

The logo features the word "HIKVISION" in a bold, italicized, white sans-serif font, set against a red background. A white diagonal line runs from the top-left corner towards the center, creating a dynamic, slanted effect.

HIKVISION[®]

DS-2CE17H0T-IT3F

Bullet Camera
User Manual

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

This manual applies to the following model:

Model
DS-2CE17H0T-IT3F

This manual may contain technical mistakes or printing errors, and the content is subject to change without notice. Updates will be added to new versions of this manual. We will readily improve or update the products or procedures described in the manual.

Regulatory Information

FCC Information

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Compliance: This equipment has been tested and found to comply with the limits for a Class 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 conditions:

- This device may not cause harmful interference.
- 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 2014/35/EU, the EMC Directive 2014/30/EU.



2012/19/EU (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.

Industry Canada ICES-003 Compliance

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.

Warning

This is a class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

Safety Instruction

These instructions are intended to ensure that the user can use the product correctly to avoid danger or property loss.

The precaution measure is divided into "Warnings" and "Cautions."

Warnings: Serious injury or death may occur if any of the warnings are neglected.

Cautions: Injury or equipment damage may occur if any of the cautions are neglected.

<p style="text-align: center;">Warnings</p> <p>Follow these safeguards to prevent serious injury or death.</p>	<p style="text-align: center;">Cautions</p> <p>Follow these precautions to prevent potential injury or material damage.</p>



Warnings

- In the use of the device, you must be in strict compliance with the electrical safety regulations of the nation and region.
- Input voltage should meet both the SELV (Safety Extra Low Voltage) and the Limited Power Source with 12 VDC according to the IEC60950-1 standard and IEC62368-1 standard. Refer to technical specifications for detailed information.
- Do not connect multiple devices to one power adapter to avoid overheating or a fire hazard caused by overload.
- Make sure that the plug is firmly connected to the power socket.
- Make sure that the device is firmly fixed if wall mounting or ceiling mounting is adopted.
- If smoke, odor, or noise rise from the device, turn off the power at once, unplug the power cord, and then contact the service center.
- Unprofessional personnel should never attempt to disassemble the camera.



Cautions

- Do not drop camera or subject it to physical shock.
- Do not touch sensor modules with fingers.
- Do not place the camera in extremely hot, cold (the operating temperature shall be -40° to 60° C), dusty, or damp locations, and do not expose it to high electromagnetic radiation.
- If cleaning is necessary, use a clean cloth with a bit of ethanol, and wipe it gently.
- Do not aim the camera at the sun or extra bright places.
- The sensor may be burned out by a laser beam, so if any laser equipment is in use, make sure that the surface of the sensor will not be exposed to the laser beam.
- To avoid heat accumulation, good ventilation is required for the operating environment.
- Keep the camera away from liquid while in use for non-waterproof device.
- While in delivery, pack the camera in its original packing or packing of the same material.

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1 Introduction

1.1 Product Features

The main features are as follows:

- High Performance CMOS Sensor
- OSD Menu with Configurable Parameters
- Smart IR
- 3-Axis Adjustment

1.2 Overview

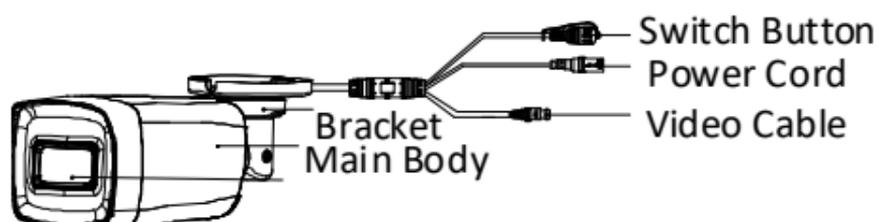


Figure 1, Camera Overview

NOTE: Press and hold the switch button for five seconds to switch the video output. Four kinds of video outputs are available: TVI, AHD, CVI, and CVBS.

