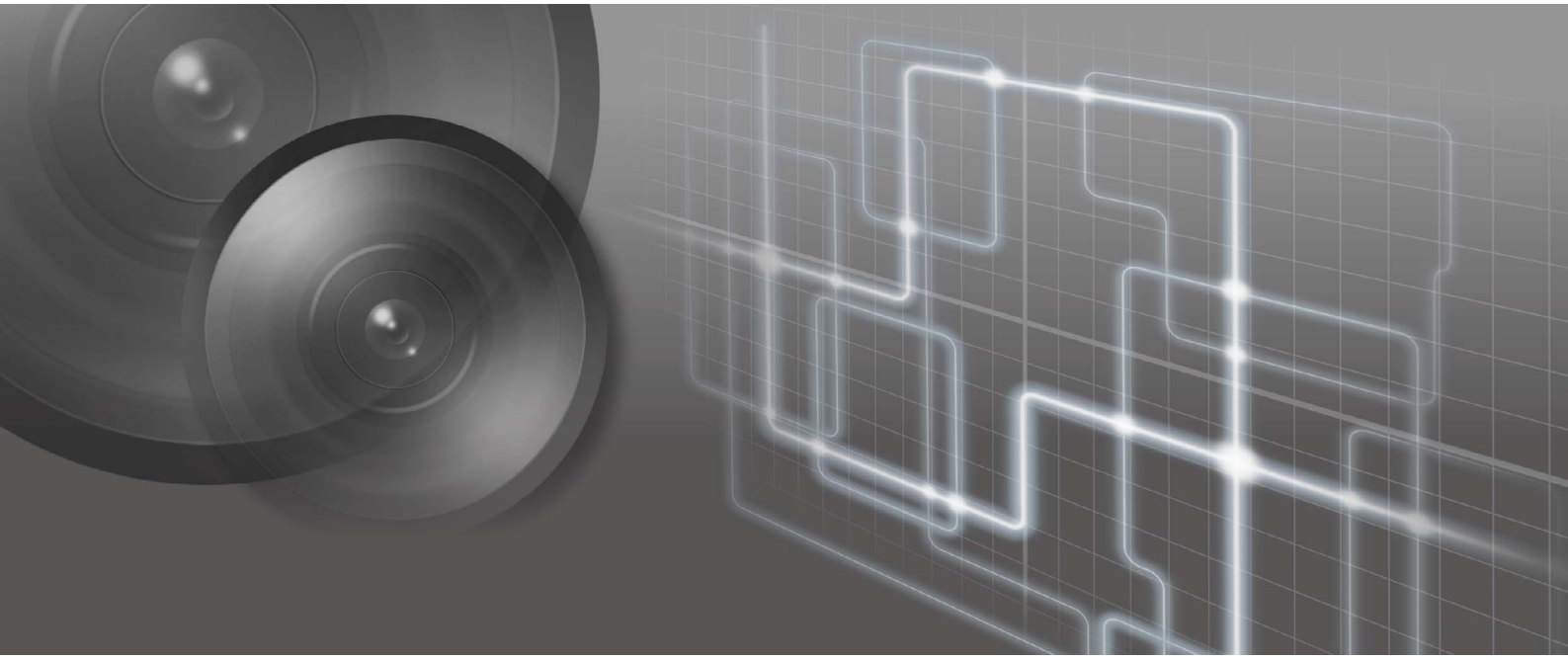
Canon

Crowd People Counter Version 1.1
User Manual



User manual should be read before using the software.

ENGLISH

Table of Contents

Introduction

This manual describes how to install and operate “Crowd People Counter Version 1.1” (hereafter referred to as “this software”). Carefully read this manual before use to ensure correct use of this software.

Precautions for Use

■ Open Source Software

The product contains Open Source Software modules. For details, please refer to “ThirdPartySoftware-E.pdf” (Third-Party Software License) in the OpenSourceSoftware folder in the LICENSE folder. Each module’s license conditions are also available in the same folder.

Trademarks

- Microsoft, Windows and Windows Server are trademarks or registered trademarks of Microsoft Corporation in the United States and other countries.
- Windows is legally recognized as the Microsoft Windows Operating System.
- AXIS is a trademark of Axis AB.
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User Manuals

■ Notes

1. Any unauthorized reproduction of this manual is prohibited.
2. The contents of this manual are subject to change without any prior notice.
3. This document has been prepared with the utmost attention to accuracy. If you have any comments, please contact a Canon sales representative.
4. Canon shall assume no liability for any outcome of using this product, notwithstanding items 2 and 3 above.

How to Use This Manual

The assumed reading format of this manual is on a computer screen.

■ Software Screenshots

The software screenshots samples shown in this manual are for illustration purposes only. The screenshots may differ from the actual screens displayed. Screenshot samples are taken from Windows 10.

■ Symbols Indicating Precautions

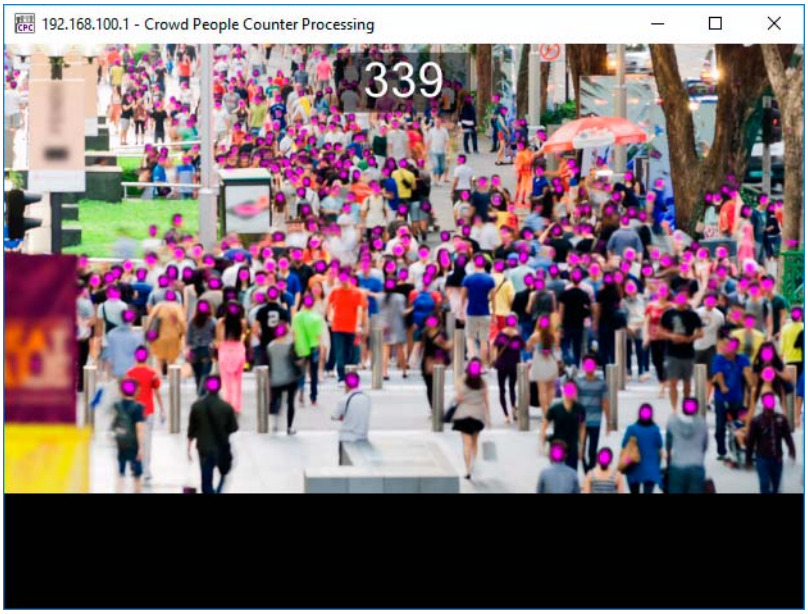
Symbol	Description
Important	Cautions and restrictions are needed. Make sure to read these areas carefully.
Note	Supplementary descriptions and reference information are mentioned here.

Before Use

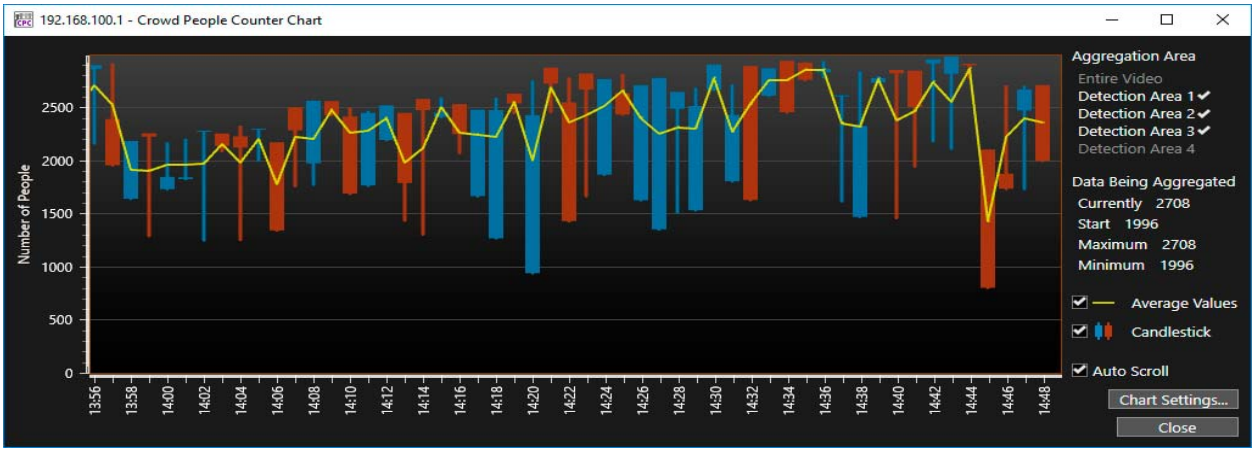
What Is Crowd People Counter?

Crowd People Counter is a video content analysis software used to estimate the number of people in the image from the live video from network cameras (hereafter referred to as “cameras”).

- Counting a large number of people
  This software counts the number of people by detecting the heads of persons shown in the live video from the camera. Since people can be detected even without capturing the whole bodies in the video, this software can count people in crowded areas, including small sized people in the distance.



- Displaying the count results in a chart
  During the counting process, it is possible to aggregate the results and display them in a chart.



- Outputting the count results to a file
  The count results will be outputted to a CSV format file or a JPEG format file. It is also possible to output a CSV file of the aggregated data.

