

AcuSense[™] NVR and Camera Configuration Guide

HIKVISION[•] AcuSense[®] NVR and Camera Configuration Guide

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INTRODUCTION

Demand Analysis

In traditional CCTV systems, all the moving objects in the picture will trigger the perimeter alarm, which may generate a lot of false alarms. Users have to waste a lot of time dealing with false alarms, and the alarm is unreliable. In addition, when the target needs to be found in the video, it needs to be manually searched by video playback, which is time consuming and laborious, and it is easy to lose key targets, which is very inconvenient.

After solving the basic monitoring and video problems, users need to receive more accurate alarms and to have a more convenient target search function to better use the monitoring system.

Solution

Some false alarms can be filtered by using a thermal camera, vibration optical fiber, radar, and other equipment. The cost of the whole system is too high, and it cannot meet the requirement of finding the target quickly afterwards.

With the development of artificial intelligence, target classification can be realized directly based on the video screen, and false alarm reductions and target retrieval can be provided, which can provide users with very cost-effective schemes.

System Architecture

Hikvision's AcuSense Series of cameras and NVRs can prevent false alarms by identifying humans and vehicles when defining line crossing detection and triggering an alarm when only the selected object type (human and/or vehicle) is detected.

To set up False Alarm reductions and target classification without additional products, an AcuSense NVR and/or AcuSense cameras are required.

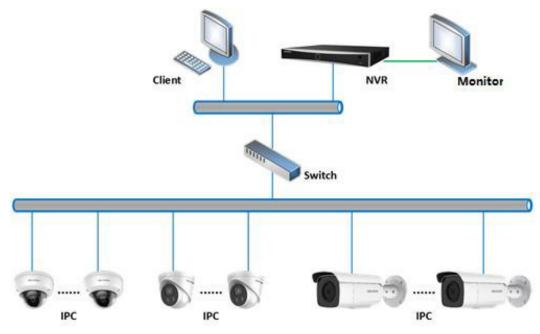


Figure 1, System Architecture Diagram

Function Description

Target Classification

By upgrading the hardware of conventional products, Hikvision has loaded artificial intelligence technology into the chip of the equipment. The equipment can classify and identify the objects appearing in the picture such as humans, vehicles, rainwater, light, leaves, animals, etc. Object classification is the basis for realizing false alarm and key target alarms.



Figure 2, Target Classification

False Alarm Reductions and Quick Target Search

Through target classification, alarms caused by animals, light, rain, leaves, or other objects can be filtered out, and only alarms triggered by human bodies and vehicles will be received. This is the function of a false alarm reduction.

In addition, in the face of a large number of monitoring video data, when searching key information such as people or cars, the target retrieval function is used. The device will record human body and vehicle information automatically, and solve the issue that video playback is time-consuming and easy to miss.





False Alarm by Spider Webs



False Alarm by Shaking Leaves





Figure 4, False Alarm Reductions and Quick Target Search

Configuring False Alarm Reductions

HIKVISION	Live View	Playback	Picture	Configuration	
Local	Camera 👽 Enable Loca		amera 01	v	
 Network Video/Audio Image Event 	Scene Change Det	Crossing Detection		rossing Detection	
Basic Event	Area Settings	Arming Schedu	e 👌 Linkage Metho	d	
Smart Event Storage Vehicle Detection VCA Human Body Capture	Line			v anera 01	
	Max. Size Direction Sensitivity	A<->B	raw Area	▼ ■ 50	

Figure 5, Configuration > Event > Smart Event > Area Settings

- 1. Go to **Configuration > Event > Smart Event > Line Crossing Detection** in the local interface.
- 2. Use the pull-down list to select the camera to configure.
- 3. Check the **Enable Local Smart Analysis** checkbox to have the local NVR perform the smart analysis with a non-AcuSense camera. The NVR will acquire only the camera stream for intelligent event analysis, and the NVR will not acquire the camera's smart event configuration. Up to four 8 MP non-AcuSense cameras are supported for false alarm reductions, and sub-stream resolution of these cameras have to be under WD1 (960*576). If this box is unchecked, the AcuSense camera (required in this case) will do the analysis. The NVR will acquire smart event configuration and alarm information from the camera.
- **NOTE:** The NVR and camera configuration screens will slightly differ. This document uses the NVR configuration screens as examples.
- 4. Check the **Enable Line Crossing Detection** checkbox to activate line crossing detection.
- 5. Check one or both **Detection Target** checkboxes to set the type of object to trigger the alarm:
 - Human: Alarm will be sent only if triggered by human(s).
 - Vehicle: Alarm will be sent only if triggered by vehicle(s).
 - No Box Checked: Alarm will be sent by any object(s).
- 6. Click the Area Settings tab.
- 7. Use the pull-down menu to set the line number to define (1-4). Up to four line crossing lines can be defined. The target classification can be set separately for each line.
- 8. Drag a line in the live view area with the left mouse button; release to end the line. Select line with left mouse button to move or resize the line.
- 9. Configure the line by clicking on one of the buttons:
 - **Max. Size*:** Drag with the left mouse button to define a rectangle representing the maximum object size that will be detected crossing the defined line.
 - **Min. Size*:** Drag with the left mouse button to define a rectangle representing the minimum object size that will be detected crossing the defined line.
 - **Draw Area:** Drag with the left mouse button to define the total area to monitor.
 - Clear: Click Clear, then click Save, to delete all line settings.

