

# LILIN Aida Camera User Manual

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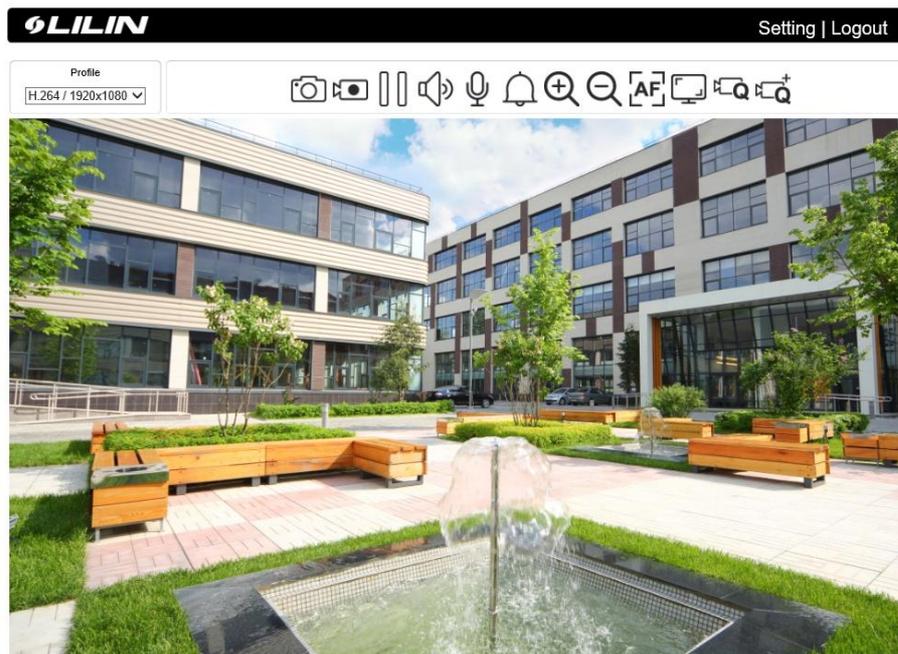
## Chapter 1.0 Introduction

LILIN P6/Z6 Aida cameras can install Aida plug-in for running number plate recognition system and object recognition system. The camera uses the latest deep learning technology for edge computing. Deep learning technology is introduced by the concept where the machine is told to learn what to look for, the plates, the digits, and the objects. It works out the most descriptive and obvious features for the plate, the digit or the object. In other words, deep learning is told to discover the underlying patterns in classes of images that can give much better result than traditional computer vision.

LILIN P6/Z6 Aida cameras can perform recognition features and work independently for triggering (1) HTTP Post notifies other network devices, (2) digital outputs of the camera, and (3) LILIN Navigator Corporate system. LILIN P6/Z6 Aida cameras are able to run deep learning plug-in for different recognition tasks.

## Features

- Support up to 4K recognition and 6 FPF for number plate recognition and 9 FPS for object recognition.
- Recognize up to 6 car plates within a camera.
- Support group denial list, allowed list and exclusion list setting.
- License plate character size and license plate character length can be set.
- Support for license plate JPEG snapshots.
- Support LILIN IO Box interfacing external devices for gate control.
- Support database synchronization for denial list and allowed list.
- Support HTTP SDK integration.
- Support LILIN Navigator Corporate.



## Chapter 1.1 Trademark

This product contains H.265 (High Efficiency Video Coding, HEVC) codec technologies and is manufactured under the license from Access Advance LLC, and the HEVCAdvance symbol are trademarks of Access Advance LLC.



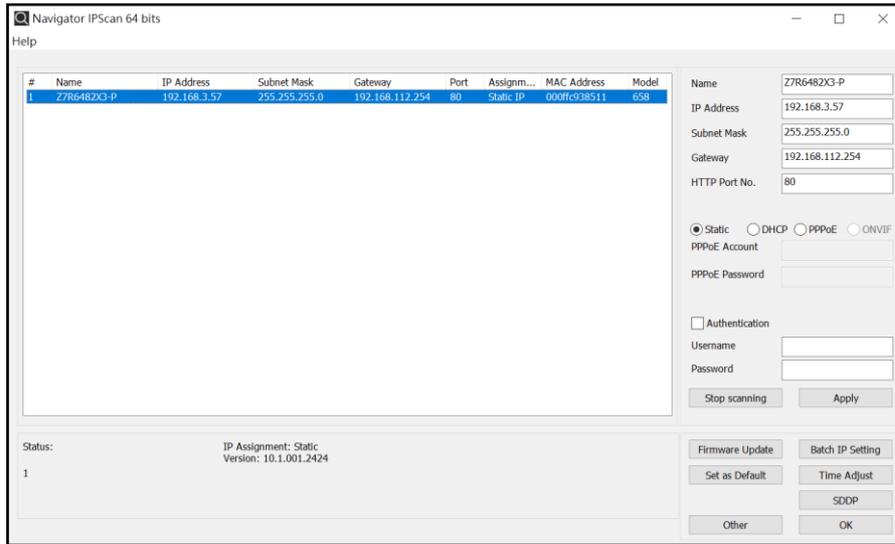
Covered by one or more claims of the HEVC patents listed at [patentlist.accessadvance.com](http://patentlist.accessadvance.com).

## Chapter 2.0 Before Using This Aida Plug-in

Please, read LILIN P6 and Z6 IP camera user manual before operating LILIN camera. This user manual only focuses on the Aida plug-in features of the camera.

After installing Aida plug-in for the camera, click on the About page. If the Aida camera is not licensed, email System ID to LILIN sales person for trial or purchasing purposes. After purchasing, the Unlocking Key will be sent to you. Please copy-and-paste the Unlocking Key into About dialog for using Aida plug-in features.

Use the LILIN IPScan tool for scanning the camera via the network. You can also use the default IP address at 192.168.0.200 for accessing the camera.



For accessing the camera for the first time, make sure that create a username and password for security purpose.



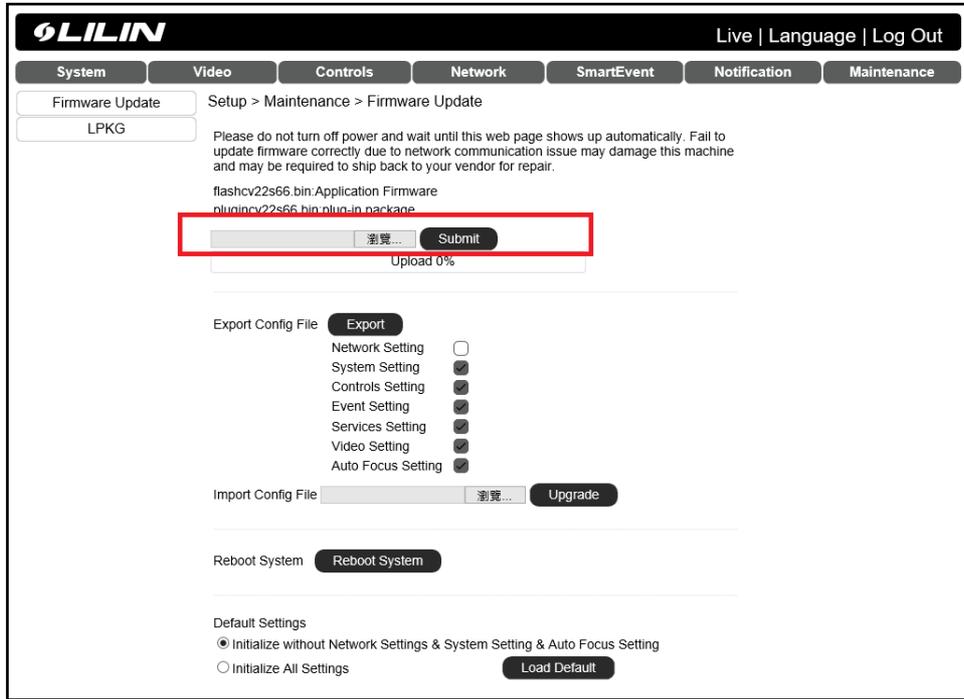
### Minimum Password Strength Requirements:

1. The password length must be 8 or more characters.
2. The password must include at least 1 number ( 0 ~ 9 ), 1 uppercase letter, 1 lowercase letter and 1 symbol( ~ ? / + = , ; : . ' @ # % ^ & \* ( ) \_ - ).

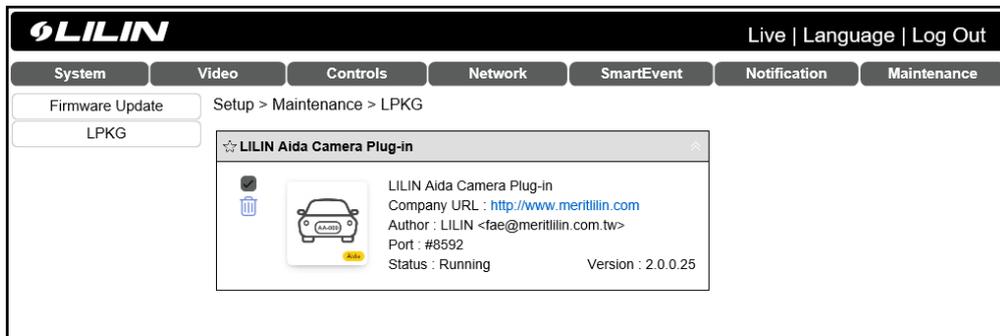
**Note:** Please preserve the credential for accessing the camera properly. Forgetting the credential for accessing the camera, please perform hardware factory default.

## Chapter 2.1 Upgrade Aida Plug-in

Please click "Maintenance -> Firmware Update", the Aida plug-in file format of this product is "plugincv22s66.bin", select the "Browse" button to select the file, and select the "Submit" button to install the plug-in.



After the Aida plug-in gets installed, the Aida plug-in page can see the relevant information of the plug-in as in LILIN Plug-in Package (LPKG) page.



Click on the plug-in icon that can open the plug-in page. LILIN Aida software is at 8592 port. Click  that can enable the plug-in. Click delete button that can remove the plug-in.



## Chapter 2.2 Aida Plug-in Licensing

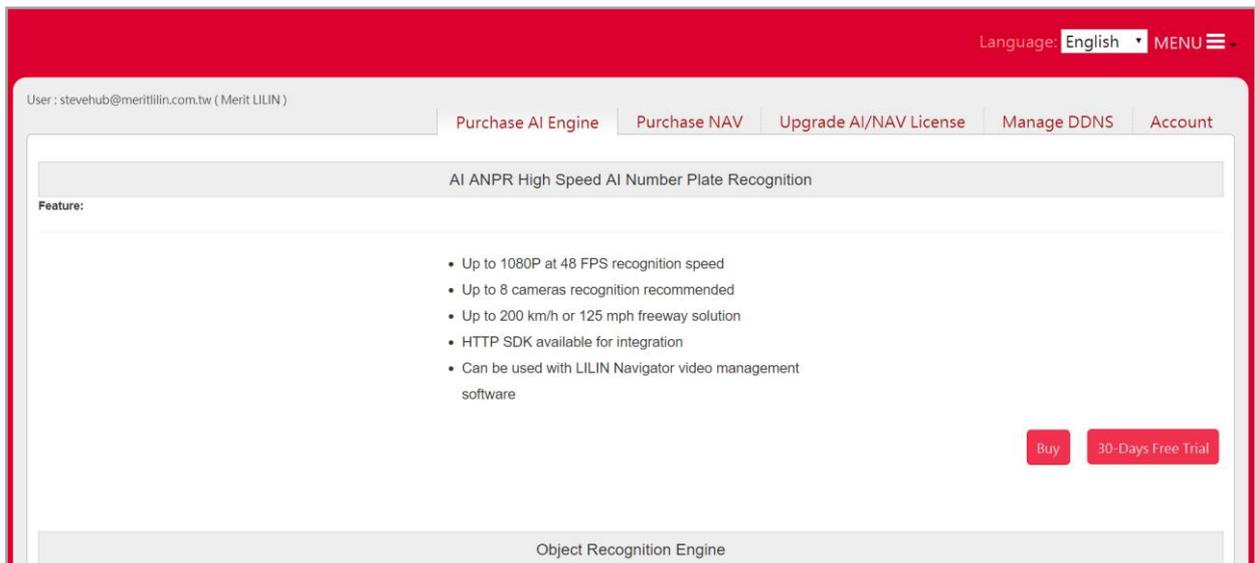
If your camera does not have a pre-purchased license key, you can purchase the license key after purchasing the camera. After receiving the unlocking key from the sales representative, click "About" button to enter the "unlocking key" to enable the Aida identification function.



