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AI People Flow Control Configuration Guide

1. Introduction

With the combination of DeepinMind NVR and people counting camera, it can realize people flow control. The DeepinMind NVR must be upgraded to the special version, and need to be restored after upgrading.

Product Showcase:

Product	Product Model	Note
People Counting camera	DS-2CD6825G0/C-I(S)	Base line version
	DS-2CD6845G0/C-I(S)	
	iDS-2CD6810F/C	
	iDS 7series Face Counting Camera	
DeepinMind NVR	iDS-9616(/32/64)NXI-I8/X(B)(T)	Please upgraded to the special firmware version
	iDS-7716(/32)NXI-I4/X(B)(T)	
	iDS-6708-I/8F(B)(T)	

Firmware download:

For DeepinMind NVR:

[ftp://hikftp.hikvision.com:400/01 All Materials of Temperature Screening Solution/02 DeepinMind NVR/05 Firmware/DeepinMind NVR/](ftp://hikftp.hikvision.com:400/01>All%20Materials%20of%20Temperature%20Screening%20Solution/02%20DeepinMind%20NVR/05%20Firmware/DeepinMind%20NVR/)

For Thermal Camera:

[ftp://hikftp.hikvision.com:400/01 All Materials of Temperature Screening Solution/02 DeepinMind NVR/05 Firmware/Thermal Camera/](ftp://hikftp.hikvision.com:400/01>All%20Materials%20of%20Temperature%20Screening%20Solution/02%20DeepinMind%20NVR/05%20Firmware/Thermal%20Camera/)

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2. Solution

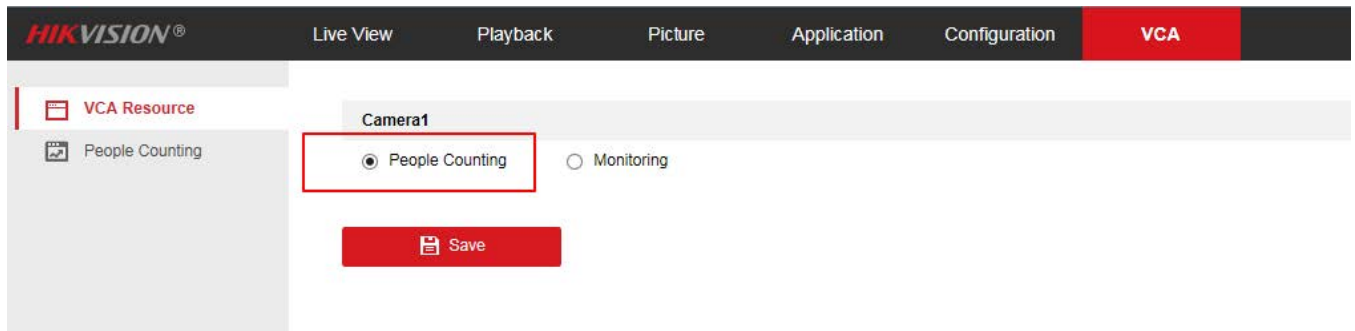


Configure people counting rule on people counting camera, add the camera to DeepinMind NVR and configure people control on NVR .

3. Configuration Steps

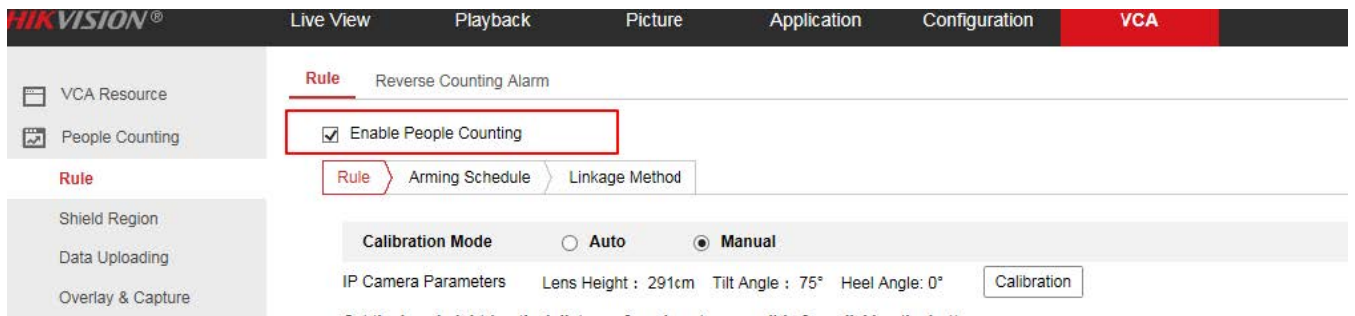
3.1. People counting rule configuration (Taking Dual-lens 6825 for example)