2 Installation

Before You Start

- 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 powered off during the installation.
- Check the specification of the products for the installation environment.
- Check whether the power supply is matched with your power output to avoid the damage.
- Make sure the wall is strong enough to withstand three times the weight of the camera and the mount.
- If the product does not function properly, contact your dealer or the nearest service center. Do NOT disassemble the camera for repair or maintenance yourself.

2.1 Ceiling/Wall Mounting without Junction Box

Before You Start

Ceiling mounting and wall mounting are similar. The following steps use ceiling mounting as an example.

1. (Optional) For a concrete ceiling, drill the screw holes with a 5.5 mm drill, and insert the supplied wall plugs.
2. (Optional) Drill the cable hole if the cables are routed through the ceiling.
3. Align the screw holes in the bracket to the ceiling, and secure the camera with three PA4 × 25 screws (supplied).

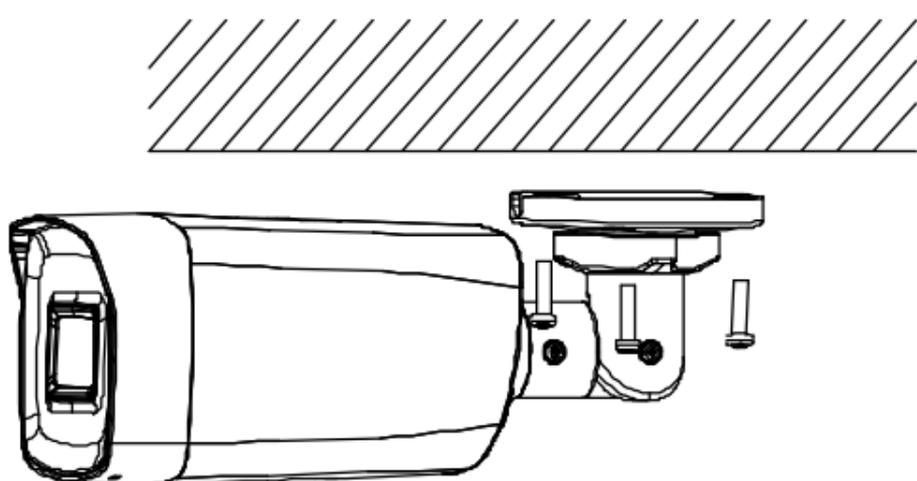


Figure 2, Secure the Camera on the Ceiling

4. Connect the power cord and video cable.
5. Power on the camera to check if the image on the monitor is at an optimum angle. If not, adjust the camera according to the figure below.

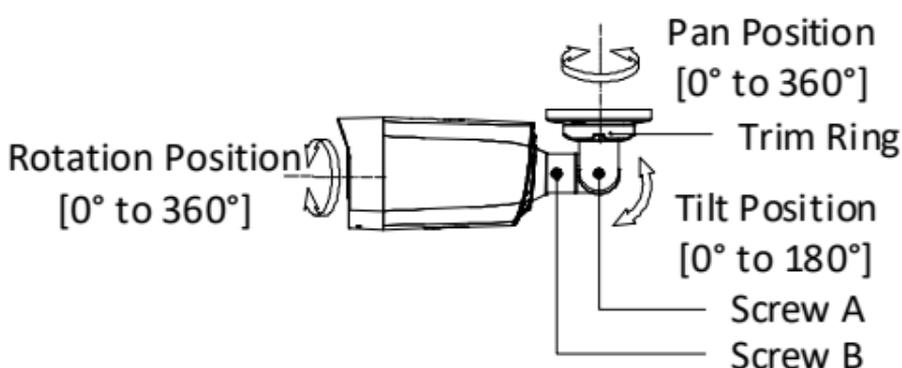


Figure 3, 3-Axis Adjustment

- 1) Loosen the trim ring to adjust the pan position [0° to 360°].
 - 2) Loosen screw A to adjust the tilt position [0° to 180°].
 - 3) Loosen screw B to adjust the rotation position [0° to 360°].
6. Turn the trim ring clockwise and tighten screws A and B to finish installation.

2.2 Ceiling/Wall Mounting with Junction Box

Before You Start

You need to purchase a junction box in advance.

Ceiling mounting and wall mounting are similar. The following steps take wall mounting as an example.

