HIKVISION

High-definition Vandal-proof Dome Camera

User Manual

UD.6L0201D0109A01

www.hikvision.com

Thank you for purchasing our product. If there are any questions, or requests, please do not hesitate to contact the dealer.

This manual applies to

Model	Model
DS-2CC5181P(N)-VPIR(H)	DS-2CC5191P(N)-VPIR(H)
DS-2CC5195P(N)-VPIR(H)	DS-2CC5197P(N)-VPIR(H)
DS-2CC51A1P(N)-VPIR(H)	DS-2CC51A5P(N)-VPIR(H)
DS-2CC51A7P(N)-VPIR(H)	

This manual may contain several technical incorrect places or printing errors, and the content is subject to change without notice. The updates will be added to the new version of this manual. We will readily improve or update the products or procedures described in the manual.

DISCLAIMER STATEMENT

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Regulatory Information

FCC Information

FCC compliance: This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation

EU Conformity Statement

CE This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC.

0100001021227

2002/96/EC (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info.

Table of Contents

1 Introduction

1.1 Product Features

This series of camera adopts high performance sensor and advanced circuit board design technology. It features high resolution, low distortion, and low noise, etc. It is suitable for the surveillance system and image process system.

The main features of DS-2CC5181P (N)-VPIR (H), DS-2CC5191P (N)-VPIR (H), and DS-2CC51A1P (N)-VPIR (H) are as follows:

- High performance SONY CCD and high resolution bring high-quality image
- Low illumination, 0.001 Lux @ (F1.2, AGC ON), 0 Lux with IR
- Support ICR filter auto switch
- OSD menu, parameters are configurable.
- Support auto white balance with high color rendition
- High Signal Noise Ratio (SNR), which brings clear and high-quality image
- SMART IR
- Auto iris
- Up to 8 configurable privacy masks to ensure your privacy
- Advanced 3-axis design meets different installation requirements

- Impact Protection: IEC60068-2-75 test, Eh, 50J; EN50102, up to IK10
- Ingress protection: IP66

The main features of DS-2CC5195P (N)-VPIR (H), DS-2CC5197P (N)-VPIR (H), DS-2CC51A5P (N)-VPIR (H), and DS-2CC51A7P (N)-VPIR (H) are as follows:

- High performance SONY CCD and high resolution bring high-quality image
- Low illumination, 0.001 Lux @ (F1.2, AGC ON), 0.0001 Lux @ (F1.2, AGC ON, sensitivity × 512), 0 Lux with IR
- Support ICR filter auto switch
- OSD menu, parameters are configurable
- Wide Dynamic Range (supported by DS-2CC5197P (N)-VPIR(H) and DS-2CC51A7P(N)-VPIR(H)) for backlighting surveillance
- Back Light Compensation (BLC) with programmable BLC area
- Support auto white balance with high color rendition
- High Signal Noise Ratio (SNR) brings clear and high-quality image
- SMART IR
- Electronic image stabilization (EIS) function to get steady and clear image
- Eclipse
- Auto iris
- Privacy mask with 8 optional colors and 12 configurable areas

- Advanced 3-axis design meets different installation requirements
- Impact Protection: IEC60068-2-75 test, Eh, 50J; EN50102, up to IK10
- Ingress protection: IP66

1.2 Overview

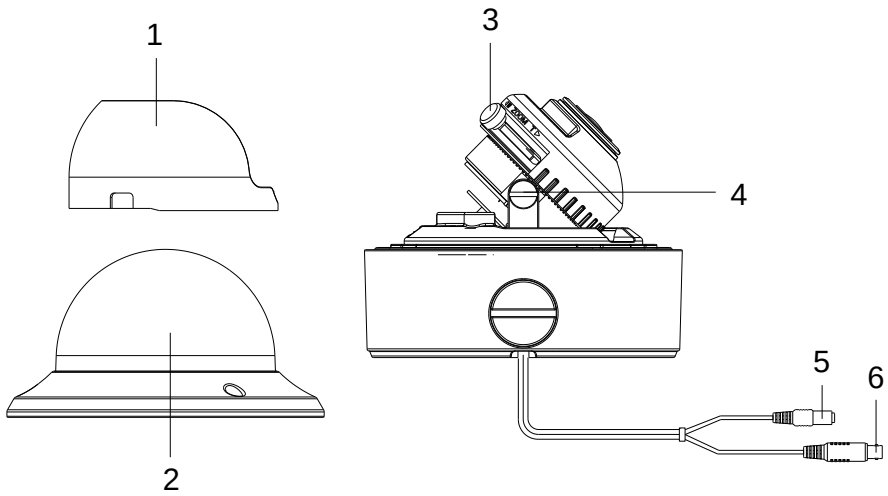

Figure 1-1 Overview

Table 1-1 Description

No.	Description
1	Black Liner
2	Lower Dome
3	Lens Adjustable Screw

No.	Description
4	Tilting Screw
5	Power Cable
6	Video Cable

2 Installation

Before you start:

- Please make sure that the device in the package is in good condition and all the assembly parts are included.
- Make sure that all the related equipment is power-off during the installation.
- Check the specification of the products for the installation environment.
- Check whether the power supply is matched with your AC outlet to avoid damage.
- If the product does not function properly, please contact your dealer or the nearest service center. Do not disassemble the camera for repair or maintenance by yourself.
- Please make sure the wall is strong enough to withstand three times the weight of the camera and the mounting.

2.1 Ceiling Mounting

Steps:

1. Attach the drill template (supplied) to the place where you want to fix the camera.
2. Drill the screw hole and the cable hole in the ceiling according to the drill template.

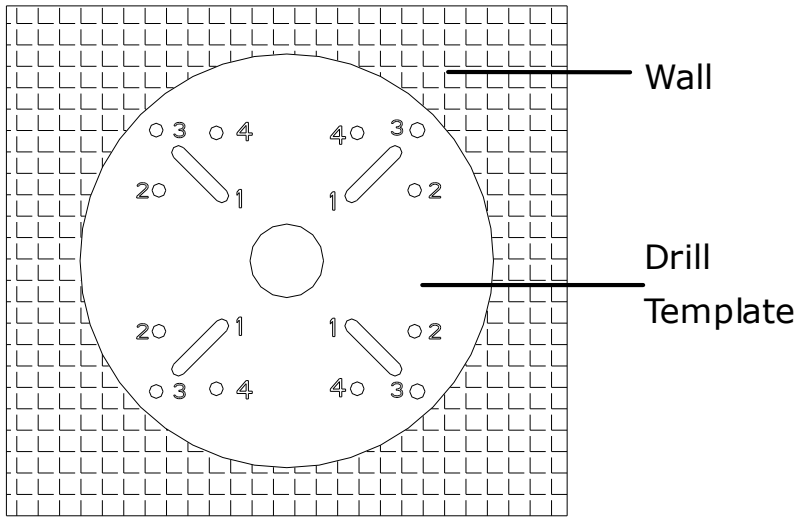

Figure 2-1 Drill Template

3. Loosen the three screws on the edge of the lower dome with the supplied screwdriver.
4. Remove the lower dome and the black liner.

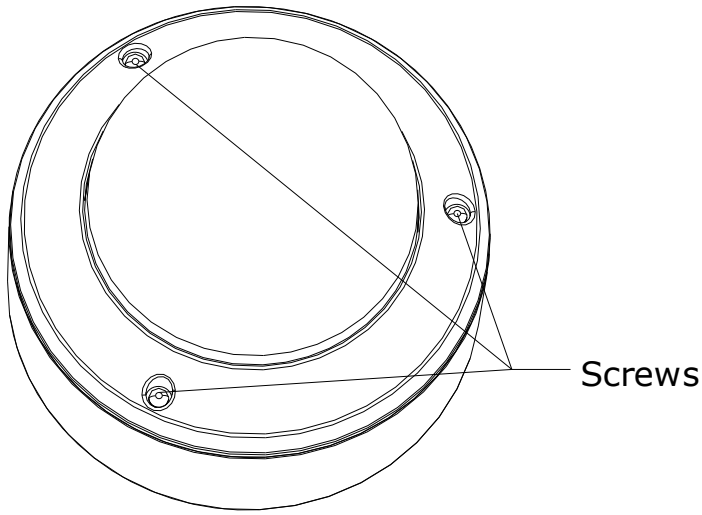

Figure 2-2 Remove the Lower Dome

5. Loosen the three set screws as shown in Figure 2-3 with the supplied screwdriver.
6. Remove the camera from the back box.

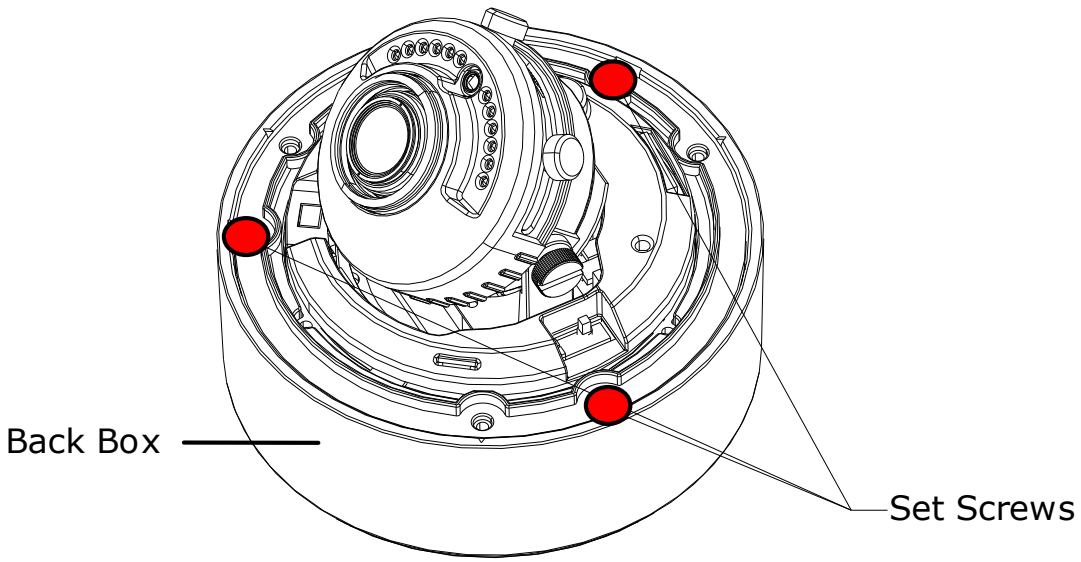

Figure 2-3 Remove the Camera

7. Attach the back box to the ceiling by aligning the holes of the back box with the holes on the drill template.
8. Secure the back box with the supplied screws.