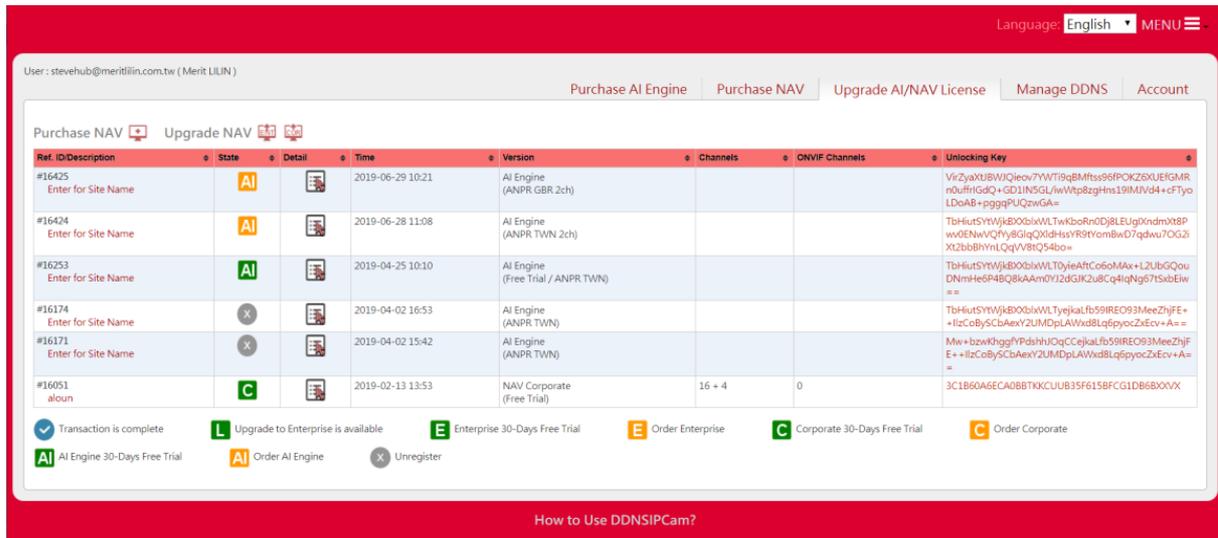
## Chapter 3.0 How to Purchase an Aida Plug-in

### Chapter 3.1 How to Get a Trial License

To get a trial license, visit <https://www.ddnsipcam.com> for registering an account. Once an account gets registered, click on 30-Days Free Trial. You will get a trial license. Follow previous step for enter the trial license.



You are able to manage the license keys for Aida Plug-in or Navigator below:



### Chapter 3.2 The Following Situations Where Aida Plug-in Might not Work

- In rainy day, the rain drops block the field of view of the detected number plates or objects.
- In foggy environment, the fog blocks the detected number plates or objects.
- The reflection caused by sunshine and mirror
- The large object blocks the license plates.
- Blurry video in a strong wind installation

### Chapter 3.3 Who Needs this Aida Plug-ins

The following customers are suitable for using LILIN Aida Plug-ins

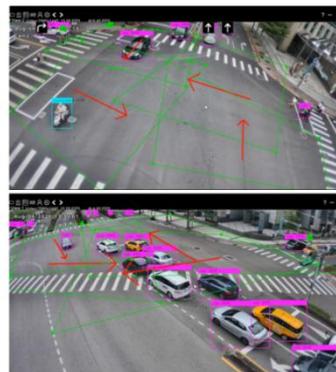
- System integrators for car park automation
- Software developers for building automation
- Traffic management system developers
- Home automation integrator
- Developers of VMS companies
- Number plate recognition system installers of LILIN NAV

### Chapter 4.0 How to use the Aida Camera

#### Chapter 4.1 The Camera Installation for Aida Traffic Management

The installation of the camera is important. For cost consideration, installing the camera on a single pole is preferred. For this reason, please make sure that the camera field of view can cover the entire intersection, and the resolution for object identification must be 120 pixels wide x 120 pixels high.

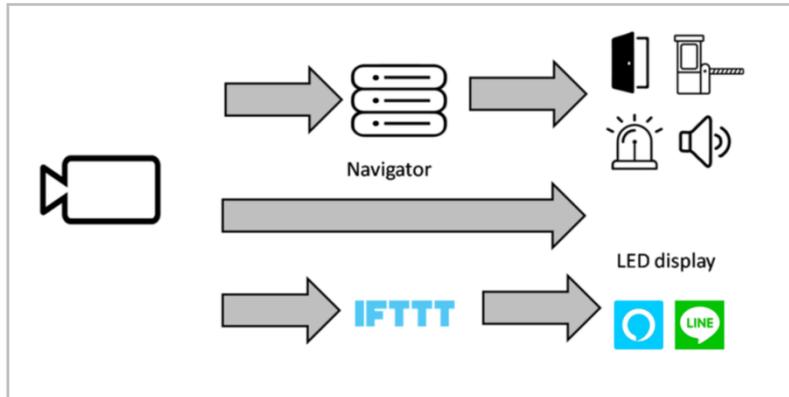
• One pole installation is preferred.



## Chapter 5.0 How to use Aida Plug-in

### Chapter 5.1 HTTP Post of Aida Software

HTTP Post can notify other systems for integration purpose. See examples below:



Click on to launch HTTP notification dialogue box. There are few pre-programmed HTTP CGI commands for interfacing LILIN NVR or IP camera. Click on Add, Delete, and Edit buttons for editing the HTTP Post commands.

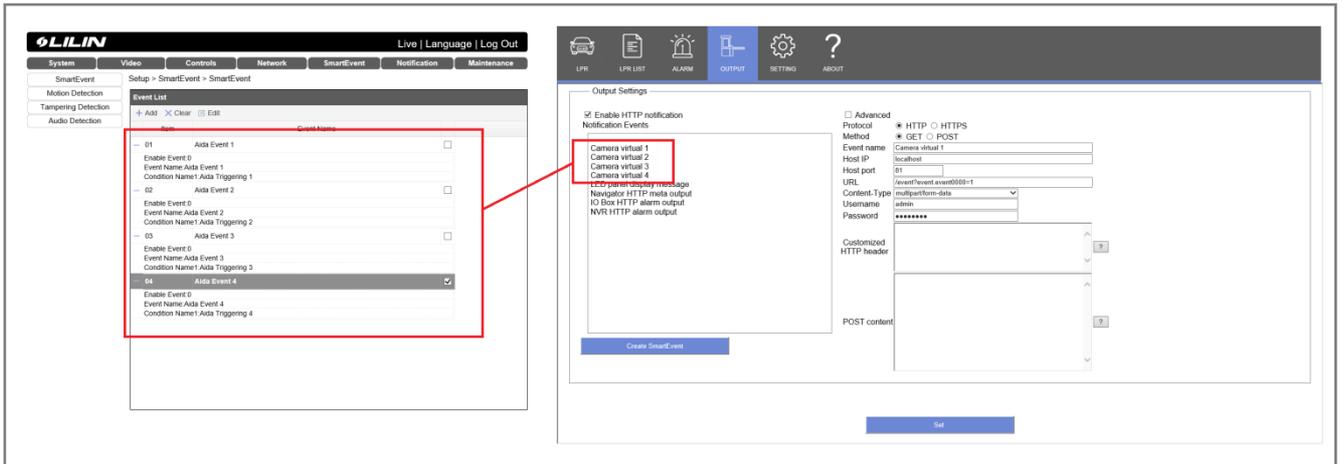
For example, to control IP camera's relay output, follow the steps below:

- **Protocol:** Select HTTP port (default) for communication purpose.
- **Method:** Select the target device HTTP protocol method.
- **Event name:** Specify an event name.
- **Username and password:** Enter the username and password of the target device.
- **HTTP Port:** The port number of the target device.
- **URL:** The CGI command of the IP camera for reply triggering output.
- Customized HTTP header
- **Post content:** Customized contents of AI recognition result including “counter”, bonding boxes, number plate, and others.

## Chapter 5.2 The Outputs of Aida Camera

When Aida plug-in detects an object in detection zone alarm or a license plate recognition black and white list, it can perform camera alarm notification, (1) camera-side smart event alarm notification (2) HTTP notification to other systems and (3) counter output.

[Create SmartEvent](#) Click the button to automatically create the camera "SmartEvent" alarm output setting. This button can create 4 camera events and correspond to the Camera virtual inputs #1 ~ #4 of the Aida notification event (see the picture below). If Aida plug-in has the AI detection, e alarm output, you can use the camera to trigger the "smart event", select the behavior to be detected and press the output setting button; you can specify the output after behavior detection as



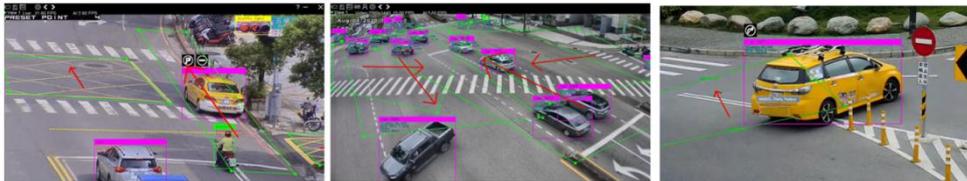
## Chapter 5.3 Verify the Output Triggering of Aida Camera

Go to Setup > System > System Log of the camera to verify the triggering by Aida detection.

