2ND Generation

License Plate Recognition Camera

(Junction Box included)

H.265 | Smart 60FPS | IP67 | 👁
WDR | 3D DNR | 🚗

- Smart/Deep Learning Based ANPR
- Enhanced Data Security
- Number Plate Recognition
- Easy to Use / Large Coverage
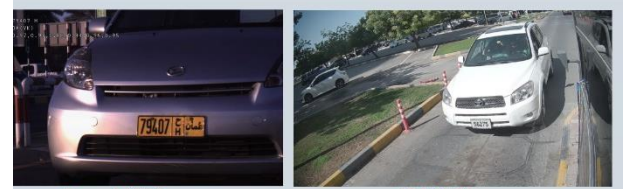- Suitable with vary Light Scenario

Features:

1. Smart/Deep Learning-Based ANPR camera.
   Reducing False Capture rate, supporting Direction Detection, No-plate vehicle detection (see right picture)

2. Enhanced Data Security
   802.1x EAP-TLS 1.2 | Stream encryption | SFTP
   Security Audit Log | SD card encryption

3. Number Plate Recognition
   Access control library can store up to 10,000 pieces of number plate information. Outputting license plate in local languages, including German, Russian, and Arabic

4. Easy to Use / Large Coverage Area
   Compatible with LTS 89xx/86xx Series NVR & LTS-Connect

5. Suitable with vary Light Scenario
   Support Ultra Low Lux, HLC, Front/Back Light Situation with the Time Schedule program.

6. Multiple Integration Modes / Support up to 5 Video Streams
   ISAPI, SDK, SFTP, HTTP Listening, etc.

Pedestrian crossing | Pedestrians clothing | Roadside fence

Characters on the side of the vehicle | Billboard | Vehicle and license plate

Highlights - direction detection

Linkage Method

Direction ● All ○ Forward ○ Reverse

	Normal Linkage		Trigger Alarm Output
☑	Notify Surveillance Center	☑	A->1
☐	Upload to FTP/Memory Card/...	☑	A->2

One-way street
It can be used for vehicle converse detection on one-way street.

Direction detection alarm
Only the vehicles moving as the selected direction can trigger selected linkage methods.
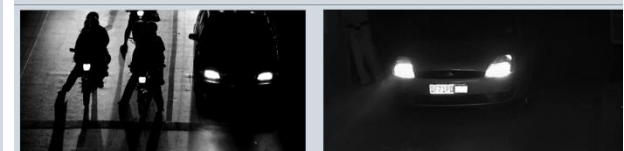
Highlights - Large Coverage

General ANPR camera | **LTS ANPR camera**

Besides ANPR requirement, sometimes users want to get general monitoring video at the same time. Common ANPR cameras can only cover limited scene, which means they focus on number plates and vehicles. LTS ANPR cameras can cover bigger scene, which means that it can **provide general monitoring videos** to save cost for end users.

