Contents

Headquarters
No.555 Qianmo Road, Binjiang District,
Hangzhou 310051, China
T +86-571-8807-5998
overseasbusiness@hikvision.com

HIKVISION ANPR Setup for Paxton Net2

1 Overview

The document is mainly used to introduce how to install Hikvision ANPR Wiegand camera and connect with Paxton Net2 software to manage the vehicle license plate recognition.

2 Product

2.1 ANPR Wiegand Camera

Model number: DS-2CD4A26FWD-IZS/P-WG (2.8-12mm)
DS-2CD4A26FWD-IZS/P-WG (8-32mm)
DS-2CD4A26FWD-LZS/P-WG (2.8-12mm)
Firmware version: V5.4.5 build171116

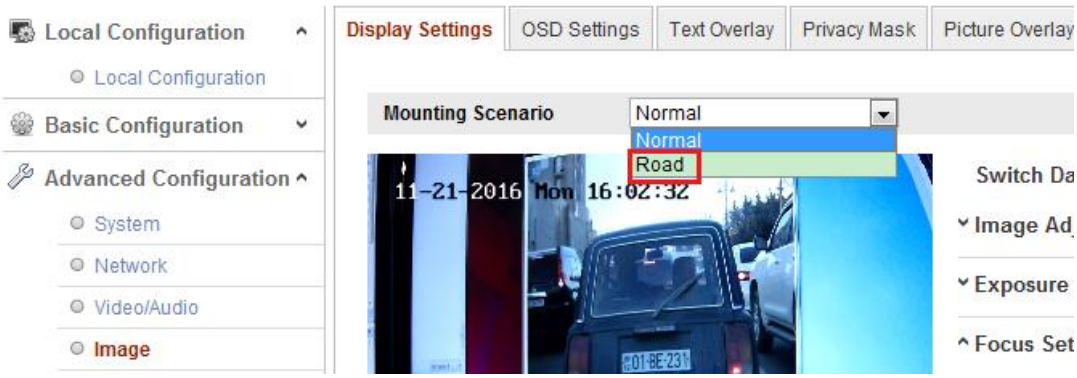
2.2 Specification

- 1/1.8"Progressive Scan CMOS
- 1920×1080@ 60fps
- Ultra-low light
- Auto-iris
- 120dB WDR
- IP67
- IR and white light, optional
- ANPR technology

3 Configuration

3.1 Image Settings

There are two modes on the ANPR camera, Road and Normal, as follows,
It is recommended to use Road Mode to monitor the road traffic, or if the external environment is too dark at night, Road Mode is also recommended, as follows, Pic 1.



Pic 1

In addition, you can also manually modify/configure the image parameters according to different scenarios, as follows, Figure 1.

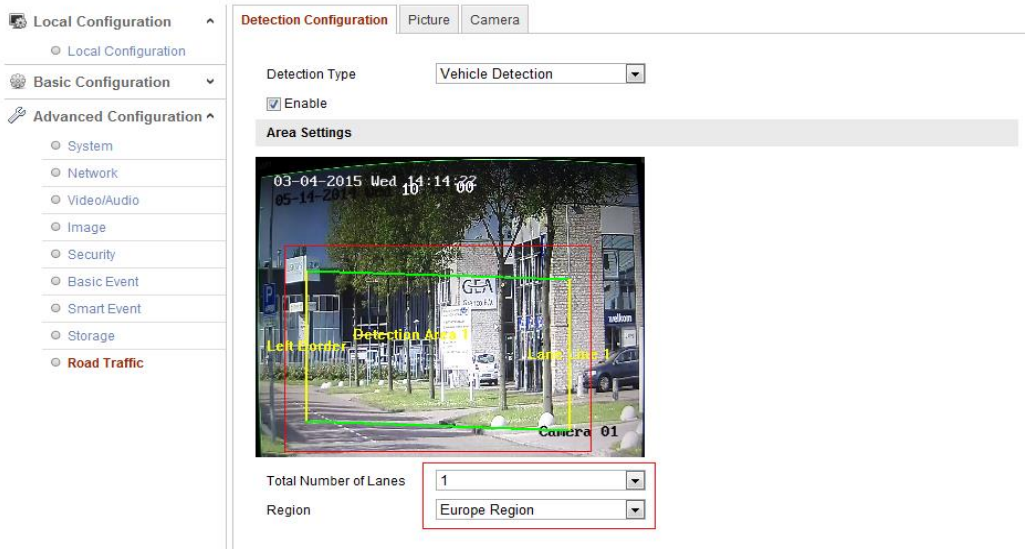
Vehicle speed(km/h)	Exposure time(s)	Gain	WDR and BLC
5	1/100	20	OFF
40	1/500	20	OFF
100	1/1000	20	OFF
200	1/2000	20	OFF

Figure 1

Note: The table is for reference only. The configuration may be different for different scenarios.

