



VIVOTEK ANPR software

User Manual

V1.9

Index

History:	3
1. Overview	4
2. Installation Requirements	5
3. LPR Configuration	7
3.1. Starting Service ANPR	7
3.2. VIVOTEK ANPR Management Browser	8
3.3. First access (selection country)	9
4. Web Portal	9
4.1. User Interface	9
4.2. Live Tab	11
4.3. Review Tab	14
4.4. List Tab	17
4.4.1 Configure Milestone	44
4.5. LPR Configuration Tab	45
4.6. General Configuration Tab	52
4.7. Audit Tab	58
4.8. Logs Tab	60
5. Camera list synchronization	61
5.1. Architecture 1	61
5.1.1. Master configuration	61
5.1.2. Slave configuration	62
5.2. Architecture 2	64
5.2.1. Master configuration	64
5.2.2. Slave configuration	67
6. Troubleshooting	69
6.1 Mode: NO LICENSE	69
6.2 Mode: STOPPED	69
6.3 No enough space at Camera or SD	70
6.4 The system does not recognize license plates	70
6.5 Problem with ACTIONS	72
6.5.1 Socket client	75
6.5.2 IO	75
6.5.3 FTP	76
6.5.4 HTTP/MILESTONE/WIEGAND	77
6.5.5 MILESTONE	78
7. Upload the package	79
7.1 upgrade the ANPR package on VIVOTEK cameras	79
Appendix 1	81
Appendix 2	82

History:

Date	Version	Author	Details	Remarks
2019/6/29	V1.0	Austen	Initial version	
2019/7/12	V1.1	Vito	2 nd version	
2019/7/17	V1.2	Austen	Modify title and bookmark link	Based on v2.4.7
2020/1/16	V1.3	Austen	LPR configuration page: <ul style="list-style-type: none"> • Modify Resolution options • Modify Free-flow/Motion options • Add the description for Minimum characters difference & motion queue General Configuration: <ul style="list-style-type: none"> • Add description for view type 	based on v2.7.17
2020/2/10	V1.4	Austen	Add notice for review search limit	Based on v2.7.17
2020/3/5	V1.5	Austen	<ul style="list-style-type: none"> • Add package upgrade flow • Add purge interval "MINUTES" description 	Based on v2.x.x.x
2020/4/1	V1.6	Austen	<ul style="list-style-type: none"> • Remove purge interval "MINUTES description" • Correct the typo of resolution description • Add figure for common scenario description • Add more List action: <ul style="list-style-type: none"> - VAST2/Trigger server/Wiegand VIVOTEK - FTP JPG MTT / Email 	Based on v3.0.2.0
2020/07/15	V1.7	Aaron	<ul style="list-style-type: none"> • Resolution options • Add Reset Database feature • Update Customized Options 	Based on v3.0.2.0
2020/11/23	V1.8	Aaron	<ul style="list-style-type: none"> • Remove old information 	Based on v3.0.2.0
2021/02/17	V1.9	Aaron	<ul style="list-style-type: none"> • Add Trigger mode API trigger period limitation, Maximum enabled actions and Maximum Master-slave camera connection 	Based on v3.0.2.0

1. Overview

VIVOTEK Stop-and-go LPR camera is a standalone LPR camera system, which has built-in license plate recognition system and white list, black list and wish list for license plate verification. It also offers various APIs for integration with 3rd party systems such as parking management system, toll collection system, weighbridge system...etc. The ideal applications are parking access control and stop-and-go toll system.

2. Installation Requirements

2.1 License Plate Character size

Characters in license plates must have an average height between 20 to 80 pixels, being 25 pixels a good reference value. Less resolution may lead to character confusion in some countries. In addition, camera sensitivity affects too. For countries in which there are different character sizes on their license plates, this fact must be kept in mind, so the small characters are included in the detection range.

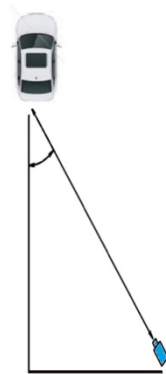


2.2 Camera Positioning

The recommended vertical angles are approximately 20° . The maximum recommended value is 35° .



The recommended horizontal angles are approximately 20° . The maximum recommended value is 35° .



The angle between the plates and the X axis of the scene must be less than 25°.



Recommended Camera Settings:

The default camera image settings on Stop and Go LPR camera are ideal for most parking access control applications, stop-and-go toll collection systems and the other use scenarios where the car is stopped or almost stopped. However, users can modify camera settings to reach the optional LPR performance according to the camera deployment in that environment. Please be noted that license plate must be seen in camera image. If no, this LPR camera won't be able to read the license plate number. Also, higher camera resolution doesn't mean higher LPR accuracy. 720P or VGA is good for these stop-and-go scenarios.

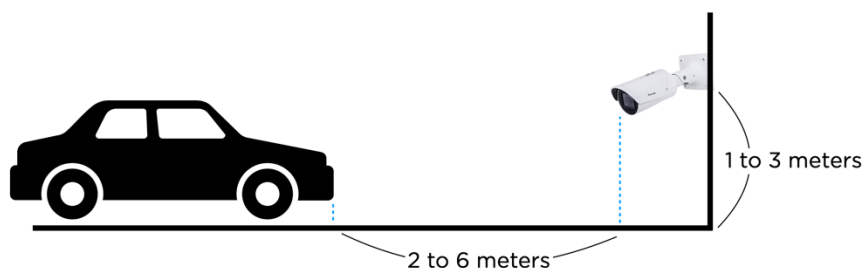
Common Scenario:

Common scenario: 1 lane

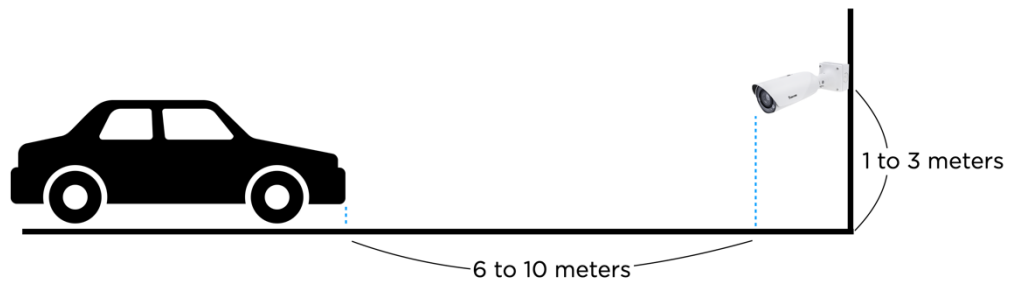
Sensor size: 1280x960

Height of camera on pole: 1 – 3 meters

For IB9387-LPR



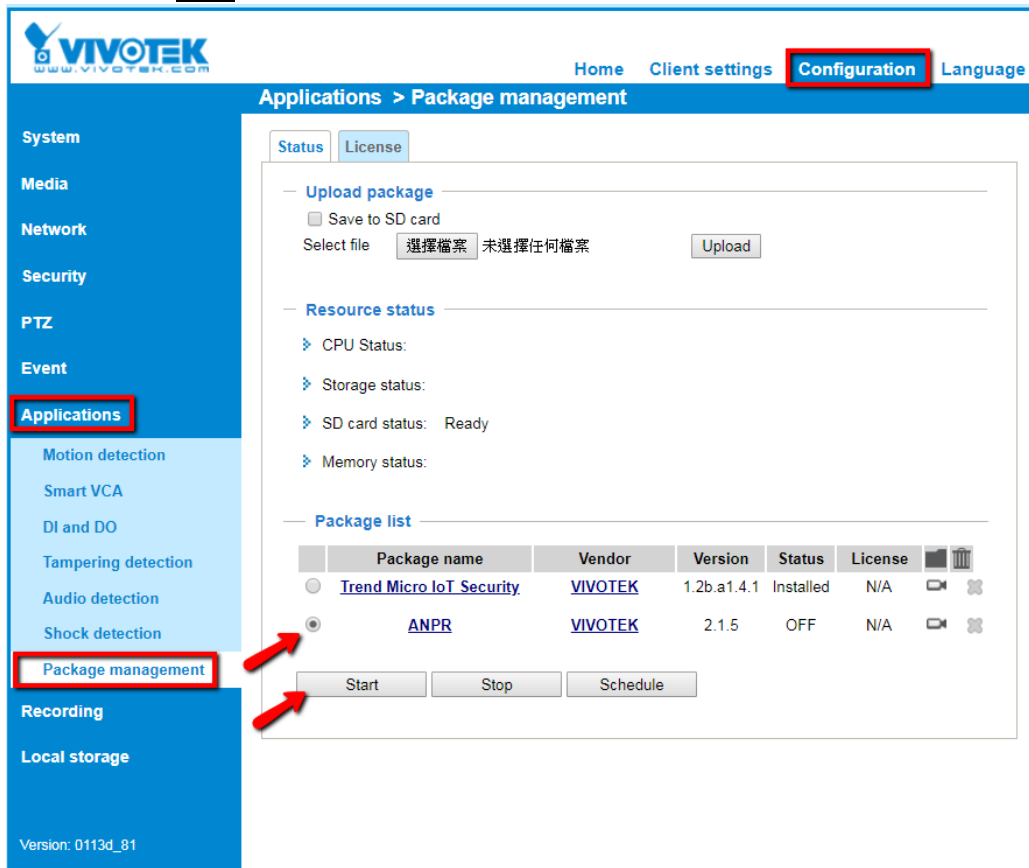
For IB9365-LPR



3. LPR Configuration

3.1. Starting Service ANPR

To start a service, go to Configuration, Applications, click on Package Management, select the ANPR and then click on “Start”.



Home Client settings **Configuration** Language

Applications > Package management

System

Media

Network

Security

PTZ

Event

Applications

Motion detection

Smart VCA

DI and DO

Tampering detection

Audio detection

Shock detection

Package management

Recording

Local storage

Version: 0113d_81

Status License

Upload package

☐ Save to SD card

Select file 未選擇任何檔案

Resource status

CPU Status:

Storage status:

SD card status: Ready

Memory status:

Package list

	Package name	Vendor	Version	Status	License		
<input type="radio"/>	Trend Micro IoT Security	VIVOTEK	1.2b.a1.4.1	Installed	N/A		
<input checked="" type="radio"/>	ANPR	VIVOTEK	2.1.5	OFF	N/A		

The status of this ANPR service must be ON as the picture below.

Applications

- Motion detection
- Smart VCA
- DI and DO
- Tampering detection
- Audio detection
- Shock detection
- Package management

Recording

Local storage

SD card status: Ready

Memory status:

Package list

	Package name	Vendor	Version	Status	License		
<input type="radio"/>	Trend Micro IoT Security	VIVOTEK	1.2b.a1.4.1	Installed	N/A		
<input type="radio"/>	ANPR	VIVOTEK	2.1.5	ON	N/A		

Start Stop Schedule

3.2. VIVOTEK ANPR Management Browser

Open a web browser and connect to this IP camera through its IP address. Go to "Applications", click on "Package management" and double click on "ANPR" service.

Applications

- Motion detection
- DI and DO
- Tampering detection
- Audio detection
- Shock detection
- Package management

SD card status: Ready

Memory status:


Package list

	Module name	Vendor	Version	Status	License		
<input checked="" type="radio"/>	ANPR	VIVOTEK	1.01	ON	N/A		

Start Stop Schedule

<http://192.168.1.56/VPARD/www/index.html>

After this, you will access to VIVOTEK ANPR Browser.




Attribute	Value	Last Change
Results:	2137	16:06:30.862 23/11/2020
Actions:	1	00:00:00.000 01/01/2018
Exports:	1	00:00:00.000 01/01/2018
Imports:	1	00:00:00.000 01/01/2018
Triggers received:	0	00:00:00.000 01/01/2018
Frames processed:	211713	16:08:19.505 23/11/2020
SD space free (tpc):	99	16:00:06.118 23/11/2020
Camera space free (tpc):	60	16:00:06.173 23/11/2020
Last Size (pixels):	40	16:06:33.819 23/11/2020
Mode:	MOTION	16:08:20.210 23/11/2020

BBV (Taiwan)

98.89% 35.57px


2020-11-23 16:05:29.106



AGE (Taiwan)

77.27% 40.14px

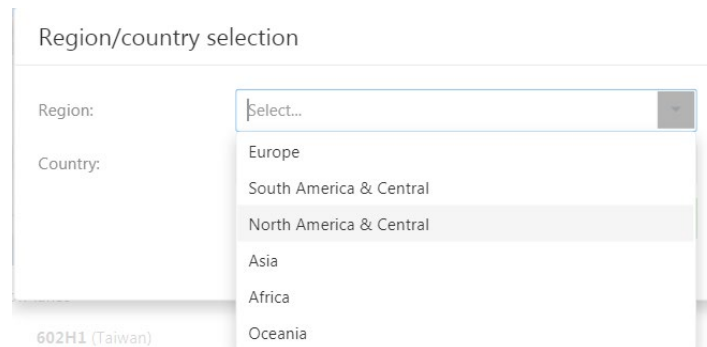
2020-11-23 16:06:30.068



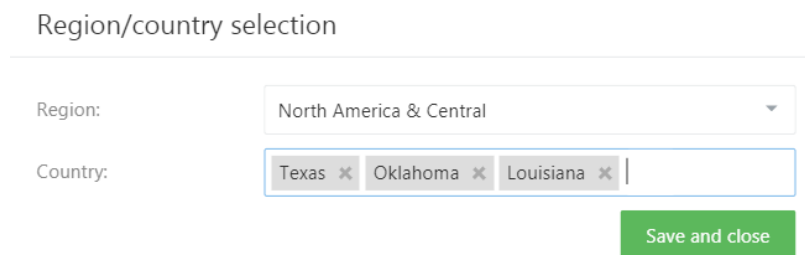
Copyright © 2020

3.3. First access (selection country)

When users access to this ANPR application for the first time, selecting region and country is necessary. First select the Region:



Now select the Countries in the region. Multiple selections in Country are allowed such as a) Singapore and Malaysia, b) Texas, Oklahoma, Louisiana and other neighboring states.



4. Web Portal


4.1. User Interface

The following image is the user interface of VIVOTEK ANPR System. There are “Live”, “Review”, “Lists”, “LPR configuration”, “General configuration”, “Audit” and “Logs” on top tab.

English

VIVOTEK

[Live](#)
[Review](#)
[Lists](#)
[LPR configuration](#)
[Evidence](#)
[General configuration](#)
[Audit](#)
[Logs](#)




Attribute	Value	Last Change
Results:	2137	16:06:30.862 23/11/2020
Actions:	1	00:00:00.000 01/01/2018
Exports:	1	00:00:00.000 01/01/2018
Imports:	1	00:00:00.000 01/01/2018
Triggers received:	0	00:00:00.000 01/01/2018
Frames processed:	211713	16:08:19.505 23/11/2020
SD space free (tpc):	99	16:00:06.118 23/11/2020
Camera space free (tpc):	60	16:00:06.173 23/11/2020
Last Size (pixels):	40	16:06:33.819 23/11/2020
Mode:	MOTION	16:08:20.210 23/11/2020

☒ Show plates
☒ Show status
☐ Show ROI
☐ Show Lanes
☐ Calibration pattern

BBV (Taiwan)

98.89% 35.57px


2020-11-23 16:05:29.106



AGE (Taiwan)

77.27% 40.14px

2020-11-23 16:06:30.068



Copyright © 2020

4.2. Live Tab

The “Live” tab shows three parts, including 1) the live video stream of this camera, 2) LPR results and current status, 3) LPR images.

Attribute	Value	Last Change
Results:	2137	16:06:30.862 23/11/2020
Actions:	1	00:00:00.000 01/01/2018
Exports:	1	00:00:00.000 01/01/2018
Imports:	1	00:00:00.000 01/01/2018
Triggers received:	0	00:00:00.000 01/01/2018
Frames processed:	211713	16:08:19.505 23/11/2020
SD space free (tpc):	99	16:00:06.118 23/11/2020
Camera space free (tpc):	60	16:00:06.173 23/11/2020
Last Size (pixels):	40	16:06:33.819 23/11/2020
Mode:	MOTION	16:08:20.210 23/11/2020

BBV (Taiwan)
98.89% 35.57px
2020-11-23 16:05:29.106

AOE (Taiwan)
77.27% 40.14px
2020-11-23 16:06:30.068

Copyright © 2020

Monitor Panel: It shows the current live video streaming.

Below live video streaming window, there are 3 options to show different information on video.

Show ROI: After checking “Show ROI”, you will see a red square that indicates the ROI (Region of interest) defined in the LPR configuration. This ROI is the only region of the image where the LPR engine finds and reads the license plates.

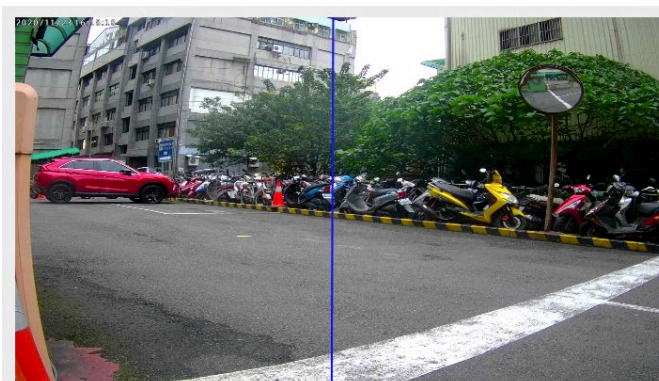
The default setting doesn’t have a ROI region.

Attribute	Value	Last Change
Results:	2138	16:11:25.205 23/11/2020
Actions:	1	00:00:00.000 01/01/2018
Exports:	1	00:00:00.000 01/01/2018
Imports:	1	00:00:00.000 01/01/2018
Triggers received:	0	00:00:00.000 01/01/2018
Frames processed:	212321	16:14:02.764 23/11/2020
SD space free (tpc):	99	16:00:06.118 23/11/2020
Camera space free (tpc):	60	16:00:06.173 23/11/2020
Last Size (pixels):	14	16:11:25.949 23/11/2020
Mode:	MOTION	16:14:03.477 23/11/2020

✓ Show plates ✓ Show status ☒ Show ROI Show Lanes Calibration pattern

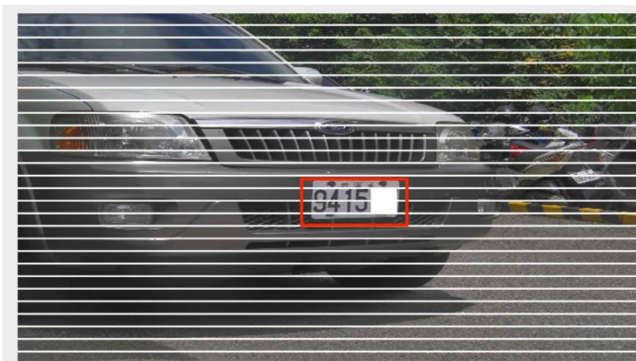
Show lanes: After checking “show lanes”, you will see a blue line that defines the lanes you have configured in the LPR configuration. The plates in the left side of the screen are plates captured in lane 1, the plates in the right side of the screen in lane 2.

The default setting doesn't have any lanes configured.

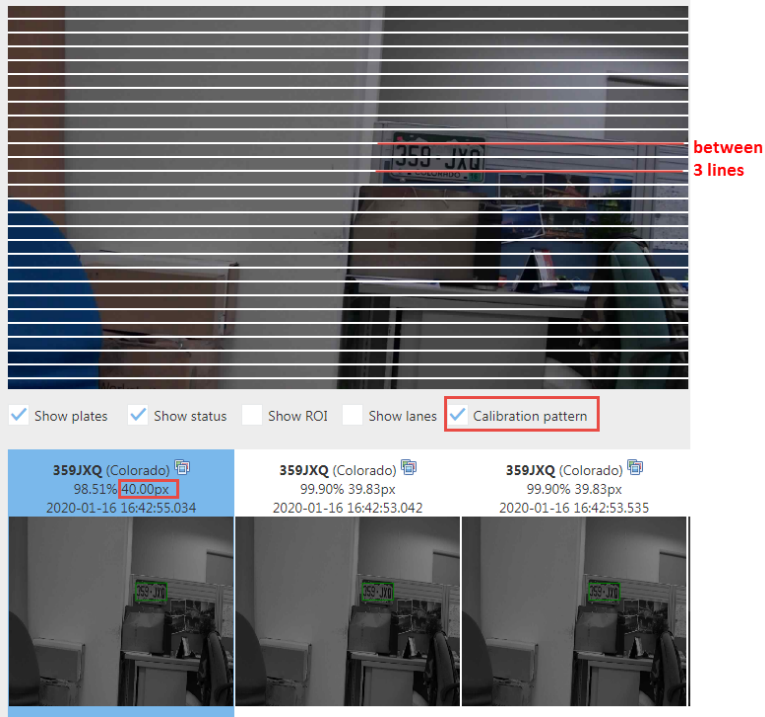


Attribute	Value	Last Change
Results:	2138	16:11:25.205 23/11/2020
Actions:	1	00:00:00.000 01/01/2018
Exports:	1	00:00:00.000 01/01/2018
Imports:	1	00:00:00.000 01/01/2018
Triggers received:	0	00:00:00.000 01/01/2018
Frames processed:	212772	16:18:13.383 23/11/2020
SD space free (tpc):	99	16:00:06.118 23/11/2020
Camera space free (tpc):	60	16:00:06.173 23/11/2020
Last Size (pixels):	14	16:11:25.949 23/11/2020
Mode:	MOTION	16:18:12.097 23/11/2020

Calibration pattern: After checking “calibration pattern”, you will see white lines indicating the minimum character size. The vertical space between three lines is 25~40 pixels, and the height of plate number must be higher than this space.



