



Milesight-Troubleshooting ANPR Solution

Milesight Technology

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I. What is ANPR

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ANPR(Automatic Number Plate Recognition) is a technology that uses optical character recognition on images to read vehicle registration plates. For Milesight, the ANPR algorithm is embedded in cameras, which allows the cameras to recognize, capture and upload license plate images all alone and intelligently.



II. Why Milesight ANPR Solution

- > Quick Capture & Accurate Recognition
 - Accurate License Plate Identification Under all kinds of conditions
 - LPR Image Mode

Integrated Supplement Light





By Conventional Camera By Milesight Camera

• High-reliability License Plate Recognition with more than 95% high performance accuracy

- 1. Up to 4 Detection Regions
- 2. Al-based Vehicle Attributes Recognition
- 3. Vehicle Speed/Direction Recognition
- 4. License Plate Serial Format
- Intelligent Analysis & Efficient Management
 - White and Black List Management
 - A Stand-alone ANPR Solution
 - List Scheduling Management
 - LPR Smart Search
 - Fully Integrated with Milesight NVR/CMS/VMS Enterprise
 - 3rd Integration: CGI/APIs
- Adaptable to Most Operation Requirements
 - Max recognition speed 200 km/h
 - Over 80 countries and regions
 - Various options
 - Road Traffic Series

Intelligent Traffic|ANPR Security Camera (milesight.com)

• Entrance & Exit Series

Intelligent Traffic|ANPR Security Camera (milesight.com)

Notes

Installation Angle Considerations

To increase the accuracy of license plate recognition, install the LPR cameras properly to capture the license plates with the correct image size, lighting conditions and installation angle. The following highlights are the precautions of **installation angle**:

A. Installing the camera in front of the vehicle (Recommended):

The captured image should be filled with a full width of the vehicle.

B. Installing the camera slightly to the side:

To avoid capturing unnecessary contents in the image, the camera should be installed in a higher position(Vertical angle is less than 30°; Horizontal angle is no more than 30°; Tile angle is less than 5°) to capture the front part of the

vehicle. The Youtube video in the link below has actual installation suggestions for LPR Camera, which can be used as a reference.<u>https://youtu.be/u88gNAdrJnM</u>



III.Countries/Regions that support ANPR

Backed up by strong R&D strength and accumulated expertise in LPR applications, Milesight Intelligent Traffic solution can be well applied to broad regions and countries worldwide. We've now covered a wide range of areas including:

State Name		Coun	try Name	
	Armenia	China	Hong Kong (China)	India
	Indonesia	Israel	Japan	Kazakhstan
Asia	Kyrgyzstan	Macao(China)	Malaysia	Philippines
	Singapore	South Korea	Taiwan (China)	Tajikistan
	Thailand	Turkmenistan	Uzbekistan	Vietnam
	Austria	Albania	Azerbaijan	Belarus
	Belgium	Bosnia and Herzegovina	Bulgaria	Croatia
	Czech	Cyprus	Denmark	Estonia
	Finland	France	Georgia	Germany
	Greece	Hungary	Italy	Iceland
Europe	Ireland	Latvia	Lithuania	Luxembourg
	Macedonia	Malta	Moldova	Montenegro
	Netherlands	Norway	Poland	Ukraine
	Slovakia	Switzerland	Russian	Turkey
	Portugal	Romania	Serbia	Slovenia
	Spain	Sweden	United Kingdom	Vatican City

	Bahrain	Kuwait	Iran	Iraq
Middle East	Oman	Oatar	Saudi Arabia	United Arab
	Onian	Qatai	Saudi Alabia	Emirates
North	Canada	Moxico	United States	
America	Canada	Mexico	United States	
South	Argentina	Brazil	Chile	Ecuador
America	Uruguay			
Africa	Angola	Algeria	South Africa	Morocco
Oceania	Australia	New Zealand		

IV. How to set ANPR with Milesight Network Cameras

The following introduction is based on the latest version of LPR 45.8.0.3-LPR_AP-r5; Before setting it up, you can update your device to the latest version.

1. General

Step1: Go to "Traffic" -> "LPR", after log in the web.

Check the "Enable LPR" checkbox, and you can draw the screen to select the interested areas. There will be shown in the blue box below.

Miles	ight-Network Camera	e) English ~	💄 admin 🗸
Prilies € R	Media M	2 Central Advanced Like Management Like Event No Patters Event Evented 2 Image: Contral Patters Top Patters Event E	Feglish v	▲ admin →

[Country / Region]: Select a country within the appropriate region.

Image Settings			•
Enable LPR Image Mode	0		
Level	5	o	

[LPR Image Mode]: In order to recognize the attributes of vehicles and license

plates in different environments, [LPR Image Mode] can be enabled, a special exposure mechanism for license plate recognition that can effectively suppress the exposure of car lights at night for night license plate recognition.

Achieve the best effect of LPR night recognition by adjusting different parameter levels. When LPR picture mode is enabled, backlight, exposure and day/night switching parameters will be set to special values. Minimum shutter for each level: 1- 1/250, 2- 1/500, 3- 1/750, 4- 1/1000, 5- 1/2000.

The picture below shows the night recognition effect after turning on the LPR Image Mode.



Step2: Detection Region

[Set LPR Detection Region]: You can set up to 4 ROI areas by drawing the screen. It is recommended to draw the ROI detection area at the center of the screen to ensure the recognition of the vehicle after it fully enters the screen and the integrity of the vehicle screenshot.





Notes

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The optimal license plates width for recognition is within 100-200 pixels.
In order to obtain better performance, the lens can be properly zoomed in so that the vehicle is in the center of the camera's field of view to ensure clear recognition of the license plate.

Detection Mode	Plate Priority O	Vehicle Priority (i
Detection Trigger	Always	~
Repeat Plate Checktime	1	min. V (0-60)
icense Plate Serial Format	Edit	
Attributes Identification	MI AII	
	Plate Color	Vehicle Type
	🔀 Vehicle Color	Vehicle Brand
	Detection Region	Direction
	<u> </u>	

Step3: Detection Settings

[Detection Mode]: If you choose the "Plate Priority", the camera will first capture the license plate information of the vehicle entering the screen. If you select the "Vehicle Priority", the camera will first locate the target vehicle and then recognize the license plate to avoid some false detection. Note: 1. Vehicle priority mode can identify vehicles without license plates.

2. Vehicle priority: Adopt the "vehicle priority" vehicle identification method, mainly based on the appearance characteristics of the vehicle for automatic identification, such as model, body color, vehicle logo, etc., this method can be applied to many different types of vehicles;

3. License plate priority: The vehicle identification method of "license plate priority" is adopted, and the automatic identification is mainly based on the license plate information on the vehicle, so the accuracy of license plate recognition is high.

[Detection Trigger]: If you choose "Always", camera will always detect the license plate. If you choose "Alarm input", camera will only detect the license plates when Alarm Input is being triggered.

Alarm Input trigger can be used in entrance & exit management for gate control, parking lot management and other scenarios. The Alarm input interface of the LPR is usually connected to the Ground loop coil. When a vehicle passes by, the Ground loop coil will be triggered and transmit a signal to the Alarm input interface of the LPR Camera, thereby triggering the IPC to recognize the license plate information.

[Repeat Plate Checktime]: Set the time interval for repeatedly reading license plates to effectively avoid duplicate identification of parking vehicles.

	License Plate Character Count	License Plate Serial Format	Enable	Operation
0	All			

[License Plate Serial Format]: License Plate Serial Format function supports formulating identification rules and can automatically do further processing, filter license plates in non-compliant formats to achieve more intelligent and accurate license plate recognition.

Through the License Plate Serial Format, you can set special rules to filter out the corresponding license plates, and only the license plates that meet the rules will be automatically displayed and displayed on the real-time view interface. For example, we can set the number of license plate characters to 7 characters, and the format is "A*****". When we enable "Filter number of characters", only license plates that match the 7 characters of the license plate and start with a letter will be pushed and displayed.

