



HD Analog Camera

User Manual

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Regulatory Information

FCC Information

Please take attention that changes or modifications 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 in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.





FCC Conditions

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

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Symbol Conventions

The symbols that may be found in this document are defined as follows.


Symbol	Description
 Danger	Indicates a hazardous situation which, if not avoided, will or could result in death or serious injury.
 Caution	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
 Warning	Remind the matters to be noted in the operation, improper operation may lead to data loss or equipment damage.
 Note	Provides additional information to emphasize or supplement important points of the main text.

Safety Instruction

- Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.
- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region.
- Firmly connect the plug to the power socket. Do not connect several devices to one power adapter. Power off the device before connecting and disconnecting accessories and peripherals.
- Shock hazard! Disconnect all power sources before maintenance.
- The equipment must be connected to an earthed mains socket-outlet.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.
- ⚡ Indicates hazardous live and the external wiring connected to the terminals requires installation by an instructed person.
- Never place the equipment in an unstable location. The equipment may fall, causing serious personal injury or death.
- Input voltage should meet the SELV (Safety Extra Low Voltage) and the LPS (Limited Power Source) according to the IEC62368.
- High touch current! Connect to earth before connecting to the power supply.
- If smoke, odor or noise rises from the device, turn off the power at once and unplug the power cable, and then please contact the service center.
- Use the device in conjunction with an UPS, and use factory-recommended HDD if possible.
- This product contains a coin/button cell battery. If the battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death.
- This equipment is not suitable for use in locations where children are likely to be present.
- CAUTION: Risk of explosion if the battery is replaced by an incorrect type.
- Improper replacement of the battery with an incorrect type may defeat a safeguard (for example, in the case of some lithium battery types).
- Do not dispose of the battery into fire or a hot oven, or mechanically crush or cut the battery, which may result in an explosion.
- Do not leave the battery in an extremely high temperature surrounding environment, which may result in an explosion or the leakage of flammable liquid or gas.
- Do not subject the battery to extremely low air pressure, which may result in an explosion or the leakage of flammable liquid or gas.
- Dispose of used batteries according to the instructions.
- Keep body parts away from fan blades and motors. Disconnect the power source during servicing.
- Keep body parts away from motors. Disconnect the power source during servicing.

Preventive and Cautionary Tips

Before connecting and operating your device, please be advised of the following tips:

- The device is designed for indoor use only. Install it in a well-ventilated, dust-free environment without liquids.
- Ensure the recorder is properly secured to a rack or shelf. Major shocks or jolts to the recorder as a result of dropping it may cause damage to the sensitive electronics within the recorder.
- The equipment shall not be exposed to dripping or splashing and that no objects filled with liquids shall be placed on the equipment, such as vases.
- No naked flame sources, such as lighted candles, should be placed on the equipment.
- The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, tablecloths, curtains, etc. The openings shall never be blocked by placing the equipment on a bed, sofa, rug or other similar surfaces.
- For certain models, ensure correct wiring of the terminals for connection to an AC mains supply.
- For certain models, the equipment has been designed, when required, modified for connection to an IT power distribution system.
-  identifies the battery holder itself and identifies the positioning of the cell(s) inside the battery holder.
- + identifies the positive terminal(s) of equipment that is used with, or generates direct current. - identifies the negative terminal(s) of equipment that is used with, or generates direct current.
- Keep a minimum 200 mm (7.87 inches) distance around the equipment for sufficient ventilation.
- For certain models, ensure correct wiring of the terminals for connection to an AC mains supply.
- Use only power supplies listed in the user manual or user instructions.
- The USB port of the equipment is used for connecting to a mouse, keyboard, USB flash drive, or Wi-Fi dongle only.
- Use only power supplies listed in the user manual or user instructions.
- Do not touch the sharp edges or corners.

