

LILIN NVR with LILIN AI Camera LPR Detection Guide

Licence Plate Detection to a LILIN NVR

To add your AI camera to your LILIN NVR to detect and log AI LPR detections, follow the steps below.

AI Camera

Log in to your AI camera and select the AI module icon. This will ask you to login to the camera's AI module. Enter the camera's administrator username and password.

Select 'Alarm' from the top bar.

This screen is where you will configure the desired AI behaviour and AI classifications that will trigger an event to an NVR.

In the example below the camera is set to log licence plates when a visitors car enters the designated zone.



In the example below the camera is set to log licence plates when an allowed car enters the designated zone.



The difference between the 2 example above is the Behaviour detection selected. The top example has LPR Visitor ticked, and the bottom example has LPR Allowed List ticked.

You can set up to 4 different AI zones with different behaviours.



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Next select 'LPR List' from the top menu bar.

Under this menu you will see 4 lists. Log List, Denial List, Allowed list and Visitor list.

Log List - This shows a list of all plates detected by the camera with the time it was detected and the confidence level the plate was detected at.

Denial List, **Allowed List** – These are editable lists where you can enter specific plates to trigger certain desired outputs. I.E If the camera detects a plate on the allowed list, open a gate however if a plate is detected on the Denial list, send a push notification to a device (security managers phone) or trigger a security light etc.

1	og List	B-Denial List	E Allowe	d List	x [®] Visitor List	:
Lic	ense Plate te: THA: Prov	Search Add D vince Name, BG	Delete D: City and Clas	S All		
	Select All					
	License Plate	User	Start Time	End Tim	e	
	GH17CSO	Ex Employee	0 ~ : 0 ~	23 - :	59 🗸	0
P	Note / State / C	City	Detect Endtime (yyyy-mm-d	ld HH:MM)	Save
	No longer allo	wed on site	2100 🗸 - 12 🗸	- 31 🗸	23 🗸 : 59 🗸	l.
	License Plate	User	Start Time	End Tim	e	
	MK16BGO	Darren	0 🗸 : 0 🗸	23 🗸 :	59 🗸	
ΙU	Note / State / C	City	Detect Endtime (yyyy-mm-d	d HH:MM)	Save
1	No longer allo	wed on site	2100 - 12 -	- 31 🗸	23 🗸 : 59 🗸	

Visitor List – Is not an editable list but can be assigned to an output of the camera. I.E Every time a plate is detected show a welcome message on a digital sign etc.

Next select the 'LPR' menu from the top bar.

Here is where you can specify the details of the number plates the camera is looking for. I.E only detect plates with more than 5 characters. This is where you edit the confidence level of the number plate being detected. The default value is 80.

Next select 'Settings' from the top bar.

Scroll down to LPR settings. Here are some additional options you can enable and disable to help fine tune the plate detection.

Force I to one	Π
Force O to zero	
Support dash (only TWN)	
Support special character (only TWN)	
HTTP Post only if plate and object get detected	
Same plate detection trigger only once	
Same plate detects once	
# of same plate detection >=	None 🗸
Same plate detection dwell (Sec) >=	None 🗸
	Apply



Within this menu, ensure you have the following ticked:

Same ID Object in same location trigger only once

NVR/DVR/NAV/WS triggering only once CIF

	? About	
General	Language Synchronize camera settings Part # Same ID Object in same location trigger only once NVR/DVR/NAV/WS triggering only once CIF Enable metadata base64 JPEC (snapshot, FTP, ema Metadata encoder # Notification dwell (secs)	English Sync B552 B57 B57 B57 B57 B57 Please set encoder [Output Frame Rate] to 15 or less and set [Image Quality] to 20 or less. If the upload speed is low and [enable metadata base64] is enabled, please lower the JPEG resolution.

For a basic configuration, these should be the only options to change on this menu.

NVR

Next log in to the NVR (this guide assumes the camera has already been added to the NVR).

Once logged in to the NVR, select 'Meta Data' and select the channel your AI camera has been added to.

Once selected click the 'Camera Detection' button. This will talk to the camera and automatically match the detection classifications to what has been enabled on the camera.