Security Actions

To prevent an unauthorized physical connection: Supports 802.1x EAP-TLS 1.2 protocol, only devices with the certificates can access the private network.
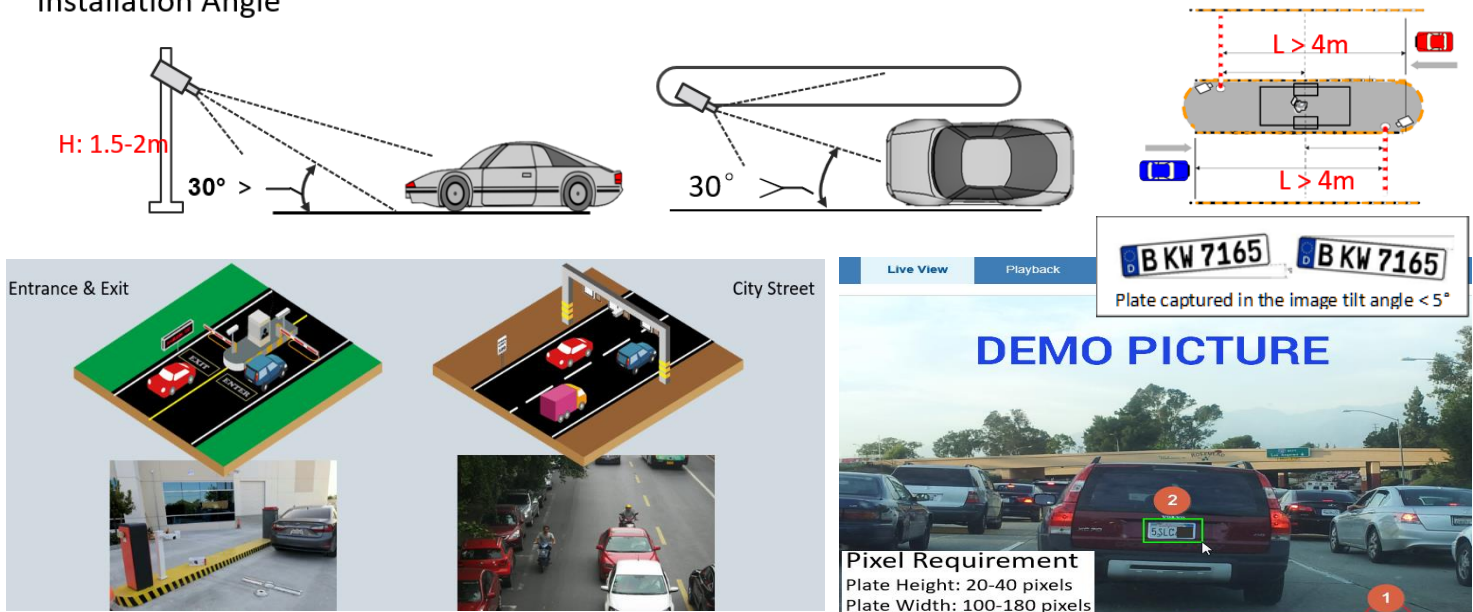
IP address filter is applied to prevent all hostile attacks from illegal IP address.

To prevent the real-time video stream and playback from being hacked remotely: Support stream encryption by RTSP/RTP over HTTPs and SD card encryption.

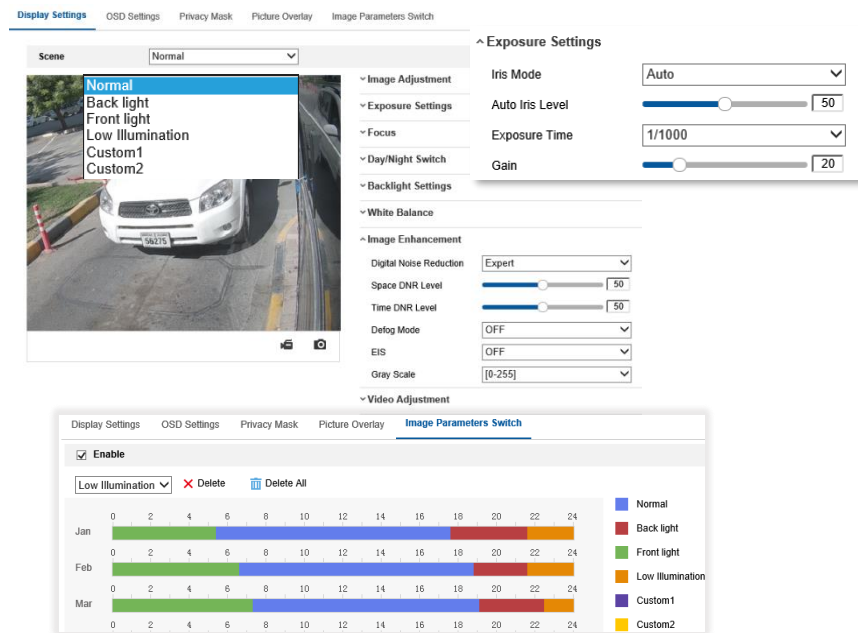LTS ANPR cameras support SFTP to enable image encryption when transferring data between cameras and FTP server.

LTS security auditing log records all data activities to ensure that all security operations can be queried.