Contents

1. Introduction	1
1.1. Product Features	1
1.2. Overview	1
2. Installation	3
2.1. Bullet Camera Installation	3
2.2. Turret Camera Installation	4
2.3. Dome Camera Installation	5
3. Change Video Output Mode	8
3.1. DIP Switch	8
3.2. UTC Control from UVR	8
4. Menu Description	10
4.1. AE	12
4.1.1. BRIGHTNESS	12
4.1.2. EXPOSURE MODE	12
4.2. AF	12
4.2.1. AF MODE	12
4.2.2. ZOOM	12
4.2.3. FOCUS	12
4.2.4. BOOT MODE	13
4.2.5. FOCUS TRIGGER	13
4.2.6. LENS INIT	13
4.3. AWB	13
4.4. DAY/NIGHT	13
4.5. IMAGE ENHANCE	14
4.5.1. CONTRAST	14
4.5.2. SHARPNESS	14
4.5.3. SATURATE	14
4.5.4. 3DNR	14
4.6. VIDEO SETTING	14
4.7. LANGUAGE	14
4.8. WDR	14
4.9. SAVE & EXIT	15
4.10. EXIT	15

1. Introduction

1.1. Product Features

The main features are as follows:

- High performance CMOS sensor
- IR cut filter with auto switch
- OSD menu with configurable parameters
- Auto white balance
- Internal synchronization
- SMART IR mode
- 3 axis adjustment

1.2. Overview

Bullet Camera:

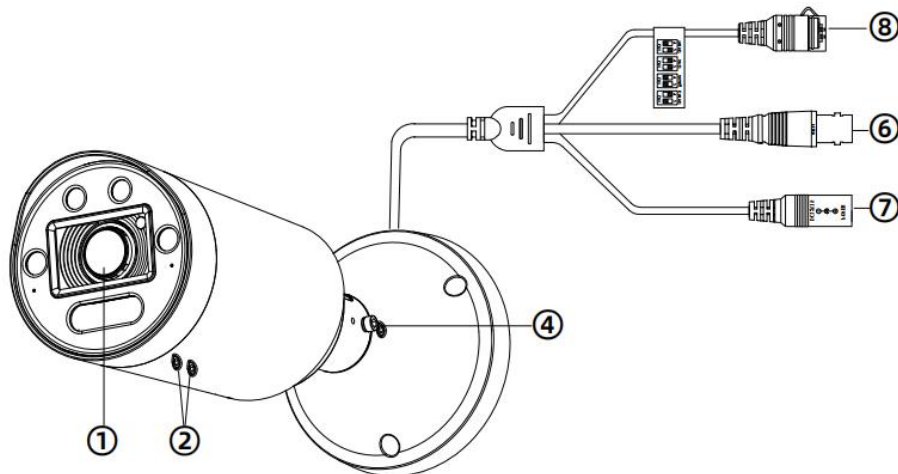


Figure 1-1 Bullet Camera

Dome Camera:

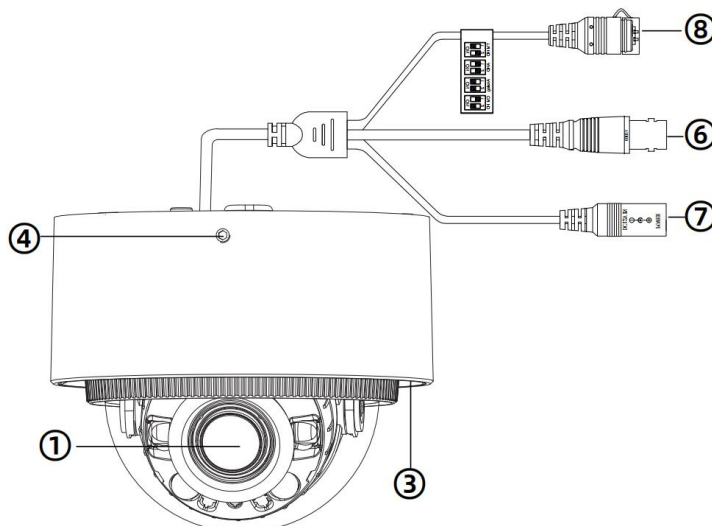


Figure 1-2 Dome Camera

Turret Camera:

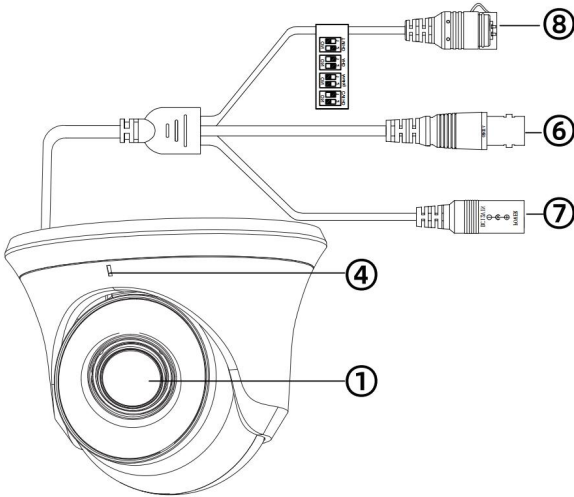



Figure 1-3 Turret Camera

 **Note**
The type of the tail cables can be different according to the camera models, please refer to your camera’s model

No.	Name	Description
1	Lens	The lens of camera
2	Lens adjustment terminal	Used to adjust the focal point of the lens (Only suitable for manual zoom lens cameras)
3	Camera dome securing screws	Secure the dome to the camera housing
4	Locking screw	Locking screws to fix the case
6	BNC HD video output	BNC connector to transmit video to UVR
7	Power	DC connector for local power connection
8	DIP Switch	Switching video signal by manual switching dip switch

Table 1-1 Cable Tail

2. Installation

Before you start:

- Remove the packaging and ensure all the required tools are present.
- Make sure that the device in the package is in good condition and all the assembly parts are included.
- Make sure that 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 required output to avoid damage.
- Make sure the wall is strong enough to withstand three times the weight of the camera and the bracket.
- If the wall is cermet, insert expansion bolts before installing the camera. If the wall is wooden, use self-tapping screws to secure the camera.
- If the camera does not work properly, contact your dealer or nearest service center. Do not disassemble the camera or maintenance by yourself.

2.1. Bullet Camera Installation

Steps:

1. Stick the drill template to the wall where the camera will be installed. Then drill the holes as marked on the template.

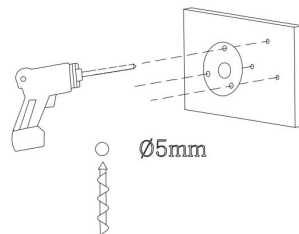


Figure 2-1 Drill Holes



Note

Drill cable hole, when adopting the ceiling outlet to route the cable.

2. Connect the camera's cables correctly. Route the cables through the cable hole, or the side opening.

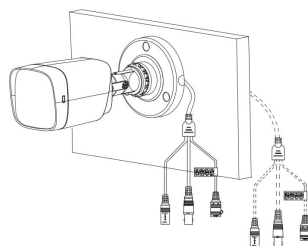


Figure 2-2 Connect cables

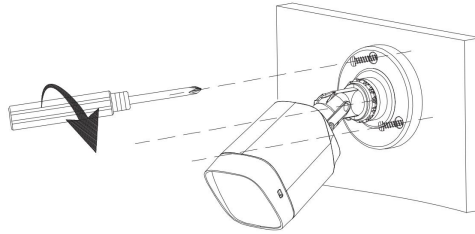



Figure 2-3 Fix Camera

-
-  **Note**
- The supplied screw package contains self-tapping screws, and expansion bolts.
 - For cement wall/ceiling, expansion bolts are required to fix the camera. For wooden wall/ceiling, self-tapping screws are required.
-

3. Power on the camera to check whether the image on the monitor is gotten from the optimum angle. If not, adjust the camera according to the figure below to get an optimum angle.

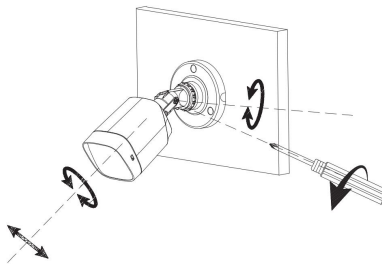


Figure 2-4 Adjust View Angle

2.2. Turret Camera Installation

Steps:

1. Stick the drill template to the wall where the camera will be installed. Then drill the holes as marked on the template.

