



# User's Manual

## 2-/4-Channel Cam Viewer E-series for Automatic License Plate Recognition

▶ CV7-LP



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## **Federal Communication Commission Interference Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio technician for help.

## **FCC Caution**

To assure continued compliance, for example, use only shielded interface cables when connecting to computer or peripheral devices. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## **Federal Communication Commission (FCC) Radiation Exposure Statement**

This equipment complies with FCC radiation exposure set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm (8 inches) during normal operation.

## **Safety**

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacture must therefore be allowed at all times to ensure the safe use of the equipment.

## **CE Mark Warning**

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

## **WEEE Regulation**



To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste; they should be collected separately.

## **Revision**

User's Manual of PLANET 2/4-Channel Cam Viewer E-series for Automatic License Plate Recognition  
Model: CV7-LP  
Rev: 1.0 (July, 2015)  
Part No. EM-CV7-LP

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# Chapter 1. Product Introduction

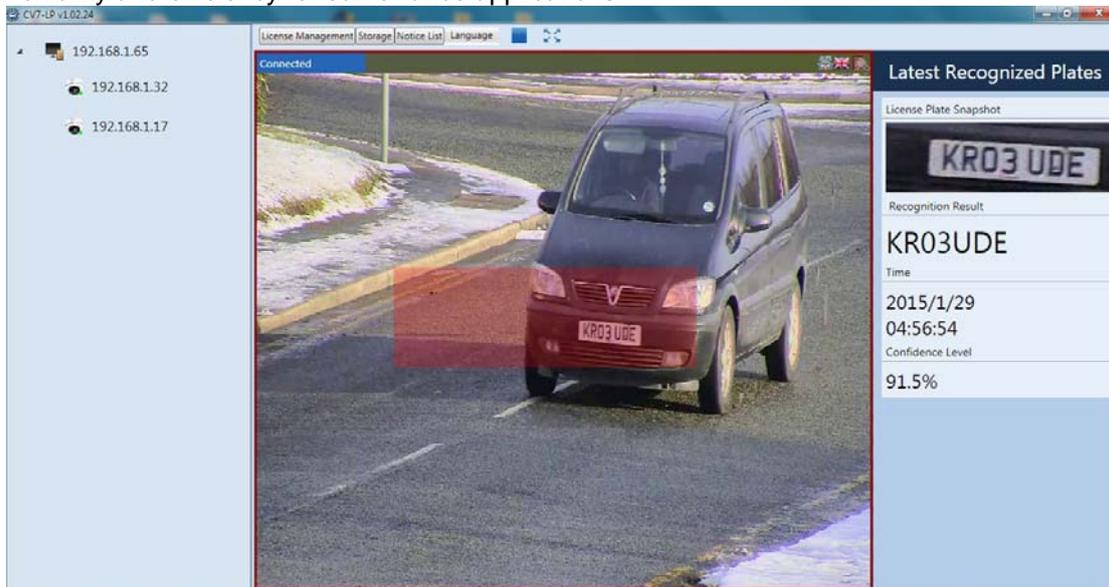
## 1.1 Overview

PLANET CV7-LP series (CV7-LP2 / CV7-LP4) is a video analytics software designed to detect and recognize vehicle license plates. This software is able to automatically locate and read license plates appearing in a certain area, and match this data against the database. It provides efficiency in parking and traffic control, as well as law enforcement.

With the CV7-LP, you can easily cross-check if a vehicle that is passing through the parking gate or parked in the designated space matches its parking permit. Moreover, law enforcement officers can effortlessly identify suspicious vehicles by matching the license plate with its database.

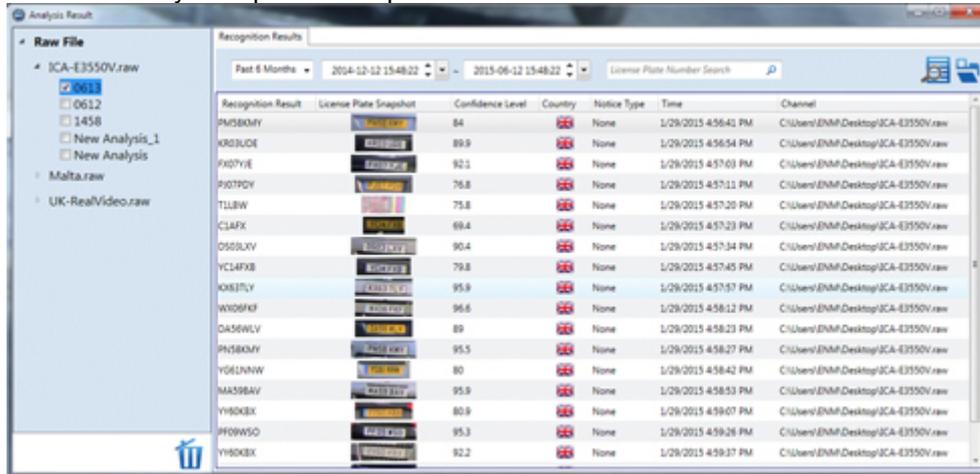
### Video Analysis

The CV7-LP provides analysis for live and pre-recorded videos. It is able to analyze live videos from cameras and the CV7L NVR directly or recorded raw files. In addition, it can also analyze playback videos from the CV7L NVR. Owing to this, the CV7-LP software provides more flexibility and efficiency for surveillance applications.



### Advanced Search and Filter

After running the ALPR algorithm, the next logical step would be to look at what license plates have been recognized. To browse the results, users can use the Search Analysis Result function of the CV7-LP. Users are also able to use the options presented in the Analysis Result Filter area to filter by time period and plate number.



## 1.2 Features

- Concurrent analysis of up to 2 / 4 channels
- One region of interest per channel
- Searching and filtering based on time and plate number
- Convenient plate numbering searching
- Analysis for live and pre-recorded videos

## 1.3 Product Specifications

| Product                      | CV7-LP2   | CV7-LP4 |
|------------------------------|---|---------|
| <b>Video</b>                 |   |         |
| Max. Channels                | 2   | 4       |
| Compression                  | H.264 / MPEG-4 / M-JPEG   |         |
| Camera Resolution            | Up to 10 mega-pixels  |         |
| Analyzed Stream              | Live view and pre-recorded video from PLANET ICA-E IP camera series and CV7L NVR  |         |
| Algorithm                    | License plate recognition   |         |
| Max. Number of Algorithms    | 1 algorithm per channel   |         |
| Recognition Rate             | Recognition rate will be affected by environment factors such as camera placement, vehicle speed and parameter setting. |         |
| <b>Recording</b>             |   |         |
| Event Recording              | Record video with user defined rule from live view or recording from NVR server (Cam Viewer 7 Lite / Professional)      |         |
| Pre-event Recording          | 1~300 seconds   |         |
| Post-event Recording         | 1~300 seconds   |         |
| <b>Search &amp; Playback</b> |   |         |
| Recording Search             | Search video recordings by time, analytic rule and channel,   |         |

|                                  |   |
|----------------------------------|---|
|                                  | and display the result with click-to-play snapshots |
| <b>Playback Control</b>          | Pause; Stop   |
| <b>Time Filter</b>               | Yes   |
| <b>Plate Numbering Searching</b> | Yes   |
| <b>Video Export</b>              | Export video clips in raw format                    |
| <b>System</b>                    |   |
| <b>Language</b>                  | English, Traditional Chinese                        |
| <b>Display Resolution</b>        | Minimum 1024 x 768                                  |

## 1.4 System Requirements

|                              |  |
|------------------------------|--|
| <b>Hardware requirements</b> |  |
| <b>CPU</b>                   | Intel Core i7-920 (2.67GHz) or above   |
| <b>RAM</b>                   | Minimum 4GB or above is recommended  |
| <b>HDD</b>                   | SATA 2000GB or above is recommended  |
| <b>Display card</b>          | Independent display card suggested<br>Note: Make sure your display DPI setting is set to default at 96DP.<br>To set DPI value, right-click on desktop, choose "settings" tab >> "advanced" |
| <b>Ethernet interface</b>    | Gigabit Ethernet 1000BASE-T is recommended   |
| <b>Software requirements</b> |  |
| <b>OS</b>                    | 32/64-bit: Windows 7, Windows 8<br>64-bit: Windows Server 2008 R2, Windows Web Server 2008 R2, Windows Server 2012 R2  |

## Chapter 2. Camera Installation

The precision of the CV7-LP's recognition depends on many factors, including: the image quality in the video, the pixels counts shown, user applications, camera installation, etc.

Below are a few guidelines to take into consideration when installing your camera device:

- 1) **Shooting Angle of the Camera:** the shooting angle of the camera to the license place should range from 10° to 45°, as shown in the illustration below:
- 2) **Frame Rate in the Video Stream:**  
Your camera device's frame rate should be set to 25fps or 30fps or higher.
- 3) **Shutter Speed:**  
The shutter speed on your camera device should be faster than or equal to 1/100 or 1/120 seconds.
- 4) **Shape of the License Plate:**  
The shape of the license plate captured in your video should be as similar to a rectangle as possible.
- 5) **Height of Characters and Distance between Characters on License Plate:**  
When captured by your camera device, the height of the characters should be taller than 40 pixels, and the distance between characters should be wider than 4 pixels.
- 6) **Image Quality:**  
Image quality is critical for the CV7-LP's recognition function to work properly. Please make sure the exposure, sharpness, and color presentation of the image captured by your camera device is adequate.

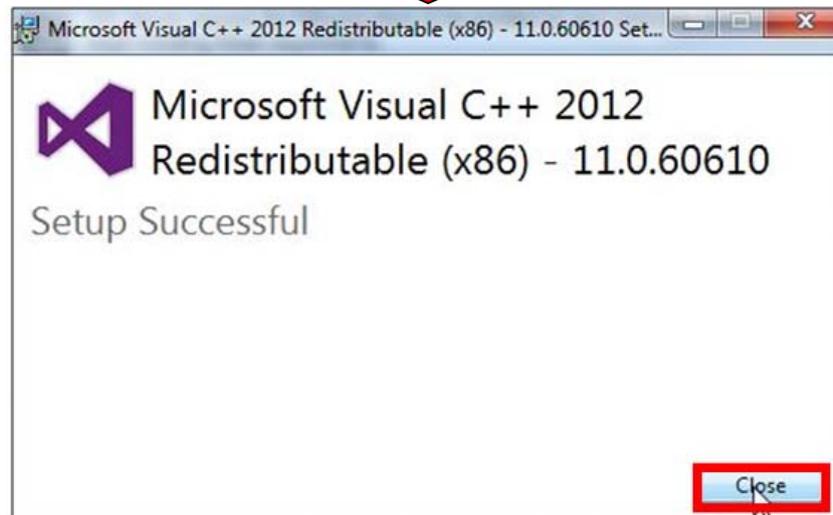
## Chapter 3. Software Installation

### 3.1 Software Installation

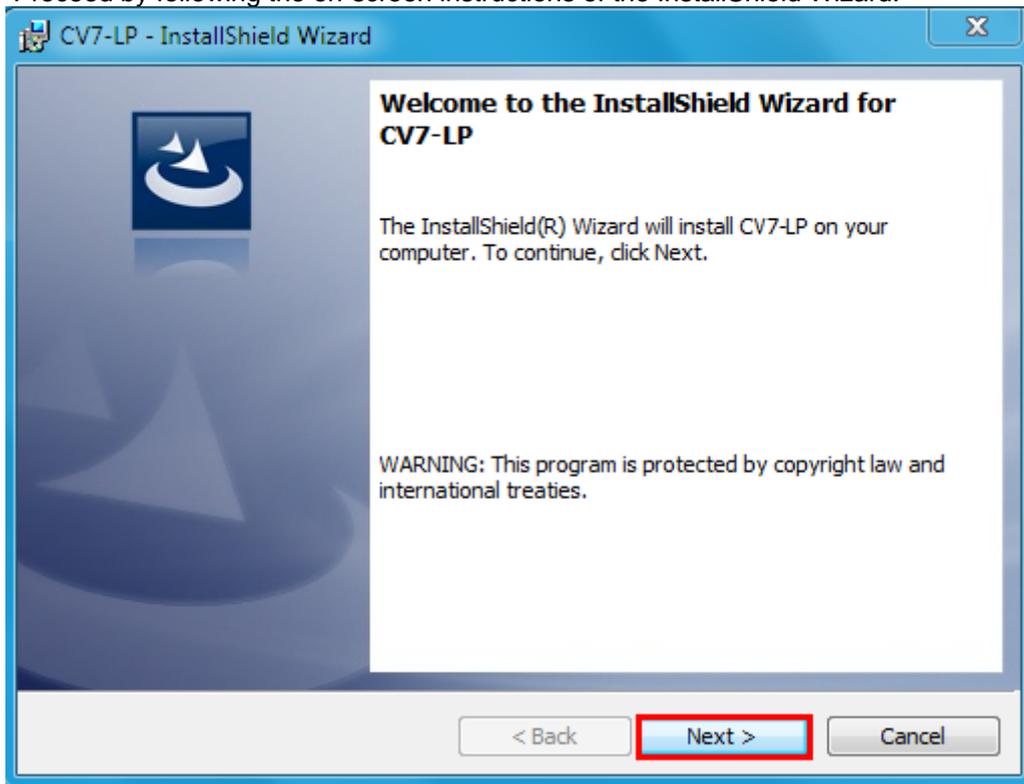
The program installation can be simple and intuitive by following the installation wizard's instructions. The program can be used right after the installation is completed, without the need to restart the computer.