Operating Environment

■ System Requirements

CPU	Intel Core i7-6700 or higher is recommended (4 cores or more, HT technology compatible)
Memory	16 GB or more is recommended
OS	Windows 10 Pro/Windows 10 Enterprise/Windows 10 Home 64-bit Windows Server 2012 Standard 64-bit Windows Server 2012 R2 Standard 64-bit Windows Server 2016 Standard 64-bit
Software	.NET Framework 4.5.2

■ Compatible Cameras

Compatible Cameras*	Canon cameras: ME20F-SHN, VB-H45, VB-M44, VB-H730F Mk II, VB-S30D Mk II, VB-S31D Mk II, VB-S800D Mk II, VB-S900F Mk II, VB-S805D Mk II, VB-S905F Mk II, VB-H761LVE-H, VB-H751LE-H, VB-M741LE-H, VB-S30VE, VB-S800VE, VB-S910F, VB-R13VE, VB-R13, VB-R12VE, VB-M50B, VB-H652LVE, VB-H651VE, VB-H651V, VB-H761LVE, VB-H760VE, VB-H751LE, VB-R11VE, VB-R11, VB-R10VE, VB-M641VE, VB-M641V, VB-M640VE, VB-M640V, VB-M741LE, VB-M740E, VB-H43, VB-H630VE, VB-H630D, VB-H730F, VB-M42, VB-M620VE, VB-M620D, VB-M720F, VB-S30D, VB-S31D, VB-S800D, VB-S900F, VB-S805D, VB-S905F (As of December 2018) Axis cameras: M1124, M1124-E, M1125, M1125-E, M1134, M1135, M1135-E, M1137, M1137-E, M1145, M1145-L, M2025-LE, M2026-LE Mk II, M3015, M3016, M3024-LVE, M3025-VE, M3026-VE, M3044-V, M3044-WV, M3045-V, M3045-WV, M3046-V, M3064-V, M3065-V, M3066-V, M3075-V, M3104-L, M3104-LVE, M3105-L, M3105-LVE, M3106-L Mk II, M3106-LVE Mk II, M3115-LVE, M3116-LVE, M3205-LVE, M3206-LVE, M5054, M5055, M5065, M5525-E, P1364, P1364-E, P1365 Mk II, P1365-E Mk II, P1367, P1367-E, P1368-E, P1375, P1375-E, P1377, P1377-E, P1378, P1378-LE, P1435-LE, P1445-LE, P1447-LE, P1448-LE, P3224-LV Mk II, P3224-V Mk II, P3225-LV Mk II, P3225-LVE Mk II, P3225-V Mk II, P3225-VE Mk II, P3227-LV, P3227-LVE, P3228-LV, P3228-LVE, P3245-LV, P3245-LVE, P3245-V, P3245-VE, P3367-V, P3367-VE, P3374-LV, P3374-V, P3375-LV, P3375-LVE, P3375-V, P3375-VE, P5414-E, P5415-E, P5624-E Mk II, P5635-E Mk II, P5654-E, P5655-E, Q1615 Mk II, Q1615-E Mk II, Q1645, Q1645-LE, Q1647, Q1647-LE, Q1659, Q1700-LE, Q1785-LE, Q1786-LE, Q1798-LE, Q3515-LV, Q3515-LVE, Q3517-LV, Q3517-LVE, Q3517-SLVE, Q3518-LVE, Q3527-LVE, Q3615-VE, Q6054 Mk II, Q6054 Mk III, Q6054-E Mk III, Q6055, Q6055-C, Q6055-E, Q6074, Q6074-E, Q6075, Q6075-E, Q6124-E, Q6125-LE, Q6128-E, Q6154-E, Q6155-E, Q8414-LVS, Q8685-E, Q8685-LE (As of June 2020)

* There are some models that may not be available in some regions or countries.

■ Limitations

- Depending on the recording environment, the number of people in the video may not be properly counted. It is also possible that non-human objects may be incorrectly counted.
- This software is unable to read data from the cameras if they are configured to allow only HTTPS encrypted communication and prohibit other communications.
- The analysis speed can be affected under the following conditions;
  - When there are other programs running at the same time
  - When simultaneously counting the number of people using multiple cameras
  - If the video size is large and the size of the person shown in the video is small
- If the time changes during the analysis due to the daylight saving time set in the OS, the software may not run correctly, or the analysis results may not be correct. In such a case, at the beginning and at the end of the daylight saving time period, make sure to exit this software, then start again after the time has changed.
- It is recommended to perform a test-run before actual use on the operating environment.

Note

For the latest information on this software (compatible cameras, operating environment, etc.), please refer to the Canon website.

1 Confirm that all other applications have been closed.

2 Double click the [CrowdPeopleCounterInstaller.exe] icon.

The installation screen is displayed.

Note

- If the [User Account Control] screen is displayed, click [Yes] or [Continue].
- If the installation screen for "Canon VCA Logger" comes up during the installation, please follow the installation screen as required.
- If .NET Framework 4.5.2 is not installed on the computer, a dialog box is displayed asking the user to install the necessary software.
- When using the Windows Server, Media Foundation or Desktop Experience will also be installed onto your system, when installing Crowd People Counter.

3 Follow the on-screen instructions to proceed with the installation, then click [Finished] in the installation completion screen.

The [Crowd People Counter] icon will be displayed on the desktop.

Note

Please restart the PC, when the request message appears.

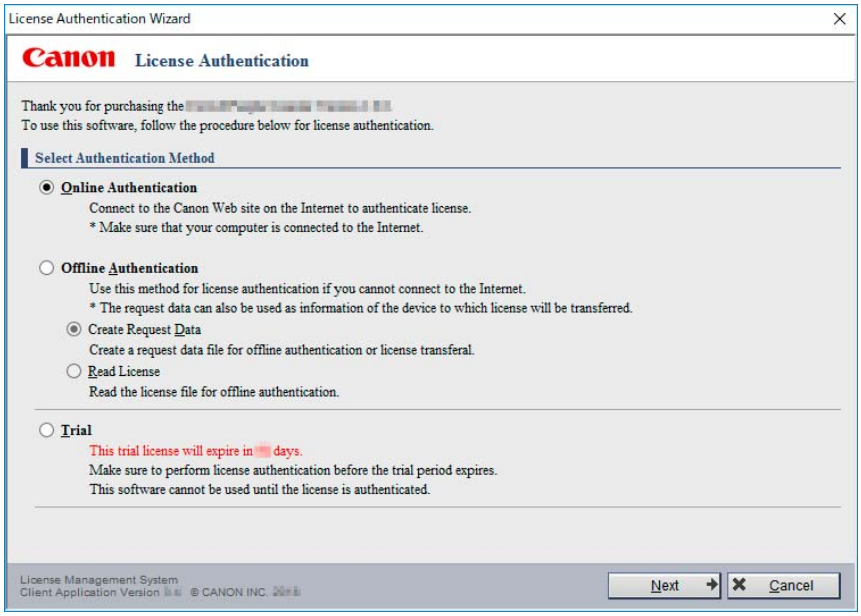
License Authentication

This software requires license authentication.
The following process explains the method to achieve license authentication, on computers with this software installed and connected to the internet.

1 Double click the [Crowd People Counter] icon on the desktop.

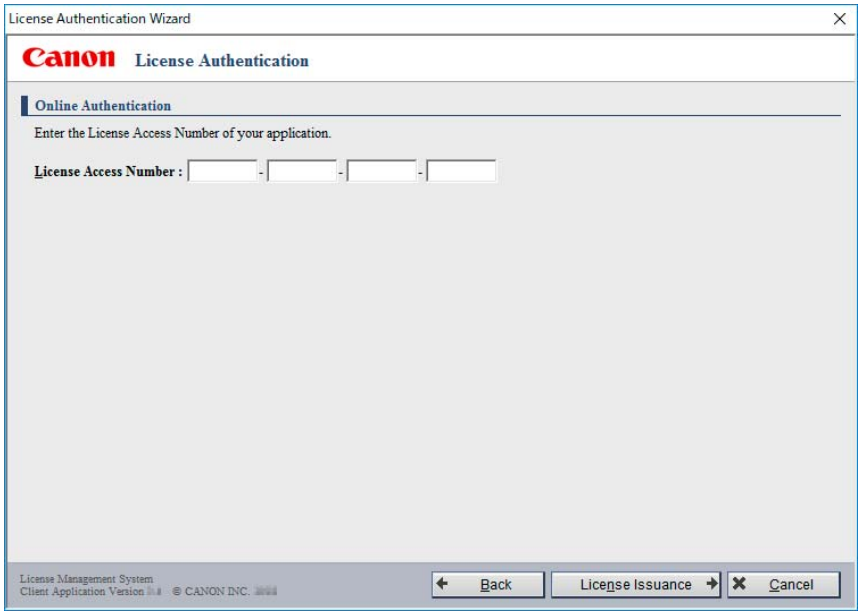
The License Authentication wizard will appear if the license has not been authenticated.

2 Select [Online Authentication], and click [Next].



A window to input the License Access Number will be displayed.

3 Enter the 16-alphanumeric character (4 characters x 4) license access number, and click [License Issuance].



For the license access number, please contact a Canon sales representative or its reseller partner.
When the [License Authentication Completed] window is displayed, click [Finished].

Important

- This software can be used without a license if [Trial] is selected during the installation. However, there is a limit on the trial period that the software can be used. The trial period is counted from when the software is first installed on the system. The software cannot be launched again after the trial period has expired. Please authenticate the license during the trial period.
- For more information on the license authentication, for example license authentication for computers which the software has been installed on and yet cannot be connected to the internet, please refer to the “Software License Registration Guide”. Double click the following file to view the [License Information Management] window.

