Installation & Configuration Guidance of H8 ANPR Camera

Preface

(1) Product Portfolio: **IP Camera:** iDS-2CD7A26G0/P-IZHS (C) iDS-2CD7A46G0/P-IZHS (C) iDS-2CD7A26G0/P-IZHSY (C) --Support Wiegand iDS-2CD7A46G0/P-IZHSY (C) --Support Wiegand iDS-2CD7026G0/EP-IHSY(C) iDS-2CD7046G0/EP-IHSY(C)

DVR:

iDS-72XXHUHI-M/S

NVR:

DS-xxxxNI-I iDS-xxxxNXI-I

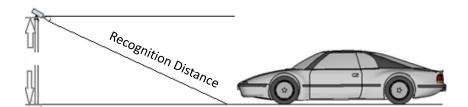
- (2) Highlight Features:
- Newly support vehicle type, vehicle logo and plate characters recognition at the same time;
- Two detection modes can be selected:
 - a) Vehicle Priority: the overview of the vehicle needs to be obtained first, and then the plate recognition can be performed;
 - b) License Plate or Vehicle:

Product	Deeplearning Algorithm	Plate Recognition Mode	Recognition Object
DS-2CD7xxx/P	\checkmark	License Plate or Vehicle/Vehicle Priority	Plate characters
iDS-2CD7xxx/P	\checkmark	License Plate or Vehicle/Vehicle Priority	Plate characters, vehicle type
iDS-2CD7xxx/P (C)	\checkmark	License Plate or Vehicle/Vehicle Priority	Plate characters, vehicle type

Chapter 1 Installation

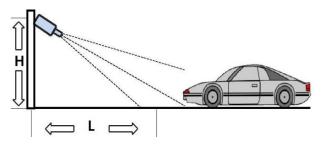
(1) It is recommended to cover no more than 2 lanes for each ANPR camera;

(2) Select the appropriate lens according to following table:



Lens (mm)	Min recognition distance (m)	Max recognition distance (m)
2.8~12	2	18
8~32	6	48
3.8~16	3	24
11~40	8	60

(3) Choose installation height accordingly (when pitch angle is 30°):

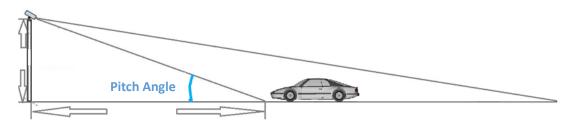


Туре	Height(m)	Min L (m)
Entrance/Exit	1.5	2.5
	2	3.5
	3	5
City Stroot	4	7
City Street	5	8.5
	6	10

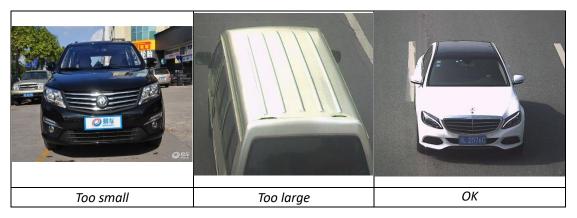
Entrance/Exit			City Stre	et	No. 4
HIKVISION®	Live View Playba	ack Picture	Application Cont	figuration Smart Displ	ay VCA
VCA Resource	Detection Configuration	Picture Advanced Parame	ters Configuration Blocklist	& Allowlist	
General VCA Settings	Туре	Vehicle Detection	~		
Road Traffic	✓ Enable				
Road Traffic		ng Schedule and Linkage Method	í l		
	00-06-2021 Pri 16:02-24		ane. mera 01		
	Total Number of Lanes	1	~		
	Region	Europe Region	~		
	Country/Region	General	~		
	Select Mode	Entrance/Exit City Street			
	Detection mode	Alarm mput			
	☑ Remove Duplicated Lie Time Interval	4	minute(s)		
	🗎 Save				

