

# **AHD LPR Camera OSD Manual**

**TW62045**

Thanks for purchasing our product. Before operating the unit, please read the instructions carefully and keep this manual for future reference.

## Safety Warning

### 1. Read this manual carefully before installing the unit

Please read this manual first for correct installation and operation.

### 2. Never install the camera on a ceiling that cannot hold its weight

The product may fall down and cause damages.

### 3. Never install the camera near electric or magnetic fields

Install the camera away from TV, radio transmitter, magnet, electric motor, transformer, audio speakers since the magnetic fields generate from above devices would distort the video image.

### 4. Never install or use the camera in areas exposed to water, oil or gas

The water, oil or gas may result in operation failure, electric shock or fire. Do not use this unit near water-for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, near a swimming pool, in an unprotected outdoor installation, or any area which is classified as a wet location.

### 5. Never face the camera toward the sun

Direct sunlight or severe ray may cause fatal damage to sensor and internal circuit.

### 6. Power Cord Protection

Touching the wet power cord with hands or touching the power cord with wet hands may result in electric shock. Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.

### 7. Attachments

Do not use attachment not recommended by the product manufacturer as they may cause hazards.

### 8. Object and Liquid Entry

Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind onto the product.

### 9. Do not operate the camera in environments where the temperature, humidity or power source is beyond the specified ones

Use the camera in suitable environments where the temperature is within  $-10^{\circ}\text{C}$ ~ $50^{\circ}\text{C}$  and humidity below 80%. Use the input power source as this instruction indicated.

### 10. Cleaning

Unplug the unit from the outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

### 11. Never disassemble the camera nor put impurities in it

Disassembly or impurities may result in trouble or fire.

### 12. Stop using when the product emits smoke or abnormal heat

### 13. Servicing

Do not attempt to repair this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

### 14. Retain Instructions

THE SAFETY AND OPERATING INSTRUCTIONS SHOULD BE RETAINED FOR FUTURE REFERENCE.

## NOTE:

The information in this manual was current when published. The manufacturer reserves the right to revise and improve its products. All specifications are therefore subject to change without notice.

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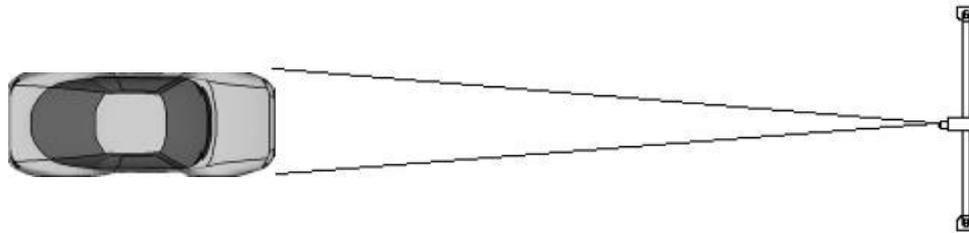
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# 1. CAMERA INSTALLATION

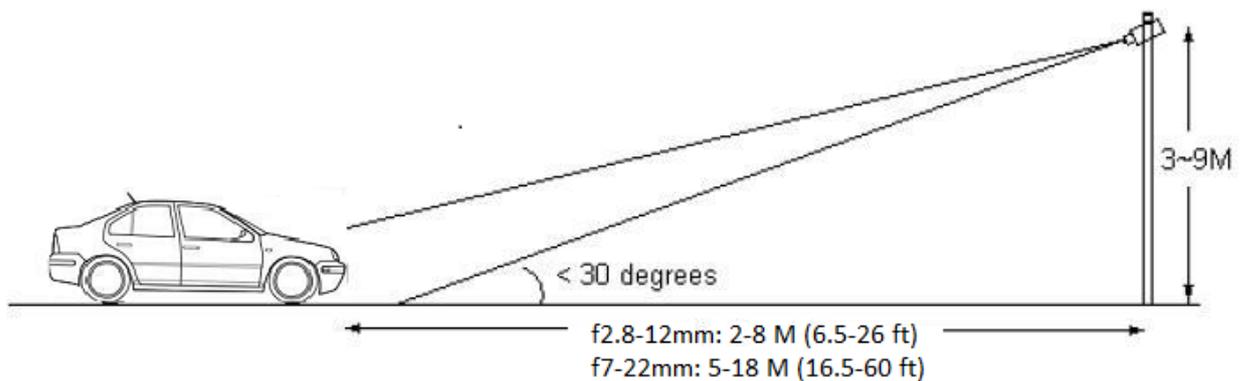
## 1.1 Install the camera to the front of the vehicle

It's strongly recommended to install the camera straight in front of and above the vehicle as shown below.

