Key
Image Setting
for
LPR Camera

CONTENTS

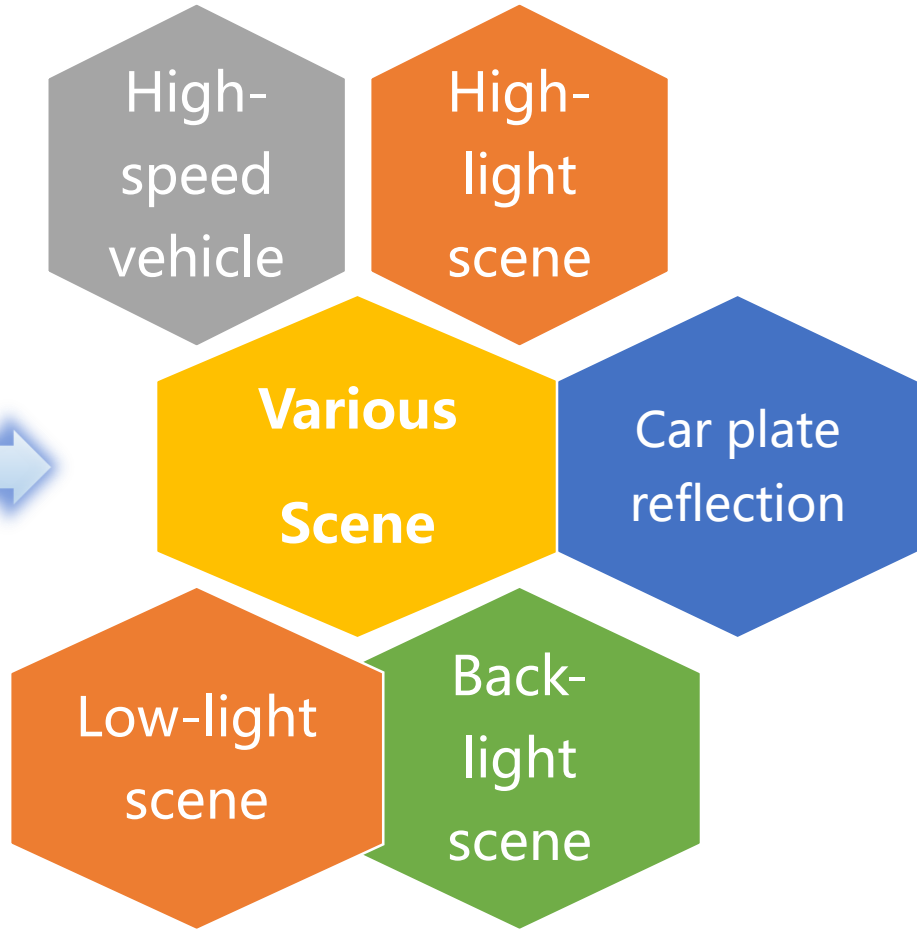
PART ONE

Introduction

- Why Is Image Setting Important
- The Big improvement by Correct Image Setting
- Specific Image Settings

Why is Image Setting Important

camera



Note: It may cause different image quality issues under different extreme conditions, adopting image setting accordingly is necessary.

Big Improvement by Correct Image Setting

Day/Night Mode

Why is it recommended to adopt the schedule setting for day/night mode ?

- Headlights directly from the Vehicle will cause the image to switch from B/W mode to color mode
- Under a scene around nightfall, the image quality is poor, with infrared light enabled, can get much better performance
- It may cause camera keep color mode all night when with street lights.

Note: 4 and 180 mean brightness value ,unit is **Lux**

Big Improvement by Correct Image Setting

Brightness

- Setting the daylight brightness to a smaller value in the profile will cause the screen to be dark overall, but it will be better for reflective license plates