System		Video	Controls	Network	SmartEvent	Notification	Maintenance
General	Setup > System > System Log						
User	<div style="display: flex; justify-content: space-between;"> <span>Page 1 of 151</span> <span>Type: ALL</span> <span>Displaying 1 to 25 of 3764 items</span> </div>						
Timer	IP Address	User	Date & Time	Log Description			
OSD	127.0.0.1	hello	2021/07/20 22:40:03	#1 event(Aida Event 2),#1 condition triggered(EVENT TRIGGERED)			
System Log			2021/07/20 22:40:03	Set #1 Virtual Input Value(1)(SYSTEM MESSAGE)			
			2021/07/20 22:40:03	#1 event(Aida Event 2),#1 condition triggered(EVENT TRIGGERED)			
	127.0.0.1	hello	2021/07/20 22:40:03	Set #1 Virtual Input Value(1)(SYSTEM MESSAGE)			
			2021/07/20 22:40:03	#1 event(Aida Event 2),#1 condition triggered(EVENT TRIGGERED)			
	127.0.0.1	hello	2021/07/20 22:40:02	Set #1 Virtual Input Value(1)(SYSTEM MESSAGE)			
			2021/07/20 22:40:02	#1 event(Aida Event 2),#1 condition triggered(EVENT TRIGGERED)			
	127.0.0.1	hello	2021/07/20 22:40:02	Set #1 Virtual Input Value(1)(SYSTEM MESSAGE)			
			2021/07/20 22:40:02	#1 event(Aida Event 2),#1 condition triggered(EVENT TRIGGERED)			
	127.0.0.1	hello	2021/07/20 22:40:02	Set #1 Virtual Input Value(1)(SYSTEM MESSAGE)			
			2021/07/20 22:40:02	#1 event(Aida Event 2),#1 condition triggered(EVENT TRIGGERED)			
	127.0.0.1	hello	2021/07/20 22:40:02	Set #1 Virtual Input Value(1)(SYSTEM MESSAGE)			
			2021/07/20 22:40:02	#1 event(Aida Event 2),#1 condition triggered(EVENT TRIGGERED)			
	127.0.0.1	hello	2021/07/20 22:39:22	Set #1 Virtual Input Value(1)(SYSTEM MESSAGE)			
			2021/07/20 22:39:22	#1 event(Aida Event 2),#1 condition triggered(EVENT TRIGGERED)			
	127.0.0.1	hello	2021/07/20 22:39:21	Set #1 Virtual Input Value(1)(SYSTEM MESSAGE)			
			2021/07/20 22:39:21	#1 event(Aida Event 2),#1 condition triggered(EVENT TRIGGERED)			
	127.0.0.1	hello	2021/07/20 22:39:21	Set #1 Virtual Input Value(1)(SYSTEM MESSAGE)			
			2021/07/20 22:39:21	#1 event(Aida Event 2),#1 condition triggered(EVENT TRIGGERED)			
	127.0.0.1	hello	2021/07/20 22:39:21	Set #1 Virtual Input Value(1)(SYSTEM MESSAGE)			
			2021/07/20 22:39:21	#1 event(Aida Event 2),#1 condition triggered(EVENT TRIGGERED)			
	127.0.0.1	hello	2021/07/20 22:39:21	Set #1 Virtual Input Value(1)(SYSTEM MESSAGE)			
			2021/07/20 22:39:21	#1 event(Aida Event 2),#1 condition triggered(EVENT TRIGGERED)			
	127.0.0.1	hello	2021/07/20 22:39:21	Set #1 Virtual Input Value(1)(SYSTEM MESSAGE)			
			2021/07/20 22:39:21	#1 event(Aida Event 2),#1 condition triggered(EVENT TRIGGERED)			
	127.0.0.1	hello	2021/07/20 22:39:07	Set #1 Virtual Input Value(1)(SYSTEM MESSAGE)			
			2021/07/20 22:39:07	#1 event(Aida Event 2),#1 condition triggered(EVENT TRIGGERED)			
	127.0.0.1	hello	2021/07/20 22:39:07	Set #1 Virtual Input Value(1)(SYSTEM MESSAGE)			
			2021/07/20 22:39:07	#1 event(Aida Event 2),#1 condition triggered(EVENT TRIGGERED)			
	127.0.0.1	hello	2021/07/20 22:39:07	Set #1 Virtual Input Value(1)(SYSTEM MESSAGE)			
			2021/07/20 22:39:07	#1 event(Aida Event 2),#1 condition triggered(EVENT TRIGGERED)			

## Chapter 6.0 Aida Alarm & Object Classification

For Aida alarm and object classification, follow the instruction below:



## Chapter 6.1 The Settings of Aida Alarm Detection

Click on Enable object classification detection for using AI object detections. For object behaviors, the behavior is defined in a detection zone. There are four detection zones programmable for classified objects. Follow the instructions below for setup.



**Note:** It is important to disable “Enable object classification” feature, if object detection is not used.

### Chapter 6.1.1 Prohibit Zones

Click on **+**/**-** buttons for inserting or deleting a detection zone. Once a detection zone gets added, drag the Anchor of the zone to fit the environment. There are up to four detection zones for detecting the behaviors of classified objects.



### Chapter 6.1.2 Adjust Prohibit Zones

To adjust the detection zone, please use mouse to drag the blue point of a detection zone according to the sense.

Show classified object only **T** If the OSD screen display of the classified object is displayed, please click "Show classified object only". If you do not want to see the object name and recognition rate, please click **T**.

### Chapter 6.1.3 PX Indicators

As shown below, the PX indicators can be used for measure the pixel sizes in width and height of a number plate, when a user using a mouse drags the blue point of the zone. The minimum for a object or a plate to be recognized is about 120 pixels in width. The PX indicator resolution is based on the resolution of the camera.

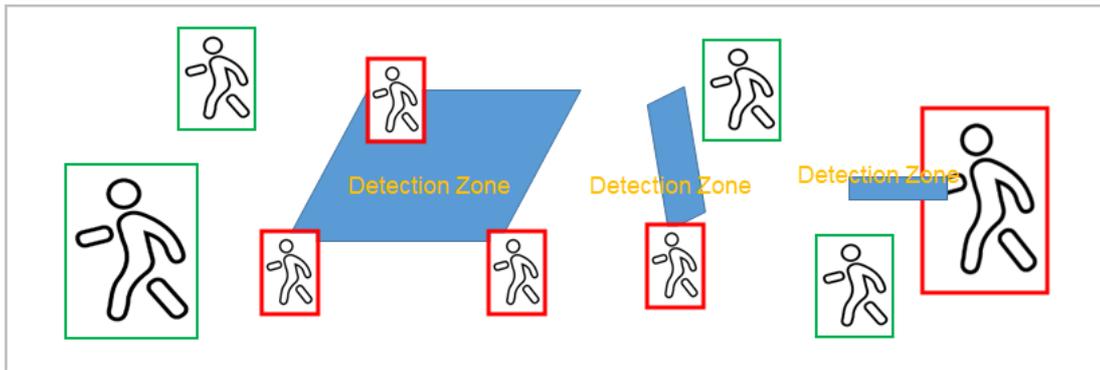


### Chapter 6.1.4 Prohibit Zone Detection for Human

To set up an alarm notification for an object entered the prohibited detection zone, please select in the object names in “classification”. Add a detection zone to desired area. Tick on “Prohibit zone detection”. Click “Set” button to save the settings.

This can be used for detecting a person entering a prohibit zone or parking violation.

The prohibit zone works as below: If an object gets classified and enters the prohibit zone as below, the classified objects in the zone get shown in red.



To setup prohibit zone:

1. Enable the zone for parking area
2. Check the detection objects such as car, truck, SUV, etc
3. Set the dwell for detection zone with dwell

**Alarm Settings**

Enable object classification  
Object size(FOV%) 80  
Confidence(%) > 8  
Dwell > 4

**Classification**  
 person  
 bicycle  
 car  
 motorbike  
 aeroplane  
 bus  
 train  
 truck  
 boat

**Action detection**  
 Prohibit zone (01AI)  
 Zone with dwell / Parking violation (01AI)  
 LPR allowed list access (06AI)  
 LPR denial list access (06AI)  
 Tripwire / Traffic flow (01AI)  
 Turn left (01AI)  
 Turn right (01AI)

**Detection zone output**  
 Camera virtual 1  
 Camera virtual 2  
 Camera virtual 3  
 Camera virtual 4  
 LED panel display message  
 Navigator HTTPddd  
 IO Box HTTP digital alarm output  
 NVR HTTP digital alarm output

Video Preview: car, 90%, ID: 460; car, 64%, ID: 469; car, 98%, ID: 306

Buttons: Detection zone [+ -] All [!], Enable direction [↔], Show classified object only [T]

**Set**

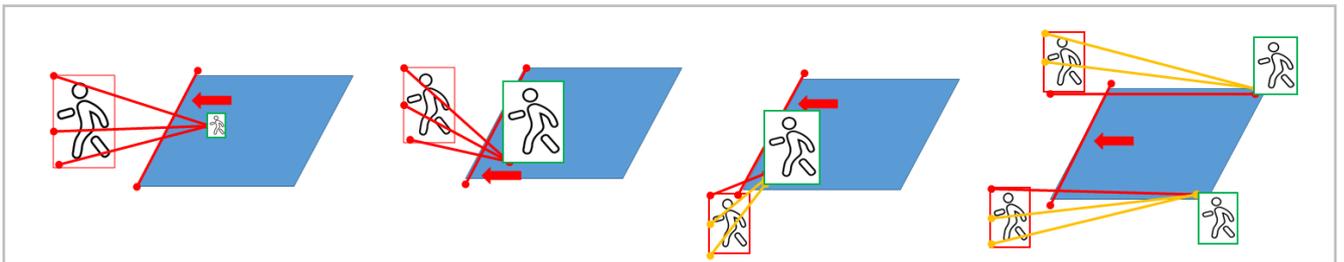
**Help for object classification**  
 Object size (FOV%) is to filter out the size of objects over the range.  
 Confidence (%) is to filter out objects with less recognition confidence.  
 Behavior detection is to detect the behavior of a tracking object.  
 Detection output is the output actions after behavior detections.  
 Detection zones: There are four zones for the detection.

The following situations are supported for AI detection:



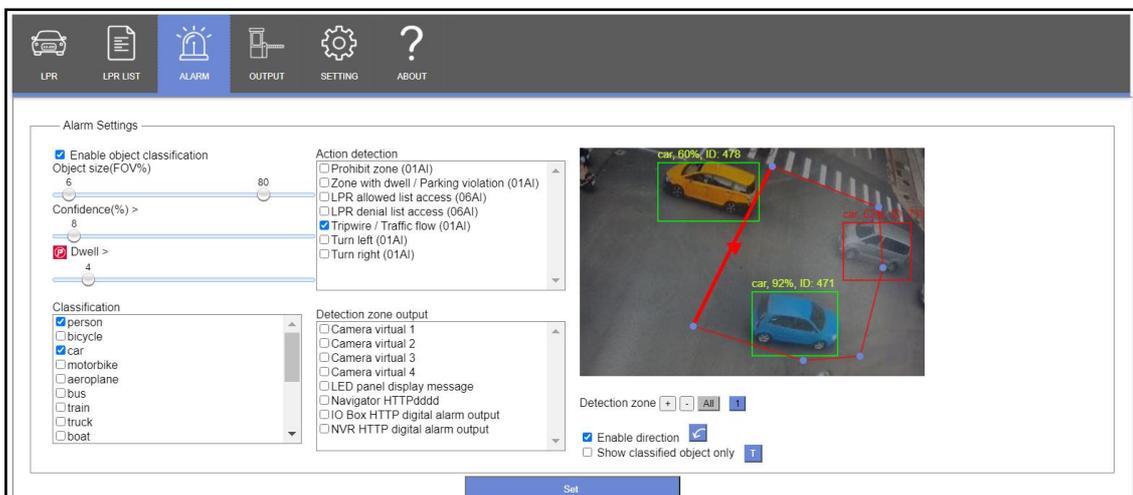
### Chapter 6.1.5 Tripwire Detection

Each zone can be configured as directional tripwire mode. There are total 4 zones that can be converted to tripwire modes. The tripwire works as below: A person needs to cross the tripwire based on the flow.



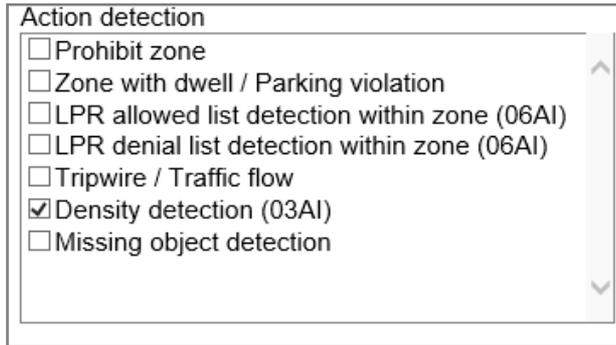
To setup tripwire

1. Enable the zone for parking area
2. Check the detection objects such as car, truck, SUV, etc
3. Select tripwire for detection

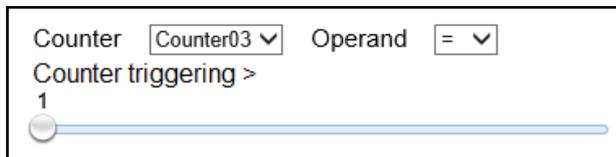


### Chapter 6.1.6 Density and Counter Detections

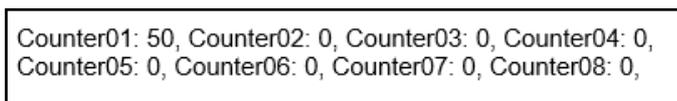
The density detection (crowd detection) and counter are supported. Density detection is to count the classified objects in a detection zone. This function can be used for the detection of too many people in the detection area and trigger the camera alarm. To use this function, please select the "Density detection" feature below.