3.1.1 Select VCA Resource



3.1.2 Rule configuration

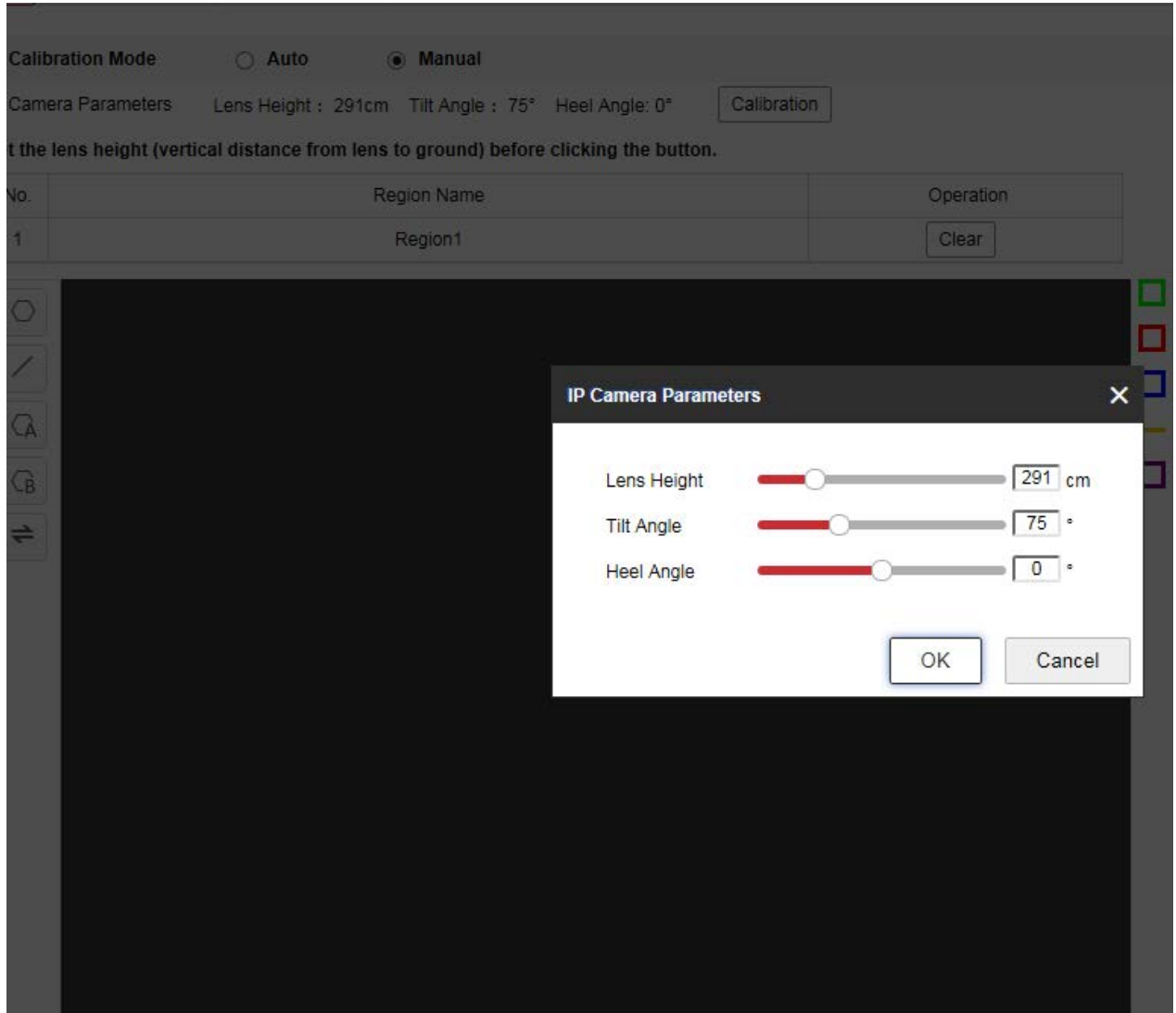
Step 1: Enter **【VCA】 - 【People Counting】** , check “Enable People Counting”



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Step 2: Select the calibration mode: Manual and Auto are selectable.

Manual Calibration Mode: Input the Lens height (the height from Entry/Exit area to the camera), Tilt Angle and Heel Angle manually, then click “Calibrate”, A red detection area will automatically appear in the image. The red area is for counting. To increase the success rate of the manual calibration, make sure the lens height is the true value in vertical direction between the lens and the ground.



Auto Calibration Mode: It will generate the lens height and a green calibration area automatically. The calibration area is used for calibrating the height from the ground to lens. So we strongly recommend to select the totally ground part as calibration area.

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Calibration Mode Auto Manual

IP Camera Parameters Lens Height : 292cm Tilt Angle : 76° Heel Angle: 2°

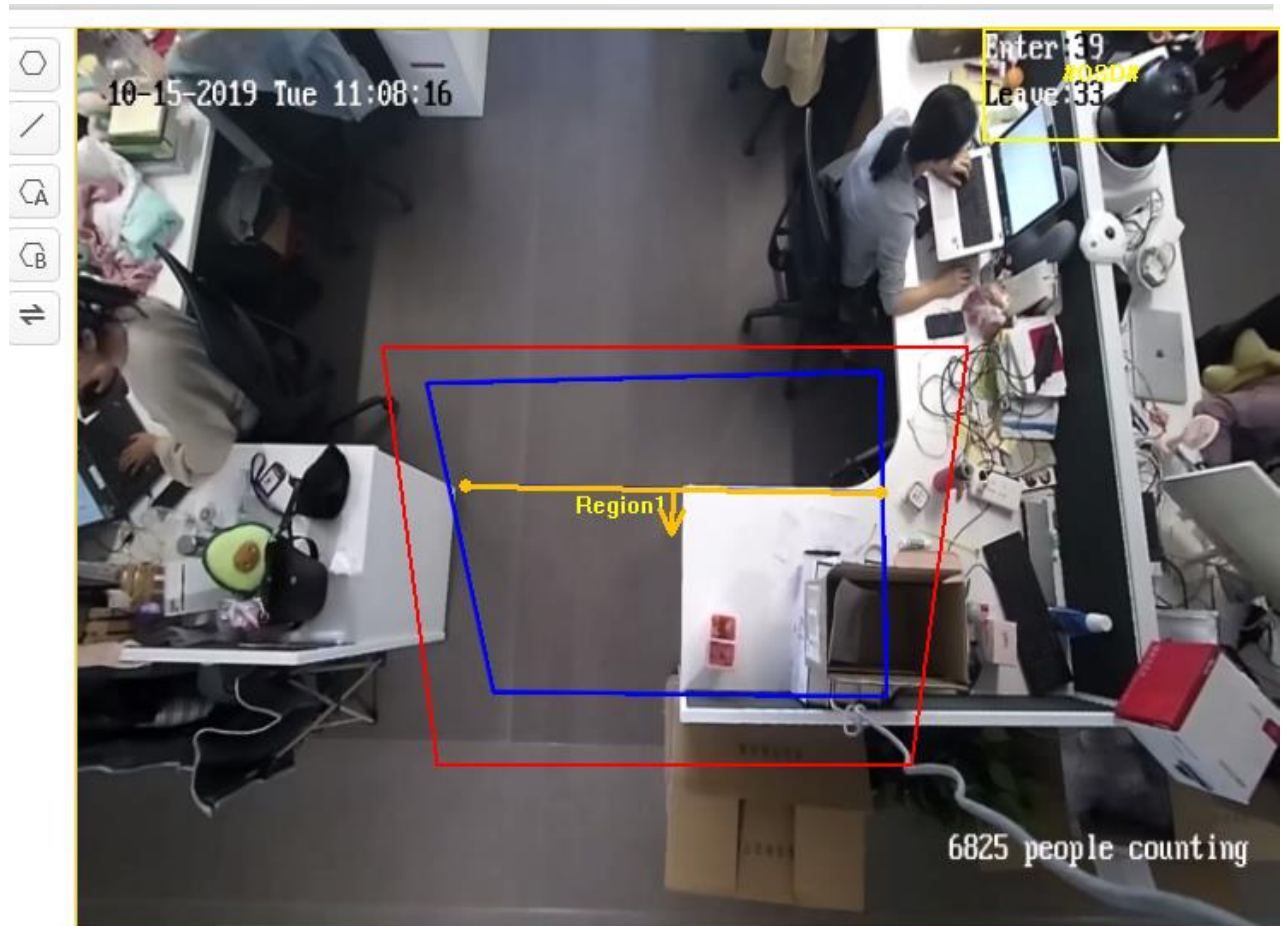
Make sure that the green calibration area is level ground before clicking the button.