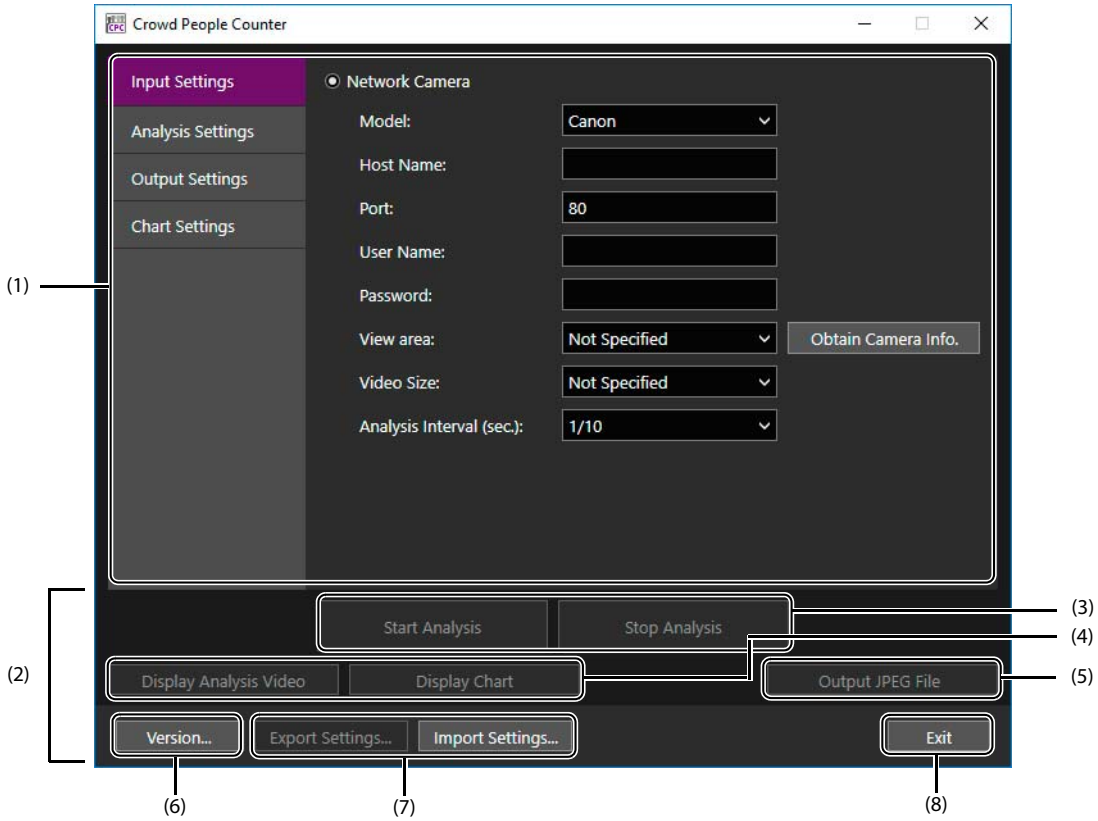
  C:\Program Files (x86)\Canon\SPSLIM\SPSLIM.exe

Note

If there are multiple licenses, click [Start] > [Webview Livescope] > [License Authentication Wizard] to display the license authentication wizard and then perform authentication for each license as described in the procedure above.
Once the license authentication has been completed, the same number of Crowd People Counter programs as licenses can be run simultaneously.

Explanation of the UI Screens

Double-click the [Crowd People Counter] icon on the desktop to start the software, and the following screen will be displayed.



(1) Setting Screen Area
Change the setting screen with the menu on the left side. The setting screen consists of the following four screens:

[Input Settings]; To specify which camera to use (p. 11)

[Analysis Settings]; To set the conditions for analysis, such as detection area (p. 16), (p. 18)

[Output Settings]; To set what to output and where to output the file of the analysis results (p. 20)

[Chart Settings]; To set items for displaying the analysis results in a chart (p. 22)

Note

The [Input Settings] screen and the [Output Settings] screen must be set. The [Analysis Settings] screen and the [Chart Settings] screen should be set if necessary. For details on counting the number of people, please refer to “Counting the Number of People” (p. 11).

(2) Common Setting Area
Buttons, to start the analysis and others, are placed in this area. This area is used for all setting screens.

(3) [Start Analysis]/[Stop Analysis]
Starts or stops the analysis.

(4) [Display Analysis Video]/[Display Chart]
To display the counting screen or the chart after setting them as hidden (p. 15), (p. 23).

(5) [Output JPEG File]
Switches whether to output the JPEG file or not during the analysis. When it is set to output the JPEG file, the button turns purple.
For details on the output of the JPEG file, please refer to “Output Setting” (p. 20).

(6) [Version]
Displays the version information of this software.

(7) [Export Settings]/[Import Settings]
Saves and reads all setting values. To save the setting values, click [Export Settings] and specify where and which file to save. To read the saved setting values, click [Import Settings] and specify the saved file to read.
Saving the settings for each camera allows to reuse the settings the next time to count people under the same condition.

Note

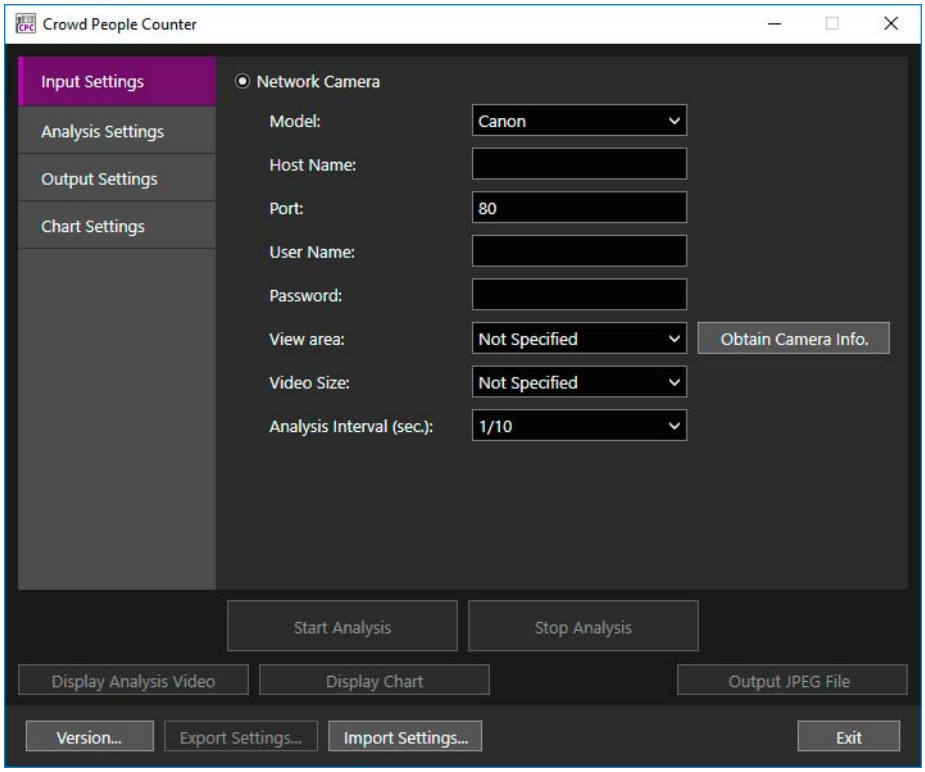
- To execute the analysis from the command line (p. 25), it is necessary to export the setting values in advance.
- Specifying the host name of the camera enables to export the settings.

(8) [Exit]
Exits the software.

Counting the Number of People

Set the conditions required to count the number of people, and execute the count.

1 Enter the information of the connected camera in the [Input Settings] screen.



• [Model]
Select either [Canon] or [Axis].

• [Host Name]
Input the camera's host name or IP address.

• [Port]
Input the camera's HTTP port number.

• [User Name]
Input the camera's user name.

• [Password]
Input the camera's password.

• [Obtain Camera Info.]
Use this function when setting [View area] and [Video Size]. Clicking this button enables to obtain information of [View area] and [Video Size] that are able to select from the camera.

• [View area]
Active only if [Axis] is selected for [Model].
Configure this settings to use the specified view area set on the camera as the input video. Clicking [Obtain Camera Info.] shows the list of view areas set to the camera. When [Not Specified] is selected, any video that is set to the camera (specified view area or native view) is used.

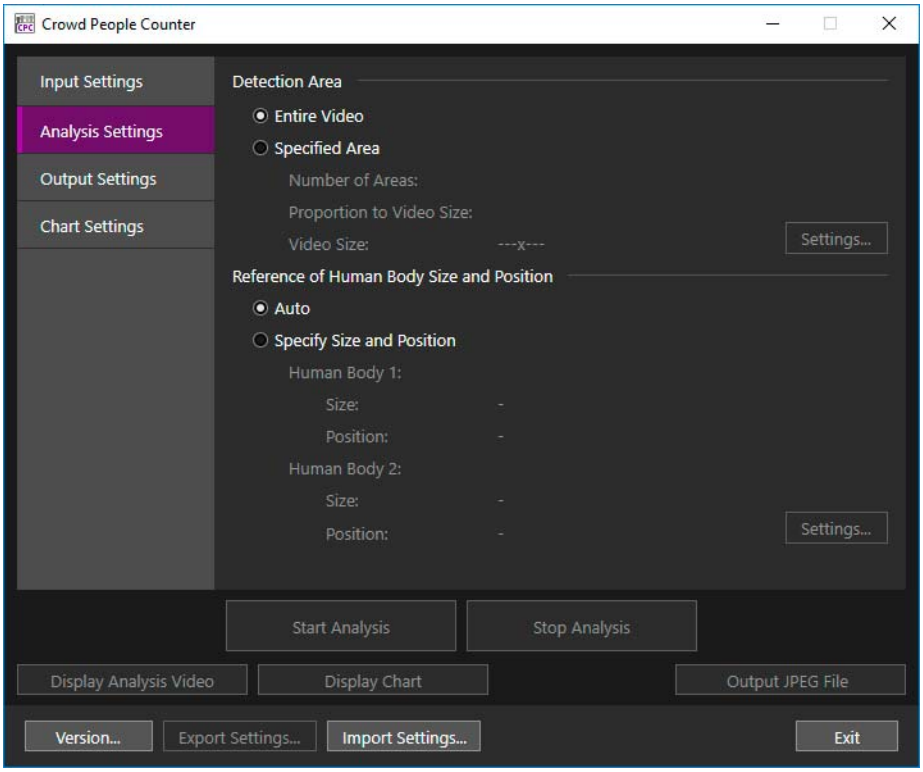
• [Video Size]
Select the video size to be used for input video. Clicking [Obtain Camera Info.] displays the video size that can be used for the specified camera or view area. When [Not Specified] is selected, the video size which is set to the camera will be used.