A: The captured image should be filled with a full width of the vehicle.

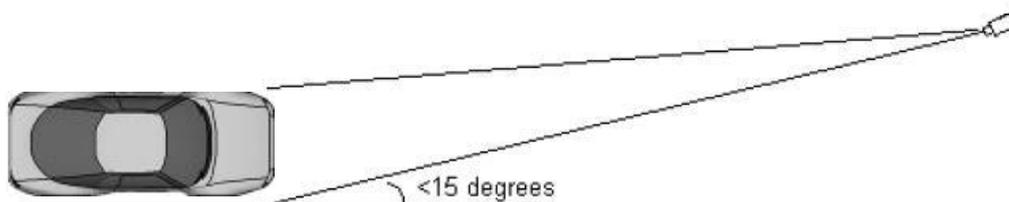


B: The distance between the vehicle and the camera should be within 2 to 18 meters; the camera height should be within 3 to 9 meters; the camera setup angle should be within 30 degrees.



## 1.2 Install the camera slightly to the side

If installing the camera straight in front of the vehicle is not feasible, the camera can be placed within 15 degrees to the left or the right 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.



## 1.3 Minimum Pixels Requirement

Please make sure the captured license plate data is at least 120 pixels in width.



## 1.4 Minimum Shutter Speed Suggestion

In general, it's recommended to configure minimum shutter speed from 1/750 to 1/1000 for various mounting locations and scenarios.

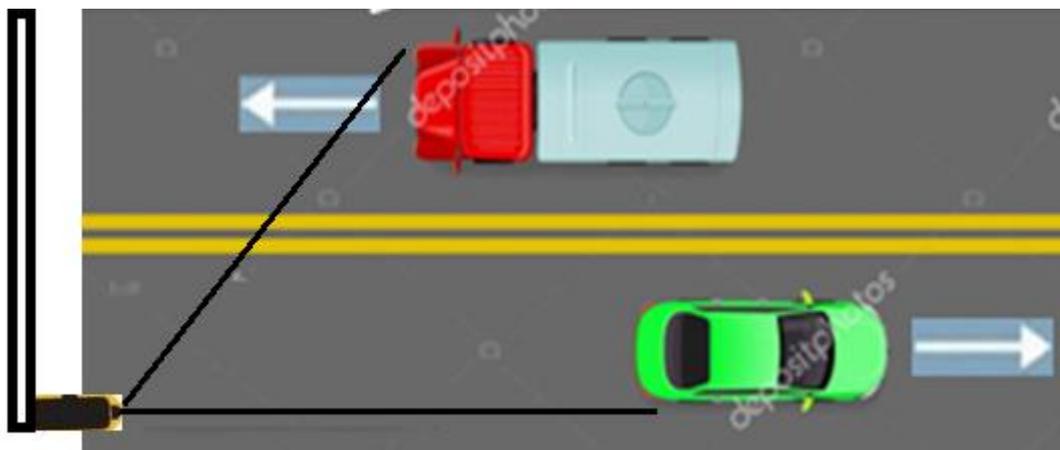
## 1.5 Setting Focus for DAY/NIGHT Mode

In order to make the most of LPR camera, we strongly suggest users set up/adjust the focus for DAY mode and Night mode separately.

## 1.6 Troubleshooting

Examples of unsuitable images:

A: Narrow field of view.



### **NOT RECOMMENDED!**

When the view angle of the camera is too narrow, cameras being under poor configurations, or being improperly mounted, the road lane number of confident recognition could be seriously restricted.

