

Overview

The evLPR is a utility application that receives license plate recognition data from specific HikVision cameras. It then formats the data and sends it to one or more exacqVision servers as serial data. The utility runs in the background as a Windows service or Linux daemon.

Installation

First, download the correct installation file for your operating system [here](#).

WINDOWS

To install on a Windows system, double click the *evLPR_1.0.25148.0_x64.exe* file to run the installer and follow the prompts. For a first-time installation, the installer will offer to run the configuration editor prior to trying to start the service. If you do not have all information needed to set up the configuration at this time, it can be done after the installer has finished.

LINUX

Open a terminal and run the following command (without quotations)

```
"sudo dpkg --install evLPR_1.0.25148.0_x64.deb
```

Be sure to either use the "*cd filepath*" command to first navigate to the folder containing the installer file, or include the file path in the install command above, just before the filename.

Recent Test Environment

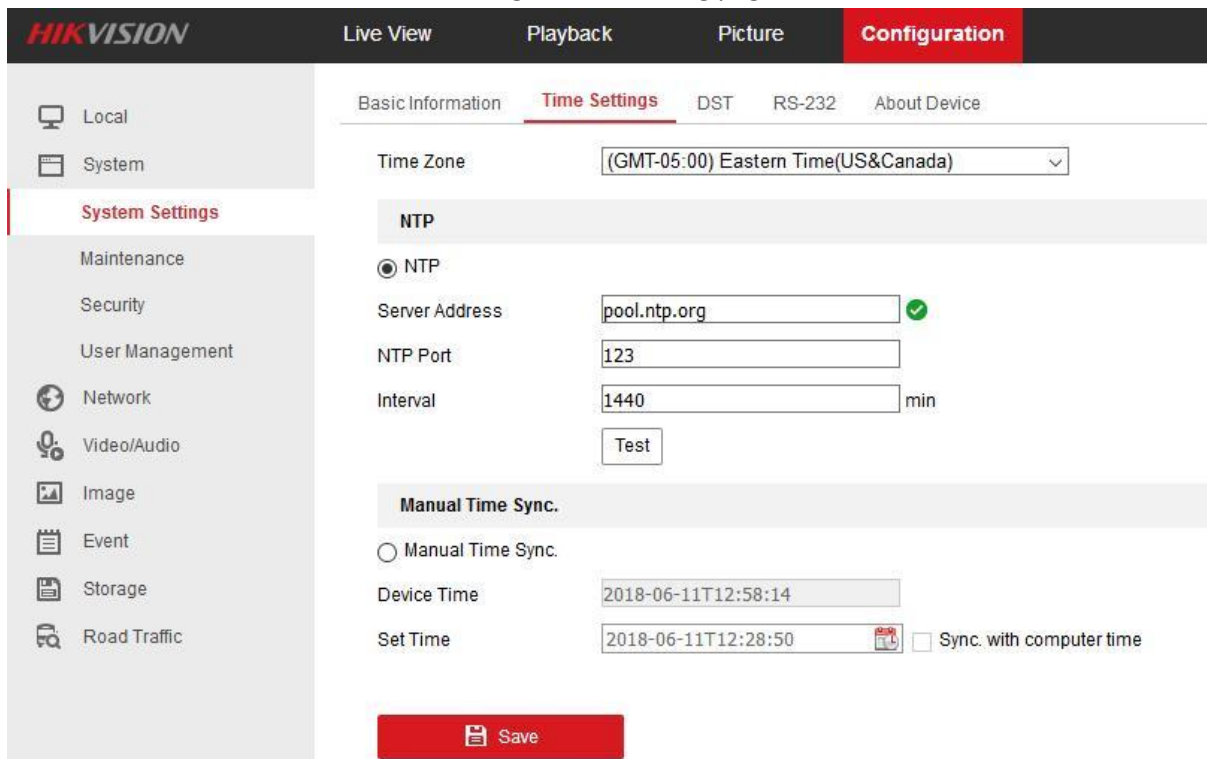
- Model: HikVision DS-2CD4A26FWD-IZHS/P
- Firmware: V5.4.5 Build build 170914
- ExacqVision 20.03 – Enterprise license
- For more information on specific LPR-capable HikVision cameras, visit HikVision.com



Configuration

The HikVision camera does not use event-driven reporting. Instead, we must use HTTP GET and POST calls to query the camera for new data. This querying is done in a timed loop. It is vital that the camera time be set correctly.

