

# HD CCTV Total Solution

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## IR Dome Camera User Manual



The product image shown above may differ from the actual product.  
Please use this camera with a DVR which supports HD video recording.  
Please read the instructions thoroughly before using the product.

d104b\_V1.1

709Z

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d104b\_V1.1



## IMPORTANT SAFEGUARD



### CAUTION RISK OF ELECTRIC SHOCK



#### CAUTION:

To reduce the risk of electric shock, do not expose this apparatus to rain or moisture.

Only operate this apparatus from the type of power source indicated on the label.

The company shall not be liable for any damages arising out of any improper use, even if we have been advised of the possibility of such damages.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



All lead-free products offered by the company comply with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive, which means our manufacture processes and products are strictly "lead-free" and without the hazardous substances cited in the directive.



The crossed-out wheeled bin mark symbolizes that within the European Union the product must be collected separately at the product end-of-life. This applies to your product and any peripherals marked with this symbol. Do not dispose of these products as unsorted municipal waste. Contact your local dealer for procedures for recycling this equipment.



#### CE Mark

This apparatus is manufactured to comply with the radio interference.

The company does not warrant that this manual will be uninterrupted or error-free. We reserve the right to revise or remove any content in this manual at any time.

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## FEATURES

1. 1/2.7" CMOS Sensor
2. 1080P video output
3. Low light sensitivity of 0.1 Lux / F1.8, 0Lux (IR LED ON)
4. Day and night 24-hour surveillance with IR effective distance up to 15 meters
5. IP66 for weather-proof application
6. Camera parameters adjustable when used with HD CCTV DVR

## PACKAGE CONTENT

- |                  |                       |               |
|------------------|-----------------------|---------------|
| ➤ IR dome camera | ➤ User manual         | ➤ Camera case |
| ➤ Wrench         | ➤ Screws & wall plugs |               |

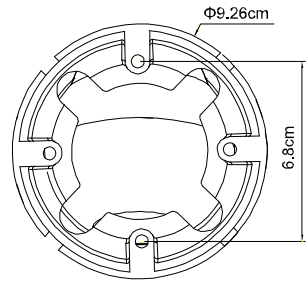
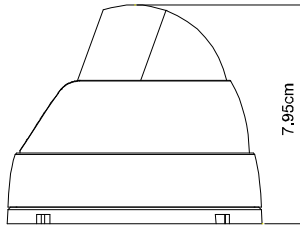
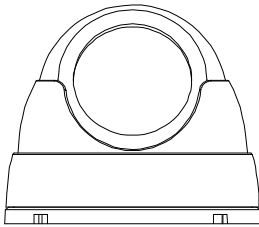
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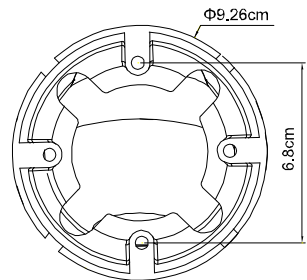
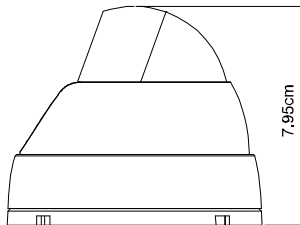
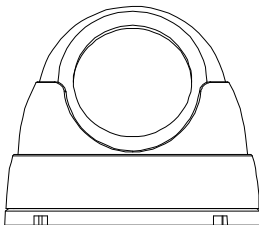
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# DIMENSIONS\*