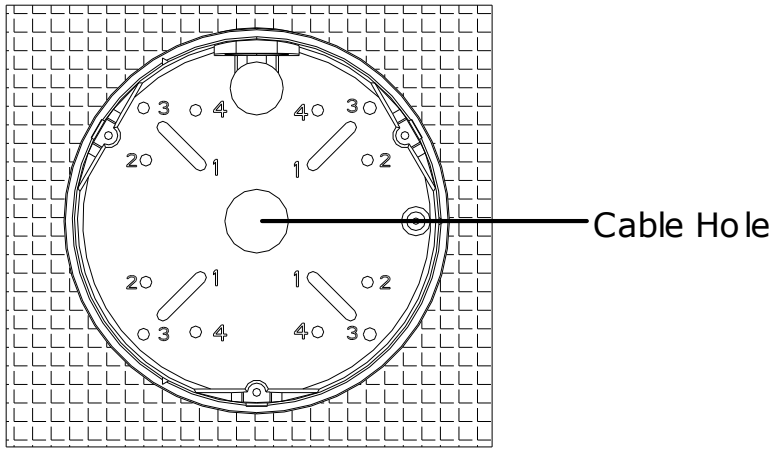

Figure 2-4 Secure the Back box

9. Route the cables through the cable hole.
10. Align the camera with the back box.
11. Tighten the set screws to secure the camera with the back box.
12. Connect the video output connector to the monitor. Connect the power connector to the power supply.
13. Adjust the image and focus. Please refer to the section 2.5 for more details.
14. Fit the black liner back to the camera.
15. Tighten the screws to secure the lower dome with the back box.

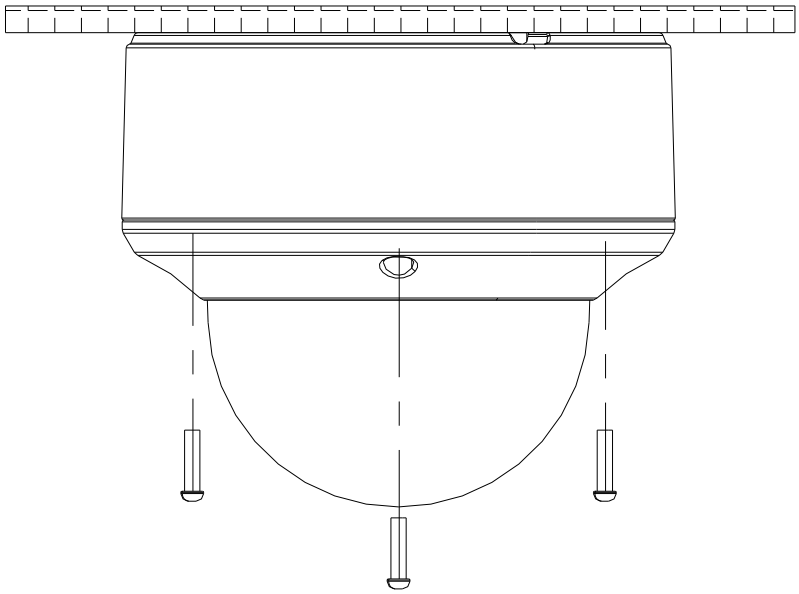

Figure 2-5 Secure Lower Dome

2.2 In-ceiling Mounting

Steps:

1. Attach the drill template (supplied) to the place where you want to fix the camera.
2. Drill the screws hole and the cable hole in the ceiling according to the drill template.

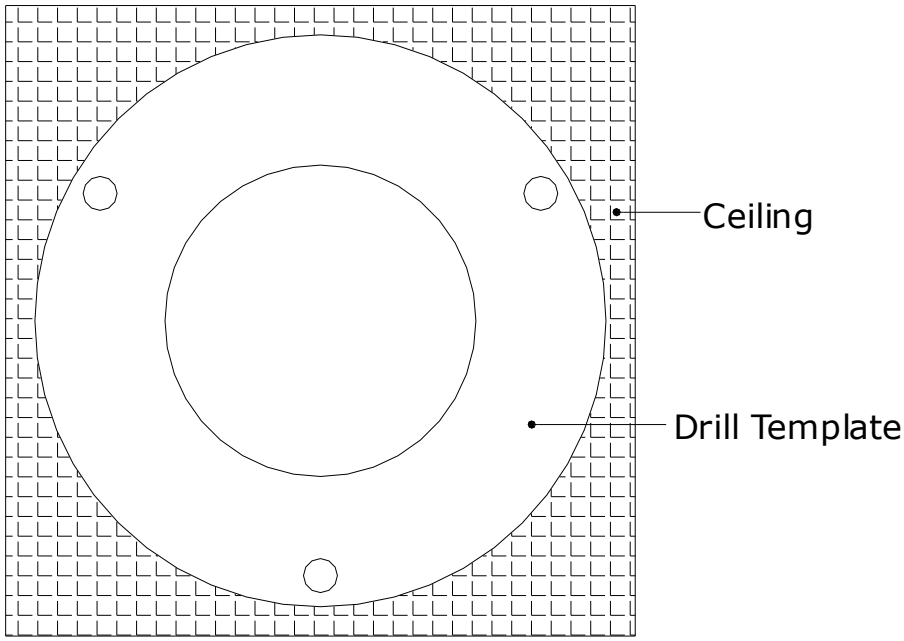

Figure 2-6 The Drill Template

3. Fold the toggle to get the toggle bolt go through the screw holes of the in-ceiling mount.
4. Keep screwing the bolt till the toggle unfolds and props on the ceiling.

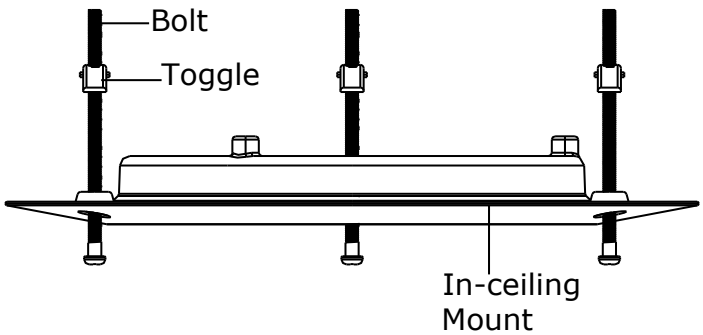

Figure 2-7 The In-ceiling Mount

5. Route the cables through the hole in the center of the in-ceiling mount.
6. Align the camera with the in-ceiling mount.
7. Tighten the set screws to secure the camera with the in-ceiling mount.
8. Connect the video output connector to the monitor. Connect the power connector to the power supply.
9. Adjust the image and focus. Please refer to the section 2.5 for more detailed information.

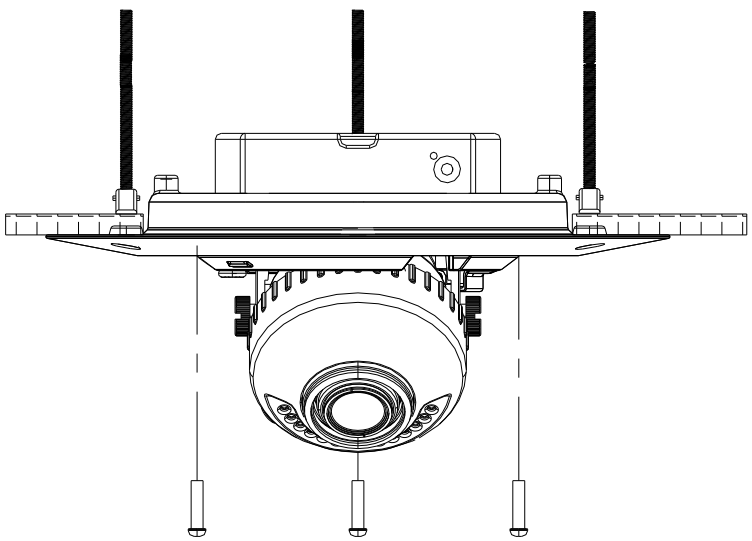

Figure 2-8 Secure the Camera

10. Fit the black liner back to the camera.
11. Align the lower dome with the in-ceiling mount.
12. Tighten the screws to secure the lower dome with the in-ceiling mount.

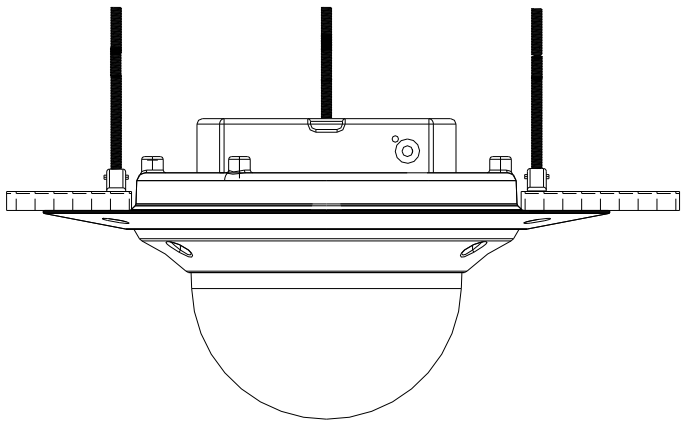

Figure 2-9 Secure the Lower Dome

2.3 In-ceiling Mounting with gang box

Steps:

1. Secure the In-ceiling mount (supplied) to the gang box with two screws.

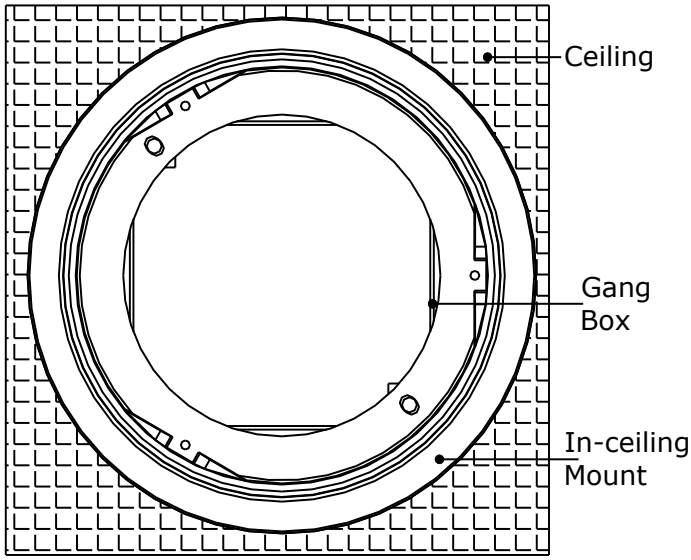

Figure 2-10 In-ceiling Mount

2. Route the cables through the hole in the center of the in-ceiling mount.
3. Align the camera with the gang box.
4. Tighten the screws to secure the camera with the gang box.
5. Connect the video output connector to the monitor. Connect the power connector to the power supply.
6. Adjust the image and focus. Please refer to the section 2.5 for more details.