Highlights – Ultra Low Lux

General ANPR camera | **LTS ANPR camera**

Camera is very important for the whole system, if the image quality is poor, the accuracy of ANPR system will be affected. Especially in the dark environment, general camera cannot get details of number plates. LTS ANPR camera is equipped with Ultra Low Lux technology, which is perfect for dark environment.

Installation Angle

H: 1.5-2m 30° >   30°   L > 4m   L > 4m

Entrance & Exit

City Street

Live View   Playback

DEMO PICTURE

Plate captured in the image tilt angle < 5°
B KW 7165   B KW 7165

Pixel Requirement
Plate Height: 20-40 pixels
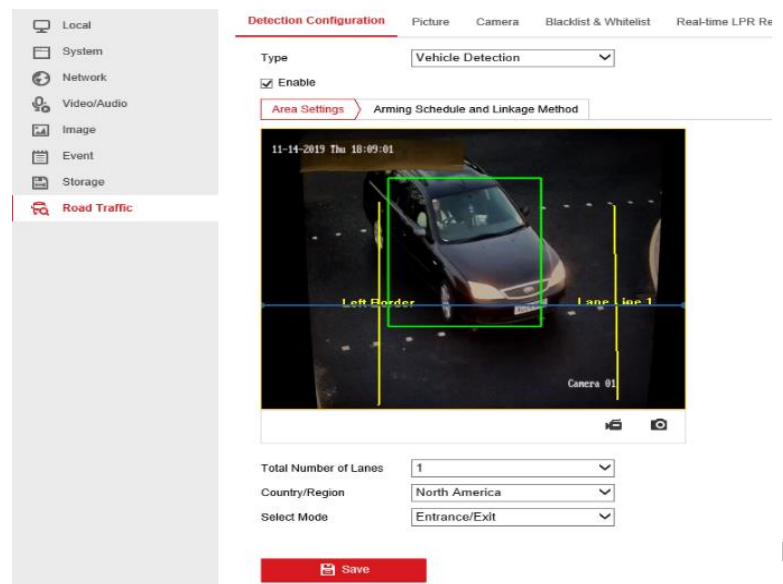Plate Width: 100-180 pixels

Width: px   Height: px

Video & Image setting

- Set Focus mode as semi-auto (semi-auto, auto, manual). Adjust zoom ratio to proper position and adjust focus to make image clear.

- Set better image quality and use recommended bitrate.

- Set display settings to road mode. In this mode, exposure time is 1/1000, Gain is 20 as default. Adjust the settings according to the capture picture. Reduce the exposure time will reduce overexposure caused by vehicle light. Increase the gain will make the license plate brighter.

- 3D DNR. If the capture image has many noises, enable DNR and set as expert mode, adjust space DNR level to reduce it.

- There are several light scenarios (Normal, Back Light, Front Light, Low Illumination, etc) The image Parameter Switch support customize time 4 different segment by month.
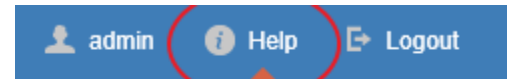
Display Settings   OSD Settings   Privacy Mask   Picture Overlay   Image Parameters Switch

Scene   Normal
Normal
Back light
Front light
Low Illumination
Custom1
Custom2

Image Adjustment
Exposure Settings
Focus
Day/Night Switch
Backlight Settings
White Balance
Image Enhancement
Digital Noise Reduction   Expert
Space DNR Level   50
Time DNR Level   50
Defog Mode   OFF
EIS   OFF
Gray Scale   [0-255]
Video Adjustment

Exposure Settings
Iris Mode   Auto
Auto Iris Level   50
Exposure Time   1/1000
Gain   20

Display Settings   OSD Settings   Privacy Mask   Picture Overlay   **Image Parameters Switch**

☑ Enable
Low Illumination   ✕ Delete   🗑 Delete All

	0	2	4	6	8	10	12	14	16	18	20	22	24	
Jan														
Feb														
Mar														

■ Normal ■ Back light ■ Front light ■ Low Illumination ■ Custom1 ■ Custom2

Road traffic settings

- Select mode as Entrance & Exit, city street, or alarm input.

- Draw the border or lane.

- Draw the detection line to a proper position.

- The Left / Right border is important, please just it carefully.

- The blue line is the shuttle line where the plate captured.

