



Milesight-Troubleshooting

LPR Setting-LPR2

1. What is LPR

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	
Albania	ALB	Lithuania	LTU	Support
Austria	AUT	Luxembourg	LUX	Support
Belgium	BEL	Macedonia	MKD	Support
Bosnia /Herzegovina	BIH	Malta	MLT	Support
Bulgaria	BGR	Montenegro	-	Support
Croatia	HRV	Netherlands	NLD	Support
Cyprus	CYP	Norway	NOR	Support
Czech Republic	CZE	Poland	POL	Support
Denmark	DNK	Portugal	PRT	Support
Estonia	EST	Romania	ROU	Support
Finland	FIN	Serbia	SRB	Support
France	FRA	Slovakia	SVK	Support
Germany	DEU	Slovenia	SVN	Support
Greece	GRC	Spain	ESP	Support
Hungary	HUN	Sweden	SWE	Support
Iceland	ISL	Switzerland	CHE	Support
Italy	ITA	Turkey	TUR	Support
Ireland	IRL	The United Kingdom	GBR	Support
Israel	ISR	Vatican city state	VAT	Support
Latvia	LVA	-	-	Support

CIS (former Soviet Union)

Country	Abbreviation	Country	Abbreviation	
Armenia	ARM	Moldova	MDA	Support
Azerbaijan	AZE	Russian Federation	RUS	Support
Belarus	BLR	Tajikistan	-	Support
Georgia	GEO	Turkmenistan	TKM	Support
Kazakhstan	KAZ	Ukraine	UKR	Support
Kirgizstan	-	Uzbekistan	UZB	Support

Notes

- The algorithm of Milesight LPR doesn't support text recognition other than letters and numbers.

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 “Advanced Settings “→ “LPR “→ “Settings“.

Check the checkbox “Enable License Plate Recognition”, you can draw the screen to select area interested. There will be shown in the blue box as below.

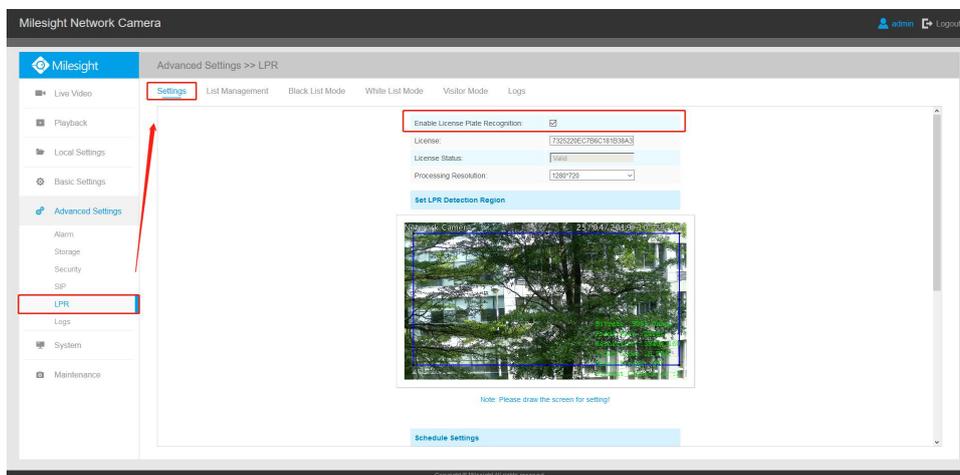


Figure 2 LPR - Settings page

[License]: We will automatically assign an license to each device.

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

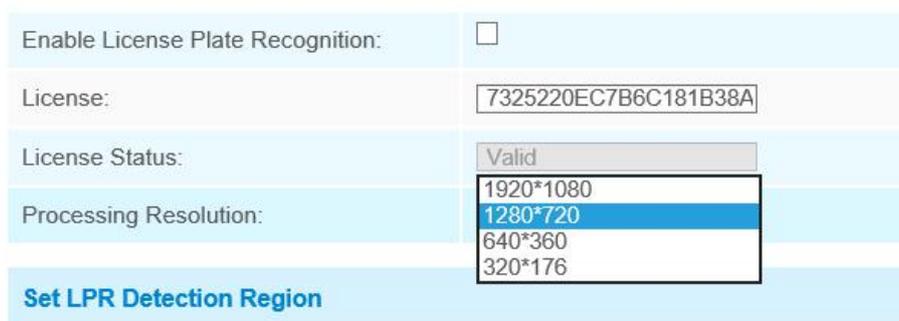


Figure 3 Processing Resolution

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

[Set LPR 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. If you choose **Advanced Mode**(Only for PTZ series), it supports configuring different LPR detection regions for different PTZ presets(Only support Preset 1~4 so far).