10. Use the pull-down menu to select the line crossing direction that will trigger the alarm:

- A<->B: Alarm will be triggered if object moves across the defined line from A side to B side or from B side to A side.
- A->B: Alarm will be triggered if object moves across the defined line from A side to B side.

^{*} Available only when configuring through the local NVR; setting will not appear if configuring through the camera.

- **B->A:** Alarm will be triggered if object moves across the defined line from B side to A side.
- 11. Set line crossing **Sensitivity** (0–100). The sensitivity value = 100 S1/ST x 100, where S1 is the area of the target that has crossed the line and ST is the actual area of the target. The higher the sensitivity, the easier it is to trigger the alarm.
- 12. Click **Save** to save the line crossing settings.
- 13. Repeat for additional lines, up to four total.
- 14. Click Save.

Configuring Arming Schedule

HI	KVISION	Live View	1	Playb	ack		Picture		Config	uration					
Ţ	Local	Camera				Camera	01		~						
	System	🖌 Ena	✓ Enable Local Smart Analysis												
Ð	Network	0				on Detec		Line Cre	ssing De	toction					
Q.	Video/Audio	Scene Ch	ange Det	ection	Intrusi	on Detec	tion	Line Cru	SSIIIg De	ection	-				
14	Image	🖌 Ena	ble Line (Crossing	Detection	n									
圁	Event	Detecti	on Target		🗌 Hu	iman	Vehic	le							
	Basic Event	Area	Settings	Armi	ng Sche	dule >	Linkage	Method							
	Smart Event	×	Delete	前 C	elete A	11									
8	Storage		0	2	4	6	8	10	12	14	16	18	20	22	24
Fo	Vehicle Detection	Mon		1 1	1 1				1 1						
63	VCA	Tue	0	2	4	6	8	10	12	14	16	18	20	22	24
33	Human Body Capture		0	2	4	6	8	10	12	14	16	18	20	22	24
		Wed													
		Thu	0	2	4	6	8	10	12	14	16	18	20	22	24
			0	2	4	6	8	10	12	14	16	18	20	22	24
		Fri													
		Sat	0	2	4	6	8	10	12	14	16	18	20	22	24
			0	2	4	6	8	10	12	14	16	18	20	22	24
		Sun													
			🖹 S	0110											
			E 3	ave											



- 1. Click the Arming Schedule tab to display the Arming Schedule section.
- 2. Drag the left mouse button to draw/modify blue timelines to define the times and days that the defined alarm will be active. The line may be resized and/or re-positioned using the mouse.
- **NOTE:** Click **X Delete** to delete a highlighted blue timeline.

Click the III Delete All to delete all of the defined blue timelines.

3. Click **Save** to save the schedule settings.

Configuring Linkage Method

HI	VISION	Live View	Playback	Picture	Configuration		
Ţ	Local	Scene Change De	tection Intrusion [Detection Line C	rossing Detection	Region Entrance Detection	Region Exiting Detection
	System	Enable					
Ð	Network	Area Settings	Arming Schedule	E Linkage Metho	d		
<u>Q</u> .	Video/Audio	🗌 Normal Li	nkage	✓ Trigger Recor	ding		
1	Image	Send Ema	il	☑ A1			
圁	Event	Notify Surv	eillance Center				
	Basic Event	Upload to	FTP/Memory Card/				
	Smart Event	Vhite Ligh	t Flashing				
	Storage	Audible Wa	arning				
		E :	Save				

Figure 7, Linkage Method

- 1. Click the Linkage Method tab to display the Linkage section.
- 2. Check the alarm action checkboxes you wish to configure:
 - Normal Linkage
 - **Send Email** An alarm will cause the system to send an e-mail notification to the predefined e-mail address.
 - **Notify Surveillance Center** An alarm will cause notification to be sent to the pre-defined Surveillance Center.
 - **Upload to FTP/Memory Card** An alarm will cause the system to upload a notification to a pre-defined FTP site or memory card.
 - White Light Flashing (Strobe Light and Audio Alarm/SL models only) An alarm will cause the camera's white light to flash (strobe).
 - Audible Warning (Strobe Light and Audio Alarm/SL models only) An alarm will cause the system to generate an audible alarm.
 - Trigger Recording*
 - A1 An alarm will cause this camera to start recording.
- 3. Click **Save** to save the alarm action settings.