3.2 ANPR settings

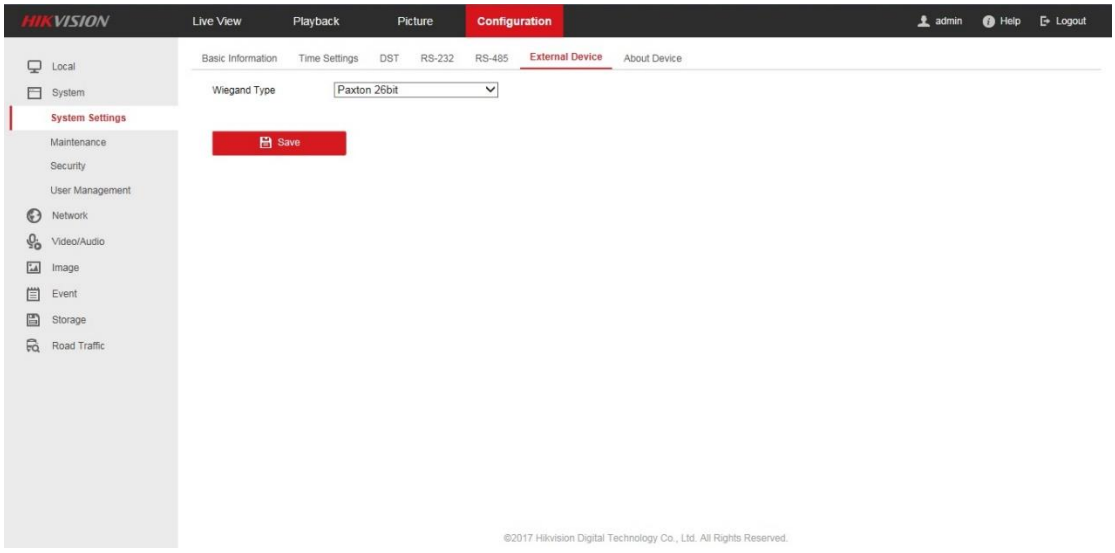
Configuration->Advanced Configuration->Road Traffic -> Tick the “Enable” box to enable the ANPR feature, and click and drag the yellow lane line to set the position, adjust the zoom ratio of the camera so that the size of the vehicle in the image is close to that of the red frame, Pic 2.



Pic 2

3.3 Wiegand protocol configuration

Configuration->System->External Device->Wiegand Type, choose Paxton 26bit and save it, as follows,



Pic 3

3.4 Connection with Net2 ACU

Step 1,

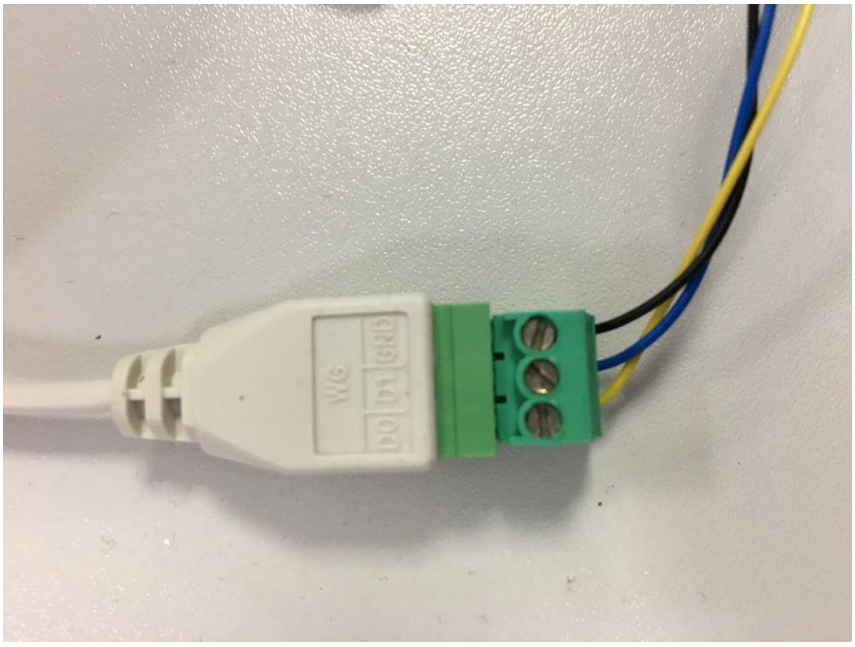
The connections for the ANPR Camera and Reader port using a Belden reader cable