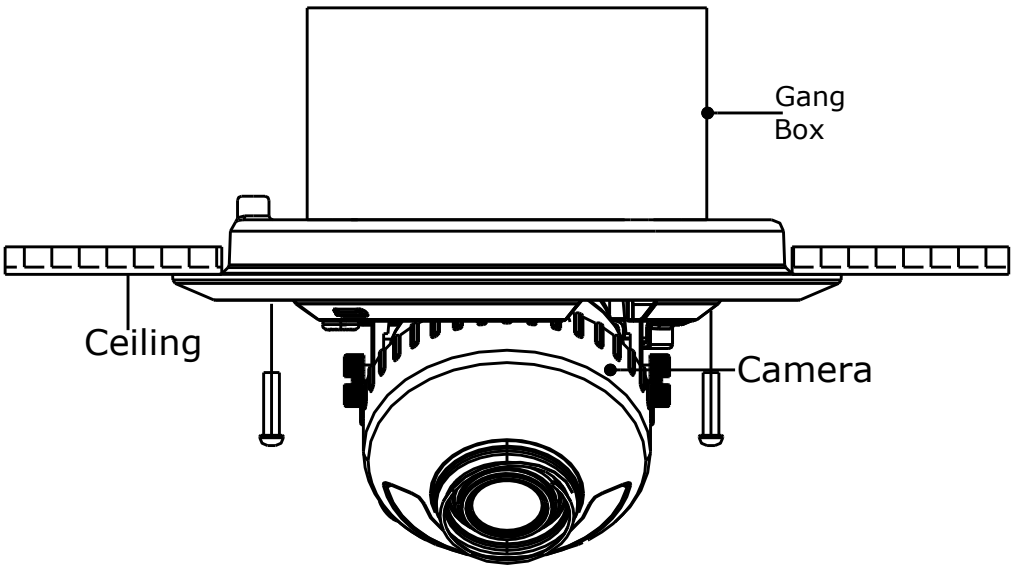

Figure 2-11 Secure the Camera

7. Fit the black liner back to the camera.
8. Align the lower dome with the in-ceiling mount.
9. Tighten the screws to secure the lower dome with the in-ceiling mount.

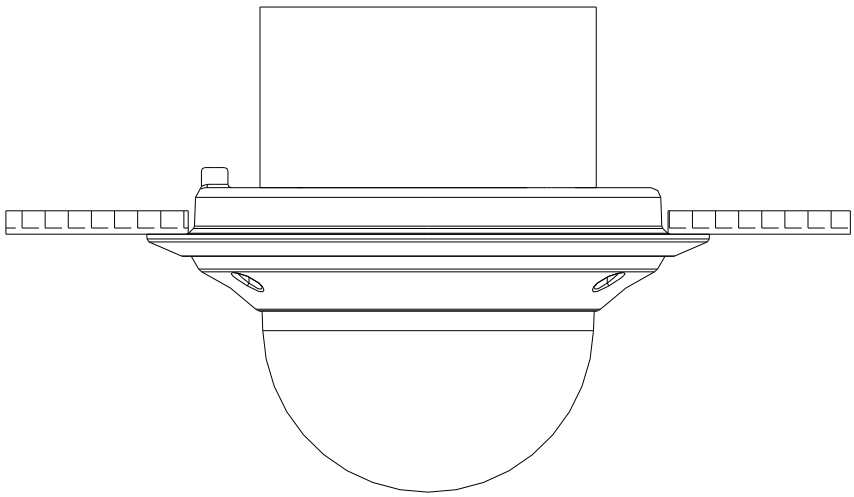

Figure 2-12 Secure the Lower Dome

2.4 Indoor Wall Mounting

Steps:

1. Disassemble the lower dome, black liner and the camera as you do in chapter 2.1.
2. Align the number 2 holes of the back box with the number 1 holes of the wall mount.
3. Secure the back box to the wall mount with four screws.

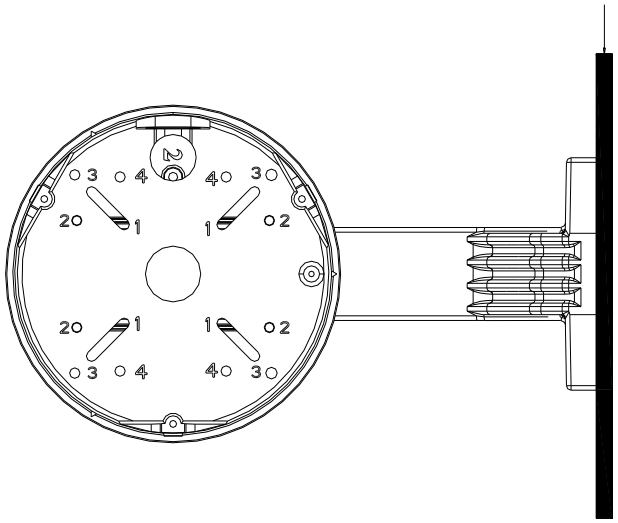

Figure 2-13 Secure the Back Box

4. Route the cables through the hole in the center of the wall mount.
5. Align the camera with the back box.
6. Tighten the set screws to secure the camera with the back box.
7. Connect the video output connector to the monitor. Connect the power connector to the power supply.
8. Adjust the image and focus. Please refer to the section 2.5 for more detailed information.

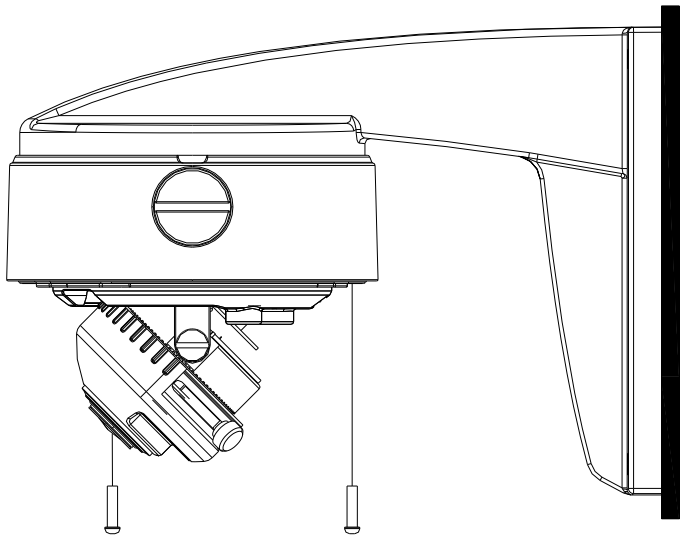

Figure 2-14 Secure the Camera

9. Fit the black liner back to the camera.
10. Align the lower dome with the camera.
11. Tighten the screws to secure the lower dome with the camera.

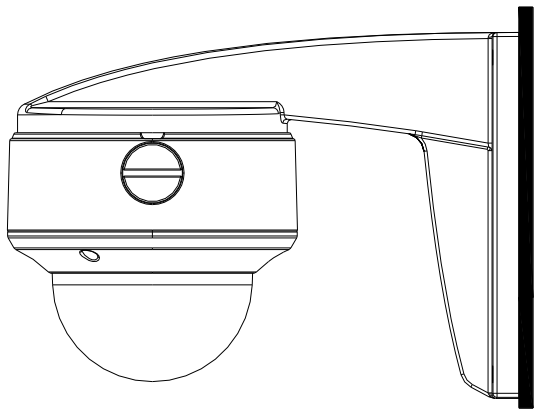

Figure 2-15 Secure the Lower Dome

2.5 Image and Focus Adjusting

Steps:

1. Three-axis adjustment.
   1). View the camera image using the monitor.
   2). Rotate the panning table to adjust the panning position of the camera.
   3). Loosen the tilting lock screw.
   4). Rotate the tilting table to adjust the tilting position of the camera.
   5). Tighten the tilting lock screw.
   6). Rotate the lens to adjust the azimuth angle of the image.

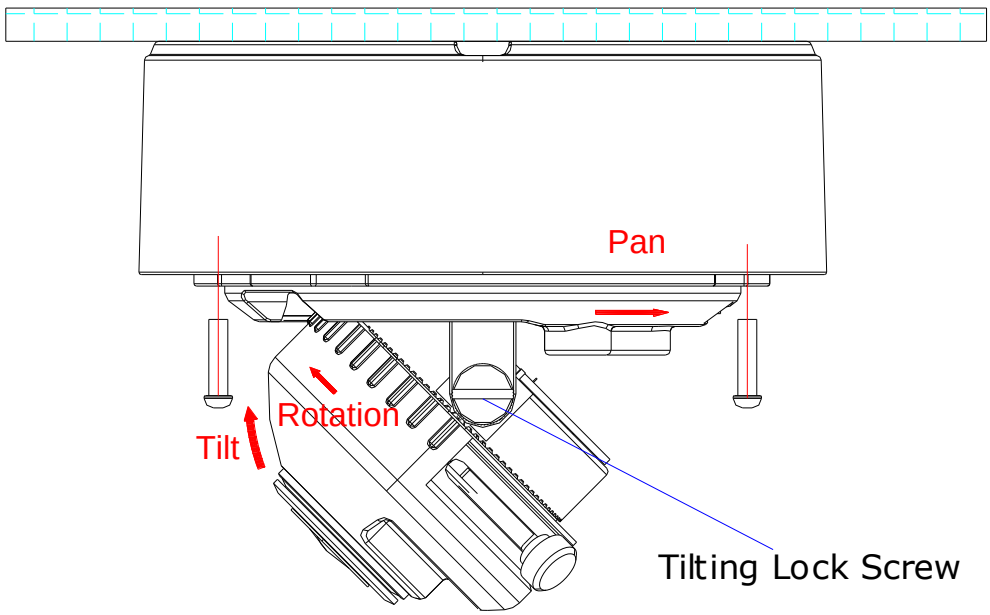

Figure 2-16 Three-axis Adjustment

2. Zoom and focus adjustment.

   1). View the camera image using the monitor.

   2). Loosen the zoom lock screw and move the screw between T (Tele) and W (Wide) to obtain the appropriate angle of view.

   3). Tighten the zoom lock screw.

   4). Loosen the focus lock screw and move the screw between F (Far) and N (Near) to obtain the optimum focus.

   5). Tighten the focus lock screw.

