

# GV-3D People Counter V2

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*User's Manual V1.00*





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

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

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# Firmware and Software Compatibility

The GV-VMS and GV-Web Report compatible with GV-3D People Counter V2 are listed below

Model	GV-VMS	GV-Web Report
<b>GV-3D People Counter V2 V1.00</b>	V16.10.3.0 or later	V2.2.6.0 or later
<b>Note:</b> For showing the people counting data on GV-VMS's live view, see <a href="#">3.18 Video Analysis by Camera</a> 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 the designated area at high precision counting 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 in chart analysis with the support of GV-Web Report Lite, its built-in Web interface. In addition to its sleek and stylish design, the counter also supports the I/O devices and GV-GPS Receiver for accessing people counting data remotely.

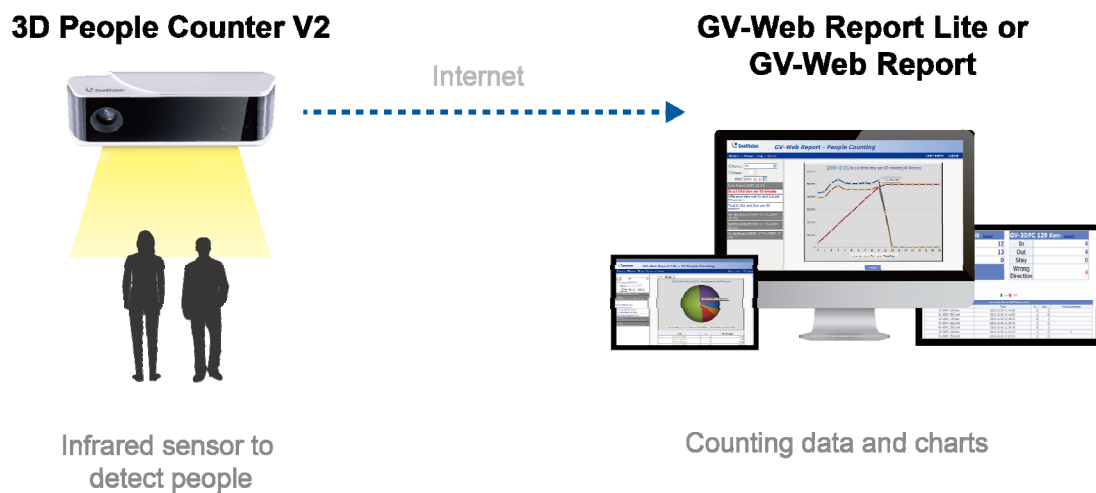


Figure 1-1

## 1.1 Packing List

1. GV-3D People Counter V2



2. SDHC Micro SD card



3. Ceiling Mount Kit



4. Wall Mount Kit



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



6. Screw x 4



7. Anchor x 2





8. Documents Download Guide

9. Warranty Card

## 1.2 Options

Optional devices can be purchased separately for GV-3D People Counter V2. Contact your dealer for more information.

Options	Details
<b>GV-GPS Receiver</b> 	Receive the GPS signals for 3D People Counter positioning.
<b>GV-Web Report</b>	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 V2s.
<b>GV-PA191</b> 	The GV-PA191 is a Power over Ethernet (PoE) adapter designed to provide power to the IP device through a single Ethernet cable.
<b>GV-POE Switch</b>	The GV-POE Switch is designed to provide power along with network connection for IP devices. The GV-POE Switch is available in various models with different numbers and types of ports.

## 1.3 Overview

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

### 1.3.1 Bottom View



Figure 1-2

No.	Name	Function
1	Lens	Fixed lens for capturing people image.



### 1.3.2 Rear View

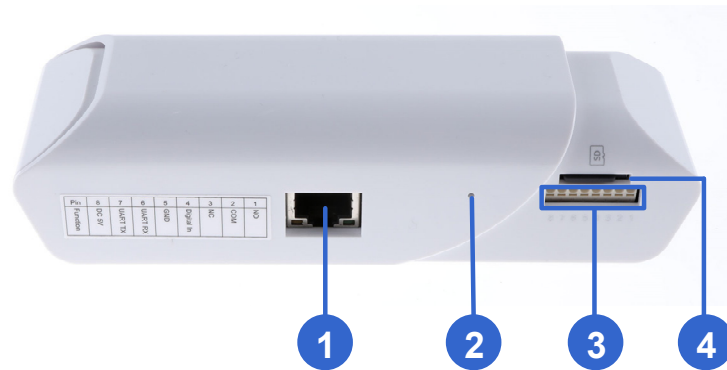


Figure 1-3

No.	Name	Function
1	Ethernet Port	A plug for PoE (IEEE 802.3af).
2	Default Button	It resets all configurations to their factory settings.
3	Terminal Block	The connectors for the sensor input, alarm output and GPS receiver.
4	Memory Card Slot	Insert a micro SD card (SD/SDHC/SDXC/UHS-I, Class 10) to store recording data.

# Chapter 2 Getting Started

## 2.1 Connecting the Device

The instructions below describe the basic connection required to operate GV-3D People Counter V2.

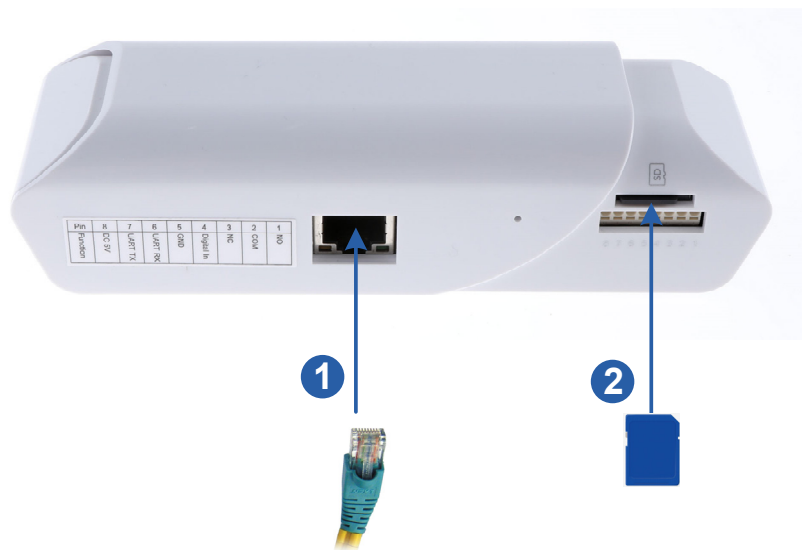


Figure 2-1

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

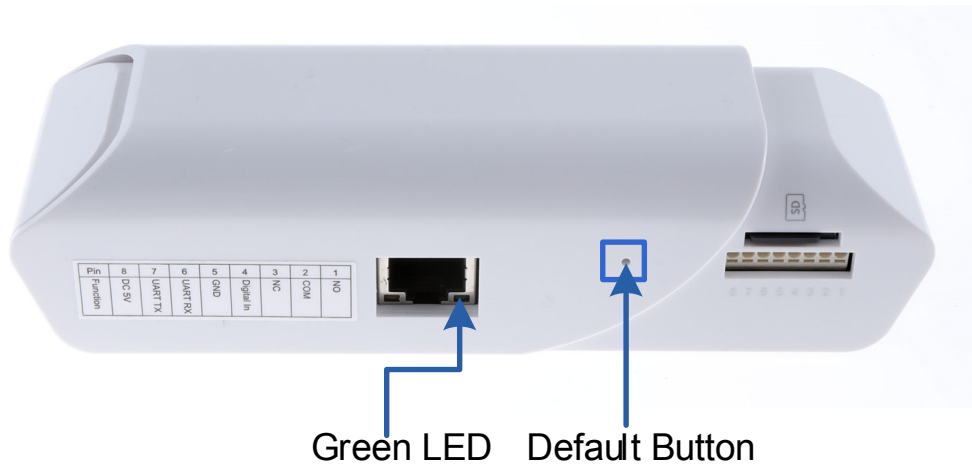
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**Note:** GV-3D People Counter V2 only supports PoE. You may purchase GV-PA191 PoE adapter to connect to your router. See [1.2 Options](#).

