

Installation and operation manual

DVR/NVR video analysis configuration

DVR/NVR video analysis configuration

INDEX

1. Installation requirements	1
2. Smart alarm events	1
2.1 Abandoned or removed object	1
2.2 Exception detection	2
2.3 Line crossing/intrusion detection	3
2.4 Face detection (NVR only)	5
3. Video configuration analysis on DVR/NVR	8
3.1 Intelligence alarm	8
3.1.1 Object abandoned or removed	8
3.1.2 Exception	9
3.1.3 Tripwire	11
3.1.4 Intrusion area detection	12
3.1.5 Face Detection	14
4. AI Event Management	15
4.1 Face Recognition	15
4.1.1 Face Detection Settings	15
4.1.2 Face Database Management	17
4.1.3 Face Recognition Settings	19
4.2 Tripwire	21
4.3 Intrusion Detection	22
4.4 Abandoned/Missing Object Detection	23
4.5 Line Crossing Counting	24
4.6 Exception Detection	26
4.7 Audio Exception	27
4.8 Loitering Detection	28
4.9 Illegal Parking Detection	29
4.10 Video Metadata	30
5. Intelligent Analytics	31
5.1 Target Detection View	31
5.1.1 Human Body/Vehicle Detection View	31
5.1.2 Face Detection / Match View	31
5.2 Smart Search	35
5.2.1 Face Search	35
5.2.2 Track Playback	39
5.2.3 Face Search by Snapshot	41
5.2.4 Human Body Search	42
5.2.5 Vehicle Search	42
5.2.6 Combination Search	43
5.3 View Statistical Information	43
5.4 Face Attendance	45
5.5 Face Check-In	46

DVR/NVR video analysis configuration

Introduction:

The video analysis includes all those functions, considered to be the evolution of the conventional motion detector, which use analytical algorithms to identify certain events within the scene, drastically reducing the number of false positive alarms generated.

This document aims mainly to describe some environmental and installation precautions for devices integrating video analysis functions to prevent malfunctions and limit the generation of false positive alarms.

1. Installation requirements

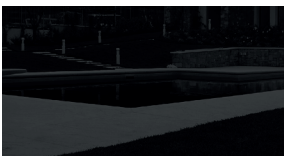
This series of network cameras support a lot of smart alarm function, such as object removal detection, exception detection, line crossing detection and region intrusion detection.

Before enabling the above-mentioned alarm functions, the following installation requirements must be met, in order to obtain the maximum benefit from the algorithm used to analyse the scene, improve the detection success rate and minimise malfunctions (false alarm, no alarm).

- 1) Cameras should be installed in settled places, lest too much shaking affects the accuracy of detection.
- 2) Avoid the reflective surfaces (like shiny floors, mirrors, glass, lake surfaces and so on).
- 3) Avoid narrow or too much shadowing monitoring places.
- 4) Avoid such monitoring scenario - the object color is similar to the background color. For example, a person in white walks in the snow. This will bring poor monitoring effect.
- 5) The monitoring images shouldn't have large changes after enabling the smart alarms, or it will result in frequency alarm triggers (for example, the auto focus function or automatic white balance is automatically enabled).
- 6) At any time of day or night, please make sure the image of cameras is clear and with adequate light, avoiding over-exposure or too dark on both sides of the scene. See the following pictures.



1. Uneven light, too dark on the left



2. Evenly distributed light



3. Sufficient light

2. Smart alarm events

2.1 Abandoned or removed object

This function is able to detect an abandoned or removed object in a pre-defined area within the frame perimeter. When detected the relative alarms are generated.

The alarm will be triggered when detecting the objects removed from the pre-defined area.

- 1) The range of the detection object occupies from 1/50 to 1/3 of the whole image.
- 2) The detection time of objects in the camera shall be from 3 to 5 seconds .
The defined area cannot be covered frequently and continuously (like people and traffic flow). is necessary for object removal detection that the drawn frame must be very close the margin of the object in enhancing the sensitivity and accuracy of the detection. See the following pictures.



Application Scenarios: object security, rubble flow, illegal parking detection, illegal posting of posters, defacement of building, etc.

DVR/NVR video analysis configuration

2.2 Exception detection

This function can detect the change of surveillance environment affected by the external factors and the blur and cast of the surveillance images and some certain actions can be taken when the alarm is triggered.

Detect the exception of the image in the whole surveillance scene, including six kinds of exception events - low light, excessive brightness, low definition, color cast, interference and scene change. See the following pictures.



1 - Low light



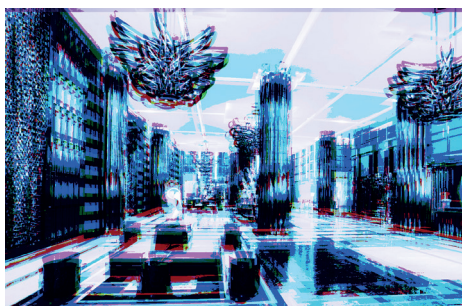
2 - Excessive brightness



3- Low definition



4 - Color cast

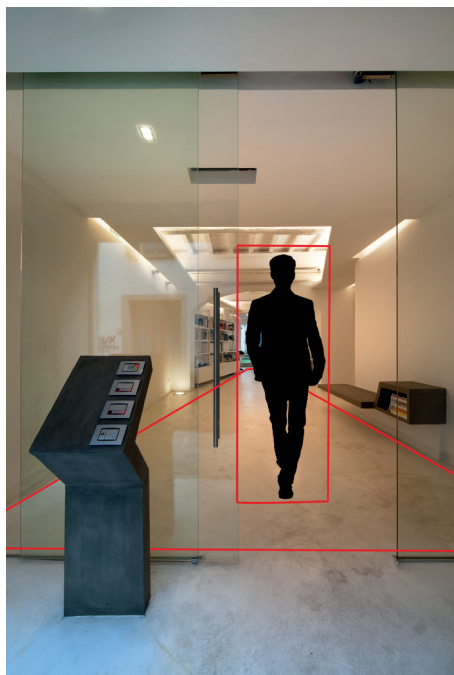


5 - Interference

DVR/NVR video analysis configuration

2.3 Line crossing/intrusion detection

The relevant alarms will be triggered if someone or something crosses the pre-defined alarm lines or areas.



Line Crossing: detect the objects in the visual field and the alarms will be triggered when crossing the alarm lines toward positive or negative direction or both directions.

Region Intrusion: the alarms will be triggered when the objects in the visual field enter or leave the boundary of the area.

Installation requirement

- 1- Avoid the scenes with many trees or the scenes with many illumination changes (like many flashing headlights). The ambient brightness of the scenes shouldn't be too low, because dimly lighted scenes will decrease the accuracy of the alarm,
- 2- Cameras should be mounted at a minimum of 2,8 m
- 3- The mounting view angle of the camera tries to keep about 45°
- 4- The detected objects accounting for the proportion in the whole image should not be less than 1% and the largest sizes of the detected objects accounting for the proportion in the whole image should not be more than 1/8.
- 5- Make sure cameras can view objects for at least 2 second in the detected area for accurate detection.

DVR/NVR video analysis configuration

Inapplicable scenes

The accuracy of the intelligent video analysis is closely related to the complexity of the scenes. The following scenes are not applicable for intelligent video analysis, which will decrease the accuracy.



1 - There are many trees in the monitoring scene. This circumstance is complex. When it's windy, the swaying branches of trees will cause interference. As a result, smart alarm functions inapplicable.



2 - Scene with too low brightness



3 - Scene with light changing frequently



4 - Small mounting angle of depression (it is not available for line crossing and region intrusion detection)

Application scenarios:

Region Intrusion: this function can be applicable to important supervision places, danger areas and prohibited areas, like military administrative zones, house breaking, scenic high danger areas, no man's areas, etc.

Line Crossing: it can be used in electronic fence, warning line of flood prevention, parking lots, traffic instruction, etc.

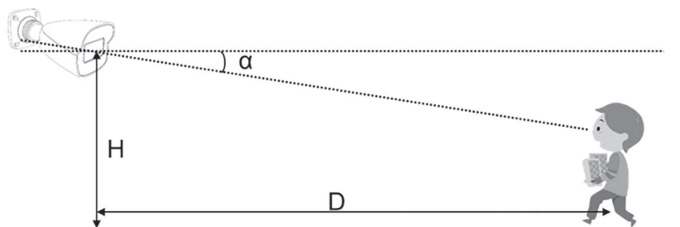
DVR/NVR video analysis configuration

2.4 - Face detection (NVR only).

Face detection: this function allows you to recognize faces in the visual field, upon recognition, the NVR will be able to activate the related actions, such as recording, activating alarms, etc.

Installation requirements:

- 1 - The camera is installed in front of the channel, and capture the face from straight front.
- 2 - Installation height H is about 2.0 ~ 3.5 m (can be adjusted according to lens focus and capture distance).
- 3 - Camera depression angle α less than or equal to 15 °.
- 4 - The capture distance D is adjusted according to the selected camera lens focus.


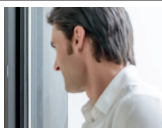



- 1 - In order to guarantee the captured face recognition rate, the requirement for face capture are:
 - left or right face turn angle is less than about 30 °,
 - pitching angle is less than 20 °.
- 2 - Face illumination must be uniform, if the brightness is low or there is a large area of shadow, need to do the light filling.
- 3 - When the capture scenario is backlight, the camera's BLC/HLC/WDR need to be turned on, or fill the light.
- 4 - The face recognition do not support black & white mode for now.



Monitoring width	Lens focus	Best capture distance	Installation height	Depression angle
2.5 m	8 mm	3.8 m	2.2 m	10°
2.5 m	12 mm	5.7 m	2.5 m	10°
2.5 m	16 mm	7.6 m	2.9 m	10°

Remark: The lower the camera depression angle (that means the lower the installation height) we have, the better captured straight face we get.

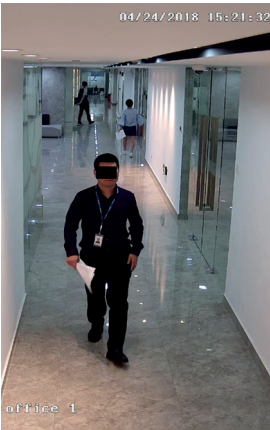
Factors That Affect Capture & Recognition.

Factors	Image	Explanation
Obscured face		Wearing sunglasses, mask, hat or face is being obscured by other objects, will cause no recognition at all.
Small face, side face		The screen size of the human face is less than 1/15 screen, which can not be captured. Face pitching angle is larger than 20 °, left or right face turn angle is more than about 30 °, will lead recognition rate reduced or no recognition at all.
Low brightness face		Low brightness face or face with large area of shadows, will cause low accurate recognition.


DVR/NVR video analysis configuration

Factors	Image	Explanation
Low resolution face		Double image face, low resolution face will caused no recognition.
Black & white face		The face recognition do not support black & white mode for now.

Typical scenarios.
Indoor corridor installation.

Install height	2.5 m	
Install angle	Depression angle about 7°	
Install mode	Ceiling mount.	
Lens focus	12 mm	
Capture distance	2 ~ 7 m	
Screen occupation ratio	8% ~ 20%	
Other	Corridor mode, white light compensation in straight front.	

Overpass Installation.

Install height	2.5 m	
Install angle	Depression angle about 10°	
Install mode	Ceiling Mode.	
Lens focus	16 mm	
Capture distance	2 ~ 10 m	
Screen occupation ratio	8% ~ 20%	
Other	Cloudy, white light compensation in straight front at night.	

DVR/NVR video analysis configuration

Gates installation.

Install height	2.5 m
Install angle	Depression angle about 10°
Install mode	Ceiling Mode.
Lens focus	16 mm
Capture distance	2 ~ 10 m
Screen occupation ratio	8% ~ 20%
Other	Cloudy, white light compensation in straight front at night.



Not recommended scenarios.

Airport, train station, bus station, subway entrance and exit, square, hall and other large population density areas are not suitable for use..



Backlight scene, face brightness is too low, face cannot be detected, not suitable for use.



At the intersection, the face pixel is too small and the shooting Angle is too big, is not suitable for use.



DVR/NVR video analysis configuration

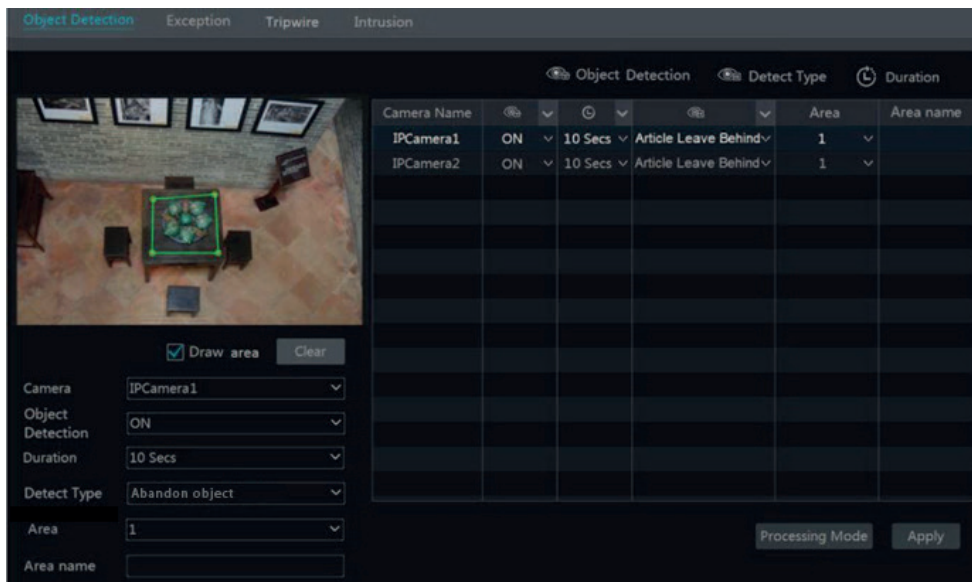
3. Video configuration analysis on DVR/NVR

3.1 Intelligence alarm

3.1.1 Object abandoned or removed

Object detection configuration:

- 1) Click Start → Settings → Camera → Intelligent Detection → Object Detection to go to the following interface.
- 2) Select the camera, enable the object detection and set the duration and detect type.
There are two detect types: Abandon Object and Missing Object.
Abandon Object: The relevant alarms will be triggered if there are articles left in the detection area drew by the users.
Missing Object: The relevant alarms will be triggered if there are articles missing in the detection area drew by the users.
- 3) Select the warning area and input the area name. You can add 4 warning areas at most.
- 4) Draw the warning area of the object detection. Refer to the interface as shown above. Check “Draw Area” and then click around the area where you want to set as the warning area in the image (the warning area should be a closed area). Uncheck the “Draw Warning Area” if you finish the drawing. Click “Clear” button to delete the warning area.
- 5) Click “Apply” to save the settings.
- 6) Click “Processing Mode” to go to the alarm handling configuration interface of object detection.