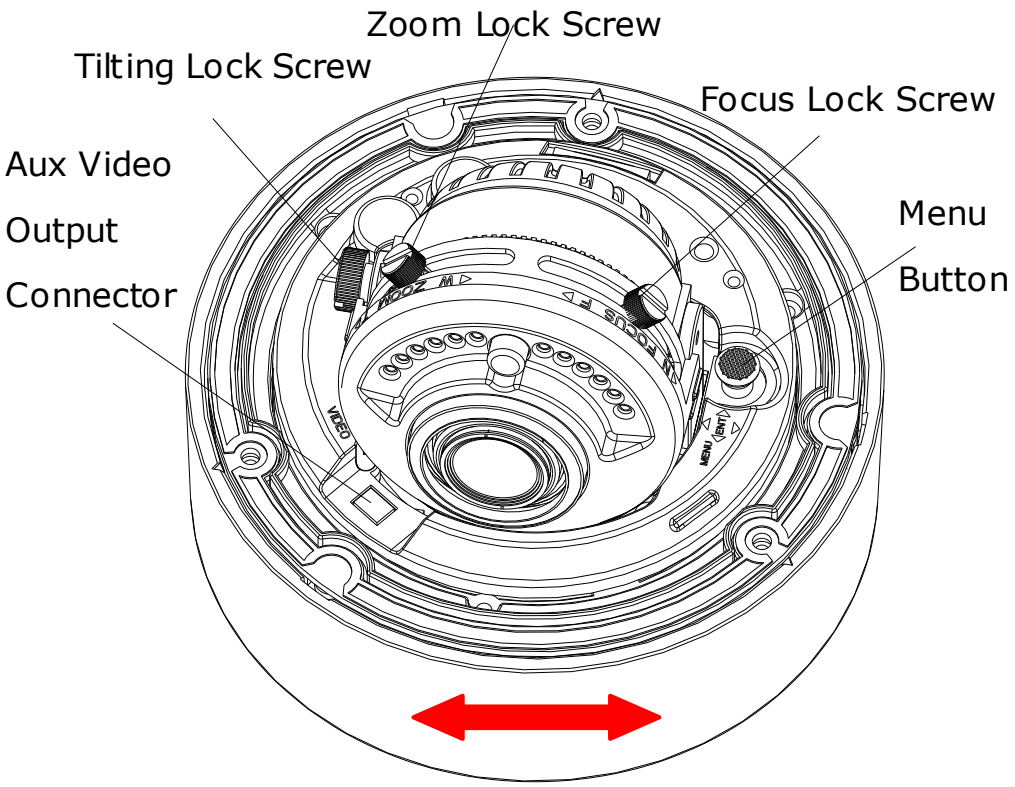

Figure 2-17 Lens Adjustment

2.6 Wiring

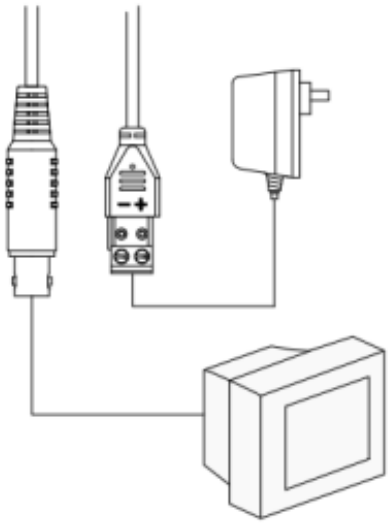

Figure 2-18 The Power/Video Cable (Two-pins Power Interface)

Notes:

- Please make sure that the power adapter can match with the camera.
- The standard power supply of the camera is 12V DC or 24V AC (Please refer to technical specifications for more details).

3 Menu Description

3.1 Menu Description (A)

Note:

The menu described in this chapter is applicable to DS-2CC5181P (N)-VPIR (H), DS-2CC5191P (N)-VPIR (H), and DS-2CC51A1P (N)-VPIR (H).

3.1.1 Menu Overview

This series of camera supports OSD menu operation, and the menu is listed below:

Main Menu	**LENS**	AUTO, MANUAL
	SHUTTER/ AGC	SHUT+AUTO IRIS, AUTO IRIS, SHUT+AGC,SHUT
	WHITE BAL	ATW, PUSH, PUSH LOCK, USER1, USER2, ANTI CR, MANUAL
	BACKLIGHT	BLC,HLC
	PICT ADJUST	MIRROR, BRIGHTNESS, CONTRAST, SHARPNESS, HUE, GAIN
	ATR	LUMINANCE, CONTRAST
	MOTION DET	DETECT SENSE, BLOCK DISP, MONITOR AREA, AREA SEL

	PRIVACY	AREA SEL, COLOR, TRANSP, MOSAIC
	DAY/NIGHT	AUTO, COLOR, B/W, EXT1/EXT2
	NR	Y LEVEL
	CAMERA ID	
	SYNC	INT , LINELOCK
	LANGUAGE	English/Chinese/Japanese/ French/Russian/ Portuguese/ Spanish/ German
	CAMERA RESET	
	DPC	
	EXIT/SAVE ALL	

Note:

This series of camera adopts joystick control. You can select the menu item by setting the joystick, which is beside the lens, to up/down/left/right.

3.1.2 Lens Settings

Move the cursor to LENS, and set the menu button left/right to select **MANUAL** or **AUTO**.

- Selecting MANUAL mode, the iris is set at the maximum value, and it is not configurable.

- Selecting AUTO mode, press the menu button to enter the AUTO IRIS submenu.

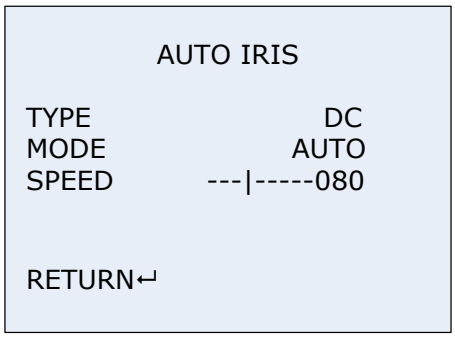

Figure 3-1 AUTO IRIS

AUTO IRIS can automatically adjust the iris according to the changing light conditions.

TYPE: It supports Direct Current Driven (**DC**). There is a drive circuit in the camera which can directly output DC control voltage to control electronic motor.

MODE: AUTO, **OPEN,** and **CLOSE** are selectable for iris mode.

AUTO: The iris adjusts automatically according to the changing light environment;

OPEN: The iris is fully open;

CLOSE: The iris is totally closed.

SPEED: Adjust the iris speed. The higher the value is, the faster the speed of the auto iris is. The value ranges from 0 to 255.

Note:

It is recommended that you adjust the iris speed only when the iris vibrates.

3.1.3 Shutter/AGC Setting

SHUTTER/AGC allows you to adjust the image brightness in different light conditions.

MANUAL or **AUTO** mode is selectable for the shutter and AGC.

AUTO Mode:

- **HIGH LUMINANCE**

Move the cursor to **Mode** in **HIGH LUMINANCE**, and select **SHUT+AUTO IRIS** or **AUTO IRIS.** SHUT+AUTO IRIS means adjust the image brightness via shutter and iris. AUTO IRIS means adjust the image brightness via iris.

Move the cursor to **BRIGHTNESS** in **HIGH LUMINANCE**, and select the value to adjust the brightness.

Note: High luminance means the environmental illumination is quite high, and the image brightness is controlled by the shutter and the iris. If you set the lens as **Manual** in the **Lens Settings interface**, only Shutter is available for Mode, which means the image brightness is controlled via shutter. The value ranges from 0 to 255.

- **LOW LUMINANCE**

Move the cursor to **Mode** in **LOW LUMINANCE.** Only **AGC** is available, which means the image brightness is adjusted by AGC.

Move the cursor to **Brightness** in **LOW LUMINANCE,** and adjust the AGC value to control the image brightness. ×1.00, ×0.75, × 0.50 and ×0.25 are selectable

Note:

Low Luminance means the environmental illumination is low, and you can use the AGC to brighten the image.

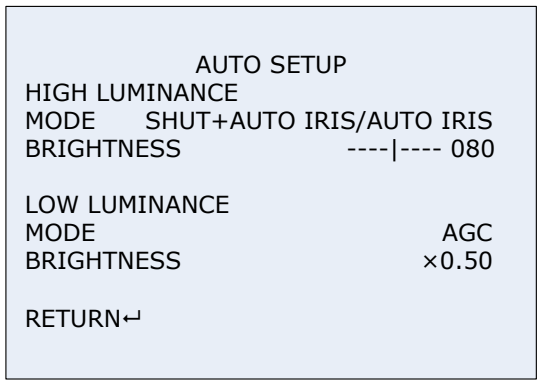

Figure 3-2 AUTO SETUP

Manual Mode:

Move the cursor to **Mode** in **Manual**, **SHUT+AGC** is selectable. You can adjust the image brightness by shutter and AGC.

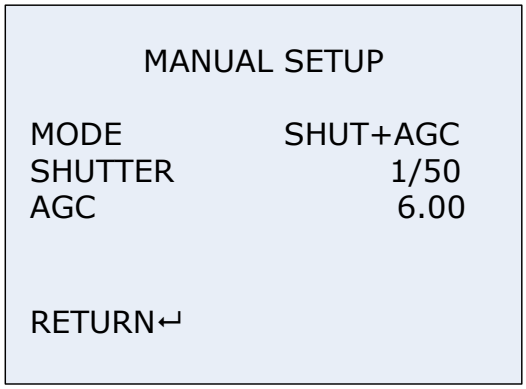

Figure 3-3 MANUAL SETUP

Shutter: 1/50, 1/120, 1/250, 1/500, 1/1k, 1/2k, 1/4k, and 1/10k are selectable for PAL standard.

1/60, 1/100, 1/250, 1/500, 1/1k, 1/4k, and 1/10k are selectable for NTSC standard.

AGC: 6.00, 12.00, 18.00, 24.00, 30.00, 36.00, 42.00, and 44.80 are selectable for the AGC value.

3.1.4 White Balance Setting

Move the cursor to the **White Balance**, and select **ATW**, **PUSH**, **PUSH LOCK**, **USER1**, **USER2**, **ANTI CR** and **MANUAL** by setting the menu button to left/right.

- ATW(Auto Tracking White Balance)

In ATW mode, white balance is continuously being adjusted in real-time according to the color temperature of the scene illumination.

SPEED	The speed can be set from 0 to 255.
DELAY CNT	It is the response time when the color temperature changes.
ATW FRAME	It is used to adjust the image size of the ATW image.
ENVIRONMENT	INDOOR and OUTDOOR are selectable.

