

## Video Analytics and Enhancement

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## Video Analytics and Enhancement

These are the video analytics & enhancement features in huperVision:

Motion detection	This allows video cameras to detect the presence of movement from a sequence of consecutive video frames. Click Settings to open a dialog box where you can adjust the sensitivity level, noise tolerance, and more. For more details, see "Motion detection" later in this chapter.
Missing/left object detection	This method detects for objects that have been taken out of the scene, or detects for suspicious objects that have been left on the scene. For more details, see "Missing/left object detection" later in this chapter.
Virtual fence detection	This method detects for possible intrusions along a borderline. You can specify one or more borderlines on a site where you want to detect for suspicious people who trespass, or detect moving objects that passed by in the wrong way (for example, vehicles that went in the opposite direction in a one-way street). For more details, see "Virtual fence detection" later in this chapter.
Secure zone detection	This method detects for intrusions in forbidden areas. You can specify one or more areas where people or objects are not allowed to enter. For more details, see "Secure zone detection" later in this chapter.
Flow counting	This method counts the number of moving objects that pass by a predefined borderline. For more details, see "Flow counting" later in this chapter.
Scene Change Detection	This method detect abnormal scene in camera video. For more details, see "Scene change detection" later in this chapter.
Flame detection (Optional)	This method detects for flames. For more details, see "Flame detection" later in this chapter.
Flame Detection pro (Optional)	This is the Professional version for Flame Detection. For more details, see "Flame detection pro" later in this chapter.

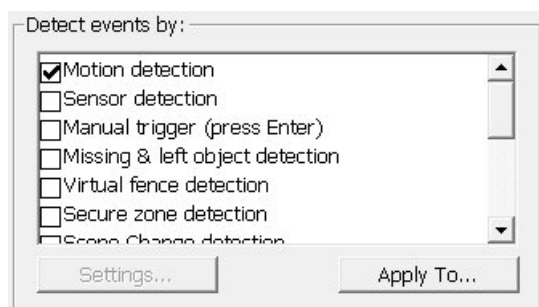
People counting (Optional)	This method counts the number of moving people that pass by a predefined detection area. For more details, see "People counting & people counting pro" later in this chapter.
People counting pro (Optional)	This professional version adds enhancement feature in crowded people saturation and slightly improve the result with light shadow. For more details, see "People counting & people counting pro" later in this chapter.
Face Detection (Optional)	This method detects face object in video and record in event database. For more details, see "Face detection" later in this chapter.
Loitering Detection (Optional)	This method detects object moving around in video and record in event database. For more details, see "Loitering Detection" later in this chapter.
Car Plate Detection (Optional)	This method detects car plate object in video and record in event database. For more details, see "Car Plate Detection" later in this chapter.
Video Stabilization (Optional)	This method analyzes and stabilizes surveillance video when the camera installed outdoors is shaking. For more details, see "Video stabilization" later in this chapter.
Smoke Detection (Optional)	This method detects for smokes. For more details, see "Smoke detection" later in this chapter.
Wide Dynamic Vision	This method is used for enhancing the camera video quality that can increase visibility in the event recordings, especially during the nighttime or when recording under darkly lit environments.

## IVS License and Optional Feature Manager

Hyperlab's capture card / server boards can add extra USB IVS (Intelligent Video Surveillance) license keys. hyperVision IVS license key is well protected and easily configured based on market equipments, which allows users to easily install and set up for using full-featured hyperVision intelligent video analytics.

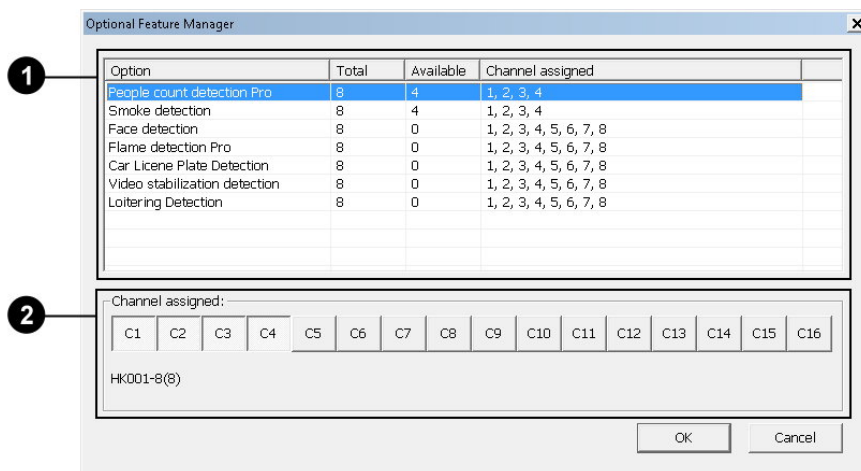
Optional feature manager can manage your IVS license. You can enable/disable IVS features and adjust channel combination for all cameras with optional feature manager.

Only the assigned channel will display the IVS option in the Detect events by group box of Preferences Camera tab. Furthermore, you still need to check the IVS option and set settings to make it work.



Note: The site server will auto-restart after assigning all IVS options.



## Optional feature manager dialog




- |          |                         |  |
|----------|-------------------------|--|
| <b>1</b> | Optional feature list   | Display all available IVS options information in DVR.  |
|          | Option column           | Display current available IVS options in DVR.  |
|          | Total column            | Display total channel counts for each IVS option.  |
|          | Available column        | Display unassigned channel counts for each IVS option.   |
|          | Channel assigned column | Display assigned channels for each IVS option.   |
| <b>2</b> | Channel assigned        | Press the channel button down to enable option display in the Detect events by group box and consume one channel count. Press the assigned channel button again to disable option display in the Detect events by group box and recover one channel count. |

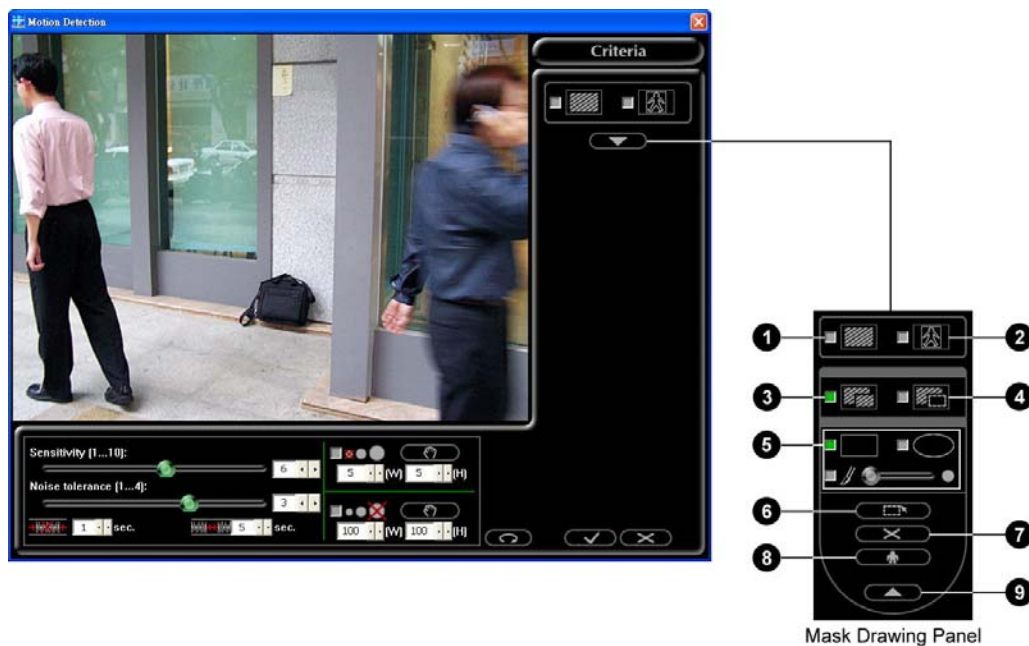
## Motion detection

Motion detection allows video cameras to detect the presence of movement. Basically, Site Server detects motion by comparing consecutive frames to see if there is any change between the frames. To enable this function, select the "Motion detection" option in the Camera tab of the Preferences dialog box, then click the Settings button to open the Motion Detection dialog box where you can set up what specific areas will be detected for the presence of motion. In this dialog box, you can adjust settings such as sensitivity level, noise tolerance, and more.

Note: If you clicked  in the Camera Operation Panel, click  to open the Motion Detection dialog box.

## Marking areas to exclude from detection











The first thing you need to do is to mask out irrelevant areas that will not be included in motion detection. Click  to expand the Mask drawing Panel. This panel contains button controls which allow you to mask out areas that will be excluded from detection.



**1** Show mask

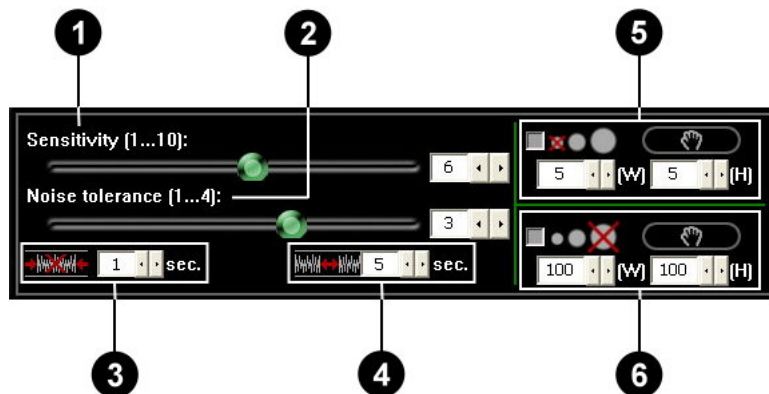


Select this option to display a mask (i.e., a shield) on the areas that will be excluded from detection.

