

- **Login Required:** Select to optionally set a **Login Username** and **Password** that needs to be matched on the server for receiving data from GV-3D People Counter V2.
- **Aggregation Level:** Select the time interval between sending each notification data.
- **Group ID:** Set an ID for the server to determine which device the data is being sent from.

Figure 3-24

### 3.3 Accessing People Counting Data

After the GV-3D People Counter V2 is properly configured and the data collection process begins, you can access the following pages for the people counting data in the format of tables, graphs and charts:

- **Device:** Display the real-time counting data in tables and bar charts from all connected devices. The data is updated every minute.
- **Group:** Allows you to organize the connected devices into Groups and view the data of created groups.
- **Log:** Allows you to view the data of a specified time period from the selected device.
- **Query:** Provides counting data on the daily, weekly, monthly and yearly graphs and tables.

---

**Note:**

1. When detection mode is set as *Dwell Time*, only the persons entering the designated area are counted and displayed as In.
  2. When detection mode is set as *Dwell Time*, Log and Query functions are not supported.
-

### 3.3.1 Device

In **Device**, you can see the total number of people entering, exiting, and staying in an indoor space, along with the total number of people who moves in the wrong direction in the form of tables and bar charts. The data on this page is updated every minute from all connected devices.





Figure 3-25

The tables on the main page show the following information for each GV-3D People Counter V2.

- **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:** The number of people moving in the wrong direction. To display this information, the **Wrong Direction Alarm** option in **Setup** must be enabled. See 3.2.2 *People Counter Settings*.

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 V2.

On the left menu, these options are available:

- **Total List:** Select a device to access its individual counting data. A green figure  indicates that the device is connected to GV-Web Report Lite; otherwise a red figure  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 recent 20 records are listed at the bottom, 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)

2020-05-25 0:00 ~ 2020-05-26 0:00				
GV-3D People Counter V2 [Reset]				
In				44
Out				32
Stay				12
Wrong Direction				44

Recently Record(20 Records)				
Device Name	Time	In	Out	Wrong Direction
GV-3D People Counter V2	2017-07-24 10:49:39	1	0	f
GV-3D People Counter V2	2017-07-24 10:49:30	0	1	
GV-3D People Counter V2	2017-07-24 10:48:37	0	1	
GV-3D People Counter V2	2017-07-24 10:48:23	1	0	f
GV-3D People Counter V2	2017-07-24 10:48:10	1	0	f

Figure 3-26

- For *Dwell Time*, only the persons entering the designated area are recorded, which are displayed as **In** with their stay times shown.

2019-06-03 0:00 ~ 2019-06-04 0:00		
GV-3D People Counter V2-C [Reset]		
In		264

Recently Record(20 Records)		
Device Name	Time	Dwell Time(sec)
GV-3D People Counter V2-C	2019-06-03 13:09:26.948	1.0
GV-3D People Counter V2-C	2019-06-03 13:05:11.884	1.0
GV-3D People Counter V2-C	2019-06-03 13:03:51.164	1.0
GV-3D People Counter V2-C	2019-06-03 13:01:37.037	1.0
GV-3D People Counter V2-C	2019-06-03 13:00:36.862	1.0

Figure 3-27

### 3.3.2 Group

In **Group**, you can organize the connected GV-3D People Counter V2 into a hierarchy of groups and view the counting data of each device in a set group. The counting data of all the devices within the group will be combined to trigger occupancy alarms and computer alarms upon reaching or exceeding the predefined maximum occupancy.

#### To set up a group:

1. Log in the devices you wish to add and follow the steps in 3.2.3 *Report to Other Servers* to connect them to a designated device.
2. Log in the designated device. Click **Add Group** from the left menu. This page appears.