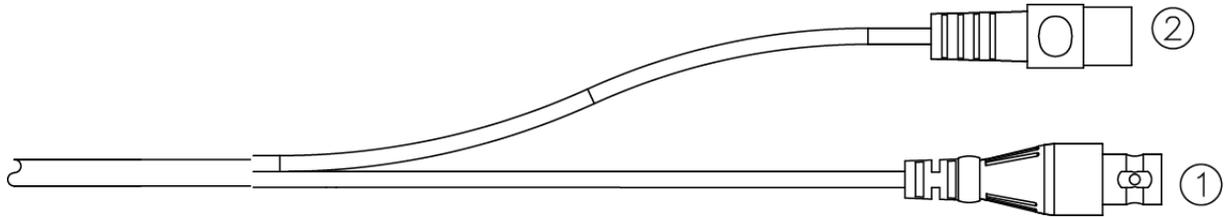
Please note that it's **NOT RECOMMENDED** to install the camera to the side if users try to target dual carriageway.

## B: Lighting.



License plates are overexposed/interfered by the illumination of headlights or taillights. Try to use advanced/professional LPR cameras to avoid the glare or interference.

## 1.7 Cable/Connector



### ① Video Output

For video signal output, it supports Control over Coaxial Cable technology.

### ② Power Input

Connect to the power supply of 12V DC.

**Note: Connectors may vary depending on model.**

## 2. CAMERA OSD

To operate the camera OSD setting, use the control key pad to control it. For some models, you might need to open the control panel case to access the control key panel. Press the **Enter** button which in the center of the control panel to bring up the "MENU" on the TV/Monitor screen as below. Please check the OSD content tables to find out the function you need.

**\*Note: Function Names and Default Values may vary depending on models.**



Function	Default	Alternative Option
PUSH AF	<	
LENS	AUTO IRIS<	MANUAL<
LPR	<	See LPR section
HDR/BLC	D-WDR<	OFF, HDR< , HLC< , BLC<
WHITE BAL	ATW	PUSH LOCK< , MANUAL< , AWB
DNR	<	See DNR section
DAY/NIGHT	COLOR	B/W< , AUTO< , EXTERNAL<
IMAGE	<	See IMAGE section
EFFECT	<	See EFFECT section
SYSTEM	<	See SYSTEM section
EXIT	<	

### 2.1 PUSH AF

Simply enter to activate the Auto Focus function and then the camera will start focusing as the screenshot shown below. This [FOCUSING.....] message will disappear upon completion.



## 2.2 LENS

In the "LENS" page of the camera OSD, there are some items can be selected to modify the settings. Users can switch lens mode between AUTO IRIS and MANUAL and adjust the optical settings accordingly.



■ **IRIS SPEED/ZOOM SPEED:**

To modify the value of lens IRIS SPEED/ZOOM SPEED accordingly.

■ **LSC:**

To enable or disable the function of Lens Shading Compensation. **WEIGHT** level can be further adjusted when LSC is ON. (See below)



LSC ON

■ **D-ZOOM LIMIT:**

To adjust the digital zoom maximum level from 1.0X to 8.0X.

■ **D/N FOCUS:**

Enable AUTO FOCUS function when Day/Night switches.

## 2.3 LPR

"LPR" (License Plate Recognition) have several items available for users to modify the advanced settings in collaboration with the previous LENS page.