(4) The pitch angle (the angle between camera-vehicle line and the road) should

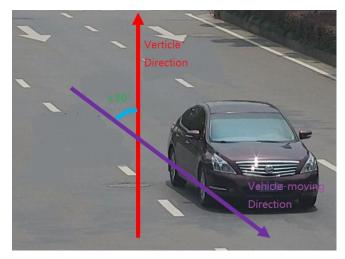
be larger than 15 $^\circ~$ and less than 30 $^\circ~$



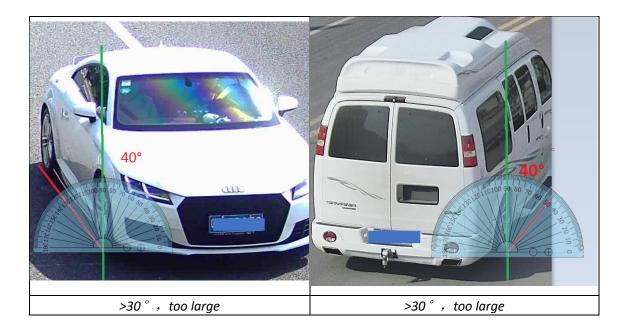
Example:

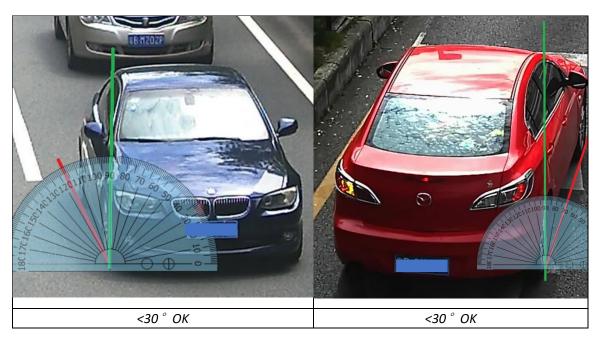


(5) The angle between the vehicle-moving direction and the vertical direction should be less than 30 $^\circ$



Example:



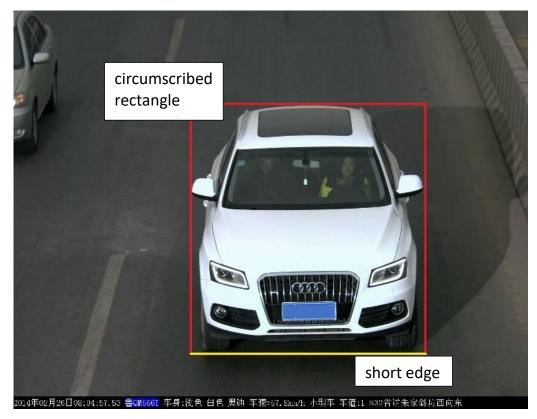


(6) The pixels of following objects need to satisfy:

	Plate Characters	Vehicle Logo	Vehicle Type	
	Recognition	Recognition	Recognition(*)	
2 MP Camera	20 <height<30< td=""><td>>25 x 25</td><td>>256</td></height<30<>	>25 x 25	>256	
	100 <width<200< td=""><td>23 X 23</td><td colspan="2">~230</td></width<200<>	23 X 23	~230	

4 MP Camera	27 <height<40< th=""><th>>34 x 34</th><th>>345</th></height<40<>	>34 x 34	>345
	135 <width<270< td=""><td></td><td></td></width<270<>		

*Note: For vehicle type recognition, the camera needs to be installed at a bayonet and be able to overview the whole vehicle. The short edge of vehicles's circumscribed rectangle (see illustration fig. below) should be larger than the pixels listed on above table.