1. Paste the junction box drill template where you want to install the camera.
2. (Optional) For a concrete wall, drill the screw holes with a 5.5 mm drill, and insert the supplied wall plugs.

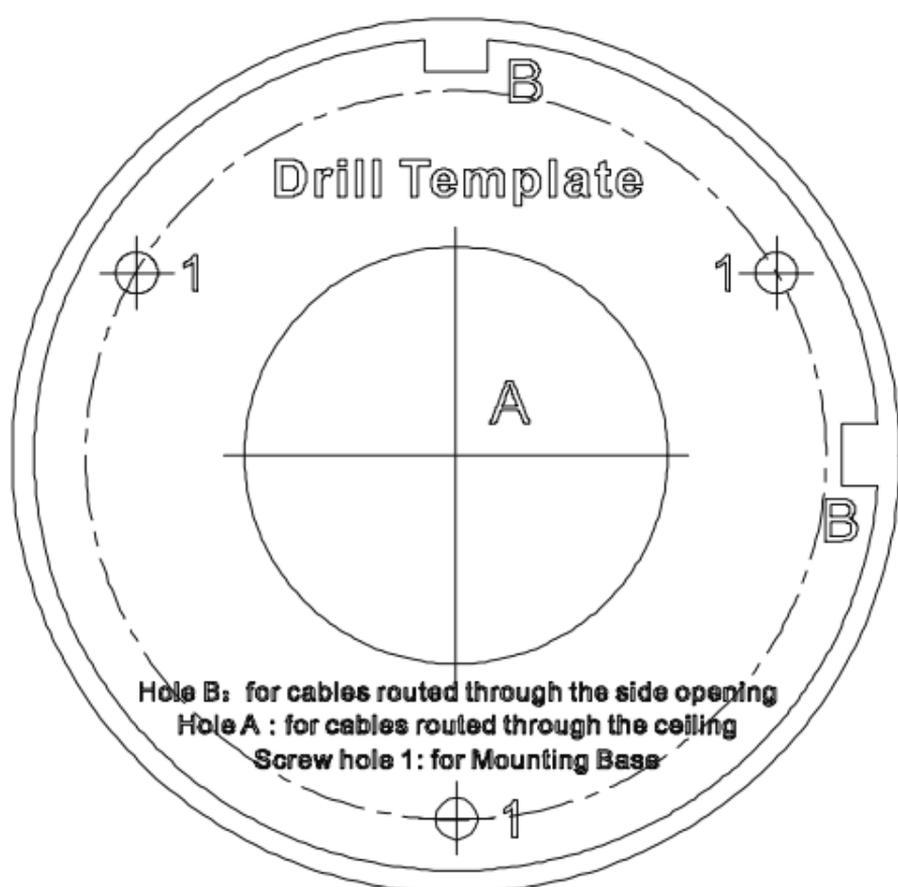


Figure 4, Junction Box Drill Template

3. (Optional) Drill the cable hole if the cables are routed through the wall.
4. Disassemble the junction box.
5. Align the screw holes of the camera with those on the junction box cover. Attach the camera to the junction box cover with three PM4 × 10 screws.