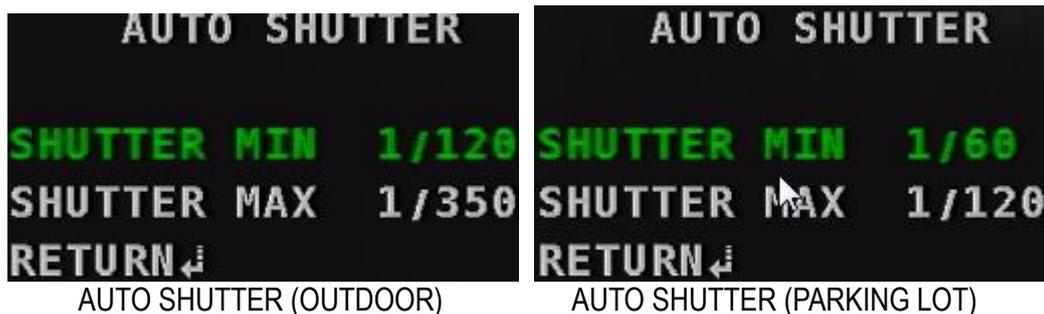


AUTO IRIS LENS



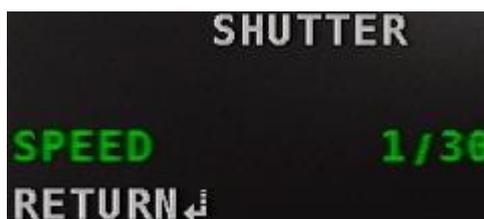
MANUAL LENS

- **MODE:**  
**OUTDOOR/PARKING LOT** is recommended to be set specifically based on the moving speed (KM/H) of the target as well as the outdoor/indoor location.
- **BRIGHTNESS:**  
 To modify the value of brightness.
- **FLICKER:**  
 To enable or disable FLICKER function. SHUTTER & SENS-UP below are subject to change accordingly.
- **SHUTTER: (AUTO IRIS LENS)**  
 AUTO, MANUAL, 2 options available. The values of **SHUTTER MIN/MAX** speed for **AUTO** and **MANUAL** modes can be further adjusted as shown in the screenshots below.  
 The defaults of SHUTTER MIN/MAX are **1/120 and 1/350 (subject to change by models)** under OUTDOOR mode; while they are **1/60 and 1/120 (subject to change by models)** under PARKING LOT mode. There is no default SPEED difference between the two modes if MANUAL SHUTTER is chosen. Please refer to the screenshots below.



AUTO SHUTTER (OUTDOOR)

AUTO SHUTTER (PARKING LOT)



MANUAL SHUTTER

## ■ SHUTTER: (MANUAL LENS)

AUTO, MANUAL, 2 options available. The values of SHUTTER MIN/MAX speed for **AUTO** and **MANUAL** modes can be further adjusted as shown in the screenshots below.

The defaults of SHUTTER MIN/MAX are **1/30** and **1/30000** (subject to change by models) for AUTO SHUTTER; while the default MANUAL SHUTTER SPEED has no change (1/30). Please refer to the screenshots below.



AUTO SHUTTER

MANUAL SHUTTER

## ■ SENSE-UP:

To modify the "sense up" speed setting from 2 to 32x.

## ■ AGC MAX:

To modify the value of AGC (Automatic Gain Control). The bigger the number, the brighter the screen can be. Note that the noise will increase as well.

## ■ WHITE LED:

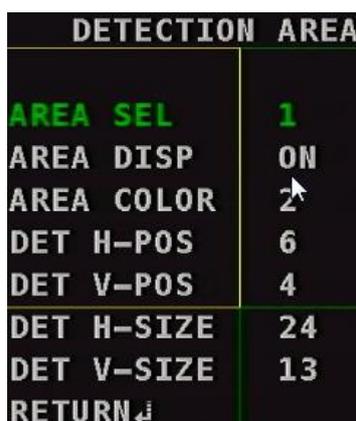
4 options available: 1 OFF: WHITE LED OFF / 2 ON: WHITE LED keeps on glowing / 3 PARKING SMART: Indoor location with intelligent configurations / 4 OUTDOOR SMART: Outdoor location with intelligent configurations. Please enter SMART DET. below for advanced settings accordingly.

## ■ SMART DET.:



## ■ DET DISP:

To enable or disable the detection display function. Please see below for advanced settings.



## ■ AREA SEL:

4 areas are available as shown in the screenshot above. 1 refers to the upper left one, 2 is the upper right, 3 is the lower left and 4 is the lower right.

## ■ AREA DISP:

To enable or disable the area display.

## ■ AREA COLOR:

To select the area color from 0 to 6.

## ■ DET H-POS:

To adjust the horizontal position value of the selected area.

## ■ DET V-POS:

To adjust the vertical position value of the selected area.

## ■ DET H-SIZE:

To adjust the width (horizontal size value) of the selected area.

## ■ DET V-SIZE:

To adjust the height (vertical size value) of the selected area.

■ **CAR ALARM:**

To enable or disable the alarm function when a car is coming.

■ **SENSITIVITY:**

To adjust the sensitivity for detection area level from 0 to 20. The bigger the number is set, the more sensitive the camera will be.