Please set the counter and set the operand to "=". This feature is to detect and to count the classified objects in the detection zone. If the counter is greater than the trigger counter, it will start to trigger the alarm.



The counter will display the detected counting in the panel after it reaches "Counter Triggering" setting.



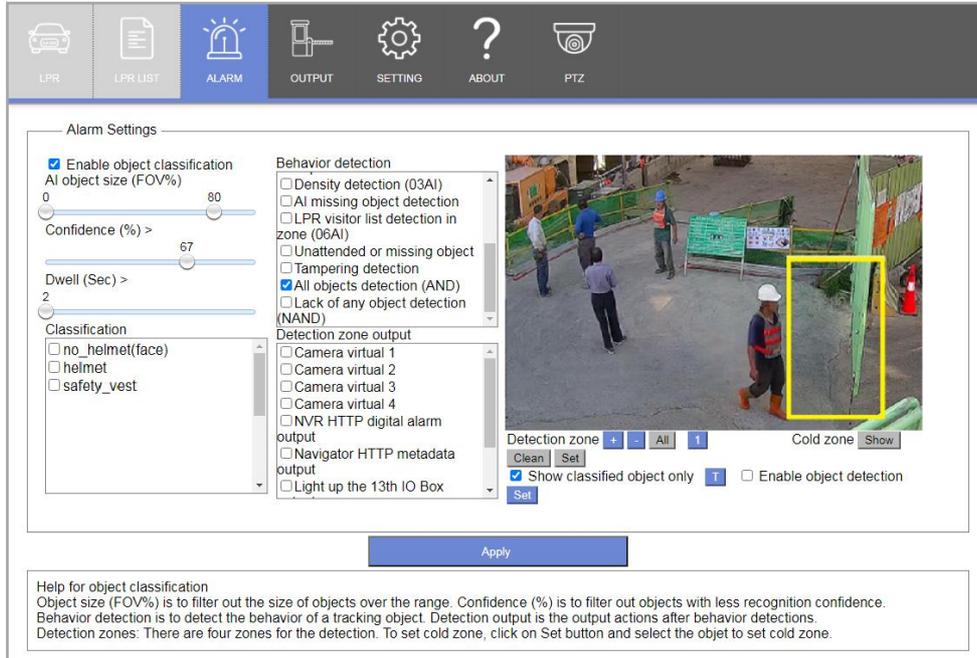
The counter detection is to count the behavior detection. Once it reaches the value of the Counter Trigger, the camera can trigger an action. The example below shows the tripwire with "Counter Triggering" feature at counter #2. The operand is set to "+1" for every triggering. For the counting feature, please follow:

- Enable one of the behavior for a detection zone
- Set operand to "+1/-1".
- Reset value: Reset to the default value
- Reset every minute: Reset time interval
- Link to post event: List the counting result via HTTP Post
- Post every: HTTP post time interval



### Chapter 6.1.7 All Objects Detection (AND)

When there are one or several engines for AI detection, you can enable the **All objects detection AND** algorithm. For example, one application could be used for detecting (1) goggles, (2) safety helmets, and (3) safety vests at a preprogrammed detection zone during the dwell. If all the 3 objects exist at the same time, it enables the access control for automation purpose.



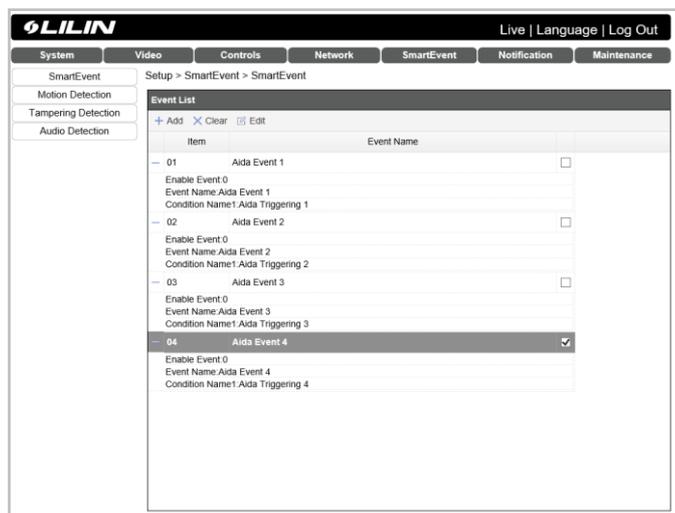
### Chapter 6.1.8 Lack of Any Object Detection (NAND)

When there are one or several engines for AI object detection, you can enable the **Lack of Any AI Object Detection**. For example, one application can be used for detecting (1) goggles (2) safety helmets, and (3) safety vests. If the three objects does not exist at the same time at pre-programmed detection zone during the dwell, the digital DO output can be triggered to enable alarm notification.

### Chapter 7.0 SmartEvent

#### Chapter 7.1 SmartEvent and Condition

There are a total of 5 events available for Smart Events. The events and events operate independently. If multiple events are required to operate independently, the event can be activated to trigger the alarm output.



The "conditions" of the SmartEvent is dependent, and the action of the Condition #2 will be executed after the Condition #1 is finished, and the next conditions can be triggered after the condition #2 is finished.

The screenshot shows the LILIN web interface for configuring a SmartEvent. The top navigation bar includes 'System', 'Video', 'Controls', 'Network', 'SmartEvent', 'Notification', and 'Maintenance'. The 'SmartEvent' section is active, showing 'Setup > SmartEvent > SmartEvent'. The 'Enable Event 1' checkbox is unchecked, and the 'Event Name' is 'Aida Event 1'. The 'Condition 1' tab is selected, showing 'Condition Name: Aida Triggering 1'. The 'Trigger' sub-tab is active, displaying 'Detection Time: 1 Sec. Sleep Time: 0 Sec.' and a table of triggers.

Enable	Trigger	Operator	Value	Duration
<input checked="" type="checkbox"/>	Virtual Input #1	=	1	0 Sec.
<input type="checkbox"/>	Virtual Input #2	=	1 or 0	0 Sec.
<input type="checkbox"/>	Virtual Input #3	=	1 or 0	0 Sec.
<input type="checkbox"/>	Virtual Input #4	=	1 or 0	0 Sec.
<input type="checkbox"/>	Virtual Input #5	=	1 or 0	0 Sec.
<input type="checkbox"/>	Virtual Input #6	=	1 or 0	0 Sec.
<input type="checkbox"/>	Virtual Input #7	=	1 or 0	0 Sec.
<input type="checkbox"/>	Virtual Input #8	=	1 or 0	0 Sec.
<input type="checkbox"/>	Virtual Input #9	=	1 or 0	0 Sec.
<input type="checkbox"/>	Virtual Input #10	=	1 or 0	0 Sec.
<input type="checkbox"/>	Virtual Input #11	=	1 or 0	0 Sec.
<input type="checkbox"/>	Virtual Input #12	=	1 or 0	0 Sec.
<input type="checkbox"/>	Virtual Input #13	=	1 or 0	0 Sec.
<input type="checkbox"/>	Virtual Input #14	=	1 or 0	0 Sec.
<input type="checkbox"/>	Virtual Input #15	=	1 or 0	0 Sec.
<input type="checkbox"/>	Virtual Input #16	=	1 or 0	0 Sec.

Buttons at the bottom: 'Save the event.' and 'Cancel'.

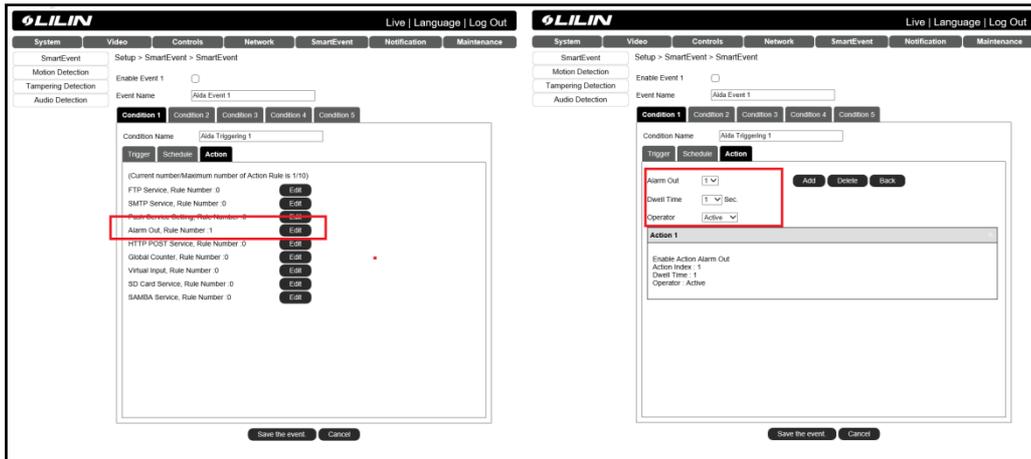
Click "Schedule", enter the week schedule and enter the start and end time of the event.

The screenshot shows the LILIN web interface for configuring a SmartEvent, specifically the 'Schedule' tab for 'Condition 1'. The 'Enable Event 1' checkbox is unchecked, and the 'Event Name' is 'Aida Event 1'. The 'Condition 1' tab is selected, showing 'Condition Name: Aida Triggering 1'. The 'Schedule' sub-tab is active, displaying 'Enable Holiday List' (unchecked) and a table for scheduling.

Select	Schedule	Start Time	End Time
<input checked="" type="checkbox"/>	All	0:00	23:59
<input type="checkbox"/>	Sun	0:00	0:00
<input type="checkbox"/>	Sun	0:00	0:00
<input type="checkbox"/>	Sun	0:00	0:00
<input type="checkbox"/>	Sun	0:00	0:00
<input type="checkbox"/>	Sun	0:00	0:00
<input type="checkbox"/>	Sun	0:00	0:00
<input type="checkbox"/>	Sun	0:00	0:00
<input type="checkbox"/>	Sun	0:00	0:00
<input type="checkbox"/>	Sun	0:00	0:00
<input type="checkbox"/>	Sun	0:00	0:00
<input type="checkbox"/>	Sun	0:00	0:00
<input type="checkbox"/>	Sun	0:00	0:00
<input type="checkbox"/>	Sun	0:00	0:00
<input type="checkbox"/>	Sun	0:00	0:00
<input type="checkbox"/>	Sun	0:00	0:00

Buttons at the bottom: 'Save the event.' and 'Cancel'.

To set the alarm output to be "executed", please click "alarm output" to trigger the DO alarm to open the door.



## Chapter 8.0 LILIN Navigator & Aida Integration

Before installing software, please prepare the following software and hardware tools:

- (1) LILIN Navigator software must be version 2.0.0.194 or above.
- (2) LILIN Navigator software license key.
- (3) LILIN license plate recognition software ANPR installation package.
- (4) LILIN Aida license plate recognition license key.

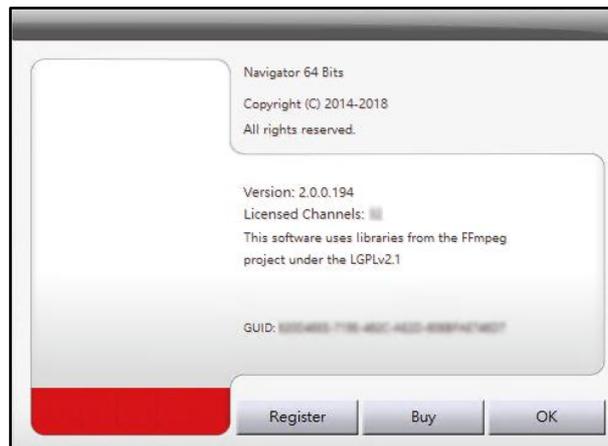
After setting up Navigator AI number plate recognition, Navigator will launch GYNet.exe for recognition. If there is an issue, make sure that GYNet.exe gets launched and GYNet.exe is at HTTP 8592 port.

