

# LPR Camera Configuration SOP

## License Plate Reader Configuration

License plate-specific cameras deal with a different set of requirements and resolution from standard CCTV cameras.

### Angle of Incidence

For accurate license plate capture, the angle of incidence re: the license plate must be within the  $0^{\circ}$  -  $30^{\circ}$  range. While it's difficult to get below a  $0^{\circ}$  angle of incidence, anything above  $30^{\circ}$  will be introducing parallax distortion and affect the accuracy of the LPR. Fuzzy trigonometry is usually accurate enough to achieve this range. The general wisdom for LPR cameras is from 50-100 feet but this is very pliable with cameras that feature optical zoom.

### Example

Using Maryville Elementary as an example:

The wall on which the camera is mounted is approximately 250 feet from the entrance to the parking lot. With this information, we can use the basic trigonometric functions OR the inverse functions (arcsin, arccos, arctan) to determine a suitable mounting height. The camera is currently mounted approximately 10 feet above the ground, giving us a  $2.3^{\circ}$  angle of incidence to the normal plane of the license plate.

Given the abnormally long distance between the camera and the normal planes perpendicular to the face of the plate, this specific camera could be mounted up to 145 feet in the air and maintain the recommended angle of incidence.

If the camera were, for example, 50 feet from the lot entrance, The maximum height of the camera mount would be 28 feet for a  $30^{\circ}$  angle of incidence.

### Encode

- **Main Stream:**
  - Codec: H.265
  - Resolution: **Maximum Available**
  - Framerate: 20fps
  - Bitrate:
    - 2Mp: 2048kbps
    - 4Mp: 4096kbps
    - 8Mp: 6144kbps
- **Substream:**
  - Codec: H.265
  - Resolution: 704x480 (*If higher is available, resolutions above 1024x768 will interfere with motion detection*)
  - Framerate: 7fps
  - Bitrate: 512kbps

## Audio off

## Date/Time

- Format: **MDY**
- DST:
  - Enable
  - Week
    - March 2nd Sunday 02:00:00
    - November 1st Sunday 02:00:00

## Account

*These are the default values to use if the client has not specified credentials for their setup*

- Create Users: admin, Rick
- Password: 963852pop

## ONVIF USER

*The intended functionality is that the admin ONVIF account will automatically inherit the password set for the interface admin account. This is not always the case.*

- Create User: Rick
  - Password: 963852pop
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Revision #2

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