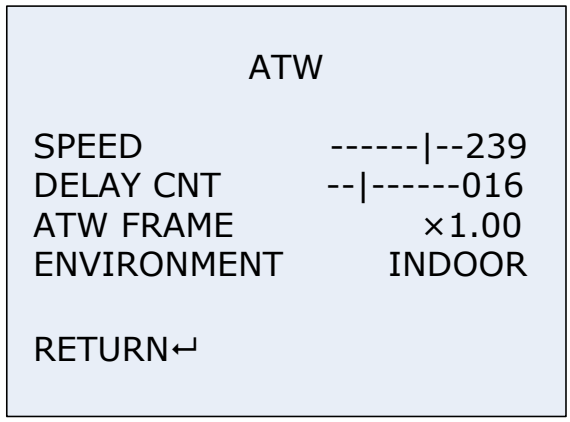

Figure 3-4 ATW

- USER 1/USER2

USER 1 is the indoor mode and it is suitable for the indoor environment. B-Gain and R-Gain are adjustable.

USER 2 is suitable for the fluorescent light environment. B-Gain and R-Gain are adjustable.

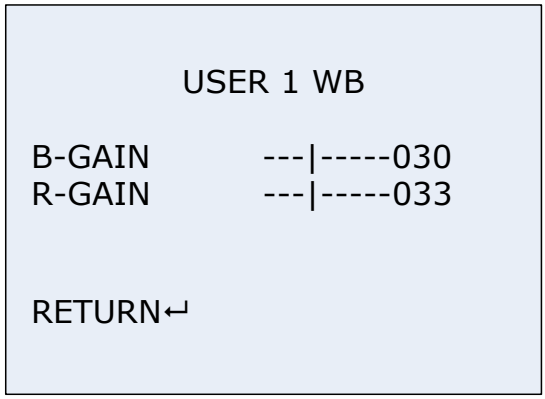

Figure 3-5 USER 1 WB

- MANUAL

Selecting **MANUAL** and pressing the menu button to enter the **MANUAL WB** submenu. Customize the **LEVEL** value which is 0 to 255 selectable on your demand.

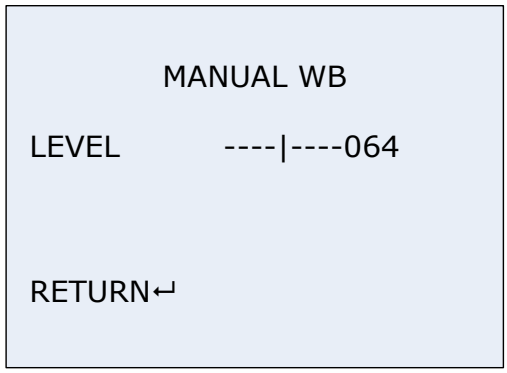

Figure 3-6 MANUAL WB

- PUSH

In the **PUSH** mode, the viewed image retains color balance automatically. The color in the image balances according to the color temperature.

- PUSH LOCK

In the **PUSH LOCK** mode, you can select a scene, and manually adjust the white balance, and then lock the color temperature. It is suitable for the environment which the color temperature slightly changes.

- ANTI CR (Anti Color Rolling)

In **ANTI CR** mode, the system suppresses the color rolling under the fluorescent light environment.

3.1.5 Backlight Compesation Setting

Move the cursor to the **BLC** and select **OFF**, **BLC** or **HLC** by setting the menu button to left/right.

- **BLC (Backlight Compensation)**

If there's a strong backlight, the object in front of the backlight appears silhouetted or dark. **BLC** can correct the exposure of the subject. The BLC area is not configurable.

- **HLC(Highlight Compensation)**

HLC masks the strong light sources that usually flare across a scene. This makes it possible to see the detail of the image that would normally be hidden.

3.1.6 Picture Adjust Setting

Move the cursor to **PICT ADJUST**. Press the confirm button to enter the **PICT ADJUST** submenu. **MIRROR**, **BRIGHTNESS**, **CONTRAST**, **SHARPNESS**, **HUE**, and **GAIN** are adjustable.

- MIRROR

If you turn the **MIRROR** function on, the image flips horizontally. It looks like the image in the mirror.

- BRIGHTNESS

The image brightness is adjustable from 0 to 255.

- CONTRAST

This feature enhances the difference in color and light between parts of an image. The value ranges from 0 to 255.

- SHARPNESS

SHARPNESS describes the clarity of the details in the image. The value ranges from 0 to 255.

- HUE

Adjust this feature to change the color of the image. The value ranges from 0 to 255.

- GAIN

Adjust this feature to change the saturation of the color. The value ranges from 0 to 255.

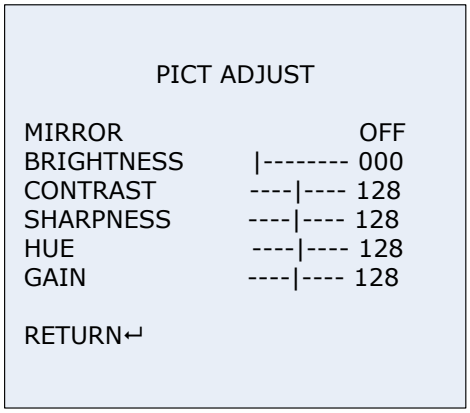

Figure 3-7 PICT ADJUST

3.1.7 ATR Setting

ATR is the digital dynamic range function which can adjust the brightness and contrast level of the image, and balance the brightness level of the whole image.

Move the cursor to **ATR**. Set the button left/right to select **ON** or **OFF**. After you set it to **ON**, you can press the menu button to enter the **ATR** submenu.

LUMINANCE MID, HIGH, and LOW are selectable, standing for middle, high and low luminance respectively.

CONTRAST MID, HIGH, LOW, MIDLOW and MIDHIGH are selectable.

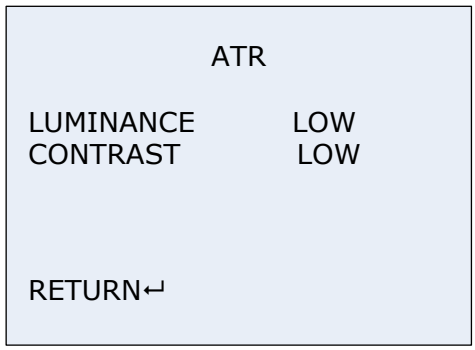

Figure 3-8 ATR

3.1.8 Motion Detection Setting

There are two kinds of **MOTION DET** panes: **BLOCK DISP** and **MONITOR AREA**. Two panes can take effect simultaneously.

BLOCK DISP

Steps:

1. Move the cursor to **MOTION DET**, and select **ON** and press the menu button to enter the submenu.
2. Position the cursor on **DETECT SENSE**, and set the menu button left/right to adjust the sensitivity level. 0 to 255 are selectable.

3. Position the cursor on **BLOCK DISP**, and set the menu button left/right to select **ENABLE**.
4. Press the menu button to enter the setup interface of the detection panes.
5. Select **ON** to enable **BLOCK DISP**.
6. Move the cursor to **MONITOR AREA** and select **ON**.
7. Return to the **MAIN MENU** and click **SAVE ALL**.
8. You can find the **BLOCK DISP** take effect after you exit the main menu.

MONITOR AREA

Steps:

1. Move the cursor to **MOTION DET**, select **ON** and press the menu button to enter the submenu.
2. Position the cursor on **DETECT SENSE,** and set the menu button left/right to adjust the sensitivity level.
3. Position the cursor on **MONITOR AREA**. Select **OFF** to disable area motion detection. Select **ON** to enable area motion detection.
4. Position the cursor on **AREA SEL** to select one area. There are four areas available.
5. Set the values of **TOP**, **BOTTOM**, **LEFT** and **RIGHT**. The size and position of the area is defined by these values. And after you set all this value, you can see a frame on the image.
6. Return to the **MAIN MENU** and click **SAVE ALL**.
7. You can find the **MONITOR AREA** frame take effect after you exit the main menu.

Note:

The **MONITOR AREA** frame takes effect only when the **BLOCK DISP** panes are included in the **MONITOR AREA** frame.

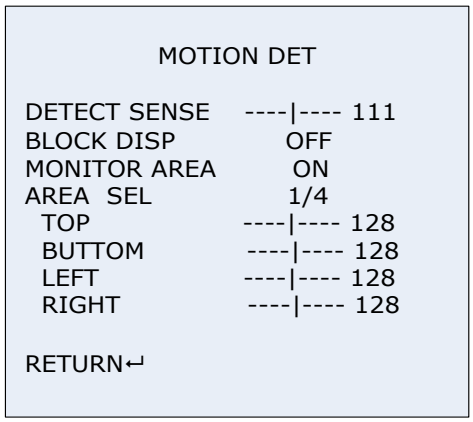

Figure 3-9 MOTION DET

3.1.9 Privacy Mask Setting

This feature allows you to cover certain areas which you don't want to be viewed or recorded. Up to 8 privacy areas are configurable.

Steps:

1. Move the cursor to **PRIVACY**, and press menu button to enter the **PRIVACY** submenu.
2. Select one privacy area in **AREA SEL**.
3. Set the values of **TOP**, **BOTTOM**, **LEFT** and **RIGHT**. The size and the position of the area can be defined by these values.
4. Select the color and the transparency values for the privacy area. Turn the **MOSAIC** on if you want to mosaic the privacy areas.
5. Repeat the steps 1 to step 4 to configure other privacy areas.

AREA SEL There are 8 areas available.

COLOR There are 8 colors available.

TRANSP The available values are 1.00, 0.75, 0.50, and 0.00.

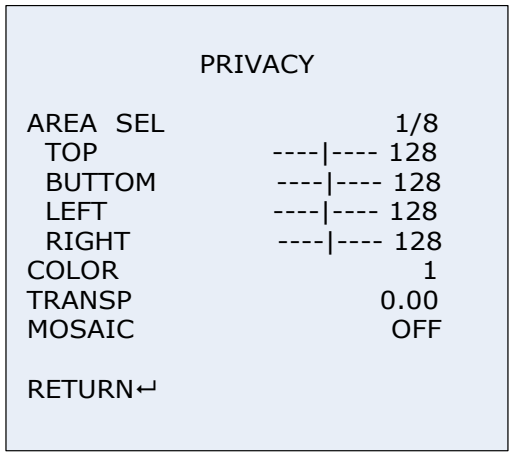

Figure 3-10 PRIVACY

Note:

When the motion detection is on, up to 4 privacy areas are configurable.

3.1.10 Day/Night Setting

Move the cursor to **DAY/NIGHT**, and select **AUTO**, **COLOR**, **EXT 1/EXT 2** or **B/W** by setting the menu button to left/right.

COLOR mode is used for normal lighting conditions.

B/W mode can increase the sensitivity in low light conditions.

AUTO Mode Setting

In **AUTO** mode, the day mode and the night mode can switch automatically.