^{*} Available alarm outputs will vary by NVR and camera.

Configuring White Light Output (Strobe Light and Audio Alarm/SL Model Only)

- 1. Go to Configuration > Event > Basic Event > White Light Alarm Output.
- 2. Set **Flashing Duration** from 1 to 60 seconds.
- 3. Set **Flashing Frequency** to **High** (interval 0.6 seconds), **Medium** (interval 1 second), or **Low** (interval 1.5 seconds).
- 4. Click **Save** to save the settings.

HII	VISION	Live View	Playback	Picture	Configuration
Ţ	Local	Video Tampering	Exception	White Light Alarm Out	Audible Alarm Output
	System	Flashing Duration	n 5		S
Ø	Network	Flashing Freque	ncy Me	edium	\checkmark
<u>Q.</u>	Video/Audio				
1	Image	🗎 s	ave		
圁	Event				
	Basic Event				
	Smart Event				
B	Storage				

Figure 8, White Light Alarm Output

Configuring Audible Alarm Output (Strobe Light and Audio Alarm/SL Model Only)

HIKVISION	Live View P	layback	Picture	Configuration	
Local	Video Tampering E	Exception Fla	shing Light Alarm C	Output Audible Alar	m Output
System	Alarm Sound Type	Siren		\checkmark	
Network	Alarm Times	5			
Video/Audio	Sound Volume		(100	
Image					
Event	🗎 Save				
Basic Event					
Smart Event					
Storage					

Figure 9, Audible Alarm Output

1. Go to Configuration > Event > Basic Event > Audible Alarm Output.

2. Set Alarm Sound Type – Click the drop-down list to select one of 10 types of built-in alarm sounds.

NOTE: Importing local audio files is not supported.

Number	Details of Alarm Sounds
1	Siren
2	Warning, this is a restricted area
3	Warning, this is a restricted area, please keep away
4	Warning, this is no-parking zone
5	Warning, this is no-parking zone, please keep away
6	Attention please, the area is under surveillance
7	Welcome, please notice that the area is under surveillance
8	Welcome
9	Danger! Please keep away
10	(Siren) and Danger! Please keep away

Details of 10 Types Built-in Alarm Sounds

HIKVISION	Live View	Playback	Picture	Configuration	
🖵 Local	Video Tampering	Exception	Flashing Light Alarm (Output Audible Alarm O	utput
System	Alarm Sound T		ing,this is a restricte	d area	
Network	Alarm Times	Warii		area,please keep away	
Video/Audio	Sound Volume	Warn	ing,this is a no-park	ing zone,please keep awa a is under surveillance	ay
Image			ome,Please notice t	hat the area is under surve	eillance
Event	B	Save Dang	jer!Please keep awa n)&Dange,please ke		
Basic Event			, <u> </u>		
Smart Event					
Storage					

Figure 10, Alarm Sound Type Pull-Down List

- 3. Set Alarm Times Enter how many times the alarm sound will repeat, from 1 to 50 times
- 4. Set **Sound Volume** Volume can be set from 1 (softest) to 100 (loudest).

Checking Alarms

VISION Live View Playback Picture Configuration Intrusion Detection Line Crossing Detection Region Entrance Detection **Region Exiting Detection** Local Enable System Arming Schedule Linkage Method Θ Network Area Settings Q. Video/Audio Line 1 Image Event Basic Event Smart Event Storage B Max. Size Min. Size Draw Area Clear Vehicle **Detection Target** Human A<->B Direction V 50 Sensitivity

Use the Web interface to check the defined alarms.

Figure 11, Line Crossing Detection (Target: Vehicle)

1. Perform the following steps to show the defined lines and draw area overlaid on the image.

🗎 Save

- Go to Configuration > Local > Rules. 1)
- 2) Check the **Enable** checkbox.

HIKVISION	Live View	Playback	Picture	Configuration		
System	Live View Par Protocol) TCP		○ MULTICAST	
Network	Play Perform			 Balanced 	O Fluent	OHIP
Video/Audio	Rules	() Enable	 Disable 	0	
🔝 Image	Display POS	Information) Enable	Disable		
Event	Image Form	at 🧿) JPEG	O BMP		

Figure 12, Enable Target Rule Box

2. Check the alarm on the network camera's Web preview interface. When someone crosses the line, the perimeter box and line crossing lines turn red.