1. Log in to the camera using the web interface, then select the **Configuration** tab from the top menu bar.
2. In the left-column menu, select **System Settings**, then click on the **Time Settings** tab
3. Select the correct time zone from the **Time Zone** selector
4. Select the **NTP** radio button
5. Input **Server Address** (e.g. pool.ntp.org), **NTP Port** (usually 123), and the desired update **Interval**
6. Click the **Test** button to check the connection.
7. You could also use the **Manual Time Sync** option and sync with the local computer time. Since it is best to have evLPR running on the same system as the ExacqVision Server, this option works very well.
8. If applicable, remember to adjust the Daylight Savings Time settings on the **DST** tab.
9. Hit the **Save** button to save the new settings. The resulting page should look similar to this:

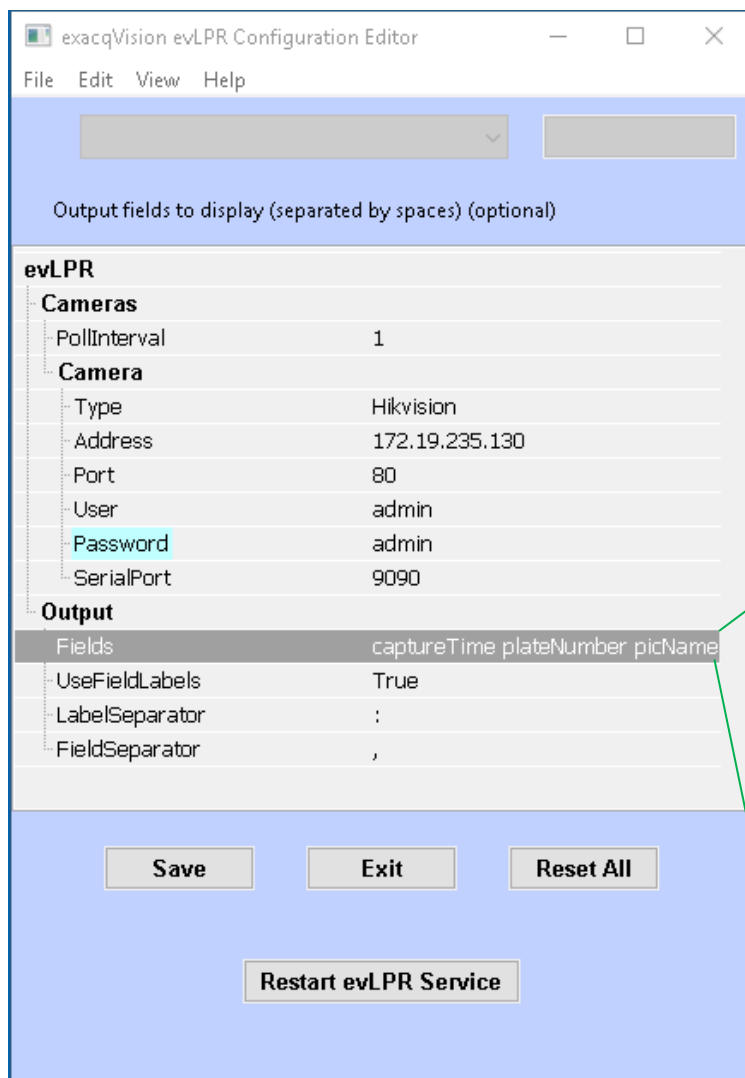


Configuring the evLPR Service

Setup of the evLPR service is done with the cfdedit configuration editor utility, which can be found in the evLPR installation directory. This is a graphical editor which lays out the configuration elements in a more convenient format. The first time the editor is executed, it will display a minimal configuration tree, with no values defined except for those options which have default values.

There are 5 main points of interest to edit here.

