GV-LPR

Qualified Image Criteria

2010/11
English
LPR-QG-A

To increase the license plate recognition accuracy, you need to install the LPR camera in the proper way to capture the qualified plate images. When you install the LPR camera, there are certain criteria to meet, including the plate size, the lighting condition and the angle of the camera. In this document, we provide the qualified image examples, and the unqualified image examples, which are generated when the LPR camera is set in an improper way. We also provide the easy installation instructions on how to fix those unqualified plate images.

The qualified image examples

You should capture and fill the image with a full width of vehicle. In this way, the height of the captured plate characters would approximately fall between 30 and 35 pixels.

Day

Example

Night

Example

The unqualified image examples

The plate is the hollow-letter type:

Example

Try to:

Reduce the illumination.

The image is unclear:

Example

Try to:

Adjust the focus or the shutter speed of the camera.

The image is overexposed:

Example

Try to:

Reduce the illumination, or adjust the angle or the setup direction of the camera.

The image is interfered by the headlight:

Example

Try to:

Use the professional LPR camera to avoid the headlight interference.

The plate size is too small:

Example

Try to:

Zoom in the camera or reduce the distance between the camera and the vehicle. You should capture and fill the image with a full width of vehicle.

The plate size is too big:

Example

Try to:

Zoom out the camera or enlarge the distance between the camera and the vehicle. You should capture and fill the image with a full width of vehicle.

The image contrast is low:

Example

Try to:

Improve the lighting condition.

The plate is slanted:

Example

Try to:

Adjust the camera setup angle and make sure the angle of deviation in the captured license plate is within eight degrees.

Continued on the reverse

The plate is in shadow:

Example

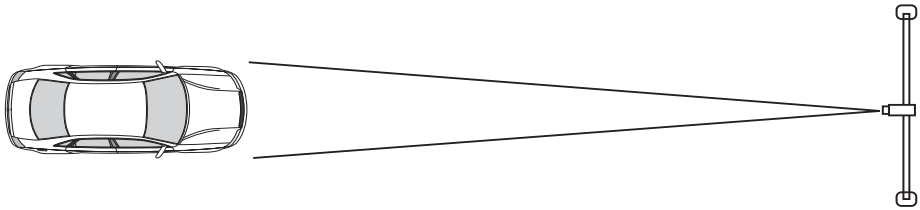
Try to:

Avoid placing the camera where it can be subjected to direct sunlight or reflections. Visible shadow edges in the camera view may degrade the recognition accuracy.

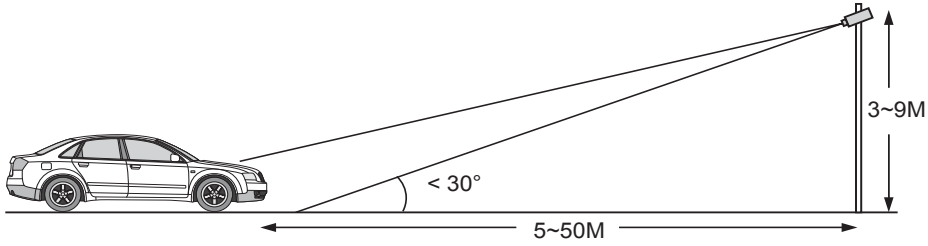
LPR Camera Installation Guidelines

Camera Installation

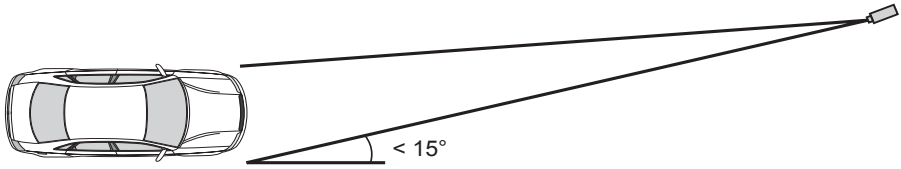
- **Installing the camera in the front (Recommended):** Install the camera in the upper front of the vehicle as shown below. Ensure to install the camera to meet the following conditions. In this way, the height of the captured plate characters would approximately fall between 30 and 35 pixels.
  - The captured image should be filled with a full width of the vehicle.



  - The distance between the vehicle and the camera should be within 5 to 50 meters; the camera height should be within 3 to 9 meters; the camera setup angle should be within 30 degrees.



- **Installing the camera on the side:** Install the camera in the side front of the vehicle as shown below. 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. The camera setup angle should also be within 15 degrees.



Detection Mode

You can set up two detection modes in the GV-LPR System: **Motion Detection** mode and **I/O Device** mode. In the Motion Detection mode, the GV-LPR System starts recognition when any motion is detected. It is normally used on freeway recognition where the vehicle speed is high. In the I/O Detection mode, the GV-LPR System starts recognition when the input device is triggered. The input trigger will further trigger the output device. This mode is normally used for a car park or an entrance.

- **Motion Detection Mode:** The camera is triggered to capture images by motion detection. It is recommended when no frequent false motions, such as from animals or people, occurred in the recognition area, or when the false image capture is not an issue for you. The benefit of this mode is that the license plate will surely be captured in the image.

- **I/O Detection Mode:** The camera is triggered to capture images by input triggers, such as the IR sensor or the Magnetic Loop Detector. The benefits of this mode are that the false motion detection can be avoided and the CPU load is lower.

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