To install the software, follow the steps below:

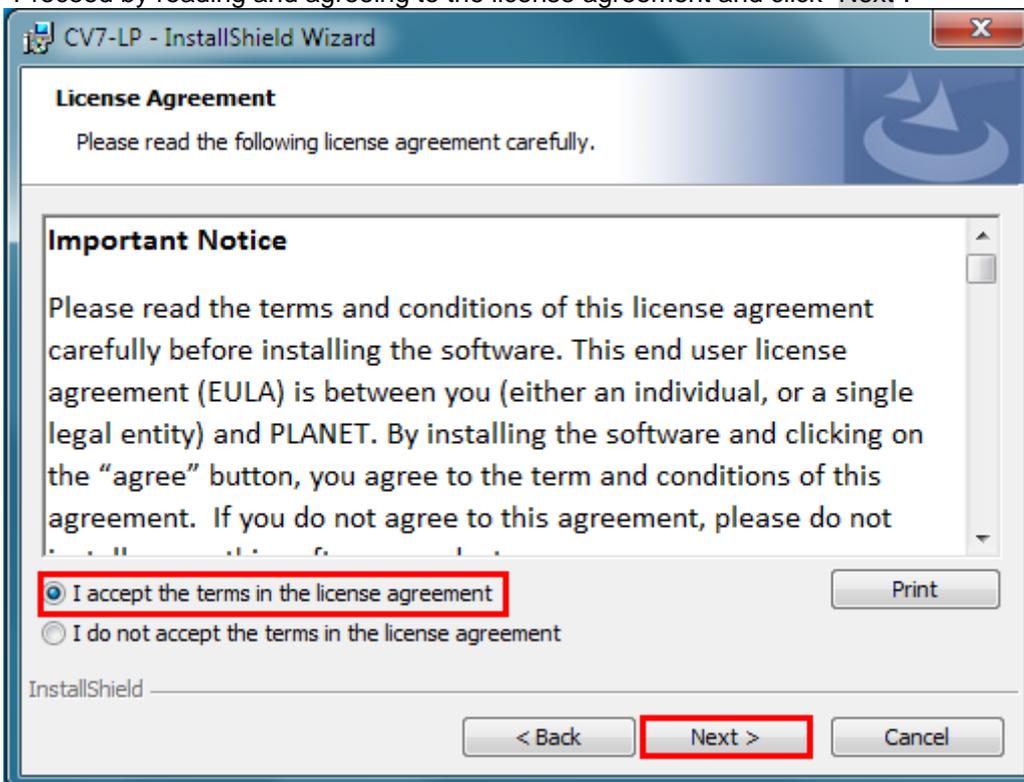
1. Find the CV7-LP compressed file that you downloaded and extract it.
2. Execute the install shield application .
3. If prompted by the InstallShield Wizard to install Microsoft Visual C++ 2012 Redistributable Package, follow the on-screen instructions to do so, as it is crucial for the proper functioning of the program.



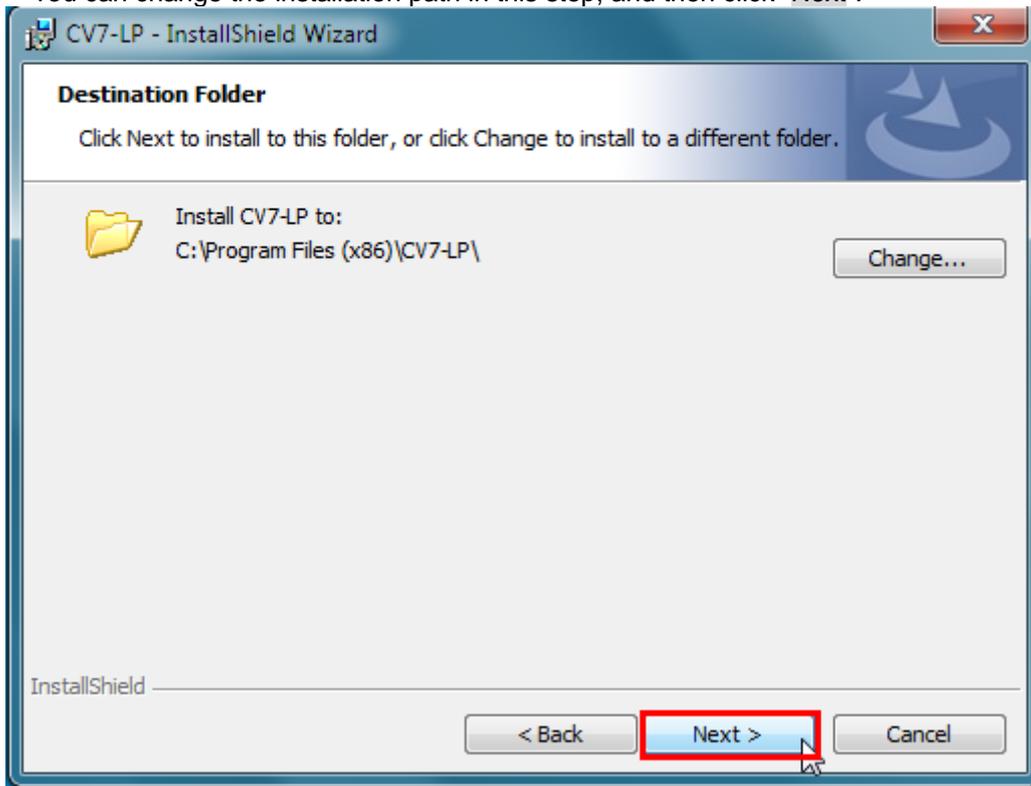
4. Proceed by following the on-screen instructions of the InstallShield Wizard.



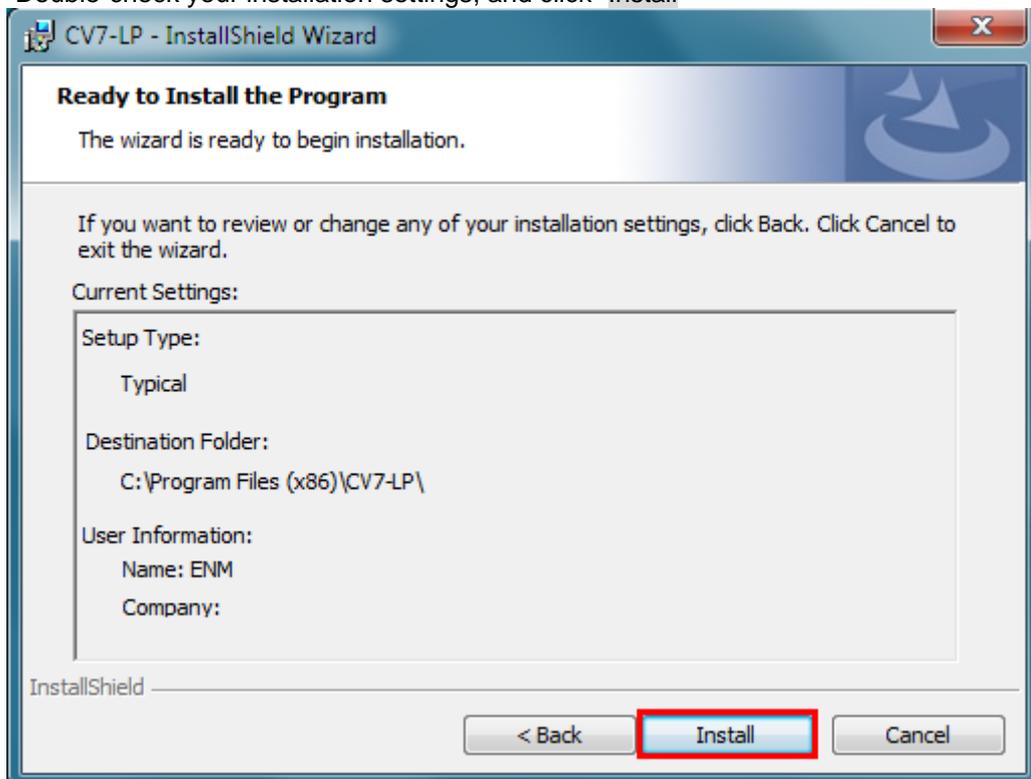
5. Proceed by reading and agreeing to the license agreement and click "Next".



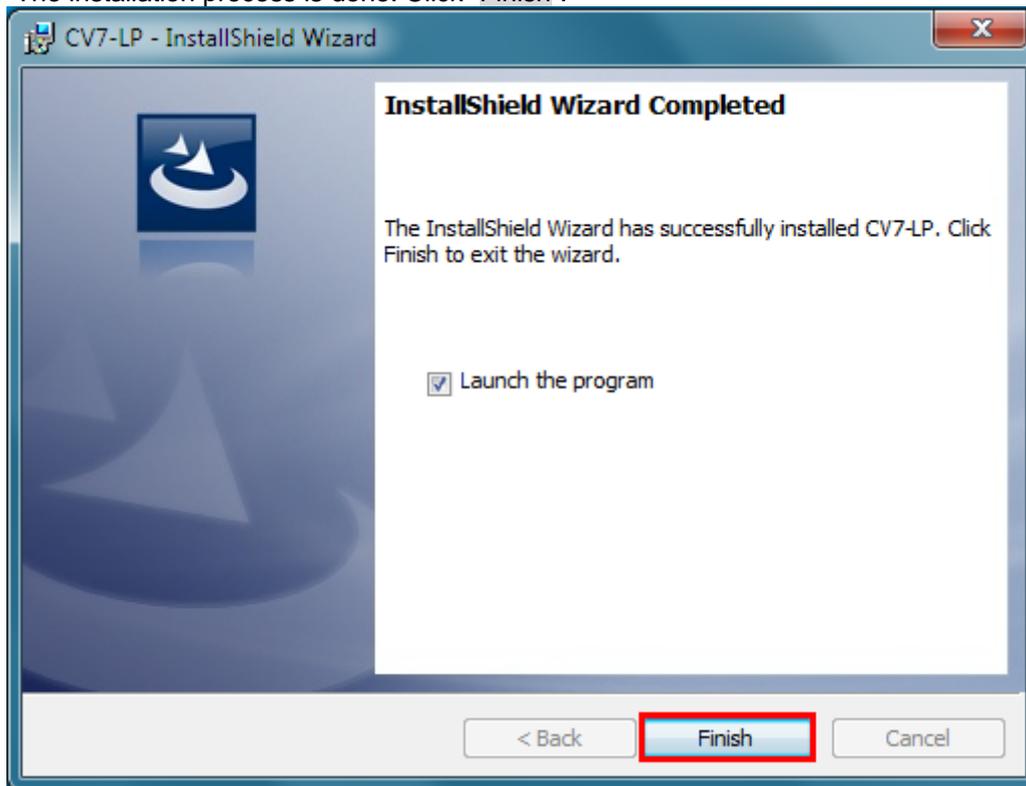
6. You can change the installation path in this step, and then click "Next".