■ **CAR:**

**LED BRIGHT:** Adjust the LED brightness level from 0 (darkest) to 20 (brightest) when a coming car is detected.

**LED ON (SEC):** Adjust the duration in second from 0 to 255 when the LED is ON. Please note the LED glowing time will recount when next coming car is detected.

■ **NO CAR:**

**LED BRIGHT:** Adjust the LED brightness level from 0 (darkest) to 20 (brightest) when there is no car.

**LED ON LEVEL:** Set the environmental light level (ENVI. LUX) from 0 (DARK) to 20 (BRIGHT) to activate the LED. Please note that when the ENVI. LUX is brighter than the setting number, WHITE LED will turn off automatically.

**(ENVI. LUX) DARK < - > BRIGHT**

■ **RETURN:**

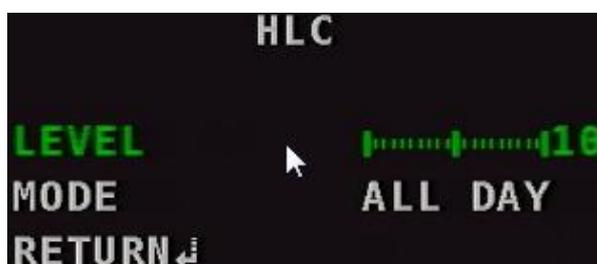
Return to upper level of OSD menu.

## 2.4 HDR/BLC

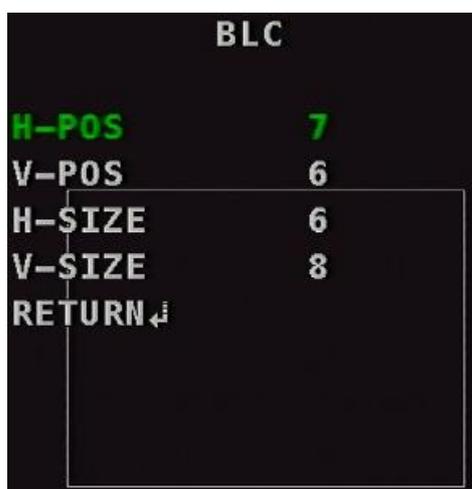
In the "HDR/BLC" of camera OSD, total 5 options are available and 4 of which have advanced settings menu for adjustment. Please see details below.



- **D-WDR:**  
LEVEL can be adjusted among LOW/MIDDLE/HIGH. Default setting is MIDDLE.
- **HDR:**  
To modify the WEIGHT value among LOW/MIDDLE/HIGH. Default setting is MIDDLE.



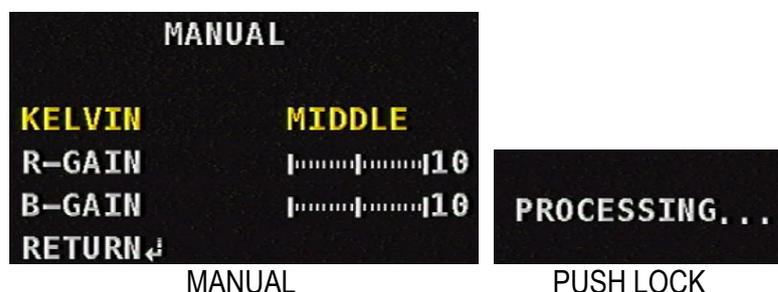
- **HLC:**  
LEVEL: To adjust the value from 0 to 20. Default is 10.  
MODE: To select the mode between ALL DAY and NIGHT ONLY.



- **BLC:**  
To adjust the Horizontal/Vertical value for BLC (inner frame in the screenshot) position and size separately.
- **OFF:**  
To disable HDR/BLC function.
- **RETURN:**  
Return to upper level of OSD menu.

## 2.5 WHITE BAL

"WHITE BAL" (WHITE BALANCE): Total 4 options are available and 2 of which have advanced settings menu for adjustment. Please see details below.