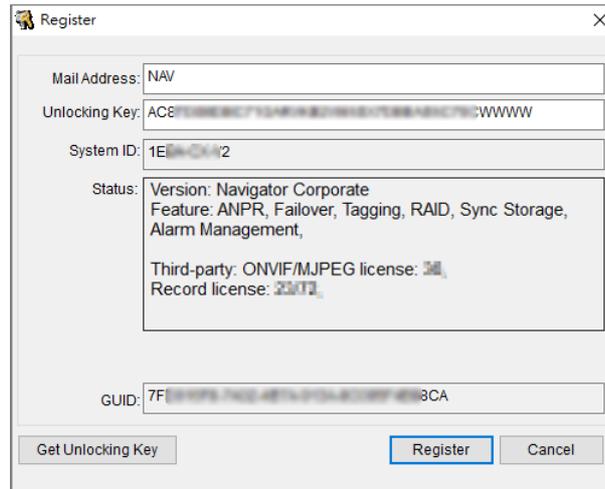
By launching AIPlug-in, the GYNet.exe is also launched for LILIN Navigator VMS via HTTP port 8592.

Click on Navigator software and click camera properties button. Click on ANPR Group setting. Type 8592 port for interfacing LILIN GYNet.exe.

## Chapter 8.1 Installation of LILIN Navigator Software and License Activation

Please refer to the user manual of LILIN Navigator and follow the installations steps in sequence. After installation, click on the “?” icon in the upper right corner of Navigator to check the status of the license. Click on register icon to register the license plate recognition software license. Please provide your information including e-mail address, and system ID, and pass this information back to your dealer or sales person who will provide you the license key for full functionality.





### Chapter 8.2 Global Timer

Support IP camera DO to trigger an automatic global timer, set the start time for starting up the countdown to trigger DO alarm.

### Chapter 8.3 Set as Default

For restoring license plate advanced setting to default settings, set as default.

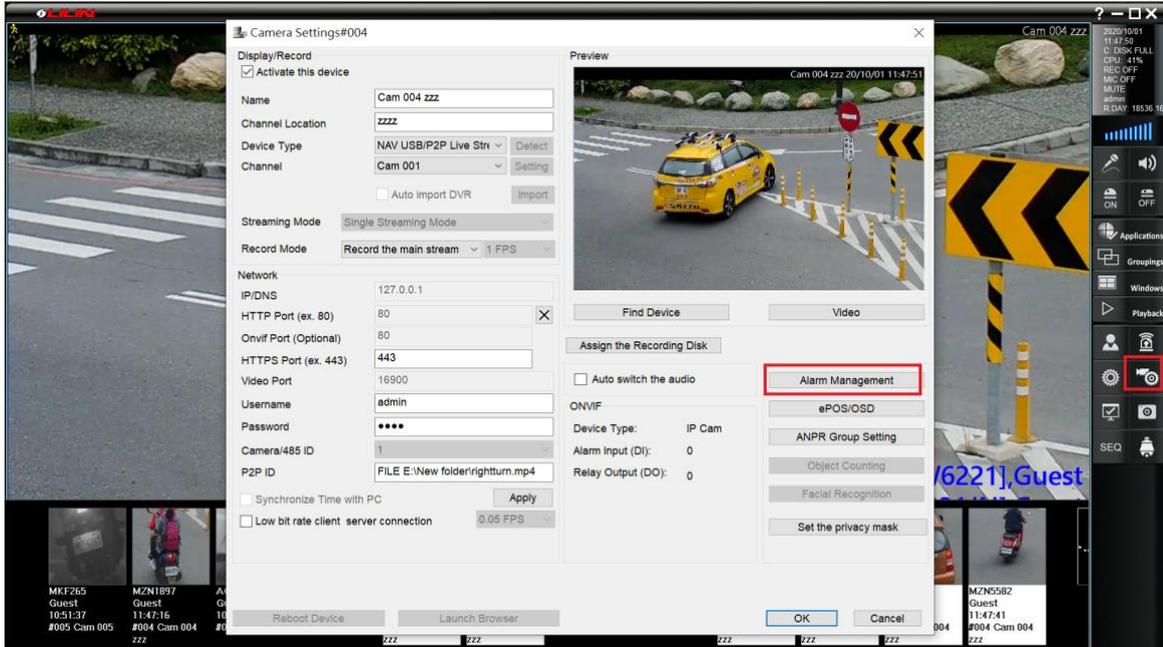
### Chapter 8.4 Behavior Detection Setting of Aida Software

For Aida behavior detection and Navigator settings, please set the relevant detection area in Aida Plug-in first, as follows:

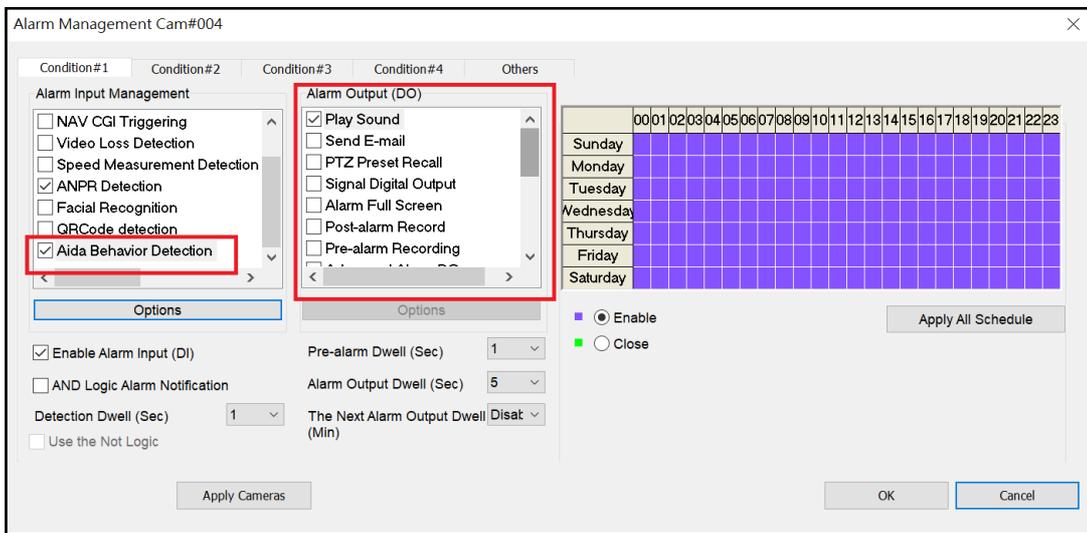


### Chapter 8.4.1 Navigator and Aida Behavior Detection Settings

Click "Camera Properties" and click "Alarm Management" to configure Aida's behavior detection.



Click "Options" in "Alarm Input Management" to set Aida's behavior detection.

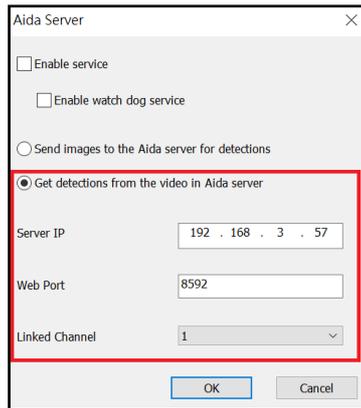
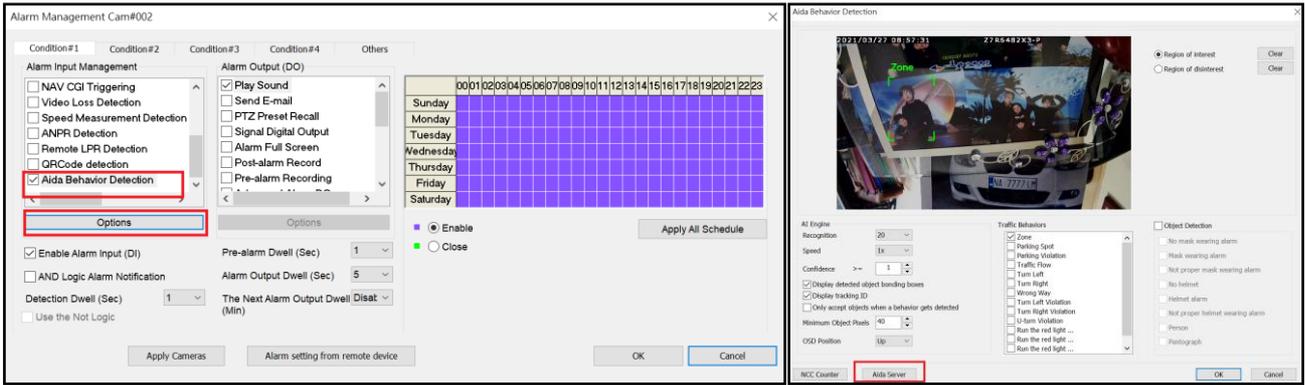


To set up the Aida host, please click on the "Aida Server" option to set up the communication between Navigator and Aida. The Aida server has two important options:

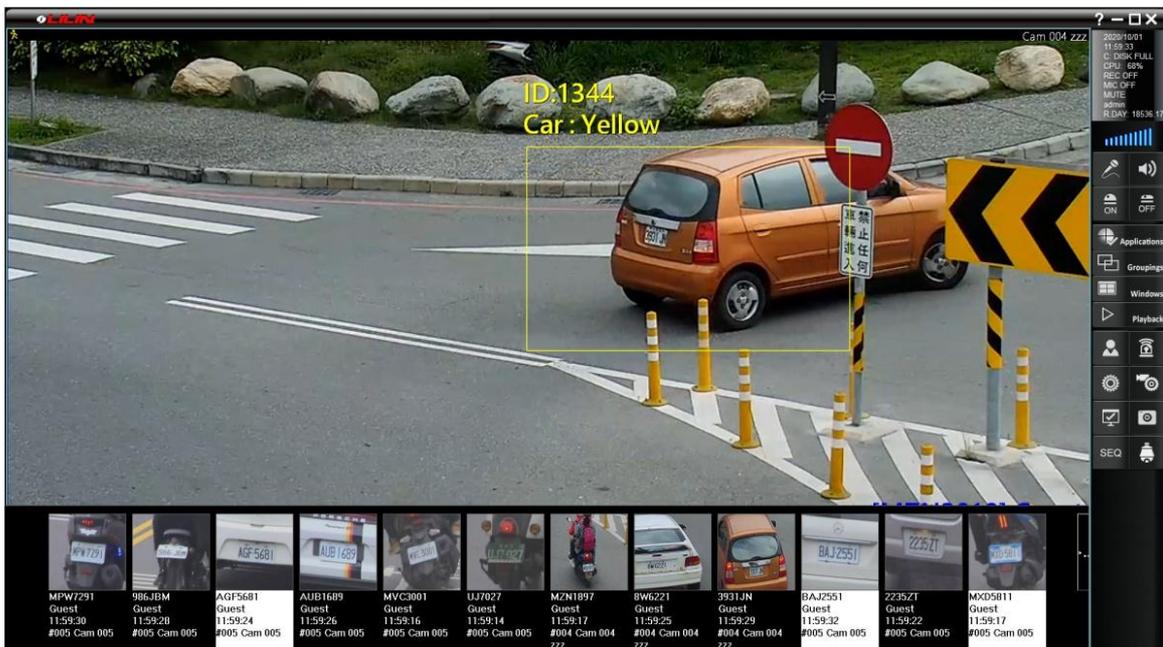
- (1) Send the image to the Aida server for detection.
- (2) Get recognition result from the video of the Aida server.