Attribute	Value	Last Change
Results:	11469	10:16:41.233 10/07/2020
Actions:	51002	10:16:41.520 10/07/2020
Exports:	26	14:51:00.170 22/05/2020
Imports:	92040	10:05:16.436 10/07/2020
Triggers received:	0	00:00:00.000 01/01/2018
Frames processed:	12354923	10:17:20.515 10/07/2020
FPS:	2	09:32:41.269 10/07/2020
SD space free (tpc):	99	09:32:41.326 10/07/2020
Camera space free (tpc):	70	09:32:41.345 10/07/2020
Last Size (pixels):	26	10:16:43.168 10/07/2020
Last OCR time (millis):	662	10:16:43.136 10/07/2020
Mode:	MOTION	10:17:20.580 10/07/2020



LPR Image Panel: It shows the latest results, including the LPR image, number plate, confidence level, country/state information, pixel size of character or number height, date and time of this LPR reading, list information such as white list or blacklist.



Info Panel: Information on the system status. The columns with the last change are with the last updated value.

Results: Number of license plates recognized.

Actions: Number of actions executed.

Exports: Number of automatic exports executed.

Imports: Number of automatic imports executed.

Trigger received: Number of triggers received.

Frames processed: Number of total frames processed.

SD space free (%): Percent of free space in the SD card.

Camera free space (%): Percentage of free space in the camera.

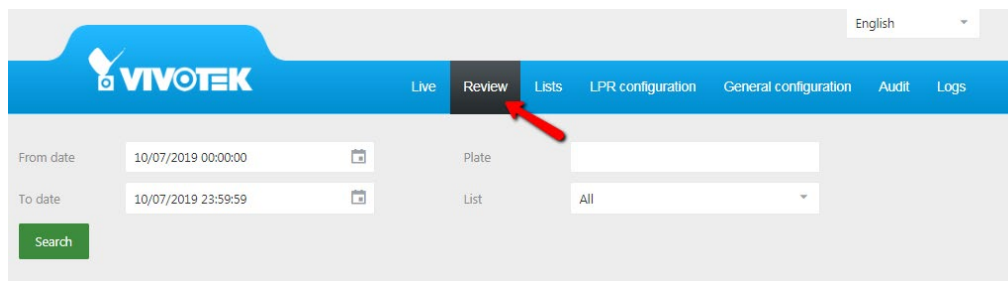
Last Size (pixels): Pixel size in the last result license plate captured.

Mode: It shows the current LPR processing mode.

- 1) **TRIGGER:** The LPR processing mode is based on Trigger. LPR engine will detect and read number plate only when receiving a trigger signal from 3rd party system such as inductive loop system, or any digital input devices.
- 2) **MOTION:** The LPR processing mode is based on Motion Detection. LPR engine will detect and read number plate only when a motion is being detected.
- 3) **FREEFLOW:** The LPR processing mode is based on Free flow, which means LPR engine always detects number plate and read its number plate.
- 4) **NO LICENSE:** No LPR license in current system.
- 5) **STOPPED:** LPR service is stopped.

4.3. Review Tab

The review tab allows us to search, filter and consult the results.



From Date: Select the starting date from which you want to initiate the search

To Date: Select the end date of your search span.

Plate: Users can either search the complete license plate number or just a partial number plate

List: Users can filter the LPR readings by lists such as white list, black list or any other pre-defined lists, and it will show all plates that belong to this list.

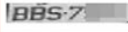




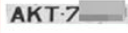




For example, if you wish to search for a specific plate by date, from 12/07/2019 00:00:00 to 12/07/2019 23:59:59.

English

VIVOTEK Live Review Lists LPR configuration General configuration Audit Logs

From date: 12/07/2019 00:00:00 To date: 12/07/2019 23:59:59 Plate: List: All

Search

ID	Time	Plate	Lane	Conf.	Country	List	Image	Image
249	06:37:44.247 12/07/2...	BBS7		89.40	Taiwan			Download image
250	06:44:29.159 12/07/2...	926		92.75	Taiwan			Download image
251	06:51:10.248 12/07/2...	262		82.53	Taiwan			Download image
252	07:17:01.330 12/07/2...	066		93.38	Taiwan			Download image
253	07:21:01.487 12/07/2...	725		94.30	Taiwan			Download image
254	07:39:10.966 12/07/2...	AKT7		99.58	Taiwan			Download image
255	07:41:08.864 12/07/2...	5588K8		90.20	Taiwan	VIVOTEK VIP		Download image
256	07:45:31.415 12/07/2...	332		95.36	Taiwan			Download image
257	07:47:10.301 12/07/2...	AJP9		97.84	Taiwan			Download image
258	07:50:21.502 12/07/2...	AKW3		92.71	Taiwan			Download image

5 10 20 50 100 Page 1 of 15 (142 items) 1 2 3 4 5 ... 15

Copyright © 2019

The green box corresponds to the amount of results you want to view per page.

The blue box indicates the numbers of pages available that contain the results.

The red box shows the license plate number images. If you move the mouse cursor over any image, you will obtain the LPR image with a larger image. Click on "[Download image](#)" to download this LPR image.

- Search by a partial license plate number

English

VIVOTEK Live Review **Lists** LPR configuration General configuration Audit Logs

From date: 10/07/2019 00:00:00 To date: 10/07/2019 23:59:59

Plate: 55 List: All

Search

Search...

ID	Time	Plate	Lane	Conf.	Country	List	Image	Image
4113	07:38:10.701 10/07/2019	558		96.58	Taiwan			Download image
4122	08:07:35.133 10/07/2019	BB		83.04	Taiwan			Download image
4140	09:02:37.851 10/07/2019	3855		89.93	Taiwan			Download image
4156	09:41:13.249 10/07/2019	J3355		82.87	Taiwan			Download image
4171	10:29:12.554 10/07/2019	1455		95.24	Taiwan			Download image
4196	13:59:37.498 10/07/2019	D1558		99.30	Taiwan			Download image

5 10 20 50 100

● Search by list.

English

VIVOTEK Live Review **Lists** LPR configuration General configuration Audit Logs

From date: 10/07/2019 00:00:00 To date: 10/07/2019 23:59:59

Plate: List: WHITELIST

Search

Search...

ID	Time	Plate	Lane	Conf.	Country	List	Image	Image
481318	13:28:40.167 10/07/2019	602HTD		98.26	Taiwan	WHITELIST		Download image

● Use the “Search filter” to find a value inside the table:

English

VIVOTEK Live Review **Lists** LPR configuration General configuration Audit Logs

From date: 10/07/2019 00:00:00 To date: 10/07/2019 23:59:59

Plate: List: All

Search

Search...

591

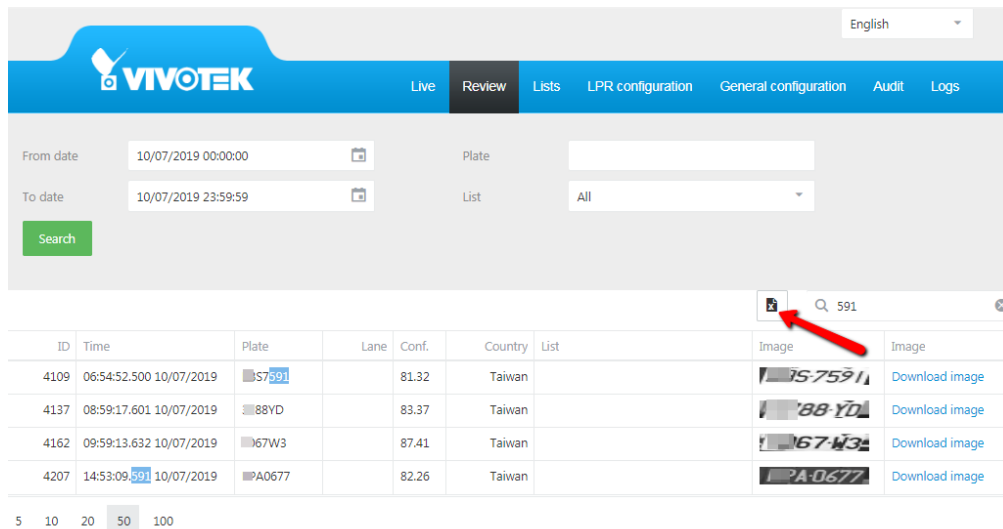
ID	Time	Plate	Lane	Conf.	Country	List	Image	Image
4109	06:54:52.500 10/07/2019	S7591		81.32	Taiwan			Download image
4137	08:59:17.601 10/07/2019	88YD		83.37	Taiwan			Download image
4162	09:59:13.632 10/07/2019	67W3		87.41	Taiwan			Download image
4207	14:53:09.591 10/07/2019	PA0677		82.26	Taiwan			Download image

5 10 20 50 100

Notice:

Considering the search time, the limit number per search is 1000, if you cannot find the number plate what you want, you need to narrow down your search criterion.

- Export the search results into a Excel file



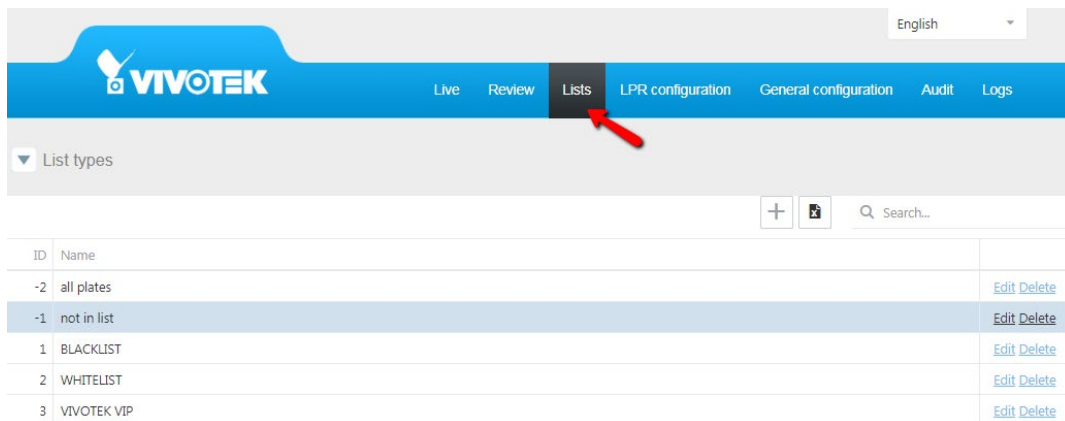
ID	Time	Plate	Lane	Conf.	Country	List	Image	Image
4109	06:54:52.500 10/07/2019	S7591		81.32	Taiwan			Download image
4137	08:59:17.601 10/07/2019	88YD		83.37	Taiwan			Download image
4162	09:59:13.632 10/07/2019	67W3		87.41	Taiwan			Download image
4207	14:53:09.591 10/07/2019	PA0677		82.26	Taiwan			Download image

	A	B	C	D	E	F	G
1	ID	Time	Plate	Lane	Conf.	Country	List
2	4109	06:54:52.52 10/07/2019			81.32	Taiwan	
3	4137	08:59:17.17 10/07/2019			83.37	Taiwan	
4	4162	09:59:13.13 10/07/2019			87.41	Taiwan	
5	4207	14:53:09.09 10/07/2019			82.26	Taiwan	

4.4. List Tab

In this tab users can create lists for license plate verification. This list is a group of license plates that can be the event source, and VIVOTEK ANPR enables users to trigger different actions based on this list, e.g. when any license plate number in black list is detected, it triggers the siren to warn the security guard by sending a signal to the digital output device on this camera.

There are 4 lists by default, including all plates, not in list, blacklist and whitelist. Users can edit, delete or add more lists.



English

VIVOTEK

Live Review **Lists** LPR configuration General configuration Audit Logs

▼ List types

+ [icon] Search...

ID	Name	
-2	all plates	Edit Delete
-1	not in list	Edit Delete
1	BLACKLIST	Edit Delete
2	WHITELIST	Edit Delete
3	VIVOTEK VIP	Edit Delete

In the lists tab, the following options: are available,

List: Will show all the lists created

Action: Will show all the actions created by list.

Export: Allow users to export a single list or if all plates are selected it will create a unique file with all the licenses plates that belong to that list.

Import: Allow users to import a single list or if all plates are selected it will create a unique file with all the licenses plates that belong to that list.

Let's create a new list and name it "VIVOTEK VIP"

Click on the "+" button, fill in the list name and click on "Save".

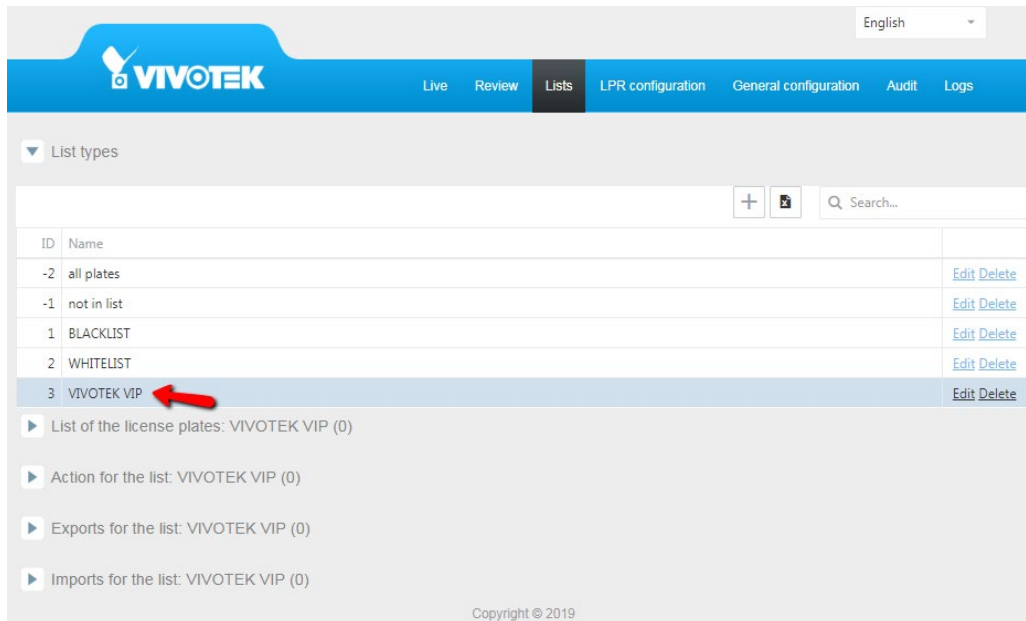


+ [icon] Search...

ID	Name	
	VIVOTEK VIP	Save Cancel
-2	all plates	Edit Delete
-1	not in list	Edit Delete
1	BLACKLIST	Edit Delete
2	WHITELIST	Edit Delete

Users can have an action for this list, which means when a license plate is recognized and matched the list, the stop-and-go LPR camera triggers an event response.

Click on "VIVOTEK VIP" list to see the options.



English

VIVOTEK

Live Review **Lists** LPR configuration General configuration Audit Logs

▼ List types

+ [icon] Search...

ID	Name	
-2	all plates	Edit Delete
-1	not in list	Edit Delete
1	BLACKLIST	Edit Delete
2	WHITELIST	Edit Delete
3	VIVOTEK VIP	Edit Delete

▶ List of the license plates: VIVOTEK VIP (0)

▶ Action for the list: VIVOTEK VIP (0)

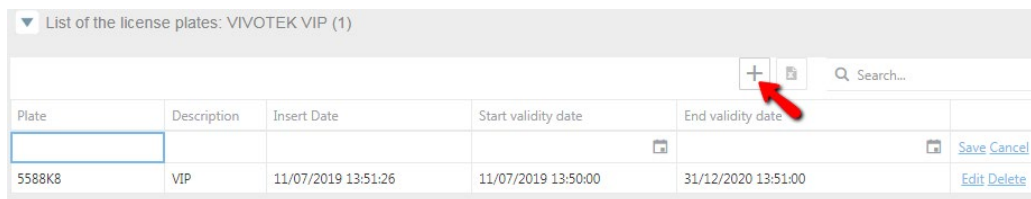
▶ Exports for the list: VIVOTEK VIP (0)

▶ Imports for the list: VIVOTEK VIP (0)

Copyright © 2019

List of the license plates: EMPLOYEES

Click on the “+” button, fill in the data to add a new license plate. Click on “Save” to save this license plate information.

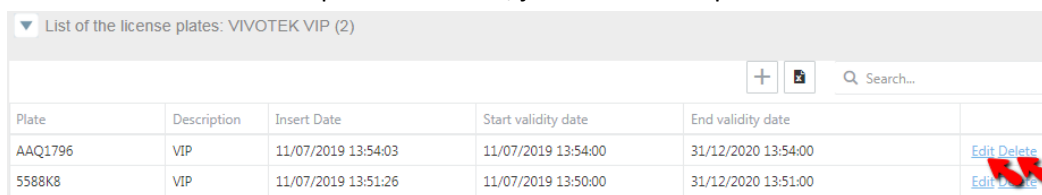


▼ List of the license plates: VIVOTEK VIP (1)

+ [icon] Search...

Plate	Description	Insert Date	Start validity date	End validity date	
					Save Cancel
5588K8	VIP	11/07/2019 13:51:26	11/07/2019 13:50:00	31/12/2020 13:51:00	Edit Delete

To edit or delete a license plate in that list, just click on the plate and then click on “Edit” or “Delete”.



▼ List of the license plates: VIVOTEK VIP (2)

+ [icon] Search...

Plate	Description	Insert Date	Start validity date	End validity date	
AAQ1796	VIP	11/07/2019 13:54:03	11/07/2019 13:54:00	31/12/2020 13:54:00	Edit Delete
5588K8	VIP	11/07/2019 13:51:26	11/07/2019 13:50:00	31/12/2020 13:51:00	Edit Delete

Action for the list: Here are the actions users can select for each list.

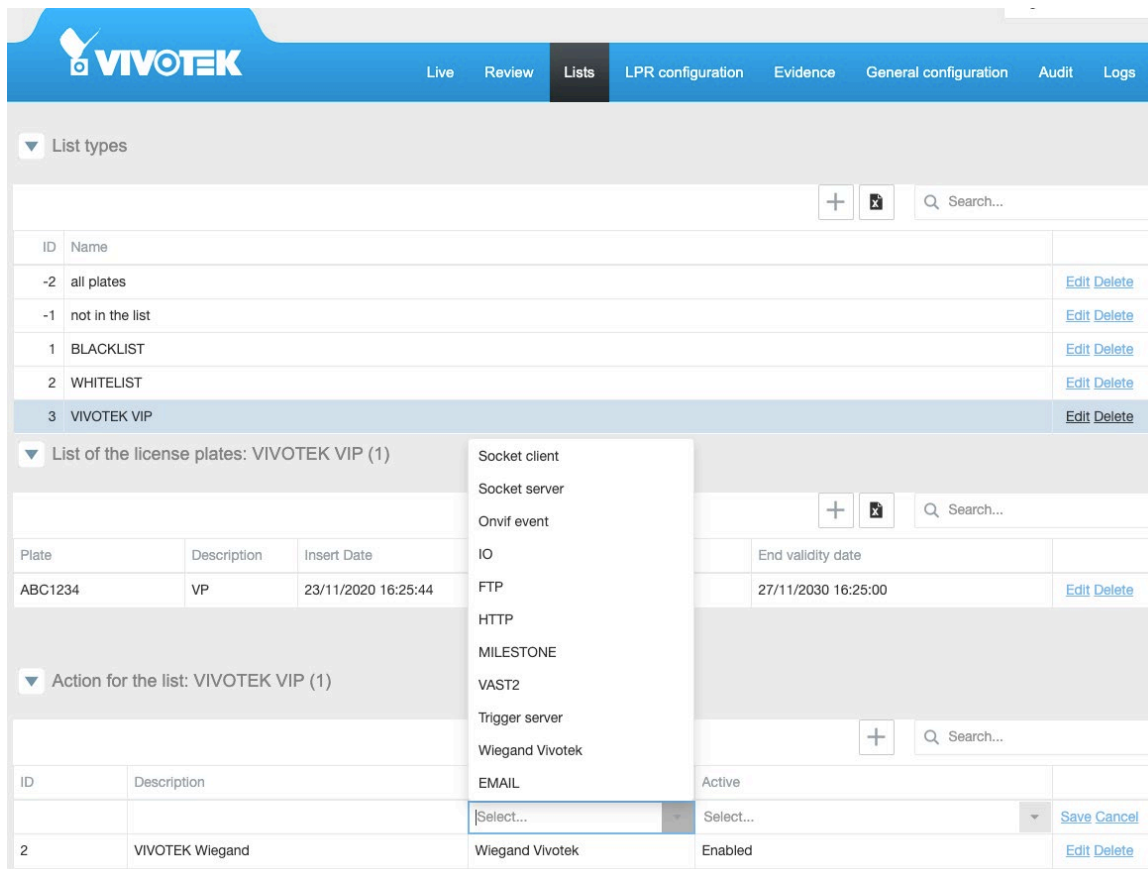
- **Socket Client:** Enable a socket connection to send messages in “XML”, “XML with LPR image”, “JSON” or “JSON with LPR image”.
- **Socket Server:** Open a port in the camera to listen to hosts to send messages in “XML”, “XML with LPR image”, “JSON” or “JSON with LPR image”.
- **Onvif Event:** Enable the Onvif event to send the license plate information using this protocol.
- **IO:** Enable inbound and outbound digital signals in the camera.
- **FTP:** store the results in a FTP server.