\*Dimensional Tolerance:  $\pm 5\text{mm}$

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## SPECIFICATIONS\*

|                            |                                                     |
|----------------------------|-----------------------------------------------------|
| Pick-up Element            | 1/ 2.7" CMOS image sensor                           |
| Number of Pixels           | 1930(H) x 1088(V)                                   |
| Video Frame Rate           | 1080P@30fps / 1080P@25fps                           |
| Min. Illumination          | 0.1 Lux / F1.8, 0 Lux (IR LED ON)                   |
| S/N Ratio                  | More than 48dB (AGC OFF)                            |
| Shutter Speed              | 1/30 (1/25) sec ~ 1/720000 (1/600000) sec           |
| Lens                       | f3.6mm / F1.8                                       |
| Lens Angle                 | 96° (Horizontal) / 50° (Vertical) / 116° (Diagonal) |
| IR LED                     | 12 units                                            |
| IR Effective Distance      | Up to 15 meters                                     |
| IR Shift                   | YES                                                 |
| Day & Night Mode           | YES                                                 |
| IRIS Mode                  | AES                                                 |
| White Balance              | AUTO / USER / PUSH / 8000K / 6000K / 4200K / 3200K  |
| AGC                        | Adjustable                                          |
| Sharpness                  | Adjustable                                          |
| Flickerless                | 50HZ / 60HZ / OFF                                   |
| BLC                        | Adjustable                                          |
| IP Rating                  | IP66                                                |
| Operating Temperature      | -20°C ~ 40°C                                        |
| Power Source (±10%)        | DC12V / 0.5A                                        |
| Current Consumption (±10%) | 250mA                                               |

\* The specifications are subject to change without notice.

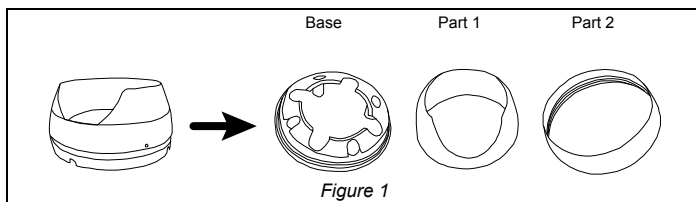
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## INSTALLATION

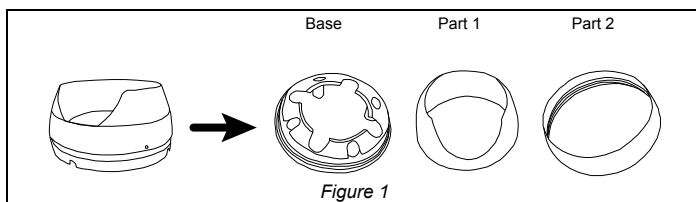
Step1: Disassemble the camera case into three parts as illustrated in *Figure 1*.



Step2: Locate where you want to install this camera (wall or ceiling), and drill holes on the wall or ceiling for securing the bracket and routing the cables (if necessary).

## INSTALLATION

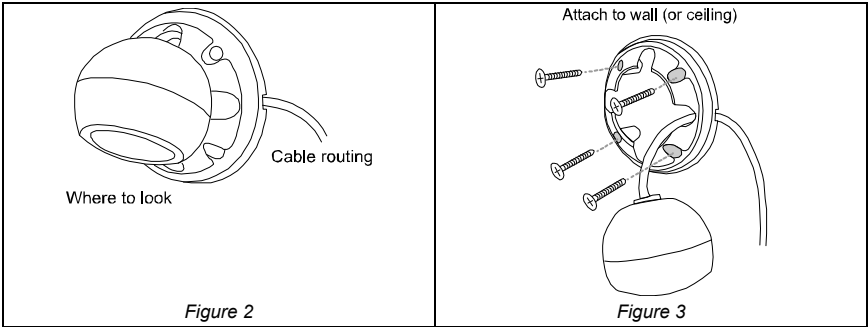
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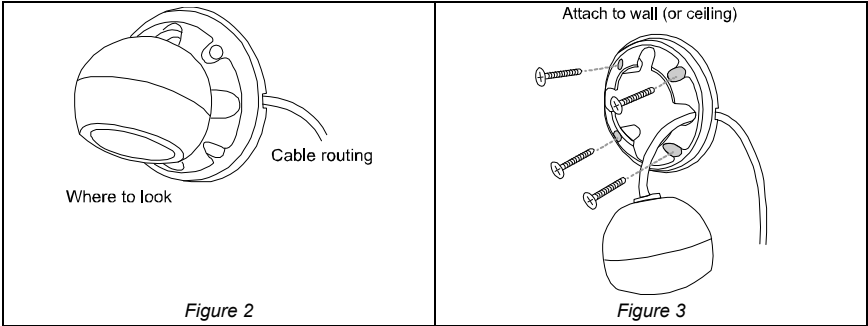
Step3: Attach the bracket to the wall (or ceiling), and make sure the cables are routed and arranged properly in the bracket, as shown in *Figure 2*.