Steps:

1. After moving the cursor to **DAY/NIGHT**, set the menu button left/right to select **AUTO**.
2. Press menu button to enter the submenu.

BURST	Burst is an analog video, composite video signal generated by a video-signal generator used to keep the chrominance subcarrier synchronized in a color television signal. Select ON or OFF to enable or disable the color burst function.
DELAYCNT	The value ranges from 0 to 255. This value is the delay time before the day/night mode switches.
DAY→NIGHT	The value ranges from 0 to 255. The day mode switches to the night mode when the light condition reaches to the value you select.
NIGHT→DAY	The value ranges from 0 to 255. The night mode switches to the day mode when the light condition reaches to the value you select.

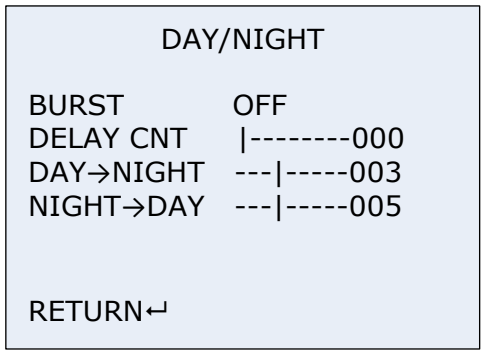

Figure 3-11 DAY/NIGHT

B/W Mode Setting

BURST: In the **B/W** submenu, select **ON** or **OFF** to enable or disable the color burst function.

IR OPTIMIZER: The camera will calculate the image brightness by the DSP, and suppress the IR brightness if the image is overexposed caused by the IR LED.

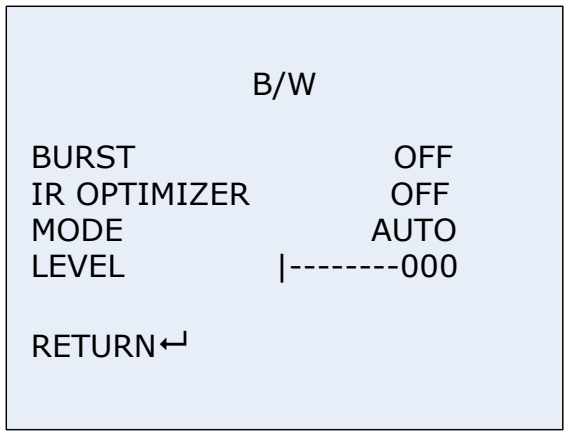

Figure 3-12 B/W

Note:

There is no external triggered output for this series of camera, if you select EXT 1/EXT 2, the day mode switches to the night mode automatically at the same time the IR LED turns on.

3.1.11 NR Setting

Noise Reduction is used to reduce the noise in the video signal.

Move the cursor to **NR**, and press confirm to enter the **NR** submenu.

Y LEVEL NR mainly reduces the noise of the Y-signal. The value ranges from 0 to 15.

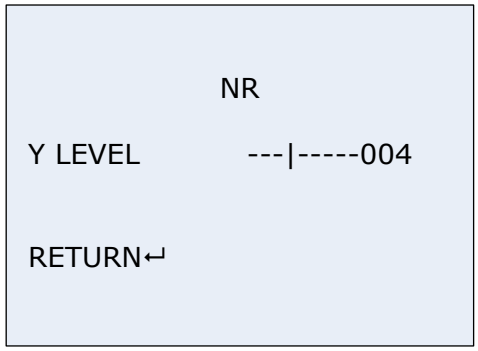

Figure 3-13 NR

3.1.12 Camera ID Setting

On **Camera ID** submenu, you can customize the camera ID and the camera ID position on the monitor screen. This series of camera supports up to 52 characters.

- Select OFF to disable the Camera ID.
- Select ON to enable the Camera ID.

Customizing the camera ID

Steps:

1. Set it to **ON**, and press the menu button to enter the submenu.
2. Set the menu button up/down/left/right to position the cursor on the character you want.
3. Press menu button to confirm your selection. The selected character displays on the screen.
4. Repeat the steps 1 ~step 3 to select other characters.

Modifying the camera ID

Steps:

1. Position the cursor on one of the arrows←→↑↓.
2. Press the menu button to position the cursor on the character that needs to be modified.
3. Select one of the other characters to replace it.

Clearing the camera ID

Steps:

1. Position the cursor on **CLR**.
2. Press the menu button to clear the characters.

Positioning the camera ID

Steps:

1. Move the cursor to **POS**, and press the menu button to enter the position setting interface.

2. Set the menu button up/down/left/right to position the camera ID.
3. Press the button to save the position and exit.

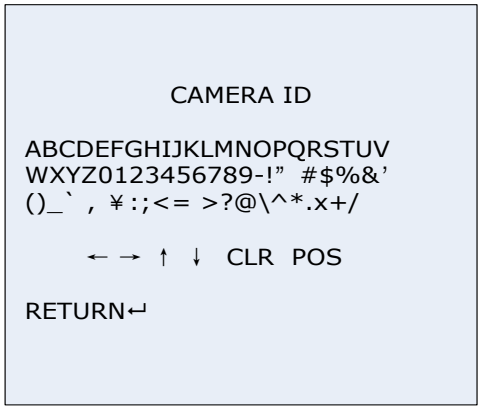

Figure 3-14 CAMERA ID

3.1.13 SYNC Setting

Both internal and line lock synchronization are available.

Note:

Only the camera which supports AC 24 V power has line lock synchronization.

- If 12V DC power supply is applied, **SYNC** mode is internal synchronization and it is not adjustable.
- If 24V AC power supply is applied, you can select either internal or line lock synchronization.

Note:

Internal synchronization is the default SYNC method. Set the menu button to right for about 2 seconds, you can switch the SYNC mode to line-lock from the SYNC settings. Perform the same

operation to switch it to internal synchronization from the line-lock.

3.1.14 Language Setting

This series of camera supports multi-language. English (default), Chinese, Japanese, French, Russian, Portuguese, Spanish, and German are selectable.

Steps:

1. Move the cursor to **LANGUAGE**.
2. Set the menu button left/right to select the language you need.

3.1.15 Camera Reset Setting

Move the cursor to **CAMERA RESET**, and press the menu button to reset all camera settings to the default.

3.1.16 Defective Pixel Correct Settings

Charge Coupled Device (CCD) will appear blemish after a long-time usage. This series of camera supports auto-repair function to solve the defective pixels.

Note:

The defective pixel correct function is not displayed on the main menu; you can enable the function by the steps below.

Steps:

1. Exit the OSD menu to the live view screen.
2. Switch and hold the menu button to the left for 2 seconds until you see the message of "COVER-UP LENS/CLOSE IRIS".

3. Cover the lens or close the iris to prevent the light from entering the lens.
4. Press the menu button to confirm. You will be able to see the bright dot detects on the grainy screen.
5. After the process, the bright dot defects will disappear and you can see "SUCCESS" on the screen.
6. Press the menu button to exit.

Note: An ERROR may occur because that the lens was not fully covered. Please repeat above steps to try again.

3.1.17 Save All/Exit

Move the cursor to the **Exit**, and press the menu button to exit the settings without saving.

Move the cursor to **SAVE ALL**, and press menu button to save the settings and exit

3.2 Menu Description (B)

Note:

The menu described in this chapter is applicable to DS-2CC5195P (N)-VPIR (H), DS-2CC5197P (N)-VPIR (H), DS-2CC51A5P (N)-VPIR (H) and DS-2CC51A7P (N)-VPIR (H).

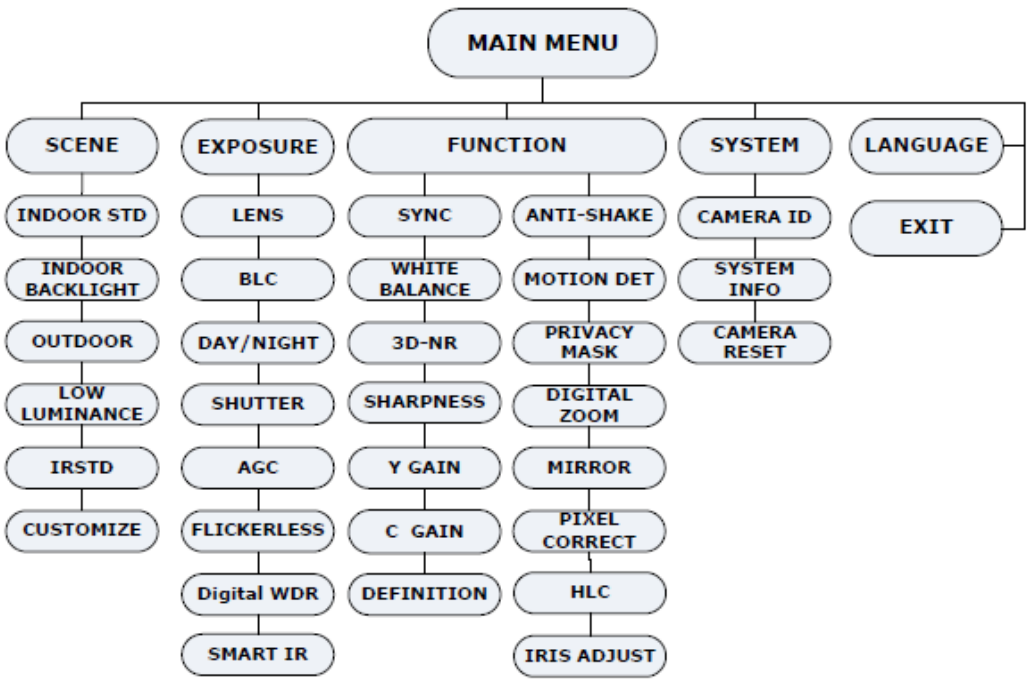

Figure 3-15 Main Menu Overview

Note:

This series of camera adopts joystick control. You can select the menu item by setting the joystick, which is beside the lens, to up/down/left/right.

3.2.1 Scene

There are 6 scenes selectable: **INDOOR STD**, **INDOOR BACKLIGHT**, **OUTDOOR**, **LOW LUMINANCE, IRSTD** and **CUSTOMIZE**. You can select one of the scenes according to the actual installation environment.

Under CUSTOMIZE mode, the scene parameters can be configured manually to get the best image quality when the monitoring conditions are complicated.

3.2.2 Exposure

LENS Settings

Purpose:

From this menu, you can set the lens mode to adjust the image brightness.

Steps:

1. Move the cursor to **LENS**, and press the menu button to enter the **LENS SETUP** menu.
2. Position the cursor on LENS in the LENS SETUP menu. **ELC**, **ALC**, and **ELC+ALC** are selectable.