- **HTTP**: send a request using this protocol to a server.
- **MILESTONE**: send an analytic event to Milestone VMS.
- **WIEGAND**: send a signal to Wiegand middleware board.
- **VAST2**: Enable the connection to send lpr results and images to VAST2 VMS.
- **Trigger server**: Enable a port that sends the read response when a trigger message arrives.
- **Wiegand VIVOTEK**: send a signal to VIVOTEK Wiegand convertor.
- **EMAIL**: send an email.

Recommend up to 4 enabled actions at the same time.

A list can perform several actions, depending on the scenario and demands.

Selecting “Action for the list: VIVOTEK VIP”, click on “+” and then select an event response.



1. Configuring the action **Socket Client** if you want to send the results to another device, using the VIVOTEK VIP list, click on “Action for the list” and add a new action pressing “+” and then select in “Action type = Socket Client”

ID	Description	Action type	Active	
2	SEND XML MSG	Socket client	Enabled	Edit Delete

Action properties

▼ Scheduler

ACTIVATION SCHEDULER

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
Sun																								
Mon																								
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✓ Save scheduler

Action Info

Host: 127.0.0.1

Port: 17000

Format: ☒ XML ☐ XML_IMG ☐ JSON ☐ JSON_IMG

Set the scheduler as needed and click on “SAVE SCHEDULER”.

Action Info: Click on  for more information.

Help




Enable a socket connection to send messages as XML or JSON

The parameters are the following

- **Host:**The IP for the device that will listen to
- **Port:**The port that will listen to
- **Format:**The message type (XML/JSON) and if need to send the image too

Select which message format you will use to send the information.

Click on  for more information.

Help



The possible formats are following

- **XML:**XML message without image [Download Sample](#)
- **XML_IMG:**XML message with image [Download Sample](#)
- **JSON:**JSON message without image [Download Sample](#)
- **JSON_IMG:**JSON message with image [Download Sample](#)

2. Setting up “**Socket Server**” as an event response, this LPR camera will receive messages from other devices.

ID	Description	Action type	Active	
4	Receive XML msg	Socket server	Enabled	Edit Delete

Action properties

☒ Scheduler

ACTIVATION SCHEDULER

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
Sun																								
Mon																								
Tue																								
Wed																								
Thu																								
Fri																								
Sat																								


☒ Save scheduler

Action Info

Port: 8050

Format: ☐ XML ☐ XML_IMG ☐ JSON ☒ JSON_IMG

Set the scheduler as needed and click on “SAVE SCHEDULER”.


Action Info: Click on  for more information.

Help

Open a port in the camera to listen to hosts to send messages as XML or JSON

The parameters are the following

- **Port:**The port that will listen
- **Format:**The message type (XML/JSON) and if need to send the image too

Click on  for more information.

Help

The possible formats are following

- **XML:**XML message without image [Download Sample](#)
- **XML_IMG:**XML message with image [Download Sample](#)
- **JSON:**JSON message without image [Download Sample](#)
- **JSON_IMG:**JSON message with image [Download Sample](#)

3. Configuring “**Onvif Event**” as an event response, this LPR camera will send the license plate using this protocol.

ID	Description	Action type	Active	
3	Onvif Events	Onvif event	Enabled	Edit Delete

Action properties

☒ Scheduler

ACTIVATION SCHEDULER


	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
Sun																								
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Tue																								
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Sat																								

☒ Save scheduler

Action Info

Message: ☐ Vivotek_Plate

Set the scheduler as needed and click on “SAVE SCHEDULER”.


Click on  for more information.

Help

Enable the onvif event to send the license plate information using this protocol

The parameters are the following

- **Format:**The message type

Click on  for more information.

Help

The possible formats are following

- **Vivotek_plate:**Onvif vivotek message [Download Sample](#)

- Configuring “**IO**” as an event response, the LPR camera will trigger the digital output device that is attached to this camera. This device can be a gate, a siren or other devices, e.g. when a license plate in “VIVOTEK VIP” list is detected, this LPR camera can open the gate barrier automatically.

Click on “Action for the list” and add a new action pressing “+” and then select in “Action type = IO”

ID	Description	Action type	Active	
3	Open Gate	IO	Enabled	Edit Delete

Action properties

☒ Scheduler

ACTIVATION SCHEDULER

0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00

Sun	Mon	Tue	Wed	Thu	Fri	Sat

☒ Save scheduler


Action Info

IO type: ☒ VIVOTEK

Output: 0

Activation time(sec): 1

Set the scheduler as needed and click on “SAVE SCHEDULER”.

Click on  for more information.

Help



Enable output digital signals in the camera

The parameters are the following

- IO type:**The type of output
- Output:**The port that will be activated
- Activation time(sec):**Time to keep the signal

- Configuring the action **FTP** to send an XML, JSON or image to an FTP server. Using the “VIVOTEK VIP” list, click on “Action for the list” and add a new action pressing “+” and then select in “Action type = FTP”

ID	Description	Action type	Active	
4	send image to FTP	FTP	Enabled	Edit Delete

Action properties

▼ Scheduler

ACTIVATION SCHEDULER

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
Sun																								
Mon																								
Tue																								
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Thu																								
Fri																								
Sat																								

✓ Save scheduler

Action Info

Host: 192.168.10.250

Port: 21

Format: ☐ XML ☐ XML_IMG ☐ JSON ☐ JSON_IMG ☒ IMAGE


Folder: LPR Images

User: root

Password: N3ur4L3Dg3

Confirmation file: ☒ NONE ☐ .FLAG ☐ .CONF

Set the scheduler as needed and click on “SAVE SCHEDULER”.

Click on  for more information about how to configure.

Help

Store the results in an FTP server
The parameters are the following

- Host:**Ftp server IP
- Port:**Ftp server port
- Format:**The message type (XML/JSON/CSV) and if need to send the image too
- Folder:**Ftp folder to save the messages
- User:**Ftp user
- Password:**Ftp password
- Confirmation file:**In order to track if all images have been sent to the FTP server you can select .flag or .conf that will generate a single file per each correct action to FTP.

Click on  for more information about format type.

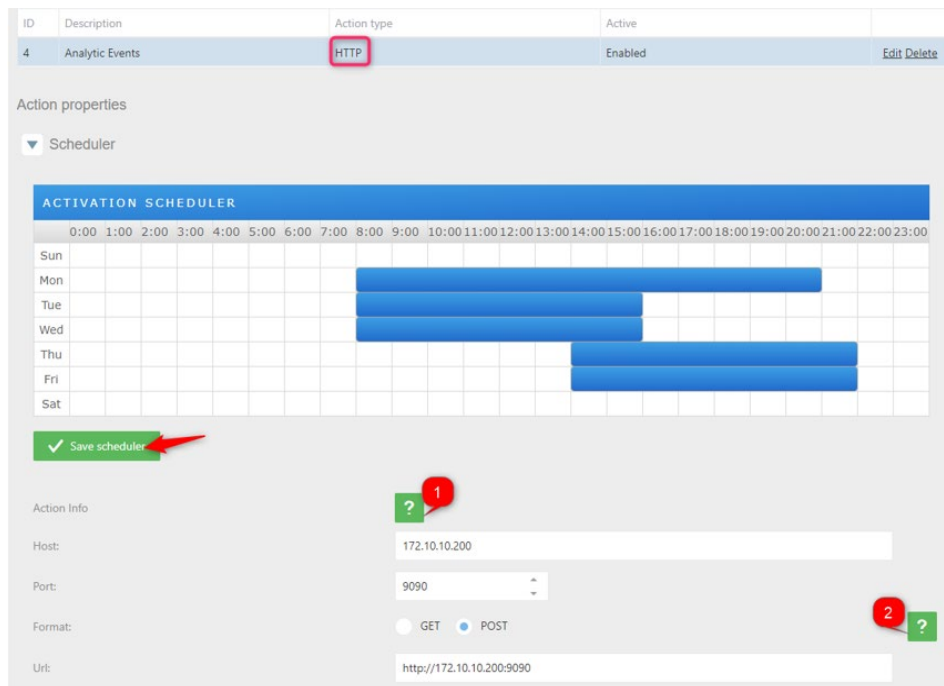
Help

The possible formats are following

- XML:**XML message without image [Download Sample](#)
- XML_IMG:**XML message with image [Download Sample](#)
- JSON:**JSON message without image [Download Sample](#)
- JSON_IMG:**JSON message with image [Download Sample](#)

*The name of the file is
DATETIME(YYYYMMDDHHmmSS)_ID_TYPE_LIST_PLATE

6. Configuring “**HTTP**” as an event response, this LPR camera will send analytic events to a VMS. Using the “VIVOTEK VIP” list, click on “Action for the list” and add a new action pressing “+” and then select in “Action type = HTTP”



ID	Description	Action type	Active	
4	Analytic Events	HTTP	Enabled	Edit Delete

Action properties

Scheduler

ACTIVATION SCHEDULER

0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00

Sun
Mon
Tue
Wed
Thu
Fri
Sat

Save scheduler

Action Info

Host: 172.10.10.200

Port: 9090

Format: ☐ GET ☒ POST

Url: http://172.10.10.200:9090

Set the scheduler as needed and click on “SAVE SCHEDULER”.

Click on  for more information about how to configure.

Help

Send a request using this protocol to a server

The parameters are the following

- **Host:**Http server IP
- **Port:**Http server port
- **Format:**Petition format to send
- **URL:**URL to send the petition

Click on  for more information about format type.

Help



The possible formats are following

- **GET**: Send a get petition
- **POST**: Send a post petition

7. Configuring “**MILESTONE**” as an event response, this LPR camera will send analytic events to the Milestone VMS. Using the “**VIVOTEK VIP**” list, click on “Action for the list” and add a new action pressing “+” and then select in “Action type = MILESTONE”

ID	Description	Action type	Active	
1	action	MILESTONE	Enabled	Edit Delete

Action properties

☒ Scheduler

ACTIVATION SCHEDULER

0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00

Sun ☐

Mon ☐

Tue ☐

Wed ☐

Thu ☐

Fri ☐

Sat ☐

☒ Save scheduler

Action Info

Host: 127.0.0.1

Port: 9090

Format: ☒ ANALYTIC_EVENT

Url: http://127.0.0.1:9090

Set the scheduler as needed and click on “**SAVE SCHEDULER**”.

Click on for more information about how to configure.

Help

Send a request using this protocol to a server

The parameters are the following

- **Host**: Milestone server IP
- **Port**: Milestone server port
- **Format**: Petition format to send
- **URL**: URL to send the petition
- **Event Type**: Analytic event type

Click on for more information about format type.

Help

The possible formats are following

- **ANALYTIC_EVENT**: Send a Milestone analytic event message
[Download Sample](#)

See chapter 4.4.1 to know more information on how to configure Milestone.

- Configuring “WIEGAND” as an event response, this LPR camera will send analytic events to a Wiegand middleware board. Using the “VIVOTEK VIP” list, click on “Action for the list” and add a new action pressing “+” and then select in “Action type = WIEGAND”

ID	Description	Action type	Active	
1	action	WIEGAND	Enabled	Edit Delete

Action properties

▼ Scheduler

ACTIVATION SCHEDULER

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
Sun																								
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Wed																								
Thu																								
Fri																								
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✓ Save scheduler

Action Info

Host: 127.0.0.1

Port: 80

Format: ☒ MULTIFORMAT ☐ LENEL

Reader: ☒ A ☐ B

Set the scheduler as needed and click on “SAVE SCHEDULER”.

Click on  for more information about how to configure.

Help

Send a request using this protocol to a server

The parameters are the following

- **Host**: Http server IP
- **Port**: Http server port
- **Format**: Petition format to send
- **Reader**: Code of reader to use

Click on  for more information about format type.

Help



The possible formats are following

- **MULTIFORMAT:**Weigand with multiformat
- **LENEL:**Weigand with LENEL format

In case, you don't want to continue using an action in a list you are able to disable or delete the action. To delete, click on the list. Select the action and then click on "Delete" option.

Action for the list: EMPLOYEES (1)				
<div> <div>+</div> <div>Search...</div> </div>				
ID	Description	Action type	Active	
2	action	VAST2	Enabled	Edit Delete

To disable, click on the list, select the action, and then click on the edit option. The status of "Active" will be changed to "Disabled". Click on "Save" to save this new setting.

Action for the list: EMPLOYEES (0)				
<div> <div>+</div> <div>Search...</div> </div>				
ID	Description	Action type	Active	
	open gate	IO	<div> <div>Select...</div> <div> <div>Disabled</div> <div>Enabled</div> </div> </div>	Save Cancel
Exports for the list: EMPLOYEES (0)				

After this configuration, the action will be disabled. Users can enable this action again at any time they need.

<div> <div>+</div> <div>Search...</div> </div>				
ID	Description	Action type	Active	
3	open gate	IO	Disabled	Edit Delete

To delete an action, click on the action and click on the "Delete" button and then YES.

<div> <div>+</div> <div>Search...</div> </div>				
ID	Description	Action type	Active	
3	open gate	IO	Disabled	Edit Delete

Are you sure to delete the action from list?

Yes

No

- Configuring the action **Trigger Server** will use the camera to receive triggers from other devices and send a message. Using the EMPLOYEES list, click on “Action for the list” and add a new action pressing “+” and then select in “Action type = Trigger Server”.

This mode is designed to work with trigger mode, the client connect to the server socket and send the message specified in the “Trigger mode”, received this message (another message is discarded) make a trigger to the camera and take a picture to process the engine. After engine processed send a message with the format specified in the “Format response”

SIMPLE: Just the plate number

XML a message in format XML

XML_IMG a message in XML format including the image in base64 format

JSON a message in format JSON

JSON_IMG a message in JSON format including the image in base64 format

ID	Description	Action type	Active	
2	1	Trigger server	Disabled	Edit Delete

Action properties

▼ Scheduler

ACTIVATION SCHEDULER

0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00

Sun

Mon

Tue

Wed

Thu

Fri

Sat

✓ Save scheduler

Action Info

Port: 8060

Format response: ☒ SIMPLE ☐ XML ☐ XML_IMG ☐ JSON ☐ JSON_IMG

Trigger message: \$

Set the scheduler as needed and click on “SAVE SCHEDULER”.

Click on  for more information about how to configure.

Help



Enable a port that sends the read response when a trigger message arrives

The parameters are the following:

- **Port:** The port that will listen/respond to.
- **Format:** The message type and if need to send the image too.
The possible formats are following:
 - **SIMPLE:** Return only the number plate
 - **XML:** XML message without image [Download Sample](#)
 - **XML_IMG:** XML message with image [Download Sample](#)
 - **JSON:** JSON message without image [Download Sample](#)
 - **JSON_IMG:** JSON message with image [Download Sample](#)
- **Trigger message:** Activation message for trigger
- **Simple response init:** Message concatenated before plate (only for simple format)
- **Simple response init:** Message concatenated after plate (only for simple format)

10. Configuring the action **WIEGAND VIVOTEK** to send analytic events to a Wiegand middleware board. Using the EMPLOYEES list, click on “Action for the list” and add a new action pressing “+” and then select in “Action type = WIEGAND”.

ID	Description	Action type	Active
2	WG	Wiegand Vivotek	Enabled

[Edit](#) [Delete](#)

Action properties

☒ Scheduler

ACTIVATION SCHEDULER

0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00

Sun
Mon
Tue
Wed
Thu
Fri
Sat

☒ Save scheduler

Action Info

Host: 192.168.1.127

Port: 1601

Output format: ☐ Bypass data bits ☒ Even/Odd parity bits ☐ Odd/Even parity bits

Output bit length: ☒ 24 bits ☐ 32 bits

Set the scheduler as needed and click on “SAVE SCHEDULER”.

Click on  for more information about how to configure.

Help

Send a request using this protocol to a server

The parameters are the following:

- **Host:**Http server IP
- **Port:**Http server port
- **Output format:**Parity bits configuration of the output
- **Output bit length:**Number of bits of the output without parity bits

Click on  for more information about format type.

Help

The possible output formats are the following:

- **Bypass data bits:**No parity bits are added to the output
- **Even/Odd parity bits:**The leading parity bit is even, and the ending parity bit is odd
- **Odd/Even parity bits:**The leading parity bit is odd, and the ending parity bit is even

The output bit length without parity bits can be 24 or 32 bits

- Configuring the action **EMAIL** to send messages, using the EMPLOYEES list, click on “Action for the list” and add a new action pressing “+” and then select in “Action type = EMAIL”.

ID	Description	Action type	Active	
14	1	EMAIL	Enabled	Edit Delete

Action properties

Scheduler

ACTIVATION SCHEDULER

0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00

Sun
Mon
Tue
Wed
Thu
Fri
Sat

Save scheduler

Action Info

Server:

Port:

Server type and format:

From:

User:

Password:

To:

Subject:

Message:

plate (PLT) received

Plate: {PLT}{ENDLN}Time: {DTE}{ENDLN}Global Confidence: {CNF}{ENDLN}List: {IDNAME}{ENDLN}Lane: {IDLAN}{EN

Set the scheduler as needed and click on “SAVE SCHEDULER”.

Click on  for more information about how to configure.


Help



Send an email

The parameters are the following:

- **Server:** Email Server
 - **Port:** Email port
 - **Server type and format:** Type of email server
 - **From:** From email address
 - **User:** Email user
 - **Password:** Email password
 - **To:** To email address
 - **Subject:** Email subject
 - **Message:** Email message
- *The possible tags to use in Subject/Message are {PLT}:Plate, {DTE}:Date, {CNF}:Confidence,{IDNAME}:List name,{IDLIST}:List id, {IDLAN}:Lane,{ENDLN}: New line

Click on  for more information about format type.

Help



The possible formats are following:

- **SMTP/SSL:** SMTP server over SSL
- **SMTP:** SMTP Server

In case, you don't want to continue using an action in a list you can modify able to disable or delete the action.

To disable click on the list, select the action and then click on edit option.

In Active change to Disabled and then click on Save.

▼ Action for the list: EMPLOYEES (0)

+

Search...

ID	Description	Action type	Active	
	open gate	IO	Select...	Save Cancel
			Disabled	
			Enabled	

▶ Exports for the list: EMPLOYEES (0)

After this change, you will have the action disabled in case you need to use it later.

ID	Description	Action type	Active	
3	open gate	IO	Disabled	Edit Delete

To delete an action, click on the action and click on the DELETE button and then YES.

▼ Action for the list: EMPLOYEES (1)

+

Search...

ID	Description	Action type	Active	
2	Test	Trigger server	Enabled	Edit Delete

Are you sure to delete the action from list?

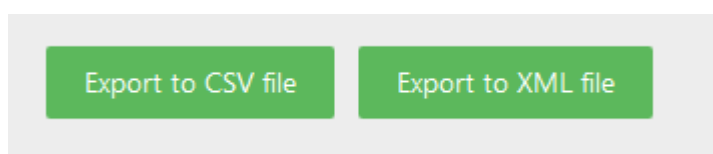
Yes

No

Exports for the list: Here are all the automatic exports we can configure for each list.

- Local matches: Exports the matches of the list locally
- FTP matches: Exports the matches of the list to an FTP server
- Local list: Exports the list locally
- FTP list: Export the list to an FTP server

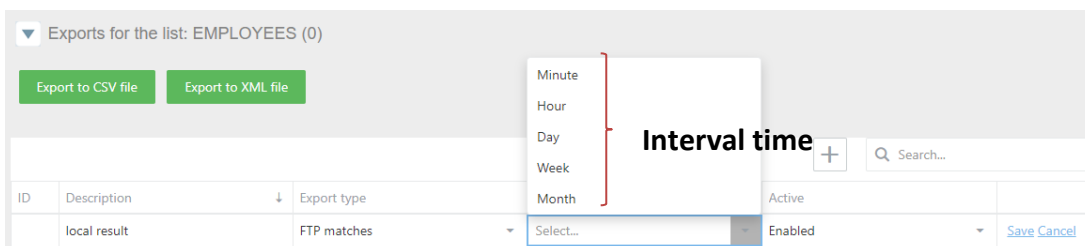
Users can also download the selected list by choosing “Export to XML file” or “Export to CSV file”.