25

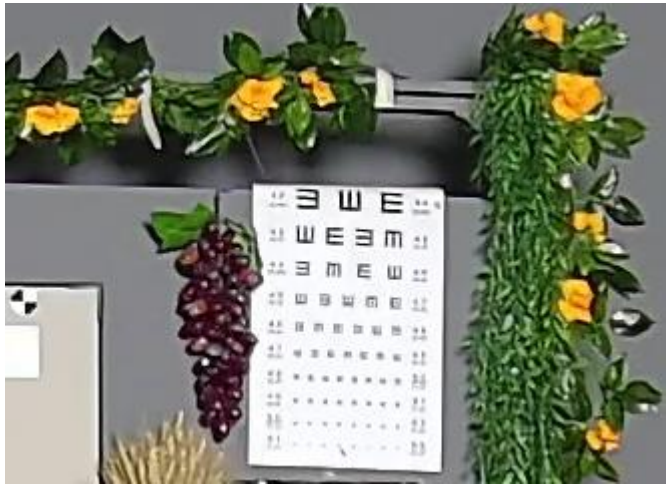
5

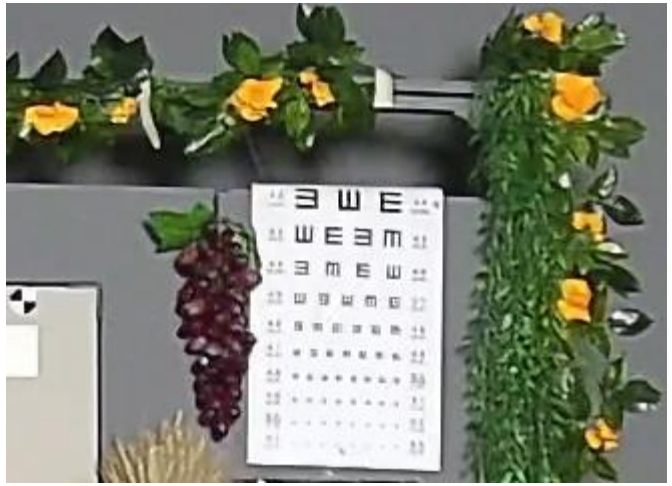
Big Improvement by Correct Image Setting

Shutter upper limit

- Simulate the brightness of the evening scene: the shorter the shutter upper limit time setting, the greater the image noise

1/25 → 1/100 → 1/750





- In scenes with lights (such as street lights), power frequency interference is prone to occur when the exposure time is set to less than 1/100

* The picture on the right is a screenshot of the customer site

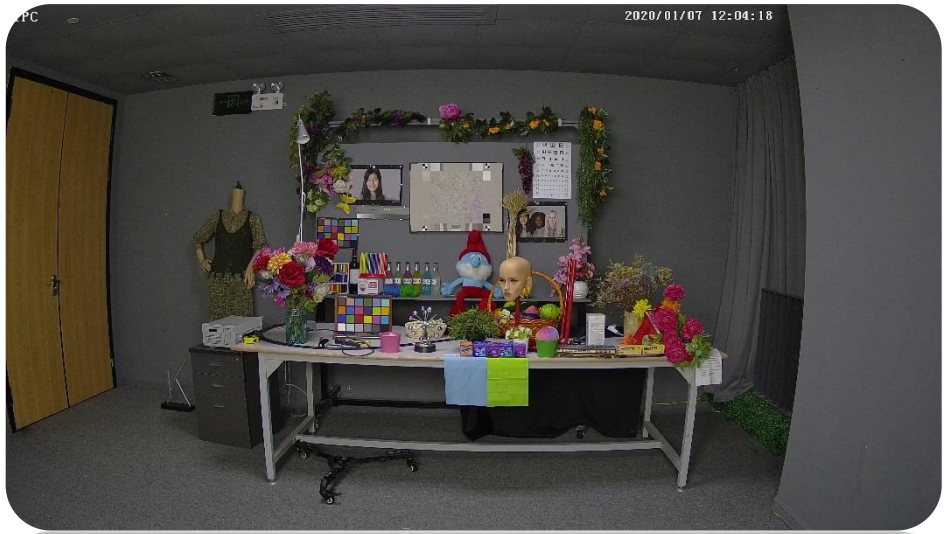
Big Improvement by Correct Image Setting

Gain

- Under insufficient light environment , with higher Gain value ,can improve the image brightness