No.	Region Name	Operation
1	Region1	<input type="button" value="Clear"/>

Step 3 : Draw the region (shown as the blue frame in the below picture)

NOTE: The rule frame should be within red counting frame.

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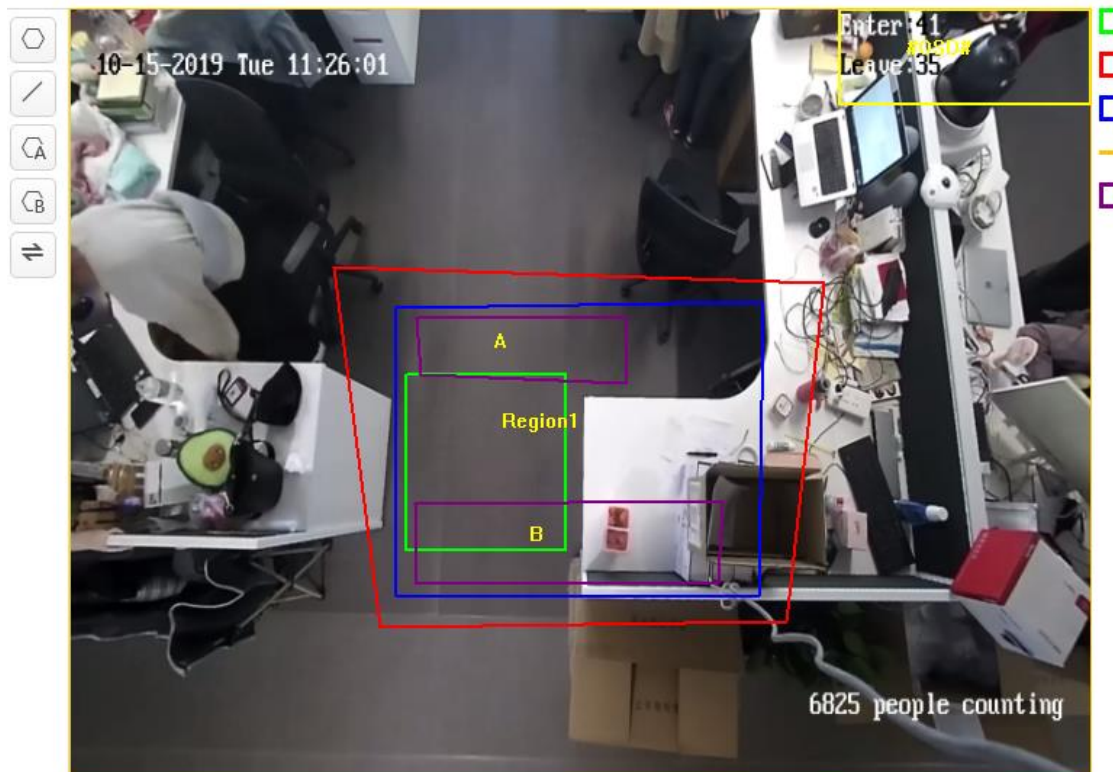
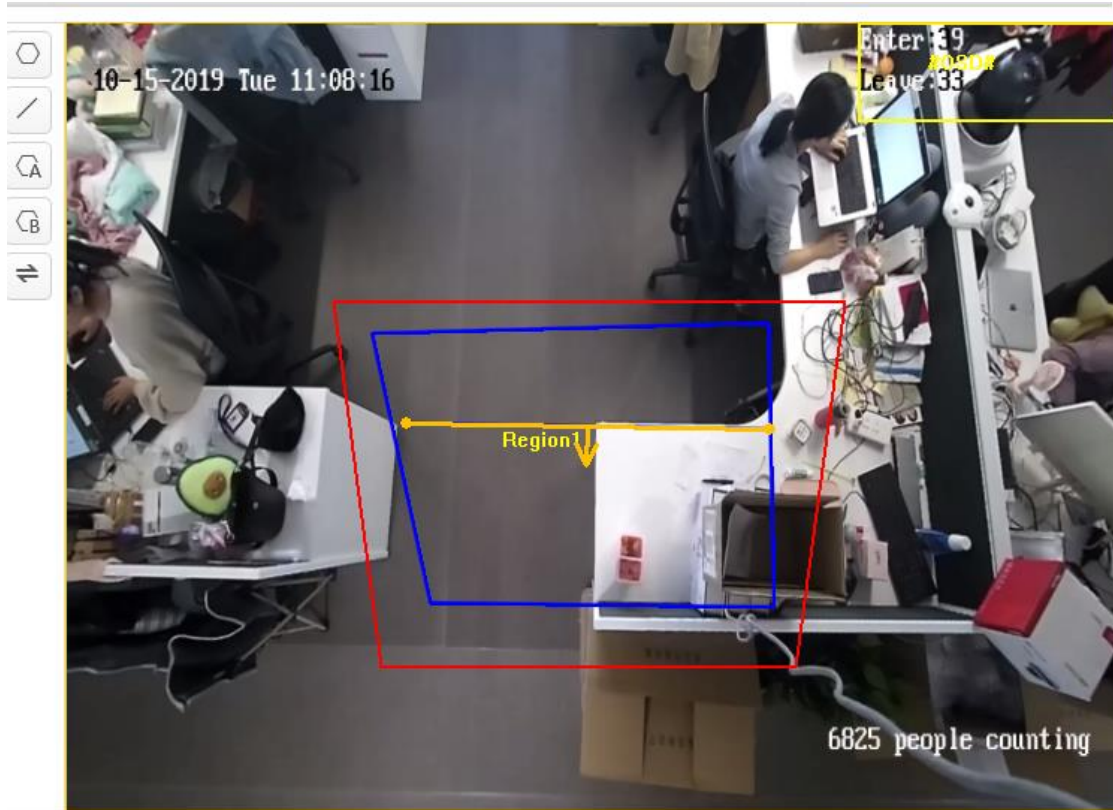


Step 4: Draw detection line (the yellow line as shown in the below picture) or detection region.

Detection Line: the yellow line should be within the blue detection region.

Detection Region: Draw A and B region. Make sure the two areas don't overlap. If the target enters from A region to B region, then it is counted as the entering number; If the target enters from B region to A region, then it is counted as the exiting number.