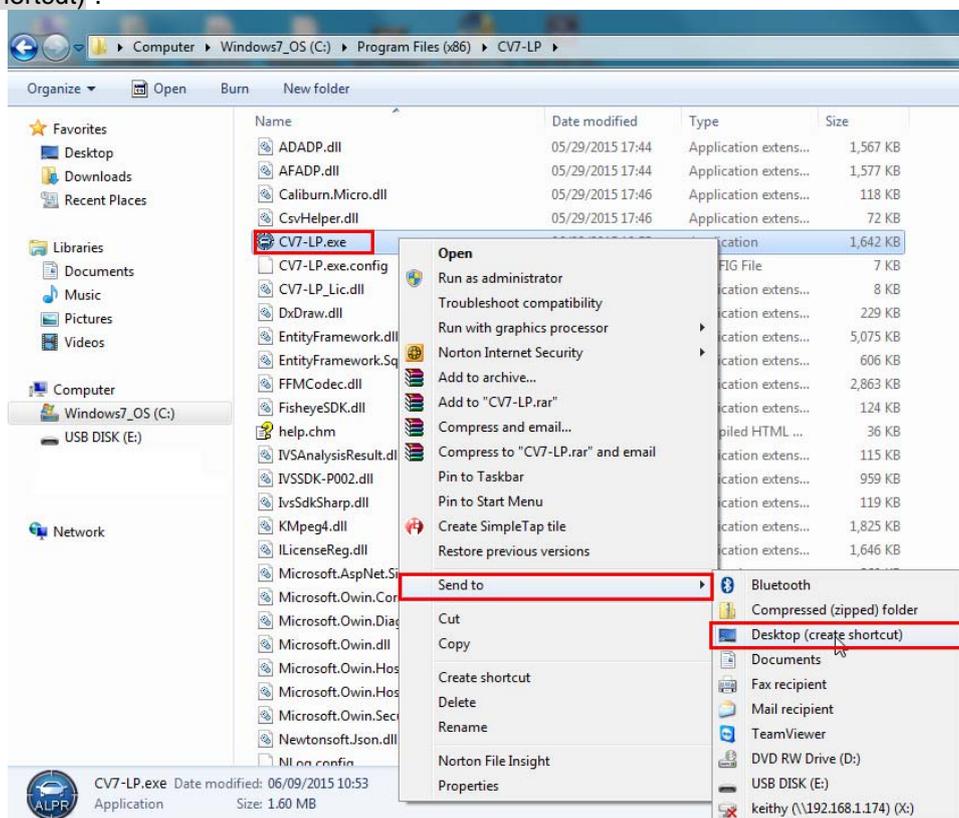
7. Double-check your installation settings, and click "Install"



8. The installation process is done. Click “Finish”.



9. Open the file by clicking on the CV7-LP shortcut on your desktop. If you can't find a shortcut on your desktop, create your own shortcut by finding the CV7-LP file under C:\Program Files\ CV7-LP, right click, select “Send To”, and select “Desktop (create shortcut)”.



## 3.2 License and Activation

In the CV7-LP, your required number of channels should be licensed and activated before connecting. License activation is the process of unlocking the channels on CV7-LP with the received License Key. After the license activation, the channels on CV7-LP will automatically become available.

During license activation, your License Key is matched against the MAC address of the Network Interface Card (NIC) on CV7-LP computer. Once this license key is used by the computer with given MAC, it cannot be activated with another MAC. This matching record will be stored on the PLANET license data server. If your computer has more than one network cards, the CV7-LP will detect them and provide you with a dropdown list to select from.

Please note:

- The license is cumulative and perpetual.
- The license is not version-specific; upgrading software version will not influence the existing license(s) you have.
- The maximum number of channels that can be managed by the CV7-LP is 4.

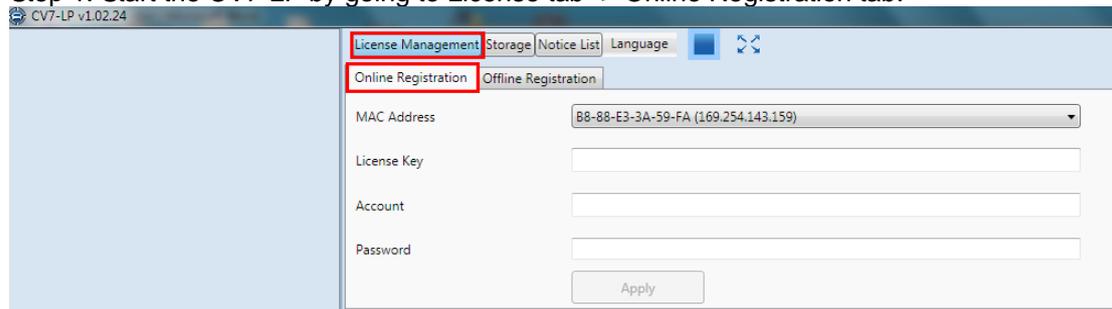
|  |   |
|--|---|
|  <a href="http://www.planet.com.tw">www.planet.com.tw</a>   |  <a href="http://www.planet.com.tw">www.planet.com.tw</a>   |
| <h3 style="text-align: center;">Software License</h3> <p>Dear Customer:<br/>Your order for [ ] license has been received and processed on [ ].</p> <p>Here's your license information:</p> <p><b>Product:</b> [ ]</p> <p><b>Coverage:</b> [ ]</p> <p><b>License Key:</b> [ ]</p> <p><b>Member ID:</b> support_ica@planet.com.tw</p> <p><b>Password:</b> planet</p> | <h3 style="text-align: center;">Note for Software Activation</h3> <p>Thanks for purchasing extended support software of ICA-E Series Camera. You may activate this license either <b>online</b> or <b>offline</b>.</p> <p><b>* Online Activation:</b> Requires internet access from software installed server.</p> <p><b>Step 1:</b> Go to Setup System -&gt; License.<br/><b>Step 2:</b> Select "Online Registration". Enter your license key, member ID and password.</p> <p><b>* Offline Activation:</b> Does not require internet access from software installed server. Used when Server is located in network not connected to public internet (i.e. military base)</p> <p><b>Step 1:</b><br/>Go to CMS Server PC and log in via CMS Setup. Setup System -&gt; License. Select "Offline Registration". Record the MAC address shown</p> <p><b>Step 2:</b><br/>Provide License Key and the MAC Address (Machine Key) to PLANET by email (support_ica@planet.com.tw) to generate activation code.</p> <p><b>Step 3:</b><br/>An email with activation code file (.lic) will be sent to your email. Transfer this license file to the Server PC.</p> <p><b>Step 4:</b><br/>Go to CMS Server PC and log in via CMS Setup. Setup System -&gt; Offline Registration -&gt; click "Import Activation Key" and select the license file. Click "apply" to activate this license.</p> <p><b>Step 5:</b><br/>Done!</p> <p>Thank you for your purchase.<br/>If you have any questions, please contact support_ica@planet.com.tw for assistance.</p> |
| <p style="text-align: center;">PLANET Technology Corporation<br/>TEL: 886-2-2219-9518 FAX: 886-2-2219-9528 E-mail: sales@planet.com.tw<br/>Copyright © 2015 PLANET Technology Corporation. All rights reserved.</p>  | <p style="text-align: center;">PLANET Technology Corporation<br/>TEL: 886-2-2219-9518 FAX: 886-2-2219-9528 E-mail: sales@planet.com.tw<br/>Copyright © 2015 PLANET Technology Corporation. All rights reserved.</p>   |

There are two ways to activate the licenses depending on your CV7-LP network condition: Online Activation and Offline Activation.

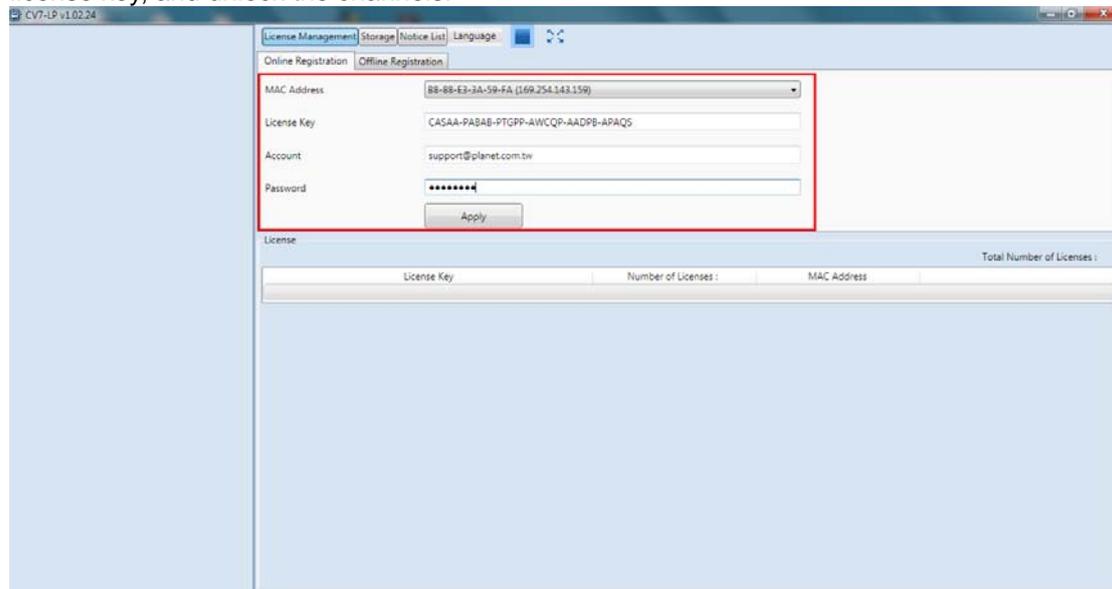
### 3.2.1 Online Activation

If your CV7-LP computer has available Internet access, choose online activation.

Step 1: Start the CV7-LP by going to License tab -> Online Registration tab.



Step 2: Select the MAC Address, enter your License Key, Account and Password, and then click “Apply”. The CV7-LP will connect to the license data server via Internet to register the license key, and unlock the channels.

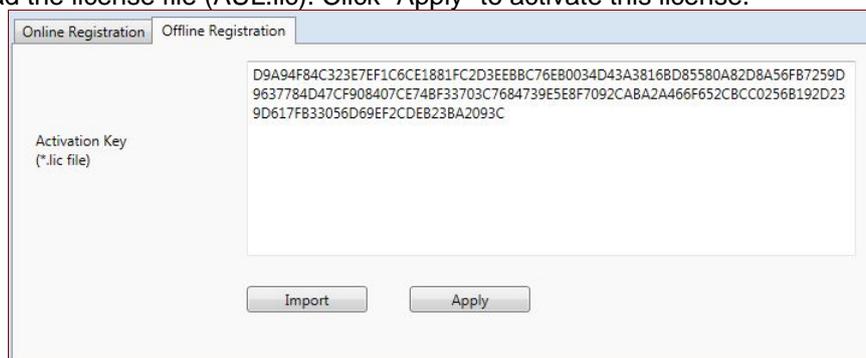


### 3.2.2 Offline Activation

Offline activation does not require Internet access for the CV7-LP. It is used when the CV7-LP is located in a network not connected to public Internet (e.g., in a military base). You will need to get an activation file from another computer and transfer it to the CV7-LP computer.

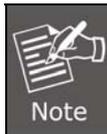
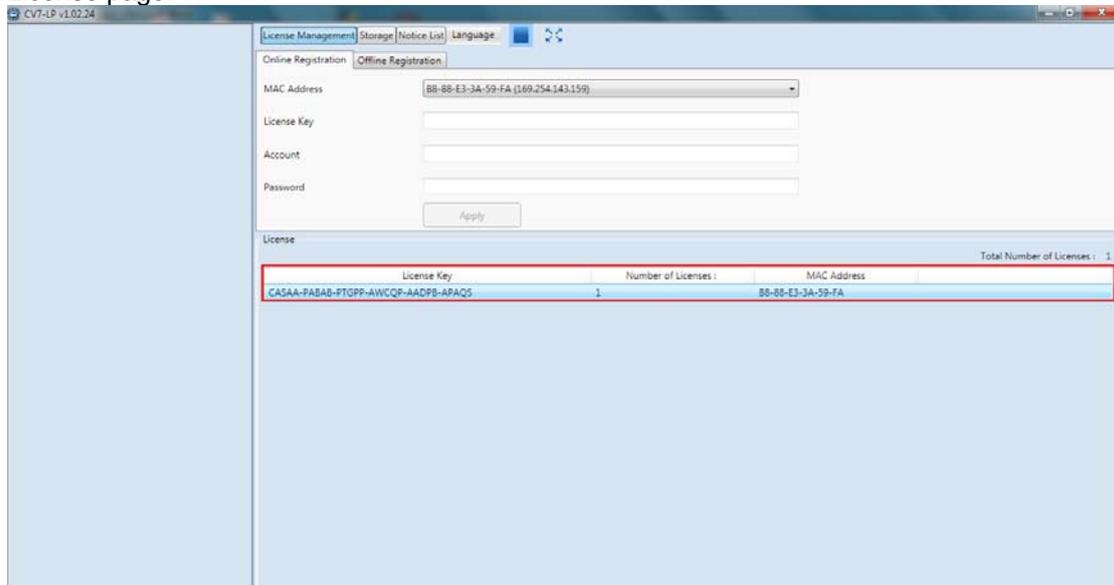
Step 1: Please contact PLANET ([support\\_ica@planet.com.tw](mailto:support_ica@planet.com.tw)) and send the MAC address of the CV7-LP computer. We will provide you with an activation code file (AUL.lic).