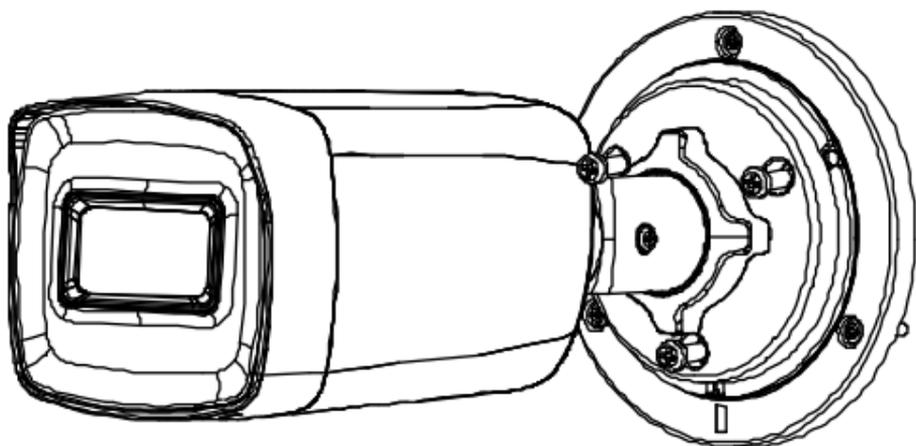


Figure 5, Attach Camera to Junction Box Cover

6. Secure the junction box body onto the wall with three PA4 × 25 screws (supplied).

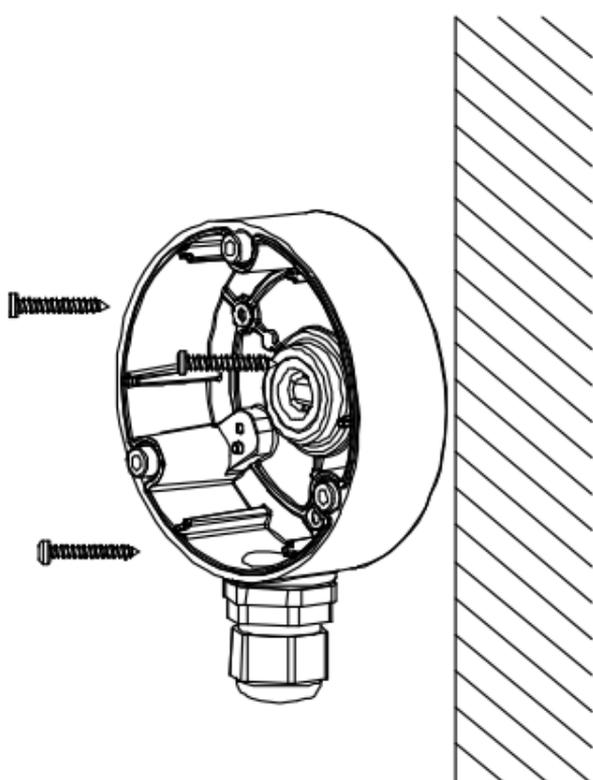


Figure 6, Secure Junction Box to the Wall

7. Route the cables through the bottom cable hole or side cable hole of the junction box and connect the cables.
8. Affix the junction box cover to its body with three PM3 × 16 L6 screws that come with the junction box.

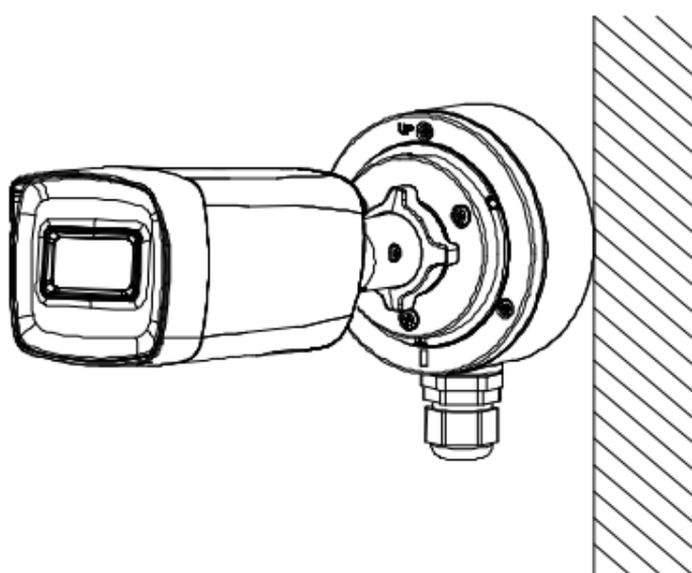


Figure 7, Affix Junction Box Cover to its Body

9. Repeat steps 5 to 6 of 2.1 Ceiling/Wall Mounting without Junction Box to finish the installation.

3 Menu Description

Please follow the steps below to call the menu.

NOTE: The actual display may vary by camera model.