Chapter 2 Configurations

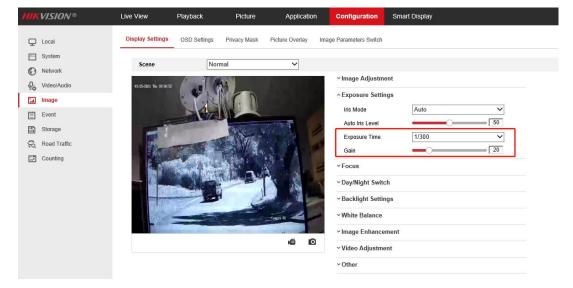
(1) Go to Image>Display Settings>Day/Night Switch and set the Day/Night Switch to the "Triggered by Video"; ^Day/Night Switch

Day/Night Switch	Triggered by Video	~
Sensitivity	4	~
Filtering Time	0	5
Smart Supplement Light	OFF	~
Supplement Light Mode	IRlight Supplement Light	~
Light Brightness Control	Auto	~

(2) Go to Image>Display Settings to change Exposure Time and Gain according to the standard below (the Gain control can be operated only after step 1 is finished):

Speed < 30km/h	 Exposure Time : 1/150-1/200 ;
30km/h < Speed < 60km/h	 Exposure Time : 1/250-1/500 ;
60km/h < Speed	 Exposure Time : 1/500-1/1000

Gain : Generally set as **20** and we usually don't change this.



(3) Make sure the Focus Mode is semi-auto.

HIKVISION®	Live View	Playback	Picture	Application	n Configuration	Smart Display
🖵 Local	Display Settings	OSD Settings	Privacy Mask	Picture Overlay	Image Parameters Switch	
System	Scene	Nor	mal	~		
Network	Scelle	INO		•	✓ Image Adjustm	ont
Contraction Video/Audio	03/31/2821 Net 19:54:32		St.		20	
🔝 Image		CKR	()		✓ Exposure Settin	ngs
Event	and the second				^ Focus	
🖺 Storage		A CONTRACTOR	The second	Nº F M	Focus Mode	Semi-auto
Road Traffic	10 A	THE REAL PROPERTY.	Ess May		~ Day/Night Swite	ch
Counting			Res.	14 A	~ Backlight Settin	ngs
				S. Sec.	✓ White Balance	
			And a state of the		✓ Image Enhance	ement
			-	1	Video Adjustme	ent
				Ganera 01	~ Other	
				66	Default	

If the image effect is not satisfied:

a. Choose the pre-settings Scene and the referring using scenario to try whether the effect is getting better.

Display Settings	OSD Settings	Privacy Mask	Picture Over	lay
Scene	Non	k light		
	Low	nt light Illumination		1
Page 1		tom1 tom2	_	
	ous			

b. WDR or HLC will make the image easier to perform the "ghost image" or detail lost. So if the strong light can be solved by the exposure and gain settings, we don't recommend you enable these to counter strong lights.

A Backlight Settings

BLC Area	OFF	~
WDR	OFF	~
HLC	OFF	~

✓White Balance

c. Double check whether the installation angle is smaller than 30 $^\circ\,$ and the

installation height satisfy the full observation of full scale of vehicle.

(4) Go to Picture to choose the text overlay on the picture as the scenario needs;

HIKVISION®	Live View Play	/back Pict	ure Applicatio	on Configuratio	on Smart Display	y VCA	
VCA Resource	Detection Configuration	Picture Advance	d Parameters Configuration	n Blocklist & Allowlis	t		
General VCA Settings	Picture Type	Background	 license plate/target clos 	e-up 🗌 Vehicle			
Road Traffic	 Picture Quality 		80				
Road Traffic	O Picture Size	1024	kb				
	Overlay						
	Font Color						
	Background Color		•				
	Text Overlay						
	Device No.	Capture Time	Vehicle Type	Moving Direction	Plate No.	Camera Info.	
	Validity	Vehicle Color	Vehicle Brand				
		Туре			Sorting		
		Camera Info.			+ +		
		Device No.			+ +		
		Capture Time			÷ +		
		Plate No.			+ +		
		Vehicle Color			÷ +		
		Vehicle Type			÷ +		
		Vehicle Brand			÷ +		
		Moving Direction			÷ +		
				©2021 Hikvi	sion Digital Technology C	o., Ltd. All Rights Reserved	ł.