Send the image to the Aida server for identification—Navigator sends the video to the Aida server to display the recognition result

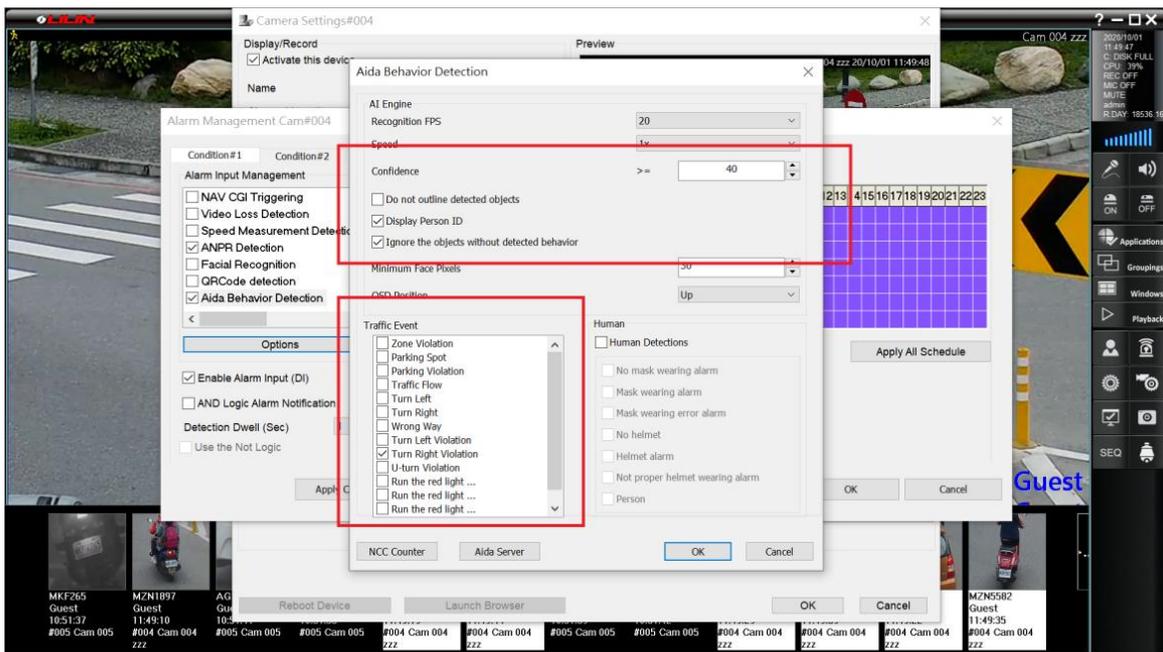
Get the recognition result from the video of the Aida server—Navigator will display the recognition after receiving from the Aida server, and the Aida server will actively connect to the IP camera.



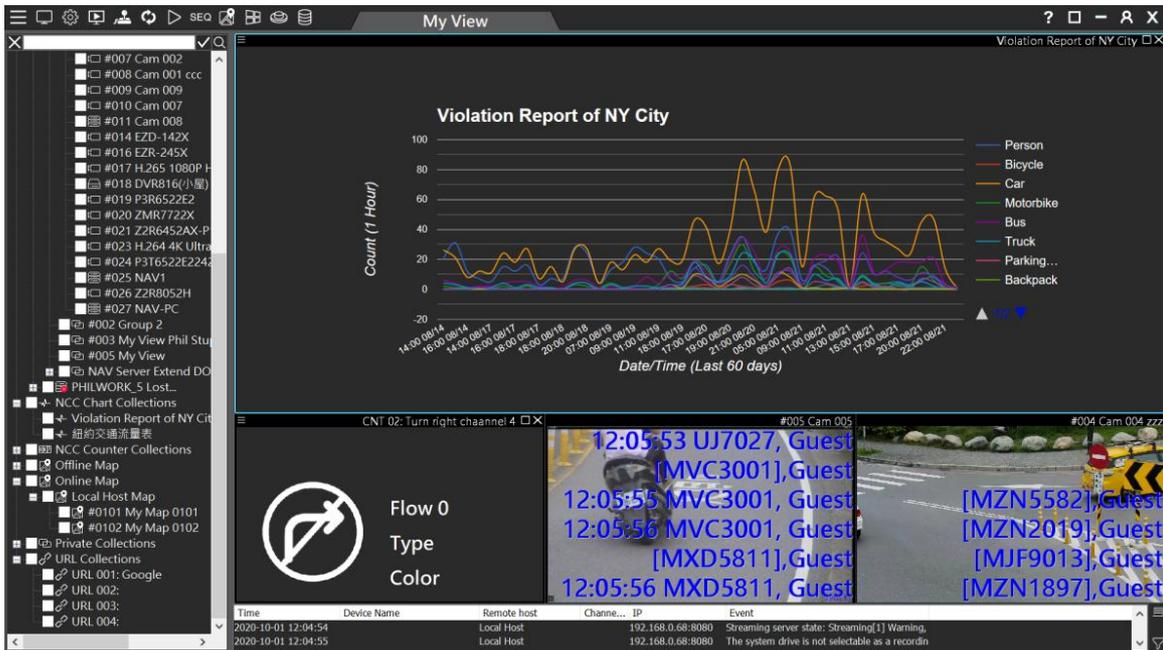
After above settings, Navigator can receive the Aida behavior detection and number plate recognition shown below:



Click "Options" in "Alarm Input Management" to configure Aida's behavior detection.



Navigator Control Center can also receive and display the behavior and number plate recognition via Aida Plug-in.



## Chapter 9.0 iOS and Android Apps

LILINHome apps are able to push the snapshots, once a behavior gets triggered. The snapshot of an AI behavior can be sent to LILIN Event Cloud and retrieved by LILINHome apps.

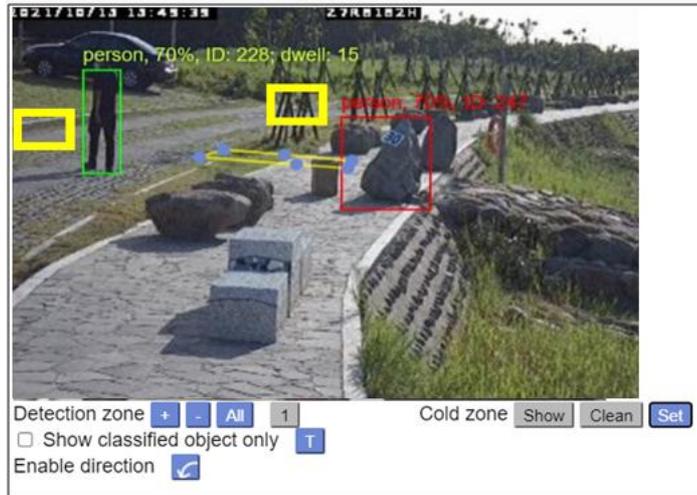


Chapter 9.3 Cold Zone

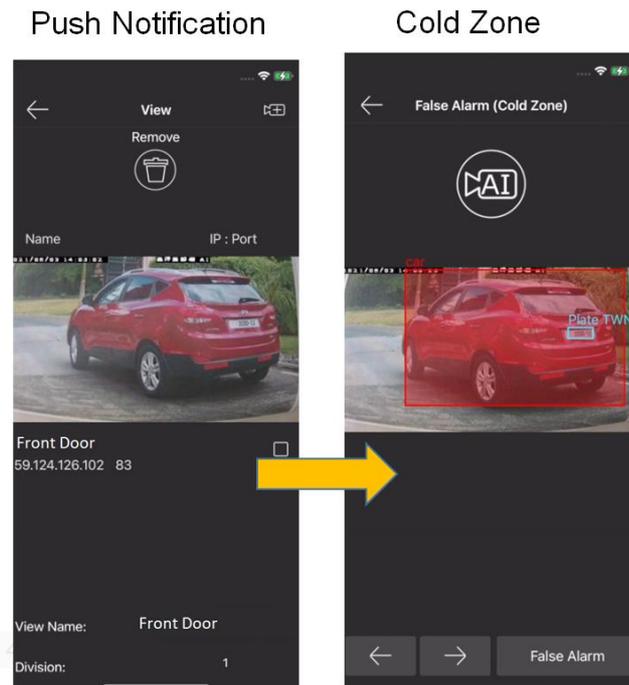
The camera can support “Cold Zone” reporting for false alarm. For example, the picture below, the rock is recognized as a person. Training the AI to adapt to the environment is a time-consuming task. The Cold Zone technology can suppress the recognition rate of the misclassified stationary object.

To set the cold zone, follow the steps below:

- (1) Click Set button.
- (2) Click on the bounding box of the misclassified object.
- (3) Click show to see the cold zone object for five second.
- (4) There are up to 8 cold zones can be set.
- (5) To clear all cold zones, click on Clear button.

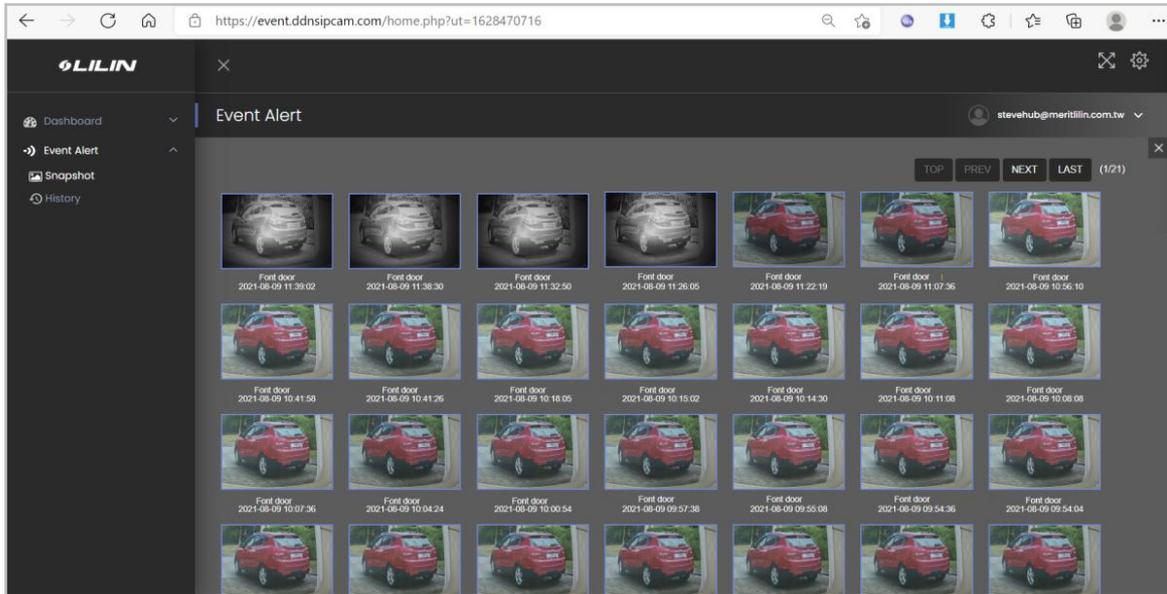


LILIN Event Cloud will push event notification to your mobile phone, after it got the snapshots from LILIN AI camera. If the notification is a false alarm, you can click the false alarm button feedback to LILIN camera for reducing the recognition rate.



## Chapter 9.4 LILIN Event Cloud

LILIN Event Cloud offers Dashboard and Event Alert to the users who can conveniently analyze the events statistics and get the event images.



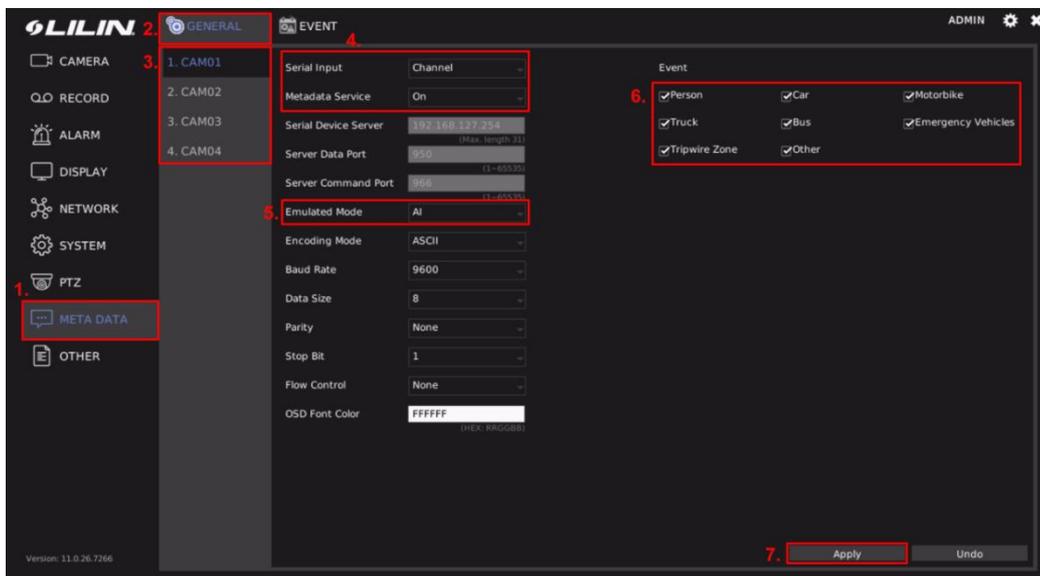
**Note:** For free service, there are only 512 pictures for storing the snapshots.