Step 2: Start the CV7-LP by going to License tab -> Offline Registration tab -> click “Import” and upload the license file (AUL.lic). Click “Apply” to activate this license.



### 3.2.3 Verify Your License

Once your license is successfully activated, the license information will be shown on the License page.



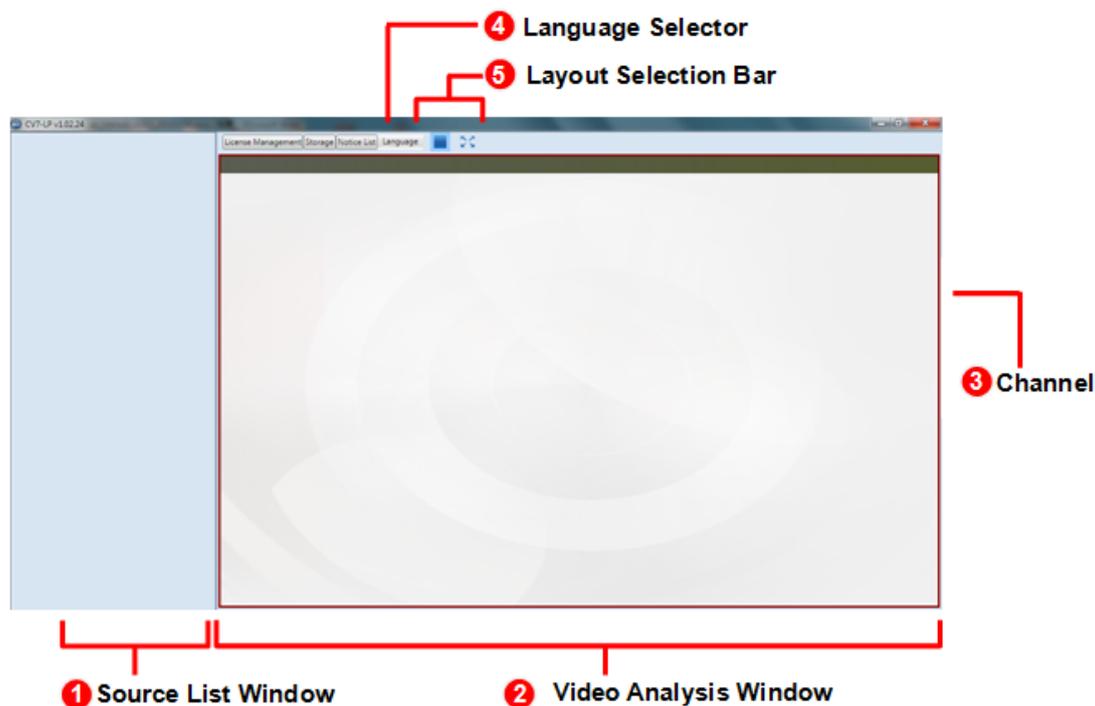
Be sure to retain your license key information in a safe place because you may need to reinstall the software. After the software is uninstalled, you should contact PLANET ([support\\_ica@planet.com.tw](mailto:support_ica@planet.com.tw)) to clear the original registration data in our data server, and then you may activate the license again.

## Chapter 4. Software Setup

This chapter provides setup details of the Internet Camera's Web-based Interface. In order to be able to apply the CV7-LP technology to a video stream, two basic components are needed: Video Sources and Analysis Rules. This chapter will guide you through everything you need to know in order to have a video source, set up analysis rules, and apply them to your video.

### 4.1 Introduction

When you open your CV7-LP, you will see the following display:



- 1. Source List Window:**  
All of your video sources are shown here, and can be managed from here.
- 2. Video Analysis Window:**  
This area can display your camera views. It can be composed of 1 or more channels.
- 3. Channel:**  
Each channel displays a camera view.
- 4. Language Selector:**  
Select the display language.
- 5. Layout Selection Bar:**  
By license, choose 1, 2 or 4 layout styles, or expand to full screen.

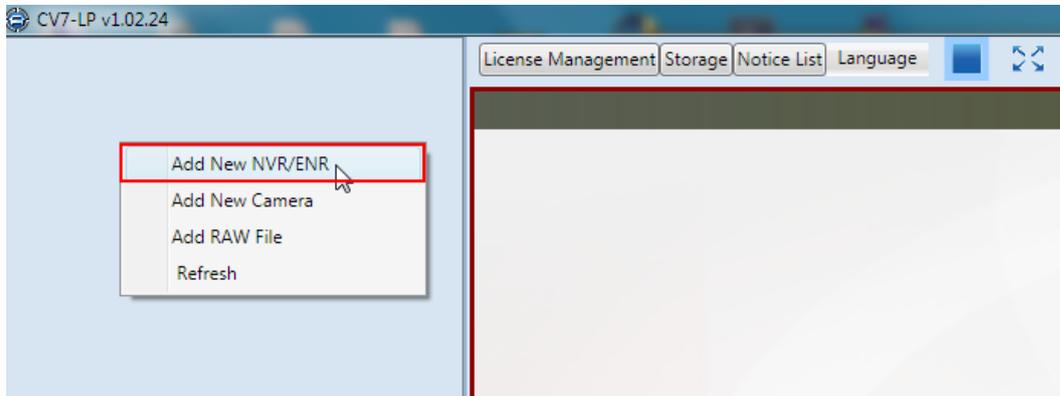
### 4.2 Add Video Source

Now you are ready to add some video sources so that they can be analyzed!

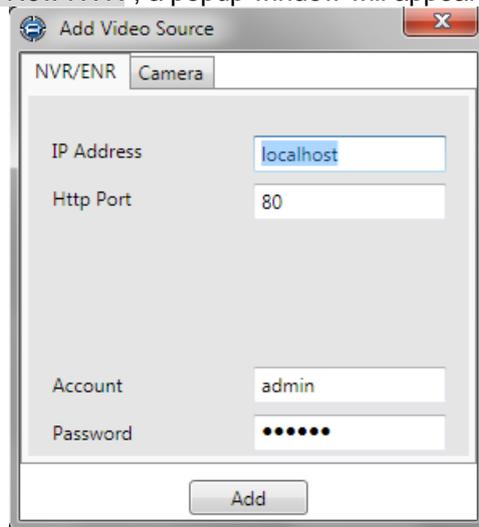
Before adding a video source, make sure you have a working NVR server or camera and

confirm its following properties: **1. IP Address**, **2. HTTP Port**, **3. Account Name** and **4. Password**.

- To add an NVR server as a video source, follow these steps:
  - Right-click on the Source List Window, and select "Add New NVR".



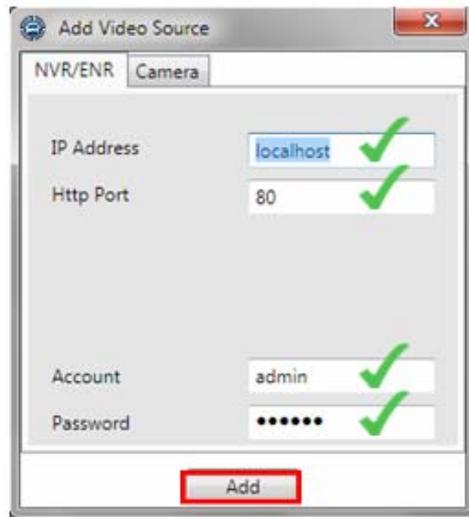
- After selecting "Add New NVR", a popup window will appear as shown below.



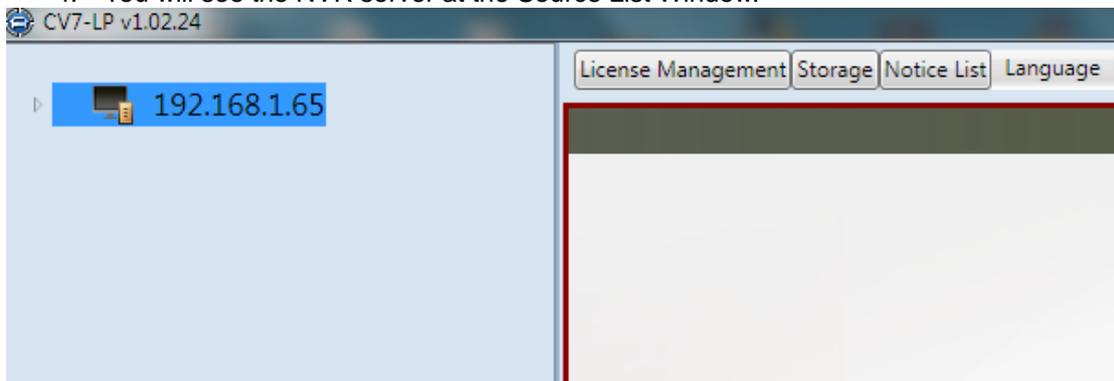
Fill in the 4 marked fields that are required to communicate with the NVR server: IP Address, HTTP Port, Account Name, and Password.

 **Note** The default account/password of CV7L is admin/123456.

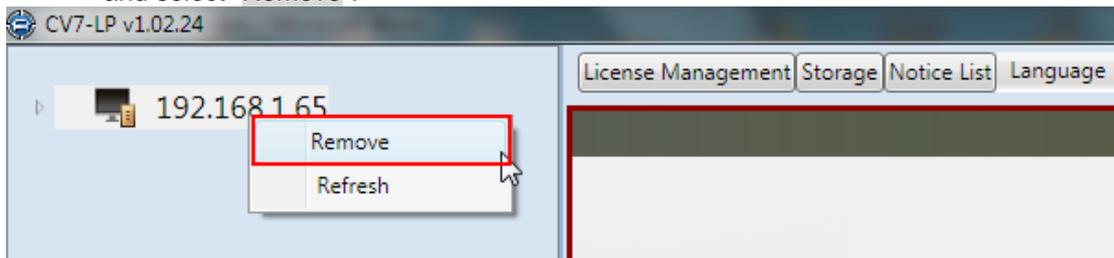
3. After filling out all fields, click "Add".



4. You will see the NVR server at the Source List Window.

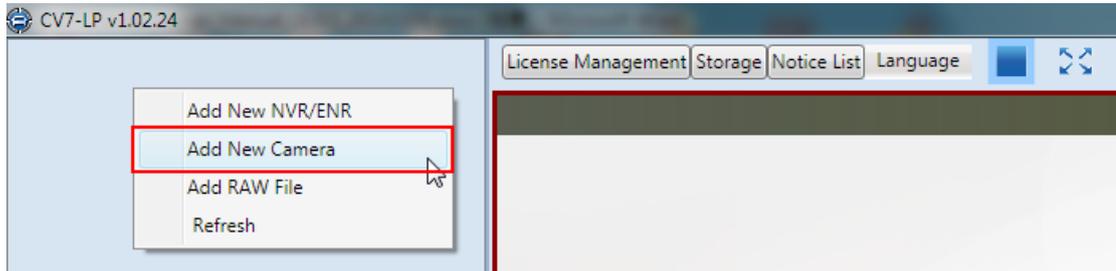


5. To Remove an NVR server from the Video Source List, right-click on the server's IP and select "Remove".

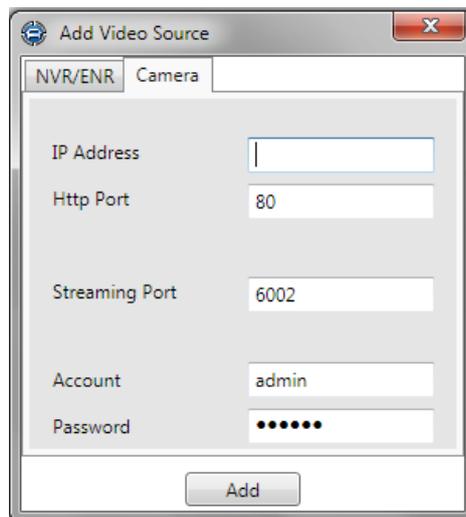


**Note** Once an NVR server is added to the Video Source List, all devices that are on the NVR server will be added to the Video Source List. Please make sure the camera view you want to analyze has already been added to the NVR server.