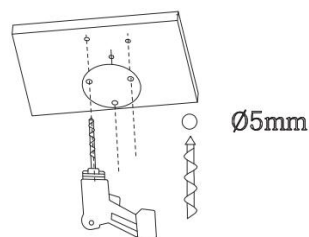



Figure 2-5 Drill Holes

-
-  **Note**
- Drill cable hole, when adopting the ceiling outlet to route the cable.
-

2. Pull to separate the camera and the base, or loosen the locking screw with hex key to rotate the main body and then separate the camera and base.

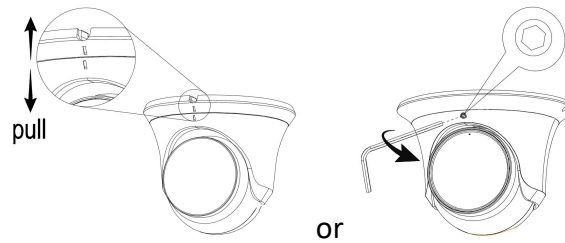


Figure 2-6 Separate the Base

3. Fit the base in line with the screws holes drilled in step1 then fix the camera on the base.

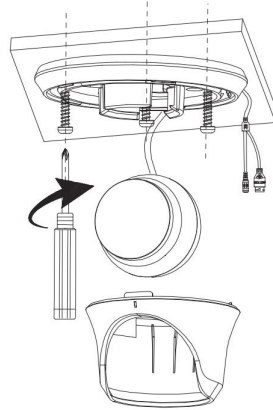



Figure 2-7 Fix the Camera

-
-  **Note**
- The supplied screw package contains self-tapping screws, and expansion bolts.
 - For cement wall/ceiling, expansion bolts are required to fix the camera. For wooden wall/ceiling, self-tapping screws are required.
-

4. Connect the camera's cables correctly. Route the cables through the cable hole, or the side opening.

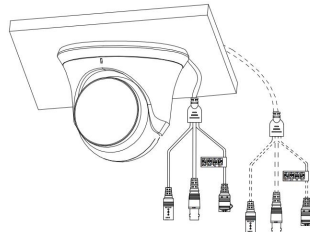


Figure 2-8 Connect Cables

5. Power on the camera to check whether the image on the monitor is gotten from the optimum angle. If not, adjust the camera according to the figure below to get an optimum angle.

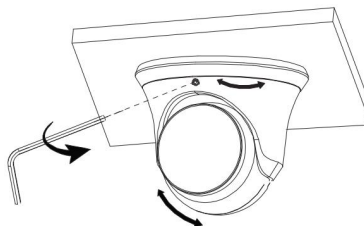


Figure 2-9 Adjust View Angle

2.3. Dome Camera Installation

Steps:

1. Stick the drill template to the wall where the camera will be installed. Then drill the holes as marked on

the template.

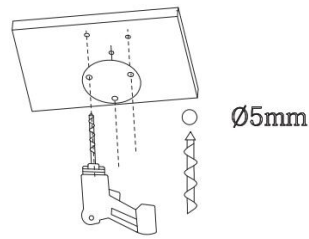



Figure 2-10 Drill Holes

2. Loosen the locking screw to remove the bracket from the bottom of the camera and fit this to the mounting surface.

 **Note**
Some cameras (type B) don't have the bracket. Please refer to step 4 to loosen the 3 hex screws and fix the camera on the mounting surface, and then go to step 4 to adjust the camera angle.

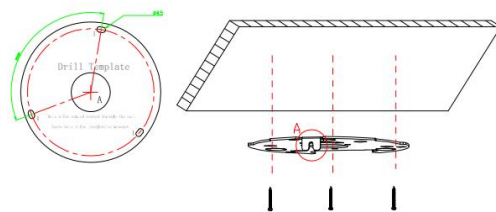


Figure 2-11 Dome Camera (Type A)

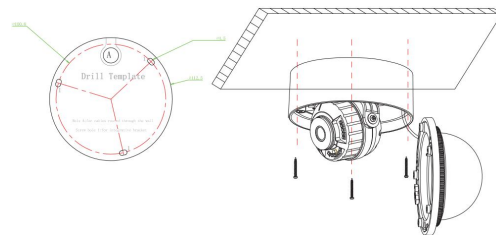


Figure 2-12 Dome Camera (Type B)