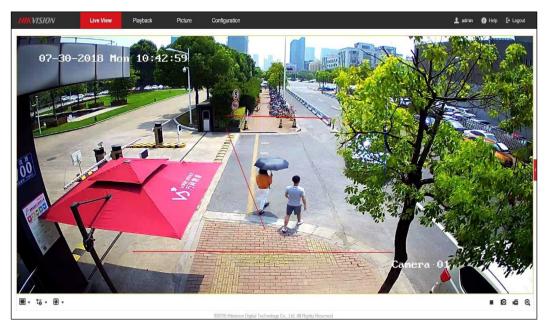


Figure 13, Human Triggers Line Crossing Detection Alarm

île System View Tool Help	,		🛓 ivi	AS-4200	1
📰 Control Panel 🛛 🧖 Ma	ain View 🛛 🚡 Remote Playback	: 📑 Log Search 👍 Storage	e Schedule 🦉 Alan	m Event 🛛 🚨 Device Management	
🗿 💩 🗃 🔹 Line Crossing Det	ection Alarm				
Alarm Time	Alarm Source	Alarm Details		Alarm Content	Live Send Note
2018-07-30 10:42:49	Encoding Device:2T26	Trigger Camera: Camera1_2T26 Target	Type:Vehicle	Line Crossing Detection Alarm	0
2018-07-30 10:42:10	Encoding Device:2T26	Trigger Camera: Camera1_2T26 Target	Type:Vehicle	Line Crossing Detection Alarm	Q 101
		Trigger Camera: Camera1_2T26 Target	Tenadlahida	Line Crossing Detection Alarm	0 12

Figure 14, iVMS-4200 Filter Human Alarm

NOTE: The rule box displayed in the network camera Web preview interface does not make target classification judgments; the alarm information is subject to the search result received from the alarm receiver and NVR. A comparison of the Web interface with the alarm receiver (such as iVMS-4200 client) can be used to distinguish if false alarm reductions has been performed.

Quick Target Searching

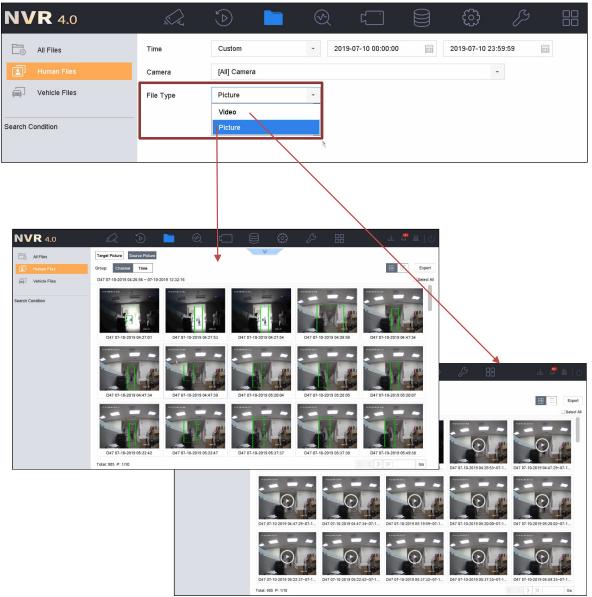
NVR Search Capabilities

NVR Model	Quick Target Search							
NVR Model	File Search	Smart Search	False Alarm Search					
I-Series NVR (Requires FW 4.21.005 or later)	Displays all human and/or	Not Sup	oported					
AcuSense NVR	vehicle pictures <mark>or</mark> videos, as specified	Displays all human/vehicle pictures <mark>and</mark> videos	Supported					

File Management Search

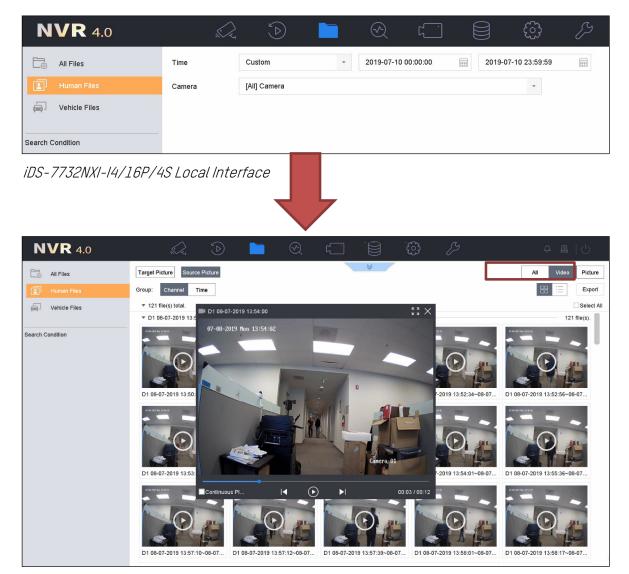
- 1. On an AcuSense I-Series NVR, go to File Management.
- 2. Highlight Human Files or Vehicle Files.
- 3. **Time:** Set the time frame you wish to search.
- 4. Camera: Set the camera you wish to search.