- To add camera as a video source, follow these steps:
  1. Right-click on the Source List Window, and select "Add New Camera".

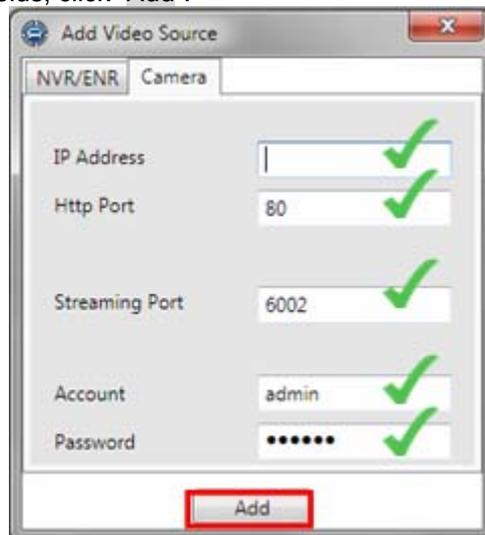


2. After selecting "Add New Camera", a popup window will appear as shown below.

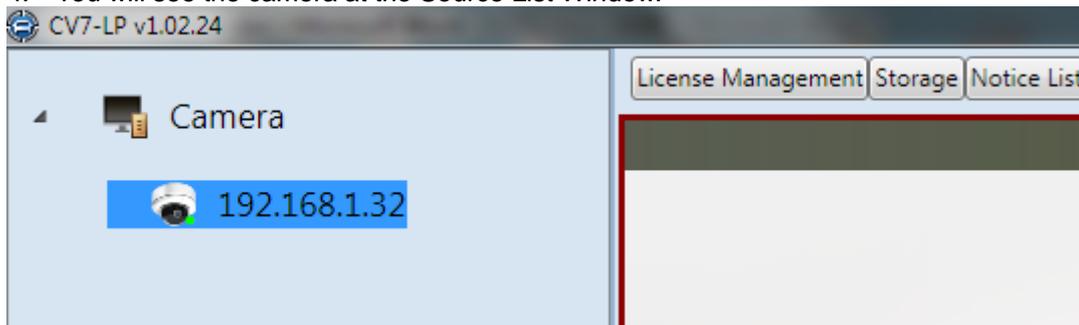


Fill in the 5 marked fields that are required to communicate with the camera: IP Address, HTTP Port, Streaming Port, Account Name, and Password. You can keep the default "6002" that has been filled in for the Streaming Port field, or select any port that is not being used.

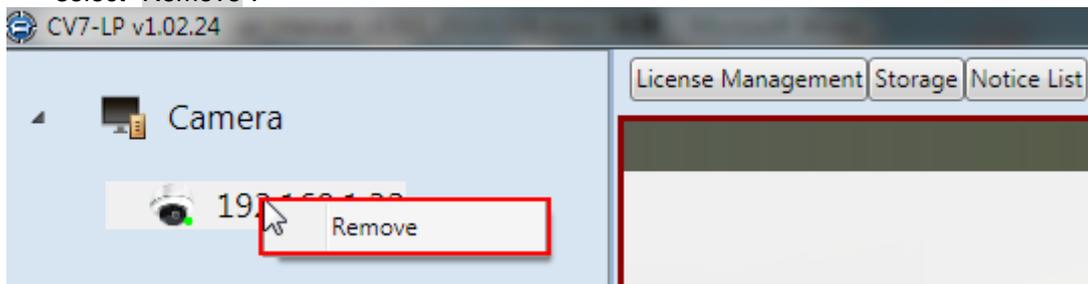
3. After filling out all fields, click "Add".



4. You will see the camera at the Source List Window.



5. To “Remove” a camera from the Video Source List, right-click on the camera’s IP and select “Remove”.



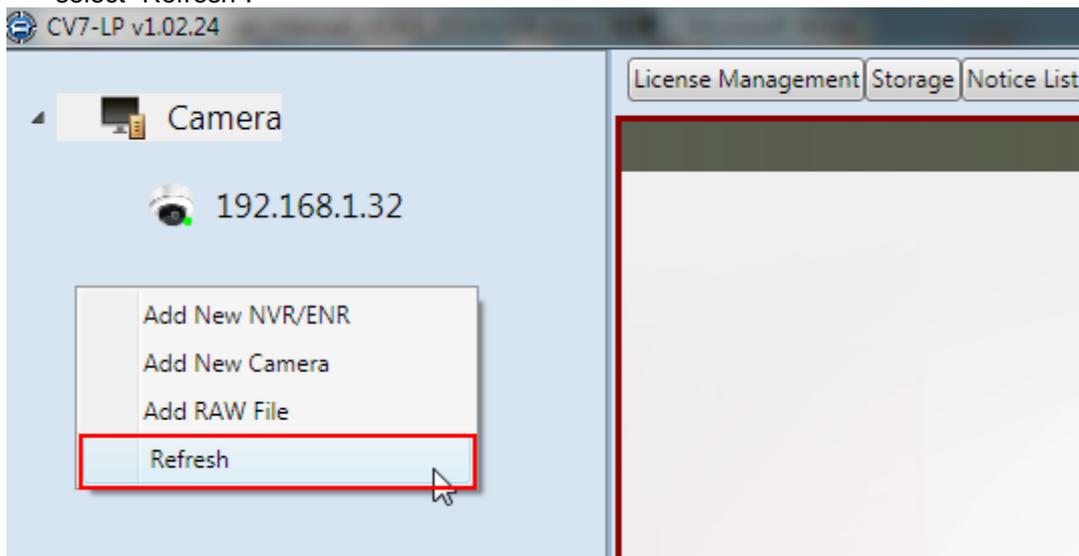
### 4.3 Add Channels

In order to see the camera views from the video sources you have added, you need to add them to one of the channels in the Video Analysis Window.

To add channels, follow these steps:

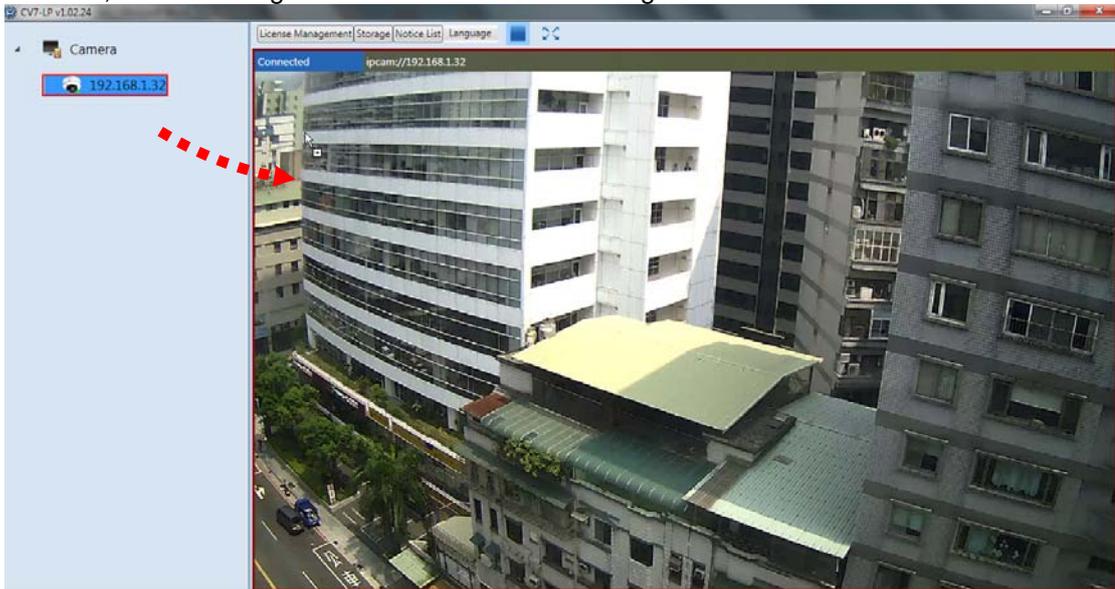
1. On the Source List Window, find the device for which you would like to see the camera view.

If you have devices added in your NVR server but cannot see them in your CV7-LP Source List Window, click on the collapse icon shown next to your NVR server in the Source List Window to expand the device list, or right-click on Source List Window and select “Refresh”.

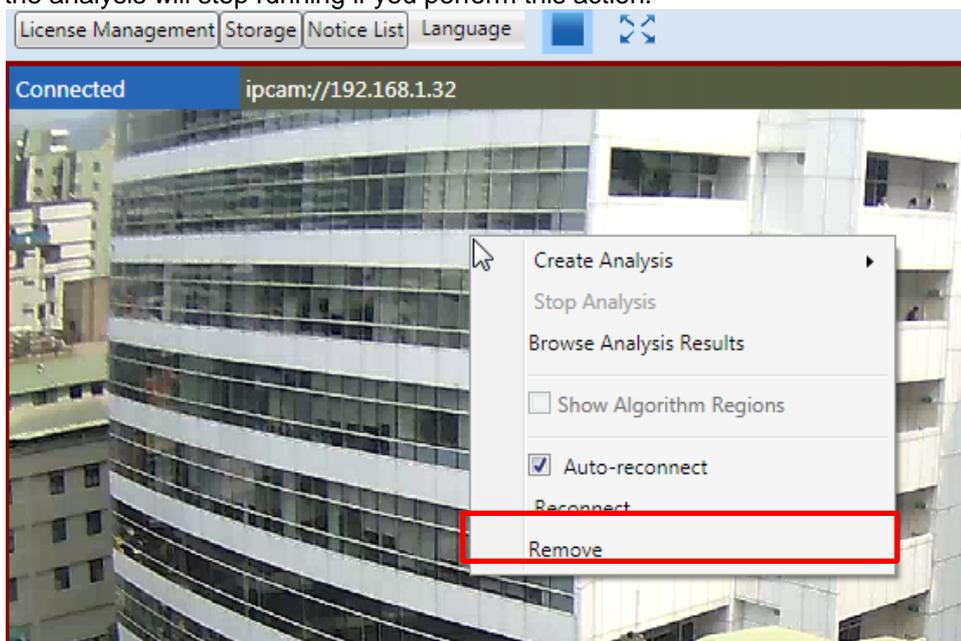


2. After finding your device, you can see the camera views from the device by dragging it to the channel area in the Video Analysis Window. If a new device is dragged to a channel with an existing camera view, the existing camera view will be replaced.

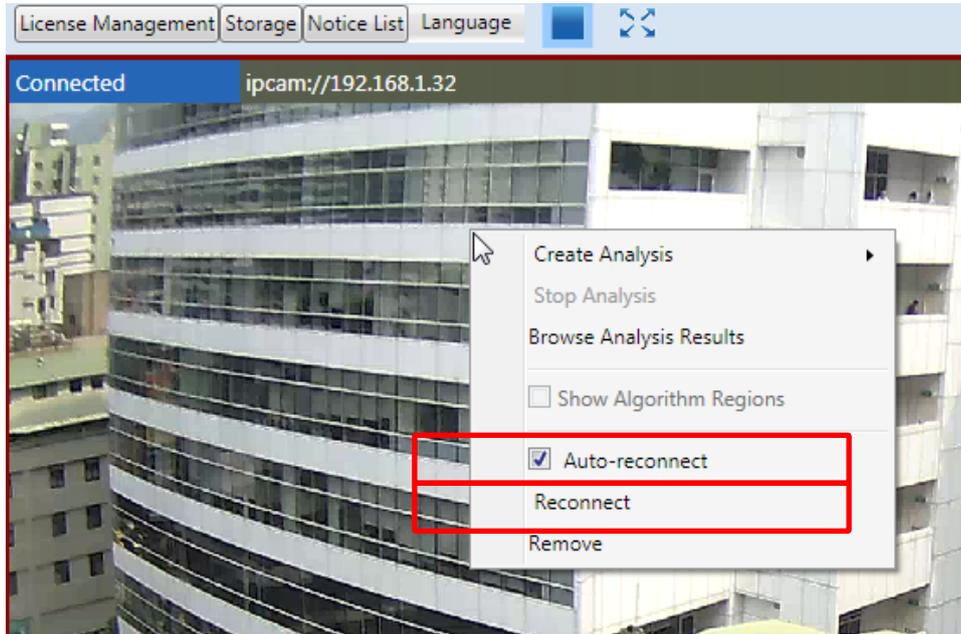
If you can't drag the camera to channel area, please click the Layout Select button , and then drag the camera to channel area again.