Step4: Secure the bracket to the wall (or ceiling), as shown in *Figure 4*.



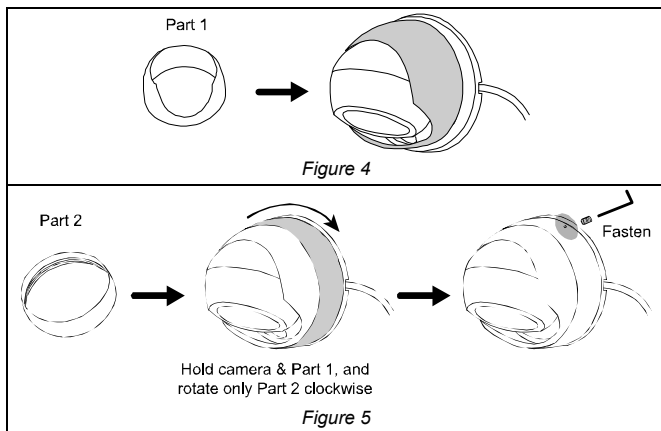
Step3: Attach the bracket to the wall (or ceiling), and make sure the cables are routed and arranged properly in the bracket, as shown in *Figure 2*.

Step4: Secure the bracket to the wall (or ceiling), as shown in *Figure 4*.



Step5: Slightly adjust the camera lens to where it's supposed to face, and replace Part 1 and Part 2 back, as shown in *Figure 4* and *Figure 5*.

Step6: Hold the camera lens and Part 1, and rotate only Part 2 clockwise, as shown in *Figure 5*.

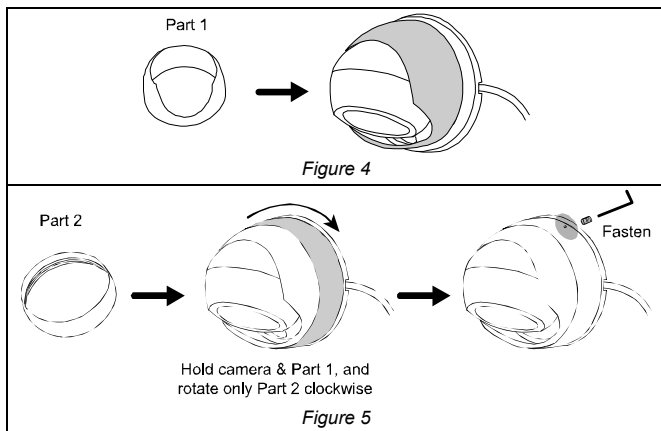


Step7: Power on your camera, and check the viewing angle on the PC.

Step8: Adjust the position and the viewing angle of the camera, if necessary.

Step5: Slightly adjust the camera lens to where it's supposed to face, and replace Part 1 and Part 2 back, as shown in *Figure 4* and *Figure 5*.

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Step8: Adjust the position and the viewing angle of the camera, if necessary.

## CONNECTION

### 1. DC12V Input Terminal

Connect the power terminal of the camera to a DC 12V regulated power supply.

---

**Note:** Please use the correct power adaptor, DC12V (regulated), to operate this unit. The power tolerance of this unit is DC12V  $\pm$  10%. Over maximum DC 12V power input will damage this unit.