- The Green/Red box is the vehicle will be positioned.

Local
System
Network
Video/Audio
Image
Event
Storage
Road Traffic

Detection Configuration   Picture   Camera   Blacklist & Whitelist   Real-time LPR Re

Type   Vehicle Detection
☑ Enable
Area Settings   Arming Schedule and Linkage Method

11-14-2019 Thu 18:09:01

Left Border   Lane Line 1   Camera 01

Total Number of Lanes   1
Country/Region   North America
Select Mode   Entrance/Exit

💾 Save

pg. 2

Detection Configuration (Copy from the Help)

Steps:

1. Select the detection type from the list.
   Note: Reboot the device to activate the new settings when switching the detection type of road traffic.
   Vehicle Detection and H264+/H265+ are mutually exclusive.
2. Check the checkbox of Enable to enable detection.
3. Select the total number of lanes in the corresponding drop-down list.
4. Drag and move the blue line to set the triggering line.
5. Click and drag the yellow lane lines to set their positions or click and drag the line endpoints to adjust the length and angle of the line.
6. 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 in the image. Only the position of the red frame is adjustable. **Note:** Only 1 license plate can be captured at one time for each lane.
7. Select the Region and Country/Region.
8. Select the license plate information upload mode from the Select Mode drop-down list.
   • Entrance/Exit: It means the license plate information of the detected vehicle will be uploaded when the vehicle passes the detection area and triggers the detection in entrance/exit.
   • City Street: It means the license plate information of the detected vehicle will be uploaded when the vehicle passes the detection area and triggers the detection in the city street.
   • Alarm Input: It means the input alarm will trigger a license plate capture and recognition action.
   Notes: When Alarm Input is selected, the alarm input "A<-1" will automatically be assigned to trigger vehicle detection and its alarm type is always NO. If the "A<-1" alarm input is used to trigger vehicle detection, it cannot be used for other basic events.
   When Alarm Input is selected and saved, the previously configured linkage method for "A<-1" will be canceled.
9. Select the Detection Mode.
10. Check to Remove Duplicated License Plates and set the Time Interval. The default time interval is 4 minutes.
    Note: Up to 8 license plates can be saved.
11. Save area settings.
12. Configure the arming schedule and linkage method for the detection for the white list, blacklist, and another list separately.
    i. Click on the time bar and drag the mouse to select the time period. Click delete or delete all to delete the configured schedule.
    ii. Move the mouse to the end of each day, a copy dialogue box pops up, and you can copy the current settings to other days. Note: The time of each period cannot be overlapped. Up to 8 periods can be configured for each day.
    iii. Select the Direction. Direction means the direction of the vehicle moving. Only the vehicles moving as the selected direction can trigger selected linkage methods. Forward: The vehicle moves toward the camera. Reverse: The vehicle moves away from the camera.
    iv. Check the desired linkage method. Notify Surveillance Center: Send an exception or alarm signal to remote management software when an event occurs. Upload to FTP/NAS/Memory Card: Alarm information will be uploaded to the configured FTP server, NAS, or onboard memory card. Trigger Alarm Output: Alarm signal will be sent to a configured device that will take certain actions to the received signal.
    v. If you want to copy the current configured arming schedule and linkage method to the other list, click Copy to and check the desired list.
    vi. Save the settings for the list.

Smart Display – The Real-time Analyze Window

The camera is based on Deep Learning technology, it will reduce/filter false non-license plate results. After you click the Smart Display, it will show 3-panel layers as default. You may configure it under the config button.