Camera Name	ON/OFF	Duration	Detect Type	Area	Area name
IPCamera1	ON	10 Secs	Article Leave Behind	1	
IPCamera2	ON	10 Secs	Article Leave Behind	1	




Object detection alarm handling configuration:

- 1) Click Start → Settings → Alarm → Intelligence Alarm → Object Detection to go to the following interface.

DVR/NVR video analysis configuration

Object Detection Exception Tripwire Intrusion

 Buzzer
  Pop-up Video
  E-mail

Camera Name	Snap	Alarm-out	Preset			
IP Camera1	ON	<input type="checkbox"/> Configure	<input type="checkbox"/> Configure	OFF	OFF	OFF
IP Camera2	ON	<input type="checkbox"/> Configure	<input type="checkbox"/> Configure	OFF	OFF	OFF

Object config Apply

- Enable or disable “Snap”, “Alarm-out”, “Preset”, “Buzzer”, “Pop-up Video” and “E-mail”. The alarm handling setting of object detection alarm is similar to that of the sensor alarm (see GUI full user manual, Sensor Alarm for details).
- Click “Apply” to save the settings. You can click “Object Config” to go to the object detection configuration interface.


3.1.2 Exception

Exception Configuration:

- Click Start → Settings → Camera → Intelligent Detection → Exception to go to the following interface.

Object Detection Tripwire Intrusion

Duration

Camera Name		Scene Change	Video Blurred	Video Color Cast	Sensitivity
IPCamera1	10 Secs	ON	ON	ON	50
IPCamera2	10 Secs	ON	ON	ON	50

Camera:
 Duration:
 Scene Change:
 Video Blurred:
 Video Color Cast:
 Sensitivity: 50

Processing Mode Apply

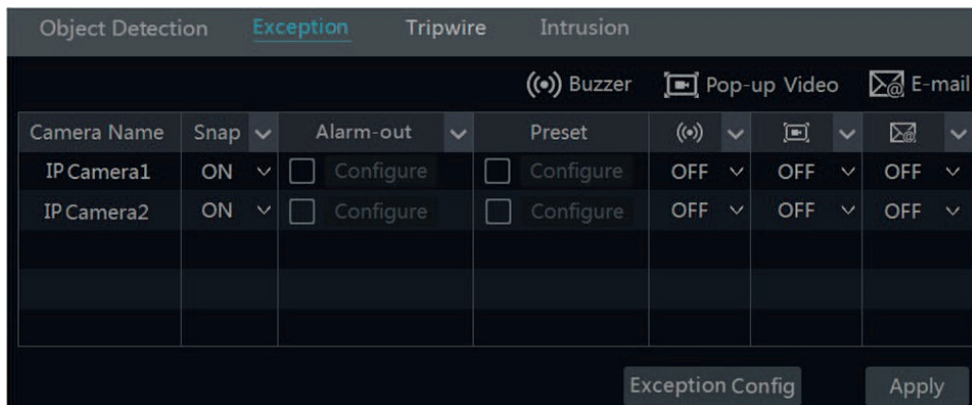
- Select the camera and enable the relevant detection as required.
 - Scene Change:** The relevant alarms will be triggered if the scene of the monitor video has changed.
 - Video Blurred:** The relevant alarms will be triggered if the monitor video is blurred.
 - Video Color Cast:** The relevant alarms will be triggered if color cast happens to the monitor video.

DVR/NVR video analysis configuration

- 3) Set the duration and drag the slider to set the sensitivity of the exception detection.
 - The sensitivity value of Scene Change Detection:** the bigger the value is, the more sensitive the system responds to the amplitude of the scene change.
 - The sensitivity value of Video Blur Detection:** the bigger the value is, the more sensitive the system responds to the defocus of the device image. You should just the value according to the real situation.
 - The sensitivity value of Video Color Cast Detection:** the bigger the value is, the more sensitive the system responds to the color cast of the device image. You should also consider other factors.
- 4) Click "Apply" to save the settings.
- 5) Click "Processing Mode" to go to the alarm handling configuration interface of exception detection.

Exception alarm handling configuration:

- 1) Click Start → Settings → Alarm → Intelligence Alarm → Exception to go to the interface.
Exception (Anomalia) per passare all'interfaccia seguente



Camera Name	Snap	Alarm-out	Preset	Buzzer	Pop-up Video	E-mail
IP Camera1	ON	<input type="checkbox"/> Configure	<input type="checkbox"/> Configure	OFF	OFF	OFF
IP Camera2	ON	<input type="checkbox"/> Configure	<input type="checkbox"/> Configure	OFF	OFF	OFF

- 2) Enable or disable "Snap", "Alarm-out", "Preset", "Buzzer", "Pop-up Video" and "E-mail".
The alarm handling setting of exception detection alarm is similar to that of the sensor alarm (see 9.1 Sensor Alarm for details).
- 3) Click "Apply" to save the settings. You can click "Exception Config" to go to the exception detection configuration interface.

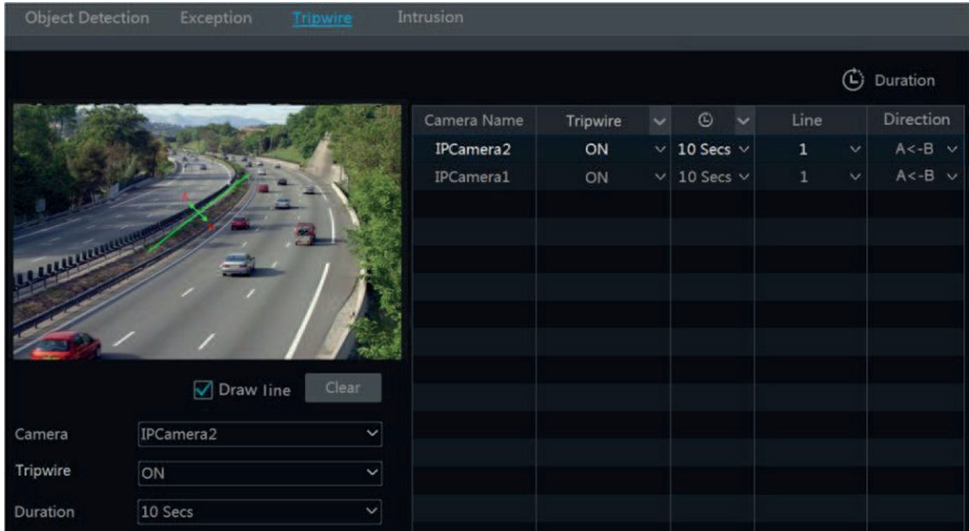
DVR/NVR video analysis configuration

3.1.3 Tripwire

Line Crossing Configuration:

The relevant alarms will be triggered if someone or something crosses the alert line drew by the users.

1) Click Start → Settings → Camera → Intelligent Detection → Tripwire to go to the following interface.



Camera Name	Tripwire	Duration	Line	Direction
IPCamera2	ON	10 Secs	1	A<-B
IPCamera1	ON	10 Secs	1	A<-B

- 2) Select the camera, enable the tripwire detection and set the duration.
- 3) Select the line and direction. You can add 4 lines at most.

Direction:

A<->B, A->B and A<-B optional. It is the crossing direction of the intruder who crosses over the alert line.

A<->B: the alarm triggers when the intruder crosses over the alert line from B to A or from A to B.

A->B: the alarm triggers when the intruder crosses over the alert line from A to B.

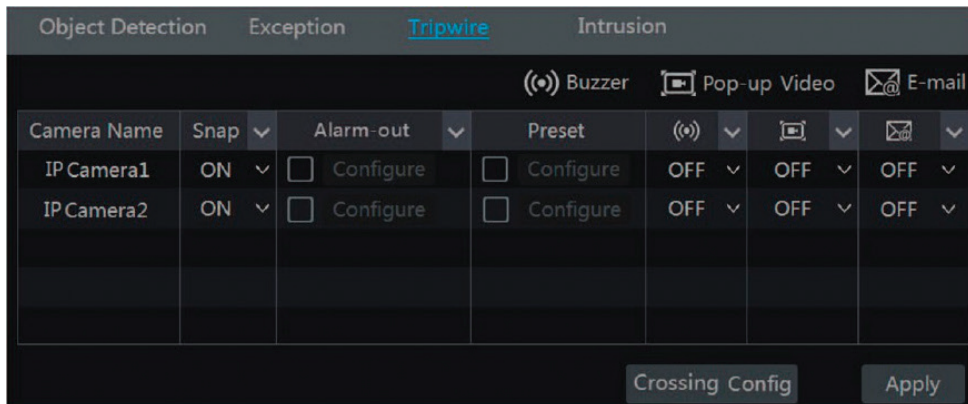
A<-B: the alarm triggers when the intruder crosses over the alert line from B to A.

- 4) Draw the alert surface. Refer to the interface as shown above. Check "Draw line" and then drag the mouse in the image to draw an alert line. Uncheck the "Draw line" if you finish the drawing. Click "Clear" button to delete the alert line.
- 5) Click "Apply" to save the settings.
- 6) Click "Processing Mode" to go to the alarm handling configuration interface of line crossing detection.

DVR/NVR video analysis configuration

Line Crossing Alarm Handling Configuration:

- 1) Click Start → Settings → Alarm → Intelligence Alarm → Tripwire to go to the following interface.



Camera Name	Snap	Alarm-out	Preset	Buzzer	Pop-up Video	E-mail
IP Camera1	ON	<input type="checkbox"/> Configure	<input type="checkbox"/> Configure	OFF	OFF	OFF
IP Camera2	ON	<input type="checkbox"/> Configure	<input type="checkbox"/> Configure	OFF	OFF	OFF

- 2) Enable or disable “Snap”, “Alarm-out”, “Preset”, “Buzzer”, “Pop-up Video” and “E-mail”.
The alarm handling setting of line crossing alarm is similar to that of the sensor alarm (see GUI full user manual, Sensor Alarm for details).
- 3) Click “Apply” to save the settings. You can click “Crossing Config” to go to the line crossing configuration interface.

3.1.4 Intrusion area detection

Intrusion Configuration:

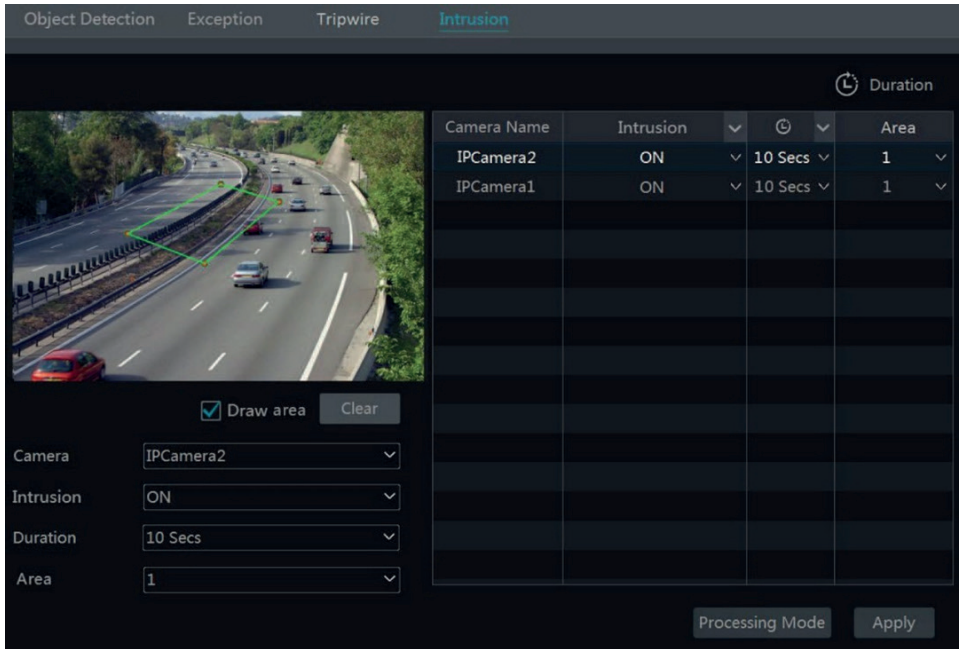
The relevant alarms will be triggered if someone or something intrudes into the warning areas or moves in the warning areas drew by the users.

- 1) Click Start → Settings → Camera → Intelligent Detection → Intrusion to go to the following interface.
- 2) Select the camera, enable the intrusion detection and set the duration.
- 3) Select the warning area. You can add 4 warning areas at most.
- 4) Draw the warning area of the intrusion detection. Refer to the interface as shown below.
Check “Draw area” and then click around the area where you want to set as the warning area in the image (the warning area should be a closed area). Uncheck the “Draw area” if you finish the drawing. Click “Clear” button to delete the warning area.
- 5) Click “Apply” to save the settings.
- 6) Click “Processing Mode” to go to the alarm handling configuration interface of intrusion detection.

DVR/NVR video analysis configuration

Object Detection Exception Tripwire **Intrusion**

⌚ Duration



Camera Name	Intrusion	⌚	Area
IPCamera2	ON	10 Secs	1
IPCamera1	ON	10 Secs	1

Processing Mode Apply

Intrusion detection alarm handling configuration

1) Click Start → Settings → Alarm → Intelligence Alarm → Intrusion to go to the following interface.