5. File Type: Set file type you wish to search, Videos or Pictures.



For DS-9664NI-18 local interface, file type must be specified with search conditions.

- **NOTE:** AcuSense NVRs can switch between picture and video on the search results page without having to perform the search again.
- 6. Set the search choices:
 - Select the target image in the red box area on the upper left corner, and listed picture will be a close-up view of the target.
 - Select the source image in the red box area on the upper left corner, and listed picture will be the original picture.
 - Select video in the red box on the upper right corner, and listed files will all be video files.
 - Select picture in the red box on the upper right corner, and listed files will all be picture files.
 - Select All, and the images and videos will be displayed together.

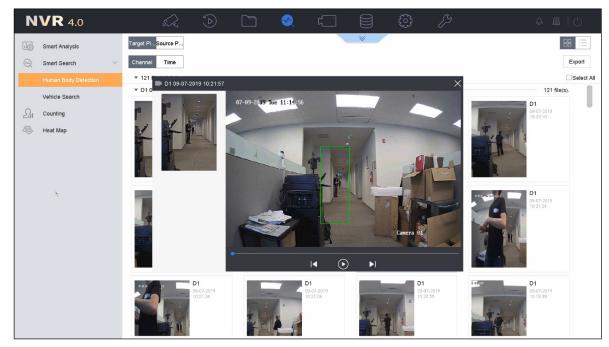


File type can be actively switched using the options located at the top right. Both picture and video results can also be listed together by using the **All** option.

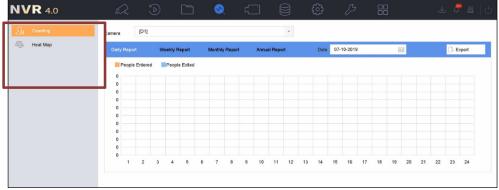
Smart Search

AcuSense NVRs support smart search for **Human Body Detection** and **Vehicle Search.** Picture and video is combined on the search results preview screen.

N١	/R 4.0				≪			ි		4 🚇	
163 5	Smart Analysis	Search by Appearance									
∅ :	Smart Search V	IP Channel	[All] Camera				-				
		Time Segment	Today	*	2019-07-	10 00:00:00	- :	2019-07-10 23:59:5:	9 🛗		
	Vehicle Search	Event Type	Human Body Alarr	n -							
	Counting Heat Map										
iDS-	7732NXI-14/	16P/4S Lc	ncal Inte	rface		Ļ					



NOTE: I-Series NVRs do not support smart search for human and/or vehicle target filtering.



DS-9664NI-I8 Local Interface

False Alarms Search

AcuSense NVRs can display all false alarms by using the **All Files** search (set event type to "False Alarm"). False alarms are generated by objects that approach being mistaken for a human or vehicle.

NVR 4.0	$\langle \rangle$	۵ 🖿	<u>ک</u> لڑ		÷	ß	4 🖉 🖉
All Files	Time	Custom -	2019-07-10 00:00:	2019-07	-10 23:59:59		
📳 Human Files	Camera	[All] Camera			-		
Vehicle Files	Tag		File Status	All	-		
Search Condition	Event Type	Felse Alarm Collering People Gathering		Show More >			
		Fast Moving Parking Unattended Baggage Object Removal					
		Audio Loss Exception Sudden Change of Sound Intensil Defocus	у				
		Sudden Scene Change PIR Alarm Fire Source Detection					
		Ship Detection Temperature Detection					
		Temperature Difference Detection Human Body Detection POS Event	1				
		False Alarm		Empty Cond	litions	Search	Save

Figure 15, False Alarms

iVMS-4200 Client

e System View Tool Help				📩 iVMS-4200		
Control Panel 👧 Ma	in View 🚡 Remote Play	back 🛛 満 Storage	Schedule 🧵 Alarm Event	🚔 Device Managemer	ıt	
Device Group						
Device Type	Device for Management (2)					
Hikvision Device	+ Add + Create Cluster	🖾 Modify 🛛 🗙 Delete	Remote Configuration 🕅 QR C	ode 📍 Activate 🔤 Dev	ice Status 🛛 🚨 Onlin	e User
+ Add New Device Type	Device T Nickname	Connect Network P	ara Device Serial No.	Security	Net Status	Refres
	Storage SS	TCP/IP 10.9.97.30	:80 DS-NVR-V120B20171218-AC	E2D3553 Weak	0	0
	Encodin DS-2CD2T46	TCP/IP 10.99.4.13	:80 DS-2CD2T26G1-I8201806124	AWRC28 Weak	0	Ð