Gain 1

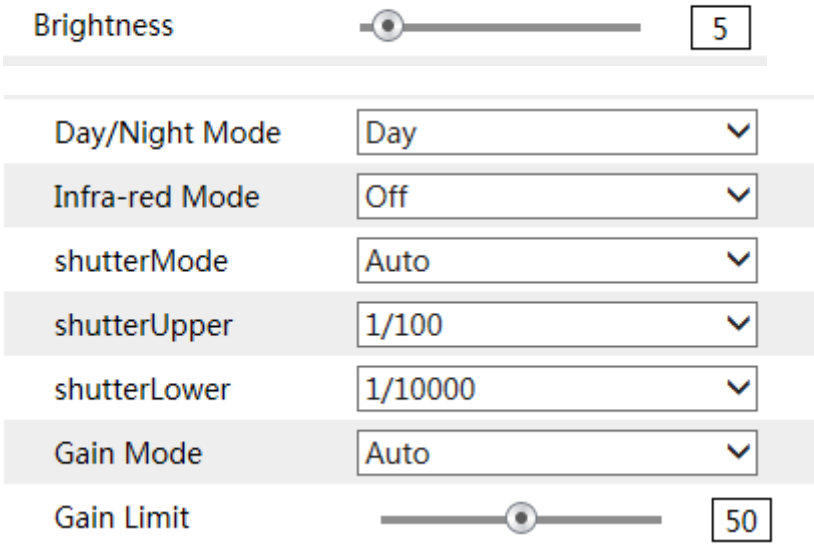
Gain 2



Specific Image settings

Image Settings under Day Mode

- **Brightness setting:** If the license plate is reflective, it is recommended to reduce it to about 5
- **Day and night mode setting**: day mode
- **Infrared light setting**: off
- **Shutter upper limit setting:** according to the use scene configuration, such as the gate can be set to 1/100, **the faster the speed, the smaller the value needs to be set**
- **Gain mode setting:** automatic mode
- **Gain value setting**: can be reduced to about 10



* The smaller the shutter setting, the worse the image will be in low light scenes, so you need to switch to night vision mode earlier.

Specific Image Settings

Effect by brightness setting

Reflective license plate

Non-reflective license plate

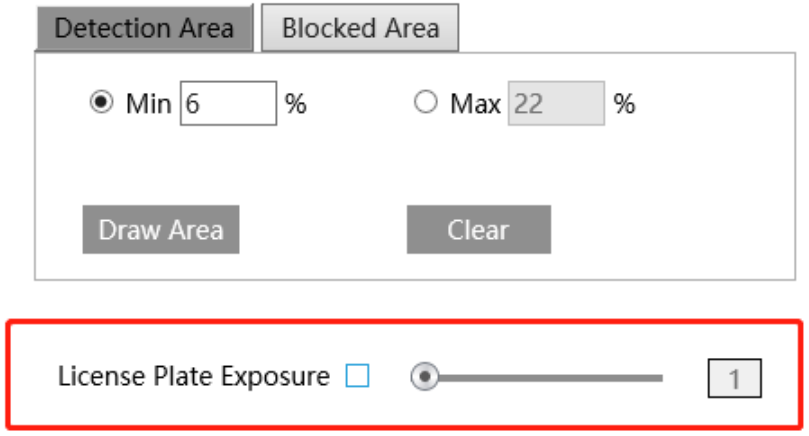
Specific Image settings

Backlighting scene configuration

License plate exposure settings

Frame selection license plate detection area

Turn on the license plate exposure function and set the intensity



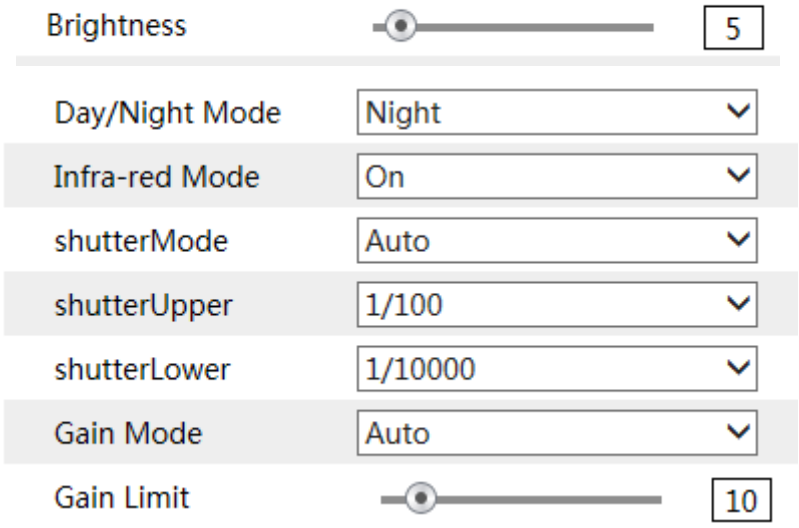
NOTES:

If the image is still dark after setting the license plate as above, it means that this scene has a large dynamic range, and this setting is not enough to improve the capturing performance

Suitable detection area is necessary

Specific Image settings

Image settings under Night Mode



- **Brightness setting:** If the license plate is reflective, it is recommended to reduce it to about 5
- **Day and night mode settings**: night mode
- **Infrared light setting**: On
- **Shutter upper limit setting:** According to the use scene configuration, such as the gate can be set to 1/100, **the faster the speed, the smaller the value needs to be**
- **Gain mode setting:** Auto
- **Gain value setting:** 10