	License Plate Character Count	License Plate Serial Format	Enable	Operation
0	All			
1	7	Axxxxxx	-	/ î



Note:It	sup	ports	up	to	10	license	plate	characters.
	Jup	00100	ЧP			1001130	place	characters.

[Attributes Identification]: Check Plate Color, Vehicle Type, Vehicle Color, Vehicle Brand, Detection Region, Direction, Country, Region or All to enable Attributes Identification, it will display the corresponding information on the logs interface.

LPR Message Post Settings			-
Enable LPR Message Post			
Post Type	O HTTP O TCP O RTSP		
Camera LPR Port	3344	(1~65535)	

Step4: [LPR Message Post Settings]: Check the checkbox to enable LPR Message Post. It will push information to some third-party devices or software that are compatible with ours. Information can be transmitted by RTSP, TCP or HTTP.

Note: If you need to add LPR Camera to Milesight NVR/CMS/VMS Enterprise, you must select the TCP type to transmit data to the back-end software; if you add LPR Camera to MS NVR/CMS/VMS Enterprise through mapping, then TCP ports also need to be mapped.

More information about LPR Message Post, please refer to <u>Milesight-Troubleshooting-Integration between LPR Camera and NVR(VMS)</u>. Step5: Schedule settings.Set the effective time of license plate recognition.



Step6: Don't forget to click "Save" after finishing all settings.

2. Advanced

In the interface, you can set display information on snapshot of license plate recognition and also customize the file name of snapshots which are uploaded via FTP or Email or stored on local LPR Picture File Path.

Mile	<i>sight</i> ·Network Came	ra								🕀 English 🗸	💄 admin 🗸
	🗂 Media	>	General	Advanced	List Management	List Event	No Plates Event	Evidence			
•	Network	>	Canada	La 020							
\odot	🗑 Storage		Snaps	hot File Name				,			
	S Event	>									
ø	📾 Traffic	v									
	LPR Speed Monitoring Smart Search										
	😨 System	>									
									See .		

[Snapshot OSD]:Set the screenshot OSD options.

Each time when an item is checked, the list will add the item row, including the item name and sorting operation. You can click and button to sort these items and choose separator to connect these items name. Also, the content of Position and Device ID items can be customized. When you check all items, the function interface will show as below.

Font Size	Medium	~	
Font Color		•	
Background Color			
OSD Position	Тор	¥	
OSD Infomation	E All		
	Plate		
	🔽 License Plate	Plate Type	Plate Color
	Vehicle		
	Vehicle Type	Vehicle Color	Direction
	Speed		
	Others		
	🛃 Time	Position	Device ID
	Detection Region	Device Name	Line Break Characte
Item of	File Name	spaces	Sorting
Т	ìme	1 ~	J≣ 1≣
Devic	e Name	1 ~	J <u>≡</u> 1 <u>≡</u>
SI	peed	1 *	J≣ 1≣
Licen	se Plate	1 ~	J⊟ 1⊟
		(T-T-T-T)	



[Snapshot File Name]:Screenshot file name configuration.

Once license plate is recognized, and the snapshot will be uploaded via FTP or Email or stored on your local LPR Picture File Path. Then, You can see the snapshot file name which you customize as shown below:

onapsnot rile Name				Ť					
Separator	_	~] I	Ō						
Item of File Name	All								
	Plate								
	🛃 License Plate	Plate Type	Plate Color						
	Vehicle								
	Vehicle Type	Vehicle Color	Direction						
	Speed Speed								
	Others								
	Z Time	Position	Device ID						
	Detection Regio	n 🔽 Device Name							
ltem	of File Name		Sorting						
	Time		1⊒ 1⊒						
De	evice Name		1⊟ 1⊟						
Li	cense Plate		1⊒ 1⊒						
	Speed		1⊟ 1⊟						
» 2023-07-31		ٽ ~							
20230731054159 29_Network Camera_G6605FL _#	Image: Non-Alignment of the second	ABJ 699 Y500 RRS 007310534250 202307310534279 0.Network 78, Network 0.9,# # 000000000000000000000000000000000000	YIO9 XRY YIO9 XRY 202307310534310 202307310534320 45.Network 202307310534320 camera Y109XR 12.Network amera Y109XR camera 109XRY	202307 92_N Camer					
202307310534403 45_Network Camera_LITBA_# 20230731054403 202307310 20230720 202000 202000 202000 2020000000000	2020 34431 202307310534462 202307310534462 2023 2025 2025 2025 2025 2	38 LDF 107310534591 Network 26, Network Camera, GG605FL	20230731053458; 48. Network Carrera_EF000AE _# 78.#	202307. 14_N Camera					

3. List Management

Mile:	sight ·Network Came	а						⊕ English →	💄 admin 🗸
	📥 Media	>	General Advanced List Manage	ment List Event No Plates Event	Evidence				
•	Metwork	>	Plate Type All	License Plate					Search
\odot	E Storage		License Plate	Plate Type	Schedule Rule	Valid Time	Note	Operation	
	S Event	>							
ø	R Traffic	~							
	LPR Speed Monitoring Smart Search								
	🖲 System	>							
					No Data:				
							Total 0 30/page ~	< 1 > Go	to 1
			Rules Edit				Add Upload	Export	Delete List

Add the license plates to this interface as Black or White type (Black/White List), and then you can set the alarm action for these license plates in the

corresponding Black list mode or White list mode interface. When these license plates are detected, the camera will respond to your settings accordingly.

Mile	<i>ight</i> Network Camera	à						🕀 English 🗸 💄 admin 🗸
	🖧 Media	>	General Advanced List Management	List Event No Plates Event	Evidence			
•	Network	>	Plate Type All V License I	Plate				Search
\odot	🗃 Storage		License Plate	Plate Type	Schedule Rule	Valid Time	Note	Operation
-	Event	>						
Ø	R Traffic	~						
A	LPR Speed Monitoring Smart Search				Add	×		
	C System	>		License Plate+				
			Russ	Type Valid Time Note	Back List Cancel		Rad 0 30pap	C T D Gets S
			Rules				Add Upload	

[Add License Plate]: click the "Add" button, select the license plate type as black or white, enter the license plate number, after selecting the valid time of the license plate and entering the remark information, the license plate number will be added successfully.

Mile	sight Network Camer	a						🕀 English 🗸	💄 admin 🗸
	😤 Media	>	General Advanced List Management	List Event No Plates Er	vent Evidence				
•	Network	2	Plate Type All Y License						Search
(\bullet)	Storage		Linense Plate	Plate Type	Schedule Rule	Valid Time	Nete	Operato	
	Event	>	Second and a	Control of Law	100000000000000			C PARTING	
0	🖚 Traffic	~							
	LPR								
	Speed Monitoring Smart Search								
	C System	>							
				Batch Up	load				
					Lownload template herel	U-0).			
					Upload Cancel				
							Total 0 30/page *		Go to 1
			Rules Edit				Add Upload		Delete List

[Batch Upload]: You can add a csv file of the license plates you want to add, click the "Browse" button to import the form to this interface, click the "Upload" button, the license plates will be added successfully.



• You can firstly download the template as a reference in this interface.

• It allows to add 1000 license plates to Black and White List.

.....

General	Advanced	List Management	List Event No Plat	es Event Evidence			
Plate Type	All	 License F 	llate				Search
	License P	Plate	Plate Type	Schedule Rule	Valid Time	Note	Operation

[List Search]: Select Plate Type or directly enter the license plate number, click the "Search" button, the corresponding license plate will be displayed in the list as below.

[Export List]: Click the "Export List" button to export the license plates in the current list as a csv file locally.

[Delete List]: Click the "Delete List" button to delete all the license plates in the current list.

4. List Event

Step1: Select the List Type, Black list, White list or Visitor.

eneral	Advance	d	List M	lanager	ment	List	Event	N	lo Plate	es Ever	nt	Evide	ence
ist Type	Black Lis	t	White L	ist	Visitor								
able													
Schedule	e Settings											8	~
p	2	4	6	8	10	12	14	16	18	20	22	24	
Sun.													
Mon.													
Tue.													
Wed.													
Thu.													
Fri.													
Sat.													
	Select	All	Cle	e <mark>ar</mark> All									
Alarm Ac	tion											3	>

Step2: Schedule Settings. You can draw the schedule by clicking "Edit" button.