---

## 2.2 Restoring to Factory Default Settings

If for any reason the GV-3D People Counter V2 is not responding correctly, you can restore the GV-3D People Counter V2 to 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 GV-3D People Counter V2 will automatically reboot after loading default.

---

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

---

## 2.3 Wall / Ceiling Mount

You can use the Wall / Ceiling Mount Kit to mount GV-3D People Counter V2 on a desired location.

Wall Mount



Ceiling Mount



1. Remove the GV-3D People Counter V2's outer case.

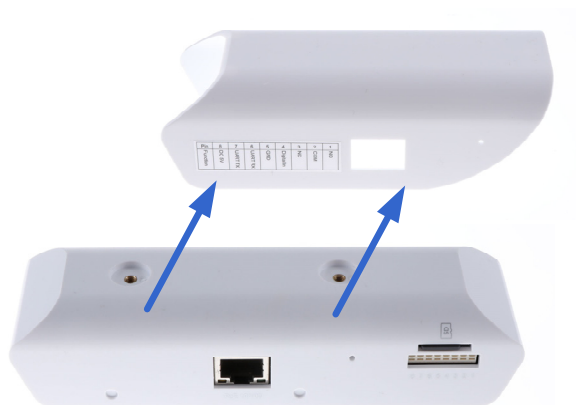
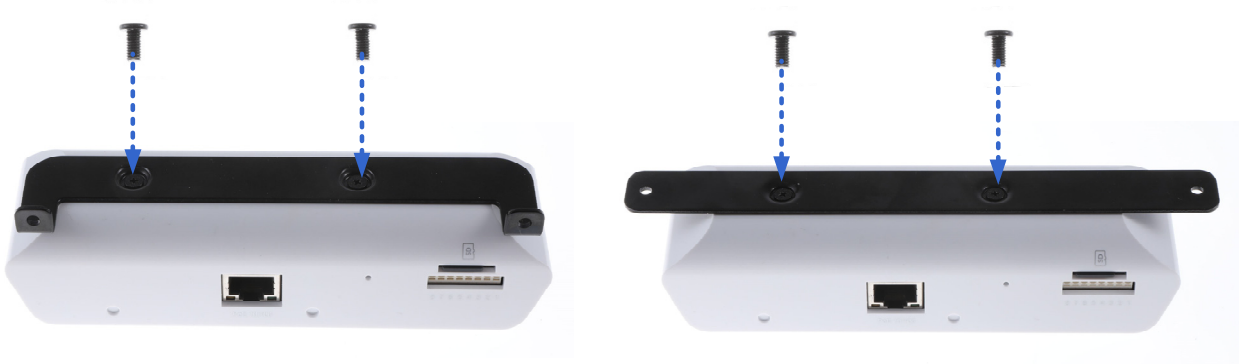


Figure 2-3

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



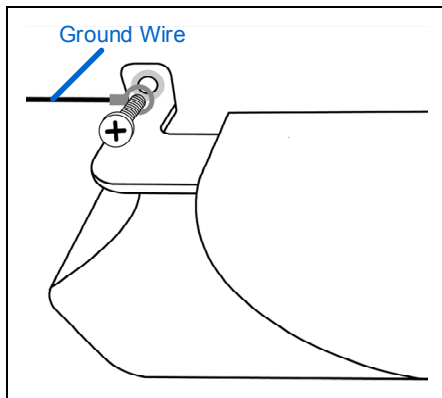
*Figure 2-4*

3. Put the outer case back.



*Figure 2-5*

4. Put the installation sticker to the wall with the arrow pointing up.
5. Drill 2 holes according to the sticker and insert the 2 screw anchors to the 2 holes.
6. Secure the the GV-3D People Counter V2 to the wall with 2 long screws.
7. Optionally install the ground wire with the screw as shown below:



*Figure 2-6*

## Chapter 3 The Web Interface

After installing the GV-3D People Counter V2 on the network, you can access GV-Web Report Lite to look up counting data. The GV-Web Report Lite is a Web server built in the GV-3D People Counter V2. By default, when the GV-3D People Counter V2 is installed to a LAN with the DHCP server, the GV-3D People Counter V2 uses a dynamic IP address assigned by the server. If installed in a LAN without the DHCP server, the default IP address **192.168.0.10** will be applied.

### 3.1 Accessing the GV-Web Report Lite

#### System Requirements

To access GV-3D People Counter V2 through Web browser, ensure your PC is in good network connection, and use the following web browser:

- Microsoft Internet Explorer 10 or above

#### Logging In

1. In your Web browser, type the IP address or the domain name of the GV-3D People Counter V2 in the **Location / Address** field.



Figure 3-1

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**.

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

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.

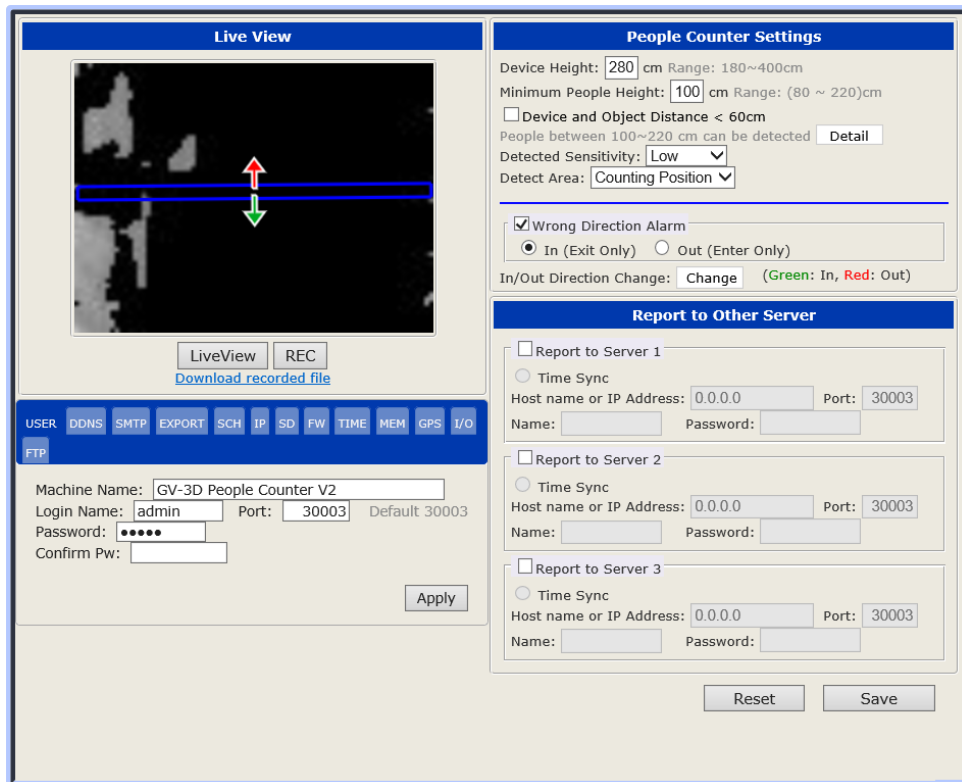


Figure 3-2

**[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. You can also conceal certain area on the live view to reduce false counting data by selecting **Mask Position** under **Detect Area**.

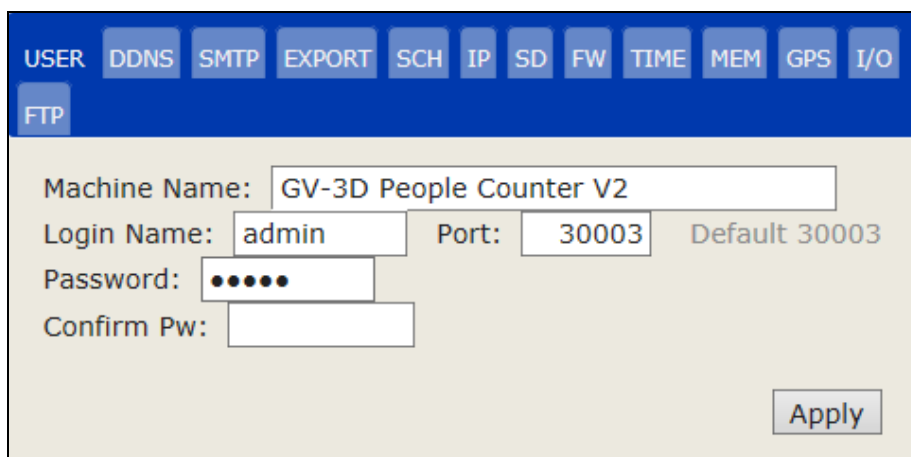
- **Live View:** Click to see the live image of the detection area captured by the infrared sensor of the GV-3D People Counter V2. The live image is in black and white.
- **REC:** Records the live view for 30 seconds. Only one video can be stored in the SD card at a time. The existing recording will be overwritten by the new recording.
- **Download Recorded File:** You can download the recorded file and provide the recording to service personnel for troubleshooting.