## Chapter 10.0 NVR/DVR Integration

### Chapter 10.1 AI Object / Behavior Recognition Setting

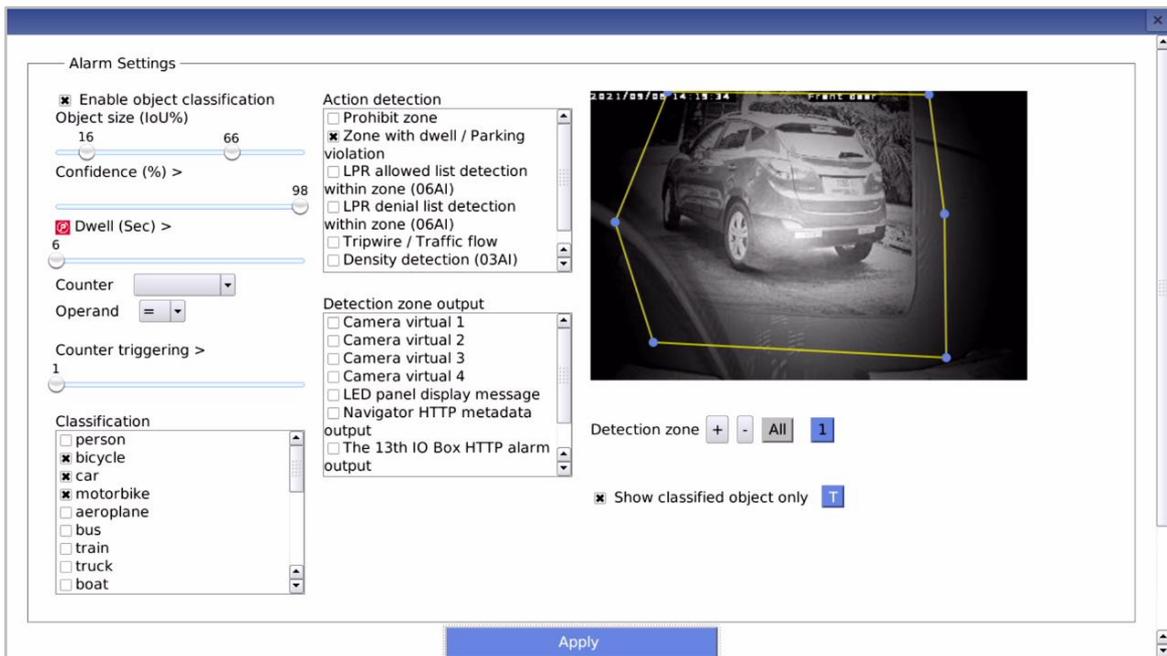
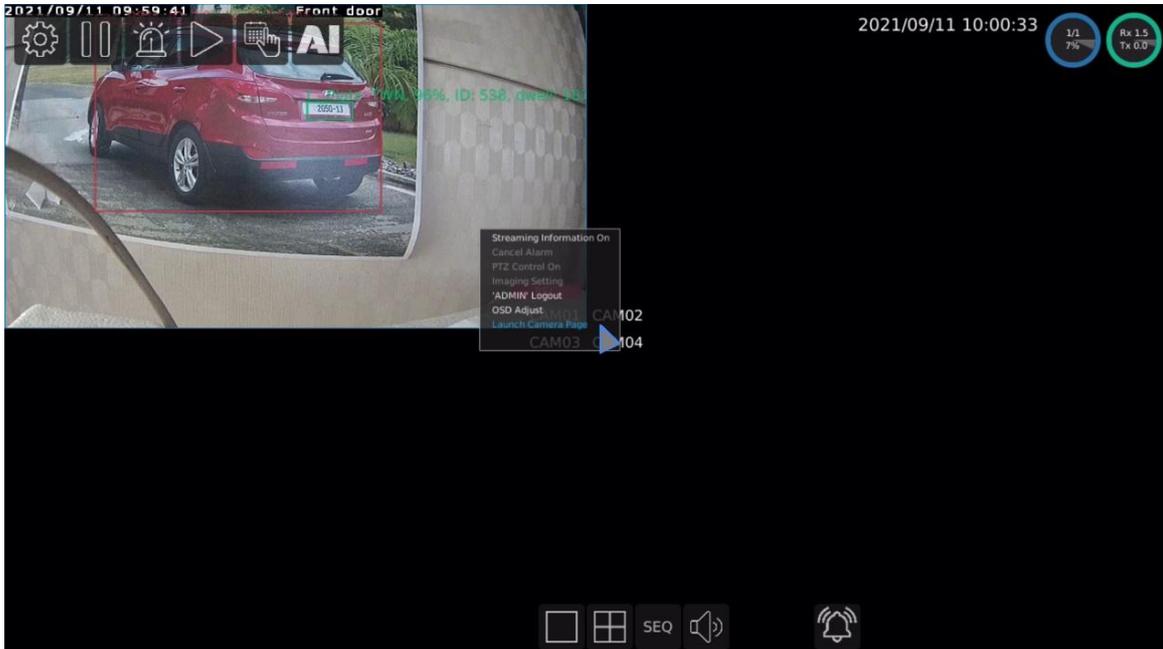
#### Chapter 10.1.1 AI Event Setting

- Click on META DATA > General > AI camera (06AI) channel.
- Serial Input: Select Channel.
- METADATA Service: Select On.
- Emulated Mode: Select AI.
- Event: Click according to requirement, person, car, motorbike, truck, bus, emergency vehicles, tripwire zone, other.
- After completing the setting, click on “Apply”.



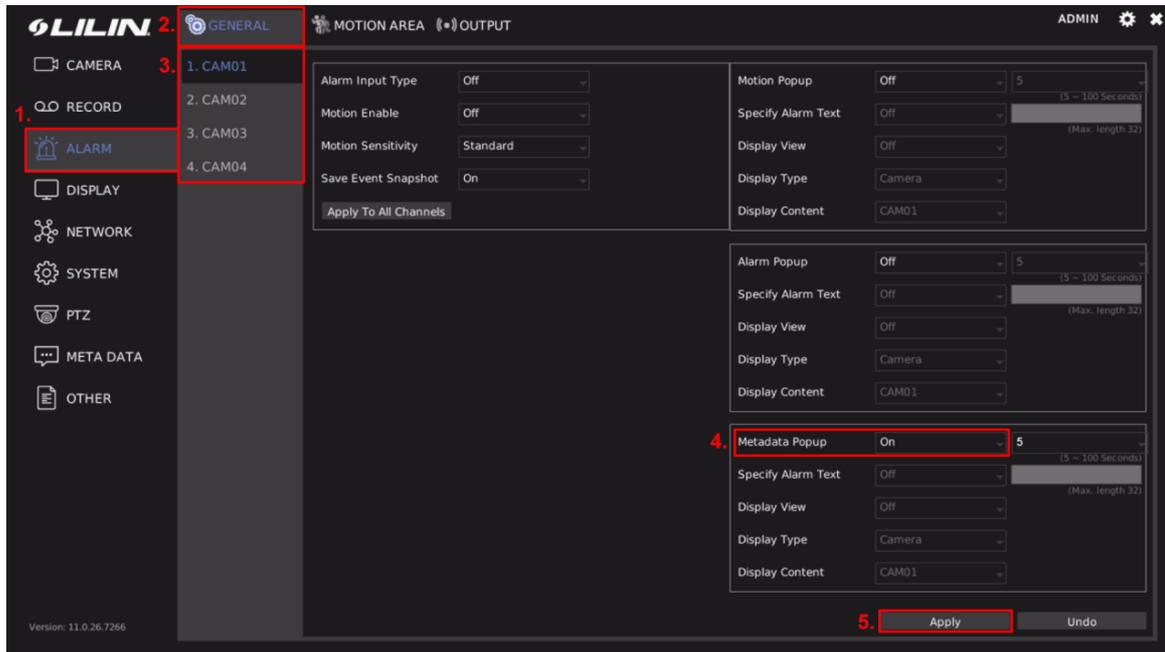
### Chapter 10.1.2 AI Camera Setting

On the live screen of the local NVR, right-click on the AI camera channel and click "Launch camera page" to enter the AI-related camera settings. (For detailed settings, please refer to the AI camera manual).

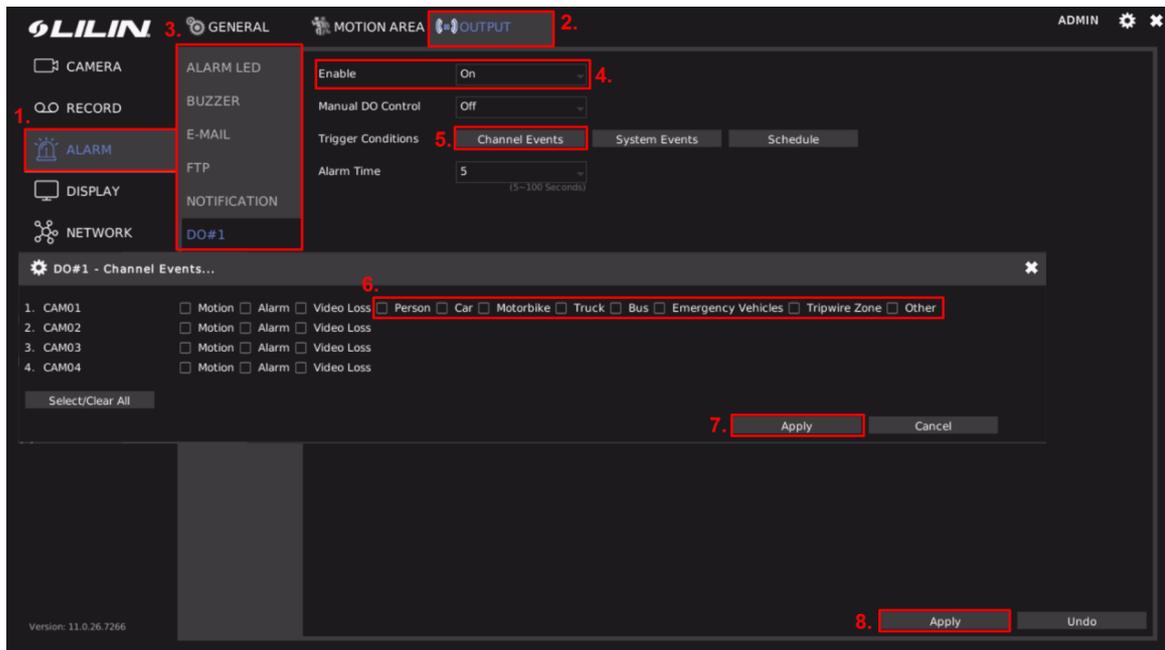


### Chapter 10.1.3 Alarm Setting

- General Setting: Click on Alarm > General > AI camera (06AI) channel.
- Metadata Popup: Select On.



- Alarm Setting: Click on Alarm Setting > Output > Select according to required output type. Example: DO#1:
- Enable: Select On.
- Trigger Conditions: After clicking the channel event, click according to requirement, person, car, motorbike, truck, bus, emergency vehicles, tripwire zone, other.