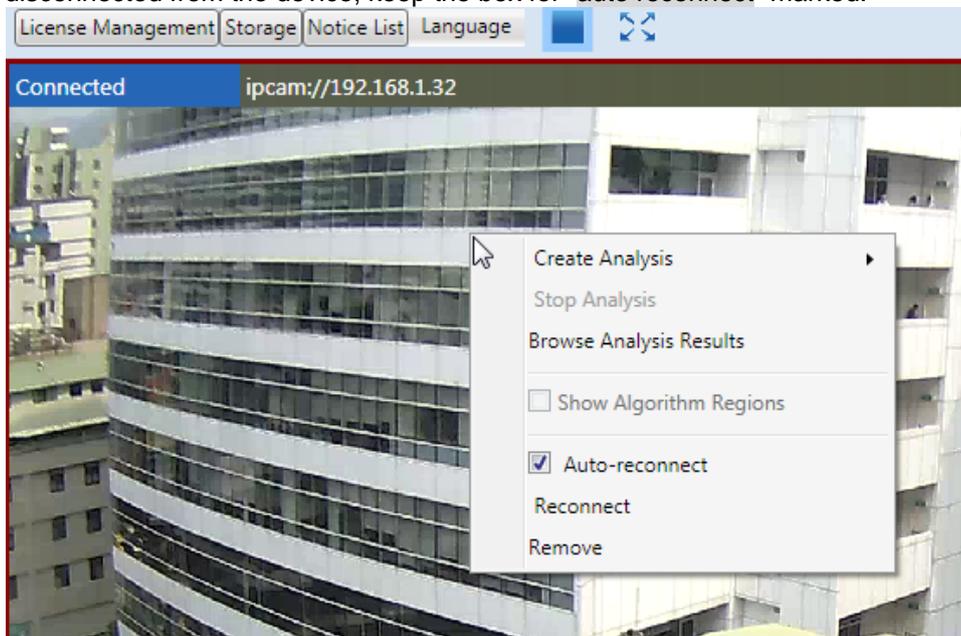
3. To "Remove" a camera view, right-click on the channel and select "Remove". Note that the analysis will stop running if you perform this action.



- To renew the connection to a device, right-click on the channel and select "Reconnect". Note that if you have an analysis running, you must stop the analysis to perform this action.



- If you want the program to automatically reconnect when it detects that it has been disconnected from the device, keep the box for "auto reconnect" marked.



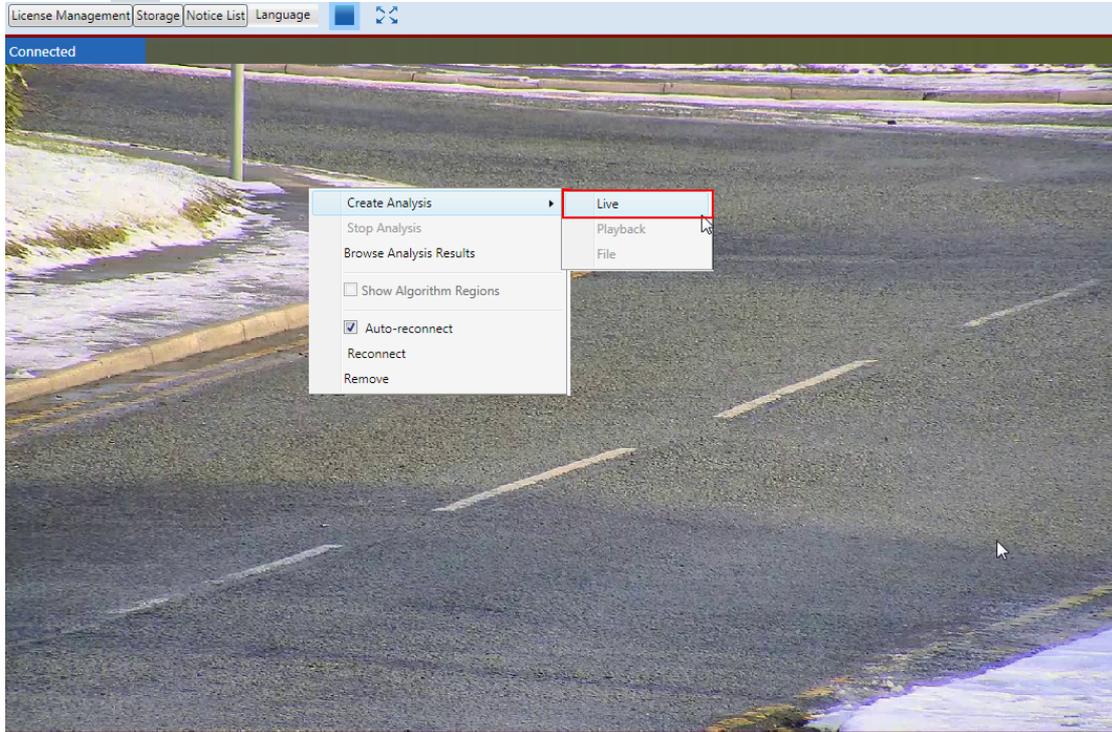
## 4.4 Create an Analysis Rule

Now that you are able to see your camera's video feeds, you are ready to create your analysis rules for your camera views. Note that analyses can only be performed when the device has been dragged into a channel window. One channel can only run 1 analysis at a time, and the maximum number of channels it can run depends on the license. Please note the smoothness of performance may depend on your computer's hardware capacity.

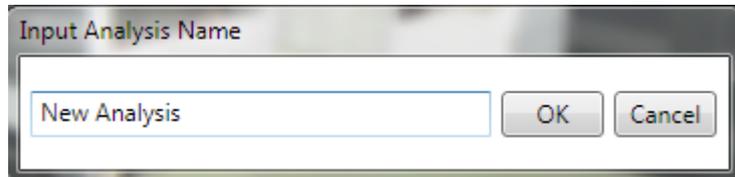
### 4.4.1 Live View Analysis

To access the function to create a new analysis rule for a live view, follow the steps below:

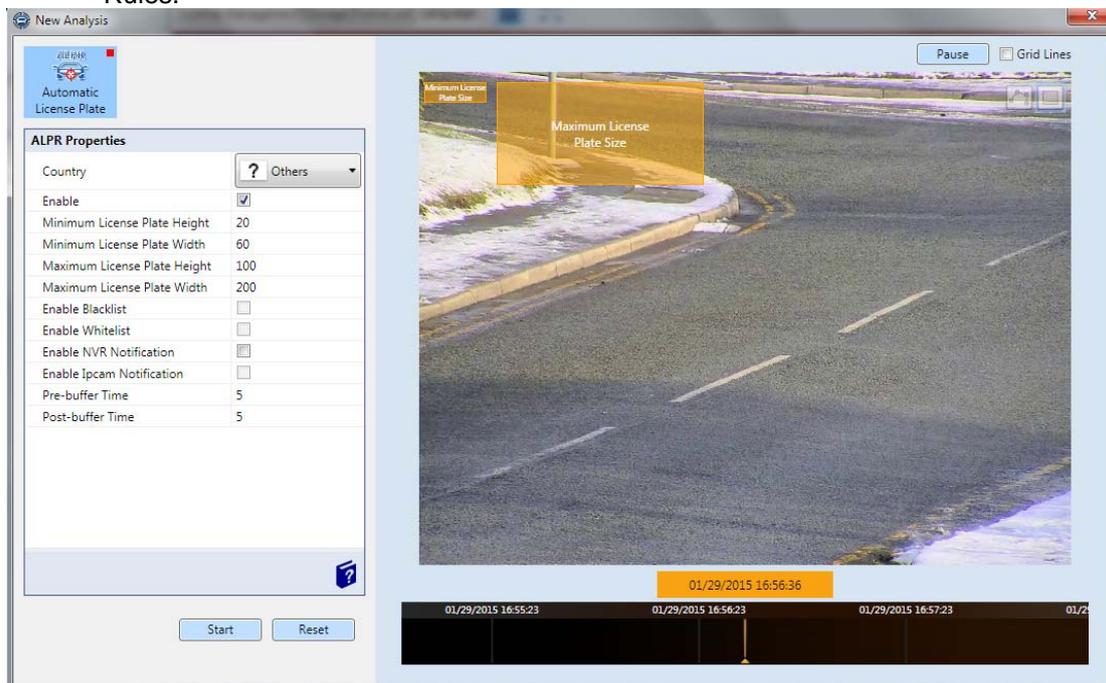
1. Right-click on the channel window of your video, click on “Create Analysis”, and select “Live”.



2. In the new pop-up window that appears, input a name for your Analysis Rule and click “OK”.

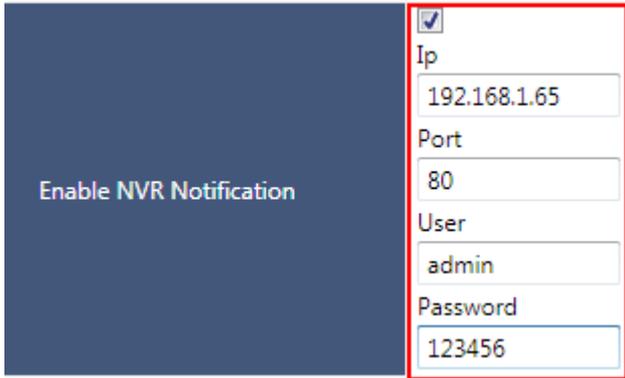


3. A New Analysis Window will appear, and you are now ready to set up your Analysis Rules.

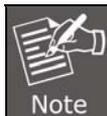


4. Adjust the CV7-LP Property Settings to get the most optimal results:

|                                 |  |
|---------------------------------|--|
| <b>Country</b>                  | Used as reference only. Allows you to choose from a predetermined list of countries to increase the accuracy of recognition results.   |
| <b>Enable</b>                   | Enables this algorithm.  |
| <b>Maximum Car Plate Height</b> | Set the maximum height of any license plate to be recognized. Any license plate whose height is larger than this value will be ignored. The Maximum Plate Size Reference Frame (found in the top left corner of the Live View Display) provides visual reference for the value selected. The ratio between Maximum Car Plate Height and Minimum Car Plate Height should be as close to 2 as possible.  |
| <b>Maximum Car Plate Width</b>  | Set the maximum width of any license plate to be recognized. Any license plate whose width is larger than this value will be ignored. The Maximum Plate Size Reference Frame (found in the top left corner of the Live View Display) provides visual reference for the value selected. The ratio between Maximum Car Plate Width and Minimum Car Plate Width should be as close to 2 as possible.      |
| <b>Minimum Car Plate Height</b> | Set the minimum height of any license plate to be recognized. Any license plate whose height is smaller than this value will be ignored. The Minimum Plate Size Reference Frame (found in the top left corner of the Live View Display) provides visual reference for the value selected. The ratio between Maximum Car Plate Height and Minimum Car Plate Height should be as close to 2 as possible. |
| <b>Minimum Car Plate Width</b>  | Set the minimum width of any license plate to be recognized. Any license plate whose width is smaller than this value will be ignored. The Minimum Plate Size Reference Frame (found in the top left corner of the Live View   |

|                                   |   |
|-----------------------------------|---|
|                                   | Display) provides visual reference for the value selected. The ratio between Maximum Car Plate Width and Minimum Car Plate Width should be as close to 2 as possible.   |
| <b>Enable Black List</b>          | User can set specific license plate as black list. The CV7-LP will support this function in the future.   |
| <b>Enable White List</b>          | User can set specific license plate as white list. The CV7-LP will support this function in the future.   |
| <b>Enable NVR Notification</b>    | <p>The CV7-LP will send notification to NVR when it recognizes license plate successfully.</p> <p>Here is an example about how to set the settings:</p>  |
| <b>Enable IP Cam Notification</b> | <p>The CV7-LP will send notification to NVR when it recognizes license plate successfully.</p> <p>Note: The CV7-LP will support this function in the future.</p>  |
| <b>Post-buffer Time</b>           | Set the amount of time (in seconds) that video footage will be recorded after a license plate is recognized.  |
| <b>Pre-buffer Time</b>            | Set the amount of time (in seconds) that video footage will be recorded before a license plate is recognized.   |

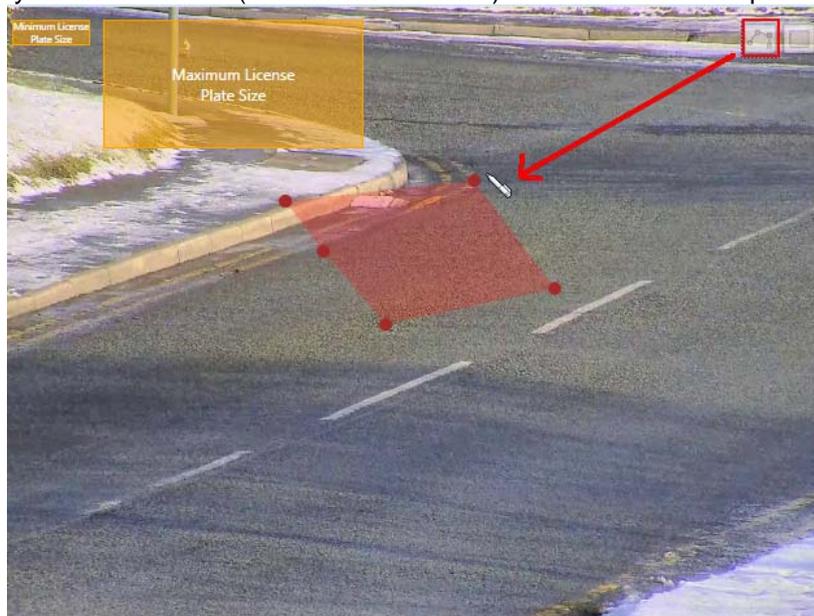
- To narrow down the area in which the algorithm will be actively running, move your cursor over to the area showing video stream, at which point it will appear as a drawing pen. To draw the rectangle that will mark the area for detection, click and drag your cursor to draw a red rectangle.