### 3.2.1 General Settings

Under the live view, the following setting tabs are available: User, DDNS, SMTP, Export, SCH, IP, SD, FW, Time, MEM, GPS, I/O, FTP.

#### [User]

- **Machine Name:** Change the display name of the GV-3D People Counter V2 if necessary.
- **Login Name / Password:** Change the login name or password for accessing the GV-3D People Counter V2 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 V2 must use the same port as the servers.
- **Confirm Pw:** Type the password again for changing the above settings or password.



The screenshot shows a web interface for configuring user settings. At the top, there is a blue navigation bar with tabs for USER, DDNS, SMTP, EXPORT, SCH, IP, SD, FW, TIME, MEM, GPS, I/O, and FTP. The USER tab is currently selected. Below the navigation bar, the settings are displayed on a light beige background. The 'Machine Name' field is set to 'GV-3D People Counter V2'. The 'Login Name' field is set to 'admin', and the 'Port' field is set to '30003', with a note 'Default 30003' next to it. The 'Password' field is masked with six dots, and the 'Confirm Pw' field is empty. An 'Apply' button is located at the bottom right of the settings area.

Figure 3-3



## [DDNS]

DDNS (Dynamic Domain Name System) provides a convenient way of accessing GV-3D People Counter V2 with a dynamic IP address. DDNS assigns a domain name to the GV-3D People Counter V2, so that the Administrator does not need to check if the IP address assigned by DHCP Server or ISP (in xDSL connection) has changed.

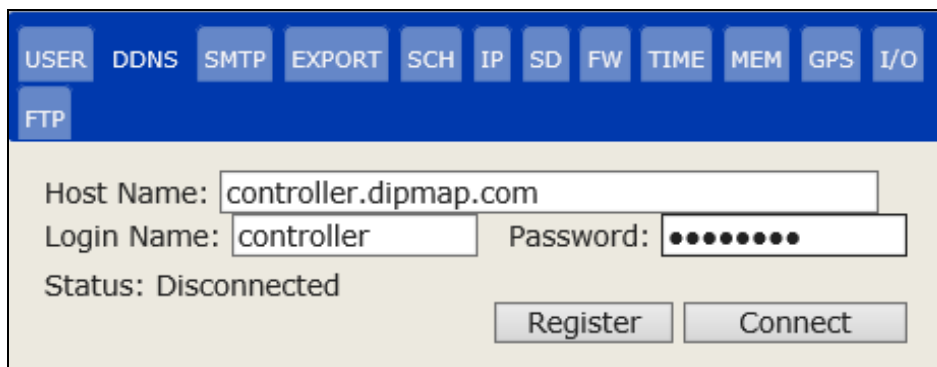


Figure 3-4

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 V2.
3. Type the **Name** and **Password** used to enable the service from the DDNS.
4. Click **Connect**.

## [SMTP]

You can receive a 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.

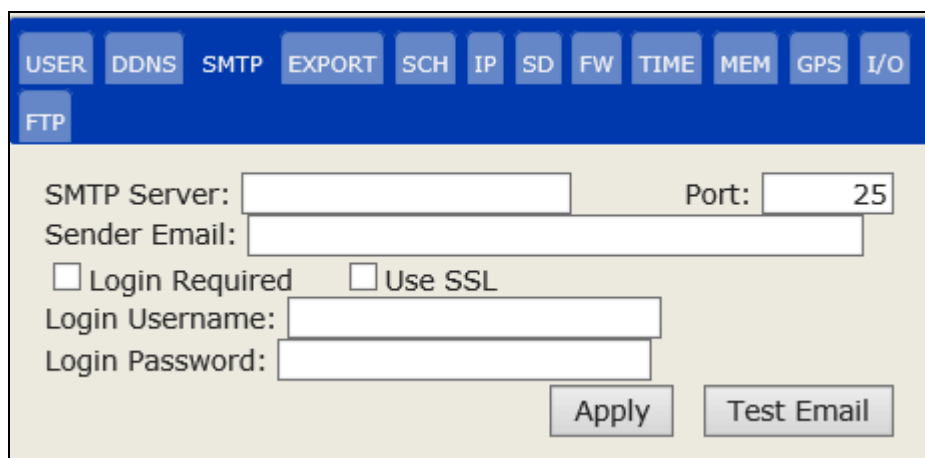


Figure 3-5

- **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.
- **Login Username:** If the SMTP Server needs authentication, type the valid username.
- **Login Password:** If the SMTP Server needs authentication, type the valid password.
- **Test Email:** Click to send a test e-mail to the chosen e-mail address. You can set up the e-mail address in **Recipient E-mail** under **Export**.

#### [Export]

To automatically receive an e-mail report of the counting data, 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.

USER DDNS SMTP EXPORT SCH IP SD FW TIME MEM GPS I/O

FTP

☒ Enable Auto Export

Recipient E-Mail:   
(separated by commas)

Set Auto Export Time:  ▼

☒ Daily Report

☐ Weekly Report

☐ Monthly Report

Apply

Figure 3-6

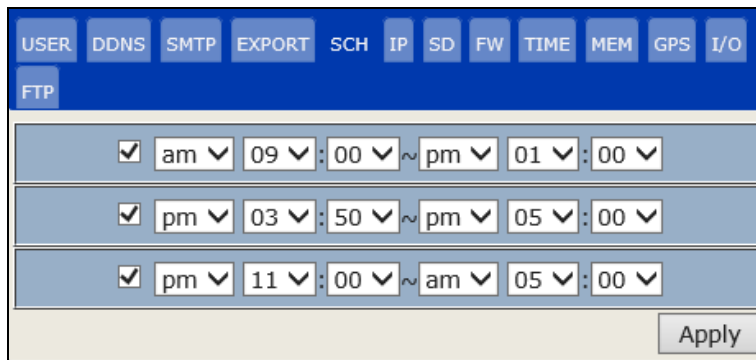
After you have completed the Export settings, you shall receive the report in a zip file at the appointed time. The report in the zip file is as the figure below.

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 3-7

## [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.



Checkbox	Time	Range
<input checked="" type="checkbox"/>	am	09:00 ~ pm 01:00
<input checked="" type="checkbox"/>	pm	03:50 ~ pm 05:00
<input checked="" type="checkbox"/>	pm	11:00 ~ am 05:00

