



Milesight-Troubleshooting LPR Setting-LPR1

1. What is LPR

Milesight

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



Figure 1 LPR

2. Countries that support LPR

For Milesight, the LPR function applicable to the following countries:

Country	Abbreviation	Country	Abbreviation	
Angola	AGO	Macau	MAC	Support
Australia	AUS	Malaysia	MYS	Support
Brazil	BRA	Saudi Arabic	SAU	Support
Chile	CHL	Singapore	SGP	Support
Hong Kong	НКС	South Korea	KOR	Support
India	IND	TaiWan	TWN	Support
Indonesia	IDN	Thailand	THA	Support
Iran	IRN	Turkey	TUR	Support
Israel	ISR	United States (California Only)	USA	Support
Japan	JPN	Vietnam	VNM	Support

3. Milesight LPR Cameras

- LPR 12x H.265+ AF Motorized Pro Bullet Network Camera
- LPR 12x H.265+ Mini PTZ Bullet Network Camera

- LPR H.265+ ABF Pro Box Network Camera
- LPR H.265+ Mini Bullet Network Camera
- LPR H.265+ Vandal-proof Motorized Mini Bullet Network Camera
- LPR H.265+ Motorized Pro Bullet Network Camera

The integration with NVR/CMS is in processing, which is going to bring another supreme experience.

Notes

Installation Angle Considerations

To increase the accuracy of license plate recognition, be sure to install the LPR cameras properly to capture the license plates with the correct image size, lighting conditions and camera angle. The following highlights is 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.



4. How to set LPR

(1) Settings

Step1: After log in the web, and go to "LPR "→ "Settings"→ "General". Check the checkbox "Enable LPR", you can draw the screen to select area interested.

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	ලී Media	,	General Advanced List Management List Event			
•	Network	>	Enable LPR			
\odot	E Storage		Country / Region Brazil v			
	Event	,	Image Settings			
Ø	lPR	~	Delection Settings			
	Settings Smart Search		Video Oktoc H 2 H Smart Stream of LPR Message Post Settings	>		
	System	>	Current Connections 2 Schedule Settings	>		
			Add Clear			

Figure 2 LPR - Settings page

[Enable LPR]: Automatic license plate recognition after it is enabled.

[Country/Region]: You can select the country/region to uses the LPR function. **Step 2:** Detection Settings.

You can draw the screen to select four areas interested. The area as shown in the blue box below, it will also display pixels above each area.



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Image Settings			>
Detection Settings			
Detection Region (D		
Detection Region (D	Operation	
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Detection Region (j)			
ID	Name	Operation	
1	ROI_1	2 0	
2	ROI_2	2 1	
3	ROI_3	2 🖯	
4	ROI_4	2 5	
Processing Resolution	1280*720	~	
Detection Settings			
Detection Trigger	Always	~	
Confidence Level	40	2	
Repeat Plate Checktime	0 ms	(0-60000)	
Repeat Plate Checktime Features Identification	0 ms	· (0-60000)	
Repeat Plate Checktime Features Identification	0 ms ✓ All ✓ Plate Color ✓	(0-60000) Vehicle Type	
Repeat Plate Checktime	0 ms ✓ All ✓ Plate Color ✓ ✓ Vehicle Color ✓	(0-60000) Vehicle Type Detection Region	

[Detection Region]: You can set up to 4 ROI areas by drawing the screen. If you choose **Normal**, it supports configuring the LPR detection regions for the current area. If you choose **Advanced** (Only for PTZ series), it supports configuring different LPR detection regions for different PTZ presets(Only support Preset 1~4 so far).

Effective Region	Normal 🧿 Advanced	
Effective with Preset	Preset 1 Call	
Image Settings	Preset 1	>
Detection Settings	Preset 2 Preset 3	>
LPR Message Post Settir gs	Preset 4	>
Schedule Settings		>

Figure 4 Set LPR Effictive Region

[Processing Resolution]: Default selected resolution is 1280*720. Users can choose different resolution according to the network environment.

Detection Settings		
Processing Resolution	1280*720	^
Detection Trigger	1920*1080	
Confidence Level	1280*720	

Figure 3 Processing Resolution

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

[Confidence Level]: You can set the confidence level from 1 to 10. When the confidence level of the license plate is higher than the set confidence level, it will push the license plate image to the logs interface.