A list can perform several exports, depending on the scenarios and needs.

Having the Employees list selected, click on “Exports for the list” and then click on the + button and define the type and interval. The interval can be set as:

- *Minute*: Will execute the task every minute.
- *Hour*: Will execute the task every hour.
- *Day*: Will execute the task once a day at 23:59:59.
- *Week*: Will execute the task once a week, every Monday at 00:00:00.
- *Month*: Will execute the task once a month, the first day of the month at 23:59:59.



1. Configuring the export **FTP matches** to export the results to an ftp result, using “VIVOTEK VIP” list, click on “Export for the list” and add a new export by clicking on “+” and then select in “Export type = FTP matches”.

ID	Description	Export type	Interval	Active	
1	local result	FTP matches	Hour	Enabled	Edit Delete

Export properties

Export Info

Host:

Port:

Format: ☒ XML ☐ XML_IMG ☐ JSON ☐ JSON_IMG ☐ CSV

Folder name:

User:

Password:

Confirmation file: ☒ NONE ☐ .FLAG ☐ .CONF

Click on  for more information about how to configure.

Help



Export the results in an FTP server

The parameters are the following

- **Host:**Ftp server IP
- **Port:**Ftp server port
- **Format:**The message type (XML/JSON)
- **Folder:**Ftp folder to save the messages
- **User:**Ftp user
- **Password:**Ftp password
- **Confirmation file:**In order to track if all images have been sent to the FTP server you can select .flag or .conf that will generate a single file per each correct action to FTP.

Click on  for more information about format type.

Help



The possible formats are following

- **XML:**XML results without image [Download Sample](#)
- **XML_IMG:**XML results with image [Download Sample](#)
- **JSON:**JSON results without image [Download Sample](#)
- **JSON_IMG:**JSON results with image [Download Sample](#)
- **CSV:**CSV results [Download Sample](#)

- Configuring the export **FTP lists** to export the list locally, using the “VIVOTEK VIP” list, click on “Export for the list” and add a new export pressing “+” and then select in “Export type = FTP list”.

ID	Description	Export type	Interval	Active	
1	local result	FTP list	Hour	Enabled	Edit Delete

Export properties

Export Info

Host:

Port:


Format: ☒ XML ☐ CSV

Folder name:

User:

Password:

Confirmation file: ☐ .FLAG


Click on  for more information about how to configure.

Help
 ×

Export the lists in an FTP server

The parameters are the following

- **Host:**Ftp server IP
- **Port:**Ftp server port
- **Format:**The message type (XML)
- **Folder:**Ftp folder to save the lists
- **User:**Ftp user
- **Password:**Ftp password
- **Confirmation file:**In order to track if all files have been sent to the FTP server, it will generate a single file per each correct action to FTP.

Click on  for more information about format type.

Help
 ×

The possible formats are following

- **XML:**XML list [Download Sample](#)
- **CSV:**CSV list [Download Sample](#)

If users don't want to continue to use export in a list, users can disable or delete the action.
 To delete, click on the list. Select the export and then click on the delete option.

ID	Description	Export type	Interval	Active	
2	11111	FTP list	Minute	Enabled	Edit Delete

To disable, click on the list. Select the action, and then click on "Edit".
 The *Active* status will be changed to *"Disabled"*. Click on "Save" to save this new configuration.

ID	Description	Export type	Interval	Active	
2	11111	FTP list	Minute	Disabled	Save Cancel

After this change, the action is temporarily disabled in case users need to use it later.
 The "Enable if change" status, only do the export if the export type is "Local list" or "FTP list" and export the list only if there is any change.

ID	Description	Export type	Interval	Active	
2	11111	FTP list	Minute	Enabled if change	Save Cancel

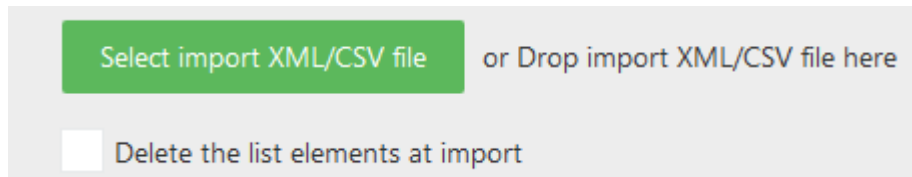
To delete an action, click on the action and click on the "delete" button and then "YES".

ID	Description	Export type	Interval	Active	
2	11111	FTP list	Minute	Enabled	Edit Delete

Import for the list: Here are all the automatic imports users can configure on each list.

- **FTP list:** Import the list to an FTP server
- **SINCRO camera:** Import the list from another camera

You can also import the list by manually uploading an xml list file.



The format of the XML is as follows:

```
<?xml version = "1.0" encoding = "utf-8" ?>
<grouplist>
<nllists>
    <nllist id="3" sendserver="0" dateserver="" reserve="" description="EMPLOYEES" color=""/>
</nllists>
<nlelemlists>
<nlelemlist id="1" sendserver="0" dateserver="" reserve="" numberplate="AAA123" listid="3" timestamp=""
description="EMP 1" startvaliditydate="2000-01-01T00:00:00.000" endvaliditydate="3000-01-01T00:00:00.000"/>

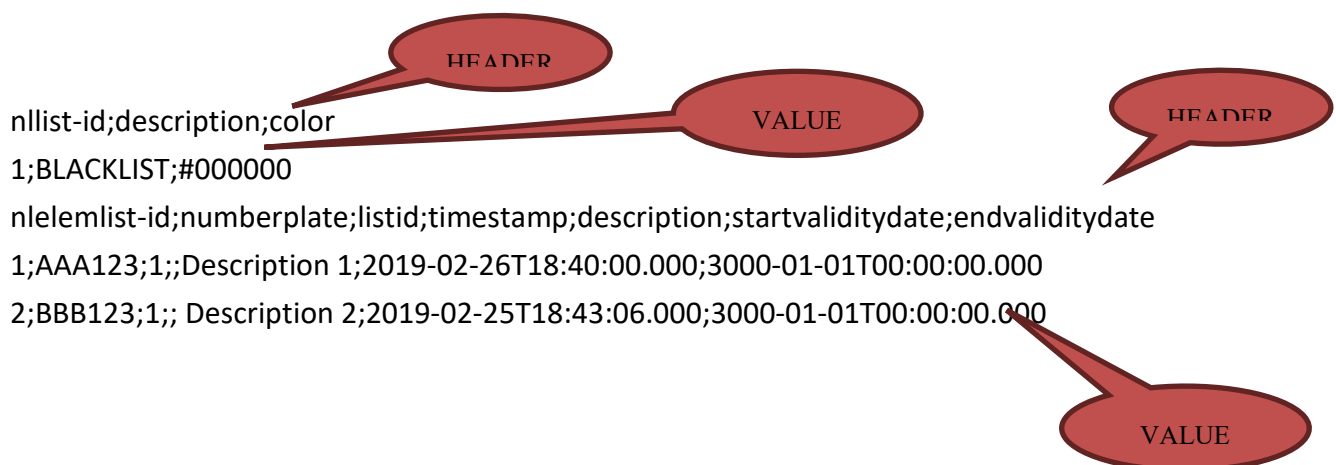
<nlelemlist id="2" sendserver="0" dateserver="" reserve="" numberplate="BBB321" listid="3" timestamp=""
description="EMP 2" startvaliditydate="2000-01-01T00:00:00.000" endvaliditydate="3000-01-01T00:00:00.000"/>

</nlelemlists>
</grouplist>
```

- **Grouplist:** the main element of the xml
- **Nllists:** The group of type of lists
- **Nlist:** The list type element, on:
 - Id= Id of the list
 - Sendserver = Always 0
 - Dateserver= Always ""
 - Reserve = Always ""

- Description= The name of the list
- Color = Always ""
- Nlemlists: the group of the elements of the list
- Nlemlist: the element in list, on:
 - Id= Id of the element
 - Sendserver = Always 0
 - Dateserver= Always ""
 - Reserve = Always ""
 - Numberplate= Plate number of the element
 - Listid= Id of the list
 - Timestamp= Always ""
 - Description= Description of the plate number
 - Startvaliditydate= Start date of validity period
 - Endvaliditydate= End date of validity period

The format of CSV is the following:



The first block of HEADER-VALUE is the type of list which values are:

- nlist-id: Id of the list
- description: Description of the list
- color: Color of the list (NOT IN USE)

The second block of HEADER-VALUE are the elements of list which values are:

- nlemlist-id: Id of the list element
- numberplate: Plate number

- listid: Id of list type
- timestamp: Always ""
- description: Description of the number plate.
- Startvaliditydate: Start validity date of the number plate.
- Endvaliditydate: End validity date of the number plate.

A list can perform several imports, depending on the scenario and needs.

Having the Employees list selected, click on "Imports for the list" and then click on the + button and define the type and interval. The interval can be set as:

- *Minute*: Will execute the task every minute.
- *Hour*: Will execute the task every hour.
- *Day*: Will execute the task once a day at 23:59:59.
- *Week*: Will execute the task once a week, every Monday at 00:00:00.
- *Month*: Will execute the task once a month, the first day of the month at 23:59:59.

1. Configuring the import **FTP list** to import the list from an ftp result, using the EMPLOYEES list, click on "Import for the list" and add a new import pressing "+" and then select in "Import type = FTP list".

ID	Description	Import type	Interval	Active	
1	import	FTP list	Day	Enabled	Edit Delete

Import properties

Import Info

?

1

Host:

127.0.0.1

Port:

21

Format:

☒ XML
☐ XML_NOTDELETE
☐ CSV
☐ CSV_NOTDELETE

Folder name:

User:

Password:

Confirmation file:

☒ .FLAG

?

2

?

Click on  for more information about how to configure.


Help



Import the lists from an FTP server

The parameters are the following

- **Host:**Ftp server IP
- **Port:**Ftp server port
- **Format:**The message type (XML)
- **Folder:**Ftp folder to save the lists
- **User:**Ftp user
- **Password:**Ftp password
- **Confirmation file:**In order to track if list have been receive from the FTP server.

Click on  for more information about format type.

Help



The possible formats are following

- **XML:**XML list [Download Sample](#)
- **XML_NOTDELETE:**XML list (Not delete the old elements)[Download Sample](#)
- **CSV:**XML list [Download Sample](#)
- **CSV_NOTDELETE:**XML list (Not delete the old elements)[Download Sample](#)

- Configuring the import **SINCRO camera** to import the list from another camera, using the EMPLOYEES list, click on “Import for the list” and add a new import pressing “+” and then select in “Import type = SINCRO Camera”.

+ Search...

ID	Description	Import type	Interval	Active	
5	23232	SINCRO camera	Minute	Enabled	Edit Delete

Import properties

Import Info

Host:

User:

Password:

Click on  for more information about how to configure.

Help



Import the lists from a Camera

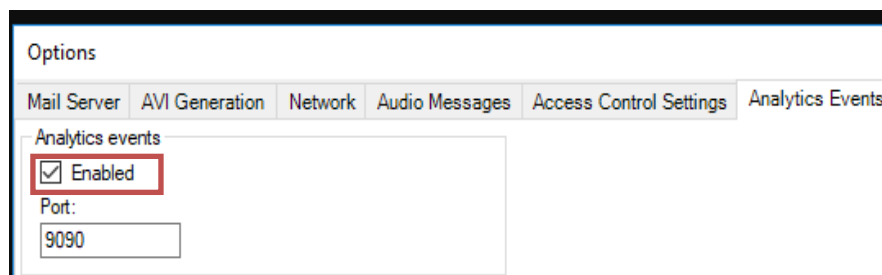
The parameters are the following

- **Host:**Camera master IP
- **User:**Camera master user
- **Password:**Camera master password

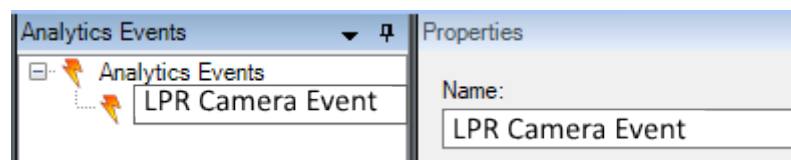
4.4.1 Configure Milestone

After the Milestone action is configured, users will need to set up Milestone VMS server to process this action. Please follow the next steps,

- 1- Enable analytic events.
 - a. Click on "Tool" -> "Options" and select the "Analytics Event" tab. At this tab users will activate the Analytics events.



- 2- Create the analytic event.
 - a. Click on "Rules and Events" -> "Analytics Events". And then right-click to create a new analytic event. The name must be the same as that defined at Event type of action.



- 3- Create an alarm definition.
 - a. Right click on alarm definition and we create a new alarm definition on:
 - i. Enable: This alarm is enabled at system
 - ii. Name: The alarm name
 - iii. Triggering event: selecting Analytic Events is required
 - iv. Triggering event source: Selecting the source before creating an analytic event
 - v. Source: Selecting the camera at milestone system is required

The screenshot shows the 'Alarm Definitions' section on the left with a tree view containing 'Alarm Definitions' and 'Alarm Definition'. The 'Properties' tab is selected, displaying the following fields:

- Alarm definition**
 - Enable: ☒
 - Name: LPR ALARM
 - Instructions: (empty text area)
- Trigger**
 - Triggering event: Analytics Events, LPR CAMERA EVENT

4.5. LPR Configuration Tab

In this tab, users will set the proper configuration for the LPR camera depending on the scenario where will be located (indoor, outdoor) and the necessity (parking, control of access points, security, tolls, road offenses, etc.).

“Restart service” is required every time when users modify a setting in LPR Configuration Tab.

Restart service

First step is selecting a region and a country. For example, let's configure VIVOTEK ANPR to read plates from Malaysia and Singapore.

In Region, select Asia.

The screenshot shows the 'Region' and 'Countries' fields. A red arrow points to the 'Region' dropdown menu, which is open and showing the following options:

- Europe & Morocco
- Europe & Morocco
- South America & Central
- North America & Central
- Asia** (highlighted with a red box)
- Africa

In countries, search and select one or multiple countries.

Countries:

Select...
 Russia
 Turkey
 Vietnam
 Indonesia
 Philippines
 Malaysia
 Singapore
 Israel
 Lebanon
 Hong Kong
 Macau
 India
 Taiwan
 Bahrain
 Abu Dhabi

After selecting the countries, restart service by clicking the button.

Restart service

Now you are ready to read license plates for these two countries.

Region:

Asia

Countries:

Singapore ✕ Malaysia ✕

Restart service

Function Mode: This LPR camera supports 3 LPR processing modes.

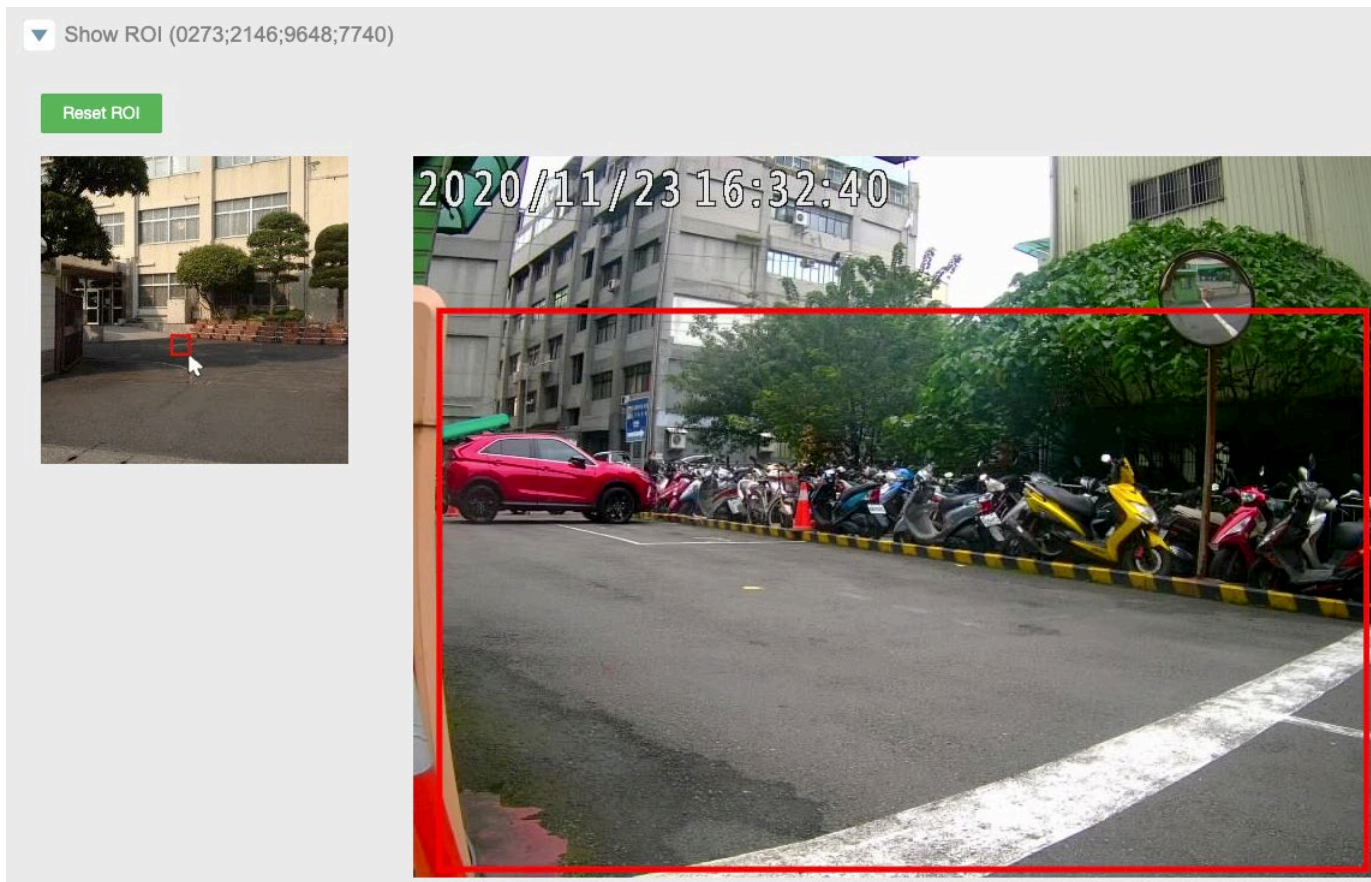
- **Trigger:** The camera will read license plate number only when a trigger is activated such as an induction loop, laser... etc.
- **Free Flow:** The camera is continuously processing all the frames/images. It is not recommended unless there is a constant flow of vehicles.
- **Motion Detection (Set by default):** The camera will read license plate number only when the frame difference is over the motion threshold.

Resolution: The camera resolution by default for license plate recognition is 1280 x 960, you also can choose 1920 x 1440 to increase more pixel density of the license plate numbers, for example with 2 Lanes LPR readings.

Users can configure the camera resolution according to their installation, e.g. you might need to increase the camera resolution when the capture distance is far. Please be noted that the higher resolution doesn't mean higher LPR accuracy.

The camera resolution here is only for LPR processing, and it has nothing to do with the camera parameters in video recording. In other words, this VIVOTEK's stop-and-go LPR camera is not only a standalone LPR camera; it is also a video surveillance camera. The maximum camera resolution and frame rate per second for video surveillance purpose are 2560x1920 (5MP) at 30fps or 1920x1080 at 60fps.

Show ROI: Users can draw a region of interest on the camera image. The LPR engine will only process and read the license plate in this region. Please be noted that license plate must be seen completely in this ROI.



Click on "Show ROI", the wizard will guide you on how to draw it.