Note ✕

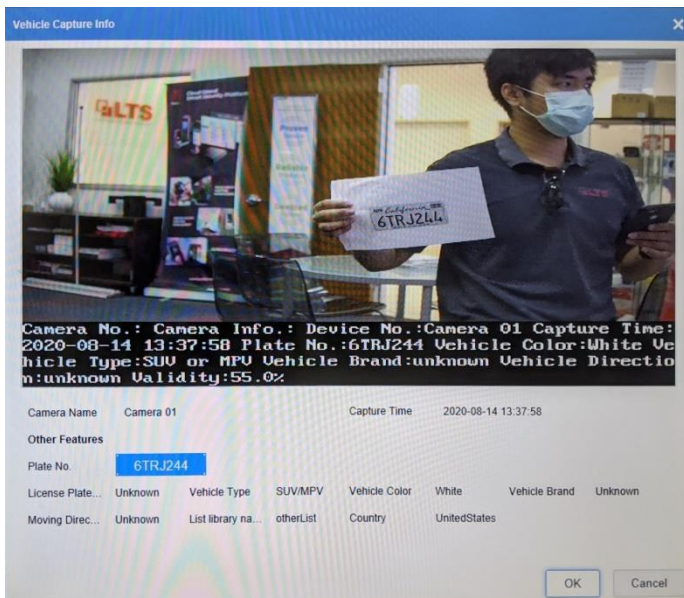Make sure your browser version is above IE11.0.9600.17843 to use Smart Display normally.

Smart Display

Camera No.: Camera Info.: Device No.:Camera 01 Capture Time: 2020-08-14 13:37:58 Plate No.:6TRJ244 Vehicle Color:White Vehicle Type:SUV or MPV Vehicle Brand:unknown Vehicle Direction:unknown Validity:55.0%

Vehicle Detection

6TRJ244

Real-time Analyze

Camera Name	Camera 01	Capture Time	2020-08-14 13:34:31
Plate No.	6TRJ244		
License Plat...	Unknown	Vehicle Type	SUV/MPV	Vehicle Color	White
Vehicle Brand	Unknown	Moving Dire...	Forward	List library n...	otherList
Country	UnitedStates		

Pop-up when detected.   Configure button 📷 📹 🔳

Vehicle Capture Info ✕

Camera No.: Camera Info.: Device No.:Camera 01 Capture Time: 2020-08-14 13:37:58 Plate No.:6TRJ244 Vehicle Color:White Vehicle Type:SUV or MPV Vehicle Brand:unknown Vehicle Direction:unknown Validity:55.0%
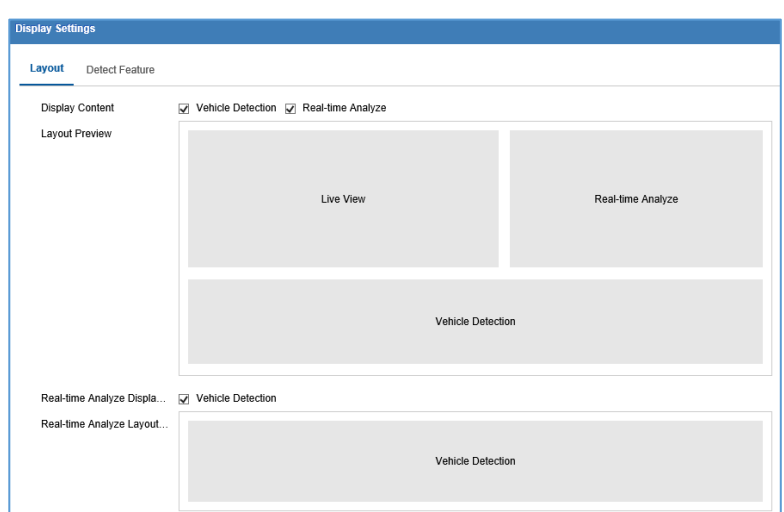
Camera Name	Camera 01			Capture Time	2020-08-14 13:37:58	
Other Features						
Plate No.	6TRJ244					
License Plate...	Unknown	Vehicle Type	SUV/MPV	Vehicle Color	White	Vehicle Brand	Unknown
Moving Direc...	Unknown	List library na...	otherList	Country	UnitedStates	

OK   Cancel

Display Settings

Layout   Detect Feature

Display Content ☑ Vehicle Detection ☑ Real-time Analyze

Layout Preview

Live View	Real-time Analyze

Vehicle Detection

Real-time Analyze Displa... ☑ Vehicle Detection

Real-time Analyze Layout...