PART THREE

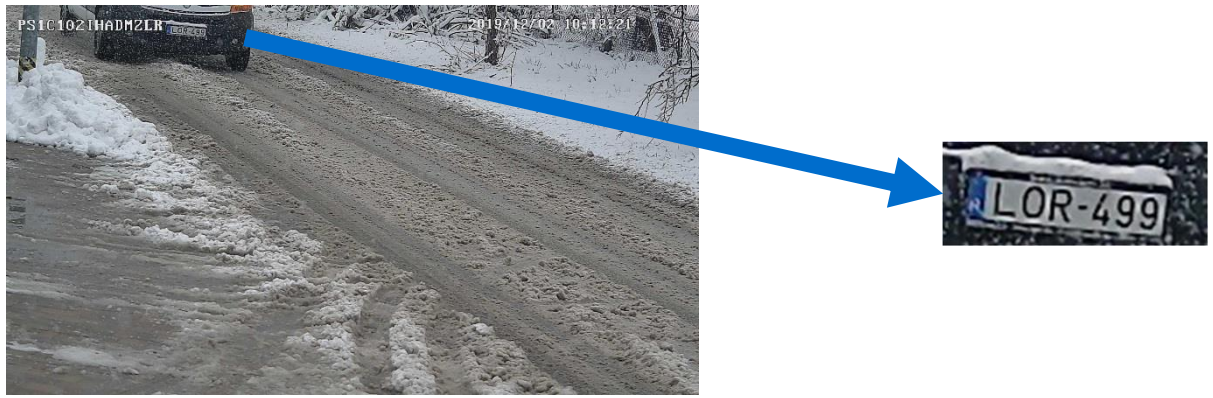
Demo Analysis

- Demo 1
- Demo 2
- Demo 3
- Demo 4

Demo 1

Scenario description

- Vehicle speed around 30-50km/h
- Device cannot switch to day mode when it is very bright



Configured Setting

- The upper limit is set to 1/750 shutter

Updated setting

Set day and night gain to 10

Set the brightness of the night profile to 10 (optional)

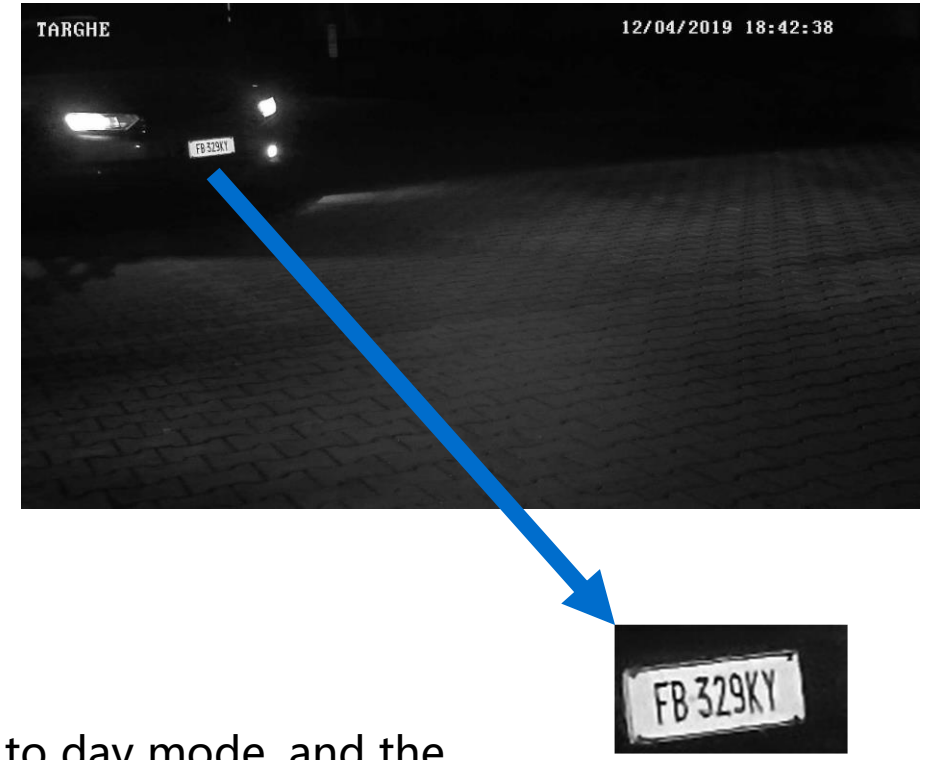
Schedule day and night profiles (optional)

Note: Demo 1 is a special customized version. It is not necessary to set the day and night switching schedule, and it can be switched according to the auto mode. According to the snapshots remotely viewed by the engineer, there is no need to set the schedule to switch the day and night profile. Instead, it needs to be modified according to the customer's actual usage scenario.