- **MANUAL:**  
 KELVIN: To adjust the KELVIN (Color temperature) value among LOW/MIDDLE/HIGH.  
 R-GAIN: To adjust the R-GAIN (RED GAIN) value from 0 to 20.  
 B-GAIN: To adjust the B-GAIN (BLUE GAIN) value from 0 to 20
- **PUSH LOCK:**  
 Press ENTER to lock white balance according to the current display (e.g. point the camera towards a sheet of white paper). The camera will start processing as shown in the screenshot above.
- **AWB:** Auto White Balance.
- **ATW:** Auto Tracking White balance.
- **RETURN:** Return to upper level of OSD menu.

## 2.6 DNR

In the "DNR" of camera OSD, the main function of this page is to adjust the digital noise reduction.



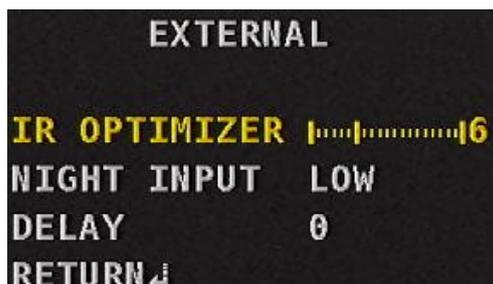
- **SMART DNR:**  
 To enable or disable SMART DNR mode. Default setting is OFF as of recommended use.
- **2DNR:**  
 To modify the value among OFF/LOW/MIDDLE/HIGH. Default setting is LOW.
- **3DNR:**  
 To modify the value among OFF/LOW/MIDDLE/HIGH. Default setting is LOW.
- **RETURN:** Return to upper level of OSD menu.

## 2.7 DAY/NIGHT

In the "DAY/NIGHT" of camera OSD, **AUTO**, **IR SYNC** or **EXTERNAL**, **B/W**, can be selected to modify the settings. Selecting **COLOR** will keep the camera in color display and **B/W** is on the contrary. **IR SYNC** or **EXTERNAL** makes the camera view synchronize with **IR LED** to switch **COLOR** or **B/W** based on the brightness of the environment.



- **LIVE LEVEL:**  
The camera will automatically detect the lighting condition of the current environment and show the number. Bigger number means brighter environment.
- **DAY->NIGHT:**  
In collaboration with **LIVE LEVEL** function, set the value for the camera to switch from **DAY** to **NIGHT** display.
- **NIGHT->DAY:**  
In collaboration with **LIVE LEVEL** function, set the value for the camera to switch from **NIGHT** to **DAY** display.
- **AGC MAX:**  
To modify the value of **AGC** (Automatic Gain Control). The bigger the number, the brighter the screen can be. Note that the noise will increase as well.
- **DELAY (S):**  
To modify the delay time value from 0-255 seconds.
- **IR OPTIMIZER:**  
To adjust the **IR Optimizer** value to improve the image exposure issue when **IR** is turned on. The dark side of the image will also be optimized in terms of even brightness to enhance the effect as a whole.
- **NIGHT OUTPUT:**  
To adjust the setting value between **HIGH** and **LOW** under **NIGHT OUTPUT**. This option will not be shown for models with **FIXED IRIS** plus **IR** or **AUTO IRIS** plus **IR** to avoid **IR** switching errors.



■ **IR OPTIMIZER:**

To adjust the IR Optimizer value to improve the image exposure issue when IR is turned on. The dark side of the image will also be optimized in terms of even brightness to enhance the effect as a whole.

■ **NIGHT INPUT:**

To adjust the setting value between HIGH and LOW under NIGHT INPUT. Camera display in COLOR or B/W depends on the HIGH/LOW input on the DNI port of the rear panel. This function works only for box models when syncing with IR illuminators. No adjustment is needed for DOME and BULLET models.

■ **DELAY:**

To modify the delay time value from 0-255 seconds.



■ **IR OPTIMIZER:**

To adjust the IR Optimizer value to improve the image exposure issue when IR is turned on. The dark side of the image will also be optimized in terms of even brightness to enhance the effect as a whole.

■ **RETURN:**

Return to upper level of OSD menu.