Vehicle Detection

Package Contain:

Basic Information | Time Settings | DST | RS-232 | **VCA Resource**

| Camera1 |
| ● Road Traffic ○ Smart Event |

Basic Information | Time Settings | DST | RS-232 | VCA Resource | **metadata Settings**

| Camera1 |
| ☑ ANPR |

Basic Information | Time Settings | DST | RS-232 | VCA Resource | metadata Settings

- Local
- System
  - System Settings
  - Maintenance
  - Security
  - User Management
- Network
- Video/Audio
- Image
- Event
- Storage
- Road Traffic
- Counting

Device Name	IP CAMERA
Device No.	88
Model	CMIP7923WLPR-32R
Serial No.	CMIP7923WLPR-32R20200702AAWRE56269329
Firmware Version	V5.5.121 build 200525
Encoding Version	V7.3 build 200427
Web Version	V4.0.51 build 200512
Plugin Version	3.0.7.30
Number of Channels	1
Number of HDDs	0
Number of Alarm Input	2
Number of Alarm Output	2
Firmware Version Property	C-R-H7-0

- Local
- System
  - System Settings
  - Maintenance
  - Security
  - User Management

Upgrade & Maintenance | Log | **System Service**

Hardware

☑ Enable IR Light

☑ Enable eMMC Protection

0% eMMC Life has been Used

Security Audit Log

- Local
- System
  - System Settings
  - Maintenance
  - Security
  - User Management
- Network
- Video/Audio
- Image
- Event
- Storage
- Road Traffic
- Counting

Upgrade & Maintenance | Log | System Service | **Security Audit Log**

Log Query

Major Type	All Types	Minor Type	All Types	
Start Time	2020-08-18 00:00:00	End Time	2020-08-18 23:59:59	Search

Log List

No.	Time	Major Type	Minor Type	Channel No.	Local/Remote User	Remote Host IP

To

Advanced Settings

☐ Enable Log Upload Server

☐ Enable Encrypted Transmission

Server Settings

Log Server IP	
Log Server Port	0
	Test
Client Certificate	No certificate
CA Certificate	No certificate

- Local
- System
  - System Settings
  - Maintenance
  - Security

Authentication | IP Address Filter | Security Service | **Advanced Security** | Certificate Management

Control Timeout Settings

☐ Enable Control Timeout

Timeout ——————— 15 minute(s)

VCA: Road Traffic / Smart Event

The CMIP7923WLPR-32R can switch and use it with a different purpose. It can use as the People Counting or Smart Tracking Camera. Use the VCA function switch to the Smart Event (Reboot required).

After switching to the Smart Event, the Configuration Menu will also change. Here is the EPTZ function. If EPTZ is enabled, the optical zoom lens in/out function will be disabled and replaced with the EPTZ function in the 4th Video Stream channel with the digital Zoom. I recommend disable EPTZ first and adjust the overview zooming area. Then, enable the EPTZ after. The 1st stream is the overview video resolution, the 4th Stream you can zoom in/out/pan, then set up the EPTZ "Preset", then the "Patrol" function.

Because it is the EPTZ function, so there is no moving transition between Preset 1 to Preset 2. You can think about it is more like jumping from Screenshot 1 to Screenshot 2 with the delay duration.
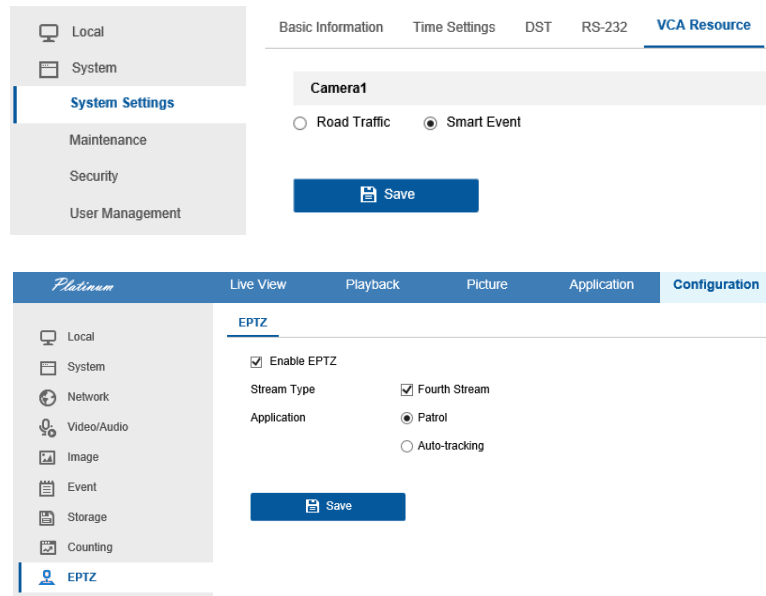
Counting

Counting function is used to calculate the number of object entered or exited a certain configured area, and is widely applied to the entrances or exits.
Notes: It is recommended to install the camera vertically to the ground, and thus the counting function can be more accurate.