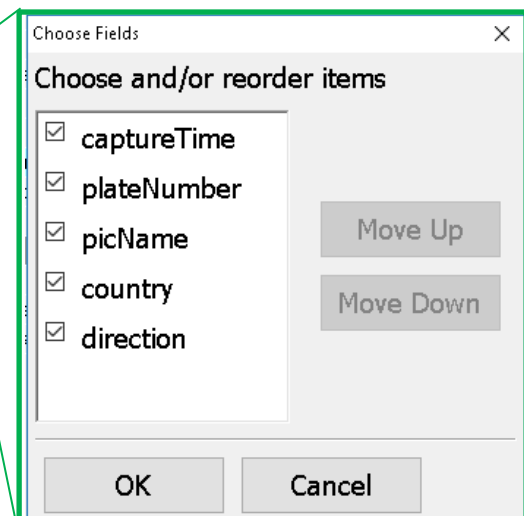
1. **Address:** The IP of the camera being used
2. **User:** username of camera
3. **Password:** password of camera
4. **SerialPort:** a customizable port number used to communicate with the exacqVision Server.
5. **Fields:** the specific data points requested from the camera in each LPR capture events



TIP: When opening the exacqVision evLPR Configuration Editor for the first time, you can use *evLPR_Sample.xml* as a template to get you started.

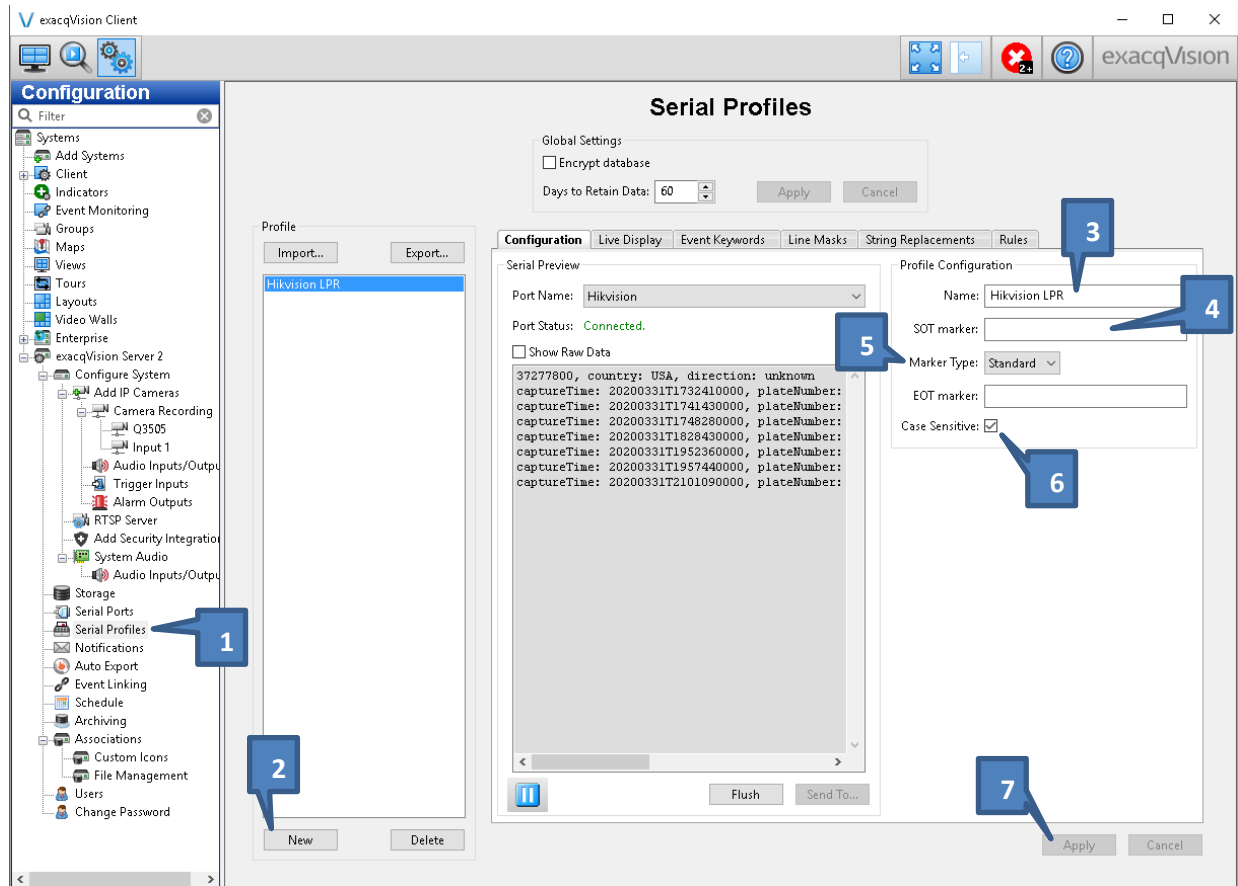
Just click *File > Open*, then navigate to the installation folder. By default this is "C:\Program Files\exacqVision\evLPR"