Mile	sight Network Camera	a		🌐 English 🗸	💄 admin 🗸
	ය Media	,	General Advanced List Management List Event No Plates Event Evidence		
•	Network)	List Type Riack List Write List Victor		
\odot	E Storage		Enable		
	S Event	>	The definition of the definiti		
8	Traffic LPR Speed Monitoring Smart Search System	•	Scheduk Botengy v P 2 4 8 10 11 10 12 11 Ske		

Step3: Set Alarm settings.

rm Action	
Record	>
Snapshot	>
External Output	>
Play Audio (Please enable the Audio Speaker.)	
Alarm to SIP Phone (Please open the SIP.)	
HTTP Notification	>



Parameters	Function Introduction
Record Video Sections	Six different periods are available(5, 10, 15, 20, 25, 30 sec)
Pre-record	Reserve the record time before alarm, $0\sim10$ sec
Snapshot Type	The type of Snapshot, License Plate, Full Snapshot or All.
Snapshot	The number of snapshot, 1~5
Snapshot Interval	It cannot be edited unless you choose more than 1 to Snapshot
External Output	Duration of an alarm. It cannot be edited unless you enable the
Action Time	External Output on the Alarm Action firstly.
	Set the audio schedule to trigger different audio files for
Audio Action	different alarm actions.
Settings	Note: The audio files you can upload in "Audio File Manager" interface.

		a
	P Local	Audio Audio File Management
	Media Video	Audio File Storage Type Flash ~
	Image Audio	Audio File ①
	O Network	ID Audio File Name Delete
	Storage	1 filename1
	S Event >	Add
	S PTZ	
	📾 LPR 🔷	
	I System >	_
Play Audio Interval	Auto/ 10 secor	nds/ 30 seconds/ 1 minute/ 5 minutes/ 10
	minutes are ava	lable.

After that, when a license plate marked as **"Black", "White", "Visitor"** is detected, the camera will respond accordingly to your settings.

5. No Plates Event

When enabled, LPR switches to vehicle priority mode.

Enable		V (D											
Detection R	egion	All					×.							
Schedul	e Settings													
1	2	4	6	8	10	12	14	16	18	20	22	24		
Sun.														
Mon.														
Tue.														
Wed.														
Thu.														
Fri.														
Sat.														
	Select A		Cle	ar All										
Alarm Ad	tion											>		

[Detection Region]:Up to 4 ROI area detection can be selected.[Schedule Settings]:You can draw the schedule by clicking "Edit" button.[Alarm Action]:Set the relevant no-license plate event alarm action.For details, refer to List Event alarm action.

6. Evidence

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The Evidence function is often used at traffic intersections or parking lot entrances. With this feature, LPR cameras can be linked with other cameras to take full-view snapshots to help substantiate violations. For example, when a vehicle is driving on an illegal lane, the LPR camera will only take pictures of the license plate or vehicle, but the evidence camera can take background photos so that we can know whether it is illegal or not.

[°]	Media	>	General	Advanced	List Managem	ent List	Event N	lo Plates Event	Evidence
•	Network	>	Enable						
8	Storage		Evid	anca Camaras					
5	Event	>	Evia	ID	Namo	Enable	Statue	Operati	0.7
0	Traffic	~			Manne	Linable	Status	Operati	on -
	LPR					No Data			
	Speed Monitoring			Add					
2	System	>	Even	t Settings					>

Add an evidence camera to trigger the capture. Whenever the license plate recognition is triggered, the evidence camera can be used to capture scenes from different perspectives.

Camera Na	ime*		
User Name	2.8		
Password*			
Address*		1	

[Evidence Camera]:Enter the username, password, Address of the evidence camera to add the evidence camera.

Note:

- 1). Up to 2 evidence cameras can be added.
- 2. Evidence camera captures primary stream picture by default.
- ③. For the Address, input evidence camera IP directly for Milesight camera,

and snapshot URL is supported for third-party camera.

7. Professional LPR Live View Interface

Milesight LPR camera supports professional LPR Live View interface. You can see the real-time license plate recognition results.



Note:

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① Upgrade your device to corresponded firmware version.

Camera: V45.8.0.3-LPR_XX or above.

Firmware download link: Firmware Download The Latest Innovation Milesight (2) If there is no SD card or NAS as the storage space, the snapshots of license plate will be temporarily stored locally on the PC, cleared after logging out, and do not support Smart Search which will be introduced in the next part. (3) If a Evidence camera is added, after the license plate information is recognized, click O button to view the vehicle identification information and the pictures captured by the Evidence camera. The second picture is the picture captured by the evidence camera.



8. Smart Search

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Step1: Select Plate Type or directly enter the license plate number.

Step2: Select the corresponding recognition attribute, as well as the start time and end time, and click the "Search" button to realize the license plate search that meets all conditions. The corresponding license plate or the license plate containing the search keywords will be displayed in the log, and the complete video and license plate will be displayed on the left side of the interface.



Step3:If there is an evidence camera added, then after searching out the relevant license plate information.

Click the button in the red box in the picture to see the picture captured by the evidence camera.



There are two methods to backup LPR logs.

① Backup license plates you want.

Step1: Tick license plates you want to backup and click "**Backup**" button ; Step2: Select the export file type, video stream type and video file format, then click "**Export**" button.

	Export	×
Export File	Plate List Video Pictur Plate List(With pictures)	e
Video File Format	MP4 ~	
	Export Cancel	

2 Backup all.

Step1: Click "Export All" button;

Step2: Select the export file type, video stream type and video file format, then click "**Export**" button.

You can also click the "**Auto Export**" button to automatically export the logs to FTP, SMTP or Storage.

Enable			
Day	Everyday	~	
Time	· 09:00:00		
Export Time Range	Last 1 day	~	
Export to	FTP Zemail Sto	orage	
Sa	cancel		

Note:

(1) Insert available SD card or add NAS to camera as storage. Otherwise, you can't check the LPR recording and snapshots.

2 Upgrade your device to corresponded firmware version.

Camera: VXX.8.0.3-LPR XX or above.

Firmware download link:

http://www.milesight.com/support/download#firmware]

V. How to set ANPR with Milesight NVR

1. Preparation

Here are some notes you should notice before using ANPR function.

(1) Insert available HDD or add NAS to NVR as storage. (Otherwise, you can't check the recording and logs.)

(2) Upgrade your device to corresponded firmware version.

Camera: VXX.8.0.3-LPR XX or above.

NVR: V7X.9.0.7-r7 or above.

Firmware download link: Firmware Download The Latest Innovation Milesight

- ③ Ensure your device support LPR/ANPR function. Model of NVR:
- MS-N1009-UT / MS-N1009-UNT/MS-N1009-UPT
- MS-N5008-UT / MS-N5016-UT
- MS-N5008-UPT / MS-N5016-UPT
- MS-N7016-UH / MS-N7032-UH (16 ANPR Channels)
- MS-N8032-UH / MS-N8064-UH (16 ANPR Channels)
- MS-N7016-UPH / MS-N7032-UPH (16 ANPR Channels) Name of LPR Camera:
- Road Traffic Series

Intelligent Traffic ANPR Security Camera (milesight.com)

(4) Ensure that NVR can get license plate information. Please set TCP as Post Type which is the default mode. It can be set in Camera web page -> Traffic" -> "LPR" -> "LPR Messsage Post Settings"



2. Settings

Step1: Go to **"Smart Analysis" -> "Analysis Settings" -> "ANPR"**, select a channel and enable ANPR function.