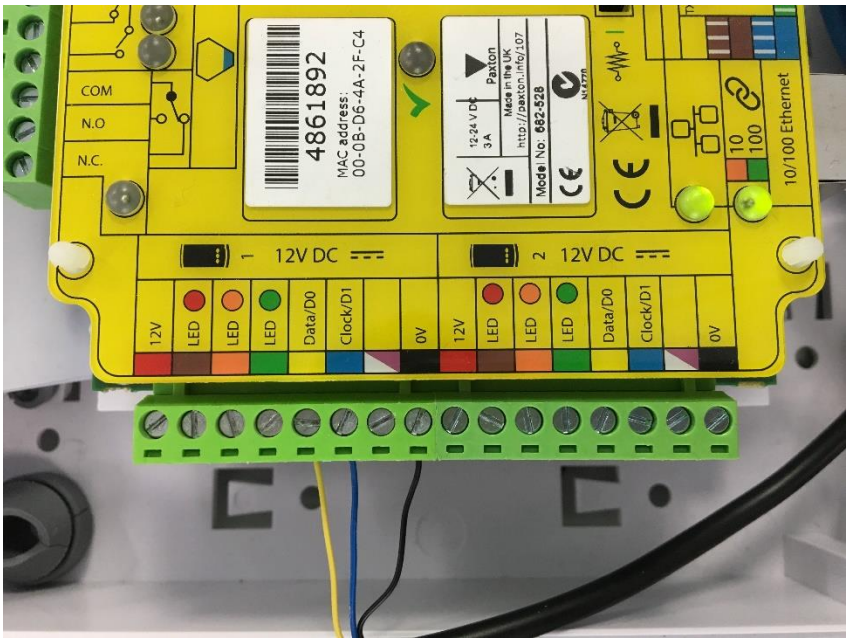
(as per Paxton specification) on the Net2 ACU are as follows:

Blue wire: D1 at ANPR – Clock/D1 on Net2 ACU Reader Port

Yellow wire: D0 at ANPR – Data/D0 on Net2 ACU Reader Port

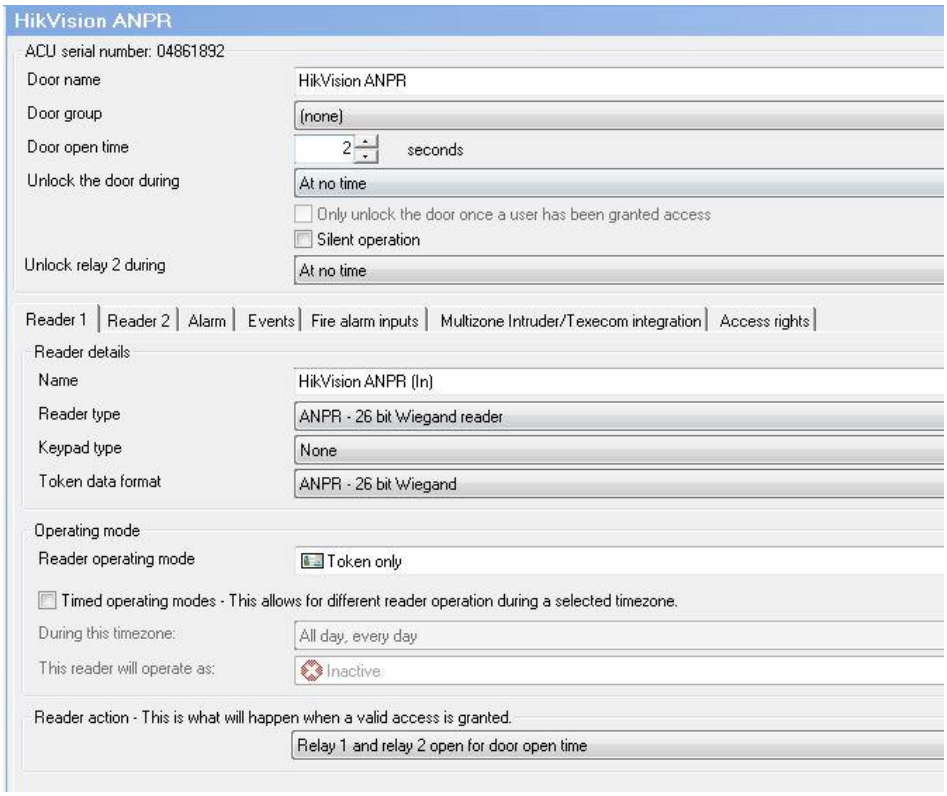
Black wire: GND at ANPR – 0v on Net2 ACU Reader Port