Demo 2

Scenario description

- Cars are slower at the gate 10-15km/h
- License plate reflection



Configured Setting

- Shutter speed is set to 1/1000 in day profile
- Night profile shutter mode is set to manual, value is 1/2000

Updated Setting

Set the day profile gain to 10, the day and night mode to day mode, and the infrared light to turn off

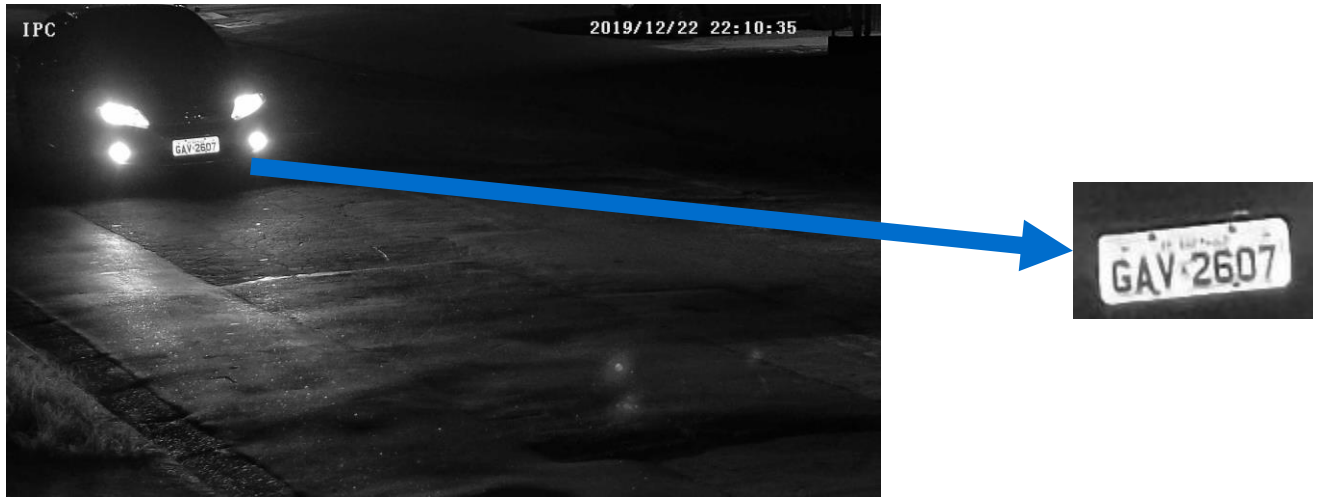
Set the brightness of the night profile to 5, the gain value to 10, the day and night mode to night mode, and the infrared light to turn on

Switch day and night mode and its configuration file according to schedule

Demo 3

Scenario description

- Faster speed 30-50KM/H
- The device does not switch to infrared mode at night, making the license plate unreadable



Configured Setting

- Enable HWDR
- Shutter cap is 1/25

Updated Setting

Set the daytime gain to 10, the day and night mode to daylight, and the infrared light to turn off;

Disable HWDR;

Set the brightness of the night profile to 4, the gain value to 10, the day and night mode to night, and the infrared light to turn on;

The shutter speed is set to 1/750 in both day and night profiles;

Switch day and night mode and its configuration file according to schedule;

Demo 4

Configured Setting

Set the daytime gain to 10, the day and night mode to daylight, and the infrared light to turn off

Set the brightness of the night profile to 3, the gain value to 2, the day and night mode to night, and the infrared light to turn on

The shutter cap is set to 1/750 in both day and night profiles

Switch day and night mode and its configuration file according to schedule

NOTE: This is a wrong installation case, the camera is not with suitable angle with car plate. All the above configurations can only effectively improve the license plate effect, and cannot completely solve the problem of overexposure or darkness of all license plates, especially in the scene **where the license plate occupies a very small proportion of the screen** .

PART THREE

Summary

Summary

Back-light scene	Turn on license plate exposure
• Different • speed	Set different shutter upper limit values according to different vehicle speeds
Reflective scene	Adjust the brightness and gain according to the actual scene

TVT

Thanks!