• [Analysis Interval (sec.)]
Select how many seconds each video analysis should be performed. For example, when [5] is selected, the software analyzes the video every 5 seconds and counts the number of people. When [Not Specified] is selected, the video is obtained according to the frame rate set to the camera.

Note

- Depending on the input video or PC performance, the actual analysis interval may be longer than the specified value.
- If [Analysis Interval] set is shorter than the frame rate set to the camera, this software will analyze at the speed of the frame rate of the camera. For example, when 5 fps is set to the frame rate of the camera, analysis is executed by [1/5] even if [1/10] is set for [Analysis Interval].
- As the default setting, only [Not Specified] is displayed and selectable for [View area] and [Video Size]. By clicking [Obtain Camera Info.], values set for the camera to be used can be displayed and selected.

2 Set the conditions for analysis in the [Analysis Settings] screen.



In the [Analysis Settings] screen, detection area, reference human body size and position can be set. Change the settings of these choices as needed. For details, please refer to "Setting the Detection Area" (p. 16) and "Setting the Reference of Human Body Size and Position" (p. 18).

• [Detection Area]

Select [Entire Video] or [Specified Area] for the detection area to be counted. Once a detection area is set, people in the specified area can be counted. As a default, [Entire Video] is set for the detection area.

Note

If there is an area that is not to be analyzed in the video, specify the detection area to exclude that area.

• [Reference of Human Body Size and Position]

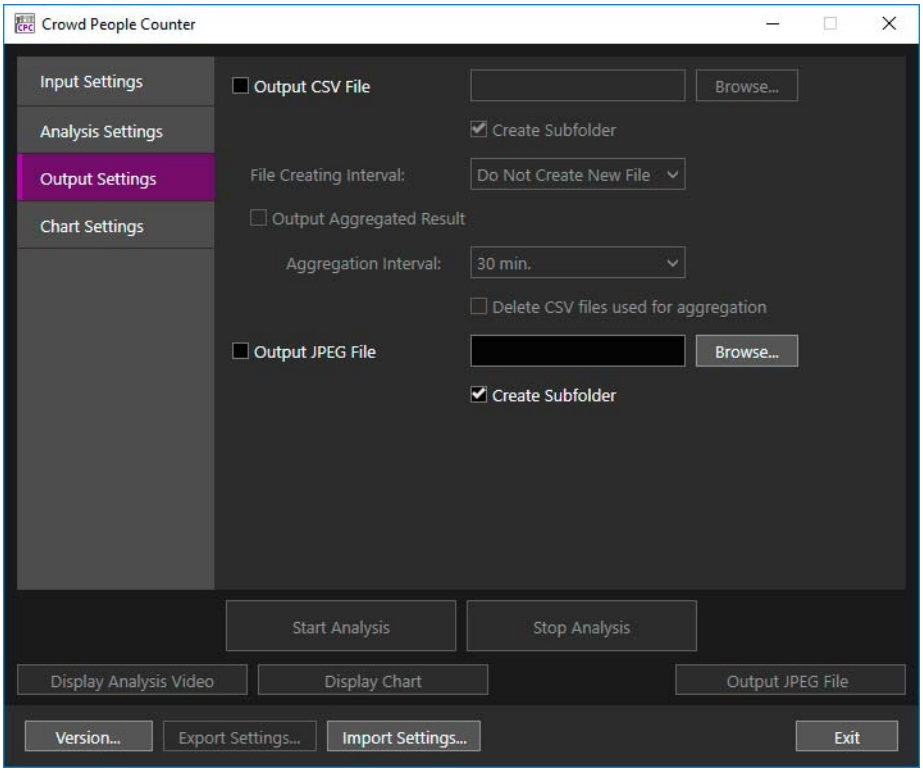
Select [Auto] or [Specify Size and Position] for the reference of human body size and position. As a default, [Auto] is set.

Important

It is recommended to select the [Specify Size and Position] to set the reference of human body size and position manually under the following conditions (p. 18):

- When there are few people at the start of analysis.
- When the analysis is canceled and restarted repeatedly under the same analysis settings.
- After executing the analysis, expected result was not obtained such as the number of people counted was much fewer than assumed.

3 Configure the settings to output the analysis results in the [Output Settings] screen.

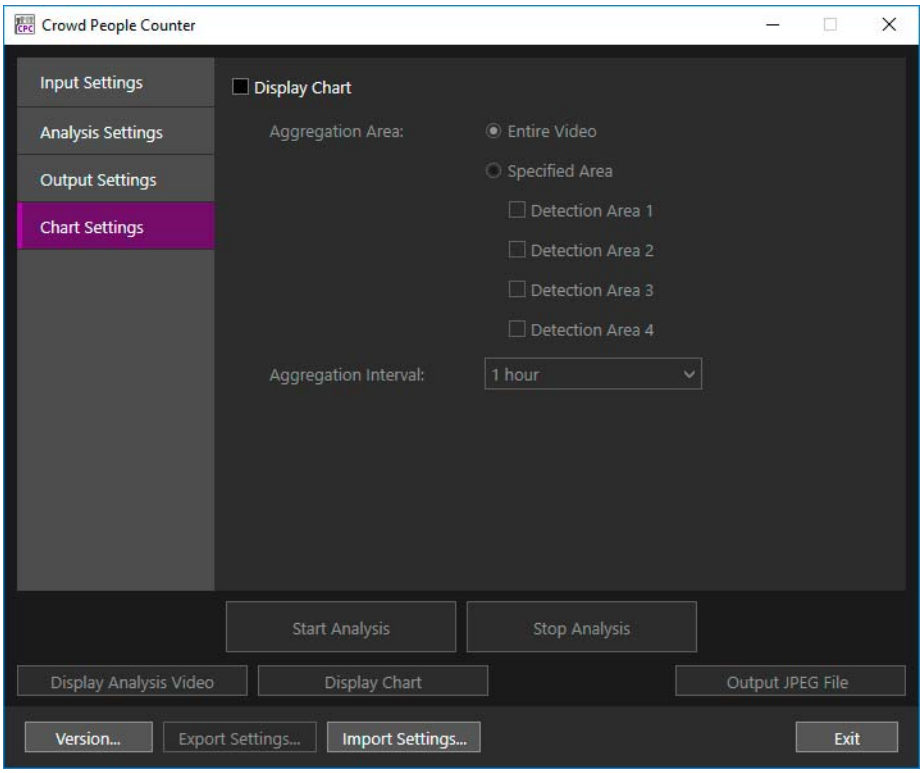


The result of the analysis can be outputted as a CSV file or a JPEG file. After checking [Output CSV File] and/or [Output JPEG File], click [Browse] and specify a folder to output the result files.
For details, please refer to “Output Setting” (p. 20).

Note

If neither [Output CSV File] nor [Output JPEG File] are checked, the analysis results will not be outputted while the analysis is being executed.

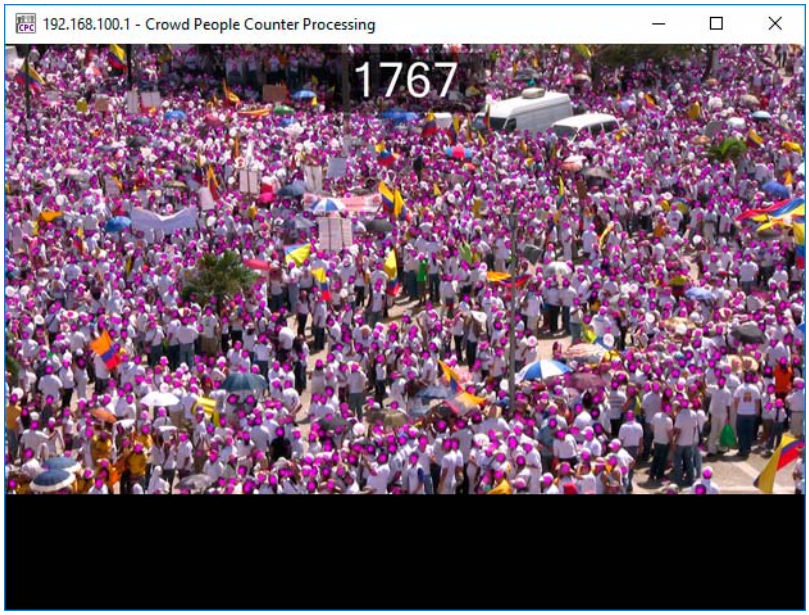
4 Configure the settings to display the analysis results in a chart in the [Chart Settings] screen.



During the analysis, the analysis results can be displayed in a chart. Set this function as required. For details, please refer to “Displaying the Analysis Results in a Chart” (p. 22).