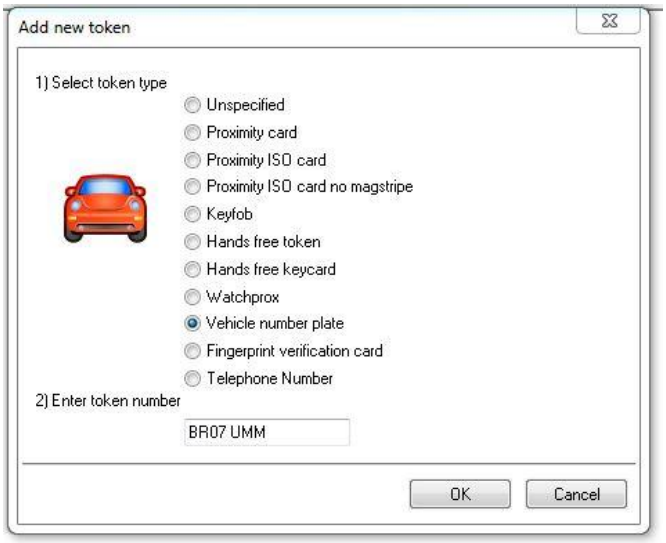
Step 2,

In the door settings for the ACU that will be connected to the ANPR camera, set the door up as follows and apply:



Step 3,

In the user record, select the 'Tokens' tab and select 'New Token' to open the 'Add new token' window:



Step 4,

- Select 'Vehicle number plate' and enter the license plate number you wish to add for the user; e.g. BR07 UMM
- Click OK then Apply.

- As the license plate is read by the ANPR camera, it will send the converted token number to the Net2 ACU.

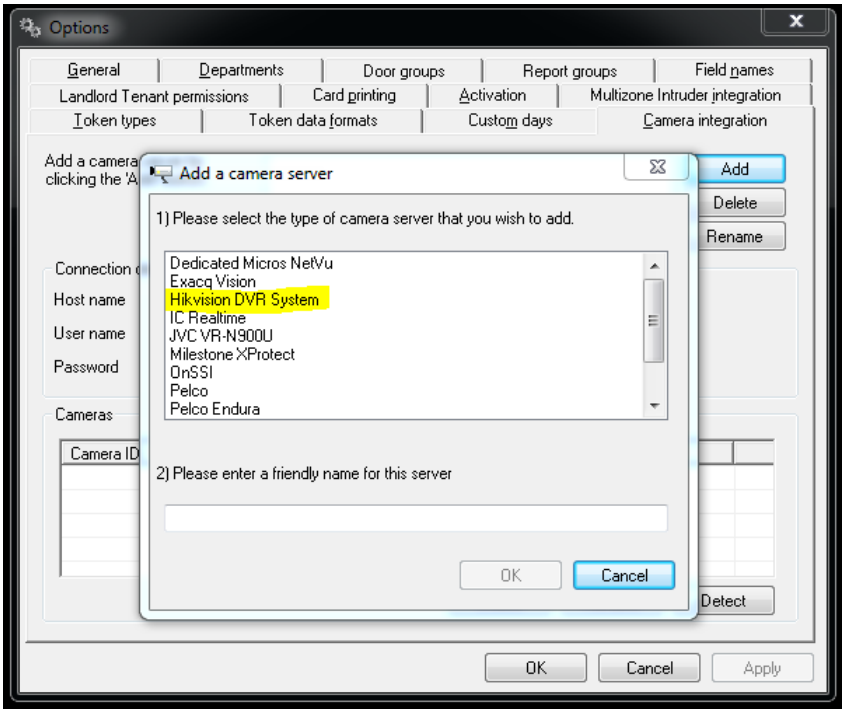
Events

Date/time	User	Token number	Where	Event	Details
07/07/2017 13:51:28	Wrench, Chris		HikVision ANPR (In)	Access permitted - ANPR	BR07UMM
07/07/2017 13:51:23	Wrench, Chris		HikVision ANPR (In)	Access permitted - ANPR	BR07UMM
07/07/2017 13:51:17	Wrench, Chris		HikVision ANPR (In)	Access permitted - ANPR	BR07UMM
07/07/2017 13:51:11	Wrench, Chris		HikVision ANPR (In)	Access permitted - ANPR	BR07UMM