To edit any of these, just double click the section. You will edit by typing text or selecting options from a dialog box, like the **Fields** section, shown here;



exacqVision Serial Profile Configuration

1. Click on **Serial Profiles** in the left navigation tree.
2. Click the **New** button to create a new Serial Profile.
3. On the configuration tab, specify a Profile Name.
4. SOT and EOT are not required.
5. Select **Standard** for the Marker Type.
6. Case sensitivity is optional and only necessary with SOT/EOT configured.
7. Click **Apply** to save the Profile.



NOTE: The data shown here will appear after configuring the Serial Port.

exacqVision Serial Port Configuration

1. Log into the exacqVision Client as an Administrator and click on the Config (Setup) Icon.
2. Click on **Serial Ports** in the left navigation tree.
3. Click the **New** button in the bottom left corner, and enter a Name for the Serial Port.
4. Select **POS** from the Use dropdown menu.
5. In the **Profile** field, select the Serial Profile name you created. In this example, *HikVision LPR*. If you have not yet created one, select *New* and you can name it later in the Serial Profile page.
6. Select **TCP** from the type dropdown menu.
7. In the **Address** field, enter the IP address of the computer where the evLPR service is running. If the service is running on the same machine as the exacqVision server, use 127.0.0.1 as the address.
8. In the **Port** field, enter the SerialPort number you chose in the evLPR Configuration Editor earlier.
9. The **Max Line Length** and **Line Ending** fields are optional but have been edited for this example to show clearer separation in LPR data.
10. Click **Apply**

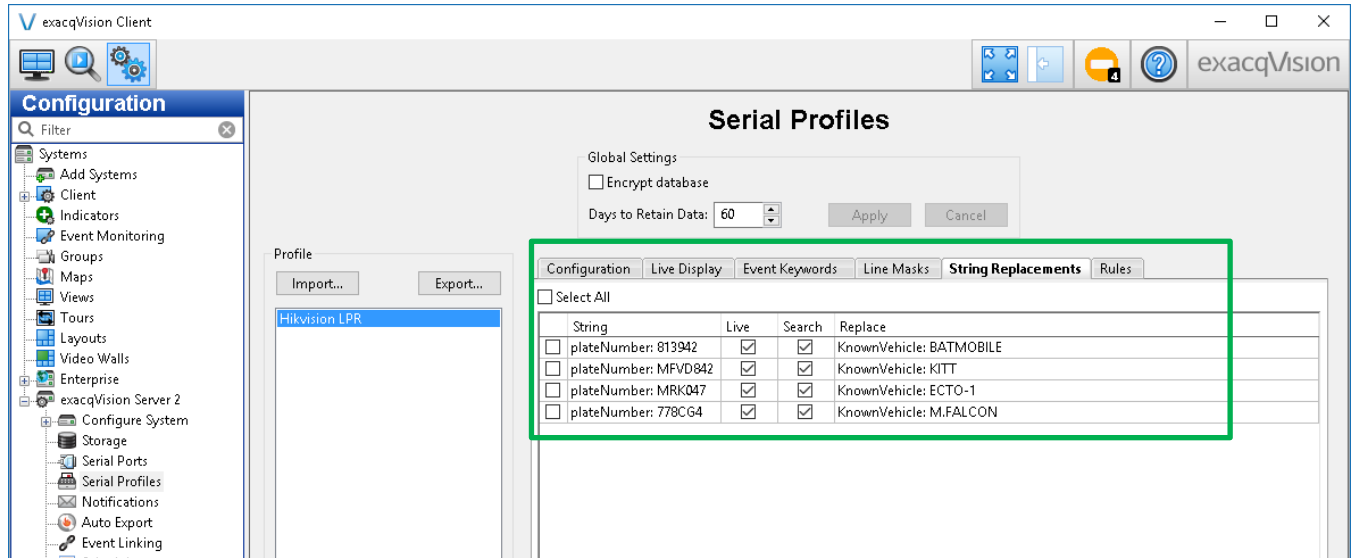
The screenshot shows the 'Serial Ports' configuration window in the exacqVision Client. The left navigation pane has 'Serial Ports' selected, indicated by a blue callout '2'. The main area shows a table of existing ports (COM1, COM2, COM3) and a configuration form for a new port named 'Hikvision'. The configuration form fields are highlighted with blue callouts: 'Name' (3), 'Use' (4), 'Profile' (5), 'Type' (6), 'Address' (7), 'Port' (8), 'Max Line Length' (9), and 'Line Ending' (9). The 'Status' of the new port is 'Connected'.