Object Detection Exception Tripwire **Intrusion**

(🔊) Buzzer 📺 Pop-up Video ✉ E-mail

Camera Name	Snap	Alarm-out	Preset	(🔊)	📺	✉
IP Camera1	ON	<input type="checkbox"/> Configure	<input type="checkbox"/> Configure	OFF	OFF	OFF
IP Camera2	ON	<input type="checkbox"/> Configure	<input type="checkbox"/> Configure	OFF	OFF	OFF

Intrusion Config Apply

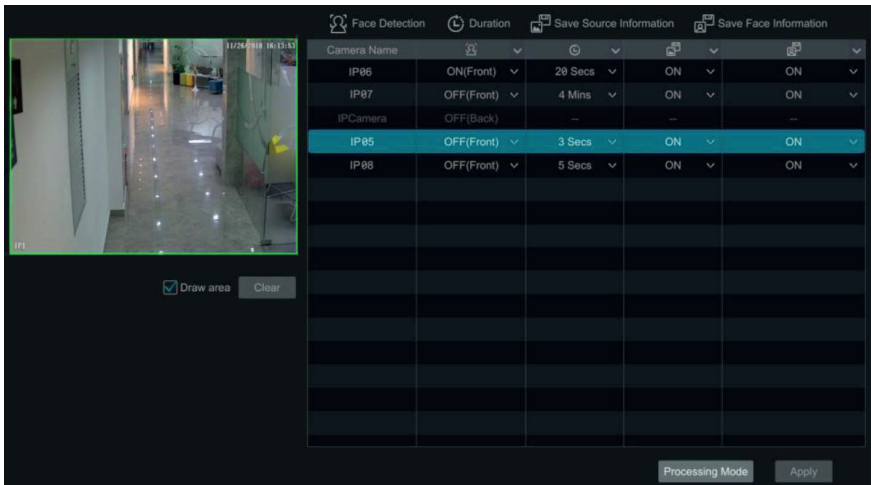
- 2) Enable or disable “Snap”, “Alarm-out”, “Preset”, “Buzzer”, “Pop-up Video” and “E-mail”. The alarm handling setting of intrusion detection alarm is similar to that of the sensor alarm (see GUI full user manual, Sensor Alarm for details).
- 3) Click “Apply” to save the settings. You can click “Intrusion Config” to go to the intrusion detection configuration interface.

DVR/NVR video analysis configuration

3.1.5 Face Detection

Face Detection: Alarms will be triggered if target people intrude into the pre-defined alarm areas.

1 - Click Start → Settings → Camera → Smart Settings → Face Detection to go to the following interface.



2 - Select the camera, enable the face detection and set the duration.

If the added cameras are face detection cameras, on (front) or off (front) can be selected.

3 - Enable save source information and save face information.

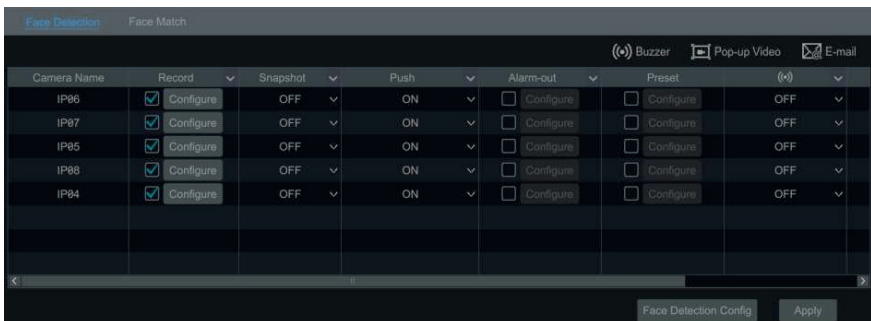
4 - Select the alarm area. Draw the alarm area of the intrusion detection. Refer to the interface as shown below. Check "Draw area" and then drag the mouse to draw a detection area. Click "Clear" to Delete the alarm area.

5 - Click "Apply" to save the settings.

6 - Click "Processing Mode" to go to the alarm handling configuration interface of face detection.

Face Detection Alarm Handling Configuration:

1 - Click Start → Settings → Alarm → Face Detection to go to the following interface.



2 - Enable or disable "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video" and "E-mail". The alarm handling setting of face detection alarm is the same as the sensor alarm.

Click "Apply" to save the settings. You can click "Face Detection Config" to go to the face detection configuration interface.

DVR/NVR video analysis configuration

4 AI Event Management

4.1 Face Recognition

Important: Only some models support the face recognition function. If your device doesn't support this function, please skip the following steps.

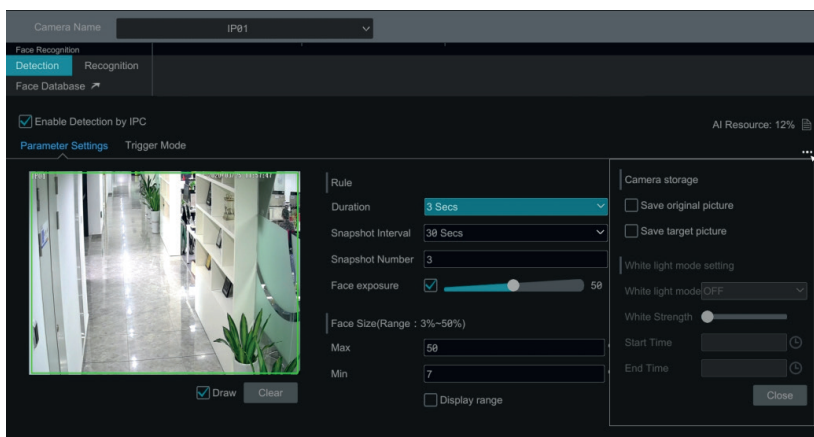
Please set face recognition function according to the following procedures:

Set face detection and alarm linkage → **Add face group** → **Add faces to the face group** → **Enable and set successful recognition (or stranger)** → **Set successful recognition (or stranger) alarm linkage**

4.1.1 Face Detection Settings

Face Detection: Alarms will be triggered if someone intrudes into the pre-defined alarm areas.

1) Click Start → Settings → AI/Event → AI Event → Face Recognition → Detection to go to the following interface.



2) Select the camera, check “Enable Detection by IPC” and set the duration.

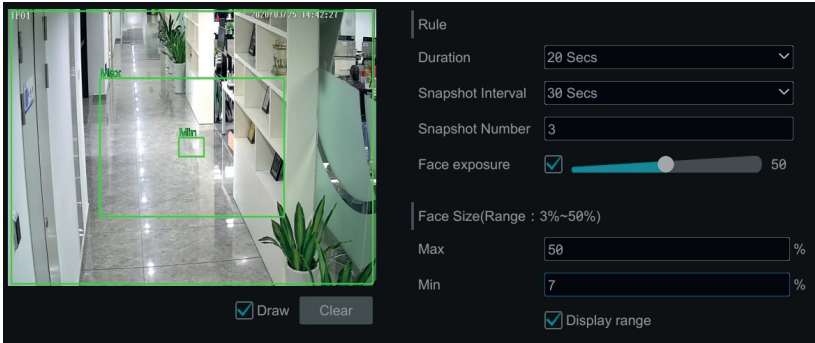
Note: Some models may support face detection by NVR. For these models, the camera without AI function also can be added and used to detect faces through NVR. But if face detection by NVR is enabled for one camera (without AI), the people/vehicle perimeter detection cannot be enabled simultaneously, and vice-versa.

3) Set the snapshot interval and snapshot number. The snapshot interval refers to the time interval that the camera captures the same face during its continuous tracking period. The snapshot number refers to the picture number of the same face captured during its continuous tracking period (For example: the snapshot interval is set to “30 seconds” and the snapshot number is set to “3”; then the camera will capture the same face once every 30 seconds and it will capture this face 3 times at most during its continuous tracking period).

4) Enable face match exposure as need. When the brightness of the captured face is not enough, it can be enabled. (Only some IPCs support this function)

5) Set the alarm area. Click “Draw” and then drag the mouse to draw a detection area. Click “Clear” to delete the alarm area. Then set the detectable face size by defining the maximum value and the minimum value (The default size range of a single face image occupies from 3% to 50% of the entire image).

DVR/NVR video analysis configuration



- 6) Enable "Save Source Information" or/and "Save Face Information" as needed. If enabled, the system will automatically save the corresponding images on the SD card. For the models with LED light, white light mode also can be set.
- 7) Click "Apply" to save the settings.
- 8) Click "Trigger Mode" to go to face detection alarm linkage setting interface:



Face Detection Alarm Linkage Configuration:

- Trigger "Record", "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video" and "E-mail" as needed.

Record: Click the "Configure" button to pop up the window. Select camera on the left side and then click

to set the camera as the trigger camera. Select trigger camera on the right side and then click to cancel the trigger camera. Click "OK" to save the settings. The trigger cameras will record automatically when faces are detected.

Alarm-out: Click the "Configure" button to pop up the window. Then the "Trigger Alarm-out" window will pop up automatically. Configure the trigger alarm-out in the window. The system will trigger the alarm-out automatically when faces are detected. You need to set the delay time and the schedule of the alarm outputs.

Preset: Click and then select the preset for each camera.

Snapshot: check it. The current camera will capture images automatically when faces are detected.

Push: If it is enabled, the system will send messages when faces are detected.

Buzzer: if it is enabled, the system will begin to buzz when faces are detected.

Pop-up Video: if it is enabled, the system will pop up the corresponding video automatically when faces are detected.

E-mail: if it is enabled, the system will send an e-mail when faces are detected. Before you enable the email, please configure the recipient's e-mail address first.

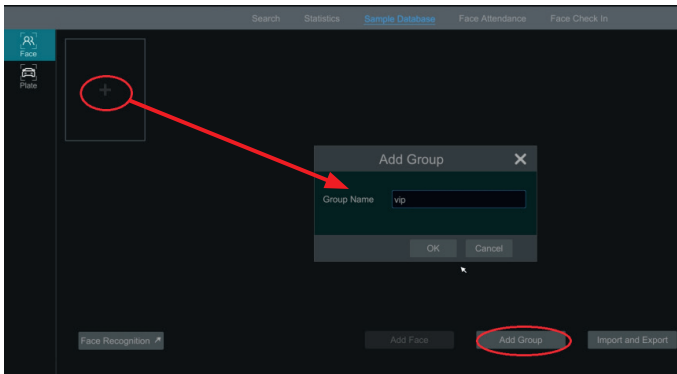
Enable "IPC_Audio" or "IPC_Light" as needed (only some IPCs support these two functions).

- 9) Click "Apply" to save the settings.

4.1.2 Face Database Management

- 1) Click Start → Settings → AI/Event → AI Event → Face Recognition → Face Database to go to the following interface as shown below.

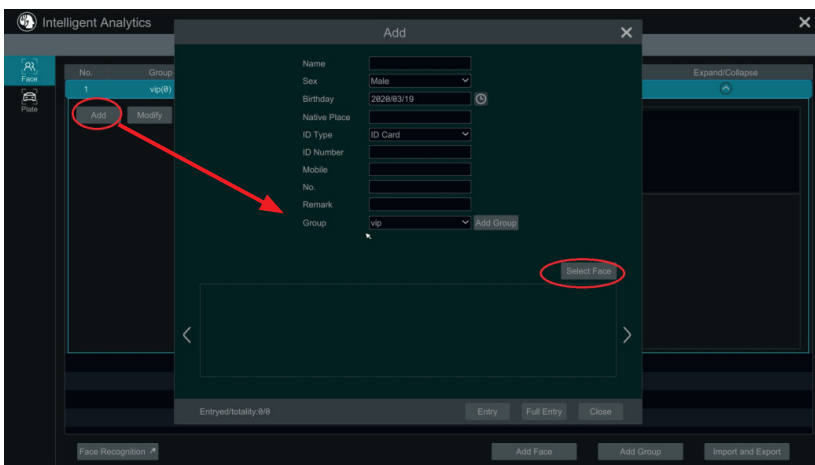
DVR/NVR video analysis configuration



For the first time, you can click “+” or “Add Group” to add groups.

2) To add targets for each group.

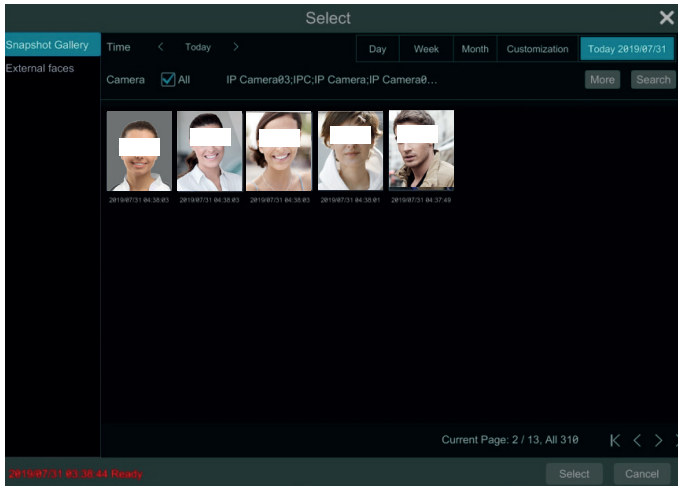
- Select a list and then click  to expand the list as shown below.



- Click “Add” and then click “Select Face” to add face images. You can add faces from snapshot gallery or external faces.


Adding faces from snapshot gallery: Select search time or self define the search time and then click “Search” to search target faces. Then select the desired faces and click “Select”.

DVR/NVR video analysis configuration



Add external faces

Save the face pictures in your USB storage device and then insert the USB storage device into the USB port of the NVR.

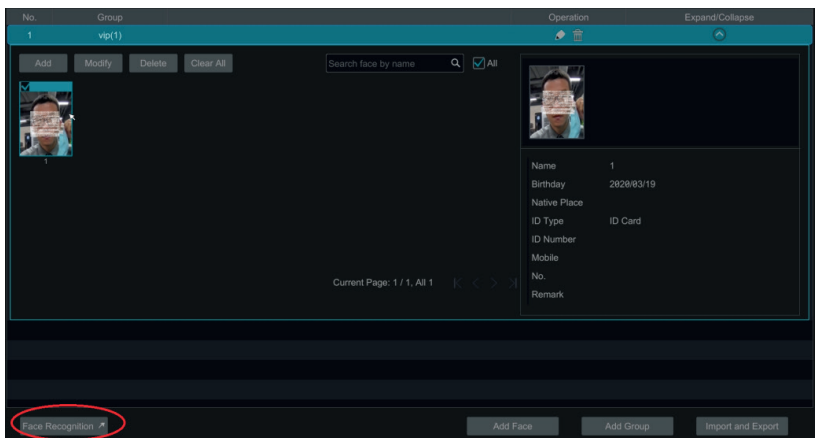
Go to the face database interface. Click  to expand the group and then click "Add". Select "External faces" to select face pictures. You can select one face to add or multiple faces to add.

To add multiple faces: a. put face pictures and the description file (.csv or .txt) to one specific folder (please edit the detailed descriptions of these pictures according to the personal information description); b. click "All" to select all face pictures; c. click "Full Entry".

Note: the added image must be less than 70KB and the image format shall be ".jpg" and ".jpeg".