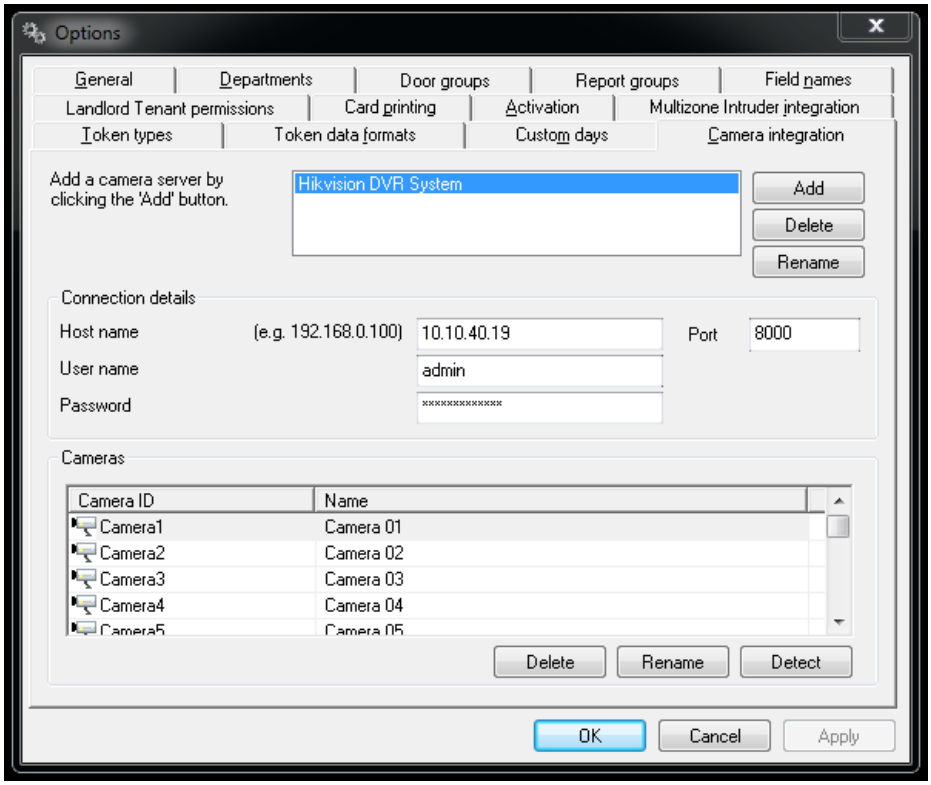
3.5 Viewing the ANPR capture in Net2

Hikvision have a second integration with Net2 that allows users to view DVR/NVR video from within the Net2 UI. This integration can be used in conjunction with the ANPR camera to show the capture of the licence plate as it is read by the camera.

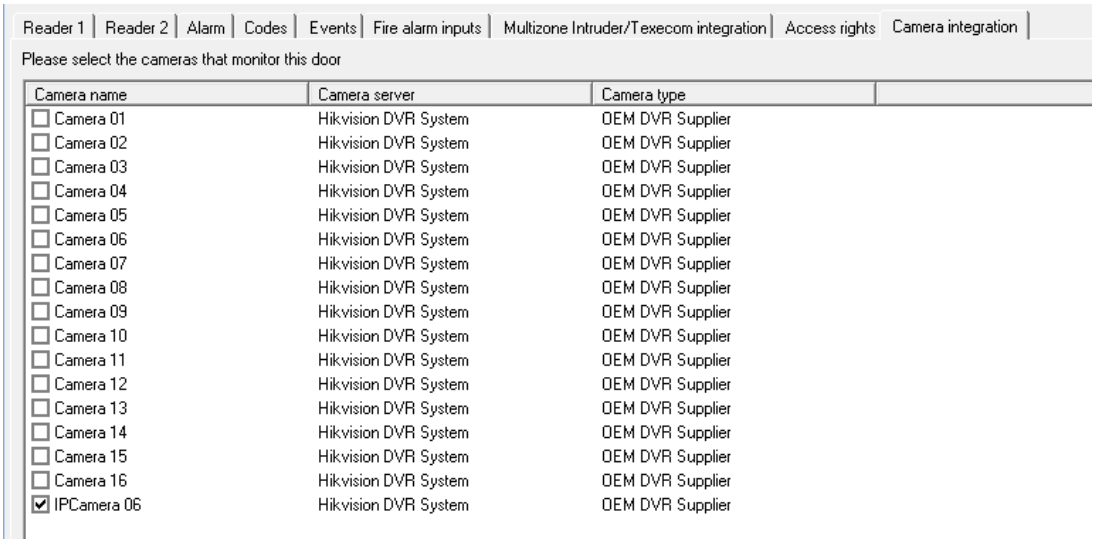
- Download the plugin from here: ftp://Hik_Paxton:Paxton_Hik@ftp.hikvision.com
- Once installed, in Net2 go to Options>Camera Integration>Add and select Hikvision DVR System from the list of camera servers.