- |          |                          |   |   |
|----------|--------------------------|---|---|
| <b>2</b> | Show tracking block      |    | Select this option to display a rectangular box on areas that have been detected with motion.   |
| <b>3</b> | Add mask                 |    | Select this option to add a mask. Use the drawing tools to draw the mask.   |
| <b>4</b> | Subtract mask            |    | To add back parts from a masked-out area and include them during detection, select this option. Use the drawing tools to erase the mask.  |
| <b>5</b> | Drawing tools            |   | Use one of the following drawing tools to draw masks:   |
|          | Rectangular mask         |    | Select this tool to draw a rectangular-shaped mask. Drag your mouse over an area on the video to draw the mask.   |
|          | Elliptical mask          |   | Select this tool to draw an elliptical -shaped mask. Drag your mouse over an area on the video to draw the mask.  |
|          | Draw by Brush            |  | Select this tool to draw a freeform-shaped mask. Drag the slider to the right to have larger-size brush strokes, or drag to the left to have smaller-size strokes. To draw the mask, drag your mouse over an area on the video. |
| <b>6</b> | Mask All                 |  | Click this button to mask out the whole video and then switch to the Subtract-mask mode automatically.  |
| <b>7</b> | Clear Masks              |  | Click this button to erase all the masks and then switch to the Add-mask mode automatically.  |
| <b>8</b> | Freeze Video             |  | Click this button to freeze the live video.   |
| <b>9</b> | Close Mask drawing Panel |  | Click to close the Mask drawing Panel.  |

## Motion detection settings

To customize motion detection settings, adjust the controls at the bottom of the Motion Detection dialog box.



- 1** Sensitivity

Set the level of sensitivity to motion. Low sensitivity means that minimal motion will be ignored, and that only dramatic changes in movement will be detected. However, this may result in loss of event. High sensitivity means that even the smallest movement will be detected, but it could be a false event. Careful testing and fine tuning of the sensitivity setting is recommended.
- 2** Noise tolerance


Set the tolerance level to noise. Moving elements on the video whose pixel sizes are smaller than the specified noise tolerance level will be treated as video signal noise and will be ignored. This can reduce the occurrence of falsely detected motion caused by video signal noise in low illuminated environments.
- 3** Shortest event duration

Set the minimum time duration for each event. If the duration of a detected event is shorter than the defined shortest event duration, it will not be treated as an event.
- 4** Event interval

Specify the minimum interval between motion events.




**5** Ignore smaller object

Select this option to filter out small objects (such as flashing stars in the sky or distant street lamps) whose dimensions are smaller than a specific size. To measure a large object to be used as the basis, click the Get button  then drag your mouse around that object. Its dimensions will then be displayed in the width and height boxes.

**6** Ignore larger object

Select this option to filter out large moving objects (such as moving vehicles) whose dimensions are larger than a specific size.


To measure a large object to be used as the basis, click the Get button  then drag your mouse around that object. Its dimensions will then be displayed in the width and height boxes.

## Missing/left object detection

On a busy scene with lots of people and objects in motion such as in an airport or railway station, object detection can be applied. For instance, baggage left on the scene for a long period of time will seem suspicious, and you can use this function to track them. You can also use this function to detect if a static object has been moved out of the scene (such as a wall painting that has been stolen).

To enable this function, select the "Missing/left object detection" option under the Detect events by group box in the Camera tab of the Preferences dialog box, then click the Settings button to open the Missing & left object detection dialog box where you can set up what areas to detect for objects.

## Marking areas to exclude from detection

Just like in motion detection, the first thing you need to do in object detection is to mask out irrelevant areas that will not be included in the detection process. Click  to expand the Mask drawing Panel that is on the right side of the dialog box. This panel contains button controls which allow you to mask out areas that will be excluded from detection. (These button controls are similar to the ones in the Motion Detection dialog box.)

## Object detection settings

To customize object detection settings, adjust the controls at the bottom of the Missing & left object detection dialog box.



- 1** Minimum halt duration

Specify the minimum time duration when objects are expected to remain on its location. If an object remains on its location longer than the defined duration, it may be treated as a suspicious object. If an object disappears from its location before the defined duration has elapsed, it may be treated as a stolen object.
- 2** Sensitivity

Set the sensitivity level for detecting missing objects or objects that are left on the scene.
- 3** Ignore small object

Select this option to exclude small objects whose dimensions are smaller than a specific size. The way to measure an object size is the same as in Motion detection's object size filtering.
- 4** Ignore large object



Select this option to exclude large objects whose dimensions are larger than a specific size. The way to measure an object size is the same as in Motion detection's object size filtering.

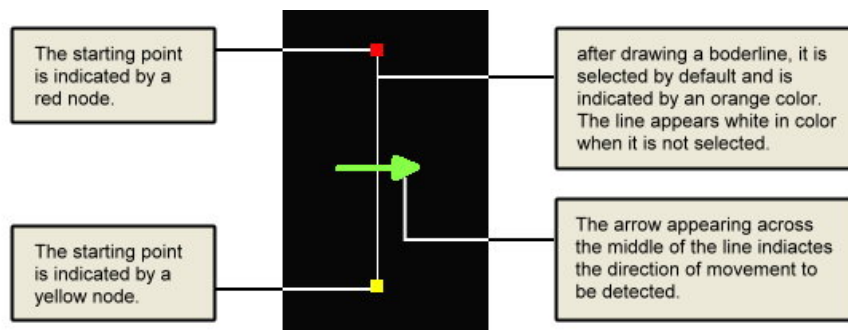
Note: While Missing/left object detection is applied, the Sharpness level should be lower than 6.


## Virtual fence detection

Through Virtual fence detection, you can set up one or more borderlines on a site where possible intrusions should be detected. You can also use this detection method to track moving objects that pass by in the wrong direction.

Follow these steps to create borderlines and set up Virtual fence detection:

1. Open the Preferences dialog box and click the Camera tab.
2. Select a camera for which you want to set up Virtual fence detection by clicking its camera number.
3. In the Detect events by group box, select the Virtual fence detection checkbox, then click the Settings button. The Virtual Fence Detection dialog box appears.
4. Click  to expand the drawing panel and reveal the complete button controls for setting up borderlines.
5. Click  to temporarily freeze the live video and make it easier for you to draw your borderline.
6. Click a starting point on the video, drag your mouse to draw a borderline, and then release the mouse when you reach the desired end point.
7. To skew the line, drag the end (yellow) point and adjust the line.




8. Use the other controls in the dialog box to give a name to the borderline, change the direction of movement, etc. For more details, see "Virtual fence detection controls and settings".
9. Repeat steps 6 to 8 to draw more borderlines on the video. You can add up to a maximum of 5 borderlines per camera video.
10. Click the Apply button  to apply the Virtual fence detection settings to the chosen camera.

Note: Virtual fence detection will be activated 6 to 7 seconds after the detection settings have been applied.


## Virtual fence detection controls and settings



- 1** Display Line




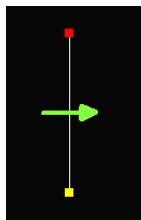
Select this option to display borderline indicators that will allow you to see where on the camera video Virtual fence detection will be applied.
- 2** Show tracking block



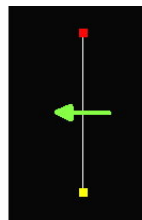
Select this option to display a rectangular box around the detected objects that have crossed the borderlines.
- 3** Line name

This shows a default name given to a borderline. Each borderline you created will be indicated by a sequential number in the line name. You can change the line name by entering your desired name in the text box.

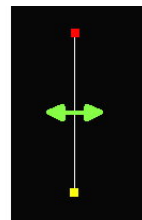
- 4** Movement direction  Select a borderline that you created, then click this button to set the direction of object movement to be detected. There are three directions of movement to choose from:




Left to Right




Right to Left




Bidirectional

- 5** Delete line  Select an unwanted borderline on the video window then click this button to delete it.

- 6** Delete all lines  Click this button if you want to remove all borderlines and start all over.

- 7** Freeze Video  Click this button to freeze the live video.

- 8** Close drawing panel  Click this button to close the drawing panel.

- 9** Event duration When a moving object crosses a borderline in the specified direction, the line will repeatedly flash in red as an indication that a Virtual fence detection event has occurred. You can set the length of time that the line flashes by adjusting the Event duration. This value also determines the duration for event-related operations such as event recording and playback.

- 10** Sensitivity Set the level of sensitivity to moving objects. Drag the slider to the left if you want to set a lower sensitivity level or to the right to set a higher sensitivity. High sensitivity means that even the smallest movement will be detected, but it could be a false event. Careful testing and fine tuning of the sensitivity setting is recommended.

- 11** Ignore smaller/  
larger object

Select these options to enable size filtering for moving objects. You can specify what sizes of objects to ignore and exclude from Virtual fence detection.

The way to set up object size filtering in Virtual fence detection is just the same as in Motion detection. For details, see "Motion detection settings" in this chapter.

- 12** Reset



Click to load back the default settings.

- 13** Apply



Click to apply the modified settings.

- 14** Cancel





Click this button if you change your mind and do not want to apply the modified settings. The Virtual fence detection dialog box then closes and reuses the previous settings.




## Secure zone detection

Through Secure zone detection, you can specify one or more areas on a site that people are not allowed to enter. You can also use Secure zone detection to detect whether there are objects that try to occupy restricted zones, for instance, vehicles that are parked in forbidden places.