Figure 3-8

**[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 3.2.1 *General Settings*.

Figure 3-9

**[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 3-10

## [FW]

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

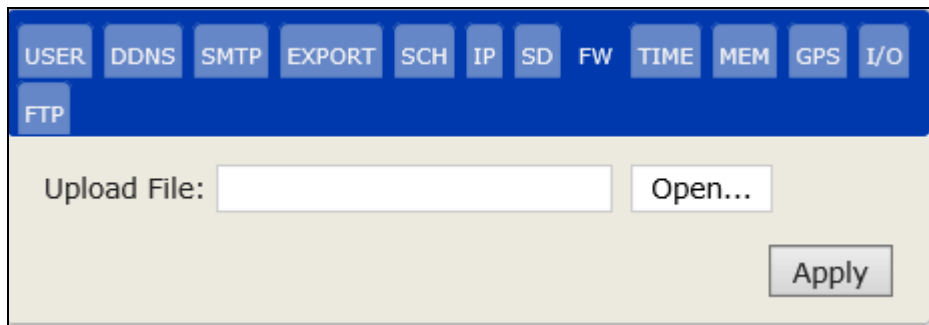



Figure 3-11

## [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**.

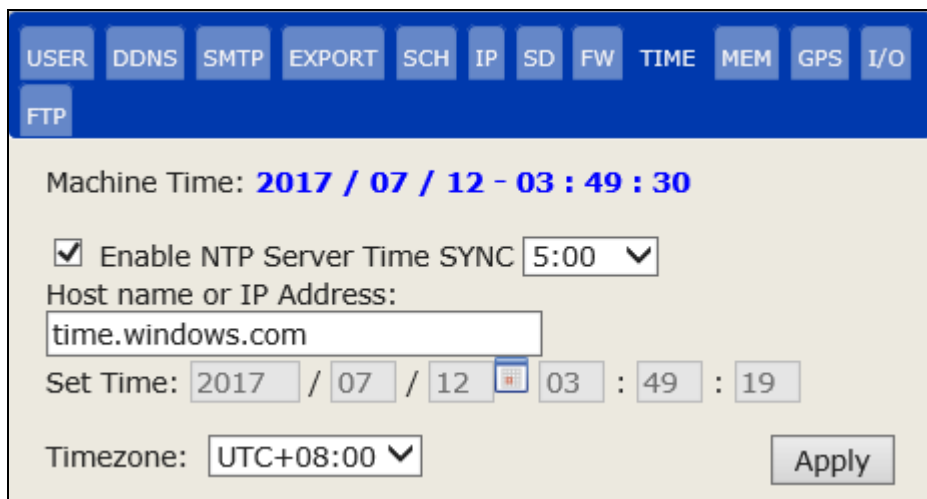


Figure 3-12

**[MEM]**

By default, the counting result 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 GV-Web Report Lite will synchronize 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.

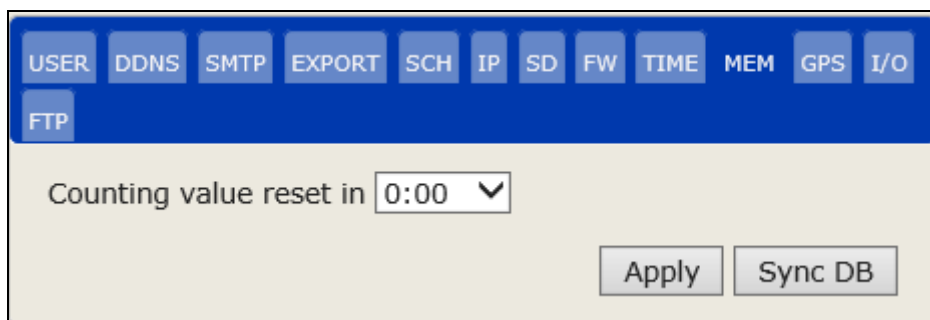


Figure 3-13

**[GPS]**

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 (Connect / Disconnect) is shown in **Status**.

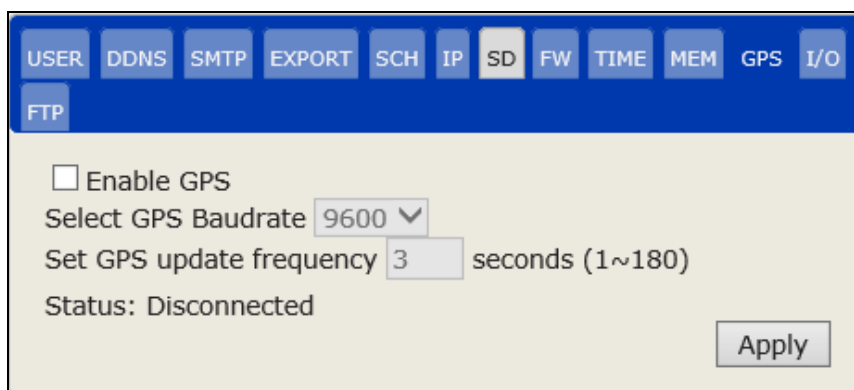


Figure 3-14

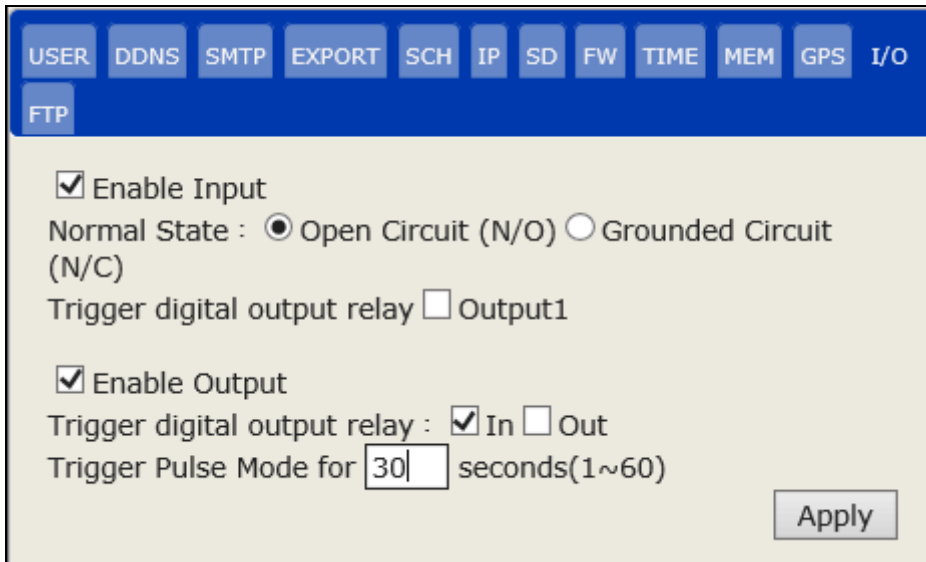
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**Note:** The GV-GPS data is only supported by GV-Web Report V2.2.6.0.

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## [I/O]

You can select **Enable Input / Output** to enable the input and output device. Next to **Normal State**, you can set the input state to trigger actions by selecting **Open Circuit (N/O)** or **Grounded Circuit (N/C)**. When you enable **Trigger digital output relay**, the output will be triggered once the input is activated. In the **Trigger Pulse Mode for x seconds (1~60)** field, you can specify the amount of time for triggering an output.



USER DDNS SMTP EXPORT SCH IP SD FW TIME MEM GPS I/O  
FTP

☒ Enable Input  
Normal State : ☒ Open Circuit (N/O) ☐ Grounded Circuit (N/C)  
Trigger digital output relay ☐ Output1

☒ Enable Output  
Trigger digital output relay : ☒ In ☐ Out  
Trigger Pulse Mode for  seconds(1~60)

Apply

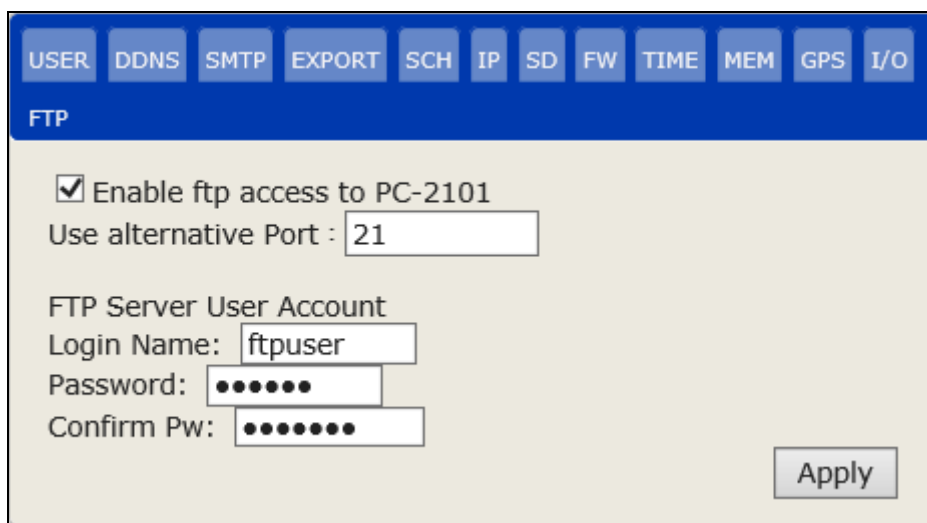
Figure 3-15

**[FTP]**

The GV-3D People Counter V2 can act as a 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:** Select this option to allow external IP devices to access GV-3D People Counter V2 as a FTP server.
- **Use Alternative Port:** The default port is set to 21.