3. Fit the camera to the bracket, twist clockwise and tighten the locking screw.



Figure 2-13 Fit Camera to Bracket

4. Connect the camera's cables correctly.

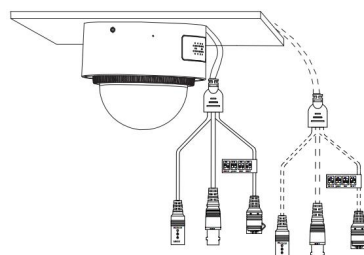


Figure 2-14 Connect Cables

5. Loosen the 3 hex screws to remove the dome cover.

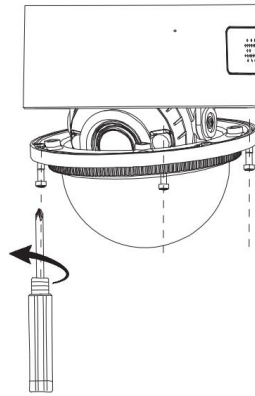


Figure 2-15 Loosen the Screws

6. Power on the camera to check whether the image on the monitor is gotten from the optimum angle. If not, adjust the camera according to the figure below to get an optimum angle.

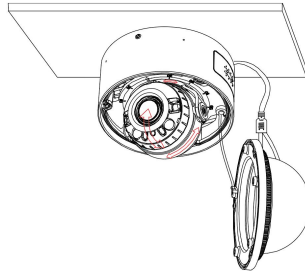


Figure 2-16 Adjust View Angle

7. Tighten the screws in the dome cover to ensure the camera is properly covered.



Note

Please tighten the cover, a loose cover may result in water ingress.

3. Change Video Output Mode

Please read the information below for instructions on how to change the video output of AHD camera.

Steps:

1. Locate the product type for the camera in hand.
2. Follow the instructions to set the desired video output.

3.1. DIP Switch

Switching video signal by manual switching dip switch, the patterns are illustrated as follows.

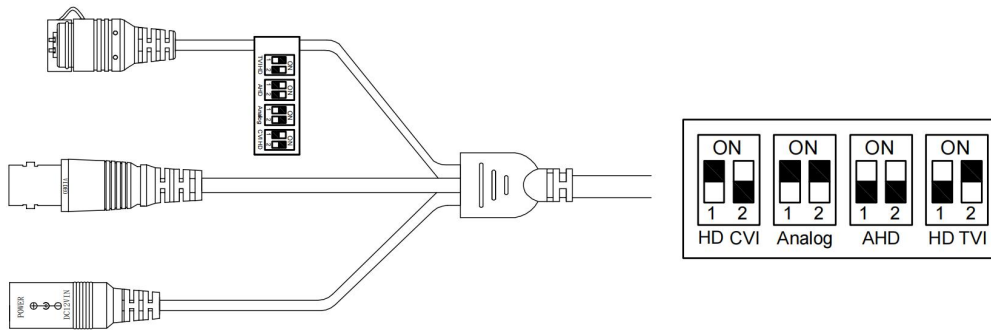


Figure 3-3 DIP Switch

Type of signal represented	Mode	Description
	CVI	1 dial up, 2 dial down
	CVBS	1 dial up, 2 dial up
	AHD	1 dial down, 2 dial down
	TVI	1 dial down, 2 dial up

Table 3-3 DIP Switch

3.2. UTC Control from UVR

Steps:

1. Select the camera you want to change the setting of the video output signal in the preview interface.
2. Right-click and select OSD Coaxial control.



Figure 3-2 OSD Coaxial Control

3. UTC Control from UVR (U series Varifocal & Fixed Lens Cameras).

- (1) Click the central **MENU** button by UI or press down on the joystick.
- (2) Move the arrow to **VIDEO SETTING** and click the central MENU button.
- (3) HD, navigate left & right to set TVI, CVI, CVBS, and AHD video output.
- (4) Video Standard, navigate left & right to set 4MP or 5MP resolution (if Q-C series, navigate left & right to set 25fps or 30fps Video Frame Rate) .
- (5) Go to Reboot & Apply to apply the changes and reboot the camera.