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

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

Notes

- The optimal recognize license plates interval of Milesight LPR cameras within 90-150 PX.
- For better performance, please choose the appropriate resolution in advance.

Step 3: LPR Message Post Settings.

[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 pushed by **RTSP**, **TCP** or **HTTP**.

More information about LPR Message Post, please refer to

Milesight-Troubleshooting-Integration between LPR Camera and NVR(VMS).

LPR Message Post Settings		9
Enable LPR Message Post		
Post Type	O HTTP O TCP O RTSP	

Step 4: Schedule Settings. You can draw the schedule by clicking. And then click **[Save]** or **[Delete]** after setting. You also can copy the settings to other channels.

p	2 2 4 00 : 00 - 24 : 00 Save Delete 22 24	
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D Sun. Mon. Fue. Ned.	2 4 6 8 10 12 14 16 18 20 22 24 Copy To × Sun. Ved. Thu	
D Sun. Mon. Fue. Ned. Thu.	2 4 6 8 10 12 14 16 18 20 22 24 Copy To × Sun. Mon. Tue: Wed. Thu. Fri.	
p Sun. Von. Fue. Ned. Fri.	2 4 6 8 10 12 14 15 18 20 22 24 Copy To × Sun. ✓ Mon. ✓ Tue. Wed. Thu. Fri. Sat.	

Step 5: Don't forget to click "**Save**" after finishing all settings.

 List Event	
Enable LPR	
Effective Region O Normal Advanced	
Image Settings	8
Detection Settings	>
LPR Message Post Settings	>
Schedule Settings	3

(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.

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[Snapshot OSD]

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Description of the buttons

Parameters	Function Introduction
Font Size	Small/Medium/Large are available for OSD information. Note: Snapshot OSD font size and Image OSD font size are corresponded.
Font Color	Enable to set different colors for OSD information. Note: Snapshot OSD font color and Image OSD font color are corresponded.
Background Color	Check the checkbox to select background color of snapshot OSD information.
OSD Position	Check the checkbox to show OSD information position.



[Snapshot File Name]

 Media General Advanced List Management List Event Network Storage Storage Event Fiz Fiz Figurator f % Name General Advanced List Management List Event Snapshori OSD <	Milesi	ight Network (Camera					
Network > Storage Event > PTZ Serugs Surage Surage CSD Surage		🖰 Media	>	General Advanced	List Managemer	nt List Event		
Storage Storage Event Separator Image: Storage Storage Image: Storage Storage <td>•</td> <td>Metwork</td> <td>></td> <td>Spanshot OSD</td> <td></td> <td></td> <td></td> <td></td>	•	Metwork	>	Spanshot OSD				
Image: Event > Image: Second Secon	\odot	E Storage		Snapshot File Nam				
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Image: System Image: System Other Other Image: System Image: System Image: System Image: System <td>a</td> <td>LPR Settings Smart Search</td> <td>2</td> <td></td> <td>Plate License Plate Vehicle Vehicle Type</td> <td>Plate Type</td> <td>Plate Color</td> <td></td>	a	LPR Settings Smart Search	2		Plate License Plate Vehicle Vehicle Type	Plate Type	Plate Color	
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Description of the buttons

Parameters		Function	Introduction	
Separator	"-", "_" and Space The default separa	are available for Fi ator is "-".	le Name Separato	or format.
	You can customize	e the snapshot file	name according to	o items chosen.
	Item of File Name	All		
		Plate		
		✓ License Plate	Plate Type	Plate Color
Item of File Name		Vehicle		
		Vehicle Type	Vehicle Color	Direction
		Speed		
		Other		
		Time	Position	Device ID
		Detection Regio	n Device Name	

Each time when an item is checked, the list will add the item row, including the item name

and sorting operation. You can click \square and \square 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:

Item of File Name	MI All		
	Plate		
	License Plate	Plate Type	Plate Color
	Vehicle		
	Vehicle Type	Vehicle Color	Direction
	Speed		
	Other		
	Time	Position	Device ID
	Detection Region	Device Name	
Item o	of File Name		Sorting
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Position:	Position		∃t ⊒t
Dev	rice Name		1 <u></u>
Device ID:	Device ID		∃t ⊒L
Pla	ate Color		JΞ 1Ξ
Vet	nicle Type		1⊟ 1⊟
Veh	icle Color		1⊒ 1⊒

Note: You need to check at least one item. For example, you can choose items, separator and items sorting as below:

Item of File Name	- All		
	Plate		
	License Plate	Plate Type	Plate Color
	Vehicle		
	Vehicle Type	Vehicle Color	Direction
	Speed		
	Other		
	🔽 Time	Position	Device ID
	Detection Region	Device Name	
Item o	of File Name		Sorting
	Time		1⊟ 1⊟
Lice	ense Plate		JΞ 1Ξ

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:

Full-snapshot Recognized successfully



Full-snapshot Recognized failed

Milesight



License plate snapshot Recognized successfully



License plate snapshot Recognized failed



Note:

• If the item checked is not recognized successfully, then the item will be displayed with the specific symbol "#".

• The file name of full-snapshot will be preceded by a number of 4.

(3) List Management

Add the license plates to this interface as Black, White type (Black/White List), and then you can set the alarm action for these license plates in the corresponding black list mode, white list mode or Visitor mode interface. When these license plates are detected, the

camera will respond accordingly to your settings.

Step1: Click the "**Add**" button, select the **Type** as black or white, enter the license plate, the license plate will be added successfully.

White List Black List

Rules Edit



Step2: You can add a csv form with the license plate 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.

10

1 > Go to 1

Total 11 30/page ~

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KE	outer option				/ 8
51		Note: Please upload csv format file(utf-8).			18
ĸ		Download template here!			10
6		oprova Control			/ 🗊
156	Black List		Always		/ 🗊
				Total 11 30/page ~	< 1 > Go to 1
				Add Upload	

Note:

1. You can first download the template as a reference in this interface.

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

Step3: Select Plate Type or directly enter the license plate number, click the "Search"

button, the

corresponding license plate will be displayed in the list.

Step4: Click the "**Export List**" button to export the license plate in the current list to a csv form locally.

Step5: Click the "Delete List" button to delete all the license plate in the current list.

(4) List Event

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

Step2: Schedule Settings. You can draw the schedule by clicking it.

Step3: Set alarm action.

Record		
Duration	5 s 🗸 🗸	
Linkage	Save to storage (Please mount storage device) Upload Via FTP	ce.)
Snapshot		
Snapshot Type	License Plate v	
Number	1	
Interval	1 second v	
Linkage	Save to storage (Please mount storage device) Upload Via FTP	ce.)
	Send Email (Please enable the Email.)	

External Output		,
Play Audio (Pleas	e enable the Audio Speaker.)	
Alarm to SIP Pho	ne (Please open the SIP.)	
HTTP Notification		>
White LED		~
Flash Mode	Twinkle v	
Flash Time	3	Reset
	Abiovo	

After that, when a license plate marked as "Black" is detected, the camera will respond accordingly to your settings if you select the Black List in List type;

when a license plate marked as "White" is detected, the camera will respond accordingly

to your settings if you select the White List in List type;

when a license plate that is not marked as "Black" or "White" is detected, the camera will respond accordingly to your settings if you select the Visitor in List type.

Mile	sight Network C	Camera	a	🕀 English 🗸	💄 admin 🗸
	යී Media	>	Smart Search		
۳.	Network Network	>	Plate Type Visitor License Plate Start Time © 2022-04-18 00 00 00 End Time © 2022-04-18 23 59:59	More ~	Search
\odot	Storage		Al LPR Logs		
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Ø,	S PTZ			DO KD	20
a	lPR	~	2022-04-18 09 29:56 2022-04-18 09:30:10 2022-04-18 09:30:16 2022-04-18 09:30	0:16 2022-04-18	09:30:25
	Settings Smart Search			PB°UP	2
	System	>			54
			2022-64-18 (93.128)	2:12 2022-04-18	51 09:32:13
			Time 2022-04-19 09 31 24 License Pater DOBC Pate Type: Visitor Plate Color: Visite		
			Vehicle Type: Car Vehicle Color: Red Speed: - Direction: away		
			Detection Region: 1 Country / Region: DEU		
			Total 115 🤾 1	2 3 4 5 >	Go to 5
			Export	Export All	Auto Export

(5) Smart Search

Step1: The detect results in real time will be displayed on the right side of Logs page, including detected time, live screenshot, and license plate.