Under **FTP Server User Account**, type the default username **ftpuser** and password **123456** when you are prompted for authentication. Type the password again in **Confirm Pw** for changing the above settings or password.



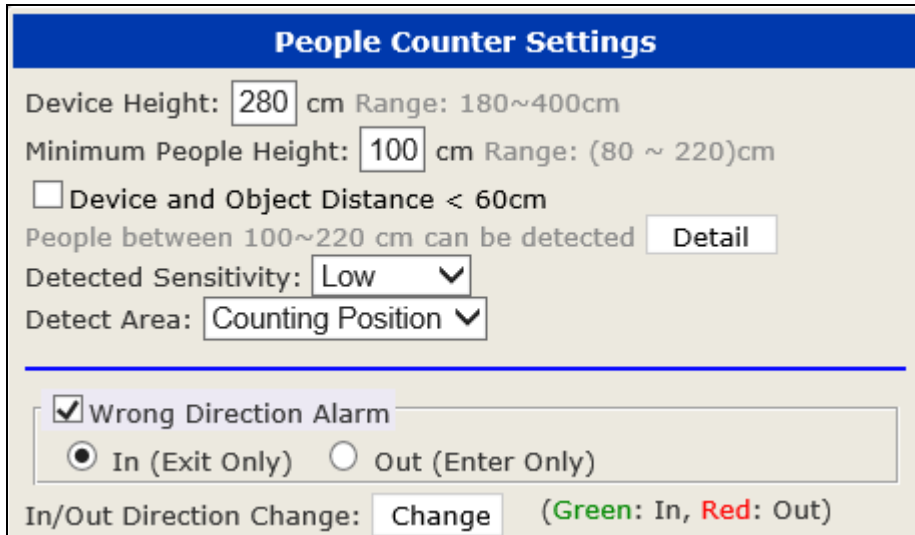
The screenshot shows a web interface for configuring the device. At the top, there is a navigation bar with buttons for USER, DDNS, SMTP, EXPORT, SCH, IP, SD, FW, TIME, MEM, GPS, and I/O. Below this, the 'FTP' tab is selected. The main content area has a light beige background. It contains a checkbox labeled 'Enable ftp access to PC-2101' which is checked. Below this is a text input field labeled 'Use alternative Port :' with the value '21'. Further down is the 'FTP Server User Account' section, which includes three text input fields: 'Login Name:' with the value 'ftpuser', 'Password:' with seven dots, and 'Confirm Pw:' with seven dots. An 'Apply' button is located at the bottom right of the form.

Figure 3-16



### 3.2.2 People Counter Settings

For more precise counting results, specify the height of the GV-3D People Counter V2 and the minimum people height.



**People Counter Settings**

Device Height:  cm Range: 180~400cm

Minimum People Height:  cm Range: (80 ~ 220)cm

☐ Device and Object Distance < 60cm

People between 100~220 cm can be detected [Detail](#)

Detected Sensitivity:  ▼

Detect Area:  ▼

---

☒ Wrong Direction Alarm

☒ In (Exit Only) ☐ Out (Enter Only)

In/Out Direction Change: [Change](#) (Green: In, Red: Out)

Figure 3-17

1. Type the height of the installed GV-3D People Counter V2 in the **Device Height** field. Depending on how high the GV-3D People Counter V2 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. Select the **Device and Object Distance** to adjust the range for people counting. Once the option is selected, the detection range will be reflected below.

4. Click **Detail** button to see an illustration of the detectable height range and the dimension of the detection area based on the height you specified.

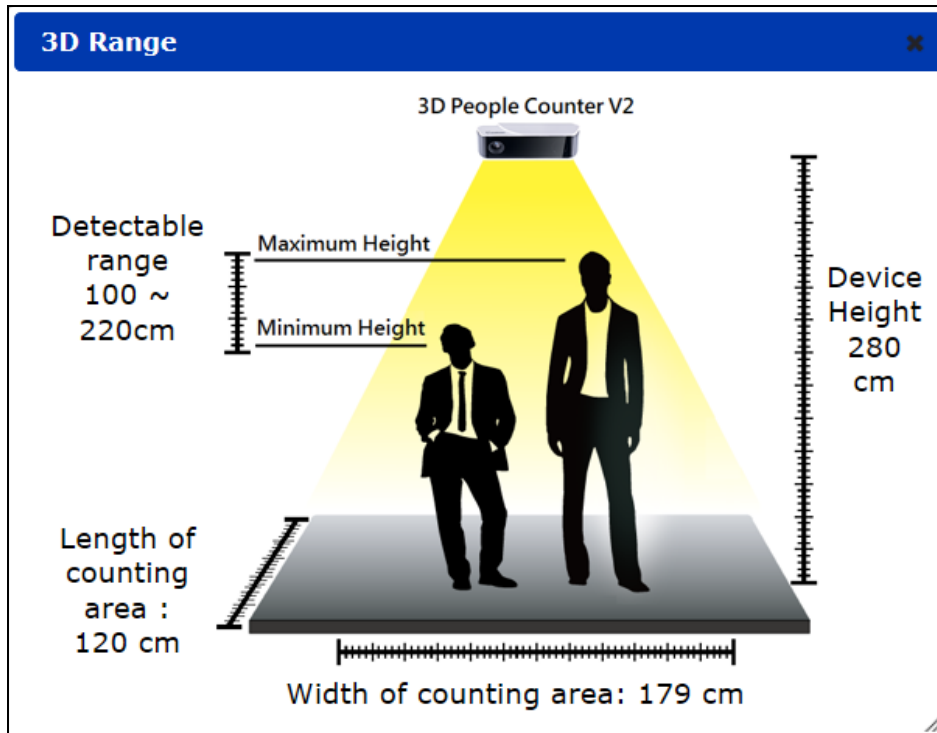


Figure 3-18

- **Wrong Direction Alarm:** Enable if the detection area is exit only or entrance only, and a wrong direction count will be recorded in GV-Web Report Lite under **Counting Signage** when GV-3D People Counter detects people going in the wrong direction. See 3.3.1 *Device*.
- **In/Out 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.

### 3.2.3 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 *3.3 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 V2 will be synchronized with the selected server. To cancel time synchronization, double-click the selected radio button.

---

**Note:**

1. GV-3D People Counter V2 is only compatible with GV-Web Report V2.2.6.0 or later.
  2. Dynamic domain name is not supported in the **IP** field.
-

### 3.3 Accessing People Counting Data

After setting up the GV-3D People Counter V2 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 V2. The data is updated every minute.
- **Group:** You can group the connected GV-3D People Counter V2 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 V2.
- **Query:** Provides the daily, weekly, monthly and yearly people counting graphs and tables.

#### 3.3.1 Device

The data on the main page of the Device page is updated every minute from the GV-3D People Counter V2. The page displays the people counts and graphs of all connected devices.

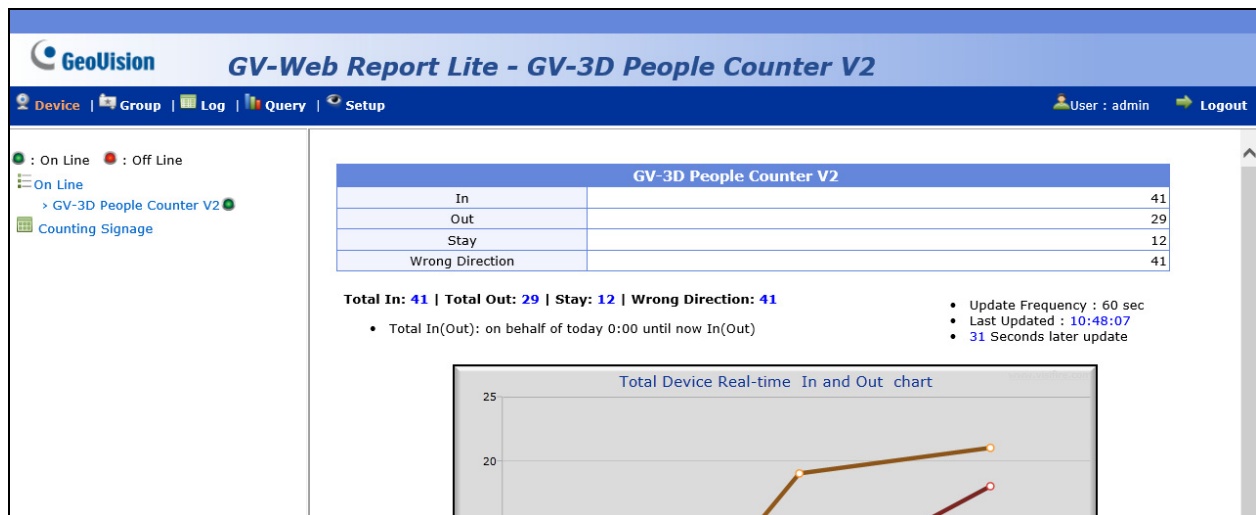


Figure 3-19

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:** 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 V2.