- After that, add the corresponding information, like name, gender, birthday, ID number, phone number and so on.

Having saved the target image, click the image and then the detailed information will be listed on the right.

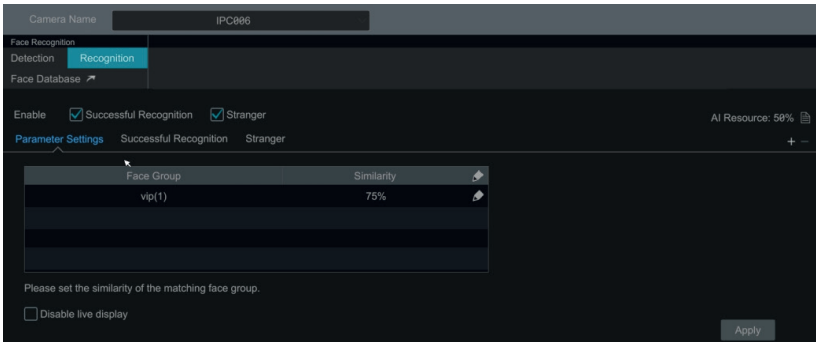


- Import and Export Face database
Insert your mobile storage device into the USB interface of the NVR and then click "Import and Export" to import or export the face database settings.

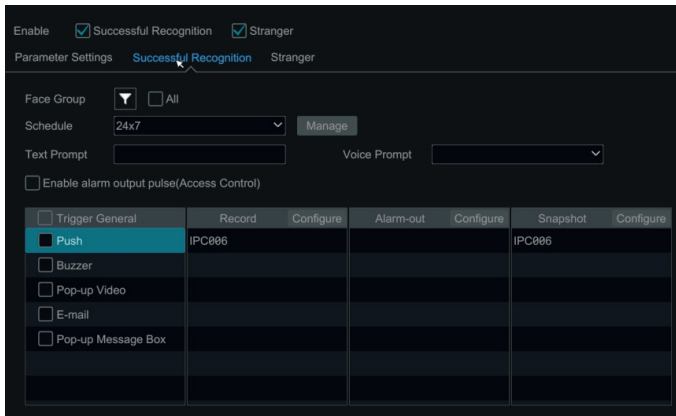
DVR/NVR video analysis configuration

4.1.3 Face Recognition Settings

After the face database and face pictures are added, click “Face Recognition” to return to the face recognition setting interface. Click the “Recognition” tab to go to the following interface.

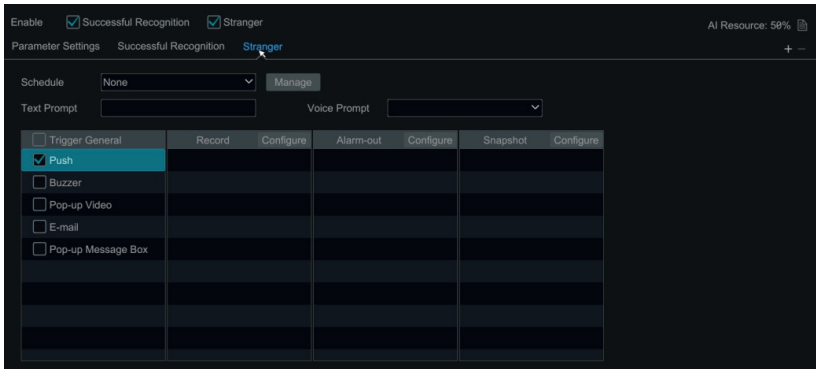


- 1) Enable “Successful Recognition” or “Stranger”. Click “Parameter Settings” to set the similarity of the matching face group.
Disable live display: if checked, the live view interface (target detection tab) will not display captured faces in real time.
- 2) Set the alarm linkage items of successful recognition.



- Select one or more face groups and then choose the schedule. Click “Manage” to set the schedule.
 - Text prompt and voice prompt not supported.
 - Enable alarm output pulse (access control).
 - Trigger record, snapshot, alarm-out, buzzer, push, pop-up video, E-mail and pop-up message box as needed.
The alarm linkage settings are similar to the face detection alarm (see [4.1.1 Face Detection Settings](#) for details).
 - Click “Apply” to save the settings.
- 3) Set the stranger alarm linkage items. When the captured face picture doesn't match the face pictures in the face database or their similarity is lower than the set value, the captured person will be regarded as a stranger.

DVR/NVR video analysis configuration



- Configure the schedule
 - Text prompt and voice prompt not supported.
 - Trigger record, snapshot, alarm-out, buzzer, push, pop-up video, E-mail and pop-up message box as needed. The alarm linkage settings are similar to the face detection alarm (See [4.1.1 Face Detection Settings](#) for details).
 - Click “Apply” to save the settings.
- 4) Click “+” to add more successful recognition tasks. Select the added task and then click “-” to delete it.

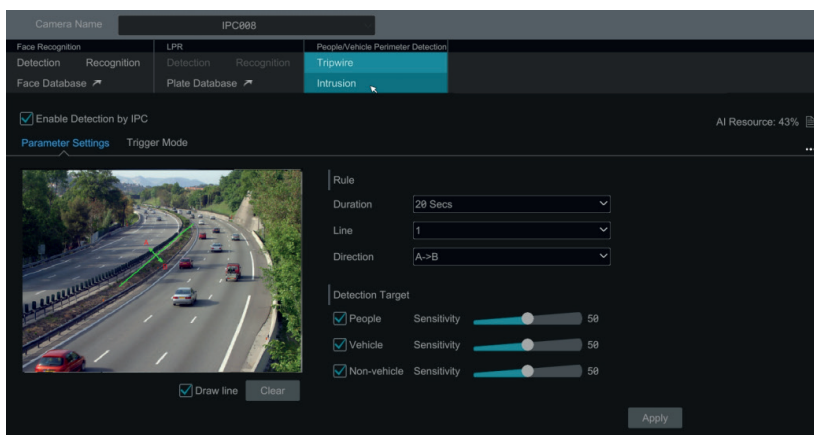
DVR/NVR video analysis configuration

4.2 Tripwire

Tripwire/Line Crossing Configuration:

Alarms will be triggered if the people or vehicles cross the pre-defined alarm line.

- 1) Click Start → Settings → AI/Event → AI Event → Tripwire to go to the following interface.



- 2) Select the camera, enable tripwire detection by IPC and set the duration.

Note: Some models may support tripwire detection by NVR.

- 3) Select the direction.

Direction: A<->B, A->B and A<-B optional. It is the crossing direction of the target that crosses over the alert line.

A<->B: the alarm triggers when the target crosses over the alert line from B to A or from A to B.

A->B: the alarm triggers when the target crosses over the alert line from A to B.

A<-B: the alarm triggers when the target crosses over the alert line from B to A.

- 4) Draw line. Refer to the interface as shown above. Check "Draw line" and then drag the mouse in the image to draw an alert line. Uncheck the "Draw line" if you finish the drawing. Click the "Clear" to delete the alert line.
- 5) Set target size. Check "Display range" and then select target. Enter the width and height value to set the size; Note that only some IPCs support target size settings. If the added camera doesn't support this function, please skip this step.
- 6) Click "Detection Target" to choose the detection target and the sensitivity. The detection target includes people, vehicle and non-vehicle. Only some IPCs can detect human or vehicle separately. If the camera doesn't support this function, please skip this step.
- 7) Click "... " to choose "Save original picture" or "Save target picture" on the SD card of the camera. (If your camera doesn't support this function, please skip this step).
- 8) Click "Trigger Mode" to configure tripwire alarm linkage items.
 - Enable or disable "Record", "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video" and "E-mail". The alarm linkage settings are the same as the face detection alarm (see [4.1.1 Face Detection Settings](#) for details).
 - Enable "IPC_Audio" or "IPC_Light" as needed (functions not supported by cameras).
- 9) Click "Apply" to save the settings.

DVR/NVR video analysis configuration

4.3 Intrusion Detection

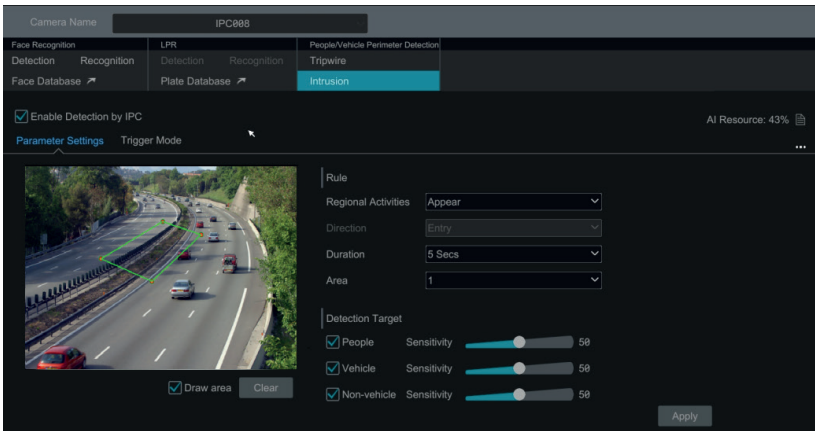
Intrusion Detection Configuration:

Alarms will be triggered if the people or vehicles intrude into the pre-defined area.

- 1) Click Start → Settings → AI/Event → AI Event → Intrusion to go to the following interface.
- 2) Select the camera, enable the intrusion detection by IPC and set the duration.

Note: Some models may support tripwire detection by NVR.

- 3) Select regional activities. "Appear" or "Cross" can be selected (if your camera doesn't support region entrance/exiting detection, "Cross" will not be enabled). If "Cross" is selected, you can choose the crossing direction.
- 4) Select the alarm area. Up to 4 alarm areas can be set up.
- 5) Draw the alarm area of the intrusion detection. Refer to the interface as shown below. Check "Draw Area" and then click around the area where you want to set as the alarm area in the image (the alarm area should be a closed area). Uncheck the "Draw Area" if you finish the drawing. Click the "Clear" to delete the alarm area.
- 6) Set target size. Check "Display range" and then select target. Enter the width and height value to set the size; Note that only some IPCs support target size settings. If the added camera doesn't support this function, please skip this step.



- 7) Click "Detection Target" to choose the detection target and the sensitivity. The detection target includes people, vehicle and non-vehicle.
- 8) Click "Trigger Mode" to configure intrusion detection alarm linkage items.
 - Enable or disable "Record", "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video" and "E-mail". The alarm linkage settings are the same as the face detection alarm (see [4.1.1 Face Detection Settings](#) for details).
 - Enable "IPC_Audio" or "IPC_Light" as needed (functions not supported by cameras).
- 9) Click "Copy To" to copy all settings to other cameras.
- 10) Click "Apply" to save the settings.

DVR/NVR video analysis configuration

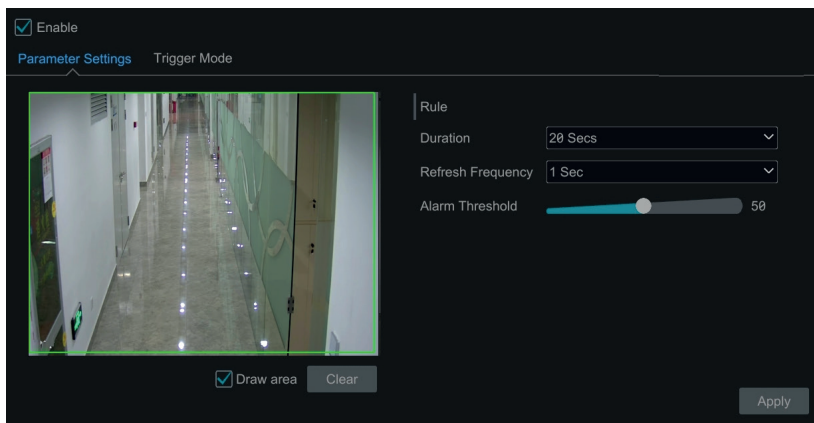
4.4 Crowd Density Detection

Only some IPCs may support this function.

Crowd Density Configuration:

Alarms will be triggered if the crowd density exceeds the set threshold value in the pre-defined area.


- 1) Click Start → Settings → AI/Event → AI Event → Crowd Density to go to the following interface.



- 2) Select the camera, enable the crowd density detection and set the duration, refresh frequency and alarm threshold.

Refresh Frequency: It refers to the refresh time of the detection result report.

Alarm Threshold: Alarms will be triggered once the percentage of the crowd density in a specified area exceeds the pre-defined threshold value.

- 3) Select the alarm area. Draw the alarm area of the crowd density detection. Refer to the interface as shown below. Check "Draw Area" and then drag the mouse to draw a rectangle area. Uncheck the "Draw Area" if you finish the drawing. Click the "Clear" to delete the alarm area.
- 4) Click  to configure crowd density detection alarm linkage items. Enable or disable "Record", "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video" and "E-mail". The alarm linkage settings are the same as the face detection alarm (see 4.1.1 [Face Detection Settings](#) for details).
- 5) Click "Apply" to save the settings.

DVR/NVR video analysis configuration

4.5 Line Crossing Counting

Only some IPCs may support this function.

- **People counting in the pre-defined area:**

This function is to calculate the number of people entering or exiting in the detected area on the video by detecting, tracking and counting the head shapes of people.

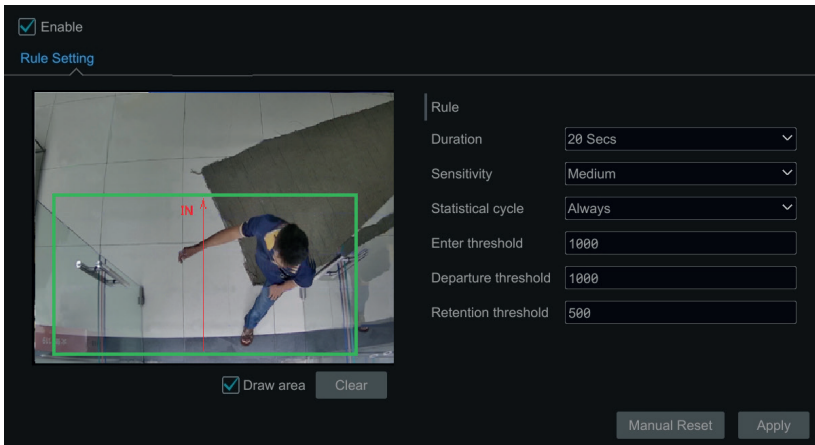
Note: Only some specific IPCs may support this function.