5 Click [Start Analysis].

The analysis starts and the counting screen will appear.

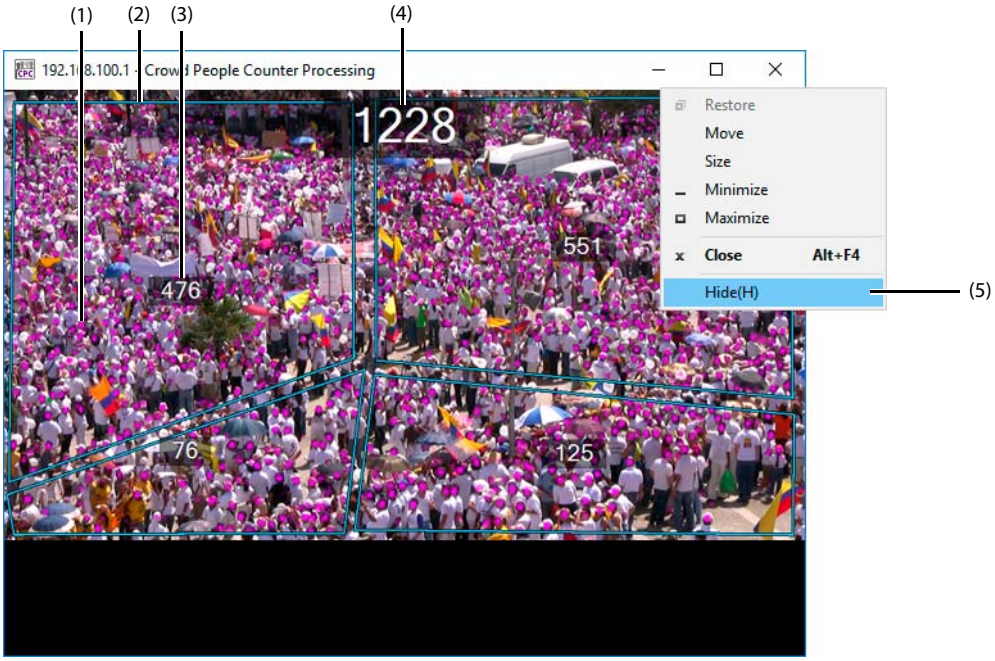


Note

- For details on the screen to be displayed, please refer to “Counting Screen” (p. 15).
- The analysis results files will be saved in the specified output folder. For details on such processes as how to read the analysis results or the naming of folders and files, please refer to “Output File Content” (p. 26).
- To end the analysis, either click [Stop Analysis] in the common setting area, or click [×] in the upper right corner of the counting screen. The results of the analysis, up to when it ended, will be outputted.

■ Counting Screen

During the analysis, the window below is displayed as the following:



(1) A colored dot shows that the person has been detected

(2) Set detection area
For details on the detection area, please refer to “Setting the Detection Area” (p. 16).

(3) Counted number in each detection area

(4) Counted number in the entire screen or in all the detection areas
If no detection area is set, the counted number in the entire screen is shown. When detection areas are set, the total number of people that are counted in each area is shown.

(5) [Hide]
The counting screen can be hidden by clicking [Hide] in the menu shown by left-clicking the [CPC] icon on the left end of the title bar, or right-clicking the title bar itself. When the counting screen is hidden, load on the system is reduced and analysis continues. However, by minimizing the screen by clicking [–] does not reduce load on the system.
Clicking [Display Analysis Video] in the common setting area can display the hidden counting screen again.

Note

A colored dot shows that the person has been detected but it is only a rough reference and the number of dots may not match that of the people counted.

Setting the Detection Area

By setting the detection area, the number of people in the area can be counted. Up to four detection areas can be set.

Note

The information of the camera to be connected must be entered beforehand in the [Input Settings] screen.

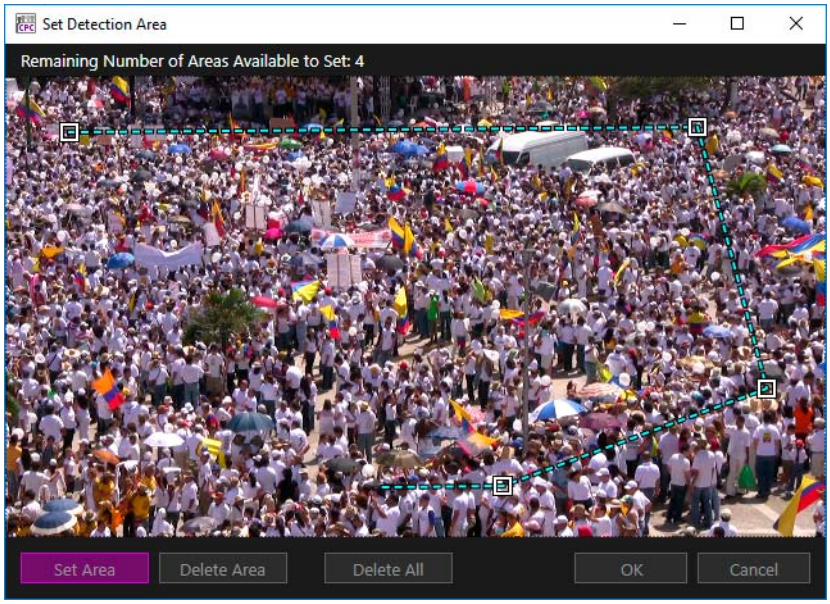
1 In the [Analysis Settings] screen, under [Detection Area] select [Specified Area], then click [Settings].

The video from the camera being used appears as a still image on the [Set Detection Area] screen.

2 Check that [Set Area] is selected.

Detection areas can be added or edited when [Set Area] is selected (purple).

3 Click on the image to surround the area to be set as the detection area.



The detection area is set using a polygon with three to eight points. Each time the image is clicked, a [□] appears as a point, and a dotted blue line is drawn between the points. Each time a right click is made, the clicked point is deleted.
Finally, by clicking the first point, the polygon closes, displaying the detection area with a solid blue line. The detection area number is displayed on the line.

Note

- Up to 4 detection areas can be set. The remaining number of areas available to set is displayed on the upper left of the screen.
- The displayed image can be enlarged/reduced by changing the size of the [Set Detection Area] screen.
- For the process to edit or delete detection areas, please refer to “Editing the Detection Area” (p. 17) or “Deleting the Detection Area” (p. 18).

4 Click [OK].

The [Set Detection Area] screen closes. The number of the detection areas set, the video size of the input video, and the proportion of the detection area to the video size will be displayed on the [Analysis Settings] screen.

Important

If you change the camera in the [Input Settings] screen, the detection area settings will be deleted.

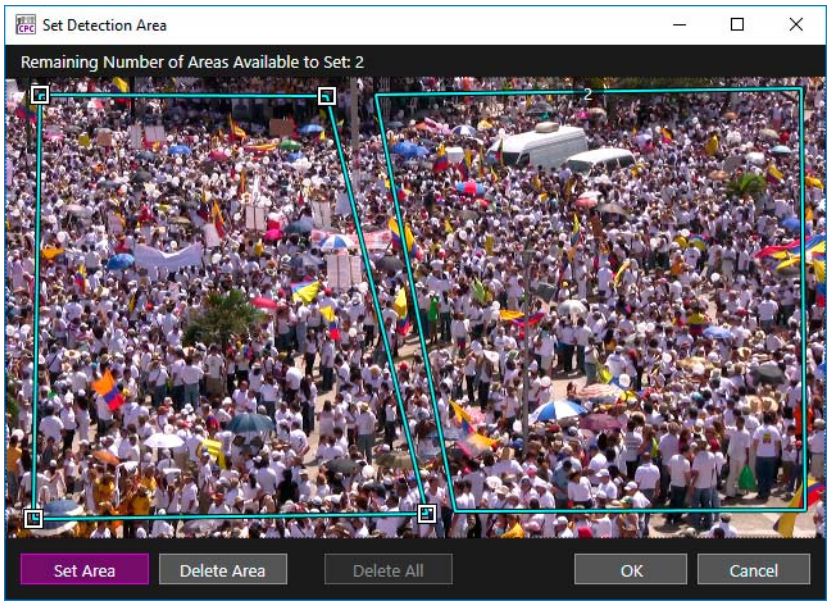
Note

- If the video size of the input video is changed, the size of the detection areas also changes.
  Please reset the detection area(s), if [View area] or [Video Size] is changed in the [Input Settings] screen, or if the settings of the view area or the video size of the camera is changed.
- The values displayed in [Proportion to Video Size] and [Video Size] are updated when opening the [Set Detection Area] screen and click [OK].

■ Editing the Detection Area

1 Click in the detection area to be edited.

When moving the mouse pointer into the detection area, the area will be outlined with a bold line.
If clicked within the area, the points of the detection area will appear.



2 Drag a point.

Click and drag the points, and the shape of the polygon can be edited.

Note

Points cannot be added or deleted. If modifying the shape of the detection area is desired, delete the detection area, then set a new area.

■ Deleting the Detection Area

1 Click [Delete Area].

[Delete Area] is selected (purple). Then, the detection area can be deleted.

2 Click in the detection area to be deleted.

When moving the mouse pointer into the detection area, the area will be outlined with a bold line.
Click the detection area to delete.

Note

For deleting all the detection areas in one operation, click [Delete All].