---

### 1. Video Output Connector (VIDEO OUT)

Connect the camera video output to the video input of a DVR with 75 $\Omega$  coaxial cable.

---

**Note:** To ensure the camera has sufficient protection against moisture, an extra waterproof measure, such as by using an insulating tape, must be used to cover the power and video connectors after connection.

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## CAMERA PARAMETERS

This camera series has its own configuration menu, and either of the two methods below is available to access the menu based on the camera model you have.

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**Note:** The methods below are available only when the camera is used with our brand's HD CCTV DVR.

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### ■ Method 1

On the DVR live view, click the channel which connects this camera to display in the full screen mode, and select .

### ■ Method 2

On the DVR live view, right click to show the DVR main menu, and select **ADVANCED CONFIG** → **DCCS**. Then, select the channel which connects this camera, and click **SETUP** to enter the menu of camera parameters.

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| MENU        |        |        | DESCRIPTION                                                                                                                                                                                                                                                         |
|-------------|--------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DAY / NIGHT | MODE   | EXT    | Use the external light sensor we added in the camera to detect the surrounding light condition and switch to color or B/W mode.<br><br>If you're not satisfying with the mode switch time, you can go to <b>D TO N / N TO D</b> to manually adjust the sensitivity. |
|             |        | COLOR  | Always keep the day and night mode to day mode.                                                                                                                                                                                                                     |
|             |        | B&W    | Always keep the day and night mode to night mode.                                                                                                                                                                                                                   |
|             |        | AUTO   | No function.                                                                                                                                                                                                                                                        |
|             | D TO N | 1 ~ 63 | Set the sensitivity for the day & night mode from day to night.<br>The higher the value, the more sensitivity the mode is switched when the light condition is changed.<br><br>Note: This function is not available when AUTO and COLOR is selected.                |

| MENU        |        |        | DESCRIPTION                                                                                                                                                                                                                                                         |
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|             |        | COLOR  | Always keep the day and night mode to day mode.                                                                                                                                                                                                                     |
|             |        | B&W    | Always keep the day and night mode to night mode.                                                                                                                                                                                                                   |
|             |        | AUTO   | No function.                                                                                                                                                                                                                                                        |
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| MENU        |            |        | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------|------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DAY / NIGHT | N TO D     | 1 ~ 63 | Set the sensitivity for the day & night mode from night to day.<br>The higher the value, the more sensitivity the mode is switched when the light condition is changed.<br>Note: This function is not available when AUTO and COLOR is selected.                                                                                                                                                                                                                      |
|             | DELAY TIME | 1 ~ 60 | Set the delay time in second after which the day and night switch is made.<br>This is used for the environment where the light condition may change suddenly and usually last for a short time, for example, the entrance of a parking lot. It may cause the day & night mode switching constantly and damage the camera.<br>With this function, the camera will delay the mode switch at night since the light change is temporary and unnecessary to pay attention. |
| AWB         | MODE       | AUTO   | Automatically adjust the white balance based on the surrounding environment.                                                                                                                                                                                                                                                                                                                                                                                          |
|             |            | USER   | Manually adjust the white balance parameters. Choose <b>USER</b> , and click ←(ENTER) to enter the <b>USER MODE</b> to modify R / G / B gain parameters.                                                                                                                                                                                                                                                                                                              |