Follow these steps to mark areas and set up Secure zone detection:

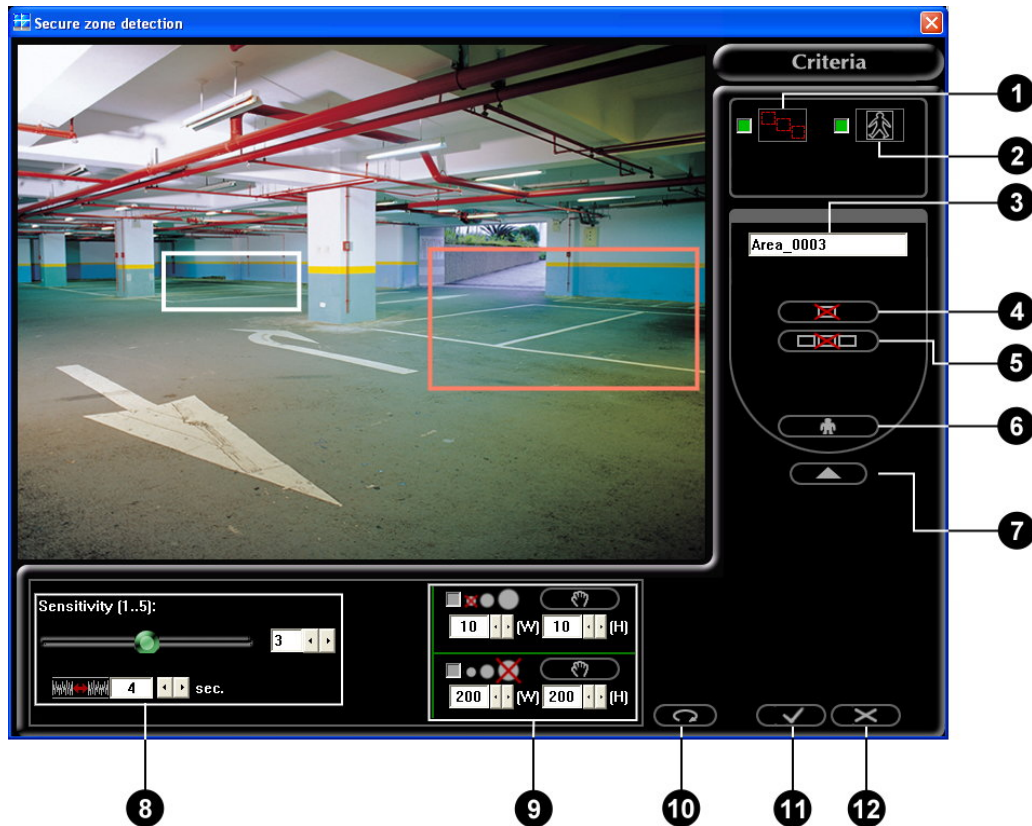
1. Open the Preferences dialog box and click the Camera tab.
2. Select a camera for which you want to set up Secure zone detection by clicking its camera number.
3. In the Detect events by group box, select the Secure zone detection checkbox, then click the Settings button. The Secure Zone Detection dialog box appears.
4. Click  to expand the drawing panel and reveal the complete button controls for setting up areas to be monitored.
5. Click  to temporarily freeze the live video and make it easier for you to mark areas on video.
6. Click a starting point on the video, drag your mouse to draw a rectangular box over a forbidden area, and then release the mouse when you have completely boxed the area. After drawing a box, it is by default selected and appears in orange. A box appears in white when it is not selected.
7. Click a starting point on the video, drag your mouse to draw a rectangular box over a forbidden area, and then release the mouse when you have completely boxed the area.




Note: To select a rectangular box that you created, click any of the sides of the box, or hold the [Alt] key and click the marked area inside the box.







8. Use the other controls in the dialog box to give a name to the rectangular box or delete it. For more details, see "Secure zone detection controls and settings".
9. Repeat steps 6 to 8 if you want to mark more areas with rectangular boxes. You can mark up to a maximum of 5 areas per camera video.
10. Click the Apply button  to apply the detection settings to the chosen camera.



## Secure zone detection controls and settings



- 1** Display forbidden area  Select this option to display rectangular box indicators that will allow you to see which areas on the camera video are marked and will be applied with Secure zone detection.
- 2** Show tracking block  Select this option to display a tracking box around the people or objects that have been detected to have entered or occupied the forbidden areas.
- 3** Box name This shows a default name given to a rectangular box. Each box you created will be indicated by a sequential number in the box name. You can change the box name by entering your desired name in the text box.
- 4** Delete box  Select an unwanted box on the video window then click this button to delete it.

- |           |                                |   |  |
|-----------|--------------------------------|---|--|
| <b>5</b>  | Delete all boxes               |    | Click this button if you want to remove all boxes and start all over.  |
| <b>6</b>  | Freeze Video                   |    | Click this button to freeze the live video.  |
| <b>7</b>  | Close drawing panel            |    | Click this button to close the drawing panel.  |
| <b>8</b>  | Sensitivity and Event duration |   | Set the level of sensitivity to objects, and set the duration for displaying flashing boxes around marked areas when an intrusion in these forbidden areas has been detected.  |
| <b>9</b>  | Ignore smaller/larger object   |   | <p>Select these options to enable size filtering for objects. You can specify what sizes of objects to ignore and exclude from Secure zone detection. The way to set up object size filtering in Secure zone detection is just the same as in Motion detection.</p> <p>For details, see "Motion detection settings" in this chapter.</p> |
| <b>10</b> | Reset                          |  | Click to load back the default settings.   |
| <b>11</b> | Apply                          |  | Click to apply the modified settings.  |
| <b>12</b> | Cancel                         |  | Click this button if you change your mind and do not want to apply the modified settings. The Secure zone detection dialog box then closes and reuses the previous settings.   |




## Flow counting

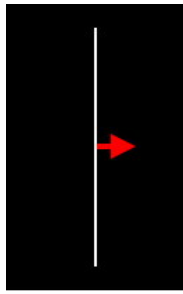
Just like Virtual fence detection, Flow counting allows you to specify borderlines on a site and detect for moving objects that pass through these lines. The only difference is, the Flow counting method also counts the number of objects that pass through the borderlines.

For each borderline, you can set the direction that you want to detect for moving objects. You can set the direction to be Flow-in only, Flow-out only, or Bi-directional flow.

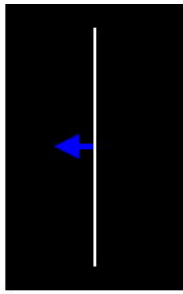
Flow counting can only be applied on cameras that have been set with either Non-stop Recording or Non-stop Smart Recording.

Follow the steps below to create borderlines and set up Flow counting:

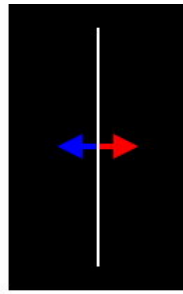
1. Open the Preferences dialog box and click the Camera tab.
2. Select a camera for which you want to set up Flow counting by clicking its camera number.
3. In the Detect events by group box, select the Flow counting checkbox, then click the Settings button. The Flow Counting dialog box appears.
4. Click  to expand the drawing panel and reveal the complete button controls for setting up borderlines.
5. Click  to temporarily freeze the live video and make it easier for you to draw your borderline.
6. Click a starting point on the video, drag your mouse to draw a borderline, and then release the mouse when you reach the desired end point.
7. Enter a name for the borderline, see "Flow counting controls and settings".
8. To set the direction of the borderline, click . Keep on clicking this button until you have set the direction that you want. A colored arrow will be displayed in the middle of the borderline to indicate the selected direction:





Red arrow indicates  
Flow-in



Blue arrow indicates  
Flow-out




Bidirectional arrow  
indicates both  
Flow-in and Flow-out

9. You can customize more settings in the dialog box. Refer to "Flow counting controls and settings" for details.
10. Repeat steps 6 to 8 to draw another borderline on the video. You can add up to a maximum of 2 borderlines per camera video.
11. Select a borderline by clicking it. When selected, it appears orange in color. If you want to move a borderline, drag it to the desired position. When a borderline is not selected, it appears white in color.
12. You can test Flow counting on the borderlines that you created. Click  to first unfreeze the live video, and then do your test by moving any object several times across the borderlines on the video. You will see the counted numbers in the Line1 and Line2 text boxes.
13. Click the Apply button  to apply your settings to the chosen camera.


## Flow counting controls and settings



- 1** Display Line








Select this option to display borderline indicators that will allow you to see where Flow counting will be applied on the camera video.
- 2** Show tracking block



Select this option to display a rectangular box around the detected objects that have crossed the borderlines.
- 3** Line name

This shows a default name given to a borderline. Each borderline you created will be indicated by a sequential number in the line name. You can change the line name by entering your desired name in the text box.

- |                                      |   |   |
|--------------------------------------|---|---|
| <p><b>4</b> Movement direction</p>   |  | <p>Select a borderline that you created, then click this button to set the direction of object movement to be detected. There are three directions of movement that you can choose from: Flow-in only, Flow-out only, or Bi-directional flow.</p>   |
| <p><b>5</b> Delete line</p>          |  | <p>Select an unwanted borderline on the video window then click this button to delete it.</p>   |
| <p><b>6</b> Delete all lines</p>     |  | <p>Click this button if you want to remove all borderlines and start all over.</p>  |
| <p><b>7</b> Freeze Video</p>         |  | <p>Click this button to freeze the live video.</p>  |
| <p><b>8</b> Close drawing panel</p>  |  | <p>Click this button to close the drawing panel.</p>  |
| <p><b>9</b> Line 1 (in vs. out)</p>  |   | <p>When you test Flow counting in the dialog box, the text boxes here will show the number of detected objects that passed through the first borderline. The left text box shows the number of objects that flowed in, and the right text box shows the number of objects that flowed out.</p>  |
| <p><b>10</b> Line 2 (in vs. out)</p> |   | <p>When you test Flow counting in the dialog box, the text boxes here will show the number of detected objects that passed through the second borderline. The left text box shows the number of objects that flowed in, and the right text box shows the number of objects that flowed out.</p> |
| <p><b>11</b> Reset interval</p>      |   | <p>Set the interval between counter resets. For instance, if you enter 60 minutes, the counter will reset to zero after every hour.</p>   |
| <p><b>12</b> Sensitivity</p>         |   | <p>Set the level of sensitivity to moving objects. Drag the slider to the left if you want to set a lower sensitivity level or to the right to set a higher sensitivity.</p>  |

- 13** Ignore smaller/  
larger object

Select these options to enable size filtering for moving objects. You can specify what sizes of objects to ignore and exclude from detection. The way to set up object size filtering in Flow counting is just the same as in Motion detection. For details, see "Motion detection settings" in this chapter.