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)

2017-07-24 0:00 ~ 2017-07-25 0:00

GV-3D People Counter V2🟢 [Reset]

In	44
Out	32
Stay	12
Wrong Direction	44

🟢 : In / 🟡 : Out

Recently Record(20 Records)

Device Name	Time	In	Out	Wrong Direction
GV-3D People Counter V2	2017-07-24 10:49:39	1	0	!
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	!
GV-3D People Counter V2	2017-07-24 10:48:10	1	0	!

Figure 3-20

### 3.3.2 Group

On the Group page, you can group the connected GV-3D People Counter V2, 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.

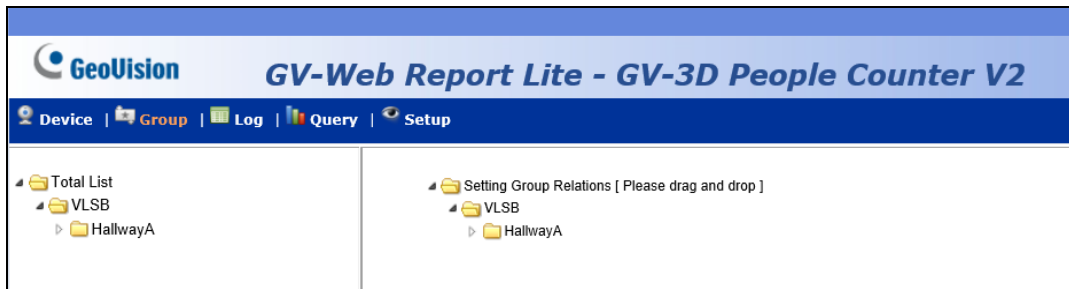
#### To set up a group:

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

Figure 3-21

2. Name the group.
3. Select the GV-3D People Counter V2 you want to include in the group.
4. In the **In Maximum** field, set the maximum number of people that can enter during the day before activating the computer alarm.
5. In the **Out Maximum** field, set the maximum number of people that can leave during the day before activating the computer alarm.
6. In the **Stay Maximum** 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 3-22*

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.

### 3.3.3 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 V2 or group.

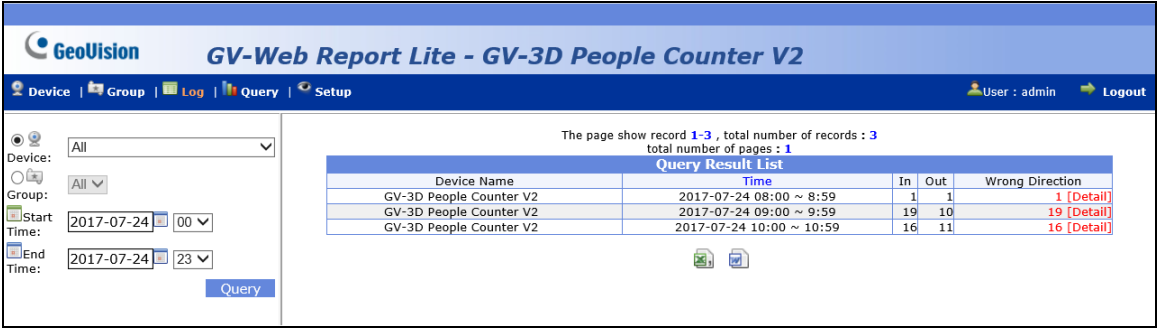




Figure 3-23

To search the log data:

1. Select a specific GV-3D People Counter V2 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.

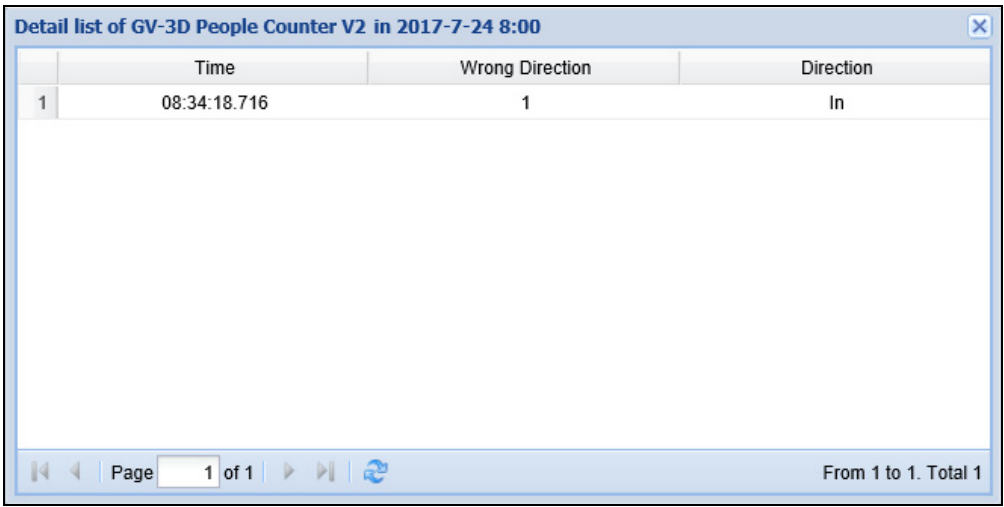





Figure 3-24



### 3.3.4 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 V2 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 9, 19 indicates the count of remaining people until 9 am is 19.