- 1) Click Start → Settings → AI/Event → AI Event → Line Crossing Counting to go to the following interface.
- 2) Select the camera, enable the line crossing people counting detection and set the duration, sensitivity, statistic cycle, enter threshold, departure threshold and retention threshold.

Statistic cycle: Always, daily, weekly and monthly are optional.

Manual Reset: The current number of people counting will be cleared and the statistic cycle will restart by clicking “Manual Reset” button.

- 3) Set the alarm area and entrance direction. Click “Draw Area” and drag the mouse to draw a rectangle area. Drag the rectangle to change its position. Uncheck the “Draw Area” if you finish the drawing. Click “Clear” to clear the area. Click and drag the arrow or the other end of the arrow line to change the people entrance direction.



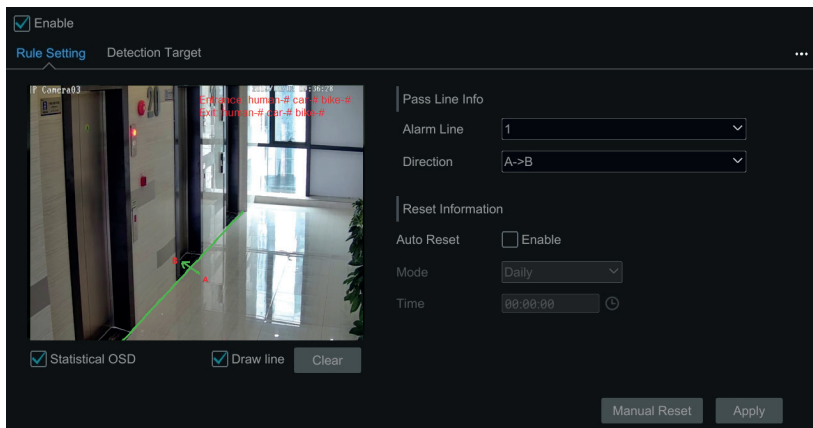
- 6) Click “Apply” to save the settings.

- **Line Crossing People/Vehicle/Non-Vehicle Counting**

Only some IPCs support this function. If your camera doesn't support this function, please skip the following instructions.

- 1) Click Start → Settings → AI/Event → AI Event → Line Crossing Counting to go to the following interface.

DVR/NVR video analysis configuration



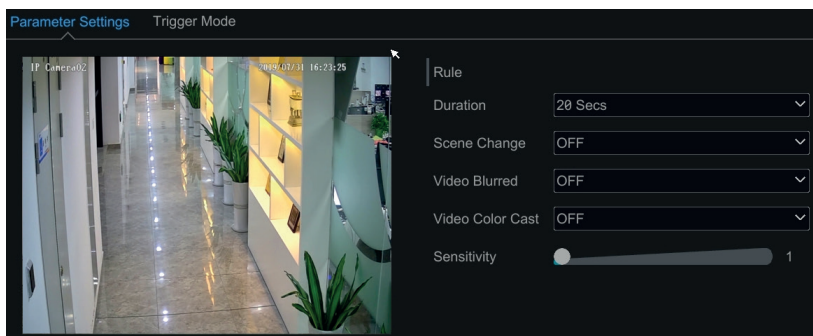
- 2) Enable line crossing counting.
 - 3) Check "Draw line" and then drag the mouse on the small window to draw the crossing line. Uncheck "Draw line" to finish the drawing. Click "Clear" to delete the alert line.
- Direction:** A->B and A<-B are optional. It is the crossing direction of the target that crosses over the alert line.
- 4) Check "Statistical OSD", the statistical information will be displayed on the live view interface.
 - 5) Set the reset information. You can set reset information manually or enable "Auto Reset" as needed.
 - 6) Click the "Detection Target" tab to set the detection target, including people, vehicle and non-vehicle.
 - 7) Click "Apply" to save the settings.

DVR/NVR video analysis configuration

4.6 Exception Detection

Exception Detection Configuration:

1) Click Start → Setting → AI/Event → AI Event → Exception Detection to go to the following interface.



2) Select the camera and detection duration and then enable the relevant detection as needed.

Scene Change: Alarms will be triggered if the scene of the monitor video has changed.

Video Blurred: Alarms will be triggered if the video becomes blurry.

Video Color Cast: Alarms will be triggered if the video becomes obscured.

3) Set the sensitivity of the exception detection.

4) Click "Trigger Mode" to configure exception alarm linkage items. Enable or disable "Record", "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video" and "E-mail". The alarm linkage settings are the same as the face detection alarm (see [4.1.1 Face Detection Settings](#) for details).

5) Click "Apply" to save the settings.

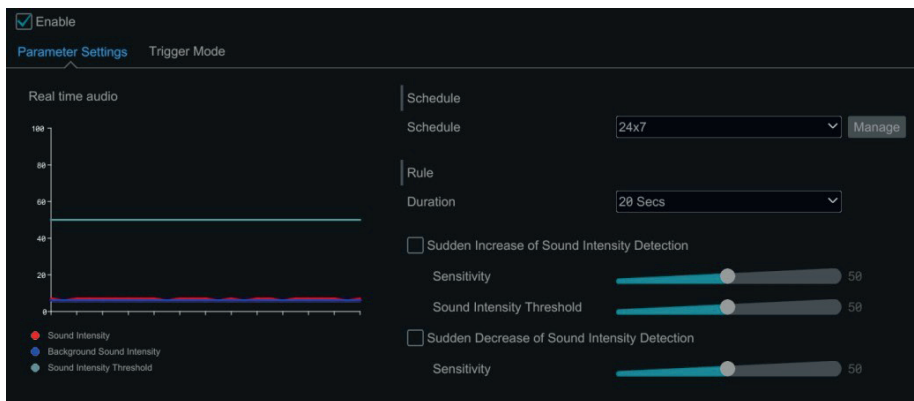
DVR/NVR video analysis configuration

4.7 Audio Exception

Only some IPCs support this function. If the camera you added doesn't support this function, please skip the following instructions.

Audio Exception: Alarms will be triggered when the abnormal sound is detected in the surveillance scene, such as the sudden increase/decrease of the sound intensity.

1) Click **Start** → **Settings** → **AI/Event** → **AI Event** → **More** → **Audio Exception** to go to the following interface.



2) Set the schedule and alarm duration.

Sudden Increase of Sound Intensity Detection: Detect sudden increase of sound intensity. If enabled, sensitivity and sound intensity threshold are configurable. Alarms will be triggered when the detected sound intensity exceeds the sound threshold.

Sensitivity: The higher the value is, the easier the alarm will be triggered.

Sound Intensity Threshold: It is the sound intensity reference for the detection. The lower the value is, the easier the alarm will be triggered. It is recommended to set as the average sound intensity in the environment. The louder the environment sound, the higher the value should be. Please adjust it according to the actual environment condition.

Sudden Decrease of Sound Intensity Detection: Detect sudden decrease of sound intensity. Please set the sensitivity as needed. The higher the value is, the easier the alarm will be triggered.

Real-time audio graphic:

Red wavy line stands for the current detected sound intensity.

Navy blue line stands for the environment (background) sound intensity. Green line stands for the sound intensity threshold.

In order to reduce false alarm, it is recommended to set the sensitivity and sound intensity threshold according to the real-time audio graphic.

3) Click "Trigger Mode" to configure audio exception alarm linkage items. Enable or disable "Record", "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video", and (4) "E-mail". The alarm linkage settings are the same as the face detection alarm (see [Face Detection Settings](#) for details).

4) Click "Apply" to save the settings.

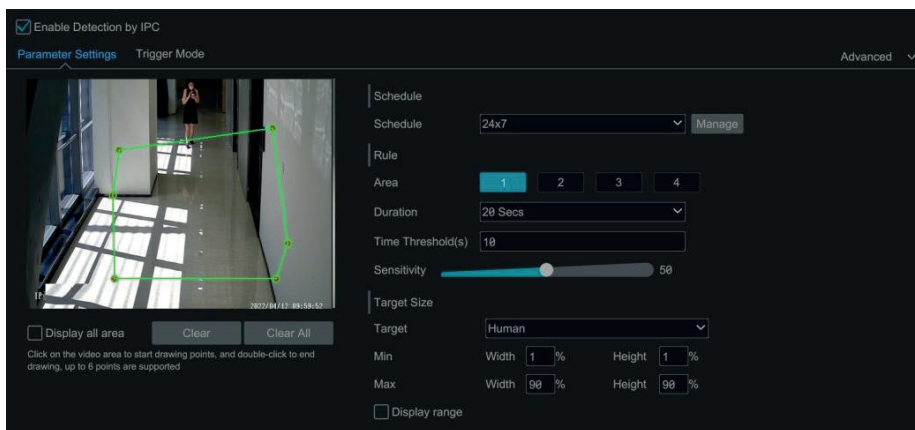
DVR/NVR video analysis configuration

4.8 Loitering Detection

Only some IPCs support this function. If the camera you added doesn't support this function, please skip the following instructions.

Loitering Detection: when someone entering and loitering in a pre-defined area exceeds the threshold, alarms will be triggered until the object leaves this area.

1) Click **Start** → **Settings** → **All/Event** → **AI Event** → **More** → **Loitering Detection** to go to the following interface.



2) Set the schedule, duration, time threshold and sensitivity.

Sensitivity: The higher the value is, the easier the alarm can be triggered.

Time Threshold: the time that a person is allowed to stay in the area. If a person staying and moving in the specified area exceeds the threshold, alarms will be triggered until this person leaves or stops moving.

For example: Set the threshold to "60seconds; when a person staying and moving in the specified area exceeds 60seconds, an alarm is triggered and continues. 2 minutes later, this person stops moving in the specified area, and then the alarm stops. However, the alarm will continue once this person moves again in the specified area unless the person leaves this area.

3) Set the alarm area. Up to four alarm areas can be set. Click around the area where you want to set as the alarm area in the image (the alarm area should be a closed area).

4) Set target size. Please refer to [the target size setup of line crossing](#) for details. Note that only some IPCs support target size settings. If the added camera doesn't support this function, please skip this step.

5) Click "Trigger Mode" to configure loitering detection alarm linkage items. Enable or disable "Record", "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video", and (6) "E-mail". The alarm linkage settings are the same as the face detection alarm (see [Face Detection Settings](#) for details).

6) Click "Apply" to save the settings.

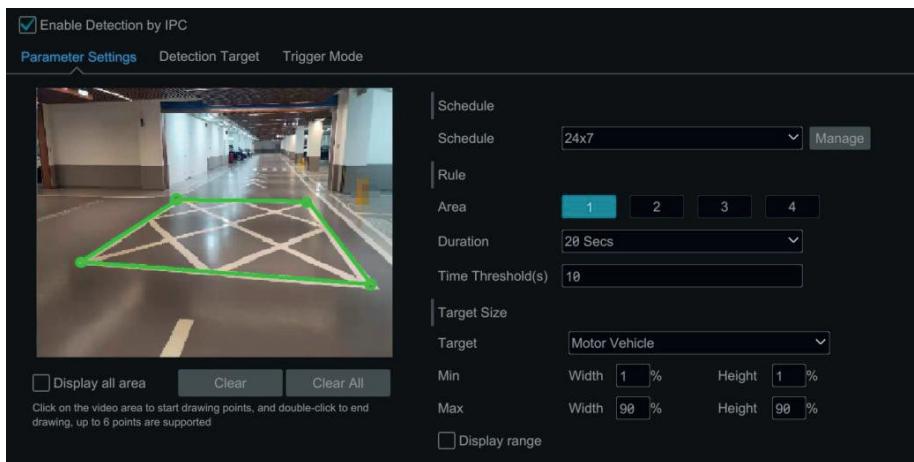
DVR/NVR video analysis configuration

4.9 Illegal Parking Detection

Only some IPCs support this function. If the camera you added doesn't support this function, please skip the following instructions.

Illegal Parking Detection: when a vehicle (like a car, truck, motorcycle, etc.) staying in a no-parking zone exceeds the threshold, alarms will be triggered until the vehicle is driven away.

1) Click **Start** → **Settings** → **AI/Event** → **AI Event** → **More** → **Illegal Parking Detection** to go to the following interface.



Enable Detection by IPC

Parameter Settings Detection Target Trigger Mode

Schedule: 24x7 Manage

Rule

Area: 1 2 3 4

Duration: 20 Secs

Time Threshold(s): 10

Target Size

Target: Motor Vehicle

Min: Width 1% Height 1%

Max: Width 90% Height 90%

Display range

Display all area Clear Clear All

Click on the video area to start drawing points, and double-click to end drawing, up to 6 points are supported

2) Set the schedule and alarm duration.

Sensitivity: the higher the value is, the easier the alarm can be triggered.

Time Threshold: the time that a vehicle is allowed to stay in the specified area. If a vehicle staying in the area exceeds the threshold, alarms will be triggered until it is driven away. For example, the time threshold is set to 30s. When the system detects a vehicle stopping in the set no-parking zone, it will start counting. Alarms will be triggered after it stays for more than 30s. And the illegal parking alarm will not stop until the vehicle is driven away from the non-parking zone.

Duration: it is the time that the alarm extends for after the overstaying vehicle leaves.

3) Set the alarm area. Up to four alarm areas can be set. Click around the area where you want to set as the alarm area in the image (the alarm area should be a closed area).

4) Set target size. Please refer to [the target size setup of line crossing](#) for details. Note that only some IPCs support target size settings. If the added camera doesn't support this function, please skip this step.

5) Click "Trigger Mode" to configure exception alarm linkage items. Enable or disable "Record", "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video", and "E-mail". The alarm linkage settings are the same as the face detection alarm (see [Face Detection Settings](#) for details).