<i>A</i> *	Smart /	Analysis						🛨 СРИ 6%	Memory 16%
•••					AN	PR			
Analysis Search 🕨	Settings	List Manaç	gement	Blaick List #	Aode White List Mode	Visitor Mode			
Analysis Settings 🗸 🔻					1 2	3 4	5	6 7	8
ANPR									
Face Detection	Person1	Bedon2							
People Counting		Channel: 1 N	iame: CAM1						
Heat Map	Please draw the so	reen for settings.			ANPR	C Enable			
	Add	Clear	Delete Ali		License (http://www.com	545C6894FCF0D	ADC237DEA1ECF5578F10	D6569DADC237DEA1ECF	85679F
POS	ID	Nome	Edit	Delete	Country / Region	Valia			_
	2	ROL1	DX IX	10	199 Imana Moria	- Enoble			
					Level				
					Effective Time	Edit			
					Detection Settings	Edit			
					Please config the Action in Black Lis	t / White List or Visitor Mode.			
Live View								Apply	Back

[License]: A license will be automatically assigned to each device.

[License Status]: This column is used to display the status of the license, "Valid" or "Invalid".

[Country/region]: The current region and country selection will be automatically synchronized.

[LPR Image Mode]: Achieve the best effect of LPR night recognition by adjusting different parameter levels.

Step2: Set ANPR function effective time. You can draw the schedule by clicking "**Edit**" button. Draw the schedule and then click "**OK**" or "**Apply**" after finishing setting.

Clear All		Seleci	AII .		Eall	10	10			10	00	00	
-	0	2	4	0	8	10	12	14	16	18	20	22	24
sunday													
Wednesday													
Thursday													
Friday													
Saturday													
Holiday													
-			500	2									

Step3: Set Detection Settings.

Detection parameters includeRepeat Plate Checktime, License Plate Format and Attributes identification.

[Detection Trigger]: Always and Alarm Input are available. It will only detect when alarm input is triggered if you select Alarm Input.

Detection Trigger	Always	
Repeat Plate Checktime 🔀	1 🔶 Minu	ute 🔻 (0~60min)
icense Plate Format	Edit	
Attributes Identification	All	
	Direction	
	Plate Color	Vehicle Type
	Vehicle Color	Country/Region
	Vehicle Brand	
1		

[Repeat Plate Checktime]: The same license plate information won't be received on NVR within the time you set.

[License Plate Format]: Formulate identification rules and automatically filter wrong license plate information to achieve more intelligent and accurate license plate recognition.



[Attributes Identification]: Select Region Direction, ROI_ID, Plate Color, Vehicle Type,Vehicle Color, Country/Region, Vehicle Brand or All to enable Attributes Identification, it will display the corresponding information on the logs interface.

Step4: Set the detected ROI region which can be up to 4 regions. License plate will only be detected in the ROI regions.



3. List Management

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Make a license plate list for your own NVR ANPR system.

Upload license plates and set them with different license type here. 10000 License plates can be added at most.

Kindly note that the list is exclusive for NVR, working with all LPR cameras you add. It won't synchronize with the list on camera side.

<u>م</u> .	Smart Analysis			CPU 6% Memory 20%
Analysis Search 🕨	Settings List Management	Black List Mode White List Mode	Visitor Mode	
Analysis Settings	Ucense Plate Plate Type	Al		
				Search
ANPR	Ucense Plate	Plate Type	Edit	Delete
Face Detection				
People Counting				
Heat Map				
POS				
	Total 0 Items	Page: 1~1 🕊 🖌 1	Go	Download Template
			NOU Delete List	indon Expon sock

There are two methods to add license plates:

① Add one by one.

Step1: Click Add button .

Step2: Input the license plate and select license type.

Step3: Click OK and then the license plate will be added into the list.

License Fidie	M\$2222
Plate Type	Black

2 Batch upload by importing template.

Step1: Click Download Template button Download Template, select USB device folder and click OK to download Template.

Step2: Input all license type and license plate number as Template shows.

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1	А	В
1	Type	Plate
2	White	2008ZGZ
3	Black	34AB1234
4		
5		
6		
7		
8		
9		
10		
11		
12		

Step3: Click Import button , select the file and click OK to add all license plates into list.

		Device			
evice	Name	A la	Size	Туре	Date Modified
Flash Disk				Folder	2019-12-17 17:57:41
0%	Ist_demo.csv		40 bytes	File	2019-12-17 17:58:36
reation	_				
herafion New Folder Format	-				

4. Black/White/Visitor List Mode

We provide you three modes for better event management. Black List Mode: Manage event for license plates in black list. White List Mode: Manage event for license plates in white list Visitor Mode: Manage event for those license plates do not have license type.

*	Smart Analysis		Level 8% Memory 20%
		ANPR	
Analysis Search 🕨	Settings List Management	Block List Mode White List Mode Visitor Mode	
Analysis Settings 🗸 🔻		1 2 3 4 5	6 7 8
ANPR		5	
Face Detection	Boolent Breford		
People Counting	Channel: 1 Name: CAM1		
Heat Map		Black List Möde 💭 Enable Effective Time Edit	
POS		Action Edit	
Live View			Apply Back

Steps for settings:

Step1: Enable Black List Mode/White List Mode/Visitor Mode as your demand. **Step2:** Set effective time for the mode to work.

Step3: Set actions you need including Audible Warning, Email Linkage, Event Popup, PTZ Action, Alarm Output and Trigger Channels Record.

Audicible Waming Clear All Select All Edit 0 2: 4 6 8 10 12 14 Email Unkage Sunday 2: 4 6 8 10 12 14 Email Unkage Sunday Interday Inte	16 18	20 22 24
Email Linkage Sunday 2 4 6 8 10 12 14 Event Popup Manday Manday 1 1 1 1 1 1 PIZ Action Weanaday Veadawday 1 1 1 1 1 1 1 Alam Output Thunday 1 1 1 1 1 1 1 1 Others Saturday 1 1 1 1 1 1 1 1 Audible Erose 1 1 1 1 1 1 1 1	16 18	20 22 24
Event Popup Event Popup PtZ Action PtZ Action PtZ Action Vednasday Vedn		
PIZ Action PIZ Action Veodnesdoy Vhundoy Chers Colhers Colh		
Alam Output Wednabday Thusday Othes Chines Audable Audable Erase Trigger Intervat 205		
Others Cithers Saturday Holday Audible Erose Trigger Hervol 20s		
Saturday Holiday Audible Erose Trigger Interval 20s		
Holiday Audible Erase Trigger Interval 20s		
Audible Erose Trigger Interval 20s		
Ingger interval 20s		
OK .		ei Anoly

Note:

Do not forget to enable these modes, set effective time and record action for corresponded mode, so that you can get real-time video when license plate is detected (Effective time and record action is enabled by default.). You can refer to **How to check ANPR record** part for detailed record settings.

5. Professional LPR Live View Interface

At the beginning, you need to switch the preview mode to ANPR mode. There are two methods to enter live view ANPR Mode:

(1) Right click the mouse and select ANPR Mode as preview mode.



After entering ANPR mode, the real-time license plate information will be shown on the left of the interface once it get detected.



License plate information includes Plate Snapshot, Channel Name, License Plate Number, Detected Time and Plate Type. Two License types:

- ---- License plate from Black List
- ---- License plate form White List



No License plates type will be shown if the license plate does not exist in Black/White list.

However, you can right click the license plate information to quick add it to Black/White list or delete it from Black/White list.



Besides, you can click the license plate information to check the latest X seconds (10s~20s) video.



Note:

• X = 10 + Pre Record Time

You can set Pre Record Time in Storage -> Video Record -> Record Settings interface.

Pre Record	10s	
Post Record	ls	A
Audio Record	25	
Record Stream Type	35	
Video Due Time	45 55	
	6s	
	7s	
	8s	
	95	
	105	▼

- Make sure that HDD is available on NVR and correct record settings is made, so that you can check the record on live view. Please refer to How to check ANPR record part for detailed record settings.
- Make sure that NVR can get the license plate information. Please set TCP as Post Type which is the default mode. It can be set in Camera web page
 -> Traffic" -> "LPR" -> "LPR Messsage Post Settings".

PR Message Post Settings			
Enable LPR Message Post			
Post Type	🔿 HTTP 🧿 TCP 🔿 RTSP		
Camera LPR Port	3344	(1~65535)	

6. Set/Check ANPR Record

Before checking recording files, please make sure that you have proceed correct settings to make record action work.