Note

For a better experience, make sure that the height of your detection area is no taller than 10 times the Maximum Plate Size height, and that the width of your detection area is no wider than 10 times the Maximum Plate Size width.

- If the area you want to mark does not fit the form of a rectangle, you may also choose to draw a polygon by selecting the  icon on the upper right corner of your Live View Display area. To draw the lines for the sides of your polygon, click your cursor to mark the endpoints of each line. Double-click on the final endpoint of the final line to confirm and highlight the polygon in light blue, as shown in the illustration below. Make sure your lines connect (a minimum of 3 lines) to form a closed shape.



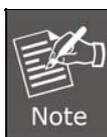
- To adjust the marked area, you can drag the highlighted area to keep its original shape or right-click on the area, select "Remove", and re-draw. For polygons, you may toggle the endpoints of the lines that make up the sides of your polygon.



- Click "Start" to start running your analysis.

| ALPR Properties              |                                     |
|------------------------------|-------------------------------------|
| Country                      | ? Others                            |
| Enable                       | <input checked="" type="checkbox"/> |
| Minimum License Plate Height | 20                                  |
| Minimum License Plate Width  | 60                                  |
| Maximum License Plate Height | 100                                 |
| Maximum License Plate Width  | 200                                 |
| Enable Blacklist             | <input type="checkbox"/>            |
| Enable Whitelist             | <input type="checkbox"/>            |
| Enable NVR Notification      | <input type="checkbox"/>            |
| Enable Ipcam Notification    | <input type="checkbox"/>            |
| Pre-buffer Time              | 5                                   |
| Post-buffer Time             | 5                                   |

?

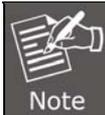
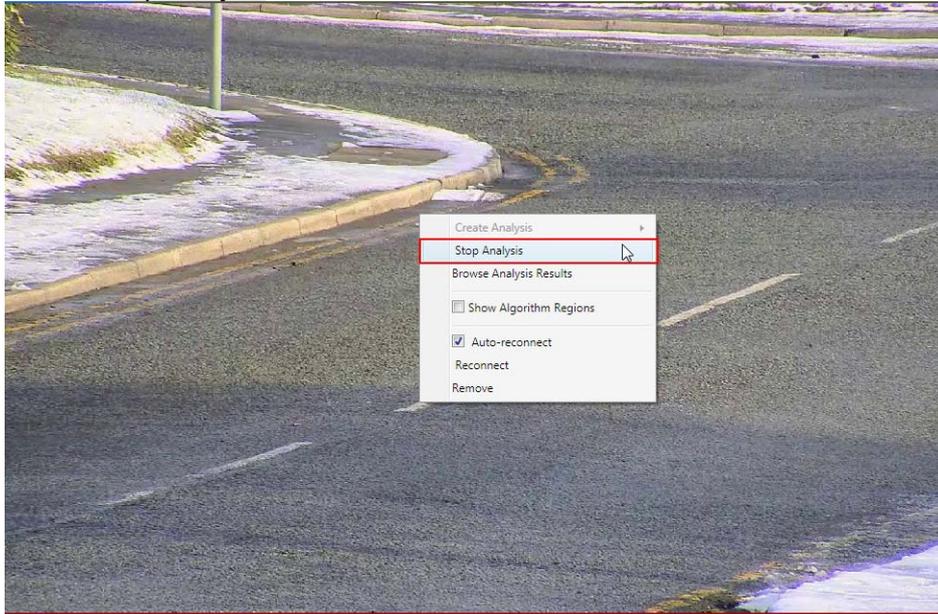


Note

The precision of your video analysis depends on the video quality and may be affected by the characteristics of objects in the video stream. To obtain the best results, test your analysis rules and optimize your settings. For further inquiries, provide a raw file of your analysis and contact our Customer Help Desk.

- If you are only running your Analysis Rule for a specific time period or you wish to stop running the Analysis Rule at any point, you can do so by using the "Stop Analysis" function.

To access this function, simply right-click on the channel that you wish to stop the analysis, and select “Stop Analysis”.



All analyses will stop running if the CV7-LP window is closed. To continue running an analysis, the settings will have to be re-configured in a new Analysis Rule.

#### 4.4.2 Display Detection Indicators

To enhance awareness when monitoring your live video feed, it may be helpful to have visual cues about the analyses that you are running. In order to achieve this, the CV7-LP provides the option to display detection indicators or show the moving objects on the screen.

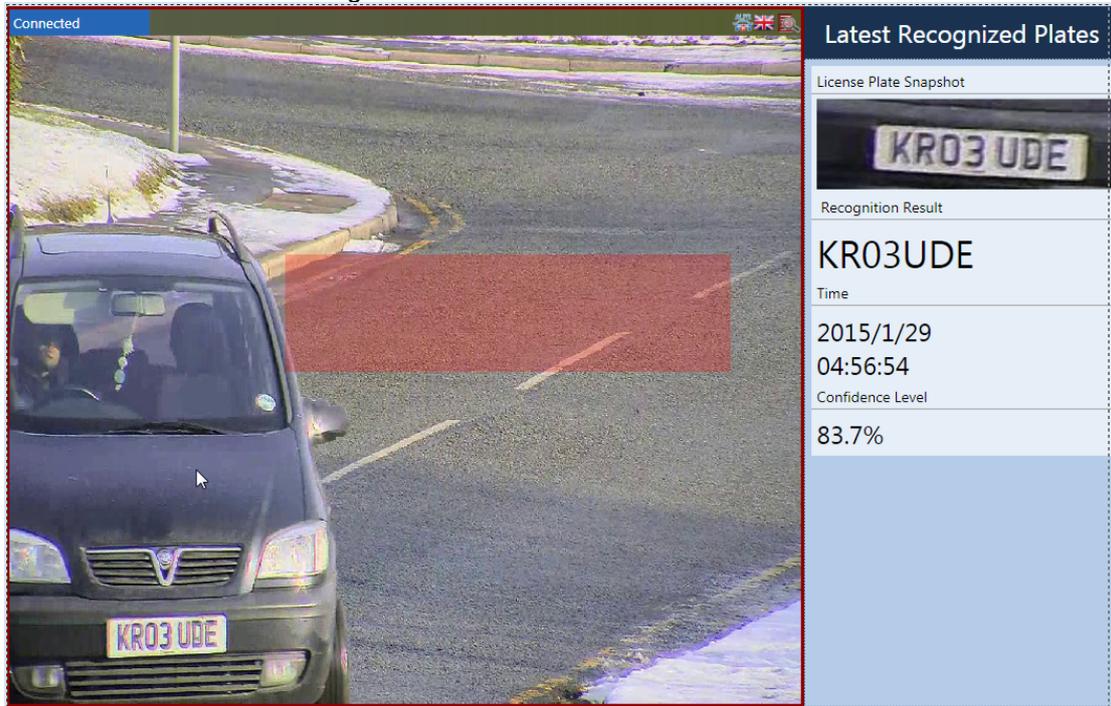
To access this function, simply right-click on a channel and select “Show Algorithm Regions” to display detection indicators.



#### 4.4.3 Display Latest Recognition Results

While monitoring, it may be helpful to see information about the license plates that are being recognized. In order to achieve this, the CV7-LP provides the option to display real-time information of the latest recognized license plate.

To access this function, simply double-click the channel for which you would like to see the results. An information panel will appear on the right side of your screen, showing a snapshot of the license plate, the result of the recognition, time and date captured, and the confidence level of the algorithm.

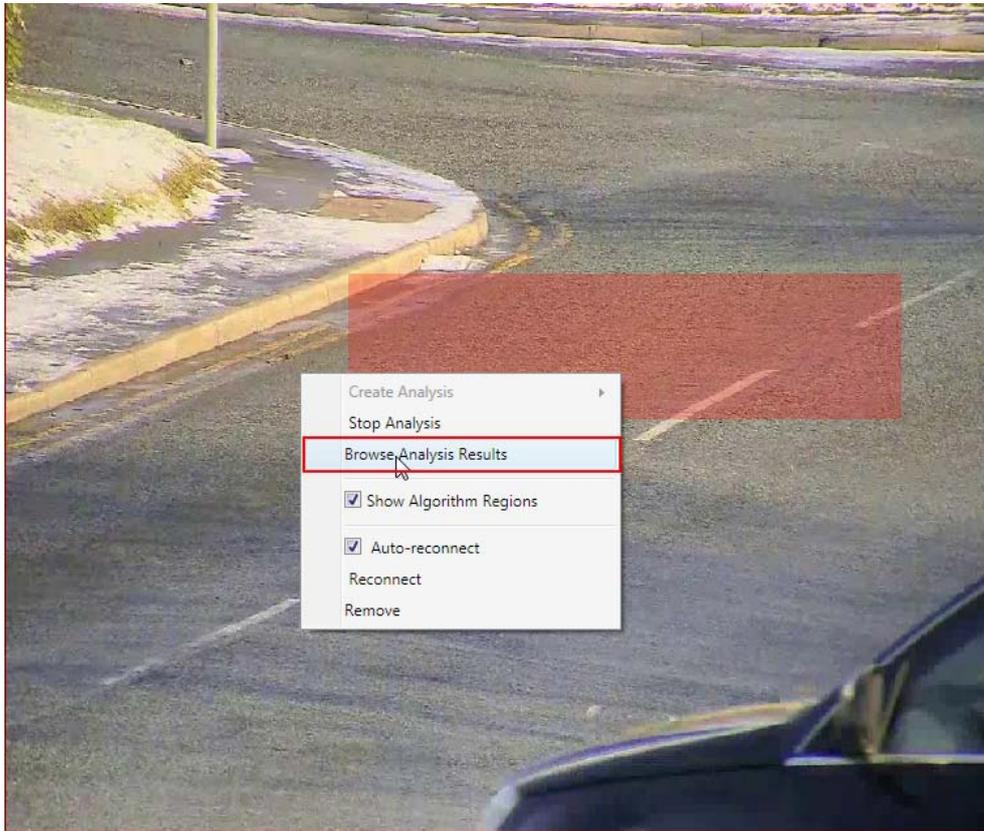


To leave this function, simply double-click on the area showing the camera view.