Figure 16, Add Network Camera

Adding a Network Camera

1. Add the camera in the iVMS-4200 Device Management section.

File System View Too	ol Help			📥 iVMS-4200		
Control Panel	🚰 Main View 🛛 🚡 Remo	ote Playback 🛛 🥫 Storage S	Schedule 🦉 Alarm Event	Device Management		
心 🐁 🗃 🔹 Line Cros	sing Detection Alarm					
I Alarm Time	Alarm Source		Alarm Details		Alarm Content	Live .
1 2018-07-24 21:49:15	Encoding Device:DS-2CD2T4	16G1-18 Camera1_2T26	Trigger Camera: Camera1	2T26 Target Type:Human	Line Crossing Detection	0
1 2018-07-24 21:49:13	Encoding Device:DS-2CD2T4	I6G1-I8 Camera1_2T26	Trigger Camera: Camera1	2T26 Target Type:Human	Line Crossing Detection	0
2018-07-24 21:49:09	Encoding Device:DS-2CD2T4	16G1-18 Camera1_2T26	Trigger Camera: Camera1	2T26 Target Type:Human	Line Crossing Detection	0
I 2018-07-24 21:49:03	Encoding Device:DS-2CD2T	I6G1-I8 Camera1_2T26	Trigger Camera: Camera1	2T26 Target Type:Human	Line Crossing Detection	0
1 2018-07-24 21:49:02	Encoding Device:DS-2CD2T		Alarm Information	- ×	Line Crossing Detection	0
2018-07-24 21:48:58	Encoding Device:DS-2CD2T				Line Crossing Detection	0
2018-07-24 21:48:50	Encoding Device:DS-2CD2T		Inne Run F 1x	Alarm Information:	Line Crossing Detection	0
2018-07-24 21:48:48	Encoding Device:DS-2CD2T	67-24-2018 Tue 21:49:32			Line Crossing Detection	0
2018-07-24 21:48:40	Encoding Device:DS-2CD2T	A D	A CARDINA STREET	Alarm Sou Encoding Device:DS-2C	Line Crossing Detection	0
I 2018-07-24 21:48:35	Encoding Device:DS-2CD2T		A ST P SHOLD	Trigger C Camera1_2T26	Line Crossing Detection	0
I 2018-07-24 21:48:33	Encoding Device:DS-2CD2T		THE REAL PROPERTY OF	Alarm Type: Line Crossing Detection	Line Crossing Detection	0
1 2018-07-24 21:48:33	Encoding Device:DS-2CD2T	s and the first	THE A	Alarm Time: 2018-07-24 21:49:15	Line Crossing Detection	0
I 2018-07-24 21:48:28	Encoding Device:DS-2CD2T		· · ·	Captured Image: Configure	Line Crossing Detection	0
2018-07-24 21:48:25	Encoding Device:DS-2CD2T	ALLAND - 3		ouplated intege.	Line Crossing Detection	0
I 2018-07-24 21:48:24	Encoding Device:DS-2CD2T			mana a nego	Line Crossing Detection	0
I 2018-07-24 21:48:18	Encoding Device:DS-2CD2T		1 A Charles		Line Crossing Detection	0
2018-07-24 21:48:15	Encoding Device:DS-2CD2T				Line Crossing Detection	0
I 2018-07-24 21:48:11	Encoding Device:DS-2CD2T		Canera 81		Line Crossing Detection	0
2018-07-24 21:47:59	Encoding Device:DS-2CD2T				Line Crossing Detection	0
2018-07-24 21:47:59	Encoding Device:DS-2CD2T				Line Crossing Detection	0
2018-07-24 21:47:54	Encoding Device:DS-2CD2T	Prioritize Display of Lates	t Alarm	X X H	Line Crossing Detection	0
1 2018-07-24 21:47:48	Encoding Device:DS-2CD2T				Line Crossing Detection	0
1 2018-07-24 21:47:47	Encoding Device:DS-2CD2T	Prev Page Next Page You	have 975 unread alarm messages. C	Click Next to check. Exit	Line Crossing Detection	0
1 2018-07-24 21:47:45	Encoding Device:DS-2CD2T		mager contero, contero i		Line Crossing Detection	0

Figure 17, iVMS-4200 View Alarm Information (Human)

2. View the triggered alarm on the iVMS-4200 **Alarm Event** interface. Alarm detail information will be labeled **Human** or **Vehicle**, as shown in the figure below.