Draw 2 points into the road following the steps:

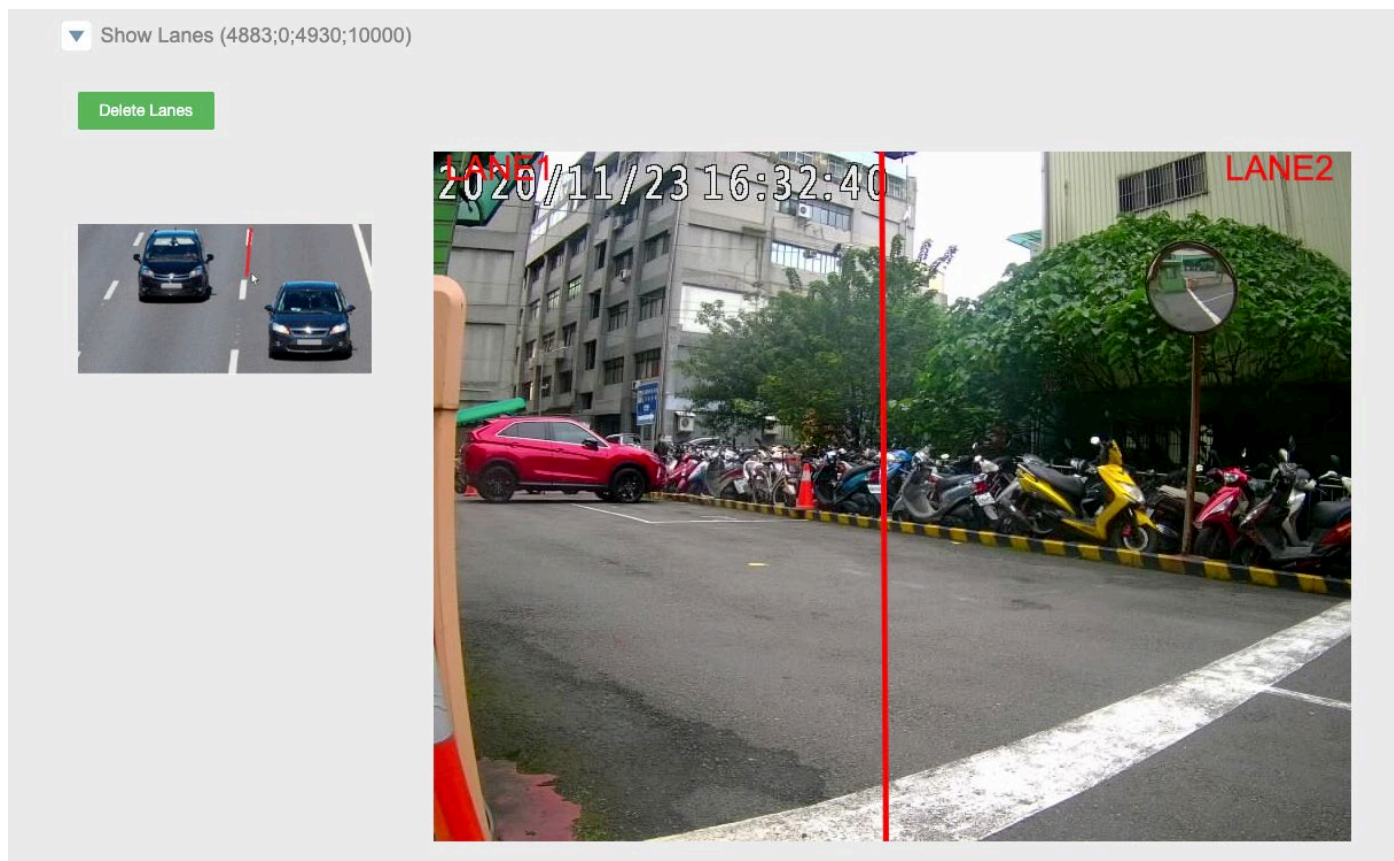
1. Draw top left point.

2. Draw bottom right point.

To reset ROI, click on "RESET ROI" button.

Click on the "**Restart Service**" Restart service button for the configuration to take effect.

Show Lanes: Users can configure 2 lanes by drawing a line. The maximum number is 2.



Click on "Show Lanes", the wizard will guide you on how to draw it.

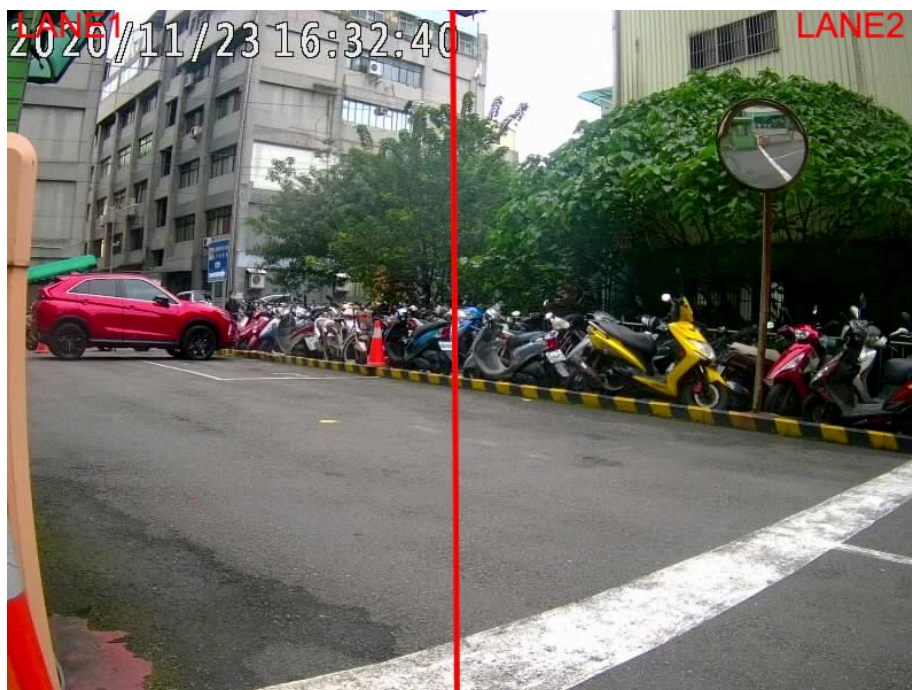
Draw 2 points into the road following the steps:

1. Draw top point.

2. Draw bottom point.

To reset ROI, click on "Delete Lanes" button.

Click on the "**Restart Service**" Restart service button to take effect.



VIVOTEK ANPR will read the license plate and indicate on which lane the license plate was detected.

Expert Options: Here is the recommended configuration for best performance if Motion Detection (default configuration) is selected.

Minimum character height: Minimum character size. Very useful for cases where users want to ensure a minimum character size. 25 being the recommendation

Maximum character height: Maximum character size. Very useful for cases where users want to ensure a maximum character size.

Minimum Confidence (%): Minimum reliability in the reading of a license plate to consider it valid. Reliability is a parameter returned by the engine for recognizing license plates (value of 1-100, where 100 is the most reliable). 80 being the recommendation

[TIPS]: if the confidence of LPR reading is lower than the confidence level, the LPR result won't show up and the engine will keep read the number plate and the result will be shown up when it reach the confidence level. If you found the LPR reading is slow for some specific plates, you can go to **log tab** to see if it filtered by the confidence level.

1. Go to Logs → check log type: Service → searches the number plates to see the reading process.
2. And you can see the reading process even the confidence lower than the level.

Connection Type: You need to select the option, how user will get the image to process

VIVOTEK: Camera streaming.

Click on the **“Restart Service”**

Restart service

button to take effect.

Trigger Mode: VIVOTEK ANPR is normally in an idle state. When a trigger command is received, it performs a variable number of captures, depending on configuration, and returns a result. Results from different triggering events are independent of one another. That is, if the same vehicle is still present on a second trigger command, the same license plate will be returned a second time. On every trigger, it performs captures until the number exceeds NCaptures, or the time exceeds Timeout.

Trigger Captures: How many images do users want to process from reading license plates to stop.

Trigger Timeout: How many seconds do users want to process from reading license plates to stop.

Trigger IO Device: If selected, the Digital Input ports will activate.

Trigger IO Port: Choose which digital input port you will use.

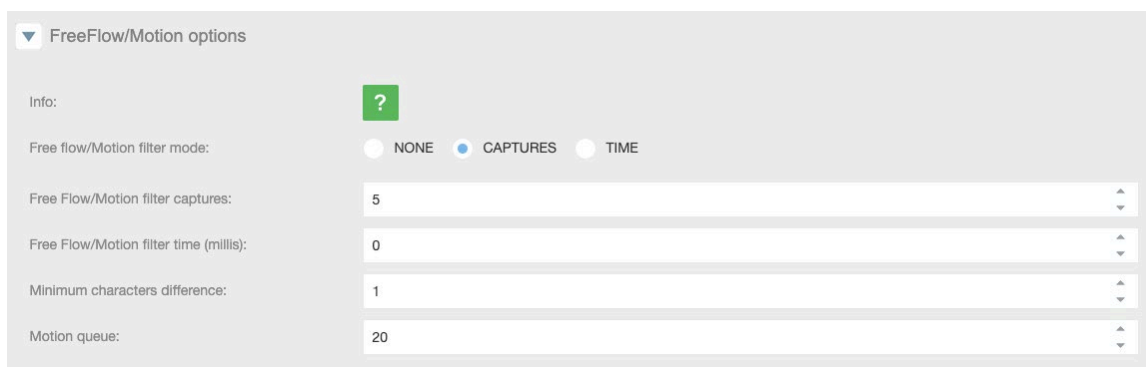
Click on the “**Restart Service**”

Restart service

button for the configuration to take effect.

Please be noted, if you are using Trigger mode API, the trigger period shall no less 4 seconds.

FreeFlow/Motion options: VIVOTEK ANPR continuously runs OCR on the receiving frames. Whenever a new vehicle enters the scene, a new result is sent through the notification socket.



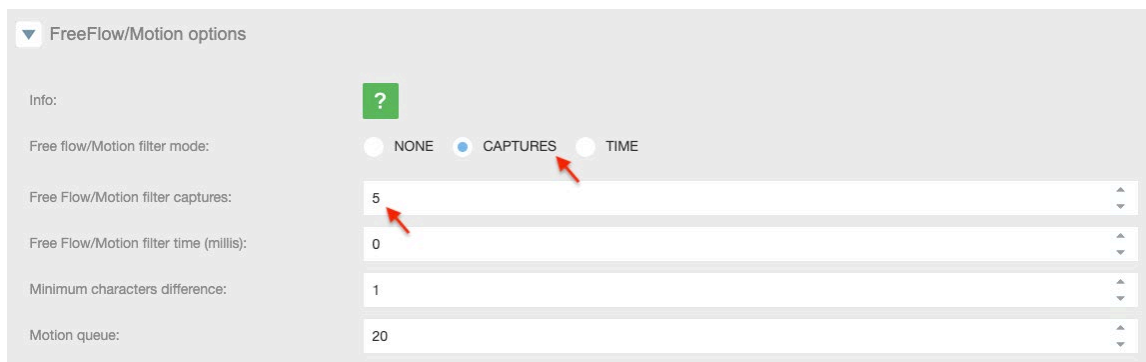
In the blue square, users can define repetition filters.

Free flow/Motion filter captures: For a result to be considered valid, the last license plate read must not be among the last N recognized as valid. This filter is useful for traffic jams, where the cameras may be reading N license plates continually in a closed cycle.

Free flow/Motion filter (millis): Minimum time elapsed from the detection of the same license plate to it being accepted again in the system.

For example, if users have the camera in a parking garage and there is a traffic jam, users don’t want to read the same license plate continuously, in that case, the best filter is for captures, please do the following.

Select “Free Flow mode” -> click on “Free Flow options” -> click on “Free Flow filter mode” and select the filter “captures”



With this configuration, once a license plate is read, it will not be read again until another 5 different license plates have been read.

Minimum characters difference: this faulty tolerance allows you to improve the vehicle passing flow especially for the parking usage. Some parking system will allow vehicle pass in first even with some LPR error readings, then user can choose the right one when they doing the payment.

Motion threshold: The motion threshold is the threshold to consider an image different from other image, for the motion mode. Value ranges from 0 to 100.

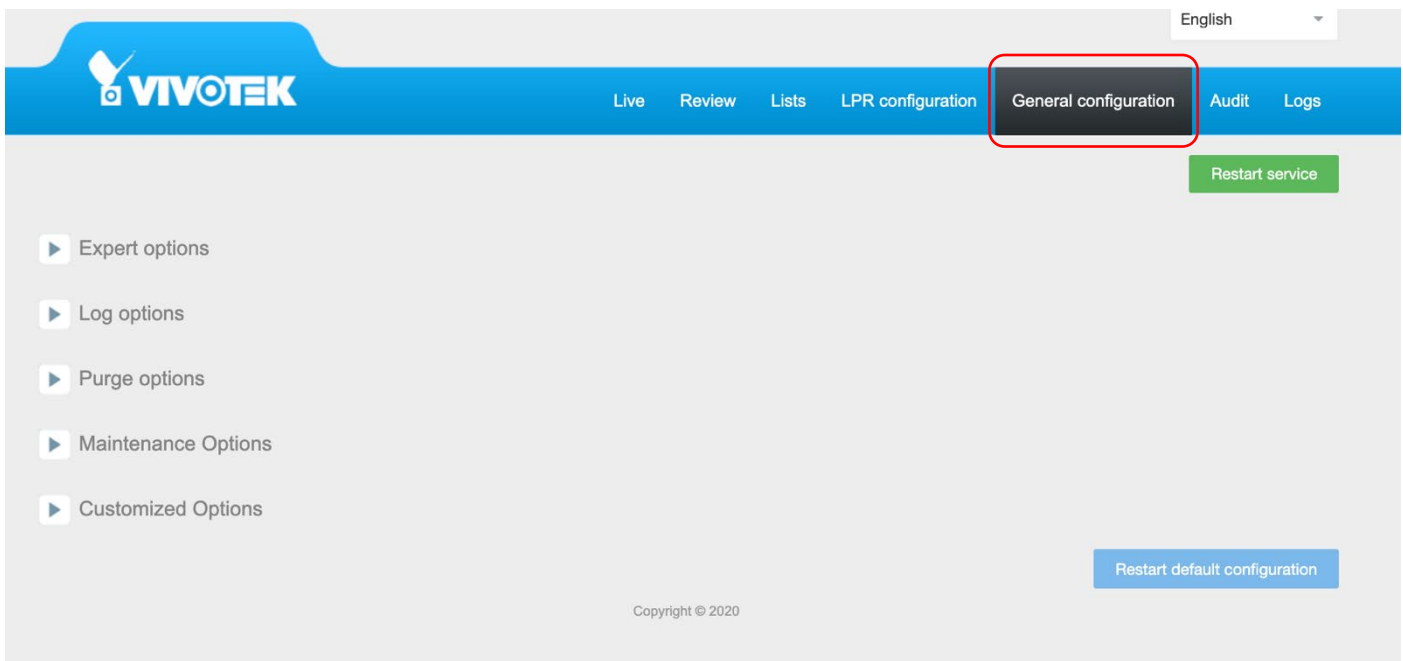
Motion queue: The motion queue is the number of images in an internal queue. Be careful because more images increase the LPR process memory. For the parking application, in order to open the barrier immediately after the LPR readings, the recommendation value is 1. (General reacting time from readings to action should be less than 3~5 sec.)

After all the changes are made, remember always to restart service. Click on the  button.

If users need to restart all configurations for this section, click on  the button.

4.6. General Configuration Tab

In this tab, configure general parameters:



The screenshot displays the VIVOTEK IP Surveillance web interface. The top navigation bar includes the VIVOTEK logo, a language dropdown set to 'English', and menu items: Live, Review, Lists, LPR configuration, General configuration (highlighted with a red box), Audit, and Logs. Below the navigation bar, there is a 'Restart service' button. The main content area lists several expandable options: Expert options, Log options, Purge options, Maintenance Options, and Customized Options. At the bottom right, there is a 'Restart default configuration' button. The footer indicates 'Copyright © 2020'.

Expert Options:

View type: user can choose the viewing type either LIST or SQUARE shown as below:

LIST:

ID	Timestamp	Plate	Lane	Conf.	Height	Width	Country	List	Image
1047	16:09:01.220 16/01/2020	BV1450		89.80	23.00	630	Taiwan		
1046	16:07:29.075 16/01/2020	AQE9660		98.68	30.71	371	Taiwan		
1045	16:04:20.045 16/01/2020	ATG6093		99.90	23.00	341	Taiwan		
1044	16:01:01.840 16/01/2020	7809QK		99.90	24.44	319	Taiwan		
1043	15:53:34.901 16/01/2020	RCL6661		96.84	31.43	411	Taiwan		
1042	15:19:33.008 16/01/2020	AKH5699		93.73	28.00	555	Taiwan		

SQUARE:



Save the image: will store the complete image in a folder.

Save the plate image: will only store the license plate image in a folder.

Image quality: will store the image with the compression configuration.

Store image on: will store data on an SD.

Trigger Socket Port: will enter the port we want to use for sending XML/JSON messages.

▼

Expert Options

Info:

?

View type:

☐ LIST
 ☒ SQUARE

Save the image:

☒

Save the plate image:

☒

Image quality:

40

Store image on:

☒ SD

Trigger Socket port:

8040

Action time:

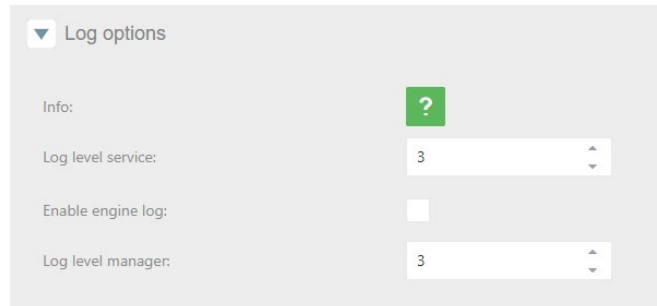
☒ IMMEDIATE
 ☐ PERSISTENT

Log Options:

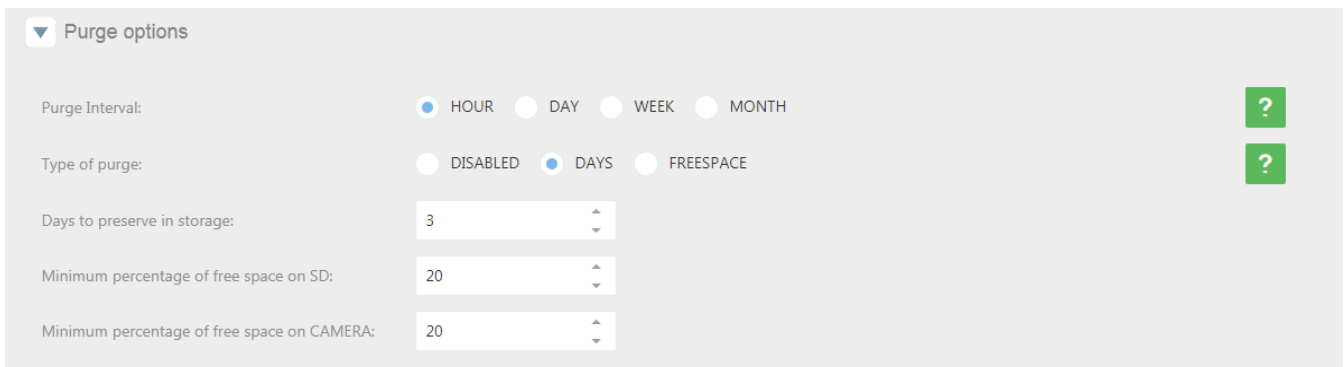
Log Level: User can determine the log level to register what is going on with VIVOTEK ANPR. By default, is set to 3. Level 4 and 5 are for experts and debugging team.

Activate log engine: Select only if debugging mode is necessary, only for expert technicians.

Log Level CGI (manager): User can determine the log level to register what is going on with the CGI. By default, is set to 3. Level 4 and 5 are for experts and debugging team.



Purge Options: Users can determine how many days or free spaces of data users need to keep.



Purge Interval: Schedule when do users want to execute the purge.

Hour: Will execute the task every hour.

Day: Will execute the task once a day at 23:59:59.

Week: Will execute the task once a week, every Monday at 00:00:00.

Month: Will execute the task once a month, the first day of the month at 23:59:59.

Type of purge in database: Set how and what do users want to purge.

Disabled: Won't execute any purge.

Days: Will purge by days, keeping data for the last days.

Freespace: Will purge depending on the free space in the SD or in the camera.

Once users have defined when and what to purge, users need to set the variables to execute the task.

Purge by days:

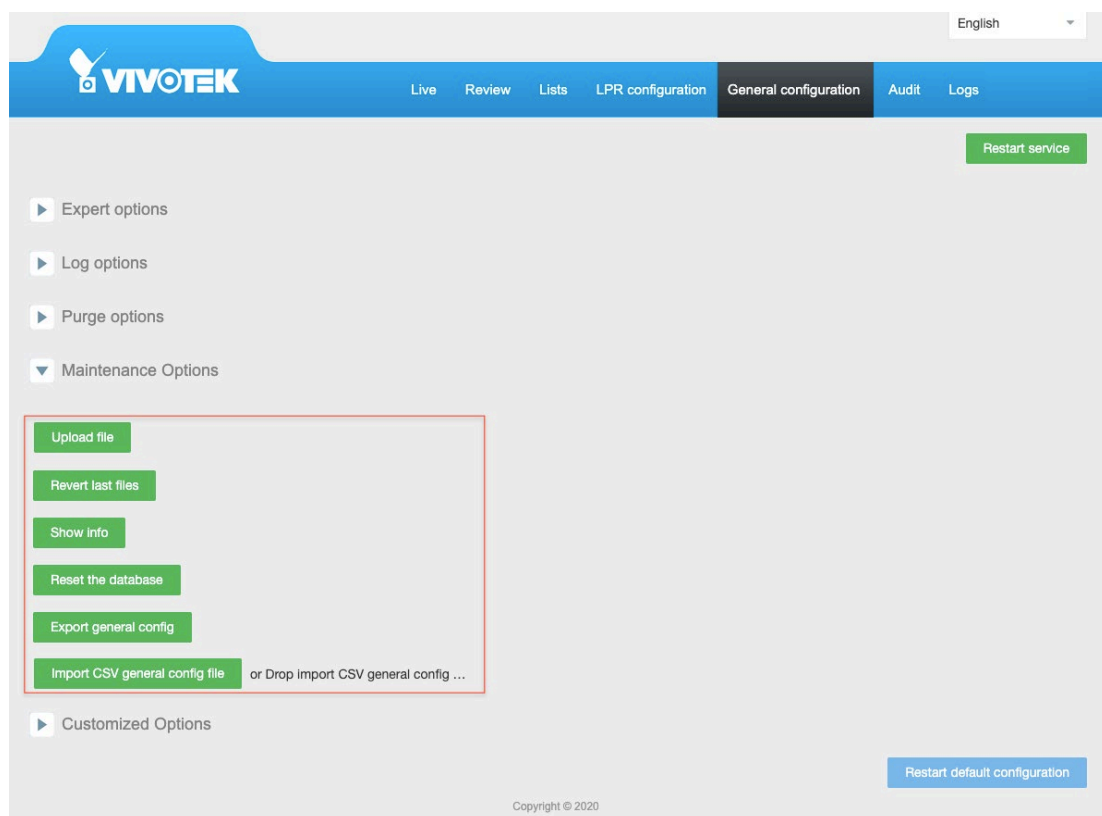
- Days to preserve in storage: Will keep LPR dates and files of the last (XX) days and purge the rest.