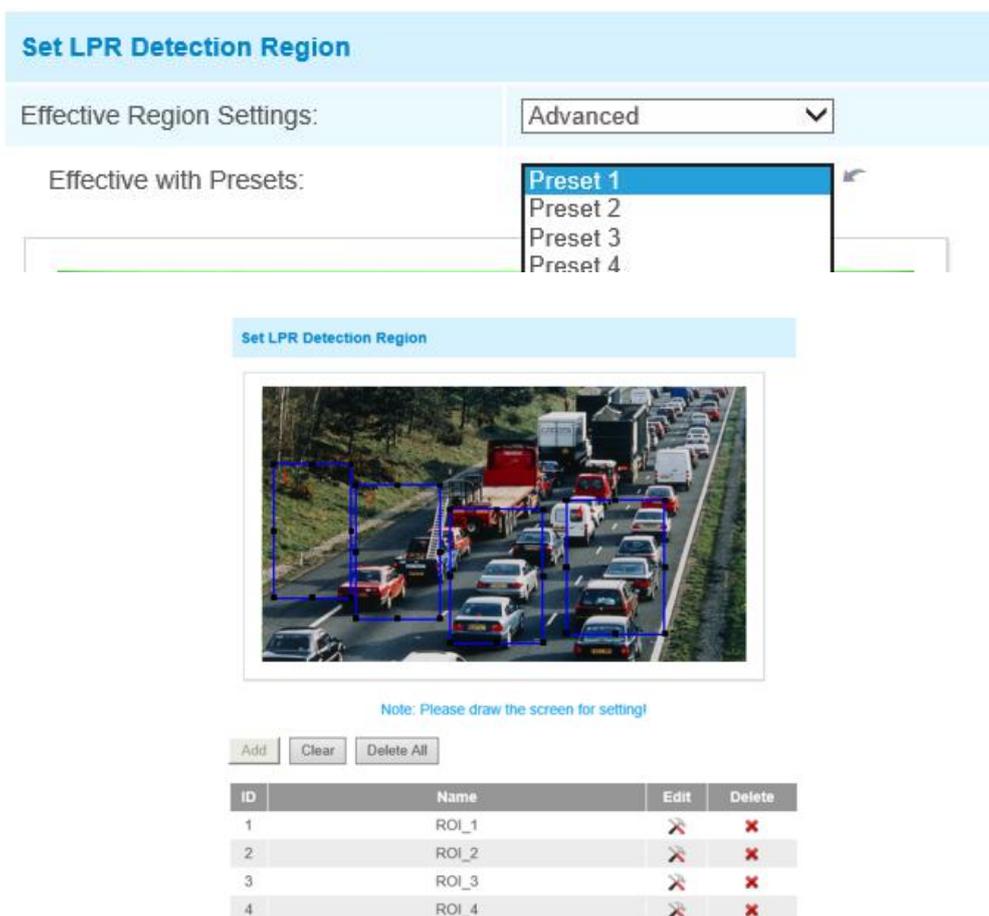


Figure 4 Set LPR Detection Region

! Notes

- The optimal recognize license plates interval of Milesight LPR cameras within 130-300 PX.
- For better performance, please choose the appropriate resolution in advance.

Step2: Schedule Settings. You can draw the schedule by clicking **“Edit”** button. And then click **“Save”** or **“Reset”** after finishing setting. You also can copy the settings to other channels.