(5) Go to Road Traffic to select detection type;

HIKVISION®	Live View Playb	ack Picture	Application	Configuration	Smart Display	VCA	
 VCA Resource General VCA Settings Road Traffic Road Traffic 	Detection Configuration Type Imable Area Settings) Arm	Picture Advanced Para Mixed-traffic Detection Vehicle Detection	meters Configuration	Blocklist & Allowlist			
	Area Settings) Arm	4	Lane ine 1. Care (1				
	Total Number of Lanes Region	1 Europe Region	~				
	Area/Country	General	~				
	Select Mode	Entrance/Exit	~				
	Detection mode	Vehicle Priority	✓ ③				
	Remove Duplicated Li						
	Time Interval	4	minute(s)				
	🖹 Save						

Detection type can be set as Vehicle detection or Mixed-traffic Detection.

- Vehicle detection: the passed vehicle can be detected and the picture of its license plate can be captured.
- Mixed-traffic Detection: motor vehicle and non-motor vehicle can be detected, and the picture of the object or license plate can be captured
 (6) Go to Road Traffic to select lane numbers (1~2) and traffic mode;

	Live View P	and a second	6	Application	Configuration	Smart Display	10000000
Co VCA Resource	Detection Configurat	ion Picture	Advanced Parar	neters Configuration	Blocklist & Allowlist		
General VCA Settings	Туре	Vehicle D	Detection	~			
Road Traffic	✓ Enable						
Road Traffic	Area Settings	Arming Schedule	and Linkace Meth	bod			
			J. J		r		
	Left- <mark>5</mark> orde			Lane ine 1			
		-	ēα	Canera 01			
	Total Number of Lar		Ē	12 22			
		nes 1		a" n e 10			
	Total Number of Lar Region Area/Country			a* ⊭⊆ 10 ∼			
	Region	nes 1 Europe R	Region				
	Region Area/Country	nes 1 Europe R General	Region et	₫ 16 > > > >			
	Region Area/Country Select Mode	nes 1 Europe R General City Stree Vehicle P	Region et				

(7) Area Settings:

Blue Detection Line: Mainly used for Entrance/Exit with a purpose of improving the capture efficiency. The line is the trigger line of license plate and we highly recommend you put it middle-lower of the screen to make sure the car can pass it with the plate and the full scale.

Detecting Area: The Actual detect area is the 2 yellow lane and the square they seized.

(8) Select Mode:

Entrance/Exit: It means the camera is set to monitor the Entrance & Exit and will get a better performance at this scenario. Also, E&E mode only supports 1 lane.

City Street: It means the license plate information of the detected vehicle will

be uploaded when the vehicle passes the detection area and triggers the detection. City Street can support 2 lanes.

Alarm Input: It means the input alarm will trigger a license plate capture and recognition action.

(9) Detection Mode:

Vehicle priority mode: the classic mode of the ANPR camera, it will detect the vehicle scale first, then catch the plate out to make the analysis. It will get the better accuracy but sometimes it will lose some results in the not-satisfied installation scenario. When choosing this mode, the City Street mode is recommended.

License plate or Vehicle mode: this mode will allow the ANPR camera to capture the vehicle plate simultaneously with the scale of vehicle is detected. This mode will greatly improve the recognition at some not-satisfied installation scenario. When choosing this mode, the Entrance/Exit mode is recommended.

So we recommend you to use **Vehicle priority mode first** if there is no issues on installation and filling lights. After the issues of plate recognition is carried out, you can **switch the mode to License plate & Vehicle mode**.