- 14** Restart fbw  
counting



Click this button to reset the counters back to zero and start new counting session.

- 15** Reset



Click to load back the default settings.

- 16** Apply



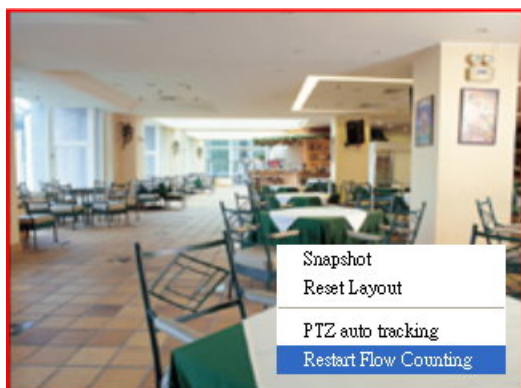
Click to apply the modified settings.

- 17** Cancel



Click this button if you change your mind and do not want to apply the modified settings. The Flow Counting dialog box then closes and reuses the previous settings.

On a split screen that shows camera video that has been applied with Flow counting, you can right-click on the split screen to open a pop-up menu. On the menu, click Reset Flow Counting when you want to reset the counter back to zero.





## Flame Detection & Flame Detection Pro

Flame detection sends immediate notifications when flames or flame-like flashes are detected.

Initially, a region or an object in a site that is suspected to be burning in flames or producing flame-like flashes will be detected and marked with a yellow frame (see sample image below).



After the flame-like flashes are identified as true flames, the region or object of interest will then be marked with a red frame.



To increase the accuracy of flame detection, a simple environment without too many scene changes is recommended to apply the flame detection feature. Also, decrease the iris level of cameras to increase the accuracy of flame detection.

Note: The camera might not be able to identify ordinary objects after the iris level is decreased.




To apply Flame detection, select the "Flame detection" option under the Detect events by group box in the Camera tab of the Preferences dialog box, then click the Settings button to open the Flame Detection dialog box where you can set up how to detect for flames or flame- like flashes.






Flame detection pro added specific camera support that can increase detection precision. By adjusting the values of gain control and light control, you can get more accurate result with Flame detection pro.

To apply Flame detection pro, select the "Flame detection pro" option under the Detect events by group box in the Camera tab of the Preferences dialog box, then click the Settings button to open the Flame Detection Pro dialog box where you can set up how to detect for flames or flame- like flashes.

## The Flame Detection dialog box



- 1** Show yellow tracking block  Select this option to display a yellow frame around suspected flames or flame-like flashes.

- |   |   |   |
|---|---|---|
| <p><b>2</b> Show tracking block</p>     |    | <p>Select this option to display a red frame box around areas or objects that have been identified to be burning in flames.</p>   |
| <p><b>3</b> Expand drawing panel</p>    |    | <p>Click this button to expand the Mask-drawing Panel. This panel contains button controls which allow you to mask out to irrelevant areas that will not be included in the detection process. (These button controls are similar to the ones in the Motion Detection dialog box. For more information, see "Marking areas to exclude from detection" earlier in this chapter.)</p> |
| <p><b>4</b> Shortest event duration</p> |   | <p>Set the minimum time duration for each event. If the duration of a detected event is shorter than the defined shortest event duration, it will not be treated as an event.</p>   |
| <p><b>5</b> Event interval</p>          |   | <p>Specify the minimum interval between events.</p>   |
| <p><b>6</b> Noise tolerance</p>         |   | <p>Adjust the noise tolerance level to reduce false alarms caused by video noises. The higher the tolerance level is, the less the interference of video noises. However, the sensitivity level will be reduced as well.</p>  |
| <p><b>7</b> Sensitivity</p>             |   | <p>Set the level of sensitivity to flames. The higher the sensitivity level is, the more sensitive the flame detection is.</p>  |
| <p><b>8</b> Reset</p>                   |  | <p>Click this button to load back the default settings.</p>   |
| <p><b>9</b> Apply</p>                   |  | <p>Click this button to apply the modified settings.</p>  |
| <p><b>10</b> Cancel</p>                 |  | <p>Click this button if you change your mind and do not want to apply the modified settings. The Flame Detection dialog box then closes and reuses the previous settings.</p>   |

## 11 Camera type

### Pro version only

Select camera type. Flame detection pro is the same as flame detection if user select "General" type (gain control and light control parameters are disabled).

## 12 Gain control

### Pro version only

Adjust camera dynamic range to compensate for the lack of light and produce clearer/usable images in low-light conditions. In low-light conditions, the higher the gain level is, the clearer/brighter the image is. The signal noise also increases dramatically with higher gain value.

## 13 Light control

### Pro version only

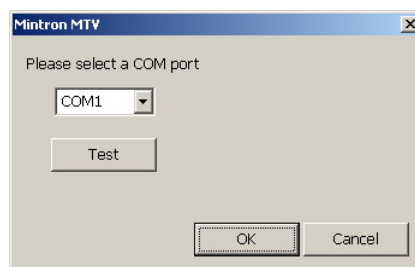
Adjust the camera shutter speed when suspicious object is detected.

## 14 Camera option



### Pro version only

Display dialog of specific camera related options. For example, the camera options dialog for Mintron MTV is shown as below:



## People Counting & People Counting Pro

Just like Flow counting detection, People counting allows you to specify a detection area and detect for moving people that pass through the area. The only difference is, the Flow counting method counts the number of objects that pass through the borderlines while People counting counts the number of persons that pass through the detection area.




People counting will determine counting direction as left-right or up-down automatically according to location and drawing shape of detection area. For each detection area, you can set the direction that you want to detect for moving people. You can set the direction to be left to right (down to up), right to left (up to down), or Bi-directional.

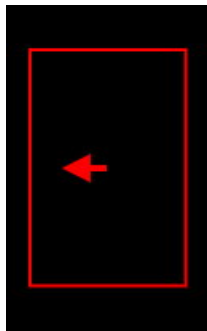
People counting can only be applied on cameras that have been set with either Non-stop Recording or Non-stop Smart Recording.

The pro version has two additional features

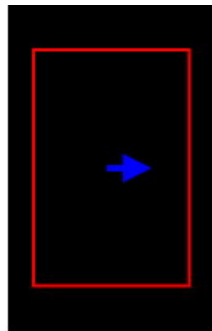
1. Shadow mode      Slightly improve counting result with light shadow.
2. Crowd mode      Enhance counting result in crowded people saturation.

Follow the steps below to create detection area and set up People counting:

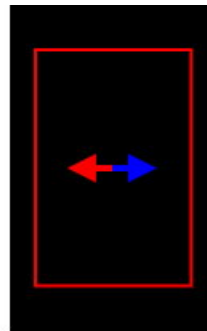
1. Open the Preferences dialog box and click the Camera tab.
2. Select a camera for which you want to set up People counting by clicking its camera number.
3. In the Detect events by group box, select the People counting checkbox, then click the Settings button. The People counting dialog box appears.
4. Click  to expand the drawing panel and reveal the complete button controls for setting up detection area.
5. Click  to temporarily freeze the live video and make it easier for you to draw your detection area.
6. Click a starting point on the video, then drag your mouse to draw a detection area.
7. To set the counting direction of the detection area, click . Keep on clicking this button until you have set the direction that you want. A colored arrow will be displayed in the middle of the detection area to indicate the selected direction:






Red arrow indicates counting people from right to left (down to up)



Blue arrow indicates counting people from left to right (up to down)




Bidirectional arrow indicates counting people from right to left & left to right (up to down & down to up)

8. You can customize more settings in the dialog box. Refer to "People counting controls and settings" for details.
9. Click  to remove detection area if you want to change the location of detection area. Repeat steps 6 to 8 to draw another detection area on the video.
10. Click the Apply button  to apply your settings to the chosen camera.
11. You can test People counting on the detection area that you created. Click  to first unfreeze the live video, and then do your test by making people moving several times across the detection area on the video. You will see the counted numbers in the detection area.


## People counting controls and settings



- 1** Display counting area




Select this option to display borderline indicators that will allow you to see where People counting will be applied on the camera video.
- 2** Display object




Select this option to display a rectangular box around the detected objects that have crossed the borderlines.
- 3** Mask operation

Use the following options to complete mask area.


  - Enable/disable mask












Select this option to display a mask (i.e., a shield) on the areas that will be excluded from detection.
  - Set masks



Select this button to switch to add mask mode. Dragging mouse to add mask area..
  - Clear all masks



Click this button to erase all the masks.

