[FAQ]

Troubleshooting LPR Issues

Applied to

GV-DSP LPR

GV-DVR LPR

GV-IP LPR Cameras (GV-IP LPR Camera 5R / GV-Hybrid LPR 10R / GV-Hybrid LPR 20R)

Summary

When you encounter problems with GV-DSP LPR, GV-DVR LPR, or GV-IP LPR Cameras, follow the *Troubleshooting Flowchart* below to identify the problem and then refer to *Troubleshooting Steps* to solve the problem. If the problem persists, please provide the information listed on the last page to the technical support.

1. Troubleshooting Flowchart

```
┌─────────────────────┐
│ Is LPR capturing and │
│ recognizing license  │
│      plates?         │
└─────────────────────┘
          │ No
          ▼
┌─────────────────────┐  Yes  ┌─────────────────────┐  No   ┌─────────────────────┐
│ Is recognition       │─────▶│ Is I/O connection and│─────▶│ Check I/O connection │
│ triggered by I/O?    │      │ settings correct?    │      │ and settings (See 2-1)│
└─────────────────────┘      └─────────────────────┘      └─────────────────────┘
          │ No                          │ Yes
          ▼                             ▼
┌─────────────────────┐  Yes  ┌─────────────────────┐  No   ┌─────────────────────┐
│ Are the motion       │─────▶│ Does camera live view│─────▶│ Check the camera live │
│ detection regions    │      │ display properly?    │      │ view (See 2-3)        │
│ set up correctly?    │      └─────────────────────┘      └─────────────────────┘
└─────────────────────┘                │ Yes
          │ No                          ▼
          ▼                  ┌─────────────────────┐  No   ┌─────────────────────┐
┌─────────────────────┐      │ Is the camera        │─────▶│ Adjust the position   │
│ Adjust the settings  │      │ installed according  │      │ of the camera (See 2-4)│
│ of motion detection  │      │ to the installation  │      └─────────────────────┘
│ regions (See 2-2)    │      │ guidelines?          │
└─────────────────────┘      └─────────────────────┘
```

2. Troubleshooting Steps

2-1. Check the I/O connection and settings

A. For GV-DVR LPR

- Make sure the wires of the I/O devices are connected to GV-I/O Box properly.

- If the GV-I/O Box is connected to GV-DVR LPR through a USB cable, be sure to install the USB driver. (There will be an exclamation mark in Windows Device Manager > Ports (COM & LPT) if the driver is not installed properly).

- Check whether the input and output devices are set up correctly on the GV-DVR LPR (For example, the NO/NC settings in I/O Device Setup page).

- Make sure the LPR Setup page in GV-ASManager is set to plate recognition by I/O. If there is more than 1 input device installed at the LPR lane, make sure the inputs are triggered in the correct order.

  In the example below, a single lane is being used for both IN and OUT directions with two input sensors installed. You will have to set up IN and OUT directions as two LPR lanes on GV-DVR LPR. For IN direction, recognition will only be triggered if Input 1 is triggered before Input 2. To trigger recognition for OUT direction, Input 2 (Set as Sensor 1) has to be triggered before Input 1 (Set as Sensor 2).
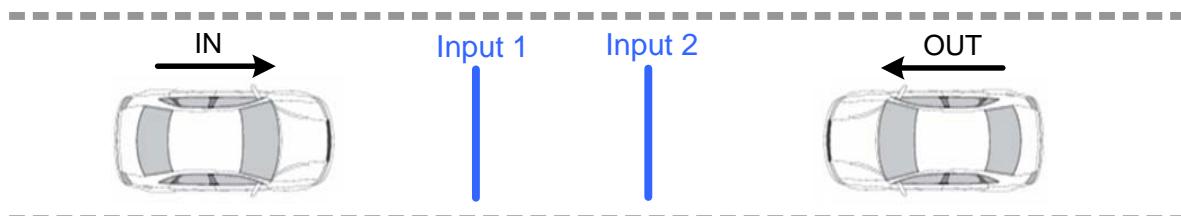
LPR Lane 1 (IN)

| General Setup | Lane 1 | Lane 2 | Lane 3 |

Recognition Setting

Recognition:	By I/O detection
Matching Mode:	All Characters Match
Sensor 1:	Module 1 - Input 1
Sensor 2:	Module 1 - Input 2
Sensor 3:	None
Sensor 4:	None

LPR Lane 2 (OUT)

| General Setup | Lane 1 | Lane 2 | Lane 3 |

Recognition Setting

Recognition:	By I/O detection
Matching Mode:	All Characters Match
Sensor 1:	Module 1 - Input 2
Sensor 2:	Module 1 - Input 1
Sensor 3:	None
Sensor 4:	None

B. For GV-DSP LPR

- On the Web interface, make sure both input and output are enabled and configured properly. (For example, the NO/NC settings)

- On the Web interface, check whether the detection mode is set to plate recognition by I/O. If there is more than 1 input sensor installed at the LPR lane, make sure input 1 is triggered before input 2.