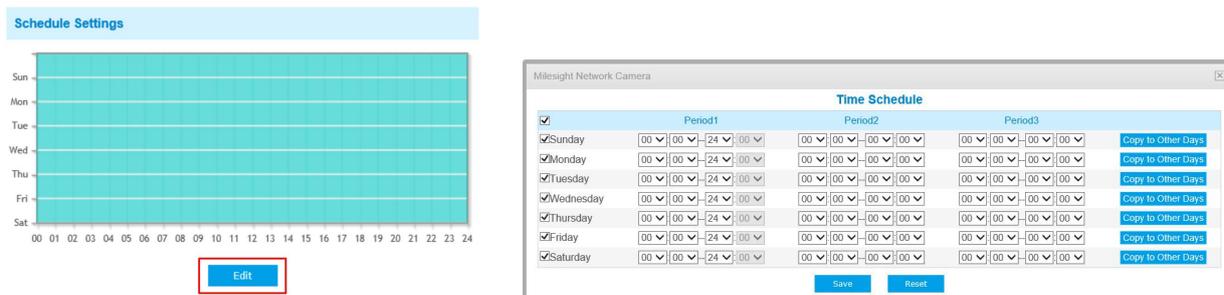


Figure 5 Schedule Settings

Step3: Detection Settings and LPR Message Post Settings.

Figure 6 LPR Message Post Settings

[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 **Region**, **Direction**, **ROI_ID** or **All** to enable Features Identification, it will display the corresponding information on the logs interface.

Note: Region detection only supports DACH region.

[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)***.

Step4: Don't forget to click **"Save"** after finishing all settings.

(2) List Management

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 accordingly to your settings.

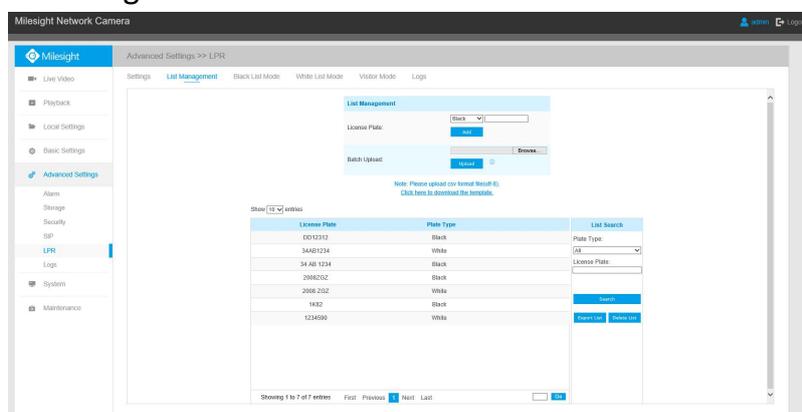


Figure 7 List Management

[Add License Plate]: Select the license plate type as black or white, enter the license plate number, click the **"Add"** button, the license plate number will be added successfully.

[Batch Upload]: You can add a csv form of 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.

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.

[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 below.