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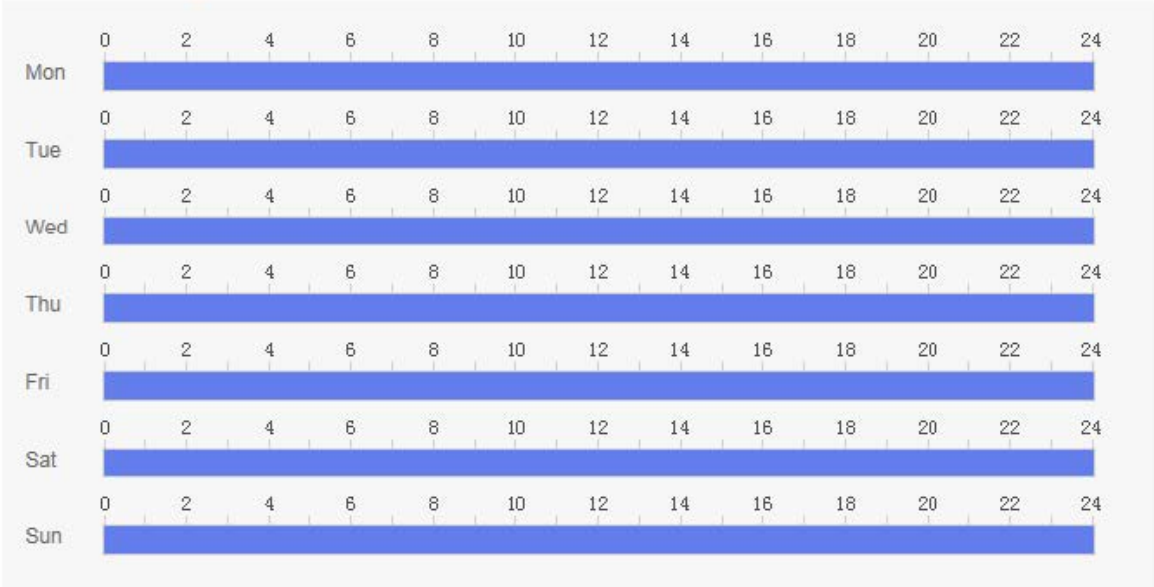


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Step 5: Save it after finishing the configuration. Set the Arming schedule and linkage method.

Rule > **Arming Schedule** > Linkage Method

Delete Delete All



Rule > Arming Schedule > **Linkage Method**

Normal Linkage

Notify Surveillance Center

3.1.3 Reverse Counting Alarm

Set reverse counting alarm (optional). Check Enable Reverse Entering Alarm to enable the function. An alarm is enabled when the target leaves the region. Set the arming schedule and linkage method.

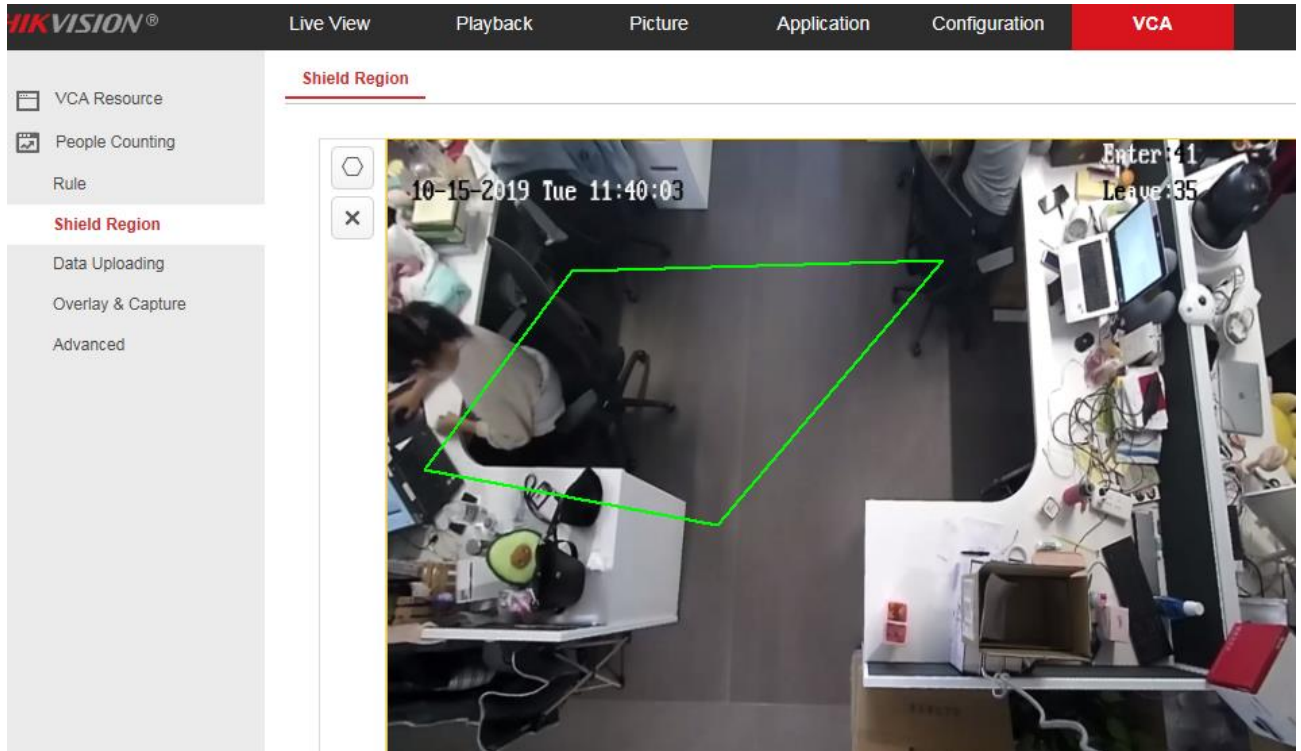
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The screenshot displays the configuration page for a 'Reverse Counting Alarm' rule. The interface includes a top navigation bar with 'VCA' selected, a left sidebar with 'VCA Resource' and 'People Counting' expanded, and a main content area. In the main area, the 'Enable Reverse Entering Alarm' checkbox is checked and highlighted with a red box. Below this, the 'Arming Schedule' tab is active, showing a 24-hour schedule for all days of the week (Mon-Sun). The 'Linkage Method' tab is also visible, showing options for 'Normal Linkage', 'Trigger Alarm Output', and 'Notify Surveillance Center', all of which are checked.