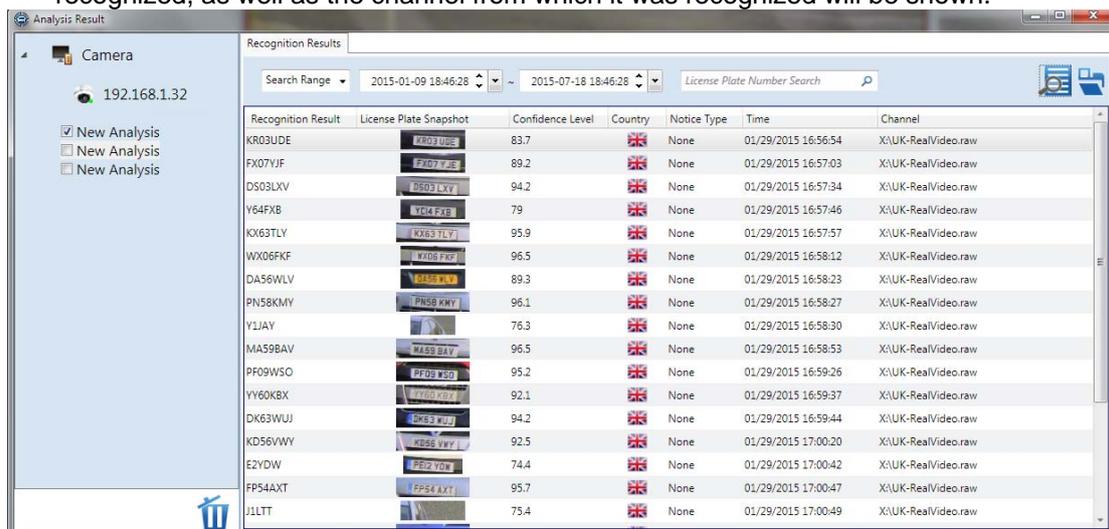
#### 4.4.4 Analysis Results

After running your CV7-LP algorithm, the next logical step would be to look at what license plates have been recognized. To browse the results, you can use the Search Analysis Results function of the CV7-LP.

To access this function, right-click on the area of the Video Analysis Window that is running the analysis rule for which you would like to see the results for and select “Search Analysis Results”.



A new Analysis Results Window that contains the license plates recognized as a result of your algorithm will open. For each license plate recognized the recognition result, a snapshot of the license plate, the confidence level of the algorithm, the time it was recognized, as well as the channel from which it was recognized will be shown.



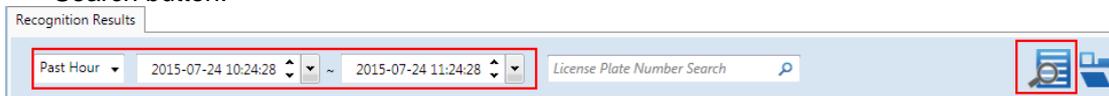
| Recognition Result | License Plate Snapshot  | Confidence Level | Country   | Notice Type | Time                | Channel             |
|--------------------|---|------------------|---|-------------|---------------------|---------------------|
| KR03UDE            |  | 83.7             |  | None        | 01/29/2015 16:56:54 | X:\UK-RealVideo.raw |
| FX07YJF            |  | 89.2             |  | None        | 01/29/2015 16:57:03 | X:\UK-RealVideo.raw |
| DS03LXV            |  | 94.2             |  | None        | 01/29/2015 16:57:34 | X:\UK-RealVideo.raw |
| Y64FXB             |  | 79               |  | None        | 01/29/2015 16:57:46 | X:\UK-RealVideo.raw |
| KX63TLY            |  | 95.9             |  | None        | 01/29/2015 16:57:57 | X:\UK-RealVideo.raw |
| WX06FKF            |  | 96.5             |  | None        | 01/29/2015 16:58:12 | X:\UK-RealVideo.raw |
| DA56WLV            |  | 89.3             |  | None        | 01/29/2015 16:58:23 | X:\UK-RealVideo.raw |
| PN58KMY            |  | 96.1             |  | None        | 01/29/2015 16:58:27 | X:\UK-RealVideo.raw |
| Y1JAY              |  | 76.3             |  | None        | 01/29/2015 16:58:30 | X:\UK-RealVideo.raw |
| MA59BAV            |  | 96.5             |  | None        | 01/29/2015 16:58:53 | X:\UK-RealVideo.raw |
| PF09WSO            |  | 95.2             |  | None        | 01/29/2015 16:59:26 | X:\UK-RealVideo.raw |
| YY60K8X            |  | 92.1             |  | None        | 01/29/2015 16:59:37 | X:\UK-RealVideo.raw |
| DK63WUJ            |  | 94.2             |  | None        | 01/29/2015 16:59:44 | X:\UK-RealVideo.raw |
| KD56VWY            |  | 92.5             |  | None        | 01/29/2015 17:00:20 | X:\UK-RealVideo.raw |
| E2YDW              |  | 74.4             |  | None        | 01/29/2015 17:00:42 | X:\UK-RealVideo.raw |
| FPS4AXT            |  | 95.7             |  | None        | 01/29/2015 17:00:47 | X:\UK-RealVideo.raw |
| J1LTT              |  | 75.4             |  | None        | 01/29/2015 17:00:49 | X:\UK-RealVideo.raw |

If you want to export the recorded file, please select license plates from the list, and click the export button . You will need to name the export folder and select the path to save files.



**Note** The exported files include a video and a picture; the video is raw format, the picture is jpg format.

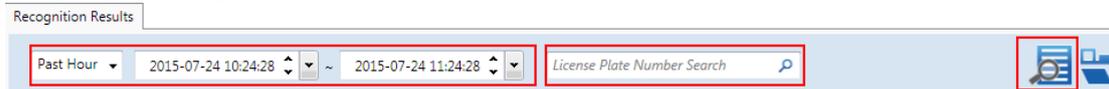
If the results you wish to see are from a specific time period, you can set this time period by adjusting the Time Period setting in the Analysis Result Filter area, and then click the Search button.



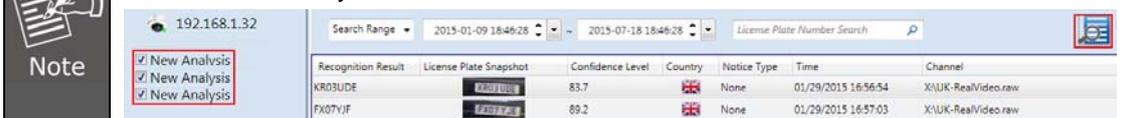
Moreover, if you want to search for a specific License Plate Number, you can do so by typing in the License Plate Search in the Analysis Result Filter area.

For example, to only show the results for license plate number “7683YQ” follow the steps below:

1. Set this time period.
2. Type in “7685YQ”, or “685Y”, or “76\*Q” in the search box. The \* symbols represents one or more unknown characters that may exist between known characters.
3. Click the Search button.



**Note** User can view the results of multiple analyses in the same device by checking the boxes for the analysis rule that user wishes to see the results for.

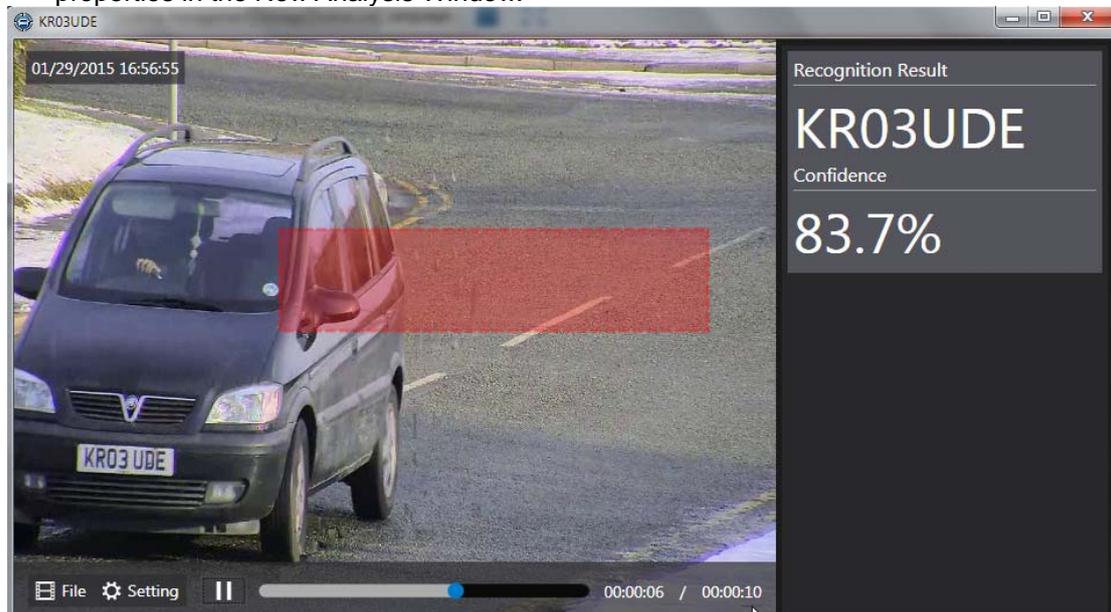


| Recognition Result | License Plate Snapshot | Confidence Level | Country | Notice Type | Time                | Channel             |
|--------------------|------------------------|------------------|---------|-------------|---------------------|---------------------|
| KR03UDE            |                        | 83.7             |         | None        | 01/29/2015 16:56:54 | X:\UK-RealVideo.raw |
| FX07YF             |                        | 89.2             |         | None        | 01/29/2015 16:57:03 | X:\UK-RealVideo.raw |

#### 4.4.5 Watch Analysis Playback

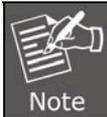
Now that your CV7-LP analyses have recognized license plates, you can watch the playback of when these license plates appeared.

To watch these videos, double-click on a single Analysis Result that you would like to review. A new Player Window will open, ready to play your event. Please note that for each recognized license plate, the CV7-LP will also provide video footage of moments leading up to and after the recognition, as determined by “Pre-buffer Time” and “Post-buffer Time” properties in the New Analysis Window.



If you cannot see the control buttons located at the bottom of the Player Window, hover your cursor over the area it should be located, and it will appear.

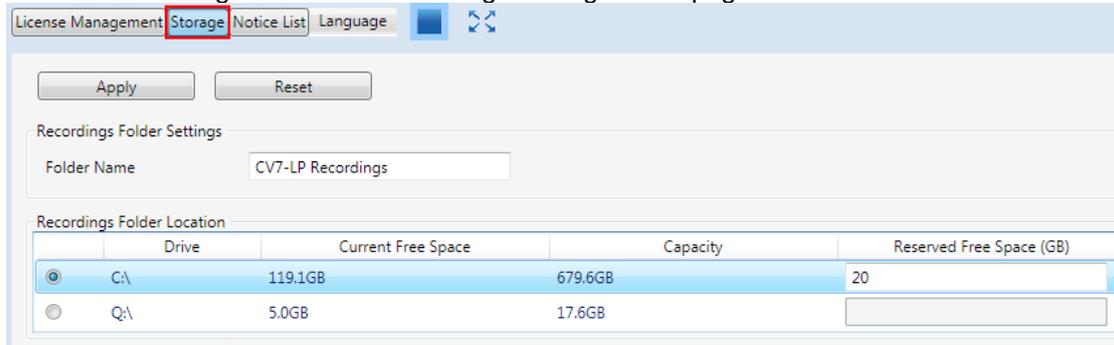
|                     |  |
|---------------------|--|
| <b>File</b>         | <p><b>Open:</b> Allows you to open other files (in raw format).</p> <p><b>Close:</b> Closes the current file that is open.</p>   |
| <b>Setting</b>      | <p><b>Timestamp:</b><br/>After Setting button is clicked, the Timestamp checkbox will allow you to decide whether or not to show the time and date of the video. If selected, it will appear on the upper left corner of the Player Window.</p> <p><b>SmartSearch Properties:</b><br/>After Setting button is clicked and XML Analysis checkbox is marked, you have the option to configure the Smartsearch Properties. If selected, you can decide whether or not to display the detection indicators for the algorithms that were used.</p> <p><b>Object Filter:</b><br/>After Setting button is clicked and XML Analysis checkbox is marked, you have the option to configure the Object Filter properties. If selected, you can decide whether or not to display detection indicators for the events that were captured.</p> |
| <b>Play / Pause</b> | Allows you to control the playback of the file.  |
| <b>Progress Bar</b> | Shows the progress of the video playback. You can toggle the blue circle on the progress bar to jump to different parts of the video.  |



The options that will be shown when selecting Smart Search Properties and Object Filter are dynamic. This means that only algorithms that were used when creating the Analysis Rule of the video will be available.

### 4.4.6 Storage

You can configure the detailed storage setting on this page.



|                                  | Drive | Current Free Space | Capacity | Reserved Free Space (GB) |
|----------------------------------|-------|--------------------|----------|--------------------------|
| <input checked="" type="radio"/> | C:\   | 119.1GB            | 679.6GB  | 20                       |
| <input type="radio"/>            | Q:\   | 5.0GB              | 17.6GB   |                          |

|                                  |  |
|----------------------------------|--|
| <b>Folder Name</b>               | You can create the folder name.                                |
| <b>Recording Folder Location</b> | You can select the hard drive from the list to save the video. |
| <b>Reserved Free Space</b>       | Allows you to reserve the space of hard drive.                 |

### 4.4.7 Notice List

The CV7-LP will support the Black list and White list function in the future.