- 4** Single person size settings
- Use the options below to set single person size parameters of detection.
- Get parameters automatically  Click this button to switch to automatic setting mode. It will calculate the single person parameters with passengers in the video.
- Get parameters manually  Click this button to switch to manual setting mode. Dragging rectangle in the video to set the single person parameters.
- Pixel amount  Object area size
- Counter length  Object area counter length
- 5** Counting direction  Select detection area that you created, then click this button to set the counting direction. There are two directions of movement that you can choose from: right to left (down to up) or left to right (up to down).
- 6** Delete detection area  Click this button if you want to remove detection area and start all over.
- 7** Freeze Video  Click this button to freeze the live video.
- 8** Close drawing panel  Click this button to close the drawing panel.
- 9** Running time
- The period of time after start counting
- 10** Count
- Current counting result with direction
- Note: The displayed direction is the same as current counting direction.
- 11** Average per hour
- Current counting result per hour with direction
- 12** Restart people counting  Click this button to reset the counters back to zero and write result to log file.



**13** Statistics  
period

Set the looping period of time in minutes. It will reset the counters back to zero and write result to log file, then restart counting again when the setting time is up.

**14** Sensitivity

Set the level of sensitivity to moving objects. Drag the slider to the left if you want to set a lower sensitivity level or to the right to set a higher sensitivity.

**15** Counting  
direction

Set the counting direction color representation.



**16** Function  
buttons

Use the following buttons to perform the functions below:

Shadow mode



**Pro version only**

Click this button to enable show mode that can slightly improve the result with light shadow.

Crowd mode



**Pro version only**

Click this button to enable crowd mode that can enhance the result in crowded people saturation.

Overcount



Click this button to adjust single person size parameters if the counting result is over estimation.

Undercount



Click this button to adjust single person size parameters if the counting result is under estimation.

Reset



Click to load back the default settings.

**17** Apply



Click to apply the modified settings.

**18** Cancel





Click this button if you change your mind and do not want to apply the modified settings. The People Counting dialog box then closes and reuses the previous settings.




## Scene Change Detection

Scene Change Detection will trigger alarms when the camera lens is covered, sprayed, out of focus, or the camera is repositioned.





Follow these steps to mark areas and set up Scene change detection:

11. Open the Preferences dialog box and click the Camera tab.
12. Select a camera for which you want to set up Scene change detection by clicking its camera number.
13. In the Detect events by group box, select the Scene change detection checkbox, then click the Settings button. The Scene Change Detection dialog box appears.
14. Click  to expand the drawing panel and reveal the complete button controls for setting up areas to be monitored.
15. Check the Show Status Cue bar to display Scene Change Status Block on live video. The default Purple color means no scene change alarm. Orange color block means detected a scene change event and alarm.
16. Use the other controls in the dialog box to modify detection settings. For more settings details, please see the section below.
17. Click the Apply button  to apply the detection settings to the chosen camera.

## Marking areas to exclude from detection

The first thing you need to do is to mask out irrelevant areas that will not be included in scene change detection. Click  to expand the Mask drawing Panel. This panel contains button controls which allow you to mask out areas that will be excluded from detection.



- |          |                       |   |  |
|----------|-----------------------|---|--|
| <b>1</b> | Show mask             |  | Select this option to display a mask (i.e., a shield) on the areas that will be excluded from detection. This option is disabled in this detection.  |
| <b>2</b> | Show status cue block |  | Select this option to display a rectangular box on areas that have been detected with scene change. Display purple rectangle under detection status and change to orange rectangle when there is an event. |
| <b>3</b> | Add mask              |  | Select this option to add a mask. Use the drawing tools to draw the mask.  |
| <b>4</b> | Subtract mask         |  | To add back parts from a masked-out area and include them during detection, select this option. Use the drawing tools to erase the mask.   |
| <b>5</b> | Drawing tools         |   | Use one of the following drawing tools to draw masks:  |

Rectangular  
mask



Select this tool to draw a rectangular-shaped mask. Drag your mouse over an area on the video to draw the mask.

Elliptical mask



Select this tool to draw an elliptical -shaped mask. Drag your mouse over an area on the video to draw the mask.

Draw by Brush



Select this tool to draw a freeform-shaped mask. Drag the slider to the right to have larger-size brush strokes, or drag to the left to have smaller-size strokes. To draw the mask, drag your mouse over an area on the video.

**6** Mask All



Click this button to mask out the whole video and then switch to the Subtract-mask mode automatically.

**7** Clear Masks



Click this button to erase all the masks and then switch to the Add-mask mode automatically.

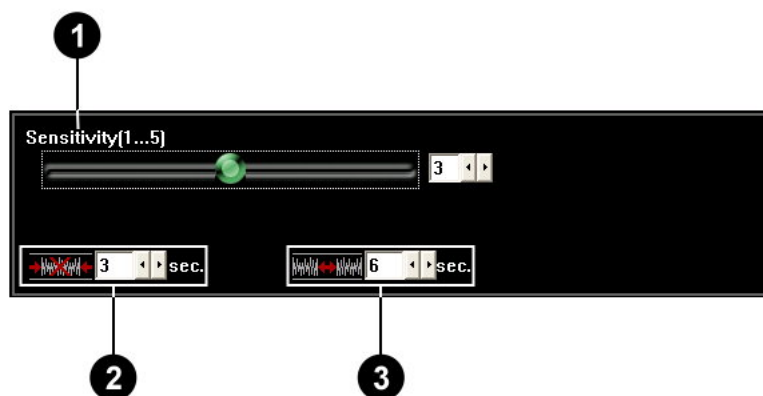
**8** Close Mask  
drawing Panel



Click to close the Mask drawing Panel.

## Scene change detection settings

To customize motion detection settings, adjust the controls at the bottom of the Motion Detection dialog box.






- 1** Sensitivity  
Set the level of sensitivity to environment change. Low sensitivity means that minimal change will be ignored, and that only dramatic changes in background will be detected. High sensitivity means that even the smallest changes will be detected, but it could be a false event. Careful testing and fine tuning of the sensitivity setting is recommended.
- 2** Shortest event duration  
Set the minimum time duration for each event. If the duration of a detected event is shorter than the defined shortest event duration, it will not be treated as an event.
- 3** Event interval  
Specify the minimum interval between background change events.

## Face Detection






Face Detection can detect human faces and log them in the surveillance video. Security personnel will be able to find out who entered/left the entrance of restricted areas and what time. The system will also alarm if a human face is detected in the forbidden area.




Follow these steps to mark areas and set up Face detection:

18. Open the Preferences dialog box and click the Camera tab.
19. Select a camera for which you want to set up Face detection by clicking its camera number.
20. In the Detect events by group box, select the Face detection checkbox, then click the Settings button. The Face Detection dialog box appears.
21. Click  to expand the drawing panel and reveal the complete button controls for setting up areas to be monitored.
22. Click  to temporarily freeze the live video and make it easier for you to mark areas on video.
23. Click a starting point on the video, drag your mouse to draw a rectangular box, and then release the mouse when you have completely boxed the area. After drawing a box, it is by default selected and appears in orange.
24. Use the other controls in the dialog box to modify detection settings. For more settings details, please see the section below.
25. Click the Apply button  to apply the detection settings to the chosen camera.

## Face detection controls and settings



- 1** Show detected area  Select this option to display detected area (i.e., a rectangle) on the areas that will be the detection area.
- 2** Show tracking block  Select this option to display a tracking box around the faces that have been detected to have entered or occupied the forbidden areas.
- 3** Delete detection area  Click this button if you want to remove detection area and start all over.
- 4** Freeze Video  Click this button to freeze the live video.
- 5** Close drawing panel  Click this button to close the drawing panel.

- |           |                              |   |   |
|-----------|------------------------------|---|---|
| <b>6</b>  | Sensitivity                  |   | Set the level of sensitivity (1~3). Low sensitivity means faster detection speed with higher error rate. High sensitivity means slower detection speed with lower error rate.     |
| <b>7</b>  | Shortest event duration      |   | Set the minimum time duration (0~1000 ms) for each event.   |
| <b>8</b>  | Event interval               |   | Specify the minimum interval (1~5 sec) between events.  |
| <b>9</b>  | Ignore smaller/larger object |   | Select this option to filter out small / larger objects whose dimensions are smaller / larger than a specific size. Suggest set these options to increase the detection accuracy. |
| <b>10</b> | Reset                        |  | Click to load back the default settings.  |
| <b>11</b> | Apply                        |  | Click to apply the modified settings.   |
| <b>12</b> | Cancel                       |  | Click this button if you change your mind and do not want to apply the modified settings. The Face detection dialog box then closes and reuses the previous settings.             |





## Loitering Detection

Loitering detection analyzes moving objects in real-time video and triggers alarms when unattended objects/suspicious people are loitering on the scene for a period of time as well as to draw their moving trace.





To apply Loitering detection, select the "Loitering detection" option under the Detect events by group box in the Camera tab of the Preferences dialog box, then click the Settings button to open the Loitering Detection dialog box where you can set up how to detect for moving objects.

### The Loitering Detection dialog box



- 1** Show mask
 
 Select this option to display a mask (i.e., a shield) on the areas that will be excluded from detection.
- 2** Show tracking block
 
 Select this option to display a rectangular box on areas that have been detected with motion.