3.1.4 Shield Region

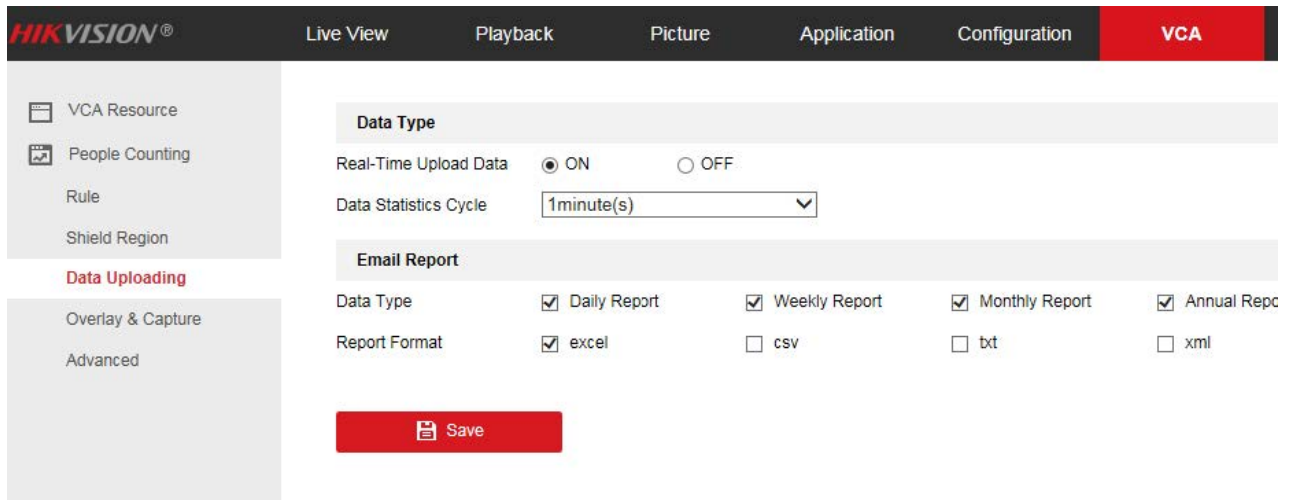
If you don't want to count people of the specific area, you can draw the area as shield region.

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3.1.5 Data Uploading

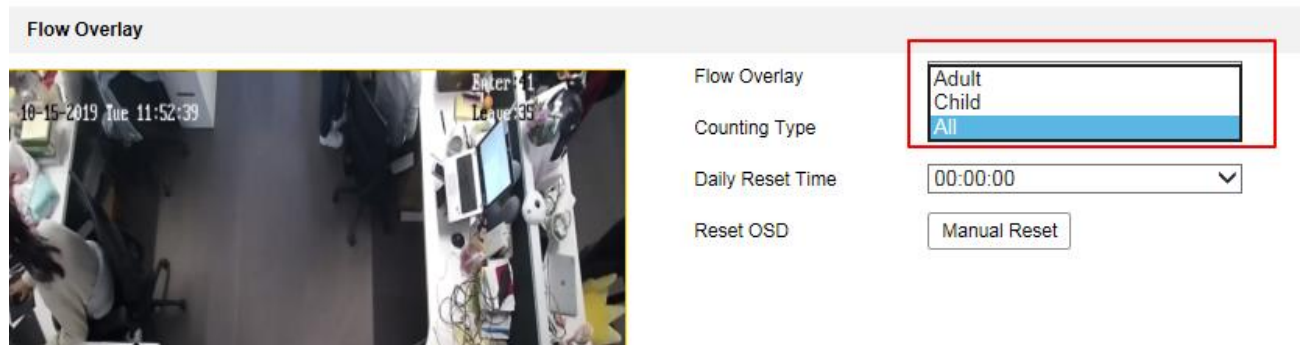
- 1) Enter **【VCA】 - 【People Counting】 - 【Data Uploading】**
- 2) If you want to upload the real-time data to the platform, select real-time Upload Data as “ON”.
- 3) If you want to adjust the statistic cycle manually, set data statistics data as required.
1/5/10/15/20/30/60 minutes are optional.
- 4) We can send the report via email, the data type includes Daily/Weekly/Monthly/Annual report.
The report format includes excel/csv/txt/xml.



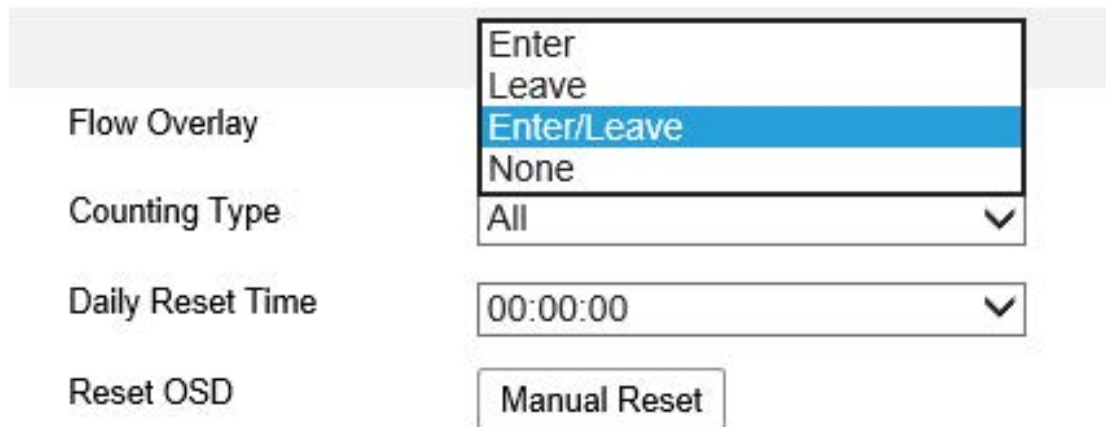
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3.1.6 Overlay & Capture

- 1) **OSD Overlay:** It supports display the real-time counting information in the live view image. Enter, Leave, Enter/Leave and None are optional.
- 2) **Counting Type:** Adult, Child and All are optional.



- 3) **Daily Reset Time/Rest OSD:** To reset the counter, you can set up a daily reset time. Or you can reset the OSD counter manually by click Manual Reset.



- 4) **Display VCA Info. on Stream:** It will display the ID number and height information of tracking people on stream after enabling it. The recording file will overlay these information and it can be checked via VS Player. It should enable the function of Display POS Information in the below path: **【configuration】** - **【Local】** if we want to see these information in the live view image.