Purge by Free Space:

- Minimum percentage of free space on SD:
Will delete from the oldest images and files stored when the free space on the SD card is lower than configured.
- Minimum percentage of free space on CAMERA:
Will delete from the oldest LPR results of database when the free space of the camera flash is lower than configured.

Maintenance Options:

In this section you can upload files for camera configuration, licensing, update VIVOTEK ANPR version, change the logo and upload images for the path option displayed in the Camera Configuration tab. Also you can revert the configuration file to last files and reset the database.



Upload File: Users can upload a file.

Revert last files: If after applying changes with the uploaded files, it doesn't work correctly you can revert changes.

Show Info: Show you information about the version and camera MAC address.

Information



Version 3.1.7.3

Mac address 00:02:D1:87:7D:28

Reset the database: you can reset the database, and it would require password which is your full Mac address including colon symbols. Once you reset the database you need to go to camera configuration page on Applications -> Package management to stop and start the ANPR service.

Reset the database

This process will clear all ANPR results including number plate readings, actions, exports, imports from the camera, do you want to continue?

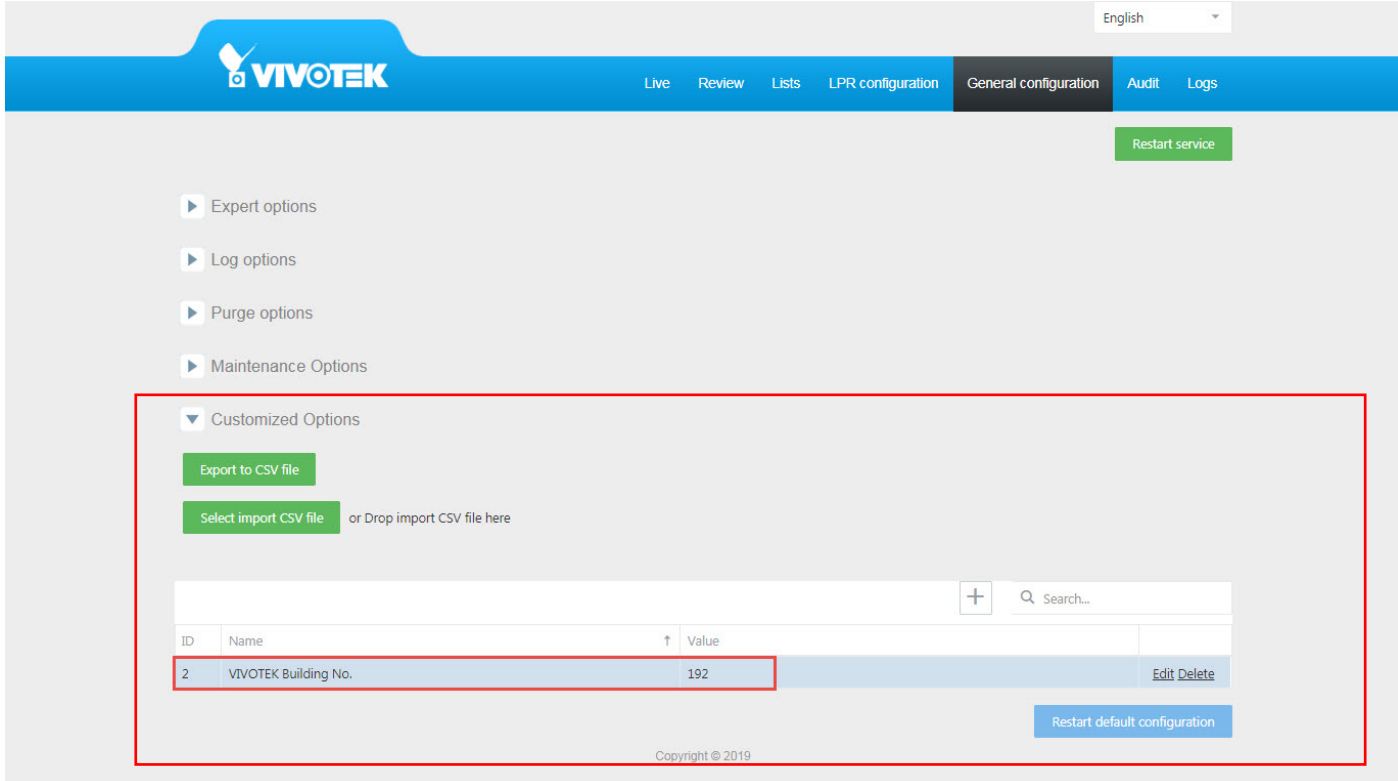
Password:

Yes

No

Customized Options:

In this section you export or import your ANPR configuration, also you can have customized columns (Name and Value) in export file.



English

VIVOTEK

Live Review Lists LPR configuration General configuration Audit Logs

Restart service

▶ Expert options

▶ Log options

▶ Purge options

▶ Maintenance Options

▼ Customized Options

Export to CSV file

Select import CSV file or Drop import CSV file here

+ Search...

ID	Name	↑	Value	
2	VIVOTEK Building No.		192	Edit Delete

Restart default configuration

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The export XML file example:

<infoplate>

<VIVOTEK Building No.>192</VIVOTEK Building No.>

</infoplate>

In case users want to revert, all changes done, and want to get back to the default configuration, click on

Restart default configuration

button.

4.7. Audit Tab

In the Audit tab, users can search by date interval and different event types such as import, export or action.

You can search in the stored actions by dates and by type of action.

Export: Will show users automatic exports done

Import: Will show users automatic imports done.

Action: Will show users automatic actions triggered on the lists.

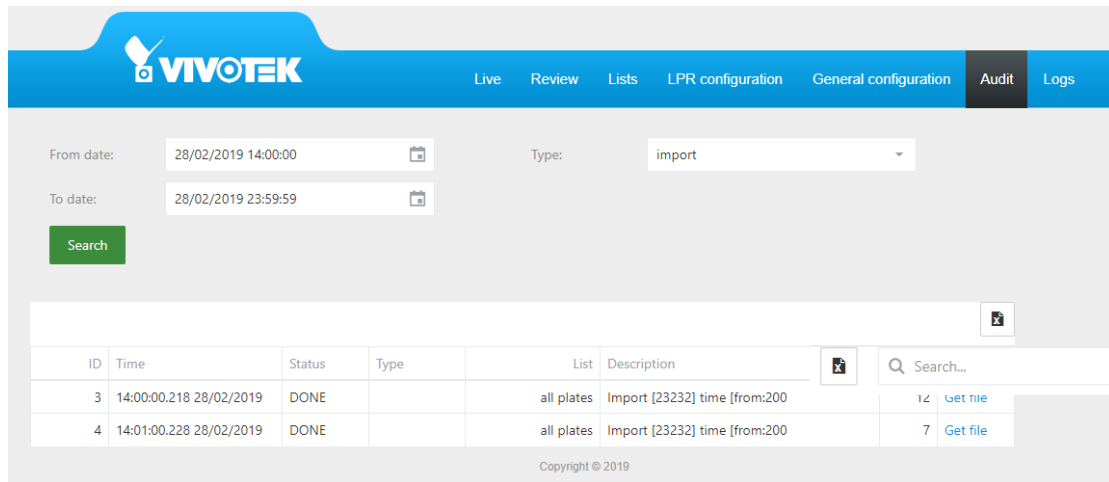
The result of the search can be exported and downloaded.

Exports example:

ID	Time	Status	Type	List	Description	Num.	File
4	12:27:00.010 28/02/2019	DONE	Local list	all plates	Export [223232] time [from:200001011000...	10	Get file
5	12:28:00.172 28/02/2019	DONE	Local list	all plates	Export [223232] time [from:20000101T000...	9	Get file
6	12:29:00.127 28/02/2019	DONE	Local list	all plates	Export [223232] time [from:20000101T000...	11	Get file
7	12:30:00.259 28/02/2019	DONE	Local list	all plates	Export [223232] time [from:20000101T000...	12	Get file

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Imports example:

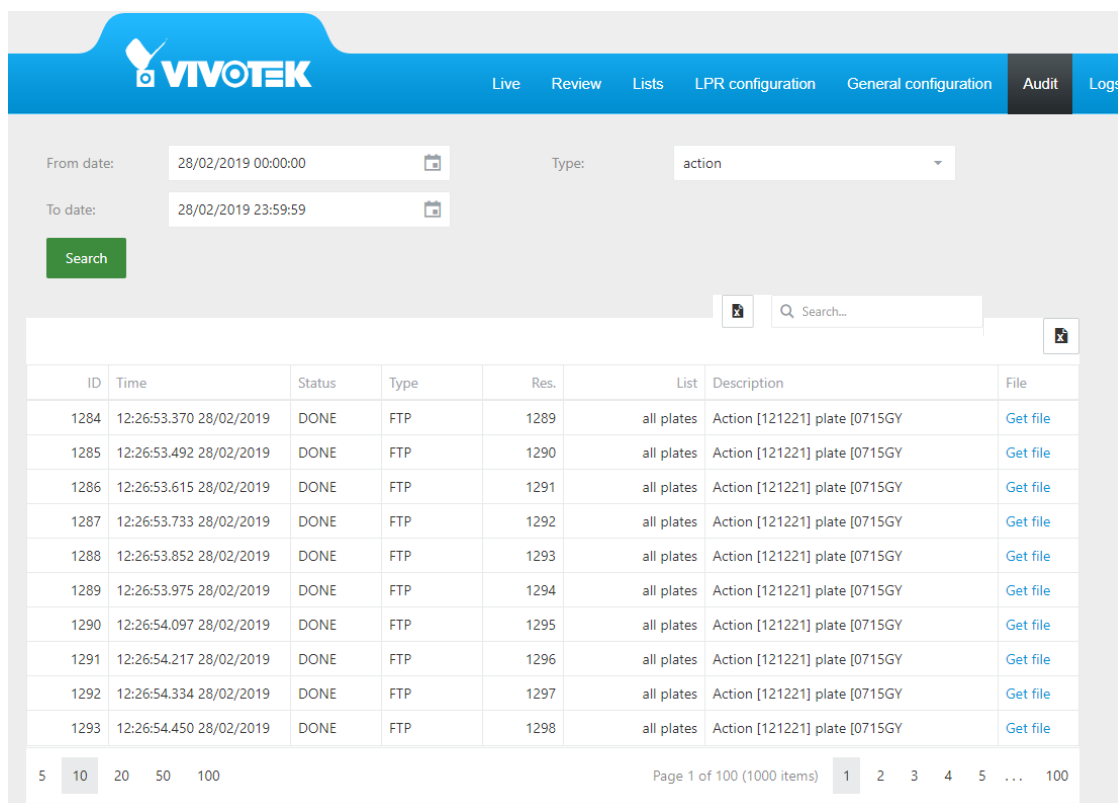


The screenshot shows the 'Audit' tab in the VIVOTEK IP Surveillance interface. The search filters are set to 'From date: 28/02/2019 14:00:00' and 'To date: 28/02/2019 23:59:59'. The 'Type' dropdown is set to 'import'. A green 'Search' button is visible. Below the search filters, there is a table with the following data:

ID	Time	Status	Type	List	Description	Count	Action
3	14:00:00.218 28/02/2019	DONE		all plates	Import [23232] time [from:200	12	Get file
4	14:01:00.228 28/02/2019	DONE		all plates	Import [23232] time [from:200	7	Get file

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Actions example:



The screenshot shows the 'Audit' tab in the VIVOTEK IP Surveillance interface. The search filters are set to 'From date: 28/02/2019 00:00:00' and 'To date: 28/02/2019 23:59:59'. The 'Type' dropdown is set to 'action'. A green 'Search' button is visible. Below the search filters, there is a table with the following data:

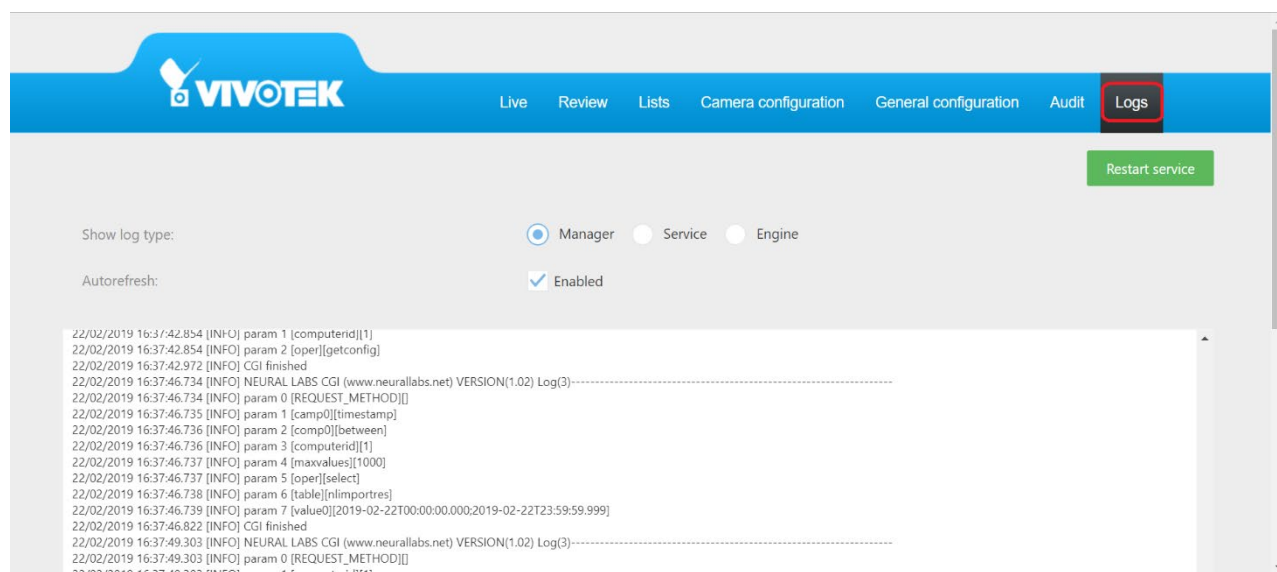
ID	Time	Status	Type	Res.	List	Description	File
1284	12:26:53.370 28/02/2019	DONE	FTP	1289	all plates	Action [121221] plate [0715GY	Get file
1285	12:26:53.492 28/02/2019	DONE	FTP	1290	all plates	Action [121221] plate [0715GY	Get file
1286	12:26:53.615 28/02/2019	DONE	FTP	1291	all plates	Action [121221] plate [0715GY	Get file
1287	12:26:53.733 28/02/2019	DONE	FTP	1292	all plates	Action [121221] plate [0715GY	Get file
1288	12:26:53.852 28/02/2019	DONE	FTP	1293	all plates	Action [121221] plate [0715GY	Get file
1289	12:26:53.975 28/02/2019	DONE	FTP	1294	all plates	Action [121221] plate [0715GY	Get file
1290	12:26:54.097 28/02/2019	DONE	FTP	1295	all plates	Action [121221] plate [0715GY	Get file
1291	12:26:54.217 28/02/2019	DONE	FTP	1296	all plates	Action [121221] plate [0715GY	Get file
1292	12:26:54.334 28/02/2019	DONE	FTP	1297	all plates	Action [121221] plate [0715GY	Get file
1293	12:26:54.450 28/02/2019	DONE	FTP	1298	all plates	Action [121221] plate [0715GY	Get file

Page 1 of 100 (1000 items) 1 2 3 4 5 ... 100

4.8. Logs Tab

In this TAB the user can see /download different logs. The configurations of “Logs” are available in “General configuration” -> “Log options”.

These logs can be useful to diagnose and solve application problems.



The type of the log that the user wants to see must be selected by either manager, Service or Engine.

Checking auto update the application will refresh the selected log type.

Sending logs to technical support may be needed. To do that, click on [Download logs](#) at the bottom of the page.

Selected logs will be downloaded in a compressed txt format.



5. Camera list synchronization

The VIVOTEK ANPR system allows a list system to be synchronized.

It's master-slave architecture. One of the cameras works like a master and the other cameras works like slaves.

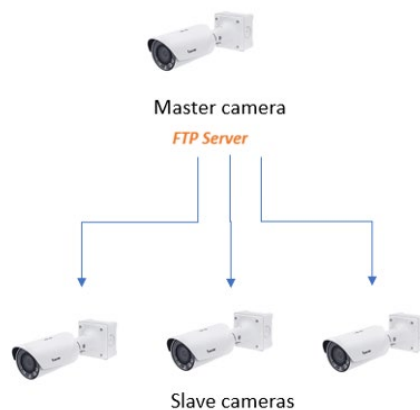
The master camera uploads the file with the list content and the slave cameras download the file.

All the list and elements must be modified in the master camera; the changes will be updated automatically in the slave following the next instructions to configure the master and the slaves. We recommend 10 slave cameras connect to master camera at the same time; The maximum number of connections is depending on the FTP server(master camera).

Users can decide whether to synchronize all recorded license plate data, or to synchronize specific license plate list.

5.1. Architecture 1

The camera comes with an FTP server. The FTP service must be activated (by default the FTP server is disabled).



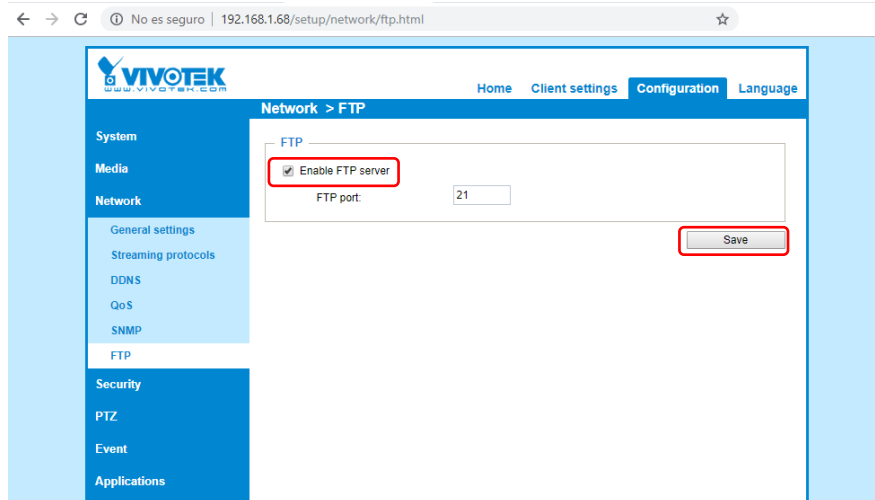
5.1.1. Master configuration

Activate the FTP server.

Access to the camera web interface:

Configuration/Network/FTP

Check "Enable FTP server" and click Save.



5.1.2. Slave configuration

Access to the List Tab.

To configure only one list, select the list and make the import in the list.

[+](#)
[📄](#)

ID	Name	
-2	all plates	Edit Delete
-1	not in list	Edit Delete
1	BLACKLIST	Edit Delete
2	WHITELIST	Edit Delete

▶ List of the license plates: BLACKLIST (0)

▶ Action for the list: BLACKLIST (0)

▶ Exports for the list: BLACKLIST (1)

▼ Imports for the list: BLACKLIST (0)

Select import XML/CSV file or Drop import XML/CSV file here

☐ Delete the list elements at import

[+](#)

ID	Description	Import type	Interval	Active
No data				

To configure all the list, selects all plates.

+ 🔍 Search...

ID	Name	
-2	all plates	Edit Delete
-1	not in list	Edit Delete
1	BLACKLIST	Edit Delete
2	WHITELIST	Edit Delete

▶ Action for the list: all plates (1)

▶ Exports for the list: all plates (0)

▼ Imports for the list: all plates (0)

Select import XML/CSV file

 or Drop import XML/CSV file here

☐ Delete the list elements at import

+ 🔍 Search...