Name	Use	Port	Profile / Protocol	Baud Rate	Data Bits	Stop Bits	Parity	Flow Control	Max Line Length	Line Ending	Timeout	Status
COM1	Unused	COM1	None	9600	8	1	None	None	80		0	Unused
COM2	Unused	COM2	None	9600	8	1	None	None	80		0	Unused
COM3	Unused	COM3	None	9600	8	1	None	None	80		0	Unused

Select	Name	Use	Profile	Type	Address	Port	Max Line Length	Line Ending	Timeout	Status
<input type="checkbox"/>	Hikvision	POS	Hikvision LPR	TCP	127.0.0.1	9090	100	\x0a	0	Connected

String Replacements

It is also possible to replace information in the data received to display customized information. In this example, specific license plate numbers have been replaced with the name of the vehicle to be more humanly readable.



See the Search section below to see how these string replacements look in searched data.

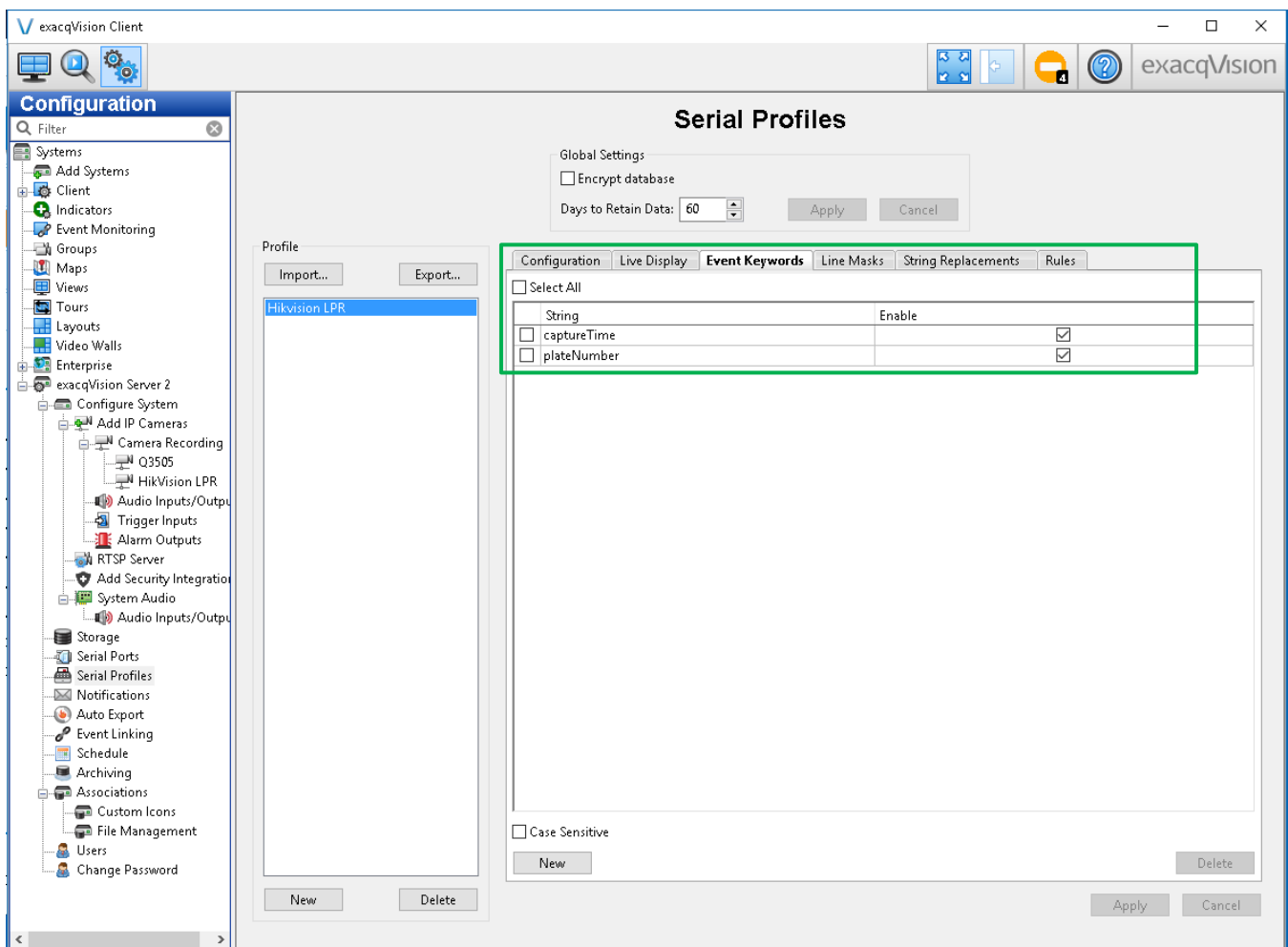


Event Keywords

In order to associate HikVision LPR Events to ExacqVision actions, you must first create Event Keywords. These keywords must identically match the output received from the HikVision camera, as indicated in the previous section.

Please note that the string values are inherently case sensitive.

1. Click on the **Event Keywords** tab, then click the **New** button
2. Enter the event **String** value for each of the individual HikVision Event that have been chosen in the **Fields** section of the **evLPR Configuration Editor**. (See page 3 for more details.)
3. Click **Apply** to save the Keywords.