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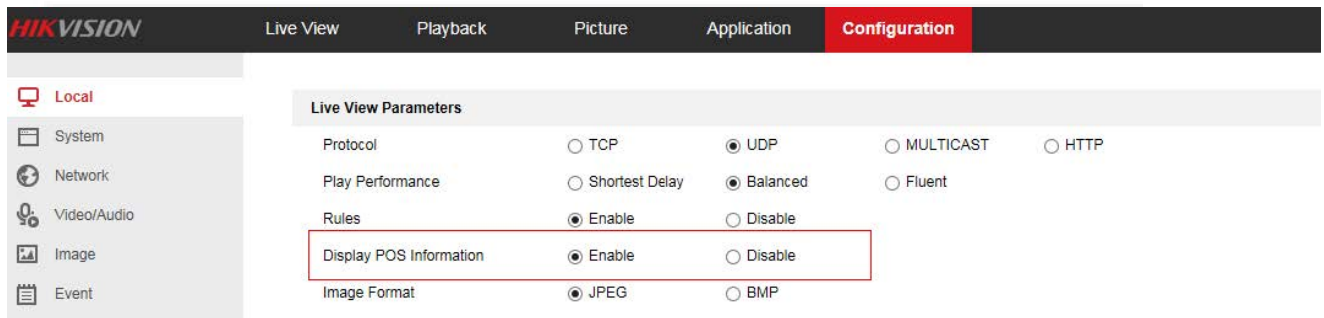
Display on Stream

Display VCA Info. on Stream

Display on Picture

Display Target Info. on Alarm Picture

Display Rule Info. on Alarm Picture



3.1.7 Advanced Parameter

- 1) **Height Filter:** Enable the function and set a height value. Persons and objects shorter than the set value are not counted as a valid target. Also this camera support counting Children.

Enable Height Filter

Height  120 cm

Enable Counting Children

Height  140 cm

- 2) **Target Detection Type/Algorithm Validity:**

There are four type of target detection: Detect based on the tracking algorithm only; Depth map only; Tracking algorithm mainly and depth map secondarily; and depth map mainly and tracking algorithm secondarily. It is recommended to use default type.

Algorithm Validity: The bigger the numerical value, the stricter the object detection requirements are. It is recommended to use default values.

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Target Detection Type

Algorithm Validity

- 3) **Pattern Counting Filtering:** Targets less than the set value of motion displacement and residence time are not counted. It is recommended to use default values.

Enable Pattern Counting Filtering

Motion Displacement cm

Dwell Time s

- 4) **Counting Status:** It displays the current status of the camera. There are three types optional: Counting, Stopped, Pause counting. You can click Refresh button to refresh the status.

Counting: Count normally.

Stopped: Disable people counting function.

Pause counting: The scene is too dark.

- 5) **Clear Storage Data:** To clear stored data on camera, you can click the Clear button. Always do the operation with caution. Deleted data cannot be restored.
- 6) **One-touch Export:** Export the device hardware settings, installation settings, people counting settings, rule settings and advanced settings.
- 7) **Maintenance Mode:** If the function is enabled, certain camera settings will be changed, such as the resolution, frame rate and bit rate. When we need collect the video clip for the issue analyse, it is necessary to enable the maintenance mode.

Counting Status

Clear Storage Data **Note: This action clears all counting data stored in the camera.**

One-touch Export **Export the device hardware settings, installation settings, people counting settings, rule settings and advanced settings.**

Maintenance Mode **Certain video settings has already been changed. To restore the settings, disable Maintenance Mode.**

3.1.8 Complete the camera configuration, add camera to NVR.

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The screenshot shows the HIKVISION Configuration interface. The top navigation bar includes 'Live View', 'Playback', 'Picture', 'Application', and 'Configuration'. The left sidebar lists various settings categories, with 'Camera Management' highlighted. The main area displays the 'IP Camera' configuration page, which includes a table of camera settings and a list of cameras.

Channel No.	Camera Name	IP Address	Channel No.	Management Port	Security	Status	Protocol	Connect
D1	Camera 01	97.65	1	8000	Strong	Online	HIKVISION	
D2	Camera 01	97.12	1	8000	Weak	Online	HIKVISION	
D3	2TD1217B-6/PA	96.69	1	8000	Weak	Online	HIKVISION	
D4	Camera 02	96.69	2	8000	Weak	Online	HIKVISION	
D5	IPCamera 02	96.54	1	8000	Weak	Online	HIKVISION	
D6	Camera 01	113.67	1	8000	Weak	Online	HIKVISION	

At the bottom of the table, it indicates 'Total 6 Items' with navigation arrows.

3.2. People counting rule configuration (iDS 7series Face Counting Camera)

3.2.1 Configure the parameter via IE browser

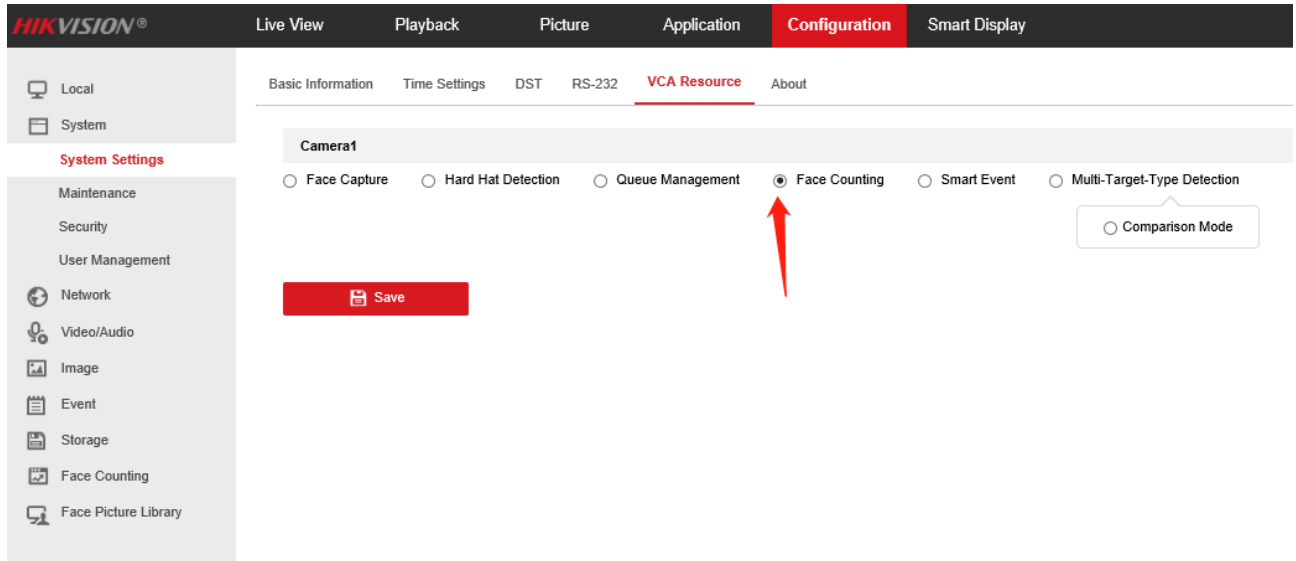
Step 1: Enter [configuration]-[local], Enable [Rules]. Then Click “Save” when finishing the configuration, as shown in the below picture

The screenshot shows the 'Live View Parameters' configuration page. The left sidebar lists 'Local', 'System', 'Network', 'Video/Audio', 'Image', and 'Event'. The main area displays various parameters with radio button options. The 'Rules' parameter is highlighted with a red box, showing 'Enable' selected.