4. UTC Control from UVR (Q series Varifocal & Fixed Lens Cameras).

- (1) Click the central **MENU** button by UI or press down on the joystick.
- (2) Move arrow to **FORMAT** ,navigate left & right to set 25fps or 30fps Video Frame Rate.
- (3) Move the arrow to **VIDEO MODE**, navigate left & right to set TVI, CVI, CVBS, and AHD video output.
- (4) Click the central **MENU** button by UTC UI, and the camera restarts.

4. Menu Description

Purpose:

Call the menu by clicking the button on the OSD coaxial control interface.

Steps:

1. Connect the camera with the UVR, and the monitor, as shown bellow.

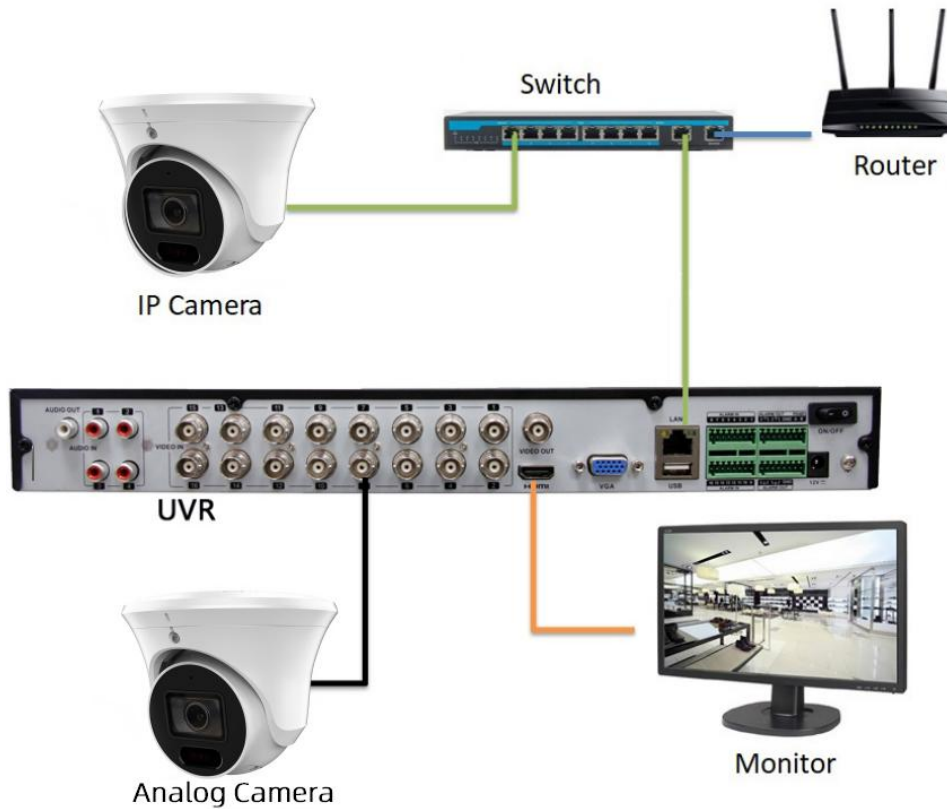


Figure 4-1 Connection

2. Power on the camera, UVR and the monitor to view the image on the monitor.
3. Right-click and select **OSD Coaxial Control**.
4. Click the central **MENU** button to call the main menu.



Note

The main menu may vary depending on camera models.