I/O Mode Setting

Trigger Input ☐ Input 1 ☐ Input 2

☐ Force Export.(Used in I/O Mode)

Capture Frame Number in Each Triggered(1-5) | 3 ▾ |

Repeat Recognition when Recongition Failed(0~3) | 1 ▾ |

[Apply]
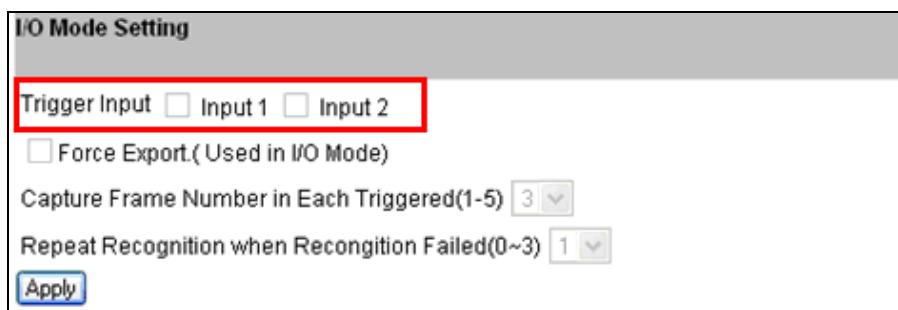
2-2. Check the motion detection region

- Make sure license plates of vehicles are within the motion detection region in the LPR Setup page of GV-ASManager.

- Avoid placing the motion detection region toward the edge of the camera view to prevent license plate images from being cut off. You can adjust the camera angle if needed.

2-3. Check the live view of camera

When the live view is completely black, check the following settings.

A. Analog Cameras

- The video format of the analog camera must be the same with the GV-DSP LPR or GV-DVR LPR.

- The shutter speed should be set to 1/2000.

- If you are using a 3rd-party analog camera, try using another analog camera to eliminate the possibility of compatibility issues.

B. GV-IP LPR Cameras

- The shutter speed should be set to 1/2000.

- Take the steps below for the different LPR cameras, and if camera image remains completely dark, contact technical support. If camera image appears afterwards, see the next paragraph.

    - **GV-IP LPR Camera 5R:** Remove the camera cover temporarily.

    - **GV-Hybrid LPR Camera 10R / 20R:** On the Web interface, go to **Video Settings** and temporarily enable **Setup Mode** under LPR Settings.

If license plates cannot be recognized at night, check the following settings

- Make sure the vehicles are using **reflective license plates**.

- Check whether the distance between camera and plate is within effective range of the IR LED.

- Check the status of IR LED. If IR LED only lights up partially or does not light up at all, camera may be malfunctioned. Please contact technical support if this is the case.

![GeoVision Inc. logo]