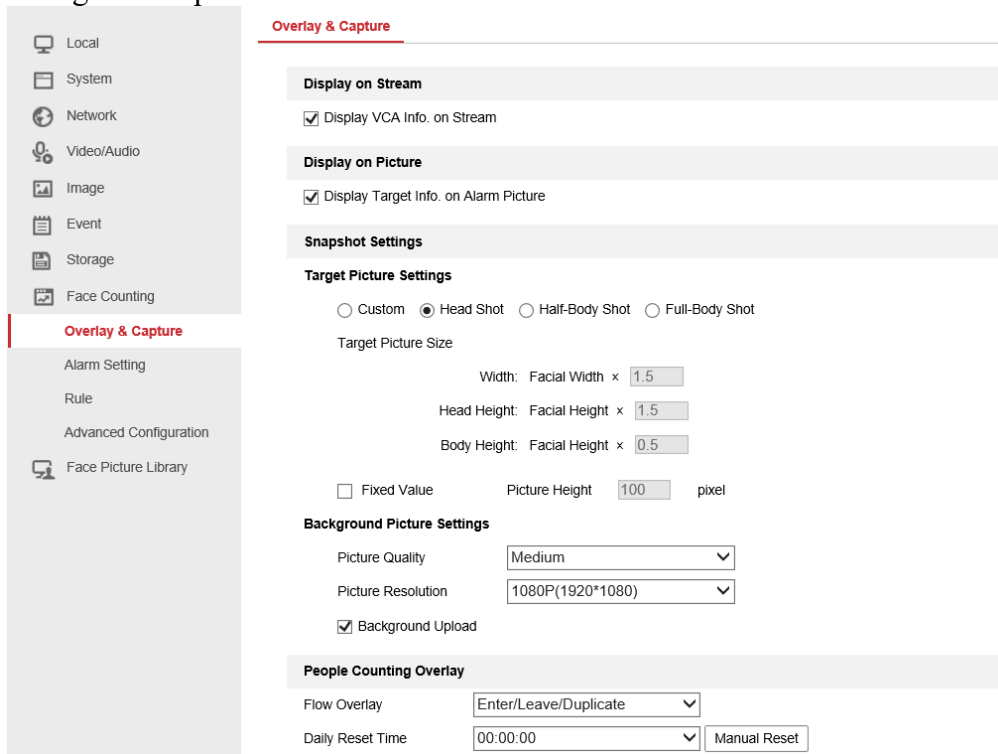
Parameter	Option 1	Option 2	Option 3	Option 4
Protocol	<input checked="" type="radio"/> TCP	<input type="radio"/> UDP	<input type="radio"/> MULTICAST	<input type="radio"/> HTTP
Play Performance	<input type="radio"/> Shortest Delay	<input checked="" type="radio"/> Balanced	<input type="radio"/> Fluent	<input type="radio"/> Custom
Rules	<input checked="" type="radio"/> Enable	<input type="radio"/> Disable		
Display POS Information	<input checked="" type="radio"/> Enable	<input type="radio"/> Disable		
Image Format	<input checked="" type="radio"/> JPEG	<input type="radio"/> BMP		

Step 2: Go to [System]-[System Settings]-[VCA Resource]. If the VCA resource is not Face Counting mode, switch to Face Counting mode. Switch VCA resource will take effect after reboot.

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Step 3: Go to [Face Counting]-[Overlay & Capture] – [Background Picture Settings]. Enable Background Upload.



Step 4: Go to [Face Counting]-[Alarm Setting]-[Alarm Uploading]. Enable the People Counting Alarm. Enable the other alarms if you want.

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Step 5: Go to [Face Counting]-[Alarm Setting]-[Face Picture Library]. Select the target face picture library that you want to remove directly from face counting. Then enable the People Counting Deduplication.



Alarm Setting

Alarm Uploading Face Capture Face Picture Comparison People Counting Alarm

Face Picture Library

People Counting Deduplication

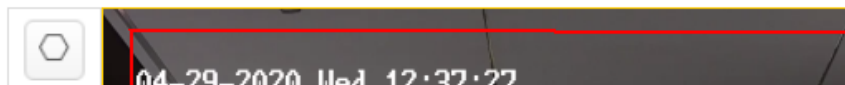
Upload Captured Face Image

Step 6: Go to [Face Counting] – [Rule]. Adjust People Counting Deduplication time as the scenario needs.

Rule

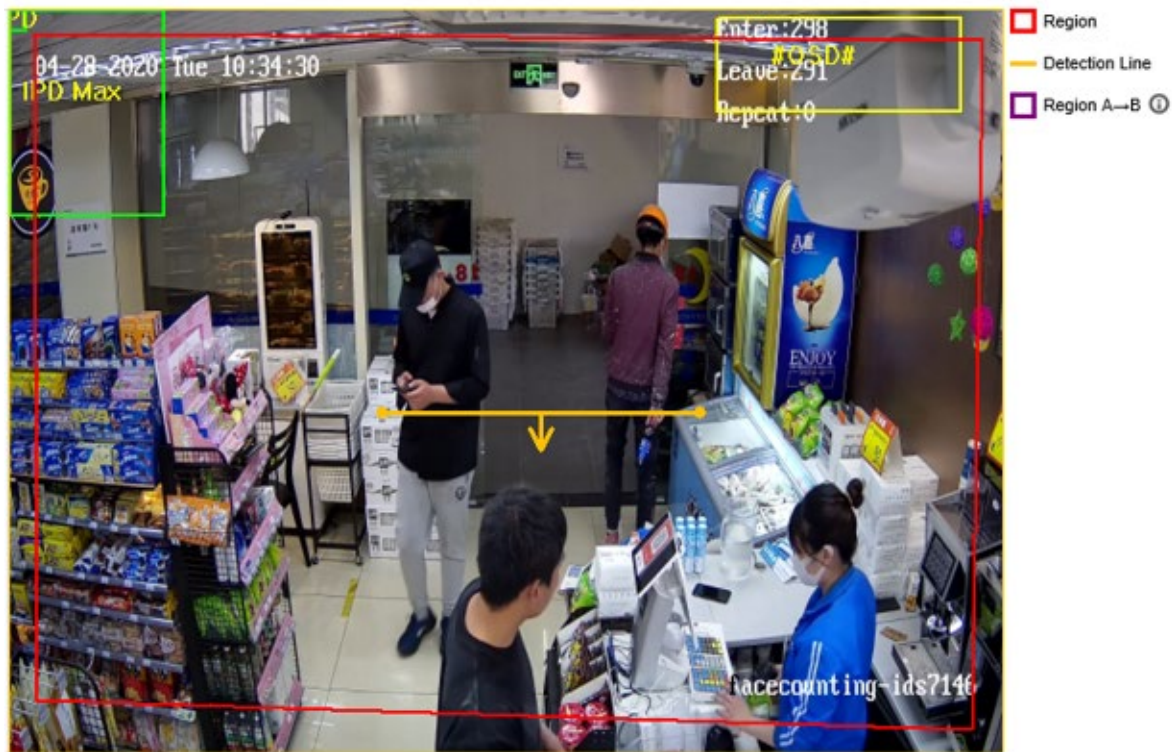
People Counting Dupli... Hour min s **The maxim**

Rule > Arming Schedule > Linkage Method



Step 7: Draw the rules and read the descriptions below.