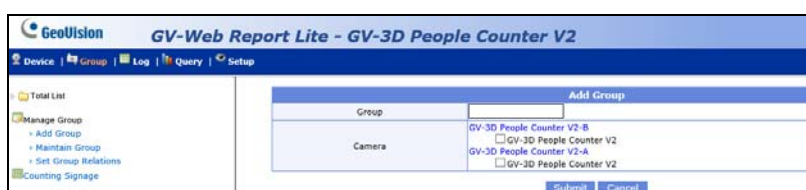


Figure 3-28

3. Name the group.
4. Select devices to be included in the group.
5. Click **Submit**.
6. To organize multiple groups into hierarchy, click **Set Group Relations** in the left menu. Drag and drop a group under another group to make it a subordinate group.

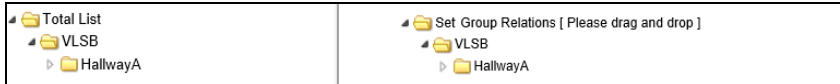


Figure 3-29

**To trigger occupancy alarms when the predefined limit is reached for the grouped devices:**

1. To set up an output alarm, click the I/O tab. See *Figure 3-21*.
2. To enable occupancy detection and define the limit, click the ALARM tab. See *Figure 3-23*.

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

- **Total List:** Access the counting data of the set groups updated every minute.
- **Counting Signage:** Access real-time counting data of the set groups. When the value of **Stay** reaches or exceeds the predefined maximum occupancy, a warning message display on the page, as well as trigger occupancy alarms and computer alarms.

### 3.3.3 Log

In **Log**, you can view the data of a specified time period, listed on an hourly basis, from a specific GV-3D People Counter V2 or group.

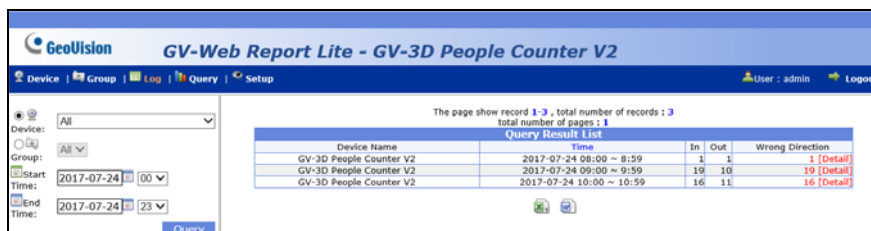




Figure 3-30

To search the log data:

1. Select a **Device** or a **Group**.
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.





	Time	Wrong Direction	Direction
1	08:34:18.716	1	In

Figure 3-31

### 3.3.4 Query

In **Query**, the counting data is provided on the daily, weekly, monthly and yearly graphs and tables.

To search the counting data, select a **Device** or a **Group**, specify a date, and select the options below. To view the data in bar graph, line graph or pie chart, use the **Chart** drop-down list .

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

---

**Note:** Pie chart 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 9, 19 indicates the count of remaining people until 9 am is 19.