Counting Configuration

Steps:

1. Enter the Counting Configuration interface.
2. Check the Enable Counting checkbox to enable the function.
3. Check the Notify Surveillance Center to select the linkage method.
4. (Optional) Check the Enable OSD Overlay checkbox, and the real-time number of the object entered and exited is displayed on the live video.
5. Click Rule to set the detection line.
    i.   Click to draw a detection line, and an orange detection line will appear on the image.
    ii. Click-and-drag the detection line to adjust its position.
    iii. Click-and-drag the two endpoints of the detection line to adjust its length.
    iv. Click to delete the detection line.
6. Click to change the direction.
7. Click the Reset Counter button, and the number of the object entered and exited will be cleared to zero.
8. Click the Arming Schedule to set the arming schedule.
9. Click Save to save the settings.

Note: The counting statistics will be calculated under the Application tab. Go to the Application to check the counting statistics.

Other References:

Pixel Counter

How to check the plate pixel match the requirement?

Go to Live View.
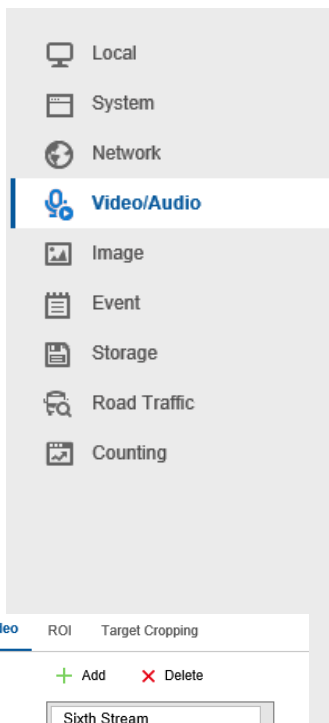Make sure switching to MainStream 1.

Choose the **Pixel Counter**
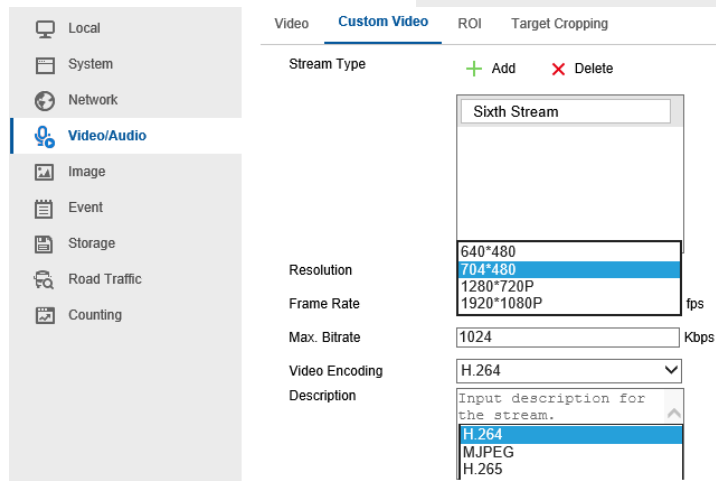
It will display many pixels on the bar.
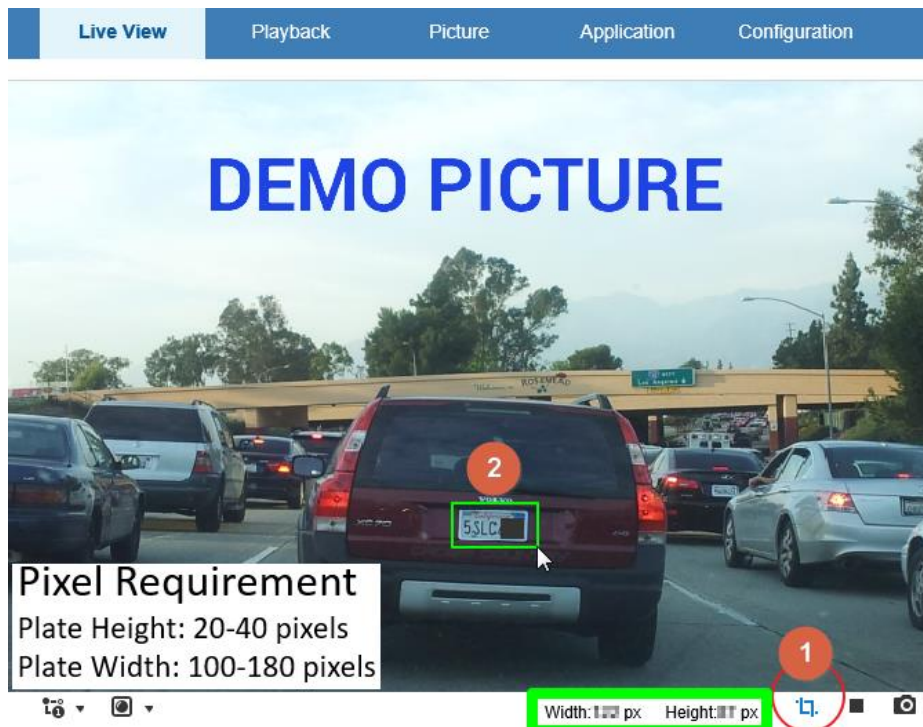
Video Settings