   - **ELC**

     If you choose ELC, the camera adjusts the electronic shutter value automatically according to the VALUE setting. The iris is opened to the maximum size. The shutter value in the SHUTTER SETUP menu is **AUTO**.

   - **ALC**

If you choose ALC, the camera adjusts the iris automatically according to the value setting. The electronic shutter value is a fixed value. The shutter value in the SHUTTER SETUP menu is adjustable.

- **ELC+ALC**

If you choose ELC+ALC, according to the VALUE setting, the camera automatically adjusts the electronic shutter and the iris too. The electronic shutter value will be in the range from1/50s to the value you set in the SHUTTER SETUP menu.

3. Position the cursor on **VALUE**. Set the menu button left/right to choose a value. The value ranges from 0 to 15.
4. Move the cursor to **RETURN**, and press the menu button to return to the previous menu.

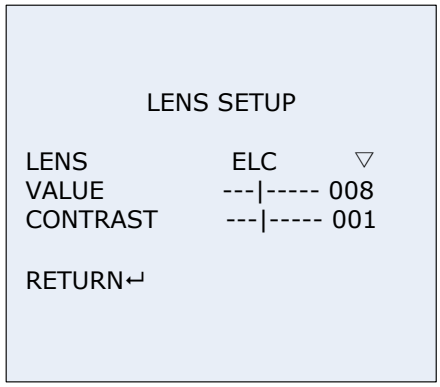

Figure 3-16 LENS SETUP

BLC/WDR SETUP (Backlight Compensation/Wide Dynamic Range)

Note:

DS-2CC5195P (N)-VPIR (H) and DS-2CC51A5P (N)-VPIR (H) don't support WDR.

- **BACKLIGHT COMPENSATION**

Purpose:

If there's a strong backlight, the object in front of the backlight appears silhouetted or dark. BLC can correct the exposure of the subject.

Steps:

1. Move the cursor to **BLC/WDR**, and press the menu button to enter the **BLC/WDR** menu.
2. Position the cursor on the **BLC**, and press the menu button to enter the **BLC** settings menu.
3. You can set the **AREA** and the brightness **VALUE** of **BLC** in this menu.
   - The **AREA** can be set to **UP**, **DOWN**, **LEFT**, **RIGHT**, **CENTER**, **CUSTOMIZE**. When you select **CUSTOMIZE**, the **SIZE** and **POSITION** menu items will display under the **AREA** item. You can adjust the size and position of the BLC area under customize mode.
   - The **VALUE** ranges from 0 to 15. The larger the value is, the brighter the object is in front of the backlight.
4. Move the cursor to **RETURN**, and press the menu button to return to the previous menu.

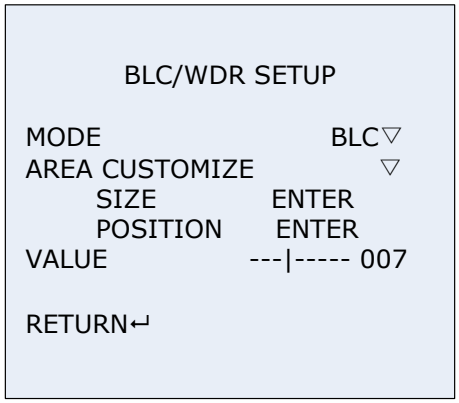

Figure 3-17 BLC SETUP

- **WIDE DYNAMIC RANGE**

Purpose:

The Wide Dynamic Range function combines a long time exposed image and a short time exposed image to get an image for both bright and dark areas to be visible.

Steps:

1. Move the cursor to **BLC/WDR**, and press the menu button to enter the **BLC/WDR** menu.
2. Position the cursor on the **WDR**, and press the menu button to enter the **WDR** settings menu.
3. You can set the **VALUE**, **CONTRAST** and **WD ADJUST** in this menu.
    - The **VALUE** ranges from 0 to 15. The larger the value is, the longer the exposure time is. The dark areas will be brighter in the image.

- You can adjust the **CONTRAST** value after the setting of WDR VALUE.
- If the effect of WDR is not obvious in the dark scene, you can turn on the **WD ADJUST** to enhance the WDR. But the noise in the image will be amplified too. Do not turn this function on in the normal scene.

4. Move the cursor to **RETURN**, and press the menu button to return to the previous menu.

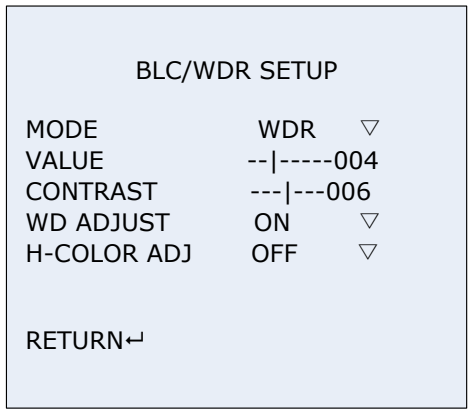

Figure 3-18 WDR SETUP

DAY/NIGHT

Move the cursor to **DAY/NIGHT** and press menu button to enter the DAY/NIGHT edit mode. **DAY**, **NIGHT**, and **AUTO** mode are selectable.

AUTO mode:

Steps:

1. Select **AUTO** and press menu button to confirm, and the day/night menu items will be displayed on the screen.

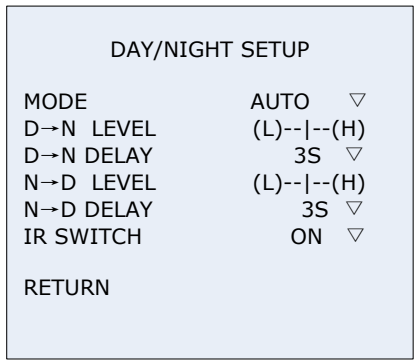

Figure 3-19 Day/Night

2. Move the cursor to **D→N LEVEL**, and press left/right to select the value from Low to High;
3. Move the cursor to **D→N Delay**, and press up/down to select the switch time.1S, 3S, 5S, 10S, 20S, 25S and 30S are selectable.
4. Move the cursor to **N→D LEVEL**, and press left/right to select the value from Low to High;
5. Move the cursor to **N→D Delay** and press up / down to select the switch time.1S,3S, 5S, 10S, 20S, 25S and 30S are selectable;
6. Move the cursor to **RETURN** and press confirm button to return to the previous menu.

Notes:

1). When the IR Switch is on, the camera goes to the protection mode if the Day mode switches to Night mode 5 times continuously in 10 minutes. The protection mode will last for one hour. One hour later, the camera will detect

the surrounding's light, and switch to the day mode if the brightness reaches to the N→D LEVEL value.

2). AUTO mode means the camera switches between Day and Night modes automatically. And when the light condition reaches to the D→N (N→D) LEVEL you have set, the day and night mode will switch automatically. And D→N (N→D) Delay means the time from the day (night) mode to night (day) mode when the light condition is up to the switching threshold.

SHUTTER

Steps:

1. Move the cursor to **SHUTTER**, and press menu button to select the values. OFF, 1/120, 1/175, 1/250, 1/500, 1/750, 1/1K, 1/2K, 1/4K, 1/10K, and 1/100K are selectable.

Note:

The SHUTTER mode is AUTO and not adjustable when the LENS mode is ELC or the WDR is enabled.

2. Move the cursor to **SLOW SHUTTER**, and press menu button to select the value: OFF, ×2, ×4, ×6, ×8, ×12, ×16, ×24, ×32, ×48, ×64, ×128, ×160, ×256, ×512.

Note:

The options for slow shutter accumulate the light by frame unit to lengthen the exposure time.

3. Move the cursor to **MOTION**, and press confirm to select the value: SLOWER, SLOW, STD, FAST, FASTER.

AGC

There are 4 modes selectable for auto gain control: OFF, HIGH, MID or LOW.

FLICKERLESS

This function can avoid the image flicker. Move the cursor to **FLICKERLESS**, and press confirm to set it ON or OFF. This function is used for PAL standard camera under 60Hz light source, and NTSC standard camera under 50Hz.

Digital WDR Setting

Note:

DS-2CC5197P (N)-VPIR (H) and DS-2CC51A7P (N)-VPIR (H) don't support Digital WDR function.

Steps:

1. Move the cursor to **Digital WDR**, and press menu button to enable this function. If the Digital WDR is enabled, the parameters below can be configured:

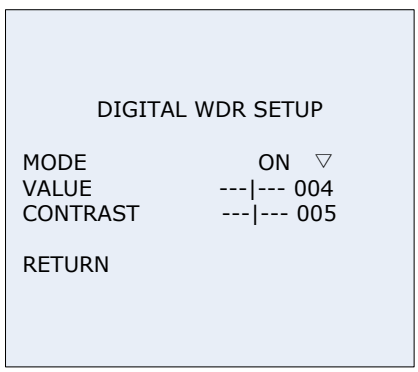

Figure 3-20 Digital WDR

2. Move the cursor to **VALUE** which is used to set the image brightness from 0 to 15.
3. Move the cursor to **CONTRAST** which is used to set the image contrast from 0 to 15.
4. Move the cursor to **RETURN**, and press menu button to return to the previous menu.

Note:

The Digital WDR is disabled when the BLC is ON.

SMART IR Settings

Move the cursor to **SMART IR**, and press confirm to enter the **SMART IR SETUP** menu. The SMART IR value can be adjusted from 0 to 7. It is disabled when the value is 0.

3.2.3 Funtion

SYNC

Support internal and line lock synchronization. When 12V DC is applied, it supports internal synchronization and it is not adjustable. When using 24V AC, you can select either internal or line lock synchronization.

WHITE BALANCE

Move the cursor to **WHITE BALANCE**, and then press menu button to select the item from **ATW1**, **ATW2**, **Auto** or **Manual**.

ATW1: The camera adjusts the color temperature automatically according to the actual environment color temperature; the temperature range is approximate from 2500K to 9500K.

ATW2: The temperature range is approximate from 2500K to 15000K.

ATC: Adjust the color temperature under the steady color temperature environment. After selecting ATC, the white balance will take effect on the current scene image.

Manual: Adjust red and blue values to configure the white balance.

Manual WB setting is shown below:

Steps:

1. Select **MANUAL** and the menu will be displayed on the screen:

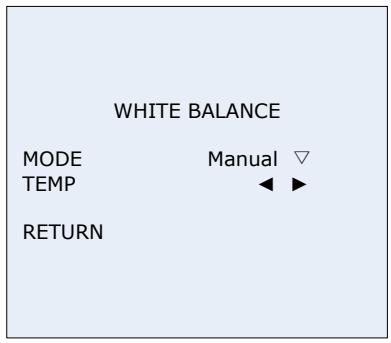

Figure 3-21 Manual WB

2. Move the cursor to **TEMP**, and set the menu button to left/right to adjust the temperature value.
3. After the settings, move the cursor to **RETURN** and press menu button to return to the previous menu.