Continue to **Event Linking** below to see how these event keywords can be used.

exacqVision Event Linking Configuration

Once the keywords have been added, go to **Event Linking** in the configuration tree on the left. Here you will create associations between the HikVision LPR Events and actions that ExacqVision can perform based on those events.

1. Click the **New** button to create a new Link.
2. Select **Serial Port** as the Event Type.
3. Select the **Event Source** (example: *HikVision – Keyword captureTime*) to associate to an action
4. Specify the **Action Type, Action Target, Pre and Post Trigger**, then click **Apply** to save changes.

Event Linking

Server Actions

Log	Event Type	Event Source	At Least	Action Type	Action Target	Pre Trigger	Post Trigger	Status
<input checked="" type="checkbox"/>	Serial Port	Hikvision - Keyword captureTime	Immediate	Record Video	HikVision LPR	1	1	Off

Event Type: Video Motion, Video Loss, Input Trigger, **Serial Port**, Health, IP Camera Connection, Soft Trigger, Time Trigger, Analytics, Source Group, Outbound Connection, Security Integration Connection, Security Integration Alert, Security Integration Alarm, Serial Port Connection, No Recording

Event Source: Hikvision, **Hikvision - Keyword captureTime**, Hikvision - Keyword plateNumber

Action Type: Log Event, **Record Video**, Record Audio, Output Trigger, Notify, Auto Export, PTZ Preset, Security Trigger, Webhook, Analyze Video