2-4. Check whether the cameras' positions follow the installation guidelines

A. Installation Site

- The view angle of the camera should be within 30 degrees to the ground. Based on the view angle and the IR distance of your camera, install the camera at a proper height and distance. For example, if the IR distance of your camera is 20 meters, the camera should be installed 12 meters at the maximum from the ground and 16 meters from the vehicle.
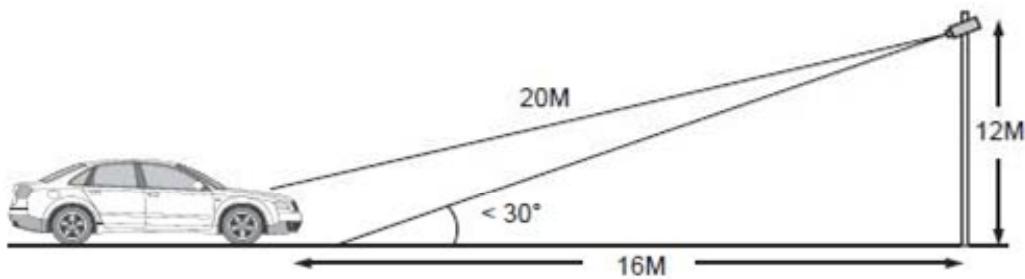
- Install the camera to the front of the vehicle (Recommended).
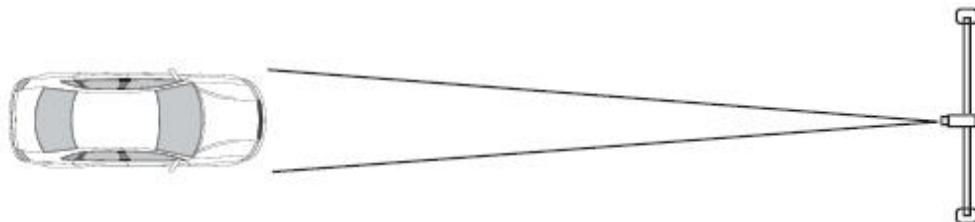
- Install the camera on the side
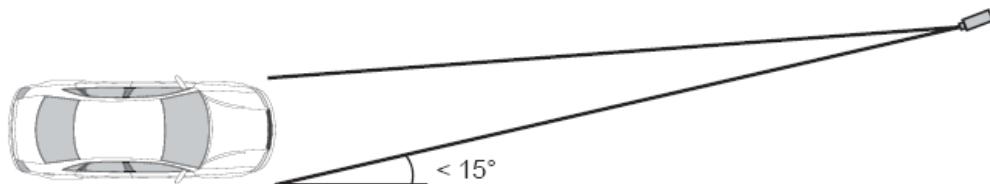
Note: To avoid capturing unnecessary contents in the image, the camera should be installed in a higher position to capture the front part of the vehicle only. When you install the camera at angle to the side, the angle should not exceed 15 degrees.

B. Criteria for Qualified Car Plate Resolution

- For VGA or D1 image resolution, the full width of the vehicle should fill the image.

- For 1.3 MP image resolution, the captured vehicle should occupy approximately half to two third of the image width.

Note: The captured plate should be 30 to 35 pixels in height. To check the height, copy and paste the characters into a Paint file and save it in BMP format (e.g. **01-D-8613**). Right-click the BMP file, select **Properties** and click the **Summary** tab to find the Height information.

C. Common Problems

- Large roll, yaw and pitch angles: adjust the angle and direction of the camera.

- Low image contrast: adjust image contrast and/or improve lighting conditions.
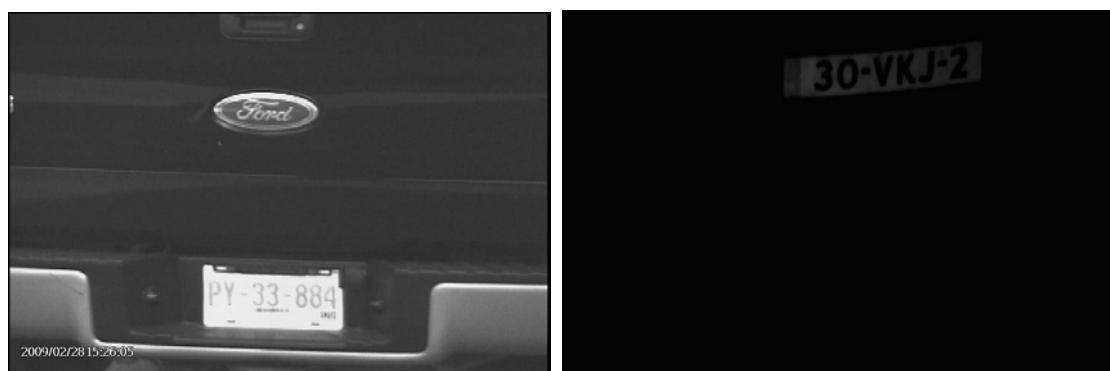
- Hollow characters: reduce the illumination.

- The plate is in shadow: avoid placing the camera where it is subjected to direct sunlight, reflections or shadows. Recognition may be affected.

- Overexposed images: reduce the illumination or adjust the angle/direction of the camera.

- Blurry images: adjust the focus or the shutter speed of the camera.

3. Information Needed for Technical Support

Customer Name	
Country	
Description of the problem	
Frequency of the problem	
No. of devices with the problem	
Temporary solution (if any)	

Device Model	
Device Barcode	
Device FW Version	
ASManager SW Version	

ASManager Database	Please provide a copy of the following folder: **:\Access Control\ASManager\ASRes**