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

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

(3) Black List Mode

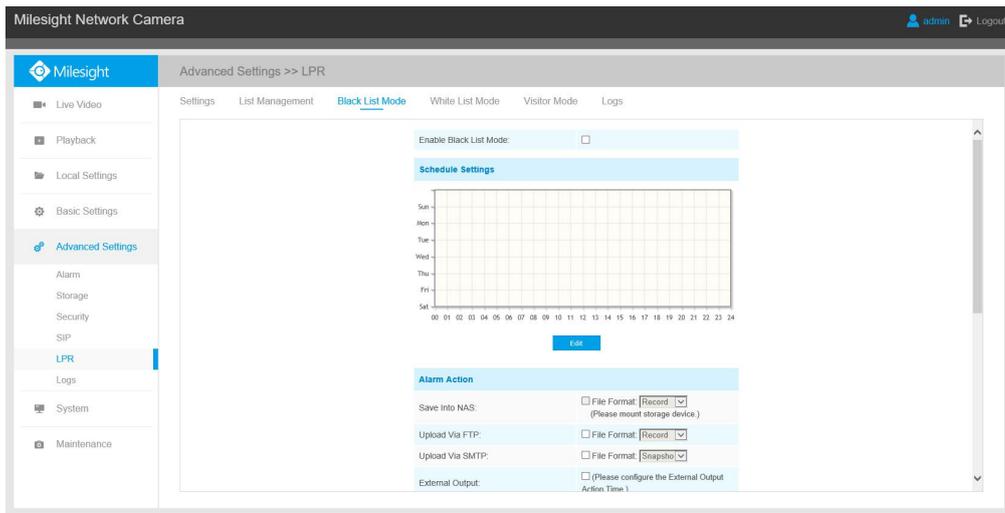


Figure 8 Black List Management

Step1: Check the checkbox to enable Black List Mode.

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

Step3: Set alarm action.

Alarm Action	
Save Into NAS:	<input type="checkbox"/> File Format: Record (Please mount storage device.)
Upload Via FTP:	<input type="checkbox"/> File Format: Record
Upload Via SMTP:	<input type="checkbox"/> File Format: Snapshot
External Output:	<input type="checkbox"/> (Please configure the External Output Action Time.)
Play Audio:	<input type="checkbox"/> (Please configure the Audio Action Settings and Audio Interval)
Alarm to SIP Phone:	<input type="checkbox"/> (Please open the SIP.)
HTTP Notification:	<input type="checkbox"/>

Figure 9 Alarm Action

Step4: Set alarm settings.

Alarm Setting	
Record Video Sections:	5 seconds
Pre-record:	0 second
Snapshot Type:	License Plate
Snapshot:	3
Snapshot Interval:	1 second
External Output Action Time:	30 seconds
Audio Action Settings:	Edit
Play Audio Interval:	Auto

Figure 10 Alarm Setting

After that, when a license plate marked as “**black**” is detected, the camera will respond accordingly to your settings.

(4) White List Mode

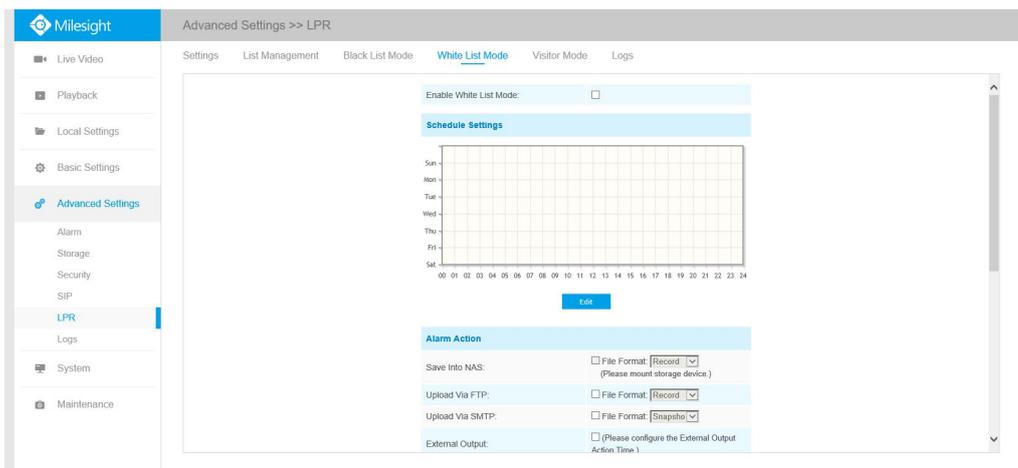


Figure 11 White List Mode

Step1: Check the checkbox to enable White List Mode.

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

Step3: Set alarm action.



Figure 12 Alarm Action

Step4: Set alarm settings.