Action Target: Q3505, **HikVision LPR**

Pre Trigger: 1 Seconds

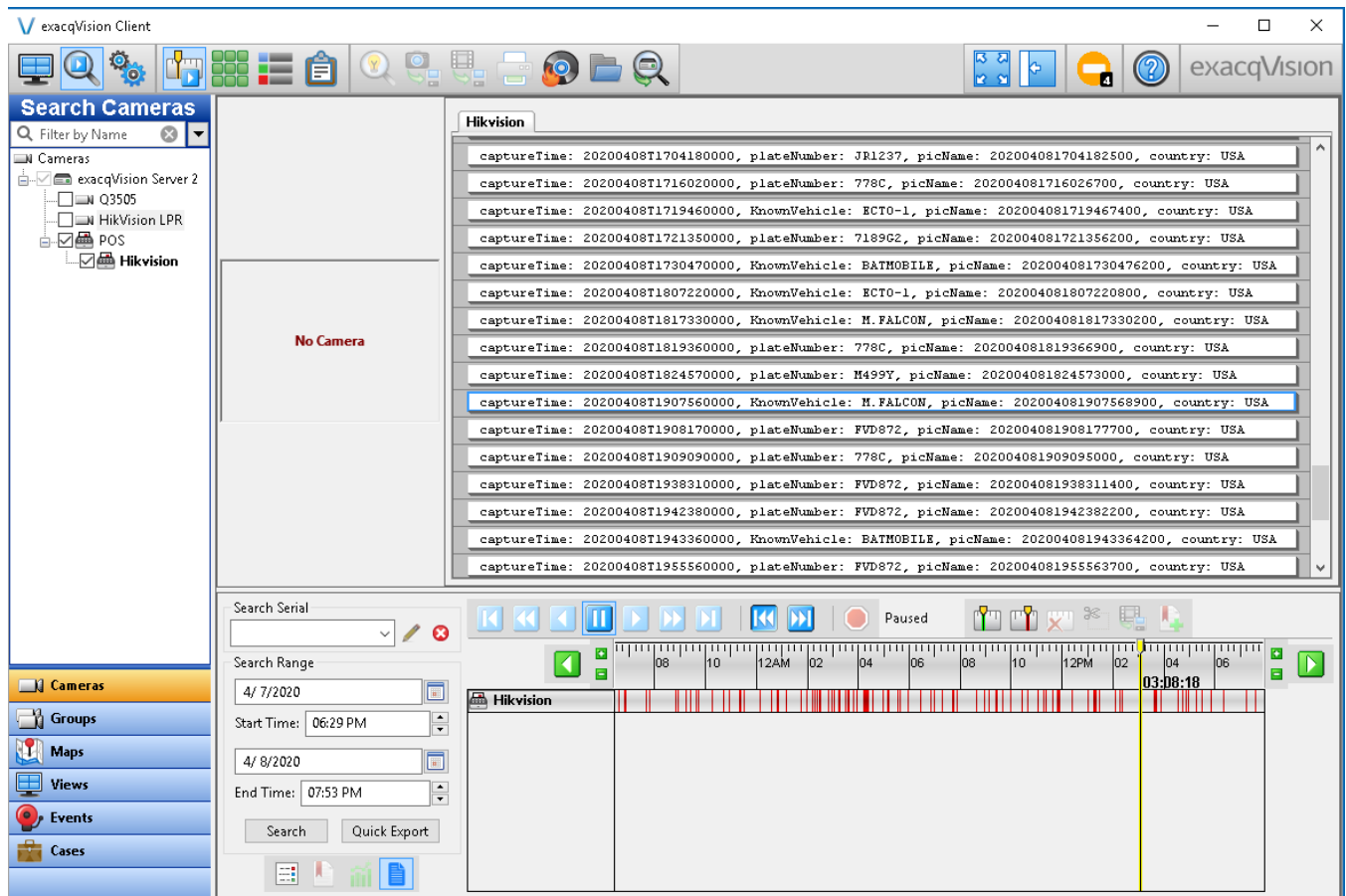
Post Trigger: 1 Seconds

Log Settings: Maximum Days to Keep Logged Events: 30

Buttons: New, Delete, Apply, Cancel

Searchable Event Recording

Once your keywords and events are configured, those events can now be searched by time and date. The result from the examples above is shown here.



(Individual results may vary. Purchase necessary. See Exacq Sales for details. No fictional vehicles were harmed in the making of this guide.)

Contact Info & Support

HikVision Technical Support

Web: <https://us.HikVision.com/en/contact-usa>

exacqVision Technical Support

Web: <https://exacq.com/support/techsupport/>