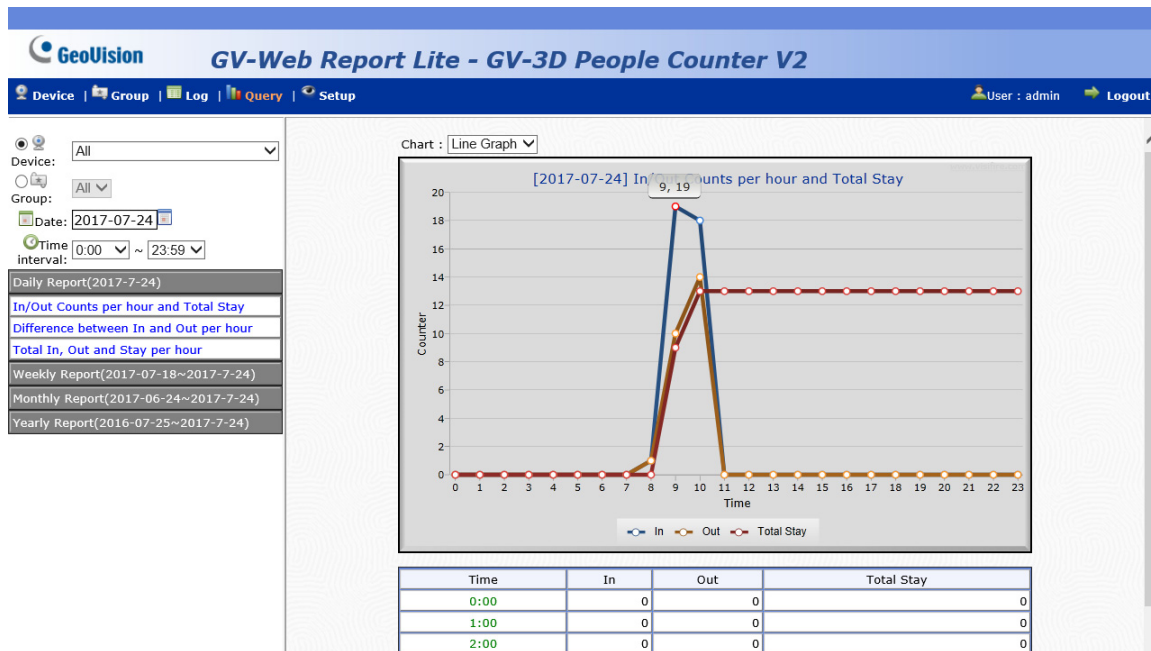


Figure 3-25

**[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.

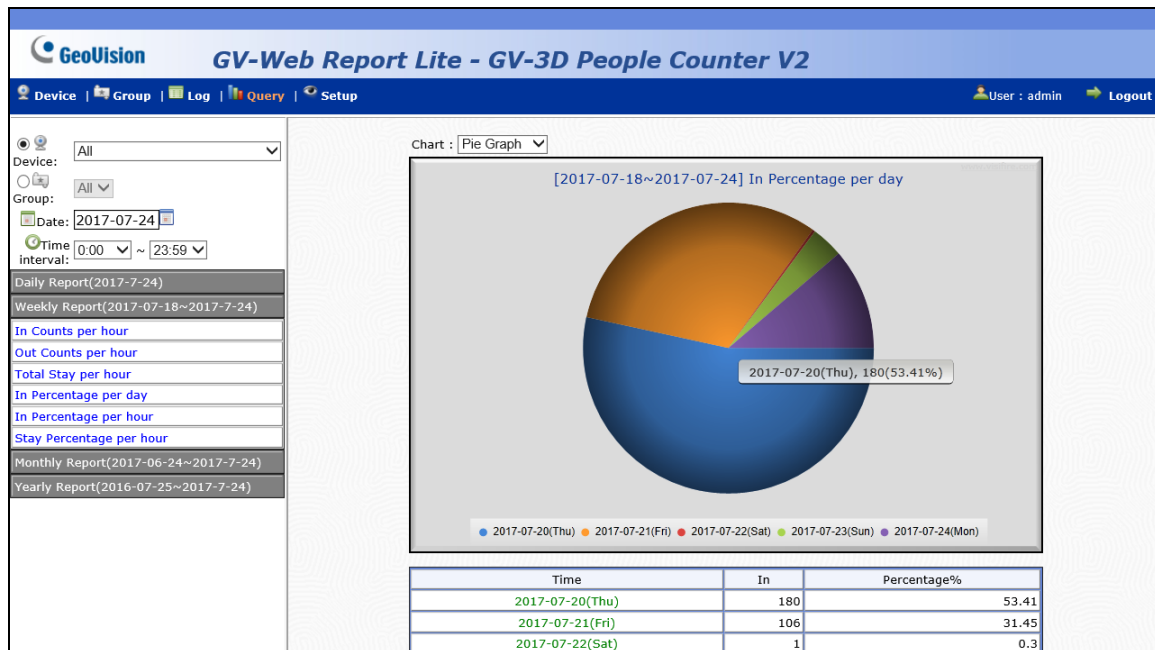


Figure 3-26

### [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 Auxiliary Device Connectors

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.

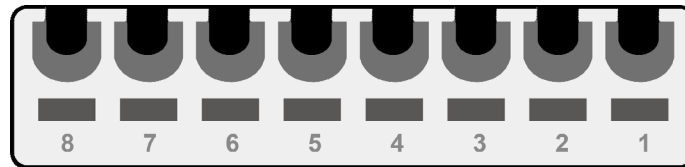


Figure 4-1

### PIN Assignment

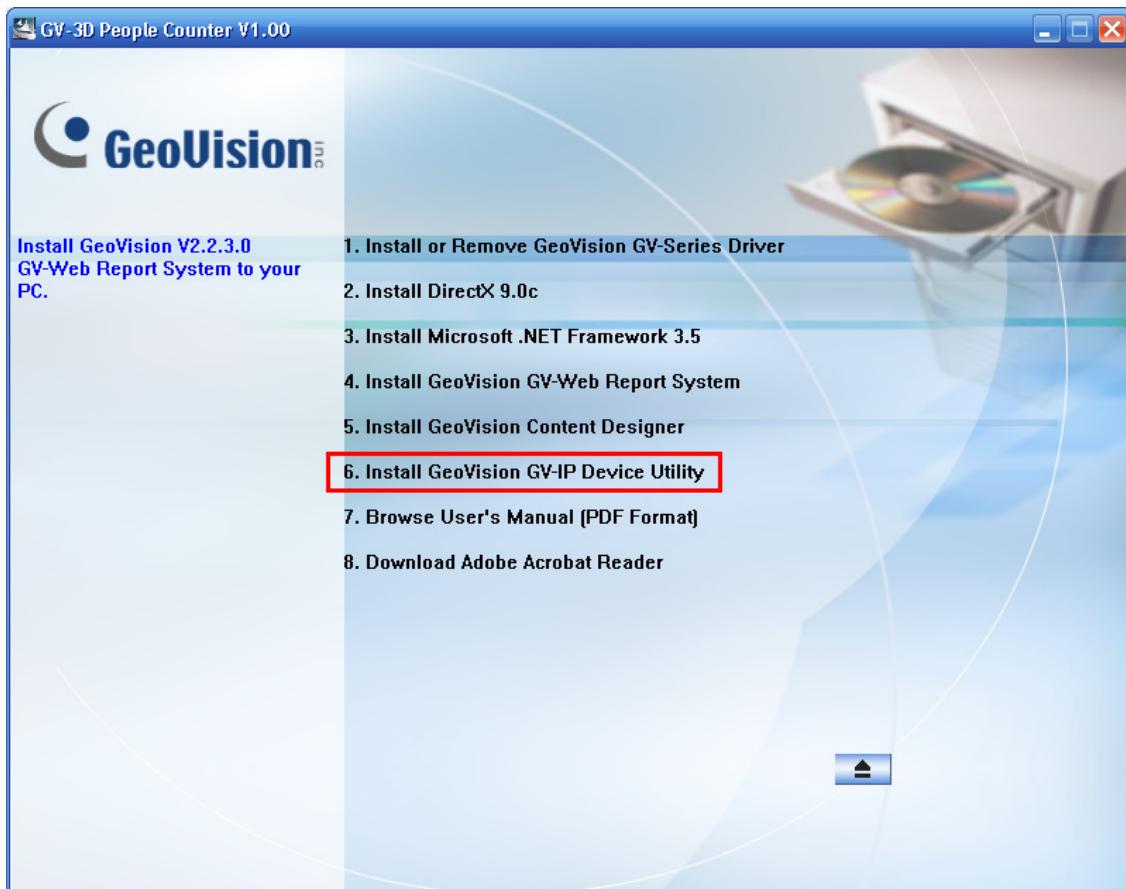
Pin	Function
1.	NO
2.	Ground
3.	NC
4.	Digital Input
5.	Ground
6.	UART RX for GV-GPS Receiver
7.	UART TX for GV-GPS Receiver
8.	DC 5V Out for GV-GPS Receiver

## Chapter 5 GV-IP Device Utility

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

### 5.1 Installing GV-IP Device Utility

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



*Figure 5-1*

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

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

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.