## 2.8 IMAGE

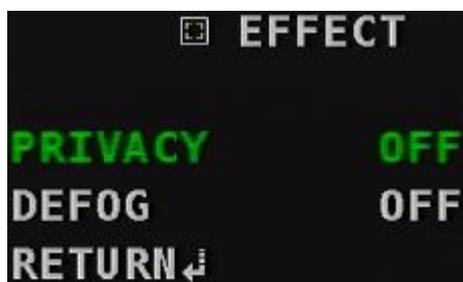
In the "IMAGE" of camera OSD, there are some items can be selected to modify the settings. The main function of this page is about the image settings.



- **SHARPNESS:**  
To modify the value of sharpness.
- **SATURATION:**  
To modify the value of saturation.
- **GAMMA:**  
To modify the value of gamma.
- **MIRROR:**  
To enable or disable the mode of image mirror.
- **FLIP:**  
To enable or disable the mode of image flip.
- **BLACK LEVEL:**  
To adjust the value of black level. Default is 10.
- **RETURN:**  
Return to upper level of OSD menu.

## 2.9 EFFECT

In the "EFFECT" of camera OSD, there are some items can be selected to modify the settings. The main function of this page is about the camera effects.



- **PRIVACY:**  
To enable the "privacy" effect or not. Enable this will go its sub-menu for privacy setting. Please check the details in its section.
- **DEFOG:**  
To enable the "defog" effect or not. Enable this will go its sub-menu for defog setting. Please check the details in its section.
- **RETURN:**  
Return to upper level of OSD menu.

## 2.10 DEFOG

In the "DEFOG" of camera OSD, please enable this function to enter and modify the settings. The main function of this page is about the fog reduction effects.



- **MODE:**  
To select the mode of fog reduction: AUTO / MANUAL.
- **LEVEL:**  
To adjust the level of fog reduction: LOW / MIDDLE / HIGH.
- **RETURN:**  
Return to upper level of OSD menu.

## 2.11 PRIVACY

In the "PRIVACY" of camera OSD, please enable this function to enter and modify the settings. The main function of this page is about the privacy mask size and position.



- **ZONE NUM:**  
To select number of zone for privacy mask from 1 to 16.
- **ZONE DISP:**  
To enable or disable the zone display.
- **H-POS:**  
To adjust the horizontal position value for privacy mask from 0 to 60.
- **V-POS:**  
To adjust the vertical position value for privacy mask from 0 to 40.
- **H-SIZE:**  
To adjust the horizontal size value for privacy mask from 0 to 40.
- **V-SIZE:**  
To adjust the vertical size value for privacy mask from 0 to 40.
- **Y-LEVEL:**  
To adjust the luminance level for privacy mask from 0 to 20.
- **CR LEVEL:**  
To adjust the color red level for privacy mask from 0 to 20.
- **CB LEVEL:**  
To adjust the color blue level for privacy mask from 0 to 20.
- **RETURN:**  
Return to upper level of OSD menu.

## 2.12 SYSTEM

In the "SYSTEM" of camera OSD, there are several sub-menus and items can be selected to modify the settings. The main function of this page is about the video format information and OSD firmware version.



- **DIGITAL OUT:**  
To select the digital output setting between 1080P and 720P.
- **FRAME RATE:**  
To select the frame rate setting between 30FPS and 25FPS.
- **ANALOG OUT:**  
To select the analog output setting between NTSC and PAL.



- **DVR:**  
To select the DVR model by brands and adjust its corresponding image related settings.
- PROTOCOL:**  
PELCO D-1, PELCO D-2 and SH-C three protocols to cooperate with the selected DVR.

**COC:**

To enable or disable the function of **Control over Coaxial cable**.

**■ CABLE LENGTH:**

To select the Transmission Distance from 0-200M or over 200M supported by the camera with **Distance Compensation Setting**.

**■ COLORBAR:**

To enable or disable the mode of COLORBAR.

**■ LANGUAGE:**

To select the OSD language among ENGLISH, TRADITIONAL CHINESE, SIMPLIFIED CHINESE, and JAPANESE.

**■ REBOOT:**

Select YES to reboot the camera LENS INITIALIZING & FOCUSING..... process will run again.

**■ FW 1.0 AHR7D:**

The firmware version of this camera. (Version may vary depending on production)

**■ RESTORE:**

Select YES to restore all settings to the default value.

**■ RETURN:**

Return to upper level of OSD menu.