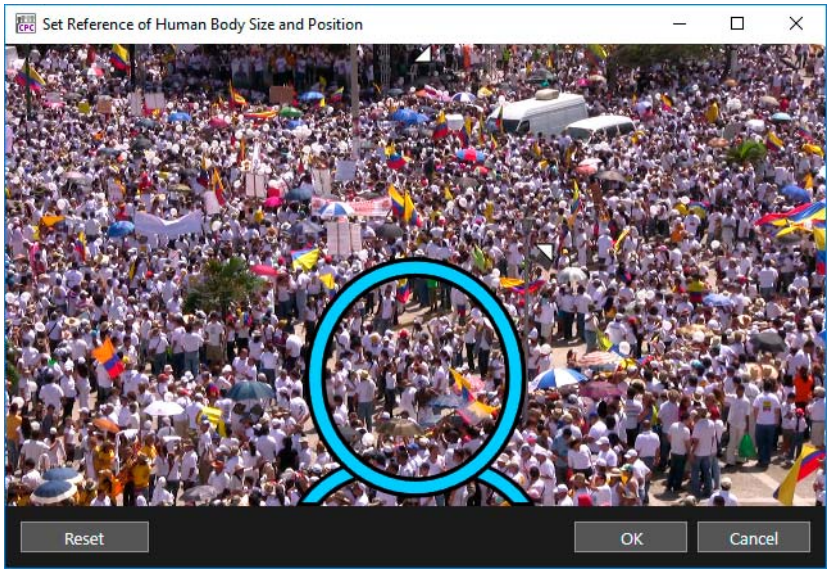
Setting the Reference of Human Body Size and Position

This software counts the number of people assuming that the human body size in the video becomes smaller from front to back. Here, the setting of human body size and position, the reference for the analysis, is explained.
By selecting [Auto] in [Reference of Human Body Size and Position], the reference of human body size and position is set automatically by judging from the size of the people in the image at the start of the analysis. Therefore, the restart of an analysis after an interruption or the relaunch of this software may change the reference of human body size and position each time.
In addition, when only a few people are found in the image at the start of the analysis, human body size and position may not be set properly.
In such a case, set the [Reference of Human body Size and Position] manually by following the steps below.

Note

The information of the camera to be connected must be entered beforehand in the [Input Settings] screen.

1 In the [Analysis Settings] screen, under [Reference of Human Body Size and Position], select [Specify Size and Position] and click [Settings].



Video from the camera being used will be displayed as a still image in the [Set Reference of Human Body Size and Position] screen.
Two [◯] appear on the image, one at the top center and the other at the bottom center.

2 Move each one of the two [◯] respectively by clicking and dragging to place the icon on the person to be the reference.

Drag the [◯] with [◹] at the upper right corner over a person appearing large on the image.

Drag the [◯] with [◿] at the lower right corner over a person appearing small on the image.

Set the reference of the human body size by choosing a person appearing large and a person appearing small in the image. Try to select the person close to the top and the other to the bottom.

3 Click and drag the [◹] or [◿] in order to adjust the size and the position of the [◯] according to the width of the person's head.

Important

- The size of [◯] must be adjusted to the width of the person's head accurately. Otherwise the count may not be accurate.
- In case there are any distortion of the image towards the edges that may come from the lens, choose a position free from distortion.

Note

- The displayed image can be enlarged/reduced by changing the size of the [Set Reference of Human Body Size and Position] screen. It can also be done by moving the mouse wheel.
- By clicking [Reset], the size and the position of the [◯] return to the default setting.

4 Click [OK].

The [Reference of Human Body Size and Position] screen closes. The information set for the human body size and the position is displayed in the [Analysis Settings] screen.

Important

If the camera in the [Input Settings] screen is changed, the reference of human body size and position settings will be deleted.

Note

Please reset the reference of human body size and position, if [View area] or [Video Size] is changed in the [Input Settings] screen, or if the settings of the view area or the video size of the camera is changed.

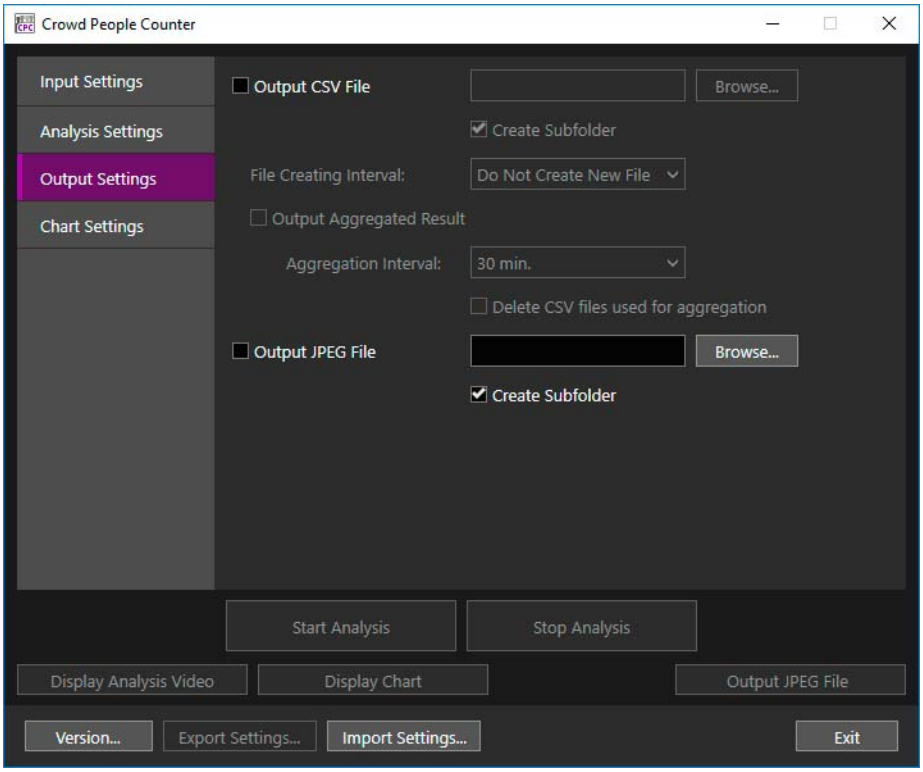
Output Setting

Settings for the output can be made in the [Output Settings] screen. The following three types of files can be outputted:

- Analysis result file (result.csv); CSV file containing analysis results such as number of people counted (p. 20)
- Aggregated result file (Reshape.csv); CSV file containing the aggregated values of analysis results for each time set (p. 21)
- JPEG file; Image file to which analysis results are added (p. 21)

Note

For the details of the output files, please refer to “Output File Content” (p. 26).



■ Outputting the Analysis Results to a CSV File (result.csv)

1 Check [Output CSV File].

After checking, CSV file containing the analysis results will be outputted. Click [Browse] and specify the output folder. If the output folder is not specified, the file will be outputted to the PC desktop.
If [Create Subfolder] is checked, a new folder will be created in the specified output folder to which the file will be outputted.

2 Set [File Creating Interval] if necessary.

After setting, the CSV file containing the analysis results will be outputted at a certain interval. For example, if [1 min.] is set, and the analysis is for 10 minutes, ten CSV files containing analysis results for each minute will be outputted. This setting is for when checking the analysis results of the outputted files before the analysis has been completed, or when wanting to avoid large CSV files.
When it is set to [Do Not Create New File], only one CSV file will be outputted containing all the analysis results.

■ Outputting a CSV File (Reshape.csv) Containing Aggregated Results

This function can be used when [Output CSV File] is checked.

1 Check [Output Aggregated Result].

Information such as maximum, minimum, and total number of persons is outputted to a CSV file from the analysis results file (result.csv).

2 Set [Aggregation Interval].

Set the period for the data aggregation interval.

Note

- 00 h 00 min. is the reference time. Analysis results are aggregated per period defined by the interval set starting from the reference time. For example, if the analysis starts at 10 h 37 min. with [Aggregation Interval] set at [15 min.], the first aggregation will be made with the analysis result from 10 h 37 min. till 10 h 45 min., and then from 10 h 45 min. till 11 h 00 min., from 11 h 00 min. till 11 h 15 min. and onwards.
- In the [Output Settings] screen, if setting [File Creating Interval] to output multiple analysis result files, it is recommended that [Aggregation Interval] be equal to or shorter than the [File Creating Interval]. If [Aggregation Interval] is longer than [File Creating Interval], more than one file will be outputted with the same start date and time and the same end date and time of aggregation, which may not produce the intended aggregated results.

3 Set whether or not to delete the files used for aggregation.

By checking [Delete CSV files used for aggregation], the analysis result files (result.csv) used for aggregation will be deleted after outputting the aggregated results.

Note

- Aggregation is made for each analysis result file. Therefore, when multiple analysis result files are created, the same number of aggregated result files are outputted.
- Aggregated result files are outputted to the same folders as analysis result files.

■ Outputting JPEG File

By checking [Output JPEG File], a JPEG file with the analysis result added will be outputted. Click [Browse] and specify the output folder. If the output folder is not specified, the file will be outputted to the PC desktop.

If checking [Create Subfolder], a new folder will be created in the specified output folder in which the file is outputted. If unchecked, the file will be outputted directly under the specified output folder.

Important

- Analysis will be interrupted when the files cannot be outputted due to lack of authorization to the output folder or insufficient capacity.
- When outputting a JPEG file, check beforehand that there is enough free capacity in the HDD. The number and size of files to be outputted depend on the video to be inputted or the setting conditions.

Note

Whether or not to output JPEG file can be changed even during the analysis in the [Output JPEG File] in the common setting area.