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Save

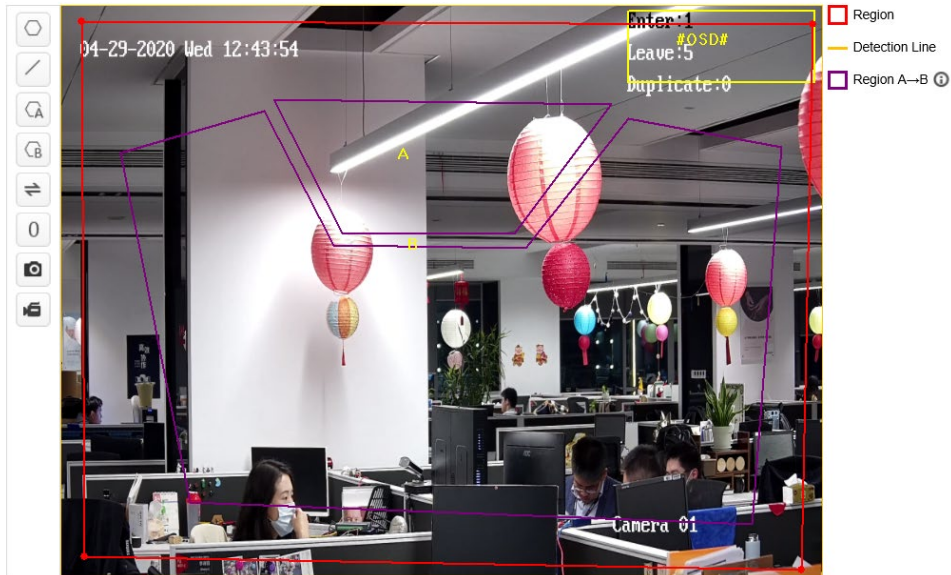
In the detection scene, there may be situations where the target side enters the scene without passing through the trigger line. The detection method of area A and B can solve this problem.

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Rule

People Counting Dedupli... 0 Hour 40 min 0 s **The maximum people counting deduplication time can be set to 23h59min59s.**

Rule > Arming Schedule > Linkage Method



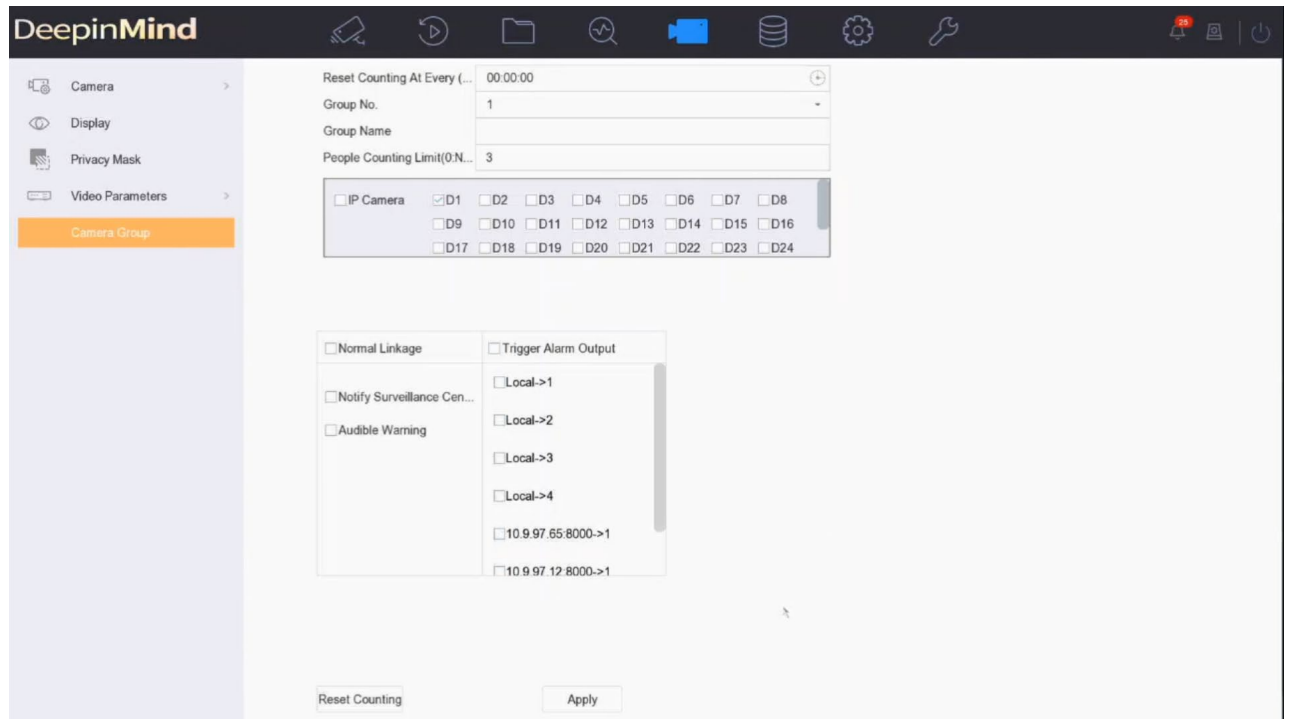
3.3. People Flow Control Configuration

Go to NVR's local GUI, Camera→Camera Group, select the people counting camera you want to control people flow.

People Counting Limit is set for maximum number of people entering the area.

If you select more than one camera in a camera group, the people counting limit will be the sum of all cameras you selected.


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Click “Apply” to make the configuration effective.

4.1 GUI application

4.1.1 People flow control

Click  button on left bottom of live view, go to “ATTENTION” interface. It shows how many people already inside and how many can still enter.

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If the number of people in the area exceeds the set “People Counting Limit”, the interface will turn red and trigger an alarm.





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