# MATRIX VIDEO SURVEILLANCE: LICENSE PLATE RECOGNITION



### **DESCRIPTION**

- The system detects a license plate and takes its snapshot. Further it optically converts the image into digital number and stores into the database.
- It maintains a log whenever a license plate is detected.
- License **Plate** Recognition also compares the detected license plate against anv defined database to allow/prohibit entry of a vehicle.
- ❖ As soon as a license plate is detected it sends notifications in the form of SMS, Email, audio, video pop up, alarm etc.
- This software can be integrated to any third party boom barrier to automate entry of vehicles.



## **BENEFITS**



by preventing unauthorized access





**Quick Investigation** with pictorial reports



**Prevent Fights** by identifying parking in wrong spot



**Reduce Manpower Cost** by automating parking

# **PICTORIAL REPORTS**

#### License Plate Recognized

01/04/2016 00:00:00 - 30/04/2016 23:59:59

Source	Occurred On	Message	Image
SATATYA HVR1524P-Cam4	28/04/2016 11:36:41	License Plate Number: JH 01 AO 2272 detected on SATATYA HVR1624P-Cam4	JHÖ1AQ2272
SATATYA HVR1624P-Cam4	28/04/2016 11:39:09	License Plate Number: JH 01 AL 0991 detected on SATATYA HVR1624P-Cam4	THOUT FOR
SATATYA HVR1624P-Cam4	28/04/2016 11:43:02	License Plate Number: JH 01 AX 7586 detected on SATATYA HVR1624P-Cam4	JHÓ11K7588
SATATYA HVR1624P-Cam4	28/04/2016 11:45:27	License Plate Number: JH 01 I 7979 detected on SATATYA HVR1624P-Cam4	JH-01AN 7979

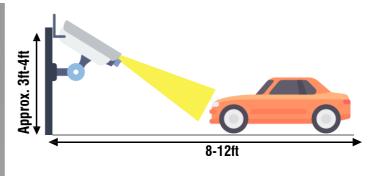


License Plate Recognition can be used in residential buildings, retail showrooms, manufacturing units as well as big corporates who have a dedicated parking space and require automation of vehicles entering and leaving the premise.

For E.g. A corporate MNC has a huge parking lot for employees. They do not want any visitor to park in the employee parking area. So for this they would have to keep a dedicated security guard who manually checks whether each vehicle entering is of an employee or visitor. This process is tiring, costly and time consuming as well as has chances of manual error. With Matrix License Plate Recognition Software, this entire process can be automated. A boom barrier can be integrated with Video Surveillance and as soon as a vehicle enters, the camera will take a snapshot of the number plate and try to match it with the number saved in its database. The boom barrier for employee parking opens if the number plate is matched as in the database. If the number plate does not match, the system identifies it as a visitor's vehicle and hence can be guided to park in a different spot.

# CAMERA INSTALLATION

- Camera height should be between 3ft to 4ft for better field of view (To capture only vehicle number).
- ❖ Camera distance from the vehicle should be maximum 8 to 12ft. It is also depends upon the resolution of the camera and the focal length of the camera (For reference 2MP Varifocal (2.8 to 12mm) camera installed at 3.5ft height can be used to detect the vehicle number plate from the distance of 8 to 10ft).



- Camera should be mounted in such a way that the license plate comes with the straight angle. For better results text in license plates should be horizontally aligned.
- ❖ License plate characters should be taller than 22 pixels in the captured image.
- ❖ 18% width of the selected area should be covered by License plate (Select the appropriate area of the view not wide view recommended due to night time detection)

## **CAMERA TYPE**



- Varifocal camera is suggested for better performance.
- ❖ Field of view should be narrow. As we need to focus only on license plate.
- ❖ Vehicle speed depends on the shutter speed of the camera (FPS of the camera).
- \* With the help of High shutter speed, we can detect the license plate of the vehicle having high speed and we can reduce the effect of blurred image (On 25FPS, we can detect the license plate of the vehicle having speed up to approx. 10 to
- For detection during Night time, HLC camera can be used to overcome the brightness due to headlights.

## OTHER REQUIREMENTS



- Only standard Number plate will be detected successfully.
- Numbers written in license plate should be visible clearly.
- ❖ For e.g. Indian Standard license plate issued after June, 2005 in India as shown in the right.
- ❖ Diplomatic, non-standard and military vehicle license plate will not be detected as shown in the right.





# SUPPORTED COUNTRIES

Algeria Argentina Australia ❖ Azerbaijan

Belgium

- Cambodia Canada
- Cape Verde
- Chile
- Colombia ❖ Costa Rica
- Bolivia ❖ Botswana Croatia
- Brazil Bulgaria
- Cuba Cyprus

- Czech Republic
- Denmark
- ❖ Ecuador
- El Salvador
- Estonia France
- Germany
- Greece Guatemala

- Honduras
- Hungary
- ❖ Iceland
- ❖ India
- ❖ Ireland
- Israel
- Italy Jordan
- Kenya

- Latvia
- Malaysia
- Namibia
- Netherlands
- ❖ Norway Peru
- Poland
- Portugal Romania

- Singapore
- Slovakia
- Slovenia
- South Africa
- Spain
- Sweden
- ❖ Switzerland
- Turkev
- United Kingdom

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