- Add the DVR credentials to authenticate and detect the associated cameras:



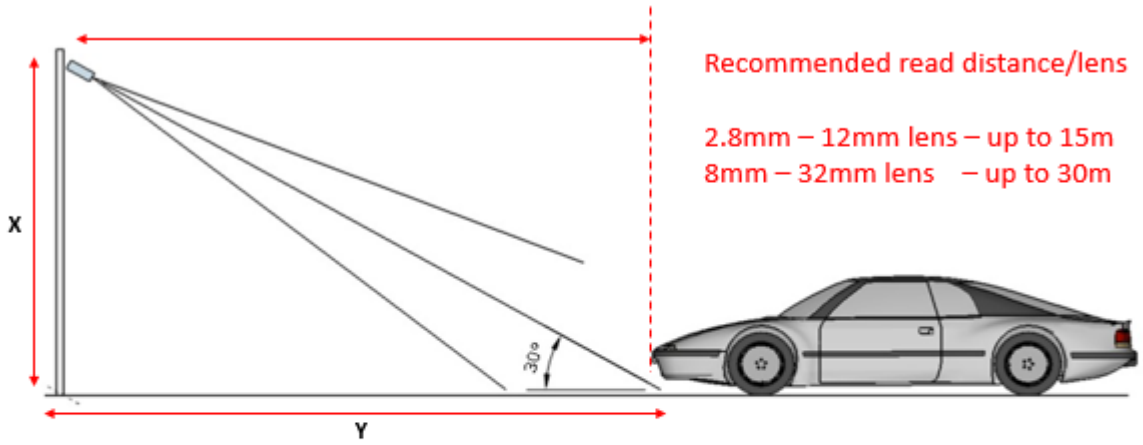
- Click OK, then go to the ACU that is associated with the ANPR camera and select it as the camera that is monitoring the door:



- As the ANPR camera generates events in Net2, a camera icon will appear next to the event. Clicking the icon will show the video associated with the ANPR event.

4 Appendix

4.1 ANPR Installation

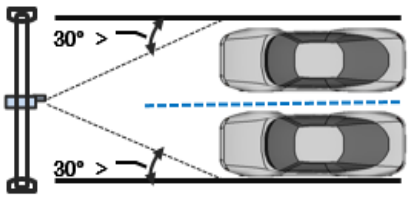


The vertical angle should not exceed 30 ° Installer can calculate all the necessary distance using trigonometric functions
X - the height of the camera installation
Y - the distance between the camera and the car, hoping the ground (place of measurement)

Y=X/tan(30°)

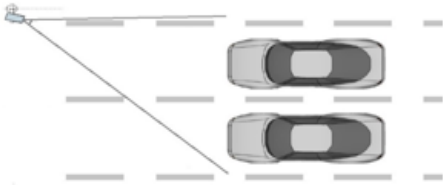
So, for simplicity it can be assumed :

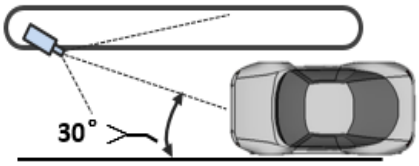
Y=1.7*X



Horizontal angle demand
The view angle of the camera should be within 30 degrees to the path of movement.

- Car speed < 60km/h: One camera can cover two lanes.
- Car speed > 60km/h: One camera is recommended for one lane.





4.2 Installation angle

When ensuring the camera is set up correctly and the best field of view is set with the lens – make sure the tilt angle of the plate to the horizontal plane is not more than 5 degrees, otherwise you will get a poor or incorrect read's.

This road is uphill and with an adverse camber, which causes an offset of the plate to the horizontal plane – this plate still read perfectly well, but with anything more than this there could be problems so check your scene before hand.

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