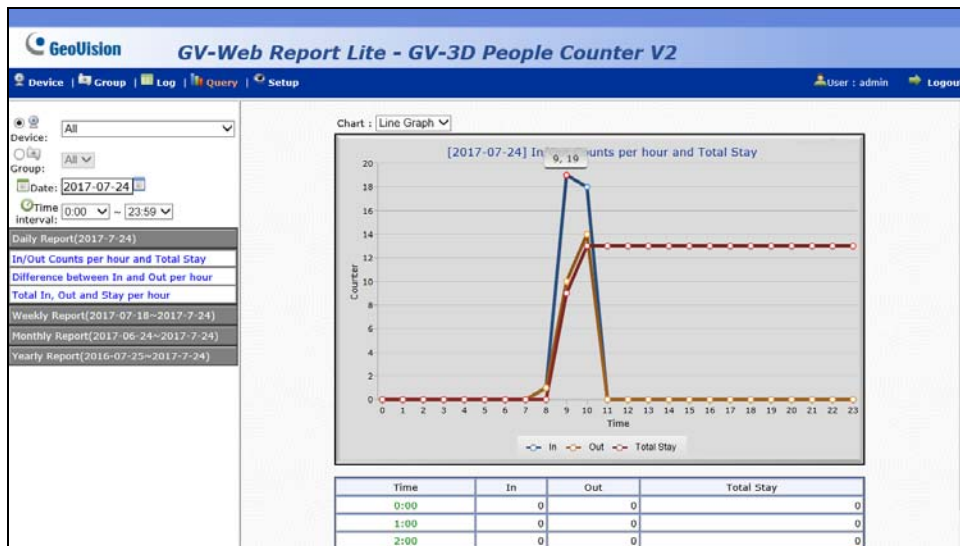


Figure 3-32

**[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 2017-07-20 (Thu), 180 (53.41%) indicates the total number of entered people on 2017/07/20 is 180. The number takes up 53.41 percent of the total people entered for the week.

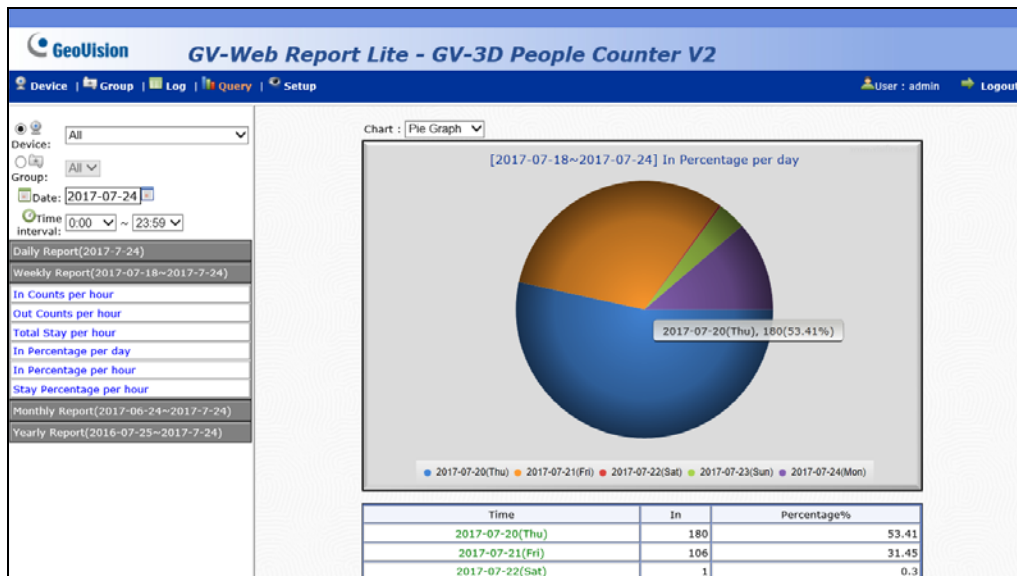


Figure 3-33

**[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 4 GV-IP Device Utility

GV-IP Device Utility can detect GV-3D People Counter V2 in the LAN and allows you to set the IP address of the device, upgrade firmware and reset the device.

1. Download and install the **GV-IP Device Utility** from our [website](#).
2. Double-click the **GV-IP Device Utility** created on your desktop. This dialog box appears and automatically searches for the device under LAN.