1. Connect the camera to the TVI DVR and the monitor as shown below.

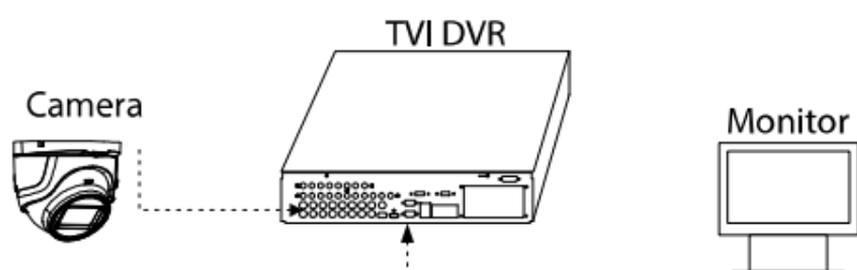


Figure 8, Connection

2. Power on the analog camera, TVI DVR, and the monitor to view the image on the monitor.
3. Click **PTZ Control** to enter the PTZ Control interface.
4. Call the camera menu by clicking the  button or calling preset No. 95.

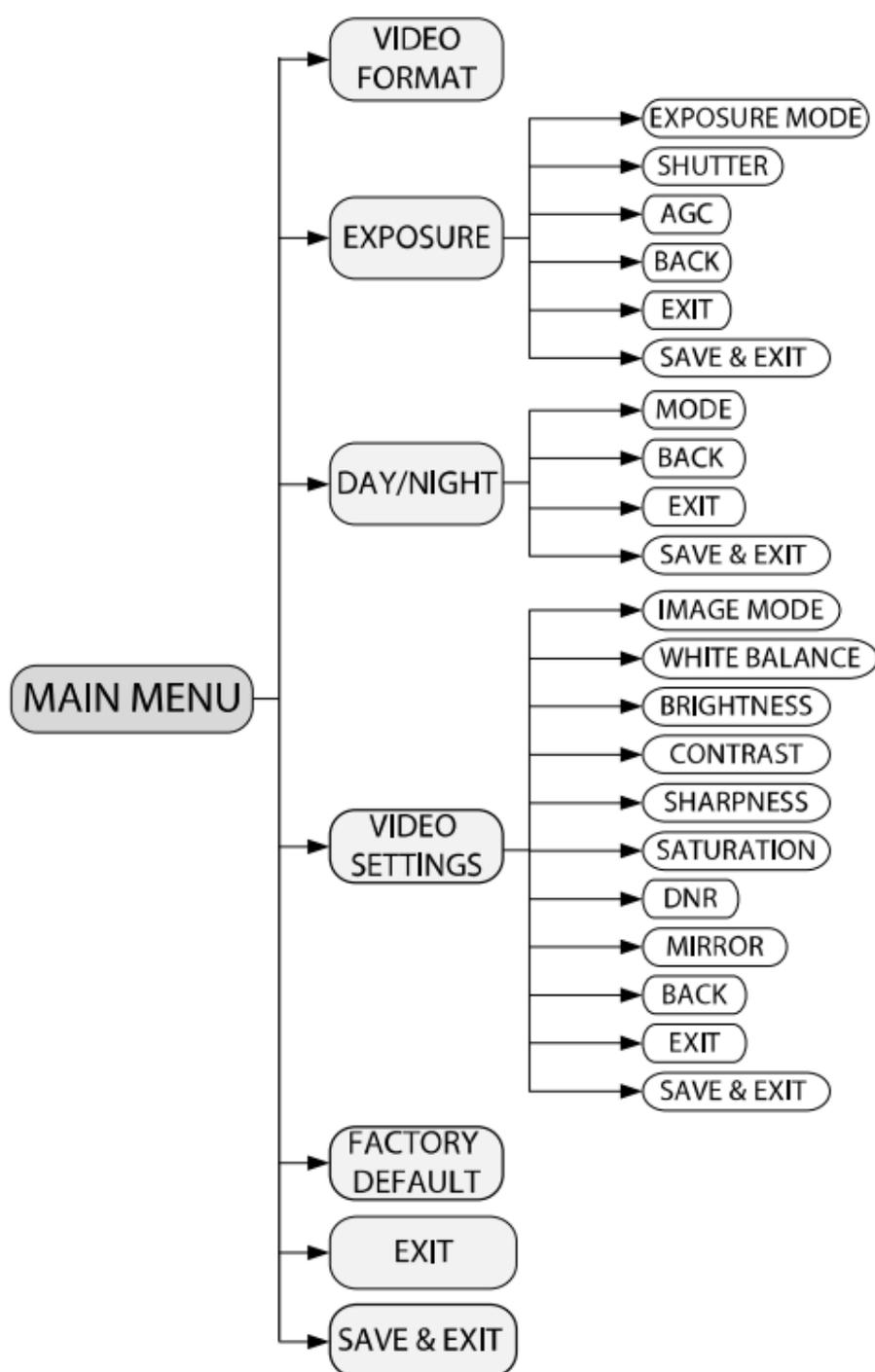


Figure 9, Main Menu Overview

5. Click the direction arrow to control the camera.
 - 1) Click up/down direction button to select the item.
 - 2) Click **Iris+** to confirm the selection.
 - 3) Click left/right direction button to adjust the value of the selected item.

3.1 Video Format

You can set the video format to 5 MP @ 20 fps, 4 MP @ 30 fps, 4 MP @ 25 fps, 2 MP @ 30 fps, or 2 MP @ 25 fps.

3.2 Exposure

Exposure describes the brightness-related parameters, which can be adjusted by **EXPOSURE MODE**, **SHUTTER**, and **AGC**.

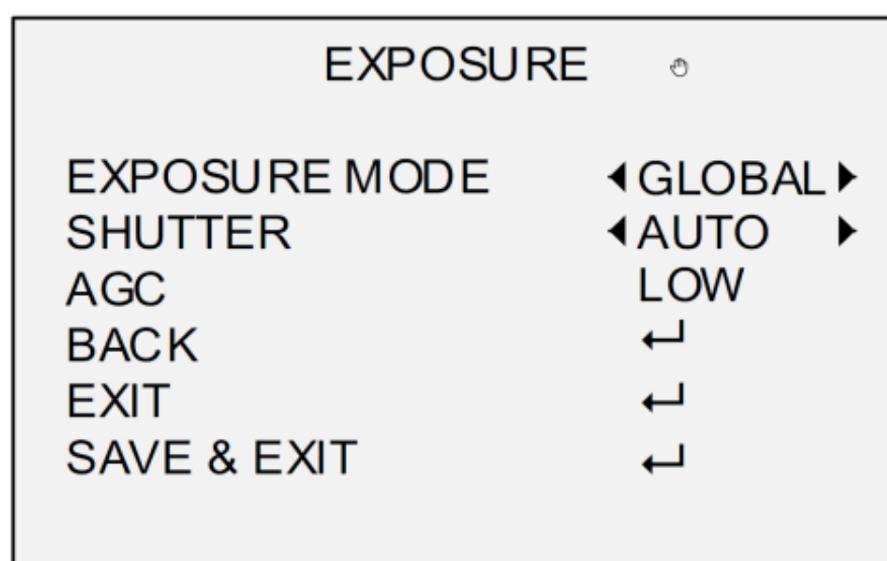


Figure 10, Exposure

- **Exposure Mode**

You can set the **EXPOSURE MODE** to **GLOBAL**, **BLC**, **HLC**, or **DWDR**.

- **GLOBAL:** Normal exposure mode, which performs exposure according to the whole image brightness.
- **BLC (Backlight Compensation):** Compensates light for the front object to make it clear, but may cause overexposure of the background, where the light is strong.
- **HLC (Highlight Compensation):** The camera detects the strong spots (overexposed portions of the image), then reduces the brightness of the strong spots to improve the overall images.
- **DWDR (Digital Wide Dynamic Range):** Helps the camera provide clear images even under backlight circumstances. When both very bright and very dark areas simultaneously exist in the image, DWDR balances the brightness level of the whole image to provide a clear image with details.
- **SHUTTER:** Adjusts the exposure by limiting the time over which light is admitted.
- **AGC (Automatic Gain Control):** Optimizes the image clarity in poor light conditions. The **AGC** level can be set to **HIGH**, **MEDIUM**, or **LOW**.