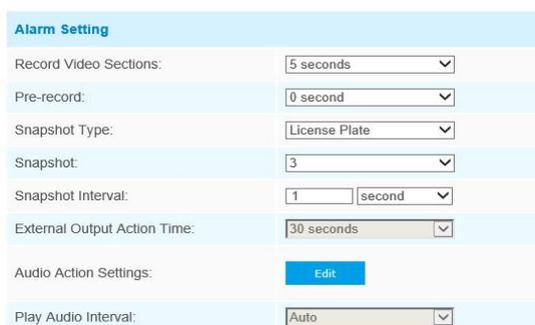


Figure 13 Alarm Setting

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

(5) Visitor Mode

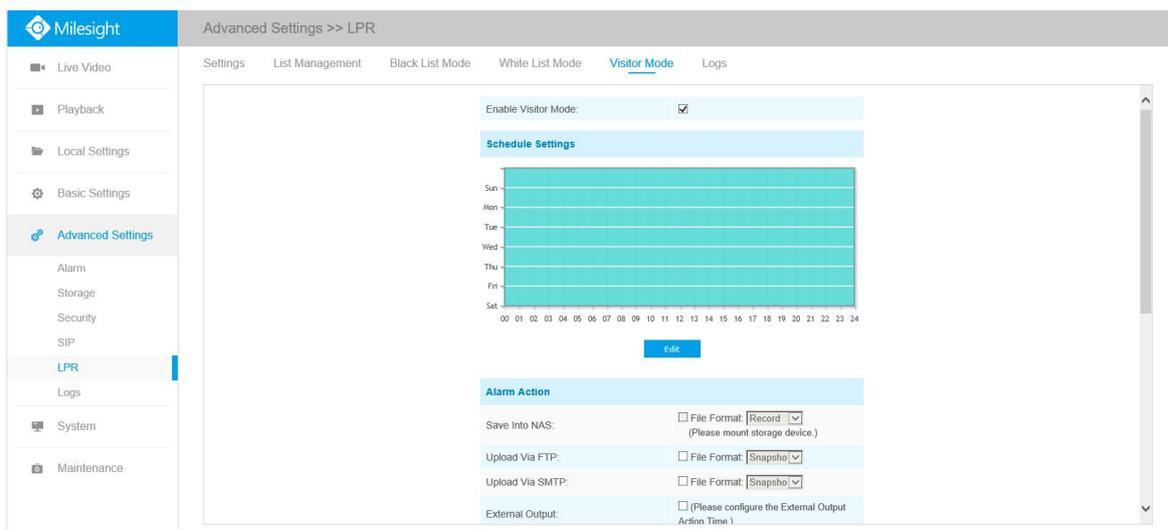


Figure 14 Visitor Mode

Step1: Check the checkbox to enable Visitor Mode.

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

Step3: Set alarm action.

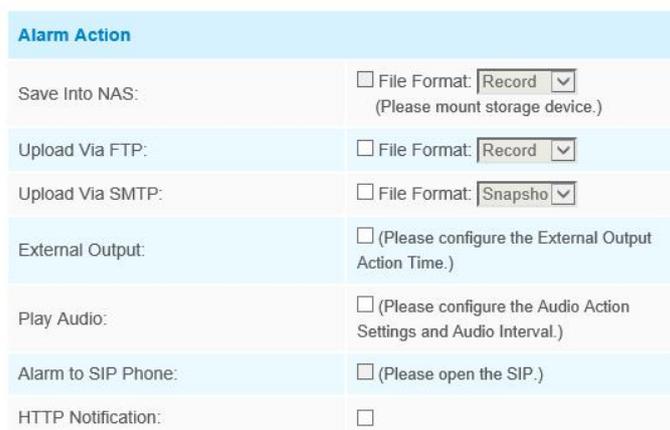


Figure 15 Alarm Action

Step4: Set alarm settings.

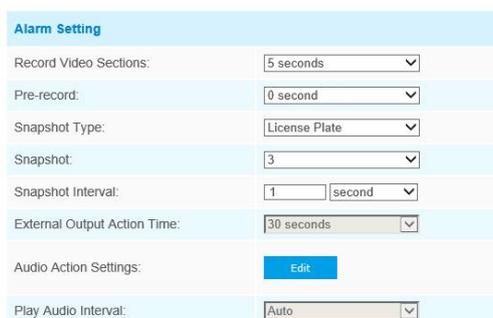


Figure 16 Alarm Setting

After that, when a license plate that is not marked as "Black" or "White" is detected, the camera will respond accordingly to your settings.