- |  |   |  |
|--|---|--|
| <p><b>3</b> Show moving trace</p>          |    | <p>Select this option to display moving path on areas that have been detected with motion.</p>   |
| <p><b>4</b> Mask-drawing Panel</p>         |   | <p>The Mask-drawing Panel contains button controls which allow you to mask out to irrelevant areas that will not be included in the detection process. (These button controls are similar to the ones in the Motion Detection dialog box. For more information, see "Marking areas to exclude from detection" earlier in chapter 2.)</p> |
| <p><b>5</b> Minimum loitering duration</p> |   | <p>Set the minimum time (in seconds) when objects stay within the detection area.</p>  |
| <p><b>6</b> Sensitivity</p>                |   | <p>Set the level of sensitivity to objects. The higher the sensitivity level is, the more sensitive the object detection is.</p>   |
| <p><b>7</b> Ignore small object</p>        |   | <p>Select this option to exclude small objects whose dimensions are smaller than a specific size. The way to measure an object size is the same as in Motion detection's object size filtering.</p>  |
| <p><b>8</b> Ignore large object</p>        |   | <p>Select this option to exclude large objects whose dimensions are larger than a specific size. The way to measure an object size is the same as in Motion detection's object size filtering.</p>   |
| <p><b>9</b> Reset</p>                      |  | <p>Click this button to load back the default settings.</p>  |
| <p><b>10</b> Apply</p>                     |  | <p>Click this button to apply the modified settings.</p>   |
| <p><b>11</b> Cancel</p>                    |  | <p>Click this button if you change your mind and do not want to apply the modified settings. The Flame Detection dialog box then closes and reuses the previous settings.</p>  |

## Car Plate Detection


Car plate detection detects car plates and marks the position in real-time video. Users will be able to quickly search video records of car plates by using events index.

To apply Car plate detection, select the "Car plate detection" option under the Detect events by group box in the Camera tab of the Preferences dialog box, then click the Settings button to open the Car Plate Detection dialog box where you can set up how to detect for car plate or car-plate-like objects.


### The Car Plate Detection dialog box



- 1 Show mask
 



Select this option to display a mask (i.e., a shield) on the areas that will be excluded from detection.
- 2 Show tracking block
 



Select this option to display a red frame box around areas or objects that have been identified as plate-like object.

- 3** Mask-drawing Panel

The Mask-drawing Panel contains button controls which allow you to mask out to irrelevant areas that will not be included in the detection process. (These button controls are similar to the ones in the Motion Detection dialog box. For more information, see "Marking areas to exclude from detection" earlier in chapter 2.)
- 4** Sensitivity



Set the level of sensitivity to plate-like objects. The higher the sensitivity level is, the more sensitive the detection is.
- 5** Tolerance


Adjust the noise tolerance level to reduce false alarms caused by video noises. The higher the tolerance level is, the less the interference of video noises. However, the sensitivity level will be reduced as well.
- 6** Shortest event duration


Set the minimum time duration for each event. If the duration of a detected event is shorter than the defined shortest event duration, it will not be treated as an event.
- 7** Event interval

Specify the minimum interval between events.
- 8** Size of license plate

Select this option to recognize objects whose dimensions are around a specific size.

To measure an object to be used as the basis, click the Get button  then drag your mouse around that object. Its dimensions will then be displayed in the width and height boxes.
- 9** Reset 

Click this button to load back the default settings.
- 10** Apply 

Click this button to apply the modified settings.
- 11** Cancel 

Click this button if you change your mind and do not want to apply the modified settings. The Flame Detection dialog box then closes and reuses the previous settings.

## Video Stabilization

Video stabilization analyzes and stabilizes surveillance video when the camera installed outdoors is shaking.

To apply Video stabilization, select the "Video stabilization" option under the Detect events by group box in the Camera tab of the Preferences dialog box, then click the Settings button to open the Video Stabilization dialog box where you can set up how to make the video more stable from shaking environment..

### The Video Stabilization dialog box



- 1** Foreground object speed

Set the object moving speed within the detection area. Higher value is for higher speed. Take the slowest object speed to set this value for the objects within the detection area with various speed.

- 2** Max amplitude of vibration

Set the percentage of tolerable shaking amplitude versus video height. Please take the largest amplitude if the video shaking is not steady.

- 3** Reset



Click this button to load back the default settings.

- 4** Apply



Click this button to apply the modified settings.

- 5** Cancel



Click this button if you change your mind and do not want to apply the modified settings. The Flame Detection dialog box then closes and reuses the previous settings.



## Smoke Detection

Smoke detection detects smokes in surveillance video and further marks the position according to the color of smokes and dynamic characteristic.

To apply Smoke detection, select the "Smoke detection" option under the Detect events by group box in the Camera tab of the Preferences dialog box, then click the Settings button to open the Smoke Detection dialog box where you can set up how to how to detect for smoke or smoke-like objects.

### The Smoke Detection dialog box



- 1** Show mask
 
 Select this option to display a mask (i.e., a shield) on the areas that will be excluded from detection.
- 2** Show tracking block
 
 Select this option to display a red frame box around areas or objects that have been identified as smoke object.

### 3 Mask-drawing Panel

The Mask-drawing Panel contains button controls which allow you to mask out to irrelevant areas that will not be included in the detection process. (These button controls are similar to the ones in the Motion Detection dialog box. For more information, see "Marking areas to exclude from detection" earlier in chapter 2.)

### 4 Sensitivity

Set the level of sensitivity to smoke-like objects. Please see the suggestion of sensitivity value as below:

- Scene with moving objects : 1~3
- Normal scene : 4~6
- Long distance scene : 5~7
- Indoor scene with white background / scene with unobvious smoke-like objects : 7~10

### 5 Reset



Click this button to load back the default settings.

### 6 Apply



Click this button to apply the modified settings.

### 7 Cancel



Click this button if you change your mind and do not want to apply the modified settings. The Flame Detection dialog box then closes and reuses the previous settings.



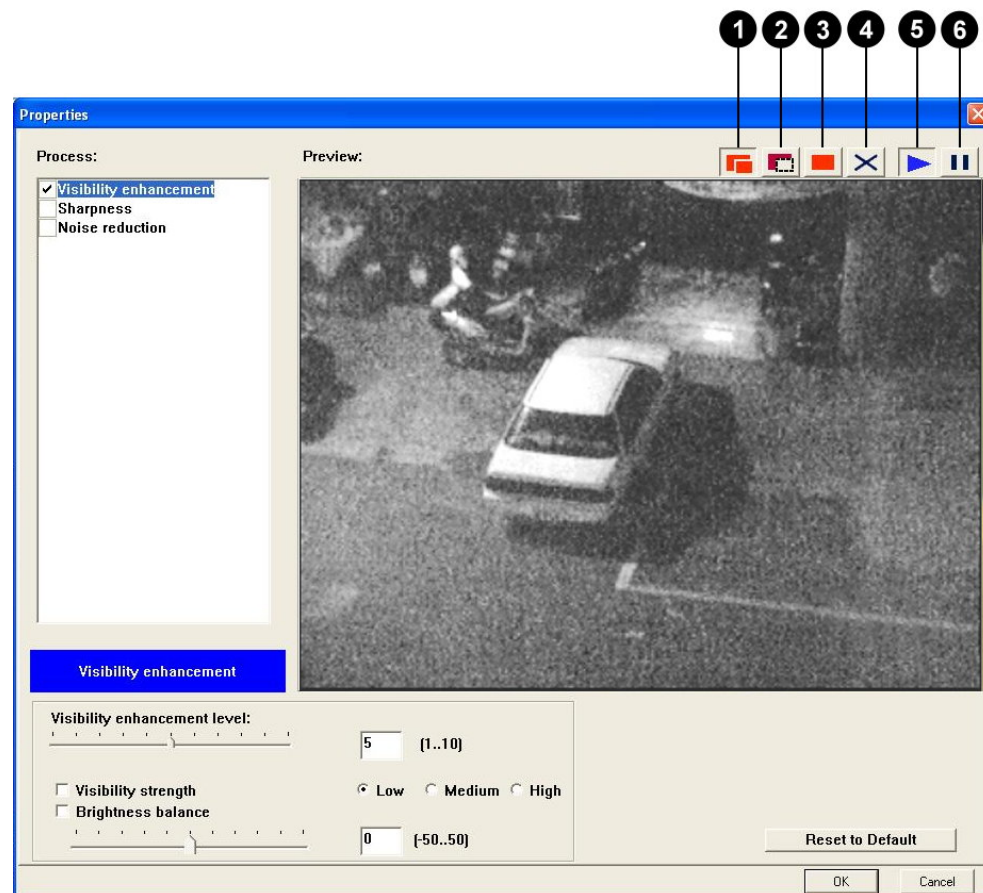
## Wide dynamic vision









Wide dynamic vision is an extremely useful feature for enhancing the camera video quality to increase visibility in the event recordings, especially during the nighttime or when recording under darkly lit environments. This feature also allows you to filter out insignificant moving objects to reduce false alarms.

To enable this feature, select the wide dynamic vision option in the Camera tab of the Preferences dialog box. Then click the Settings button to open the Properties dialog box where you can mask out insignificant areas or objects and adjust video enhancement settings.

## Marking insignificant areas

Use the button controls on the top right corner of the Properties dialog box to mask out insignificant areas or objects on the scene.

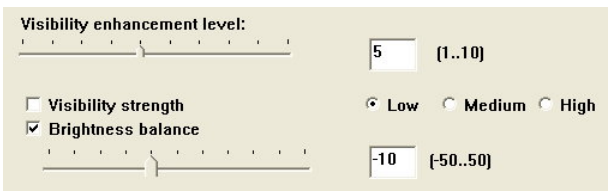


- 1** Add mask  To detect motion on certain areas only, mask out the unwanted areas. Masking out these areas will exclude them from motion detection.  
  
Click  then drag your mouse over the area that you want to mask out.
- 2** Delete mask  To add back parts from a masked-out area and include them during motion detection, click  then drag your mouse over the part that you want to add back.
- 3** Mask All  Click this button to mask out the whole camera view.
- 4** Clear All  Click this button to remove all masked selections and include them back during motion detection.
- 5** Play  By default, the "Play" button is pressed and live video is displayed at a frame rate of one frame per second on the preview window.
- 6** Pause  Click this button to freeze the video.

## Visibility enhancement

Select the checkbox of this item to brighten the video during nighttime when the monitored site is dark and does not have sufficient lighting.