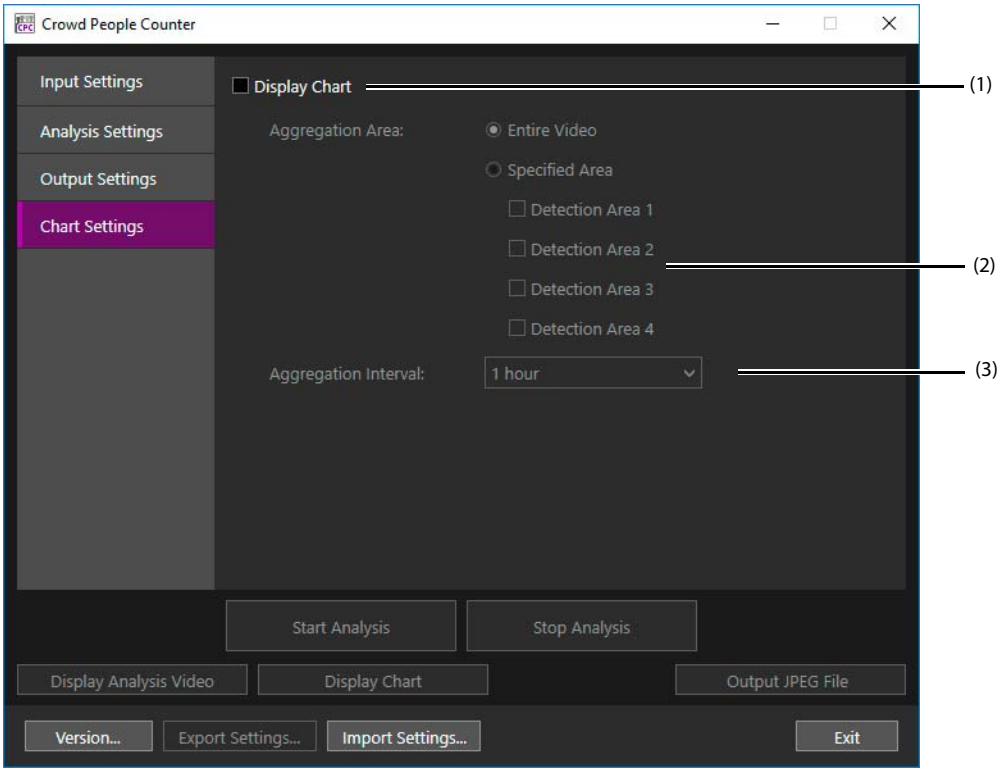
Displaying the Analysis Results in a Chart

During the analysis, it is possible to display the aggregated analysis results in a chart.

This option can be set in the [Chart Setting] screen.

Important

The chart will be displayed during the analysis. Once the analysis is completed, the chart will no longer be displayed. Printing or saving the chart is not possible.



(1) [Display Chart]
The aggregated results of the number of people counted is displayed on the chart. When setting the display chart, the chart will be displayed at the beginning and during the analysis.

(2) [Aggregation Area]
Select the area to summarize. The chart is displayed with the aggregated results of the number of people counted from the selected area.
By selecting [Entire Video], the aggregated results will be of the entire scene and not limited to a detection area.
By selecting [Specified Area] and checking the [Detection Area] box, the aggregated results will be within the selected detection area. In the case of having multiple detection areas selected, the aggregated results of each area will be totaled and displayed as a chart.

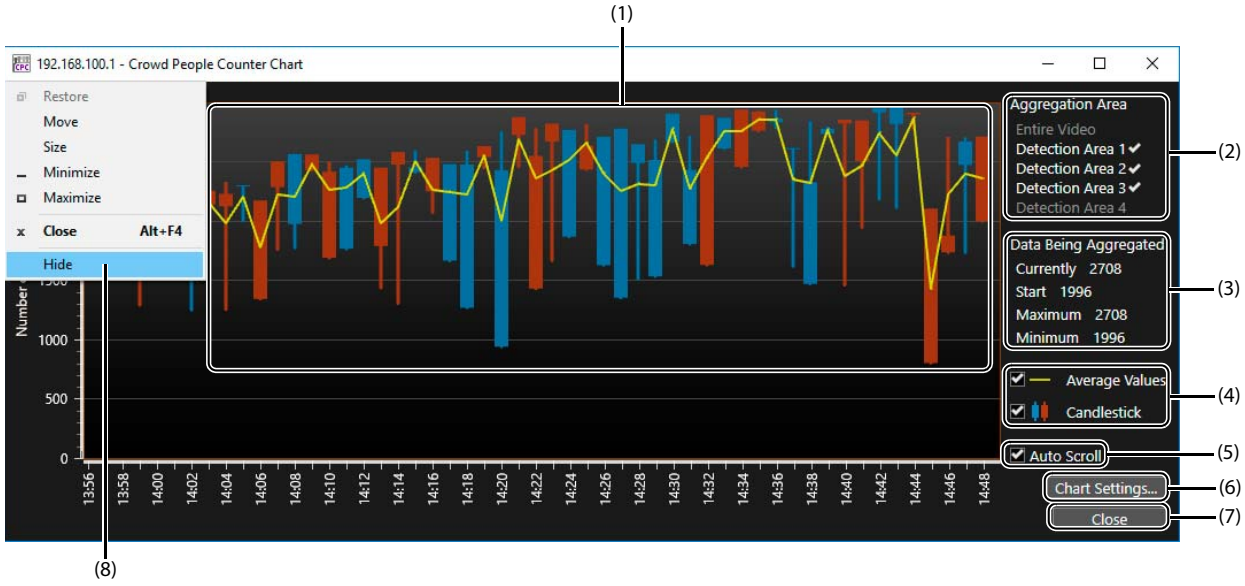
(3) [Aggregation Interval]
Set the interval which aggregates the number of people counted.
00 h 00 min. being the reference, the results of the analysis within the time period set for each time set here are totaled.
For example, when setting the [Aggregation Interval] for [15 min.] and the analysis begins at 10 h 37 min., at first, the analysis will be aggregated for the time from 10 h 37 min. until 10 h 45 min.. From then on, it will continue as 10 h 45 min. until 11 h 00 min., 11 h 00 min. until 11 h 15 min. and so on.

Note

The contents set in the [Chart Settings] can be edited during the analysis.

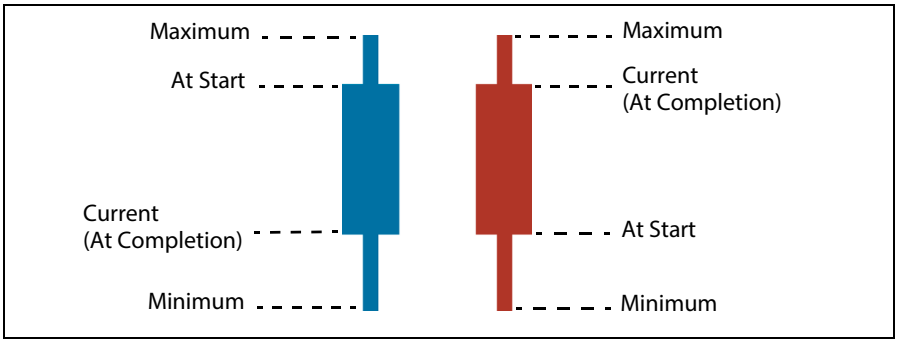
■ How to View the Chart

When starting the analysis, the following chart will be displayed.
The x-axis shows the time, while the y-axis represents the number of people.

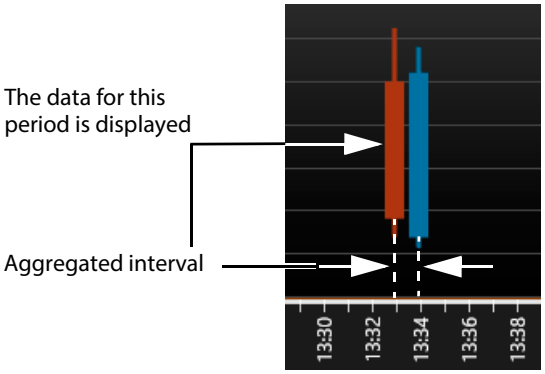


(1) Aggregated Results
The aggregated results are displayed in both a polygonal line graph and a candlestick chart.

- Polygonal line
  Indicates the average number of people counted within the aggregation interval.
- Candlestick
  Each aggregation interval will be displayed in one “candlestick” like in the figure below. It is possible to read the number of people at the start of counting, the current number of people, the minimum number of people, and the maximum number of people. The candlesticks are displayed in blue when the current (at the time of termination) number decreases compared with the start, and red in the case where the number increases.



The data for the period, from the center of a candlestick to the center of the adjacent candlestick, is aggregated.



(2) [Aggregation Area]
Displays the detection area to aggregate.

Note

The name of the set detection area is displayed. The detection area(s) being aggregated is displayed with a [ ] on the right side.

(3) [Data Being Aggregated]
Displays the number of people counted during data aggregation, at the current time, start time, maximum and minimum values.

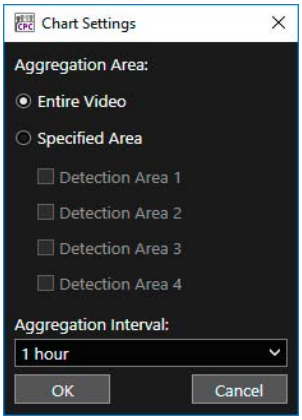
(4) [Average Values]/[Candlestick]
To display/hide either or both polygonal line (average value) or candlestick in the chart.