ID	Description	Import type	Interval	Active	
No data					

An import configuration can be added for a slave camera's license data list. User can use the SINCRO Camera import, and determine how often the data is synchronized, or to synchronize when changes occur to the list. Create an import each minute (or other desirable time) the time enabled if change with the types SINCRO Camera and click on Save.

+ 🔍 Search...

ID	Description	Import type	Interval	Active	
2	import	SINCRO camera	Minute	Enabled if change	Edit Delete

Configure the master camera credentials.

+ 🔍 Search...

ID	Description	Import type	Interval	Active	
2	import	SINCRO camera	Minute	Enabled if change	Edit Delete

Import properties

Import Info ?

Host:

User:

Password:

Host: Camera master IP

User: Camera master user

Password: Camera master password

This setting can be verified in the "Audit Tab".

From date: 08/04/2019 13:25:00
To date: 08/04/2019 23:59:59
Type: import

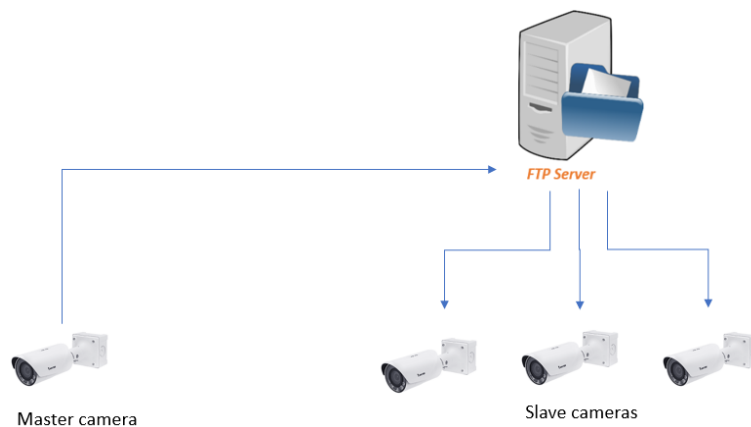
Search

Search...

ID	Time	Status	Type	List	Description	Num.	File
21	13:25:00.136 08/04/2019	DONE			Import [import slave] time [f	1	Get file

5.2. Architecture 2

Store the license plate list by using an FTP server.



5.2.1. Master configuration

Access to the List Tab.

To configure only one list, select the list and make the export in the list.

+ 🔍

ID	Name	
-2	all plates	Edit Delete
-1	not in list	Edit Delete
1	BLACKLIST	Edit Delete
2	WHITELIST	Edit Delete

▶ List of the license plates: BLACKLIST (0)

▶ Action for the list: BLACKLIST (0)

▼ Exports for the list: BLACKLIST (0)

Export to CSV file
Export to XML file

+ 🔍

ID	Description	Export type	Interval	Active	
No data					

To configure all the lists, select all plates.

+ 🔍

ID	Name	
-2	all plates	Edit Delete
-1	not in list	Edit Delete
1	BLACKLIST	Edit Delete
2	WHITELIST	Edit Delete

▶ Action for the list: all plates (1)

▼ Exports for the list: all plates (0)

Export to CSV file
Export to XML file

+ 🔍

ID	Description	Export type	Interval	Active	
No data					

This is an export configuration for the master camera's license plate data. Users can select to export license list to an FTP server. Select the FTP list, select how often the data is synchronized, or when changes occur to the list. Creating an export each minute enabled if change with the type FTP list and then click on Save.

+ 🔍

ID	Description	Export type	Interval	Active	
1	export master	FTP list	Minute	Enabled if change	Save Cancel

Configure the credentials of the FTP server and the format as CSV or XML, both can be used, but must be identical for all the slaves.

This window is used to configure the parameters of the FTP server to which the master camera's export list is sent. Below is an example to for the camera master to send the file to the FTP server.

ID	Description	Export type	Interval	Active	
1	export master	FTP list	Minute	Enabled if change	Edit Delete

Export properties

Export Info ?

Host: 192.168.1.21

Port: 21

Format: ☒ XML ☐ CSV ?

Folder name: EXPORT

User: user

Password: password

Confirmation file: ☒ .FLAG

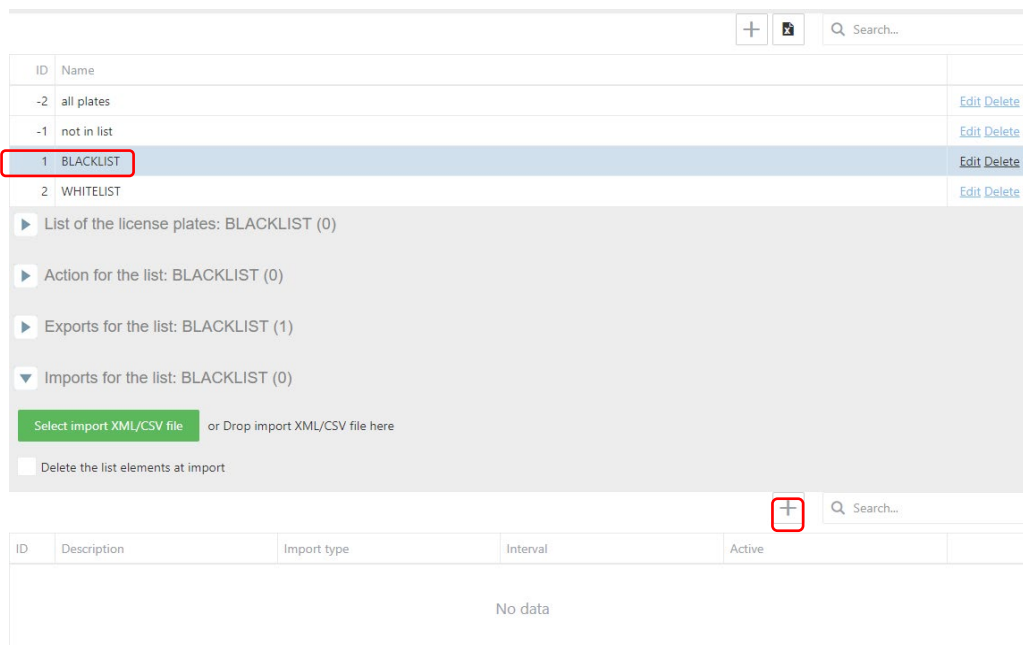
This setting can be verified in the "Audit Tab".

VIVOTEK							
Live Review Lists LPR configuration General configuration Audit Logs							
From date:	08/04/2019 00:00:00		Type:	export			
To date:	08/04/2019 23:59:59						
Search							
ID	Time	Status	Type	List	Description	Num.	File
1	12:55:00.010 08/04/2019	DONE	FTP list	BLACKLIST	Export [export master] time [from:2000010...	1	Get file

5.2.2. Slave configuration

Access to the List Tab.

This window is used to configure the import configuration for a specific license plate data list, such as a blacklist.



ID	Name	
-2	all plates	Edit Delete
-1	not in list	Edit Delete
1	BLACKLIST	Edit Delete
2	WHITELIST	Edit Delete

▶ List of the license plates: BLACKLIST (0)

▶ Action for the list: BLACKLIST (0)

▶ Exports for the list: BLACKLIST (1)

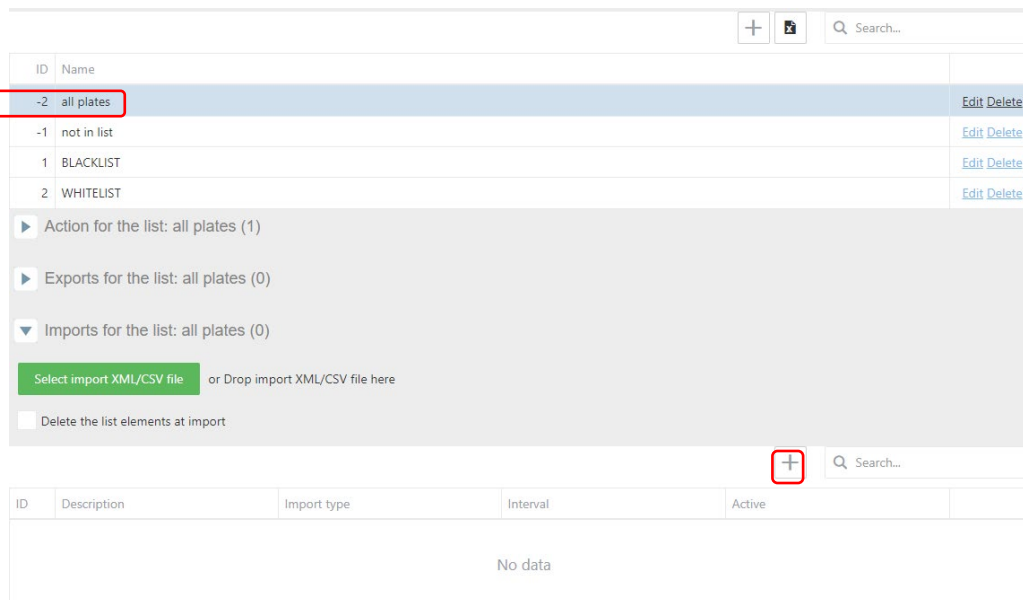
▼ Imports for the list: BLACKLIST (0)

Select import XML/CSV file or Drop import XML/CSV file here

☐ Delete the list elements at import

ID	Description	Import type	Interval	Active
No data				

To configure all the list selects all plates.



ID	Name	
-2	all plates	Edit Delete
-1	not in list	Edit Delete
1	BLACKLIST	Edit Delete
2	WHITELIST	Edit Delete

▶ Action for the list: all plates (1)

▶ Exports for the list: all plates (0)

▼ Imports for the list: all plates (0)

Select import XML/CSV file or Drop import XML/CSV file here

☐ Delete the list elements at import

ID	Description	Import type	Interval	Active
No data				

This window is used to create an import configuration, determining how often the list is synchronized, or when changes occur to the FTP list. Creating an import each minute (or other desirable time) the time enabled if change with the type FTP list and click "Save".

ID	Description	Import type	Interval	Active	
	import slave	FTP list	Minute	Enabled if change	Save Cancel

Users can configure FTP server related parameters, including IP, port, credentials, and the format of the imported data. Configure same credentials of the FTP server and the same format CSV or XML as the configurations of master camera.

ID	Description	Import type	Interval	Active	
1	import slave	FTP list	Minute	Enabled if change	Edit Delete

Import properties

Import Info

Host: 192.168.1.21

Port: 21

Format: ☒ XML ☐ XML_NOTDELETE ☐ CSV ☐ CSV_NOTDELETE

Folder name: EXPORT


User: user

Password: password

Confirmation file: ☒ .FLAG

If the format selected for the master camera is XML, users can select XML or XML_NOTDELETE on the slave cameras. If users select XML, the list will be synchronized with those on the FTP server, which means any other added license plate data through the slave camera will be erased.

This setting can be verified in the "Audit Tab".

VIVOTEK

Live

Review

Lists

LPR configuration


General configuration

Audit

Logs


From date:

08/04/2019 13:25:00




Type:

import





To date:

08/04/2019 23:59:59



Search



 Search...

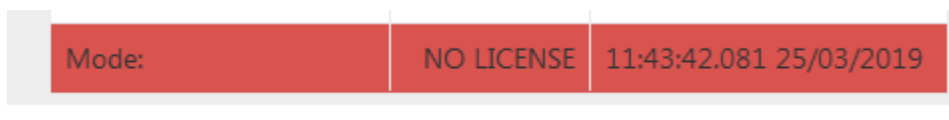
↓	ID	Time	Status	Type	List	Description	Num.	File
	21	13:25:00.136 08/04/2019	DONE			Import [import slave] time [f	1	Get file

6 Troubleshooting

6.1 Mode: NO LICENSE

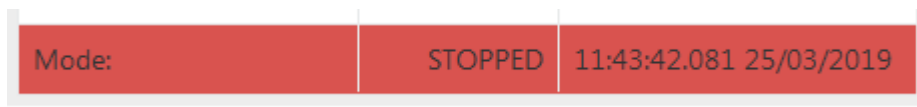
If the camera is not licensed, the mode will show “NO LICENSE” in live page.

Please contact VIVOTEK technical support team at <https://www.vivotek.com/website/support/>



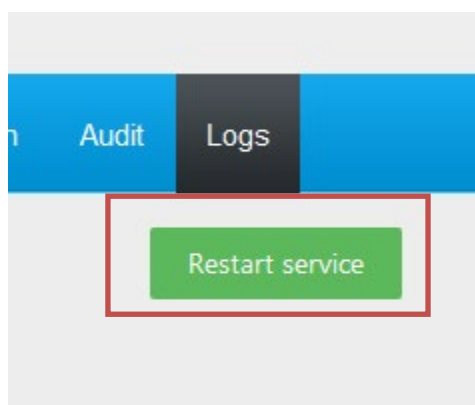
6.2 Mode: STOPPED

If the LPR service is stopped, the mode will be “STOPPED” in live page.





To solve this problem, users will have to reboot the service. Users can reboot the service at:

- Logs page:



- Package management

Package list

	Module name	Vendor	Version	Status	License		
<input checked="" type="radio"/>	ANPR	VIVOTEK	1.09	OFF	N/A		
<div> <input type="button" value="Start"/> <input type="button" value="Stop"/> <input type="button" value="Schedule"/> </div>							

6.3 No enough space at Camera or SD

If the camera or SD card has not enough space, the system could fail.

SD space free (%):	0	00:00:00.000 01/01/2018
Camera space free (%):	0	00:00:00.000 01/01/2018

If the space is below 20%, please review the [purge option section](#)

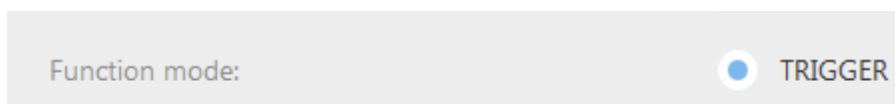
6.4 The system does not recognize license plates

If the system does not recognize license plate, please verify the following steps:

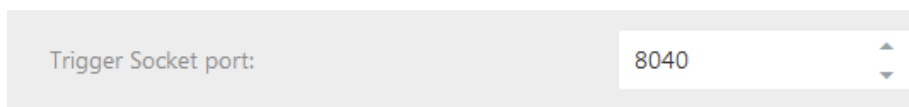
1. The region and country are the right ones. You can check this configuration at [LPR configuration](#).
2. The license plate has a minimum size of 25 pixels. The user can use the [calibration pattern](#) at live page to adjust the size of the license plate. The license plate must be between 3 lines with 25~40 recommend pixel height.



3. If your system has a defined ROI, verify that license plate is inside [ROI area](#).
4. If the system is set up as “motion detection mode”, please be sure have a movement inside the image.
5. If the system has read a license plate and it does not read anymore, check [the filters](#).
6. If the system is set up as “trigger mode”, please check the following points:
 - a. Check the mode in camera ([LPR CONFIGURATION](#)):



- b. Check the trigger socket port ([GENERAL CONFIGURATION](#)):



- c. Check that the sender device has a connection TCP/IP to the camera at defined port. It can be checked via telnet.
 - d. If the message is received correctly, the system log must show the line:



6.5 Problem with ACTIONS

If the action is not triggered, verify the following items:

- 1) The action is enabled.

ID	Description	Action type	Active
1	Action 1	Socket client	Enabled

- 2) The detected plate is in the list, and the list is defined in the action.
- 3) There is a defined action to “all plate” list.
- 4) The detected plate is not in any list, there is an action defined in “not in list” list.
- 5) The date of the detection corresponds to a valid time defined in the scheduler.


Scheduler

ACTIVATION SCHEDULER

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
Sun																								
Mon																								
Tue																								
Wed																								
Thu																								
Fri																								
Sat																								

✓ Save scheduler


- 6) Check in “Audit” tab if the action has been triggered, and they can be found in the list of red errors that have been sent.


VIVOTEK

[Live](#)
[Review](#)
[Lists](#)
[LPR configuration](#)
[General configuration](#)
[Audit](#)
[Logs](#)


From date:

27/03/2019 00:00:00



To date:

27/03/2019 23:59:59



Search

Type:

action

↓	ID	Time	Status	Type	Res.	List	Description	File
	264	18:26:25.257 27/03/2019	FAILED	Socket client	15614	all plates	Action [1] plate [64998HW]	Get file
	263	18:26:25.217 27/03/2019	DONE	IO	15614	all plates	Action [1231231] plate [64998	
	262	18:26:24.260 27/03/2019	FAILED	Socket client	15613	all plates	Action [1] plate [64998HW]	Get file
	261	18:26:24.235 27/03/2019	DONE	IO	15613	all plates	Action [1231231] plate [64998	
	260	18:26:23.247 27/03/2019	FAILED	Socket client	15612	all plates	Action [1] plate [64998HW]	Get file
	259	18:26:23.222 27/03/2019	DONE	IO	15612	all plates	Action [1231231] plate [64998	
	258	18:26:22.311 27/03/2019	FAILED	Socket client	15611	all plates	Action [1] plate [64998HW]	Get file
	257	18:26:22.281 27/03/2019	DONE	IO	15611	all plates	Action [1231231] plate [64998	
	256	18:26:21.253 27/03/2019	FAILED	Socket client	15610	all plates	Action [1] plate [64998HW]	Get file
	255	18:26:21.228 27/03/2019	DONE	IO	15610	all plates	Action [1231231] plate [64998	

5

10

20

50

100

Page 1 of 27 (264 items)

1

2

3

4

5

...

27

7) Check in the logs if the action has been triggered. Active Service and Enabled.

Show log type:

☐ Manager
☒ Service
☐ Engine

Autorefresh:

☒ Enabled

```

27/03/2019 18:28:40.006 [INFO] OK Execute action (1)(IO_ACTION) for result (15748)(64998HW)
27/03/2019 18:28:40.025 [ERROR] ERROR Execute action (2)(SOCKET_CLIENT_ACTION) for result (15748)(64998HW)
27/03/2019 18:28:41.011 [INFO] Text=64998HW Date=2019-03-27T18:28:40.396 Conf=97.18 Height=23.50 Coord=441#552#622#597, Country=101, Angle=4.72, Info=1, Time=519
27/03/2019 18:28:41.180 [INFO] OK Execute action (1)(IO_ACTION) for result (15749)(64998HW)
27/03/2019 18:28:41.192 [ERROR] ERROR Execute action (2)(SOCKET_CLIENT_ACTION) for result (15749)(64998HW)
27/03/2019 18:28:41.932 [INFO] Text=64998HW Date=2019-03-27T18:28:41.387 Conf=97.33 Height=23.38 Coord=441#552#624#597, Country=101, Angle=4.71, Info=1, Time=444
27/03/2019 18:28:42.048 [INFO] OK Execute action (1)(IO_ACTION) for result (15750)(64998HW)
27/03/2019 18:28:42.059 [ERROR] ERROR Execute action (2)(SOCKET_CLIENT_ACTION) for result (15750)(64998HW)
27/03/2019 18:28:42.916 [INFO] Text=64998HW Date=2019-03-27T18:28:42.306 Conf=97.11 Height=23.50 Coord=441#552#622#597, Country=101, Angle=4.72, Info=1, Time=434
27/03/2019 18:28:43.033 [INFO] OK Execute action (1)(IO_ACTION) for result (15751)(64998HW)
27/03/2019 18:28:43.044 [ERROR] ERROR Execute action (2)(SOCKET_CLIENT_ACTION) for result (15751)(64998HW)
27/03/2019 18:28:44.028 [INFO] Text=64998HW Date=2019-03-27T18:28:43.403 Conf=97.49 Height=23.38 Coord=440#552#624#597, Country=101, Angle=4.71, Info=1, Time=534

```

8) Check the connection with the host with a ping command.

```
C:\> Administrador: Símbolo del sistema
Microsoft Windows [Versión 10.0.17134.648]
(c) 2018 Microsoft Corporation. Todos los derechos reservados.

C:\Users\Administrador>ping 192.168.1.1

Haciendo ping a 192.168.1.1 con 32 bytes de datos:
Respuesta desde 192.168.1.1: bytes=32 tiempo<1m TTL=64
Respuesta desde 192.168.1.1: bytes=32 tiempo<1m TTL=64
Respuesta desde 192.168.1.1: bytes=32 tiempo<1m TTL=64
Respuesta desde 192.168.1.1: bytes=32 tiempo<1m TTL=64

Estadísticas de ping para 192.168.1.1:
    Paquetes: enviados = 4, recibidos = 4, perdidos = 0
    (0% perdidos),
    Tiempos aproximados de ida y vuelta en milisegundos:
        Mínimo = 0ms, Máximo = 0ms, Media = 0ms

C:\Users\Administrador>
```

6.5.1 Socket client

If the socket client action is not sending the message, please check the following items:

- 1) Check HOST and Port of defined action.
- 2) Check the connection that the camera has the connections to the HOST/PORT.
- 3) Download, install and open the sample test program on client computer.

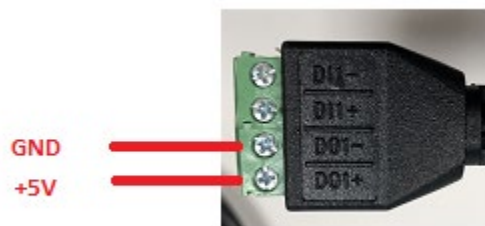
(Find a directory to place the files mentioned above.)