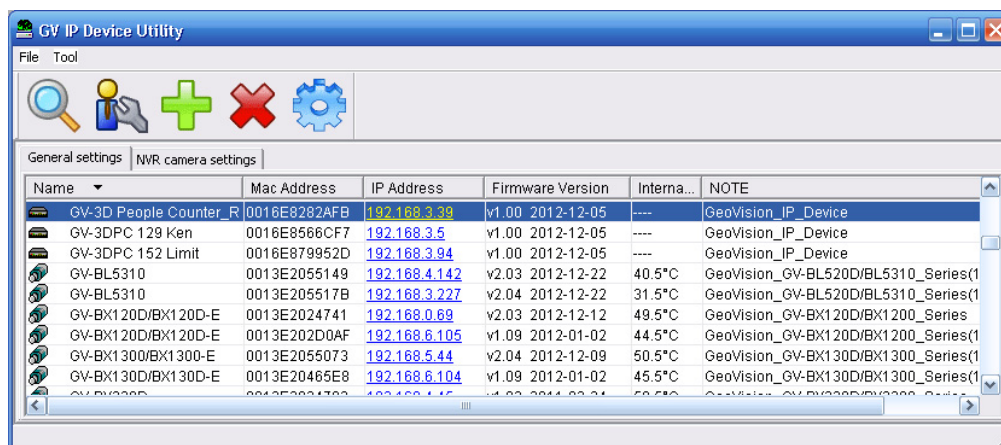


Figure 5-2

2. Double-click a GV-3D People Counter V2. This dialog box appears.

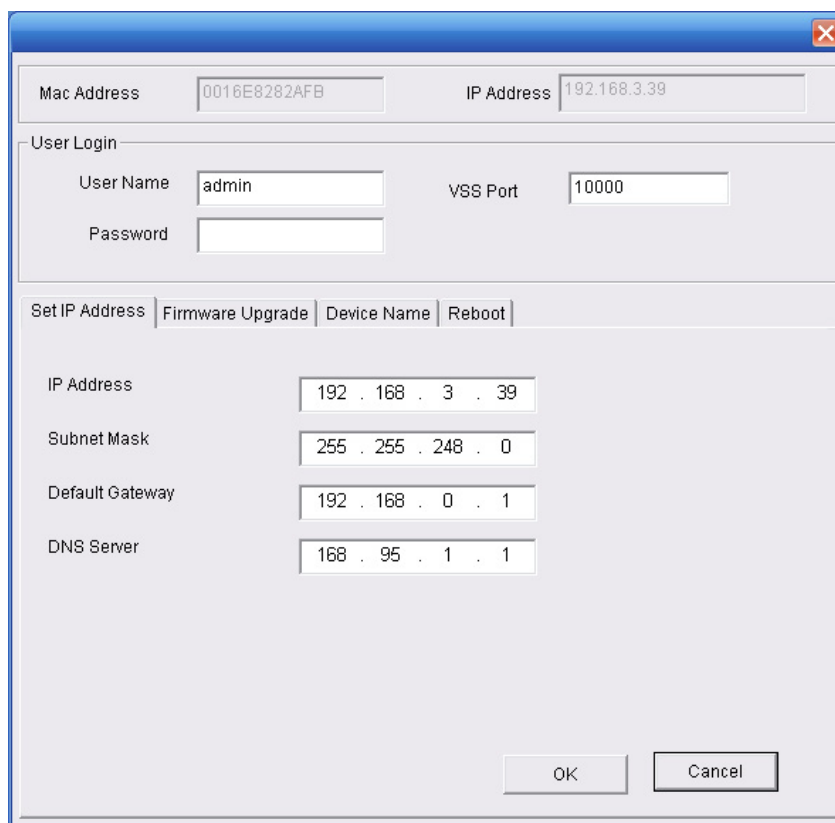


Figure 5-3

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 V2.
  - **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 V2 of the same username and password.
  - **Device Name:** Renames the GV-3D People Counter V2.
  - **Reboot:** Reboots the GV-3D People Counter V2.

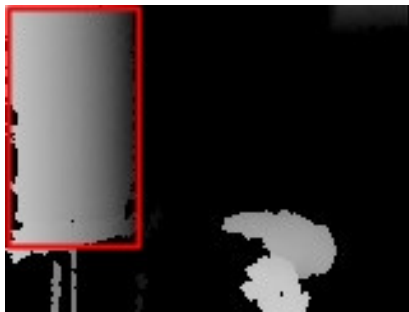
# Appendix

## 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).

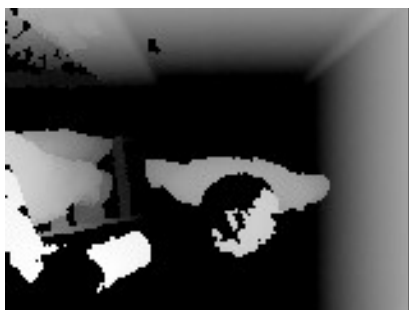
### Avoid Direct Sunlight

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

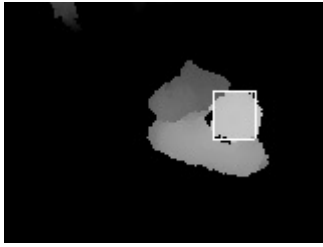
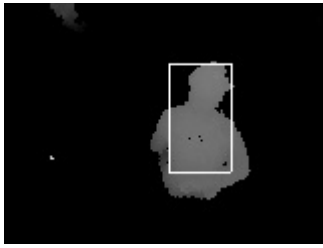
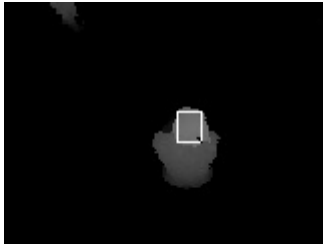
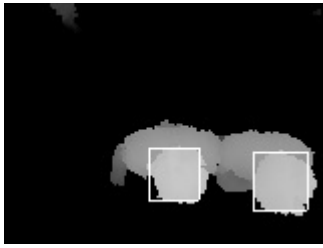
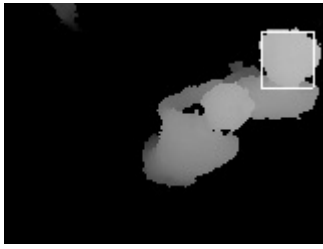
IR LED from the left of the view interferes with the IR sensor of the GV-3D People Counter V2 and causes part of the person's head to appear dark.

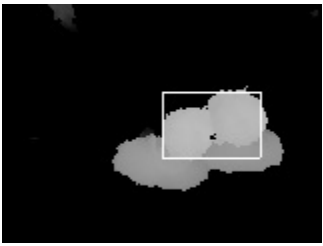
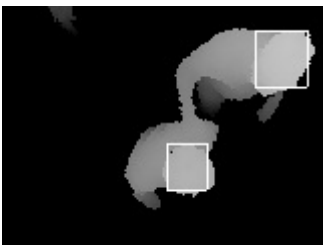
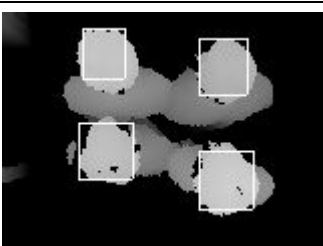




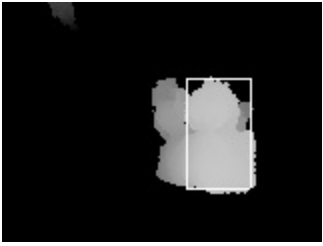

## Detection Limitations

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.

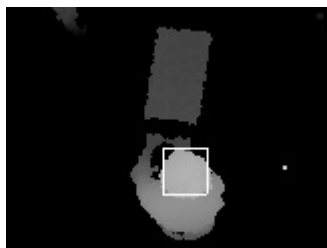
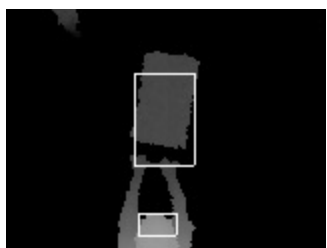
✓		Actual: 1 Counted: 1	Standing upright
✓		Actual: 1 Counted: 1	Leaning forward
✓		Actual: 1 Counted: 1	Squatting down
✗		Actual: 2 Counted: 1	Shoulder to shoulder
✗		Actual: 2 Counted: 1	Head leaning on shoulder

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

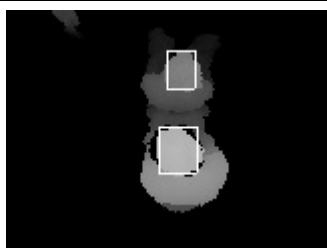
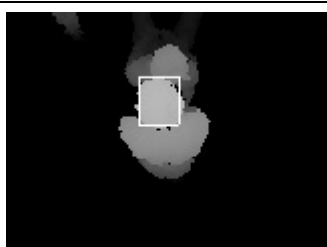
**Carrying a large backpack:**

✓		Actual: 1 Counted: 1	Backpack in close contact with the person's head.
✓		Actual: 2 Counted: 2	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. <b>Tip:</b> 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.