① Set Recording

Step1: Set Smart Analysis as Record Type in Storage -> Video Record -> Record Schedule interface.



Step2: Enable Black List Mode / White List Mode / Visitor Mode as your demand.

Step3: Set Effective time and Trigger Channels Record action of your selected mode (Full effective time and trigger channel record are set by default).

Audible Warning	Trigger Chan	nels Record						
	IA 🔳							
Email Linkage	1	2	3	4	5	6	7	8
Event Popup	9	10	11	12	13	14	15	16
	17	18	19	20	21	22	23	24
PTZ Action	25	26	27	28	29	30	31	32
Alarm Output	33	34	35	36	37	38	39	40
	41	42	43	44	45	46	47	48
Others	49	50	51	52	53	54	55	56
	57	58	59	60	61	62	63	64
							ß	
							200	

Then NVR will record when license plate is detected.

Note:

Generally, record action is triggered by event. If you just enable ANPR function without enabling Black List/White List/Visitor modes nor setting record action, it means you just enable the function while record action is not set.

Then no record will be triggered. So it is necessary to do all above three steps if you want to trigger record action.

- 2 Check recording
- > In Playback

Step1: Entering Playback -> Event Playback -> Smart Analysis interface.



Step2: Input corresponded information and click search button to search.

Step3: Click record to play the video searched out .





> In Live View

Click the license plate information to check the latest X seconds (10s~20s) video.



Note:

• X = 10 + Pre Record Time

You can set Pre Record Time in Storage -> Video Record -> Record Settings interface.

-			
l	Pre Record	10s	
ľ	Post Record	ls	
	Audio Record	25	l
	Record Stream Type	35	I
	Video Due Time	55	I
		6s	I
		75	I
		85	I
		95 10c	

• Make sure that HDD is available on NVR and correct record settings is made so that you can check the record on live view interface. Please refer to **How to**

check ANPR record part to check if record action is correctly set.

7. Check/Backup ANPR Logs

(1) Check ANPR logs

^ .							
				ANPR			
		States of the second			ANPR Logi		
ANPR		-				10Y .	X2L
		1	JUD 7340	BRC 5013	VDS 6924	СНІ 2023-06-30 04.04.38	1703
	Channel: 1	Nome: CAM1	ND 7104 A	Puin coaft	-	Now Engl	VDH 4958
			Сні 2023-04-30 04:07:33	СН1 2022-06-30 06:08:31		ЧОМ ЭЛОТ	CHI 2023-06-30 06:13:24
		• • •	and the second second			and the second se	Transition
	Channel: 1 Time: 2023-06-30 06:02:10 License Plate: JUD7340 Plate Color: Black Vehicle Color: Black	Plate Type: Visitor Vehicle Type: Car	JRU7571	CDJ 5842	CH1 2023-06-00 06:22:17	CHI 2023-06-00 06/24:00	СH1 2023-06-30 06:29:51
	Vehicle Speed: 47 Country / Region: N/A	Direction: Approach ROLID: 1	WC 1985 Y	JUB 6580	JUE 1422	NB 1340 U	JSK 5983
			CHI 2023-04-30 56.26.17	CHI 2023-06-30 06-28:38	СНІ 2023-06-30 06-29 06	Сні 2023-06-30 06:30:39	Сні 2023-06-30 06:32:47
						* *	Total: 74 Page: 1/4

Step1: Search on Smart Analysis -> ANPR interface.

Step2: Input corresponded information and click search button **Search** to search.

Then you will get a whole ANPR logs list.

License plate snapshot will be shown on the logs list while the complete image video and license plate information will be shown on the left of the interface.

à	Smart Analysis		CPU 5% Memory 16%
		ANPR	
Analysis Search 🔻	Channel		
	I Description to the total		
	License Pote Type		
	Plate Color	24	
	Vehicle Type	Al	
	Vehicle Color	Al	
People Counting	Vehicle Speed	Al	
	Direction	Al	
	Start Time	2023-06-30 🔻 00:00:00	:
	End Time	2023-06-30 👻 23-39-59	\$
POS			
Andrys senings			
Live View			Search Back

Step3: Click \bigcirc to play the video.



2 Backup ANPR logs

Two methods are available after searching ANPR logs out .

Backup license plates you want.

Step1: Tick license plates you want to backup and click backup button

Backup

Step2: Select the export file type, video stream type and video file format, then

click export button

➢ Backup all.

Step1: Click backup all Backup All button.

Step2: Select the export file type, video stream type and video file format, then click export button.

Then you will get corresponded file as selected export file type.

Picture	12/19/2019 6:49 AM	File folder
Plate List	12/19/2019 6:48 AM	File folder
Video	12/19/2019 6:49 AM	File folder

VI. How to set ANPR with Milesight CMS

1. Preparation

- ① Refer to the NVR section
- ② Upgrade your CMS to corresponded version.

CMS: V2.4.0.7 or above

Download link: Surveillance Software Download |Milesight

2. Settings

Milesight

Step1: Add Camera to CMS.

Step2: Go to **"Device Config"**, select a NVR and the channel, then enable ANPR function.



[License]: A license will be automatically assigned to each device.

[License Status]: This column is used to display the status of the license, "Valid" or "Invalid".

fective Region Settings:	Normal	•	
Effective with Presets:	Preset1	▼ K [*]	
1.14755789	1	,	
	+ Add Clear	Clear All	Delete

[Set LPR Detection Region]: You can set up to 4 ROI areas by drawing the

screen. License plate will only be detected in the ROI regions. **Step3:** Set detection Settings:

Detection Trigger:	Always			*
Confidence Level:		4		
Repeat Plate Checktime:	0	\$	Milliseconds	▼ 0~60000ms
icense Plate Serial Format:	Edit			
eatures Identification:	All			
	Direction		V De	etection Region

[Detection Trigger]: Always and Alarm Input are available. It will only detect when alarm input is triggered if you select Alarm Input.

[Repeat Plate Checktime]: The same license plate information won't be received on NVR within the time you set.

[Feature Identification]: Check **Direction,Detection Region** or **All** to enable Feature Identification, it will display the corresponding information on the logs interface.

3. List Management

Make a license plate list for your own NVR ANPR system.

Upload license plates and set them with different license type here. 10000 plates can be added at most.

Kindly note that the list is exclusive for NVR, working with all LPR cameras you added. It won't synchronize with the list on camera side.

eneral Settings	List Management	Black List Mode	White List Mode	Visitor Mode			
cense Plate				Plate Type	All	• Search	
	License Plate	F	late Type	Edit		Delete	
	134W221		White	1		m	
	134WE21		Black	2		Ē.	
	2008ZGZ		White	1			
			Totak3 14	b b	1/1	Go Page 1/1	

There are two methods to add license plates:

(1) Add one by one.

Step1: Click Add button Add .

Step2: Input the license plate and select license type.

Step3: Click OK and then the license plate will be added into the list.

	AIIII	
Plate Type	Black	•
ate Type	Black	

2 Batch adding by importing template.

Step1: Click Download Template, select folder and click OK to download Template.

Step2: Input all license type and license plate number as Template shows.

1	A	B
1	Type	Plate
2	White	2008ZGZ
3	Black	34AB1234
4		
5		
6		
7		

Step3: Click Import button select the file and click OK to add all

license plates into list.

4. Black/White/Visitor List Mode

We provide you three modes for better event management, which is based on two license types.

Black List Mode: Manage event for license plates in black list.

White List Mode: Manage event for license plates in white list

Visitor Mode: Manage event for those license plates do not have license type. Steps for settings:

Step1: Enable Black List Mode/White List Mode/Visitor Mode as your demand. Step2: Set effective time which means Mode works during that.