9LILINI	() GENERAL	EVENT					admin	۴
STREAM		Serial Input	Channel -	Camera Detection	Event #1 (Traffic Enforcen	ient) -	Select/Clear All	
CAMERA		Metadata Service	On -		LPR Denial	LPR Allowed	LPR Visitor	
QQ RECORD		Serial Device Server	192.168.127.254		Parking Violation Persor	Parking Violation Car	Car Make	
	4. CAM04	Server Data Port	(Max, length 31) 950					
ALARM		Server Command Port	966					
DISPLAY		Emulated Mode	AI CAMERA +					
🗞 network		Encoding Mode	ASCII -					
ና ን system		Baud Rate	9600 -					
· · · · · · · · · · · · · · · · · · ·		Data Size						
O PTZ		Parity	None 👻					
		Stop Bit						
E OTHER		Flow Control	None 👻					
		OSD Font Color	OAC6FF					
		Display Time	5 (5~180 seconds, 999 always)					
72P QR code ARDT		Display Position	Lower Left -					
		Display Object Box	Object Box 🚽					
		Display Text	On -					
C7X8II18V3HK7L82D53OTMDK Version: 11.0.36.9765						Apply	Undo	





There are some options at the bottom of the page that will change how AI objects are displayed on the NVR.

You have the option Display Object Box:

Object Box, Detection Zone & Object Box / Detection Zone

Enabling **object box** means that an object box (coloured square) is displayed around the classified object once they enter the detection zone.

Enabling **Detection Zone** means the camera will display the detection zone set from within the camera over the video displayed on the NVR. (None of these options are shown when a video backup is taken.)

Enabling **Object Box / Detection Zone** simply means both are enabled and visible.

Click Apply.

(Please note that enabling Object Box or Detection Zone will cause the NVR to use more resources and may impact performance)

Next, select the 'Alarm' menu and select the channel your Al camera has been added to.

Next turn 'Alarm Input Type' to 'IP Camera' and click Apply.

9LILIN		🎲 MOTION AREA 🛛 🌘 🕼 OUTPUT			admin 🕏
STREAM	1. CAM01	Alexandra Trans	Matian Darrow	0#	
CAMERA	2. CAM02	Motion Enable	Specific Alarm Text	0#	5 ~ 100 Seconds)
		Motion Sensitivity Standard	Display View		(Max. length 32)
		Save Event Snapshot	Display Type	Camera	
۲ ALARM		Apply To All Channels	Display Content	CAM01	
L DISPLAY		oppy to all officiality			·
K NETWORK			Alarm Popup	Off	5
CO EVETEM			Specify Alarm Text	Off	(Max. length 32)
			Display View	Off	
D PTZ			Display Type	Camera 🚽	
I META DATA			Display Content	CAM01 -	
E OTHER			Metadata Popup	Off -	5
			Specify Alarm Text	Off 🗸	(5 ~ 100 Seconds)
			Display View	Off	(Max. length 32)
			Display Type	Camera 🚽	
			Display Content	CAM01 -	
				Apply	Undo
				Арріу	Undo

Your camera is now logging AI events to the NVR.



Alert Outputs

This can include Email, Buzzer and Push Notifications alerts (In this guide we will cover push notification configurations)

To enable push notifications for detected AI events, select 'Alarm' from the NVR menu.

Select the 'Output' tab from the top menu bar.

Next select 'Notification' from the sub menu bar.

Turn 'Enable' to On and click the 'Channel Events' button.



From the Events dropdown select 'Event 2 (LPR) and tick which ever of the following are required, 'Denial, Allowed and Visitor.

(We select these because these are the classification set on the AI camera module)

	ON - Channel Events		
Channel #1	- Event #2 (LPR)	Select/Clear All	
1. CAM01	Denial	Allowed	Visitor
2. CAM02	Denial	Allowed	Visitor
3. CAM03	🔄 Denial	Allowed	Visitor
4. CAM04	Denial	Allowed	✓ Visitor
5. CAM05	Denial	Allowed	Visitor
6. CAM06	Denial	Allowed	Visitor

Then click Apply.



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If a mobile app already has the NVR configured within it and the app is set to receive 'Alarm Events' you will start to receive push notifications when an AI event is triggered.

Enabling push notifications will also enable the 'Events' option on the LILINPro app. This is a list of previous events on the NVR.

Below is an example of how an LPR detection looks in playback from an NVR6216E.

The NVR has both a camera and behaviour filter to help find any events quickly and easily.