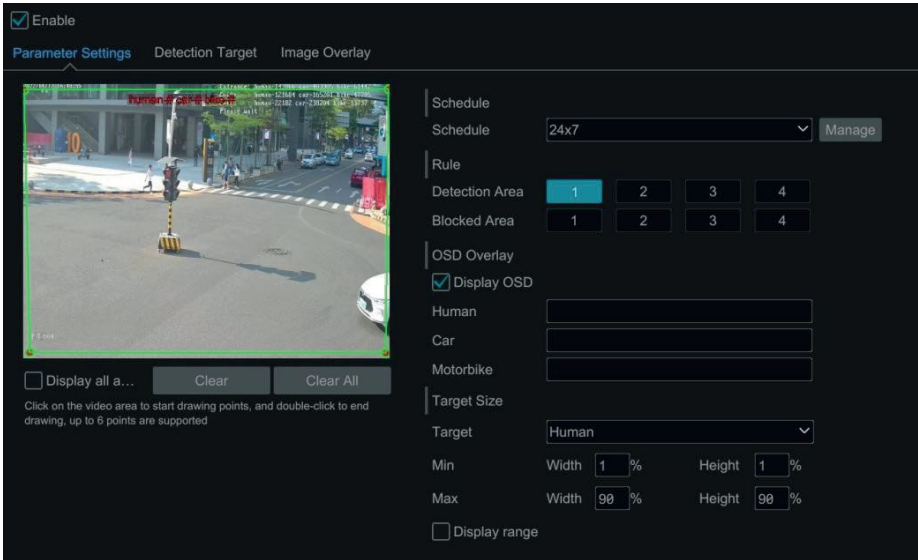
DVR/NVR video analysis configuration

4.10 Video Metadata

Only some IPCs support this function. If the camera you added doesn't support this function, please skip the following instructions.

Video Metadata: Human, motor vehicle and non-motor vehicle in the video can be classified, counted and captured and the relevant features can be extracted and displayed on the live interface.

1) Click **Start** → **Settings** → **AI/Event** → **AI Event** → **Video Metadata** to go to the following interface.



The screenshot shows the 'Video Metadata' configuration interface. At the top left, there is a checked 'Enable' checkbox. Below it are three tabs: 'Parameter Settings' (selected), 'Detection Target', and 'Image Overlay'. The main area is split into two columns. The left column contains a live video feed of a street intersection with a green rectangular detection area overlaid. Below the video are buttons for 'Display all a...', 'Clear', and 'Clear All', along with a small text box explaining that up to 6 points are supported for drawing. The right column contains several configuration sections: 'Schedule' with a dropdown set to '24x7' and a 'Manage' button; 'Rule' with a grid for 'Detection Area' and 'Blocked Area' (both with '1' selected); 'OSD Overlay' with a checked 'Display OSD' checkbox and input fields for 'Human', 'Car', and 'Motorbike'; and 'Target Size' with a dropdown set to 'Human' and input fields for 'Min' and 'Max' width and height percentages (all set to 1% and 98% respectively). A 'Display range' checkbox is at the bottom.

2) Enable video metadata and then set the schedule.

3) Set the detection area and blocked area.

Detection Area: 4 detection areas can be set. Targets that enter the pre-defined detection area will be counted and captured.

Blocked Area: 4 blocked areas can be set. Targets that enter the pre-defined blocked area will not be counted and captured.

To set detection area: Select the number and then set the detection area. Then click around the area where you want to set as the alarm area on the image (the alarm area should be a closed area).

To set blocked area: Select the number and then set the blocked area. The setting steps are the same as detection area settings.

Display OSD: If enabled, you can see the statistical information of human, motor vehicle and non-motor vehicle on the screen. The statistical OSD information can be customized as needed.

4) Advanced settings. Click "Advanced" to enter the advanced setting interface. Select SD card storage type and the reset information. Auto reset or manual reset can be set as needed.

5) Set the detection target and sensitivity.

6) Select the attribute information of the target. When the target is detected, the information you select will be displayed under the captured image.

7) Click "Apply" to save the settings



5 Intelligent Analytics

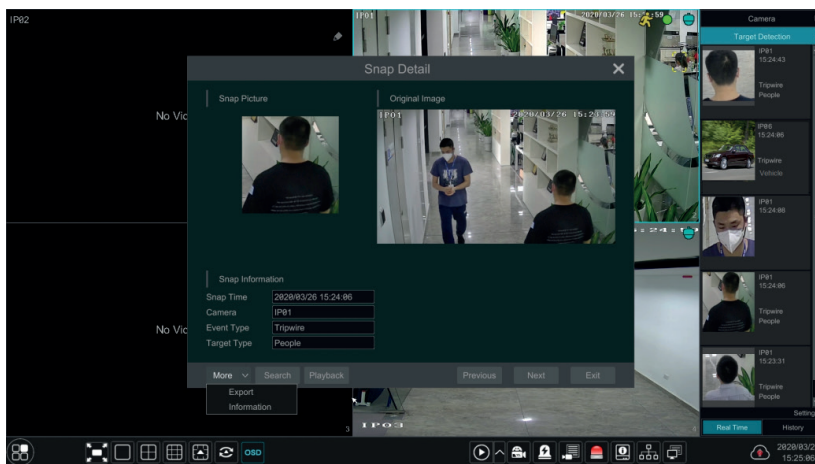
5.1 Target Detection View

Only some models support target detection view. If your device doesn't support it, please skip the following instructions.

5.1.1 Human Body/Vehicle Detection View

Only when the camera supports human body/vehicle detection, can you view the real-time captured people or vehicle pictures. The setting steps are as follow:

- 1) Enable the Tripwire/Intrusion function of IPCs/NVR, draw the line or area and choose the detection target (see [4.2 Tripwire](#) and [4.3 Intrusion Detection](#) for details).
- 2) Go to live view interface and then click  to go to the target detection interface of this channel. In this interface, you can switch the channel on the top right. You can also click  on the top right corner of the live view interface and then choose the target detection tab to go to the target detection interface of multi-channel as shown below. Click the captured picture on the right of the live interface to see the snapshot detailed information, such as snapshot time, camera, event type and target type.





Click "More" to bring up a dropdown list. You can export the captured pictures by clicking "Export" or view the target ID by clicking "Information". Click "Search" to go to smart human body/vehicle search interface. The system will automatically search captured people/vehicles. Click "Playback" to go to the playback interface.

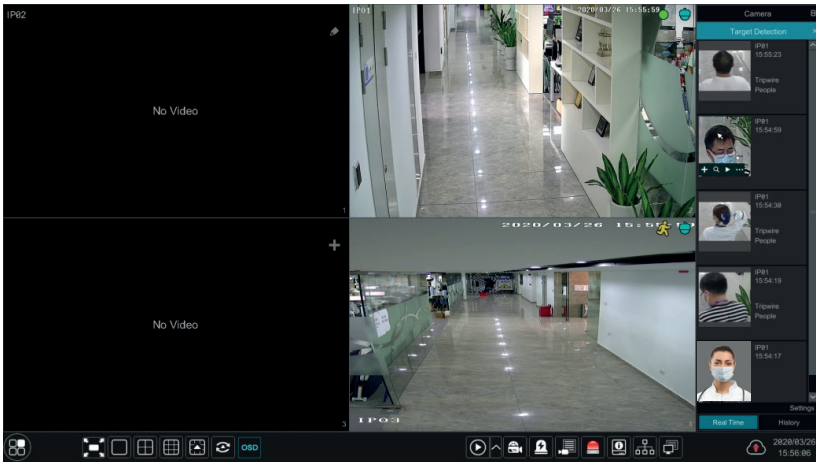
5.1.2 Face Detection/Match View





Only the face recognition NVR supports the following functions. If your NVR doesn't support them, please skip the following instructions.

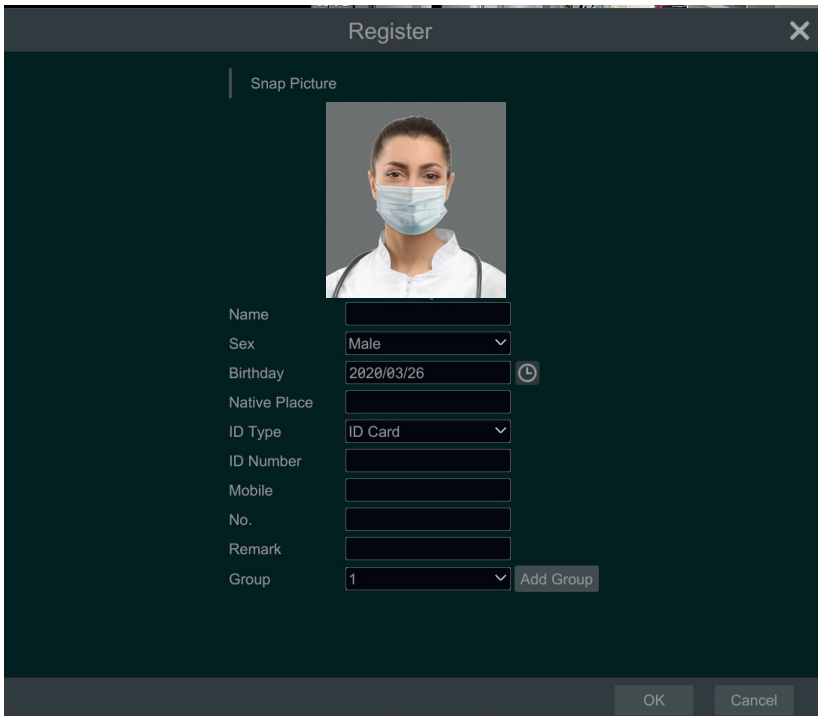
The setting steps are as follow:

- 1) Enable face detection function.
- 2) Enable face recognition function and set the alarm linkage items.
- 3) Go to live view interface and click on a face detection channel.

This will bring a toolbar under the channel. Then click  to go to the target detection interface of this channel. In this interface, you can switch the channel on the top right. You can also click  on the top right corner of the live view interface and then choose the target detection tab to go to the target detection interface of multi-channel as shown below.



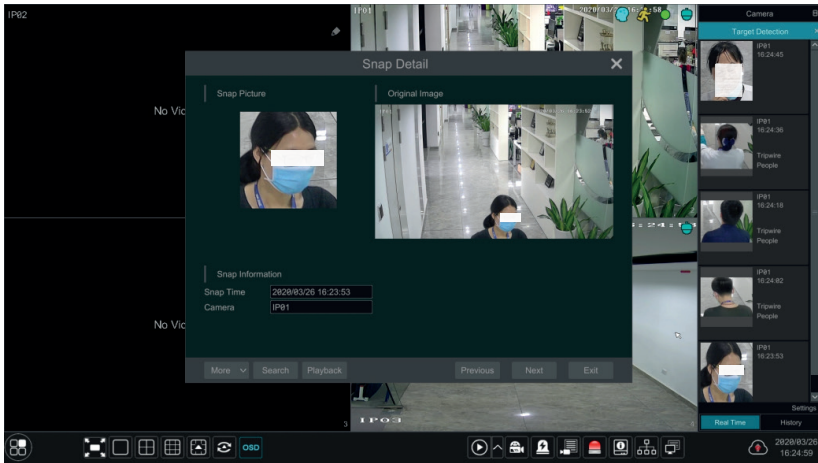
For unknown faces, you can select this face and click  under the captured face to register this face (see the following picture); click  to quickly go to the smart face search interface where you can search the matching face information; click  to quickly go to the smart face playback interface; click  to view snapshot details.



DVR/NVR video analysis configuration

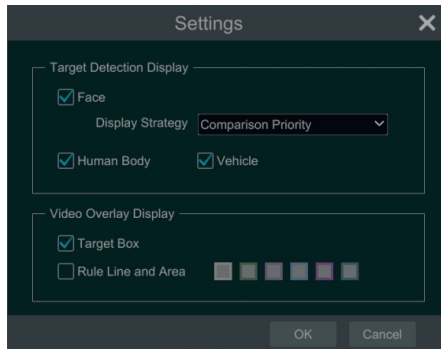
Before registering target face pictures, please add groups for them in advance.

After the face pictures are registered, the system will compare them automatically once the corresponding faces are captured next time. Refer to the following picture.



Double click the face picture to see the snapshot details, such as snapshot picture, original image, snapshot time and camera. Click “more” and then a dropdown list will display. Click “Register” to register the current snapshot. Click “Search” to go to face search interface. Click “Playback” to go to the playback interface. Click “Export” to export this snapshot details. Click “Information” to view face ID.

In the face match interface, click “Settings” to pop up the following window.



Target Detection Display: Face, human body and vehicle can be enabled. If disabled, the captured target picture will not be displayed under the target detection tab in the live view interface.

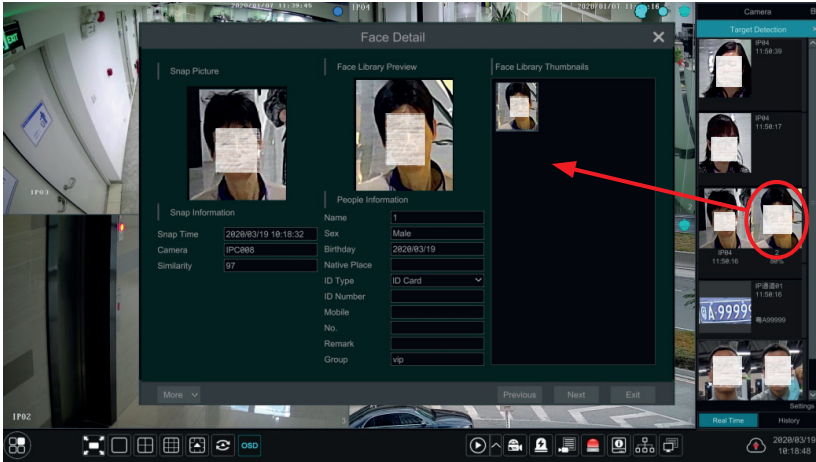
Display Strategy: Two options-Comparison priority and only comparison

Video Overlay Display:

If “Target box” is clicked, you will see the target traced by a little red box.

If “Rule Line and Area” is checked, you will see the rule line of tripwire detection and detection area of intrusion detection displayed on the screen. You can select the color of the rule lien and area as needed.

DVR/NVR video analysis configuration



When the captured face pictures are successfully recognized, click the picture on the right to pop up a face detail window as shown below. In this window, you can see the captured face picture, the matched picture of face library and the relevant information. You also can view the original image, search image by snapshot, play back by snapshot and export the face details by clicking “More” button.

Additionally, you can view the historical captured face pictures and face match information in the face match interface by clicking “History” tab. Besides registering face pictures in the live view interface, you can also add target face pictures in the face database interface.