Step3: Set action including Audible Warning, Email Linkage, PTZ Action, Alarm Output.

eneral Settings	L	ist Mana	gement	Black	List M	ode W	hite List	Mode	Visitor	Mode				
0		2	4	6	8	10	12	14	16	18	20	22	24	
0 Holiday		2	4	6	8	10	12	14	16	18	20	22	24	
larm Action														٦
Audible Warnin	g	Email	Linkage	PTZ A	ction	Alarm (Dutput	Other	Channel	5				
						Select All	Cle	ear All						
	0	2	4	6	8	10	12	14	16	18	20	22	24	
Sunday	0	2	4	6	8	10	12	14	16	18	20	22	24	
Monday	0	2	4	6	0	10	12	14	16	10	20	22	24	
Tuesday		- -	4	v	0	10	12	14	10	10	20	~~	24	
Wednesday	0	2	4	6	8	10	12	14	16	18	20	22	24	
weakesday	0	2	4	6	8	10	12	14	16	18	20	22	24	
Thursday	0	2	4	6	8	10	12	14	16	18	20	22	24	
Friday	0	2	4	6	9	10	12	14	16	19	20	22	24	
Saturday		2	4	0	•	10	12	14	10	10	20	~~		
Holiday	0	2	4	6	8	10	12	14	16	18	20	22	24	
		[_										
Iriggered Inter	rval	20s												_

5. Set ANPR Record

Step1: Set Smart Analysis as Record Type in Device -> Select NVR -> Record Schedule interface.

Live View × do Devices :	🛛 🚯 Device Config × 🕂		admin 🔒 🔤 20% 🔤 47% 🔻 🔤 🖓 🗙
Image: View # Device: Image: View # Device: Image: View Image: View # Device: Image: View Image: View Image: View # Device: Image: View Image: View	Channels Event Storage System Channels Event Airm Input Record Schw General	Minimum Classified Betch Standy General Standy General Standy Classified Classified <thc< th=""><th>admin ĝi 1992≥20 197 - 97 - 97 - 97 - 97 - 97 - 97 - 97</th></thc<>	admin ĝi 1992≥20 197 - 97 - 97 - 97 - 97 - 97 - 97 - 97

Step2: Enable Black List Mode / White List Mode / Visitor Mode as your demand.

Step3: Set Effective time and Trigger Channels Record action of your selected mode(Full effective time and trigger channel record are set by default).

			A	stion				
Audible Warning	Trigger Chan	nels Record						
Email Linkage	1	2	3	4	5	6	7	8
Event Popup	9	10	11	12	13	14	15	16
	17	18	19	20	21	22	23	24
PTZ Action	25	26	27	28	29	30	31	32
Alarm Output	33	34	35	36	37	38	39	40
	41	42	43	44	45	46	47	48
Others	49	50	51	52	53	54	55	56
	57	58	59	60	61	62	63	64
		ga e e a lingui din		ageneses of the Adding	n yez eye a fildin.		12	
					_	ок	Cancel	Apply

Then NVR will record when license plate is detected .

Note:

Generally, record action is triggered by event. If you just enable ANPR function without enabling Black List/White List/Visitor modes nor setting record action, that means you just enable the function while record action is not set. Then no record will be triggered. So it is necessary to do all above three steps if you

6.Check/Backup ANPR Logs

① Check ANPR logs

⊕ Live View × B Device Config × ⊕ I	Devices × 🗹 Smart Analysis × +						admin	∂ 222 4%	ense ₹ _ D >
응 Camera 192.160.69.189		Camera192.168.69.18	,	×	ANPR Logs				+
	Milesiaht	OOGXI		DOIGXF	ODGXF		BRY417		INY6290
	I I I I C S I C I I C S I C I C S I C I C S I C I C S I C I C S I C I C S I C I C S I C I C S I C I C S C S C S C S T C S C S T C S C S T C S T C S T C S T C S T C S T C S T C S T C S T C S T C T C T C T C T C T C T C T C T C T C T C T C T C T C T C T C T T C T T C T T C T T T T T T T T T T	Camera192-		Camera192.	Camera192		Camera192.		Camera192
		MRY417 Camera192_		INV6290 Camera192.	MRY417 Camera192.		AB123CD Camera192.		PGC0000 Camera192
Chann Time : License	() ()	PGC000		10TX	AB123C0		TNV6290		MRY417
Countr Detect	y / Region: URU Direction: N/A ion Region: 1	Camera192		Camera192.	Camera192.		Camera192.		Camera192.
1/1 License Plate		PGC00		M6RY417	INY6290		MGRV4S1R		GPR356
Start Ime 2023/06/29 00:00:00 ▼ End Time 2023/06/29 23:59:59 ▼		Camera192.		Camera192.	Camera192.	Total:25	Camera192.	H 1/2	Camera192 Go Page 1/2
Q. Search								Back	tup All Backup

Step1: Search on Smart Analysis interface.

Step2: Input corresponded information and click search button

⁹ Search to search.

Then you will get a whole ANPR logs list.

License plate snapshot will be shown on the logs list while the complete image video and license plate information will be shown on the left of the interface.

Step3: Click \bigcirc to play the video.



2 Backup ANPR logs

Two methods are available after searching ANPR logs out .

> Backup license plates you want.

Step1: Tick license plates you want to backup and click backup button

Step2: Select the Export File Path, File Type, Video stream type and Video file format, then click export button.

File Path	l l
Export File	Plate List Video Picture
Video Stream Type	Primary Stream
Video File Format	MP4
	0%

➢ Backup all.

Milesight

Step1: Click backup all Backup All button.

Step2: Select the export file type, video stream type and video file format, then click export button.

Then you will get corresponded file as selected export file type.



VII. How to set ANPR with Milesight VMS Enterprise

The following functions and pages are based on the latest version of VMS Enterprise (1.7.0.0)

1.Preparation

Here are some notes you should notice before using ANPR function.

①. Upgrade your VMS Enterprise to corresponded version.

VMS Enterprise: V1.3.0.0 or above

②. Only the LPR cameras added by MSSP protocol support ANPR function for VMS Enterprise.(The V1.7.0.0 version can support ANPR back-end algorithm, making it possible to use ANPR solutions whether it is an LPR camera or not.)
③. Make sure that VMS Enterprise can get the license plate information.
Please set TCP as Post Type which is the default mode.

Enable LPR Message Post 🏾 💽	
Post Type 🛈	
тср	
Camera LPR Port	
3344	

2.ANPR Setting

Smart analysis mainly focuses on back-end ANPR Settings (supporting Non-LPR cameras). ANPR Settings for LPR cameras can be set on the Setting-Device Configuration page.

(DANPR back-end Settings

The additional license and the Analytics Server are required to use this feature.

Live View				Settings			
General	Email Service	Time Synchronize	System Update	License Activation	Application Management		
No.	Туре	License Quantity	Activation Code	Server	Expiry Time	Status	Operation
1	ANPR	16	49ed-44	🎕 Surveillance Syste	2023/12/02 00:00:00	Working	D E
2	Camera Access		Free Trial	🛍 Surveillance Syste	2022/12/10 13:51:21	Expired Soon	Ed

Step1: Select a camera in the devices list tree, then click **Devices** button to enable Detection.

|--|

Step2: Select Country/Region

(country/Region
	Europe ^
1	Europe
	Australia
	India
	Japan
	Korea
	Mexico
	Thailand
	Vietnam

Step3: Set Detection Region

You can set up to 4 ROI areas by drawing the screen. If you choose Normal Mode, it supports configuring the LPR detection regions for the current area.



Notes

• The optimal interval of Milesight LPR cameras to recognize the license plates width is within 100-200 PX.

• In order to obtain better performance, the lens can be properly zoomed in so that the vehicle is in the center of the camera's field of view to ensure clear recognition of the license plate.

Step4: Schedule Setting. You can draw the schedule by clicking button.and then click **save** button after finishing the settings.



Step5: Set Detection Settings and Snapshot OSD







Detection Settings

Snapshot Settings

2 LPR Camera Setting

Here the configuration of the camera web side will be automatically obtained. If the camera web side is not configured, you can configure it in the interface of VMS. After the configuration is completed, it will be synchronized to the camera web side.

Step1: Select a camera in the devices list tree, then click Dutton to enable Detection.



Step2: Select Country/Region and Process Resolution.



Step3:Image Settings.



Step4:Set Detection Region.

You can set up to 4 ROI areas by drawing the screen. If you choose Normal Mode, it supports configuring the LPR detection regions for the current area.