By default, the LPR camera is set to 30fps to make it more compatible with the NVR connection. If your NVR is 89xxx or 86xx, it is compatible with 60fps.
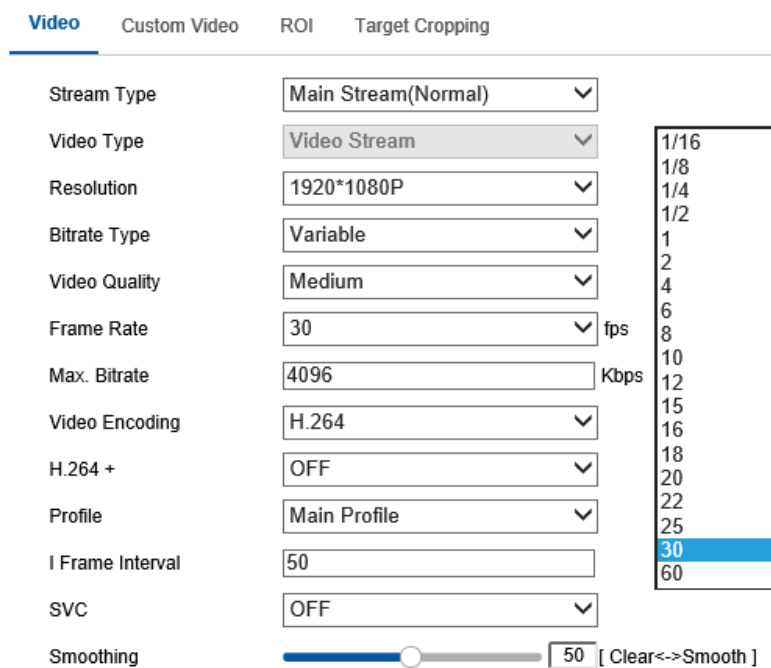
Custom Video Stream

When you try to integrate with 3rd party devices or need to do some video streaming. This section can provide more varied settings.

Road Traffic Config

This section just gave you the overview look of these settings.

Notice the Enter:0 Leave:0 that is from the counting section. Nothing to do with the Road Traffic.

(Mixed-traffic Detection)
When you enable the Mixed-traffic detection, it will ask for Reboot. However, you will lose the Smart Display feature.

Direction warning Trigger. When the vehicle is driving the wrong direction, you can set to trigger the alarm or notify the center.

Picture / Application Logs

This feature required the SD card recording first.

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