(6) Logs

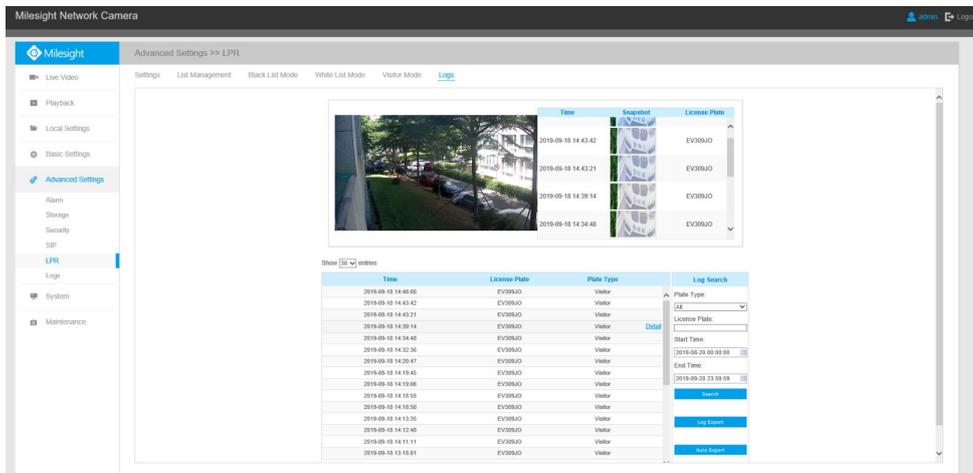


Figure 17 LPR Logs page

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

Note: 10 real-time logs are visible on the right side.

Time	Snapshot	License Plate
2019-03-14 14:48:57		34AB1234
2019-03-14 14:48:56		34AB1234
2019-03-14 14:48:55		34AB1234
2019-03-14 14:48:54		34AB1234

Figure 18 LPR Real-time Logs page

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

Step2: Select Start Time and End Time, click the **“Search”** button to achieve fuzzy search, then the corresponding license plate or containing search keywords license plate will be displayed in the list below.

Note: It supports displaying 10,000 logs.

Show entries

Time	License Plate	Plate Type	
2019-09-18 14:48:00	EV309JO	Visitor	
2019-09-18 14:43:42	EV309JO	Visitor	
2019-09-18 14:43:21	EV309JO	Visitor	
2019-09-18 14:39:14	EV309JO	Visitor	
2019-09-18 14:34:48	EV309JO	Visitor	Detail
2019-09-18 14:32:36	EV309JO	Visitor	
2019-09-18 14:20:47	EV309JO	Visitor	
2019-09-18 14:19:45	EV309JO	Visitor	
2019-09-18 14:19:06	EV309JO	Visitor	
2019-09-18 14:18:55	EV309JO	Visitor	
2019-09-18 14:18:50	EV309JO	Visitor	
2019-09-18 14:13:35	EV309JO	Visitor	
2019-09-18 14:12:48	EV309JO	Visitor	
2019-09-18 14:11:11	EV309JO	Visitor	
2019-09-18 13:18:01	EV309JO	Visitor	
2019-09-18 11:35:41	TB696N	Visitor	

Showing 1 to 30 of 396 entries First Previous **1** 2 3 4 5 ... 14 Next Last

Log Search

Plate Type:

License Plate:

Start Time:

End Time:

Figure 19 LPR Logs Search page

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

Milesight Network Camera

License Plate Details

Time:	License Plate:	Plate Type:	Country / Region:
2019-09-03 16:45:39	EBQ473	Visitor	Berlin
Direction:	ROI_ID:		
Away	-		