Step5: Schedule Setting. You can draw the schedule by clicking ^{BB} button and then click **Save** button after finishing the settings.



Step6:Detection Settings.

Detection Trigger		
Always		
Repeat Plate Checktim	e	
10		millisecond(s)~
Features Identification	- Alles Stiller	
🗹 Plate Color	Vehicle Type	
Vehicle Color	Detection Region	

[Detection Trigger]: If you choose "Always", camera will always detect the license plates. If you choose "Alarm Input", camera will only detect the license plates during Alarm Input is being triggered.

[Repeat Plate Checktime]: Set the time interval for repeatedly reading the license plates to effectively avoid duplicate identification of parking vehicles.



Notes

Milesight

• The optimal interval of Milesight LPR cameras to recognize the license plates width is within 100-200 PX.

• In order to obtain better performance, the lens can be properly zoomed in so that the vehicle is in the center of the camera's field of view to ensure cle ar recognition of the license plate.

Step7:Snapshot OSD.

napshot OSD			
Font Size			
	•		6% 🗘
Font Color			
Enable Background	Color 💽		
OSD Position			
Тор			
OSD Information			
All			
Plate			
License Plate	Plate C	olor	
Vehicle			
Vehicle Type	Vehicle	Color	
Others			
Time	Positio	n	
Device ID	Detecti	on Region	
Device Name	🗌 Line Br	eak Character	
OSD Informat	Edit	Space	Sorting

Step8:LPR Message Post Settings.



[Enable LPR Message Post]: Click 🔍 button to enable LPR Message Post. It

will push information to some third-party devices or software that are

compatible with ours.

Milesight

[Post Type]: Information can be pushed by RTSP, TCP or HTTP.

TCP: Default Post Type, recommended for current VMS. HTTP: To push License Plate information to the configured HTTP server. RTSP: Only works with those servers which support to receive ONVIF alarm stream via RTSP.

Note: Only when it is set to TCP mode, VMS can receive the data identified by LPR Camera.

[Camera LPR Port]: This option is available for TCP Post type.

[HTTP Method]: There are two HTTP push methods: Post and Get.

Post Type (i)	
НТТР	
HTTP Method	
Post	
Snapshot Type	
All	
HTTP Notification URL	
User Name	

[Snapshot Type]: Three kinds of snapshot can be chosen: All, License Plate and Full Snapshot. When you choose All, License Plate Snapshot and Full Snapshot will be pushed.

Note: This option is available just for Post HTTP Method.

[HTTP Notification URL]: The camera can use the API URL to send LPR information to other devices when the license plate is recognized. The API URL format is defined by the HTTP Server.

[User Name]: User name for HTTP Server.

[Password]: Password for HTTP Server.

Step9: Click **Apply** button to apply all settings.

3. ANPR Preview

Milesight

After enabling Detection in the ANPR Settings -> Detection Setting interface, you can click button in the right Function Panel, and the real-time license plate information will be shown on the right of the interface once it is detected.



The license plate information includes Plate Snapshot, Device Name, IP, License Plate Number, Detected Time and Plate Type.

Two License types:

License plate from Black List

License plate from White List

No License plate type will be shown if the license plate does not exist in Black/White list.

You can right click on the ANPR notification push window to pop up a menu, and choose to add the license plate to White or Black List in the VMS system. If the license plate has already existed in the White or Black List of VMS system, then you can choose to change its type or delete the license plate from White or Black List.



Besides, you can click the license plate information to check the 20s video. (20s = the pre 10s + the post 10s of the license plate event)

Note:

Make sure that correct record schedule settings is made or the ANPR event rules are set to trigger recording, so that you can check the record in the ANPR Preview Panel.

4. ANPR Management

Add the license plates as Black/White List as needed in the interface, and the license plates without the set types are the visitors. After enabling license plate recognition, VMS Enterprise will automatically receive the recognition result sent by the Milesight cameras and compare it with the black and white list added in VMS Enterprise.

1) License Plate Group

①Add license Plates

You can choose either of the below two ways to add the license plates.

a.Add license plates one by one

Step1: click Add button to pop up a Add Plate window, then input the license plate and select the license plate type as black or white list, and click

button.	
Add	×
*Group Name	*Group Type ①
	Manual ~
Plate Type	*Valid Time
None 🗸	Always ~
*Status 💽	
	Add Cancel

Step2: Repeat the Step1 to add other license plates manually.

b.Batch import license plates

Step1: Click button to pop up a Import Plates window. The imported file must be filled in according to the specified format. You can click button to download the template.

Step2: After filling in, click button to import the plates file, then click button.

After successful import, you can click ⁽²⁾ button to modify the corresponding license plate and plate type.

Note:

- The format of the imported license plates file must be csv.
- The CSV file must be saved in UTF-8 encoding format.
- A license plate can't be repeatedly added to the plate list.
- Maximum quantity of license plates added in the list is 10000.

②Search License Plates



You can select the plate types including Group Type (Black List and White List), Plate Type, Status or directly enter the license plate number, and click the "Search" button, then the corresponding license plates will be displayed in the list below.

Note: The text searched is a case-insensitive contiguous string.

③Export license plates

You can click button to export the license plates in the current list to a csv form locally. If you filter the license plate list, only the filtered list will be exported.

④Delete license plates

Click Delete button to delete all the license plates in the current list. If you filter the license plate list, only the filtered list will be deleted. You can also click button to delete the corresponding license plate.

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2) License Plate Library

You can select the plate types including Group Type (Black List and White List),

or directly enter the license plate number, and click the "Search" button, then the corresponding license plates will be displayed in the list below. Note: The text searched is a case-insensitive contiguous string.

5. Set/Check ANPR Record

1.Add ANPR Event Rules

Event&Alarm -> Event Configuration -> Event Rules, click Add button.



(2).Set related events and alarm trigger actions.

Step1:Select the Trigger type as: Smart Analysis Event;

Step2:Select the event type as: ANPR Event;

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Event Configuration		
Event Rules	Action Settings Alarm Settings	
Arming Control Custom Settings	Basic Information	
📓 Event & Alarm Search	Rule Name Input Rule Name	
Event Search	Trigger	
Alarm Search	Smart Analytics Events V	
	Event Type	
	Analytics - Motion Detection Start	
	Analytics - Regional People Counting	
	ANPR - Vehicle Detection	
	ANPR - Speed Detection ethod after	
	ANPR - Retrograde Detection	
	Face+ Platform	
	Action Settings (0/0)	
	Add Linkage Action	
	Alarm Settings	
	Trioper Alarm	
	Save Cancel	
Ξ		

Step3:Select the camera that needs to set related events;



Step4:Set up event scheduling;

hedu	ule -	Sma	rt Ana	ilytics	Even	ts - Ai	nalyti	cs - M	otion	Dete	ction						Se	lect Al		lear
																			_	

Step5:Set the alarm trigger action.

Alarm actions include recording, APP/HTTP notification, sending email, recording log, previewing screen changes, and IoT Sensor control, etc.



Step6:Set the alarm settings.

Enable the trigger alarm, select the relevant user after selecting the ANPR

alarm priority and action interval.

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3.Search for ANPR related videos.

Select the corresponding LPR Camera on the playback interface, click button, and select the ANPR event;





Then the replay interface will only display videos related to ANPR events.



6. ANPR Result Search

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When the Black List/White List is enabled and the corresponding schedule is set, and the storage disk is enabled, you can view the corresponding detection results in the ANPR Search interface.



Note: With the addition of the back-end algorithm, both the ANPR Preview and ANPR Result Search interfaces can receive license plate related information from both the front-end and back-end ANPR algorithms. If it is back-end algorithm recognition, then the AI icon will be added next to the license plate number in the picture, and the Analytics Mode in the Details will be displayed as VMS Analytics, while the opposite is Camera Analytics.





Step1: For license plate information screening, you can choose start time, end time, license plate, Group name, plate type, Analytics Mode, camera, vehicle characteristics, vehicle color, vehicle type, license plate color, Direction, speed and other filter conditions.

Step2: click **Search** button. Then the related license plate information will be displayed as below.