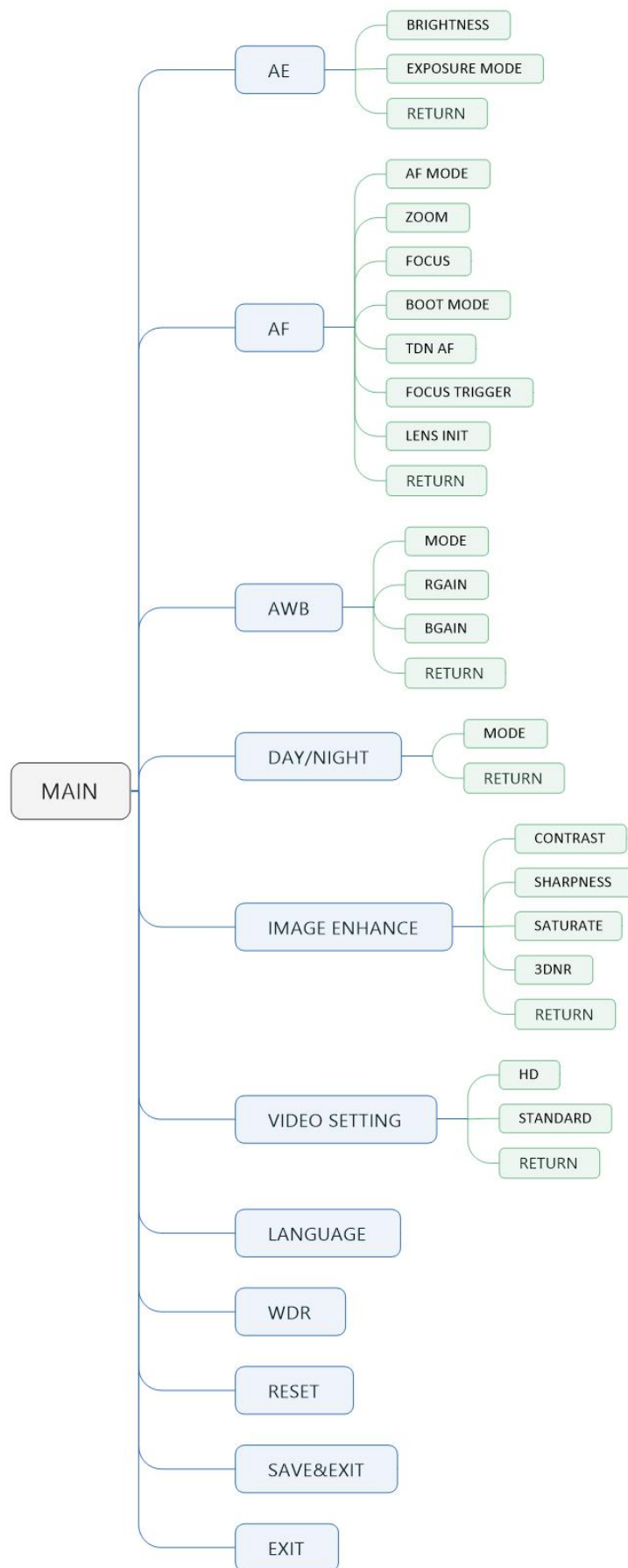


Figure 4-2 Main Menu Overview

4.1. AE

You can control the brightness and exposure mode through the AE menu.

4.1.1. BRIGHTNESS

Brightness refers to the brightness of the image. You can set the brightness value from 0 to 100 to darken or brighten the image. The greater the value is, the brighter the image is.

4.1.2. EXPOSURE MODE

You can set the EXPOSURE MODE as GLOBAL or BLC.

EXPOSURE	
BRIGHTNESS	◀ 40 ▶
EXPOSURE MODE	◀ GLOBAL ▶
SHUTTER CTRL	◀ AUTO ▶
RETURN	

Figure 4-3 Exposure

- **GLOBAL** refers to the normal exposure mode which adjusts lighting distribution, variations, and non-standard processing.
- The **BLC** (backlight compensation) function can compensate illumination between the object and camera to obtain clearer object viewing, but this causes the over-exposure of the background where the light is strong.

4.2. AF

AF	
AF MODE	◀ SEMI ▶
ZOOM	◀ - / + ▶
FOCUS	◀ - / + ▶
BOOT MODE	◀ SAVE POS ▶
TDN AF	◀ SAVE POS ▶
FOCUS TRIGGER	↵
LENS INIT	↵
RETURN	

Figure 4-4 AF

4.2.1. AF MODE

You can set the AF MODE to SEMI, MANUAL or AUTO.