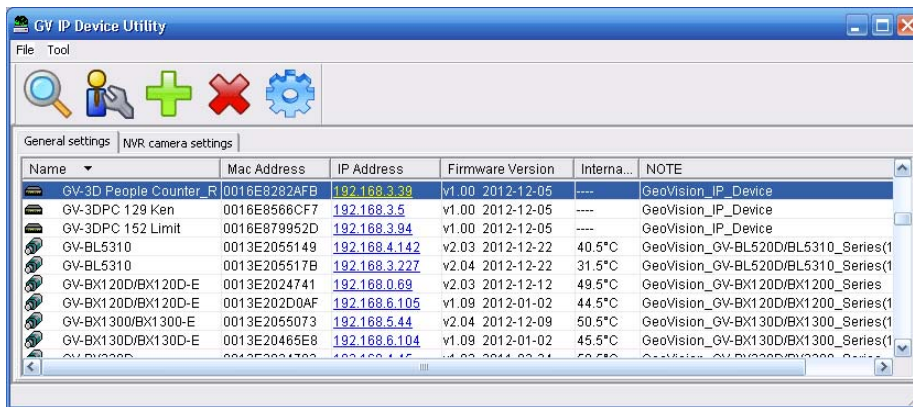


Figure 4-1

3. Double-click a device. This dialog box appears.

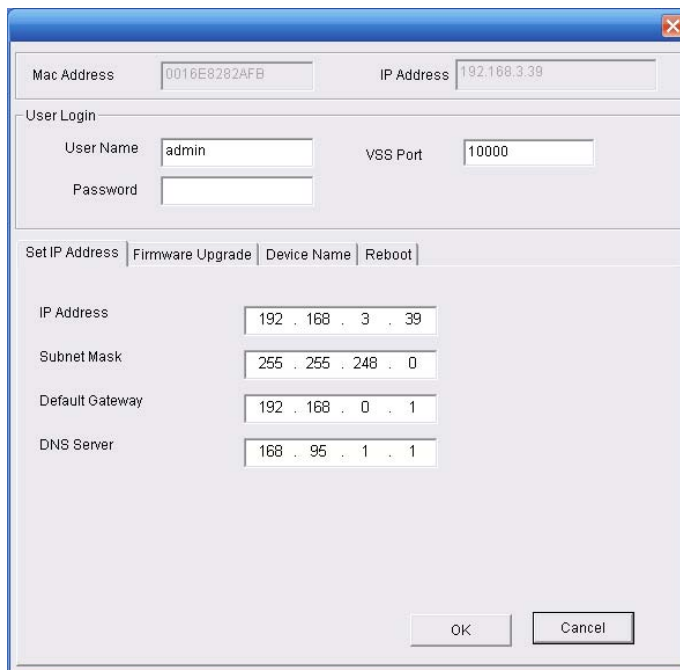


Figure 4-2

4. Click the following tabs to access these settings:
  - **Set IP Address:** Type the IP address, subnet mask, default gateway and DNS server of the device.
  - **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 devices with the same username and password.
  - **Device Name:** Rename the device.
  - **Reboot:** Reboot the device.
  - **Load Default:** Restore the device back to its factory default settings.

# Appendix

## Optimal Installation

To increase the accuracy of people counting results, be sure to install the GV-3D People Counter V2 with the correct lighting conditions and avoid placing IR LED nearby. The recommended installation height for GV-3D People Counter V2 is between 1.8 – 4 meters (5.91 – 13.12 feet).