Click		button	to	show	Thumbnail	Mode.
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Milesight		mart Analytics E-Map					5		🌢 🔺 CathyL. 👻 — 🗆 X
ANPR	Start Time 2022/11/30 00:00:00	ANPR Result Search				Search 8			Notifications
	End Time 2022/12/01 23:59:59 License Plate Separate plates by comma Group Name	TSLP67L TSLP67L TSLP67L	California ISLP61L O4XM7SLP674 2022/12/01/14/55/03	RLW2135 2022/13/01 14:54-44				() () ()	
VMS-end People Counting People Counting Settings People Counting Groups People Counting Report.	Input group name Plate Type All Analytics Mode All	HEMMIN 2022/12/01 14:22:05	ASA3637	W51359 W51359 2012/12/01 14-22/01	US13591 2022/12/01 14/22-59	HIAHIT 2022/12/01 14:22-43			
VMS-end Video Analytics Analytics Events Analytics Result Search	Camera < 4 Cameras > Vehicle Features Vehicle Color	ASA637 2020/12/01 12/01/52	W513593	W51359					
Retrieve Video Search	All Vehicle Type All Vehicle Type All Vehicle Color		ASA3637	W51359		ASA3637			
	All v Direction All v All v	2022/12/01 14:31:28 0222/12/01 14:31:28 055133595 052712/01 14:19:28	ASA637 2022/12/01 14:20:10 US5133591 w513593 2022/12/01 14:19:21	W 513993 2012/12/01/14:20:15		ASA5637 2022/12/10/114/18/28 ASA5637 ASA5637 2022/12/01/14/18/14			
		W51359		ASA3637	W51359	B IB EB			

Click 📃 button to switch to List Mode.

ANPR	Start Time	ANPR I	Result	Search							Notifications	
	End Time			License Plate Picture		Plate Type	Capture Time					
ANPR Result Search	2022/12/01 23:59:59			AUCORDAN				network				
	Denne Nata			TELPS BA	040XM75LP674		2022/12/01	network				
	Sanarata niatas hieronma			Ren 2135				network				
	Separate party control			CETER CETER CETER								
	Group Name			CETER CETER CETER								
WMS-end People Counting				CETER CETERS (CETER)	ннимт							
	Plate Type			ASA ABOZI				network				
				Conception of								
	Analytics Mode			THE LEED								
				LEIER (EIER) (EFER								
M VMS-end Video Analytics	Camera			Takan Kabara	ASA3637			network				
				COST STOP								
	Vehicle Features			THE PERSON	W5T359W51359			network				
	Vehicle Color			CELERA CELERA DESERV						- P.		
Retrieve				CENTRE CENTRE CONTENT				network				
	Vehicle Type			CERES CERES CERES								
				ASAGAZ	ASA3637		2022/12/01	network				
[1] Face	Plate Color			CHARLES STATE								
				CEICH CEICH CHUY	W1HM11		2022/12/01	network				
	Direction			new and a								
				BUCKER C. D. L.	W5T3598W51359		2022/12/01	network	1 2			
	Enand			WEST STORY								
	All			GETER) ETTELT EFFERT	111HM1		2022/12/01	network	R 8			
				CERE CERES REAL								
				ASIA BOOZ	ASA3637		2022/12/01	network				
				CHARTER STORY								
				GETER SETERA SERVICE	1118H01		2022/12/01	network	F3 E3			
				- AND								

Step3: Click on the thumbnail photo in Thumbnail Mode or license plate row in List Mode under the searched results, then the license plate details will be shown as below. If there is a recording video about the license plate recognition, then you can click \bigcirc button to play the video or click \bigcirc button to play the video in the playback interface.



Note:

Make sure that correct record schedule settings is made or the ANPR event rules are set to trigger recording, so that you can check the record in the ANPR Search interface.

Step4: You can click Export button to backup the ANPR files you want to a local folder.



Step5: After setting the backup file destination, type and format, click button to start the file backup. You can click button to check task backup situation as below.

Client Files Manag	jement			- ×
Q	Clean Up Invalid Clean Up All		Q Search	
Downloading	File	Device	Export Time	Operation
(0)	ANPR_Export_20221201151550			¥ 🗅 🛱
Completed	₽ Plate List 2328		2022/12/01 15:15:51	0 8
(3)				100
	PTZ_192.168.69.135 163.90MB •	PTZ_192.168.69.135 192.168.69.135		00
	Network Camera_192.168.69.127_20221110_141940 889.65KB Live Recording	Network Camera 192.168.69.127	2022/11/10 14:19:42	00

Step6:Add to License Plate Library

Click on the thumbnail photo in Thumbnail Mode or license plate row in List Mode under the searched results, then click Add to License ... button, Enter the group name and click Add button, the selected license plate can then be added to the license plate library.

Milesight	Live View Playback Sm	art Analytics E-Map	Event & Alarm 5	iettings			0 ± 4 ± 4	€ Cathy マ — ᠿ ×
ANPR	Start Time 2023/07/18 00:00:00	ANPR Result Search						
ANPR Management ANPR Result Search Traffic Report ANPR Settings Picture Storage	End Time 2023/07/19 23:59:59 License Plate Separate plates by comma Group Name	JRV 1335 2023/07/19 16:28:05	VGP 0264. VGP8264 2023/07/1916:25:28	CCFF B481 CCFF B481 CCF8481 2023/07/1916-25:22	VGP 46 47 VGP 46 47 2023/07/19 16:22:56	NYT 7039 wyt7039 2023/07/19 16:21:12	JMK337 2023/07/19 16:18:50	JUD 6584 JUD6584 2023/07/19 16:18:04
VMS-end People Counting People Counting Settings People Counting Groups People Counting Report	Input group name Plate Type All ~ Analytics Mode All ~	JNV 1925 JNV 1925 2023/07/19 16:16:33	Add Group Name	JUD 7552 ×	TCA 2542	VGP 4647	NBD6057 2023/107/10 16:00:00	JUB 6713 JUB6713 2023/07/19 16:07:53
M VMS-end Video Analytics Analytics Events Analytics Result Search	Camera < Any Camera > Vehicle Features Vehicle Color	JSL 7157 JSL7157 2023/07/1916-07-45		Add Court	OTJ 5366 2023/07/19/16:05:14	JUE 1528 JUE 1528 2023/07/19 16:03:37	UNU 3911 2023/07/19 16:02:32	JUS 2175
Retrieve Video Search	All ~ Vehicle Type All ~	VDP 4964	VCX 8159	JUD 7566	JUC 3920	2776	VBS 4750	JSG 2756
Sensor Control	Plate Color All ~ Direction	VDP4964 2023/07/19 15:56:39	VCX8159 2023/07/10 15:56:27	JUD7566 2023/07/10 15:51:30	JCC 3920 2023/07/19/15:46:46	JHY2778 2023/07/19 15:45:48	VBS4750 2023/07/10 15:43:20	JSQ2756 2023/07/19 15:43:08
Face Flatform Face Library Face Rule	All v Speed All v	JUD 7552 JUD7552 2023/07/1915:41:23	WA3497 F 2023/07/19 15:38:05	JUE 1538 JUE 1538 2023/07/1915:30:17	VFH 7864 2023/07/19 15:28:03	JUC 5385	JSC 493 JSC483 2023/07/19 15:23:59	JVO 7403 JVO7403 2023/07/19 15:20:58
Face Result Search		WXX 1178	WOF 5931	VCR 1542	JUR 6023	WA4021Y	VFH 7786	FR 5592E
Ē	Reset Search	Selected: 1/84 Total: 248					Ado	to License Export

6.Picture Storage

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On this page, you can enable or disable ANPR picture storage, and set the minimum/maximum ANPR picture storage time.



Note:

Auto: The ANPR pictures will be overwritten when storage space is insufficient.

Customize: Customize the storage time according to the requirements.

7.Traffic Report

On this page, you can view the traffic data report detected by LPR within a certain period of time. After entering the corresponding time and selecting the camera, click search button to generate a traffic report.



Click Export button to pop up the Export window as shown below, and you can choose File Format to export the report to local.



-END-