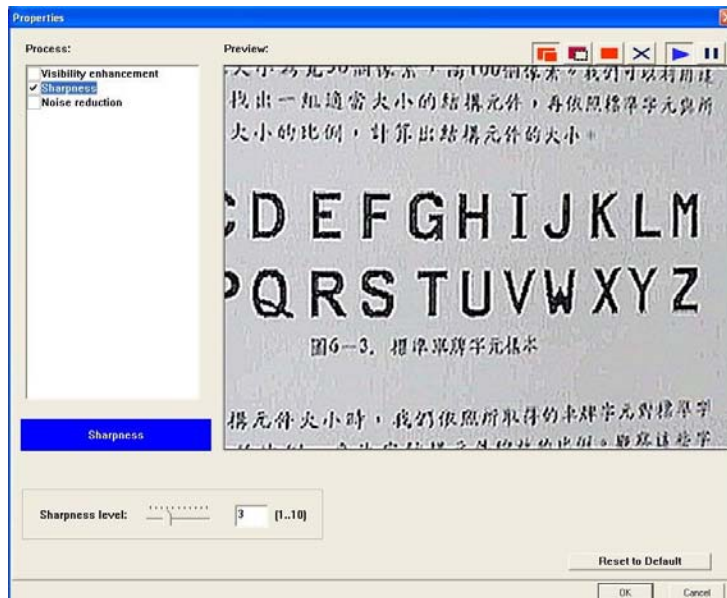
There are different situations wherein the lighting conditions may be insufficient. Follow the guidelines below to make adjustments under different conditions.

Environmental Situations	Solutions
Low lighting environment	<p>Adjust the Visibility enhancement level. (Setting the value to 6 or lower is recommended).</p> 

With static light sources in low lighting environment	<p>Solution 1:</p> <ol style="list-style-type: none"> <li>1. Adjust the Visibility enhancement level. (Setting the value to 6 or lower is recommended)</li> <li>2. Select the Brightness balance adjustment option and adjust its value. Or, if the video quality is not good enough, select the Visibility enhancement option and choose a level.</li> </ol>
With static light sources in low lighting environment	<p>Solution 2:</p> <ol style="list-style-type: none"> <li>1. Adjust the Visibility enhancement level. (Setting the value to 6 or lower is recommended).</li> <li>2. Mask out background light such as lamp posts or reflected light. Or, if you want to get a better result of a certain area only, mask out the unwanted areas first so that Visibility enhancement will only be applied to the area of interest.</li> </ol>
With moving light Sources in low lighting environment	<ol style="list-style-type: none"> <li>1. Adjust the Visibility enhancement level. (Setting the value to 6 or lower recommended).</li> <li>2. Select the Brightness balance adjustment option and choose a positive value. Or, if the video quality is not good enough, select the Visibility enhancement option and choose a level.</li> </ol>
Back-lighted environment	<ol style="list-style-type: none"> <li>1. Adjust the Visibility enhancement level. (Setting the value to 6 or lower is recommended)</li> <li>2. Select the Brightness balance adjustment option and choose a positive value.</li> </ol>
Overexposure under lighting conditions	<ol style="list-style-type: none"> <li>1. Adjust the Visibility enhancement level. (Setting the value to 6 or lower is recommended)</li> <li>2. Select the Brightness balance adjustment option and choose a negative value.</li> </ol>

Note: The minimum illumination for a camera is very important to make Visibility enhancement most effective. In general, 0.1 LUX or below is recommended.

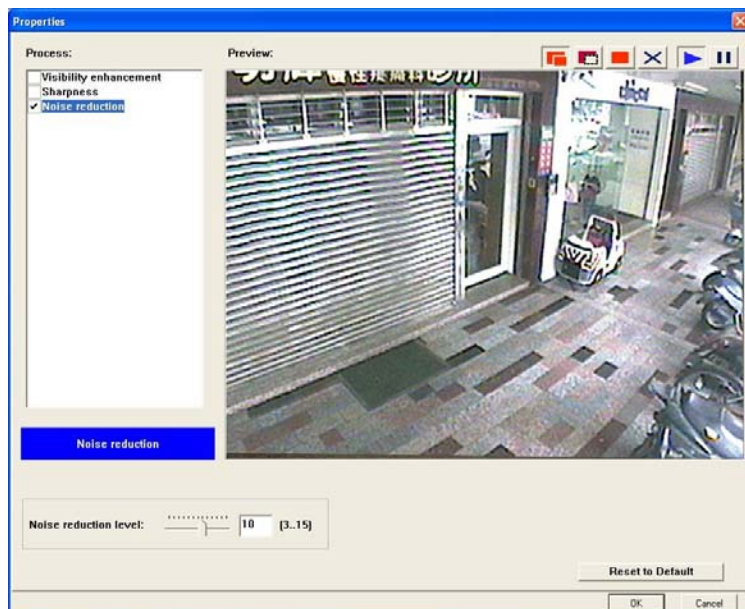
## Sharpness



Select the checkbox of this item to enable sharpness enhancement. This helps sharpen edges of, for instance, a blurred background (that may be due to loss of focus).

Drag the Sharpness level slider to the right to increase sharpness; drag the slider to the left to decrease sharpness or blur the video.

## Noise Reduction



Select the checkbox of this item to enable noise reduction. This helps eliminate video noise that comes from the camera, and also reduces noise in dark scenes or nighttime environment. If you enabled Visibility enhancement, there may also be noise that is introduced to the video which can be minimized via noise reduction.

Adjust the Noise reduction level slider to control the extent of noise reduction to be applied to the camera video.

Note: When Noise reduction is enabled, it also reduces the size of recorded video.

## Appendix People Counter User Guide

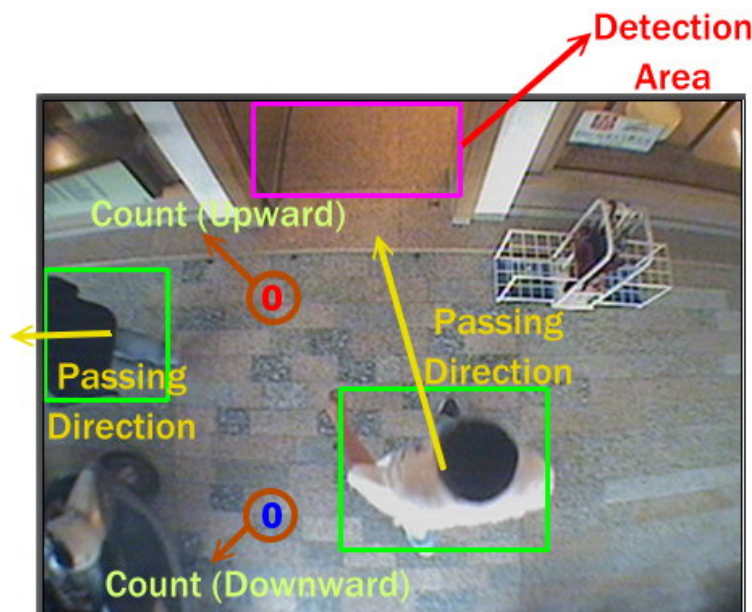
### Feature

Calculate amount of passing passengers within assigned detection area. Counting direction could be leftward/rightward or upward/downward according to the position of detection area.

### Environment Setup

Camera should mount above the detection area and capture video downward vertically as the picture below. Favorite object size should occupy around the tenth of video window. Improper object size (too large or too small) or tilted camera angle may affect the counting result.

Detection area could locate in the top, bottom, left, right or center of the video window. It will calculate upward and downward people flow if the detection area is located at top or bottom position. Calculate leftward/rightward flow for left or right position. Counting direction will depend on the width/height ratio if the detection area is in the center position.





Please DO NOT setup system under the environments below to avoid incorrect detection result:

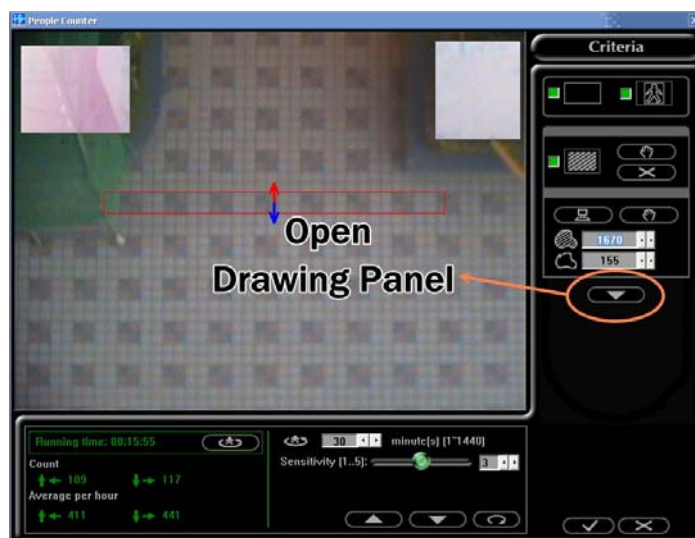
- Interference of open/close door
- Intensively light variation or shadow area under sunshine
- Sheltered object
- Shaking camera
- Crowded location
- Unstable background (like wavered leaves)

## Setup Procedures

Open Settings to setup detection options:

### Setting Detection Area

Press Open Drawing Panel button to pop-up drawing control panel and then draw detection area. Only one detection area could be set which can be located at any side or center of the video window.