Figure 20 License Plate Details

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

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

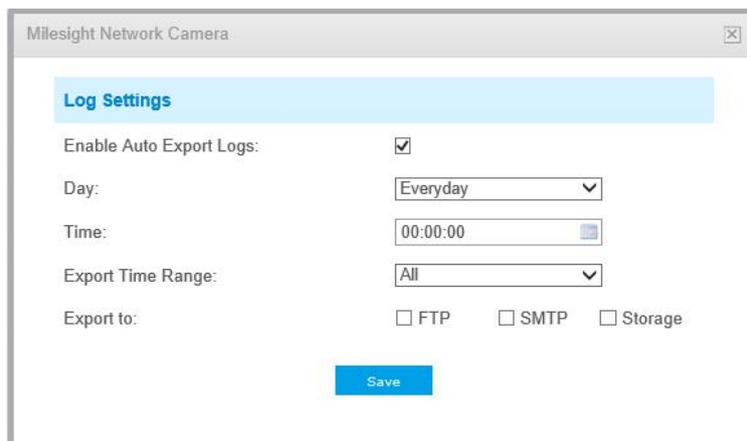


Figure 21 Auto Export

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 “Basic Settings” → “Image” → “Enhancement” interface.

Check the checkbox “BLC”, then select “off” the BLC region, remember to save your settings by check the “Save” button, There will be shown in the blue box as below:

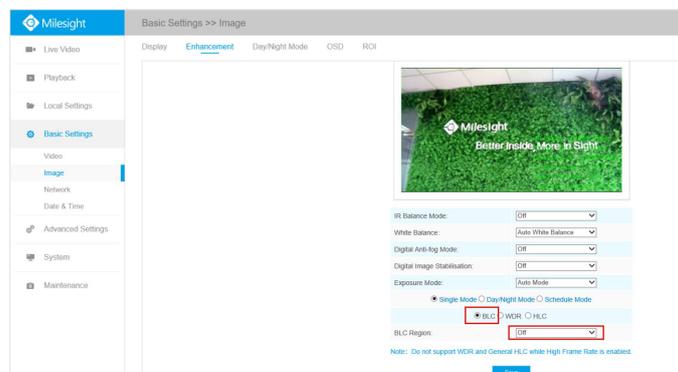


Figure 22-1 Enhancement settings page

Step2: Set reasonable exposure time and brightness, go to “Basic Settings” → “Image” → “Day/Night Mode” interface. Then set the Exposure level to 1 and the Minimum Shutter to 1/1000 and keep other settings;

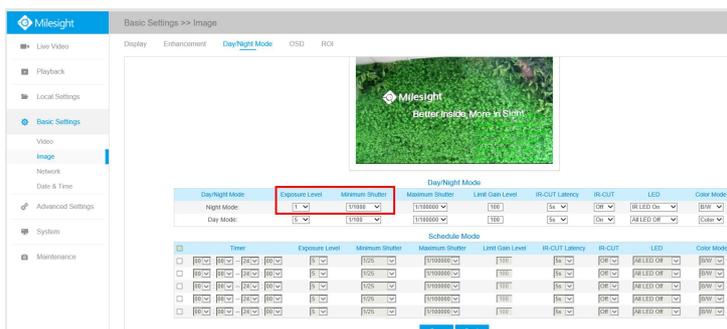


Figure 22-2 Day/Night Mode settings page

Then be sure to install the LPR cameras properly to capture the license plates with the correct image size, lighting conditions and camera angle.

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

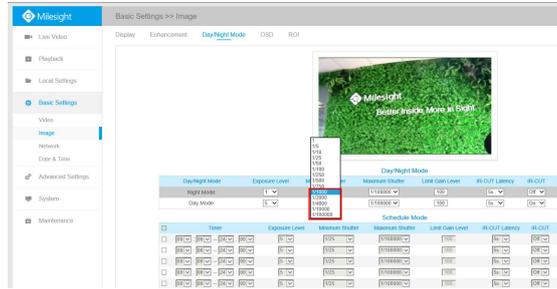


Figure 22-3

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



Figure 22-4

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**.

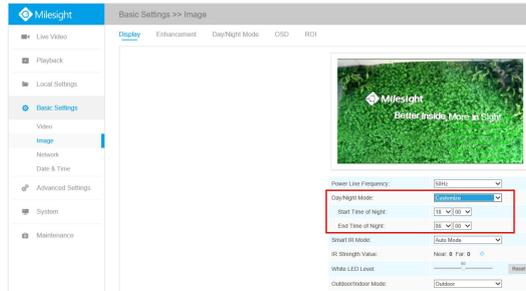


Figure 22-5

— END —