

## **Eagle Eye Application Note - AN034**

# Configuring LPR in the Eagle Eye VMS (License Plate Recognition)

2023-02-28 Revision 1.01

#### **Target Audience**

This Application Note is intended for Eagle Eye Networks Cloud VMS administrators that would be responsible for configuring cameras and making significant VMS-related settings changes. Basic working knowledge of the VMS is recommended prior to making any changes to configuration settings.

If you need additional details on the camera installation side of VSP and LPR, please make sure to review the <u>Camera Installation Considerations for LPR/ANPR</u> Application Note (AN033).

#### Overview

The Eagle Eye Cloud VMS allows for the use of License Plate Recognition (LPR) technology running on the Eagle Eye Bridge/CMVR device as a subscription service. This AI-based technology developed specifically by Eagle Eye Networks allows for any compatible model of camera to become a specialized LPR capable camera. The Eagle Eye VSP is a prerequisite for the use of LPR. Once enabled, capabilities include; logging, tracking, alerts, and searching for vehicles captured by this Analytic within the VSP Dashboard.

#### What is LPR?

The Eagle Eye License Plate Recognition System (LPR) is an AI-powered, cloud-managed, highly accurate license plate recognition technology that works with any surveillance camera in all kinds of challenging conditions – increasing business security and efficiency while lowering costs.

LPR (or ANPR) stands for License Plate Recognition (or Automatic Number Plate Recognition) and is a video analytics solution that enables the reading of vehicle license plate information from the associated video data.



Historically, an LPR system was primarily associated with traffic management systems and tended to be very expensive. Today, AI-based video analytics solutions enable LPR with high accuracy while also keeping the hardware costs low and even allowing for the use of existing, non LPR-specialized cameras.

There are many industries, market segments, and applications of LPR. Parking automation, access control, data analytics, and more are required by HOAs, car dealerships, property management companies, commercial real estate, and traditional parking companies.

#### Eagle Eye LPR - AI-based License Plate Recognition

Eagle Eye Network's License Plate Recognition (LPR) system uses an AI-based model for the accurate reading of license plates. This AI model ensures high detection rates without false and repeated reads as well as high accuracy reading both standard and non-standard number plates.

Eagle Eye LPR allows any standard ONVIF cameras connected to the Eagle Eye Cloud VMS to run LPR as opposed to requiring an LPR-specific camera. The LPR analytic runs on the Bridge and data is viewed through the Vehicle Surveillance Package module of the Cloud VMS.



For the list of compatible Bridges/CMVRs, please refer to the Eagle Eye LPR Brochure or Bridge Datasheet that can be found <u>HERE</u>.

#### LPR Configuration

Eagle Eye LPR Analytics are enabled from the Analytics section found under camera settings. Once enabled, LPR configuration is accessed by clicking to Open LPR Settings.

| Camera    | Retention                         | Resolution | Motion Analytics Audio Location Metrics   |   |
|-----------|-----------------------------------|------------|---|---|
| Enable    | VSP LPR                           |            |   |   |
| nable Ana | lytics                            |            |   | ( |
|           | Counting                          |            | <b>Counting</b> - Object counting is used to count the number of objects crossing over a line.<br>This can be used for counting cars, people, or other objects. Total count per day is<br>maintained. Graphs are available.                     |   |
|           | Line Crossing                     | :          | Line Crossing - Detects when an object crosses a line. Direction may be specified and<br>Notifications may be generated   |   |
| Ir        | trusion Detection                 | :          | Intrusion Detection - Intrusion detection is used to generate an alert when an object<br>enters a forbidden area. The forbidden area may be any size and shape. Notifications<br>may be sent.   |   |
|           | Loitering                         | : 🗆        | Loitering - Loitering detection is used to generate an alert when a moving object<br>remains in a predefined area for a specific amount of time. Notifications may be sent.   |   |
|           | Tampering                         | :          | Tampering - Tampering detection is used to generate an alert when someone is trying to<br>block the camera's view or the image is greatly altered.  |   |
|           | VSP                               | : 🔽        | VSP (Vehicle Surveillance Package) - is used to read and record vehicle license plates<br>entering or exiting a facility and to create alerts and notifications for a vehicle allowed,<br>denied, or out of area for specified periods of time. |   |
|           | License Plate<br>Recognition(LPR) |            | LPR - License Plate Recognition/ Number Plate Recognition is used to read the license<br>plate of the vehicle. Database functionality is available which allows to have alert for a<br>specific license plates.                                 |   |
|           |                                   |            | LPR Add-On Features   Image: Description of the system to integrate with external access control system using locally stored license plate information.   |   |



Within the LPR Configuration User Interface, a user needs to input standard configuration like Processing Resolution, Frame Rate, Direction of Vehicle Movement, and Complexity. For additional help and assistance, you can reach to Our Sales Engineering team at <u>se@een.com</u> or Technical Support.

|     |                             |                         |         |                             | Entrance LF |   |   | LPR      |
|-----|-----------------------------|-------------------------|---------|-----------------------------|-------------|---|---|----------|
| LPR | Status                      | Integration             |         |                             | 1           | Ŧ | 6 | Settings |
|     | URL                         | rtsp://10.0.10.66:554/0 | /onvif. | x-45, y-186, w-1847, h-699, |             |   |   |          |
|     | Processing<br>Resolution    | 1920X1080               | •       |                             |             |   |   |          |
|     | Processing<br>Frame<br>Rate | 15                      | •       |                             |             |   |   |          |
|     | LPR Use<br>Case             | Free flow               | •       |                             |             |   |   |          |
|     | Country                     | US                      | •       |                             |             |   |   |          |
|     | Vehicle<br>Make             | Enable Vehicle Make     |         |                             |             |   |   |          |
|     | Vehicle<br>Color            | Enable Vehicle Color    |         |                             |             |   |   |          |

Figure 3: LPR Configuration UI

To confirm the service is running, look for a green check on "Health" in the System Status page. Note that the frame captured count is incrementally updated every few seconds.

The Status page also provides recent events for quick verification.



### **Related Application Notes and Collateral**

AN033 - Camera Installation Considerations for LPR/ANPR - Link

AN035 - Configuring VSP in Eagle Eye VMS - Link Link

Eagle Eye LPR Brochure - Link

Eagle Eye Bridge/CMVR Data Sheets - Link