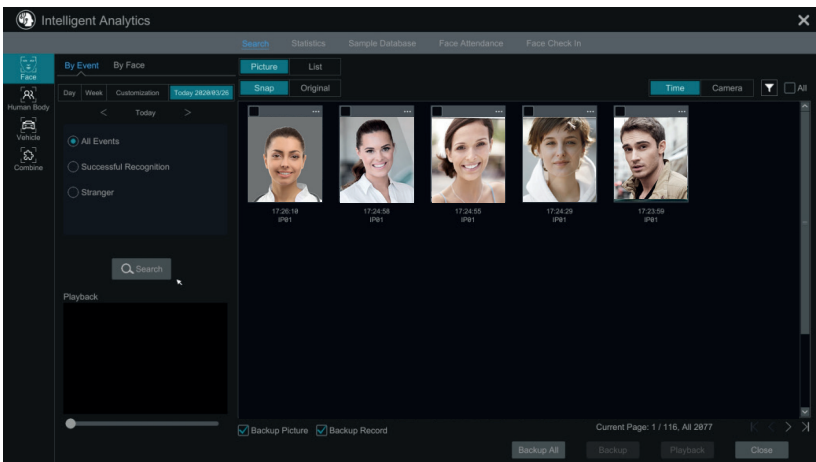
5.2 Smart Search

5.2.1 Face Search

Only some models support this function. If your device doesn't support it, please skip the following instructions.

> Face Search by Event

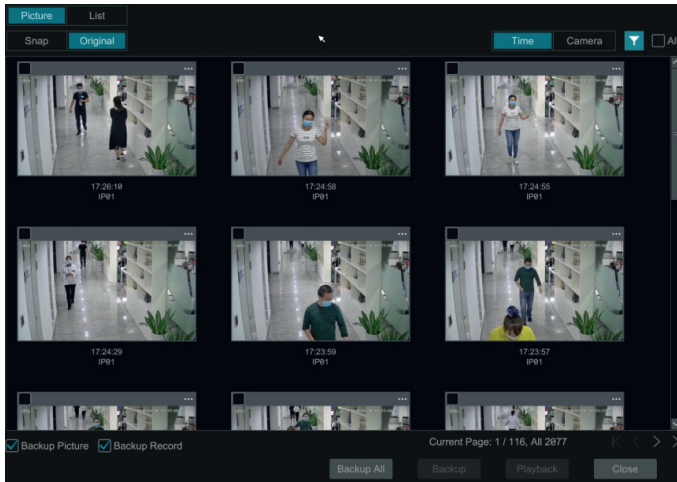
- 1) Click Start → Intelligent Analytics → Search → Face to go to the following interface.



DVR/NVR video analysis configuration

- 2) Click to choose face detection cameras.
- 3) Select all events, successful recognition or stranger.
- 4) Click "Search" to search face pictures. You can view face pictures by time or by camera.
- 5) Click the searched face picture to play in the small playback window; select a face picture and click "Backup" to export it.

Click "Original" to see the original image as shown below.



Click "List" to view the snapshot information list. Click to view the detail information; click to back up the image.

No.	Snap Time	Similarity	Details	Backup
1	2020/03/26 17:26:10	--		<input type="checkbox"/>
2	2020/03/26 17:24:58	--		<input type="checkbox"/>
3	2020/03/26 17:24:55	--		<input type="checkbox"/>
4	2020/03/26 17:24:29	--		<input type="checkbox"/>
5	2020/03/26 17:23:59	--		<input type="checkbox"/>
6	2020/03/26 17:23:57	--		<input type="checkbox"/>
7	2020/03/26 17:23:56	--		<input type="checkbox"/>
8	2020/03/26 17:23:54	--		<input type="checkbox"/>
9	2020/03/26 17:23:29	--		<input type="checkbox"/>
10	2020/03/26 17:23:29	--		<input type="checkbox"/>
11	2020/03/26 17:21:20	--		<input type="checkbox"/>
12	2020/03/26 17:21:17	--		<input type="checkbox"/>
13	2020/03/26 17:21:17	--		<input type="checkbox"/>
14	2020/03/26 17:21:14	--		<input type="checkbox"/>
15	2020/03/26 17:21:12	--		<input type="checkbox"/>
16	2020/03/26 17:20:57	--		<input type="checkbox"/>

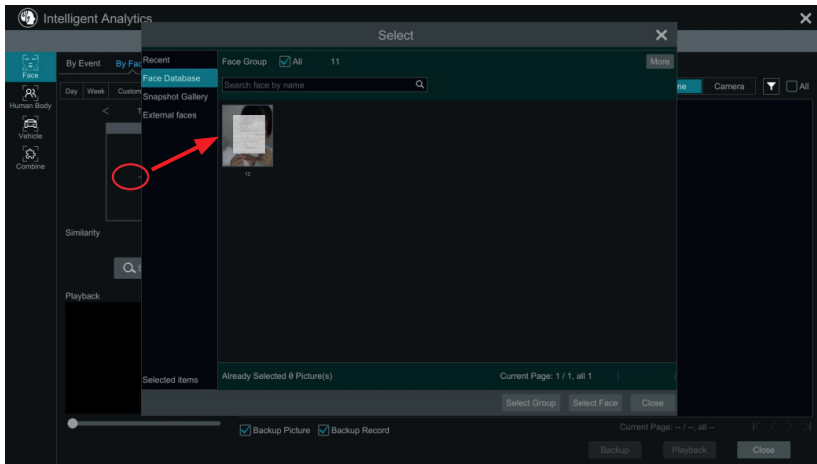
> Face Search by Face

In the face picture search interface, click "By Face" to go to the following interface.

- 1) Click to add the target face which can be searched and added from recent, face database, snapshot gallery

DVR/NVR video analysis configuration

and external faces. A single face picture or multiple face pictures can be added and searched. (Take a single face picture for example)



To add target face from recent

- a. Choose the face.
- b. Click "Select Face".

To add target face from face database:

- a. Click "More" to choose groups.
- b. Select a target face and click "Select Face".

To add target face from snapshot gallery:

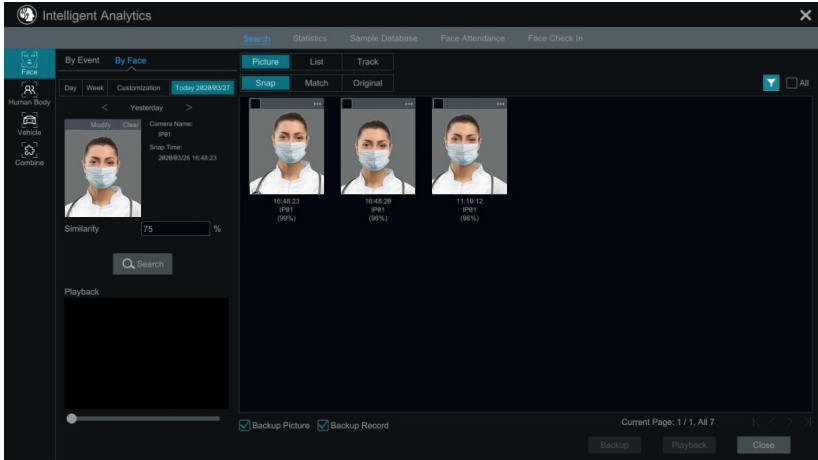
- a. Select time and click "More" to choose cameras.
- b. Click "Search".
- c. Check a face and click "Select Face".

To add target face from external face:

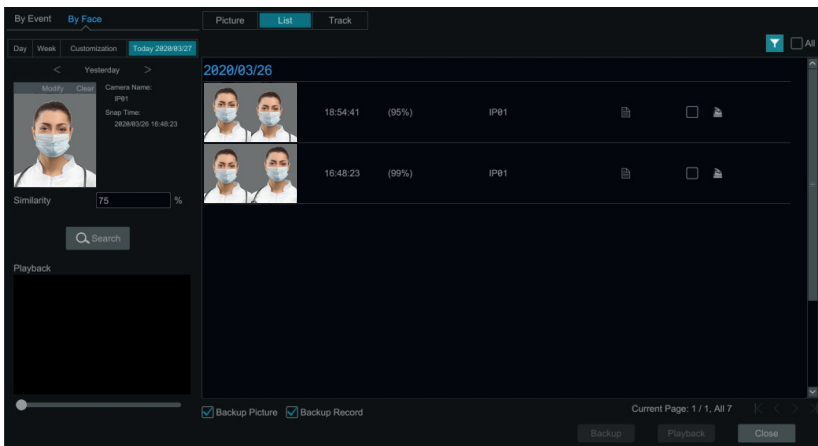
- a. Save the target face to the mobile storage device and then insert this device into the USB interface of NVR.
- b. Select "External Face" to import the face in this interface.

- 2) Set similarity and then click "Search".
- 3) Click the searched image to play records in the small window.
- 4) Select the searched image and click "Backup Picture" or "Backup Record". Then click "Backup" to build backups for pictures or records.

DVR/NVR video analysis configuration



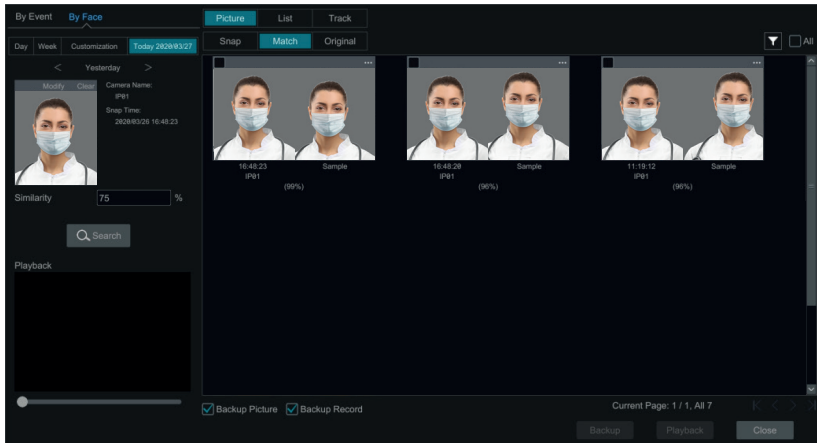
- **View Image by List**
Click "List" tab to view images by time as shown below.



Click the searched image to play. Click to view the detail information of the compared target face.

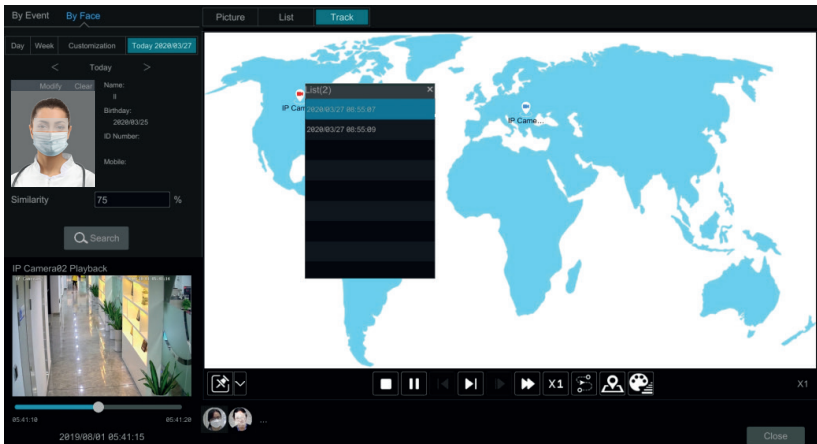
- **View Match Images**
Click "Match" tab to view match images as shown below.

DVR/NVR video analysis configuration



5.2.2 Track Playback

Select "Track" to go to the following interface.



Note: Only when two or more cameras detect this person, can his/her track can be viewed here.

Descriptions of buttons on the track interface

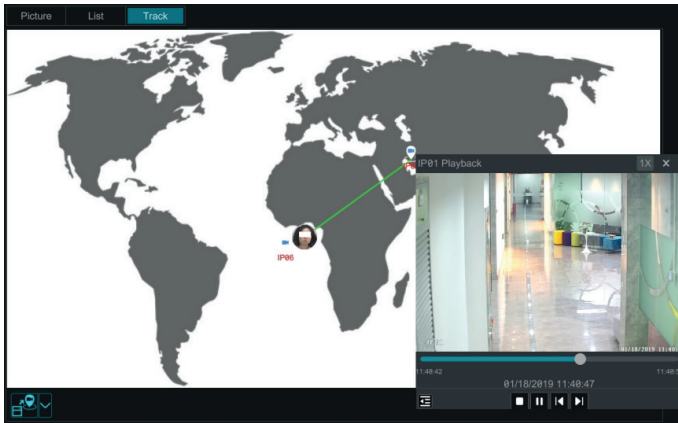
	Fixed Window		Frame
	Followed Window		Fast Forward (x2;x4)
	Exchange Window		Normal Speed
	Stop		Start/Stop Track
	Play		Edit Map

DVR/NVR video analysis configuration

	Previous		Edit Color
	Next		

Click on the camera name and then an event list appears. Click one item to play the record.

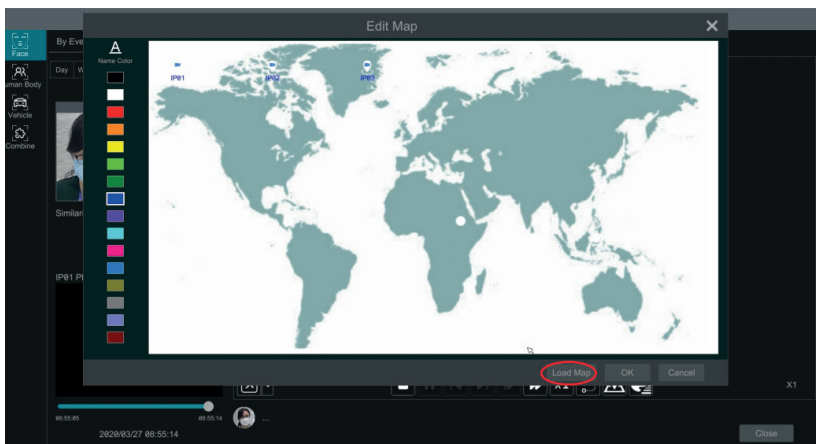
Click button beside the fixed window icon to show “Followed Window” and “Exchange Window” icons. The small playback window will float on the map window by clicking “Followed Window” as shown below.



Click to switch play speed. 1x and 2x can be switched. Click to view event list. Click one item to play this event.

Click “Exchange Window” to switch the position of the map window and the playback window.

Click button to go to the following interface.



Click “Load Map” to add a map. Then drag the camera names on the map to change their locations. Choose a color on the left color list to set your favorite color for camera names.