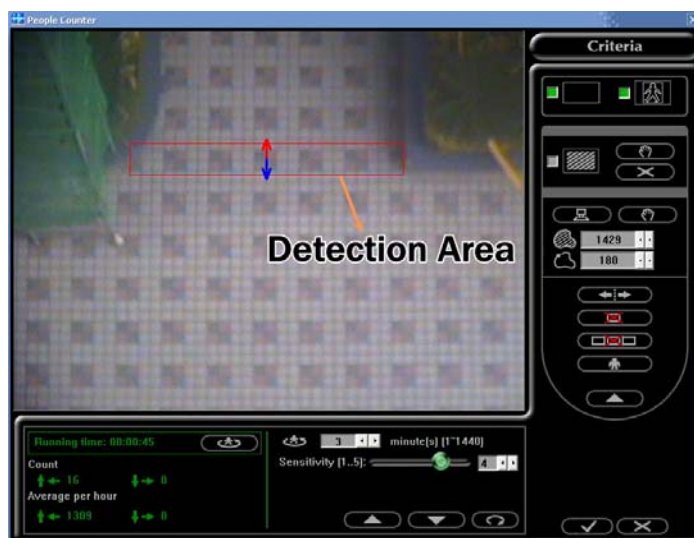




Locate at one of the four position as below (should not be too long or too thin to avoid incorrect result), for example. This configuration is used for camera mounted at the top of arcade to calculate people flow without entering door.



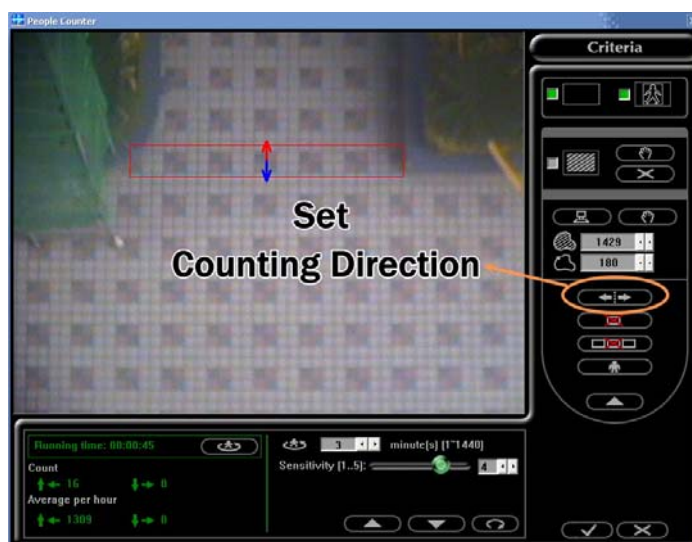
Or locate at center (proper size with long and thin shape is OK) as picture below:



Notice: If the detection area is located at top (bottom) position with slender shape (length is much larger than width) as picture below, the counting direction will be leftward/rightward. The same case for tall and thin shape located at left (right) position, the counting direction is upward/downward.



After drawing detection area, the program will determine the detection location and counting direction automatically. To calculate single direction flow, press the Set Counting Direction button in the drawing control panel.



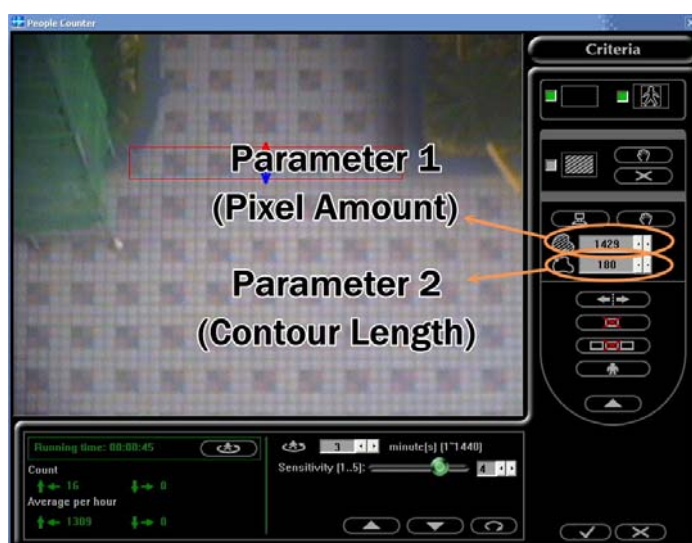
It needs to delete original detection frame to change the position of detection area (it only allows one detection area now),



## Setting Single Person Size

Due to various camera mounting situations, it needs to adjust single person size after setting detection area. There are three ways to set single person size:

Method 1: Input setting parameters directly. Parameter 1 is pixel amount and parameter 2 is contour length. Suggest using method 2 or 3 if not familiar with parameter definition. Parameter 1 is 1430 and parameter 2 is 180 for the case below.



Method 2: Set single person size manually. Follow the steps below.

1. Press Set Single Person Size Manually button in the drawing control panel.



2. Drag rectangle in the window. Suggest pausing video when there is a passenger. Then drag rectangle according to this object. It will calculate the parameters automatically after drawing.





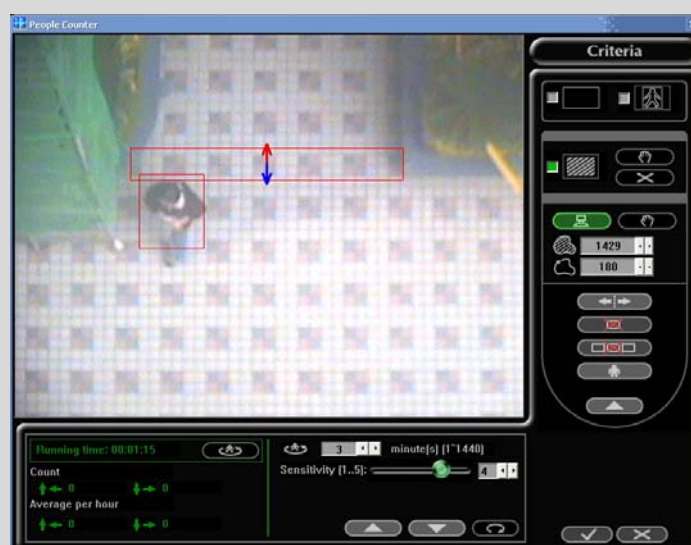
Method 3: Get single person size automatically. Follow the steps below.

1. Press Get Single Person Size Automatically button in the drawing control panel.



2. Program will calculate average single person size parameters according to the current people flow.

Notice: It is necessary to adjust sensitivity to get accurate segmentation because each segmented object will be treated as single person. Reduce sensitivity if shadow or noise is easily segmented as object. Increase sensitivity if one person is segmented into several objects or can not be segmented.



3. Press Get Single Person Size Automatically button again to end calculation and reflect result in the single person size parameter setting area (the parameters are not changed if there is no segmented object during calculation period).

## Tuning Parameters:

Start calculating people flow after setting options. Using tuning function to adjust detection parameters if there is overcount or undercount situation. Press Overcount button to increase parameters in overcount case; press Undercount button to decrease parameters in undercount case.

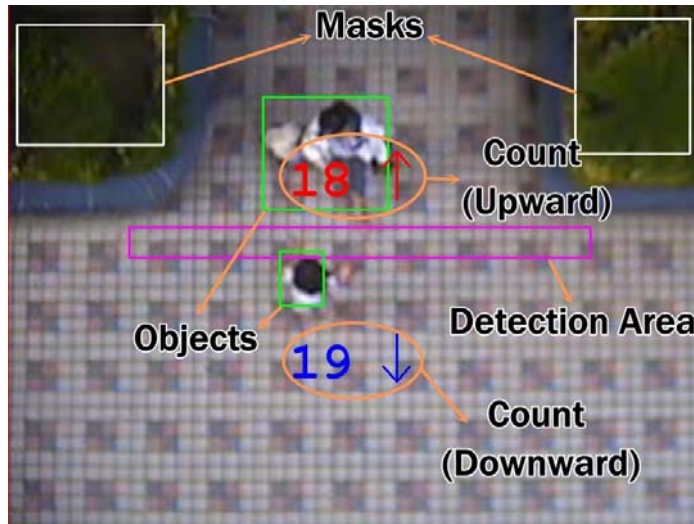


## Start counting:

Program can start calculating people flow after drawing detection area & setting single person size. It will capture background first. The counting is started under the following condition:

- Scene without change for several frames
- After a couple of seconds

The program is starting calculating when the video window appears detection frame and counting numbers. It will update background information continuously during calculation. Objects remaining static within video window for a couple of time will be merged as background information.



Calculating condition when detection area located in the border of video window (This detection condition is more strictly, suitable for arcade to calculate people flow without entering door.):

IN	Coming from the edge of window & entering partial detection area
OUT	Going through detection & touching the edge of window

Calculating condition when detection area located in the center of video window (suitable for passage or door with passengers):

Upward (Rightward)	Moving from bottom (left) side, passing through detection area, to top (right) side
Downward (Leftward)	Moving from top (right) side, passing through detection area, to bottom (left) side



## Feature Description



Time from starting to now. It will reset the running time after a statistics period and export calculation result to log file.



Reset counting process. Program will export previous calculation result to log file, capture new background information and restart counting.



Counting number after starting (Up/Left, Down/Right)



Average passengers per hour (Up/Left, Down/Right)



Time for counting cycle. Program will reset counting process and export result to log file when finishing counting a cycle.



Object segmentation sensitivity (1~5, larger number means more sensitive) Reduce sensitivity if shadow or noise is easily segmented as object. Increase sensitivity if one person is segmented into several objects or can not be segmented.



Parameter tuning buttons with overcount/undercount case



Reset detection parameters to default values



Enable/disable display detection area frame



Enable/disable display object frame



Enable/disable mask related features



Set non-segmentation area. Up to 10 mask areas can be used. Use mask for unstable background (ex: leaves, flags) to avoid incorrect calculation. Mask area will display as negative image frame.



Remove all masks



Get single person size parameters automatically



Set single person size parameters manually



Open drawing control panel



Change counting direction



Remove detection area



Freeze current video display



Close drawing control panel