DIGITAL NOISE REDUCTION

You can set the digital noise reduction to ON or OFF. The value can be adjusted from 0 to 7 when the DNR is on.

SHARPNESS

Move the cursor to **VALUE**, and set the menu button to left/right to select the sharpness value from 0 to 15.

GAIN

This feature is used to adjust the brightness from 0 to 7 by setting the menu button to left/right**.**

C GAIN

This feature is used to adjust color saturation from 0 to 7 by setting the menu button to left/right**.**

DEFINITION

Move the cursor to **DEFINITION** and press confirm. Set the menu button to left/right to adjust the value from 0 to 7.

ANTI-SHAKE

This feature is suitable for slight shaken scenes. Move the cursor to **ANTI-SHAKE**, and press menu button to select ON or OFF.

Note:

The MOTION DET is disabled when the ANTI-SHAKE mode is ON.

MOTION DET

Move the cursor to **MOTION DET**, and press menu button to enter the submenu. Move the cursor to **MODE**, and press menu button to select motion detection mode: **OFF**, **ON**.

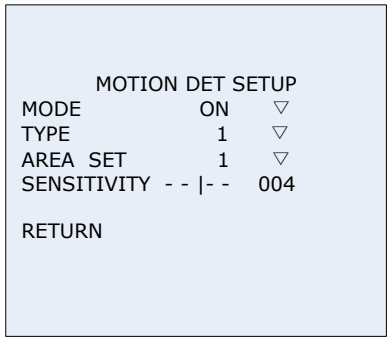

Figure 3-22 Motion Detection

TYPE1, **TYPE2**, and **TYPE3** are selectable for motion detection type.

TYPE1:

1. Move the cursor to **TYPE** and select **TYPE 1**.
2. Move the cursor to **AREA SET**, and press confirm to select the area (up to four areas are selectable).
   1). Move the cursor to **AREA SET** and press confirm. Move the cursor to **AREA SEL** to select one area.
   2). Move the cursor to **MODE** and press confirm to enable or disable the areas.
   3). Move the cursor to **TOP**, **BOTTOM**, **LEFT**, **RIGHT** to adjust the area size and position.
   4). Move the cursor to **RETURN**, and press confirm to exit.

3. Move the cursor to **SENSITIVITY**, and press left/right to select sensitivity value from 0 to 7.
4. After the settings, move the cursor to **RETURN** and press confirm button to return to the previous menu.

TYPE 2:

1. Move the cursor to **TYPE** and select **TYPE 2**. The area setting is not available now.
2. Move the cursor to **SENSITIVITY,** and press left/right to select sensitivity value from 0 to 7.
3. After settings, move the cursor to **RETURN** and press confirm to return to the previous menu.

TYPE 3:

1. Move the cursor to **TYPE** and select **TYPE 3**.
2. Press up/down to select AREA SET and press menu button to set the motion detection areas.
3. Hold menu button to exit the area setting page.

Notes:

Type 1: 4 adjustable windows;

Type 2: Full screen;

Type 3: There are12 × 8 windows by default. Pressing menu button to cancel a window, and press menu button twice to select a window.

PRIVACY MASK

Move the cursor to **PRIVACY MASK**, and press menu button to set it ON. The menu will appear on the screen:

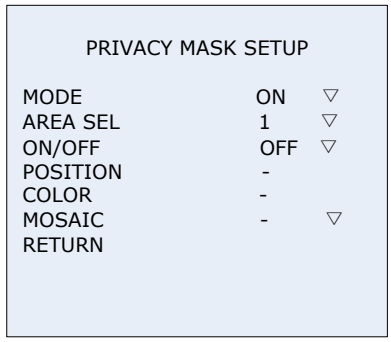

Figure 3-23 Privacy Mask

Move the cursor to **AREA SEL** and press menu button to select the privacy mask area. There are 12 zones in total. Move the cursor to **ON**/ **OFF**, and press confirm to select ON. Then define the size and position of the privacy mask area according to the step 1 to step 4:

Steps:

1. Move the cursor to **POSITION** and press confirm to define the size and position of mask area. Then press confirm to exit.
2. Move the cursor to **COLOR**, 8 colors are selectable.
3. Move the cursor to **MOSAIC**, and press confirm button to select **ON** or **OFF**. MOSAIC means that the privacy mask will be mosaic.
4. Repeat the above operation to define other mask areas.
5. Move the cursor to **RETURN** and press menu button to return to the previous menu.

DIGITAL ZOOM

The **DIGITAL ZOOM RATIO** can be set to OFF, x2, x4, x8 and x16.

Steps:

1. Move the cursor to **DIGITAL ZOOM**, and press the menu button to enter the submenu of **DIGITAL ZOOM RATIO**.
2. Position the cursor on the zoom value you want and press the menu button to enter the submenu.
3. Move the cursor on the **POSITION**, press the menu button. Then you can set the menu button left/right/up/down to adjust the position of the image.

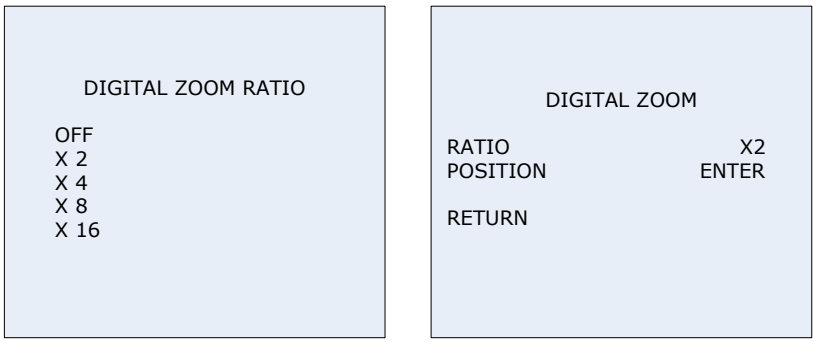

Figure 3-24 Digital Zoom

Note:

The Digital Zoom function will be disabled if the ANTI-SHAKE is on.

MIRROR

OFF, H-FLIP, V-FLIP or CENTER is selectable.

PIXEL CORRECT

Charge Coupled Device (CCD) will appear blemish after a long-time usage. This series of camera supports defective pixel correct function to solve this problem.

Move the cursor to **PIXEL CORRECT**, and press menu button to confirm. The **PIXEL CORRECTING** will be displayed on the screen and the screen will go blank to correct the pixel. After the pixel gets corrected, the menu will return to the FUNC page.

Note:

This function will be more active in the absolutely dark environment. Make sure that the iris is closed before using this function.

HLC

Move the cursor to **HLC**, and press menu button to enable or disable this function. If HLC is enabled, the corresponding parameters can be configured in HLC menu as shown below:

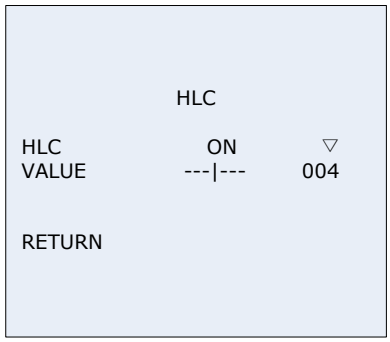

Figure 3-25 HLC

Move the cursor to **VALUE** which can be set from 0 to 7. The larger the value is, the lower the restrained brightness threshold is.

IRIS ADJUST

You can adjust the iris speed via the damping to avoid the iris vibration. AUTO and MANUAL are selectable.

- **AUTO** mode: Select the **AUTO** mode and aim the camera at the high light scene. The camera adjusts the speed automatically.
- **MANUAL** mode: Select the **MANUAL** mode. Adjust the damping value to adjust the iris speed. The value ranges from 0 to 15. The larger the value is, the slower the iris speed is.

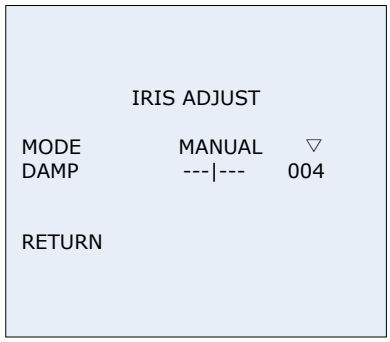

Figure 3-26 IRIS ADJUSTING

3.2.4 System

CAMERA ID

Move the cursor to **Camera ID**, and press menu button to enable or disable this setting.

OFF: The camera ID will not be displayed after the exit.

ON: The camera ID will be displayed after the exit.

Set the camera ID On, and press confirm button to enter **Camera ID** menu.

Figure 3-27 Camera ID

Steps:

1. Move the cursor to the characters, numbers, and symbols.
2. Press menu button to select one. The selected character will be displayed on the dotted line.
3. Move the cursor to ← →.
4. Press menu button to move to the character that needs to be modified, and select another character to replace it.
5. Move the cursor to **CLR** to clear all the characters on the dotted line.
6. Move the cursor to **POS** to edit the camera ID position
   1). Move the cursor to POS
   2). Press menu button to enter the CAM ID position setting interface.

3). Press up/down/left/right to change the position of camera ID.

4). Press menu button to exit the CAM ID position setting interface, and return to the CAM ID menu.

7. Move the cursor to **RETURN** and press menu button to return to the previous menu.

SYSTEM INFO

Move the cursor to **SYSTEM INFO** and press menu button to check the hardware, software and DSP version. The system information is used for device maintenance or repair.

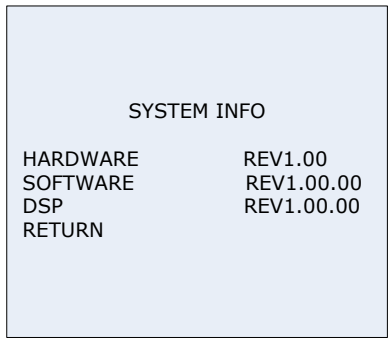

Figure 3-28 System Information

CAMERA RESET

Move the cursor to **CAMERA RESET**, and press menu button to reset the camera parameters to the factory default settings.

3.2.5 Language

Steps:

1. Move the cursor to **LANGUAGE**, and press menu button to enter the submenu
2. Select a language and press the menu button to confirm.
3. Move the cursor to **RETURN** and press menu button to return to the previous menu.

3.2.6 Exit

Move the cursor to **EXIT**, and press confirm to enter the menu. Press up/down to select **SAVE ALL**, **CANCEL** and **RETURN**.

CANCEL: Press menu button to cancel the settings and exit the menu.

SAVE ALL: Press menu button to save the settings and exit the menu.

RETURN: Press menu button to return to the previous menu.

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