| MENU        |            |        | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| MENU                       |      |                               | DESCRIPTION                                                                                                                                                                                                                                         |
|----------------------------|------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AWB                        | MODE | (PUSH)                        | It's used for the environment surrounded largely by a particular color, such as blue, causing color confusion. Aim the camera to a white place, and select <b>(PUSH)</b> to memory this white. Then, aim the camera to where it's supposed to face. |
|                            |      | HOLD                          | It's used to force the camera memorizing the current white balance setting and remain the same even when the environment is changed.                                                                                                                |
|                            |      | 8000K / 6000K / 4200K / 3200K | Switch to the suitable color temperature based on the current environment to get the right color.<br>8000K = Shade; 6000K = Cloud; 4200K = White fluorescent; 3200K = Halogen light bulb.                                                           |
|                            |      | R-G GAIN                      | Adjust the red-green value from 1 ~ 255.                                                                                                                                                                                                            |
|                            |      | B-G GAIN                      | Adjust the blue-green value from 1 ~ 255                                                                                                                                                                                                            |
| AE<br>(automatic exposure) | MODE | ESC                           | Not available for this model.                                                                                                                                                                                                                       |
|                            |      | HOLD                          | Not available for this model.                                                                                                                                                                                                                       |
|                            |      | DC                            | Not available for this model.                                                                                                                                                                                                                       |

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|                            |      | HOLD                          | Not available for this model.                                                                                                                                                                                                                       |
|                            |      | DC                            | Not available for this model.                                                                                                                                                                                                                       |

| MENU                       |         |                                                                                                 | DESCRIPTION                                                                                                       |
|----------------------------|---------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| AE<br>(automatic exposure) | BRIGHT  | 0 ~ 255                                                                                         | Set the level of brightness to adjust the brightness of the image.<br>The more the value, the brighter the image. |
|                            | SHUTTER | AUTO                                                                                            | Automatically adjust the shutter speed for exposure based on the current environment.                             |
|                            |         | 1/25<br>1/30<br>1/50<br>1/60<br>1/100<br>1/120<br>1/250<br>1/500<br>1/1000<br>1/3000<br>1/10000 | Manually choose the shutter speed you need for exposure.                                                          |

| MENU                       |         |                                                                                                 | DESCRIPTION                                                                                                       |
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|                            | SHUTTER | AUTO                                                                                            | Automatically adjust the shutter speed for exposure based on the current environment.                             |
|                            |         | 1/25<br>1/30<br>1/50<br>1/60<br>1/100<br>1/120<br>1/250<br>1/500<br>1/1000<br>1/3000<br>1/10000 | Manually choose the shutter speed you need for exposure.                                                          |

| MENU                       |              |                   | DESCRIPTION                                                                                                                                                                                                                 |
|----------------------------|--------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AE<br>(automatic exposure) | FLICKER      | OFF / 50HZ / 60HZ | Enable this function to fix the flicker situation.                                                                                                                                                                          |
|                            | AGC          | 1 ~ 5             | Set the level of Auto Gain Control to detect and enhance the image signals when the light condition is poor.<br><br>The higher the value, the stronger the signals will be enhanced, and the more noise the image will get. |
|                            | LSC          | ON / OFF          | Enable or disable Lens Shading Correction to correct the phenomenon of vignetting when the focal length is short.                                                                                                           |
| SPECIAL                    | PRIVACY ZONE | AREA SEL.         | Select AREA1 or AREA2 to show a predefined area for masking. To move and change the area, please go to SX / EX / SY / EY.                                                                                                   |
|                            |              | MASK PAT.         | Select the color to mask: black / gray / white. Select OFF to disable area masking.                                                                                                                                         |

| MENU                       |              |                   | DESCRIPTION                                                                                                                                                                                                                 |
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| MENU    |              |           | DESCRIPTION                                                                                                                                                                                                             |
|---------|--------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SPECIAL | PRIVACY ZONE | SX        | Extend / narrow the current area from the left side.                                                                                                                                                                    |
|         |              | EX        | Extend / narrow the current area from the right side.                                                                                                                                                                   |
|         |              | SY        | Extend / narrow the current area from the top.                                                                                                                                                                          |
|         |              | EY        | Extend / narrow the current area from the bottom.                                                                                                                                                                       |
|         | MOTION*      | MOTION    | Enable ( <b>ON</b> ) / disable ( <b>OFF</b> ) motion detection.                                                                                                                                                         |
|         |              | SENSITI.  | Set the sensitivity to trigger motion detection. The higher the value, the more sensitive the camera to trigger motion detection.                                                                                       |
|         |              | ALARM     | Choose the way to show motion detection is triggered: <b>TRACE</b> to frame the area in red which motion trigger occurs on the screen, or <b>ICON</b> to simply show a running man icon for motion trigger occurrences. |
|         |              | HOLD TIME | Set how long the alarm lasts in second from 1 to 10.                                                                                                                                                                    |