Load Map:

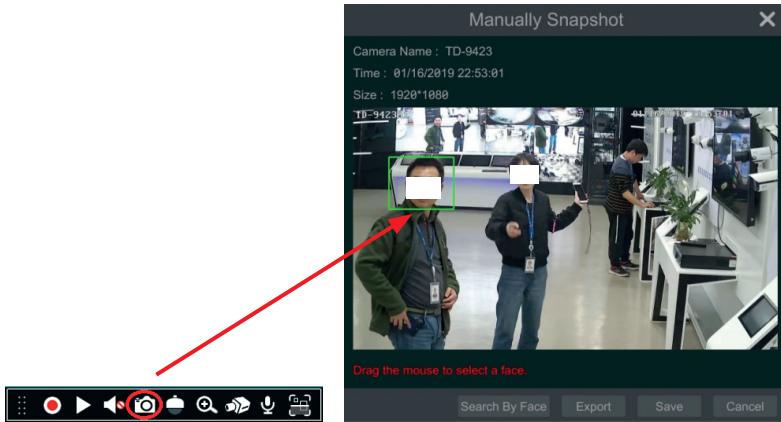
DVR/NVR video analysis configuration

- 1) Save the map to the USB storage device and then insert the USB storage device into the NVR.
- 2) Click "Load Map" button to upload the map.

Click button to modify the colors of camera name and track line and set the line width.

5.2.3 Face Search by Snapshot

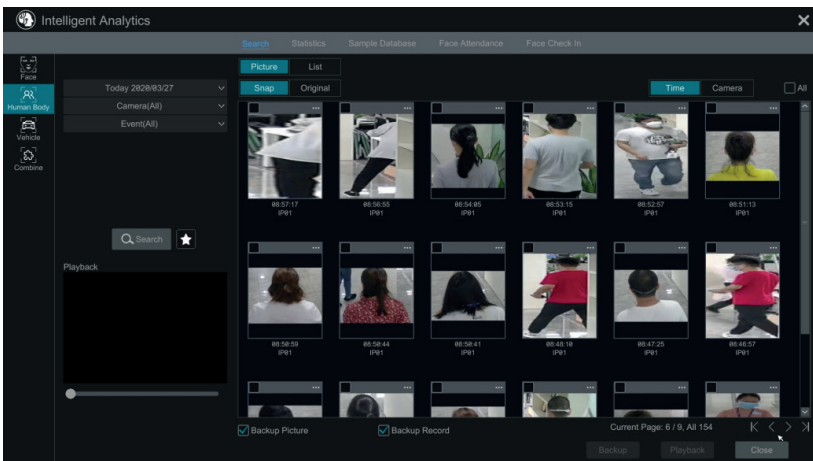
In the live or playback interface, click on a face detection camera and then select on the toolbar. This will bring the following window.



Drag the mouse to select a face and then click "Search by Face" to go to the face search by face interface. You can see its snapshot pictures, match pictures, original pictures and so on by clicking the corresponding tab.

5.2.4 Human Body Search

Click Start → Intelligent Analytics → Smart Search → Human Body to go to the human body search interface. Select the search time, camera and event and then click "Search" to view the searched pictures.

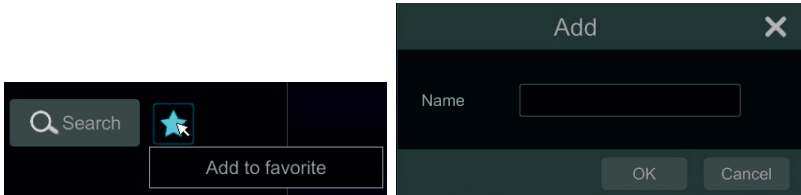


Click the searched picture to play the record in the small window. Select pictures and check "Backup Picture" and/or "Backup Record" and then click "Backup" to back up the pictures and /or records. Click "Original" to view the captured

DVR/NVR video analysis configuration

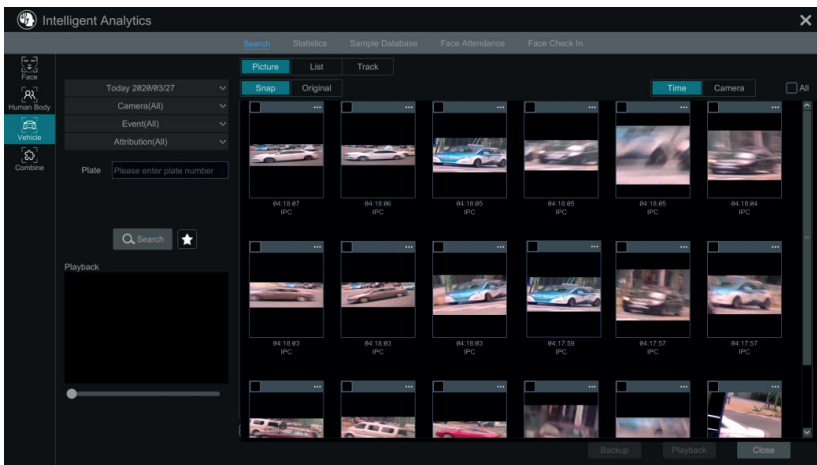
original pictures. Click “List” to view the file list of the captured pictures.

Click and select “Add to favorite” to add a favorite group and save the current searched pictures to the favorite group. Then you can quickly view these figure pictures by clicking and choosing the group name.



5.2.5 Vehicle Search

- 1) Click Start → Intelligent Analytics → Smart Search → Vehicle to go to the vehicle search interface.
- 2) Select the time, camera, event and vehicle type. Then click “Search” to search vehicles.
Event: Intrusion, Tripwire, Line Crossing Counting.
License plate recognition not supported.
Attribution: Vehicle or non-vehicle can be selected.
You can view face pictures by time or by camera.



Click a searched vehicle picture to play it in the small window. Select vehicle pictures and check “Backup Picture” and/or “Backup Record” and then click “Backup” to back up the pictures and /or records.

- 3) Click “Original” to see the original pictures; click “List” to view the snapshot information list. Click to view the detail information; click to back up the image.
NOTE: License plate recognition not supported.

Click to add a favorite group and save the current searched pictures to the favorite group. Then you can quickly view these vehicle pictures by clicking and choosing the group name.



5.2.6 Combination Search

If you want to view the human body, vehicle or face pictures simultaneously, you can choose combination search.

DVR/NVR video analysis configuration

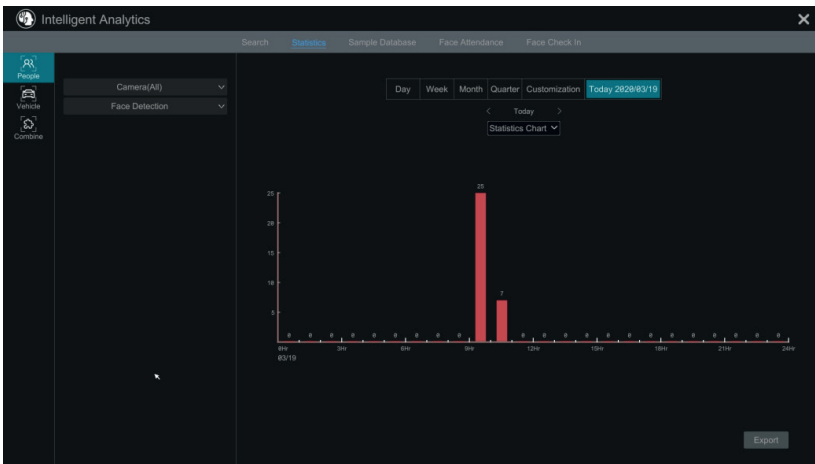
- 1) Click “Combine”.
- 2) Select the search time, camera, event and vehicle as needed.

Click a searched picture to play it in the small window. Select pictures and check “Backup Picture” and/or “Backup Record” and then click “Backup” to back up the pictures and /or records.

Click  to add a favorite group and save the current searched pictures to the favorite group. Then you can quickly view these pictures by clicking  and choosing the group name.

5.3 View Statistical Information

Click Start → Intelligent Analytics → Statistics to go to the following interface. In this interface, you can view the people and vehicle statistical information or you can customize the statistical information.



View People Information:

Note: The person information includes face information and figure information.

- 1) Select the time.
- 2) Select cameras.
- 3) Select events as needed, such as face detection, face recognition, intrusion, tripwire, etc.

Note: Face recognition events (successful recognition & stranger) are available for some models. If Face Recognition-Successful Recognition event is selected, you can choose “Detail Chart” to view.

View Vehicle Information:

- Click “Vehicle”
- Select the time and cameras.
- Select events as needed.
- Select the vehicle attribution.

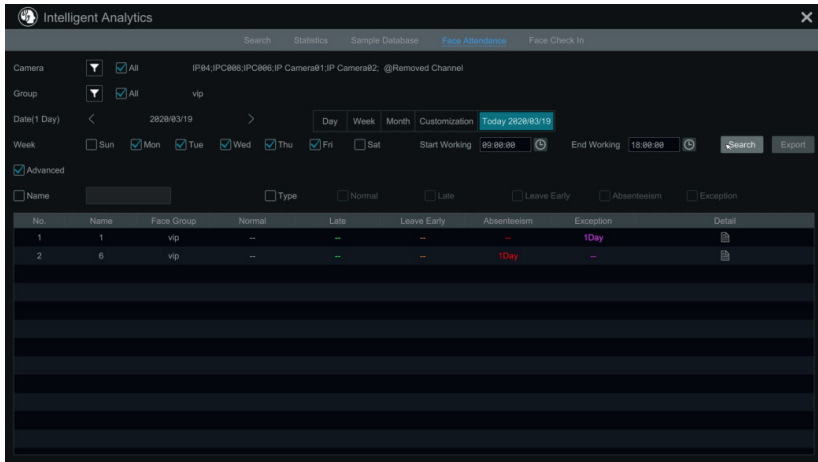
To customize statistical information:

Click “Combine” and then select events, people and vehicle as needed.


5.4 Face Attendance

This function is only available for some models. If your device doesn’t support it, please skip the following instructions. Click Start → Intelligent Analytics → Face Attendance to go to the following interface.

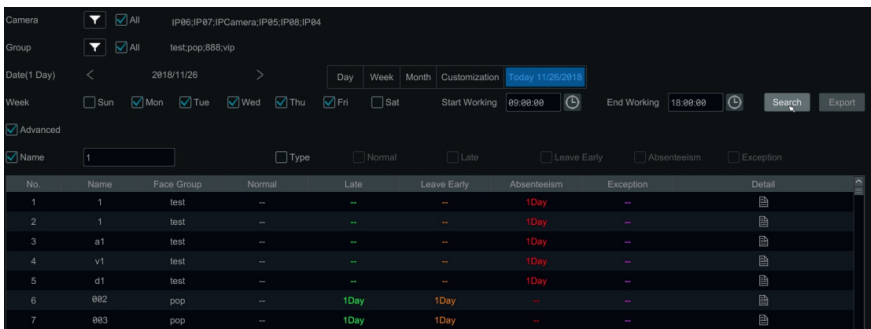
DVR/NVR video analysis configuration




To search attendance information

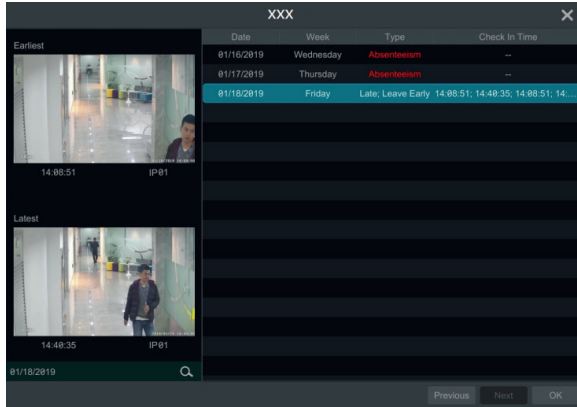
- 1) Click  behind camera and group to choose the desired cameras and groups.
- 2) Set the attendance date. You can choose day, week, month and today or customize the time period.
- 3) Set the start time and the end time of working.
- 4) Click “Search” to view the attendance state.

If some specific person's attendance state needs to know, you can click “Advanced” and then enter the name and choose the type.



Click “Export” to export the searched attendance information.

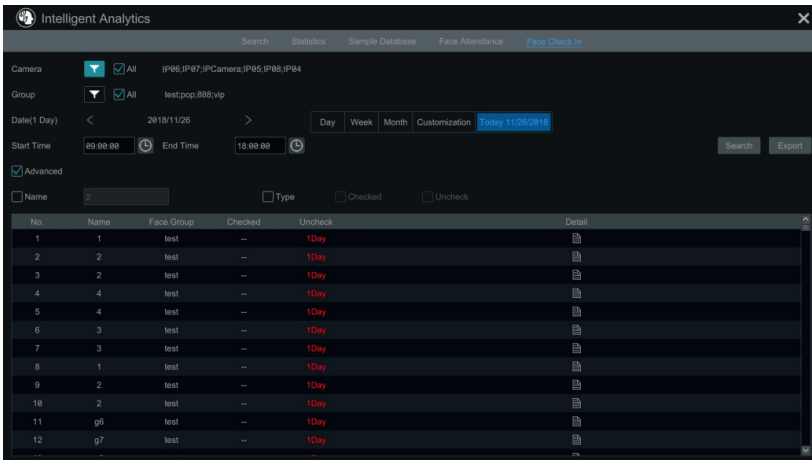
Click  to view the detailed information of attendance. In this interface, click  to go to the face search interface.



5.5 Face Check-In

Click Start → Intelligent Analytics → Face Attendance to go to the following interface. The search steps of face check-in are as follows.

- 1) Click behind camera and group to choose the desired cameras and groups.
- 2) Set the check-in date. You can choose day, week, month and today or customize the time period.
- 3) Set the start time and the end time of face check-in.
- 4) Click “Search” to view the check-in state.



If you want to know the detailed check-in information of someone, please click “Advanced” and then enter the name and choose the type to search.

Click to view the detailed information. In this interface, the checked image can be viewed.

Click to view the registered face picture of this person.

DVR/NVR video analysis configuration

The screenshot displays a software interface for video analysis configuration. On the left, a video preview window shows a hallway scene with a person. The preview includes a 'Sign In' label, a timestamp '14:08:51', and the camera identifier 'IP通道01'. Below the video is a search bar with the date '01/18/2019' and a magnifying glass icon. On the right, a table lists event data:

Date	Week	Type	Check In Detail
01/16/2019	Wednesday	Uncheck	--
01/17/2019	Thursday	Uncheck	--
01/18/2019	Friday	Checked	14:08:51, 14:22:16, 14:...

At the bottom right of the interface are navigation buttons labeled 'Previous', 'Next', and 'OK'.

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