Step2: Select Plate Type or directly enter the license plate number, select Start Time and

End Time, click the "**Search**" button, the corresponding license plate will be displayed in the list below.

Note:

• It supports displaying 4000 logs.

• Only when there is a SD Card or NAS has been set on the storage management , then the logs can be stored and showed on Smart Search page.

• For Plate Color/Vehicle Color Recognition and Vehicle Type Classification, please make sure your model is MS-xxxx-xPC.



Step3: Click the license plate on the right of each log to display license plate details as shown below.

Mi	lesight ·Network Ca	amera		🕀 English 🛩	💄 admin 🛩
	📩 Media	>	Smart Search		
۲	Network	>	Plate Type Valor v License Plate Start Time © 2022-04-18 00 00 00 End Time © 2022-04-18 23 59 59	More ~	Search
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			3002-04-10 0931/20	2022-04-18 0	9.32.13
			Time: 2020-24-16 09:31 24:44 Plane Type: Venar Plane Locale: Walke Vencie Type: Car Vencie: Coar Neel Speet - Direction away Detection Region: 1 Coartry / Region: DEU		
			Tear115 (1 2 3	4 5 >	Go to 5
			Coort	Export All	Auto Export

Step4: Click the "**Export**" button to export the license plate you selected to a csv form locally.

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

V License Plate		Start Time 🕒 2022-04-21	00:00:00 End Time 🕒 20	22-04-21 23:59:59		More 🛩 Sear
		All		LPR Logs		
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		2022-04-21 00:18:28	2022-04-21 00:19:36	2022-04-21 00:21:44	2022-04-21 00:22:01	2022-04-21 00:26:37
		Export		×	02구0844	527 3108
					2022-04-21 00:30:49	2022-04-21 00:31:25
	Export File	Plate List Video Plate List(With pictures)	Picture		##두5480	## 누 4111
	Video File Format	MP4	×.		2022-04-21 00:32:11	2022-04-21 00:32:51
k Vehicle Color: Red Direction: approact 1 Country / Region: -	1					
					Total	16 < 1 > Go to
					Export	Export All Auto E
		Auto Export		×	2022-04-21 00:22:01	2022-04-21 00:26:37

Enab	ole 🔽	02	+0844	52/13108
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Time		##	두5480	##누4111
Expo	ort Time Range Export All	2022-	04-21 00:32:11	2022-04-21 00:32:51
Expo	ort to FTP Email Storage			
c,	Save Cancel			
1				
			Total 16	< 1 > Go to 1
			Export	Export All Auto Export

Notes

How to use LPR function better under night condition

To increase the accuracy of license plate recognition under the night mode. In some special circumstances, you can't get clear license plate capture by adjusting WDR and HLC. Then we recommend that you can set the following options in advance.

Step1: After log in the web, and go to "**Media**"→ "**Image** "→ "**General**" interface.

Check the **"Blacklight"**, select **"off"** the Blacklight Setting, remember to save your settings by check the **"Save"** button, There will be shown in the blue box as below:



Note: If you still can't get clear license plate capture according to the above settings, we suggest you to reduce the exposure time.



The license plate captures obtained under night conditions are shown below:



Note: If you have special requirements for the time of the **Night Mode**, we recommend that you customize the time of the **Day/Night Mode**.

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\odot	Video		DayNight Switch	•
	Audio		Day/Night Switch	
٥°	Network Network	>	Mode Night Day Auto O Customize	1
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	Event	>	End Time of Night 0 06 00	
	S PTZ		Day/Night Switch Refocus On ~	
	(A) LPR	>	Smart IR Mode	
	🕼 System	>	Mode O Auto O Customize	
			IR Strength Value Near0 Far0 O	
			Day/Night Parameters	>
			Exposure	>
			Backlight	>
			White Balance	>
			Image Enhancement	>
			Display	>