\* The function here is for this camera only, and the detection log will be not noted in the DVR.

| MENU    |              |           | DESCRIPTION                                                                                                                                                                                                             |
|---------|--------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SPECIAL | PRIVACY ZONE | SX        | Extend / narrow the current area from the left side.                                                                                                                                                                    |
|         |              | EX        | Extend / narrow the current area from the right side.                                                                                                                                                                   |
|         |              | SY        | Extend / narrow the current area from the top.                                                                                                                                                                          |
|         |              | EY        | Extend / narrow the current area from the bottom.                                                                                                                                                                       |
|         | MOTION*      | MOTION    | Enable ( <b>ON</b> ) / disable ( <b>OFF</b> ) motion detection.                                                                                                                                                         |
|         |              | SENSITI.  | Set the sensitivity to trigger motion detection. The higher the value, the more sensitive the camera to trigger motion detection.                                                                                       |
|         |              | ALARM     | Choose the way to show motion detection is triggered: <b>TRACE</b> to frame the area in red which motion trigger occurs on the screen, or <b>ICON</b> to simply show a running man icon for motion trigger occurrences. |
|         |              | HOLD TIME | Set how long the alarm lasts in second from 1 to 10.                                                                                                                                                                    |

\* The function here is for this camera only, and the detection log will be not noted in the DVR.

| MENU    |     |            | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------|-----|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SPECIAL | HLC | HLC        | <p>HLC (high light compensation) is used to suppress strong backlight for clearer images. A grey mask will be covered on the source of the strong light. Choose <b>ON</b> and click  (ENTER) to select the areas for this function.</p> <p>The screen will be divided into 16 areas. Move to the area you want, and click  (ENTER) to make <b>X</b> to <b>O</b>.</p> |
|         |     | MASK VALUE | <p>Set the darkness of the mask.</p> <p>The more the value, the lighter the grey you'll get. The less the value, the darker the grey you'll get.</p>                                                                                                                                                                                                                                                                                                                                                                                   |
|         |     | THRESHOLD  | <p>Set the level of light source which enables masking.</p> <p>The more the value, the stronger the light source will trigger HLC; the less the value, the lighter the light source will trigger HLC.</p>                                                                                                                                                                                                                                                                                                                              |

| MENU    |     |            | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------|-----|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SPECIAL | HLC | HLC        | <p>HLC (high light compensation) is used to suppress strong backlight for clearer images. A grey mask will be covered on the source of the strong light. Choose <b>ON</b> and click  (ENTER) to select the areas for this function.</p> <p>The screen will be divided into 16 areas. Move to the area you want, and click  (ENTER) to make <b>X</b> to <b>O</b>.</p> |
|         |     | MASK VALUE | <p>Set the darkness of the mask.</p> <p>The more the value, the lighter the grey you'll get. The less the value, the darker the grey you'll get.</p>                                                                                                                                                                                                                                                                                                                                                                                       |
|         |     | THRESHOLD  | <p>Set the level of light source which enables masking.</p> <p>The more the value, the stronger the light source will trigger HLC; the less the value, the lighter the light source will trigger HLC.</p>                                                                                                                                                                                                                                                                                                                                  |