NOTE: The noise will be amplified when setting the **AGC** level.

3.3 DAY/NIGHT

COLOR, **BW (Black and White)**, and **AUTO** are selectable for **DAY/NIGHT** switch.

- **COLOR:** The image is in color and day mode all the time.
- **BSW (Black and White):** The image is black and white all the time, and the **IR LIGHT** turns on in poor light conditions.

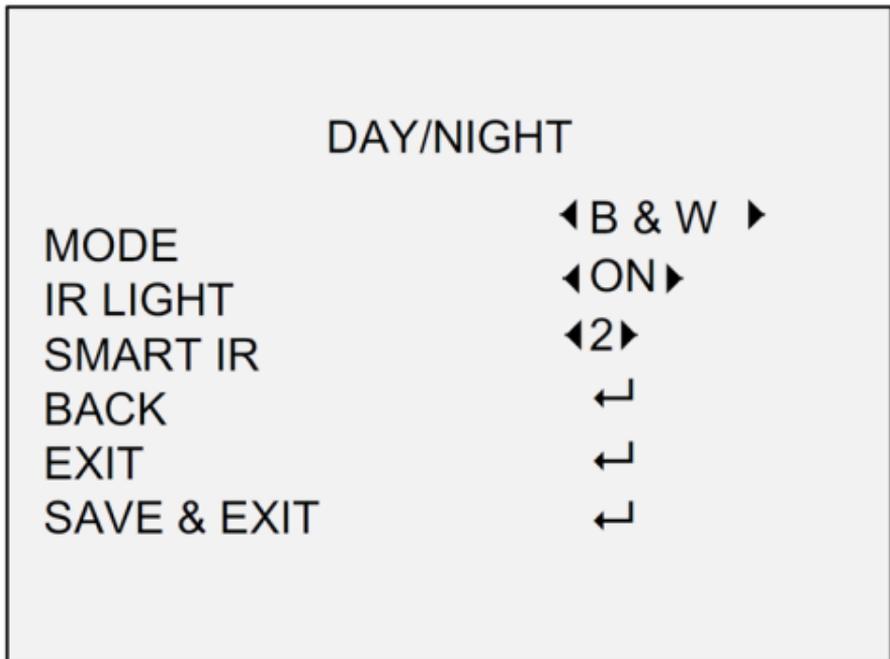


Figure 11, B&W

- **IR LIGHT:** You can turn on/off the IR Light to meet the requirements of different circumstances.
- **SMART IR:** Adjusts the light to its most suitable intensity and prevents the image from overexposure. The **SMART IR** value can be adjusted from 1 to 3. The higher the value, the more obvious the effect.
- **AUTO:** Automatically switch **Color** or **B&W** (Black and White) according to actual scene brightness.