(5) [Auto Scroll]
When checked, the auto scroll function is enabled and the data being aggregated is automatically displayed at the right most point. When unchecked, it will make it possible to scroll manually. By dragging the x-axis of the chart from left to right, or by moving the mouse wheel, it is possible to change the display period.

Note

When scrolling manually, it is possible to view the data up to a maximum of 3 days (72 hours) prior.

(6) [Chart Settings]
By clicking the [Chart Settings] the chart setting window is displayed.



By clicking the [OK] button after changing the setting, the chart will be displayed in accordance with the set settings. Refer to the “Displaying the Analysis Results in a Chart” (p. 22) for details on each items.

(7) [Close]
Closes the chart.

(8) [Hide]
To hide the chart, left click [] on the left end of the title bar, or right click on the title bar and click the [Hide] button from the displayed menu. Although the chart will no longer be displayed, the analysis will continue. In order to redisplay the chart, click on the common setting area's [Display Chart].

Note

- In the situation where the chart is closed by clicking [Close] or [×] in the top right, it is still possible to re-open the chart by clicking on [Display Chart] in the common setting area, but the analyzed data up until then will not be plotted. In order not to display the chart while still leaving the plotted data, use the [Hide] button in the menu.
- By using the [Hide] option not to display the chart, it can reduce the load on the system. The chart can be hidden by minimizing the window by clicking the [–] button, but that will not change the load on the system.

Executing from the Command Line

It is possible to specify the setting value file on the command line and execute the analysis.

1 Refer to the "Counting the Number of People" (p. 11) to set the conditions for the count.

2 Refer to the "Explanation of the UI Screens" (p. 10) to export the setting value.

3 Bring up the command prompt, and migrate the current directory to the installation folder of the application.

Input example

```
cd C:\Program Files\Canon\WebView\Crowd People Counter
```

4 Execute in the following format

```
CrowdPeopleCounter.exe -import_setting_file=<path to the setting value file that was exported>
```

Input example

```
CrowdPeopleCounter.exe -import_setting_file=C:\test\camera1_count_settings.txt
```

[Crowd People Counter] starts to run and analysis begins.

Note

In order to cancel the analysis, click the [Stop Analysis] in the common setting area, or click [×] in the top right part of the count screen. The analysis completed before aborting will be outputted.

Output File Content

In the folder specified on the [Output Settings] screen, analysis results file, aggregated results file and the JPEG file with the analysis result added are outputted.

Folder Names and File Names

The analysis results file, aggregated results file and the JPEG file are outputted directly under the specified folder with the following file name. When selecting [Create Subfolder] in the [Output Settings] screen, a subfolder will be created for the outputted file in the specified folder.

Subfolder name		<Host name>_<Date & time analysis began>
File name of the analysis results	When [Do Not Create New File] is set to [File Creating Interval]	<Host name>_result.csv
	When any options other than [Do Not Create New File] is set to [File Creating Interval]	<Host name>_<Date & time of file creation>_result.csv
File name of the aggregated results	When [Do Not Create New File] is set to [File Creating Interval]	<Host name>_Reshape.csv
	When any options other than [Do Not Create New File] is set to [File Creating Interval]	<Host name>_<Date & time of file creation>_ Reshape.csv
JPEG file name		<Host name>_<Date & time of shooting>.jpg

Note

- <Date & time analysis began> and <Date & time of shooting> is displayed in the yyyyMMddHHmmssfff format. <Date & time of file creation> is displayed in the yyyyMMddHHmm format. Represented by yyyy as the year, MM as the month, dd as the date, HH as the hour, mm as the minutes, ss as the seconds, and fff as the milliseconds.
- For the date and time, the date & time of the PC on which the software is running is used.
- <Date & time of shooting> represents the date and time when the camera image was acquired, by the PC on which the software is running.
- <File creating date & time> shows the time each CSV file is created. 00 h 00 min. being the reference, the setting in [File Creating Interval] determines the separation of each time. For example, when setting the [File Creating Interval] for [15 min.] and analysis begins at 2019 October 31 at 10 h 37 min., the <File creating date & time> will be like this: <201910311030>, <201910311045>, <201910311100>…

Analysis Results File

When selecting [Output CSV File] in the [Output Settings] screen, an analysis result file will be outputted. The following contents will be described:

<File path for the outputted JPEG file>, <Date & time of shooting>, <Number of people counted in the entire scene>, <Number of people counted in the detection area 1>, <Number of people counted in the detection area 2>, <Number of people counted in the detection area 3>, <Number of people counted in the detection area 4>

Output example (when a subfolder is created for the JPEG file output)

```
C:\Results\192.168.100.1_20191012130605024\192.168.100.1_20191012130627270.jpg,20191012130627270,445,121,173,50,92
C:\Results\192.168.100.1_20191012130605024\192.168.100.1_20191012130628270.jpg,20191012130628270,468,145,161,43,89
...
```

Note

- <Number of people counted in the entire scene> is the result of counting the number of people in the entire image without taking the area settings into consideration.
- For details on the file path, as well as <Date & time of shooting> refer to “Folder Names and File Names” (p. 26).
- The file path section will be left blank if the JPEG file output is not set. Also, the detection area people count will be '0' if it is not set.

Aggregated Results File

Select the [Output Aggregated Results] in the [Output Settings] screen, the aggregated results file will be outputted.

Aggregation will be performed for each analysis result file. Therefore, if multiple analysis result files are outputted, the same number of summary result files will be outputted.

The item name is described in the first row. The aggregated results are in the second row on, since each aggregation interval is described in one row. The details of the contents are as follows:

Item Name	Description
Calculated Period Start Time	Start date & time of aggregation
Calculated Period End Time	Finish date & time of aggregation
Whole Image Average	Average number of people counted in the entire image
Whole Image Minimum	Minimum number of people counted in the entire image
Whole Image Maximum	Maximum number of people counted in the entire image
Whole Image Total	Cumulative number of people counted in the entire image
Area[1] Average	Average number of people counted in the detected area 1
Area[1] Minimum	Minimum number of people counted in the detected area 1
Area[1] Maximum	Maximum number of people counted in the detected area 1
Area[1] Total	Cumulative number of people counted in the detected area 1
Area[2] Average	Average number of people counted in the detected area 2
Area[2] Minimum	Minimum number of people counted in the detected area 2
Area[2] Maximum	Maximum number of people counted in the detected area 2
Area[2] Total	Cumulative number of people counted in the detected area 2
Area[3] Average	Average number of people counted in the detected area 3
Area[3] Minimum	Minimum number of people counted in the detected area 3
Area[3] Maximum	Maximum number of people counted in the detected area 3
Area[3] Total	Cumulative number of people counted in the detected area 3
Area[4] Average	Average number of people counted in the detected area 4
Area[4] Minimum	Minimum number of people counted in the detected area 4
Area[4] Maximum	Maximum number of people counted in the detected area 4
Area[4] Total	Cumulative number of people counted in the detected area 4
Data Counts in Calculated Period	Number of data used for aggregation

Output example

```
2019/10/15 14:15,2019/10/15
14:30,38.76286,37,42,17327,12.36018,11,14,5525,13.51902,12,15,6043,3.85682,3,4,1724,9.02461,8,10,4034,447,

2019/10/15 14:30,2019/10/15
14:45,38.84519,37,41,31115,12.33708,11,14,9882,13.57803,12,15,10876,3.88015,3,4,3108,9.03870,8,10,7240,801,

2019/10/15 14:45,2019/10/15
15:00,30.84625,0,41,25880,6.97974,0,14,5856,6.04887,0,15,5075,6.49940,0,7,5453,11.33611,0,13,9511,839,
...
```

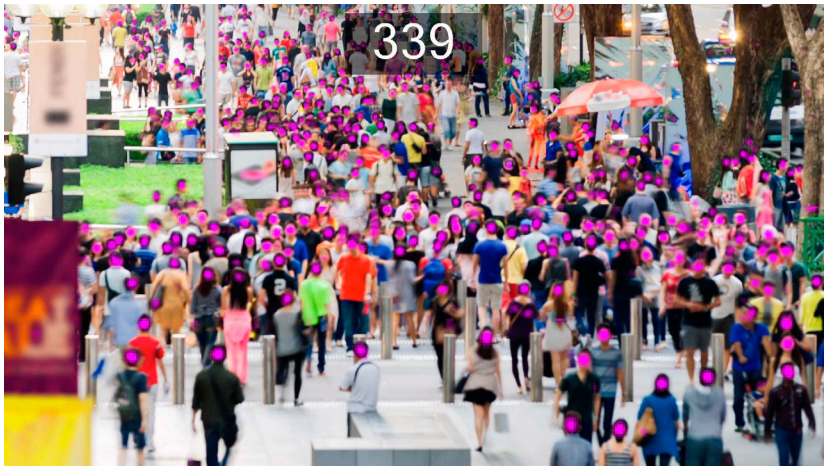
Note

- "Average number of people counted in the entire image" is the result of counting the number of people in the entire image without taking the area settings into consideration.
- 00 h 00 min. is the reference for the aggregation start time and end time, and will be indicated by the date and time set in the [Aggregation Interval]. For example, when setting the [Aggregation Interval] for [15 min.] and analysis begins at 10 h 37 min., the aggregated start time and end time will be described in the following way;

Calculated Period Start Time	Calculated Period End Time
2019/10/15 10:30	2019/10/15 10:45
2019/10/15 10:45	2019/10/15 11:00
...	

JPEG Files

When selecting the [Output JPEG File] in the [Output Settings] screen, the JPEG file will be outputted in the following way for every analysis interval.



Refer to the "Counting Screen" (p. 15) for how to read the image.

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