- 4) Check the IP from client computer, set port 17000 and read a plate.

6.5.2 IO

If the I/O action is not triggered, please check the following items:

- 1) Check the defined port
- 2) Check the defined time
- 3) With a multimeter, connect to the selected port and check that the voltage changes from 0 to 5 V.



6.5.3 FTP

If the FTP action is not triggered, please check the following items:

- 1) Check the defined parameter
- 2) Check the credentials and access with FTP client
 - <https://filezilla-project.org/download.php?type=client>
- 3) Install FTP server like the FileZilla server and check the logs
 - https://dl2.cdn.filezilla-project.org/server/FileZilla_Server-0_9_60_2.exe?h=Fjvi4wvvZmA-MDCp3K9v0Q&x=1553712290

```

File Server Edit ?
[C:\]
(007504)27/03/2019 18:46:45 - root (192.168.1.68)> QUIT
(007504)27/03/2019 18:46:45 - root (192.168.1.68)> 221 Goodbye
(007504)27/03/2019 18:46:45 - root (192.168.1.68)> disconnected.
(007505)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> Connected on port 21, sending welcome message...
(007505)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> 220-FileZilla Server 0.9.60 beta
(007505)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> 220-written by Tim Kosse (tim.kosse@filezilla-project.org)
(007505)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> 220 Please visit https://filezilla-project.org/
(007505)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> USER root
(007505)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> 331 Password required for root
(007505)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> PASS *****
(007505)27/03/2019 18:46:45 - root (192.168.1.68)> 230 Logged on
(007505)27/03/2019 18:46:45 - root (192.168.1.68)> CWD EXPORTS
(007505)27/03/2019 18:46:45 - root (192.168.1.68)> 250 CWD successful. "/EXPORTS" is current directory.
(007505)27/03/2019 18:46:45 - root (192.168.1.68)> TYPE I
(007505)27/03/2019 18:46:45 - root (192.168.1.68)> 200 Type set to I
(007505)27/03/2019 18:46:45 - root (192.168.1.68)> PASV
(007505)27/03/2019 18:46:45 - root (192.168.1.68)> 227 Entering Passive Mode (192,168,1,54,206,32)
(007505)27/03/2019 18:46:45 - root (192.168.1.68)> STOR 20190327184642_2_FTP_ACTION_XML_ALLLIST_6499BHW.xml
(007505)27/03/2019 18:46:45 - root (192.168.1.68)> 150 Opening data channel for file upload to server of "/EXPORTS/20190327184642_2_FTP_ACTION_XML_ALLLIST_6499BHW.xml"
(007505)27/03/2019 18:46:45 - root (192.168.1.68)> 226 Successfully transferred "/EXPORTS/20190327184642_2_FTP_ACTION_XML_ALLLIST_6499BHW.xml"
(007505)27/03/2019 18:46:45 - root (192.168.1.68)> QUIT
(007505)27/03/2019 18:46:45 - root (192.168.1.68)> 221 Goodbye
(007505)27/03/2019 18:46:45 - root (192.168.1.68)> disconnected.
(007506)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> Connected on port 21, sending welcome message...
(007506)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> 220-FileZilla Server 0.9.60 beta
(007506)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> 220-written by Tim Kosse (tim.kosse@filezilla-project.org)
(007506)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> 220 Please visit https://filezilla-project.org/
(007506)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> USER root
(007506)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> 331 Password required for root
(007506)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> PASS *****
(007506)27/03/2019 18:46:45 - root (192.168.1.68)> 230 Logged on
(007506)27/03/2019 18:46:45 - root (192.168.1.68)> CWD EXPORTS
(007506)27/03/2019 18:46:45 - root (192.168.1.68)> 250 CWD successful. "/EXPORTS" is current directory.
(007506)27/03/2019 18:46:45 - root (192.168.1.68)> TYPE I
(007506)27/03/2019 18:46:45 - root (192.168.1.68)> 200 Type set to I
(007506)27/03/2019 18:46:45 - root (192.168.1.68)> PASV
(007506)27/03/2019 18:46:45 - root (192.168.1.68)> 227 Entering Passive Mode (192,168,1,54,202,30)
(007506)27/03/2019 18:46:45 - root (192.168.1.68)> STOR 20190327184642_2_FTP_ACTION_XML_ALLLIST_6499BHW.xml
(007506)27/03/2019 18:46:45 - root (192.168.1.68)> 150 Opening data channel for file upload to server of "/EXPORTS/20190327184642_2_FTP_ACTION_XML_ALLLIST_6499BHW.xml"
(007506)27/03/2019 18:46:45 - root (192.168.1.68)> 226 Successfully transferred "/EXPORTS/20190327184642_2_FTP_ACTION_XML_ALLLIST_6499BHW.xml"
(007506)27/03/2019 18:46:45 - root (192.168.1.68)> QUIT
(007506)27/03/2019 18:46:45 - root (192.168.1.68)> 221 Goodbye
(007506)27/03/2019 18:46:45 - root (192.168.1.68)> disconnected.
(007507)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> Connected on port 21, sending welcome message...
(007507)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> 220-FileZilla Server 0.9.60 beta
(007507)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> 220-written by Tim Kosse (tim.kosse@filezilla-project.org)
(007507)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> 220 Please visit https://filezilla-project.org/
(007507)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> USER root
(007507)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> 331 Password required for root
(007507)27/03/2019 18:46:45 - (not logged in) (192.168.1.68)> PASS *****
(007507)27/03/2019 18:46:45 - root (192.168.1.68)> 230 Logged on
(007507)27/03/2019 18:46:45 - root (192.168.1.68)> CWD EXPORTS
(007507)27/03/2019 18:46:45 - root (192.168.1.68)> 250 CWD successful. "/EXPORTS" is current directory.
(007507)27/03/2019 18:46:45 - root (192.168.1.68)> TYPE I
(007507)27/03/2019 18:46:45 - root (192.168.1.68)> 200 Type set to I
(007507)27/03/2019 18:46:45 - root (192.168.1.68)> PASV
(007507)27/03/2019 18:46:45 - root (192.168.1.68)> 227 Entering Passive Mode (192,168,1,54,199,209)
(007507)27/03/2019 18:46:45 - root (192.168.1.68)> STOR 20190327184642_2_FTP_ACTION_XML_ALLLIST_6499BHW.xml
(007507)27/03/2019 18:46:45 - root (192.168.1.68)> 150 Opening data channel for file upload to server of "/EXPORTS/20190327184642_2_FTP_ACTION_XML_ALLLIST_6499BHW.xml"
(007507)27/03/2019 18:46:45 - root (192.168.1.68)> 226 Successfully transferred "/EXPORTS/20190327184642_2_FTP_ACTION_XML_ALLLIST_6499BHW.xml"
(007507)27/03/2019 18:46:45 - root (192.168.1.68)> QUIT
(007507)27/03/2019 18:46:45 - root (192.168.1.68)> 221 Goodbye
(007507)27/03/2019 18:46:45 - root (192.168.1.68)> disconnected.
(007508)27/03/2019 18:46:46 - (not logged in) (192.168.1.68)> Connected on port 21, sending welcome message...

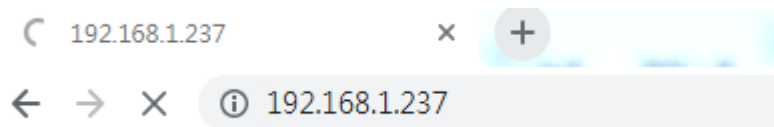
```

ID	Account	IP	Transfer	Progress	Speed
Ready					

6.5.4 HTTP/MILESTONE/WIEGAND

If the HTTP action is not triggered, please check the following items:

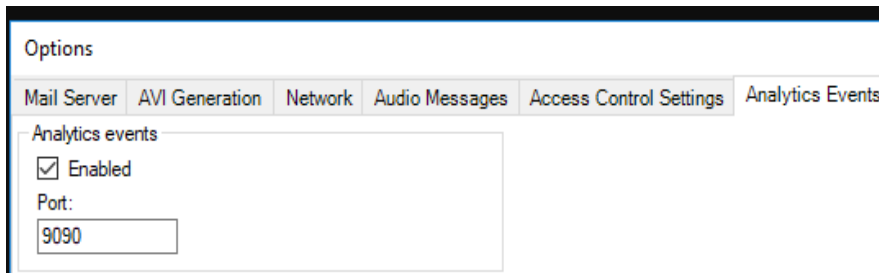
- 1) Check the defined parameter
- 2) Start an explorer (Internet explorer, Firefox, Chrome), do a request to defined URL and then check that the URL responds.



6.5.5 MILESTONE

If the MILESTONE action is not triggered, please check the following items:

- 1) Check the defined parameter
- 2) Check Milestone system and make sure the analytics events are enabled.



Options

Mail Server | AVI Generation | Network | Audio Messages | Access Control Settings | Analytics Events

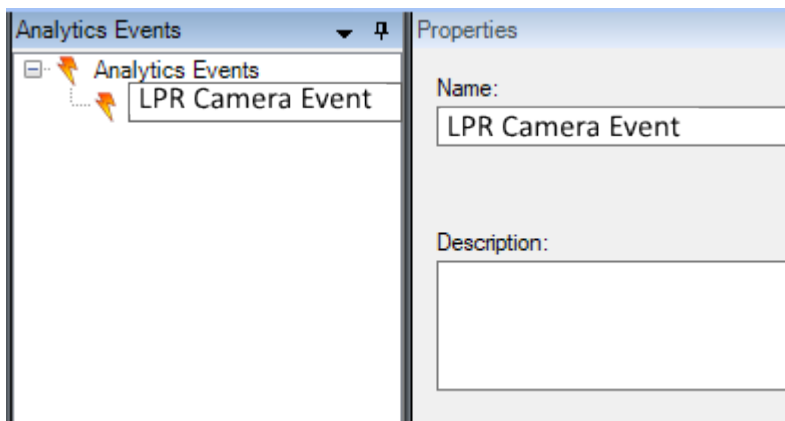
Analytics events

☒ Enabled

Port:

9090

- 3) Check Milestone system and make sure the analytic event name is "LPR Camera Event"



Analytics Events

Analytics Events

LPR Camera Event

Properties

Name:

LPR Camera Event

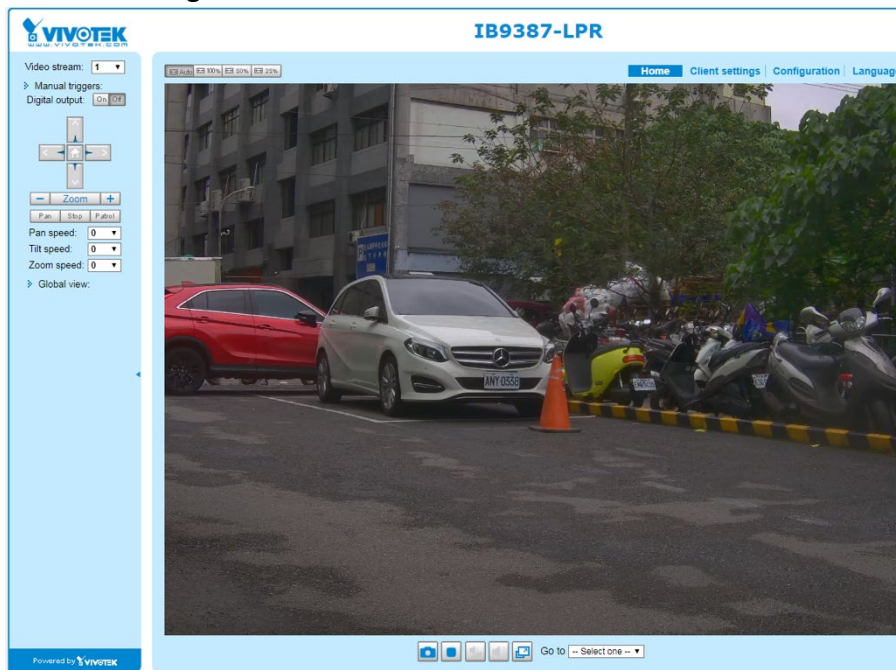
Description:

- 4) Check Milestone system and make sure the created alarm uses the existing analytic event and the related camera.

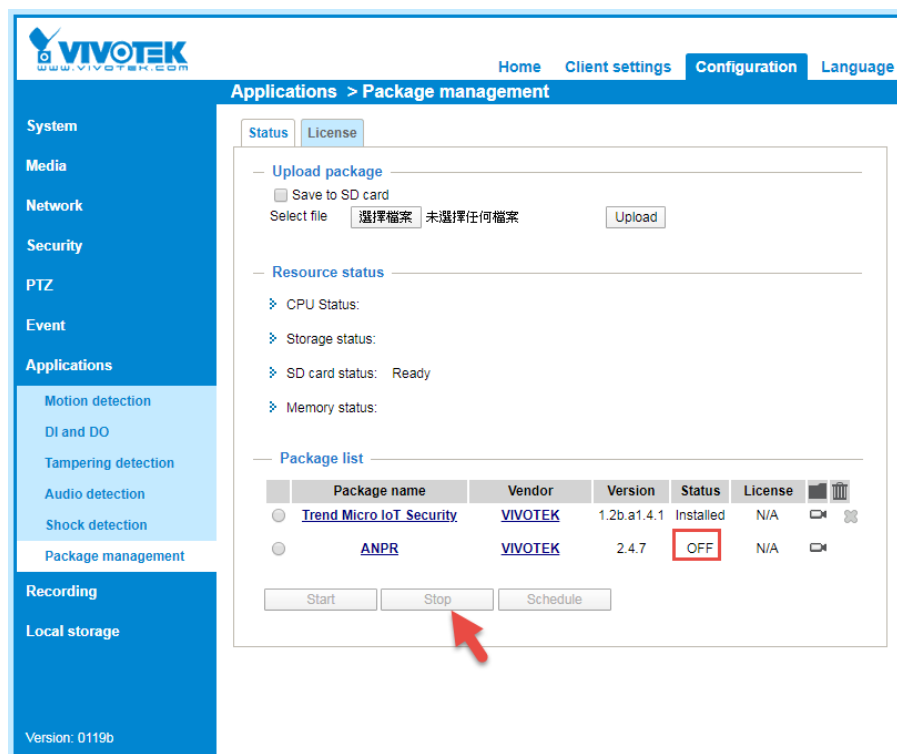
7. Upload the package

7.1 upgrade the ANPR package on VIVOTEK cameras

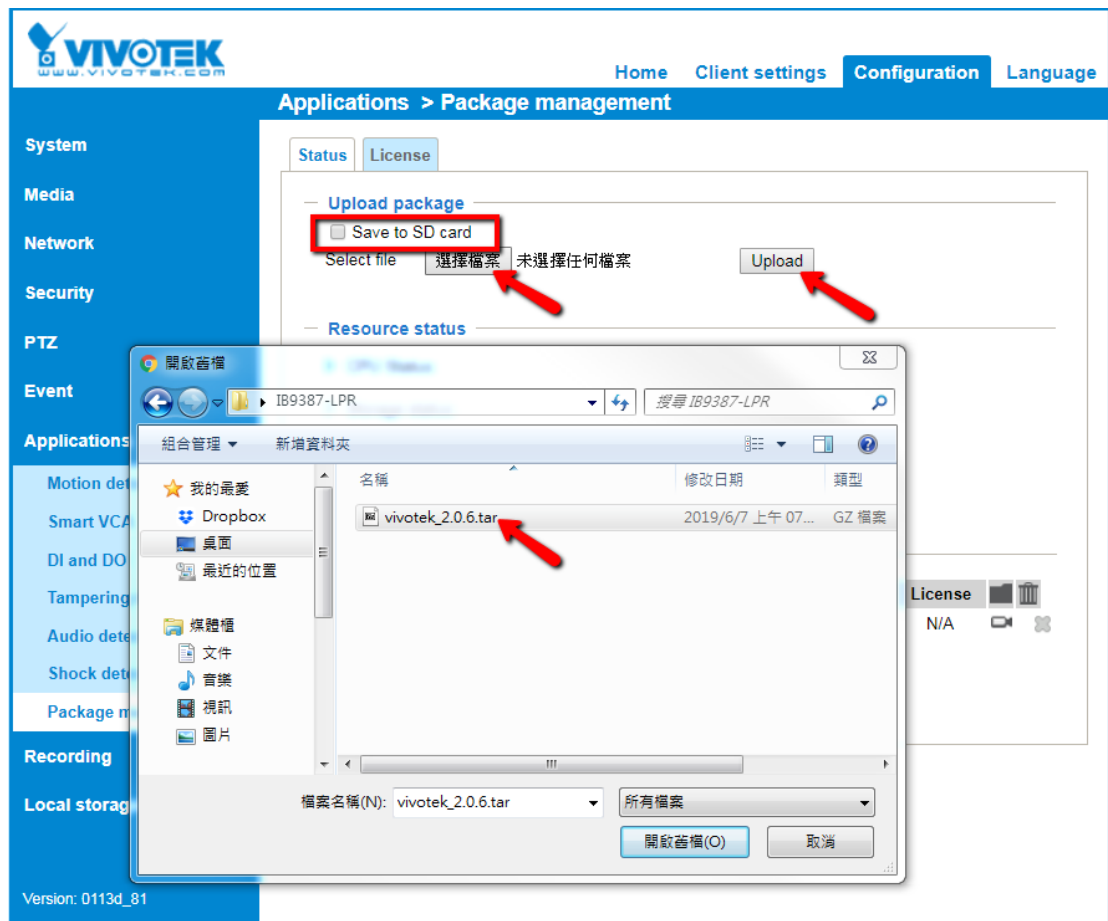
- 1) Start one Google Chrome browser and then connect to VIVOTEK LPR camera.



- 2) Go to **Configuration** → **Application** → **Package management**, and then stop the ANPR package first.



- 3) Upload the new package onto this camera.
 - a. The ANPR package was stored in camera by default, please **un-check** the “Save to SD card”.
 - b. Click “Select file”, and choose the new version you want to upgrade then click “OK”.
 - c. Click “Upload”.



- 4) VADP upload message will be popped up.

```
Starting VADP upload procedure, please wait a moment
Do not close this window before upload is completed
Uploading Module to Internal storage
.....
Uploading new module
.....
Install [] - [/mnt/flash2/vadp/1]
....
Reloading configuration http: .
.
Upload VADP package successfully
```

- 5) Select this new ANPR package and the “start” this application.

Appendix 1

The preset values suppose a **40% of JPEG compression** (default system value)

In the following table we can find *estimation* of size requirements based on the larger end of possible image sizes (~130KB), for a simple image read without any actions:

Size/Registers	1	1000	5000	10000	100000
1280x720	130 KB	127 MB	635 MB	1.24 GB	12.4 GB
1920x1080	260 KB	254 MB	1270 MB	2.48 GB	24.8 GB

In the following table we can find *estimation* of size requirements based on the larger end of possible image sizes, for an image read with an action that sends the image in Base64 (image ~130KB, action ~180KB):

Size/Registers	1	1000	5000	10000	100000
1280x720	310 KB	303 MB	1514 MB	2.95 GB	29.5 GB
1920x1080	620 KB	605 MB	3027 MB	5.91 GB	59.1 GB

Estimation with a quantity of 100 cars per day, with no actions.

Size/GB	2	8	16	32	64
1280x720	161 days	1.7 years	3.5 years	7 years	14 years
1920x1080	80 days	322 days	1.7 years	3.5 years	7 years

Estimation with a quantity of 100 cars per day, with an action that sends the image in Base64.

Size/GB	2	8	16	32	64
1280x720	67 days	270 days	541 days	2.9 years	5.9 years
1920x1080	34 days	135 days	270 days	541 days	2.9 days

Estimation with a quantity of 1000 cars per day, with no actions.

Size/GB	2	8	16	32	64
1280x720	16 days	64 days	129 days	258 days	512 days
1920x1080	8 days	32 days	64 days	129 days	258 days

Estimation with a quantity of 1000 cars per day, with an action that sends the image in Base64.

Size/GB	2	8	16	32	64
1280x720	6.7 days	27 days	54 days	108 days	216 days

1920x1080	3.4 days	13 days	27 days	54 days	108 days
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Estimation with a quantity of 10000 cars per day, with no actions.

Size/GB	2	8	16	32	64
1280x720	38 hours	6.4 days	12.9 days	25.8 days	51 days
1920x1080	19 hours	3.2 days	6.4 days	12.9 days	25.8 days

Estimation with a quantity of 10000 cars per day, with an action that sends the image in Base64.

Size/GB	2	8	16	32	64
1280x720	16 hours	2.7 days	5.4 days	10.8 days	21.6 days
1920x1080	8 hours	1.4 days	2.7 days	5.4 days	10.8 days

Appendix 2

The camera is bundled with a **16GB** MicroSD card that is formatted in **EXT4 format**. User can remove this SD card and install any other SD card. This network camera is compliant with SD/SDHC/SDXC 16GB / 8GB / 32GB / 64GB and other preceding standard SD cards.