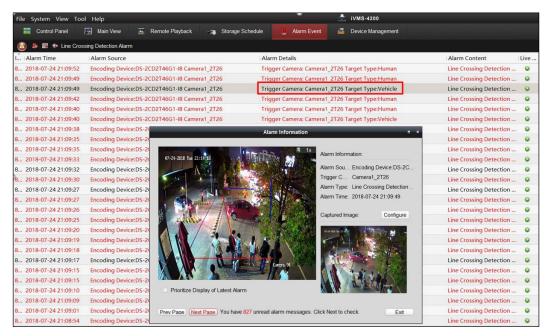


Figure 18, iVMS-4200 View Alarm Information (Vehicle)

- **NOTE:** The **Target Type** shown on the iVMS-4200 is the same as the **Detection Type** set in the configuration interface. Alarm information triggered by the unchecked category will be filtered and will not be displayed on the iVMS-4200.
 - 1) Set **Detection Type** to **Human**, then the iVMS-4200 will display only Human target type alarm information.
 - 2) Set **Detection Type** to **Vehicle**, then the iVMS-4200 will display only Vehicle target type alarm information.

Viewing Alarm on GUI Interface

The NVR's local GUI interface cannot classify **Humans** and **Vehicles** in this version.

The current mechanism: after checking **Smart Detection**, the GUI interface will display all alarm pictures without classification between humans and vehicles (this feature will be optimized by the end of the year).

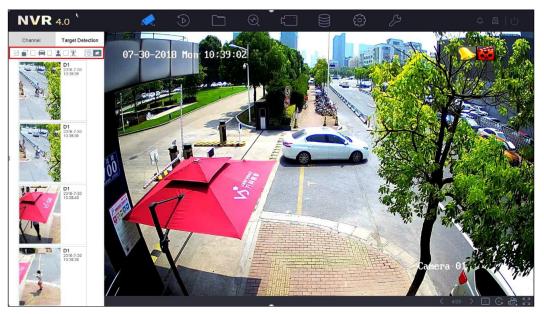


Figure 19, NVR local GUI interface

Viewing Alarms on iVMS-4200

1. Add the NVR on the iVMS-4200 Device Management interface.

E Control Panel 💦 Ma	in View 🛅 Remote Play	back :	Storage Sched	dule 📒 Alar	m Event 🖉	Device Man	agement	
Device 🖬 Group								
Device Type	Device for Management (2)							
Hikvision Device	+ Add + Create Cluster	Modify	🗙 Delete 🛛 🏶 R	Remote Configuration	n 颛 QR Code	Activate	Device Status	L Online User
 Hikvision Device Add New Device Type 	+ Add + Create Cluster Device T Nickname			Remote Configuration Device Serial No.	n 颛 QR Code	Activate		
			Network Para	-		Secur	rity Net Sta	

Figure 20, Add NVR on iVMS-4200

File System View	Tool Help	📩 ivms-	4200			
Control Panel	👧 Main View 🚡 Remote Playback 🧠	🕫 Storage Schedule 🧕 Alarm Event 🚑 Device	Management			
🗥 🍮 🖾 🚸 Line	Crossing Detection Alarm					
. Alarm Time	Alarm Source	Alarm Details	Alarm Content		Live	Send Note
2 2018-07-25 10:5	Encoding Device:NVR IP Camera1_NVR	Trigger Camera: IP Camera1_NVR Target Type:Human	Line Crossing Detectio	n Alarm	0	
1 2018-07-25 10:5	Encoding Device:NVR IP Camera1_NVR	Trigger Camera: IP Camera1_NVR Target Type:Human	Line Crossing Detectio	n Alarm	0	60
0 2018-07-25 10:4	Encoding Device:NVR IP Camera1_NVR	Trigger Camera: IP Camera1_NVR Target Type:Human	Line Crossing Detection	n Alarm	0	
2018-07-25 10:4	Encoding Device:NVR IP Camera1_NVR	Trigger Camera: IP Camera1_NVR Target Type:Human	Line Crossing Detection	n Alarm	0	63
2018-07-25 10:4	Encoding Device:NVR IP Camera1_NVR	Trigger Camera: IP Camera1_NVR Target Type:Vehicle	Line Crossing Detectio	n Alarm	0	151
2018-07-25 10:4	Encoding Device:NVR IP Camera1_NVR	Trigger Camera: IP Camera1_NVR Target Type:Human	Line Crossing Detectio	n Alarm	0	8
2018-07-25 10:4	Encoding Device:NVR IP Camera	Alarm Information	- ×	h Alarm	0	
2018-07-25 10:4	Encoding Device:NVR IP Camera			h Alarm	0	M
2018-07-25 10:4	Encoding Device:NVR IP Camera	Alarm Informati		n Alarm	0	8
2018-07-25 10:4	Encoding Device:NVR IP Camera 07-25-2016 Kei 13	9.11		n Alarm	•	<u>63</u>
2018-07-25 10:4	Encoding Device:NVR IP Camera		Encoding Device:NVR IP IP Camera1_NVR	n Alarm	0	62
2018-07-25 10:4	Encoding Device:NVR IP Camera	Trigger C IF		n Alarm	0	63
		Airm Time 2 Captured Image Day of Latest Airm IPage You have 6 unread alarm messages. Cick Next to check.	018-07-25 10 49-29 e Configure			

Figure 21, View Alarm Information on iVMS-4200 (Human)

2. View the triggered alarm on the iVMS-4200 **Alarm Event** interface. Alarm detail information will label the target category as **Human** or **Vehicle**, as shown in the figure below.