(10) Go to Arming Schedule and Linkage Method to continue:Here you can set the arming schedule and linkage action independently for allowlist, block list and other list, so you need to set them one by one;

Installation & Configuration Guidance of H8 ANPR Camera

HIKVISION®	Live View	Playi	back	Pictur	8	Applicatio	n C	onfigurati	on	Smart Dis	splay	VCA	
VCA Resource	Detection Con	figuration	Picture	Advanced	l Paramete	s Configuratio	n Block	list & Allow	list				
General VCA Settings	Туре		Vehicle	Detection		~							
Road Traffic	✓ Enable												
Road Traffic	Area Settir	ngs Am	ning Schedul	e and Linkag	e Method								
	Allowlist	Blocklist	Other List										
	Arming S	chedule											
	× Dele	te 🛅 🕻	Delete All										
	0 Mon	2	4	6 8	10	12 14	16	18	20	22	24		
	0 Tue	2	4	6 8	10	12 14	16	18	20	22	24		
	0 Wed	2	4	6 8	10	12 14	16	18	20	22	24		
	0 Thu	2	4	6 8	10	12 14	16	18	20	22	24		
	0 Fri	2	4	6 8	10	12 14	16	18	20	22	24		
	0 Sat	2	4	6 8	10	12 14	16	18	20	22	24		
	0 Sun	2	4	6 8	10	12 14	16	18	20	22	24		
	Linkage I	Vlethod											
	Direction @		orward 🔾	Reverse									
	Norma	l Linkage		🖌 Trigge	r Alarm O	ıtput							
	Send E	mail		¥ A->1									
		Surveillance		¥ A->2									
	Upload	to FTP/Mer	nory Card/										

(11) Select a direction here. The Forward means vehicle moves toward the camera; Reverse means vehicle moves away from the camera. Only the vehicles moving as the selected direction can trigger selected linkage methods. We highly recommand you choose All if there is no special use;

Linkage Method Direction
All
Forward
Reverse

Normal Linkage

Send Email

Notify Surveillance Center

Upload to FTP/Memory Card/...

(12) You can set linkage here, including Send Email, Notify Survelliance Center or Upload to FTP/xxxx;

Linkage Method						
Direction						
✓ Normal Linkage	✓ Trigger Alarm Output					
✓ Send Email	☑ A->1					
✓ Notify Surveillance Center	☑ A->2					
Upload to FTP/Memory Card/						

(13) The last part is to import the blocklist and allowlist. If you don't have

HIKVISION®	Live View Playback Picture Application Configuration Smart Display VCA	
VCA Resource	Detection Configuration Picture Advanced Parameters Configuration Blocklist & Allowlist	
General VCA Settings		
Road Traffic	Import Blocklist & Allowlist	
	Blocklist & Allowlist File Browse Import	
Road Traffic	Status	
	Note: You can set at most 10,000 license plates in blocklist & allowlist in total.	
	Export Blocklist & Allowlist	
	Export	
	Blocklist & Allowlist Content	
	Filter by All Types V keywords Search	
	Add Delete	
	No. Plate No. Type Creation Time Effictive Start Date Effictive End Date Wiegand CardID Operation	
	Total 0 Item(s) << < 1/0 > >>	

such a list in advance, export the template first to make one;

The template looks like this:

(when inputting the plate number, input several consecutive numbers/letters with no blank included.)

	ყ •∂∘ -		plat	teNolist_10.9.114.16_20210814121621.xls [兼容模式] - E	cel	Æ	-
文件	开始 插入	页面布局 公式	数据 审阅 视图 ♀ 告诉我您想	要做什么			防
D17	• 1	$\times \checkmark f_x$					
4	А	В	с	D	E		F
1 No.		Plate No.	Group(0 block list, 1 allow list)	Effective Start Date (Format: YYYY-MM-DD, e.g., 2017-12-07)	Effective End Data(Format: YYYY-MM-DD, e.g., 2017-12-07)	Card No.	
2							
3							
5							

(14) After the configuration is done, when there are vehicles passing, you can check the real-time plate recognition results on [Smart Display] on the camera's web page.