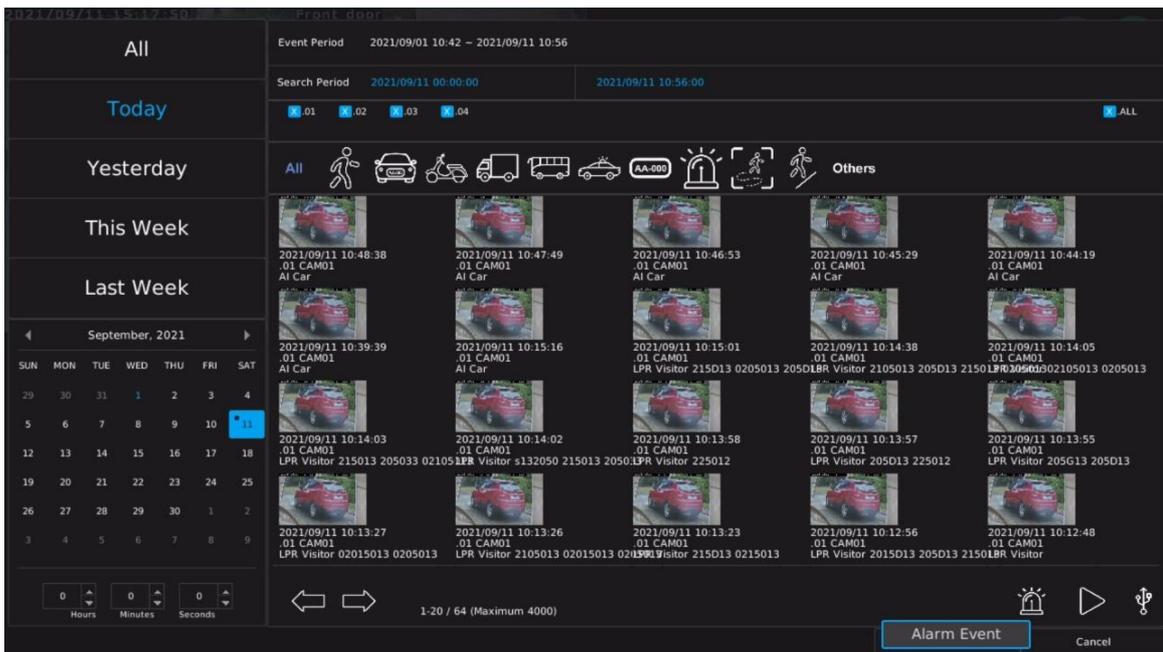
## Chapter 10.1.4 Event Search

On the local NVR, click on the AI icon to enter the AI event search screen.



The default search time of the system will start at 00:00:00 of the current day, and end at the time user enter the search screen. To change the search time, click on the time on the lower left and adjust the search time. Due to limited system resources, the system can only provide screenshots of the most recent 4,000 events. The latest events will be listed on the first tab, and each tab will display up to 20 events. To switch the event page, click on the left and right arrow icons, or click the channel number and event icons as the search filter conditions.

To display all events list, click on the “Alarm Event” button. To return to AI event, please click on the AI icon.



Event Period: 2021/09/01 10:42 – 2021/09/11 10:49

Search Period: 2021/09/11 10:00:00 – 2021/09/11 10:49:00

Filters: .01, .02, .03, .04, ALL

<input checked="" type="checkbox"/> Motion	<input checked="" type="checkbox"/> Sensor	<input checked="" type="checkbox"/> Manual	<input checked="" type="checkbox"/> Metadata	<input checked="" type="checkbox"/> LPR Blacklist	<input checked="" type="checkbox"/> LPR Whitelist	<input checked="" type="checkbox"/> LPR Visitor	<input checked="" type="checkbox"/> JVS Entered
<input checked="" type="checkbox"/> JVS Exited	<input checked="" type="checkbox"/> JVS Person	<input checked="" type="checkbox"/> JVS Vehicle	<input checked="" type="checkbox"/> Temp. & Face	<input checked="" type="checkbox"/> Temp. for Env.	<input checked="" type="checkbox"/> AI Person	<input checked="" type="checkbox"/> AI Car	<input checked="" type="checkbox"/> AI Motorbike
<input checked="" type="checkbox"/> AI Truck	<input checked="" type="checkbox"/> AI Bus	<input checked="" type="checkbox"/> AI Emer. Vehicles	<input checked="" type="checkbox"/> AI Tripwire Zone	<input checked="" type="checkbox"/> AI Other			<input checked="" type="checkbox"/> ALL

	2021/09/11 10:48:38	.01 CAM01	AI Car
	2021/09/11 10:47:49	.01 CAM01	AI Car
	2021/09/11 10:46:53	.01 CAM01	AI Car
	2021/09/11 10:45:29	.01 CAM01	AI Car
	2021/09/11 10:44:19	.01 CAM01	AI Car
	2021/09/11 10:39:39	.01 CAM01	AI Car
	2021/09/11 10:15:16	.01 CAM01	AI Car

1 / 64 (Maximum 4000)

AI [Play] [Share]

Search Cancel

Event Search Filter Conditions			
	Person		License Plate
	Car		Sensor
	Motorbike		Detection Zone
	Truck		Tripwire
	Bus		Other
	Emergency Vehicles		

### Chapter 10.1.5 Event Playback

To playback the event, please double-click on the AI event or alarm event. Or single click on the event and then click the “Play” button.

Event Period: 2021/09/01 10:42 – 2021/09/11 10:56

Search Period: 2021/09/11 00:00:00 – 2021/09/11 10:56:00

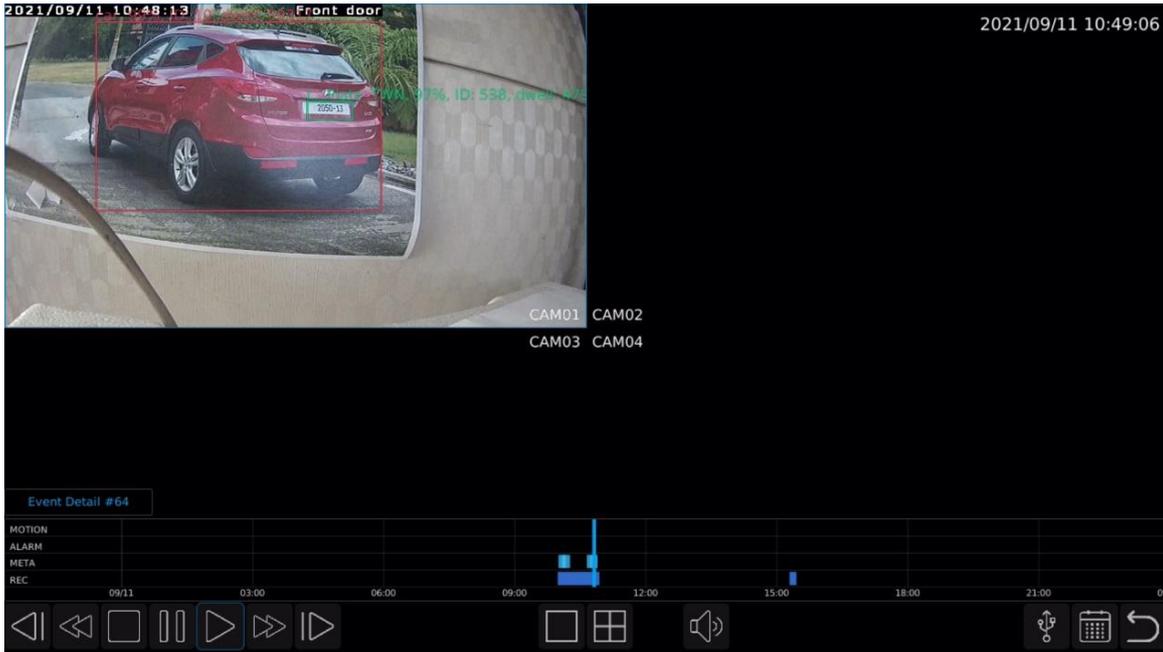
Filters: .01, .02, .03, .04, ALL

Event Type Filter: All, Person, Car, Motorbike, Truck, Bus, Emergency Vehicles, License Plate, Sensor, Detection Zone, Tripwire, Others

	2021/09/11 10:48:38	.01 CAM01	AI Car
	2021/09/11 10:47:49	.01 CAM01	AI Car
	2021/09/11 10:46:53	.01 CAM01	AI Car
	2021/09/11 10:45:29	.01 CAM01	AI Car
	2021/09/11 10:44:19	.01 CAM01	AI Car
	2021/09/11 10:39:39	.01 CAM01	AI Car
	2021/09/11 10:15:16	.01 CAM01	AI Car
	2021/09/11 10:15:01	.01 CAM01	AI Car
	2021/09/11 10:14:38	.01 CAM01	AI Car
	2021/09/11 10:14:05	.01 CAM01	AI Car
	2021/09/11 10:14:03	.01 CAM01	AI Car
	2021/09/11 10:14:02	.01 CAM01	AI Car
	2021/09/11 10:13:58	.01 CAM01	AI Car
	2021/09/11 10:13:57	.01 CAM01	AI Car
	2021/09/11 10:13:55	.01 CAM01	AI Car
	2021/09/11 10:13:27	.01 CAM01	AI Car
	2021/09/11 10:13:26	.01 CAM01	AI Car
	2021/09/11 10:13:23	.01 CAM01	AI Car
	2021/09/11 10:12:56	.01 CAM01	AI Car
	2021/09/11 10:12:48	.01 CAM01	AI Car

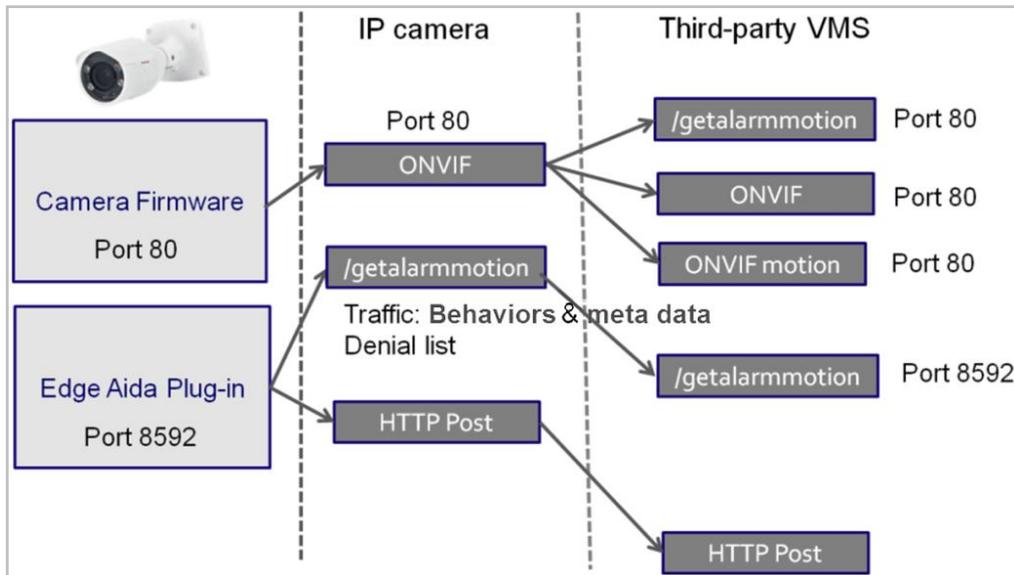
1-20 / 64 (Maximum 4000)

[Play] [Share]



### Chapter 11.0 The Integration SDK of Aida Plug-in

There are [SDK](#) available for interfacing LILIN Aida Plug-in via 8592 HTTP port. Basically, third party software is able to get (1) behaviors, (2) object names from the cameras port 8592. Visit LILIN AI SDK for more details.



### Aida Performance Requirement

Edge AI	Recognitions / Ch / Sec
License plate recognition (LPR), 2 AI weights	6 recognitions / Sec
LPR + Objects, 3 AI weights	5 recognitions / Sec
Objects, 1 AI weight	8 recognitions / Sec