- In SEMI mode, the device will perform one auto zooming procedure after each lens adjustment, and make the image clear. But the focus stays the same even the scene changes.
- In MANUAL mode, you can adjust the focus manually on the live view page.
- In AUTO mode, the device focuses automatically as the scene changes. If you cannot get a well-focused image under auto mode, reduce light sources in the image and avoid flashing lights.

4.2.2. ZOOM

Click the button Left/Right, and the lens zooms in or out.

4.2.3. FOCUS

- Click the button Left, then the lens focuses near and the object nearby gets clear.

- Click the button Right, then the lens focuses far and the object far away gets clear.

4.2.4. BOOT MODE

The default focal length selections of the electric zoom lens when the camera invokes.

- WIDE END, it allows capturing wider scenes, this mode can also be used to obtain wide angle images in narrow environments.
- TELE END, it can produce a larger image than a standard lens at the same distance. It is suitable for capturing distant objects.
- SAVE POS, maintained and saved in the same location.

4.2.5. FOCUS TRIGGER

Move the cursor to FOCUS TRIGGER and click Menu to trigger the automatic lens focusing.

4.2.6. LENS INIT

Lens initialization, the lens focus adjusts itself according to the sensor's signal receiving, calibrating the current focus position to find the focus clear point. This function is used to solve the lens focus motor out of step or cumulative offset error, which result in the focus of the clear point offset problem.

4.3. AWB

White balance, the white rendition function of the camera, is to adjust the color temperature according to the environment. It can remove unrealistic color casts in the image.

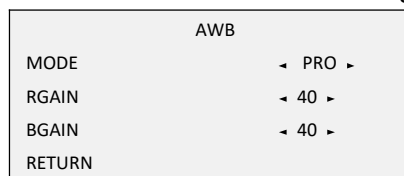


Figure 4-5 AWB

- You can set the MODE to PRO, or GRAY WORLD.
- If the image is off-color, it can be aligned manually. RGAIN can be set to between 0-100, larger value of RGAIN will provides more red effects to the picture, the same with BGAIN which provides blue effects.

4.4. DAY/NIGHT

DAY/NIGHT function can provide color images in the day mode and black/white images in the night mode. Switch mode is configurable.



Figure 4-6 Day/Night

4.5. IMAGE ENHANCE

IMAGE ENHANCE	
CONTRAST	◀ AUTO ▶
SHARPNESS	◀ AUTO ▶
SATURATE	◀ AUTO ▶
3DNR	◀ AUTO ▶
RETURN	

Figure 4-7 Image Enhance

4.5.1. CONTRAST

This feature enhances the color and lighting differences between objects in an image. When switching to manual mode, you can set the CONTRAST value from 0 to 20.

4.5.2. SHARPNESS

Sharpness determines the amount of detail an imaging system can provide. When switching to manual mode, you can set the SHARPNESS value from 0 to 20.

4.5.3. SATURATE

Adjust this feature to change the saturation of the color. When switching to manual mode, you can set the SATURATE value from 0 to 20.

4.5.4. 3DNR

The 3DNR (Digital Noise Reduction) function can decrease the noise effects, especially when capturing moving images under poor lighting conditions, this function helps delivering more accurate and sharp image. You can set the 3DNR value from 0 to 20.

4.6. VIDEO SETTING

Set the video format in different modes.

VIDEO SETTING	
HD	◀ TVI ▶
STANDARD	◀ 1080P 25 ▶
RETURN	

Figure 4-8 Video Setting

- You can select the video format as 1080P @ 25 fps, 4 MP @ 25 fps, 4 MP @ 30 fps and so on in TVI/AHD/CVI mode. Please refer to the actual interface display for specific configuration choices.
- You can only select PAL, or NTSC in CVBS mode.

4.7. LANGUAGE

Move the cursor to LANGUAGE, and click Left/Right to change the language being displayed.

4.8. WDR

The wide dynamic range (WDR) function helps the camera provide clear images even under back light circumstances. When there are both very bright and very dark areas simultaneously displayed in the field of view, WDR can balance the brightness level of the whole image and provide clear images with details.

4.9. SAVE & EXIT

Move the cursor to **SAVE & EXIT** and click **Menu** to save the settings, and exit the menu.

4.10. EXIT

Move the cursor to **EXIT** and click **Menu** to exit the menu.