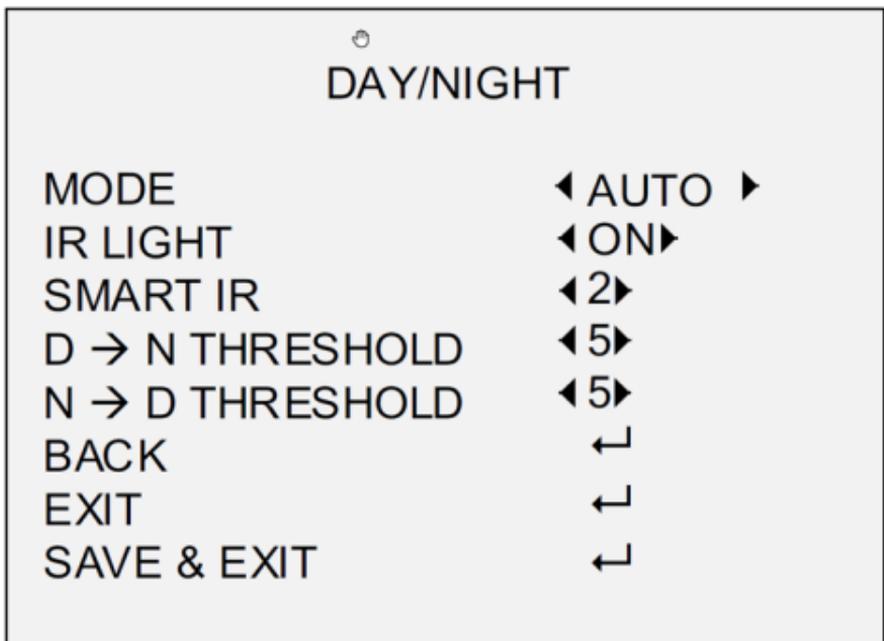


Figure 12, Auto

- **IR LIGHT:** You can turn on/off the IR LIGHT to meet the requirements of different circumstances.

- **SMART IR:** Adjusts the light to its most suitable intensity and prevents the image from overexposure. The **SMART IR** value can be adjusted from 1 to 3. The higher the value, the more obvious the effect.
- **D->N THRESHOLD (Day to Night Threshold):** Controls the sensitivity of switching the day mode to the night mode. You can set the value from 1 to 9. The larger the value, the more sensitive the camera.
- **N->D THRESHOLD (Night to Day Threshold):** Controls the sensitivity of switching the night mode to the day mode. You can set the value from 1 to 9. The larger the value, the more sensitive the camera.

3.4 VIDEO SETTINGS

Move the cursor to **VIDEO SETTINGS** and click **Iris+** to enter the submenu. **IMAGE MODE**, **WHITE BALANCE**, **BRIGHTNESS**, **CONTRAST**, **SHARPNESS**, **SATURATION**, **DNR**, and **MIRROR** are adjustable.

VIDEO SETTINGS	
IMAGE MODE	STD
WHITE BALANCE	◀ ←▶
BRIGHTNESS	◀ 5 ▶
CONTRAST	◀ 5 ▶
SHARPNESS	◀ 5 ▶
SATURATION	◀ 5 ▶
DNR	◀ 5 ▶
MIRROR	OFF
BACK	←
EXIT	←
SAVE & EXIT	←

Figure 13, Video Settings

- **IMAGE MODE:** Adjusts the image saturation. You can set it to **STD (Standard)**, or **HIGH-SAT (High Saturation)**.
- **WHITE BALANCE:** The white rendition function of the camera, adjusts the color temperature according to the environment. It can remove unrealistic color casts in the image. You can set the mode to **AUTO** or **MANUAL**.
- **AUTO:** White balance adjusts automatically based on the scene illumination color temperature.
- **MANUAL:** You can adjust the **R-GAIN** and **B-GAIN** value to correct colors manually.

WHITE BALANCE

MODE	◀ MANUAL ▶
R-GAIN	◀ 5 ▶
B-GAIN	◀ 5 ▶
BACK	←
EXIT	←
SAVE & EXIT	←

Figure 14, Manual Mode

- **BRIGHTNESS:** Refers to the brightness of the image. You can set the brightness value to darken or brighten the image. The higher the value, the brighter the image.
- **CONTRAST:** This feature enhances the difference in color and light between parts of an image.
- **SHARPNESS:** Determines the amount of detail an imaging system can reproduce.
- **SATURATION:** The proportion of pure chromatic color in the total color sensation. The saturation of a color is determined by a combination of light intensity and how much it is distributed across the spectrum of different wavelengths.
- **DNR (Digital Noise Reduction):** Can decrease the noise effect, especially when capturing moving images in poor light conditions and deliver more accurate and sharper images.
- **MIRROR: OFF, H, V, and HV** are selectable.
 - **OFF:** The mirror function is disabled.
 - **H:** The image flips 180° horizontally.
 - **V:** The image flips 180° vertically.
 - **HV:** The image flips 180° both horizontally and vertically.
- **FACTORY DEFAULT:** Move the cursor to **FACTORY DEFAULT** and click **Iris+** to reset all the settings to the factory default.
- **EXIT:** Move the cursor to **EXIT** and click **Iris+** to exit the menu without saving.
- **SAVE & EXIT:** Move the cursor to **SAVE & EXIT** and click **Iris+** to save the settings and exit the menu.