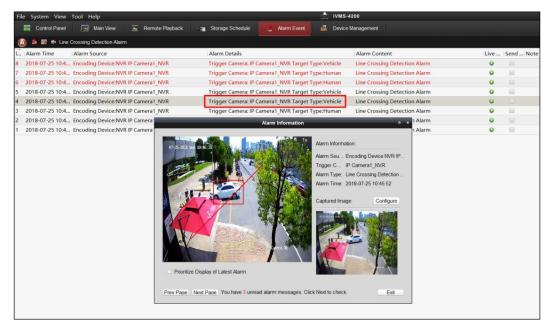


Figure 22, View Alarm Information on iVMS-4200 (Vehicle)

The NVR alarm upload via iVMS-4200 is the same as for a network camera. The **Target Type** shown on the iVMS-4200 is consistent with the **Detection Type** set on the configuration interface. Unchecked categories will be filtered out and will not be displayed on the iVMS-4200.

Known Issue

When adding network cameras to the NVR, the NVR will issue a 24-hour arming schedule to the camera by default. After the camera is connected, configuring an arming schedule on the NVR will affect only whether the alarm is reported and displayed on this NVR, but the camera setting time will not change. If other terminals access the camera, the alarm will still be received.

Product List

Scheme	Camera	NVR	Client
AcuSense NVRs and AcuSense Cameras	DS-2CD2/3xx6	AcuSense NVR	V2.6.7.3 build 20180225

Installation Requirements

- The proposal altitude of installation distance is 3 to 5 meters, equipment bow angle is approximately 10°, specific adjustments are according to the environment.
- The maximum monitoring distance depends on the lens' focal length. The table of the maximum monitoring distance for the specific focal length is as follows:

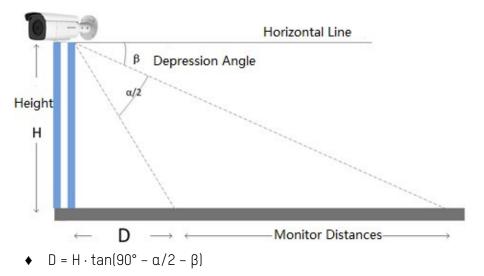
Lens (mm)	Recommended Maximum Monitoring Distance
2.8 mm	10 m
4 mm	15 m
6 mm	22 m

• The monitoring area cannot be covered by nearby objects. Do not shoot backlight at the installation position, which will affect the image effect. The following shows a perimeter environment installation:



Figure 23, Installation of the Perimeter Environment

The equipment installation needs to pay attention to certain blind areas. The calculation method of blind area distance is as follows:



- D: Camera monitoring blind area H: Mounting height
- a: Vertical field Angle β : Angle of depression

Lens (mm)	Horizontal Field Angle (γ)	Vertical Field Angle (a)	Blind Area D (Height 3.3 m, Depression Angle 10°)
2.8 mm	109°	62°	3.7 m
4 mm	90°	48°	4.5 m
6 mm	53°	39°	5.6 m

- Recommended Scenario:
 - Try to avoid getting too close. It is recommended that the target be more than three meters away from the camera. For example, avoid scenes with lots of trees nearby.
 - If there is a mirror in the environment, the mirror image or shadow can easily lead to false alarm

triggering.

- Adjust the camera angle during installation to avoid interference from high brightness lights or headlights.
- Domes are not recommended for outdoor scenes, IR reflect can seriously affect the accuracy of the alarm, as shown below:



- Heavy traffic scenes such as station, airport, theater, etc., will generate a lot of perimeter alarms, so it is suggested to avoid these types of scenes.



Avoid situations where personnel targets are too large. AcuSense NVRs can analyze target sizes between 1/16 and 1/2 of the image's vertical size. For example, if the camera's resolution is 1080p, the vertical size of the target should be between 64 and 540 pixels.

-



In the following scene, the target takes up almost the whole picture. Adjusting the camera angle so that a targets is detected from a far distance so that it appears a suitable size is suggested.



Using **Region Entrance/Exiting Detection** instead of **Intrusion/Line Crossing Detection** is recommended for region intrusion of fixed scenarios.