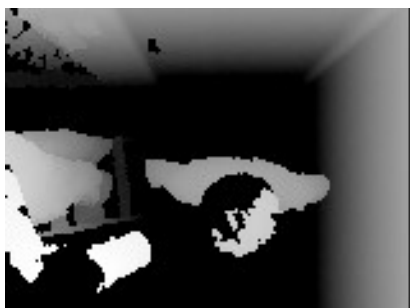
### Avoid Direct Sunlight

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



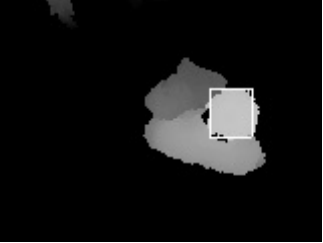

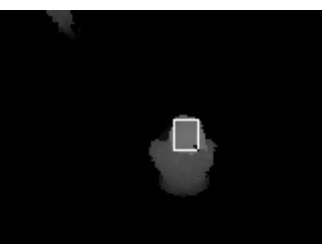

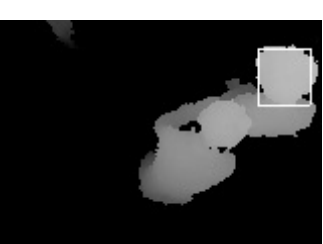
### Avoid IR LED

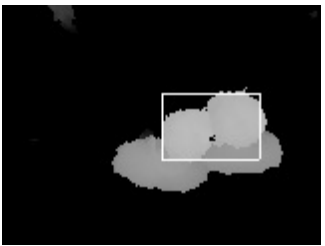
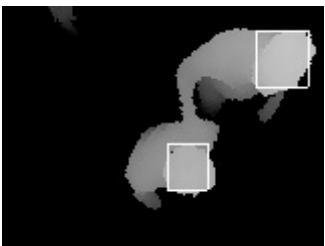
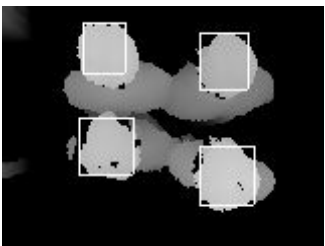
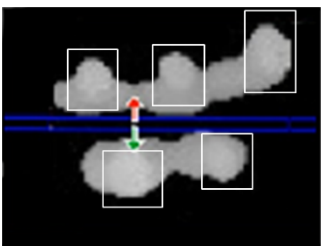
IR LED from the left of the view interferes with the IR sensor of the GV-3D People Counter V2 and causes part of the person's head to appear dark.



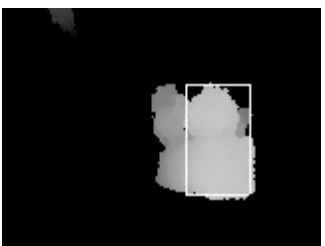

## Detection Limitations

There are situations that may cause GV-3D People Counter V2 to falsely detect the number of people. Below are examples of situations that may or may not result in false detection.


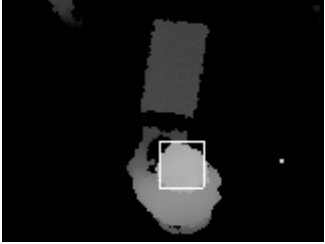

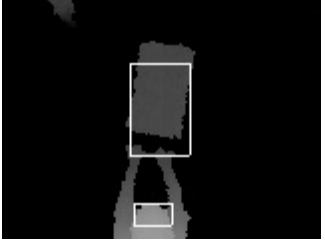
✓		Actual: 1 Counted: 1	Standing upright
✓		Actual: 1 Counted: 1	Leaning forward
✓		Actual: 1 Counted: 1	Squatting down
✓		Actual: 2 Counted: 2	Shoulder to shoulder
✗		Actual: 2 Counted: 1	Head leaning on shoulder

✗		<p>Actual: 2 Counted: 1</p>	<p>Head to head</p>
✓		<p>Actual: 2 Counted: 2</p>	<p>One hand on shoulder</p>
✓		<p>Actual: 4 Counted: 4</p>	<p>Four people</p>
✓		<p>Actual: 5 Counted: 5</p>	<p>Five People</p>


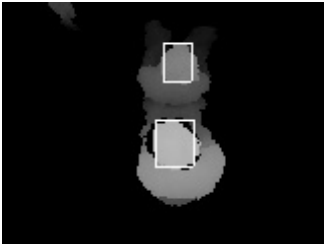

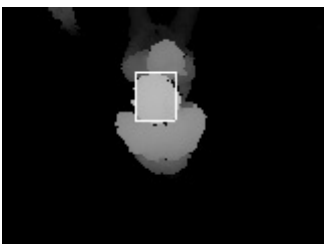
**Carrying a large backpack:**

✓		<p>Actual: 1 Counted: 1</p>	<p>Backpack in close contact with the person's head.</p>
✓		<p>Actual: 2 Counted: 2</p>	<p>Backpack at a distance from the person's head.</p>

Pushing a cart:

		<p>Actual: 1 Counted: 1</p>	<p>Cart close to the person's body.</p>
		<p>Actual: 1 Counted: 1</p>	<p>Cart away from the person's body. <b>Tip:</b> Set a minimum detection height that is higher than the cart to avoid false detection.</p>

Pushing a wheelchair:

		<p>Actual: 2 Counted: 2</p>	<p>The person pushing the wheelchair is standing upright.</p>
		<p>Actual: 2 Counted: 1</p>	<p>The person pushing the wheelchair leans over and overlaps with the wheelchair user.</p>