| MENU   |             |            | DESCRIPTION                                                                                                                                                                 |
|--------|-------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EFFECT | COLOR GAIN  | 0 ~ 255    | Set the level of color saturation.<br>The more the value, the more saturated the color will be, but the more noise the image will get.                                      |
|        | COLOR HUE   | 0 ~ 71     | Set the level of hue.                                                                                                                                                       |
|        | SHARPNESS   | 0 ~ 255    | Set the level of sharpness to enhance the clarity of image detail by adjusting the aperture and sharpening the edges.<br>The more the value, the sharper the image will be. |
|        | CONTRAST    | 0 ~ 255    | Set the level of contrast.<br>The more the value, the more the contrast level of the image will be.                                                                         |
|        | BRIGHT OFF. | -128 ~ 127 | Set the level to compensate the brightness of the image if needed.<br>The more the value, the brighter the image will be.                                                   |

| MENU   |             |            | DESCRIPTION                                                                                                                                                                 |
|--------|-------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EFFECT | COLOR GAIN  | 0 ~ 255    | Set the level of color saturation.<br>The more the value, the more saturated the color will be, but the more noise the image will get.                                      |
|        | COLOR HUE   | 0 ~ 71     | Set the level of hue.                                                                                                                                                       |
|        | SHARPNESS   | 0 ~ 255    | Set the level of sharpness to enhance the clarity of image detail by adjusting the aperture and sharpening the edges.<br>The more the value, the sharper the image will be. |
|        | CONTRAST    | 0 ~ 255    | Set the level of contrast.<br>The more the value, the more the contrast level of the image will be.                                                                         |
|        | BRIGHT OFF. | -128 ~ 127 | Set the level to compensate the brightness of the image if needed.<br>The more the value, the brighter the image will be.                                                   |

| MENU   |              |          | DESCRIPTION                                                                                                                 |
|--------|--------------|----------|-----------------------------------------------------------------------------------------------------------------------------|
| EFFECT | MIRROR       | OFF / ON | Enable to turn the images horizontally based on your installation situation when necessary.                                 |
|        | FLIP         | OFF / ON | Enable to flip the image 180° when necessary.                                                                               |
| SYSTEM | CAMERA ID    | 0 ~ 255  | Set the camera ID.                                                                                                          |
|        | ID DISP.     | OFF / ON | Enable or disable the display of the camera ID.                                                                             |
|        | NAME DISP.   | OFF / ON | This function has no use.                                                                                                   |
|        | LANGUAGE     | ENG / 中文 | Select the language of the menu: English / Simplified Chinese.                                                              |
|        | FACTORY INIT | OFF / ON | Enable to restore the camera parameters to factory default values. The camera image will flash once when the reset is done. |
| EXIT   | SAVE & EXIT  | --       | Save all the changes you've made in each menu and exit.                                                                     |
|        | EXIT         | --       | Exit without saving.                                                                                                        |

| MENU   |              |          | DESCRIPTION                                                                                                                 |
|--------|--------------|----------|-----------------------------------------------------------------------------------------------------------------------------|
| EFFECT | MIRROR       | OFF / ON | Enable to turn the images horizontally based on your installation situation when necessary.                                 |
|        | FLIP         | OFF / ON | Enable to flip the image 180° when necessary.                                                                               |
| SYSTEM | CAMERA ID    | 0 ~ 255  | Set the camera ID.                                                                                                          |
|        | ID DISP.     | OFF / ON | Enable or disable the display of the camera ID.                                                                             |
|        | NAME DISP.   | OFF / ON | This function has no use.                                                                                                   |
|        | LANGUAGE     | ENG / 中文 | Select the language of the menu: English / Simplified Chinese.                                                              |
|        | FACTORY INIT | OFF / ON | Enable to restore the camera parameters to factory default values. The camera image will flash once when the reset is done. |
| EXIT   | SAVE & EXIT  | --       | Save all the changes you've made in each menu and exit.                                                                     |
|        | EXIT         | --       | Exit without saving.                                                                                                        |